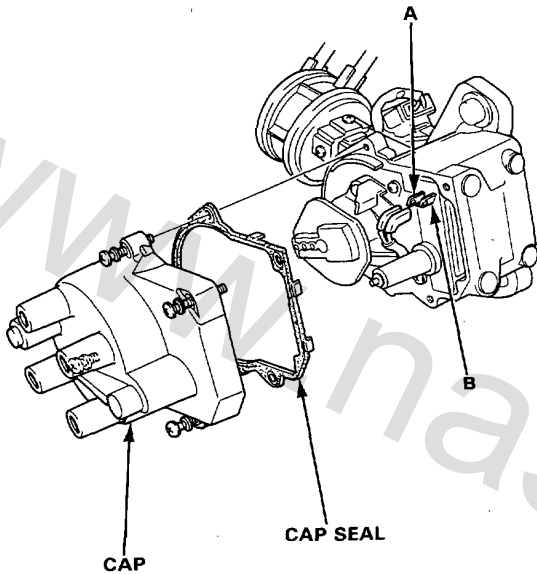




## (Carbureted Engine)

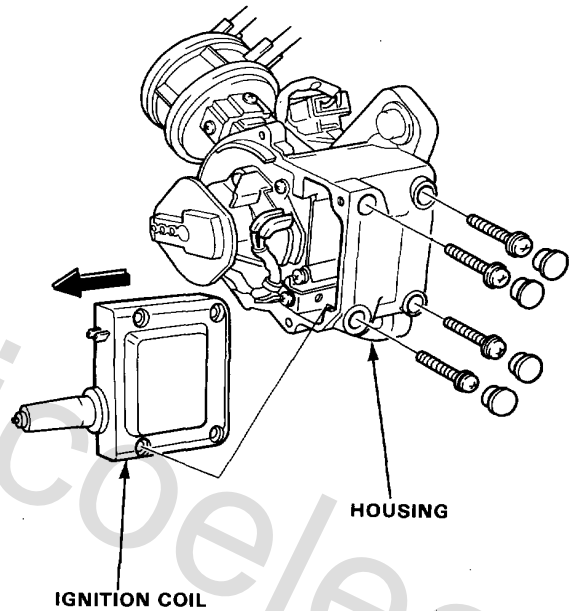
1. With ignition switch OFF, remove the distributor cap and cap seal.
2. Disconnect the BLK/WHT and BLU wires from the terminals A and B respectively.



3. Remove the rubber caps from the distributor housing.
4. Remove the 4 screws and slide the ignition coil out of the distributor housing.

### NOTE:

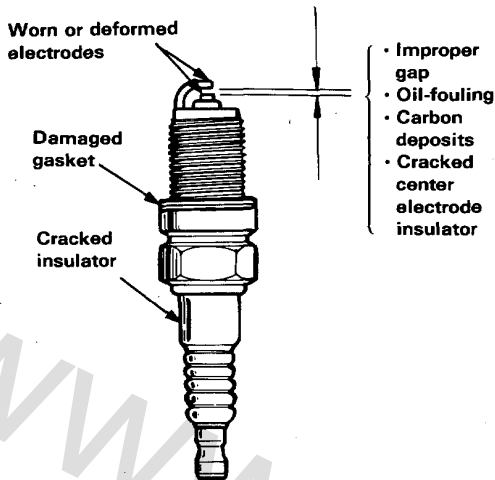
- Replace the rubber caps if they are worn out.
- Installing the rubber caps, apply silicon grease to them.
- Make sure that the wires are clamped and apart from a stator, etc.



# Ignition System

## Spark Plug Inspection

1. Inspect the electrodes and ceramic insulator for:



**Burned or worn electrodes may be caused by:**

- Advanced ignition timing
- Loose spark plug
- Plug heat range too low
- Insufficient cooling

**Fouled plug may be caused by:**

- Retarded ignition timing
- Oil in combustion chamber
- Incorrect spark plug gap
- Plug heat range too high
- Excessive idling/low speed running
- Clogged air cleaner element
- Deteriorated ignition coil or ignition wires

2. Replace the plug if the center electrode is rounded as shown below:

**NOTE:**

- Do not use spark plugs other than those listed below, because those plugs are a new type (ISO standard).
- These marks are sealed on the air cleaner cover.



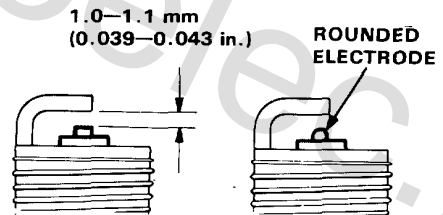
**Spark Plug:**  
Except KP and KT models

	Standard	Optional
NGK	ZFR6F-11	ZFR5F-11* ZFR7F-11
ND	KJ20CR-L11	KJ16CR-L11* KJ22CR-L11

\*: Except KF, KG, KS, KW, KE and KX models

**KP and KT models**

	Standard	Optional
NGK	ZFR5F-11	ZFR6F-11
ND	KJ16CR-L11	KJ20CR-L11



3. Adjust the gap with a suitable gapping tool.

**Electrode Gap: 1.0—1.1 mm (0.039—0.043 in.)**

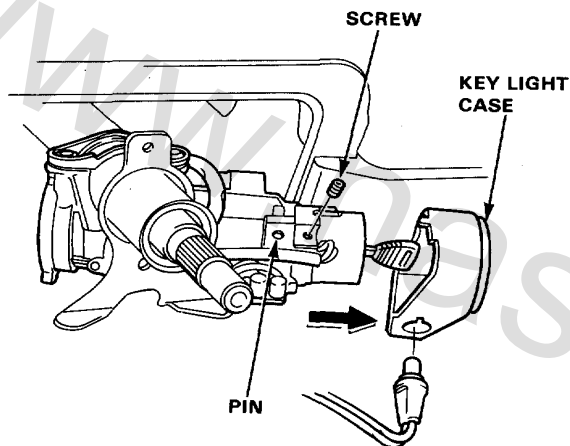
4. Screw the plugs into the cylinder head finger tight, then torque them to 18 N·m (1.8 kg-m, 13 lb-ft).

**NOTE:** Apply a small quantity of anti-seize compound to the plug threads before installing.

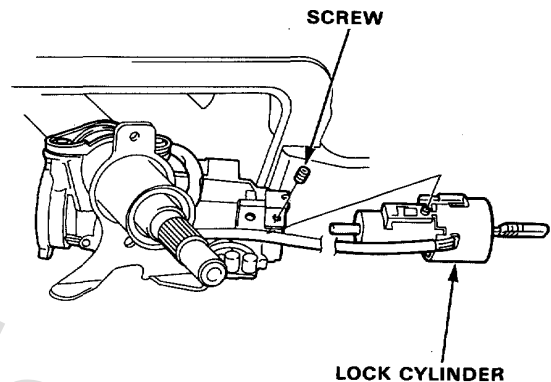
# Ignition Switch

## Lock Cylinder Replacement

1. Remove the steering wheel, then remove the steering column covers.
2. Remove the bulb/socket from the key light case by turning the socket 45°, then remove the screw and the key light case from the lock body.
3. Turn the ignition key to "1."
4. Push the pin in and remove the lock cylinder from the lock body.



5. Turn the key to "0" and align the lock cylinder with the lock body.
6. Turn the key almost to "1" and insert the lock cylinder until the pin touches the body.
7. Turn the key to the "1", push the pin and insert the lock cylinder into the lock body until the pin clicks into place.



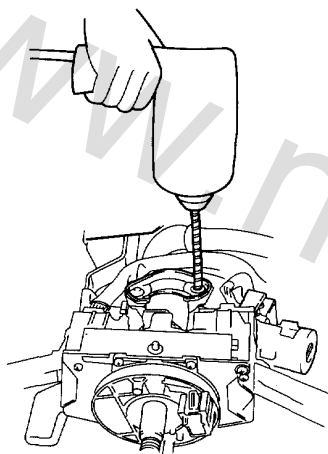


## Steering Lock Replacement

1. Remove the steering wheel, then remove the steering column covers.
2. Remove the instrument panel and the gauge assembly (see page 16-120).
3. Center punch each of the 2 shear bolts and drill their heads off with a 3/16 in. drill bit.

**CAUTION** Do not damage the switch body when removing the shear heads.

4. Remove the shear bolts from the switch body.



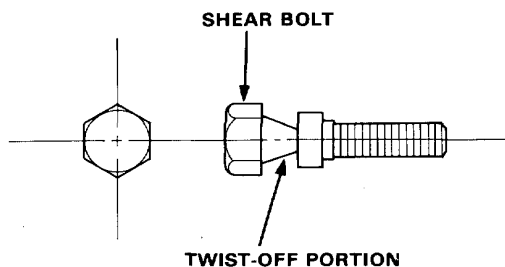
5. Install the new ignition switch without the key inserted.

6. Loosely tighten the new shear bolts.

**NOTE:** Make sure the projection on the ignition switch is aligned with the hole in the steering column.

7. Insert the ignition key and check for proper operation of the steering wheel lock and that ignition key turns freely.

8. Tighten the shear bolts until the hex heads twist off.

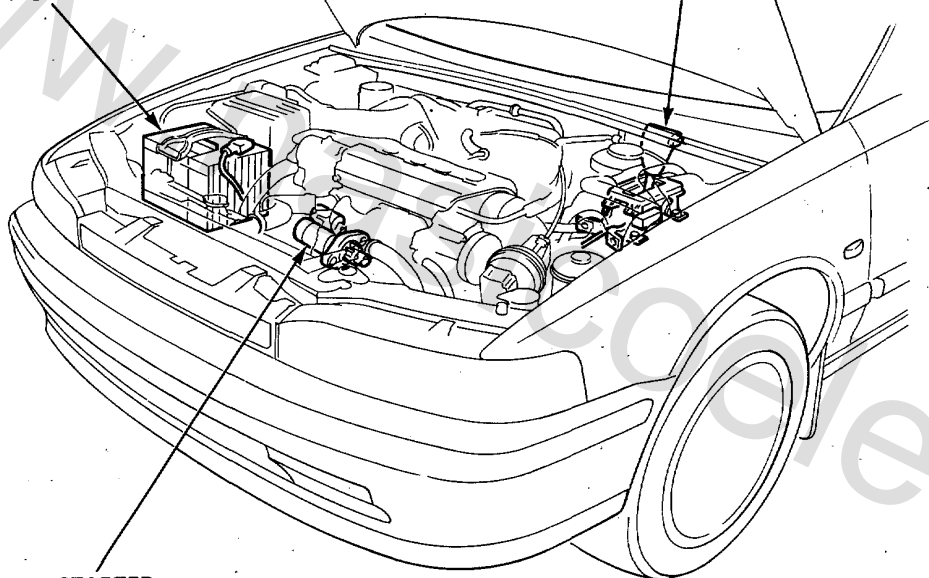


# Starting System

## Component Location Index

**BATTERY**  
Test, page 16-52

**SHIFT POSITION  
CONSOLE SWITCH  
(NEUTRAL SAFETY SWITCH)  
(A/T only)**  
Test, page 16-142  
Replacement, page 16-142

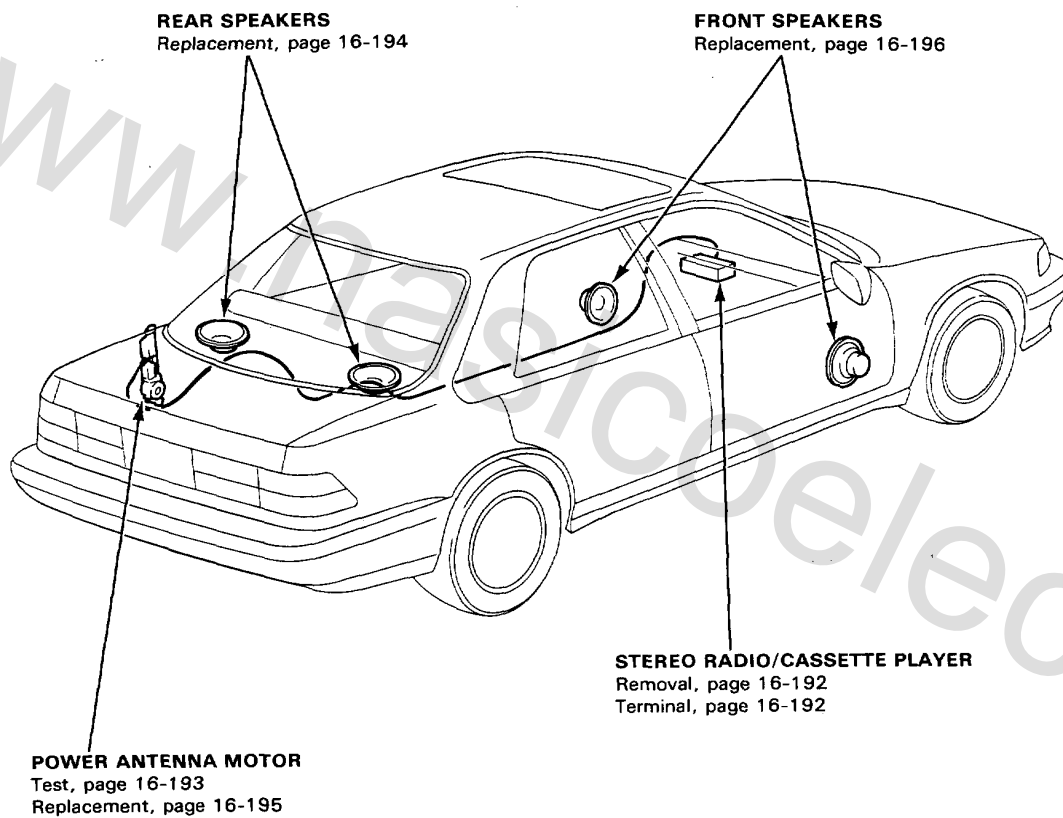


**STARTER**  
Test, page 16-58  
Solenoid Test, page 16-60  
Replacement, page 16-60  
Overhaul, page 16-61, 62  
Reassembly, page 16-67

# Stereo Sound System

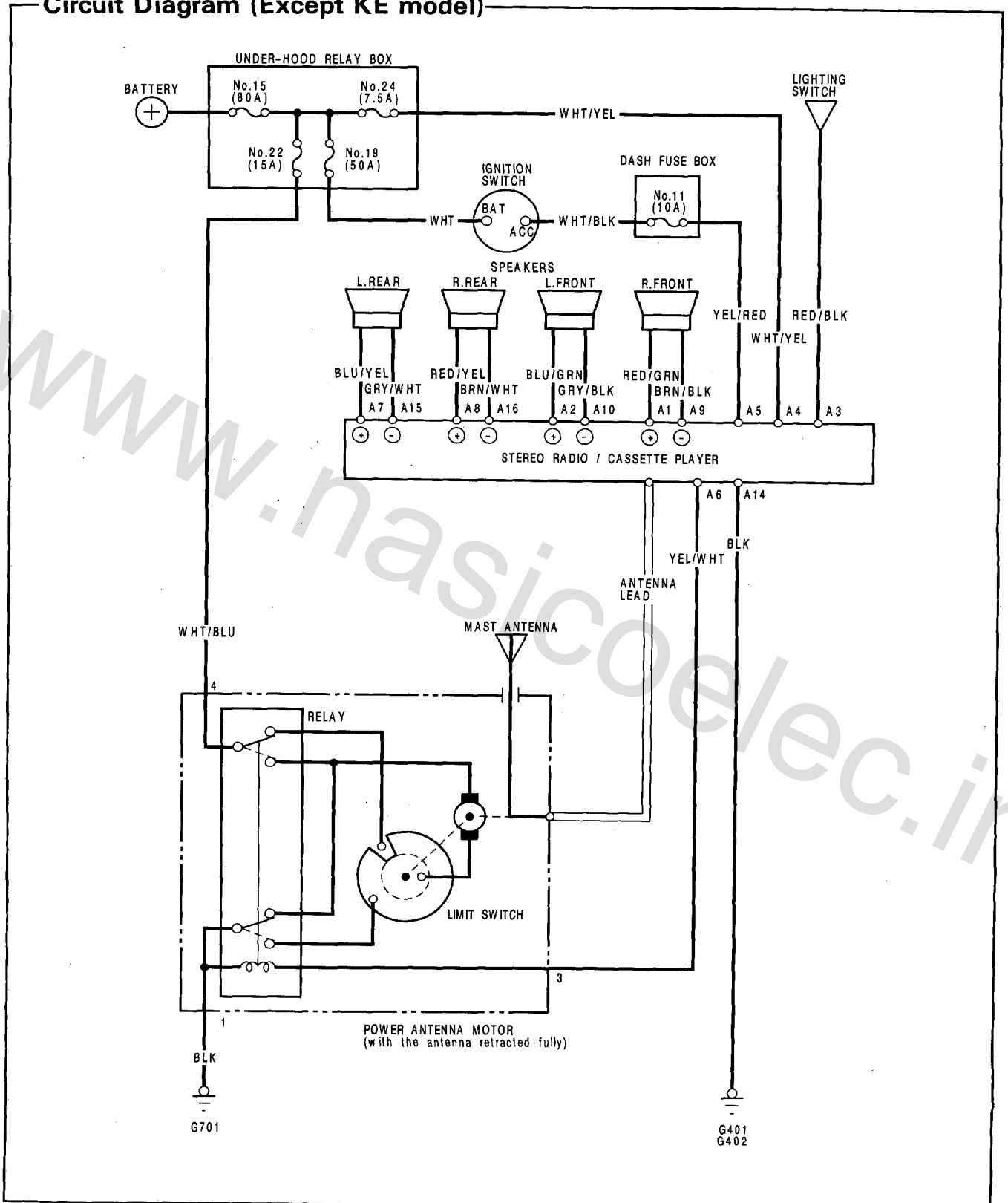


## Component Location Index



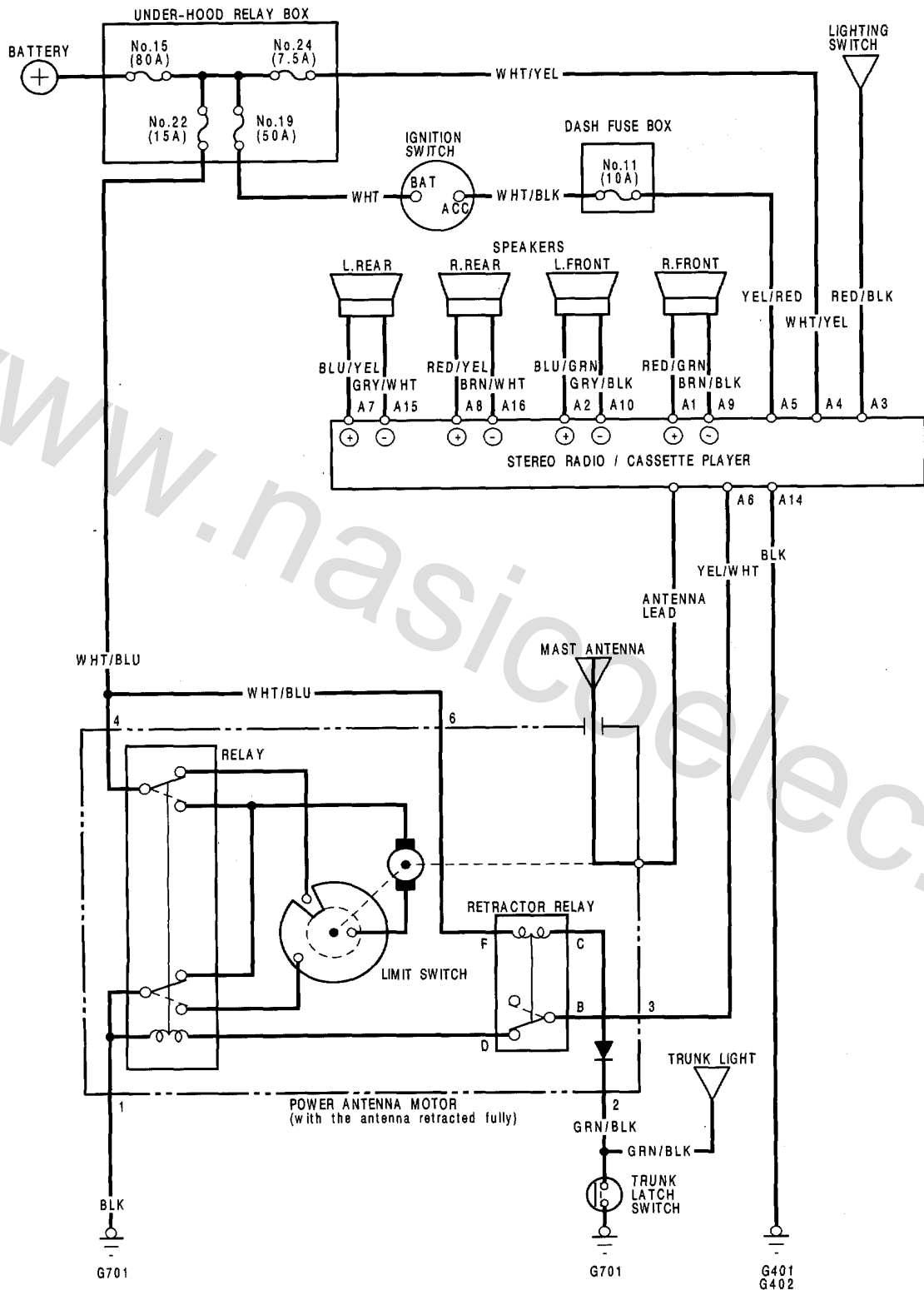
# Stereo Sound System

## Circuit Diagram (Except KE model)





# Circuit Diagram (KE model only)



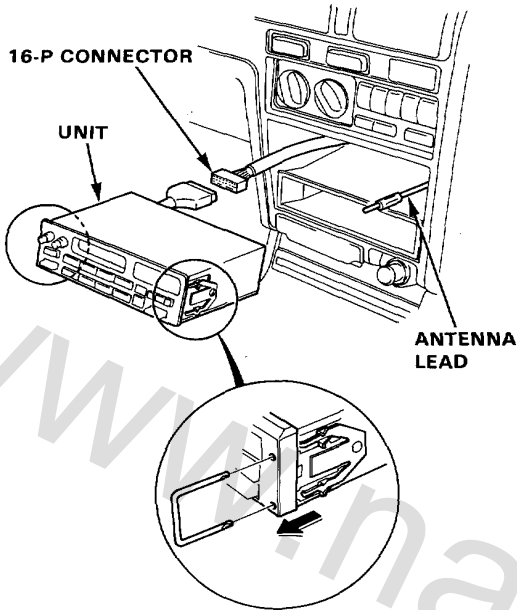


# Stereo Sound System

## Unit Removal

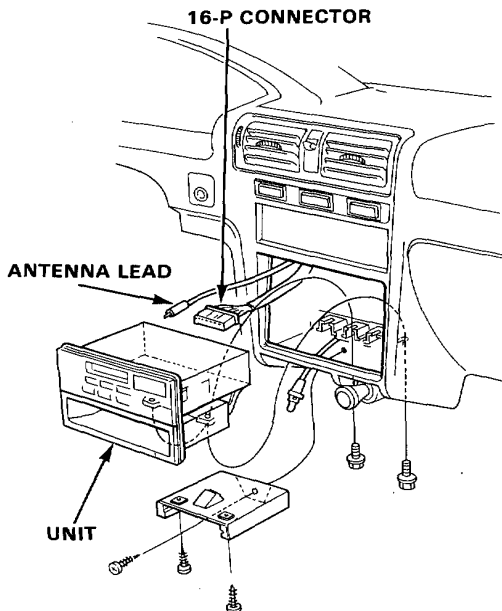
### A-Type:

Remove the needle remover to pull out the unit.

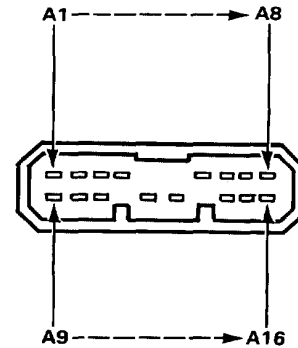


### B-Type:

1. Remove the floor console.
2. Remove the 3 screws and ashtray.
3. Loosen the 3 screws and pull out the unit.
4. Disconnect the 16-P connector and antenna lead, then remove the unit.



## Unit Terminals



Terminal (Wire color)	Destination
A1 (RED/GRN)	Right front speaker ⊕
A2 (BLU/GRN)	Left front speaker ⊕
A3 (RED/BLK)	Light-on signal
A4 (WHT/YEL)	Constant power (Tuning memory)
A5 (YEL/RED)	ACC (Main stereo power supply)
A6 (YEL/WHT)	Radio switched power (To antenna)
A7 (BLU/YEL)	Left rear speaker ⊕
A8 (RED/YEL)	Right rear speaker ⊕
A9 (BRN/BLK)	Right front speaker ⊖
A10 (GRY/BLK)	Left front speaker ⊖
A11 (—)	(Not used)
A12 (—)	(Not used)
A13 (—)	(Not used)
A14 (BLK)	Ground (G401, G402)
A15 (GRY/WHT)	Left rear speaker ⊖
A16 (BRN/WHT)	Right rear speaker ⊖

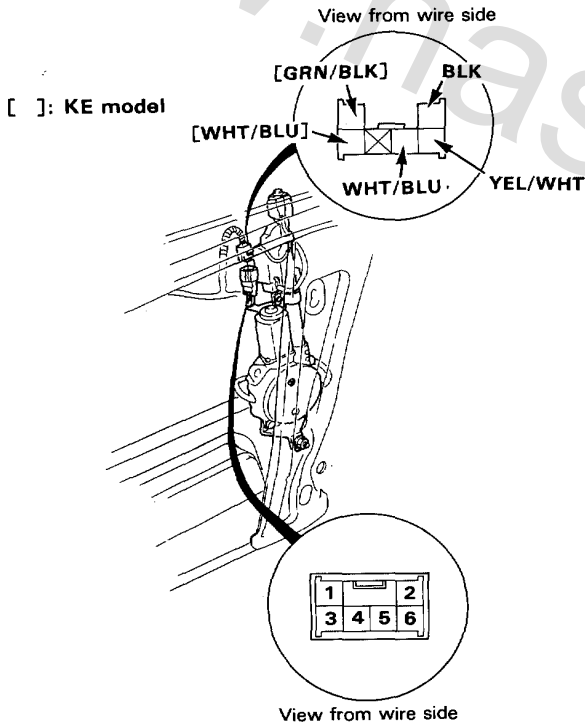


# Power Antenna Motor Test

1. Remove the trunk side trim panel.
2. Disconnect the 6-P connector from the motor and remove the connector from its clamp.
3. First check power to the motor at the harness pins: There should be battery voltage between the WHT/BLU (+) and BLK (-) terminals all the time. There should be battery voltage between the YEL/WHT (+) and BLK (-) terminals only with the ignition and radio switched ON.
4. Test motor operation:

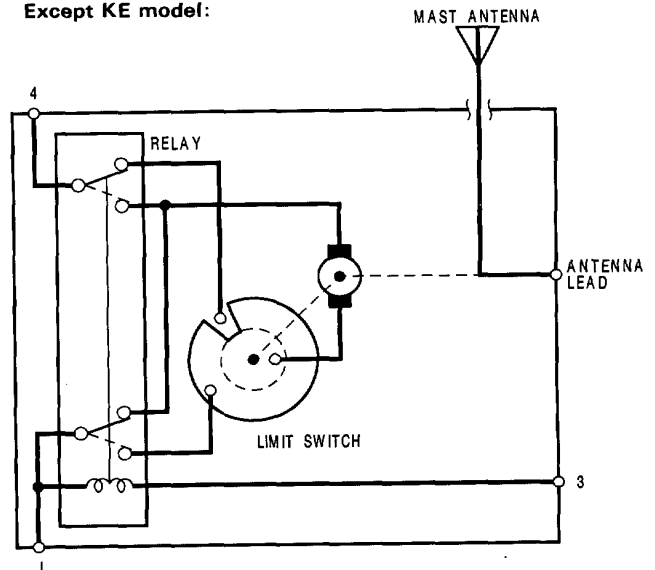
**FULL EXTEND:** Connect battery positive to the No.3 and No.4 terminals and negative to the No.1 terminal.

**RETRACTED:** **Except KE model:** Then disconnect battery positive from the No.3 terminal.  
**KE model only:** Short the No.2 terminal to the No.1 terminal, then connect battery positive to the No.6 terminal and negative to the No.1 terminal.

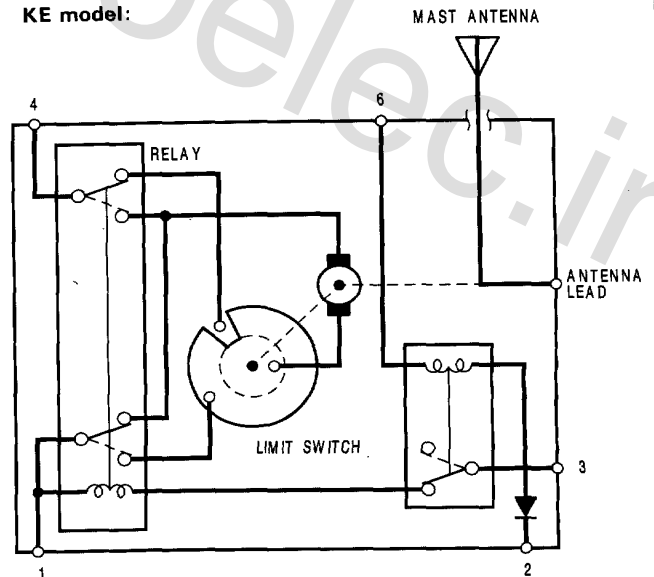


5. If the motor fails to operate properly, replace it.

**Except KE model:**



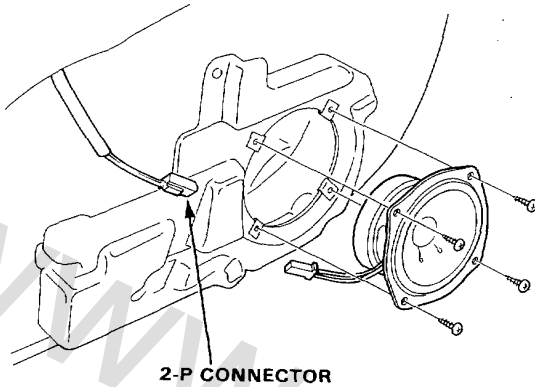
**KE model:**



# Stereo Sound System

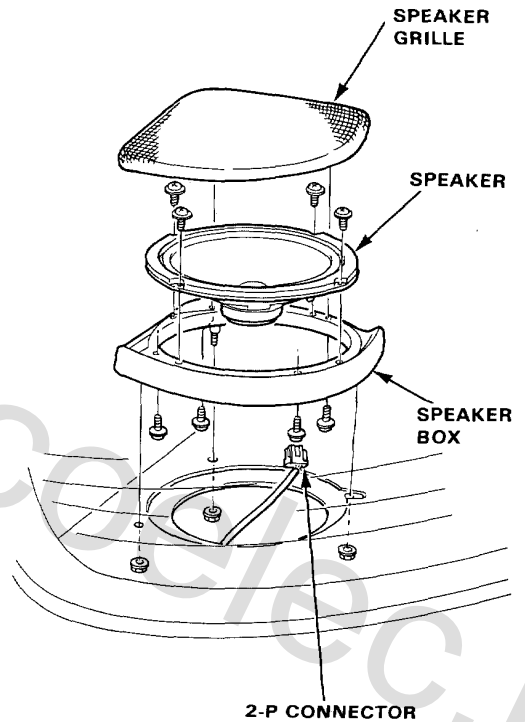
## Front Speaker Replacement

1. Remove the speaker grille from the door trim panel.
2. Remove the screws, then disconnect the wires or 2-P connector from the speaker.



## Rear Speaker Replacement

1. Open the trunk lid, then remove the 3 nuts.
2. Disconnect the 2-P connector from the speaker assembly.
3. Remove the speaker grille and speaker from the speaker box.



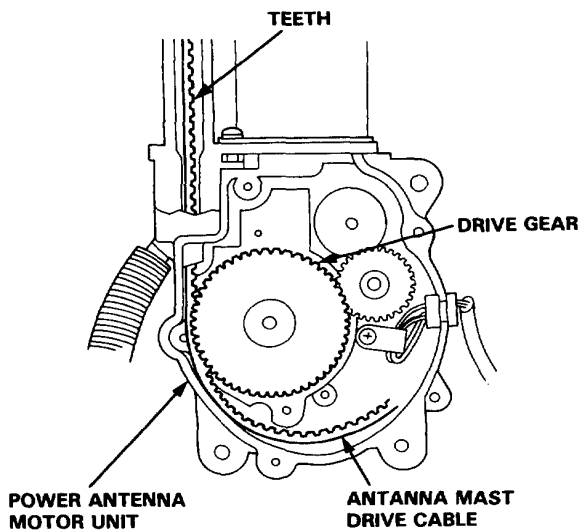
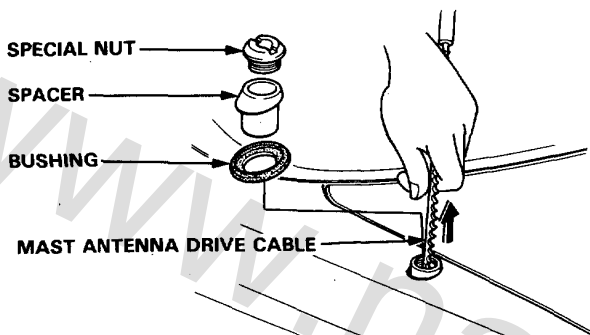


## Mast Antenna Replacement

### Removal

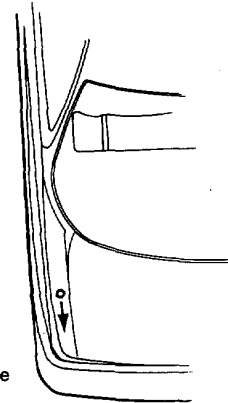
NOTE: The antenna mast alone can be replaced without having to remove the power antenna motor unit.

1. Remove the special nut, spacer and bushing.
2. Carefully withdraw the antenna mast while extending it by turning the radio switch "ON".



### Installation

1. Carefully direct the teeth of antenna mast drive cable as shown, and insert the drive cable into the antenna housing.

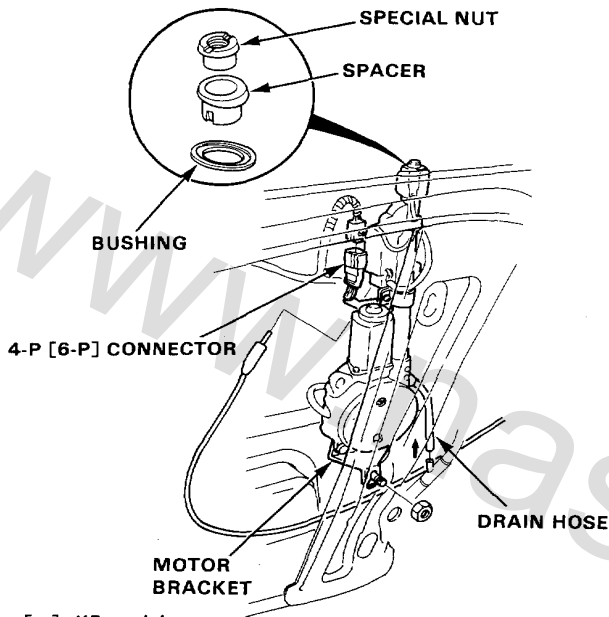


2. Check for engagement of the cable teeth to the drive gear; by carefully moving the cable up and down.
3. Turn the radio switch "OFF", and let the motor pull the drive cable inside the antenna housing.
4. Insert the antenna mast into the antenna housing, and install the bushing and spacer, tighten the special nut.
5. Check that the mast antenna retracts and extends fully when the radio switch is turned ON and OFF repeatedly.

# Stereo Sound System

## Power Antenna Motor Replacement

1. Remove the trunk side trim panel.
2. Disconnect the 4-P [6-P] connector and antenna lead from the motor, then remove the special nut and mounting nuts to take out the motor with the mast antenna.



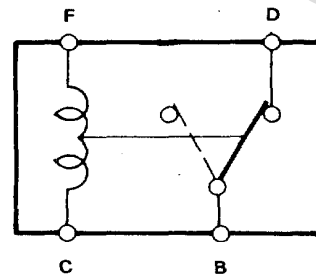
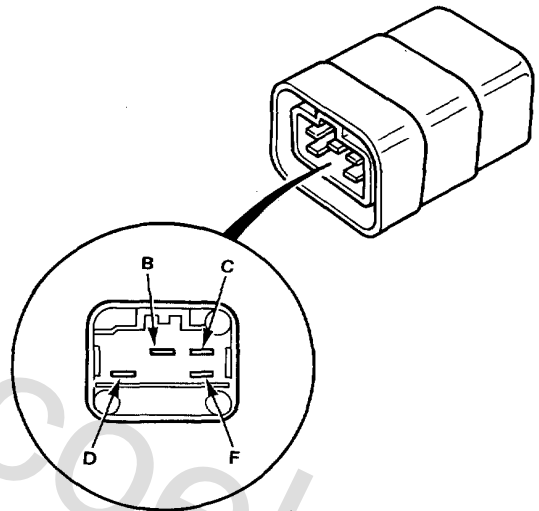
[ ]: KE model

3. Install in the reverse order of removal.

NOTE: Tighten the special nut, and then tighten mounting nuts to motor bracket.

## Retractor Relay Test

1. Remove the relay from the motor antenna.
2. There should be no continuity between the B and D terminals when the battery is connected to the C and F terminals. There should be continuity when the battery is disconnected.



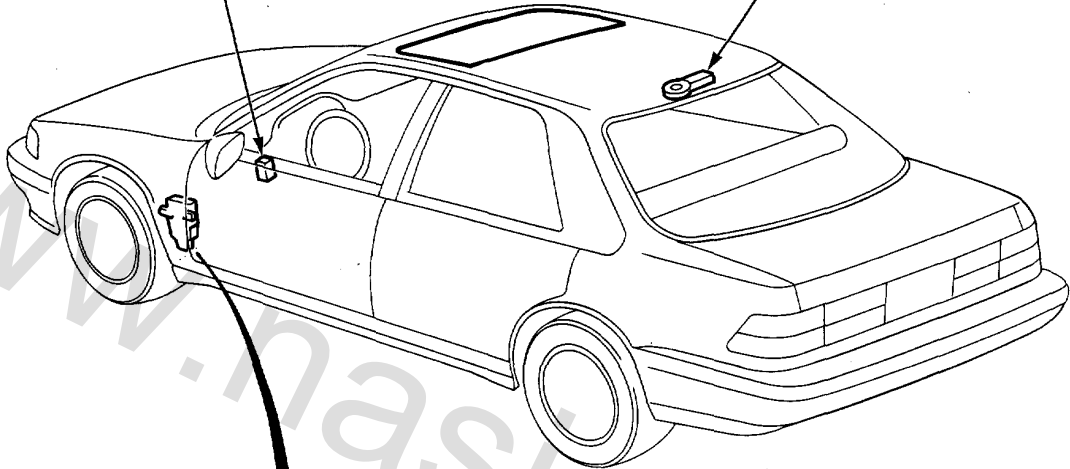
# Sunroof



## Component Location Index

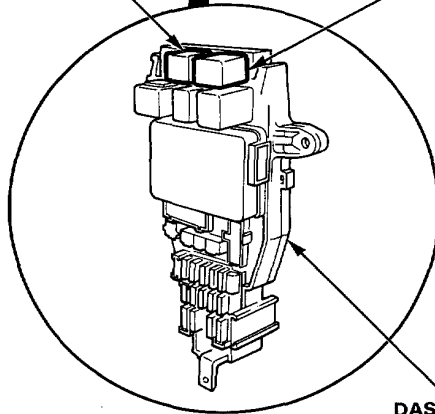
**SUNROOF SWITCH**  
Function Test, page 16-226  
Test, page, 16-226

**SUNROOF MOTOR**  
Test, page 16-227  
Replacement, section 14



**SUNROOF OPEN RELAY**  
Test, page 16-227

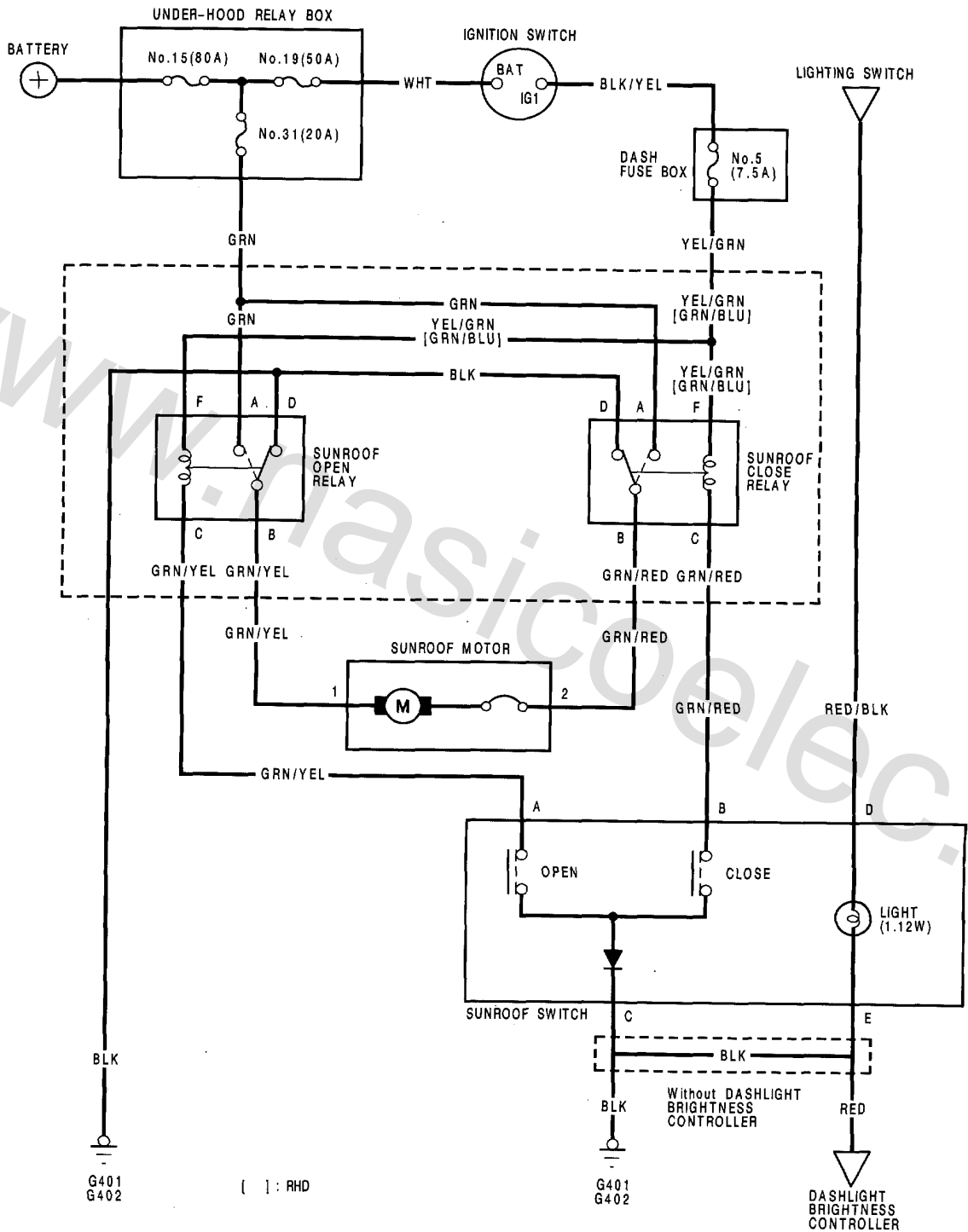
**SUNROOF CLOSE RELAY**  
Test, page 16-227



**DASH FUSE BOX**  
(Located driver side, kick panel)

# Sunroof

## Circuit Diagram





## Electrical Troubleshooting

NOTE: The numbers in the table show the troubleshooting sequence.

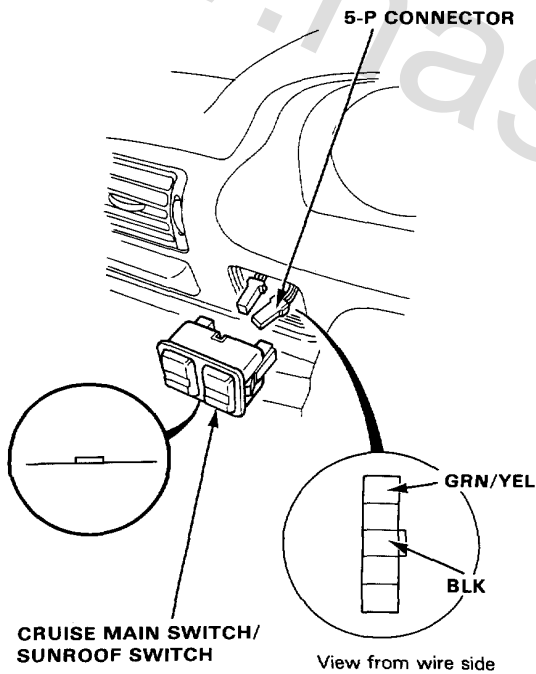
Symptom	Item to be inspected	
Sunroof does not move, but motor turns.	1	
Sunroof does not move and motor does not turn (sunroof can be moved with sunroof wrench).	With all switches	1 2 3 5 4 G401 G402 GRN, YEL/GRN GRN/YEL, or GRN/RED
	With OPEN switch.	1 2 3 GRN/YEL
	With CLOSE switch.	2 1 3 GRN/RED



# Sunroof

## Function Test

- Carefully pry out the cruise main switch/sunroof switch from the instrument panel.  
NOTE: Be careful not to damage the switch or the instrument panel when prying out the switch.
- Disconnect the 5-P and 6-P connectors from the switches.
- Connect the GRN/YEL terminal to the BLK terminal with a jumper wire.  
The sunroof should open when the ignition switch is turned ON.
  - If the sunroof opens, check the switch.
  - If not, connect the GRN/YEL terminal to body ground.
    - If the sunroof opens, check for open in the BLK wire, and check whether the G401 and G402 terminals are poor.
    - If not, remove the headliner and check the motor.

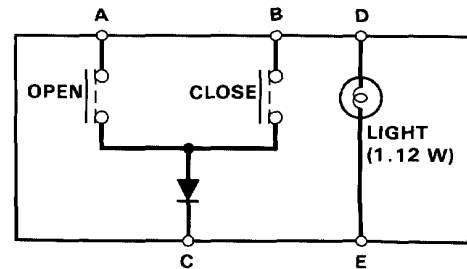
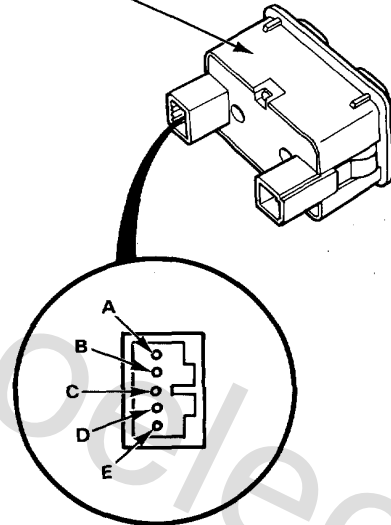


## Switch Test

- Remove the switches from the instrument panel.
- Check for continuity between the terminals in each switch position according to the table.

Terminal	A	B	C	D	E
Position					
OFF					
OPEN	○	○	○	○	○
CLOSE		○	○	○	○

CRUISE MAIN SWITCH/  
SUNROOF SWITCH

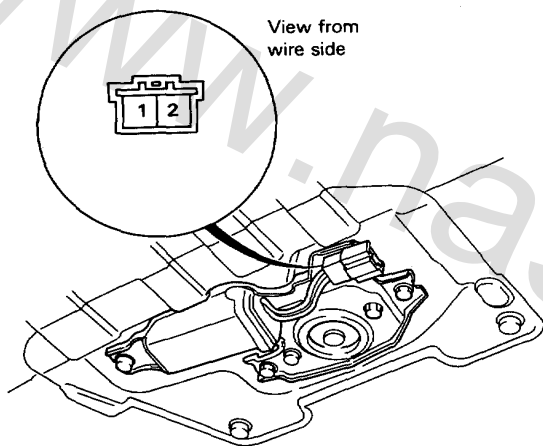




## Motor Test

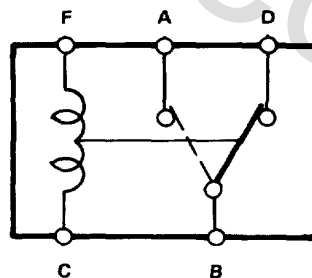
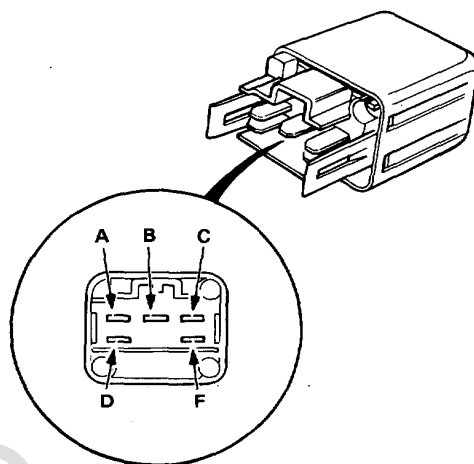
1. Remove the headliner.
2. Disconnect the 2-P connector from the sunroof motor.
3. Test motor operation by connecting battery to the No.1 and No.2 terminals. Test the motor in each direction, by switching the leads from the battery.
4. If the motor does not run, replace it.

NOTE: See Closing Force Check in section 14 for motor clutch test.



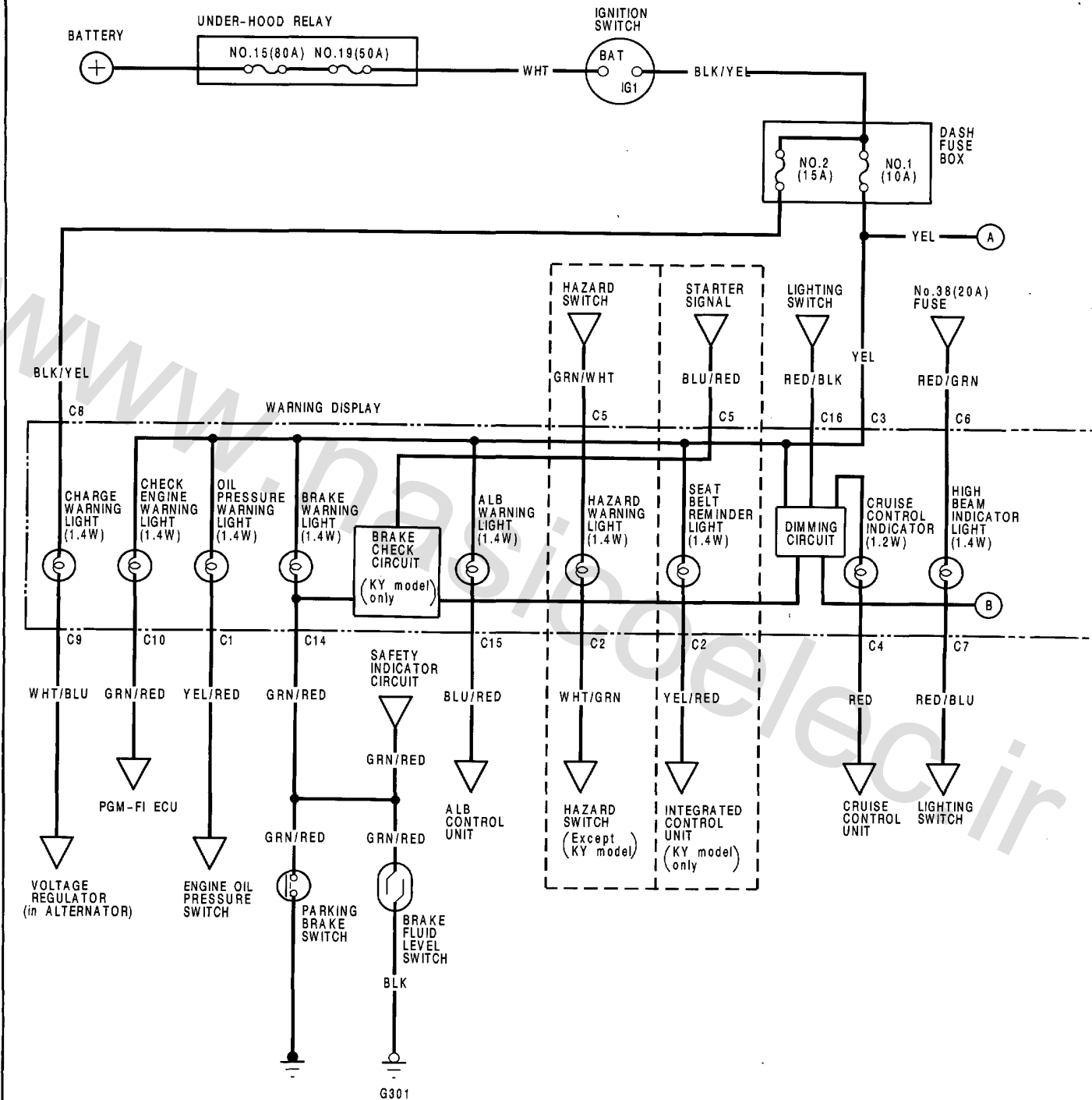
## Relay Test

1. Remove the sunroof relays on the dash fuse box.
2. There should be continuity between the A and B terminals when the battery is connected to the F and C terminals.  
There should be continuity between the B and D terminals when the battery is disconnected.



# Gauge Assembly

## Circuit Diagram

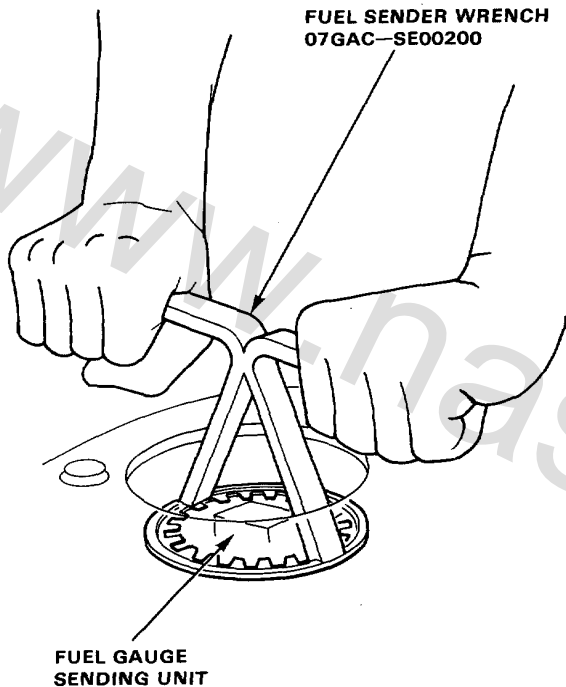




## Sending Unit Test/Replacement

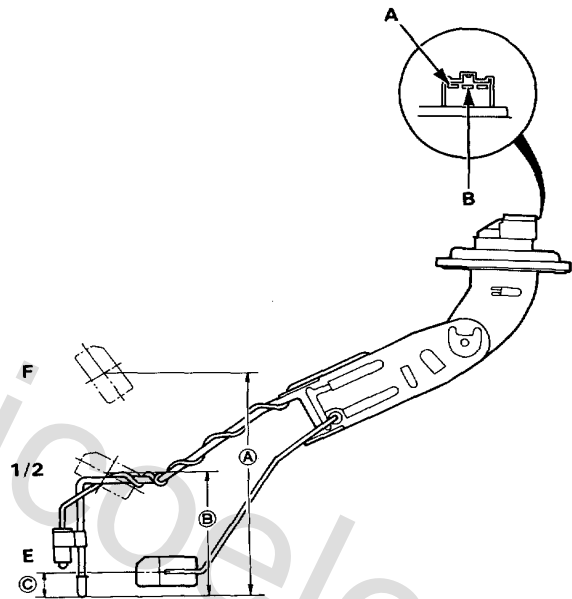
**⚠ WARNING** Do not smoke while working on fuel system. Keep open flame away from work area.

1. Remove the maintenance access cover.
2. With the ignition switch OFF, disconnect the 3-P connector from the fuel gauge sending unit.
3. Remove the fuel gauge sending unit.



4. Measure resistance between the A and B terminals at E (EMPTY), 1/2 (HALF FULL) and F (FULL) by moving the float.

Float Position	E	1/2	F
Resistance ( $\Omega$ )	105-110	25.5-39.5	2-5



Float Position	A	B	C
With 4WS	121.5 mm (4.8 in)	70.0 mm (2.8 in)	17.0 mm (0.7 in)
Without 4WS	146.0 mm (5.7 in)	80.0 mm (3.1 in)	17.0 mm (0.7 in)

5. If unable to obtain the above readings, replace the fuel gauge sending unit.

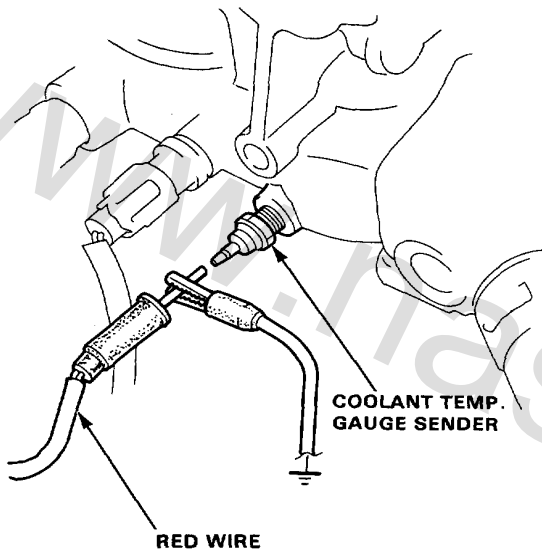
# Coolant Temperature Gauge

## Gauge Test

### NOTE:

- Refer to page 16-112 for wiring description of the coolant temperature gauge circuit.
- Check the No. 1 (10 A) fuse in the dash fuse box before testing.

1. Make sure the ignition switch is OFF, then disconnect the RED wire from the coolant temperature gauge sender and ground it with a jumper wire.



2. Turn the ignition switch ON. Check that the pointer of the coolant temperature gauge starts moving toward "H" mark.

**CAUTION:** Turn the ignition switch OFF before the pointer reaches "H" mark on the gauge dial. Failure to turn the ignition OFF quickly enough may cause damage to the gauge.

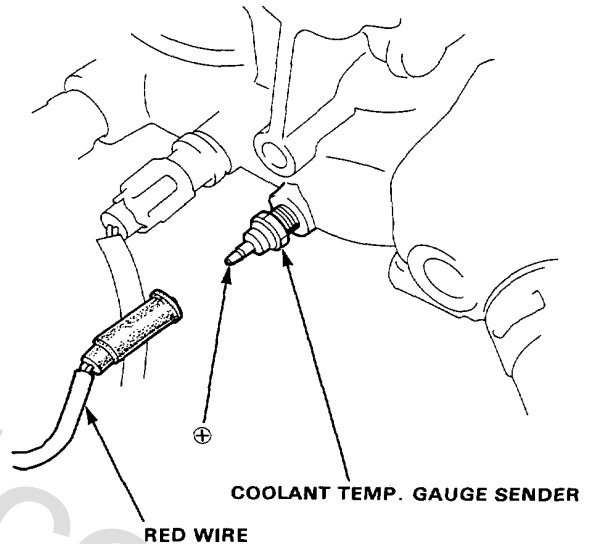
- If the pointer of the gauge does not swing at all, check for an open in the YEL or RED wire.

Replace the coolant temperature gauge if the fuse and wiring are normal.

- Inspect the gauge sender if the gauge is OK.

## Sender Test

1. Disconnect the RED wire from the sender.
2. With the engine cold, use an ohmmeter to measure resistance between the positive terminal and the engine (ground).



3. Check the temperature of the coolant.
4. Run the engine and measure the change in resistance with the engine at operating temperature (cooling fan comes on).

Temperature	56°C (133°F) ["C" mark]	85°C (185°F) 100°C (212°F)
Resistance (Ω)	142	49 - 32

5. If obtained readings are substantially different from specifications above, replace the gauge sender.

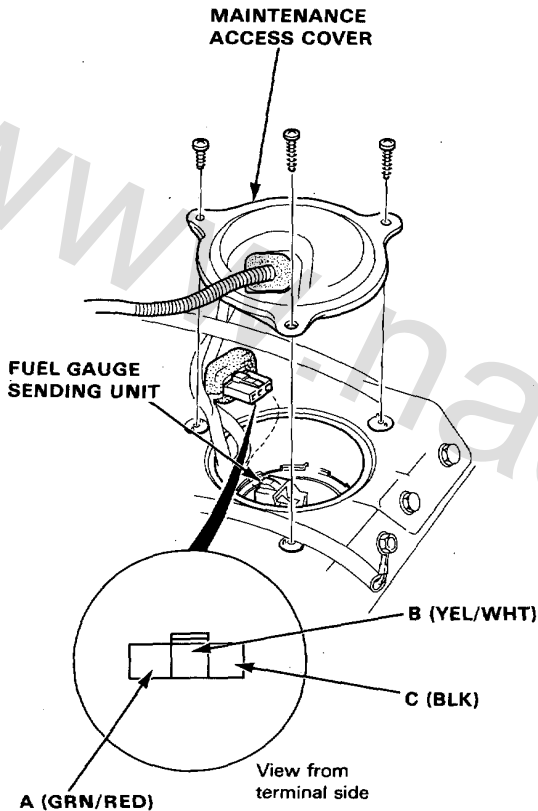
# Fuel Gauge

## Gauge Test

**NOTE:**

- Refer to page 16-112 for wiring description of the fuel gauge circuit.
- Check the No. 1 (10 A) fuse in the dash fuse box before testing.

1. Remove the maintenance access cover.
2. Disconnect the 3-P connector from the fuel gauge sending unit.



3. Connect the voltmeter positive probe to the B (YEL/WHT) terminal and the negative probe to the C (BLK) terminal, then turn the ignition switch ON. There should be between 5 and 8V.

- If the voltage is as specified, go to step 4.

- If the voltage is not as specified, check for:
  - An open in the YEL, YEL/WHT or BLK wire.
  - Poor ground (G401).

4. Turn the ignition switch OFF. Attach a jumper wire between the B (YEL/WHT) and C (BLK) terminals.

Turn the ignition switch ON.

Check that the pointer of the fuel gauge starts moving toward "F" mark.

**CAUTION:** Turn the ignition switch OFF before the pointer reaches "F" mark on the gauge dial. Failure to turn the ignition switch OFF before the pointer reaches the "F" mark may cause damage to the fuel gauge.

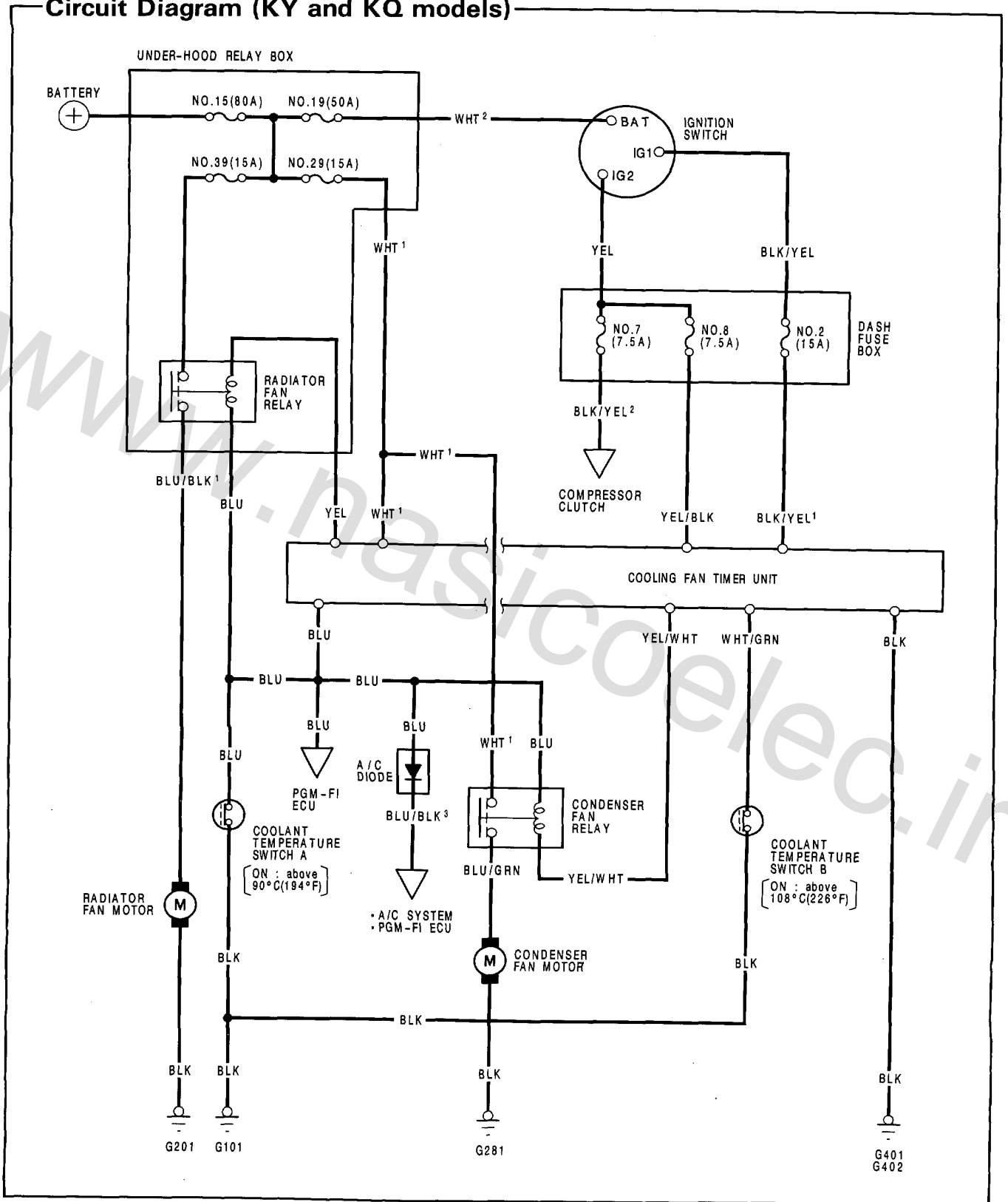
**NOTE:** The fuel gauge is a bobbin (cross coil) type, hence the fuel level is continuously indicated even when the ignition switch is OFF, and the pointer moves more slowly than that of a bimetal type.

- If the pointer of the fuel gauge does not swing at all, replace the gauge.

- Inspect the fuel gauge sending unit if the gauge is OK.

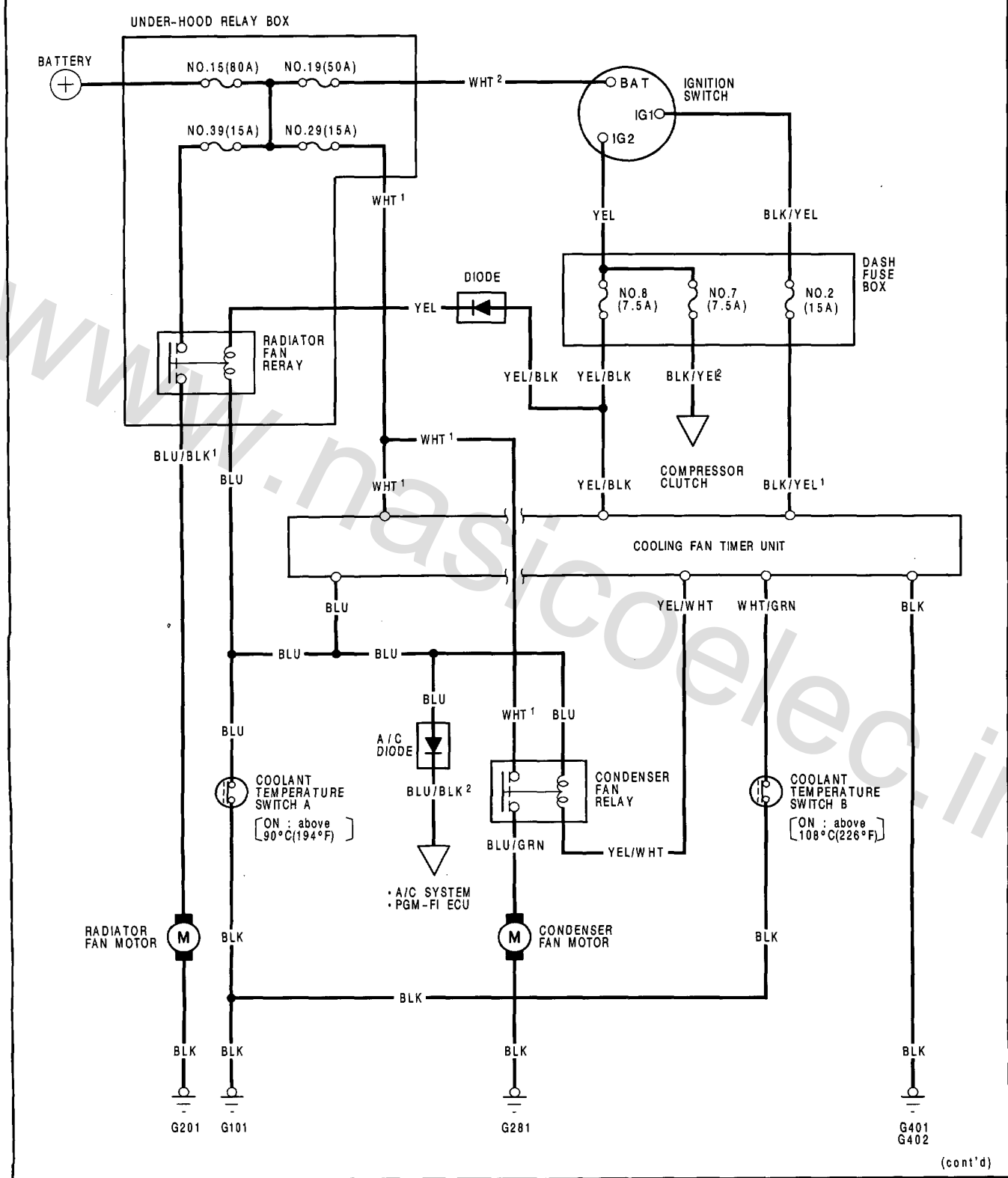
# Cooling Fan Control

## Circuit Diagram (KY and KQ models)





# Circuit Diagram (Except KY and KQ models: With Fan Timer System)

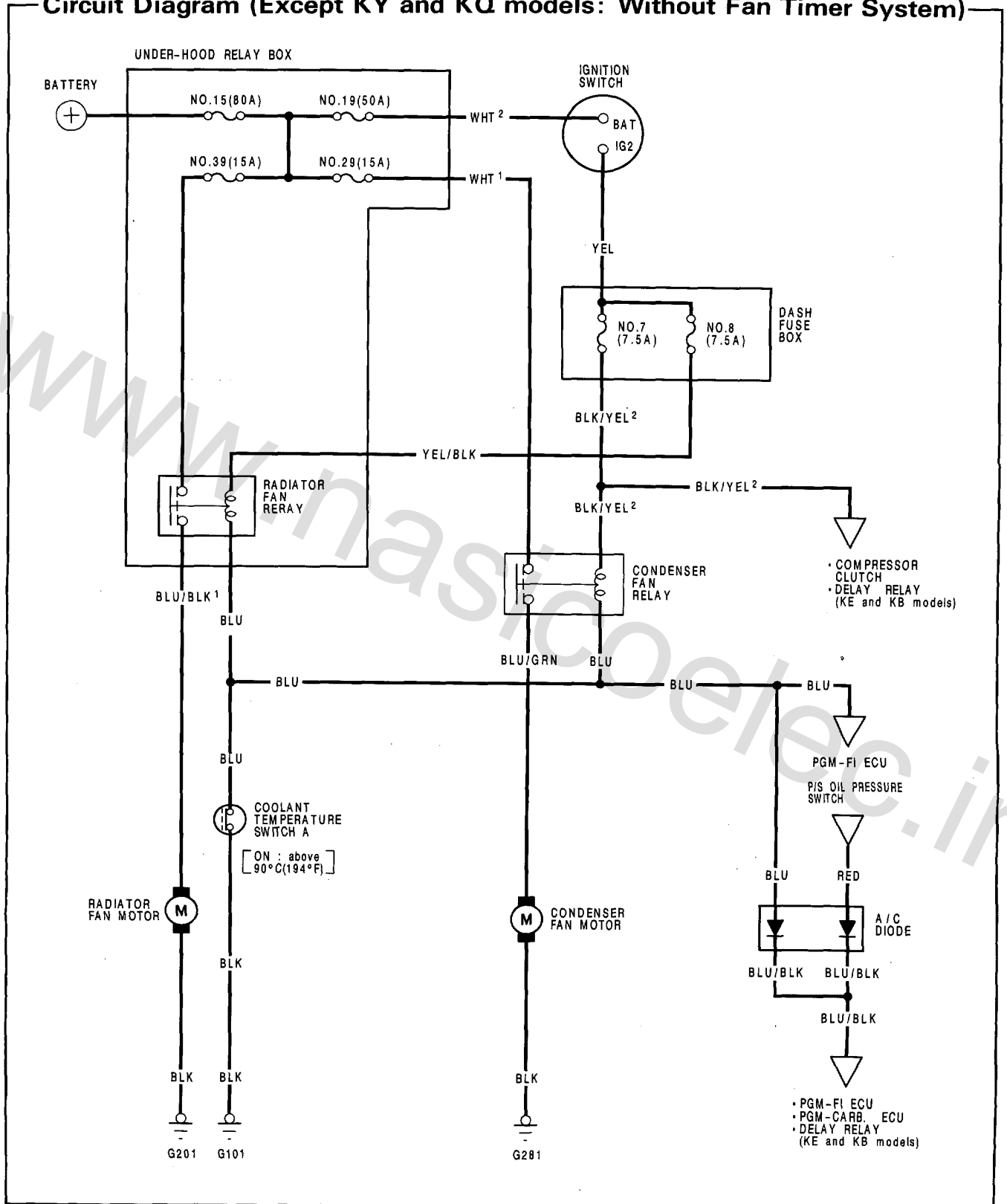


(cont'd)



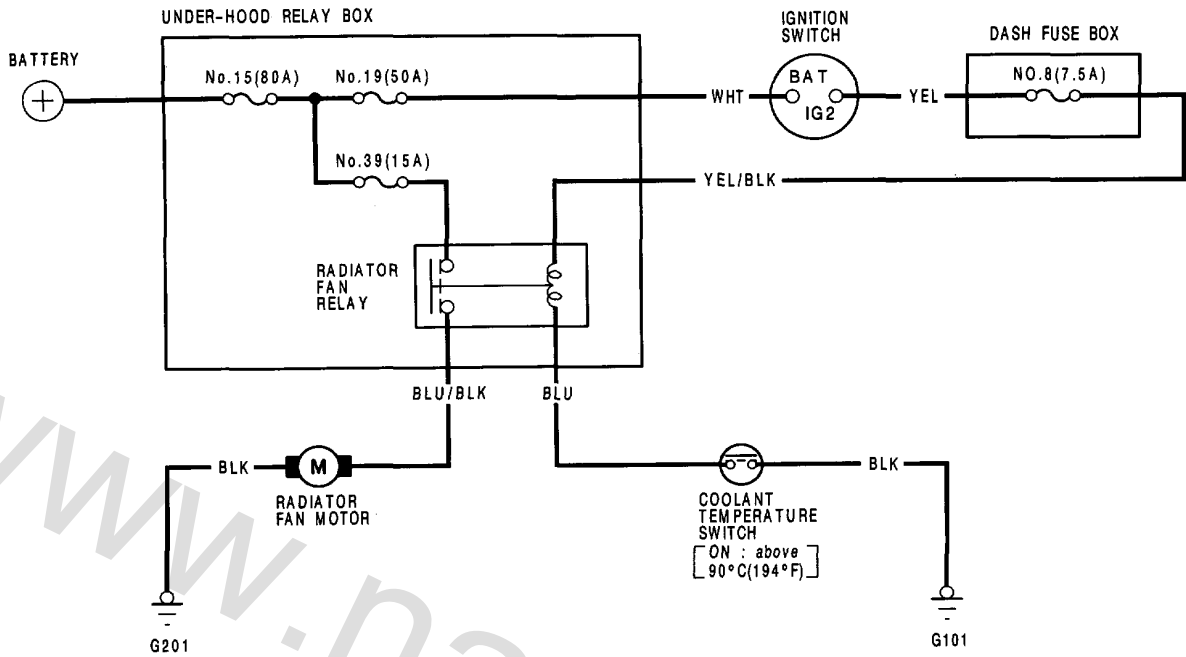
# Cooling Fan Control

Circuit Diagram (Except KY and KQ models: Without Fan Timer System)





## Circuit Diagram (Without A/C)



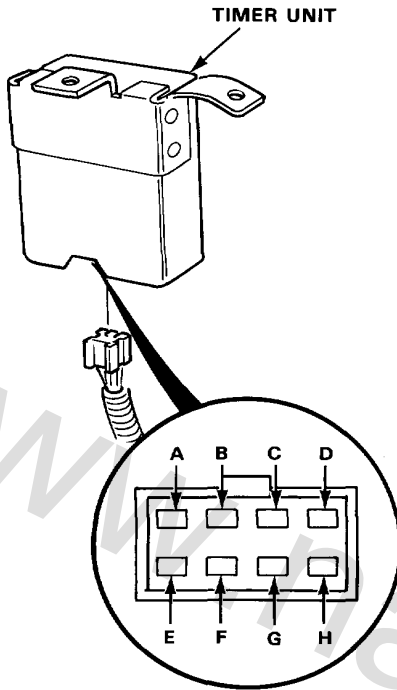
## Troubleshooting (With A/C)

NOTE: The numbers in the table show the troubleshooting sequence.

Item to be inspected		Blown No. 29 (15 A) or No. 39 (15 A) fuse (in the under-hood relay box)	Radiator fan or condenser fan relay	Radiator fan or condenser fan motor	A/C diode	Blown No. 2 (15 A) fuse (in the dash fuse box)	Coolant temperature switch A	Faulty cooling fan timer unit	Coolant temperature switch B	A/C system	Poor ground	Open circuit in wires or loose or disconnected terminals
Symptom												
Only one fan operates (with engine and A/C ON).		1	2	3	4						G401 G402	BLU, BLU/BLK <sup>1</sup> , BLU/BLK <sup>2</sup> BLU/BLK <sup>3</sup> , BLU/YEL, YEL/BLK, YEL/WHT, BLU/GRN, YEL or WHT <sup>1</sup>
Fans do not rotate.	Under all conditions.					1	2	3			G101	YEL/BLK, YEL or BLU
	A/C ON									1		
Fan timer unit fails to function properly.								2	1		G401 G402	WHT <sup>1</sup> , WHT/GRN or YEL/WHT

# Cooling Fan Control

## Timer Unit Terminals (With fan timer system)



Terminal	Wire	Destination
A	YEL*1	Radiator fan relay ⊕
	YEL/WHT*2	Condenser fan relay ⊖
B	YEL/BLK	Power supply (For condenser fan relay by way of timer unit with ignition switch ON)
C	WHT/YEL*1	Condenser fan relay ⊖
	*2	(Not used)
D	BLK	Ground
E	WHT/GRN	Coolant temperature switch B
F	WHT	Constant power (For condenser fan relay by way of timer unit)
G	BLK/YEL	IG1 (Timer reset signal)
H	BLU	Condenser fan relay ⊕

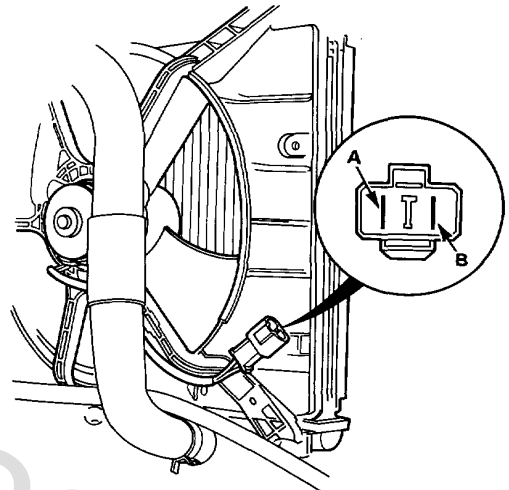
\*1: KY and KQ models

\*2: Except KY and KQ models

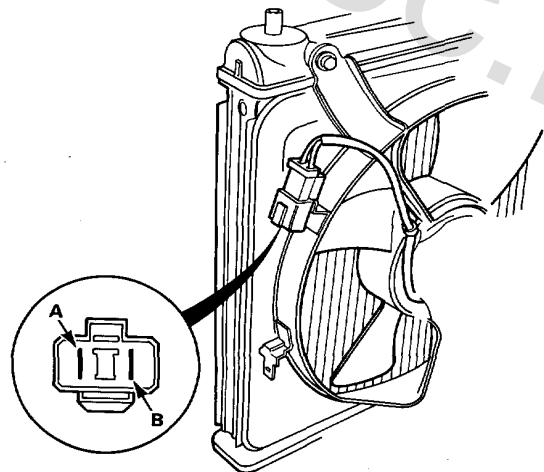
## Fan Motor Test

1. Disconnect the 2-P connector from the fan motor.
2. Test motor operation by connecting battery positive to the A terminal, and negative to the B terminal.
3. If the motor fails to run smoothly, replace it.

### Radiator Fan Motor:



### Condenser Fan Motor:



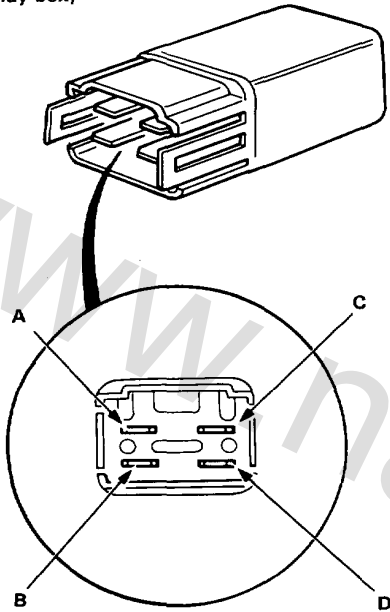


## Relay Test

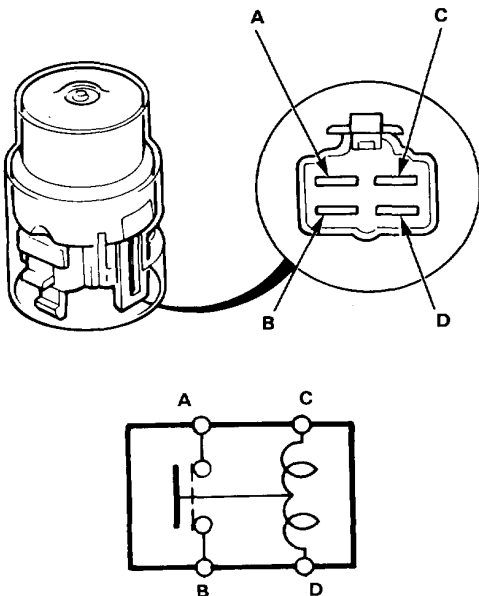
There should be continuity between the A and B terminals when the battery is connected to the C and D terminals. There should be no continuity when the battery is disconnected.

NOTE: Test procedures are same for all relays.

### RADIATOR FAN RELAY (in the relay box)

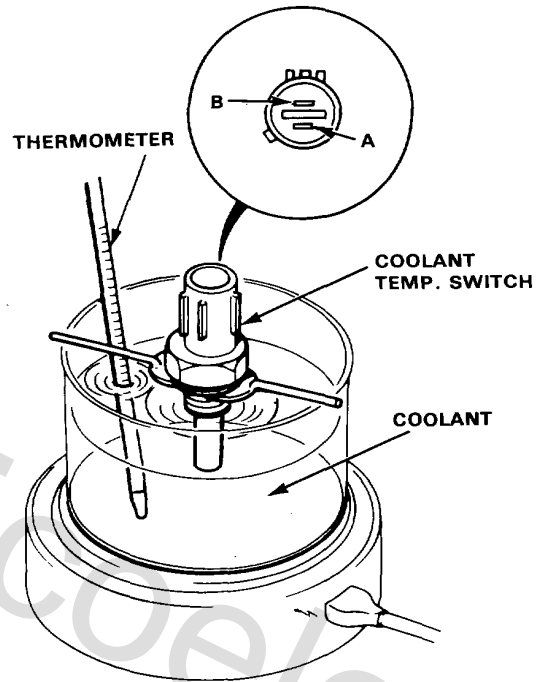


### CONDENSER FAN RELAY (With A/C)



## Coolant Temperature Switch Test

1. Remove the coolant temperature switch A from the thermostat housing or the switch B from the water outlet cover.
2. Suspend the coolant temperature switch in a container of coolant as shown.



3. Heat the coolant and check coolant temperature with a thermometer.
4. Measure the resistance between the A and B terminals according to the table.

		Terminal	
Temperature		A	B
Switch A	Above	87–93°C (189–199°F)	○—○
	Below	80–91°C (176–196°F)	
Switch B	Above	105–111°C (221–232°F)	○—○
	Below	98–109°C (208–228°F)	

# Gauge Assembly

## Component Location Index

**FUEL SENDER UNIT**  
Test, page 16-126  
Replacement, page 16-127

**GAUGE ASSEMBLY**  
Gauge Location Index, page 16-111  
Bulb Location, page 16-104  
Disassembly, page 16-118  
Removal, page 16-120  
Beeper Test (ND), page 16-120

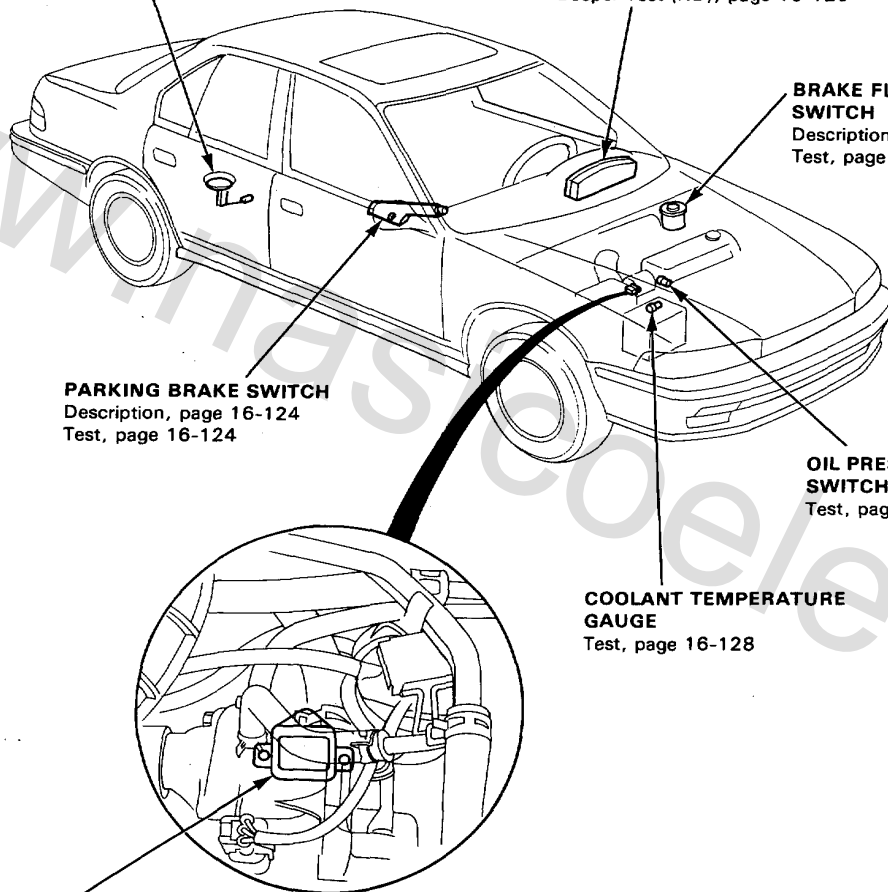
**BRAKE FLUID LEVEL SWITCH**  
Description, page 16-124  
Test, page 16-124

**PARKING BRAKE SWITCH**  
Description, page 16-124  
Test, page 16-124

**OIL PRESSURE SWITCH**  
Test, page 16-125

**COOLANT TEMPERATURE GAUGE**  
Test, page 16-128

**SPEED SENSOR**  
(Located under the thermostat housing)  
Input Test, page 16-122  
Replacement, page 16-123  
Troubleshooting, page 16-121





## Gauge Location Index

ND:

### COOLANT TEMPERATURE GAUGE

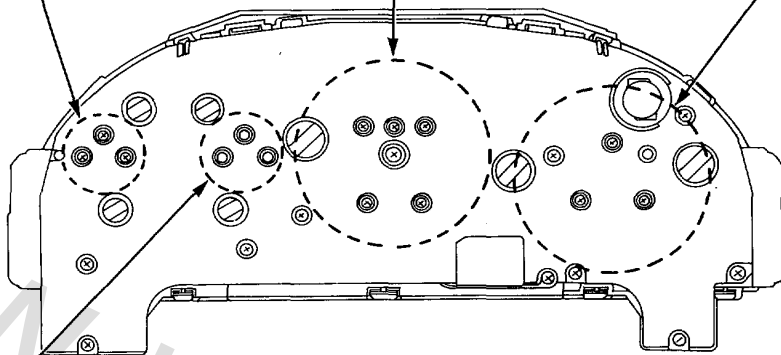
Gauge Test, page 16-128  
Sender Test, page 16-128

### SPEEDOMETER

Indicates 60 km/h [60 mph]  
at 637 [1,026]  $\text{min}^{-1}$  (rpm)  
of the speed sensor.

### TACHOMETER

Indicates 100  $\text{min}^{-1}$  (rpm) at 200  
pulses per minute of  
the igniter unit.



### FUEL GAUGE

Gauge Test, page 16-126  
Sending Unit Test/Replacement, page 16-127

NS:

### COOLANT TEMPERATURE GAUGE

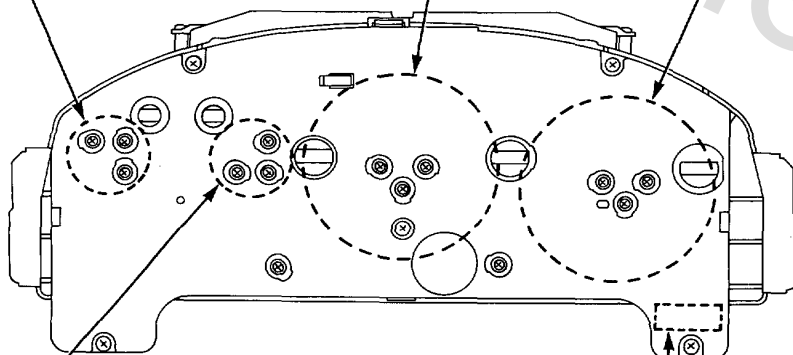
Gauge Test, page 16-128  
Sender Test, page 16-128

### SPEEDOMETER

Indicates 60 km/h [60 mph]  
at 637 [1,026] rpm of  
the speed sensor.

### TACHOMETER

Indicates 100  $\text{min}^{-1}$  (rpm) at 200  
pulses per minute of  
the igniter unit.



### FUEL GAUGE

Gauge Test, page 16-126  
Sending Unit Test/Replacement,  
page 16-127

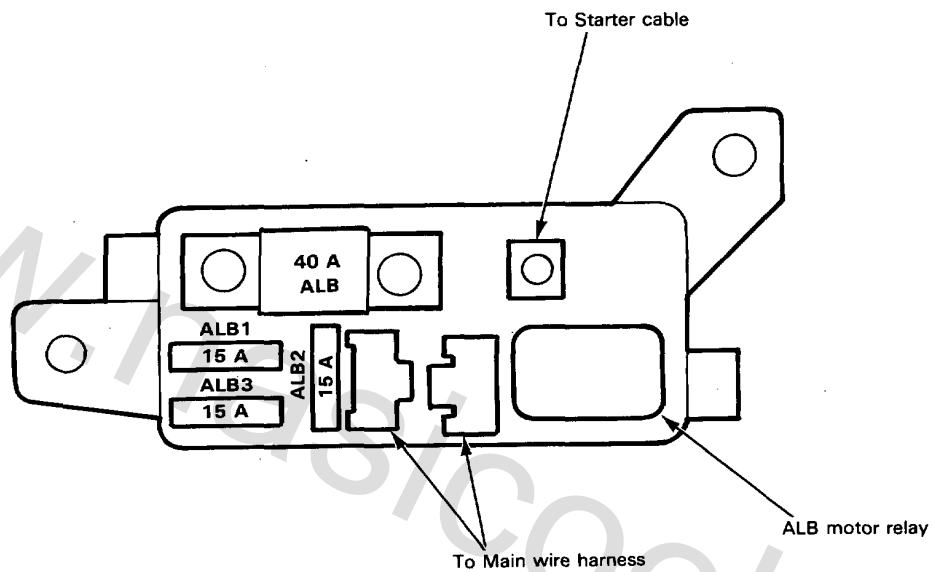
### SPEED ALARM CIRCUIT (KY model)

Beeper sounds when speed exceeds  $106 \pm 4$  km/h.



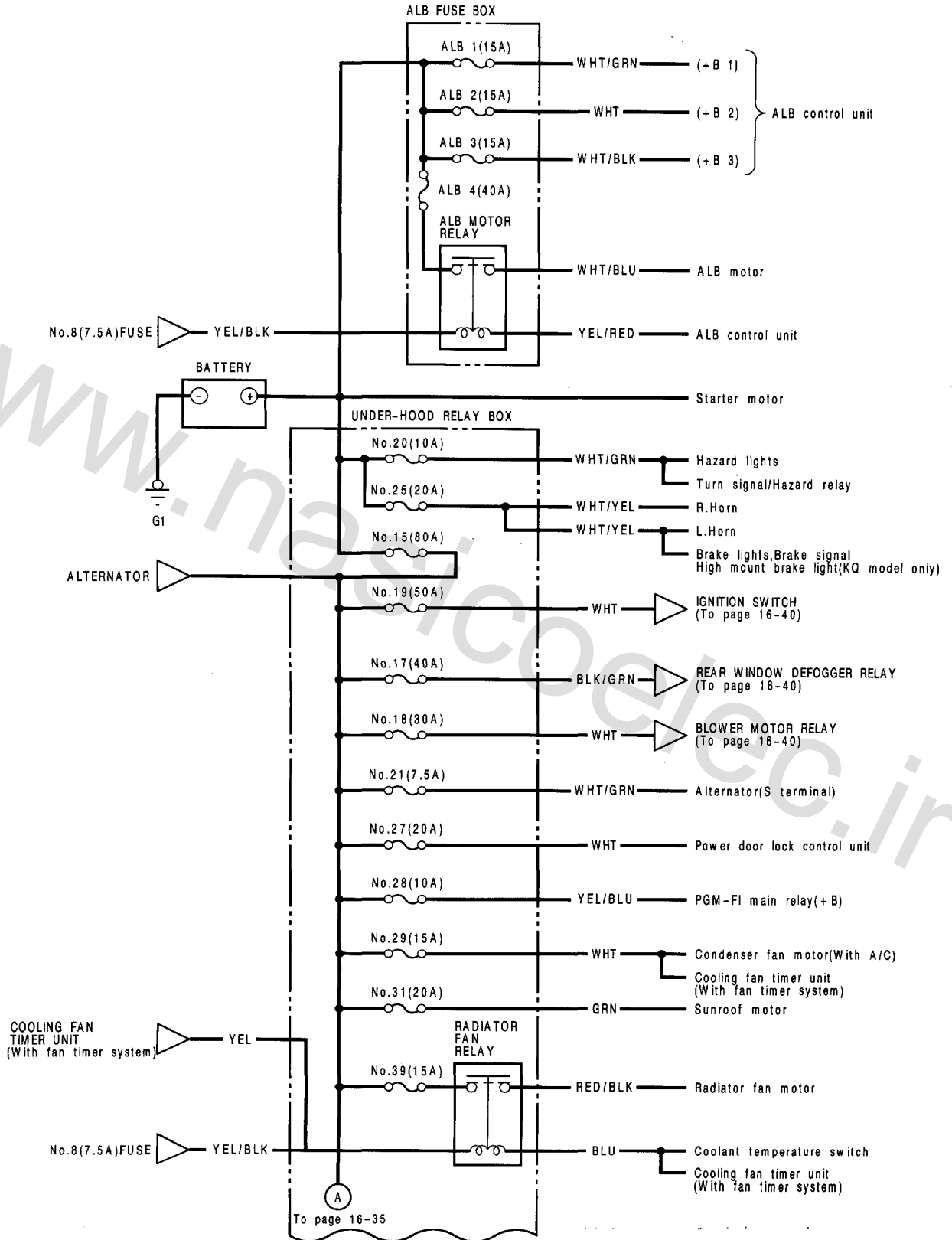
## ALB Fuse Box

NOTE: ALB fuse box is located right side, engine compartment.



# Power Distribution

## Circuit Identification







UNDER-HOOD RELAY BOX

From page 16-34

(A)

No.22(15A)

- WHT/BLU — Ignition key light
- Dome light
- Courtesy lights
- Trunk light
- Cigarette lighter
- Power antenna motor
- Integrated control unit

No.24(7.5A)

- WHT/YEL — PGM-CARB.ECU
- PGM-FI ECU
- A/T control unit
- Stereo radio/cassette player
- Clock(+ B)

No.26(20A)

- WHT/GRN — Power seat (Reclining motor,Rear height motor)
- Power seat height adjuster motor

No.40(20A)

- WHT/RED — Power seat (Sliding motor,Front height motor)
- Power seat height adjuster motor

KF,KG and KX models

No.35(30A)

- WHT/BLK — Headlight washer control unit

KS and KW models

No.35(15A)

- WHT/BLK — L. } Heated seat
- R. }

KF,KG and KX models

No.36(15A)

- WHT/BLK — L.Heated seat

POWER WINDOW RELAY

No.30(20A)

- WHT/YEL — L.Front power window switch

No.33(20A)

- L.Front power window motor

No.32(20A)

- BLU/BLK — R.Front power window switch

No.34(20A)

- R.Front power window motor

- GRN/BLK — L.Rear power window motor

- YEL/BLK — R.Rear power window motor

- BLK — G251

No.5(7.5A) FUSE (From page 16-41)

YEL/GRN

(B)

To pages 16-36,37,38 and 39

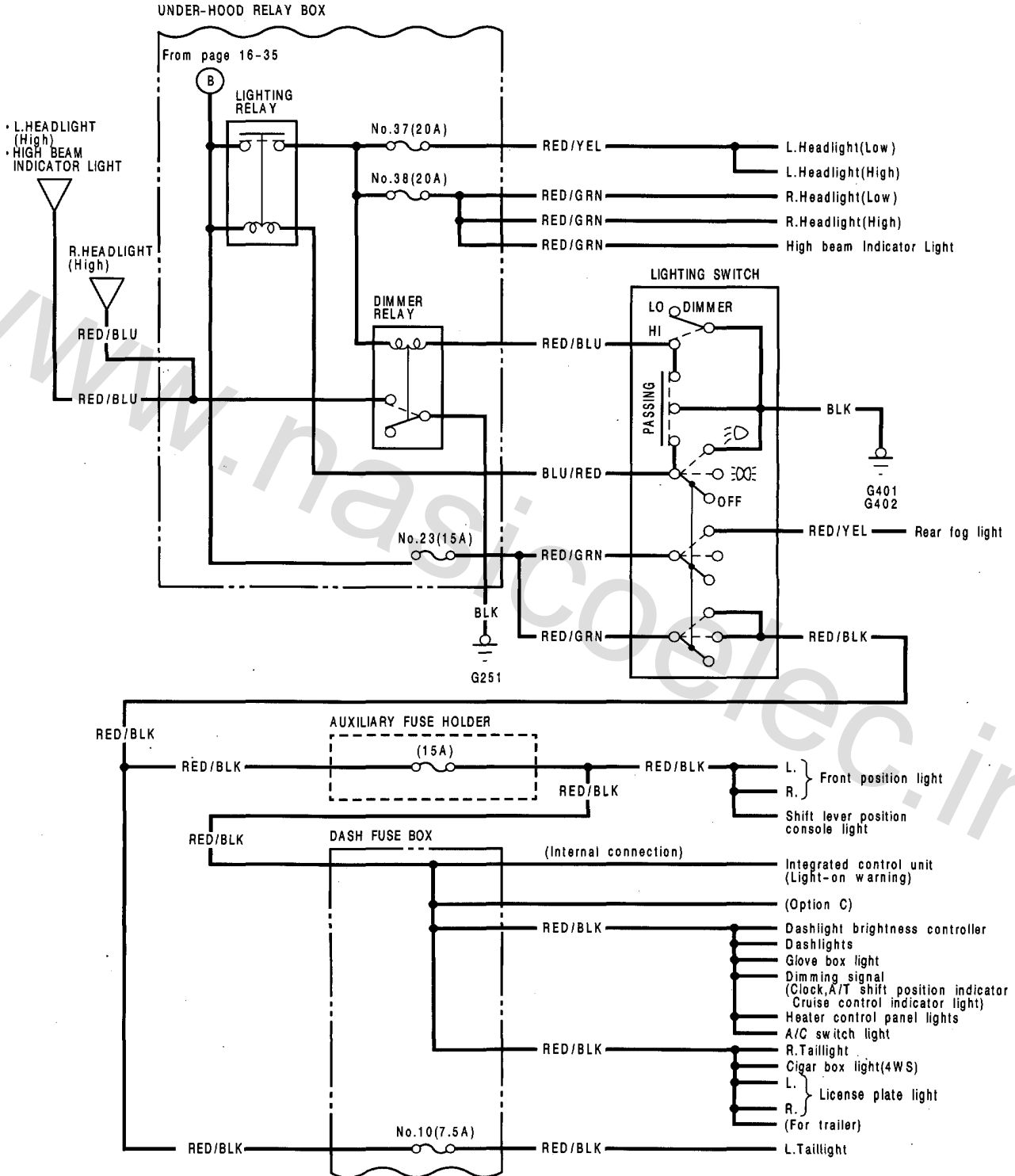
G251

(cont'd)

# Power Distribution

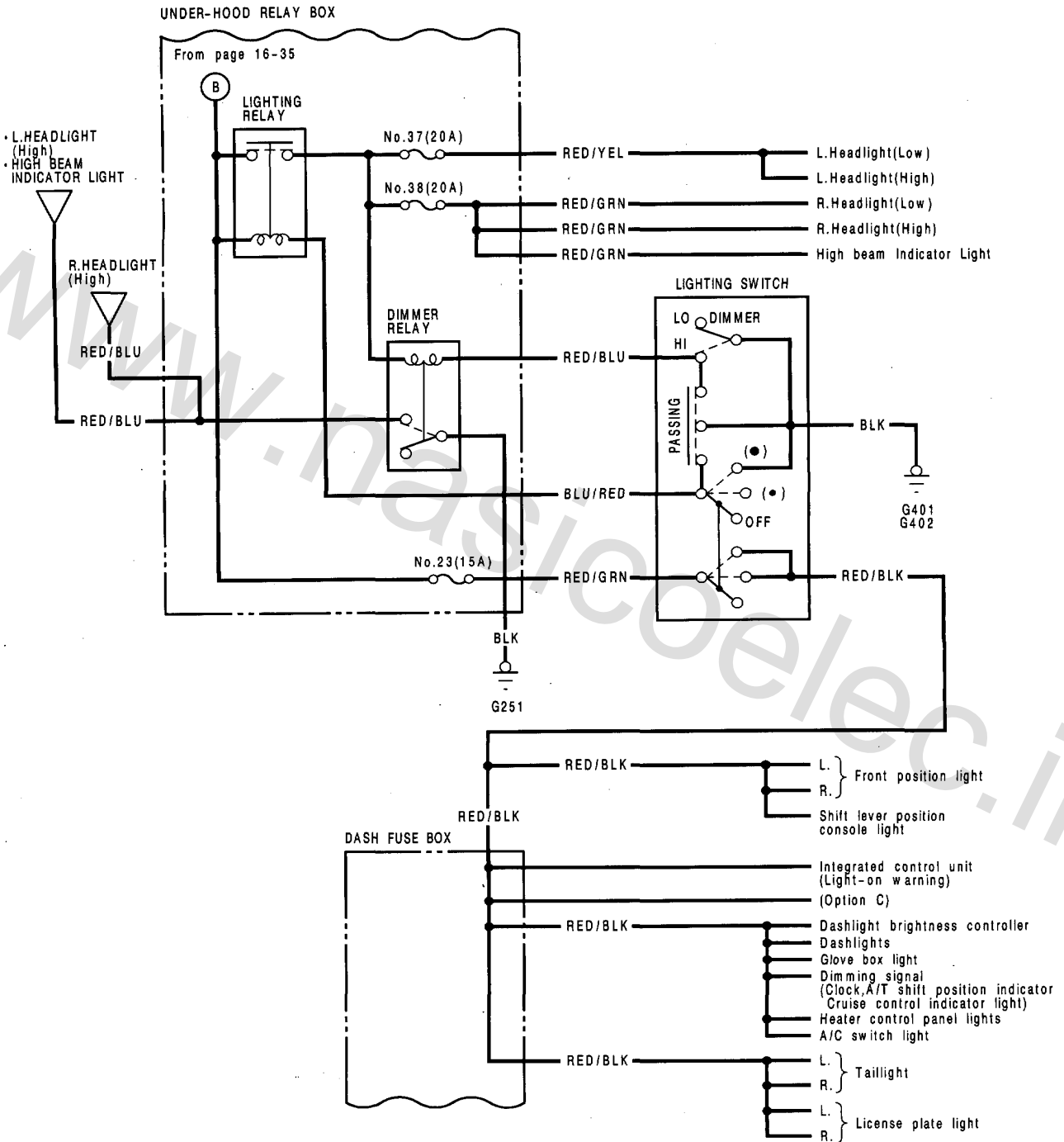
## Circuit Identification (cont'd)

KF, KG, KB and KX models:





KY, KQ, KP and KT models:

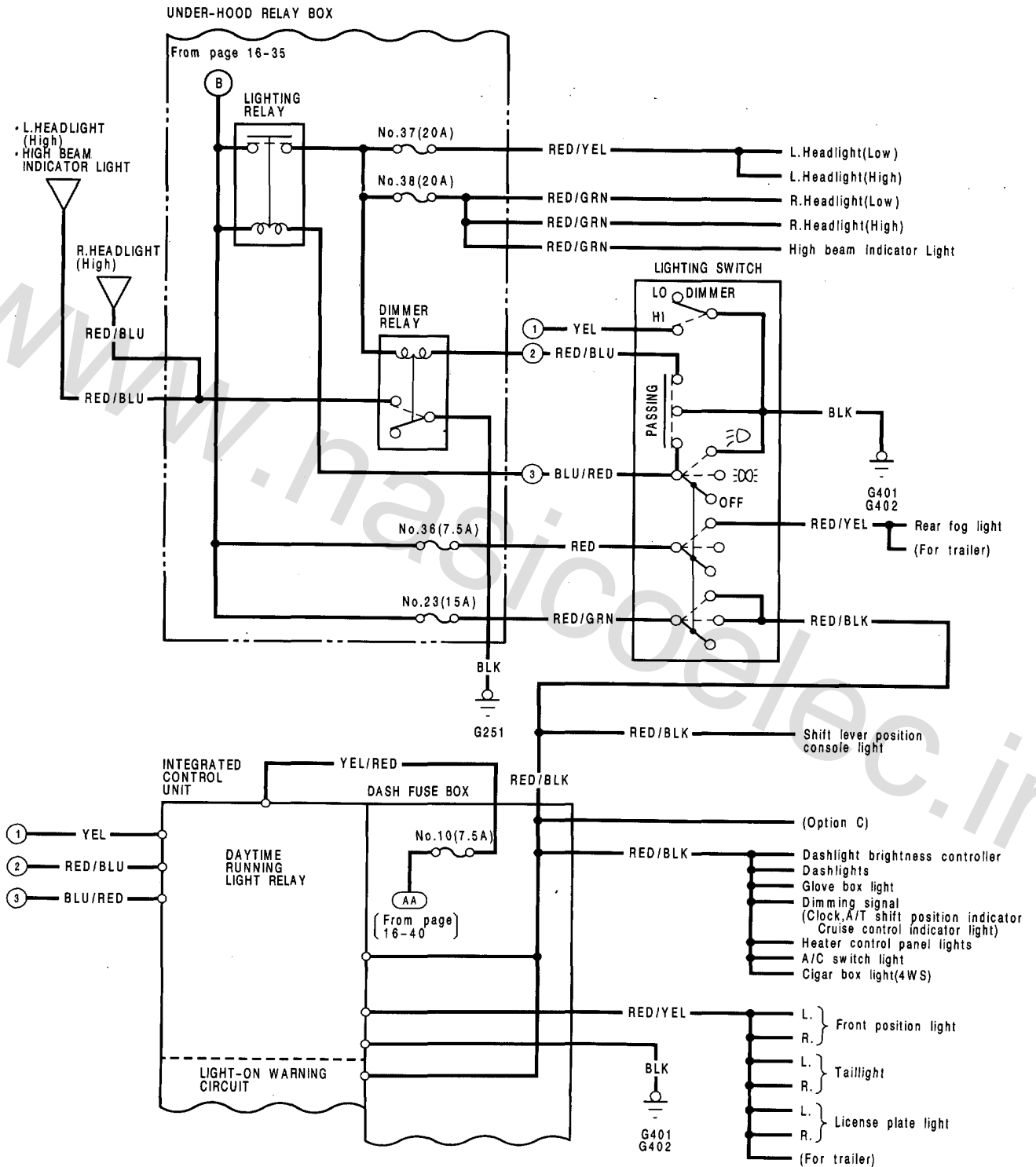


(cont'd)

# Power Distribution

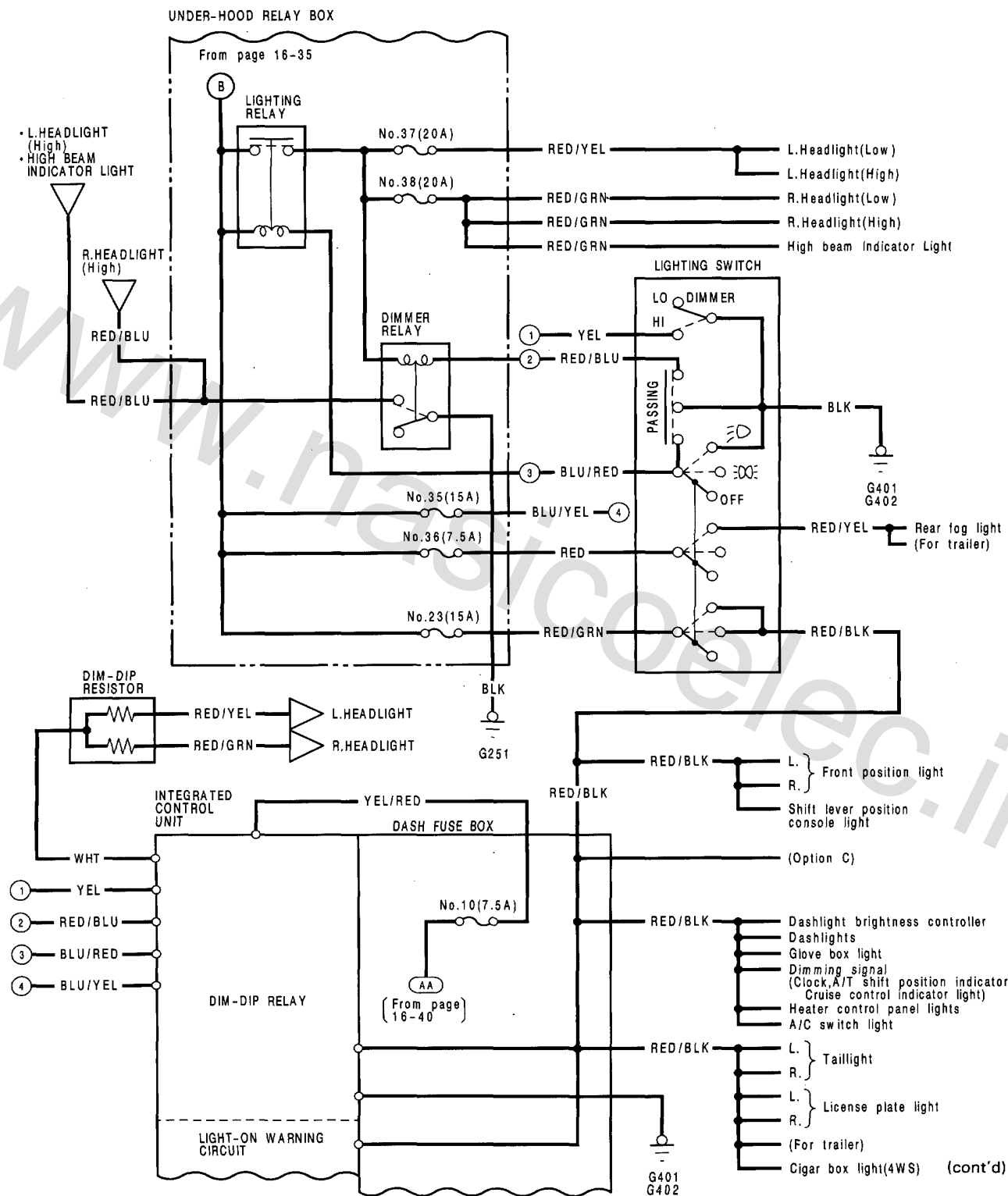
## Circuit Identification (cont'd)

With Daytime Light:



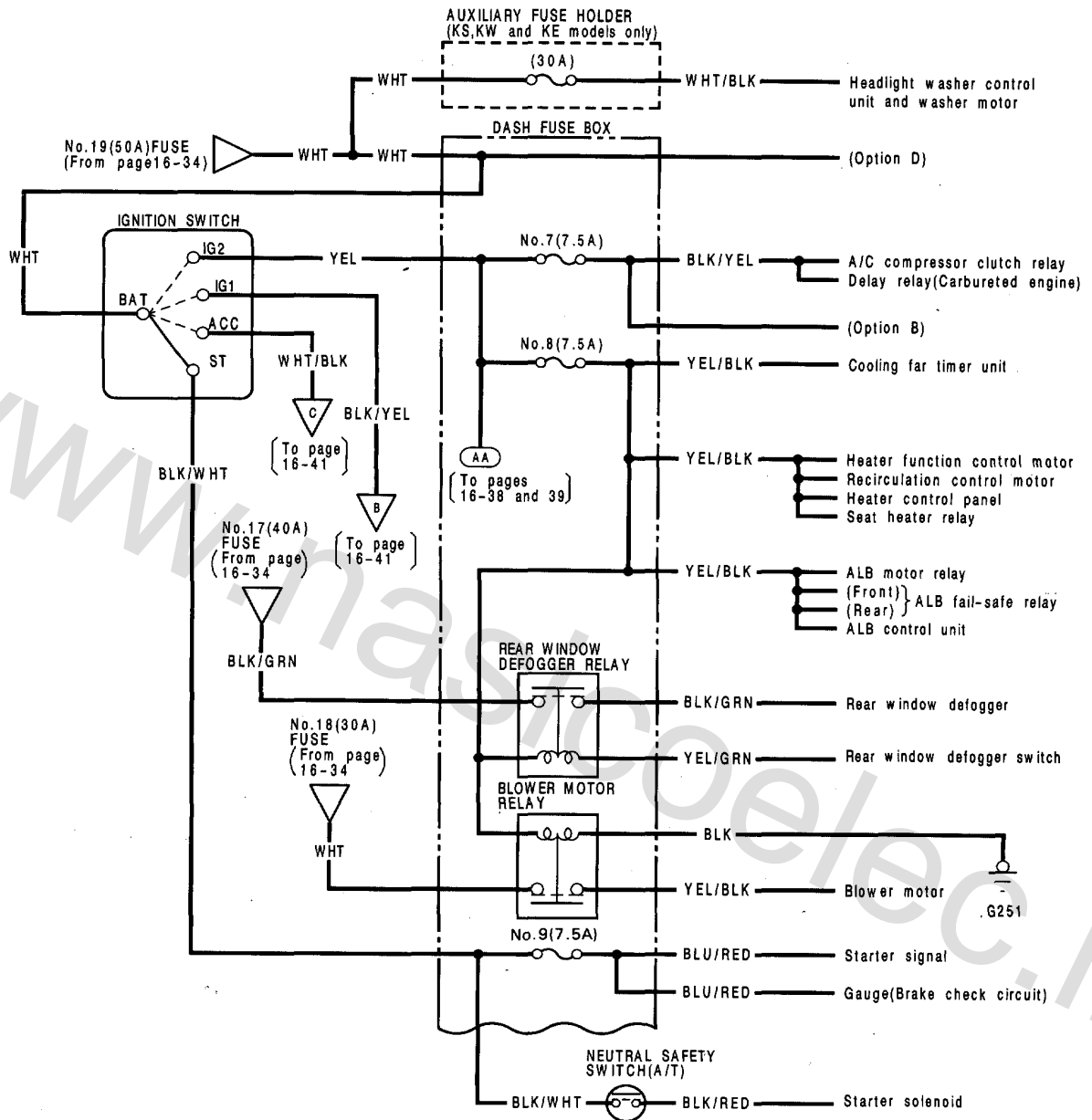


With Dim-Dip Light:



# Power Distribution

## Circuit Identification (cont'd)





DASH FUSE BOX

IGNITION SWITCH  
(From page  
16-40)



BLK/YEL

No.1 (10A)

BLK/YEL

Ignition coil

- Gauge and warning/indicator lights
- Shift lever position indicator
- Safety indicator
- Back-up lights
- Speed sensor
- Turn signal lights/relay
- Clock

(Internal connection)

Integrated control unit(IG1)

No.2 (15A)

BLK/YEL

- PGM-FI main relay and fuel pump
- Emission control solenoid valves
- Voltage regulator(IG1)
- Cooling fan timer unit  
(With fan timer system)
- A/T control unit
- Charge warning light
- Fuel cut relay(Carbureted engine)
- Intake air control solenoid valve
- Engine mount control solenoid valve
- Engine mount control unit
- Air vent cut solenoid valve  
(Carbureted engine : Except KT and KP models)
- Bypass control solenoid valve
- Cruise control main switch and  
Cruise control unit

No.4 (7.5A)

BLK/RED

- Sunroof relay(Open) } and sunroof  
Sunroof relay(Close) } motor
- Power window relay(To page16-35)
- L. } Headlight adjuster unit  
R. }

No.5 (7.5A)

YEL/GRN

No.6 (30A)

YEL/GRN

- Power door mirrors
- Windshield wiper motor
- Washer motors
- Intermittent wiper relay
- Headlight washer control unit

(Internal connection)

Integrated control unit  
(wiper washer circuit)

No.11(10A)

YEL/RED

- Stereo radio/cassette player
- Cigarette lighter relay

(Option A)

IGNITION SWITCH  
(From page  
16-40)

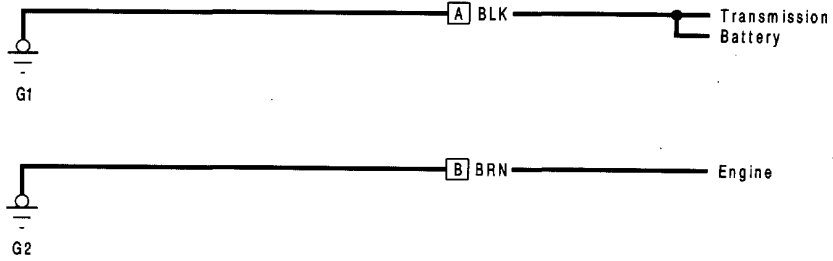


WHT/BLK

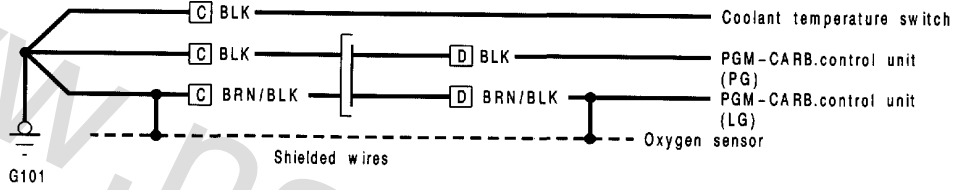
www.nasircootec.ir

# Ground Distribution

## Circuit Identification

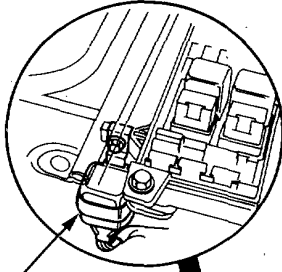


### Carbureted Engine:

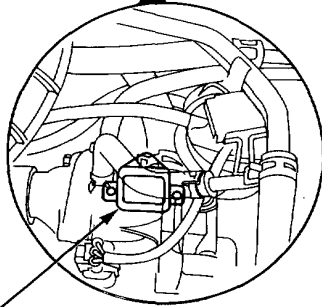
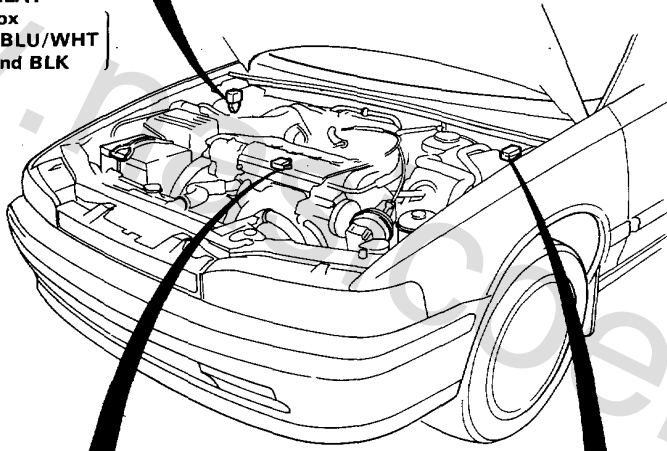


- A** : Battery ground wire
- B** : Engine ground wire
- C** : Engine wire harness
- D** : Main wire harness

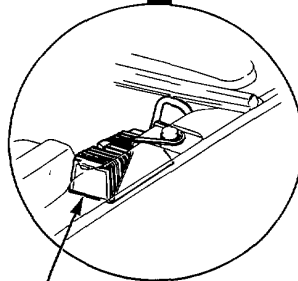




**INTERMITTENT WIPER RELAY**  
(Located under the relay box  
Wire colors: BLU/WHT, BLU/WHT  
GRN/RED and BLK)



**SPEED SENSOR**

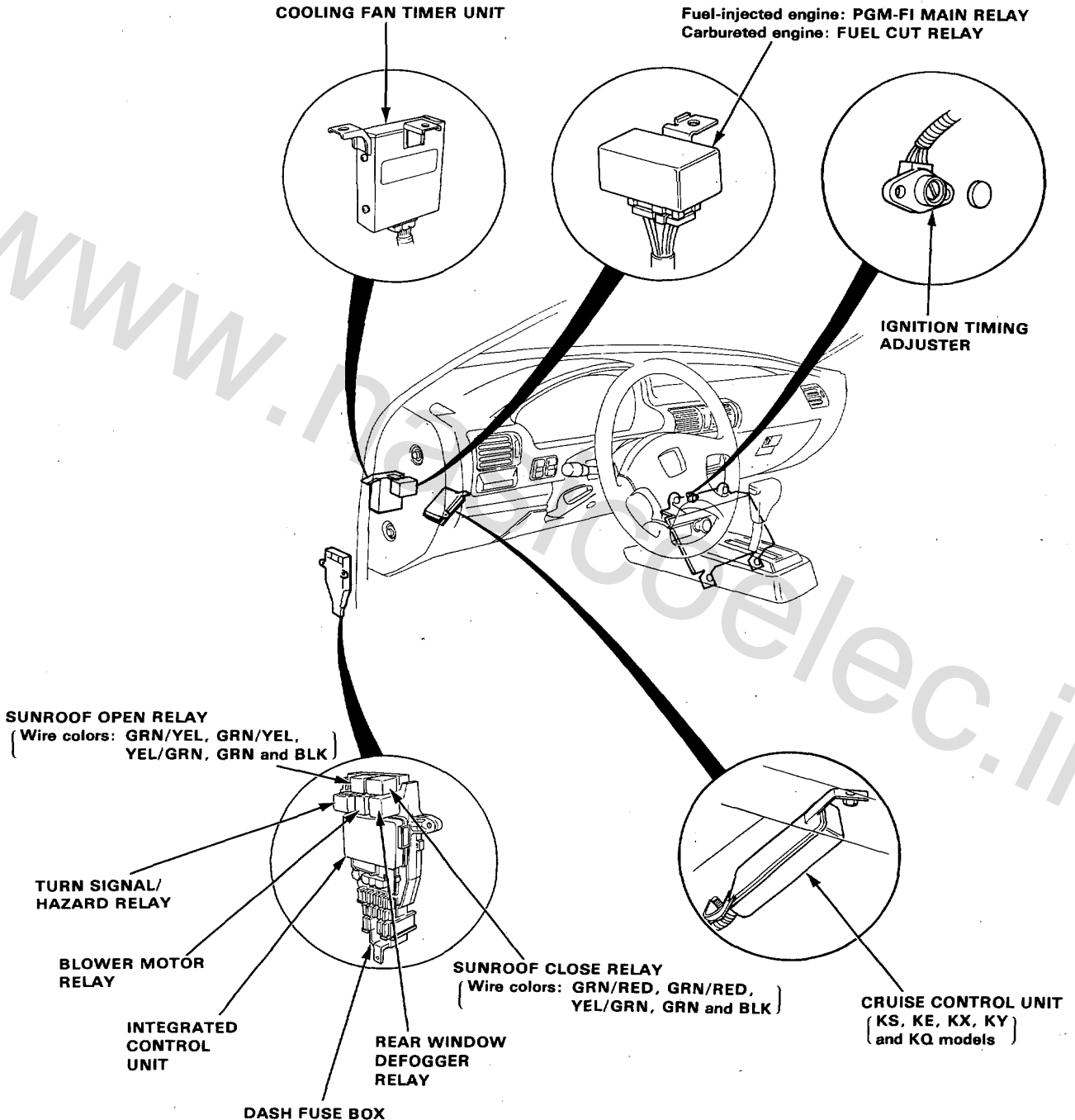


**DIM-DIP RESISTOR**  
(KE model only)

# Relays and Control Unit Locations

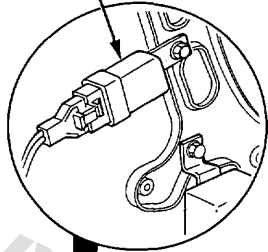
## Dashboard

NOTE: RHD type is symmetrical to LHD type.

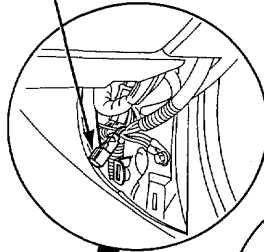




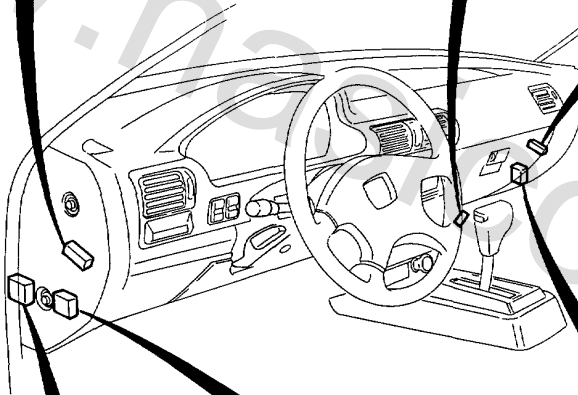
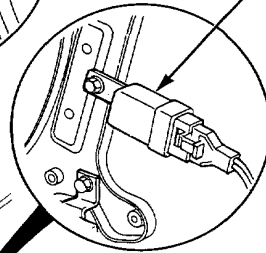
**CIGARETTE LIGHTER RELAY**  
(Wire colors: WHT/BLU, YEL/RED)  
WHT/RED and BLK



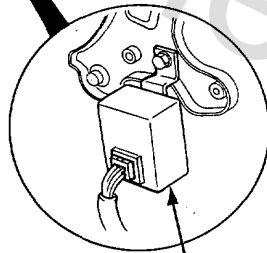
**SERVICE CHECK CONNECTOR**



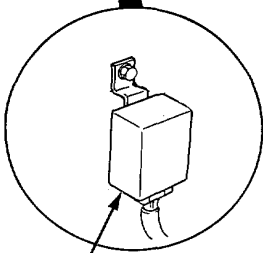
**DELAY RELAY**  
(Carbureted engine)



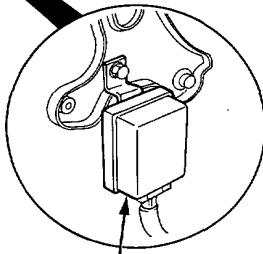
**SEAT HEATER MAIN RELAY**  
(KS, KW and KX models only)  
(Wire colors: YEL/BLK, WHT/BLK)  
BLK/GRN and BLK



**ENGINE MOUNT CONTROL UNIT (A/T only)**



**HEADLIGHT WASHER CONTROL UNIT**  
(European model only)



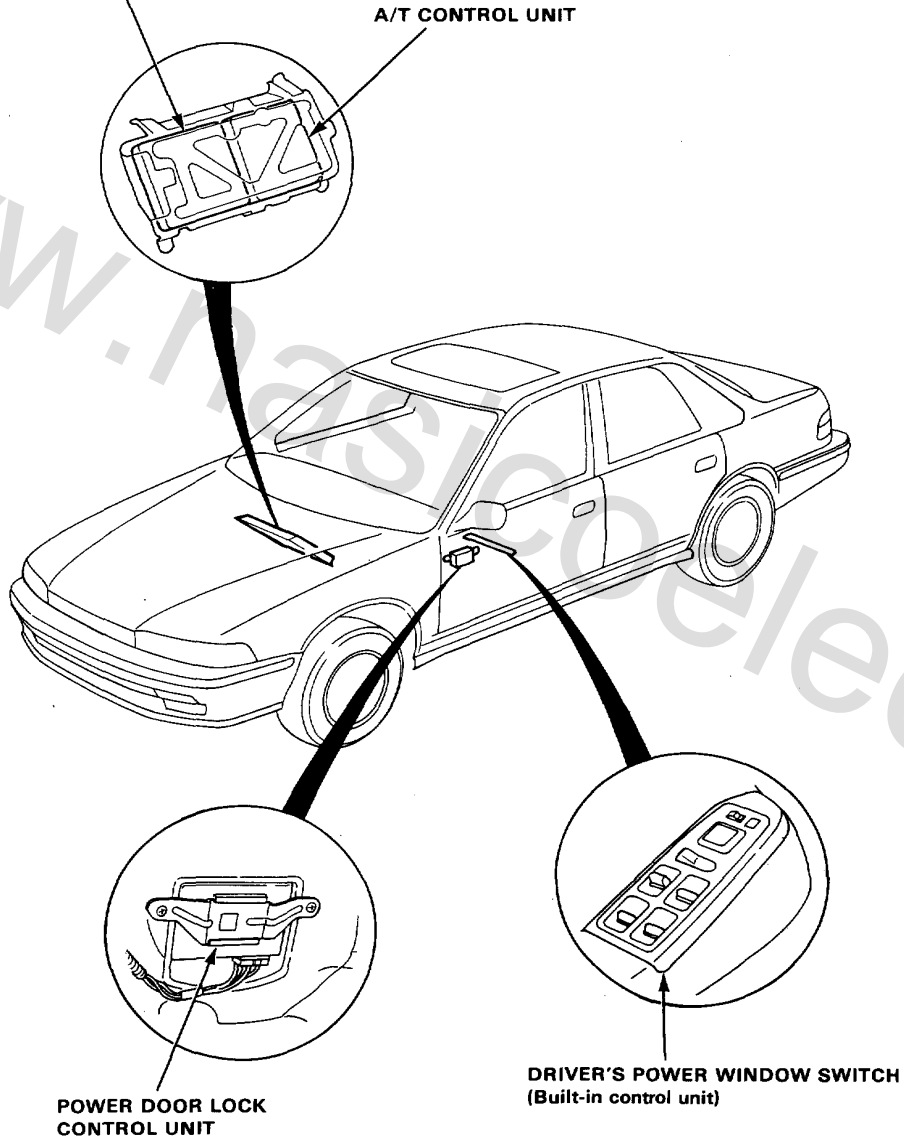
# Relays and Control Unit Locations

## Floor and Door

NOTE: RHD type is symmetrical to LHD type.

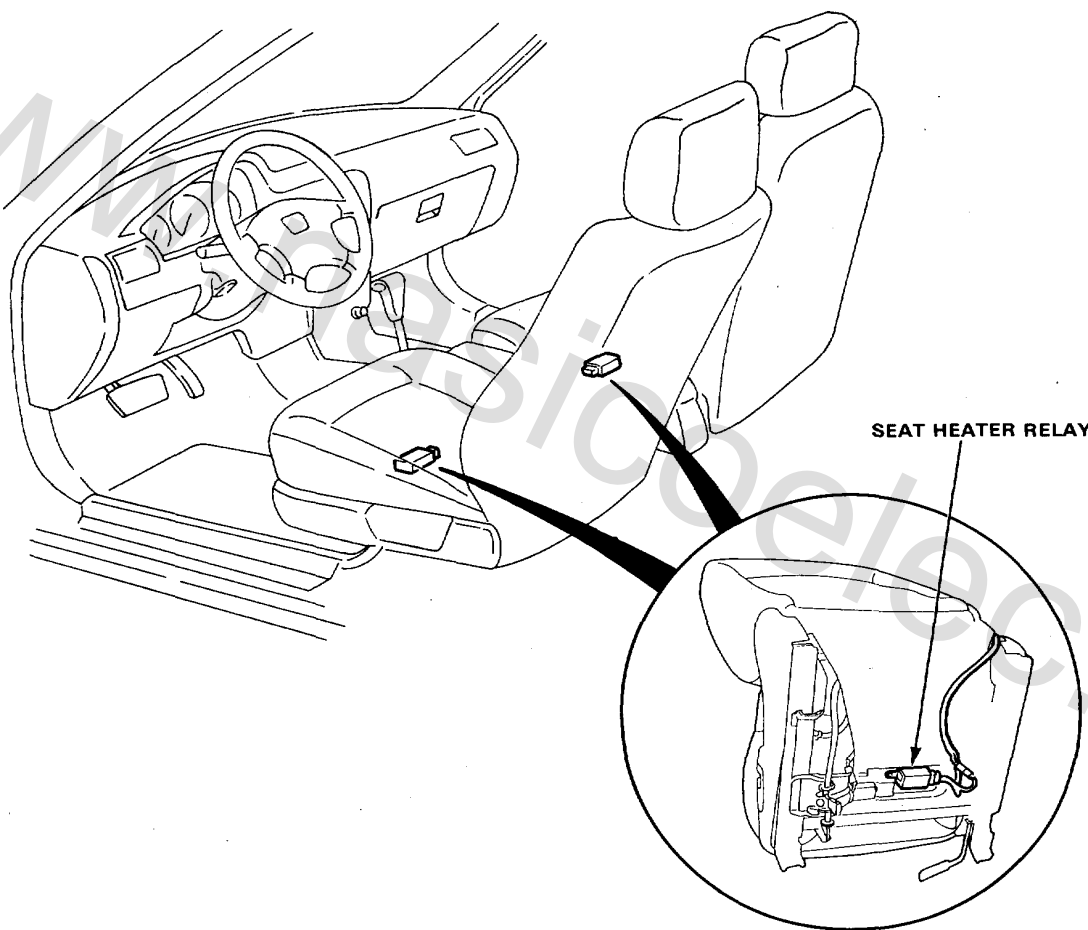
Fuel-injected engine: PGM-FI ECU

Carbureted engine: PGM-CARB. CONTROL UNIT (Except KP and KT models)





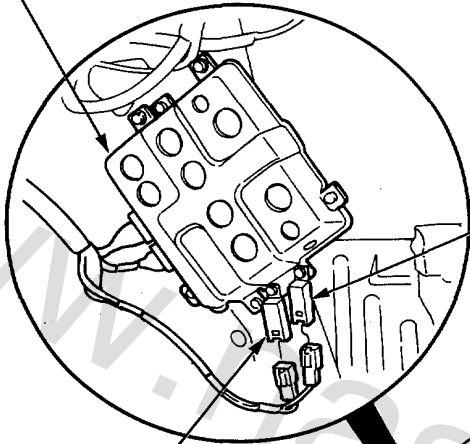
**Seat**



# Relays and Control Unit Locations

Trunk

ALB CONTROL UNIT

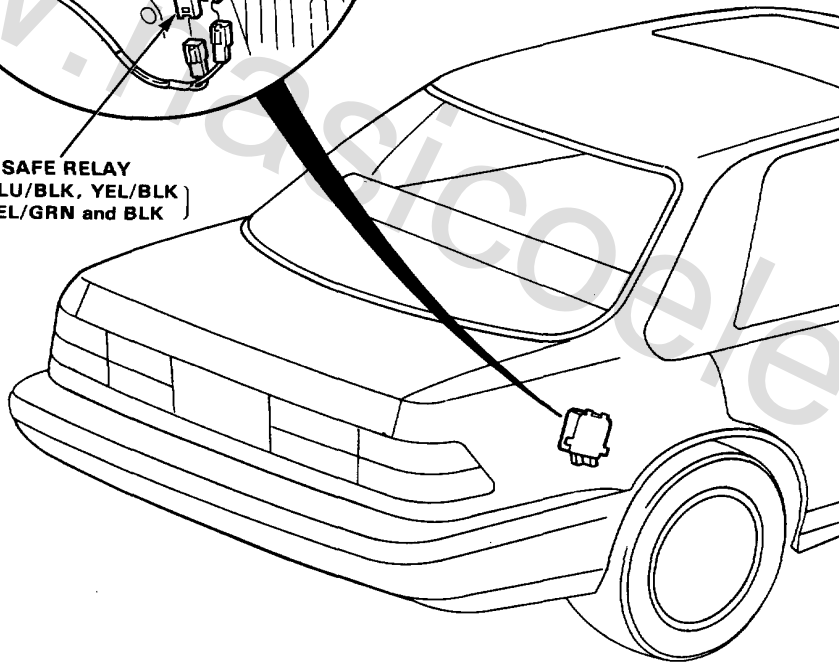


ALB FRONT FAIL  
SAFE RELAY

(Wire colors: BRN/BLK, YEL/BLK)  
YEL/GRN and BLK

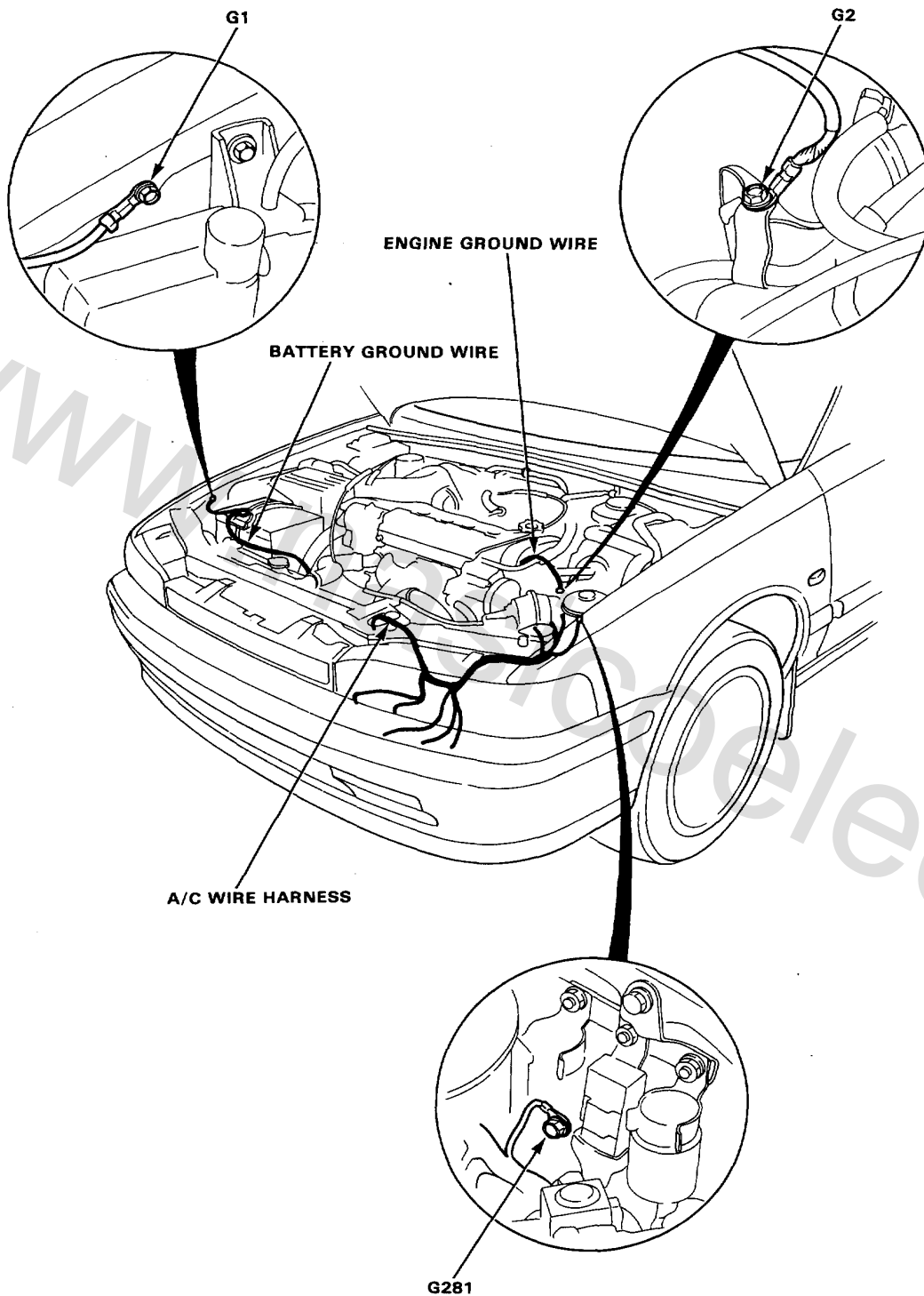
ALB REAR FAIL SAFE RELAY

(Wire colors: BLU/BLK, YEL/BLK)  
YEL/GRN and BLK



# Wire Harness and Ground Locations

## Engine Compartment



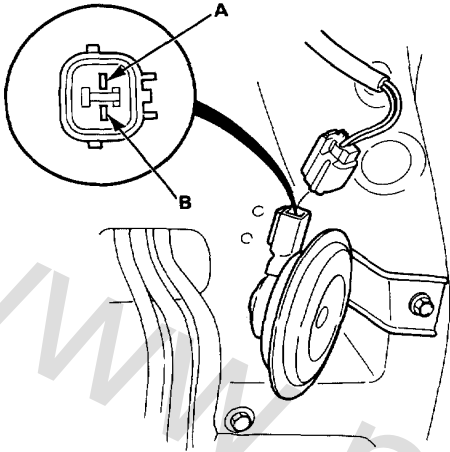
(cont'd)

# Horns



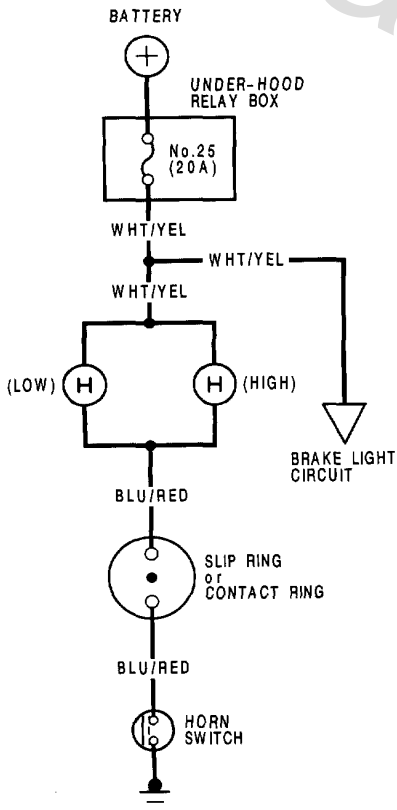
## Test

1. Remove the front bumper.
2. Disconnect the 2-P connector from the horn.
3. Test the horn by connecting battery voltage to the A and B terminals. The horn should sound.
4. If the horn fails to sound, replace it.



### Horn Circuit:

- Slip Ring Test, see page 16-262.

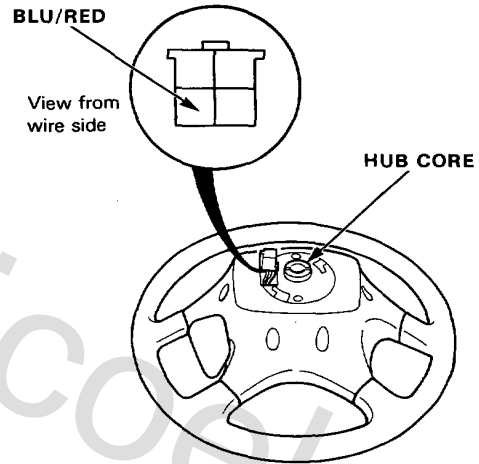


## Switch Test

1. Remove the steering wheel, then turn it over.
2. Check for continuity between the hub core and the contact ring, or the hub core and the BLU/RED lead for cars equipped with cruise control, according to the table.

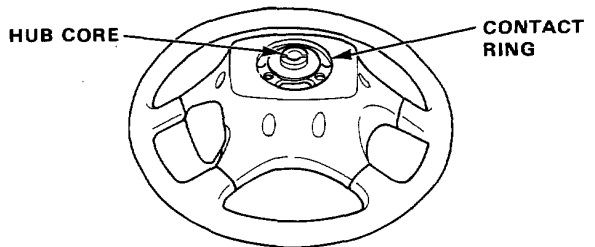
### With Cruise Control:

Terminal Position	HUB CORE	BLU/RED
PRESS	○—○	○—○
FREE		



### Without Cruise Control:

Terminal Position	HUB CORE	CONTACT RING
PRESS	○—○	○—○
FREE		



3. If OK, reinstall the steering wheel, then test the combination switch.



# Low Fuel Warning System

## Warning Light Test

NOTE: Refer to page 16-112 for wiring description of the low fuel warning circuit.

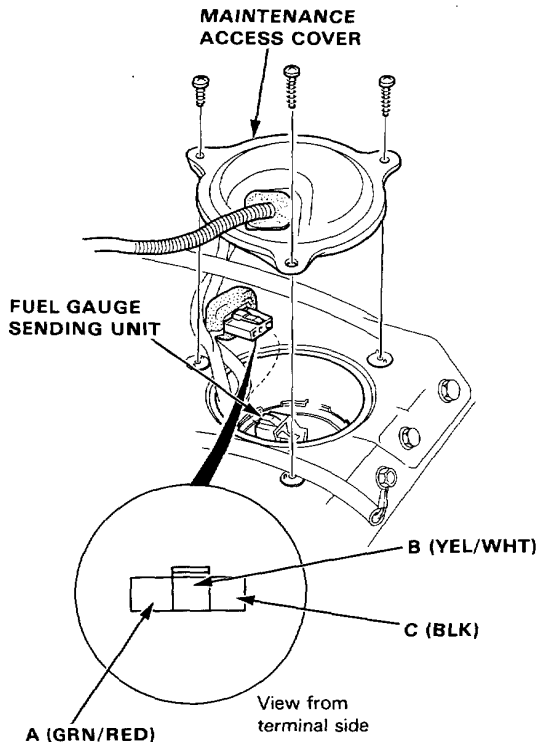
1. Park car on level ground.

**⚠ WARNING** Do not smoke while working on fuel system. Keep open flame away from work area. Drain fuel only into an approved container.

2. Drain fuel tank into an approved container. Then install the drain bolt with a new washer.
3. Add less than 8.6 ℓ (2.2 U.S. Gal, 1.8 Imp. Gal) of fuel and turn the ignition switch on. The low fuel warning light should come on within 4 minutes.
4. Then add one more gallon of fuel [approx. 4 ℓ (1.1 U.S. Gal, 0.9 Imp. Gal)]. The light should go out within 4 minutes.

● If the warning light did not come on in step 3, remove the maintenance access cover and disconnect the 3-P connector from the fuel gauge sending unit. Connect the A (GRN/RED) terminal to the C (BLK) terminal with a jumper wire.

- If the light comes on, the problem is either the sending unit or its ground.
- If the light does not come on, the problem is an open in the GRN/RED wire to the gauge assembly, no power to the gauge or bad bulb.



# Oil Pressure Warning System



## Description

NOTE: Refer to page 16-112 for wiring description of the oil pressure warning circuit.

With the engine running and normal oil pressure, the oil pressure switch is open and the oil pressure warning light does not operate. If engine oil pressure falls below 24.5 kpa (0.25 kg/cm<sup>2</sup>, 3.6 psi), the oil pressure switch is closed, current flows through the oil pressure warning light and the oil pressure switch to ground, and the oil pressure light goes on.

## Oil Pressure Switch Test

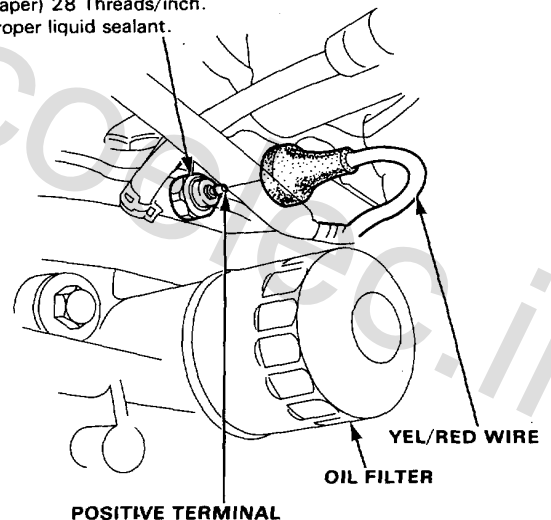
1. Disconnect the YEL/RED wire from the oil pressure switch.
2. There should be continuity between the positive terminal and the engine(ground) with the engine stopped. There should be no continuity when the engine runs.

### OIL PRESSURE SWITCH

18 N·m (1.8 kg-m, 13 lb-ft)

1/8 in. BSP (British Standard Pipe Taper) 28 Threads/inch.

Use proper liquid sealant.



3. If the switch fails to operate, check the engine oil level, then inspect the oil pump and pressure if the oil level is correct (see section 5).

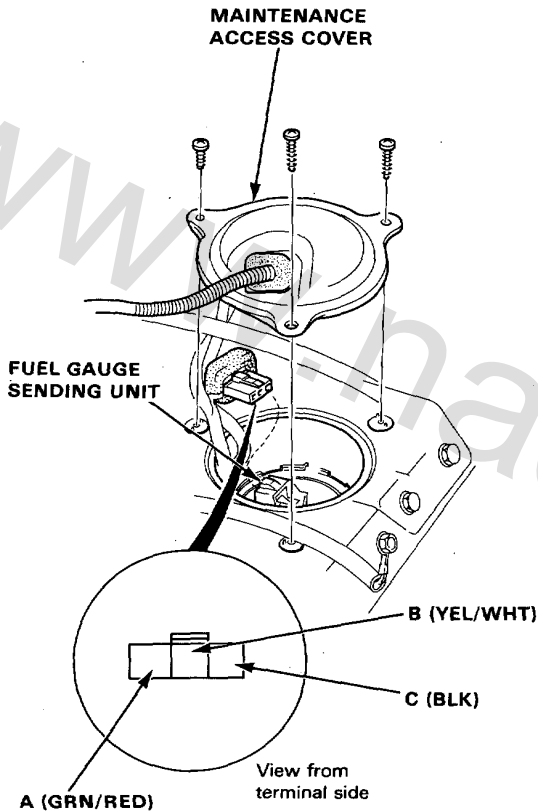
# Fuel Gauge

## Gauge Test

**NOTE:**

- Refer to page 16-112 for wiring description of the fuel gauge circuit.
- Check the No. 1 (10 A) fuse in the dash fuse box before testing.

1. Remove the maintenance access cover.
2. Disconnect the 3-P connector from the fuel gauge sending unit.



3. Connect the voltmeter positive probe to the B (YEL/WHT) terminal and the negative probe to the C (BLK) terminal, then turn the ignition switch ON. There should be between 5 and 8V.

- If the voltage is as specified, go to step 4.

- If the voltage is not as specified, check for:
  - An open in the YEL, YEL/WHT or BLK wire.
  - Poor ground (G401).

4. Turn the ignition switch OFF. Attach a jumper wire between the B (YEL/WHT) and C (BLK) terminals.

Turn the ignition switch ON.

Check that the pointer of the fuel gauge starts moving toward "F" mark.

**CAUTION:** Turn the ignition switch OFF before the pointer reaches "F" mark on the gauge dial. Failure to turn the ignition switch OFF before the pointer reaches the "F" mark may cause damage to the fuel gauge.

**NOTE:** The fuel gauge is a bobbin (cross coil) type, hence the fuel level is continuously indicated even when the ignition switch is OFF, and the pointer moves more slowly than that of a bimetal type.

- If the pointer of the fuel gauge does not swing at all, replace the gauge.

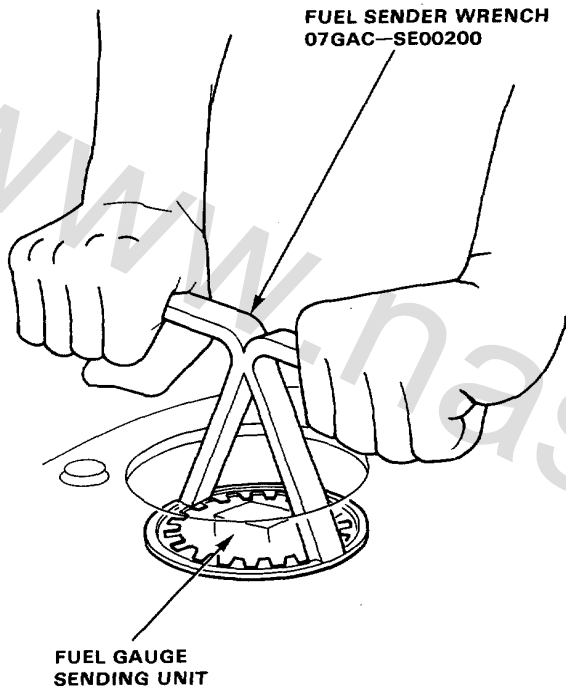
- Inspect the fuel gauge sending unit if the gauge is OK.



## Sending Unit Test/Replacement

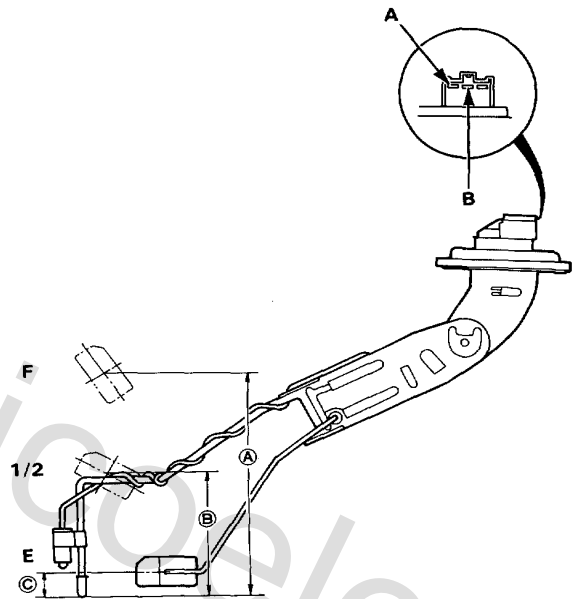
**⚠ WARNING** Do not smoke while working on fuel system. Keep open flame away from work area.

1. Remove the maintenance access cover.
2. With the ignition switch OFF, disconnect the 3-P connector from the fuel gauge sending unit.
3. Remove the fuel gauge sending unit.



4. Measure resistance between the A and B terminals at E (EMPTY), 1/2 (HALF FULL) and F (FULL) by moving the float.

Float Position	E	1/2	F
Resistance ( $\Omega$ )	105-110	25.5-39.5	2-5



Float Position	A	B	C
With 4WS	121.5 mm (4.8 in)	70.0 mm (2.8 in)	17.0 mm (0.7 in)
Without 4WS	146.0 mm (5.7 in)	80.0 mm (3.1 in)	17.0 mm (0.7 in)

5. If unable to obtain the above readings, replace the fuel gauge sending unit.

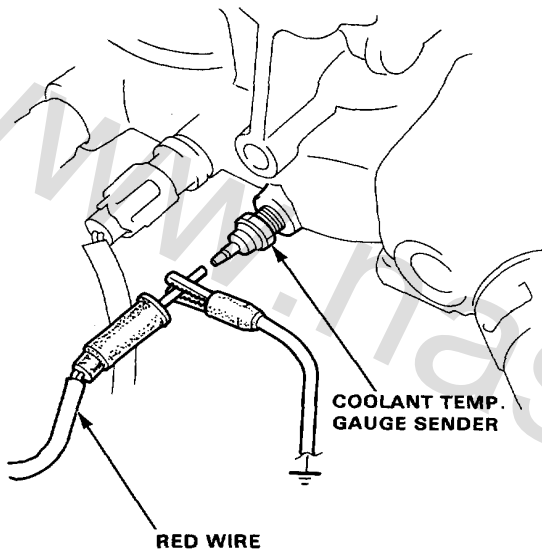
# Coolant Temperature Gauge

## Gauge Test

### NOTE:

- Refer to page 16-112 for wiring description of the coolant temperature gauge circuit.
- Check the No. 1 (10 A) fuse in the dash fuse box before testing.

1. Make sure the ignition switch is OFF, then disconnect the RED wire from the coolant temperature gauge sender and ground it with a jumper wire.



2. Turn the ignition switch ON. Check that the pointer of the coolant temperature gauge starts moving toward "H" mark.

**CAUTION:** Turn the ignition switch OFF before the pointer reaches "H" mark on the gauge dial. Failure to turn the ignition OFF quickly enough may cause damage to the gauge.

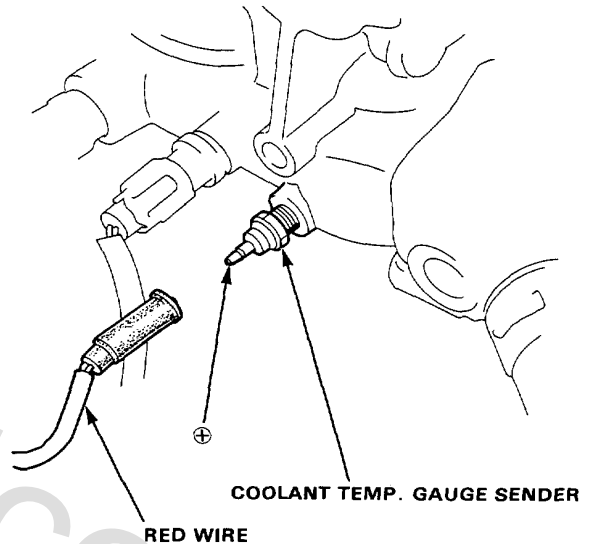
- If the pointer of the gauge does not swing at all, check for an open in the YEL or RED wire.

Replace the coolant temperature gauge if the fuse and wiring are normal.

- Inspect the gauge sender if the gauge is OK.

## Sender Test

1. Disconnect the RED wire from the sender.
2. With the engine cold, use an ohmmeter to measure resistance between the positive terminal and the engine (ground).



3. Check the temperature of the coolant.
4. Run the engine and measure the change in resistance with the engine at operating temperature (cooling fan comes on).

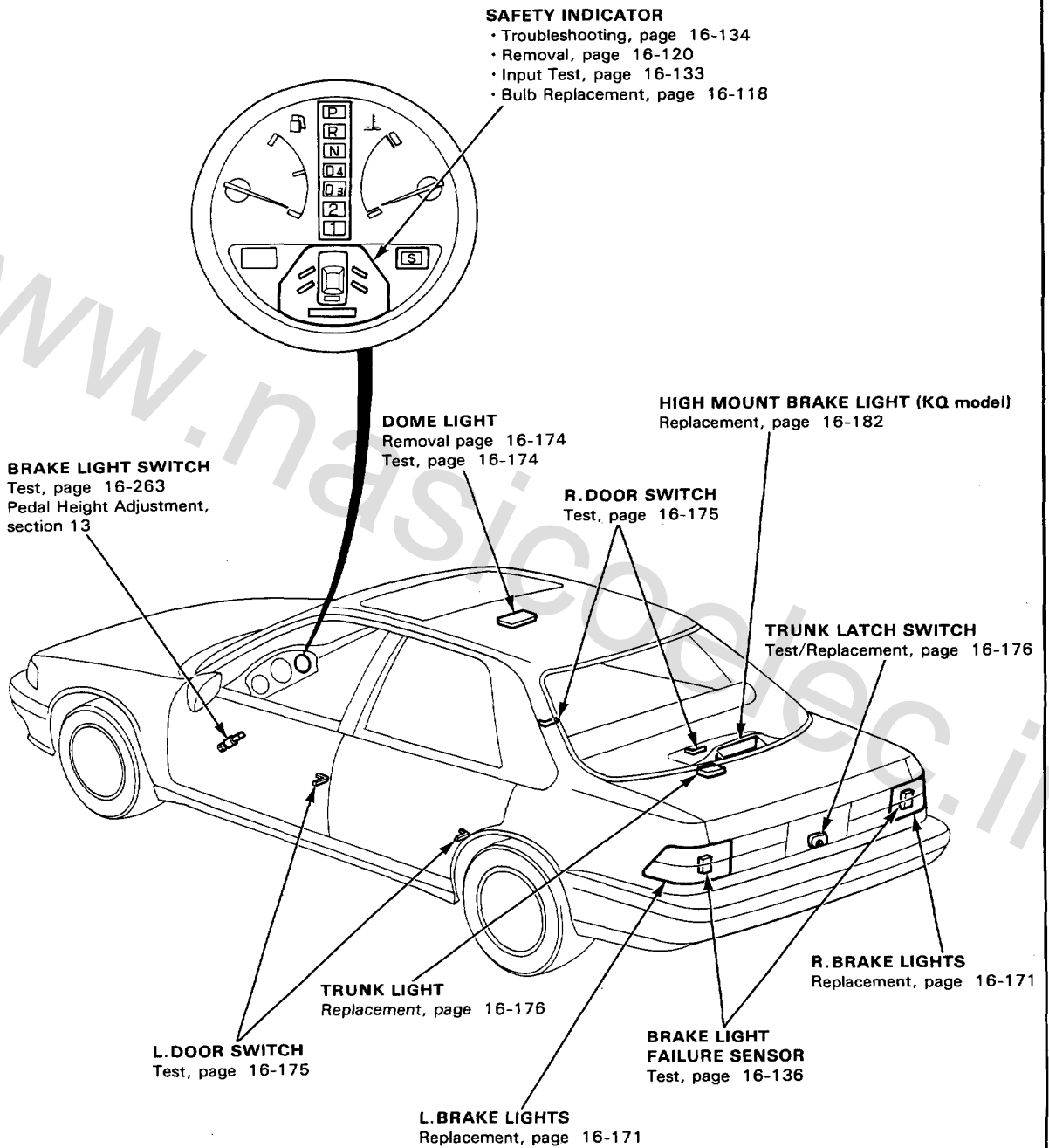
Temperature	56°C (133°F) ["C" mark]	85°C (185°F) 100°C (212°F)
Resistance (Ω)	142	49 - 32

5. If obtained readings are substantially different from specifications above, replace the gauge sender.

# Safety Indicator



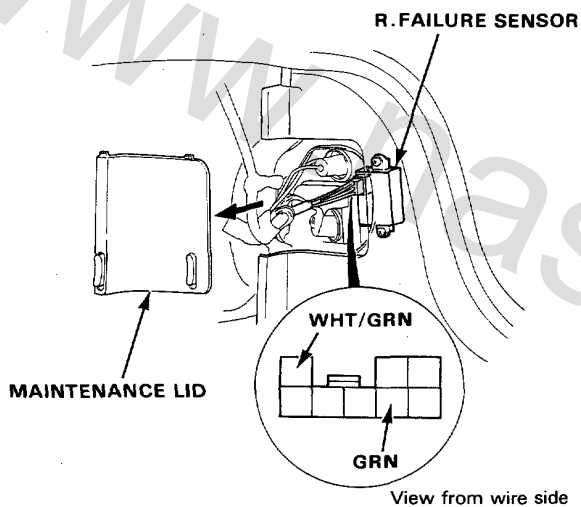
## Component Location Index



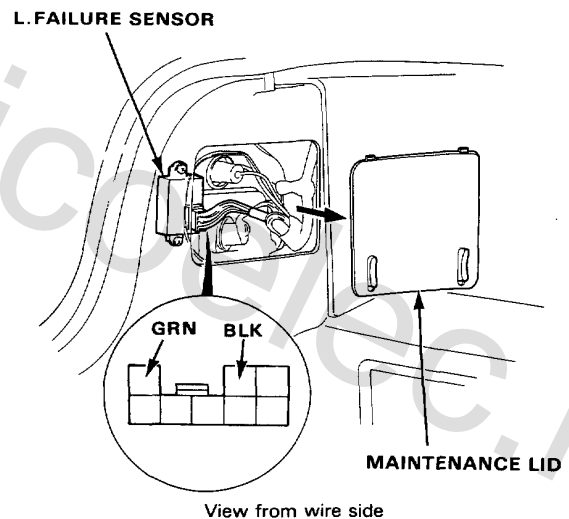
# Safety Indicator

## Brake Light Failure Sensor Test (KQ model)

1. First make sure the brake lights come on when the brake pedal is pressed.
  - If none of the brake lights come on, check the brake light circuit (see page 16-181).
  - If one of the brake lights does not come on, check whether the bulb is blown. If the bulb is OK, go to step 2.
  - If all the brake lights come on, go to step 2.
2. Open the trunk lid and the maintenance lid of the right taillight. Make sure the **BRAKE LAMP** of the safety indicator does not come on when the WHT/GRN terminal of the 8-P connector is grounded and the ignition switch is turned OFF to ON.



- If the **BRAKE LAMP** comes on, check for an open in the WHT/GRN wire between the safety indicator and the right failure sensor and whether the safety indicator circuit (main print panel) has a problem.
  - If the **BRAKE LAMP** does not come on, go to step 3.
3. Make sure the **BRAKE LAMP** does not come on when the ignition switch is turned OFF to ON with the GRN terminal of the 8-P connector grounded and the brake pedal pressed.
    - If the **BRAKE LAMP** comes on, replace the right failure sensor.
    - If the **BRAKE LAMP** does not come on, go to step 4.
  4. Open the maintenance lid of the left taillight. Make sure the **BRAKE LAMP** does not come on when the ignition switch is turned OFF to ON with the GRN terminal of the 8-P connector grounded and the brake pedal pressed.





- If the **BRAKE LAMP** comes on, there is an open in the GRN wire between the left failure sensor and the right failure sensor.
  - If the **BRAKE LAMP** does not come on, go to step 5.
5. Make sure the **BRAKE LAMP** does not come on when the ignition switch is turned OFF to ON with the BLK terminal of the 8-P connector grounded and the brake pedal pressed.
- If the **BRAKE LAMP** comes on, replace the left failure sensor.
  - If the **BRAKE LAMP** does not come on, check for an open in the BLK wire between the left failure sensor and ground, and check whether the G701 terminal is poor.

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# Shift Lever Position Indicator

## Component Location Index

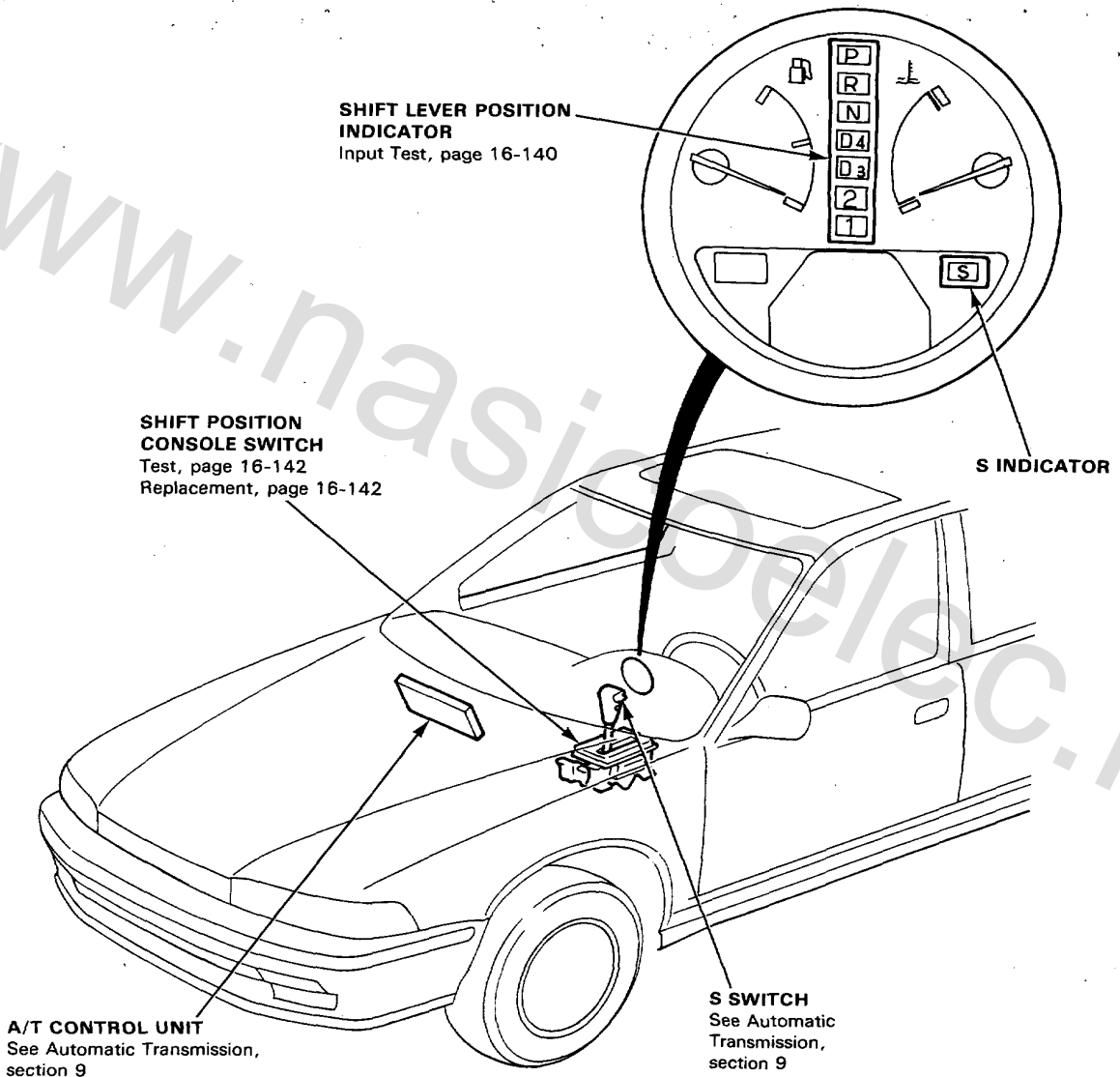
- **GAUGE ASSEMBLY**

Removal, page 16-120

Disassembly, page 16-118

- **A/T CONTROL SYSTEM**

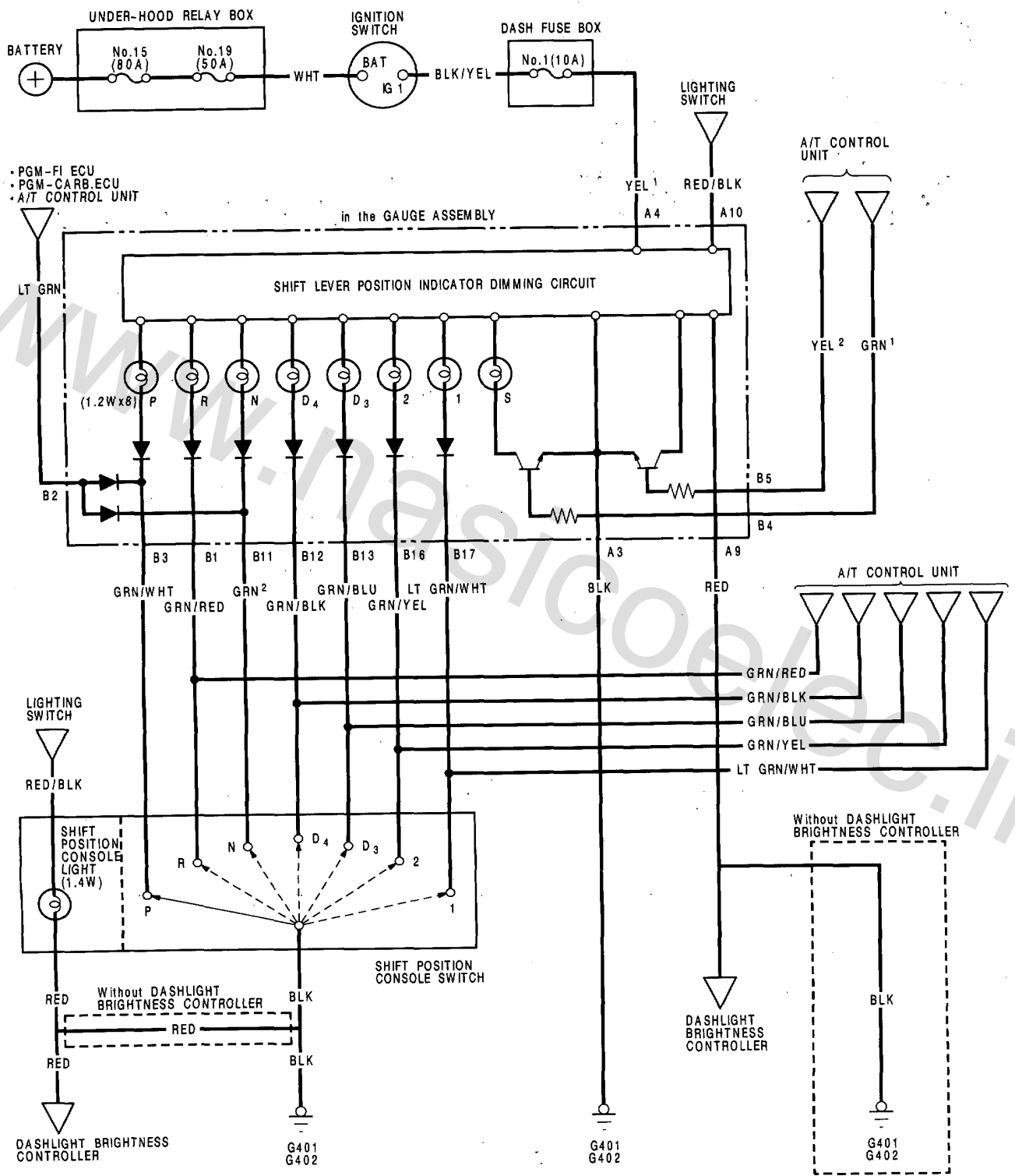
See Automatic Transmission, section 9.







# Circuit Diagram

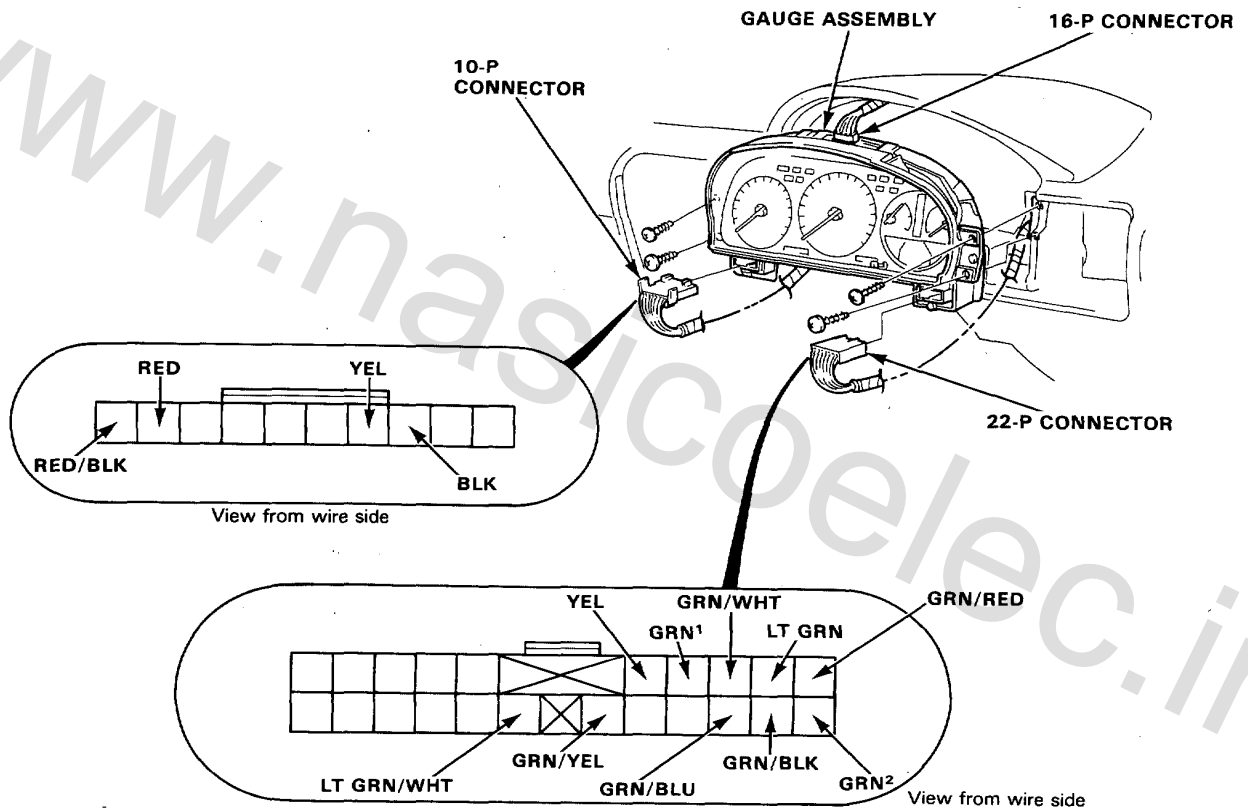


# Shift Lever Position Indicator

## Indicator Input Test

Remove the gauge assembly from the dashboard and disconnect the 10-P, 16-P and 22-P connectors from the gauge assembly. Make the following input tests at the harness pins. If all tests prove OK, yet the indicator still fails to work, replace the main print panel, the tachometer, the speedometer and the odo/trip meter as a set.

NOTE: Several different wires have the same color. They have been given a number suffix to distinguish them (for example GRN<sup>1</sup> and GRN<sup>2</sup> are not the same).





No.	Wire	Test condition	Test: desired result	Possible cause (if result is not obtained)
1	BLK	Under all conditions.	Check for continuity to ground: should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G401, G402)</li> <li>• An open in the wire.</li> </ul>
2	YEL <sup>1</sup>	Ignition switch ON.	Check for voltage to ground: should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No.1 (10 A) fuse.</li> <li>• An open in the wire.</li> </ul>
3	GRN/WHT	Shift lever position in P.	Check for continuity to ground: should be continuity.	<ul style="list-style-type: none"> <li>• Faulty shift position console switch</li> <li>• Poor ground (G401, G402)</li> <li>• An open in the wire.</li> </ul>
	GRN/RED	Shift lever position in R.		
	GRN <sup>2</sup>	Shift lever position in N.		
	GRN/BLK	Shift lever position in D <sub>4</sub>		
	GRN/BLU	Shift lever position in D <sub>3</sub>		
	GRN / YEL	Shift lever position in 2.		
	LTGRN/WHT	Shift lever position in 1.		
4	RED/BLK and RED	Lighting switch ON and dashlight brightness control knob on full bright.	Check for voltage between RED/BLK and RED terminals: should be battery voltage.	<ul style="list-style-type: none"> <li>• Faulty dashlight brightness control system.</li> <li>• An open in the wire.</li> </ul>
5	GRN <sup>1</sup>	Ignition switch ON, shift lever position in D <sub>3</sub> or D <sub>4</sub> and S switch ON.	Check for voltage to ground: should be about 5 V.	<ul style="list-style-type: none"> <li>• Faulty S switch.</li> <li>• Faulty shift position console switch.</li> <li>• Faulty A/T control system.</li> <li>• An open in the wire.</li> </ul>
6	YEL <sup>2</sup>	Ignition switch ON, shift lever position in D <sub>3</sub> or D <sub>4</sub> and S switch ON.	Check for voltage to ground: should be battery voltage.	<ul style="list-style-type: none"> <li>• Faulty S switch.</li> <li>• Faulty shift position console switch</li> <li>• Faulty A/T control system.</li> <li>• An open in the wire.</li> </ul>
7	LT GRN	Ignition switch ON.	Check for voltage to ground: should be about 5 V.	<ul style="list-style-type: none"> <li>• Faulty PGM-FI ECU.</li> <li>• Faulty PGM-CARB. ECU.</li> <li>• An open in the wire.</li> </ul>

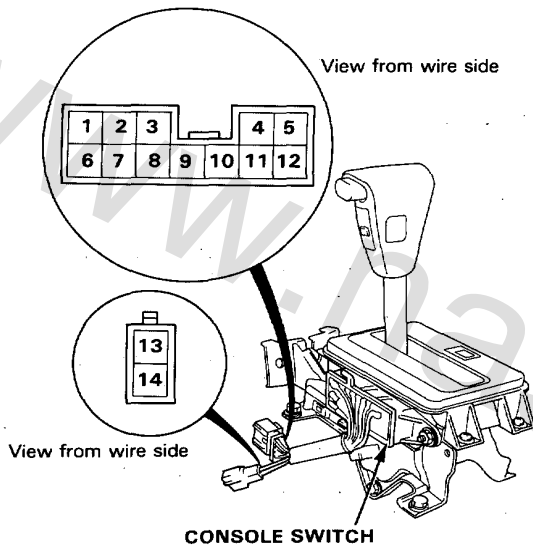
# Shift Lever Position Indicator

## Shift Position Console Switch Test

1. Remove the console, then disconnect the 12-P and 2-P connectors from the console switch.
2. Check for continuity between the terminals in each position according to the table.

**NOTE:**

- Move the lever back and forth without touching the push button at each position, and check for continuity within a range of free play of the shift lever.
- If no continuity within a range of free play, adjust the installation position of console switch.



**Shift Position Console Switch**

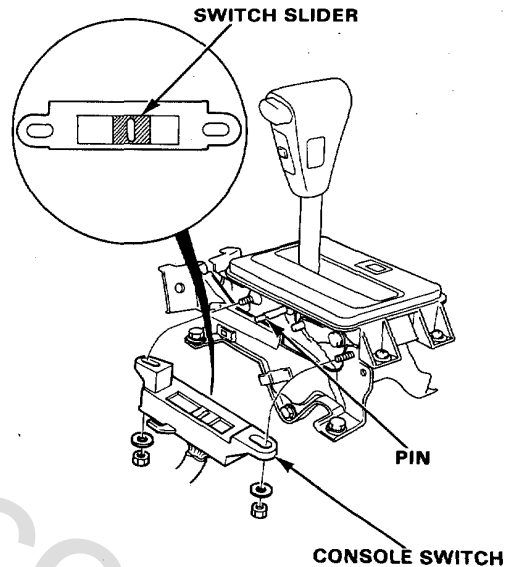
Terminal Position	8	1	2	3	4	5	6	7	11
1	○				○				
2	○			○		○			
D <sub>3</sub>	○		○			○			
D <sub>4</sub>	○	○				○			
N	○						○		
R	○							○	
P	○								○

**Back-up Light Switch      Neutral Safety Switch**

Terminal Position	9	10	13	14
1				
2				
D <sub>3</sub>				
D <sub>4</sub>				
N			○	○
R	○	○		
P			○	○

## Shift Position Console Switch Replacement

1. Remove the console, then disconnect the 12-P and 2-P connectors from the console switch.
2. Remove the 2 console switch mounting bolts.



3. Position the switch slider to "Neutral" as shown above.
4. Shift the select lever to "Neutral", then slip the console switch into position.
5. Attach the switch with the 2 bolts.
6. Test the console switch with P and N position of shift lever (see page 16-142).

**NOTE:** The engine should start when the shift lever is in the N position in the range of free play.

7. Connect the 12-P and 2-P connectors, clamp the harness and install the console.

# Integrated Control Unit

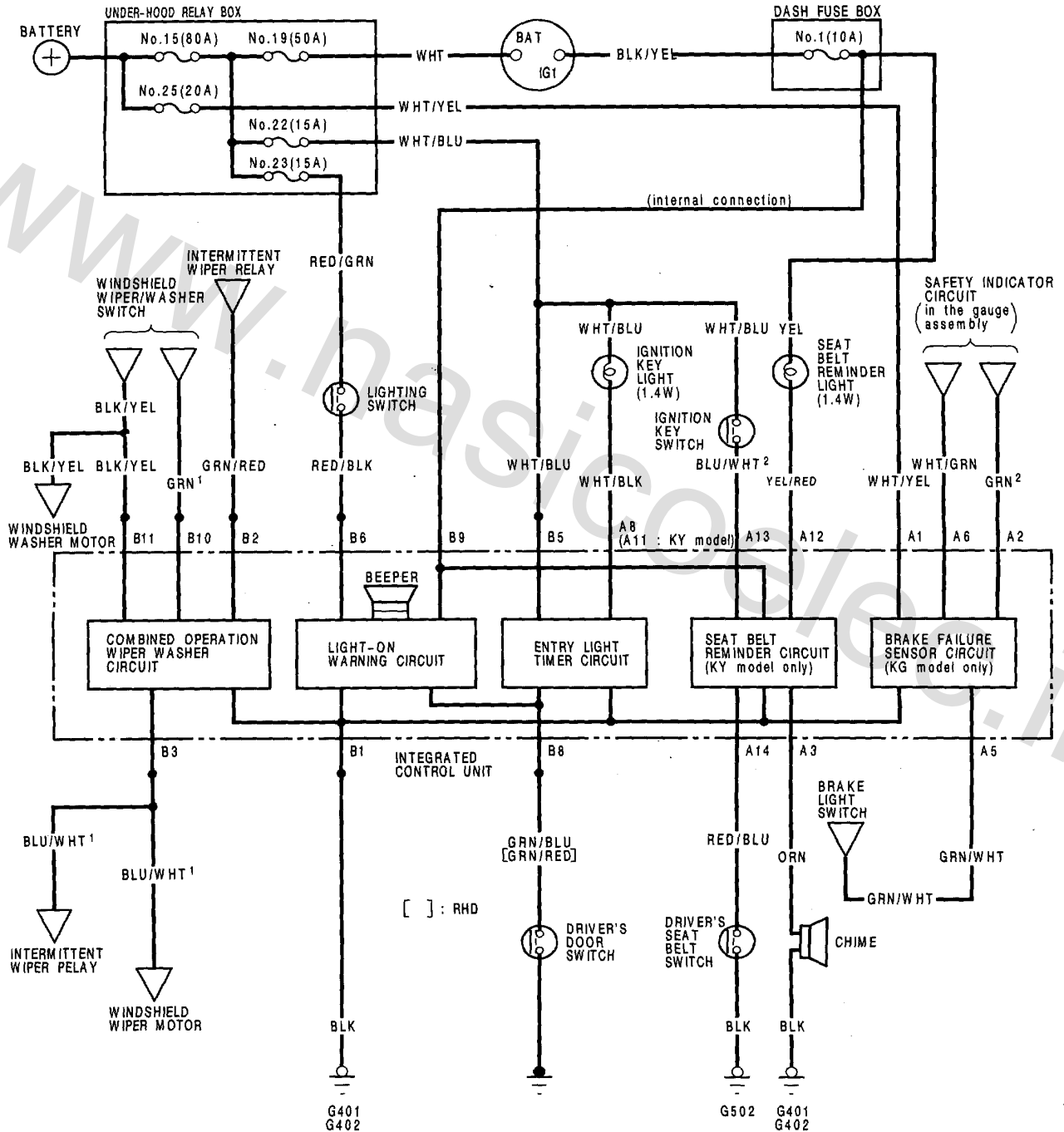


## Circuit Diagram (Without Daytime and Dim-Dip Light)

### Description:

A multi-function control unit located on the driver's side kick panel, integrates the functions of the combined operation with wiper/washer circuit, light-on warning circuit, entry light timer circuit, seat belt reminder circuit (KY model only) and brake light circuit (KG model only) onto one circuit board sharing common circuit functions.

NOTE: Several different wires have the same color. They have been given a number suffix to distinguish them (for example GRN<sup>1</sup> and GRN<sup>2</sup> are not the same).





**Except KQ model:**

**Description**

**Safety Indicator Warning System:**

The warning lights are used to indicate when the trunk lid or a door is not fully closed, or when a brake light is faulty. The warning lights will remain ON for about 2 seconds after the ignition switch has been turned ON to show that the system circuit is functioning.

**Brake Light Bulb Failure Warning:**

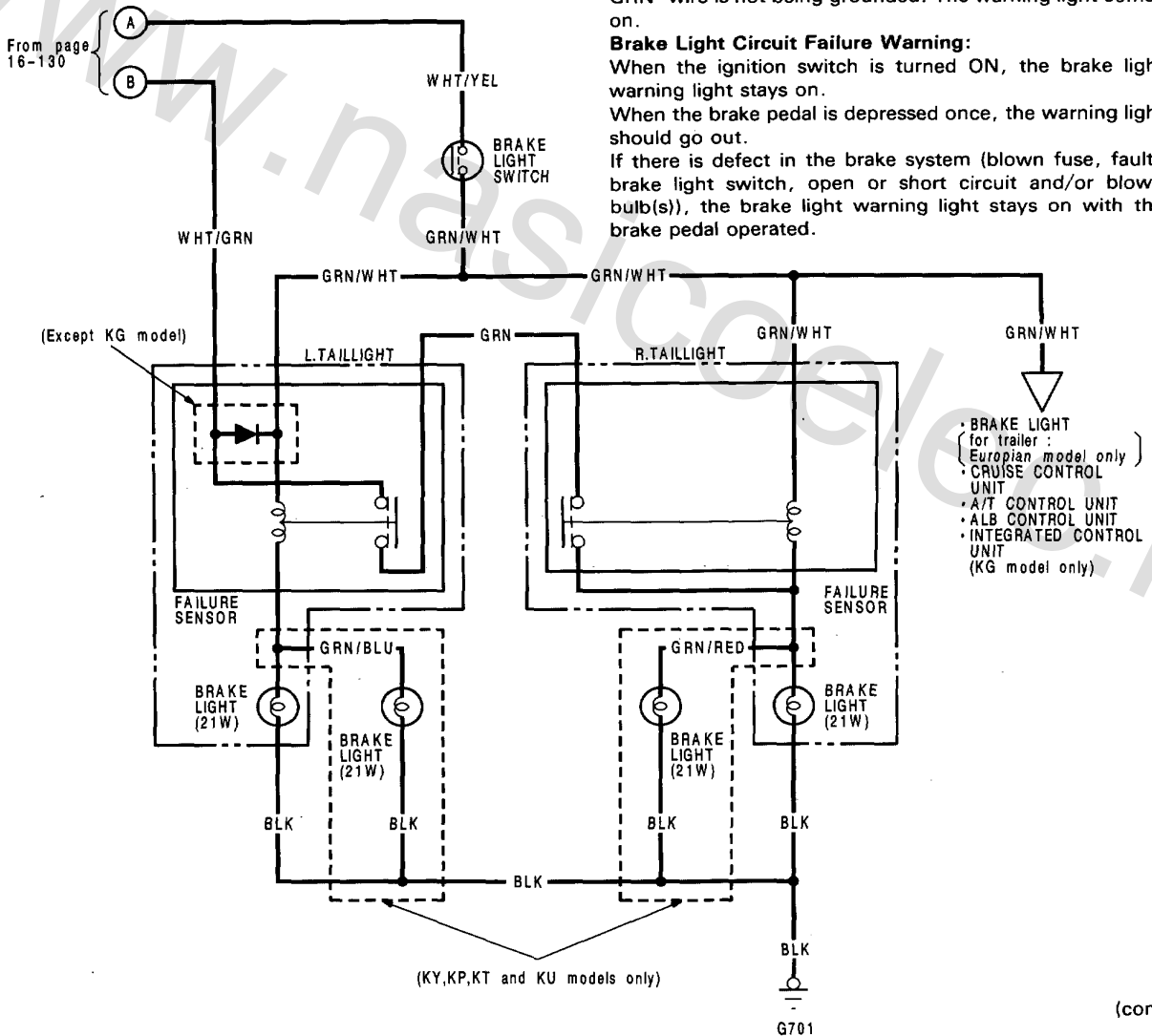
If all brake light bulbs are OK, the warning light stays off because the WHT/GRN<sup>2</sup> wire is constantly being grounded by the two brake light failure sensors connected in series. With the brakes off, the ground is provided through the diode, the failure sensor relay coils and bulb filaments to ground. With the brake lights on, all 2 relays, (1 in the left sensor, 1 in the right) connected in series, supply ground. If any of the 2 bulbs or either of L. brake lights and R. brake lights are not working, the chain is broken and the WHT/GRN<sup>2</sup> wire is not being grounded. The warning light comes on.

**Brake Light Circuit Failure Warning:**

When the ignition switch is turned ON, the brake light warning light stays on.

When the brake pedal is depressed once, the warning light should go out.

If there is defect in the brake system (blown fuse, faulty brake light switch, open or short circuit and/or blown bulb(s)), the brake light warning light stays on with the brake pedal operated.



(cont'd)

# Safety Indicator

## Circuit Diagram (cont'd)

KQ model:

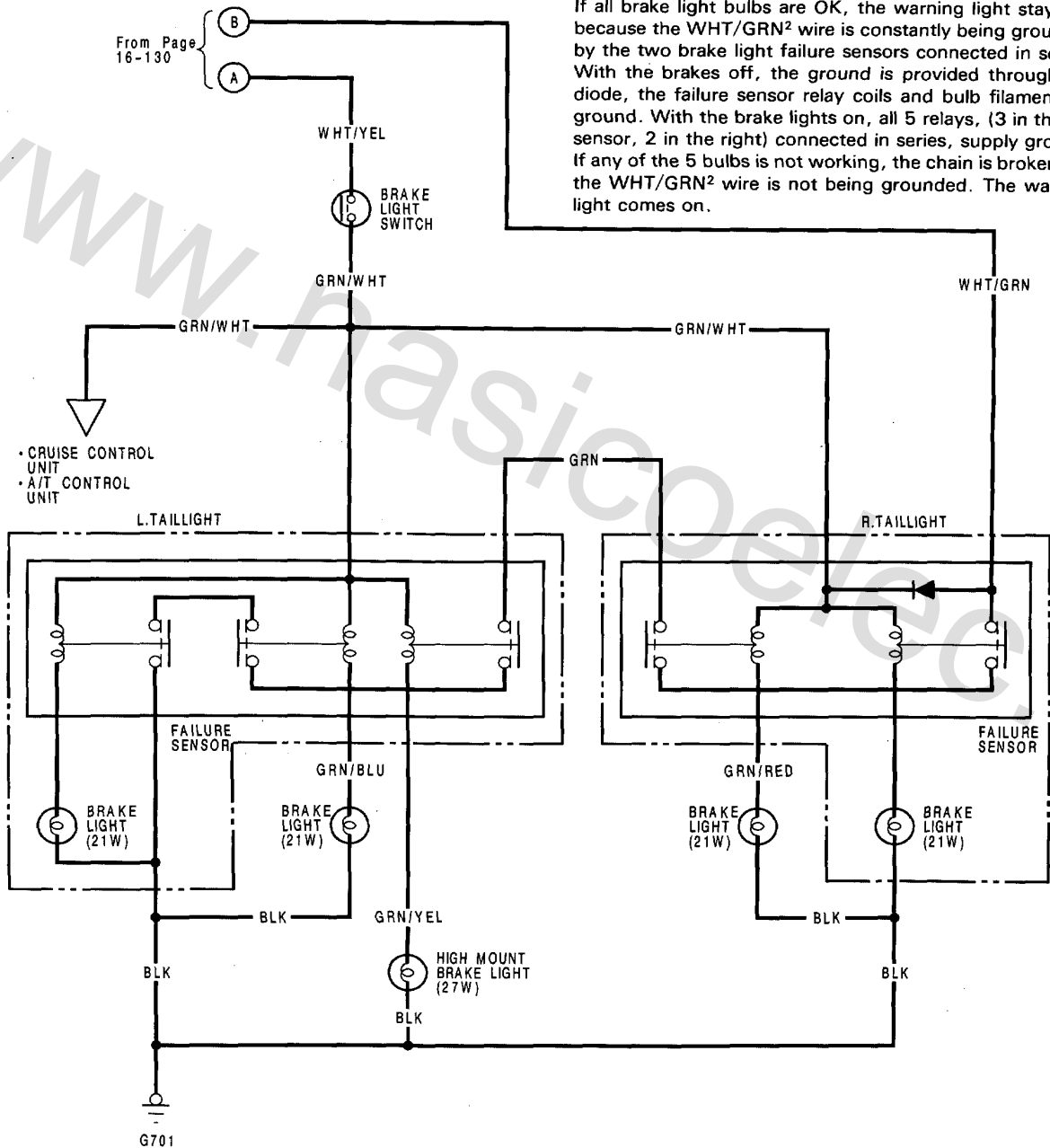
### Description

#### Safety Indicator Warning System:

The warning lights are used to indicate when the trunk lid or a door is not fully closed, or when a brake light is faulty. The warning lights will remain ON for about 2 seconds after the ignition switch has been turned ON to show that the system circuit is functioning.

#### Brake Light Bulb Failure Warning:

If all brake light bulbs are OK, the warning light stays off because the WHT/GRN<sup>2</sup> wire is constantly being grounded by the two brake light failure sensors connected in series. With the brakes off, the ground is provided through the diode, the failure sensor relay coils and bulb filaments to ground. With the brake lights on, all 5 relays, (3 in the left sensor, 2 in the right) connected in series, supply ground. If any of the 5 bulbs is not working, the chain is broken and the WHT/GRN<sup>2</sup> wire is not being grounded. The warning light comes on.



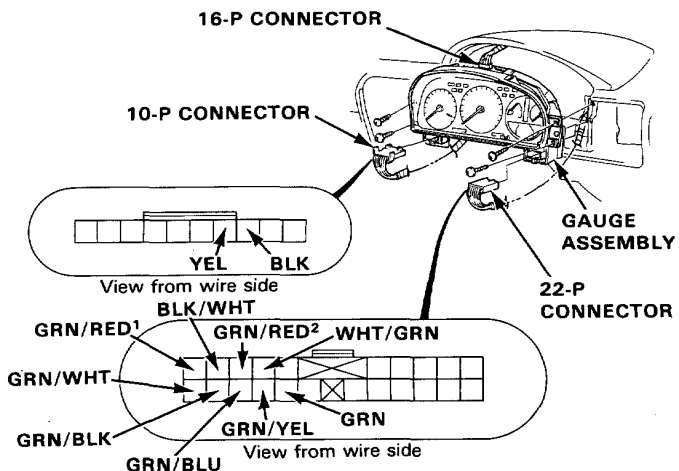


## Indicator Input Test

Remove the gauge assembly from the dashboard to disconnect the 10-P, 16-P and 22-P connectors from the indicator.

Make the following input tests at the harness pins.

If all tests prove OK, yet the indicator still fails to work, replace the main print panel, the tachometer, the speedometer and the odo/trip meter as a set.



No.	Wire	Test condition	Test: desired result	Possible cause (if result is not obtained)
1	BLK	Under all conditions.	Check for continuity to ground: should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G401, G402)</li> <li>• An open in the wire.</li> </ul>
2	YEL	Ignition switch ON.	Check for voltage to ground: should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No.1 (10 A) fuse.</li> <li>• An open in the wire.</li> </ul>
3	WHT	Brake pedal pushed.	Check for continuity to ground: should be continuity with the pedal pushed.	<ul style="list-style-type: none"> <li>• Blown No. 25 (20 A) fuse.</li> <li>• Faulty brake light switch.</li> <li>• Blown brake light bulbs.</li> <li>• Faulty brake light failure sensors.</li> <li>• Poor ground (G701).</li> <li>• An open in the WHT/GRN or GRN/WHT wire.</li> </ul>
4	GRN/BLK	Trunk lid opened.	Check for continuity to ground: should be continuity. NOTE: Before testing, remove No.22 (15 A) fuse.	<ul style="list-style-type: none"> <li>• Faulty trunk latch switch.</li> <li>• An open in the wire.</li> </ul>
5	GRN/RED <sup>1</sup>	Right front door opened.	Check for continuity to ground: should be continuity. NOTE: Before testing, remove the No. 22 (15 A) fuse.	<ul style="list-style-type: none"> <li>• An open in the wire.</li> <li>• Faulty door switch.</li> <li>• Poor installation of the switch.</li> </ul>
	GRN/BLU	Left front door opened.		
	GRN/WHT	Right rear door opened.		
	GRN/YEL	Left rear door opened.		
6	BLK/WHT	Dome light switch in MIDDLE position.	Attach to ground: Dome light should come on.	<ul style="list-style-type: none"> <li>• Blown No.22 (15 A) fuse.</li> <li>• Faulty dome light.</li> <li>• An open in the WHT/BLU or BLK/WHT wire.</li> </ul>
7	GRN/RED <sup>2</sup>	Ignition switch ON.	Attach to ground: Brake light warning in the safety indicator should come on.	<ul style="list-style-type: none"> <li>• Faulty safety indicator circuit.</li> <li>• Blown bulb.</li> <li>• An open in the wire.</li> </ul>

### KG model only:

8	GRN	With brake pedal released, ignition switch OFF to ON.	Check for continuity in both directions between the GRN and BLK terminals: should be continuity in only one direction as the ignition switch is turned ON, then no continuity in both directions with brake pedal pushed.	<ul style="list-style-type: none"> <li>• Faulty brake light circuit failure sensor.</li> </ul>
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# Safety Indicator

## Troubleshooting

**NOTE:**

- The numbers in the table show the troubleshooting sequence.
- Make sure that the dome light bulb and the trunk light bulb are not blown up.

Symptom	Blown fuse		Safety indicator circuit (main print panel)	Blown indicator bulb	Brake light failure sensor	Door switch	Trunk latch switch	Brake light switch	Poor ground	Open circuit in wires or loose or disconnected terminals
	No.22 (15 A)	No.1 (10 A)								
No indicators operate.		1	2						G401 G402	YEL
Warning lights fail to come on when ignition switch is turned to ON.			1	2						
The indicator lights do not turn on or some indicator lights do not turn off.			1	2						
Trunk warning light not lit with trunk lid opened			2	3			1			GRN/BLK
Door warning lights not lit with doors opened.			2	3		1				GRN/RED <sup>1</sup> GRN/BLU GRN/WHT GRN/YEL
Brake warning light not lit with blown brake light bulb.			2		1					GRN WHT/GRN GRN/RED <sup>2</sup>
Brake warning light remains on with good brake light bulbs.			2					1		GRN WHT/GRN GRN/RED <sup>2</sup>
Dome light not operated with door opened (When switch position is in MIDDLE)	1		3			2				



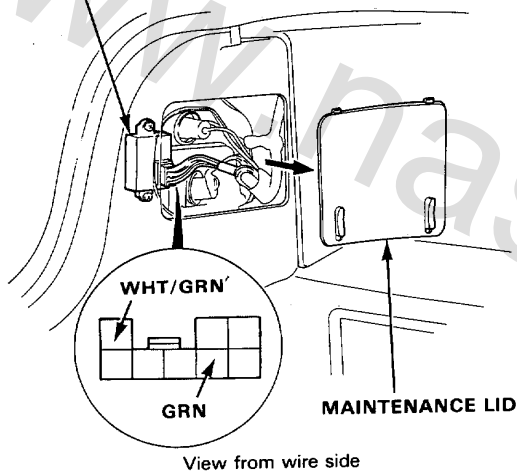
## Brake Light Failure Sensor Test (Except KQ model)

1. First make sure the brake lights come on when the brake pedal is pressed.

- If none of the brake lights come on, check the brake light circuit (see page 16-180).
- If one of the brake lights does not come on, check whether the bulb is blown. If the bulb is OK, go to step 2.
- If all the brake lights come on, go to step 2.

2. Open the trunk lid and the maintenance lid of the left taillight. Make sure the **BRAKE LAMP** of the safety indicator does not come on when the WHT/GRN terminal of the 8-P connector is grounded and the ignition switch is turned OFF to ON.

L. FAILURE SENSOR



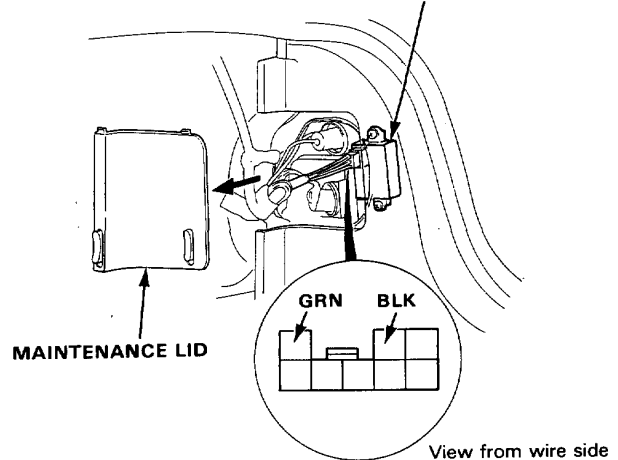
- If the **BRAKE LAMP** comes on, check for an open in the WHT/GRN wire between the safety indicator and the left failure sensor and whether the safety indicator circuit (main print panel) has a problem.
- If the **BRAKE LAMP** does not come on, go to step 3.

3. Make sure the **BRAKE LAMP** does not come on when the ignition switch is turned OFF to ON with the GRN terminal of the 8-P connector grounded and the brake pedal pressed.

- If the **BRAKE LAMP** comes on, replace the left failure sensor.
- If the **BRAKE LAMP** does not come on, go to step 4.

4. Open the maintenance lid of the right taillight. Make sure the **BRAKE LAMP** does not come on when the ignition switch is turned OFF to ON with the GRN terminal of the 8-P connector grounded and the brake pedal pressed.

R. FAILURE SENSOR



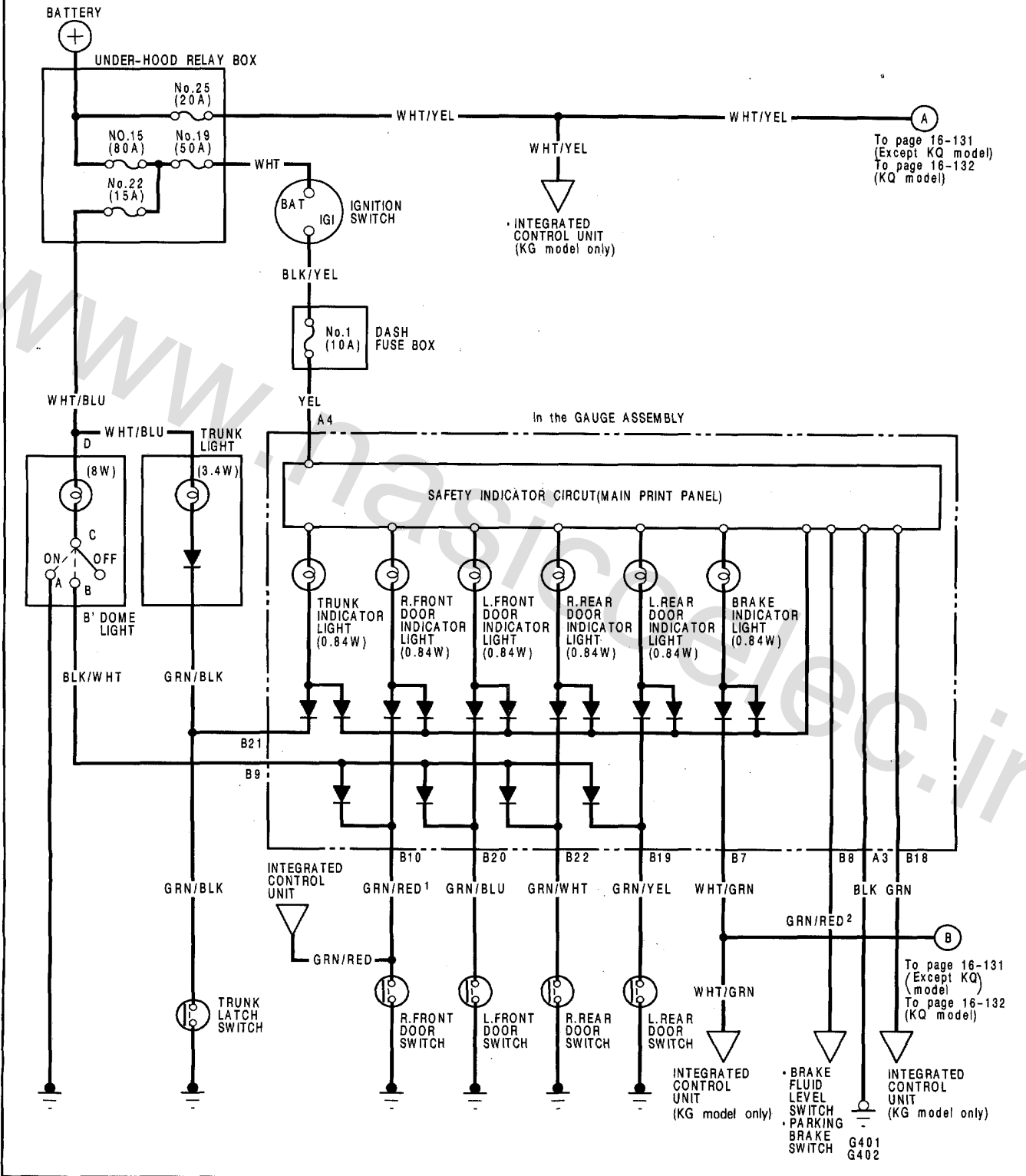
- If the **BRAKE LAMP** comes on, there is an open in the GRN wire between the left failure sensor and the right failure sensor.
- If the **BRAKE LAMP** does not come on, go to step 5.

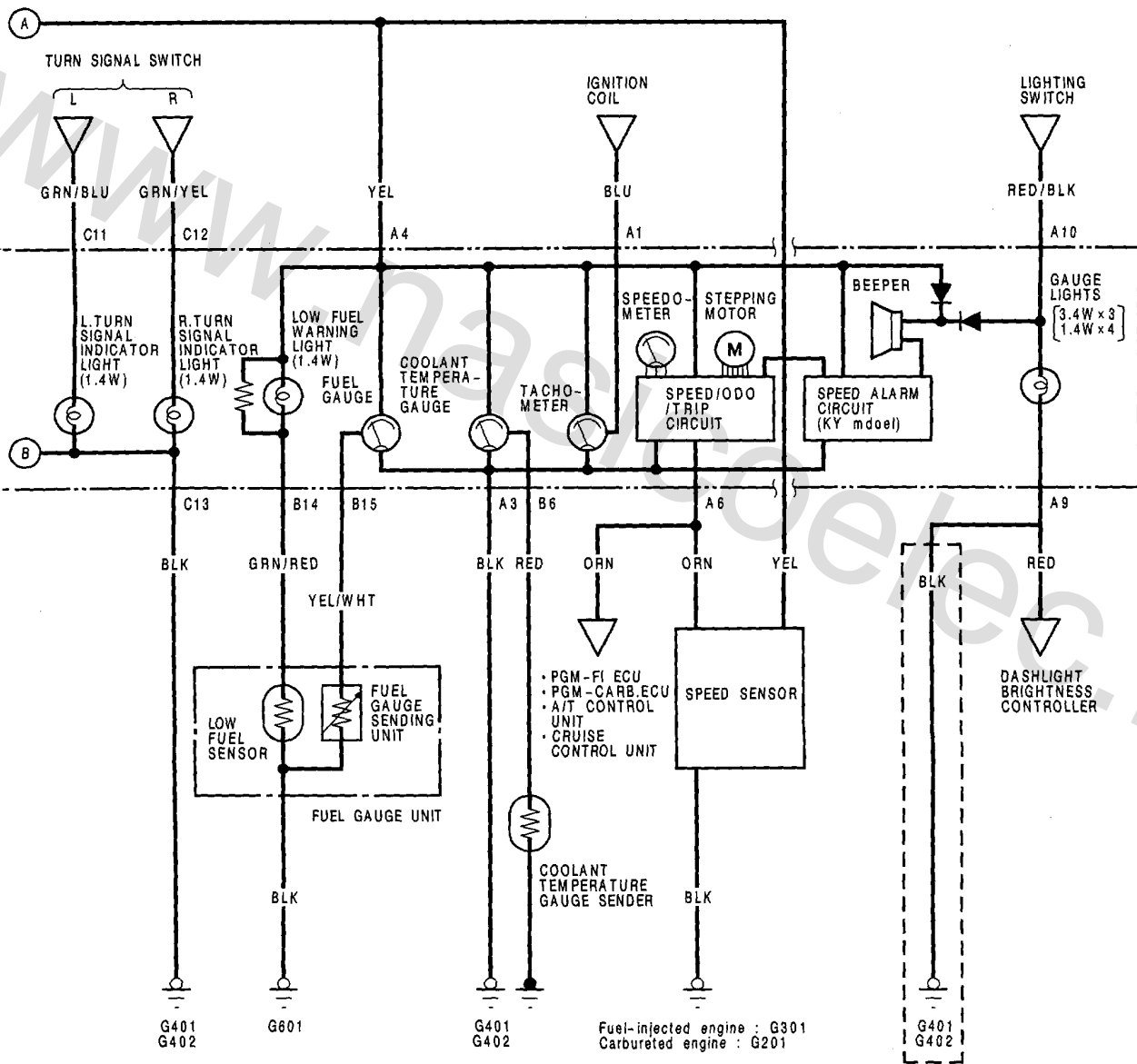
5. Make sure the **BRAKE LAMP** does not come on when the ignition switch is turned OFF to ON with the BLK terminal of the 8-P connector grounded and the brake pedal pressed.

- If the **BRAKE LAMP** comes on, replace the right failure sensor.
- If the **BRAKE LAMP** does not come on, check for an open in the BLK wire between the right failure sensor and ground, and check whether the G701 terminal is poor.

# Safety Indicator

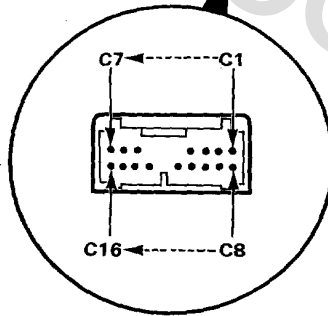
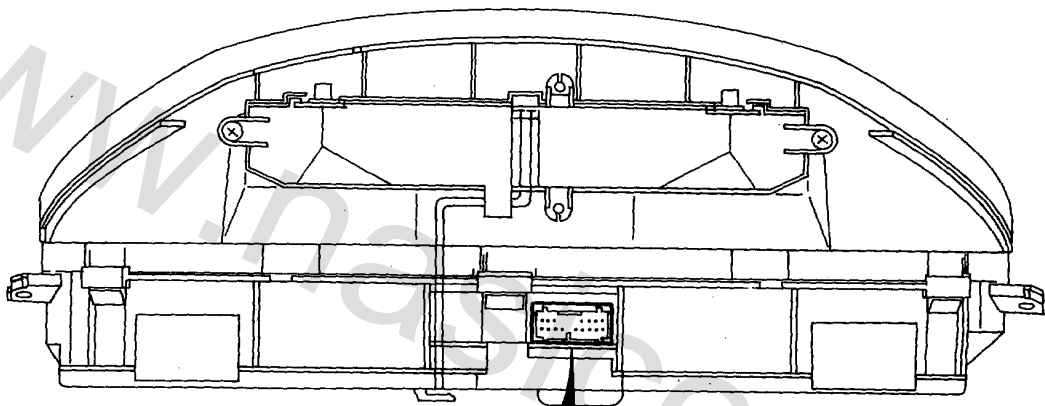
## Circuit Diagram

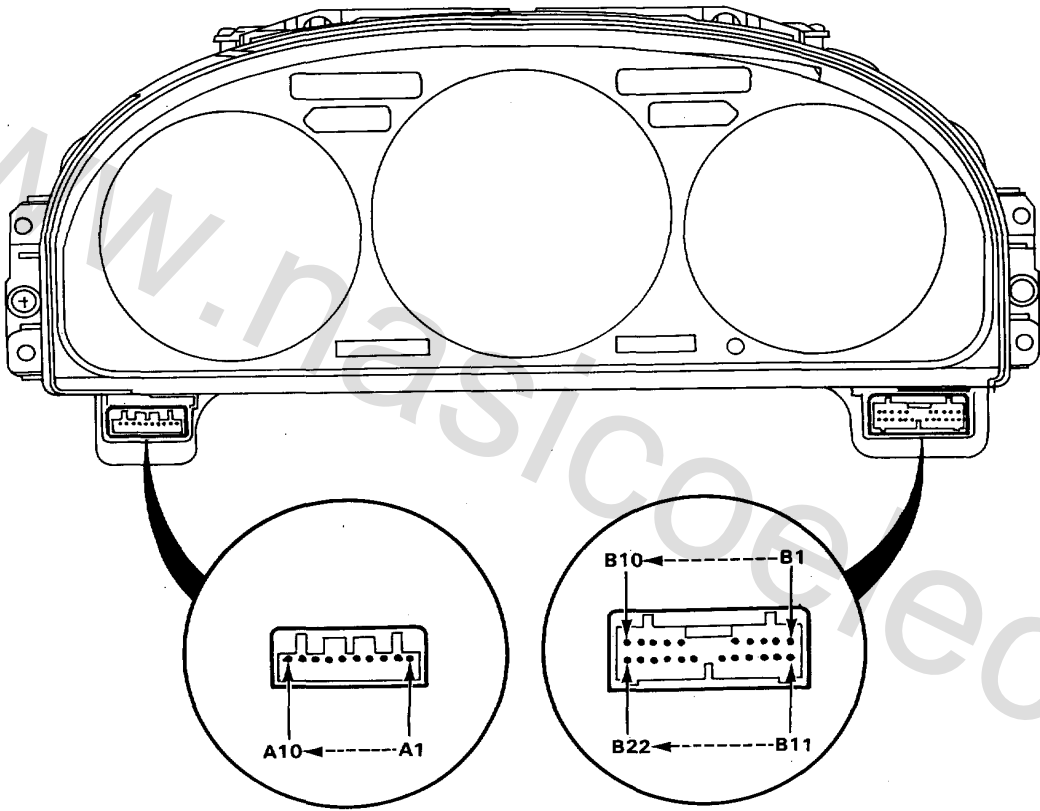




# Gauge Assembly

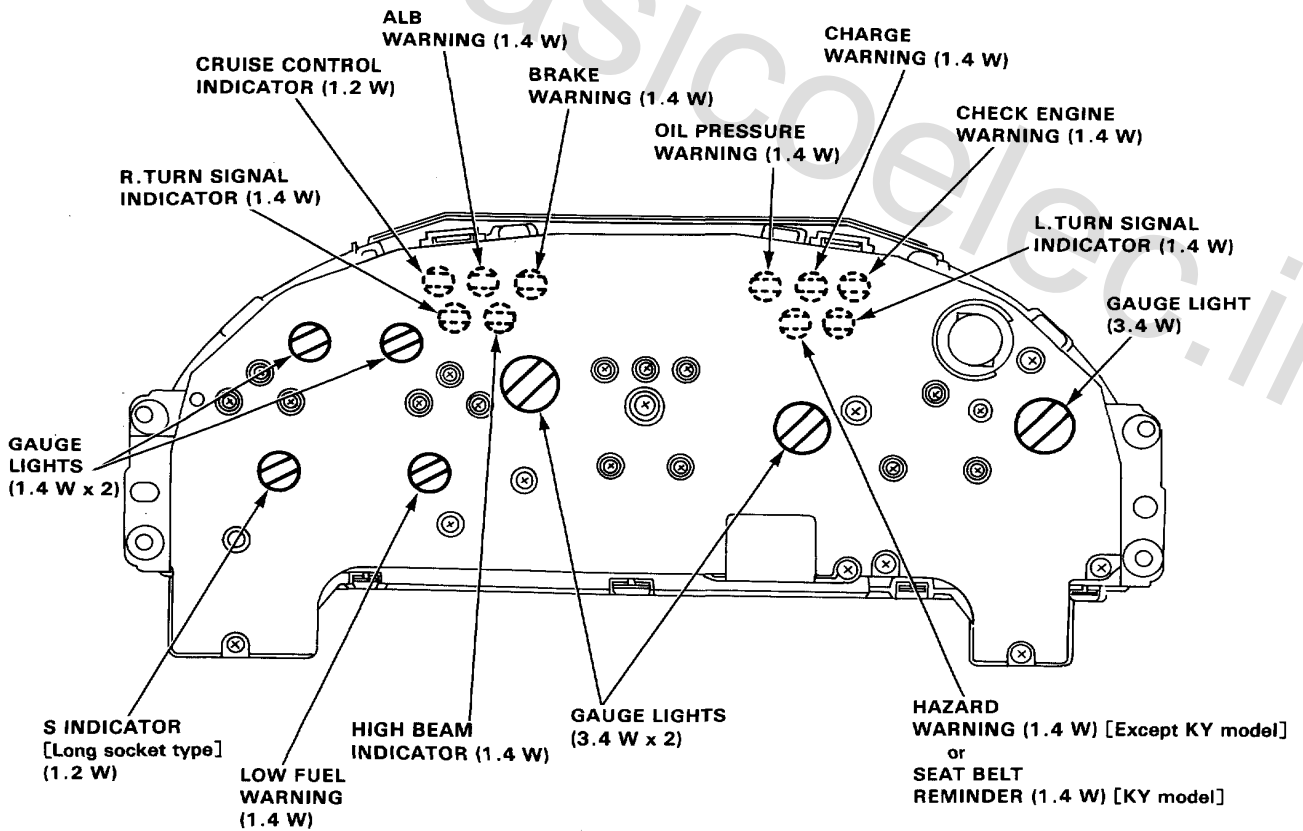
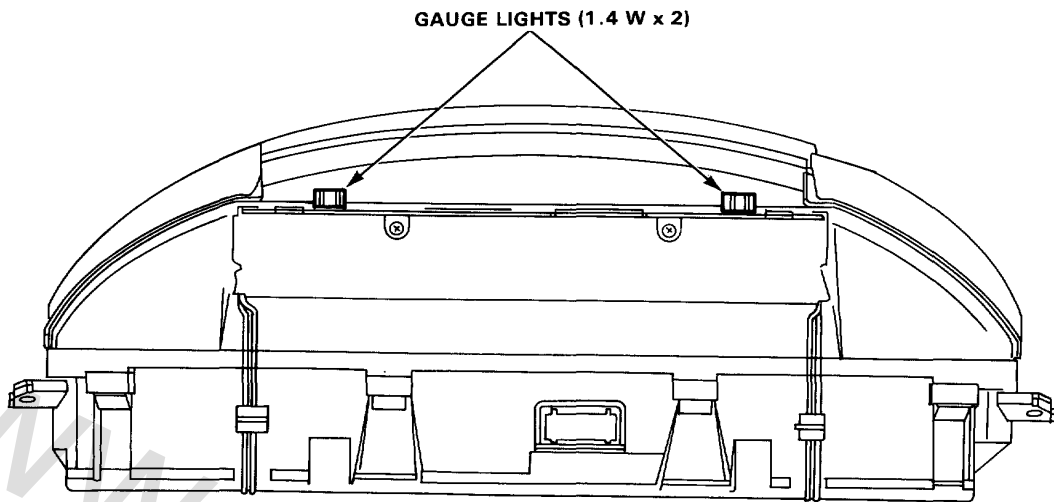
## Terminal Locations





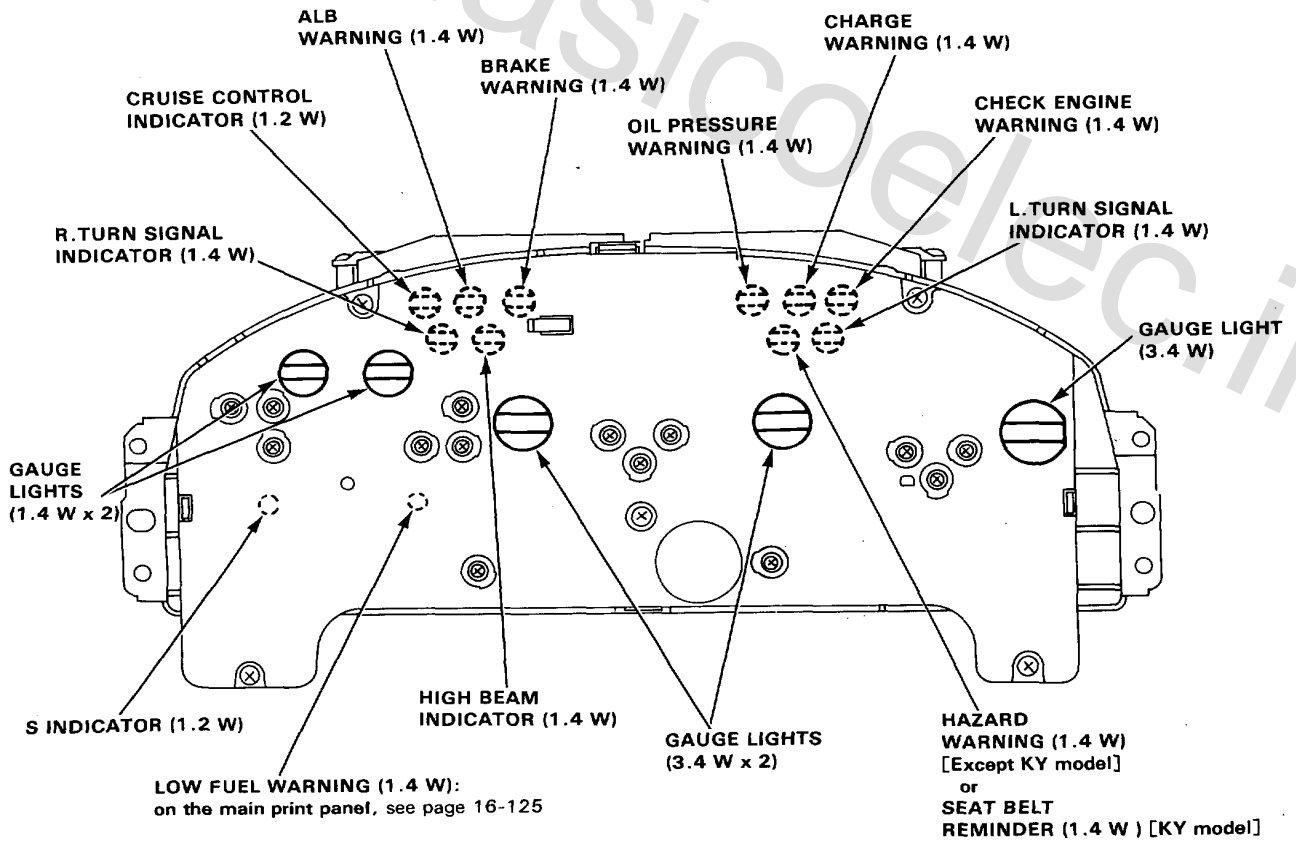
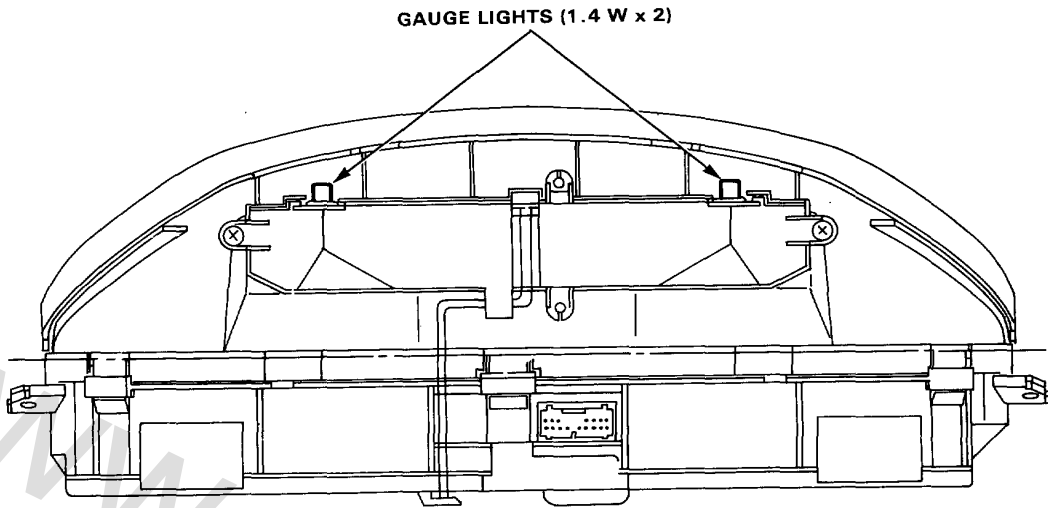
# Gauge Assembly

## Bulb Locations (ND)





(NS)

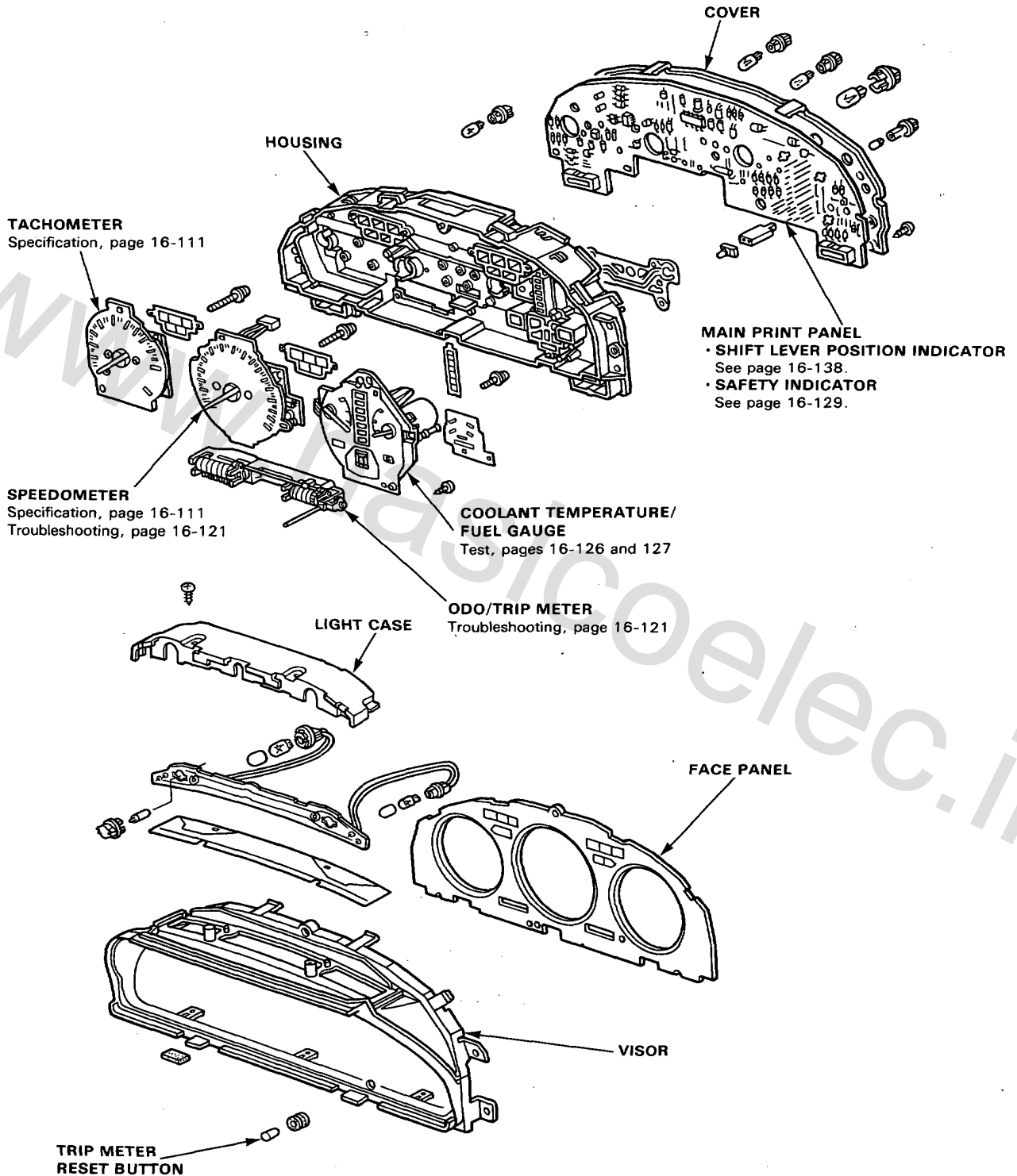




# Gauge Assembly

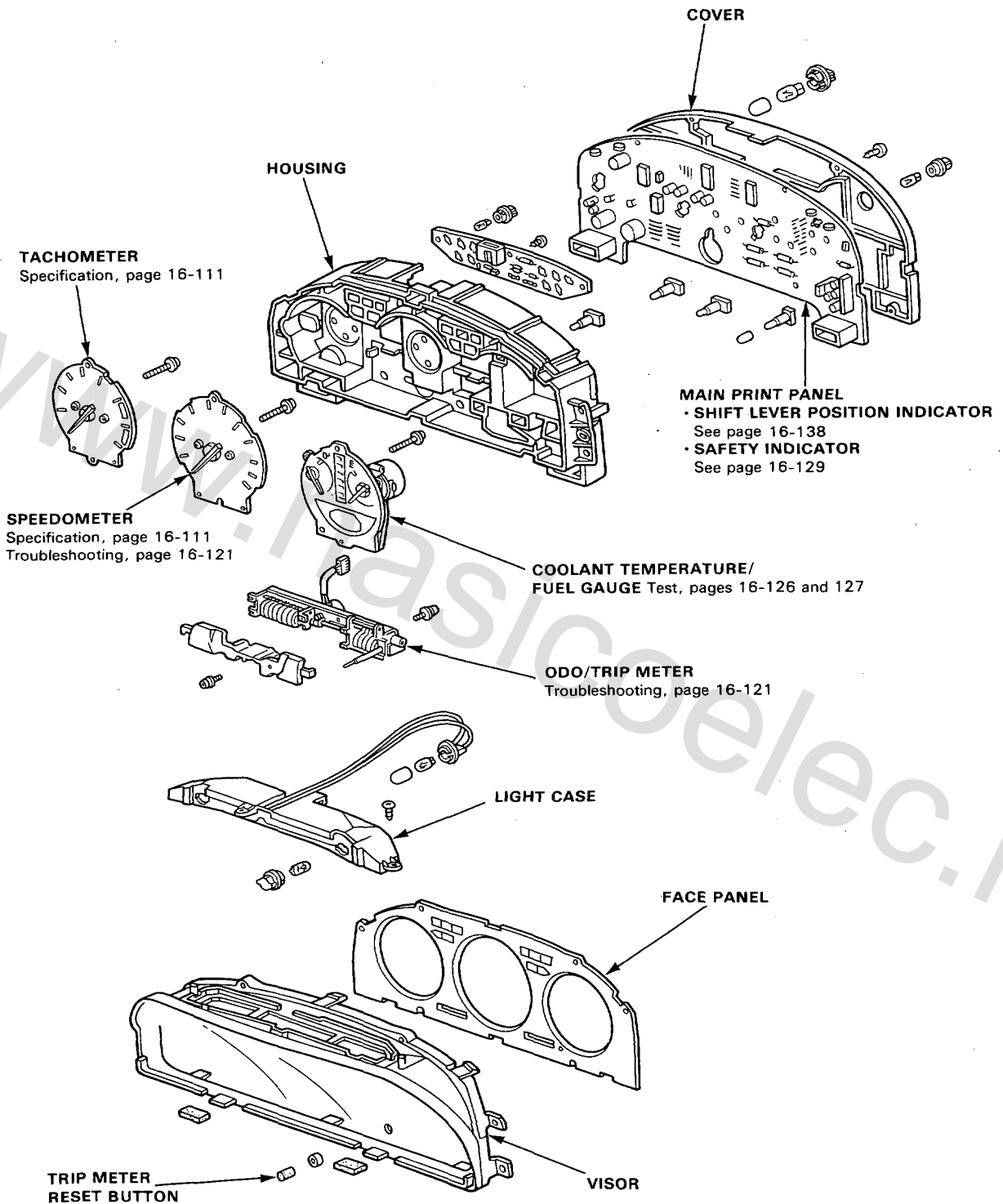
## Disassembly (ND)

NOTE: Handle the terminals and printed circuits carefully to avoid damaging them.





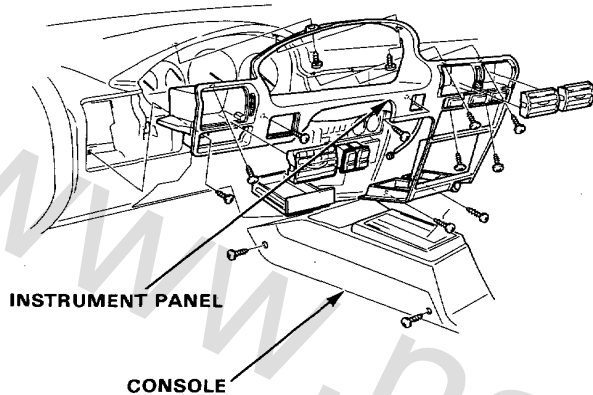
(NS)



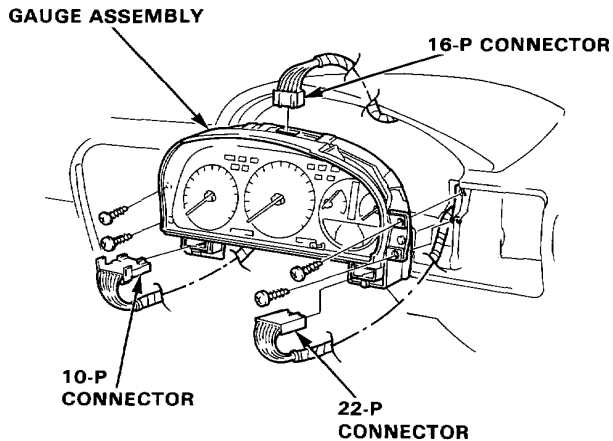
# Gauge Assembly

## Removal

1. Remove the console and the instrument panel from the dashboard, then disconnect each switch connector.

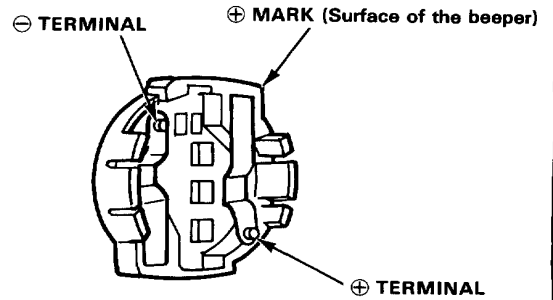


2. Remove the 4 screws and the gauge assembly, then disconnect 10-P, 16-P and 22-P connectors.



## Beeper Test (ND)

1. Remove the beeper from the gauge assembly.
2. Test the beeper operation by connecting the battery positive to the  $\oplus$  terminal ( $\oplus$  mark), and negative to the  $\ominus$  terminal.



3. If the beeper fails to operate, replace it.



## Speed/Odo/Trip meter Troubleshooting

NOTE: The numbers in the table show the troubleshooting sequence.

Item to be inspected  Symptom	Blown No.1 (10 A) fuse (in the dash fuse box)	ND		NS		Speed sensor input test	Speed sensor is not installed correctly	Poor ground	Open circuit in wires or loose or disconnected terminals
		Speedometer	Odo/trip meter	Main print panel	Odo/trip meter				
Speedometer does not operate.		1		1					ORN
Speedometer operates, but deflection error is great.		2		2			1		
Odo/trip meter does not operate.			1		1				
Speedometer and odo/trip meter do not operate.	1	3		3			2	G401 G402	YEL or ORN

**NOTE:**

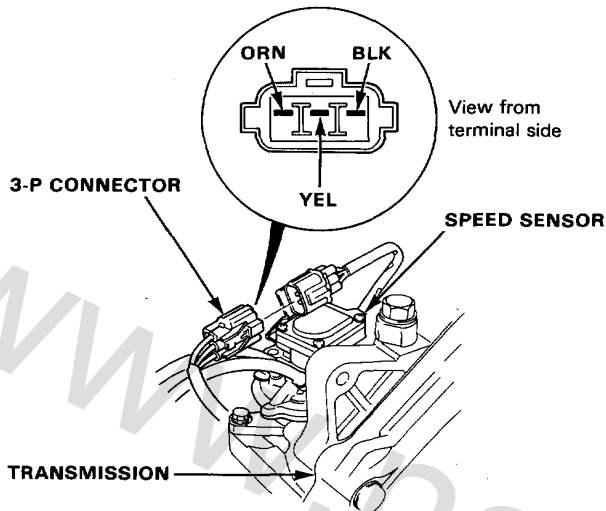
- NS speedometer circuit is built in the main print panel assembly.
- Replace all of the main print panel, the tachometer, the speedometer and the odo/trip meter as a set if one of the above parts is defective.

# Gauge Assembly

## Speed Sensor Input Test

NOTE: Check the No.1 (10 A) fuse in the dash fuse box before testing.

1. Disconnect the 3-P connector from the speed sensor.



2. Check for continuity between the BLK terminal and body ground.

There should be continuity.

- If there is no continuity, check for:

- An open in the BLK wire.
- Poor ground { Fuel-injected engine: G301  
Carbureted engine: G201 }

- If there is continuity, go to step 3.

3. Check for voltage between the YEL terminal and body ground with the ignition switch ON.

There should be battery voltage.

- If there is no voltage, check for an open in the YEL wire.
- If there is battery voltage, go to step 4.

4. Check for voltage between the ORN terminal and body ground with the ignition switch ON.

There should be approximately 5 V.

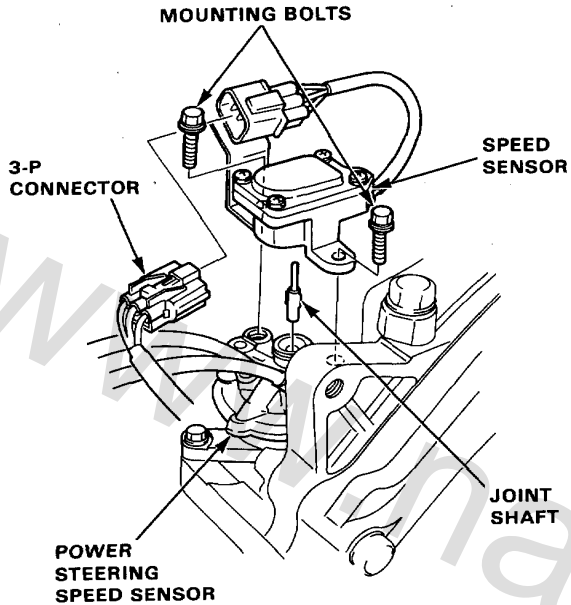
- If there is no voltage, check for:
  - A6 terminal of gauge assembly (see page 16-115).
  - An open in the ORN wire.
- If there is approximately 5 V, go to step 5.

5. If all continuity and voltage tests are normal, but the speedometer and the odo/trip meter do not operate, replace the speed sensor.



## Replacement

1. Disconnect the 3-P connector from the speed sensor.
2. Remove the mounting bolts and the speed sensor from the power steering speed sensor.



3. Install in the reverse order of removal.

**NOTE:** Be careful not to loose the joint shaft, for it is a tiny part.

# Brake Warning System

## Description

**NOTE:** Refer to page 16-112 for wiring description of the circuit check system.

### Description:

The brake warning light goes on if the parking brake is applied, if the brake fluid level is low, and as a circuit test while cranking the engine.

### Parking Brake:

With the ignition switch in "Run" or "Start", and the parking brake switch closed, the brake warning light operates to remind the driver that the parking brake is applied.

### Brake Fluid Level:

With the ignition switch in "Run" or "Start", and the brake fluid level switch closed, the brake warning light operates to warn the driver of low brake fluid level in the brake master cylinder.

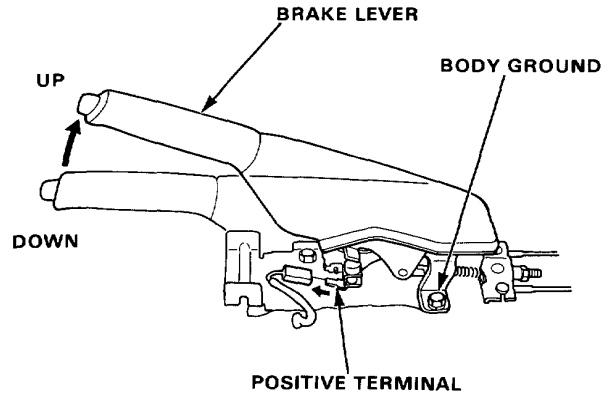
**NOTE:** Low fluid level indicates brake wear or system leaks; check brake pad wear before adding fluid.

### Circuit Check: KY model only

With the ignition switch in "Start", voltage is applied through the No.9 (7.5A) fuse in the dash fuse box to the circuit check built into the integrated control unit. The circuit check transistor is on, and current flows through the No.1 (10A) fuse in the dash fuse box, the brake warning light and the circuit transistor to ground. The brake warning light operates. This operation tests the brake warning circuit and bulb.

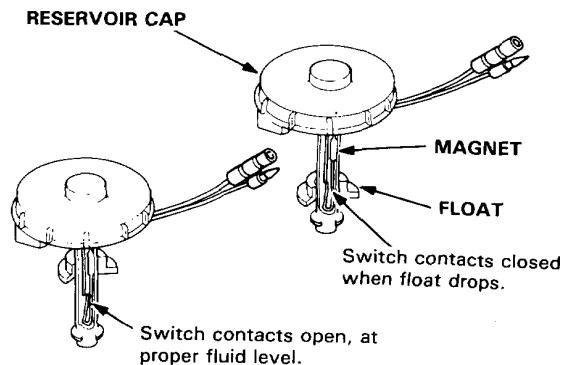
## Parking Brake Switch Test

1. Remove the center console and disconnect the connector from the switch.
2. There should be continuity between the positive terminal and body ground with the brake lever up. There should be no continuity with the brake lever down.



## Brake Fluid Level Switch Test

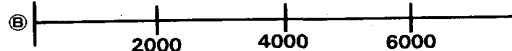
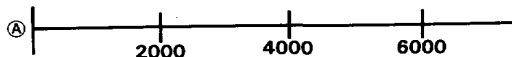
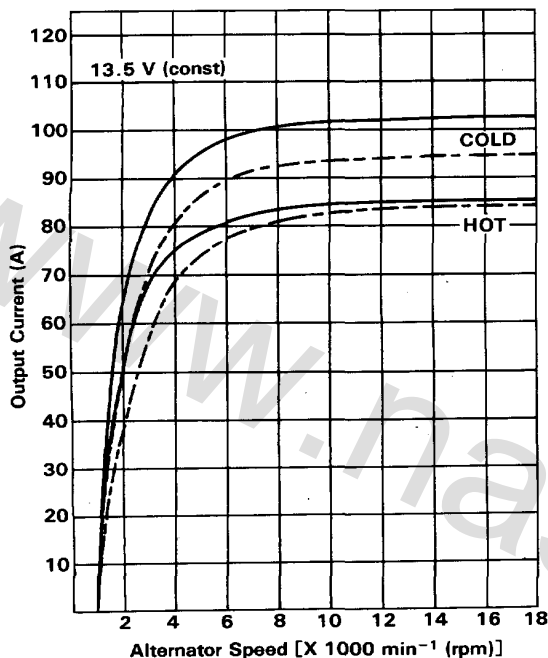
1. Remove the reservoir cap. Check that the float moves up and down freely. Replace the reservoir cap assembly if the float does not move freely.
2. Check for continuity between the terminals with the float up and down. There should be continuity with the float down and no continuity with the float up. Replace the reservoir cap assembly if necessary.





5. Compare the readings to the chart below. If no output or below specification, go to step 7. If output is within specification, go to step 6.

NOTE: Subtract 5 to 10 amperes from the maximum reading due to engine operation.



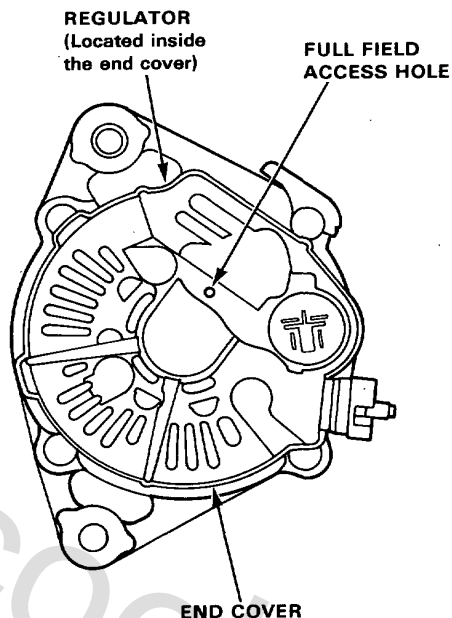
Engine Speed [ $\text{min}^{-1}$  (rpm)]  
A — : Fuel-injected engine (All models)  
Carbureted engine (KS, KW and KY models)  
B - - : Carbureted engine (Except KS, KW and KY models)

6. Turn off all loads in step 4, then measure the alternator output voltage at  $1,500 \text{ min}^{-1}$  (rpm).

- If the voltage is between 13.9 V and 15.1 V, the alternator and regulator are OK. If the charge warning light is still on, see Charge Warning Light Test.

7. Perform a full-field test: Insert a short screwdriver into the full field access hole at the back of the alternator. While grounding the screwdriver and check amperage reading.

**CAUTION:** The voltage will rise quickly when the alternator is full fielded. Do not allow the voltage to exceed 18 volts or damage to the electrical system may result.



- If the amperage is not within specification, replace the alternator.
- If the amperage is within specification, replace the voltage regulator.

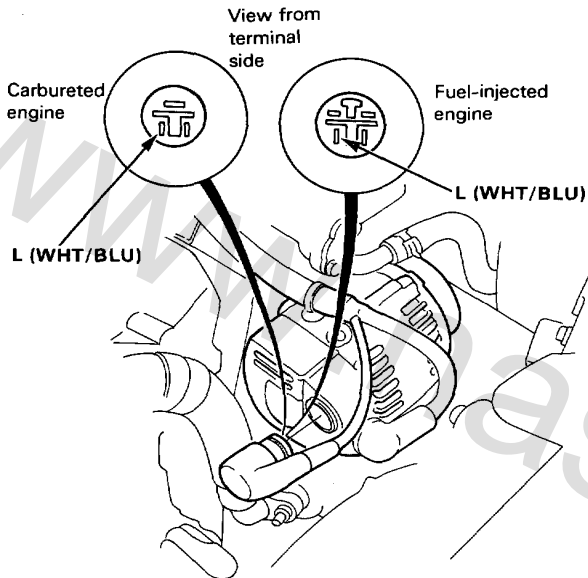


# Charging System

## Charge Warning Light Test

**NOTE:** Before testing, check the wire harness connection, alternator belt tension and No.2 (15 A) fuse in the dash fuse box.

1. Turn the ignition switch on. The charge warning light should come on.  
If it does not come on, unplug the alternator connector and short the pin of the L (WHT/BLU) terminal to ground.



- If the warning light still does not come on, check for:

- Bad bulb.
- An open in the WHT/BLU wire between the warning light and voltage regulator.
- An open in the BLK/YEL wire between the warning light and the dash fuse box, or the dash fuse box and the ignition switch.

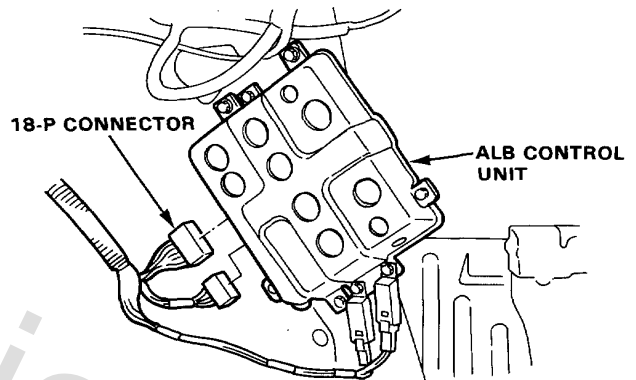
- If the light comes on, check the alternator and regulator (see page 16-94).

2. Start the engine and let it idle. The charge warning light should go off.  
If it stays on this time, check the alternator and regulator (see page 16-94).  
If the system is charging, proceed as follows.

3. Without ALB: There is a short to ground in the WHT/BLU wire between the warning light and the dash fuse box, or the dash fuse box and the voltage regulator.

With ALB: Go to step 4

4. Unplug the alternator connector, then remove the right trunk trim panel.  
Disconnect the 18-P connector from the ALB control unit.  
With the ignition switch ON, the charge warning light should go off.



- If the light goes off, there is a short in the ALB control unit.
- If the light does not go off, there is a short to ground in the WHT/BLU wire between the ALB control unit and the dash fuse box, or the dash fuse box and the voltage regulator.

# Low Fuel Warning System

## Warning Light Test

NOTE: Refer to page 16-112 for wiring description of the low fuel warning circuit.

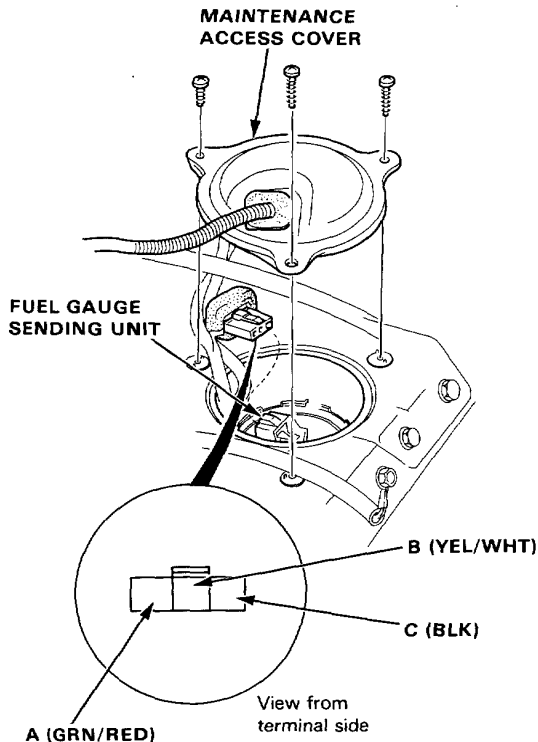
1. Park car on level ground.

**⚠ WARNING** Do not smoke while working on fuel system. Keep open flame away from work area. Drain fuel only into an approved container.

2. Drain fuel tank into an approved container. Then install the drain bolt with a new washer.
3. Add less than 8.6 ℓ (2.2 U.S. Gal, 1.8 Imp. Gal) of fuel and turn the ignition switch on. The low fuel warning light should come on within 4 minutes.
4. Then add one more gallon of fuel [approx. 4 ℓ (1.1 U.S. Gal, 0.9 Imp. Gal)]. The light should go out within 4 minutes.

● If the warning light did not come on in step 3, remove the maintenance access cover and disconnect the 3-P connector from the fuel gauge sending unit. Connect the A (GRN/RED) terminal to the C (BLK) terminal with a jumper wire.

- If the light comes on, the problem is either the sending unit or its ground.
- If the light does not come on, the problem is an open in the GRN/RED wire to the gauge assembly, no power to the gauge or bad bulb.



# Oil Pressure Warning System



## Description

NOTE: Refer to page 16-112 for wiring description of the oil pressure warning circuit.

With the engine running and normal oil pressure, the oil pressure switch is open and the oil pressure warning light does not operate. If engine oil pressure falls below 24.5 kpa (0.25 kg/cm<sup>2</sup>, 3.6 psi), the oil pressure switch is closed, current flows through the oil pressure warning light and the oil pressure switch to ground, and the oil pressure light goes on.

## Oil Pressure Switch Test

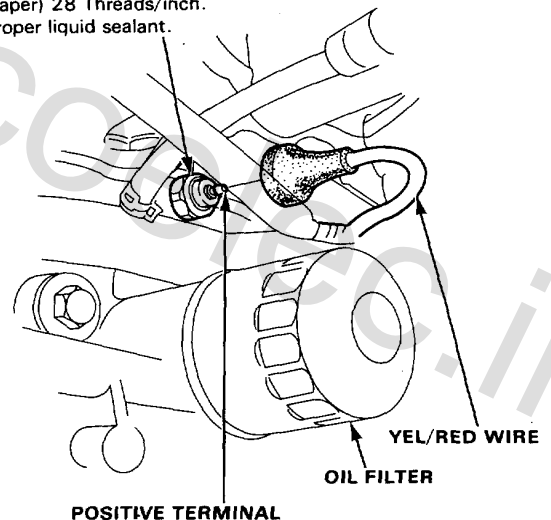
1. Disconnect the YEL/RED wire from the oil pressure switch.
2. There should be continuity between the positive terminal and the engine(ground) with the engine stopped. There should be no continuity when the engine runs.

### OIL PRESSURE SWITCH

18 N·m (1.8 kg-m, 13 lb-ft)

1/8 in. BSP (British Standard Pipe Taper) 28 Threads/inch.

Use proper liquid sealant.



3. If the switch fails to operate, check the engine oil level, then inspect the oil pump and pressure if the oil level is correct (see section 5).

# Seat Belt Reminder System (KY model only)



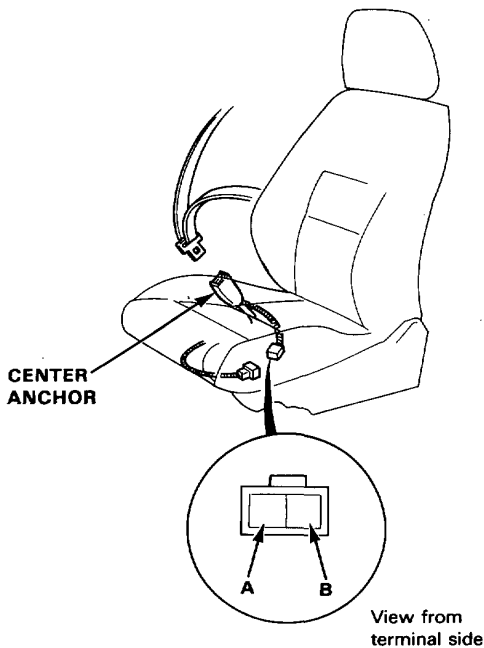
## Description

NOTE: Refer to page 16-112 for wiring description of the seat belt reminder circuit.

With the ignition switch in "Run" or "Start", voltage is applied to the reminder of the integrated control unit. When you unbuckle the driver's seat belt, the reminder circuit senses ground at the "A14" terminal. With voltage at the "B9" terminal and ground at the "B1" terminal, the seat belt reminder chime sounds and the timer contacts close and open. This causes the seat belt reminder light to flash on and off. After 5 seconds the chime stops and the contacts remain open.

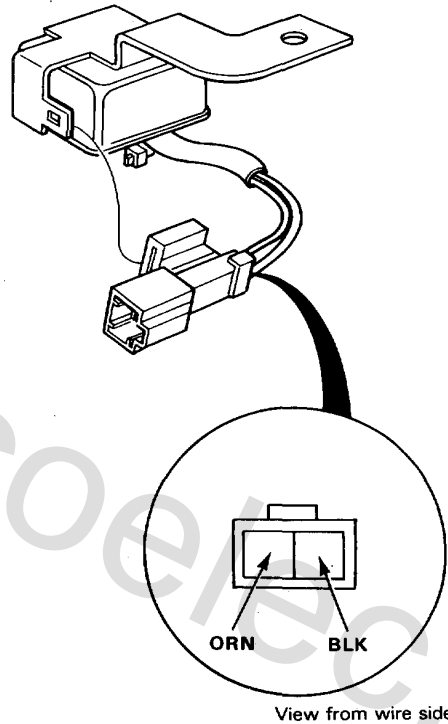
## Seat Belt Switch Test

1. Slide the driver's seat forward until the seat belt center anchor bolt is accessible, to disconnect the 2-P connector from the seat belt switch.
2. There should be continuity between the A and B terminals when the driver's seat belt is not buckled. There should be no continuity when the driver's seat belt is buckled.



## Chime Test

1. Remove the left side kick panel and disconnect the 2-P connector from the main wire harness.
2. Test chime operation by connecting battery positive to the ORN terminal, and negative to the BLK terminal, and cycling the power on-off repeatedly.
3. If the chime fails to sound every time power is cycled, replace it.

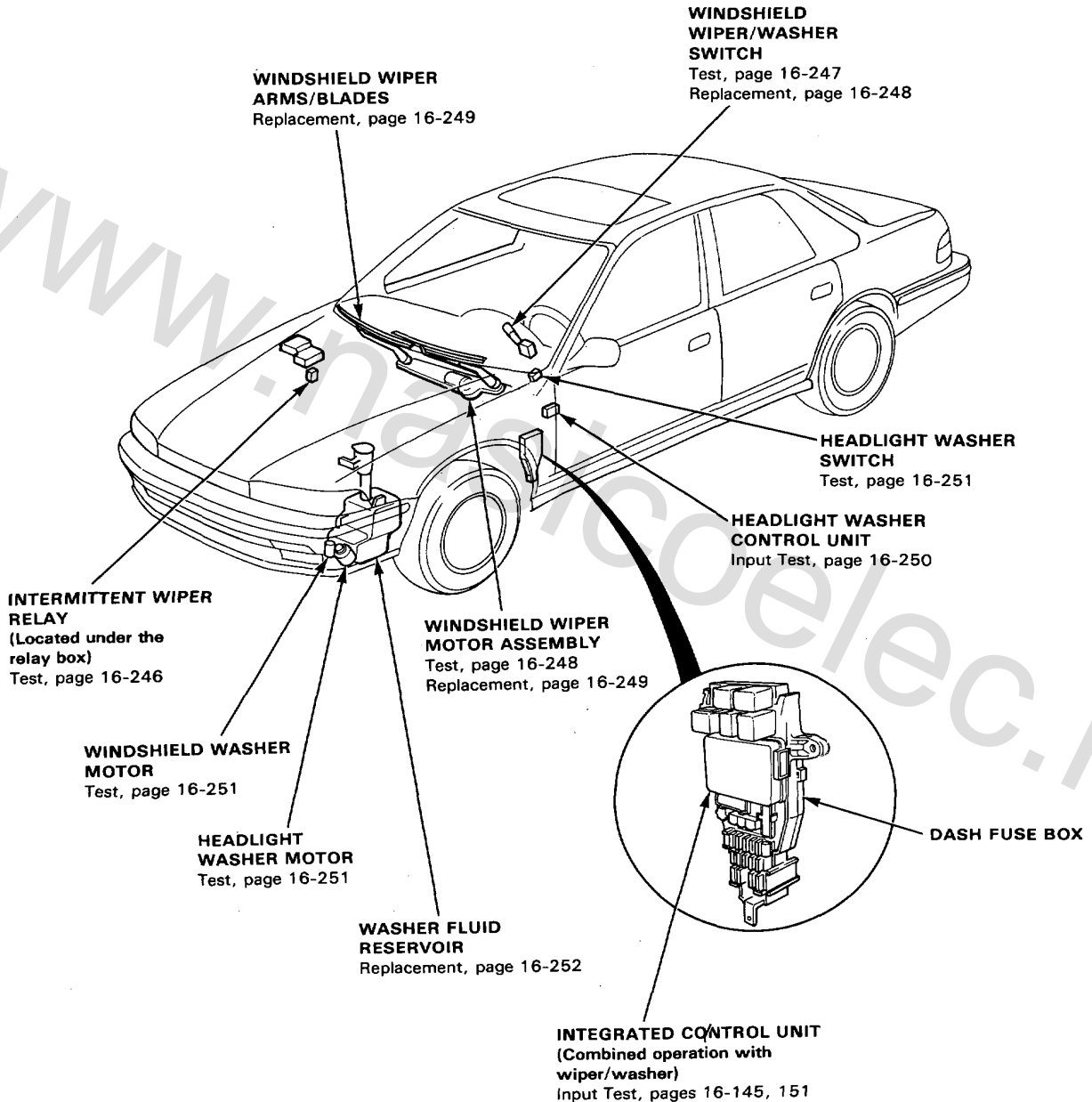


# Wipers/Washers



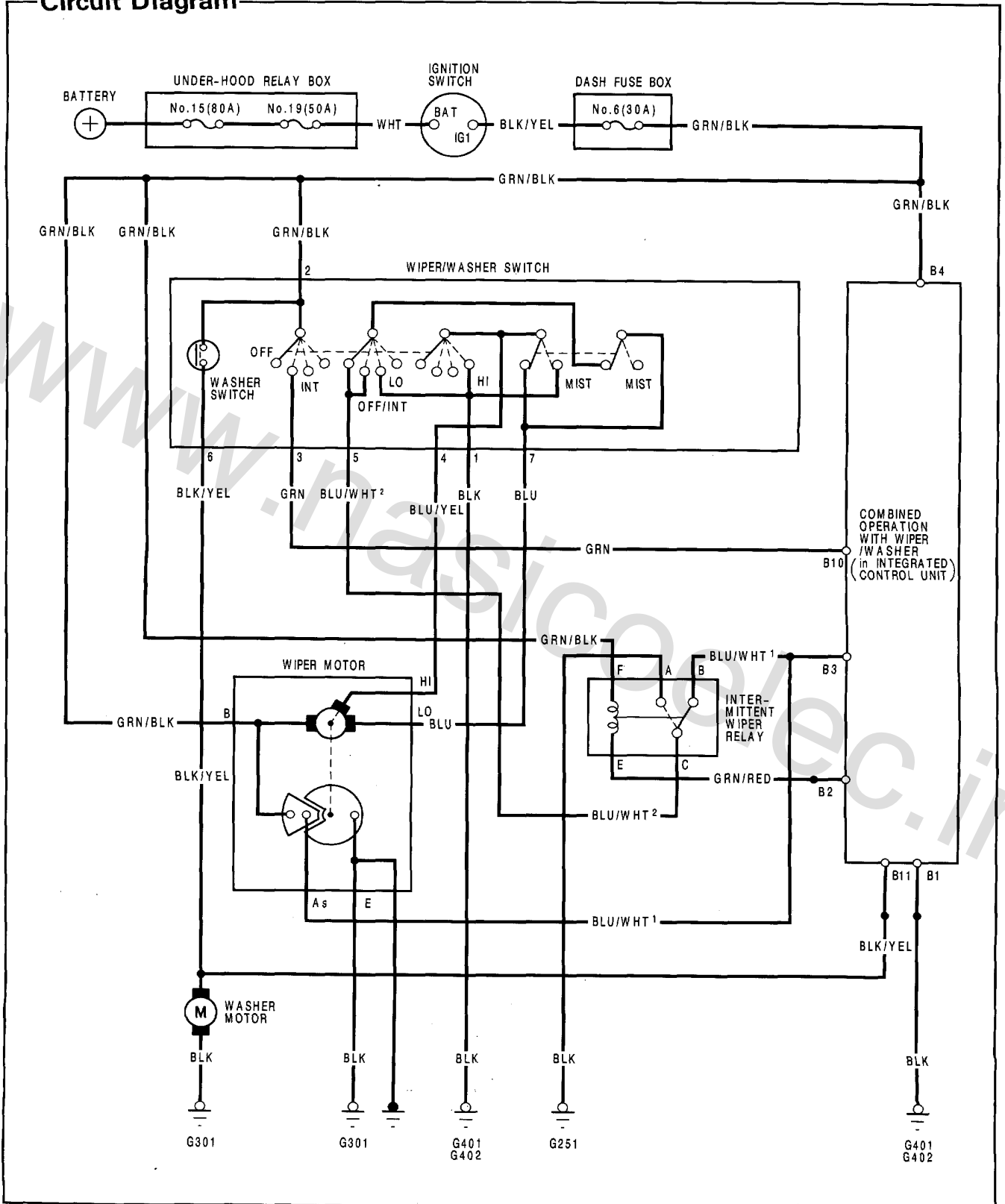
## Component Location Index

- Troubleshooting 16-246



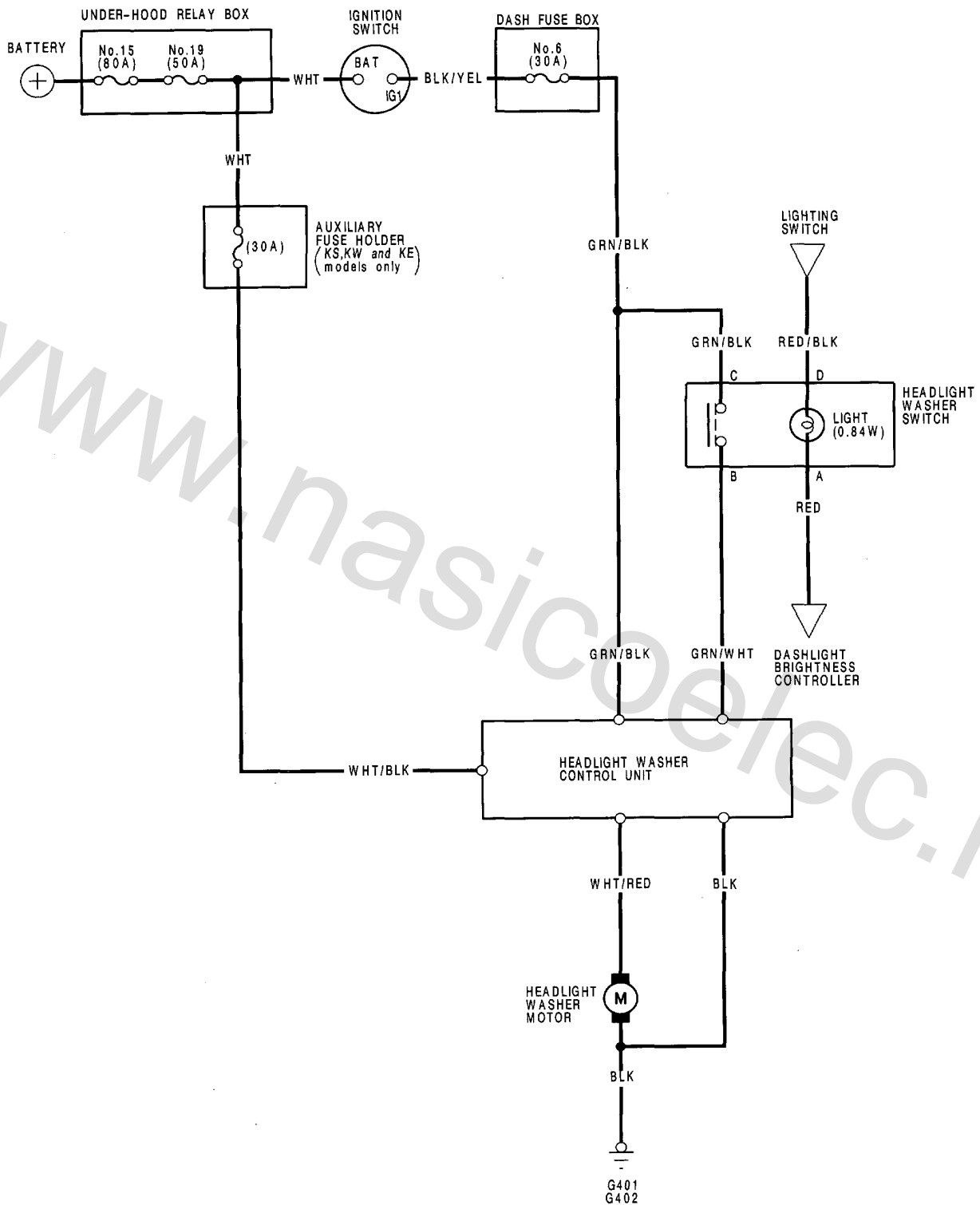
# Wipers/Washers

## Circuit Diagram





# Circuit Diagram (Headlight Washer)



# Wipers/Washers

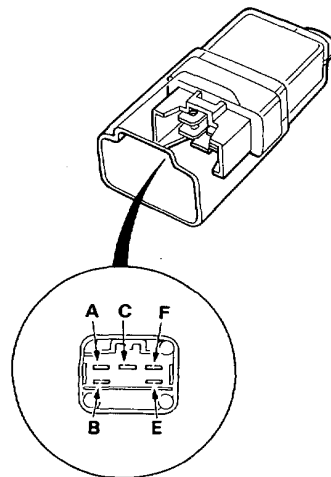
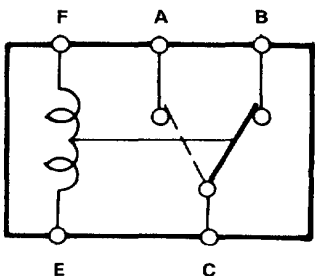
## Troubleshooting

NOTE: The numbers in the table show the troubleshooting sequence.

Item to be inspected		Symptom												
		Blown No. 6 (30 A) fuse (in the dash fuse box)	Wiper switch	Mist switch	Wiper motor assembly	Washer switch	Washer motor	Intermittent wiper relay	Combined operation with washer (in the integrated control unit)	Insufficient washer fluid in reservoir	Disconnected blocked washer hose or clogged outlet	Disconnected wiper linkages	Poor Ground	Open circuit in wires or loose or disconnected terminals
Wipers do not operate	In all positions	1	4		2							3	G301	GRN/BLK
	In INT		1				2							ORN, BLU/WHT <sup>1</sup>
	In LO or HI		1		2									BLU/YEL, BLU
	In MIST			1										
Blades do not return to park position when wipers are turned OFF.			2		1									BLU/WHT <sup>1</sup>
Erratic intermittent cycle or wipers do not operate intermittently.							1							GRN/BLK, GRN BLU/WHT <sup>1</sup> , GRN/RED
Little or no washer fluid is pumped.						4	3		1	2		G301		BLK/YEL
Wipers do not operate simultaneously with washer.														BLK/YEL

## Intermittent Wiper Relay Test

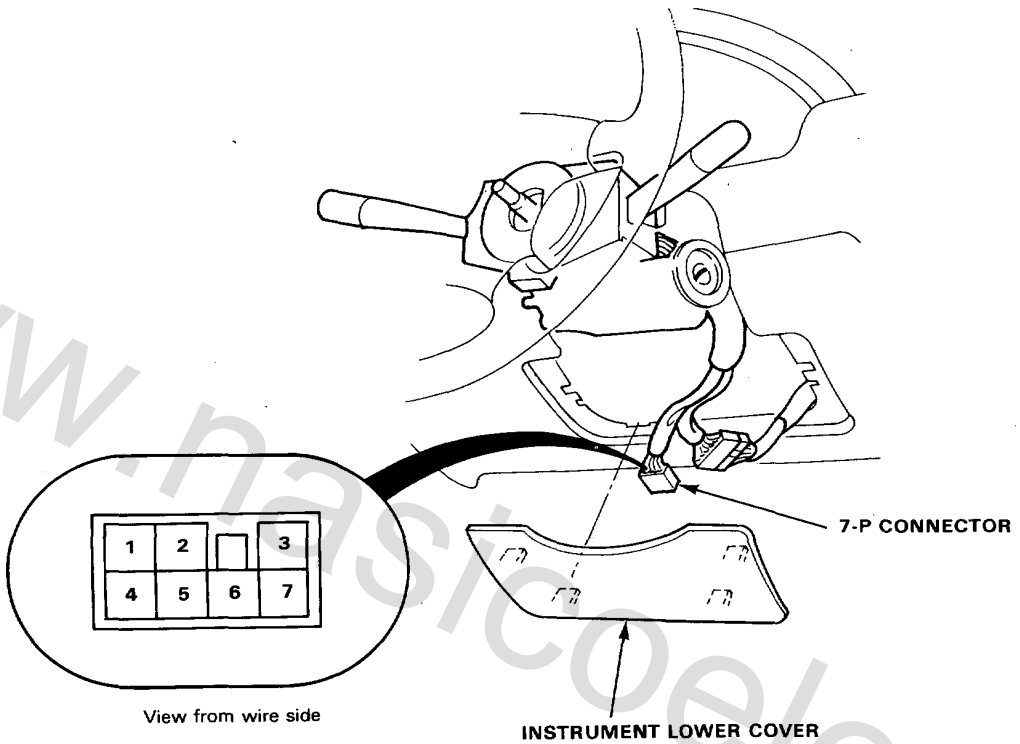
1. Remove the intermittent wiper relay.
2. There should be continuity between the A and C terminals when the battery is connected to the E and F terminals.  
There should be continuity between the B and C terminals when the battery is disconnected.





## Wiper/Washer Switch Test

1. Remove the instrument lower panel.
2. Disconnect the 7-P connector of wiper washer switch from the main wire harness.
3. Check for continuity between the terminal in each switch position according to the table.



Terminal	1	2	3	4	5	6	7
Position							
OFF					○	—	○
INT		○	—	○		○	—
Lo	○	—					○
Hi	○	—		○			
Mist switch "ON"	○	—		○			
Washer switch "ON"		○	—			○	



# Wipers/Washers

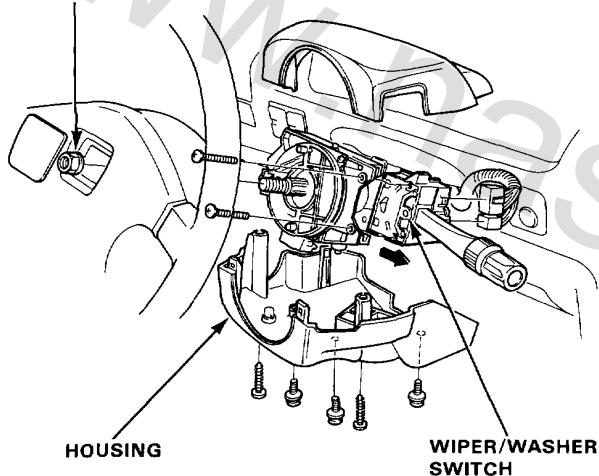
## Wiper/Washer Switch Replacement

1. Remove the steering wheel.
2. Remove the lower and upper covers from the steering column.
3. Disconnect the 8-P and 2-P connectors from the wiper/washer switch.
4. Remove the 2 screws and slide the wiper/washer switch out of the housing as shown.

### NOTE:

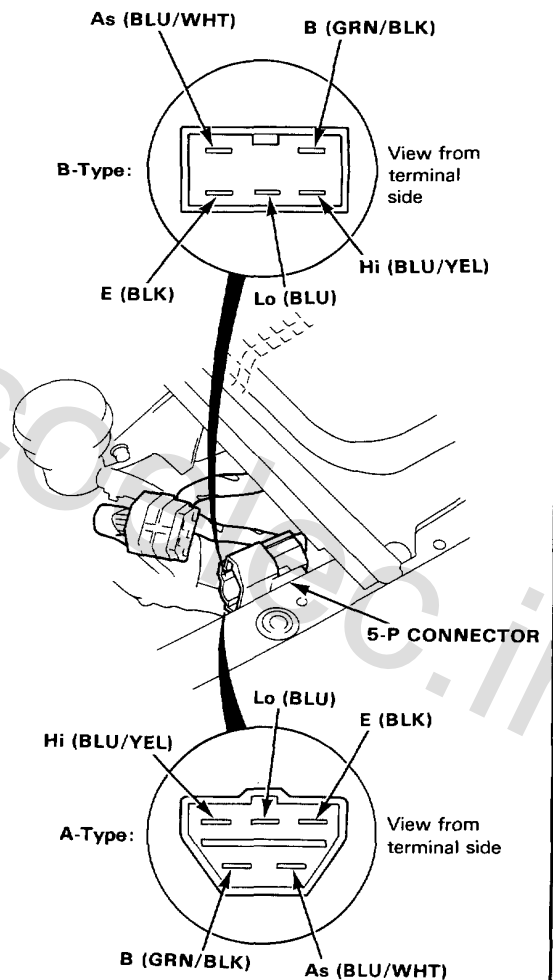
- Be careful not to damage the steering wheel cover.
- If equipped with cruise control, remove the wiper/washer switch after removing the slip ring (see page 16-262).

**SELF-LOCKING NUT**  
50 N·m (5.0 kg-m, 36.2 lb-ft)  
Replace.



## Windshield Wiper Motor Test

1. Disconnect the 5-P connector of the wiper motor assembly.
2. Test motor operation:  
LOW SPEED: Connect battery positive to the B (GRN/BLK) terminal and negative to the Lo (BLU) terminal.  
HIGH SPEED: Connect battery positive to the B (GRN/BLK) terminal and negative to the Hi (BLU/YEL) terminal.
3. If the motor fails to run smoothly, replace it.



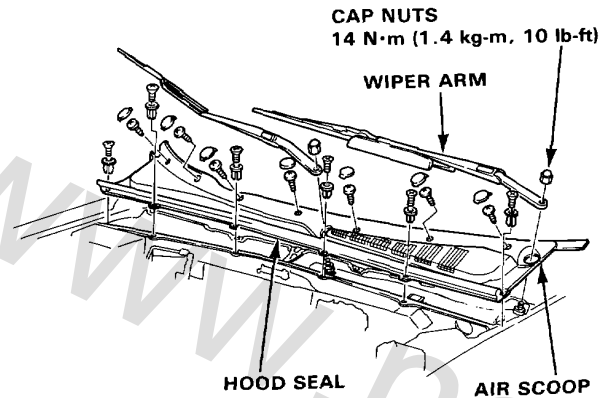


## Windshield Wiper Motor Replacement

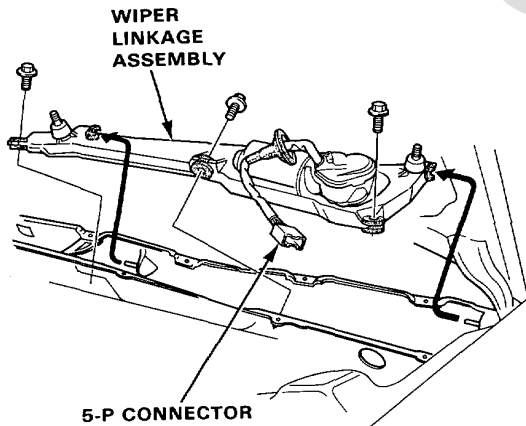
1. Open the hood and remove the cap nuts and the wiper arms

NOTE: Carefully remove the wiper arms so that the wiper arms do not touch the hood.

2. Remove the hood seal and air scoop by prying off the trim clips and removing the screws.



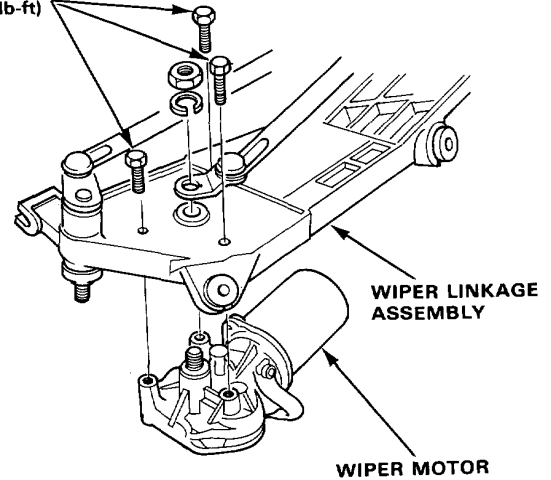
3. Disconnect the 5-P connector from the wiper motor assembly, then remove the 3 mounting bolts and the wiper linkage assembly.



4. Remove the 3 mounting bolts and 1 nut from the wiper linkage assembly to remove the wiper motor assembly.

### MOUNTING BOLTS

10 N·m (1.0 kg-m,  
7.2 lb-ft)



5. Install the wiper motor assembly in the reverse order of removal.

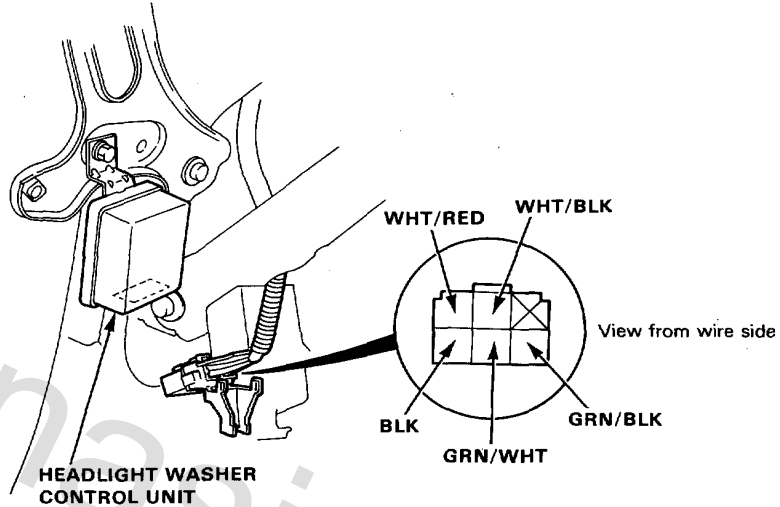
# Wipers/Washers

## Headlight Washer Control Unit Input Test

Disconnect the 6-P connector from the control unit, located at left kick panel.

Make the following input tests at the harness pins.

If all tests prove OK, yet the system still fails to work, replace the control unit.



No.	Terminal	Test condition	Test: desired result	Possible cause (if result is not obtained)
1	BLK	Under all conditions.	Check for continuity to ground: should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G401, G402).</li> <li>• An open in the wire.</li> </ul>
2	WHT/BLK *	Under all conditions.	Check for voltage to ground: should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown 30 A fuse in auxiliary fuse holder.</li> <li>• An open in the wire.</li> </ul>
3	GRN/WHT	Ignition switch ON and headlight washer switch ON.	Check for voltage to ground: should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No.6 (30 A) fuse.</li> <li>• Faulty headlight washer switch</li> <li>• An open in the wire.</li> </ul>
4	WHT/RED	Connect the WHT terminal to the WHT/RED terminal.	Check the headlight washer motor operation: should run.	<ul style="list-style-type: none"> <li>• Faulty headlight washer motor.</li> <li>• Poor ground (G401, G402).</li> <li>• An open in the wire.</li> </ul>
5	GRN/BLK	Ignition switch ON.	Check for voltage to ground: should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No.6 (30 A) fuse.</li> <li>• An open in the wire.</li> </ul>

\*: KS, KW and KE models only

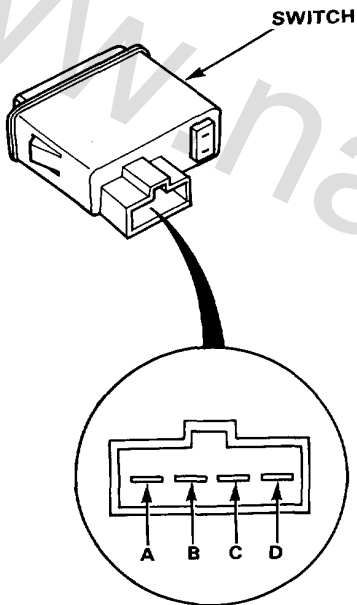


## Headlight Washer Switch Test

1. Pry out the switch from the floor console, then disconnect the 4-P connector from the switch.
2. Check for continuity between the terminals according to the table.

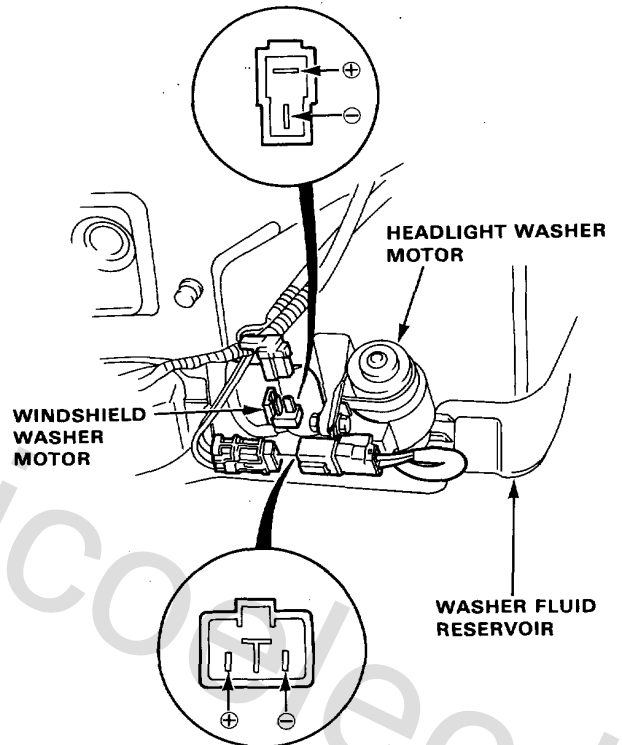
**NOTE:** Be careful not to damage the switch or the instrument panel when prying out the switch.

Terminal	B	C	A		D
Position					
OFF			○	⊕	○
ON	○	○			



## Washer Motor Test

1. Remove the front bumper and disconnect the 2-P connector from the washer motor.
2. Test washer motor operation by connecting battery positive to the ⊕ terminal and negative to the ⊖ terminal.



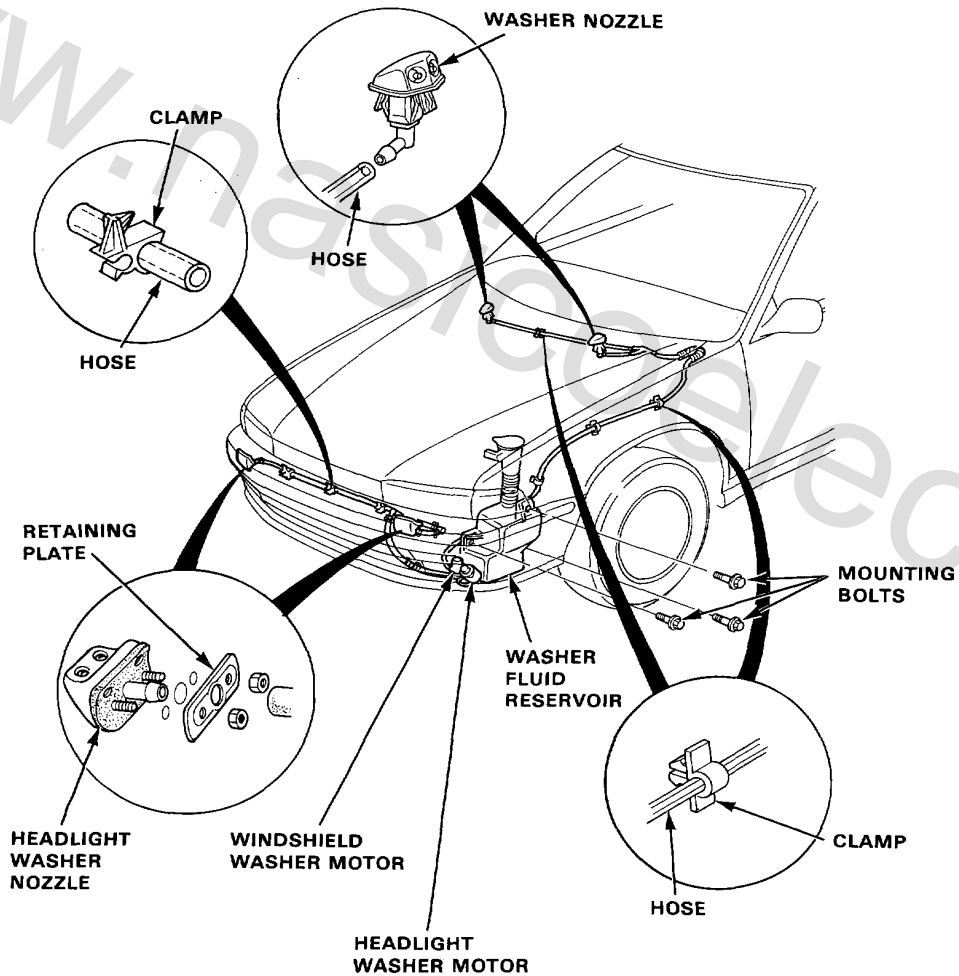
# Wipers/Washers

## Washer Replacement

1. Remove the bumper, then remove the washer reservoir by removing the 3 mounting bolts.
2. Disconnect the hoses and the 2-P connectors from the windshield and the headlight washer motors.
3. Remove the washer nozzles.

**NOTE:**

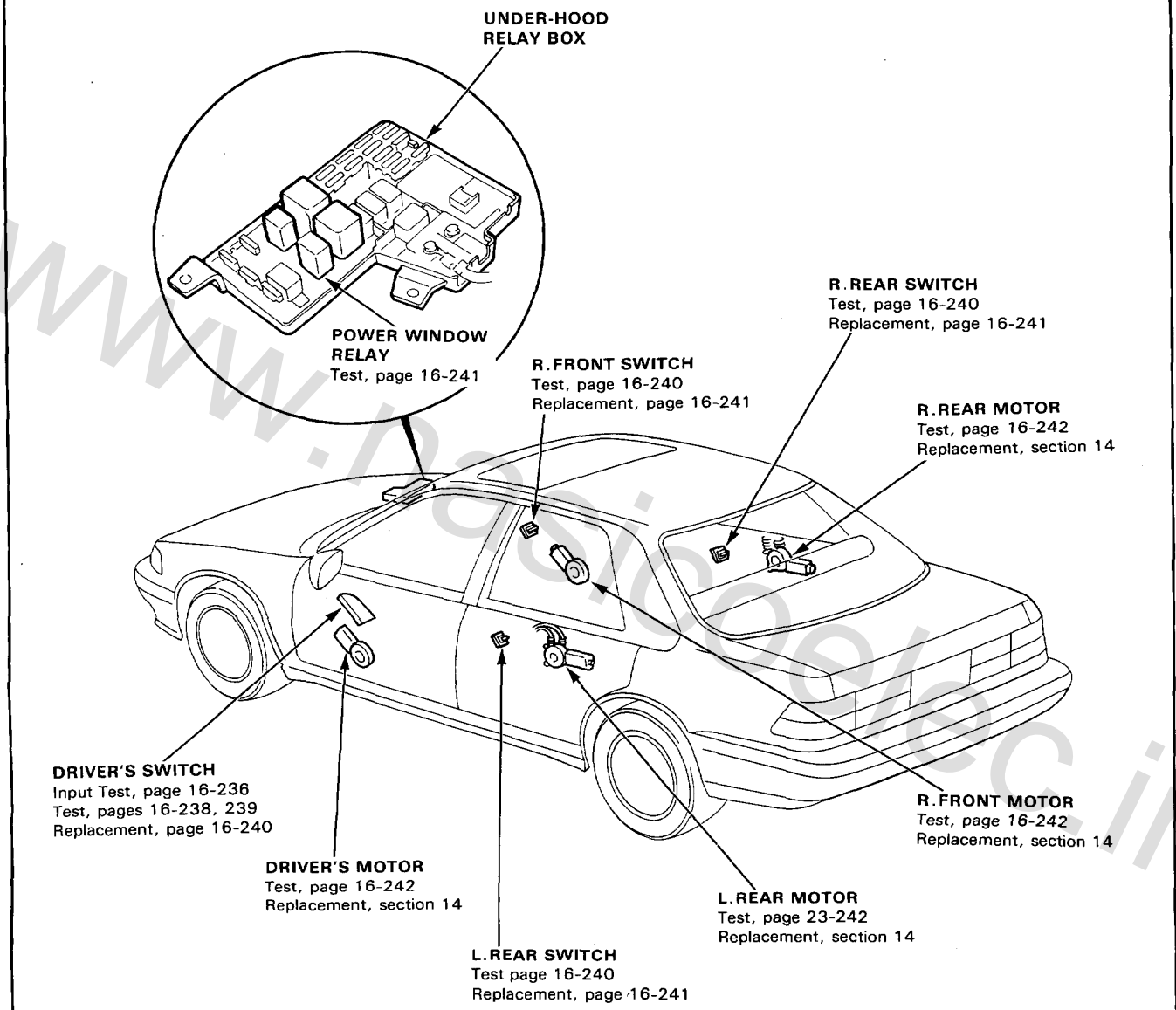
- Clamp the hose in the left front fender.
- Take care not to pinch hoses during reinstallation.
- Install the grommets firmly.
- After installation, adjust the washer nozzles.





# Power Window

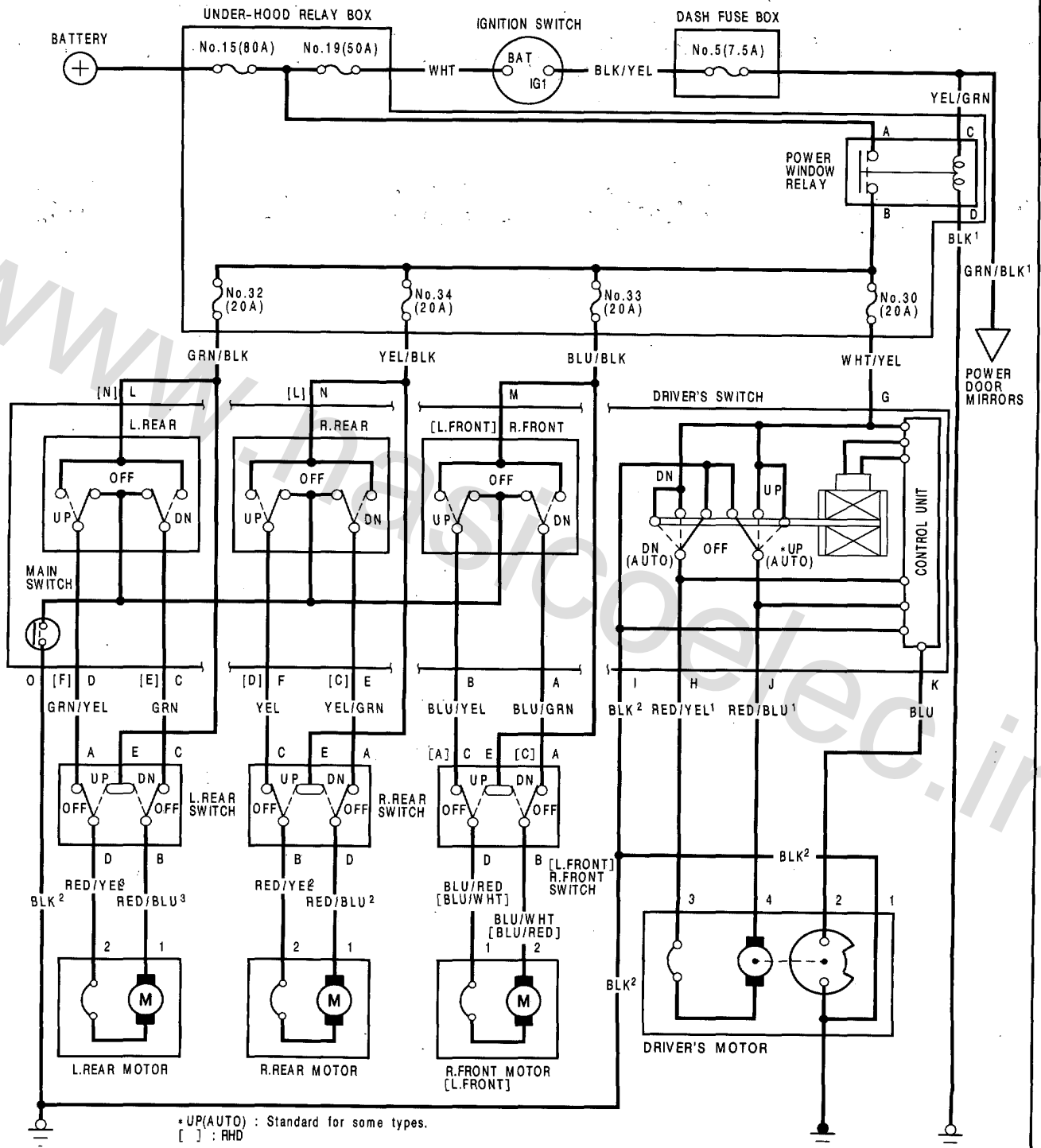
## Component Location Index



# Power Windows

## Circuit Diagram

NOTE:  
 Several different wires have the same color. They have been given a number suffix to distinguish them (for example RED/BLU and RED/BLU<sup>1</sup> are not the same).  
 "DN" in the switch circuit denotes DOWN.



\*UP(AUTO) : Standard for some types.  
 [ ] : RHD

G501  
 G502

G251



# Troubleshooting

NOTE: The numbers in the table show the troubleshooting sequence.

Symptom	Item to be inspected														
	State of charge and clean and tight connections of battery	Blown No.5 (7.5 A) fuse (in the dash fuse box)	Power window relay	in the dash fuse box				Driver's door switch	Passenger switch	Driver's motor	Pulser (in driver's motor)	Passenger's motor	Window regulator	Driver's door switch input	Poor ground
All windows do not operate.	1	2	3											G251	BLK/YEL, YEL/GRN
Driver's window does not operate.				1					2			3	4		WHT/YEL
Driver's window does not operate in AUTO.							1			2			3		BLU
Passenger windows do not operate.	Right front				1		2	3			4	5			BLU/BLK
	Left rear					1	2	3			4	5			GRN/BLK
	Right rear				1		2	3			4	5			YEL/BLK

[ ] : RHD



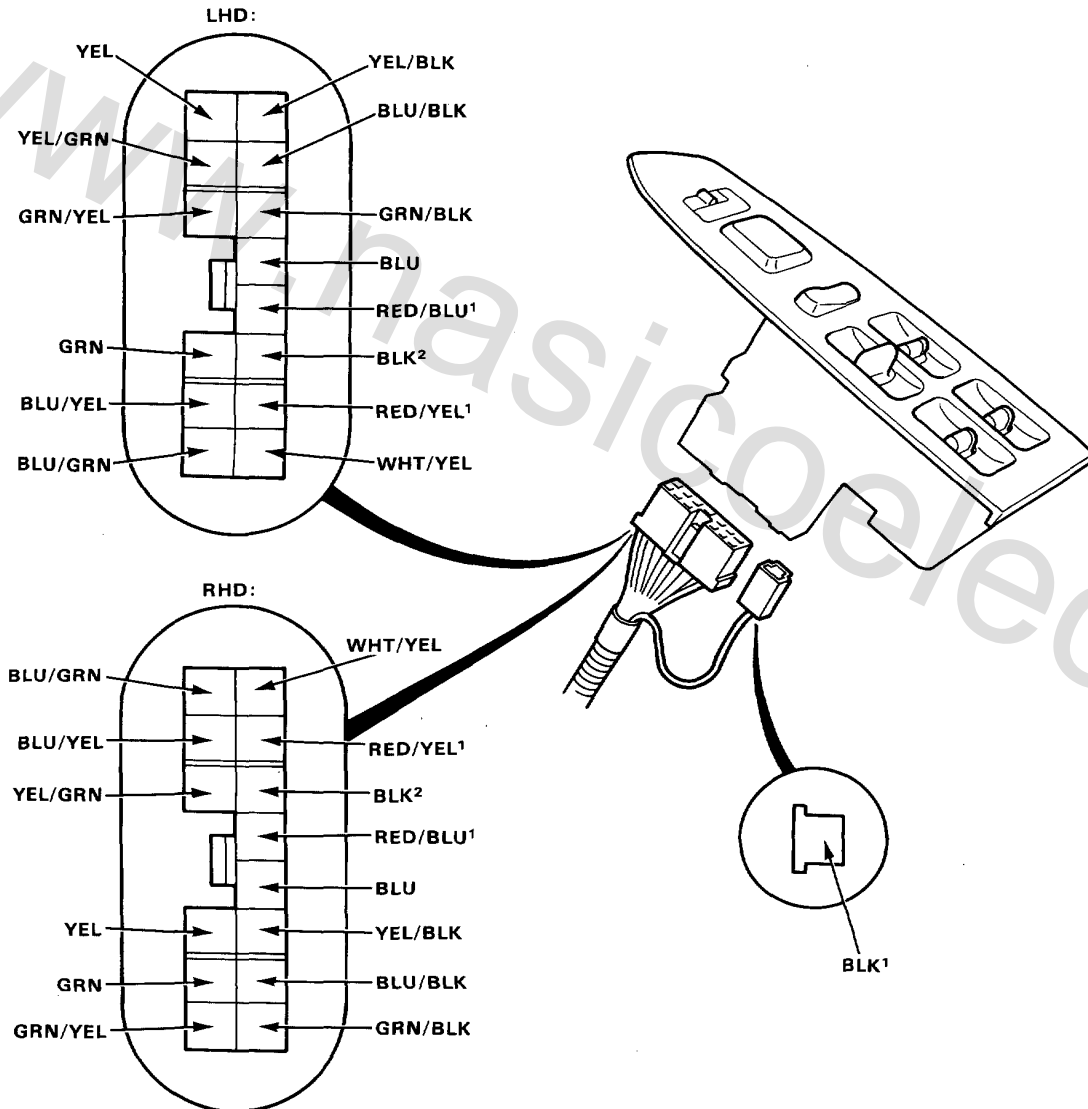
# Power Windows

## Driver's Switch Input Test

NOTE: The control unit is built into the driver's switch, and only controls driver's door window operation.

Remove the driver's door trim panel and disconnect the 14-P and 1-P connectors from the driver's switch. Make the following input tests at the harness pins.

NOTE: Recheck the connections between the 10-P or 14-P and 1-P connectors, and the driver's switch, then replace the driver's switch if all input tests prove OK.





No.	Terminal	Test condition	Test: desired result	Possible cause (if result is not obtained)
1	BLK <sup>2</sup>	Under all conditions.	Check for continuity to ground: should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G501, G502)</li> <li>• An open in the wire.</li> </ul>
2	WHT/YEL	Ignition switch ON.	Check for voltage to ground: should be battery voltage .	<ul style="list-style-type: none"> <li>• Blown No.30, 32, 33 or 34 (20 A) fuse.</li> <li>• Faulty power window relay.</li> <li>• An open in the wire.</li> </ul>
	BLU/BLK			
	YEL/BLK			
	GRN/BLK			
3	RED/BLU <sup>1</sup> and RED/YEL <sup>1</sup>	Connect the WHT/YEL terminal to the RED/BLU <sup>1</sup> terminal, and the RED/YEL terminal to the BLK <sup>2</sup> terminal, then ignition switch ON.	Check the driver's motor operation: should run.	<ul style="list-style-type: none"> <li>• Faulty driver's motor.</li> <li>• An open in the wire.</li> </ul>
4	BLU/YEL and BLU/GRN	Connect the BLU/BLK terminal to the BLU/YEL terminal, and the BLU/GRN terminal to the BLK <sup>2</sup> terminal, then ignition switch ON.	Check the right front motor operation: should run.	<ul style="list-style-type: none"> <li>• Faulty R. front [L.front] motor.</li> <li>• Faulty R. front [L.front] switch.</li> <li>• An open in the wire.</li> </ul>
5	YEL and YEL/GRN	Connect the YEL/BLK terminal to the YEL terminal, and the YEL/GRN terminal to the BLK terminal, then ignition switch ON.	Check the right rear motor operation: should run.	<ul style="list-style-type: none"> <li>• Faulty R. rear motor.</li> <li>• Faulty R. rear switch.</li> <li>• An open in the wire.</li> </ul>
6	GRN/YEL and GRN	Connect the GRN/BLK terminal to the GRN/YEL terminal, and the GRN terminal to the BLK terminal, then ignition switch ON.	Check the left rear motor operation: should run.	<ul style="list-style-type: none"> <li>• Faulty L. rear motor.</li> <li>• Faulty L. rear switch.</li> <li>• An open in the wire.</li> </ul>
7	BLU and BLK <sup>2</sup>	Connect the WHT/YEL terminal to the RED/YEL <sup>1</sup> terminal, and the BLK <sup>2</sup> terminal to the RED/BLU <sup>1</sup> terminal, then ignition Switch ON.	Check for resistance between the BLU and BLK <sup>2</sup> terminals: should indicate between 20-50 ohms as the driver's motor runs.	<ul style="list-style-type: none"> <li>• Faulty pulser.</li> <li>• Faulty driver's motor.</li> <li>• An open in the wire</li> </ul>

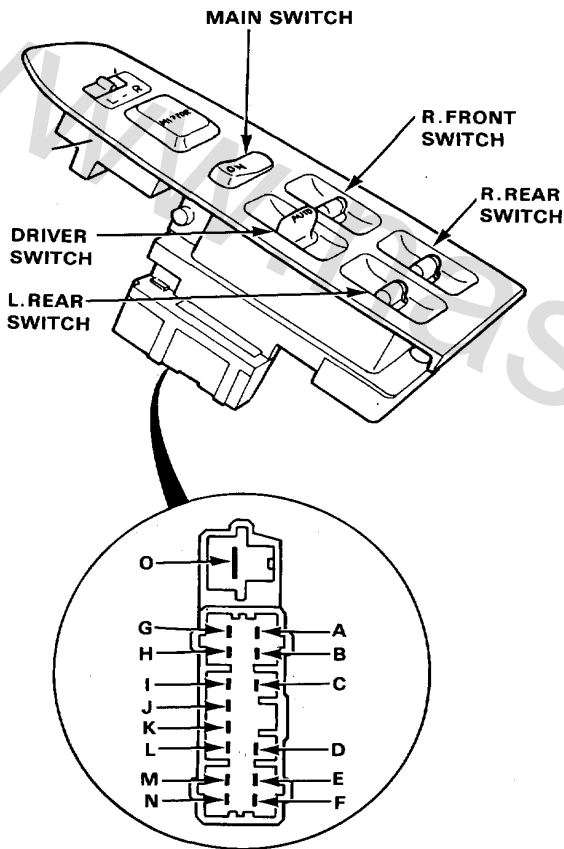
[ ] : RHD

# Power Windows

## Driver's Switch Test

LHD:

1. Remove the switch from the arm rest.
2. Check for continuity between the terminals in each switch position according to the tables.



### DRIVER'S SWITCH

Terminal		G	H	I	J
Position					
OFF			○—○	○—○	○—○
UP		○—○			○—○
DOWN		○—○	○—○		
DOWN (AUTO)		○—○	○—○		

### R. FRONT SWITCH

Terminal		A	B	M	O
Position	Main Switch				
OFF	ON	○—○	○—○		○—○
	OFF	○—○	○—○		
UP	ON		○—○	○—○	
	OFF		○—○	○—○	
DOWN	ON	○—○		○—○	
	OFF	○—○		○—○	

### R. REAR SWITCH

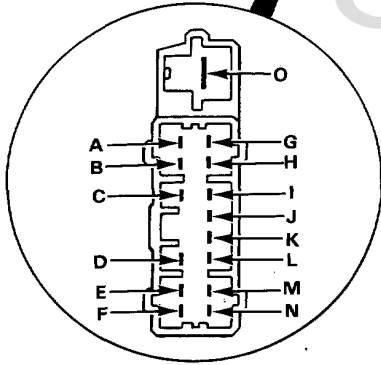
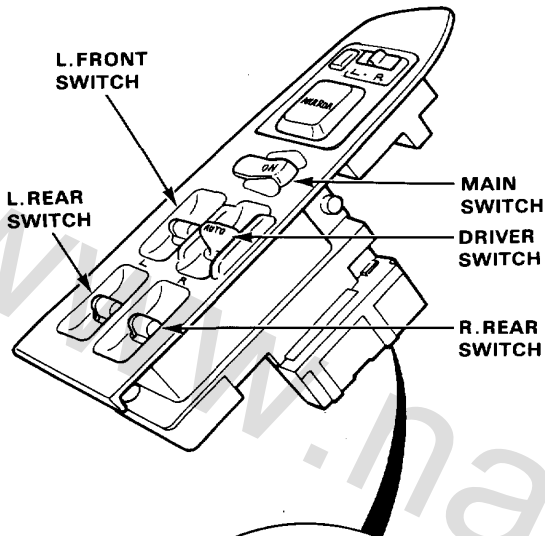
Terminal		E	F	N	O
Position	Main Switch				
OFF	ON	○—○	○—○		○—○
	OFF	○—○	○—○		
UP	ON		○—○	○—○	
	OFF		○—○	○—○	
DOWN	ON	○—○		○—○	
	OFF	○—○		○—○	

### L. REAR SWITCH

Terminal		C	D	L	O
Position	Main Switch				
OFF	ON	○—○	○—○		○—○
	OFF	○—○	○—○		
UP	ON		○—○	○—○	
	OFF		○—○	○—○	
DOWN	ON	○—○		○—○	
	OFF	○—○		○—○	



RHD:



**DRIVER'S SWITCH**

Terminal	G	H	I	J
Position				
OFF		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
UP (AUTO)	<input type="radio"/>			<input type="radio"/>
UP	<input type="radio"/>			<input type="radio"/>
DOWN	<input type="radio"/>	<input type="radio"/>		
DOWN (AUTO)	<input type="radio"/>	<input type="radio"/>		

**L. FRONT SWITCH**

Terminal	A	B	M	O
Position				
OFF	ON	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	OFF	<input type="radio"/>	<input type="radio"/>	
UP	ON		<input type="radio"/>	<input type="radio"/>
	OFF		<input type="radio"/>	<input type="radio"/>
DOWN	ON	<input type="radio"/>		<input type="radio"/>
	OFF	<input type="radio"/>		<input type="radio"/>

**R. REAR SWITCH**

Terminal	C	D	L	O
Position				
OFF	ON	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	OFF	<input type="radio"/>	<input type="radio"/>	
UP	ON		<input type="radio"/>	<input type="radio"/>
	OFF		<input type="radio"/>	<input type="radio"/>
DOWN	ON	<input type="radio"/>		<input type="radio"/>
	OFF	<input type="radio"/>		<input type="radio"/>

**L. REAR SWITCH**

Terminal	E	F	N	O
Position				
OFF	ON	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	OFF	<input type="radio"/>	<input type="radio"/>	
UP	ON		<input type="radio"/>	<input type="radio"/>
	OFF		<input type="radio"/>	<input type="radio"/>
DOWN	ON	<input type="radio"/>		<input type="radio"/>
	OFF	<input type="radio"/>		<input type="radio"/>

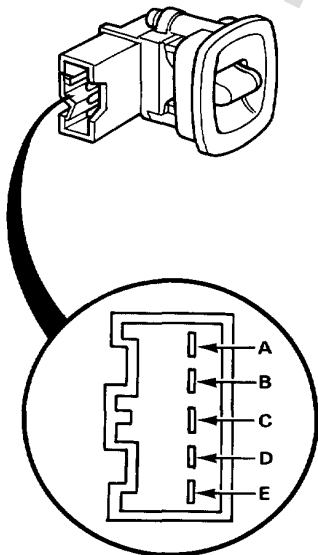
# Power Windows

## Passenger's Switch Test

1. Remove the switch from the arm rest, then disconnect the 5-P connector.
2. Check for continuity between the terminals in each switch position according to the table.

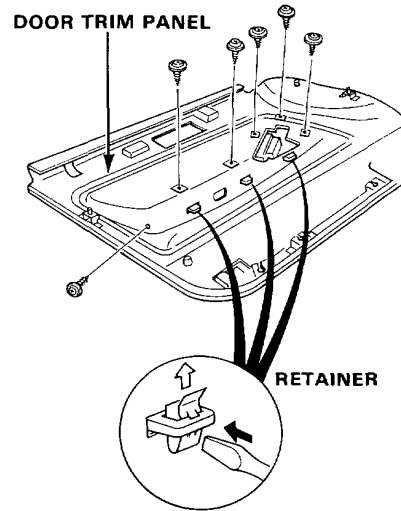
NOTE: Right [Left] front switch is shown. Rear switches are similar.  
 [ ]: RHD

Terminal	A	B	C	D	E
UP		○	○	○	○
OFF	○			○	
DOWN		○	○		○

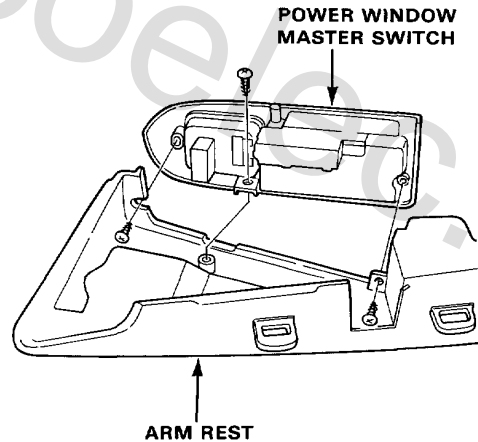


## Driver's Switch Replacement

1. Remove the driver's door trim panel, then disconnect all of the connectors from the driver's door trim panel.
2. Remove the arm rest from the driver's door trim panel by removing the retainer and the screws.



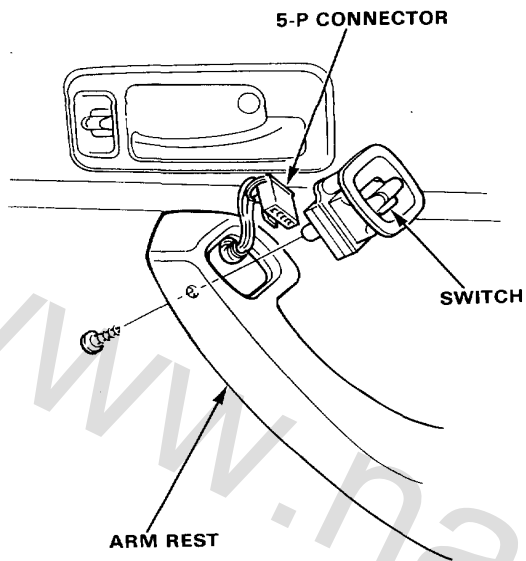
3. Remove the power window master switch from the arm rest by removing three screws.





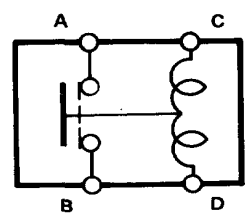
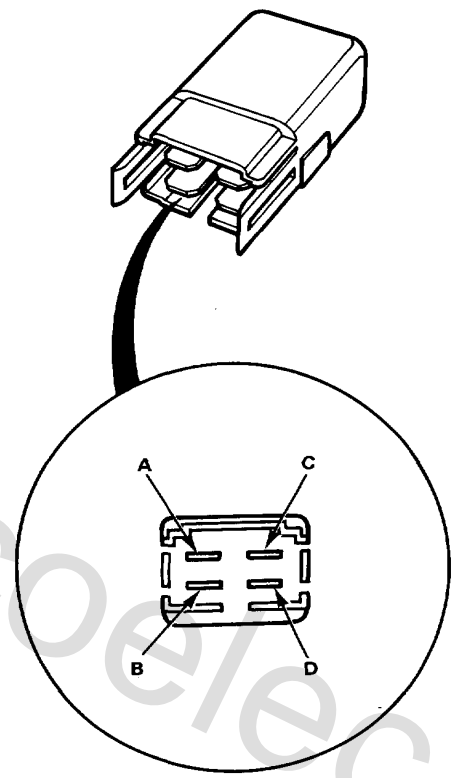
## Passenger's Switch Replacement

1. Remove the switch from the arm rest by removing the 1 mounting screw, then disconnect the 5-P connector from the switch.



## Relay Test

1. Remove the relay from the under-hood relay box.
2. There should be continuity between the A and B terminals when the battery is connected to the C and D terminals. There should be no continuity when the battery is disconnected.

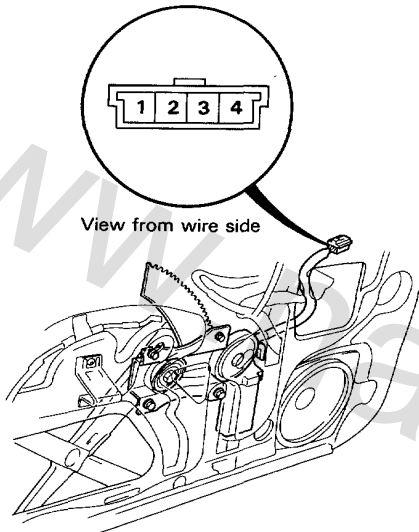


# Power Windows

## Driver's Motor Test

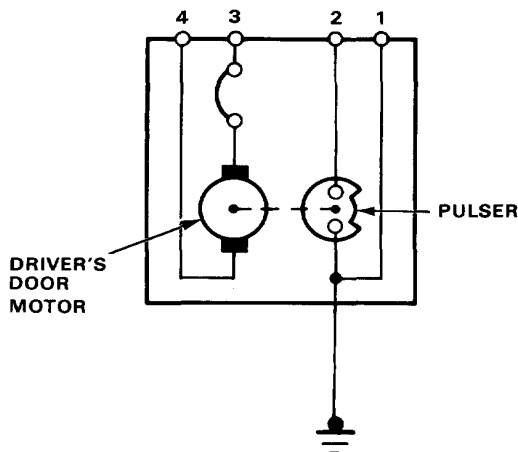
### Motor Test:

1. Remove the door trim panel.
2. Disconnect the 4-P connector from the door wire harness.
3. Test motor operation by connecting battery voltage to the No.3 and No.4 terminals.  
Test the motor in each direction, by switching the leads from the battery.
4. If the motor does not run, replace it.



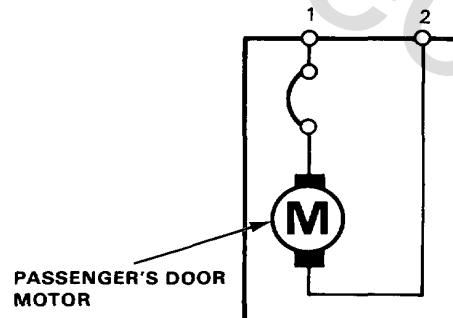
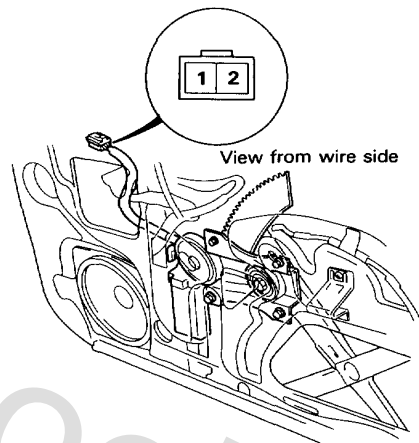
### Pulser Test:

Measure resistance between the No.1 and No.2 terminals when running the motor by connecting battery voltage to the No.3 and No.4 terminals. Ohmmeter should indicate between 20-50 ohms as the motor runs.



## Passenger's Motor Test

1. Remove the door trim panel.
2. Disconnect the 2-P connector from the motor.
3. Test motor operation by applying battery voltage to the No.1 and No.2 terminals.  
Test the motor in each direction, by switching the leads from the battery.
4. If the motor does not run, replace it.



# Wiring Diagrams

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# INTRODUCTION

## How to Use This Manual

This supplement contains information for the 1991 ACCORD. Refer to following shop manual for service procedures and data not included in this supplement.

Description	Code No.
ACCORD CHASSIS Maintenance and Repair 90	62SM400
F18A/F20A/F22A ENGINE Maintenance and Repair	62PT400
H2 MANUAAL TRANSMISSION Maintenance and Repair	62PX500
PX4B AUTOMATIC TRANSMISSION Maintenance and Repair	62PX400

The first page of each section is marked with a black tab that lines up with one of the thumb index tabs on this page. You can quickly find the first page of each section without looking through a full table of contents. The symbols printed at the top corner of each page can also be used as a quick reference system.

## Special Information

**▲ WARNING** Indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.

**CAUTION:** Indicates a possibility of personal injury or equipment damage if instructions are not followed.

**NOTE:** Gives helpful information.

**CAUTION:** Detailed descriptions of standard workshop procedures, safety principles and service operations are not included. Please note that this manual does contain warnings and cautions against some specific service methods which could cause PERSONAL INJURY, or could damage a vehicle or make it unsafe. Please understand that these warnings cannot cover all conceivable ways in which service, whether or not recommended by American Honda, might be done, or of the possible hazardous consequences of each conceivable way, nor could American Honda investigate all such ways. Anyone using service procedures or tools, whether or not recommended by American Honda, *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized.

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\*(Asterisk) marked sections are not included in this manual.

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HONDA MOTOR CO., LTD.  
Service Publication Office

General Info



Special Tools



Specifications

specs

Maintenance



Engine



Fuel and Emissions



Transaxle



Steering \*



Suspension \*



Brakes \*



Body \*



Heater and  
Air Conditioner



Electrical \*



# Outline of Model Changes

ITEM	DESCRIPTION	91 MODEL	REFERENCE SECTION
Engine	<p>Tightening torque changed</p> <ul style="list-style-type: none"> <li>• Engine mounting bolts and nuts</li> <li>• Main bearing cap nut</li> <li>• Exhaust pipe-to-muffler connecting nut.</li> </ul> <p>Changed</p> <ul style="list-style-type: none"> <li>• Exhaust manifold (KQ model)</li> <li>• Crank bore marking method</li> </ul>	○	5
Carburation	<p>Adapted</p> <ul style="list-style-type: none"> <li>• KE with CATA model.</li> </ul> <p>Modified</p> <ul style="list-style-type: none"> <li>• Vacuum connection.</li> </ul>	○	6
PGM-FI	<p>Adapted</p> <ul style="list-style-type: none"> <li>• KE with CATA model (2.0 ℓ )</li> </ul> <p>Modified</p> <ul style="list-style-type: none"> <li>• KQ model (2.2 ℓ )</li> <li>• Electronic control unit (ECU)</li> <li>• Vacuum connections</li> <li>• TDC/CRANK/CYL sensors</li> <li>• Fuel pressure</li> <li>• Constant vacuum control (CVC) valve</li> </ul>	○	6
Manual Transmission	<p>Modified</p> <ul style="list-style-type: none"> <li>• Change lever</li> <li>• 3rd/4th synchro hub and 3rd/4th synchro sleeve</li> <li>• 5th synchro hub and 5th synchro sleeve</li> <li>• 1st/2nd synchro hub</li> </ul>	○	8
Power Steering	<p>Changed</p> <ul style="list-style-type: none"> <li>• High pressure pipe for power steering pump</li> </ul>	○	5

- For the reason of environment conservation and to secure the required quantity of Freon, the Freon collector has been adapted and its maintenance procedure has been described (See Section 15).



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**Chassis and Engine Numbers**  
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**Preparation of Work**  
**Symbol Marks**  
**Abbreviation**

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# Chassis and Engine Numbers

## Vehicle Identification Number (1.8 l Carbureted Engine)

JHM CB1 5 2 0 0 C 0 00001

**Manufacturer Code and Vehicle Type**  
JHM: HONDA MOTOR CO., LTD., JAPAN.  
HONDA Passenger Car

**Body and Engine Type**  
CB1: ACCORD 1.8 l

**Door and Transmission Type**  
5 : 4-door, 5-speed Manual

**Vehicle Grade**  
2 : LX (KB)  
3 : EX (KB)

**Fixed Code**

**Auxiliary Number**

**Factory Code**  
C : Sayama Factory in Japan

**Model Year**  
1 : 1991

**Serial Number**

## Vehicle Identification Number (2.0 l Fuel-Injected Engine)

JHM CB3 5 4 0 0 1 0 00001

**Manufacturer Code and Vehicle Type**  
JHM: HONDA MOTOR CO., LTD., JAPAN.  
HONDA Passenger Car

**Body and Engine Type**  
CB3: ACCORD 2.0 l

**Door and Transmission Type**  
5 : 4-door, 5-speed Manual  
6 : 4-door, 4-speed Automatic

**Vehicle Grade**  
4 : 2.0i, F20A4 with CATA (KG, KS)  
F20A4 without CATA (KF, KE)  
F20A5 (KB, KW)  
2.0i with anti-lock brake system  
F20A4 with CATA (KG, KX, KS, KE)  
F20A4 without CATA (KF, KE)  
F20A5 (KB)  
EXi, F20A5 (KU)  
EXi with anti-lock brake system,  
F20A5 (KU)

**Fixed Code**

**Auxiliary Number**

**Factory Code**  
C : Sayama Factory in Japan

**Model Year**  
1 : 1991

**Serial Number**

## Vehicle Identification Number (2.0 l Carbureted Engine)

JHM CB3 5 2 0 0 C 1 00001

**Manufacturer Code and Vehicle Type**  
JHM: HONDA MOTOR CO., LTD., JAPAN.  
HONDA Passenger Car

**Body and Engine Type**  
CB3: ACCORD 2.0 l

**Door and Transmission Type**  
5 : 4-door, 5-speed Manual  
6 : 4-door, 4 speed Automatic

**Vehicle Grade**  
2 : DX, F20A2 (KG, KS)  
F20A3 (KW)  
: LX, F20A3 (KP, KT, KY)  
3 : EX, F20A2 with CATA (KG, KX, KS)  
F20A2 without CATA (KF, KE)  
F20A3 (KB, KW, KP, KT, KU, KY)  
F20A6 (KG)  
:EX with anti-lock brake system  
F20A2 with CATA (KG, KS, KE)  
F20A2 without CATA (KF)  
F20A3 (KB)

**Fixed Code**

**Auxiliary Number**

**Factory Code**  
C : Sayama Factory in Japan

**Model Year**  
1 : 1991

**Serial Number**

## Vehicle Identification Number (2.2 l Fuel-Injected Engine)

JHM CB7 5 5 0 0 C 0 00001

**Manufacturer Code and Vehicle Type**  
JHM: HONDA MOTOR CO., LTD., JAPAN.  
HONDA Passenger Car

**Body and Engine Type**  
CB7: ACCORD 2.2 l

**Door and Transmission Type**  
5 : 4-door, 5-speed Manual  
6 : 4-door, 4-speed Automatic

**Vehicle Grade**  
5 : 2.2i, F22A3 with CATA  
(KF, KG, KX, KS, KE)  
EXi, F22A2 (KY)  
F22A9 with CATA (KQ)

**Fixed Code**

**Auxiliary Number**

**Factory Code**  
C : Sayama Factory in Japan

**Model Year**  
1 : 1991

**Serial Number**



**Engine Number**  
**(DX: European, LX: General and**  
**EX: KG 90 ps)**

F18A2 - 20 00001

**Engine Type**

- F18A2 : 1.8 l SOHC Carbureted  
Leaded gasoline: KB
- F20A2 : 2.0 l SOHC Carbureted  
Unleaded gasoline with CATA  
: KG/KS (DX)
- F20A3 : 2.0 l SOHC Carbureted  
Leaded gasoline: KW (DX),  
KP/KT/KU/KY (LX)
- F20A6 : 2.0 l SOHC Carbureted (90ps)  
Unleaded gasoline with CATA  
: KG (EX 90ps)

**Transmission Type**

- 20: 5-speed manual
- 25: 4-speed automatic

**Serial Number**

**Engine Number**  
**(2.2i: European)**

F22A3 - 20 00001

**Engine Type**

- F22A3 : 2.2 l SOHC Fuel-Injected  
Unleaded gasoline with CATA

**Transmission Type**

- 20: 5-speed manual
- 25: 4-speed automatic

**Serial Number**

**Engine Number**  
**(EXi: KQ, KY)**

F22A2 - 2000001

**Engine Type**

- F22A2 : 2.2 l SOHC Fuel-Injected  
Leaded gasoline: KY
- F22A9 : 2.2 l SOHC Fuel-Injected  
Unleaded gasoline with CATA  
: KQ

**Serial Number**

- F22A2: 2000001~
- F22A9: 1000001~

**Engine Number**  
**(EX except KG 90 ps)**

F20A2 - 20 00001

**Engine Type**

- F20A2 : 2.0 l SOHC Carbureted  
Unleaded gasoline with CATA  
: KG, KX, KS, KE  
2.0 l SOHC Carbureted  
Unleaded gasoline without CATA  
: KF, KE
- F20A3 : 2.0 l SOHC Carbureted  
Leaded gasoline  
: KB, KW, KP, KT, KU, KY

**Transmission Type**

- 20: 5-speed manual
- 25: 4-speed automatic

**Serial Number**

**Manual Transmission Number**

H2C4 - 2000001

**Transmission Type**

- H2C4: 2.0 l Fuel-Injected and 2.2 l Fuel-Injected  
except KQ
- H2S8: 1.8 l and 2.0 l Carbureted
- H2U5: 2.2 l Fuel-Injected: KQ

**Serial Number**

**Automatic Transmission Number**

MPXA - 2000001

**Transmission Type**

**Serial Number**

**Engine Number**  
**(2.0i: European and EXi: KU)**

F20A4 - 20 00001

**Engine Type**

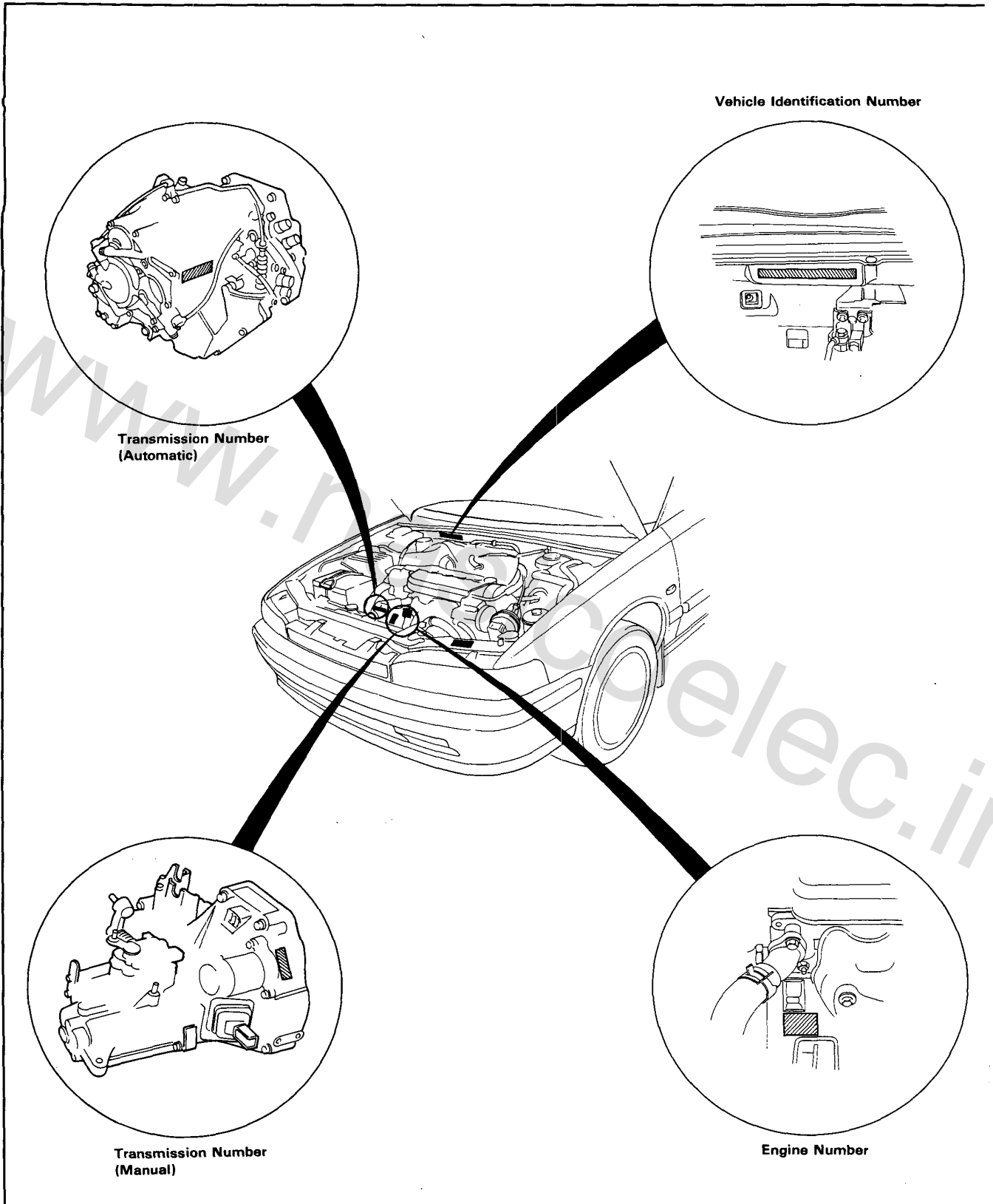
- F20A4 : 2.0 l SOHC Fuel-Injected  
Unleaded gasoline with CATA  
: KG, KX, KS, KE  
2.0 l SOHC Fuel-Injected  
Unleaded gasoline without  
CATA: KF, KE
- F20A5 : 2.0 l SOHC Fuel-Injected  
Leaded gasoline: KB, KW, KU

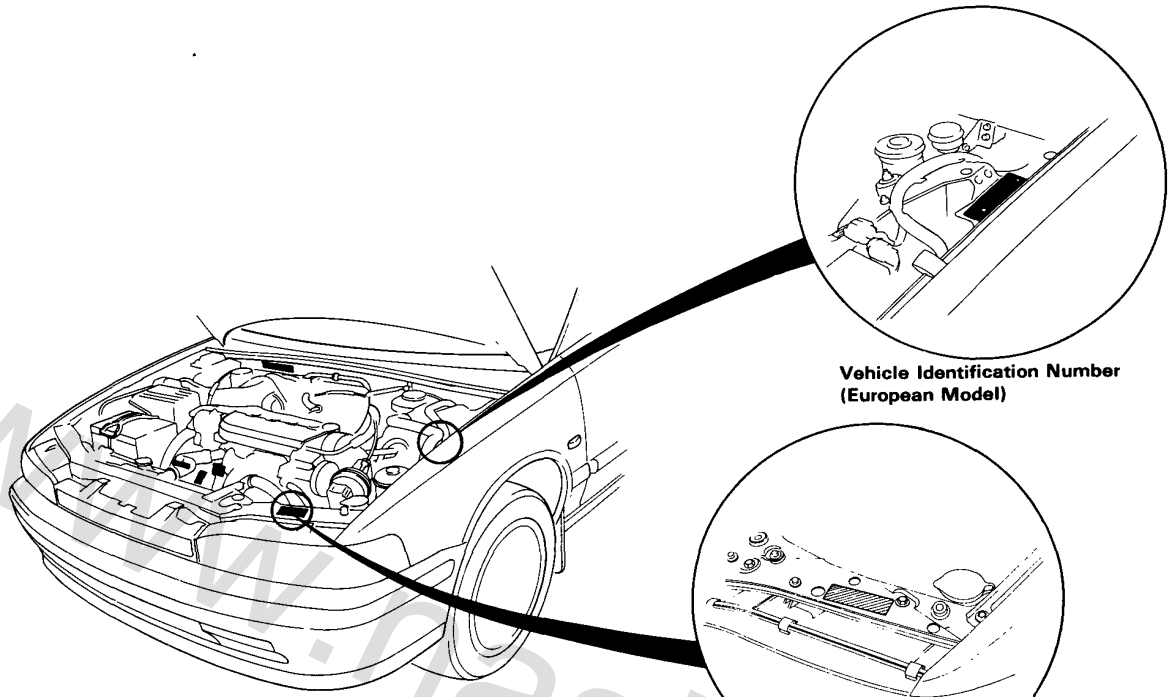
**Transmission Type**

- 20: 5-speed manual
- 25: 4-speed automatic

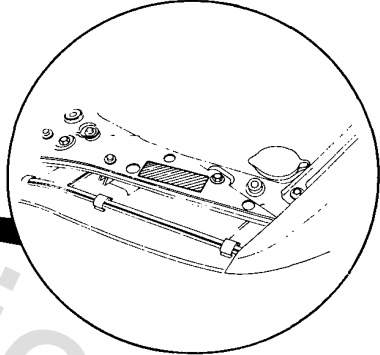
**Serial Number**

# Identification Number Locations



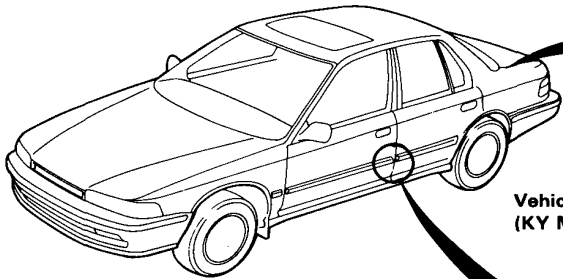


**Vehicle Identification Number  
(European Model)**

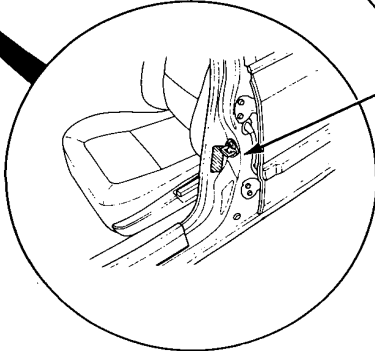
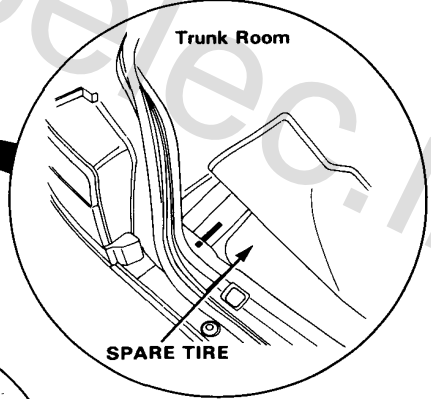


**Vehicle Identification Number  
(KQ, KT Model)**

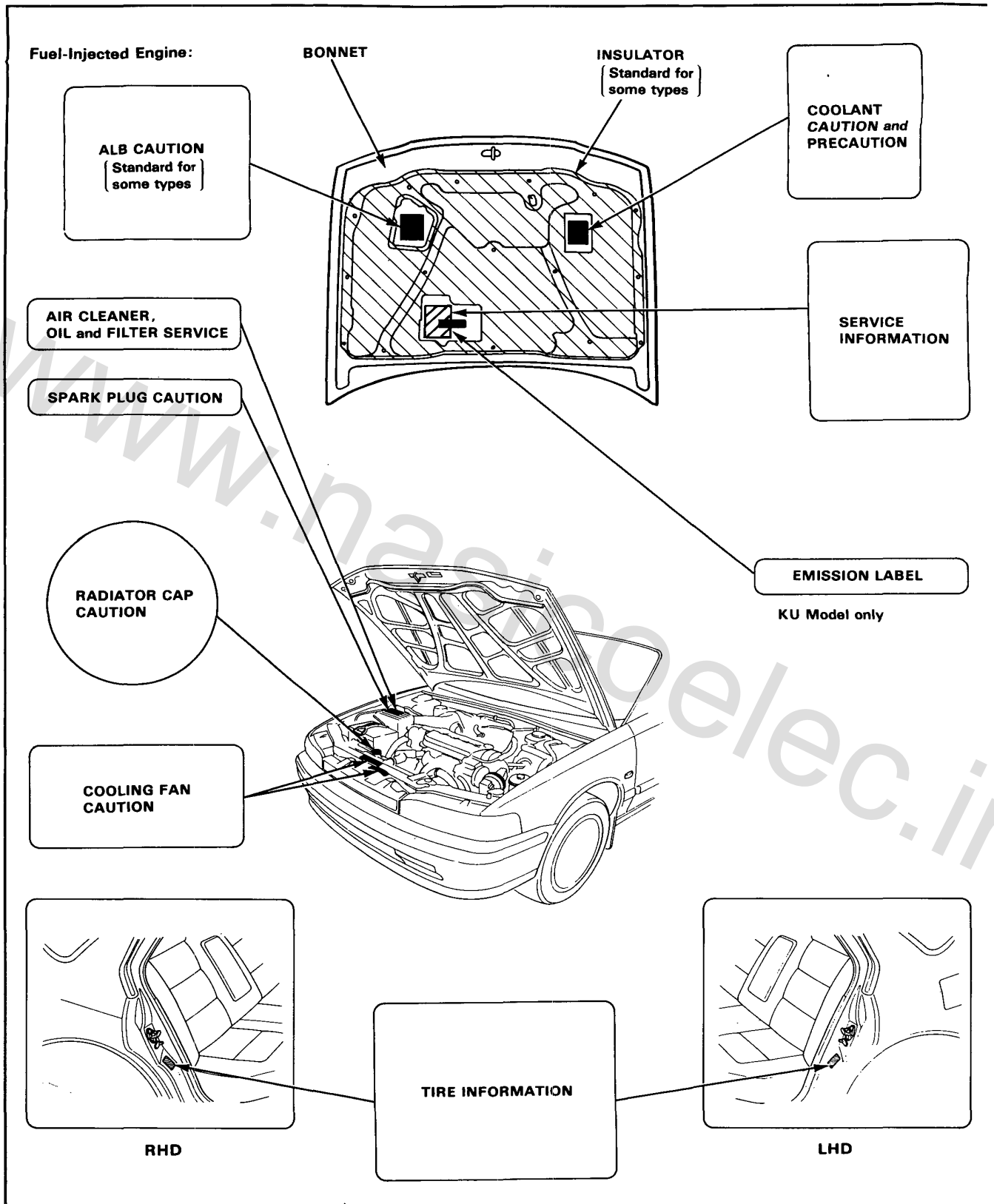
**Vehicle Identification Number  
(KS Model only)**



**Vehicle Identification Number  
(KY Model only)**



# Label Locations





Carbureted Engine:

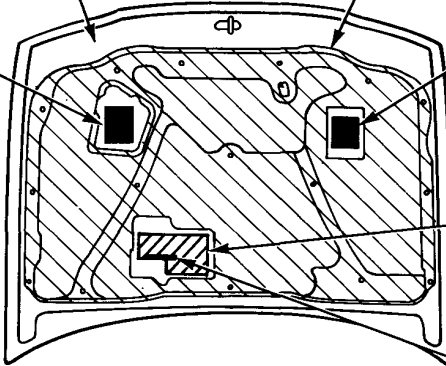
BONNET

INSULATOR  
(Standard for  
some types)

COOLANT  
CAUTION and  
PRECAUTION

ALB CAUTION  
(Standard for  
some types)

SERVICE  
INFORMATION



AIR CLEANER,  
OIL and FILTER SERVICE

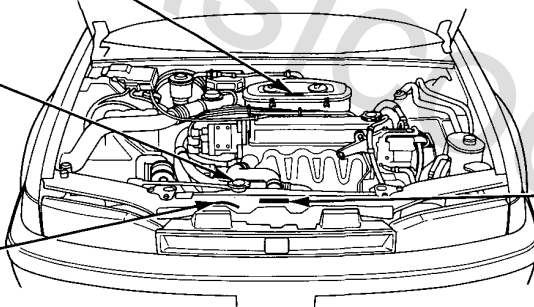
EMISSION LABEL

KU Model only

RADIATOR CAP  
CAUTION

COOLING FAN  
CAUTION

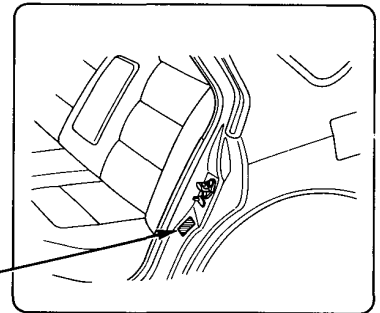
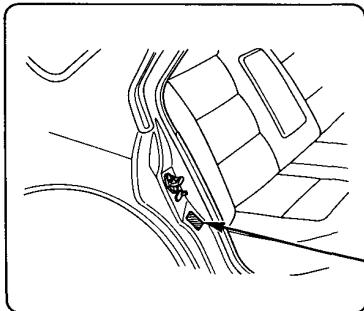
COOLING FAN  
CAUTION



RHD

TIRE INFORMATION

LHD



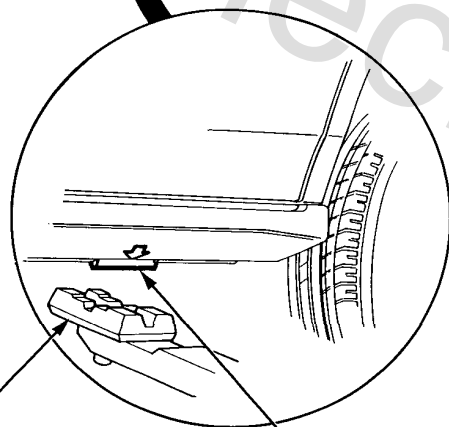
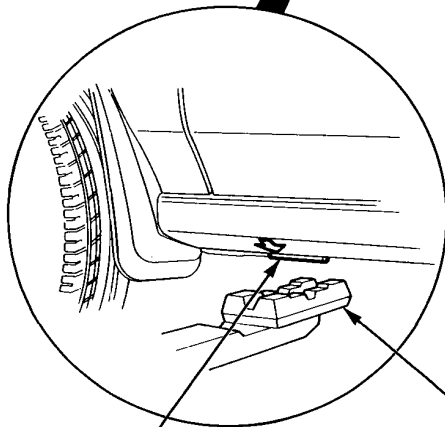
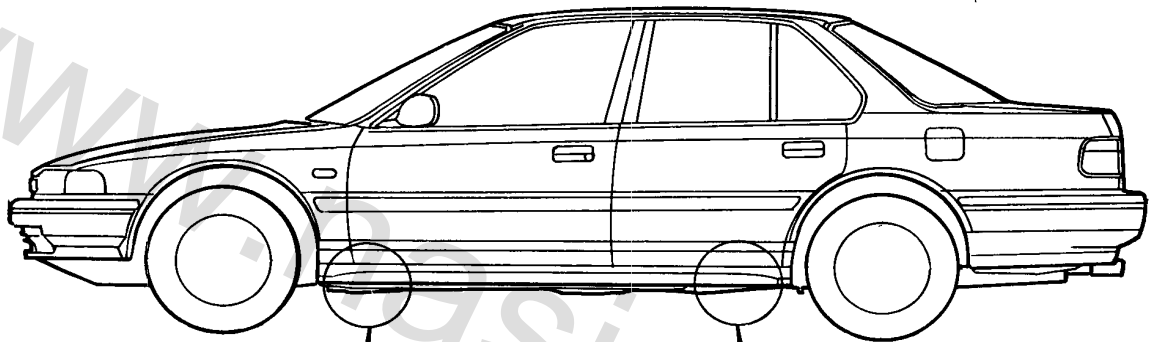
# Lift and Support Points

## Hoist

1. Place the lift blocks as shown.
2. Raise the hoist a few inches and rock the car to be sure it is firmly supported.
3. Raise the hoist to full height and inspect lift points for solid support.

**▲ WARNING** When heavy rear components such as suspension, fuel tank, spare tire and trunk lid are to be removed, place additional weight in the trunk before hoisting. When substantial weight is removed from the rear of the car, the center of gravity may change and can cause the car to tip forward on the hoist.

NOTE: Since each tire/wheel assembly weighs approximately 14 kg (30 lbs), placing the front wheels in the trunk will assist with the weight transfer.



FRONT SUPPORT POINT

LIFT BLOCKS

REAR SUPPORT POINT





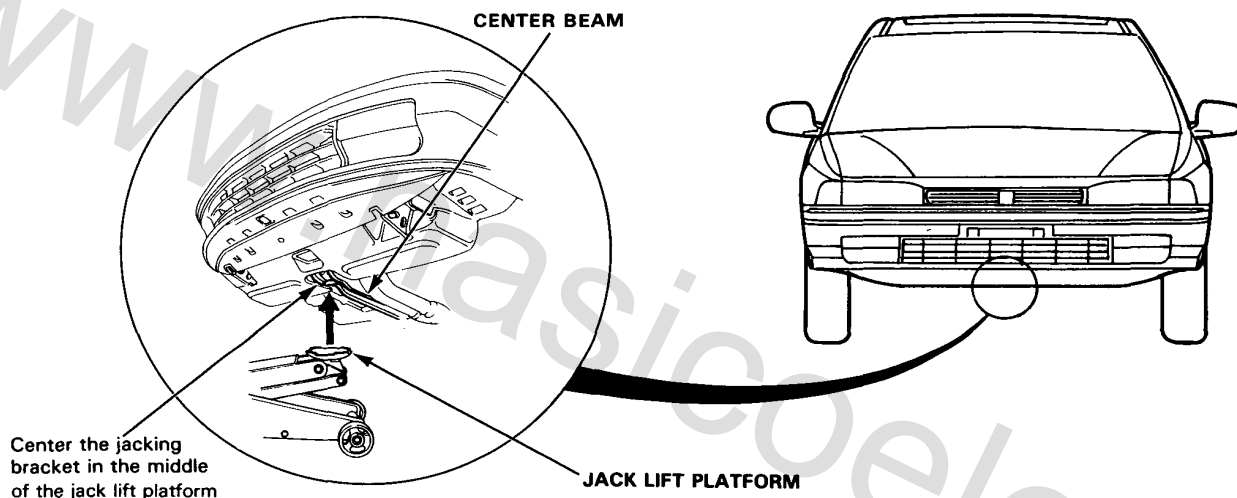
## Floor Jack

1. Set the parking brake and block the wheels that are not being lifted.
2. When lifting the rear of the car, put the gearshift lever in reverse (Automatic in PARK).
3. Raise the car high enough to insert the safety stands.
4. Adjust and place the safety stands as shown on page 1-8 so the car will be approximately level, then lower the car onto the stands.

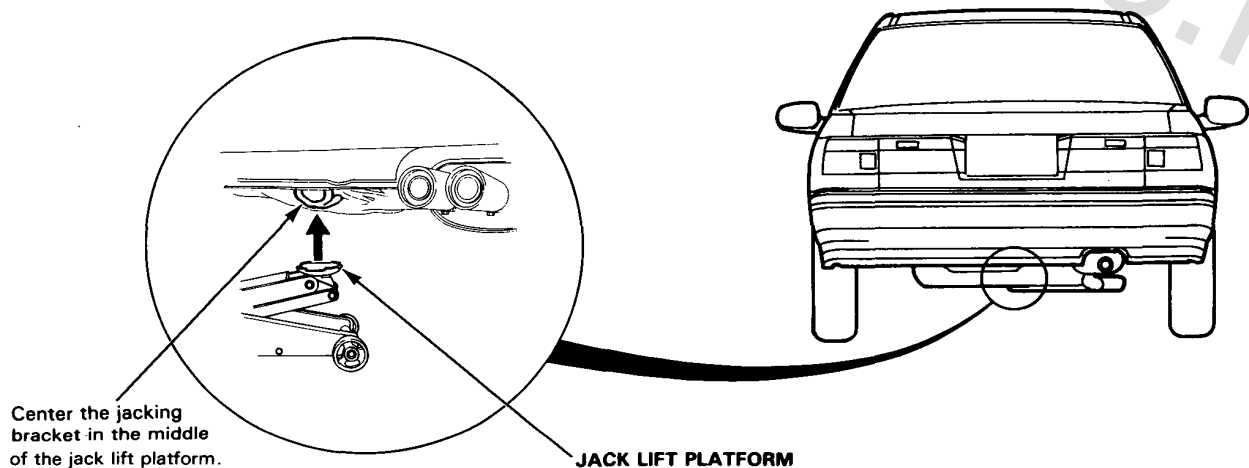
### ▲ WARNING

- Always use safety stands when working on or under any vehicle that is supported by only a jack.
- Never attempt to use a bumper jack for lifting or supporting the car.

### Front



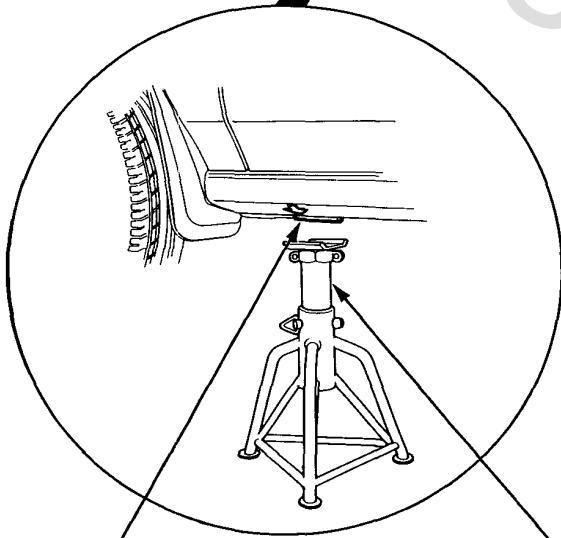
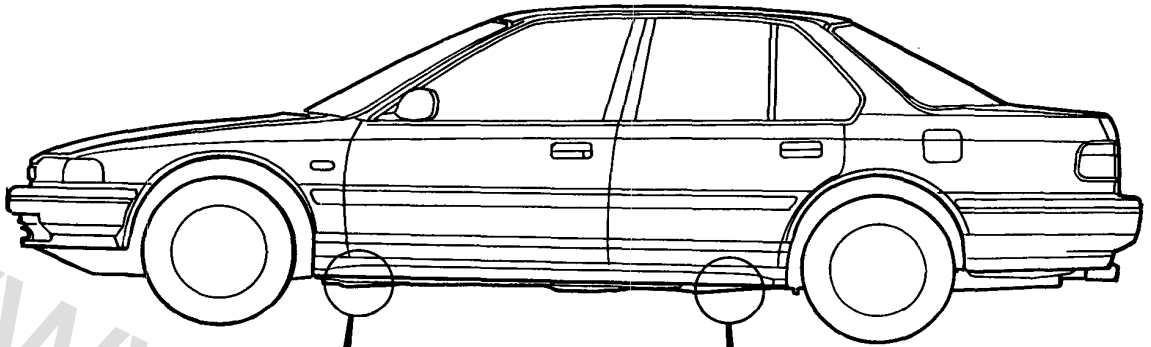
### Rear



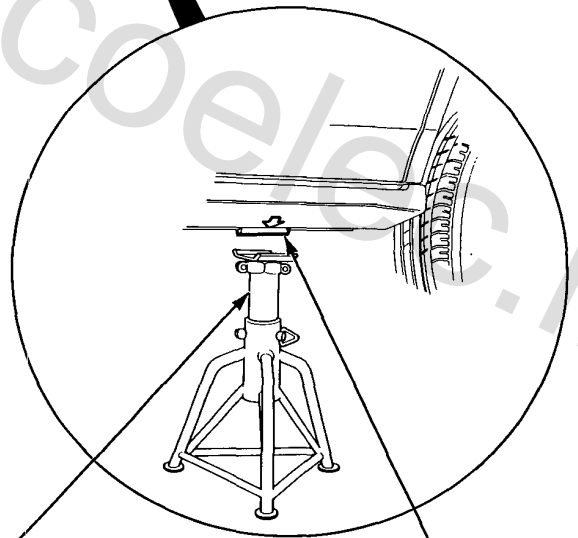
(cont'd)

# Lift and Support Points (cont'd)

## Safety Stands



FRONT SUPPORT POINT



REAR SUPPORT POINT

SAFETY STANDS

If possible, always tow the car with the front wheels off the ground. The tow truck driver should position wood spacer blocks between the car's frame and his chains and lift straps, to avoid damaging the bumper and the body under it.

Do not use the bumpers to lift the car or to support the car's weight while towing. Check local regulations for towing. A chain may be attached to the hook shown in the picture. Do not attach a tow bar to either bumper.

**⚠ WARNING**

**DO NOT push or tow a car to start it. The forward surge when the engine starts could cause a collision. On some types, also, under some conditions, the catalytic converter could be damaged. A car equipped with an automatic transmission cannot be started by pushing or towing.**

If the car is to be towed with the front wheels on the ground, observe the following precautions:

**Manual Transmission**

Shift the transmission to Neutral and turn the ignition key to the "I" position.

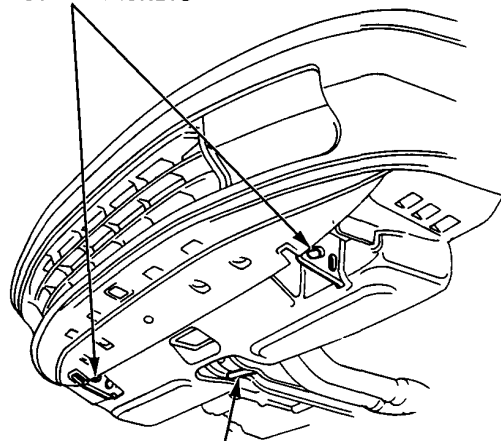
**Automatic Transmission**

First, check the automatic transmission fluid level. Start the engine and shift to D<sub>4</sub>, then to N. Return the ignition key to the "I" position.

**CAUTION:**

- Do not tow with front wheels on the ground when the automatic transmission fluid level is low or the transmission cannot be shifted with the engine running.
- Do not exceed 55 km/h (35 mph) or tow for distances of more than 80 km (50 miles).
- When towing a car with 4WS even with the front wheels off the ground, turn the wheels straight ahead and tie the steering wheel in place.

**TIE DOWN BRACKETS**



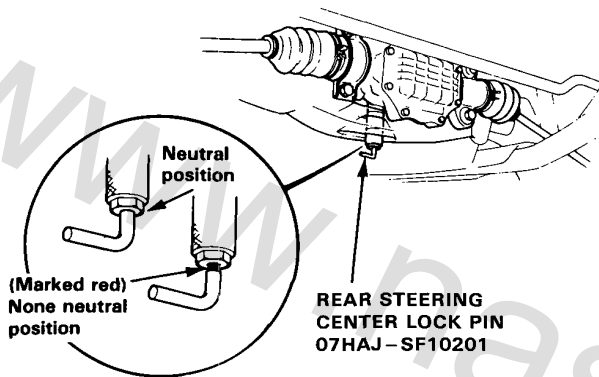
**TOWING HOOK**

# Preparation of Work

## Special Caution Items For This Car

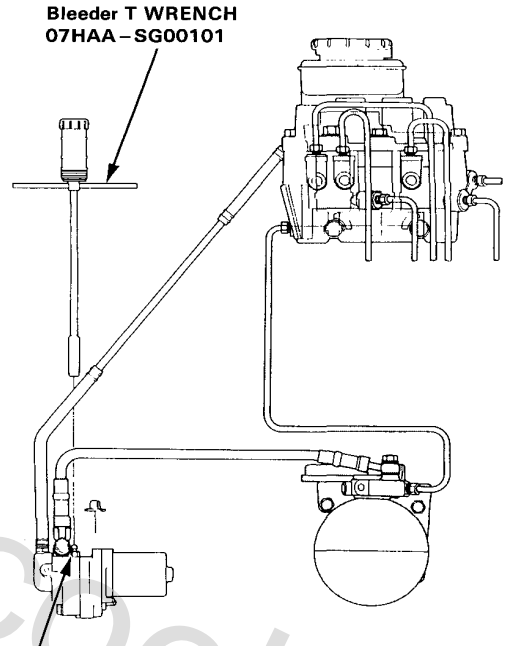
### 1. 4WS system servicing (with 4WS)

- Do not disassemble the rear steering gear box.
- When towing the car even with the front wheels off the ground, center the steering and tie the steering wheel in place.
- When testing or adjusting the wheel alignment, attach the rear steering center lock pin to the rear steering gear box. Make sure that the rear steering gear box is located at the neutral position.



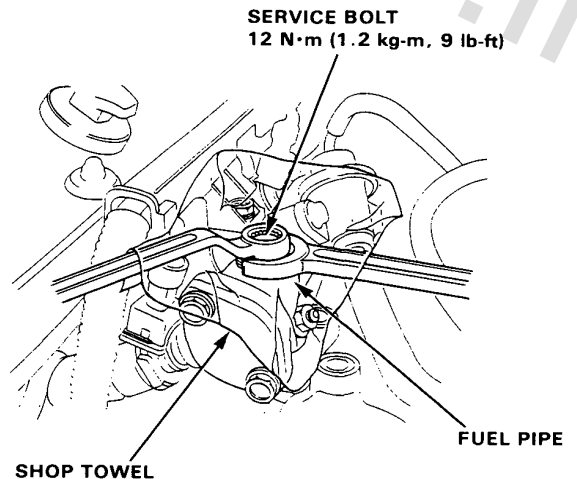
### 2. Anti-lock brake system piping system servicing

- Disassemble the anti-lock brake system piping system after relieve the high-pressured brake fluid.
- Otherwise, the high-pressured brake fluid will burst out and it is very dangerous.
- See section 13 of base manual (62SM400) how to relieve the high-pressured brake fluid.



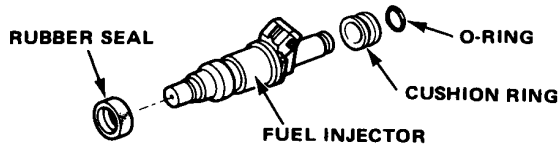
### 3. Fuel Line Servicing

- Relieve fuel pressure by loosening the service bolt provided on the top of the fuel filter before disconnecting a fuel hose or a fuel pipe.

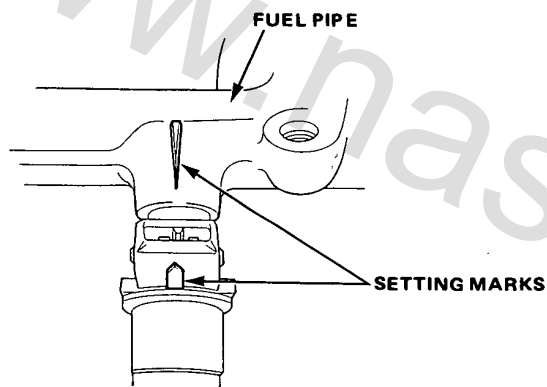




- Be sure to replace washers, O-rings, and rubber seals with new ones when servicing fuel line parts.
- Always apply oil to the surfaces of O-rings and seal rings before installation. Never use brake fluid, radiator fluid, vegetable oils or alcohol-based oils.



- When assembling the flare joint of the high-pressure fuel line, clean the joint and coat with new engine oil.
- When installing an injector, check the angle of the coupler. The center line of the coupler should align with the setting mark on the injector holder.



#### 4. Inspection for fuel leakage

- After assembling fuel line parts, turn ON the ignition switch (do not operate the starter) so that the fuel pump is operated for approximately two seconds and the fuel is pressurized. Repeat this operation two or three times and check whether any fuel leakage has occurred in any of the various points in the fuel line.

#### 5. Installation of an amateur radio for cars equipped with PGM-FI.

Care has been taken for the Fuel-Injection, Carburetor, A/T, Cruise control and anti-lock brake system control units and its wiring to prevent erroneous operation from external interference, but erroneous operation of the control units may be caused by entry of extremely strong radio waves. Attention must be paid to the following items to prevent erroneous operation of the control units.

- The antenna and the body of the radio must be at least 200 mm (7.9 in.) away from the control units.

The control unit locations:

- Fuel-Injection, Carburetor, A/T: Passenger's side front floor panel.
- Cruise control: Under dash panel of driver's side.
- Anti-lock brake system: Right side panel of trunk room.
- Do not lead the antenna feeder and the coaxial cable over a long distance parallel to the car's wiring. When crossing the wiring is required, execute crossing at a right angle.
- Do not install a radio with a large output (max. 10 W).

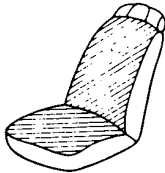
#### 6. Apply liquid gasket to the transmission, oil pump cover, right side cover and water outlet. Use HONDA genuine liquid gasket part No. OY740-99986.

- Check that the mating surfaces are clean and dry before applying liquid gasket. Degrease the mating surfaces if necessary.
- Apply liquid gasket evenly, being careful to cover all the mating surface.
- To prevent leakage of oil, apply liquid gasket to the inner threads of the bolt holes.
- Do not install the parts if 20 minutes or more have elapsed since applying liquid gasket. Instead, reapply liquid gasket after removing the old residue.
- Wait at least 30 minutes before filling with appropriate liquid (engine oil, coolant and similar fluids).

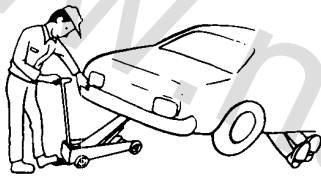
# Preparation of Work

**CAUTION: Observe all safety precautions and notes while working.**

1. Protect all painted surfaces and seats against dirt and scratches with a clean cloth or vinyl cover.



2. Work safely and give your work your undivided attention. When either the front or rear wheels are to be raised, block the remaining wheels securely. Communicate as frequently as possible when a work involves two or more workers. Do not run the engine unless the shop or working area is well ventilated.



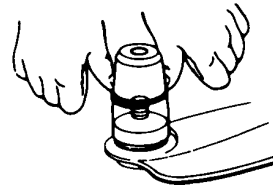
3. Prior to removing or disassembling parts, they must be inspected carefully to isolate the cause for which service is necessary. Observe all safety notes and precautions and follow the proper procedures as described in this manual.



4. Mark or place all removed parts in order in a parts rack so they can be reassembled in their original places.

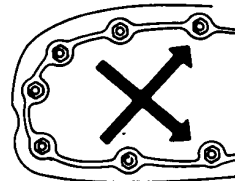


5. Use the special tools when use of such is specified.

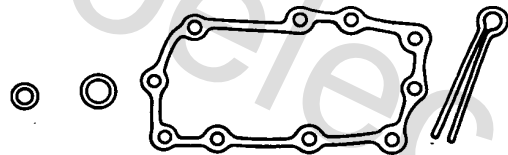


6. Parts must be assembled with the proper torque according to the maintenance standards established.

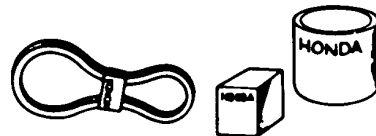
7. When tightening a series of bolts or nuts, begin with the center or larger diameter bolts and tighten them in crisscross pattern in two or more steps.



8. Use new packings, gaskets, O-rings and cotter pins whenever reassembling.

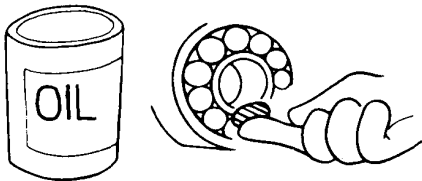


9. Use genuine HONDA parts and lubricants or those equivalent. When parts are to be reused, they must be inspected carefully to make sure they are not damaged or deteriorated and are in good usable condition.





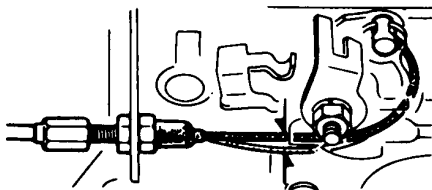
10. Coat or fill parts with specified grease as specified (Page 4-2). Clean all removed parts with solvent upon disassembly.



11. Brake fluid and hydraulic components
- When replenishing the system, use extreme care to prevent dust and dirt from entering the system.
  - Do not mix different brands of fluid as they may not be compatible.
  - Do not reuse drained brake fluid.
  - Because brake fluid can cause damage to painted and resin surfaces, care should be taken not to spill it on such materials. If spilled accidentally, quickly rinse it with water or warm water from painted or resin surfaces.
  - After disconnecting brake hoses or pipes, be sure to plug the openings to prevent loss of brake fluid.
  - Clean all disassembled parts only in clean BRAKE FLUID. Blow open all holes and passages with compressed air.

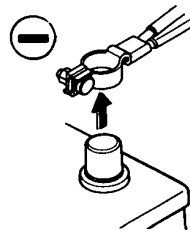


- Keep disassembled parts from air-borne dust and abrasives.
  - Check that parts are clean before assembly.
12. Avoid oil or grease getting on rubber parts and tubes, unless specified.
13. Upon assembling, check every part for proper installation and operation.

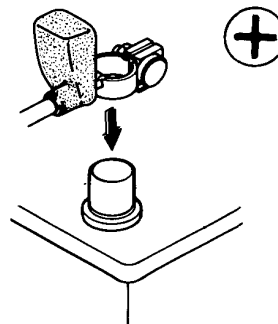


## Electrical

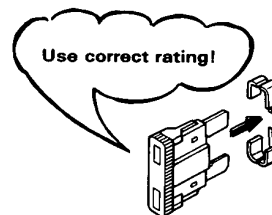
- Before making any repairs on electric wires or parts, disconnect the battery cables from the battery starting with the negative (-) terminal.



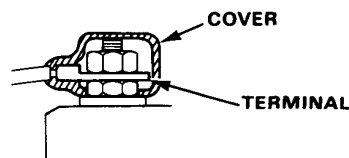
- After making repairs, check each wire or part for proper routing and installation. Also check to see that they are connected properly.
- Always connect the battery positive (+) cable first, then connect the negative (-) cable.



- Coat the terminals with clean grease after connecting the battery cables.
- Don't forget to install the terminal cover over the positive battery terminal after connecting.
- Before installing a new fuse, isolate the cause and take corrective measures, particularly when frequent fuse failure occurs.



- Be sure to install the terminal cover over the connections after a wire or wire harness has been connected.



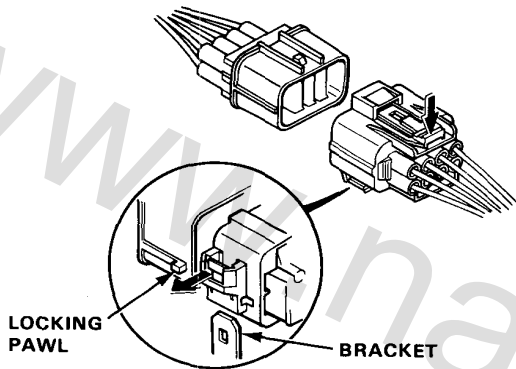
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# Preparation of Work

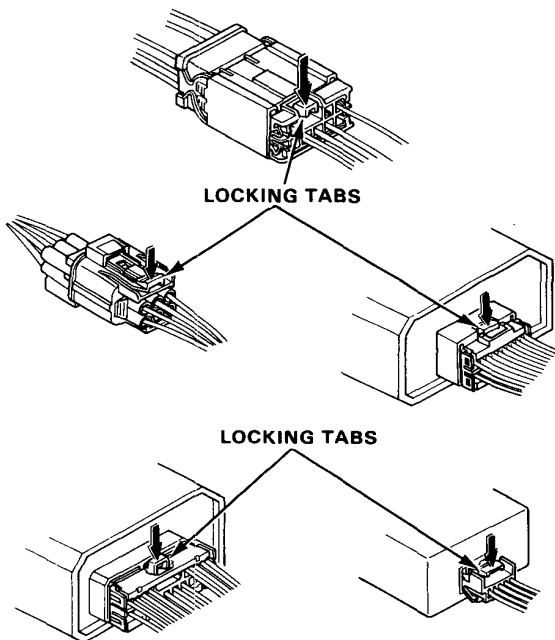
## Electrical (cont'd)

Since new type connectors are used, connection and disconnection of them should be done paying attention to the following precautions.

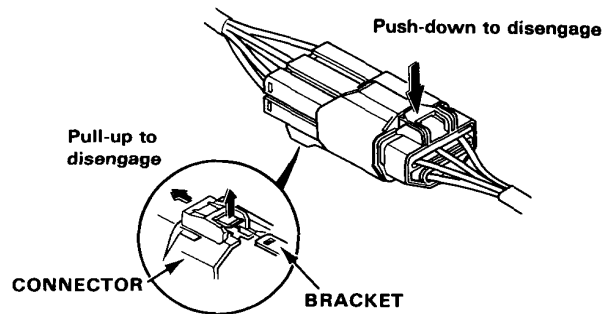
- Because all the connectors except terminal of 1-P are equipped with push-down type locks, unlock them first before disconnecting the connectors.
- On the connectors installed on the bracket a pull type lock is equipped between the bracket and the connector. Some connectors of this type can not be disconnected unless they are removed from their brackets. When disconnecting, check their shapes.
- On the bracket mounted connector with dual locks, remove the connector from the bracket before disconnecting.



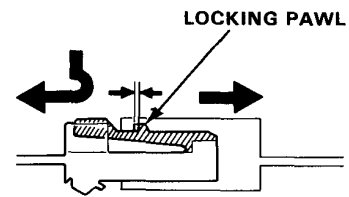
- Push the locking tab to disconnect.



- Pull up the locking tab to remove the connector from the bracket.

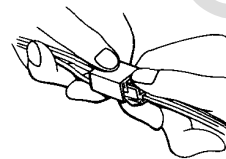


- When disconnecting locks, first press in the connector tightly (to provide clearance to the locking device), then operate the tab fully and remove the connector in the designated manner.



- When disconnecting a connector, pull it off from the mating coupler by holding on both connectors.
- Never try to disconnect connectors by pulling on their wires.

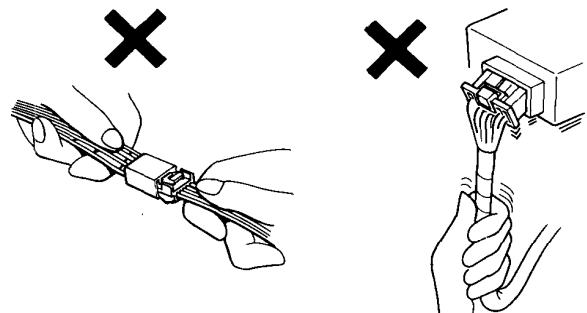
GOOD



NO GOOD



NO GOOD



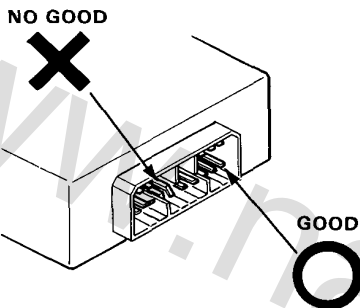




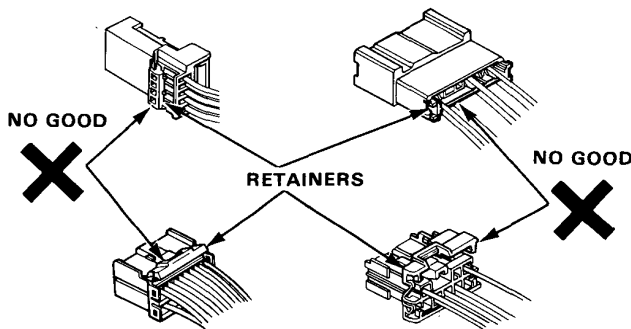
- Place the plastic cover over the mating connector after reconnecting. Also check that the cover is not distorted.



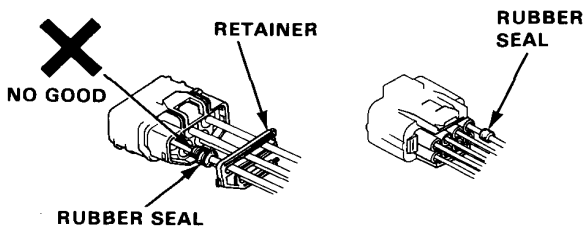
- Before connecting connectors, check to see that the terminals are in place and are not bent or distorted.



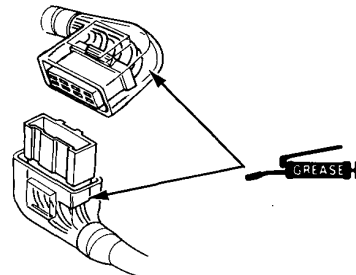
- Check for loose retainers and rubber seals. The illustration shows examples of terminal and seal abnormality.



Example of waterproof connector:



- For the connector which uses insulation grease, clean the connector then apply grease if the grease is insufficient or contaminated.



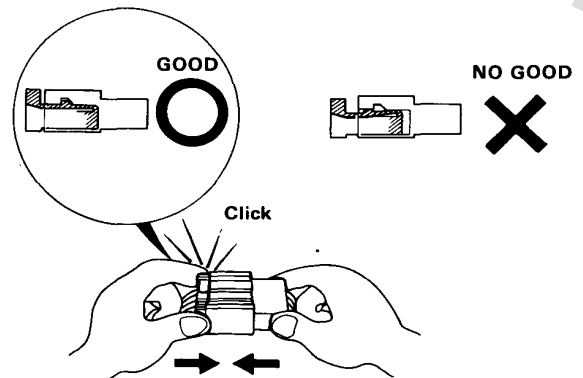
- Insert the connector tightly and make sure it is securely locked.
- Check all the wire harnesses are connected.
- There are two types of locking tab: one that you have to push and the other you should not touch when connecting the connector. Check the shape of the locking tab before connecting.
- The locking tab having a taper end should not be touched when connecting.



- The locking tab with an angle end should be pushed when connecting.



- Insert connectors fully until they will no longer go.
- The connectors must be aligned and engaged securely.
- Don't use wire harnesses with a loose wire or coupler.

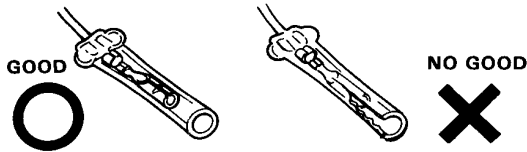


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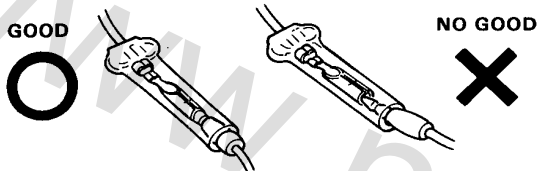
# Preparation of Work

## Electrical (cont'd)

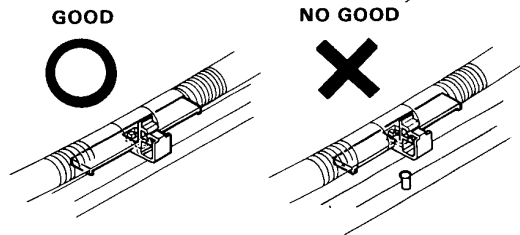
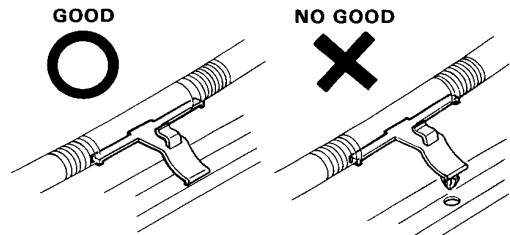
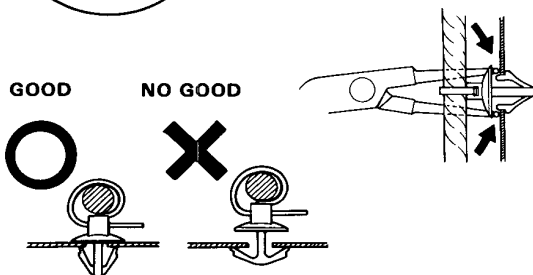
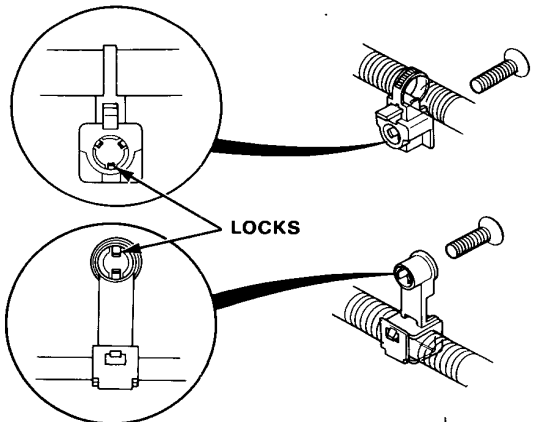
- Before connecting, check each connector cover for damage. Also make sure that the female connector is tight and not loosened from the previous use.



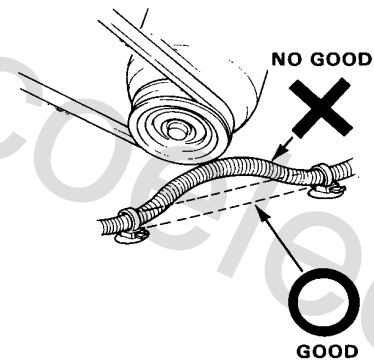
- Insert male connectors into the female connectors fully until they will no longer go.
- Be sure that plastic cover is placed over the connection.
- Position the wires so that the open of the cover is not facing upward.



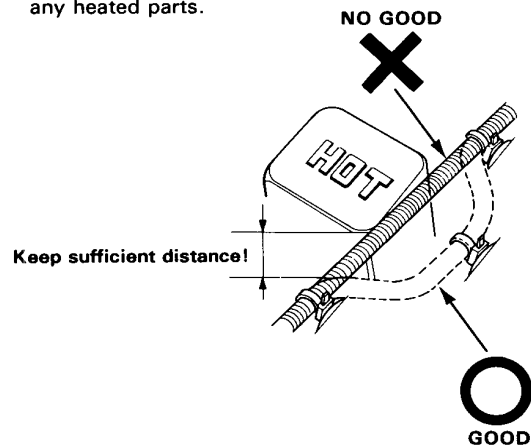
- Secure wires and wire harnesses to the frame with their respective wire bands at the designated locations. Position the wiring in the bands so that only the insulated surfaces contact the wires or wire harnesses.
- Remove with care not to damage the lock.



- After clamping, check each harness to be certain that it is not interfering with any moving or sliding parts of the vehicle.
- Keep wire harnesses away from the exhaust pipes and other hot parts.

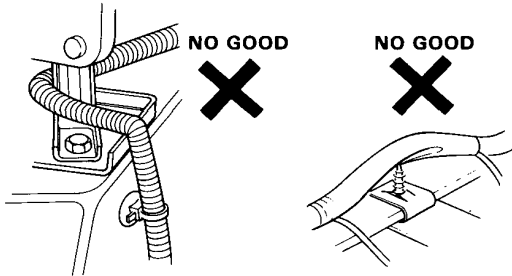


- Always keep a safe distance between wire harnesses and any heated parts.

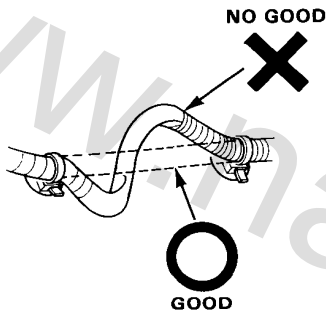




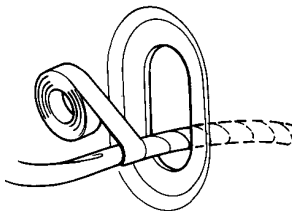
- Do not bring wire harnesses in direct contact with sharp edges or corners.
- Also avoid contact with the projected ends or bolts, screws and other fasteners.



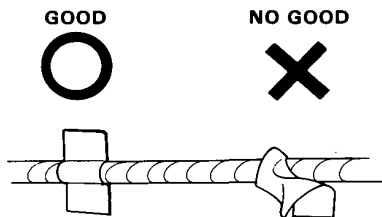
- Route harnesses so they are not pulled taut or slackened excessively.



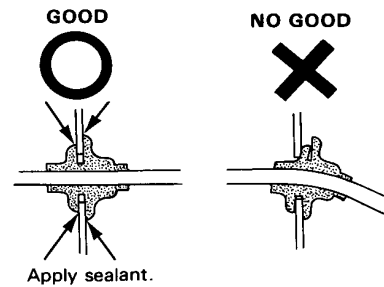
- Protect wires and harnesses with a tape or a tube if they are in contact with a sharp edge or corner.



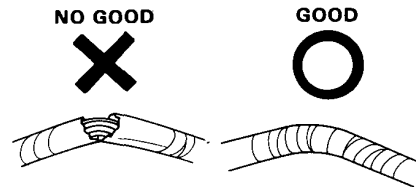
- Clean the attaching surface thoroughly if an adhesive is used. First, wipe with solvent or alcohol if necessary.



- Seat grommets in their grooves properly.



- Do not damage the insulation when connecting a wire.
- Do not use wires or harnesses with a broken insulation. Repair by wrapping with protective tape or replace with new ones if necessary.



- After installing parts, make sure that wire harnesses are not pinched.



- After routing, check that the wire harnesses are not twisted or kinked.
- Wire harnesses should be routed so that they are not pulled taut, slackened excessively, pinched or interfering with adjacent or surrounding parts in all steering positions.

(cont'd)

# Preparation of Work

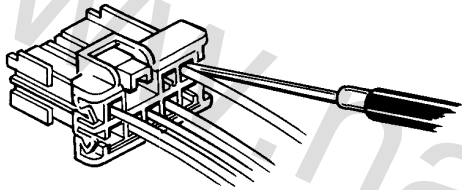
## Electrical (cont'd)

- When using the Service Tester, follow the manufacturer's instructions and those described in the Shop Manual.

Are range and porarity correct?

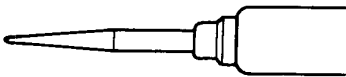


- Always insert the probe of the tester from the wire harness side (except waterproof connectors).

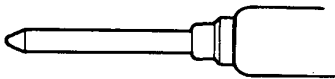


- Make sure to use the probe with a taper tip.

GOOD

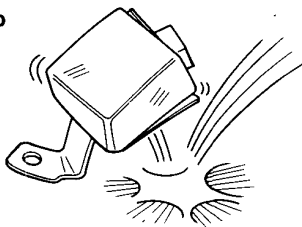


NO GOOD



- Do not drop parts.

NO GOOD



# Symbol Marks

The following symbols stand for:



:Apply engine oil.



:Apply brake fluid.



:Apply grease.



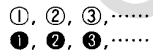
:Apply DEXRON® II Automatic Transmission Fluid.



:Apply Power Steering Fluid.



:Apply or check vacuum.



:Sequence for removal or installation.

# Abbreviation



2WS	Front Wheel Steering	P	Parking
4WS	Four Wheel Steering	R	Reverse
A/C	Air Conditioner	N	Neutral
A/T	Automatic Transmission	D <sub>4</sub>	Drive Position (1st—4th)
ATF	Automatic Transmission Fluid	D <sub>3</sub>	Drive Position (1st—3rd)
B or BAT	Battery	2	Fixed 2nd speed
CATA	Catalytic Converter	1	Fixed 1st speed
EACV	Electronic Air Control Valve	S	S Signal/S Switch
ECU	Electronic Control Unit for Fuel-Injection System		
EGR	Exhaust Gas Recirculation		
EX	Exhaust		
GND	Ground		
IG	Ignition		
IN	Intake		
INT	Intermittent		
L.	Left		
LHD	Left Hand Drive		
M/T	Manual Transmission		
PCV	Positive Crankcase Ventilation		
PGM-FI	Programmed Fuel-Injection		
P/S	Power Steering		
R.	Right		
RHD	Right Hand Drive		
SW	Switch		
SOL.V	Solenoid Valve		
TDC	Top Dead Center		

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# Special Tools

## 5. Engine

Number	Tool Number	Description	Q'ty	Remarks
①	07GAF-PH70100	Pilot Collar	1	
②	07HAD-PJ70200	Valve Guide Seal Installer	1	
③	07HAF-PL20102	Piston Base Head	1	
④	07HAH-PJ70100	Valve Guide Reamer 5.5mm	1	
⑤	07JAB-0010000	Crank Pulley Holder Set	1	
⑤-1	07JAA-0010200	Socket Wrench 19 mm	(1)	
⑤-2	07JAB-0010200	Handle	(1)	
⑥	07JAB-0010400	Pulley Holder Attachment HEX 50 mm	1	
⑦	07JAZ-SH20100	R.P.M. Connecting Adaptor	1	
⑧	07JGG-0010100	Belt Tension Gauge	1	
⑨	07KAK-SJ40100	Engine Tilt Hanger Set	1	
⑩	07LAF-PT20100	Bearing Replacement Tool Set	1	
⑪	07LAG-PT20100	Balancer Shaft Lock Pin	1	
⑫	07LAZ-PT30100	R.P.M. Connecting Adaptor	1	
⑬	07LAZ-PT30110	R.P.M. Connecting Adaptor (A)	1	Component Tools
⑭	07LAZ-PT30120	R.P.M. Connecting Adaptor (B)	1	
⑮	07406-0030000	Oil Pressure Gauge Adaptor	1	
⑯	07746-0010300	Driver Attachment 42 x 47 mm	1	for Crankshaft
⑰	07746-0010400	Driver Attachment 52 x 55 mm	1	for Balancer Shaft
⑱	07749-0010000	Driver	1	
⑲	07757-0010000	Valve Spring Compressor	1	
⑳	07912-6110001	Oil Filter Socket	1	
㉑	07924-PD20003 or 07924-PD20002	Ring Gear Holder	1	
㉒	07942-0010100	Valve Guide Remover 5.5 mm	1	
㉓	07942-8920000	Valve Guide Driver 5.5 mm	1	
㉔	07948-SB00101	Driver Attachment	1	
㉕	07973-PE00310	Piston Pin Driver Shaft	1	
㉖	07973-PE00320	Piston Pin Driver Head	1	
㉗	07973-PE00400	Piston Pin Base Insert	1	
㉘	07973-6570500	Piston Base	1	
㉙	07973-0570600	Piston Base Spring	1	



## 6. Fuel and Emissions

Number	Tool Number	Description	Q'ty	Remarks
①	07JAZ—SH20100	R.P.M. Connecting Adaptor	1	
②	07LAA—PT50100	O <sub>2</sub> Sensor Socket Wrench	1	
③	07LAJ—PT30100	ECU Test Harness	1	
④	07LAJ—PT30200	Test Harness	1	
⑤	07LAZ—PT30100	R.P.M. Connecting Adaptor	1	
⑤-1	07LAZ—PT30110	R.P.M. Connecting Adaptor (A)	(1)	Component Tools
⑤-2	07LAZ—PT30120	R.P.M. Connecting Adaptor (B)	(1)	
⑥	07406—0040001	Fuel Pressure Gauge Set	1	
⑥-1	07406—0040100	Pressure Gauge	(1)	Component Tools
⑥-2	07406—0040201	Hose Assembly	(1)	
⑦	07411—0020000	Digital Circuit Tester	1	
⑧	07614—0050100	Fuel Line Clamp	1	

## 7. Clutch

Number	Tool Number	Description	Q'ty	Remarks
①	07JAF—PM7011A	Clutch Alignment Disc	1	
②	07LAF—PT00110	Clutch Alignment Shaft	1	
③	07924—PD20003 or 07924—PD20002	Ring Gear Holder	1	
④	07936—3710100	Handle	1	

## 8. Manual Transmission

Number	Tool Number	Description	Q'ty	Remarks
①	07GAJ—PG20102	Mainshaft Inspection Tool Set	1	
①-1	07GAJ—PG20110	Mainshaft Holder	(1)	Component Tools
①-2	07GAJ—PG20130	Mainshaft Base	(1)	
②	07HAJ—PK40201	Preload Inspection Tool	1	
③	07JAC—PH80000	Adjusting Bearing Remover Set	1	
③-1	07JAC—PH80100	Bearing Remover Attachment	(1)	Component Tools
③-2	07JAC—PH80200	Bearing Remover Handle	(1)	
③-3	07741—0010201	Bearing Remover Weight	(1)	
④	07JAD—PH80400	Pilot Driver 28 mm	1	
⑤	07JAD—SH30100	Oil Seal Driver	1	
⑥	07744—0010400	Pin Driver 5.0 mm	1	07944—6110100 may also be used
⑦	07746—0010300	Attachment 42 x 47 mm	1	
⑧	07746—0010400	Attachment 52 x 55 mm	1	
⑨	07746—0010500	Attachment 62 x 68 mm	1	
⑩	07746—0010600	Attachment 72 x 75 mm	1	
⑪	07746—0030100	Driver	1	
⑫	07746—0030200	Inner Driver 25 mm	1	
⑬	07749—0010000	Driver	1	
⑭	07944—SA00000	Pin Driver 4.0 mm	1	
⑮	07947—6110501	Oil Seal Driver	1	
⑯	07979—PJ40001	Magnet Stand Base	1	



# Special Tools

## 9. Automatic Transmission

Number	Tool Number	Description	Q'ty	Remarks
①	07GAB—PF50100	Mainshaft Holder	1	
②	07GAD—PG20100	Pin Driver 5.0 mm	1	
③	07GAE—PG40200	Clutch Spring Compressor Set	1	
③-1	07HAE—PL50100	Clutch Spring Compressor Attachment	(1)	Component Tools
③-2	07GAE—PG40200	Clutch Spring Compressor Bolt Assembly	(1)	
③-3	07960—6120101	Clutch Spring Compressor Attachment	(1)	
④	07GAJ—PG20200	Preload Inspection Tool	1	
⑤	07HAC—PK40101	Housing puller	1	
⑤-1	07HAC—PK40110	Puller Base, Replacement	(1)	May also be used when combined with 07HAC—PK40100
⑥	07JAC—PH80000	Adjusting Bearing Remover Set	1	
⑥-1	07JAC—PH80100	Bearing Remover Attachment	(1)	Component Tools
⑥-2	07JAC—PH80200	Bearing Handle Assembly	(1)	
⑥-3	07741—0010201	Remover Weight	(1)	
⑦	07JAD—PH80101	Driver Attachment	1	
⑧	07JAD—PH80400	Pilot Driver 28 x 30 mm	1	
⑨	07JAD—PN00100	Driver Attachment	1	
⑩	07LAF—PX40100	Clutch Spring Compressor Attachment	1	
⑪	07LAJ—PT30100	ECU Test Harness	1	
⑫	07406—0020003	Oil Pressure Gauge	1	
⑬	07406—0020201	Oil Pressure Gauge Hose	1	
⑭	07406—0070000	Low Pressure Gauge	1	
⑮	07746—0010400	Attachment 52 x 55 mm	1	
⑯	07746—0010500	Attachment 62 x 68 mm	1	
⑰	07746—0010600	Attachment 72 x 75 mm	1	
⑱	07746—0030100	Driver 40 mm I.D.	1	
⑲	07749—0010000	Driver	1	
⑳	07947—6340500	Driver Attachment E	1	

## 10. Driveshafts

Number	Tool Number	Description	Q'ty	Remarks
①	07GAD—PG40100	Seal Driver Attachment	1	
②	07GAF—SD40700	Hub Dis/Assembly Base	2	
③	07LAD—SM40100	Seal Driver Attachment	1	
④	07LAF—SM40300	Support Base Attachment	1	
⑤	07746—0010200	Attachment, 37 x 40 mm	1	
⑥	07746—0010300	Attachment, 42 x 47 mm	1	
⑦	07746—0030100	Driver, 40 mm I.D.	1	
⑧	07749—0010000	Driver	1	
⑨	07947—SD90101	Seal Driver Attachment	1	
⑩	07965—SD90100	Support Base	1	



## 11. Steering

Number	Tool Number	Description	Q'ty	Remarks
①	07GAG—SD40300	Cylinder End Seal Slider	1	
②	07HAG—SF10100	Piston Seal Ring Guide	1	
③	07HAG—SF10200	Piston Seal Ring Sizing Tool	1	
④	07HAG—SF10300	Pinion Seal Ring Guide	1	
⑤	07JGG—0010100	Belt Tension Gauge	1	
⑥-1	07LAK—SM40110	P/S Joint Adaptor (Pump)	1	
⑥-2	07LAK—SM40120	P/S Joint Adaptor (Hose)	1	
⑦	07406—0010001	P/S Pressure Gauge Set	1	
⑦-1	07406—0010300	Pressure Control Valve	1	
⑦-2	07406—0010400	Pressure Gauge	1	
⑧	07406—0010101	Bypass Tube Joint (included with 07406—0010001)	1	
⑨	07725—0030000	Universal Holder	1	
⑩	07746—0010300	Attachment 42 x 47 mm	1	
⑪	07749—9910000	Driver	1	
⑫	07916—SA50001	Locknut Wrench 40 mm	1	
⑬	07941—6920003	Ball Joint Remover	1	
⑭	07947—6340300	Driver Attachment	1	
⑮	07974—SA50600	Pinion Seal Guide	1	

## 11. Steering (4WS only)

Number	Tool Number	Description	Q'ty	Remarks
①	07HAG—SF10000	4WS Tool Kit	1	
①-1	07HAG—SF10400	Pinion Seal Ring Sizing Tool	1	
①-2	07HAG—SF10500	Driven Seal Ring Guide	1	
②	07HAJ—SF10100	Rack Adjuster Gauge Holder Set	1	
③	07HAJ—SF10201	Rear Steering Center Lock Pin	1	
④	07HAJ—SF10300	Stroke Rod Holder Set	1	
⑤	07HAJ—SF10400	Inspection Adaptor	1	
⑥	07LAA—SM40100	Locknut Wrench, 43 mm	1	
⑦	07LAA—SM40200	Locknut Socket 36 x 43 mm	1	
⑧	07LAG—SM40000	4WS Tool Kit	1	
⑧-1	07LAG—SM40100	Piston Seal Ring Guide	1	
⑧-2	07LAG—SM40200	Piston Seal Ring Sizing Tool	1	
⑧-3	07LAG—SM40300	Cylinder End Seal Slider	1	
⑧-4	07LAG—SM40400	Cylinder End Seal Guide	1	
⑧-5	07LAG—SM40500	Tool Box	1	
⑨	07703—0010101	TORX® Bit T40	1	

# Special Tools

## 12. Suspension

Number	Tool Number	Description	Q'ty	Remarks
①	07GAE—SE00101	Spring Compressor	1	
②	07GAF—SD40100	Hub Assembly Pin	1	
③	07GAF—SD40330	Ball Joint Remover/Installer	1	4WS Only
④	07GAF—SE00200	Hub Assembly Guide Attachment	1	4WS Only
⑤	07GAG—SD40700	Ball Joint Clip Installation Guide	1	
⑥	07HAF—SF10100	Ball Joint Dis/Assembly Tool set	1	
⑥-1	07HAF—SF10110	Ball Joint Remover Base	1	
⑥-2	07HAF—SF10120	Ball Joint Installer Base	1	
⑥-3	07HAF—SF10130	Ball Joint Remover/Installer	1	
⑦	07HAJ—SF10201	Rear Steering Center Lock Pin	1	
⑧	07HGJ—0010000	Toe Inspection Gauge Set	1	4WS Only
⑨	07HGK—0010200	Wheel Alignment Gauge Attachment	1	
⑩	07703—0010100	TORX® BIT T40	1	4WS Only
⑪	07749—0010000	Driver	1	
⑫	07941—6920003	Ball Joint Remover	1	
⑬	07947—SB00100	Oil Seal Driver	1	4WS Only
⑭	07965—6340301	Hub Dis/assembly Base	2	
⑮	07965—6920201	Hub Dis/Assembly Base	1	

## 13. Brakes

Number	Tool Number	Description	Q'ty	Remarks
①	07GAG—SE00100	Pushrod Adjustment Gauge	1	
②	07HAE—SG00100	Brake Spring Compressor	1	
③	07HAK—SG00110	Pressure Gauge Joint Pipe	1	
④	07LAF—SM40200	Brake spring installer	1	
⑤	07404—5790300	Pressure Gauge Attachment	1	
⑥	07406—5790200	Pressure Gauges	2	
⑦	07410—5790100	Pressure Gauge Attachment	2	
⑧	07410—5790500	Tube Joint Adaptor	1	
⑨	07510—6340100	Pressure Gauge Joint Pipe	1	
⑩	07510—6340300	Vacuum Joint Tube A	1	
⑪	07914—SA50001	Snap Ring Pliers	1	
⑫	07921—0010001	Flare Nut Wrench	1	
⑬	07973—SA50000	Rear Caliper Guide	1	

## 13. Brakes (ALB only)

Number	Tool Number	Description	Q'ty	Remarks
①	07HAA—SG00101	Bleeder T-Wrench	1	
②	07HAJ—SG00601	ALB Checker	1	
	or			
	07508—SB00000	ALB Checker	1	
	—07HAJ—SG00400	Adaptor	1	



#### 14. Body

Number	Tool Number	Description	Q'ty	Remarks
①	07GAZ-SE30100	Torsion Bar Assembly Tool	1	

#### 15. Heater and Air Conditioner

Number	Tool Number	Description	Q'ty	Remarks
①	07JGG-0010100	Belt Tension Gauge	1	
②	07LAB-SK70100	A/C Clutch Holder	1	
③	07LAJ-PT30100	ECU Test Harness	1	

#### 16. Electrical

Number	Tool Number	Description	Q'ty	Remarks
①	07GAC-SE00200	Fuel Sender Wrench	1	
②	07JGG-0010100	Belt Tension Gauge	1	

**Lubrication Points  
Maintenance Schedule**

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## Maintenance

Lubrication Points.....	4-2
Maintenance Schedule .....	4-4

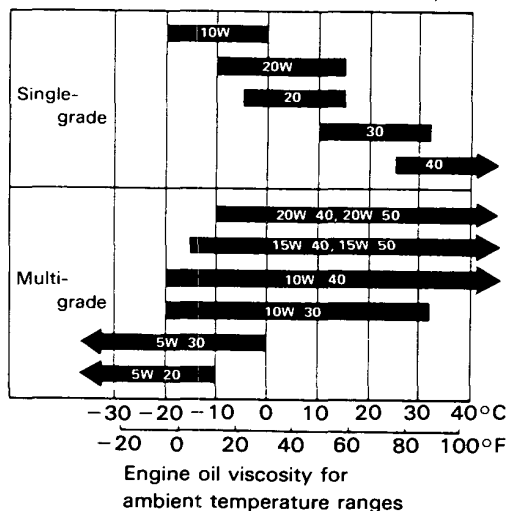


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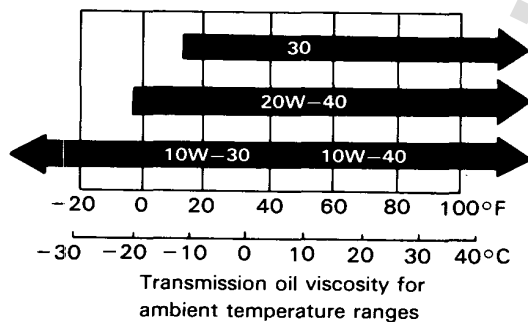
# Lubrication Points

No.	LUBRICATION POINTS	LUBRICANT
1	Engine	API Service Grade: SF or SG 10W-30 SAE Viscosity: See chart below
2	Transmission Manual Automatic	API Service Grade: SE or SF SAE Viscosity: See chart below DEXRON® or DEXRON® II Automatic transmission fluid
3	Brake line	Brake fluid DOT3 or DOT4
4	Clutch line	Brake fluid DOT3
5	Power steering gearbox	Steering grease P/N 08733-B070E
6	Shift lever pivots (Manual)	Silicone grease with molybdenum disulfide
7-22	Steering ball joints Suspension ball joints Steering boots Steering column bushings Select lever (Automatic) Pedal linkage Intermediate shaft Brake master cylinder pushrod Trunk hinges Door hinges upper and lower Door opening detents Fuel filler lid Engine hood hinges Engine hood latch Tilt lever Rear brake shoe linkage	Multi-purpose grease
23	Caliper Piston seal Dust seal Caliper pin Piston	Silicone grease
24	Power steering system	Power steering fluid P/N 08208-99961

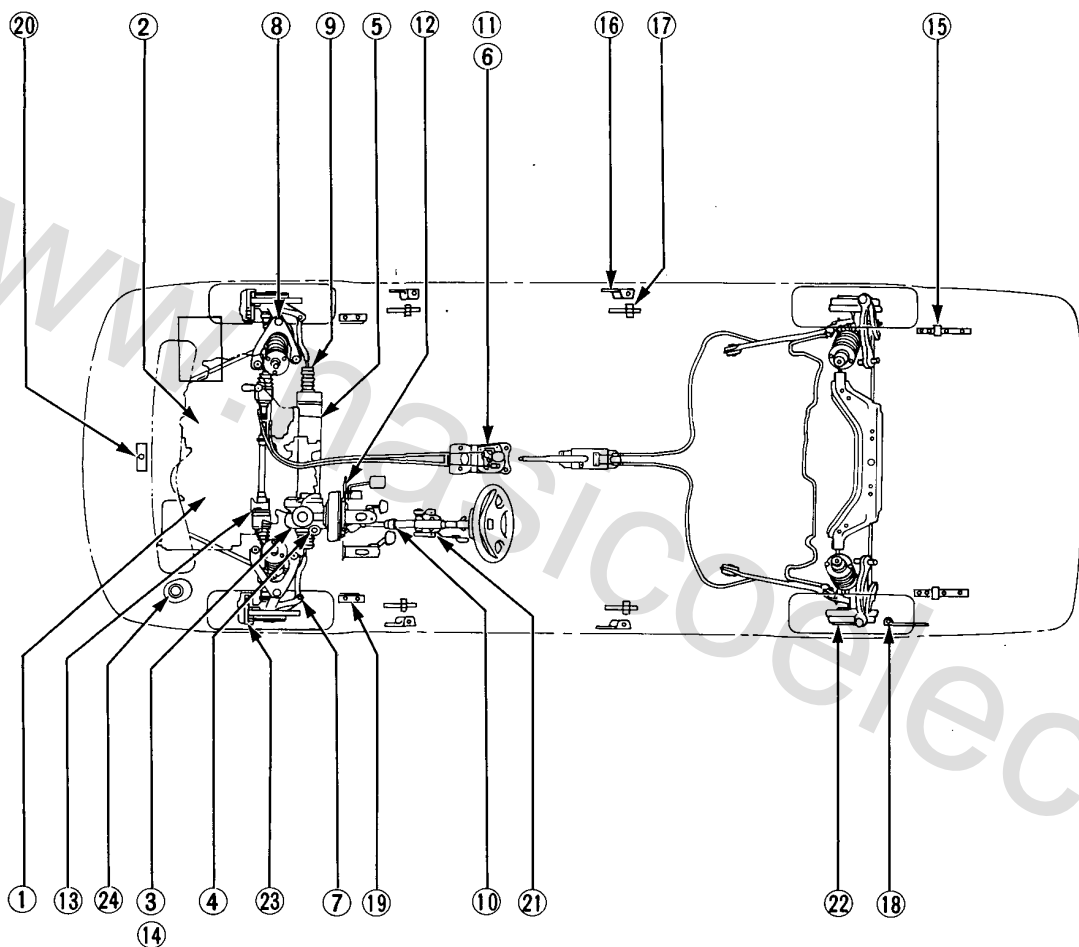
Recommended Engine Oil  
(SF or SG Grade 10W-30 Oil)



Recommended Manual Transmission Oil  
(SE or SF Grade Oil)



**CAUTION:** Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.





# Maintenance Schedule

Service at the interval listed x 1,000 km (or miles) or after that number of months, whichever comes first.	R—Replace C—Clean		I—Inspect. After inspection, clean, adjust, repair or replace if necessary.				
	x 1,000 km x 1,000 miles months	20 12 12	40 24 24	60 36 36	80 48 48	100 60 60	
Idle speed and idle CO*3		I	I	I	I	I	
Idle speed and idle CO*4						I	
Valve clearance		I	I	I	I	I	
Alternator drive belt			I		I		
Timing belt and timing balancer belt						R	
Water pump						I	
■ Engine oil and oil filter	Replace every 10,000 km (6,000 miles) or 6 months						
■ Transmission oil			R		R		
■ Radiator coolant					R*1		
Cooling system hoses and connections			I		I		
E.G.R. system (Standard for some types)						I	
Secondary air supply system (Standard for some types)						I	
Air cleaner element (Viscous type for European and KQ models)			R		R		
Air cleaner element (Dry type except European and KQ models)	R	R	R	R	R	R	
Fuel filter (Including aux filter*5)			R		R		
Tank, fuel line and connections			I		I		
Intake air temp. control system*3, *5						I	
Throttle control system*3, *5			I		I		
Throttle control system*4, *5						I	
Choke mechanism*5 (except KS models)			I		I		
Choke mechanism*5 (KS model)				C*7		I	
Choke opener operation (only for carburetor automatic choke type)						I	
Evaporative emission control system*6						I	
Ignition timing and control system*3			I		I		
Ignition timing and control system*4						I	
Spark plugs (for cars using unleaded gasoline)			R*2		R*2		
Spark plugs (for cars using leaded gasoline)	R	R	R	R	R	R	
Distributor cap and rotor*3			I		I		
Distributor cap and rotor*4						I	
Ignition wiring*3			I		I		
Ignition wiring*4						I	
Positive crankcase ventilation valve*3			I		I		
Positive crankcase ventilation valve*4						I	
Blow-by filter*5			I		I		

■: These service intervals assume routine checking and replenishment has been done, as needed, by the customer.

\*1 Thereafter, replace every 2 years or 40,000 km (24,000 miles), whichever comes first.

\*2 For KS type, replace every 2 years or 40,000 km (24,000 miles) whichever comes first after 30,000 km (18,000 miles).

\*3 Except KS, KX models

\*4 KS, KX models

\*5 Only for carbureted type

\*6 Except KP, KT and 2.0 i of KE, KF

\*7 Recommended by manufacturer only



Service at the interval listed x 1,000 km (or miles) or after that number of months, whichever comes first.	R—Replace		I—Inspect. After inspection, clean, adjust, repair or replace if necessary.				
	x 1,000 km x 1,000 miles months	20 12 12	40 24 24	60 36 36	80 48 48	100 60 60	
Brake hoses and lines (Including anti-lock brake system hoses and pipes for anti-lock brake system models)		I	I	I	I	I	
Brake fluid (Including anti-lock brake system Fluid for anti-lock brake system models)			R		R		
Front brake discs and calipers		I	I	I	I	I	
Front brake pads	Inspect every 10,000 km (6,000 miles) or 6 months						
Rear brake discs, calipers and pads (for disk brake type)			I		I		
Rear brake drums, wheel cylinders and linings (for drum brake type)			I		I		
Parking brake		I	I		I		
Exhaust pipe and muffler		I	I	I	I	I	
Suspension mounting bolts		I	I	I	I	I	
Front wheel alignment (except 4WS models)		I	I	I	I	I	
Front and rear wheel alignment (4WS models)		I	I	I	I	I	
Steering operation, tie rod ends, steering gear box and boots (Including center shaft for 4WS models)	Except 4WS models		I		I		
	4WS models		I	I	I	I	
Anti-lock brake system high pressure hose (for anti-lock brake system models)					R		
Anti-lock brake system operation (for Anti-lock brake system models)		I	I		I		
Power steering system		I	I	I	I	I	
Power steering pump belt			I		I		
Catalytic converter heat shield (Standard for some types)						I	

**CAUTION: The following items must be serviced more frequently on cars normally used under severe driving conditions. Refer to the chart below for the appropriate maintenance intervals.**

Severe driving conditions include:

A : Repeated short distance driving

B : Driving in dusty conditions

C : Driving in severe cold weather

D : Driving in areas using road salt or other corrosive materials

E : Driving on rough and/or muddy roads

F : Towing a trailer

R—Replace.

I— Inspect. After inspection, clean, adjust, repair or replace if necessary.

Condition	Maintenance item	Maintenance operation	Interval
A B . . . F	Engine oil and oil filter	R	Every 5,000 km (3,000 miles) or 3 months
. . . . . F	Transmission oil	R	Every 20,000 km (12,000 miles) or 12 months
A B . D E F	Front brake discs and calipers	I	Every 10,000 km (6,000 miles) or 6 months
A B . D E F	Rear brake discs, calipers and pads	I	Every 20,000 km (12,000 miles) or 12 months
. B C . E .	Power steering system	I	Every 10,000 km (6,000 miles) or 6 months

**CAUTION: Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.**

# Maintenance Schedule

Service at the interval listed x 1,000 km (or miles) or after that number of months, whichever comes first.	R—Replace C—Clean		I—Inspect. After inspection, clean, adjust, repair or replace if necessary.				
	x 1,000 km x 1,000 miles months	20 12 12	40 24 24	60 36 36	80 48 48	100 60 60	
Idle speed and idle CO*3		I	I	I	I	I	
Idle speed and idle CO*4						I	
Valve clearance		I	I	I	I	I	
Alternator drive belt			I		I		
Timing belt and timing balancer belt						R	
Water pump						I	
■ Engine oil and oil filter	Replace every 10,000 km (6,000 miles) or 6 months						
■ Transmission oil			R		R		
■ Radiator coolant					R*1		
Cooling system hoses and connections			I		I		
E.G.R. system (Standard for some types)						I	
Secondary air supply system (Standard for some types)						I	
Air cleaner element (Viscous type for European and KQ models)			R		R		
Air cleaner element (Dry type except European and KQ models)	R		R	R	R	R	
Fuel filter (Including aux filter*5)			R		R		
Tank, fuel line and connections			I		I		
Intake air temp. control system*3, *5						I	
Throttle control system*3, *5			I		I		
Throttle control system*4, *5						I	
Choke mechanism*5 (except KS models)			I		I		
Choke mechanism*5 (KS model)				C*7		I	
Choke opener operation (only for carburetor automatic choke type)						I	
Evaporative emission control system*6						I	
Ignition timing and control system*3			I		I		
Ignition timing and control system*4						I	
Spark plugs (for cars using unleaded gasoline)			R*2		R*2		
Spark plugs (for cars using leaded gasoline)	R		R	R	R	R	
Distributor cap and rotor*3			I		I		
Distributor cap and rotor*4						I	
Ignition wiring*3			I		I		
Ignition wiring*4						I	
Positive crankcase ventilation valve*3			I		I		
Positive crankcase ventilation valve*4						I	
Blow-by filter*5			I		I		

■: These service intervals assume routine checking and replenishment has been done, as needed, by the customer.

\*1 Thereafter, replace every 2 years or 40,000 km (24,000 miles), whichever comes first.

\*2 For KS type, replace every 2 years or 40,000 km (24,000 miles) whichever comes first after 30,000 km (18,000 miles).

\*3 Except KS, KX models

\*4 KS, KX models

\*5 Only for carbureted type

\*6 Except KP, KT and 2.0 i of KE, KF

\*7 Recommended by manufacturer only



Service at the interval listed x 1,000 km (or miles) or after that number of months, whichever comes first.	R—Replace		I—Inspect. After inspection, clean, adjust, repair or replace if necessary.				
	x 1,000 km x 1,000 miles months	20 12 12	40 24 24	60 36 36	80 48 48	100 60 60	
Brake hoses and lines (Including anti-lock brake system hoses and pipes for anti-lock brake system models)		I	I	I	I	I	
Brake fluid (Including anti-lock brake system Fluid for anti-lock brake system models)			R		R		
Front brake discs and calipers		I	I	I	I	I	
Front brake pads		Inspect every 10,000 km (6,000 miles) or 6 months					
Rear brake discs, calipers and pads (for disk brake type)			I		I		
Rear brake drums, wheel cylinders and linings (for drum brake type)			I		I		
Parking brake		I	I		I		
Exhaust pipe and muffler		I	I	I	I	I	
Suspension mounting bolts		I	I	I	I	I	
Front wheel alignment (except 4WS models)		I	I	I	I	I	
Front and rear wheel alignment (4WS models)		I	I	I	I	I	
Steering operation, tie rod ends, steering gear box and boots (Including center shaft for 4WS models)	Except 4WS models		I		I		
	4WS models		I	I	I	I	
Anti-lock brake system high pressure hose (for anti-lock brake system models)					R		
Anti-lock brake system operation (for Anti-lock brake system models)		I	I		I		
Power steering system		I	I	I	I	I	
Power steering pump belt			I		I		
Catalytic converter heat shield (Standard for some types)							I

**CAUTION: The following items must be serviced more frequently on cars normally used under severe driving conditions. Refer to the chart below for the appropriate maintenance intervals.**

Severe driving conditions include:

A : Repeated short distance driving

B : Driving in dusty conditions

C : Driving in severe cold weather

D : Driving in areas using road salt or other corrosive materials

E : Driving on rough and/or muddy roads

F : Towing a trailer

R—Replace.

I— Inspect. After inspection, clean, adjust, repair or replace if necessary.

Condition	Maintenance item	Maintenance operation	Interval
A B . . . F	Engine oil and oil filter	R	Every 5,000 km (3,000 miles) or 3 months
. . . . . F	Transmission oil	R	Every 20,000 km (12,000 miles) or 12 months
A B . D E F	Front brake discs and calipers	I	Every 10,000 km (6,000 miles) or 6 months
A B . D E F	Rear brake discs, calipers and pads	I	Every 20,000 km (12,000 miles) or 12 months
. B C . E .	Power steering system	I	Every 10,000 km (6,000 miles) or 6 months

**CAUTION: Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.**

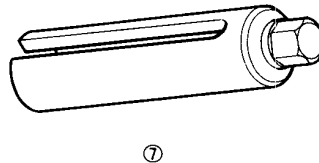
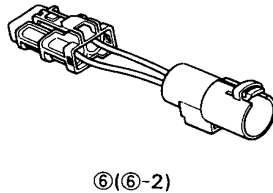
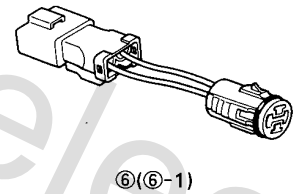
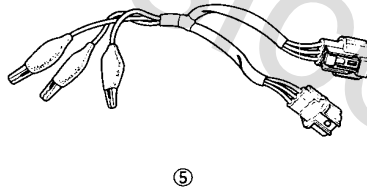
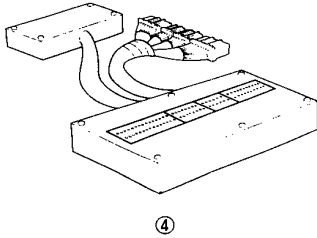
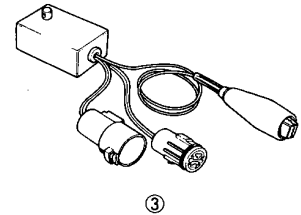
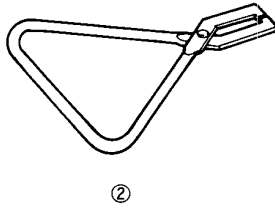
**Special Tools**  
**Component Locations**  
    **Index**  
**System Description**  
    **Vacuum Connections**  
    **Electrical Connections**  
**Troubleshooting**  
    **Self - Diagnostic Procedures**  
    **How to Read Flow Charts**  
**PGM - CARB Control System**  
    **Sysptom - to - System Chart**  
    **Troubleshooting Flow Charts - Manifold Absolute Pressure Sensor**  
    **Vacuum Switch**  
**Carburetor**  
    **Sysptom - to - Sub System Chart**  
    **Idle Control System**  
    **Vacuum Controlled Secondary**  
    **Slow Air Jet Control System**  
    **Power Valve**  
    **Idle Speed/Mixture**  
    **Replacement**  
**Fuel Supply System**  
    **Symptom - to - Sub System Chart**  
**Air IntakeSystem**  
    **Symptom - to - Sub System Chart**  
**Emission Control System**  
    **Symptom - to - Sub System Chart**  
    **Tailpipe Emissions**  
    **Catalytic Converter**  
    **Air Injection Control**  
    **EGR System**  
    **Throttle Control System**  
    **Evaporative Emission Controls**

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# Special Tools

## Special Tools

Ref. No.	Tool Number	Description	Q'ty	Remark
①	07411-0020000	Digital Circuit Tester	1	
②	07614-0050100	Fuel Line Clamp	1	
③	07JAZ-SH20100	R.P.M. Connecting Adaptor	1	
④	07LAJ-PT30100	ECU Test Harness	1	
⑤	07LAJ-PT30200	Test Harness	1	
⑥	07LAZ-PT30100	R.P.M. Connecting Adaptor	1	
⑥-1	07LAZ-PT30110	R.P.M. Connecting Adaptor (A)	(1)	┌ Component Tools
⑥-2	07LAZ-PT30120	R.P.M. Connecting Adaptor (B)	(1)	
⑦	07LAA-PT50100	O <sub>2</sub> Sensor Socket Wrench	1	

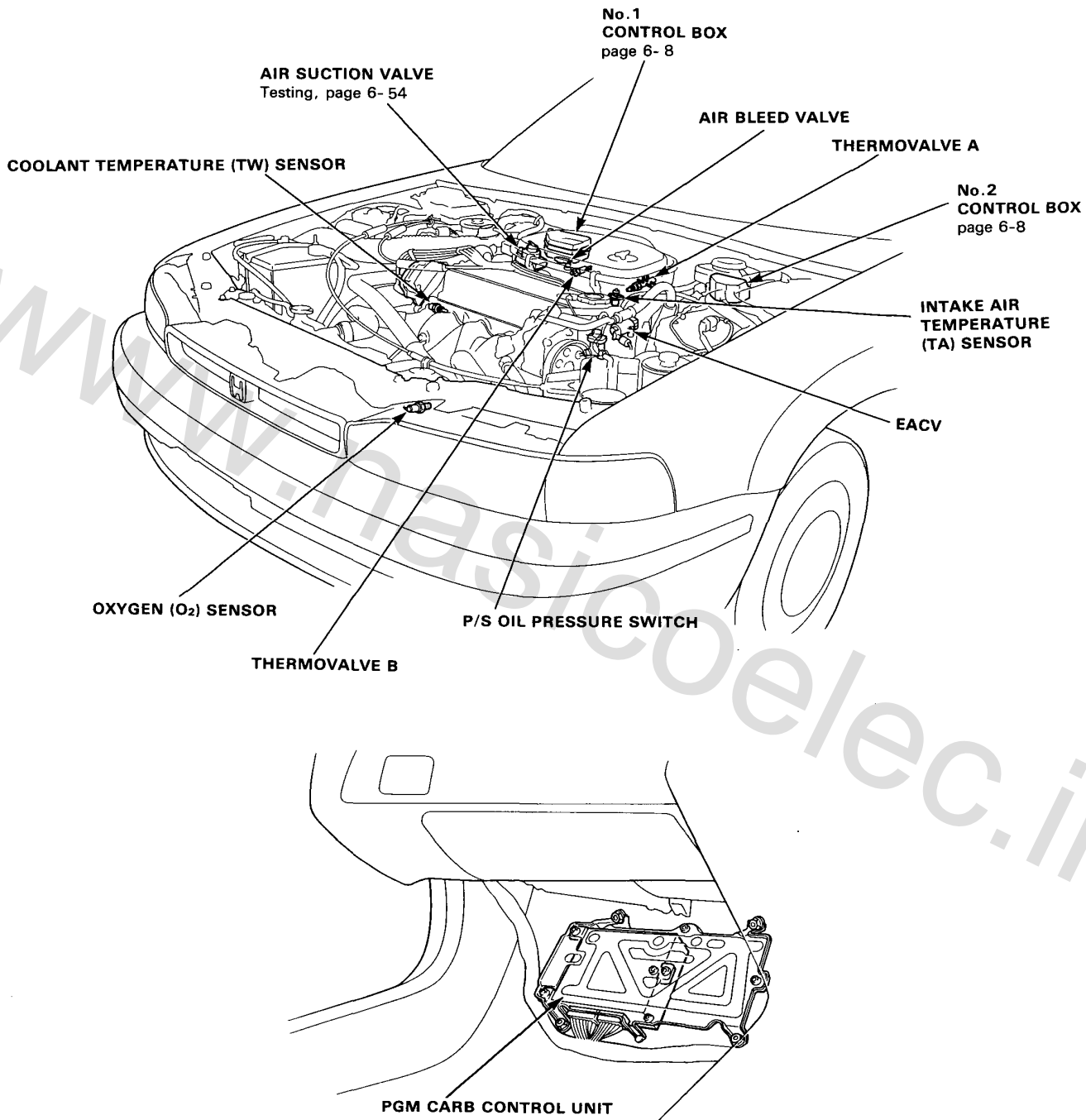




# Component Locations

## Index

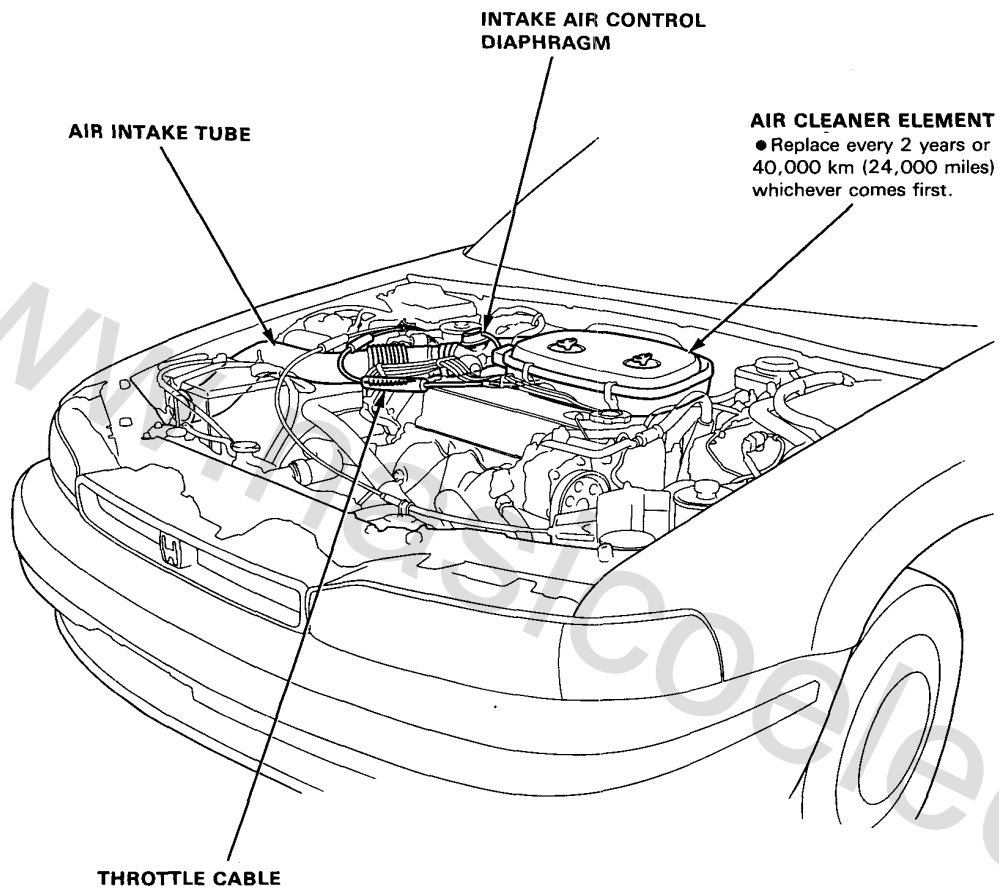
(KE with CATA)



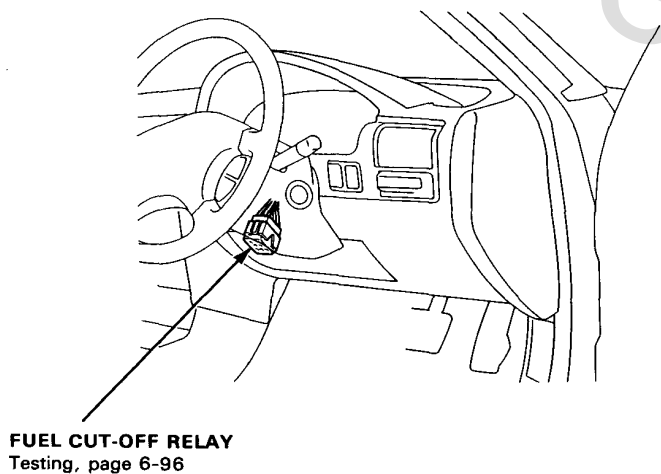
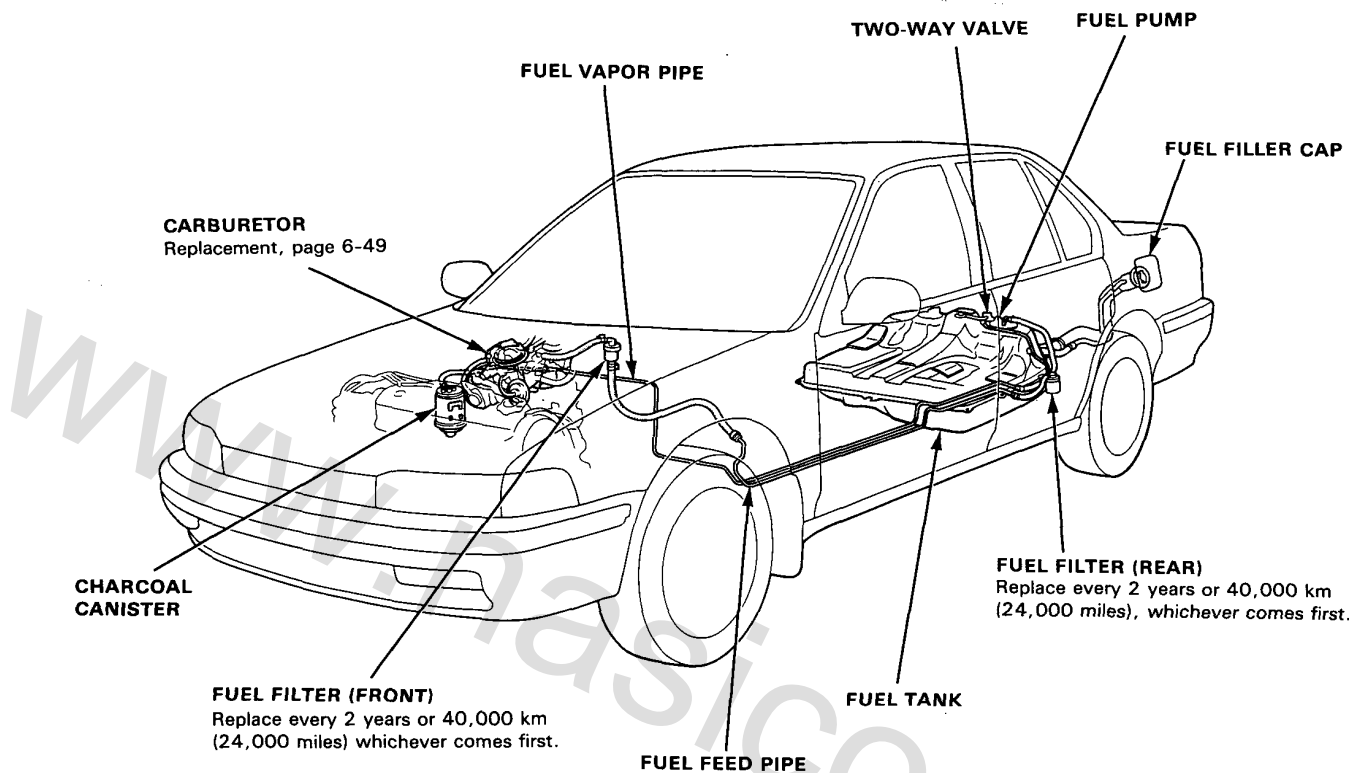
# Component Locations

## Index

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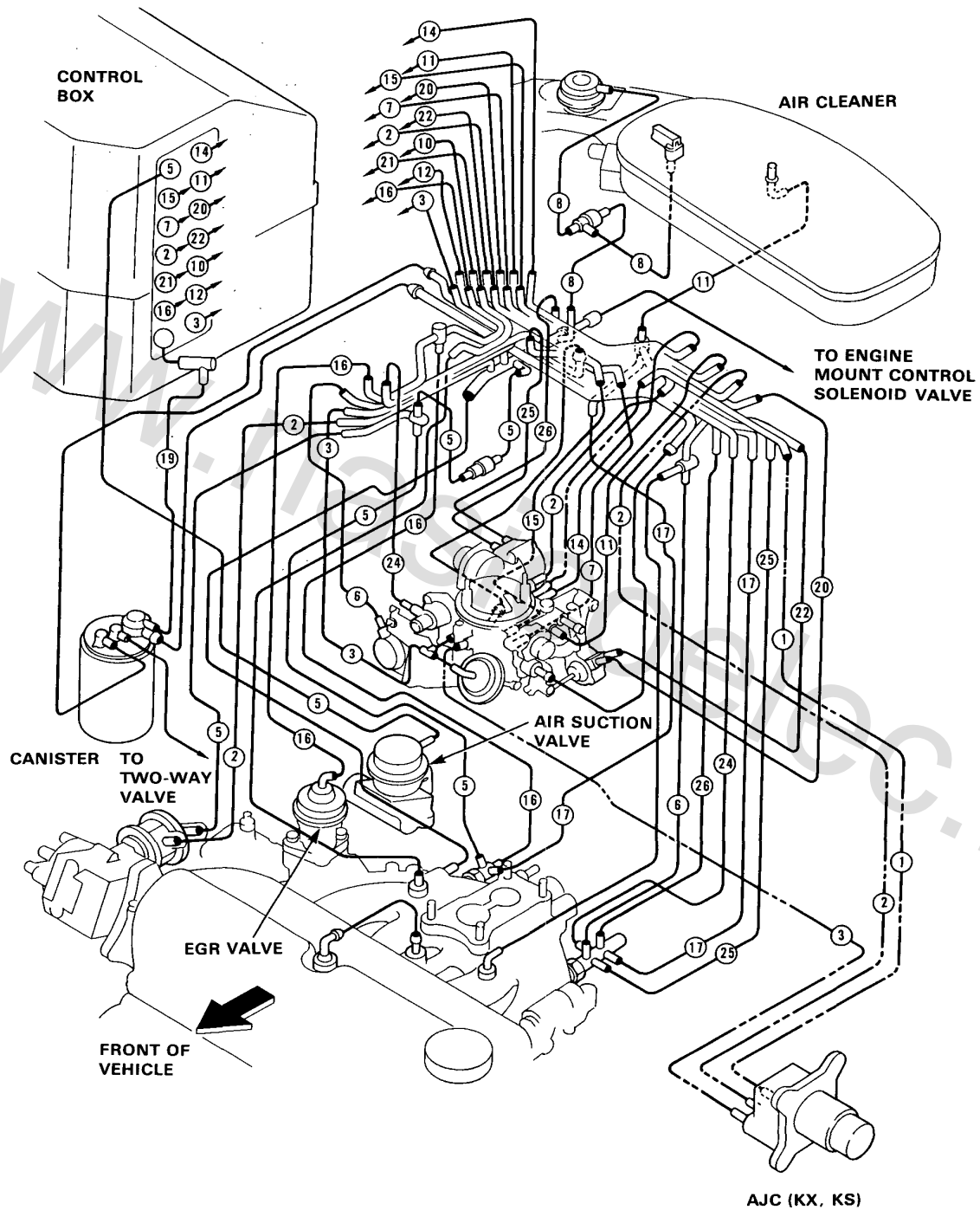




# System Description

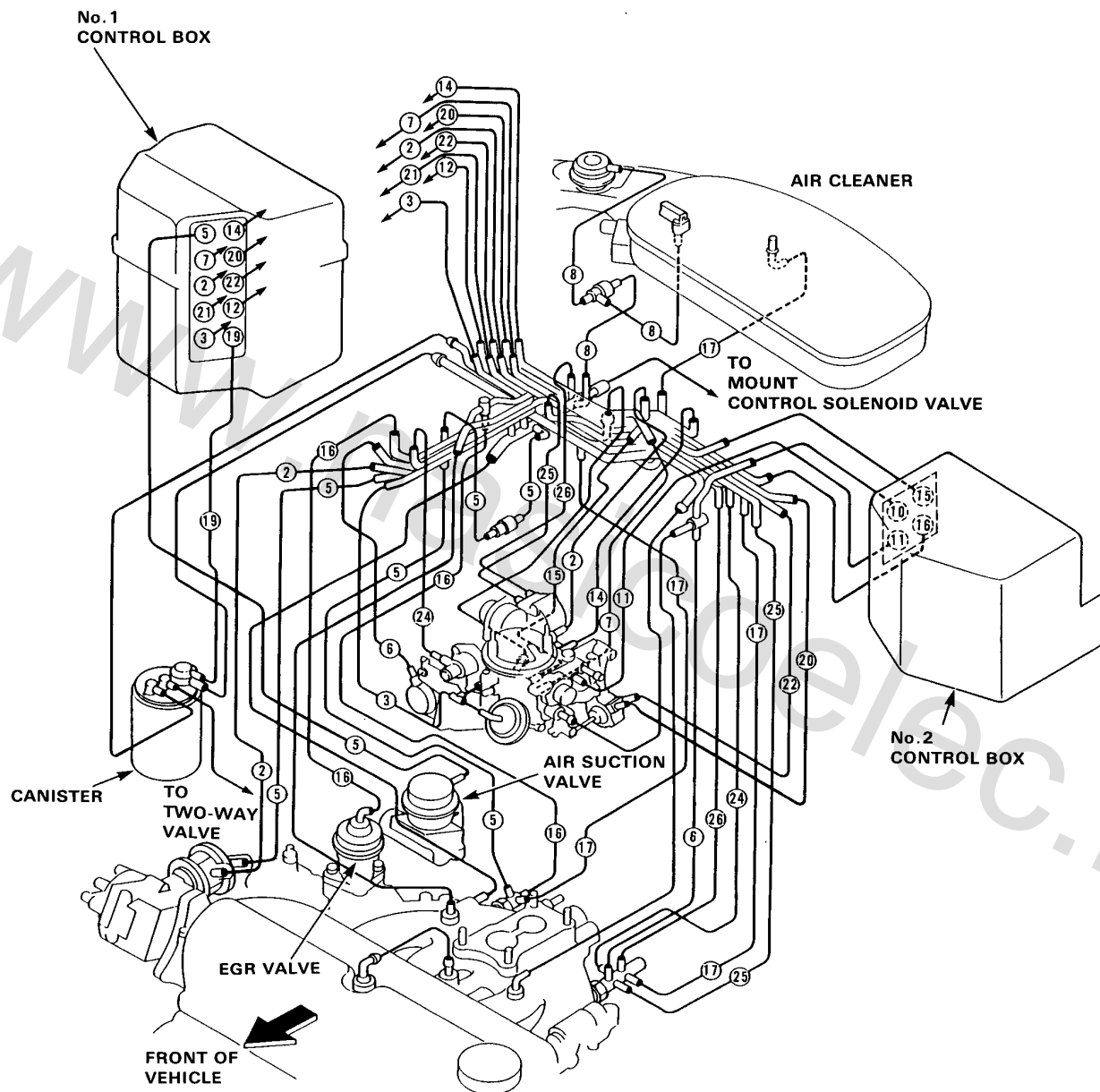
## Vacuum Connections

(KX, KS, KG)





(KE with CATA)

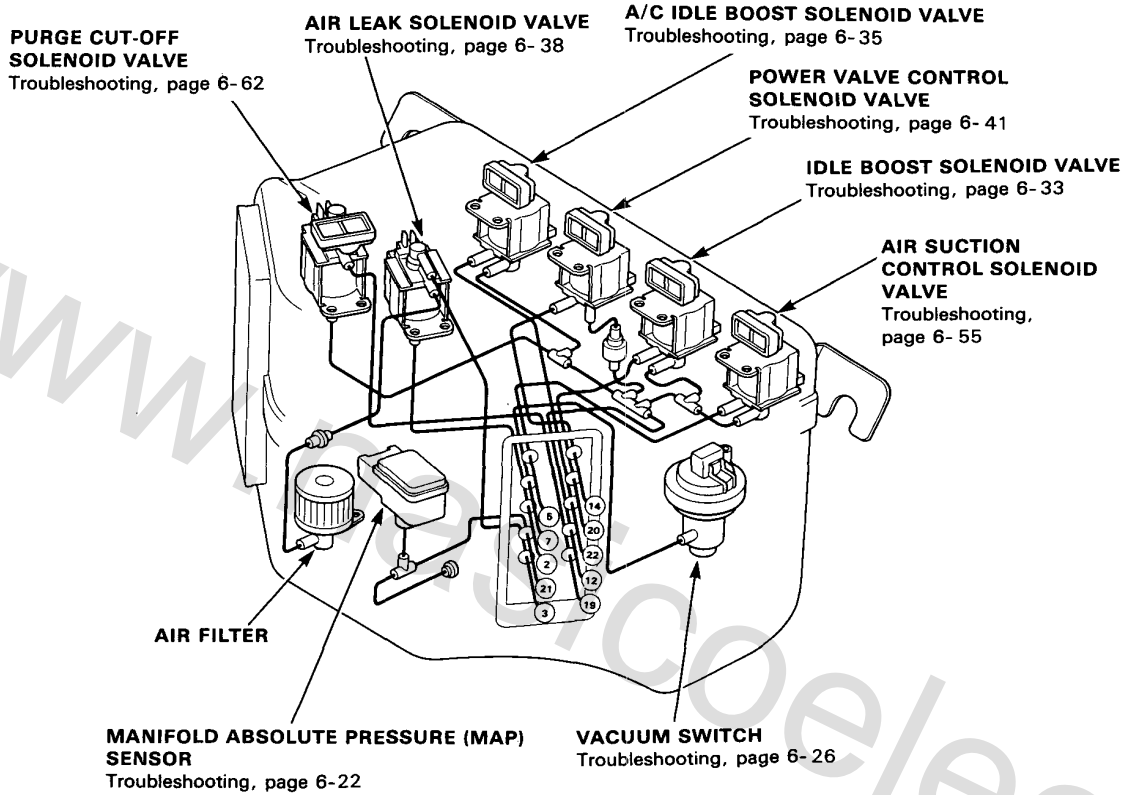


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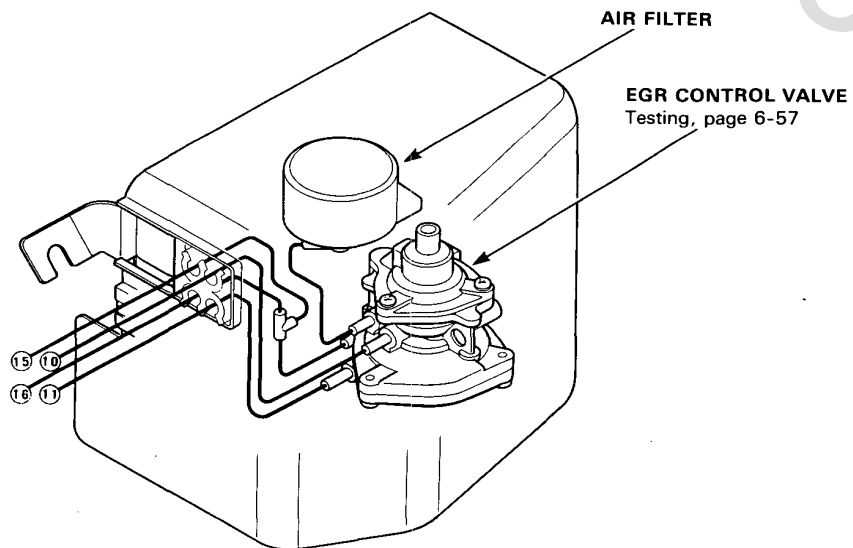
## Vacuum Connections

(KE with CATA)

### No.1 Control Box

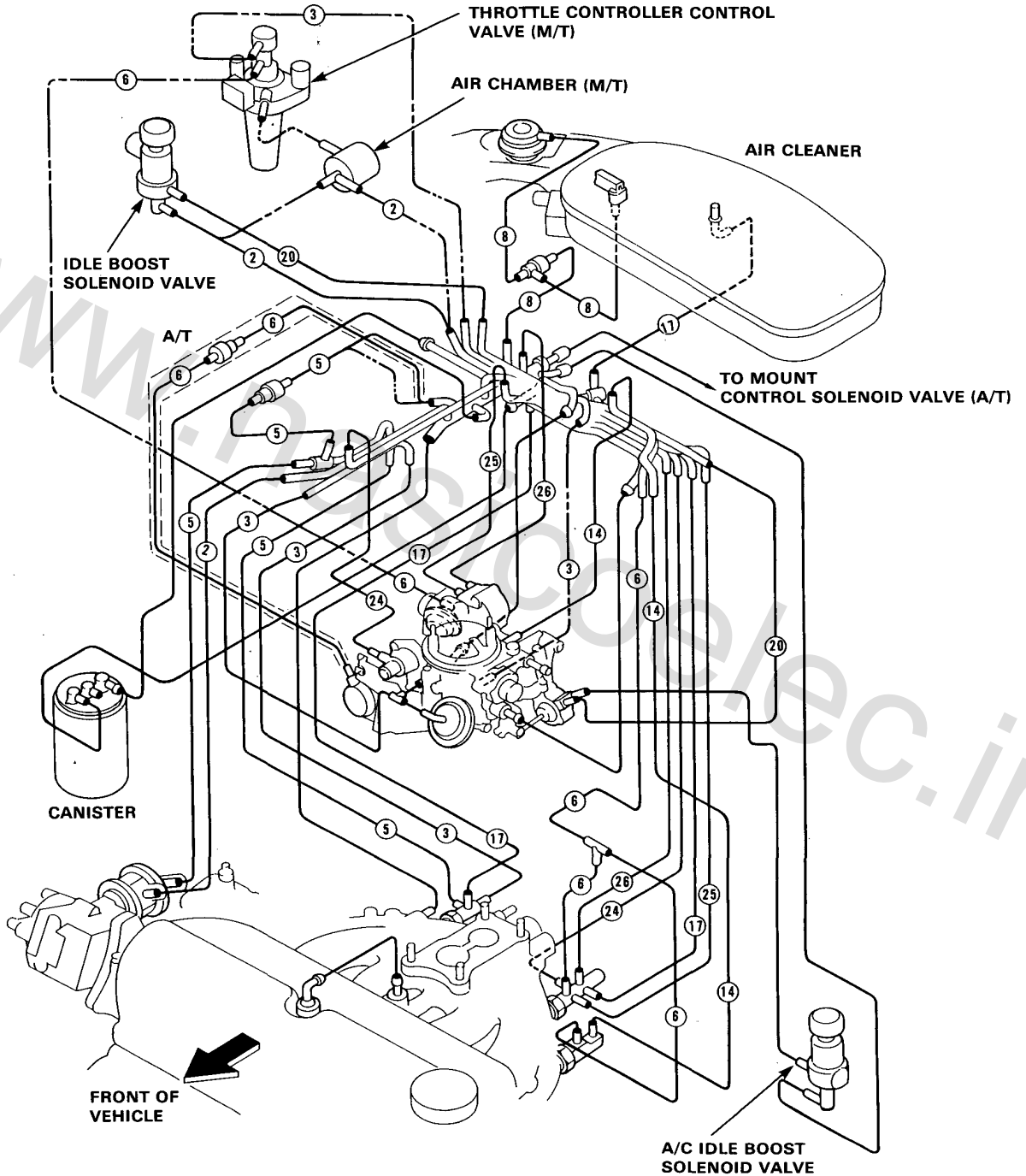


### No.2 Control Box





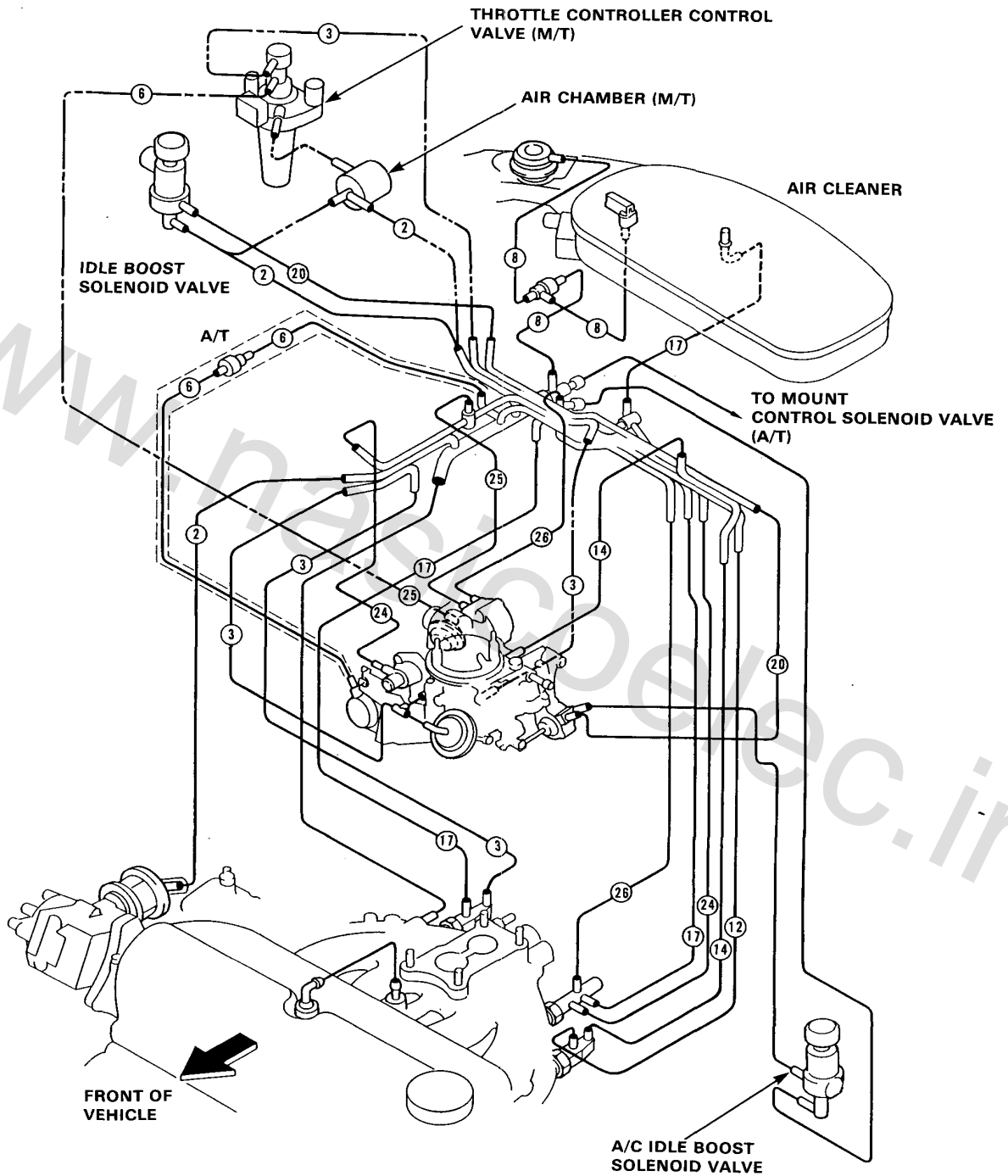
(KF, KB, KW, KE, KU)



# System Descriptions

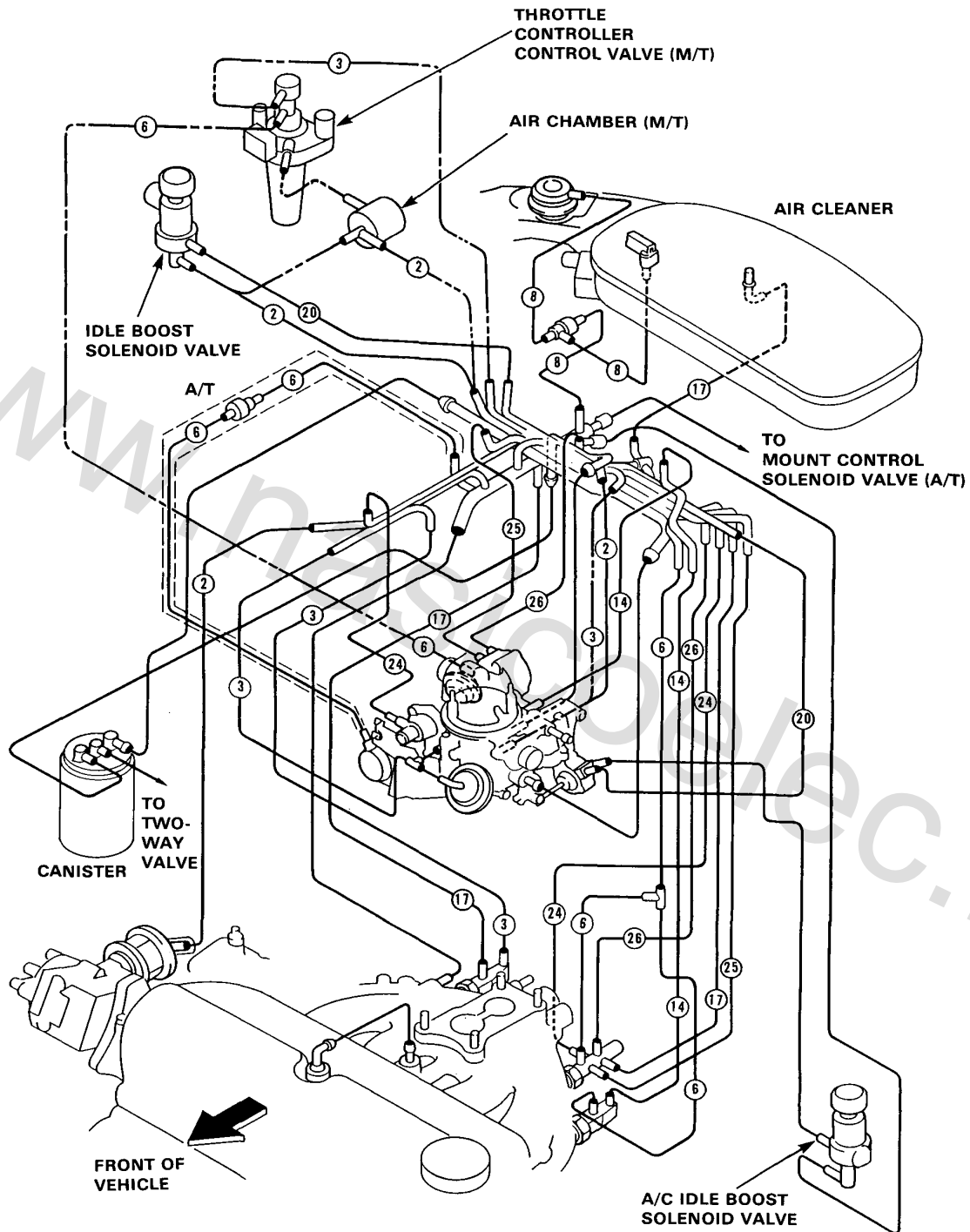
## Vacuum Connections

(KP, KT)





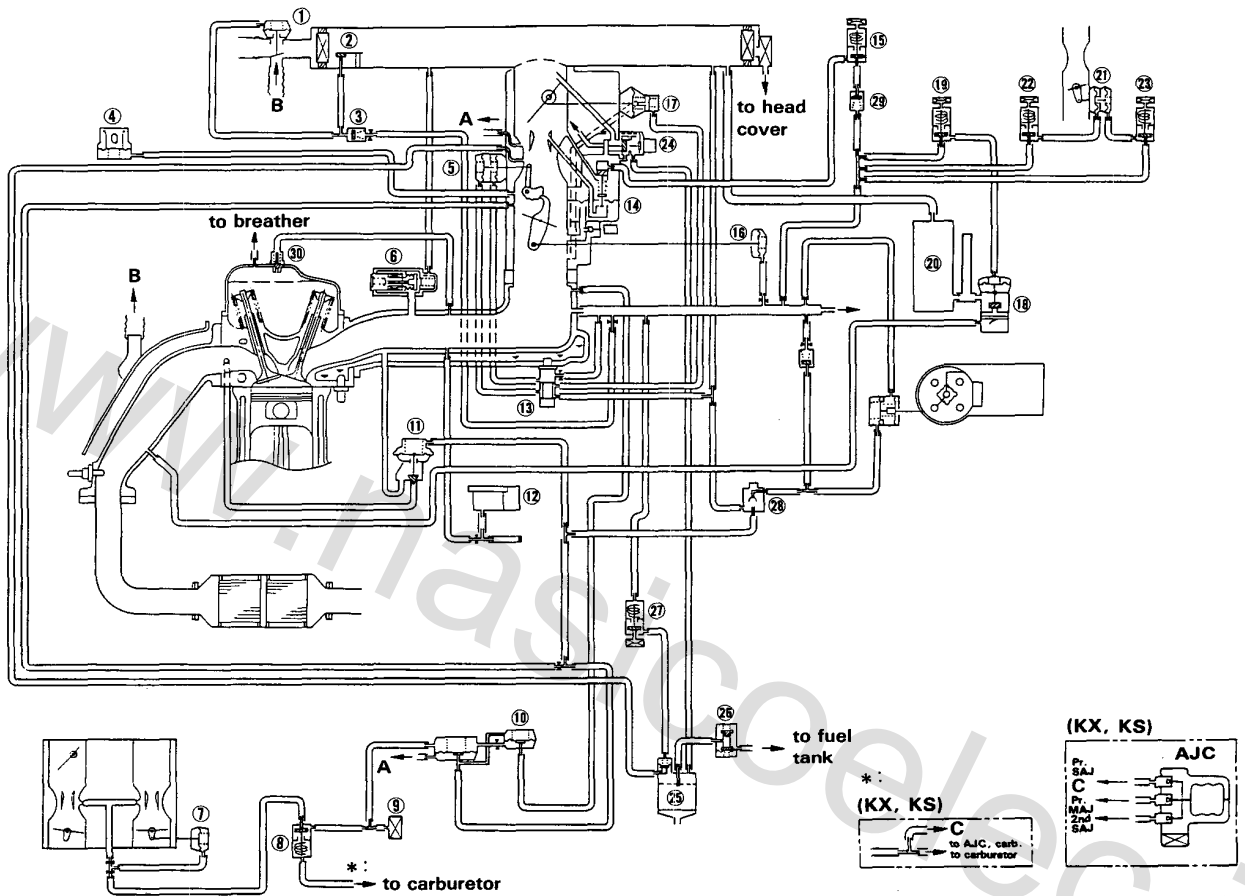
(KY)



# System Descriptions

## Vacuum Connections

(KX, KS, KG, KE with CATA)



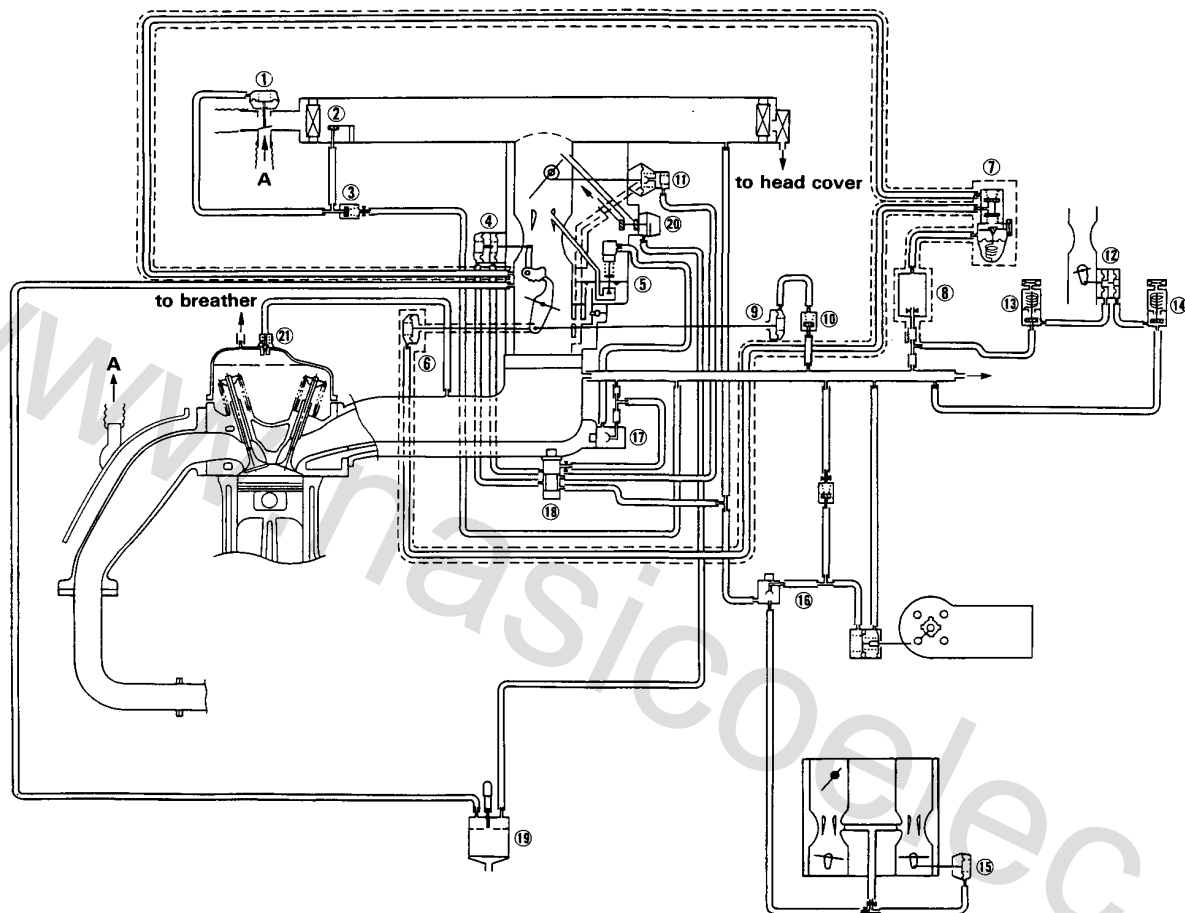
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- ② AIR BLEED VALVE
- ③ CHECK VALVE
- ④ VACUUM SWITCH
- ⑤ FAST IDLE UNLOADER
- ⑥ EACV
- ⑦ SECONDARY DIAPHRAGM
- ⑧ AIR LEAK SOLENOID VALVE
- ⑨ AIR FILTER
- ⑩ EGR CONTROL VALVE
- ⑪ EGR VALVE
- ⑫ MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR
- ⑬ THERMOVALVE A
- ⑭ POWER VALVE
- ⑮ POWER VALVE CONTROL SOLENOID VALVE

- ⑯ THROTTLE CONTROLLER
- ⑰ CHOKE OPENER
- ⑱ AIR SUCTION VALVE
- ⑲ AIR SUCTION CONTROL SOLENOID VALVE
- ⑳ AIR CHAMBER
- ㉑ IDLE BOOST THROTTLE CONTROLLER
- ㉒ IDLE BOOST SOLENOID VALVE
- ㉓ A/C IDLE BOOST SOLENOID VALVE
- ㉔ AIR VENT CUT-OFF SOLENOID VALVE
- ㉕ CANISTER
- ㉖ TWO-WAY VALVE
- ㉗ PURGE CUT-OFF SOLENOID VALVE
- ㉘ THERMOVALVE B
- ㉙ CHECK VALVE
- ㉚ PCV VALVE





(KF, KB, KW, KE, KU)



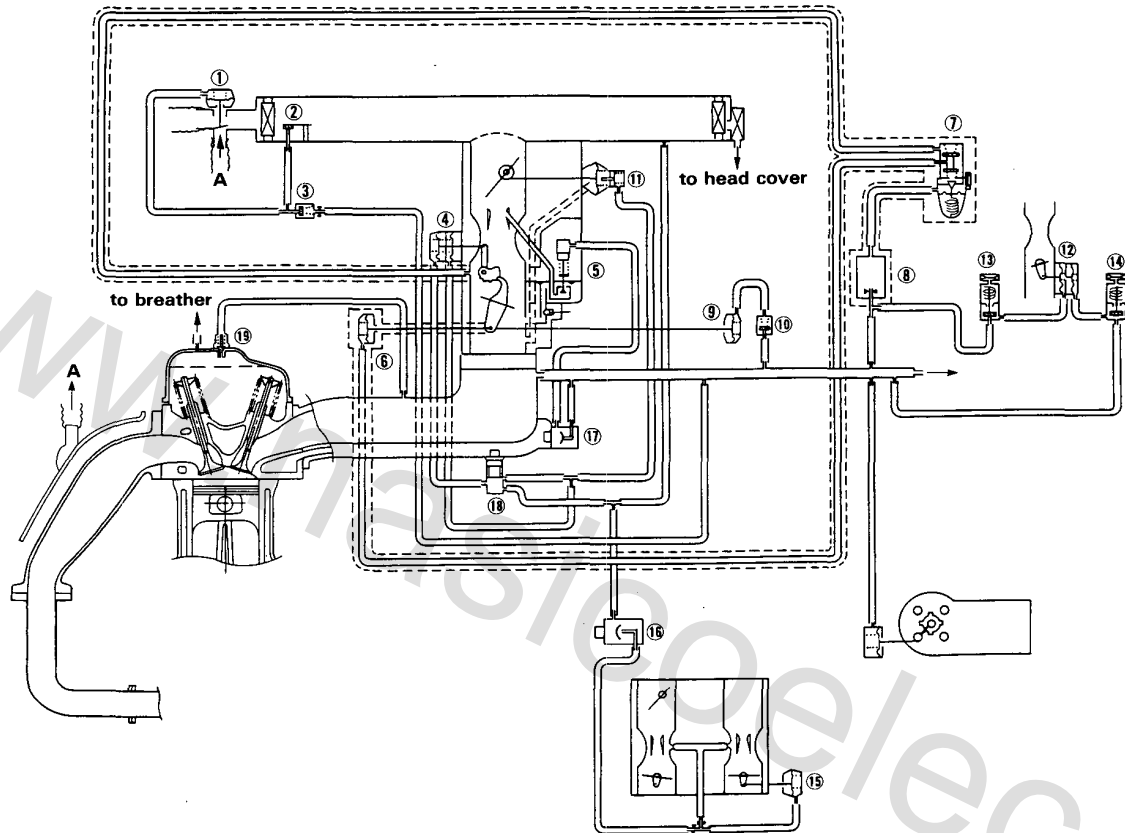
- ①AIR CONTROL DIAPHRAGM
- ②AIR BLEED VALVE
- ③CHECK VALVE
- ④FAST IDLE UNLOADER
- ⑤POWER VALVE
- ⑥THROTTLE CONTROLLER (M/T)
- ⑦THROTTLE CONTROLLER CONTROL VALVE (M/T)
- ⑧AIR CHAMBER (M/T)
- ⑨THROTTLE CONTROLLER (A/T)
- ⑩CHECK VALVE (A/T)

- ⑪CHOKE OPENER
- ⑫IDLE BOOST THROTTLE CONTROLLER
- ⑬IDLE BOOST SOLENOID VALVE
- ⑭A/C IDLE BOOST SOLENOID VALVE
- ⑮SECONDARY DIAPHRAGM
- ⑯THERMOVALVE D
- ⑰THERMOVALVE C
- ⑱THERMOVALVE A
- ⑲CANISTER
- ⑳AIR VENT CUT-OFF SOLENOID VALVE
- ㉑PCV VALVE

# System Descriptions

## Vacuum Connections

(KP, KT)

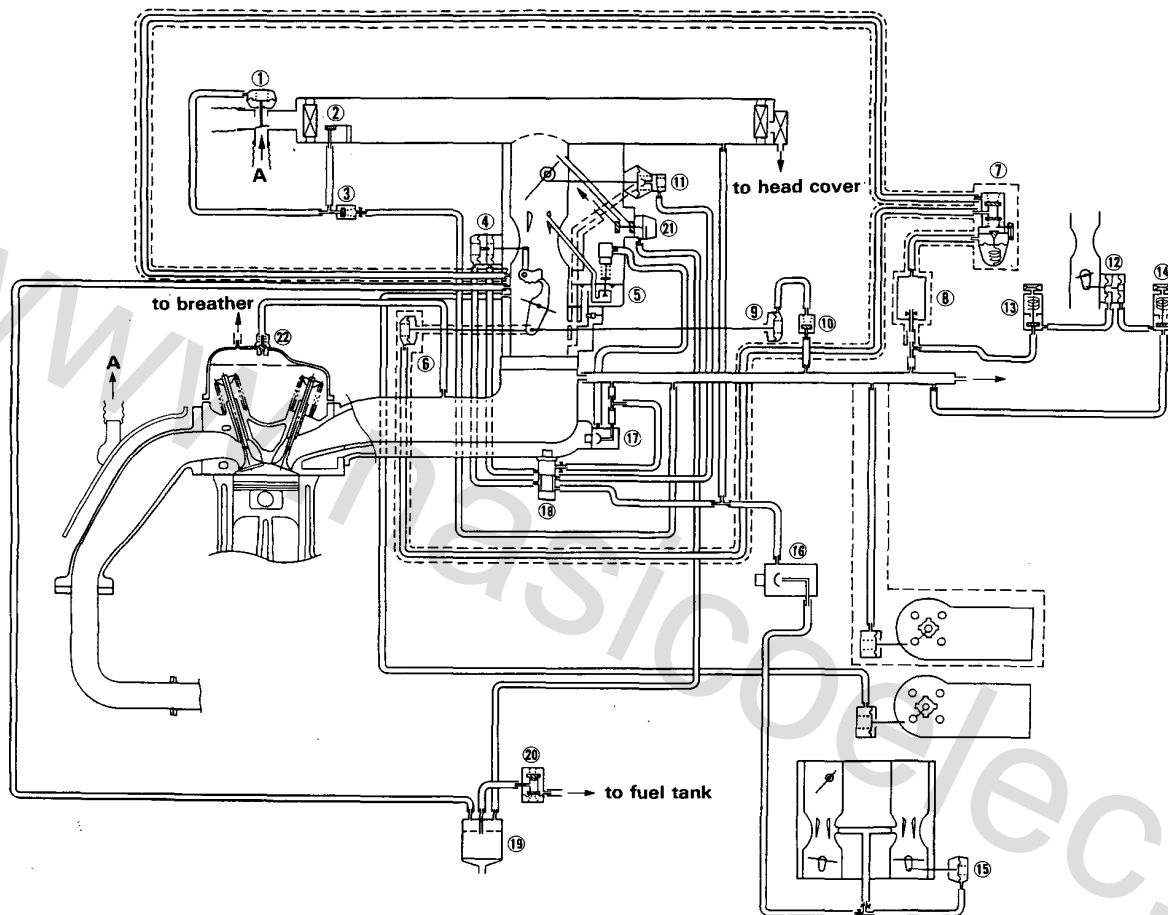


- ① AIR CONTROL DIAPHRAGM
- ② AIR BLEED VALVE
- ③ CHECK VALVE
- ④ FAST IDLE UNLOADER
- ⑤ POWER VALVE
- ⑥ THROTTLE CONTROLLER (M/T)
- ⑦ THROTTLE CONTROLLER CONTROL VALVE (M/T)
- ⑧ AIR CHAMBER (M/T)
- ⑨ THROTTLE CONTROLLER (A/T)
- ⑩ CHECK VALVE (A/T)

- ⑪ CHOKE OPENER
- ⑫ IDLE BOOST THROTTLE CONTROLLER
- ⑬ IDLE BOOST SOLENOID VALVE
- ⑭ A/C IDLE BOOST SOLENOID VALVE
- ⑮ SECONDARY DIAPHRAGM
- ⑯ THERMOVALVE D
- ⑰ THERMOVALVE C
- ⑱ THERMOVALVE A
- ⑳ PCV VALVE



(KY)



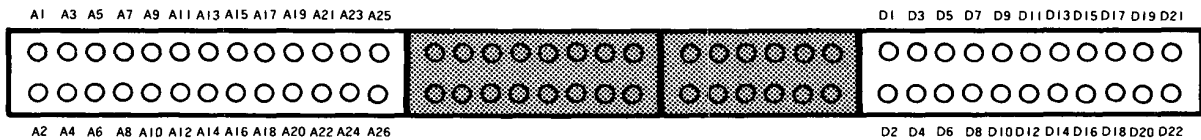
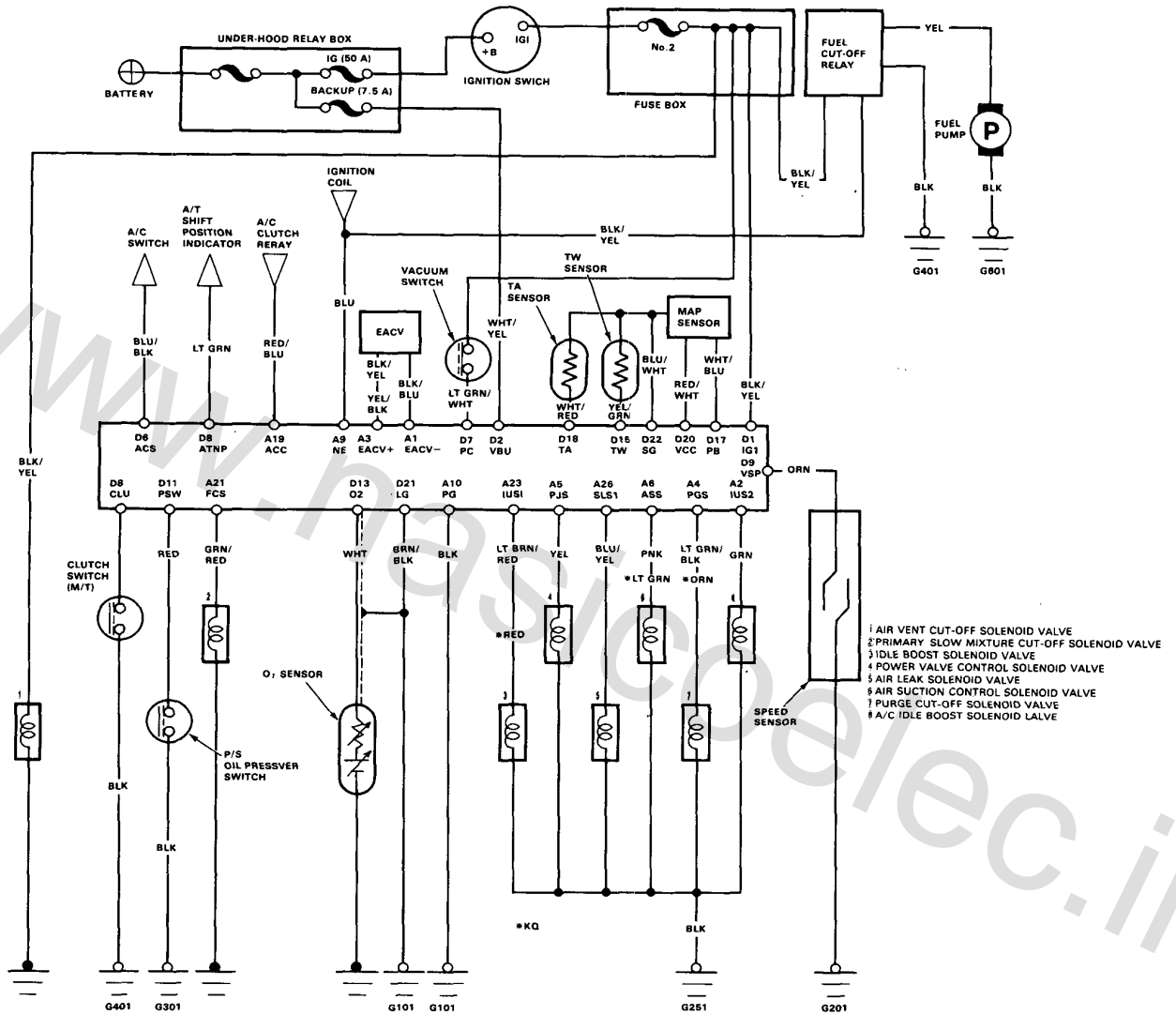
- ①AIR CONTROL DIAPHRAGM
- ②AIR BLEED VALVE
- ③CHECK VALVE
- ④FAST IDLE UNLOADER
- ⑤POWER VALVE
- ⑥THROTTLE CONTROLLER (M/T)
- ⑦THROTTLE CONTROLLER CONTROL VALVE (M/T)
- ⑧AIR CHAMBER (M/T)
- ⑨THROTTLE CONTROLLER (A/T)
- ⑩CHECK VALVE (A/T)
- ⑪CHOKE OPENER

- ⑫IDLE BOOST THROTTLE CONTROLLER
- ⑬IDLE BOOST SOLENOID VALVE
- ⑭A/C IDLE BOOST SOLENOID VALVE
- ⑮SECONDARY DIAPHRAGM
- ⑯THERMOVALVE D
- ⑰THERMOVALVE C
- ⑱THERMOVALVE A
- ⑲CANISTER
- ⑳TWO-WAY VALVE
- ㉑AIR VENT CUT-OFF SOLENOID VALVE
- ㉒PCV VALVE

# System Descriptions

## Electrical Connections

(KE with CATA)

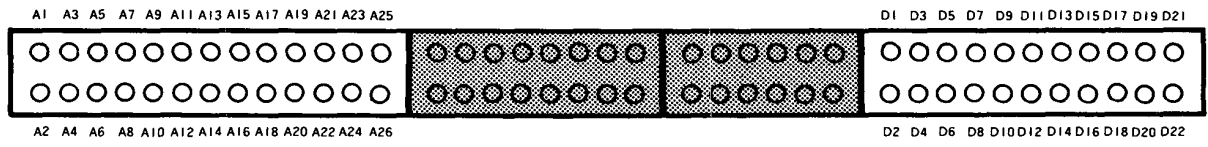
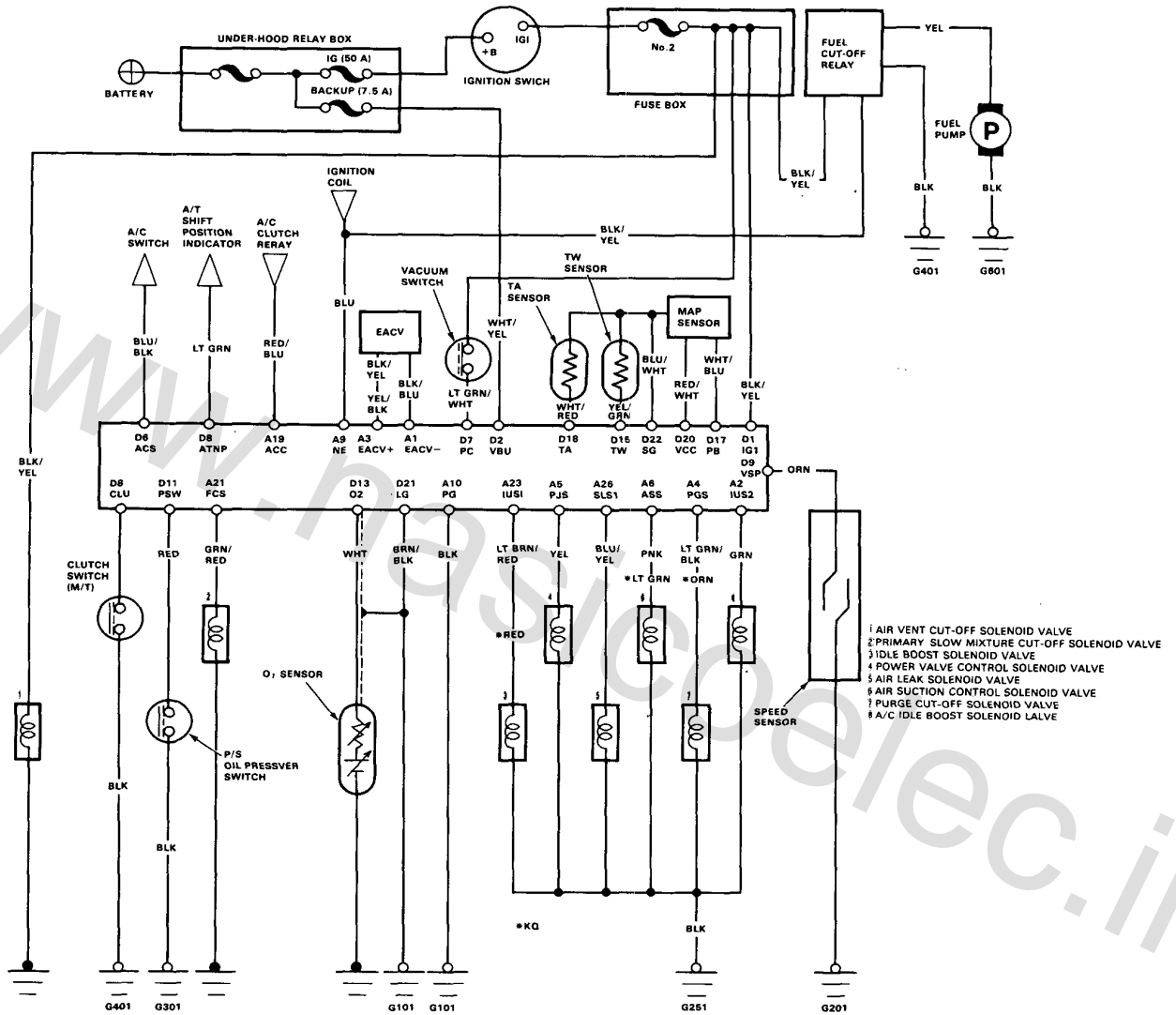


TERMINAL LOCATION

# System Descriptions

## Electrical Connections

(KE with CATA)



TERMINAL LOCATION

# Troubleshooting



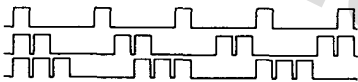
## Self-Diagnostic Procedure

Turn the ignition on, pull down the passenger's side carpet from under the dashboard and observe the LED on the top of the control unit. The LED indicates a system failure code by its blinking frequency. The control unit LED can indicate any number of simultaneous component problems by blinking separate codes, one after another.

LED  
DISPLAY

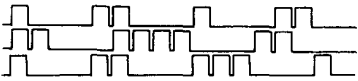
PGM-CARB CONTROL UNIT

### Separate Problems:



= See Problem CODE 1  
= See Problem CODE 2  
= See Problem CODE 3

### Simultaneous Problems:



= See Problem CODE 1 and 2  
= See Problem CODE 2 and 4  
= See Problem CODE 1, 2 and 3

SELF-DIAGNOSIS INDICATOR BLINKS	SYSTEM INDICATED	PAGE
1	OXYGEN CONTENT	---
2	VEHICLE SPEED PULSER	---
3	MANIFOLD ABSOLUTE PRESSURE	6-22
4	VACUUM SWITCH SIGNAL	6-26
5	MANIFOLD ABSOLUTE PRESSURE	6-24
6	COOLANT TEMPERATURE	---
8	IGNITION COIL SIGNAL	---
10	INTAKE AIR TEMPERATURE	---
14	ELECTRONIC AIR CONTROL	---

If CODE 7, 9, 11, 12, 13 (or more than 14), count the number of blinks again; if the indicator is in fact blinking these codes, substitute a known-good control unit and recheck. If the indication goes away, replace the original control unit. The control unit LED may come on, indicating a system problem, when, in fact, there is a poor or intermittent electrical connection. First, check the electrical connections, clean or repair connections if necessary.

(cont'd)



## How to Read Flow Charts

A flow chart is designed to be used from start to final repair. It's like a map showing you the shortest distance. But beware; if you go off the "map" anywhere but a "stop" symbol, you can easily get lost.

### START

(bold type)

Describes the conditions or situation to start a troubleshooting flow chart.

### ACTION

Asks you to do something; perform a test, set up a condition, etc.

### DECISION

Asks you about the result of an action by giving an "answer" and asking did you get the same answer: Yes or No.

### STOP

(bold type)

The end of a series of actions and decisions, describes a final repair action and sometimes directs you to an earlier part of the flow to confirm your repair.

#### NOTE:

- The term "Intermittent Failure" is used several times in these charts. It simply means a system may have had a failure, but it checks out OK through all your tests. You may need to road test the car to reproduce the failure or if the problem was a loose connection, you may have unknowingly solved it while doing the tests.
- "Open" and "Short" are common electrical terms. An open is a break in a wire or at a connection. A short is an accidental connection of a wire to ground. In simple electronics, this usually means something won't work at all. In complex electronics (like electronic control units), this can sometimes mean something works, but not the way it's supposed to.
- If the electrical readings are not as specified when using the ECU test harness, check the test harness connections before proceeding.

# Symptom-to System Chart

(KE with CATA)

NOTE: Across each row in the chart, the systems that could be sources of a symptom are ranked in the order they should be inspected starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows the system is OK, try the next most likely system ②, etc.

PAGE	SYSTEM	PGM-CARB CONTROL SYSTEM						
		PGM-CARB CONTROL UNIT	OXYGEN SENSOR	VEHICLE SPEED PULSER	MANIFOLD ABSOLUTE PRESSURE SENSOR	VACUUM SWITCH	COOLANT TEMPERATURE SENSOR	IGNITION COIL SIGNAL
	SYMPTOM	—	—	—	22, 24	26	—	—
	SELF-DIAGNOSIS INDICATOR (LED) BLINKS	① or *	①	②	③ or ⑤	④	⑥	⑧
	ENGINE WON'T START							
	DIFFICULT TO START ENGINE WHEN COLD	(BU)						
	WHEN COLD FAST IDLE OUT OF SPECIFIC	(BU)						
	ROUGH IDLE	(BU)	③		②			
	WHEN WARM ENGINE SPEED TOO HIGH	(BU)						
	WHEN WARM ENGINE SPEED TOO LOW	(BU)						
	WHILE WARMING UP	(BU)			②		③	
	AFTER WARMING UP	(BU)			②			
	MISFIRE OR ROUGH RUNNING	(BU)	③	③	②			
	FAILS EMISSION TEST	(BU)	②		①			
	LOSS OF POWER	(BU)			③			

\* CODE 7, 9, 11, 12, 13, or exceeds 14: count the number of blinks again. If the indicator is in fact blinking these codes, substitute a known-good control unit and recheck. If the indication goes away, replace the original ECU.

(BU): When the self-diagnosis indicator is on, the back-up system is in operation.

Substitute a known-good control unit and recheck. If the indication goes away, replace the original ECU.





PGM-CARB CONTROL SYSTEM					EMISSION CONTROL				
INTAKE AIR TEMPERATURE SENSOR	A/T SHIFT POSITION SIGNAL	CLUTCH SWITCH SIGNAL	P/S OIL PRESSURE SWITCH	A/C SIGNAL	CARBURETOR	FUEL SUPPLY	AIR INTAKE	ELECTRONIC AIR CONTROL VALVE	OTHER EMISSION CONTROL
—	—	—	—	—	30	50	51	—	52
⑩								⑭	
					②	①			
					①				
③					①				③
③					①			③	③
			③	③	①				
					①				
					①			③	
					①			①	
					①	②			
					②		③	③	③
					③	②	①		②

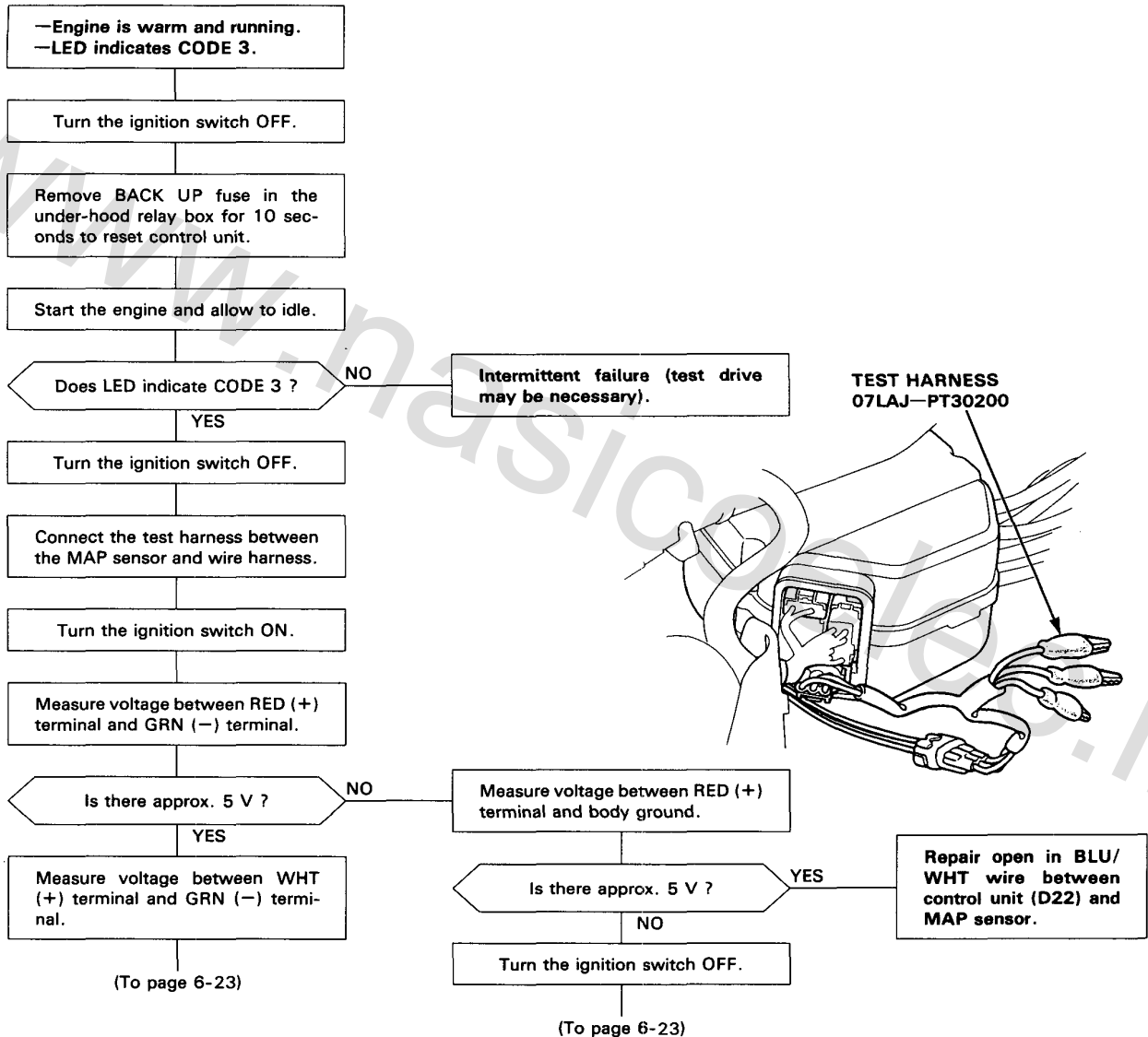
# PGM-CARB Control System

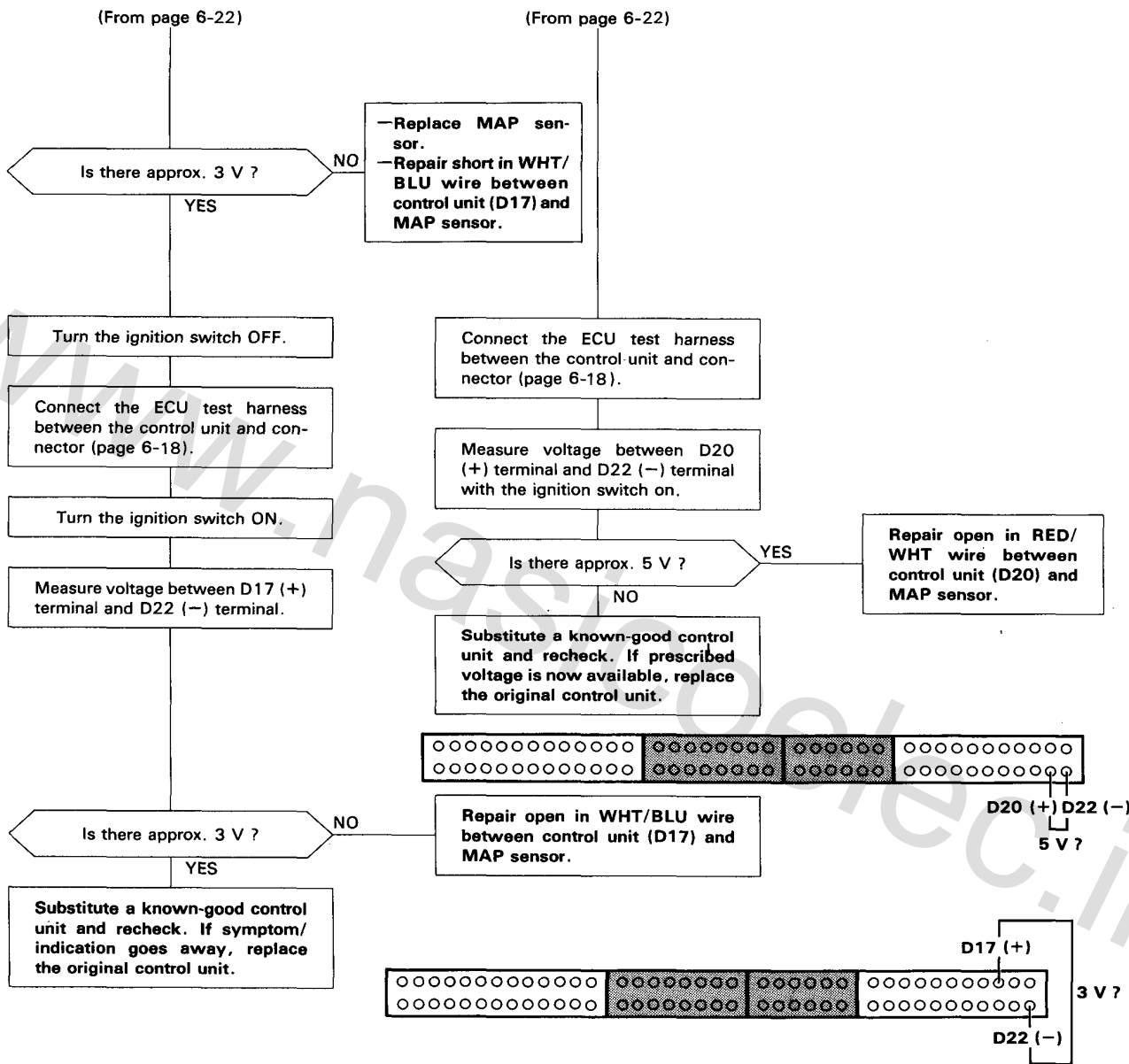
## Troubleshooting Flow Chart — MAP Sensor

③ Self-diagnosis LED indicator blinks three times: Most likely an electrical problem in the Manifold Absolute Pressure (MAP) Sensor system.

⑤ Self-diagnosis LED indicator blinks five times: Most likely a mechanical problem (broken hose) in the Manifold Absolute Pressure (MAP) Sensor system.

③





(cont'd)

# PGM-CARB Control System

## Troubleshooting Flow Chart — MAP Sensor (cont'd)

5

LED indicates CODE 5.

Turn the ignition switch OFF.

Remove BACK UP fuse in the under-hood relay box for 10 seconds to reset control unit.

Start engine and keep engine speed at idle.

Does LED indicate CODE 5 ?

NO

Intermittent failure (test drive may be necessary).

YES

Stop engine.

Remove #21 hose from the vacuum hose manifold and connect a T-fitting from a vacuum gauge between the vacuum hose manifold and the MAP sensor.

Start engine.

Is there vacuum ?

NO

Repair as necessary.

YES

Connect a vacuum pump to #21 hose and apply vacuum.

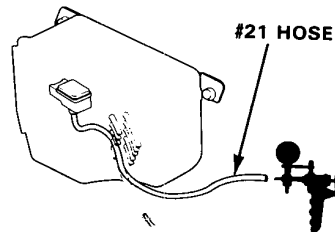
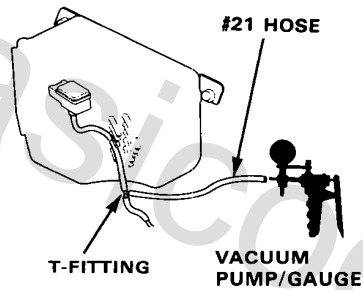
Does it hold vacuum ?

NO

Replace #21 hose.

YES

(To page 6-25)





(From page 6-24)

Stop engine.

Connect the test harness between the MAP sensor and wire harness.

Turn the ignition switch ON.

Measure voltage between WHT (+) terminal and GRN (-) terminal.

Is there approx. 3 V ?

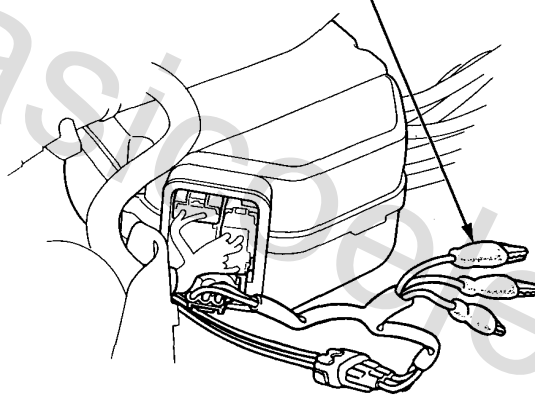
NO

Replace MAP sensor.

YES

Substitute a known-good control unit and recheck. If symptom/indication goes away, replace the original control unit.

TEST HARNESS  
07LAJ-PT30200



# PGM-CARB Control System

## Troubleshooting Flow Chart — Vacuum Switch

④ Self-diagnosis LED indicator blinks four times: A problem in the vacuum switch.

— Engine is warm running.  
— LED indicates CODE 4.

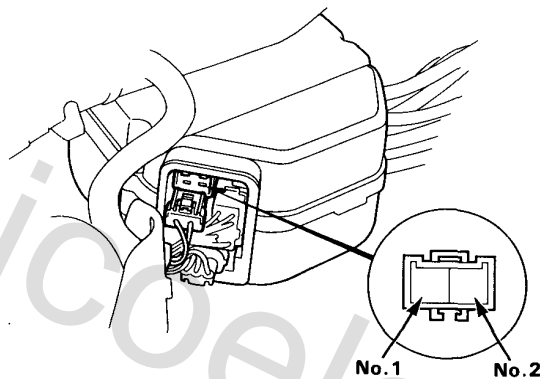
Turn the ignition switch OFF.

Remove BACK UP fuse in the under-hood relay box for 10 seconds to reset control unit.

Disconnect the 2P connector on the control box.

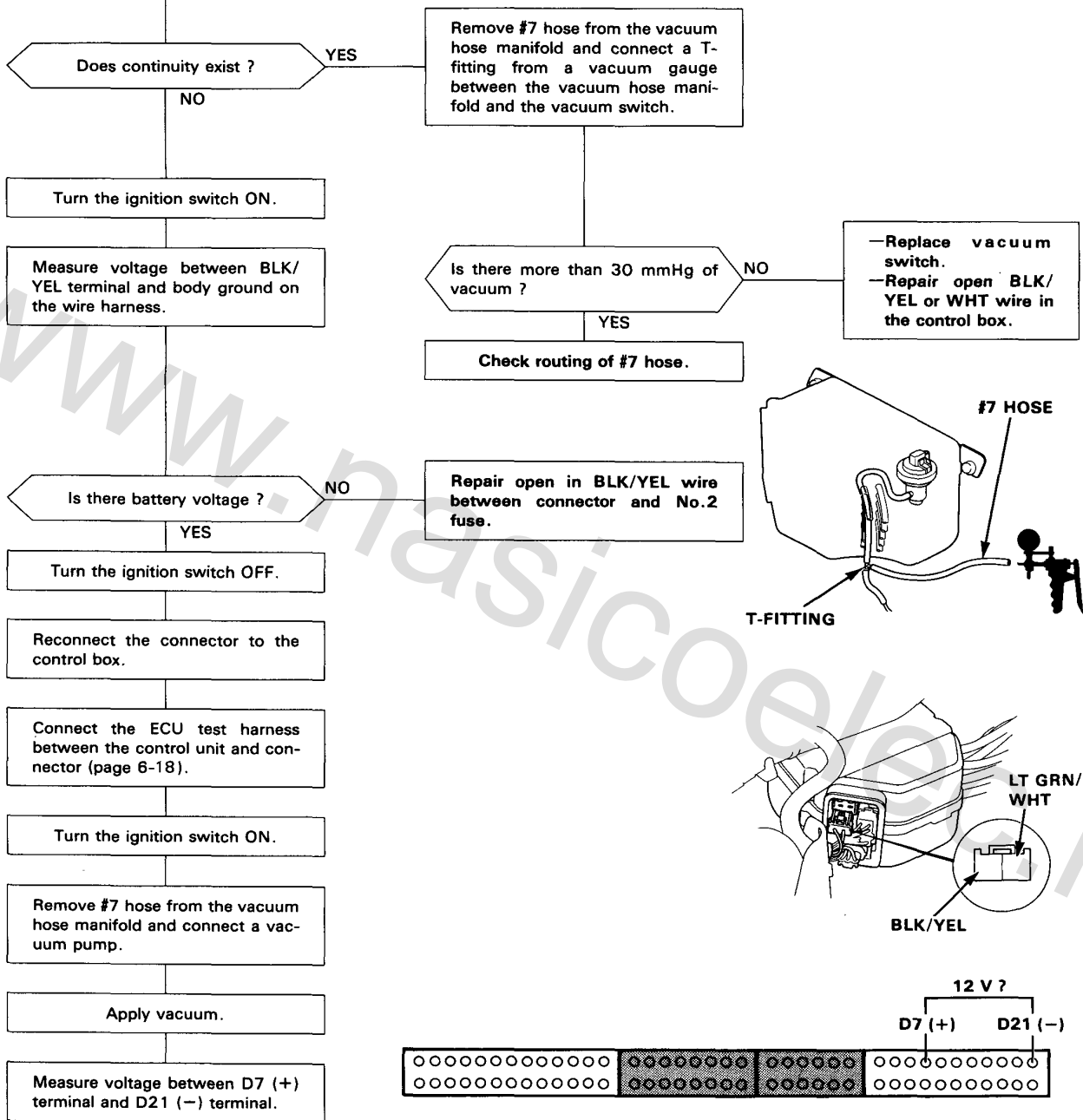
Measure resistance between No. 1 terminal and No.2 terminal on the control box.

(To page 6-27)





(From page 6-26)



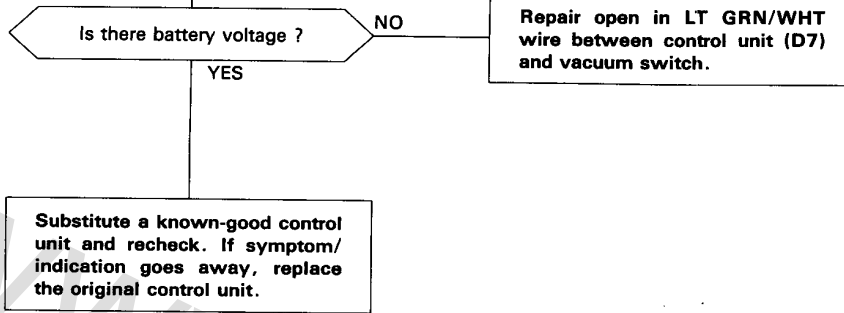
(To page 6-28)

(cont'd)

# PGM-CARB Control System

## Troubleshooting Flow Chart — Vacuum Switch (cont'd)

(From page 6-27)





# Carburetor

## Symptom-to-Sub System Chart

**NOTE:**

- Across each row in the chart, the sub systems that could be sources of a symptom are ranked in the order they should be inspected, starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows the system is OK, try the next system ②, etc.
- Before starting inspection, check that other items that affect engine performance are within specification. Check the self-diagnosis indicator, valve clearance, air cleaner, and PCV valve. In addition, check the ignition timing, function of the vacuum and centrifugal advance, and the condition of the spark plugs. If those items are all within specifications, begin with the troubleshooting listed in pages 6-30 and 6-31.

PAGE	SYSTEM	IDLE SPEED/ MIXTURE	IDLE BOOST	AUTOMATIC CHOKE/ FAST IDLE SYSTEM	AIR VENT CUT-OFF SOLENOID VALVE FLOAT LEVEL
		46	32	—	—
ENGINE WON'T START					①
DIFFICULT TO START ENGINE	WHEN COLD			①	②
	WHEN WARM				②
IRREGULAR IDLING	WHEN COLD FAST IDLE OUT OF SPECIFICATION		②	①	
	WHEN WARM ENGINE SPEED TOO HIGH	①	②	③	
	WHEN WARM ENGINE SPEED TOO LOW	①	①		
	ROUGH IDLE/ FLUCTUATION	①	③		②
FREQUENT STALLING	WHILE WARMING UP		②	①	
	AFTER WARMING UP	①	②		②
POOR PERFORMANCE	MISFIRE OR ROUGH RUNNING			①	①
	LOSS OFF POWER				②
	AFTERBURN	①			
	HESITATION/SURGE				



POWER VALVE	PRIMARY SLOW MIXTURE CUT-OFF SOLENOID VALVE	SLOW AIR JET CONTROL	VACUUM CONTROLLED SECONDARY	ACCELERATOR PUMP
40	—	38	—	—
	②	②		
	①			②
	①	②		
②	②			
		②		
		②		
		③	②	
②	①			
	①	①		
			②	
③			①	③
②				①

# Carburetor

## Idle Control System

### Testing

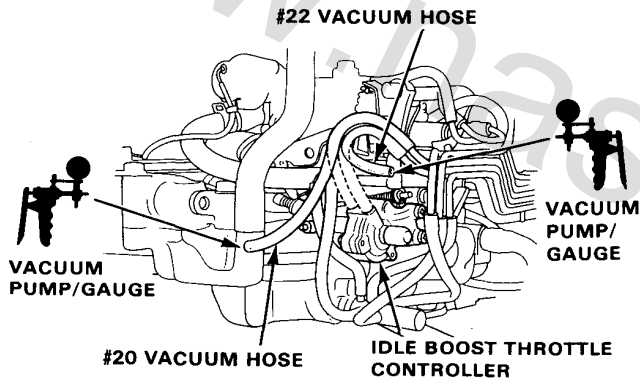
1. Start the engine and warm up to normal operating temperature (the cooling fan comes on).
2. Check the idle speed with headlights, heater blower, rear window defogger, cooling fan and air conditioner off.

Idle speed should be:

Manual	$800 \pm 50 \text{ min}^{-1}$ (rpm)
Automatic	$750 \pm 50 \text{ min}^{-1}$ (rpm) (in "D")

- If OK, go to step 4.
  - If not, go to step 3.
3. Disconnect the two vacuum hoses at idle boost throttle controller and check each for vacuum.

There should be no vacuum in both hoses.



- If there is no vacuum, check the throttle valve shaft for binding or sticking and replace the idle boost throttle controller.
- If there is vacuum at the #20 vacuum hose, go to idle boost solenoid valve troubleshooting (page 6-33).
- If there is vacuum at the #22 vacuum hose, go to A/C idle boost solenoid valve troubleshooting (page 6-35).

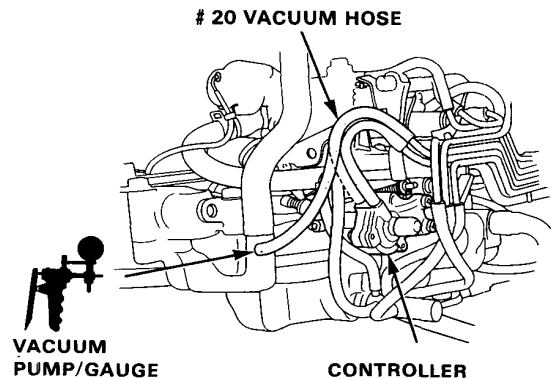
4. Disconnect the connector on the P/S oil pressure switch, and check the idle speed.

Idle speed should be:

Manual	$950 \pm 50 \text{ min}^{-1}$ (rpm)
Automatic	$820 \pm 50 \text{ min}^{-1}$ (rpm) (in "D")

- If OK, go to step 6.
- If not, go to step 5.

5. Disconnect the #20 vacuum hose at idle boost throttle controller and check vacuum wheel is turning. There should be vacuum.



- If there is vacuum, check the throttle valve shaft for binding or sticking and replace the idle boost throttle controller.
- If there is no vacuum, check the #20 and #12 vacuum line for proper connection, cracks, blockage or disconnected hose. If OK, go to the idle boost solenoid valve troubleshooting (page 6-33).

6. Check the idle speed with the A/C on.

Idle speed should be:

Manual	$800 \pm 50 \text{ min}^{-1}$ (rpm)
Automatic	$750 \pm 50 \text{ min}^{-1}$ (rpm) (in "D")

- If not, disconnect the two vacuum hoses at idle boost throttle controller and check each for vacuum.
  - If there is no vacuum at the #20 vacuum hose, check the #20 and #12 vacuum line for proper connection, cracks, blockage or disconnected hose. If OK, go to the idle boost solenoid valve troubleshooting (page 6-33).
  - If there is no vacuum at the #22 vacuum hose, check the #22 and #12 vacuum line for proper connection, cracks, blockage or disconnected hose. If OK, go to the A/C idle boost solenoid valve troubleshooting (page 6-35).



## Troubleshooting Flowchart Idle Boost Solenoid Valve

Inspection of Idle Boost Solenoid Valve.

Open the control box.

Disconnect the lower vacuum hose of the solenoid valve from the joint and connect a vacuum pump.

Disconnect #20 vacuum hose of the solenoid valve from the vacuum hose manifold and connect a vacuum gauge.

Start the engine.

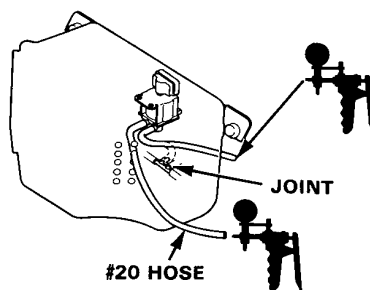
Apply vacuum.

Is vacuum indicated on the gauge ?

NO

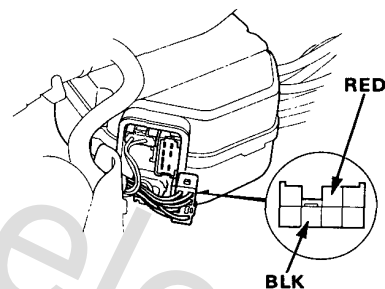
Turn steering wheel slowly.

Apply vacuum.



#20 HOSE

JOINT



RED

BLK

Turn the ignition switch OFF.

Disconnect the connector on the control box.

Start the engine.

Measure voltage between RED (+) and BLK (-) terminals

Is there voltage ?

NO

Replace the solenoid valve.

YES

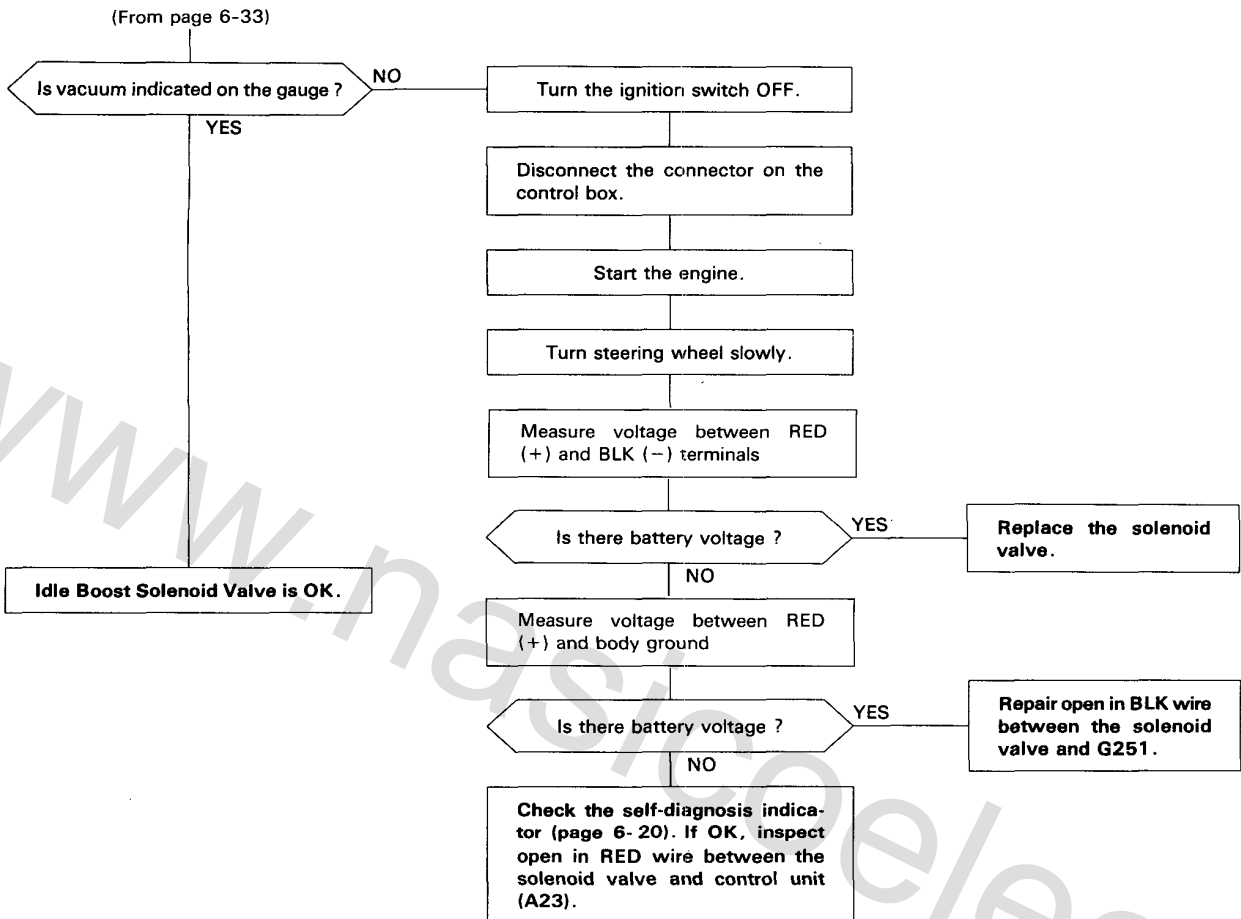
Check the self-diagnosis indicator (page 6-20).  
If OK, check the input troubleshooting (page 6-20).

(To page 6-34)

(cont'd)

# Carburetor

## Idle Control System (cont'd)





### Troubleshooting Flowchart A/C Idle Boost Solenoid Valve

**Inspection of A/C Idle Boost Solenoid Valve**

Open the control box.

Disconnect the lower vacuum hose of the solenoid valve from the joint and connect a vacuum pump.

Disconnect #22 vacuum hose of the solenoid valve from the vacuum hose manifold and connect a vacuum gauge.

Start the engine.

Apply vacuum.

Is vacuum indicated on the gauge ?

YES

Turn the ignition switch OFF.

Blower switch ON.

Disconnect the connector on the control box.

Turn the A/C switch ON.

Start the engine.

Measure voltage between GRN (+) terminal and BLK (-) terminal.

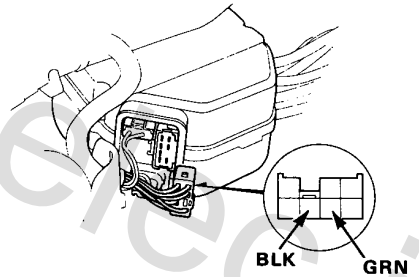
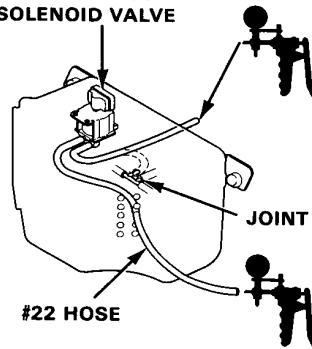
Is there voltage ?

YES

Check the self-diagnosis indicator (page 6-20).  
If OK, check the input troubleshooting (page 6-20).

NO  
Replace the solenoid valve.

**A/C IDLE BOOST SOLENOID VALVE**

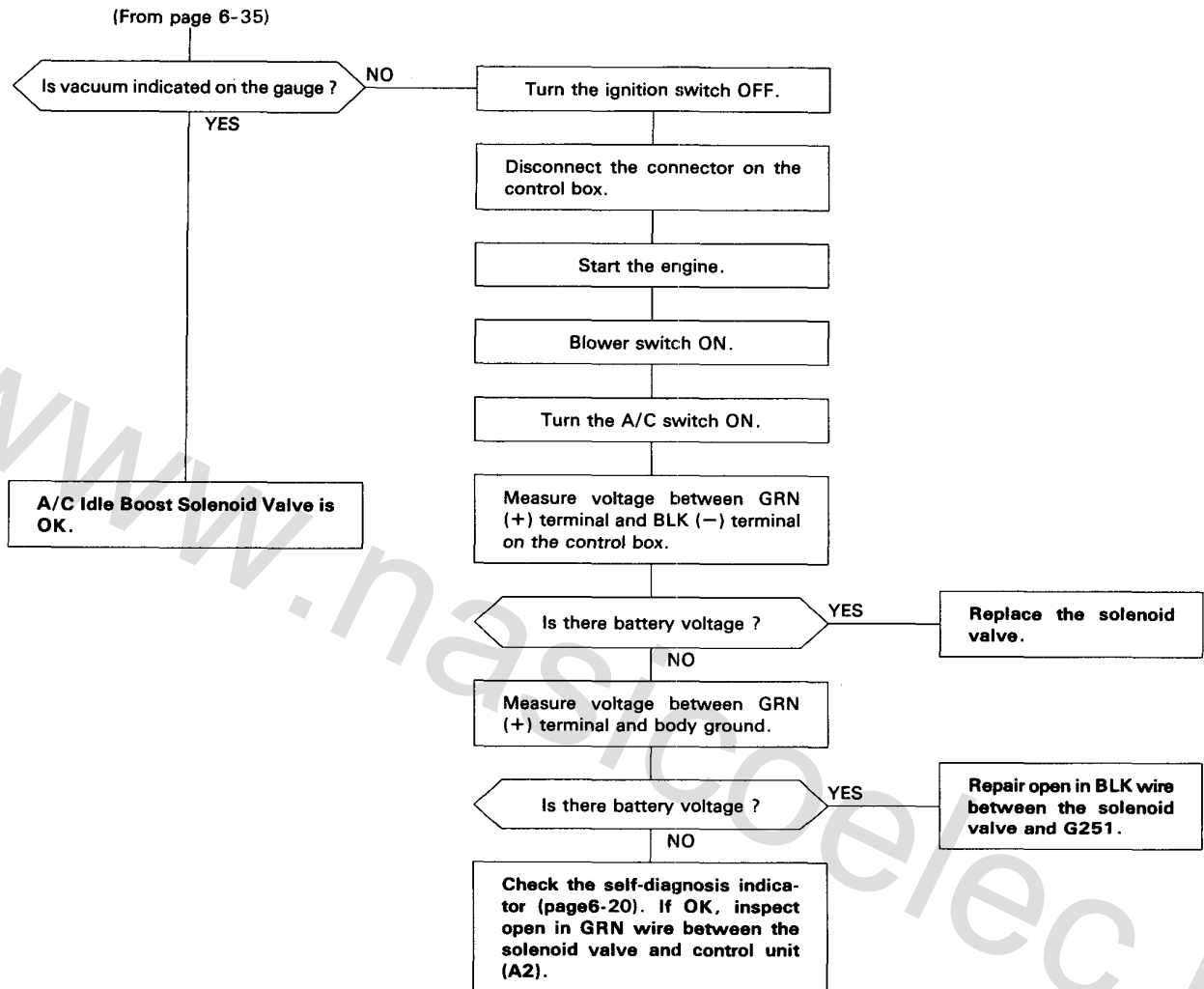


(To page 6-36)

(cont'd)

# Carburetor

## Idle Control System (cont'd)

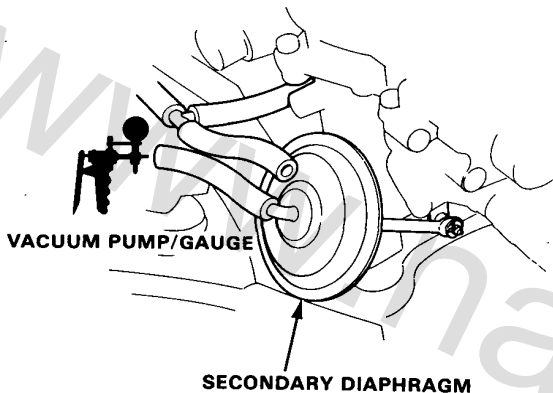




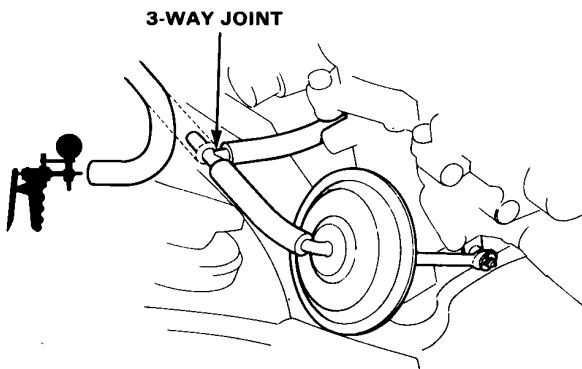
## Vacuum Controlled Secondary

### Testing

1. Disconnect the secondary diaphragm vacuum hose and attach a spare piece of hose between the diaphragm and a vacuum pump.
2. Open the throttle valve fully and apply a vacuum. Check the diaphragm rod moves as vacuum is applied and that the vacuum then remains steady.



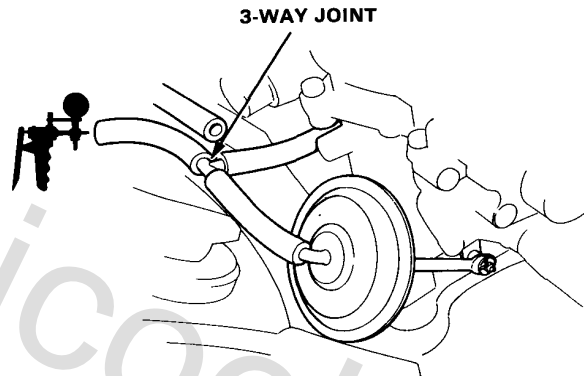
- If the vacuum does not hold or the rod does not move, first check the hose for proper connection and condition, then replace the diaphragm and recheck.
3. Start the engine and warm up to normal operating temperature (the cooling fan comes on).
  4. Disconnect the vacuum hose from the 3-way joint connect a vacuum pump and apply vacuum. It should not hold vacuum.



- If it holds vacuum, check the vacuum line for proper connection or cracks. If OK, go to the air leak solenoid valve troubleshooting (page 6-38).
5. Raise the engine speed to 5,000 min<sup>-1</sup> (rpm), then close the throttle suddenly. And then apply vacuum.

It should hold vacuum.

- If it does not hold vacuum, check the vacuum line for proper connection, blockage or disconnected hose. If OK, go to the air leak solenoid valve troubleshooting (page 6-38).
6. Disconnect the vacuum hose from the 3-way joint and connect to a vacuum pump/gauge. Apply a vacuum. It should not hold vacuum.



- If vacuum does not hold, test is complete.
- If vacuum is held, check the hose, the 3-way joint and clean the vacuum port.



# Carburetor

## Slow Air Jet Control System

### Troubleshooting Flowchart Air Leak Solenoid Valve

Inspection of Air Leak Solenoid Valve.

Disconnect the #2 vacuum hose from the carburetor and connect a vacuum pump, then cap the carburetor.

Start the engine.

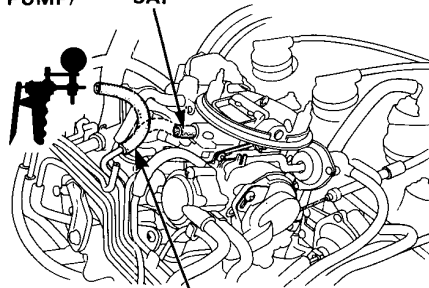
Apply 100 mmHg (4 in. Hg) vacuum to the hose.

Does solenoid valve hold vacuum ?

YES

Raise the engine speed to 5,000 min<sup>-1</sup> (rpm), then close the throttle suddenly.

VACUUM PUMP/  
GAUGE



#2 VACUUM HOSE

NOTE: Engine coolant temperature must be below 63°C (145°F).

Turn the ignition switch OFF.

Disconnect the connector on the control box.

Start the engine.

Measure voltage between BLU/YEL (+) terminal and BLK (-) terminal.

Is there battery voltage ?

YES

Replace the solenoid valve.

NO

Measure voltage between BLU/YEL (+) terminal and body ground.

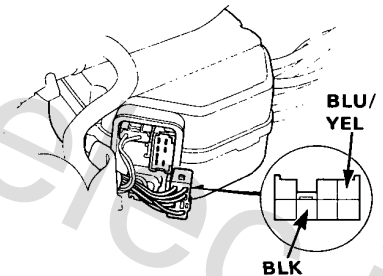
Is there battery voltage ?

YES

Repair open in BLK wire between the solenoid valve and G251.

NO

Check the self-diagnosis indicator (page 6-20). If OK, inspect open in wire between the solenoid valve and control unit (A26).



(To page 6-39)

# Carburetor

## Slow Air Jet Control System

### Troubleshooting Flowchart Air Leak Solenoid Valve

Inspection of Air Leak Solenoid Valve.

Disconnect the #2 vacuum hose from the carburetor and connect a vacuum pump, then cap the carburetor.

Start the engine.

Apply 100 mmHg (4 in. Hg) vacuum to the hose.

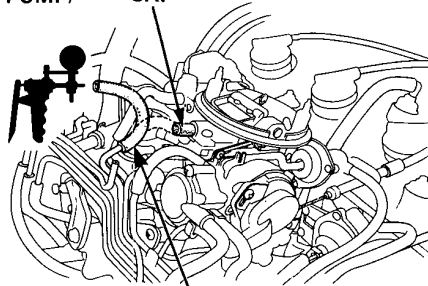
Does solenoid valve hold vacuum ?

YES

Raise the engine speed to 5,000 min<sup>-1</sup> (rpm), then close the throttle suddenly.

VACUUM PUMP/  
GAUGE

CAP



#2 VACUUM HOSE

NOTE: Engine coolant temperature must be below 63°C (145°F).

NO

Turn the ignition switch OFF.

Disconnect the connector on the control box.

Start the engine.

Measure voltage between BLU/YEL (+) terminal and BLK (-) terminal.

Is there battery voltage ?

YES

Replace the solenoid valve.

NO

Measure voltage between BLU/YEL (+) terminal and body ground.

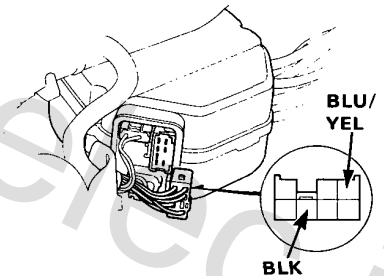
Is there battery voltage ?

YES

Repair open in BLK wire between the solenoid valve and G251.

NO

Check the self-diagnosis indicator (page 6-20). If OK, inspect open in wire between the solenoid valve and control unit (A26).



(To page 6-39)



(From page 6-38)

Apply 100 mmHg (4 in.Hg) vacuum to the hose.

Does solenoid valve hold vacuum ?

YES

Turn the ignition switch OFF.

Disconnect the connector on the control box.

Start the engine.

Raise the engine speed to 5,000  $\text{min}^{-1}$  (rpm), then close the throttle suddenly.

Measure voltage between BLU/YEL (+) terminal and BLK (-) terminal.

Is there voltage ?

YES

Check the self-diagnosis indicator (page 6-20). If OK, check the input troubleshooting (page 6-20).

NO

Replace the solenoid valve.

NO

Air Leak Solenoid Valve is OK.

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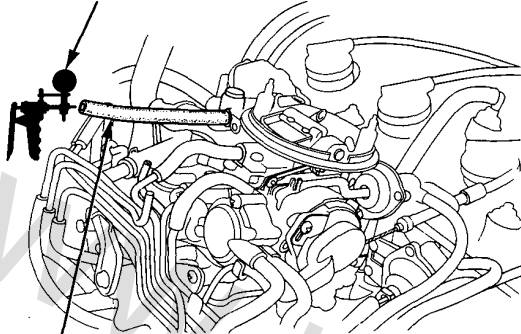
# Carburetor

## Power Valve

### Testing

1. Disconnect the #14 vacuum hose from the vacuum hose manifold and connect a vacuum pump. Apply vacuum and listen for a clicking noise from the power valve.

VACUUM PUMP/GAUGE

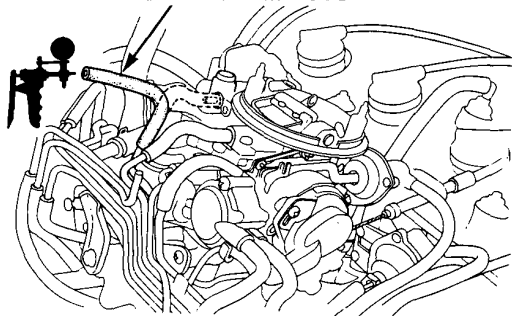


#14 VACUUM HOSE

- If a clicking sound is heard, go on to step 2.
- If no sound is heard, replace the power valve and retest.

2. Disconnect the #14 vacuum hose from the carburetor and connect a vacuum gauge to the hose.

#14 VACUUM HOSE



3. Start the engine and check the vacuum.  
There should be no vacuum for about 3 seconds after the engine is started. And there should be vacuum within 15 seconds after the engine is started.  
NOTE: The engine coolant temperature must be below 30°C (86°F).

- If not, check the #14 and #12 vacuum line for proper connection, cracks, blockage or disconnected hose. If OK, go to the power valve control solenoid valve troubleshooting (page 6-41).

4. Warm up to normal operating temperature (the cooling fan comes on).

5. Check the vacuum.

There should be vacuum.

- If not, check the #14 and #12 vacuum line for proper connection, cracks, blockage or disconnected hose. If OK, go to the power valve control solenoid valve troubleshooting (page 6-41).



### Troubleshooting Flowchart Power Valve Control Solenoid Valve

Inspection of Power Valve control Solenoid Valve.

Open the control box.

Disconnect the lower vacuum hose of the solenoid valve from the joint and connect a vacuum pump.

Disconnect #14 vacuum hose of the solenoid valve from the vacuum hose manifold and connect a vacuum gauge.

Start engine.

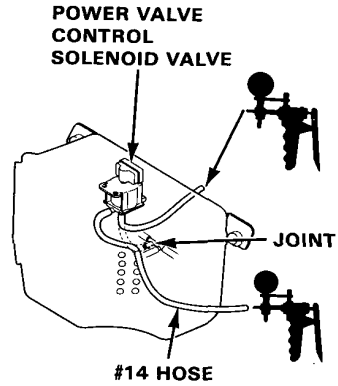
Apply vacuum for about 3 seconds after the engine is started.

Is vacuum indicated on the gauge ?

NO

Warm up engine to normal operating temperature (cooling fan comes on).

(To page 6-42)



NOTE: The engine coolant temperature must be below 30°C (86°F)

Turn the ignition switch OFF.

Disconnect the connector on the control box.

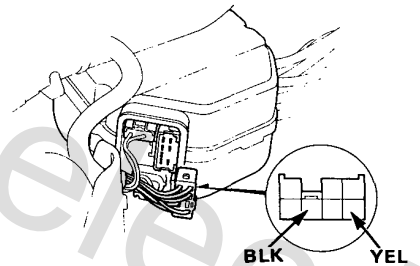
Start the engine.

Measure voltage between YEL (+) terminal and BLK (-) terminal.

Is there voltage ?

NO

Replace the solenoid valve.

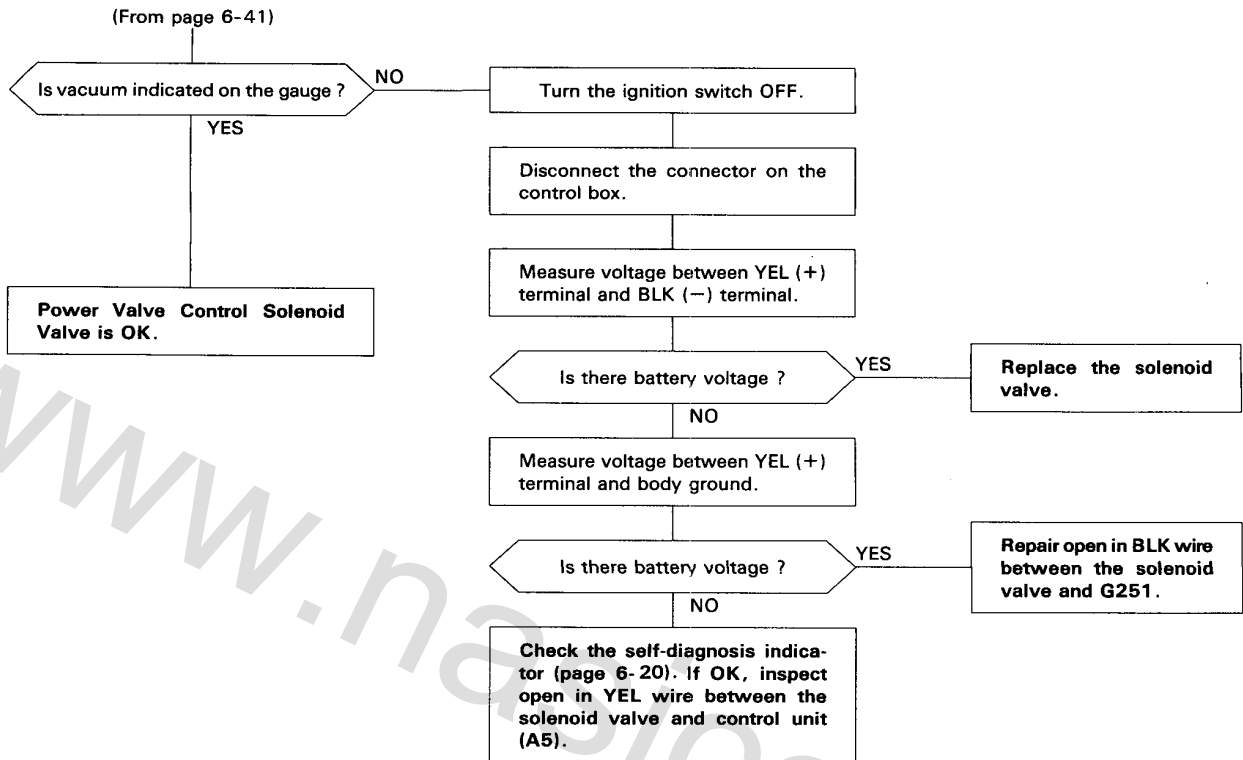


Check the self-diagnosis indicator (page 6-20). If OK, substitute a known-good control unit and retest. If symptom goes away, replace the original control unit.

(cont'd)

# Carburetor

## Power Valve (cont'd)





## Idle Speed/Mixture

(KS, KG)

### Inspection/Adjustment

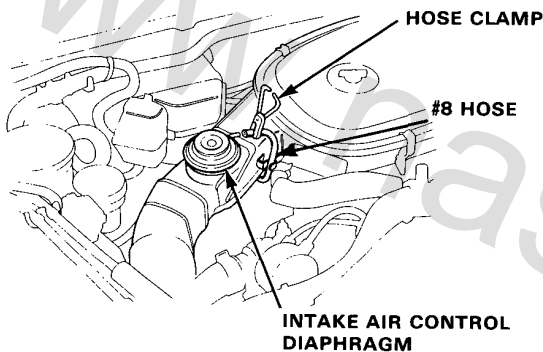
#### Propane Enrichment Method

**⚠ WARNING** Do not smoke during this procedure. Keep any open flame away from your work area.

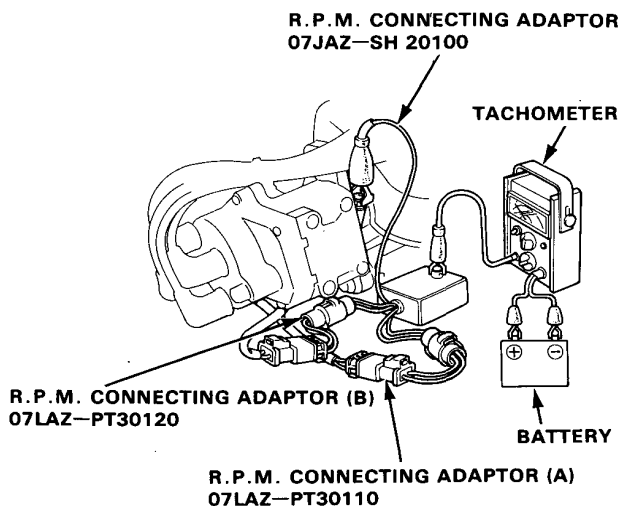
#### NOTE:

- This procedure requires a propane enrichment kit.
- Check that the self diagnosis indicator before making idle speed and mixture inspections.

1. Start the engine and warm up to normal operating temperature (the cooling fan comes twice).
2. Disconnect the #8 vacuum hose from the intake air control diaphragm and clamp the hose end.

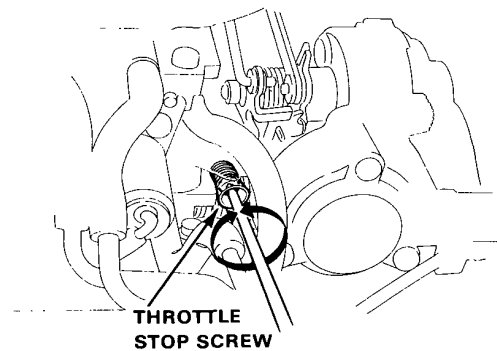


3. Connect a tachometer.



4. Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at  $2,500-3,000 \text{ min}^{-1}$  (rpm) for 1 minute. Check idle speed with the headlights, heater blower, rear window defogger, cooling fan and air conditioner off (with DAY LIGHT: headlights on). Idle speed should be:

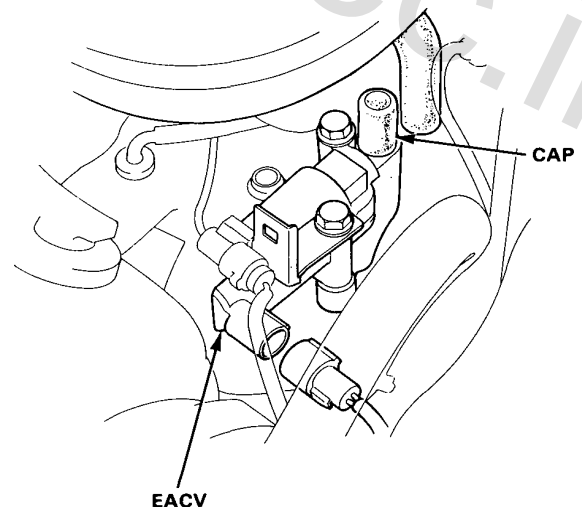
Manual	$800 \pm 50 \text{ min}^{-1}$ (rpm)
Automatic	$750 \pm 50 \text{ min}^{-1}$ (rpm) (in "D")



Adjust the idle speed, if necessary, by turning the throttle stop screw.

NOTE: If the idle speed is excessively high, check the throttle control system (page 6-59)

5. Disconnect the 2P connector from the EACV and disconnect the hose from the EACV, then cap the EACV.



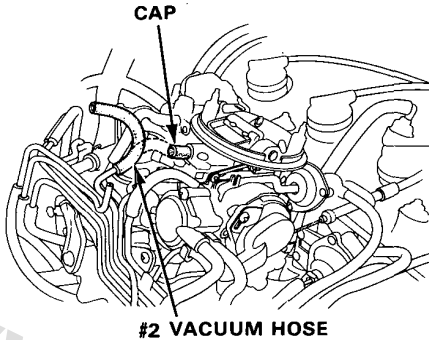
EACV

(cont'd)

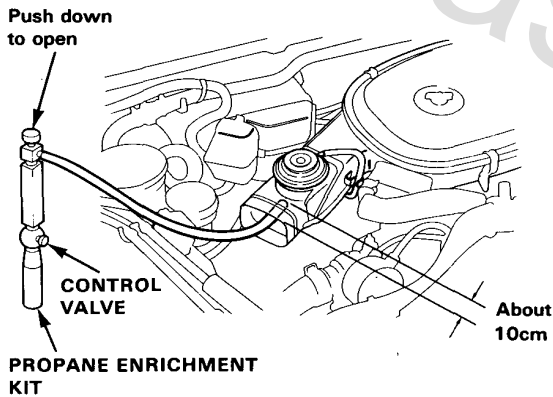
# Carburetor

## Idle Speed/Mixture (cont'd)

6. Disconnect the #2 vacuum hose from the carburetor, then cap the carburetor.

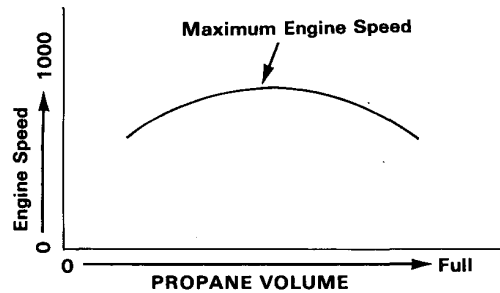


7. Disconnect air cleaner intake tube from air intake duct.
8. Insert the hose of the propane enrichment kit into the intake tube about 10 cm.  
NOTE: Check that propane bottle has adequate gas before beginning test.



9. With engine idling, depress push button on top of propane device, then slowly open the propane control valve to obtain maximum engine speed. Engine speed should increase as percentage of propane injected goes up.

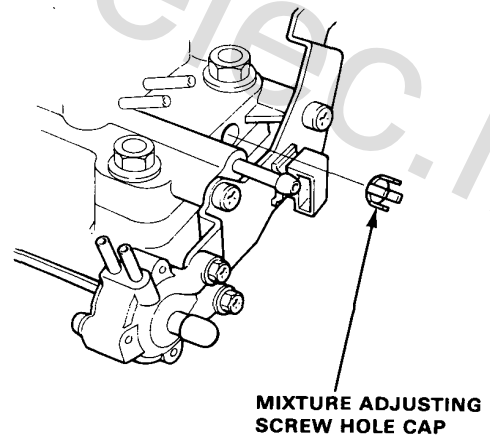
NOTE: Open the propane control valve slowly; a sudden burst of propane may stall the engine.



Engine speed increase should be:

Manual	$160 \pm 20 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$50 \pm 10 \text{ min}^{-1} \text{ (rpm)}$ (in "D")

- If engine speed does not increase per specification, mixture is improperly adjusted. Go to step 10.
  - If engine speed increases per specification, go to step 14.
10. Remove the air cleaner and close the propane control valve.
11. Remove the mixture adjusting screw hole cap.







12. Start engine and warm up to normal operating temperature ; the cooling fan will come on.
13. Reinstall the propane enrichment kit and recheck maximum propane enriched engine speed.

- If the propane enriched speed is too low, mixture is too rich: turn the mixture screw 1/4-turn clockwise and recheck.
- If the propane enriched speed is too high, mixture is too lean: turn the mixture screw 1/4-turn counter-clockwise and recheck.

14. Close the propane control valve speed and remove the BACK UP fuse for 10 seconds to reset control unit. Recheck idle speed.

**Idle speed should be:**

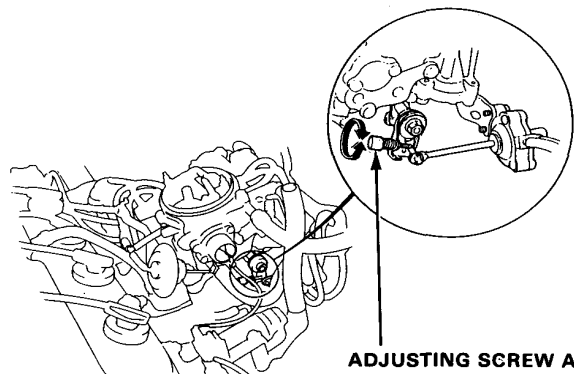
Manual	$800 \pm 50 \text{min}^{-1}$ (rpm)
Automatic	$750 \pm 50 \text{min}^{-1}$ (rpm) (in "D")

- If idle speed is as specified (step 4), go to step 15.
- If idle speed is not as specified, adjust by turning throttle stop screw, then repeat steps 13 and 14.

15. Remove propane enrichment kit and reconnect air cleaner intake tube on the air intake duct.
16. Reinstall the mixture adjusting screw hole cap.
17. Disconnect the connector on the P/S oil pressure switch, and check the idle speed.

**Idle speed should be:**

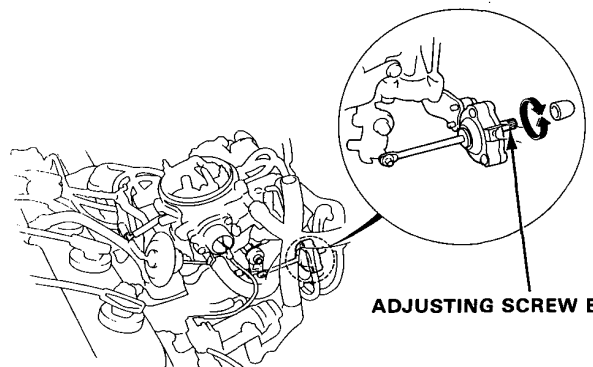
Manual	$950 \pm 50 \text{min}^{-1}$ (rpm)
Automatic	$820 \pm 50 \text{min}^{-1}$ (rpm) (in "D")



Adjust the idle speed, if necessary, by turning the adjusting screw A.

18. If equipped with air conditioner, check the idle speed with the A/C on (with DAY LIGHT: headlights on). **Idle speed should be:**

Manual	$800 \pm 50 \text{min}^{-1}$ (rpm)
Automatic	$750 \pm 50 \text{min}^{-1}$ (rpm) (in "D")



Adjust the idle speed, if necessary, by turning the adjusting screw B.

(cont'd)

# Carburetor

## Idle Speed / Mixture (cont'd)

(Except KS, KG, KQ)

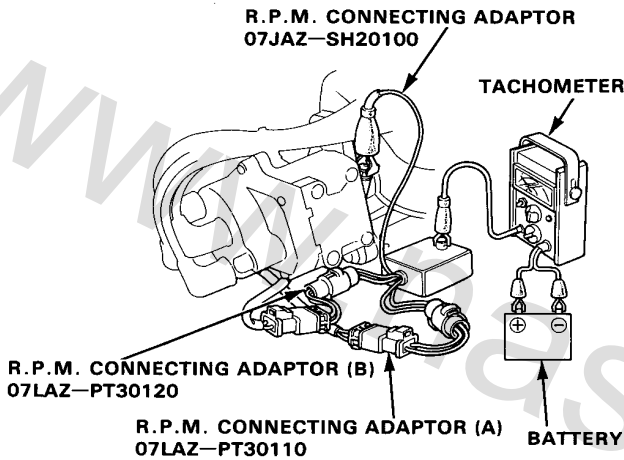
### CO Meter Method

**⚠ WARNING** Do not smoke during this procedure. Keep any open flame away from your work area.

#### NOTE:

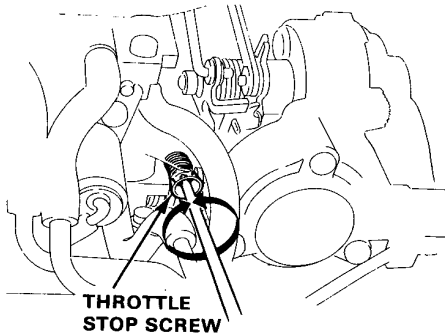
- Check that the self-diagnosis indicator (KX, KE with CATA) before making idle speed and mixture inspections.

1. Start the engine and warm it up to normal operating temperature (the cooling fan comes twice).
2. Connect a tachometer.



3. Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500–3,000 $\text{min}^{-1}$  (rpm) for 1 minute. Check idle speed with the headlights, heater blower, rear window defogger, cooling fan and air conditioner off (with DAY LIGHT: headlights on).  
Idle speed should be:

Manual	800 $\pm$ 50 $\text{min}^{-1}$ (rpm)
Automatic	750 $\pm$ 50 $\text{min}^{-1}$ (rpm)(in "D")



Adjust the idle speed, if necessary, by turning the throttle stop screw.

NOTE: If the idle speed is excessively high, check the throttle control system (page 6-59)

4. Calibrate the NDIR CO Meter in accordance with the manufacturer's recommended procedures. Insert exhaust gas sampling probe into the tailpipe at least 40 cm.
5. Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500–3,000  $\text{min}^{-1}$  (rpm) for 1 minute. Check specification for idle CO with cooling fan, air conditioner OFF and headlights OFF.

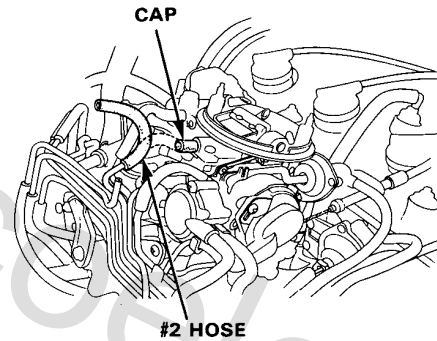
#### Specified CO%:

KX, KE with CATA: 0.1%

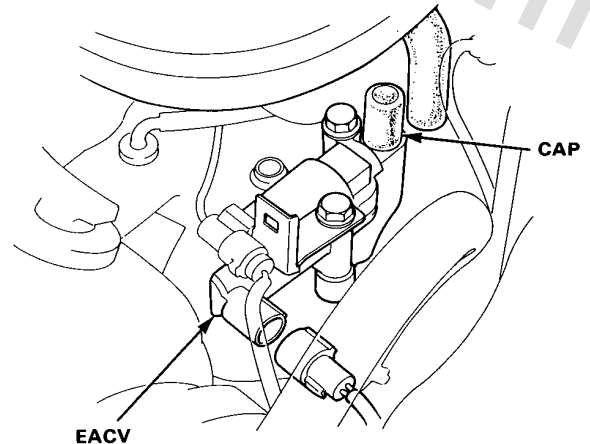
Except KX, KE with CATA: 1 $\pm$ 1%

- If idle CO is as specified, go to step 14.
- If not, go to step 6 through 13.

6. KX :  
Disconnect the #2 vacuum hose from the carburetor, then cap the carburetor.

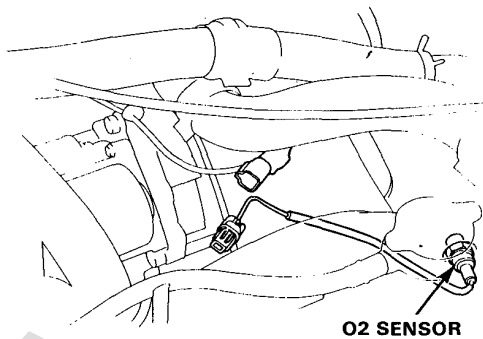


7. KX:  
Disconnect the 2P connector from the EACV and disconnect the hose from the EACV, then cap the EACV.

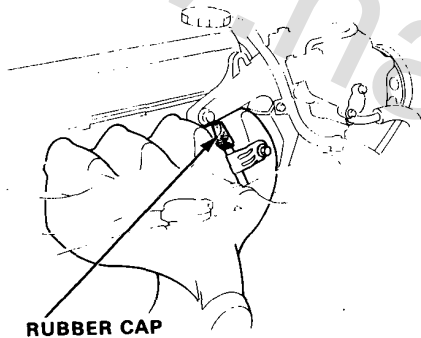




8. **KX:**  
Disconnect the wire harness from the O<sup>2</sup> sensor.



9. **KX:**  
Remove the rubber cap from the gas pipe.



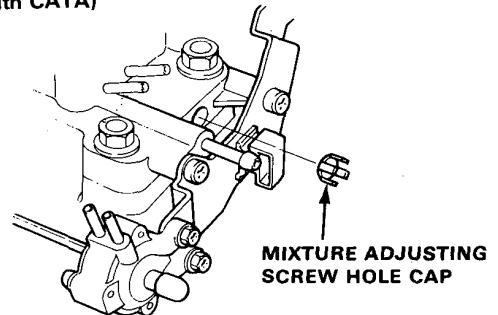
10. **KX:**  
Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500–3,000 min<sup>-1</sup> (rpm) for 1 minute. Check specification for idle CO.

**Specified CO%;**  
**KX: 2.3 ± 1.0%**  
**KE with CATA: 2.5 ± 0.5%**

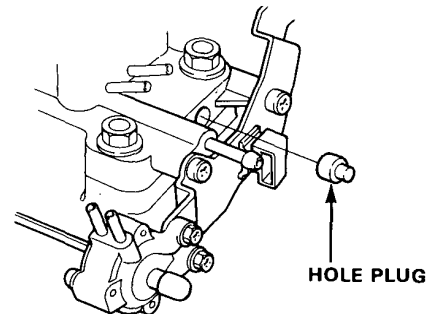
- If not, specification, go to step 11.

11. Remove mixture adjusting screw hole plug and adjust by turning mixture adjusting screw to obtain proper CO reading.

(KX, KE with CATA)



(Except KX, KE with CATA)



— Turning mixture adjusting screw

clockwise: CO reading decreases  
counterclockwise: CO reading increases

Readjust idle speed if necessary, and recheck idle CO.

12. **KX:**  
Reconnect the connector and hose. Remove BACK UP fuse for 10 seconds to reset control unit.
13. **KX, KE with CATA**  
Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500–3,000 min<sup>-1</sup> (rpm) for 1 minute. Recheck idle CO.

**Specified CO%: 0.1%**

- If idle CO is as specified, go to step 14.
- If not, check the self-diagnosis indicator (page 6-20). If not, inspect the EACV and the catalytic converter (page 6-53), then repeat step 6.

14. Recheck idle speed.  
**Idle speed should be:**

Manual	800 ± 50 min <sup>-1</sup> (rpm)
Automatic	750 ± 50 min <sup>-1</sup> (rpm) (in "D")

(cont'd)

# Carburetor

## Idle Speed/Mixture (cont'd)

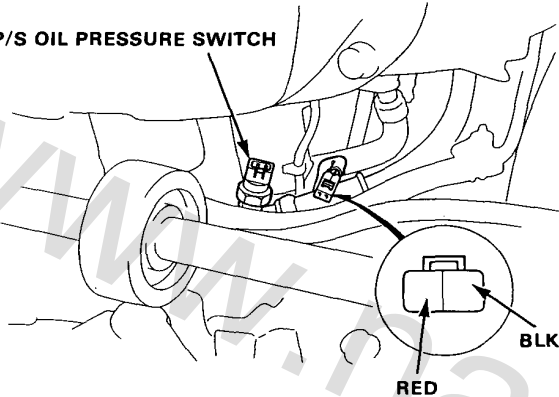
- If idle speed is as specified, go to step 15.
- If idle speed is not as specified, adjust by turning throttle stop screw, then repeat step 5.

15. Reinstall the mixture adjusting screw hole cap.

16. Disconnect the connector on the P/S oil pressure switch.

Except KX, KE with CATA; Connect a jumper wire between the RED terminal and the BLK terminal.

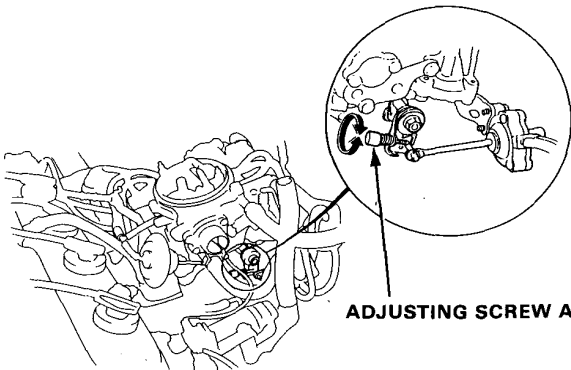
P/S OIL PRESSURE SWITCH



17. Check the idle speed.

Idle speed should be :

Manual	$950 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$820 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (in "D")

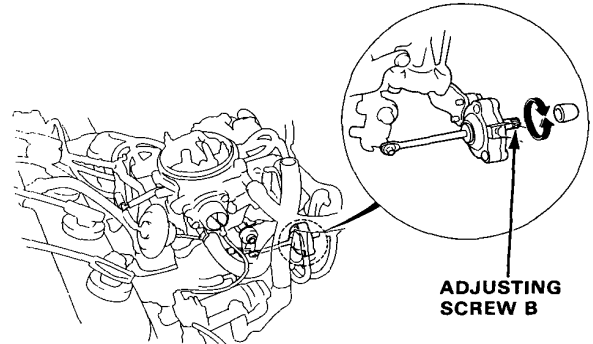


Adjust the idle speed, if necessary, by turning the adjusting screw A.

18. If equipped with air conditioner, check the idle speed with the A/C on.

Idle speed should be:

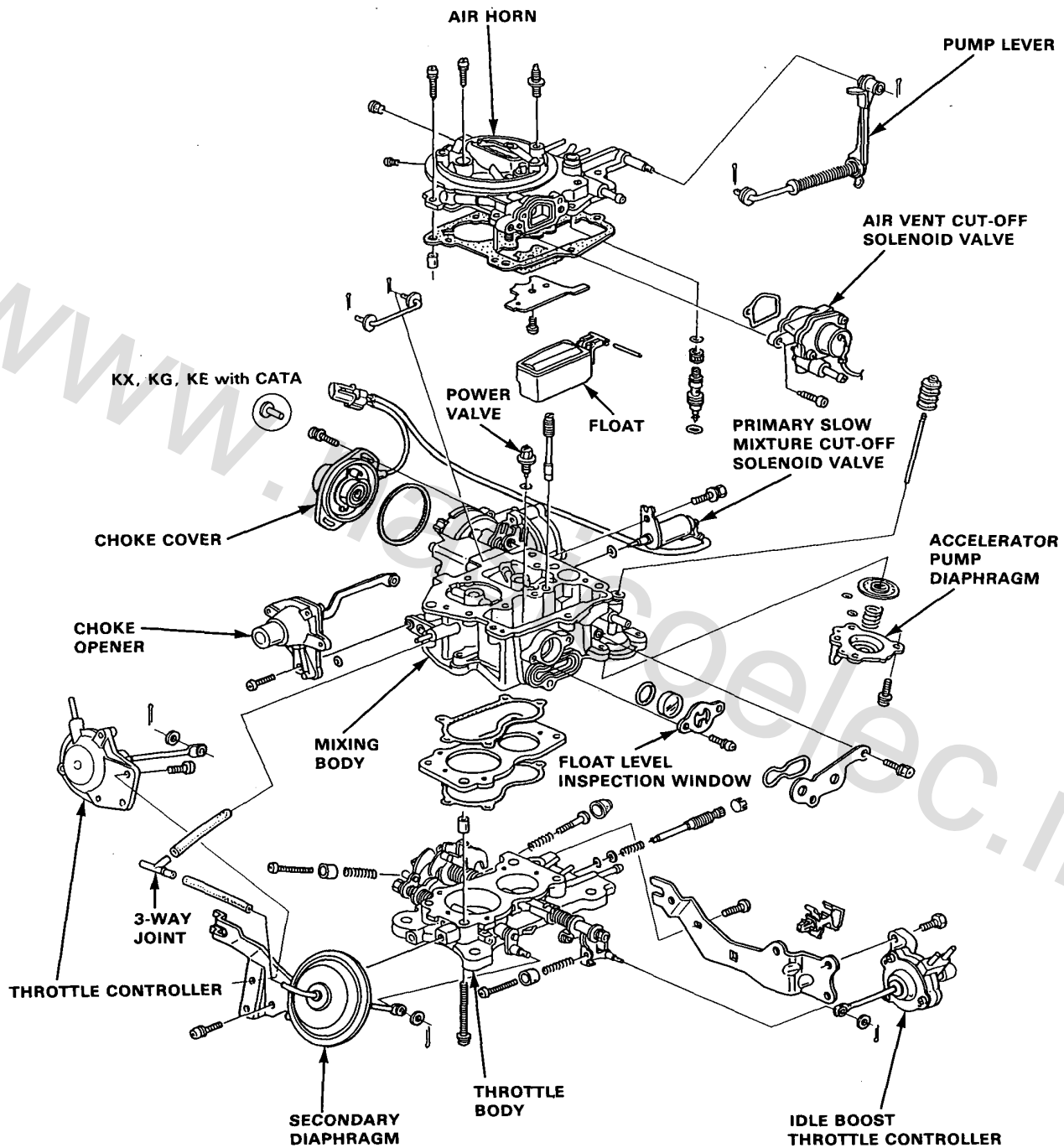
Manual	$800 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$750 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (in "D")



Adjust the idle speed, if necessary, by turning the adjusting screw B.



# Replacement



# Fuel Supply System

## Symptom-to-sub System Chart

**NOTE:**

- Across each row in the chart, the sub systems that could be sources of a symptom are ranked in the order they should be inspected, starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows the system is OK, try the next system ②, etc.
- Before starting inspection, check that other items that affect engine performance are within specification. Check the self-diagnosis indicator, valve clearance, air cleaner, and PCV valve. In addition, check the ignition timing, function of the vacuum and centrifugal advance, and the condition of the spark plugs. If those items are all within specifications, begin with the troubleshooting listed in this page.

PAGE		SYSTEM	FUEL FILTERS	FUEL PUMP	FUEL CUT-OFF RELAY	FUEL TANK	CONTAMINATED FUEL
SYMPTOM			---	---	---	---	*
ENGINE WON'T START			③	①	②		②
POOR PERFORMANCE	MISFIRE OR ROUGH RUNNING		①				①
	LOSS OF POWER		①				①

\* Fuel with dirt, water or a high percentage of alcohol is considered contaminated.

# Air Intake System



## Symptom-to-Sub System Chart

**NOTE:**

- Across each row in the chart, the sub systems that could be sources of a symptom are ranked in the order they should be inspected, starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows the system is OK, try the next system ②, etc.
- Before starting inspection, check that other items that affect engine performance are within specification. Check the self-diagnosis indicator, valve clearance, air cleaner, PCV valve. In addition, check the ignition timing, function of the vacuum and centrifugal advance, and the condition of the spark plugs. If those items are all within specifications, begin with the troubleshooting listed in this page.

PAGE	SYSTEM	THROTTLE CABLE	AIR INTAKE CONTROL
SYMPTOM		—	—
LOSS OF POWER			①
AFTERBURN			①
HESITATION/SURGE			①

# Emission Control System

## Symptom-to-sub System Chart

**NOTE:**

- Across each row in the chart, the sub systems that could be sources of a symptom are ranked in the order they should be inspected, starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows the system is OK, try next system ②, etc.
- Before starting inspection, check that other items that affect engine performance are within specification. Check the self-diagnosis indicator, valve clearance, air cleaner, and PCV valve. In addition, check the ignition timing, function of the vacuum and centrifugal advance, and the condition of the spark plugs. If those items are all within specifications, begin with the troubleshooting listed in this page.

PAGE		SYSTEM	FEEDBACK CONTROL	THROTTLE CONTROL	EGR	EVAPORATIVE CONTROL	AIR INJECTION
SYMPTOM			—	59	57	60	54
ENGINE WON'T START					②	①	
DIFFICULT TO START ENGINE	WHEN COLD	①	②	②	②	①	
	WHEN WARM	①	②	③	③	①	
IRREGULAR IDLING	WHEN COLD FAST IDLE OUT OF SPECIFICATION	①	②	②	②		
	WHEN WARM ENGINE SPEED TOO HIGH		①				
	WHEN WARM ENGINE SPEED TOO LOW	①		②	②		
	ROUGH IDLE/ FLUCTUATION	①			②		
FREQUENT STALLING	WHILE WARMING UP	①			②		
	AFTER WARMING UP	①			②		
POOR PERFORMANCE	MISFIRE OR ROUGH RUNNING	②			①		
	LOSS OFF POWER	①				①	
	AFTERBURN	①		②			②
	HESITATION/SURGE	①			②		





## Tailpipe Emissions

### Inspection

**NOTE:** It is not possible to use a CO meter to adjust the idle mixture; the effect of the catalytic converter prevents accurate tracking of such small changes in air-fuel ratio.

**▲ WARNING** Do not smoke during this procedure. Keep any open flame away from your work area.

1. KS, KG:  
Check the idle speed/mixture using the propane enrichment method.
2. Warm up and calibrate the CO meter according to the meter manufacturer's instructions.
3. Start the engine and warm it up to normal operating temperature (the cooling fan comes on twice).
4. Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500–3,000 min<sup>-1</sup> (rpm) for 1 minute.
5. Check idle CO with the headlights, heater blower, rear window defogger, cooling fan, and air conditioner off.

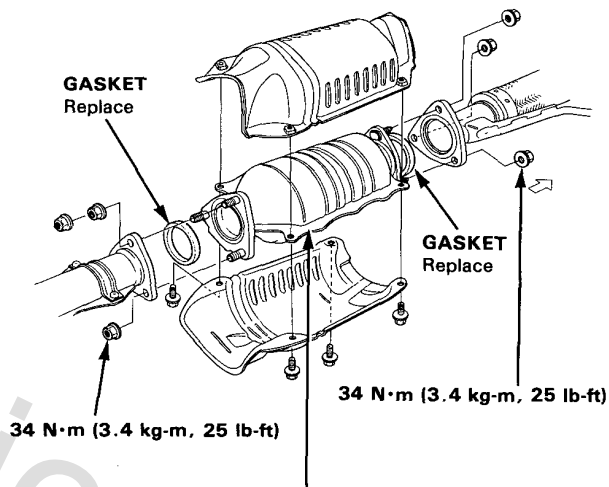
### Specified CO %:

KX, KS, KG, KE with CATA: below 0.1%  
Except KX, KS, KG, KE with CATA: 1.0 ± 1.0%

## Catalytic Converter

### Inspection

If excessive exhaust system back-pressure is suspected, remove the catalytic converter from the car and make a visual check for plugging, melting or cracking of the catalyst. Replace the catalytic converter if any of the visible area is damaged or plugged.



### CATALYTIC CONVERTER

Removal Installation, section 5  
Inspect housing for cracks or other damage.  
Inspect element for clogging by looking through the inside.

# Emission Control System

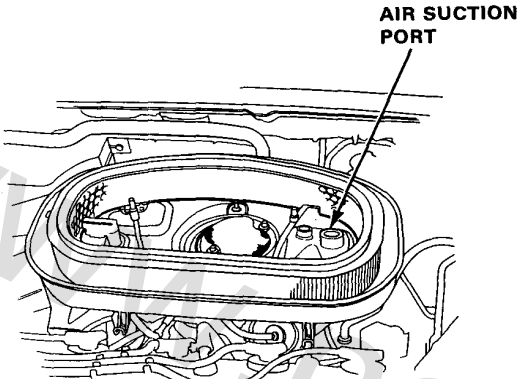
## Air Injection Control

### Testing

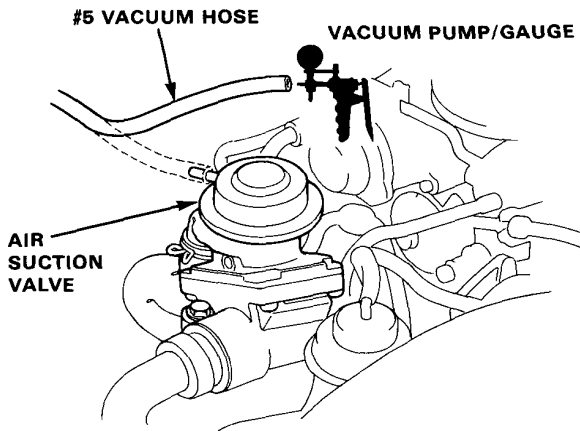
1. Start the engine.
2. Remove the air cleaner cover and filter.
3. Start the engine and check for a bubbling noise from the air suction port idle.

A bubbling noise should not be heard.

NOTE: Engine coolant temperature must be below 30°C (86°F)



- If a bubbling noise is heard, disconnect the #5 vacuum hose from the air suction valve and connect a vacuum pump. There should be no vacuum.



- If there is no vacuum, replace air suction valve and retest.
- If there is vacuum, go to troubleshooting (page 6-55).

4. Warm up to normal operating temperature.  
NOTE: Engine coolant temperature must be below 70°C (158°F).

A bubbling noise should be heard.

- If bubbling noise is not heard, disconnect the #5 vacuum hose from the air suction valve and connect a vacuum pump.

There should be vacuum.

- If there is vacuum, replace the air suction valve and retest.
- If there is no vacuum, check the #5 and #12 vacuum line for proper connection, cracks, blockage or disconnected hose. If OK, go to troubleshooting (page 6-55).



### Troubleshooting Flow Chart Air Suction Control Solenoid Valve

Inspection of Air Suction Control Solenoid Valve.

Open the control box lid.

Disconnect the lower vacuum hose of the solenoid valve from the joint and connect a vacuum pump.

Disconnect the #5 vacuum hose of the solenoid valve from the vacuum hose manifold and connect a vacuum gauge.

Start the engine.

Apply vacuum.

Does solenoid valve hold vacuum ?

NO

Turn the ignition switch OFF.

Disconnect the connector on the control box.

Warm up normal operating temperature.

NOTE: Engine coolant temperature must be below 70 °C (158 °F)

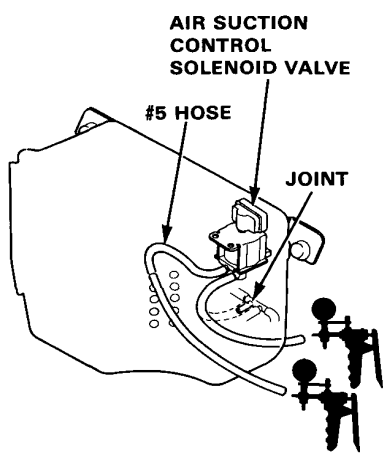
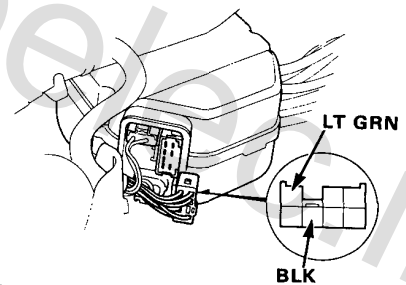
Start the engine.

Measure voltage between LT GRN (+) and BLK (-) terminals

Is there voltage ?

NO

Replace the solenoid valve.



NOTE: Engine coolant temperature must be below 30 °C (86 °F)

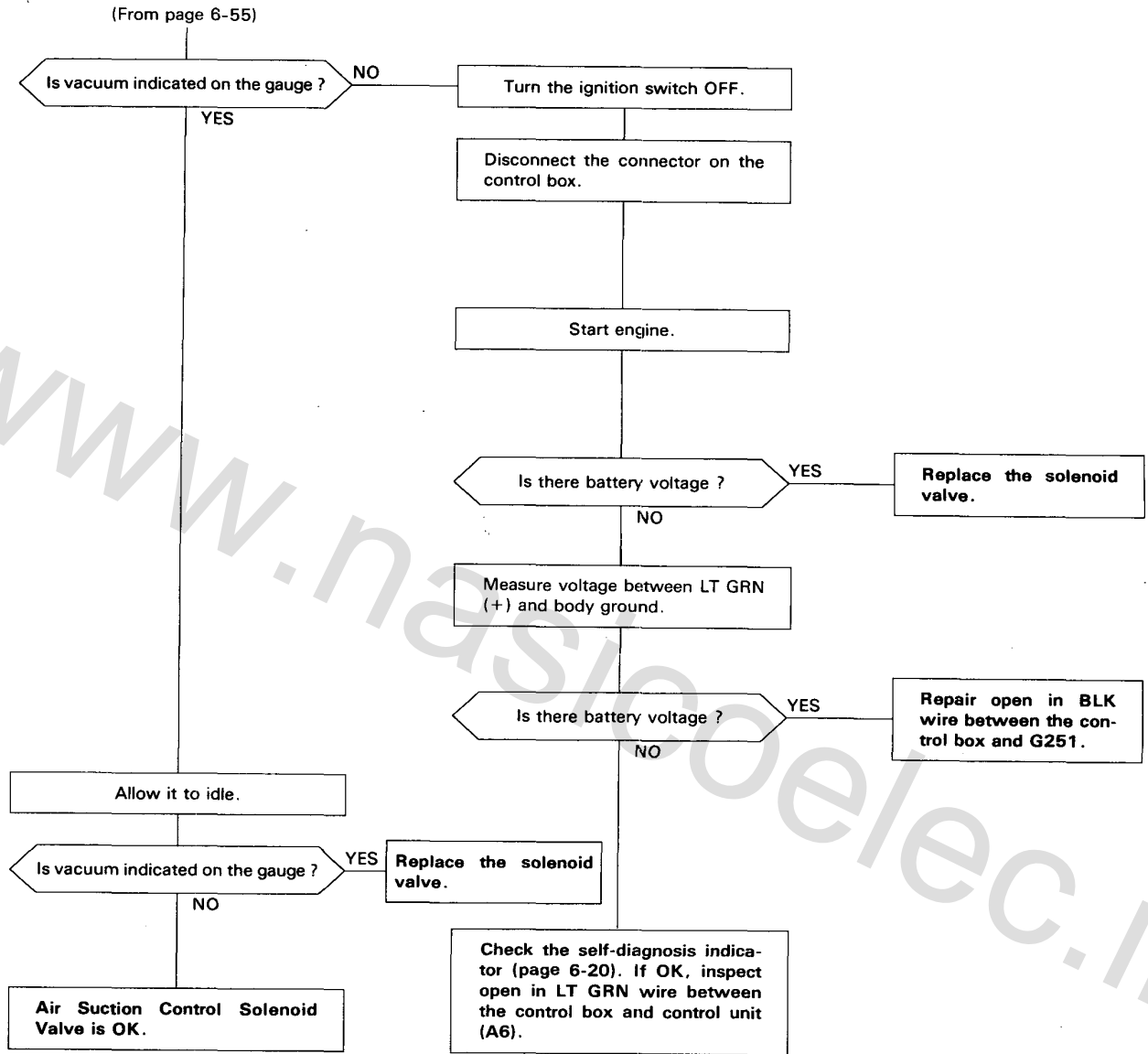
Check the self-diagnosis indicator (page 6-20). If OK, substitute a known-good control unit and retest. If symptom goes away, replace the original control unit.

(To page 6-56)

(cont'd)

# Emission Control System

## Air Injection Control (cont'd)



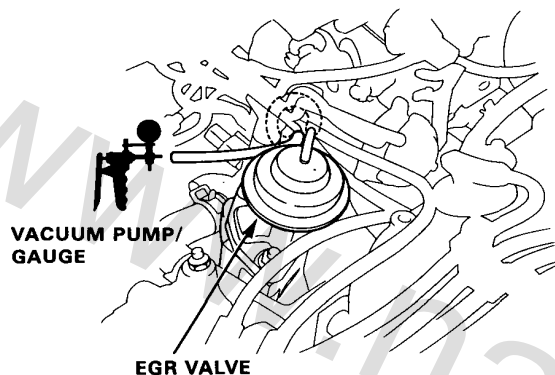


## EGR System

### Testing (COLD ENGINE)

NOTE: The engine coolant temperature must be below the thermostatic valve B set temperature (55°C, 131°F).

1. Disconnect the vacuum hose from the EGR valve and connect a vacuum gauge to the hose.



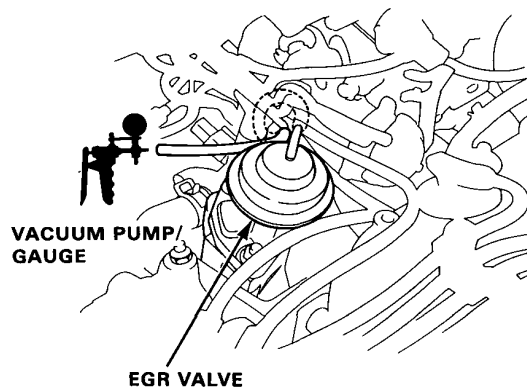
2. Start the engine and raise the engine speed to 3,000  $\text{min}^{-1}$  (rpm)

Vacuum should not be available.

- If vacuum is not available, go on to the hot engine inspection (right column).
- If vacuum is available, replace thermostatic valve B and retest.

### Testing (HOT ENGINE)

1. Disconnect the vacuum hose from the EGR valve and connect a vacuum gauge to the hose.



2. Start the engine and wait for the cooling fan to come on.
3. Remove the control box and remove the control box cover.

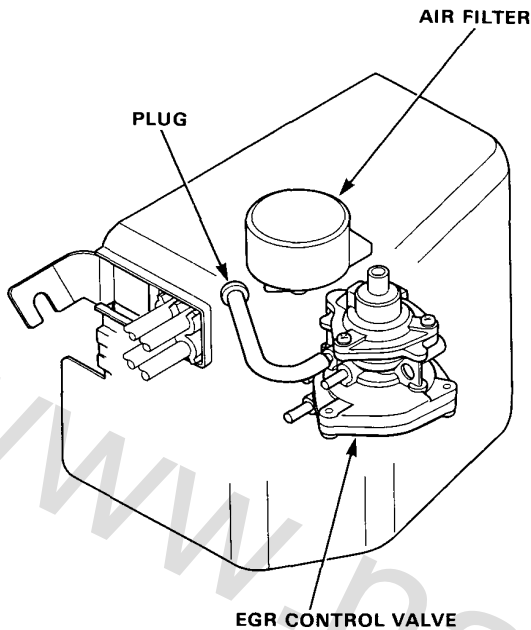
Vacuum should be as shown below:

Condition		Vacuum at EGR hose
1	Idle	No
2	3,000 $\text{min}^{-1}$ (rpm)	Yes, 50–152 mm
3	3,000 $\text{min}^{-1}$ (rpm) with blocked vacuum bleed (shown next column)	Less than 50 mm Hg
4	Rapid acceleration	Yes, 50–152 mm Hg
5	Deceleration	No

(cont'd)

# Emission Control System

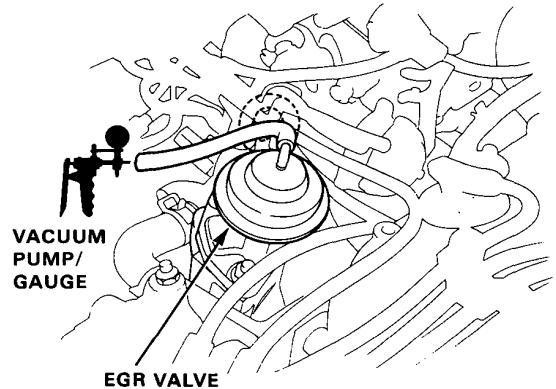
## EGR System (cont'd)



- If vacuum is available at idle (condition 1) check the vacuum hoses for proper routing and connections, then check for correct idle speed and idle mixture, and make adjustment as necessary.
- If there is no vacuum in conditions 2 and 4, check the #10, #11, #15 and #16 vacuum line for proper connection, cracks, blockage or disconnected hose. If OK, replace the thermostatic valve B and retest.
- If vacuum is more than 50 mm Hg in condition 3, replace the EGR control valve and check the vacuum hoses for proper routing and connections.

### EGR Valve

1. Start engine and allow to idle.
2. Disconnect vacuum hose from EGR Valve and connect a vacuum pump to EGR Valve



3. Apply 150 mm Hg (6 in. Hg) vacuum to EGR Valve. Vacuum should remain steady and engine should die.
  - If vacuum remains steady and engine dies, EGR valve is working properly, remove the vacuum pump and reconnect EGR vacuum hose ; test is complete.
  - If vacuum does not remain steady and engine does not die, replace EGR valve and retest.
  - If vacuum remains steady but engine does not die : Remove EGR valve ; check EGR valve and manifold for blockage, clean or replace as necessary and retest.

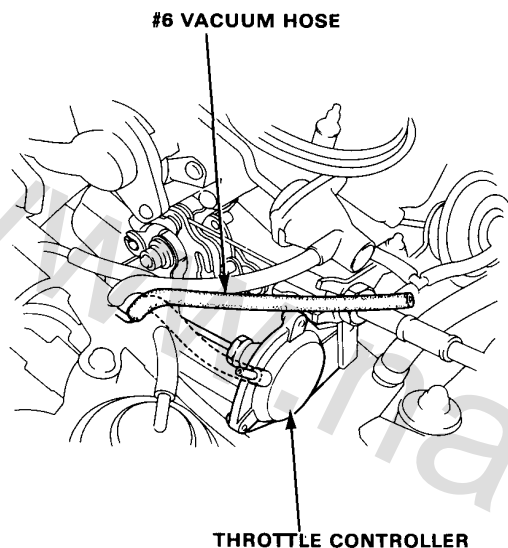


## Throttle Control System

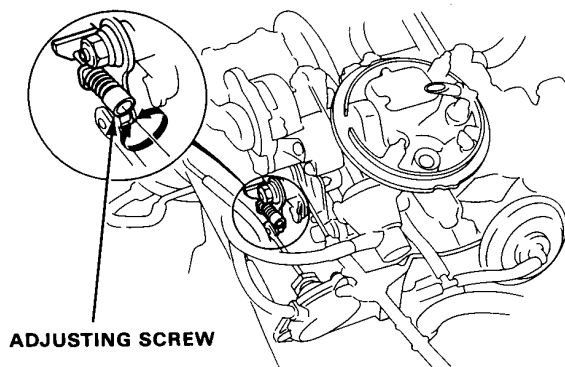
### Testing (HOT ENGINE)

1. Start the engine and warm up to normal operating temperature (the cooling fan comes on).
2. Disconnect the #6 vacuum hose from the throttle controller and check the engine speed.

Engine speed should be:  $1,800 \pm 300 \text{ min}^{-1} \text{ (rpm)}$

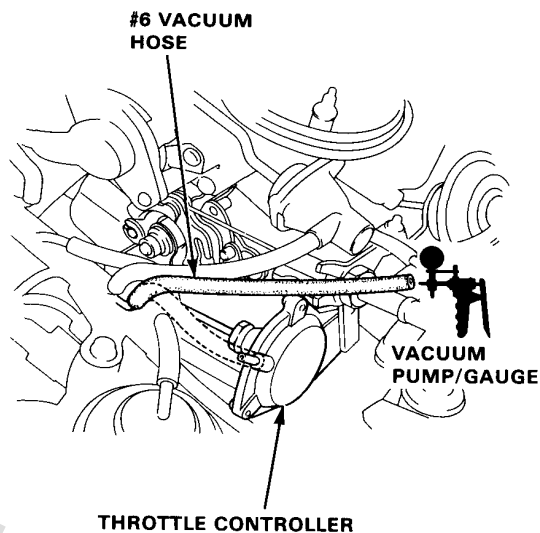


- If the engine speed is excessively high, adjust by turning the adjusting screw.



- If the engine speed does not change, connect a vacuum pump to the #6 vacuum hose and check vacuum.

There should be vacuum.



- If there is no vacuum, check the #6 vacuum hose for proper connection, cracks, brockage or disconnected hose.
- If there is vacuum, replace the throttle controller and retest.

3. Reconnect the #6 vacuum hose and check the idle speed. Idle speed should be within specification (page 6-43).

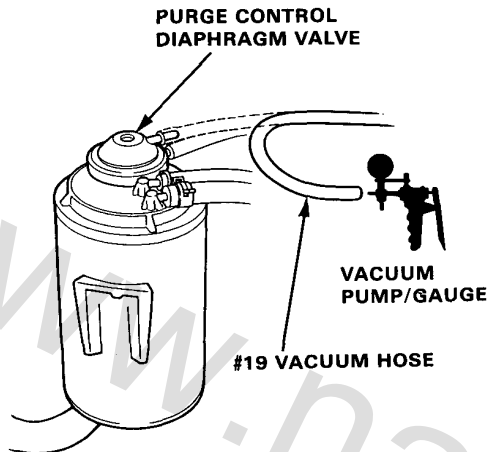
# Emission Control System

## Evaporative Emission Controls

### Testing (COLD ENGINE)

NOTE: Engine coolant temperature must be below 63 °C (145°F)

1. Disconnect the #19 vacuum hose at purge control diaphragm valve and connect vacuum pump/gauge to the hose.



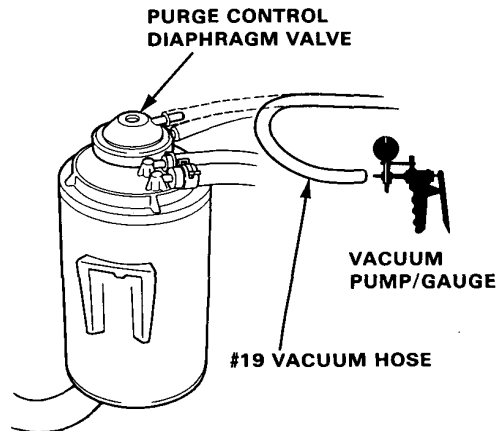
2. Start the engine and allow to idle.

There should be no vacuum.

- If there is no vacuum, go to hot engine test (next column).
- If there is vacuum, go to troubleshooting (page 6-62).

### Testing (HOT ENGINE)

1. Disconnect the #19 vacuum hose at the purge control diaphragm valve and connect a vacuum pump/gauge to the hose.



2. Start the engine and warm up to normal operating temperature (the cooling fan comes on). Block rear wheels and set the parking brake. Jack up the front of the car and support with safety stands.

**⚠ WARNING** Block rear wheels before jacking up front of car.

Place the shift or selector lever in 2nd gear or "2" range and accelerate above 5 km/h, 2,000 min<sup>-1</sup> (rpm).

There should be vacuum.

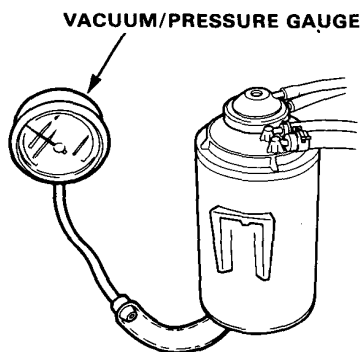
- If there is vacuum, go to step 3.
- If there is no vacuum, check the #19 and #12 vacuum line for proper connection, cracks, blockage or disconnected hose. If OK, go to troubleshooting (page 6-62).

3. Disconnect a vacuum pump/gauge and reconnect hose.
4. Remove fuel filler cap.





- Remove the canister purge air hose from frame and connect hose to a vacuum gauge as shown.



- Place the shift or selector lever in 2nd gear or "2" range and raise the engine speed to 3,500 min<sup>-1</sup> (rpm). Vacuum should appear on the gauge within 1 minute.

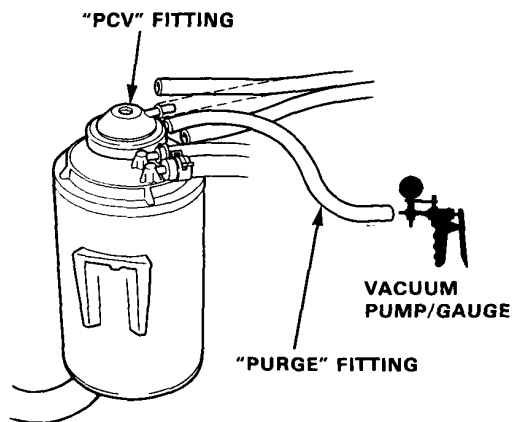
- If vacuum appears on the gauge in 1 minute, remove the gauge and go on to step 8.
- If no vacuum, disconnect the vacuum gauge and reinstall the fuel filler cap.

- Remove the charcoal canister and check for signs of damage.

- If damaged, replace the canister.
- If OK, go on to step 8.

- Stop the engine. Disconnect the hose from the canister PCV fitting. Connect a vacuum pump to the canister PURGE fitting as shown, and apply vacuum.

Vacuum should remain steady.



- If vacuum remains steady, go on to step 9.
- If vacuum drops, replace the canister and retest.

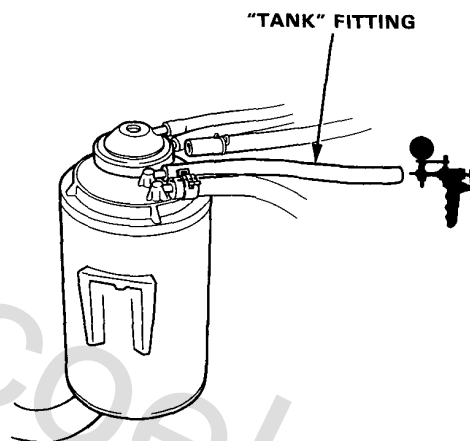
- Restart the engine. Reconnect the hose to the canister PCV fitting, and raise engine to 3,500 min<sup>-1</sup> (rpm) (in 2nd gear or "2" range).

PURGE side vacuum should drop to zero.

- If PURGE side vacuum does not drop to zero, replace the canister and retest.

- Connect a vacuum pump to TANK fitting as shown, and apply vacuum.

If should not hold vacuum.



- If it does not hold vacuum, reinstall fuel filler cap and canister; test is complete.
- If it holds vacuum, replace canister and retest.

# Emission Control System

## Evaporative Emission Controls (cont'd)

### Troubleshooting Flowchart Purge Cut-off Solenoid Valve

Inspection of Purge Cut-off Solenoid valve.

Open the control box.

Disconnect the lower vacuum hose of the solenoid valve from the joint and connect a vacuum pump.

Disconnect #19 vacuum hose of the solenoid valve from the vacuum hose manifold and connect a vacuum gauge.

Start the engine.

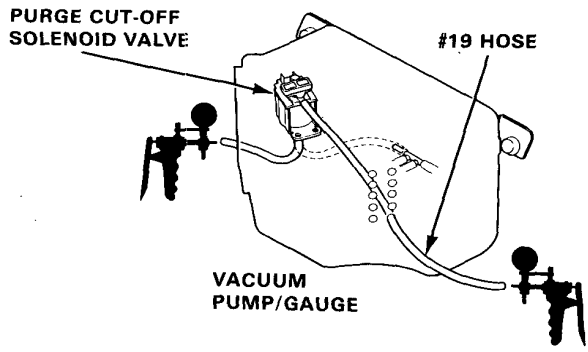
Apply vacuum.

Is vacuum indicated on the gauge ?

YES → Turn the ignition switch OFF.

NO → Block rear wheels and set the parking brake. Jack up the front of the car and support with safety stand.

Place the shift or selector lever in second or "2" and accelerate above 5 km/h, 2,000 min<sup>-1</sup> (rpm).



Turn the ignition switch OFF.

Disconnect the connector on the control box.

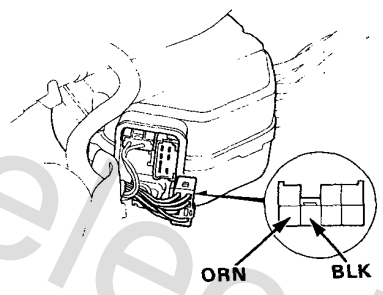
Start the engine.

Measure voltage between ORN (+) and BLK (-) terminals.

Is there battery voltage ?

YES → Replace the solenoid valve.

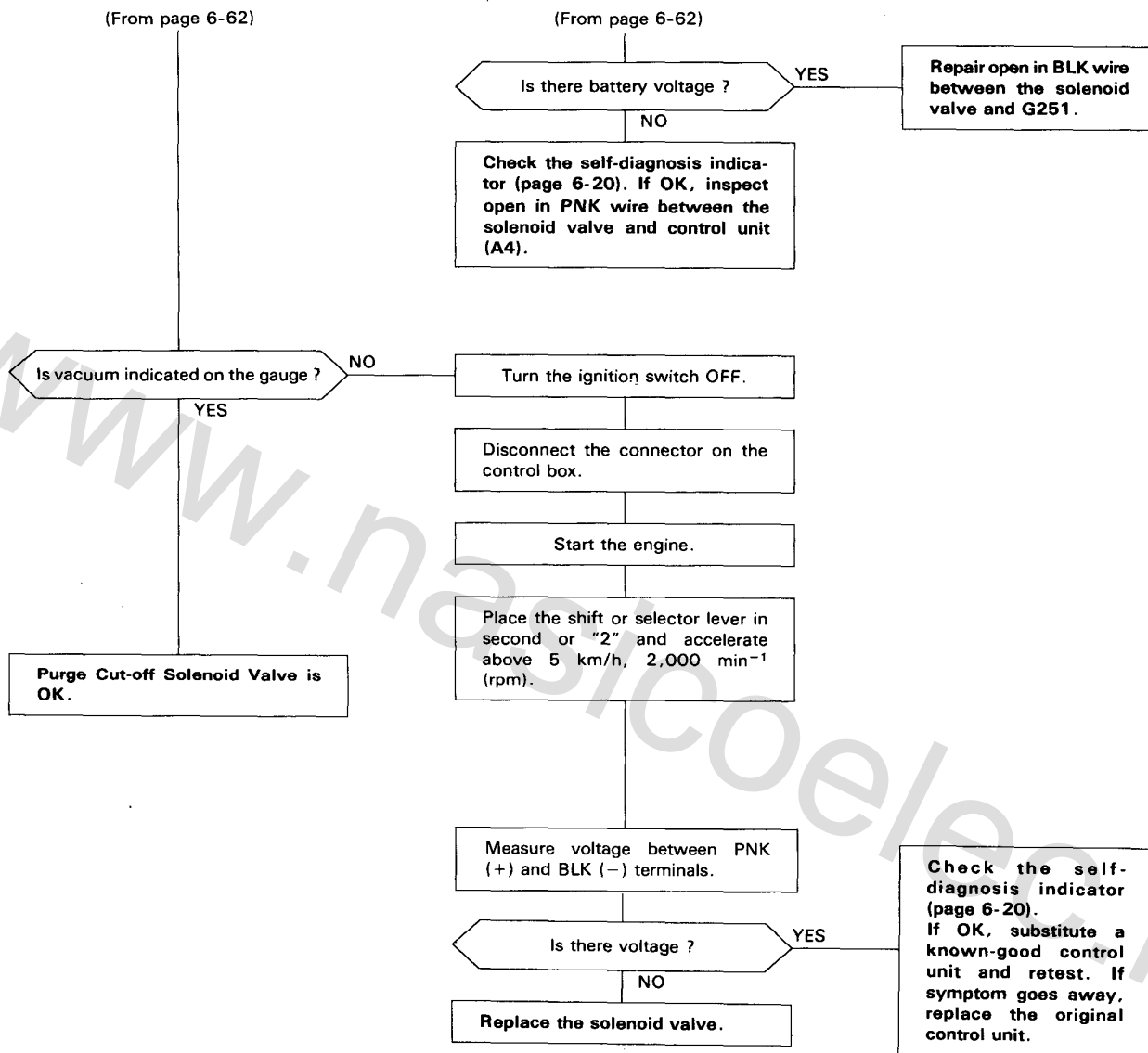
NO → Measure voltage between ORN (+) and body ground.



(To page 6-63)

**▲WARNING** Block rear wheels before jacking up front of car.

(To page 6-63)



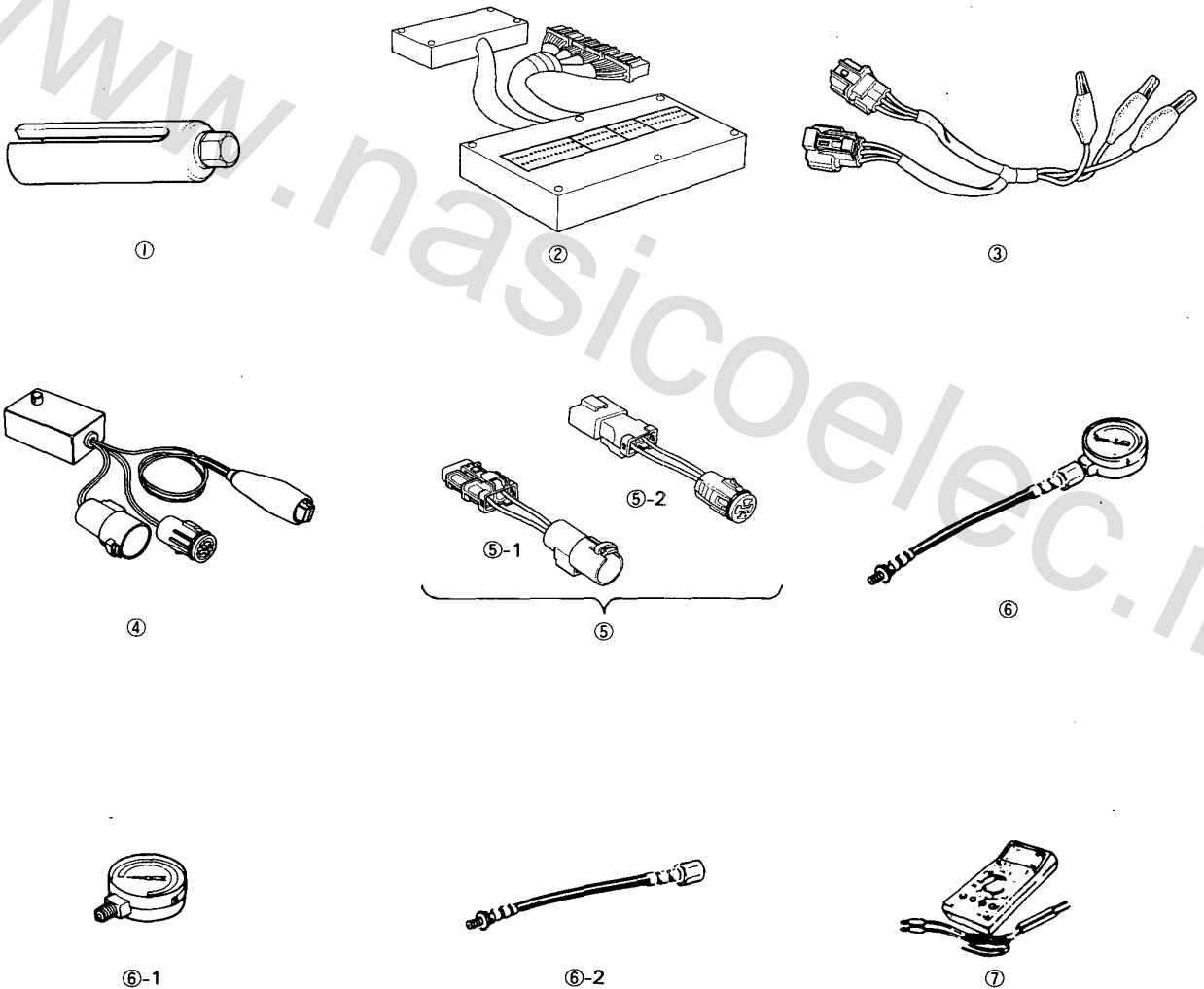
**Special Tools**  
**Component Locations**  
**Index**  
**System Description**  
**Vacuum Connections**  
**Troubleshooting**  
**Troubleshooting Guide (With CATA)**  
**Troubleshooting Guide (Without CATA)**  
**Self-diagnostic Procedures**  
**PGM-CARB Control System**  
**Troubleshooting Flow Charts**  
**Oxygen Sensor**  
**Oxygen Sensor Heater**  
**Manifold Absolute Pressure Sensor**  
**TDC/CRANK/CYL Sensors**  
**Idle Control System**  
**Idle Speed Setting**  
**Fuel Supply System**  
**System Troubleshooting Guide**  
**Fuel Pressure**  
**Pressure Regulator**  
**Fuel Filter**  
**Air Intake System**  
**System Troubleshooting Guide**  
**Bypass Control System**  
**Emission Control System**  
**System Troubleshooting Guide**  
**Tailpipe Emissions**  
**Exhaust Gas Recirculation System**

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# Special Tools

## Special Tools

Ref. No.	Tool Number	Description	Q'ty	Remarks
①	07LAA-PT50100	O <sub>2</sub> Sensor Socket Wrench	1	
②	07LAJ-PT30100	ECU Test Harness	1	
③	07LAJ-PT30200	Test Harness	1	
④	07JAZ-SH20100	R.P.M. Connecting Adaptor	1	
⑤	07LAZ-PT30100	R.P.M. Connecting Adaptor	1	
⑤-1	07LAZ-PT30110	R.P.M. Connecting Adaptor (A)	(1)	Component Tools
⑤-2	07LAZ-PT30120	R.P.M. Connecting Adaptor (B)	(1)	
⑥	07406-0040001	Fuel Pressure Gauge Set	1	
⑥-1	07406-0040100	Pressure Gauge	(1)	Component Tools
⑥-2	07406-0040201	Hose Assembly	(1)	
⑦	07411-0020000	Digital Circuit Tester	1	

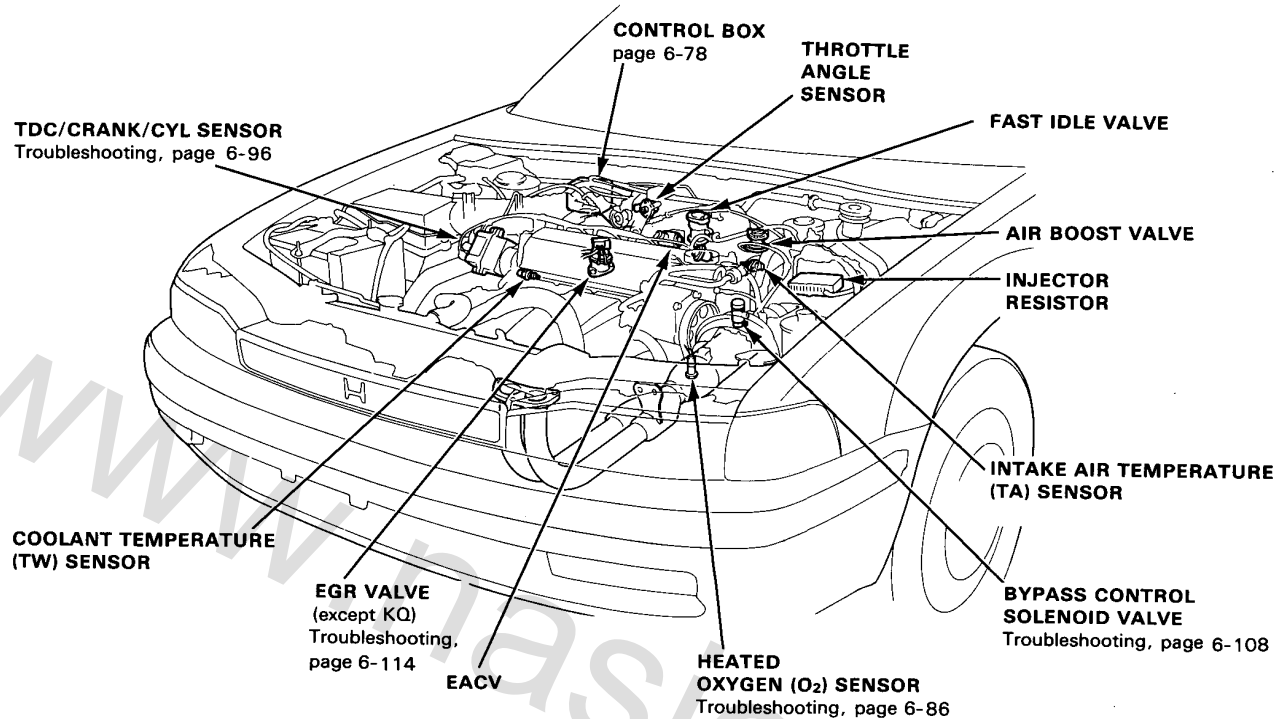


# Component Locations

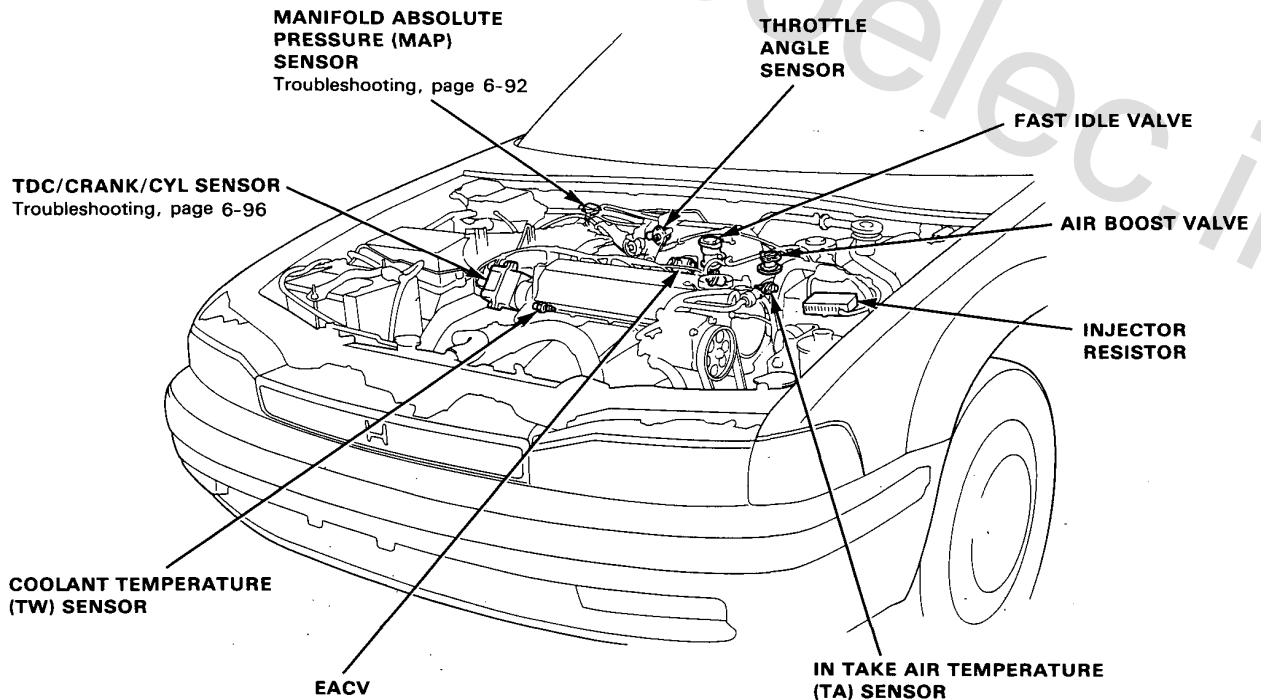


## Index

2.2 l except KY:



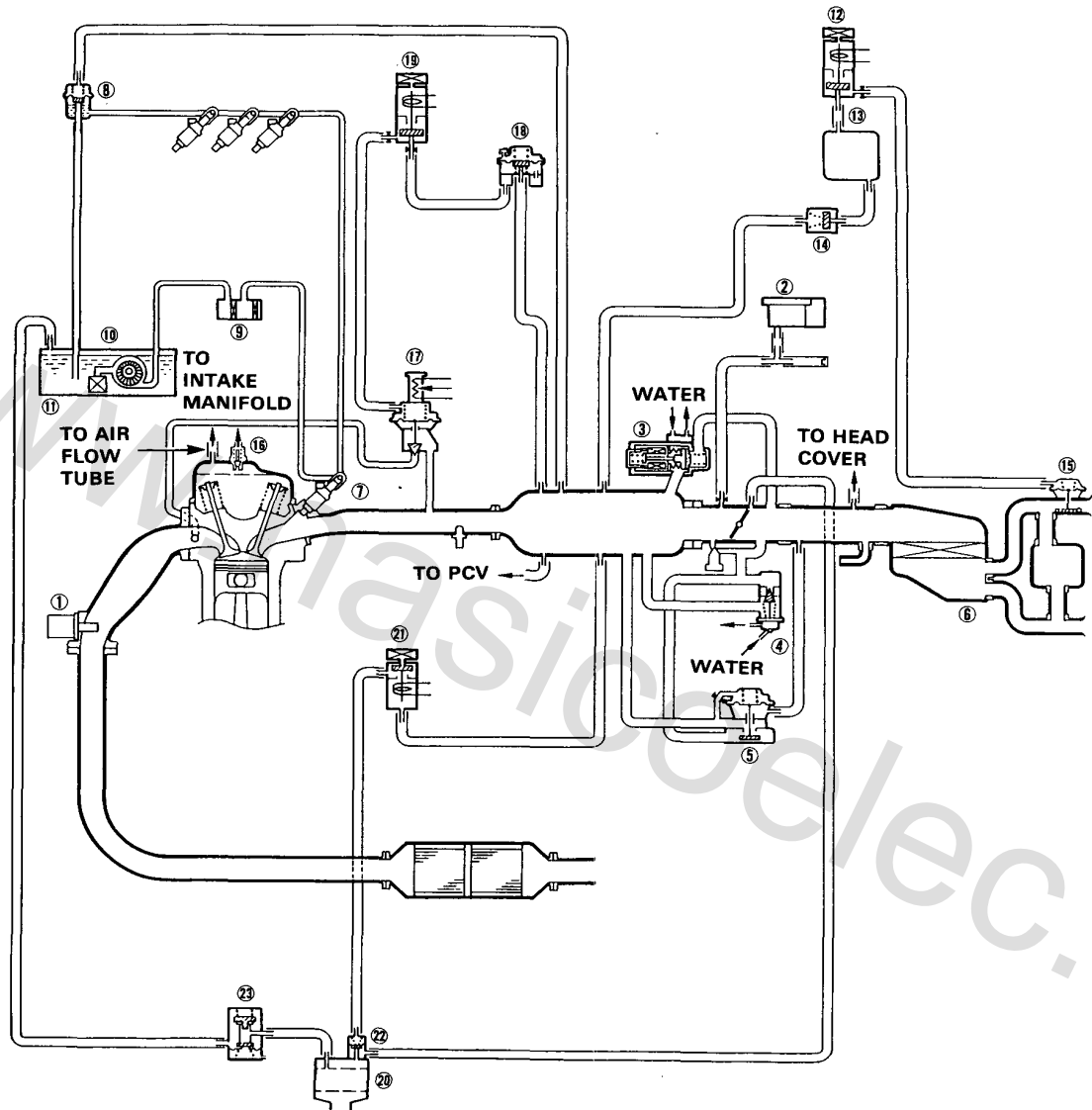
2.2 l KY:



# System Description

## Vacuum Connections

2.0 l with CATA:












- ① OXYGEN (O<sub>2</sub>) SENSOR
- ② MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR
- ③ ELECTRONIC AIR CONTROL VALVE (EACV)
- ④ FAST IDLE VALVE
- ⑤ AIR BOOST VALVE
- ⑥ AIR CLEANER
- ⑦ FUEL INJECTOR
- ⑧ PRESSURE REGULATOR
- ⑨ FUEL FILTER
- ⑩ FUEL PUMP
- ⑪ FUEL TANK
- ⑫ INTAKE CONTROL SOLENOID VALVE

- ⑬ AIR CHAMBER
- ⑭ CHECK VALVE
- ⑮ INTAKE CONTROL DIAPHRAGM
- ⑯ PCV VALVE
- ⑰ EGR VALVE
- ⑱ CONSTANT VACUUM CONTROL (CVC) VALVE
- ⑳ EGR CONTROL SOLENOID VALVE
- ㉑ CHARCOAL CANISTER
- ㉒ PURGE CUT-OFF SOLENOID VALVE
- ㉓ PURGE CONTROL DIAPHRAGM VALVE
- ㉔ TWO-WAY VALVE

# Troubleshooting

## Troubleshooting Guide [With CATA]

NOTE: Across each row in the chart, the systems that could be sources of a symptom are ranked in the order they should be inspected starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows the system is OK, try the next most likely system ②, etc.

PAGE	SYSTEM	PGM-FI							
		ECU	OXYGEN SENSOR	MANIFOLD ABSOLUTE PRESSURE SENSOR	TDC/CRANK/CYL SENSOR	COOLANT TEMPERATURE SENSOR	THROTTLE ANGLE SENSOR	INTAKE AIR TEMPERATURE SENSOR	ATMO-SPHERIC PRESSURE SENSOR
	SYMPTOM	—	86,90	92	96	—	—	—	—
	CHECK ENGINE WARNING LIGHT TURNS ON	 or 							
	CHECK ENGINE WARNING LIGHT BLINKS	① or ②	③ or ④	⑤ or ⑥	⑦ or ⑧ or ⑨	⑩	⑪	⑫	⑬
	ENGINE WON'T START	③			③				
	DIFFICULT TO START ENGINE WHEN COLD	BU		③	③	①			③
IRREGULAR IDLING	WHEN COLD FAST IDLE OUT OF SPEC	BU				③			
	ROUGH IDLE	BU		③					
	WHEN WARM IDLE SPEED TOO HIGH	BU							
	WHEN WARM IDLE SPEED TOO LOW	BU							
FREQUENT STALLING	WHILE WARMING UP	BU				③			
	AFTER WARMING UP	BU							③
POOR PERFORMANCE	MISFIRE OR ROUGH RUNNING	BU			③				
	FAILS EMISSION TEST	BU	③	②					
	LOSS OF POWER	BU		③			②		

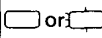
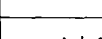







- if codes other than those listed above are indicated, count the number of blinks again. If the indicator is in fact blinking these codes, substitute a known-good ECU and recheck. If the indication goes away, replace the original ECU.
- BU: When the Check Engine warning light and the self-diagnosis indicator are on, the back-up system is in operation. Substitute a known-good ECU and recheck. If the indication goes away, replace the original ECU.



# Troubleshooting

## Troubleshooting Guide [Without CATA]

NOTE: Across each row in the chart, the systems that could be sources of a symptom are ranked in the order they should be inspected starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows the system is OK, try the next most likely system ②, etc.

PAGE	SYSTEM	PGM-FI							
		ECU	MANIFOLD ABSOLUTE PRESSURE SENSOR	TDC/CRANK/CYL SENSOR	COOLANT TEMPERATURE SENSOR	THROTTLE ANGLE SENSOR	INTAKE AIR TEMPERATURE SENSOR	IMA SENSOR	ATMOSPHERIC PRESSURE SENSOR
	SYMPTOM	---	92	96	---	---	---	---	---
	CHECK ENGINE WARNING LIGHT TURNS ON	 or 							
	CHECK ENGINE WARNING LIGHT BLINKS	① or ③	③ or ⑤	④ or ⑧ or ⑨	⑥	⑦	⑩	⑪	⑬
	ENGINE WON'T START	③		③					
	DIFFICULT TO START ENGINE WHEN COLD	BU	③	③	①				③
IRREGULAR IDLING	WHEN COLD FAST IDLE OUT OF SPEC	BU			③				
	ROUGH IDLE	BU	③						
	WHEN WARM IDLE SPEED TOO HIGH	BU							
	WHEN WARM IDLE SPEED TOO LOW	BU							
FREQUENT STALLING	WHILE WARMING UP	BU			③				
	AFTER WARMING UP	BU							③
POOR PERFORMANCE	MISFIRE OR ROUGH RUNNING	BU		③					
	FAILS EMISSION TEST	BU	②						
	LOSS OF POWER	BU	③				②		

• if codes other than those listed above are indicated, count the number of blinks again. If the indicator is in fact blinking these codes, substitute a known-good ECU and recheck. If the indication goes away, replace the original ECU.

BU: When the Check Engine warning light and the self-diagnosis indicator are on, the back-up system is in operation. Substitute a known-good ECU and recheck. If the indication goes away, replace the original ECU.



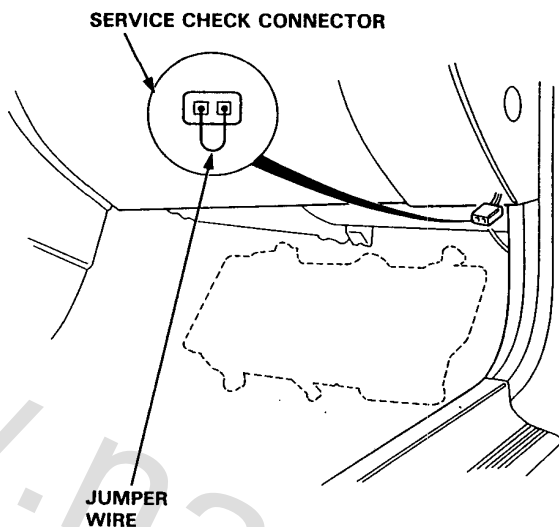
PGM-FI				IDLE CONTROL		FUEL SUPPLY	AIR INTAKE	EMISSION CONTROL
IGNITION OUTPUT SIGNAL	VEHICLE SPEED SENSOR	A/T FI Signal A	A/T FI Signal B	ELECTRONIC AIR CONTROL VALVE	OTHER IDLE CONTROLS			
—	—	—	—	—	—	103	107	112
①						②		
					②			
				①	②			
				①		②		
				①	②			
				①		②		
				①	②	③		
				③	①	②		
				③		①		
						③		①
						①	③	③

# Troubleshooting

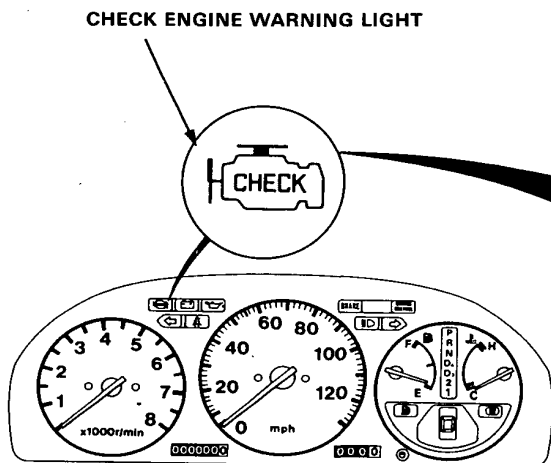
## Self-diagnostic Procedures

I. When the Check Engine warning light has been reported on, do the following:

1. Connect the Service Check Connector terminals with a jumper wire as shown (the Service Check Connector is located under the dash on the passenger side of the car).



2. Note the CODE: the Check Engine warning light indicates a failure code by blinking frequency. The Check Engine warning light can indicate any number of simultaneous component problems by blinking separate codes, one after another. Problem codes 1 through 9 are indicated by a individual short blinks. Problem codes 10 through 43 are indicated by a series of long and short blinks. The number of long blinks equals the first digit, the number of short blinks equals the second digit.



### Separate Problems:

#### Short

- = See Problem CODE 1
- = See Problem CODE 3
- = See Problem CODE 13

#### Long short

### Simultaneous Problems:

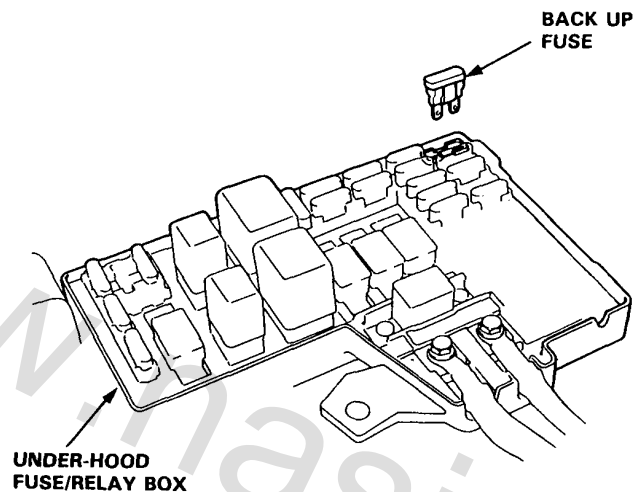
- = See Problem CODE 1 and 3
- = See Problem CODE 3 and 4
- = See Problem CODE 3 and 14



## II. ECU Reset Procedure

1. Turn the ignition switch off.
2. Remove the Back Up fuse (7.5 A) from the under-hood fuse/relay box for 10 seconds to reset ECU.

**NOTE:** Disconnecting the Back Up fuse also cancels the radio preset stations and the clock setting. Make note of the radio presets before removing the fuse so you reset them.



## III. Final Procedure (this procedure must be done after any troubleshooting)

1. Remove the Jumper Wire.

**NOTE:** If the Service Check Connector is jumped the Check Engine warning light will stay on.

2. Do the ECU Reset Procedure.
3. Set the radio preset stations and the clock setting.

# PGM-FI Control System

## Troubleshooting Flowchart — Oxygen Sensor



Self-diagnosis Check Engine warning light indicates code 1: A problem in the Heated Oxygen (O<sub>2</sub>) Sensor circuit.



— Check Engine warning light has been reported on, with service check connector jumped (page 6-84) CODE 1 is indicated.

Turn the ignition switch OFF.

Remove BACK UP fuse in the under-hood relay box for 10 seconds to reset ECU.

Inspect fuel pressure (page 6-104).

Is it normal ?

NO

Go to page 6-103 Fuel Supply System.

YES

Warm up engine to normal operating temperature (cooling fan comes on).

Run engine for 10 seconds.

Road test with the Transmission in 2nd gear, accelerate using wide open throttle for at least 5 seconds. Then decelerate for at least 5 seconds with the throttle completely closed.

Is Check Engine warning light on and does it indicate CODE 1 ?

NO

Intermittent failure, system is OK at this time. Check for poor connections or loose wires.

YES

(To page 6-87)



(From page 6-86)

Turn the ignition switch OFF.

Disconnect the O<sub>2</sub> sensor connector and connect A (-) terminal to B (+) terminal with a battery.

After two minutes, measure voltage between C (-) terminal and D (+) terminal.

Start the engine.

Is the voltage above 0.6 V at wide open throttle to 4,500 min<sup>-1</sup>(rpm) and below 0.4 V when the throttle is quickly released from 4,500 min<sup>-1</sup>(rpm) ?

NO

Replace O<sub>2</sub> sensor.

YES

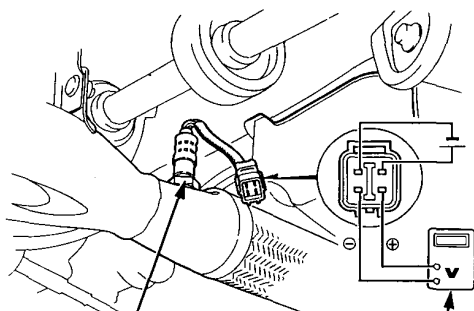
Stop engine.

Connect the O<sub>2</sub> sensor connector to engine wire harness.

Connect the ECU test harness between the ECU and connector

(To page 6-88)

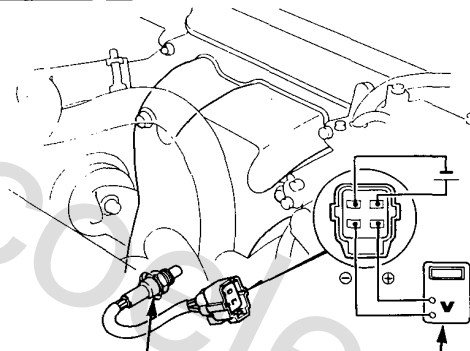
2.2 t :



O<sub>2</sub> SENSOR  
45 N·m (4.5 kg-m, 33 lb-ft)

DIGITAL MULTIMETER  
07411-0020000

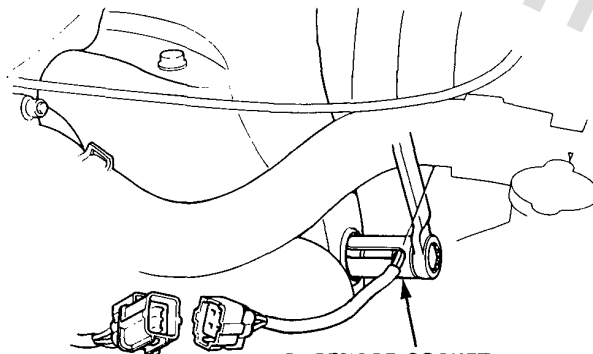
2.0 t :



O<sub>2</sub> SENSOR

DIGITAL MULTIMETER

2.0 t :



O<sub>2</sub> SENSOR SOCKET  
WRENCH  
07LAA-PT50100  
45 N·m (4.5 kg-m, 33 lb-ft)

(cont'd)

# PGM-FI Control System

## Troubleshooting Flowchart — Oxygen Sensor (cont'd)

(From page 6-87)

Restart and warm up engine to normal operating temperature (cooling fan comes on).

Measure voltage between D14 (+) and A26 (-) terminal.

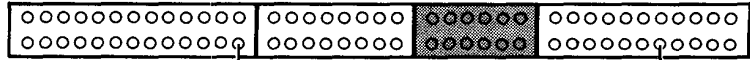
Is the voltage above 0.6 V at wide open throttle to 4,500  $\text{min}^{-1}$ (rpm) and 0.4 V when the throttle is quickly released from 4,500  $\text{min}^{-1}$ (rpm) ?

NO

Repair short or open in WHT wire between ECU (D14) and O<sub>2</sub> sensor.

YES

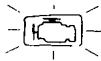
Substitute a known-good ECU and recheck. If symptom/indication goes away, replace the original ECU.



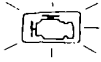
Above 0.6 V at wide open throttle to 4,500  $\text{min}^{-1}$ (rpm).  
Below 0.4 V when the throttle is quickly released from 4,500  $\text{min}^{-1}$ (rpm).

# PGM-FI Control System

## Troubleshooting Flowchart — Oxygen Sensor Heater



Self-diagnosis Check Engine warning light indicates code 41: A problem in the Oxygen (O<sub>2</sub>) Sensor Heater circuit.



2.2 l :

—Engine is running.  
—Check Engine warning light has been reported on, with service check connector jumped (page 6-84), CODE 41 is indicated.

Turn the ignition switch OFF.

Remove BACK UP fuse in the under-hood relay box for 10 seconds to reset ECU.

Start engine.

Is Check Engine warning light on and does it indicate CODE 41 ?

NO

Intermittent failure, system is OK at this time (test driving may be necessary). Check for poor connections or loose wires at O<sub>2</sub> sensor connector.

YES

Stop engine.

Disconnect the 4P connector from the O<sub>2</sub> sensor.

Measure resistance between terminals A and B on the O<sub>2</sub> sensor.

Is there 10–40 Ω ?

NO

Replace O<sub>2</sub> sensor.

YES

Check for continuity to body ground on each terminal on the O<sub>2</sub> sensor.

Does continuity exist ?

YES

Replace O<sub>2</sub> sensor.

NO

Check for continuity between terminal A and terminals C and D individually.

Does continuity exist ?

YES

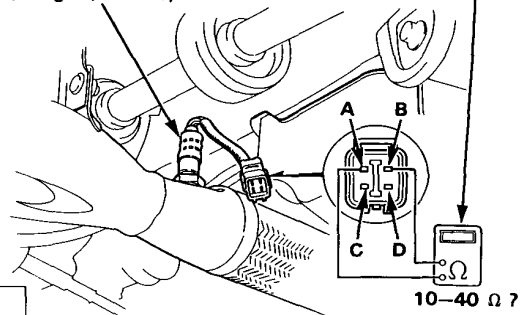
Replace O<sub>2</sub> sensor.

NO

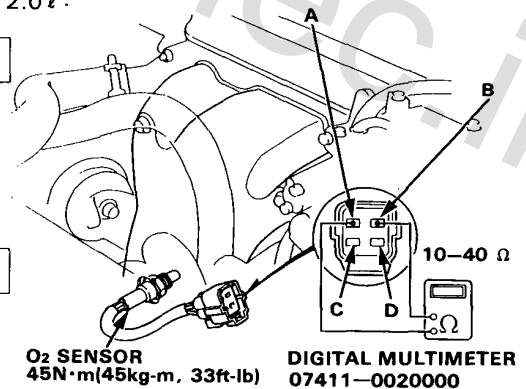
(To page 6-91)

O<sub>2</sub> SENSOR  
45N·m(45kg·m, 33ft·lb)

DIGITAL MULTIMETER  
07411-0020000



2.0 l :



O<sub>2</sub> SENSOR  
45N·m(45kg·m, 33ft·lb)

DIGITAL MULTIMETER  
07411-0020000





(From page 6-90)

Turn the ignition switch ON.

Measure voltage between YEL/BLK (+) terminal and ORN/BLK (-) terminal.

Is there battery voltage ?

YES

Disconnect the "A" connector from the ECU.

Measure voltage between YEL/BLK (+) terminal and ORN/BLK (-) terminal.

Is there battery voltage ?

YES

Repair short in ORN/BLK wire between ECU (A6) and O<sub>2</sub> sensor.

NO

Measure voltage between YEL/BLK (+) terminal and body ground.

Is there battery voltage ?

NO

—Repair open in YEL/BLK wire between the O<sub>2</sub> sensor and Main Relay.  
—Replace blown ECU fuse (10A) in the underhood relay box.

YES

Turn the ignition switch OFF.

Reconnect the 4P connector to O<sub>2</sub> sensor.

Connect the ECU test harness "A" connector to the main wire harness only, not the ECU.

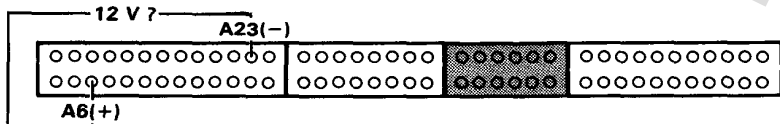
Turn the ignition switch ON.

Measure voltage between A6 (+) terminal and A23 (-) terminal.

Is there battery voltage ?

NO

Substitute a known-good ECU and recheck. If symptom/indication goes away, replace the original ECU.



Repair open in ORN/BLK wire between ECU (A6) and O<sub>2</sub> Sensor.

YES

Substitute a known-good ECU and recheck. If symptom/indication goes away, replace the original ECU.

# PGM-FI Control System

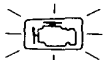
## Troubleshooting Flowchart — MAP Sensor



Self-diagnosis Check Engine warning light indicates code 3: Most likely an electrical problem in the Manifold Absolute Pressure (MAP) Sensor system.



Self-diagnosis Check Engine warning light indicates code 5: Most likely a mechanical problem (broken hose) in the Manifold Absolute Pressure (MAP) Sensor system.



—Engine is warm and running.  
—Check Engine warning light has been reported on, with service check connector jumped (page 6-84), CODE 3 is indicated.

Turn the ignition switch OFF.

Remove BACK UP fuse in the under-hood relay box for 10 seconds to reset ECU.

Warm up engine to normal operating temperature (cooling fan comes on).

Is Check Engine warning light on and does it indicate CODE 3 ?

NO

YES

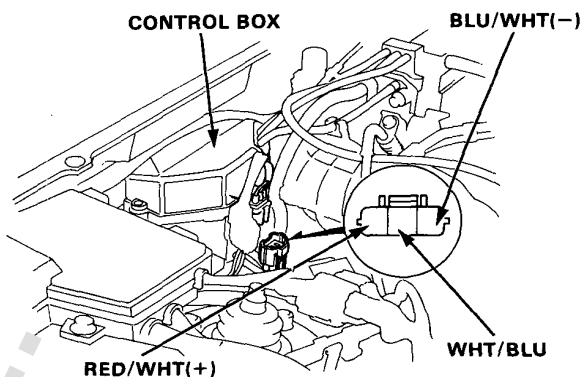
Turn the ignition switch OFF.

Disconnect the 3P connector from the MAP sensor.

Turn the ignition switch ON.

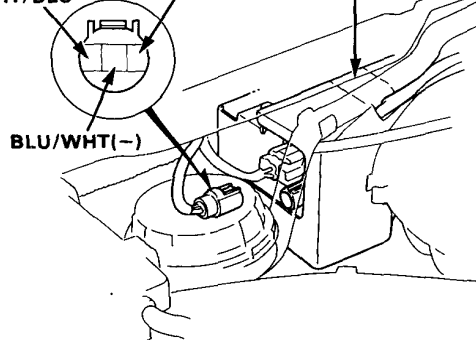
(To page 6-93)

2.0 l WITH CATA AND  
2.2 l EXCEPT KE, KQ, KY :



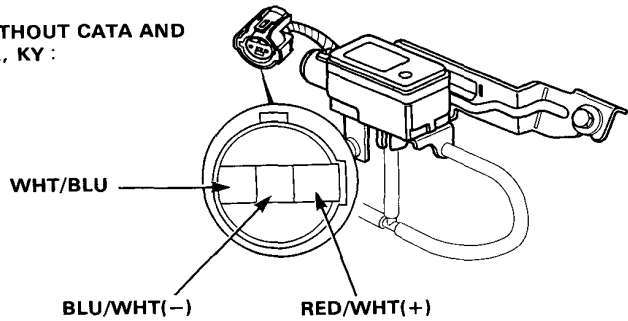
Intermittent failure, system is OK at this time (test drive may be necessary).  
Check for poor connection or loose wires at MAP sensor connector and ECU.

2.2 l KE :  
RED/WHT(+) CONTROL BOX  
WHT/BLU





2.0L WITHOUT CATA AND  
2.2L KQ, KY :



(From page 6-92)

Measure voltage between RED/  
WHT (+) terminal and body  
ground.

Is there approx. 5 V ?

**NO**

Repair open in RED/WHT wire  
between ECU (D19) and MAP  
sensor.  
If wire is OK, substitute a  
known-good ECU and recheck. If  
prescribed voltage is now avail-  
able, replace the original ECU.

YES

Measure voltage between RED/  
WHT (+) terminal and BLU/WHT  
(-) terminal.

Is there approx. 5 V ?

YES

Measure voltage between WHT/  
BLU (+) terminal and BLU/WHT  
(-) terminal.

Is there approx. 5 V ?

YES

Turn the ignition switch OFF.

Reconnect the 3P connector to  
the MAP sensor.

Connect the ECU test harness  
between the ECU and connector.

Turn the ignition switch ON.

(To page 6-94)

**NO**

Repair open in BLU/  
WHT wire between  
ECU (D21) and MAP  
sensor.  
If wire is OK, substi-  
tute a known-gttd ECU  
and recheck. If pre-  
scribed voltage is now  
available, replace the  
original ECU.

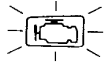
**NO**

Repair open or short in  
WHT/BLU wire  
between ECU (D17)  
and MAP sensor.  
If wire is OK, substi-  
tute a known-good  
ECU and recheck. If  
prescribed voltage is  
now available, replace  
the original ECU.

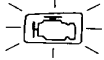
(cont'd)

# PGM-FI Control System

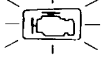
## Troubleshooting Flowchart — TDC/CRANK/CYL Sensors



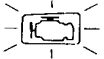
Self-diagnosis Check Engine warning light indicates code 4: A problem in the circuit of the CRANK Sensor.



Self-diagnosis Check Engine warning light indicates code 8: A problem in the circuit of the TDC Sensor.



Self-diagnosis Check Engine warning light indicates code 9: A problem in the circuit of the CYL Sensor.



—Check Engine warning light has been reported on, with service check connector jumped (page 6-84), CODE 4 is indicated.

Turn the ignition switch OFF.

Remove BACK UP fuse in the under-hood relay box for 10 seconds to reset ECU.

Start engine.

Is Check Engine warning light on and does it indicate CODE 4 ?

NO

Intermittent failure, system is OK at this time (test drive may be necessary).  
Check for poor connections or loose wires at distributor connector.

YES

Stop engine.

Disconnect the 8P connector from the TDC/CRANK/CYL sensor.

Measure resistance between B terminal and F terminal.

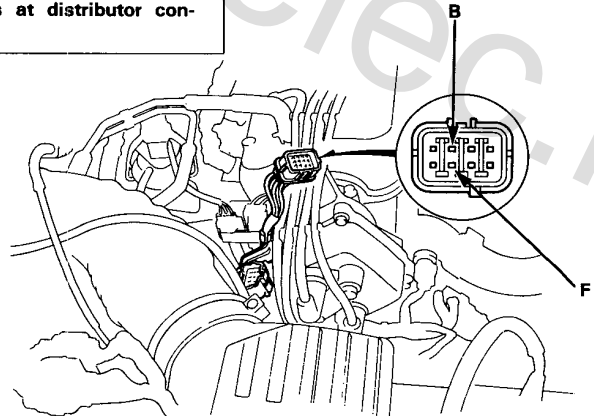
Is there 260–500 Ω ?

NO

Replace the distributor assembly (section 16).

YES

(To page 6-97)





(From page 6-96)

Check for continuity to body ground on B terminal and F terminal individually.

Does continuity exist ?

YES

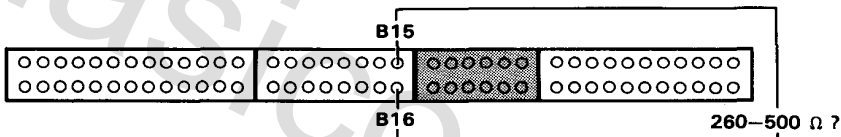
Replace the distributor assembly (section 16).

NO

Reconnect the connector.

Connect the ECU test harness only to the main wire harness, not to the ECU .

Measure resistance between B15 terminal and B16 terminal.



Is there 260-500 Ω ?

NO

Repair open in BLU/GRN and/or BLU/YEL wires.

YES

Check for continuity to body ground on B15 terminal.

Does continuity exist ?

YES

Repair short in BLU/GRN wire between ECU (B15) and distributor connector.

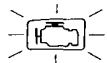
NO

Substitute a known-good ECU and recheck. If symptom/indication goes away, replace the original ECU.

(Cont'd)

# PGM-FI Control System

## Troubleshooting Flowchart — TDC/CRANK/CYL Sensors (cont'd)



—Check Engine warning light has been reported on, with service check connector jumped (page 6-84), CODE 8 is indicated.

Turn the ignition switch OFF.

Remove BACK UP fuse in the under-hood relay box for 10 seconds to reset ECU.

Start engine.

Is Check Engine warning light on and does it indicate CODE 8 ?

NO

Intermittent failure, system is OK at this time (test drive may be necessary).  
Check for poor connections or loose wires at distributor connector.

YES

Stop engine.

Disconnect the 8P connector from the TDC/CRANK/CYL sensor.

Measure resistance between C terminal and G terminal.

Is there 260–500  $\Omega$  ?

NO

Replace the distributor assembly (section 16).

YES

Check for continuity to body ground on C terminal and G terminal individually.

Does continuity exist ?

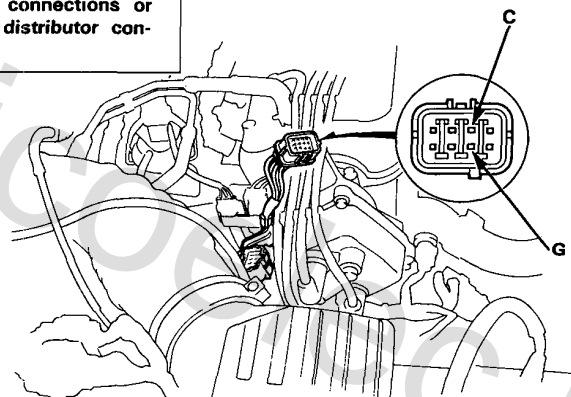
YES

Replace the distributor assembly (section 16).

NO

Reconnect the connector.

(To page 6-99)

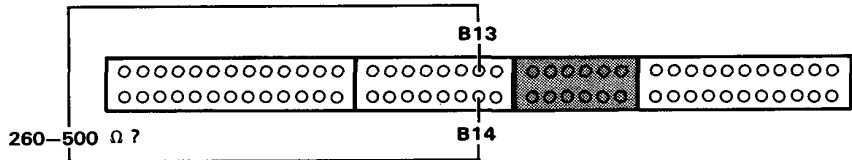




(From page 6-98)

Connect the ECU test harness only to the main wire harness, not to the ECU.

Measure resistance between B13 terminal and B14 terminal.



Is there 260–500 Ω ?

NO

Repair open in ORN/BLU and/or WHT/BLU wires.

YES

Check for continuity to body ground on B13 terminal.

Does continuity exist ?

YES

Repair short in ORN/BLU wire between ECU (B13) and distributor connector.

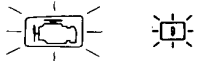
NO

Substitute a known-good ECU and recheck. If symptom/indication goes away, replace the original ECU.

(Cont'd)

# PGM-FI Control System

## Troubleshooting Flowchart — TDC/CRANK/CYL Sensors (cont'd)



—Check Engine warning light has been reported on, with service check connector jumped (page 6-84), CODE 9 is indicated.

Turn the ignition switch OFF.

Remove BACK UP fuse in the under-hood relay box for 10 seconds to reset ECU.

Start engine.

Is Check Engine warning light on and does it indicate CODE 9 ?

NO

Intermittent failure, system is OK at this time (test drive may be necessary).  
Check for poor connections or loose wires at the distributor connector.

YES

Stop engine.

Disconnect the 8P connector from the TDC/CRANK/CYL sensor.

Measure resistance between D terminal and H terminal.

Is there 260—500  $\Omega$  ?

NO

Replace the distributor assembly (section 16).

YES

Check for continuity to body ground on D terminal and H terminal individually.

Does continuity exist ?

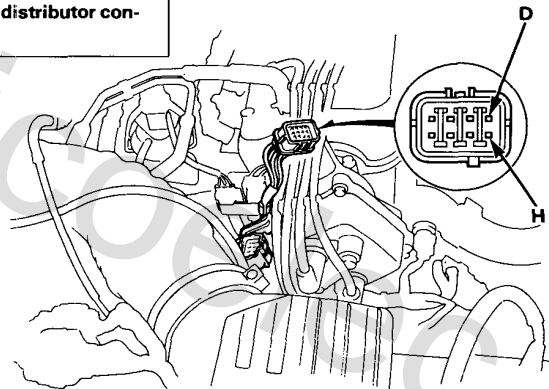
YES

Replace the distributor assembly (section 16).

NO

Reconnect the connector.

(To page 6-101)



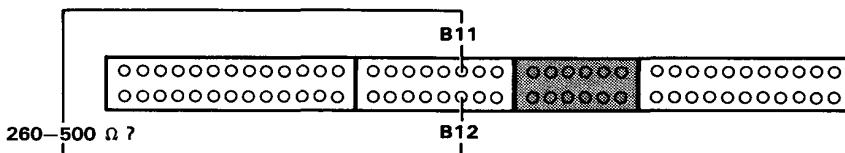




(From page 6-100)

Connect the ECU test harness only to the main wire harness, not to the ECU.

Measure resistance between B11 terminal and B12 terminal.



Is there 260–500 Ω ?

NO

Repair open in ORN and/or WHT wires.

YES

Check for continuity to body ground on B11 terminal.

Does continuity exist ?

YES

Repair short in ORN wire between ECU (B11) and distributor connector.

NO

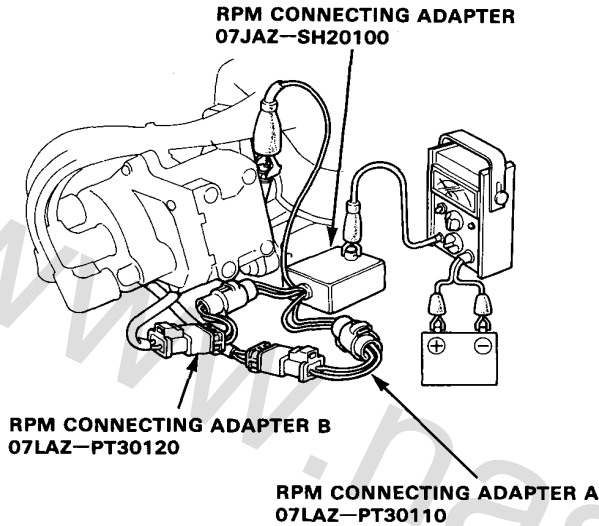
Substitute a known-good ECU and recheck. If symptom/indication goes away, replace the original ECU.

# Idle Control System

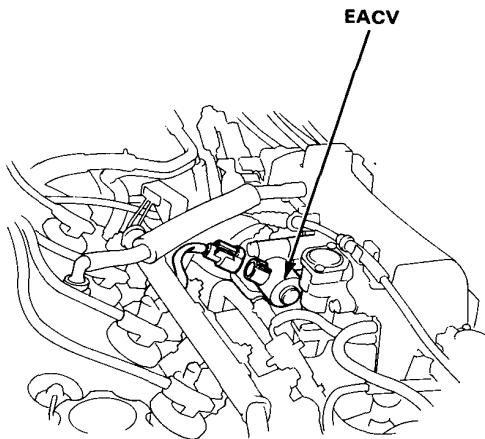
## Idle Speed Setting

### Inspection/Adjustment

1. Start the engine and warm it up to normal operating temperature (the cooling fan comes on).
2. Connect a tachometer.



3. Disconnect the 2P connector from the EACV.

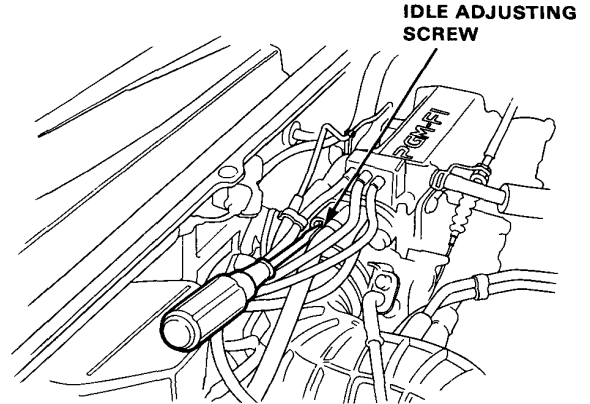


4. Check idling in no-load conditions in which the headlights, blower fan, rear defogger, cooling fan, and air conditioner are not operating.

### Idle speed should be:

Manual	$620 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$620 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (N) or (P)

Adjust the idle speed, if necessary, by turning the idle adjusting screw.



5. Turn the ignition switch OFF.
6. Reconnect the 2P connector on the EACV, then remove BACK UP fuse in the under-hood relay box for 10 seconds to reset ECU.
7. Restart an idle the engine with no-load conditions in which the headlights, blower fan, rear defogger, cooling fan, and air conditioner are not operating for one minute, then check the idle speed.

### Idle speed should be:

Manual	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (N) or (P)

8. Idle the engine for one minute with headlights (Hi) and rear defogger ON and check the idle speed.

### Idle speed should be:

Manual	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (N) or (P)

9. Idle the engine for one minute with heater fan switch at HI and air conditioner on, then check the idle speed.

### Idle speed should be:

Manual	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (N) or (P)

NOTE: If the idle speed is not within specifications, see System Troubleshooting Guide.

# Fuel Supply System

## Symptom Troubleshooting Guide



NOTE: Across each row in the chart, the systems that could be sources of a symptom are ranked in the order they should be inspected starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows the system is OK, try the next most likely system ②, etc.

PAGE	SUB SYSTEM	FUEL INJECTOR	INJECTOR RESISTOR	PRESSURE REGULATOR	FUEL FILTER	FUEL PUMP	MAIN RELAY	CONTAMINATED FUEL
		—	—	105	106	—	—	*
	ENGINE WON'T START	③	③		③	①	②	③
	DIFFICULT TO START ENGINE WHEN COLD OR HOT							①
	ROUGH IDLE	①	②					③
	MISFIRE OR ROUGH RUNNING	①	②	③				③
	POOR PERFORMANCE	②	③	①				
	FAILS EMISSION TEST	②	③	①				
	LOSS OF POWER	③	③		①	③		②

\* Fuel with dirt, water or a high percentage of alcohol is considered contaminated.

# Fuel Supply System

## Fuel Pressure

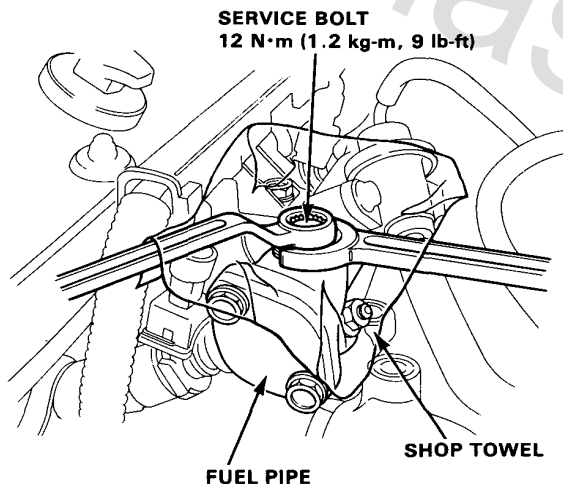
### Relieving

#### **⚠ WARNING**

- Do not smoke while working on the fuel system. Keep open flames or sparks away from the work area.
- Be sure to relieve fuel pressure while the engine is off.

NOTE: Before disconnecting fuel pipes or hoses, release pressure from the system by loosening the 6 mm service bolt at the fuel pipe.

1. Remove fuel filter cap.
2. Disconnect the battery negative cable from the battery negative terminal.
3. Use a box end wrench on the 6 mm service bolt at the fuel pipe, while holding the special banjo bolt with another wrench.
4. Place a rag or shop towel over the 6 mm service bolt.
5. Slowly loosen the 6 mm service bolt one complete turn.



#### NOTE:

- A fuel pressure gauge can be attached at the 6 mm service bolt hole.
- Always replace the washer between the service bolt and the special banjo bolt, whenever the service bolt is loosened to relieve fuel pressure.
- Replace all washers whenever the bolts are removed to disassemble parts.

### Inspection

1. Relieve fuel pressure.
2. Remove the service bolt on the fuel pipe while holding the banjo bolt with another wrench and attach the fuel pressure gauge.
3. Start the engine. Measure the fuel pressure with the engine idling and vacuum hose of the pressure regulator disconnected.

#### Pressure should be:

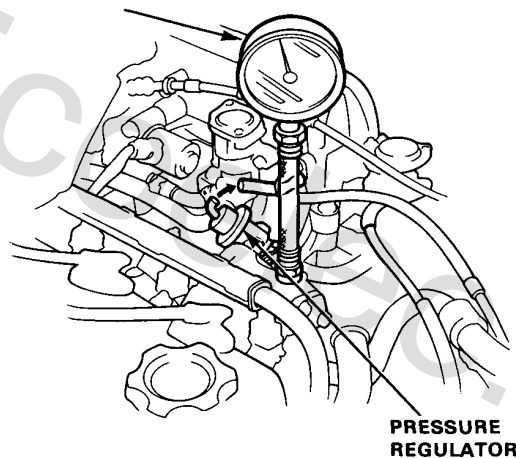
(2.2 l : KS, KX, KG, KE, KF, KY, 2.0 l)  
235–284 kPa (2.4–2.9 kg/cm<sup>2</sup>, 34–41 psi)  
(KQ)  
265–314 kPa (2.7–3.2 kg/cm<sup>2</sup>, 38–46 psi)

4. Reconnect vacuum hose to the pressure regulator.

#### Pressure should be:

(2.2 l : KS, KX, KG, KE, KF, KY)  
176–225 kPa (1.8–2.3 kg/cm<sup>2</sup>, 26–33 psi)  
(KQ, 2.0 l)  
196–245 kPa (2.1–2.6 kg/cm<sup>2</sup>, 28–36 psi)

#### FUEL PRESSURE GAUGE 07406–0040001



- If the fuel pressure is not as specified, first check the fuel pump. If the pump is OK, check the following:
  - If the pressure is higher than specified, inspect for:
    - Pinched or clogged fuel return hose or piping.
    - Faulty pressure regulator (page 6-105).
  - If the pressure is lower than specified, inspect for:
    - Clogged fuel filter.
    - Pressure regulator failure (page 6-105).
    - Leakage in the fuel line.



## Pressure Regulator

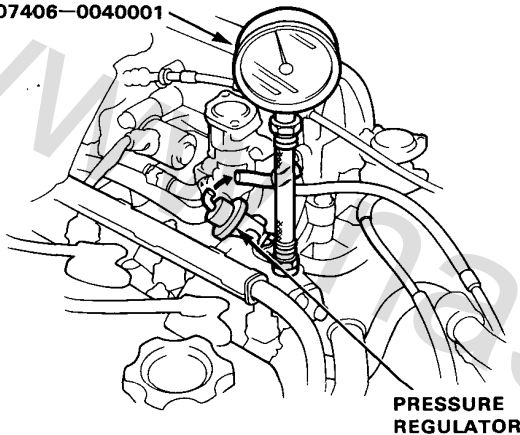
### Testing

**▲ WARNING** Do not smoke during the test. Keep open flames away from your work area.

1. Attach a pressure gauge to the service port of the fuel pipe (page 6-104).

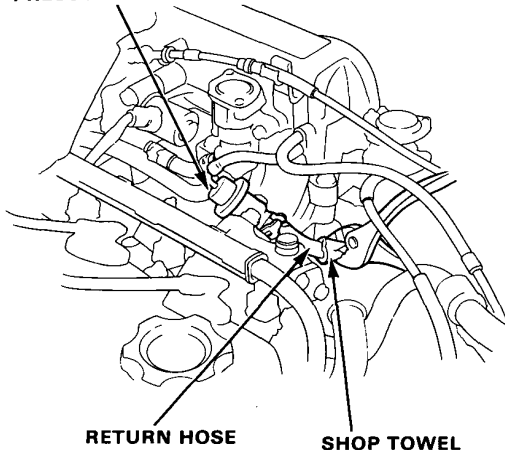
**Pressure should be:**  
(2.2 l :KS, KX, KG, KE, KF, KY, 2.0 l )  
235–284 kPa (2.4–2.9 kg/cm<sup>2</sup>, 34–41 psi)  
(KQ)  
265–314 kPa (2.7–3.2 kg/cm<sup>2</sup>, 38–46 psi)  
(with the regulator vacuum hose disconnected)

FUEL PRESSURE GAUGE  
07406-0040001



2. Reconnect the vacuum hose to the pressure regulator.
3. Check that the fuel pressure rises when the vacuum hose from the regulator is disconnected again.
  - If the fuel pressure did not rise, check to see if it rise with the fuel return hose lightly pinched.
  - If the fuel pressure still does not rise, replace the pressure regulator.

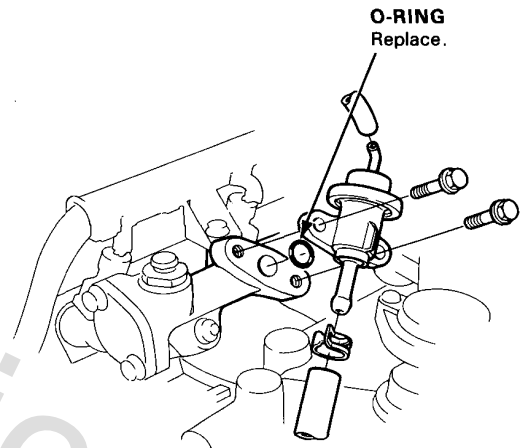
PRESSURE REGULATOR



### Replacement

**▲ WARNING** Do not smoke while working on fuel system. Keep open flame way from work area.

1. Place a shop towel under pressure regulator, then relieve fuel pressure (page 6-104).
2. Disconnect the vacuum hose and fuel return hose.
3. Remove the two 6 mm retainer bolts.



#### NOTE:

- Replace the O-ring.
- When assembling the regulator, apply clean engine oil to the O-ring and assemble it into its proper position, taking care not to damage the O-ring.

# Fuel Supply System

## Fuel Filter

### Replacement

**▲ WARNING** Do not smoke while working on fuel system. Keep open flame away from work area.

The filter should be replaced : every 2 years or 40,000 km, (24,000 miles), whichever comes first or whenever the fuel pressure drops below the specified value 235–284 kPa, 2.4–2.9 kg/cm<sup>2</sup>, 34–41 psi (Except KQ) [KQ:265–314 kPa (2.7–3.2 kg/cm<sup>2</sup>, 38–46 psi)] with the pressure regulator vacuum hose disconnected after making sure that the fuel pump and the pressure regulator are OK.

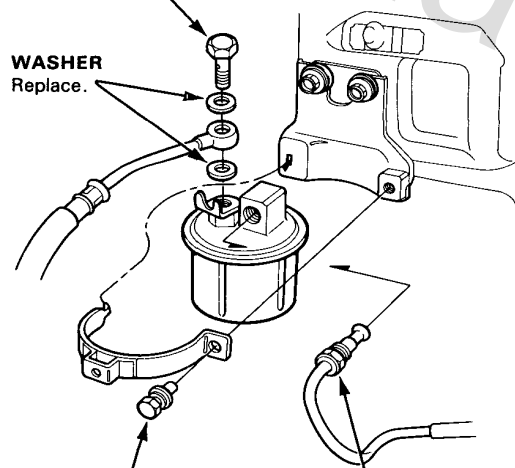
1. Place a shop towel under and around the fuel filter.
2. Relieve fuel pressure (page 6-104).
3. Remove the 12 mm banjo bolt and the fuel feed pipe from the filter.
4. Remove the fuel filter clamp and fuel filter.
5. When assembling, use new washers, as shown.

**BANJO BOLT**  
22N·m (2.2 kg-m, 16 lb-ft)

**WASHER**  
Replace.

10N·m (1.0 kg-m, 7 lb-ft)

38N·m (3.8 kg-m, 27 lb-ft)



**CAUTION:** Clean the flared joint of high pressure hoses thoroughly before reconnecting them.

# Air Intake System

## System Troubleshooting Guide



NOTE: Across each row in the chart, the sub systems that could be sources of a symptom are ranked in the order they should be inspected starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows the system is OK, try the next system ②, etc.

2.0 l and KY :

PAGE	SUB SYSTEM	THROTTLE CABLE	THROTTLE BODY	INTAKE CONTROL SYSTEM
		---	---	---
		②	①	
			①	②

2.2 l except KY :

PAGE	SUB SYSTEM	THROTTLE CABLE	THROTTLE BODY	INTAKE CONTROL SYSTEM	BYPASS CONTROL
		---	---	---	108
		②	①		
			①	③	②

# Air Intake System

## Bypass Control System (2.2 l Except KY)

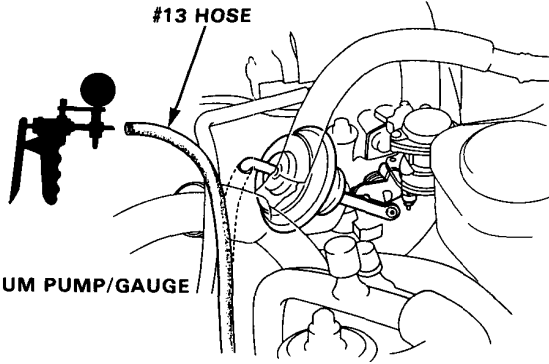
### Troubleshooting Flowchart

Inspection of Bypass Control System

Start engine and allow to idle.

Remove #13 vacuum hose from the bypass control diaphragm and connect vacuum gauge to the hose.

VACUUM PUMP/GAUGE



Is there vacuum ?

NO

Remove #12 vacuum hose from the vacuum tank, then check for vacuum at the tank.

Is there vacuum ?

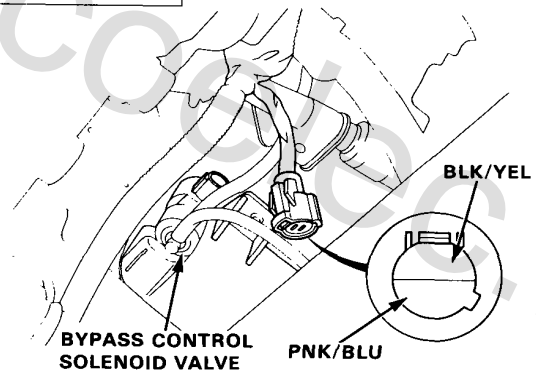
NO

Repair the blockage or vacuum leak between the vacuum tank and the intake manifold.

YES

Disconnect the 2P connector from the Bypass Control Solenoid Valve.

Measure voltage between BLK/YEL (+) terminal and PNK/BLU (-) terminal.



Is there battery voltage ?

YES

Replace the bypass control solenoid valve.

NO

Measure voltage between BLK/YEL (+) terminal and body ground.

(To page 6-109)

(To page 6-109)





(From page 6-108)

Raise engine speed to 5,000 min<sup>-1</sup> (rpm).

Check for vacuum at #13 vacuum hose.

Is there vacuum ?

YES

NO

Bypass control system is OK.

(From page 6-108)

Is there battery voltage ?

NO

YES

Repair open in BLK/YEL wire between the 2P connector and No. 2 (10 A) fuse.

Turn the ignition switch OFF.

Connect the ECU test harness between the ECU and connector.

Check for continuity of PNK/BLU wire between ECU (A17) and the 2P connector.

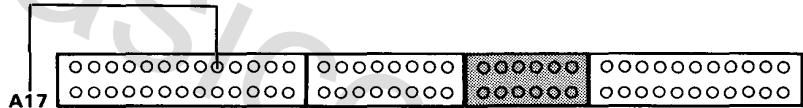
Does continuity exist ?

NO

YES

Repair open in PNK/BLU wire between ECU (A17) and the 2P connector.

Substitute a known-good ECU and recheck. If prescribed voltage is now available replace the original ECU.



Disconnect the 2P connector from the bypass control solenoid valve.

Is there vacuum ?

YES

NO

Replace bypass control solenoid valve.

Turn the ignition switch OFF.

Disconnect "A" connector from ECU.

Check for continuity to ground on the PNK/BLU wire.

Is there continuity to ground ?

YES

NO

Repair short to ground at PNK/BLU wire between ECU (A17) and the 2P connector.

Substitute a known-good ECU and recheck. If symptom goes away, replace the original ECU.

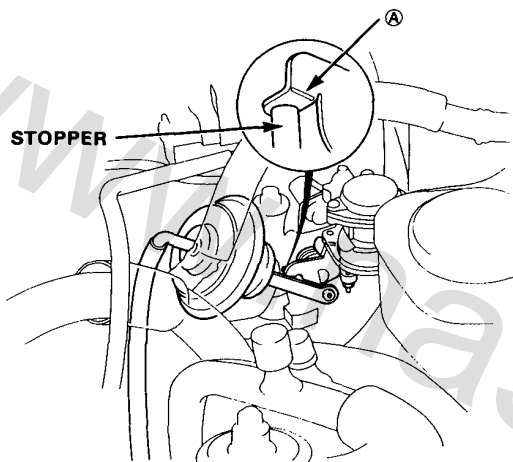
# Air Intake System

## Bypass Valve (2.2 l Except KY)

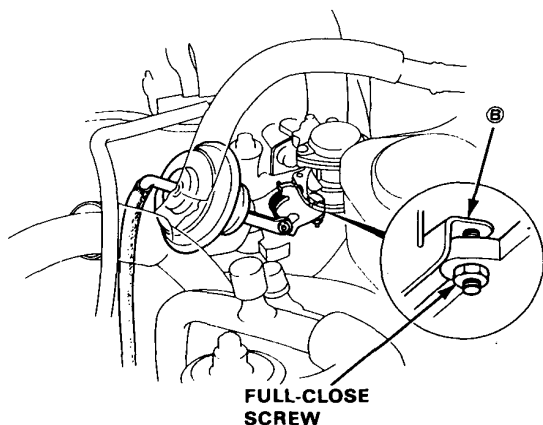
### Testing

**CAUTION:** Do not adjust the bypass valve full-close screw. It was preset at the factory.

1. Check the bypass valve shaft for binding or sticking.
2. Check the bypass valve for smooth movement.
3. Check that Ⓐ of the bypass valve is in close contact with the stopper when the bypass valve is fully open.



4. Check that Ⓑ of the bypass valve is in close contact with the full-close screw when the valve is fully closed.



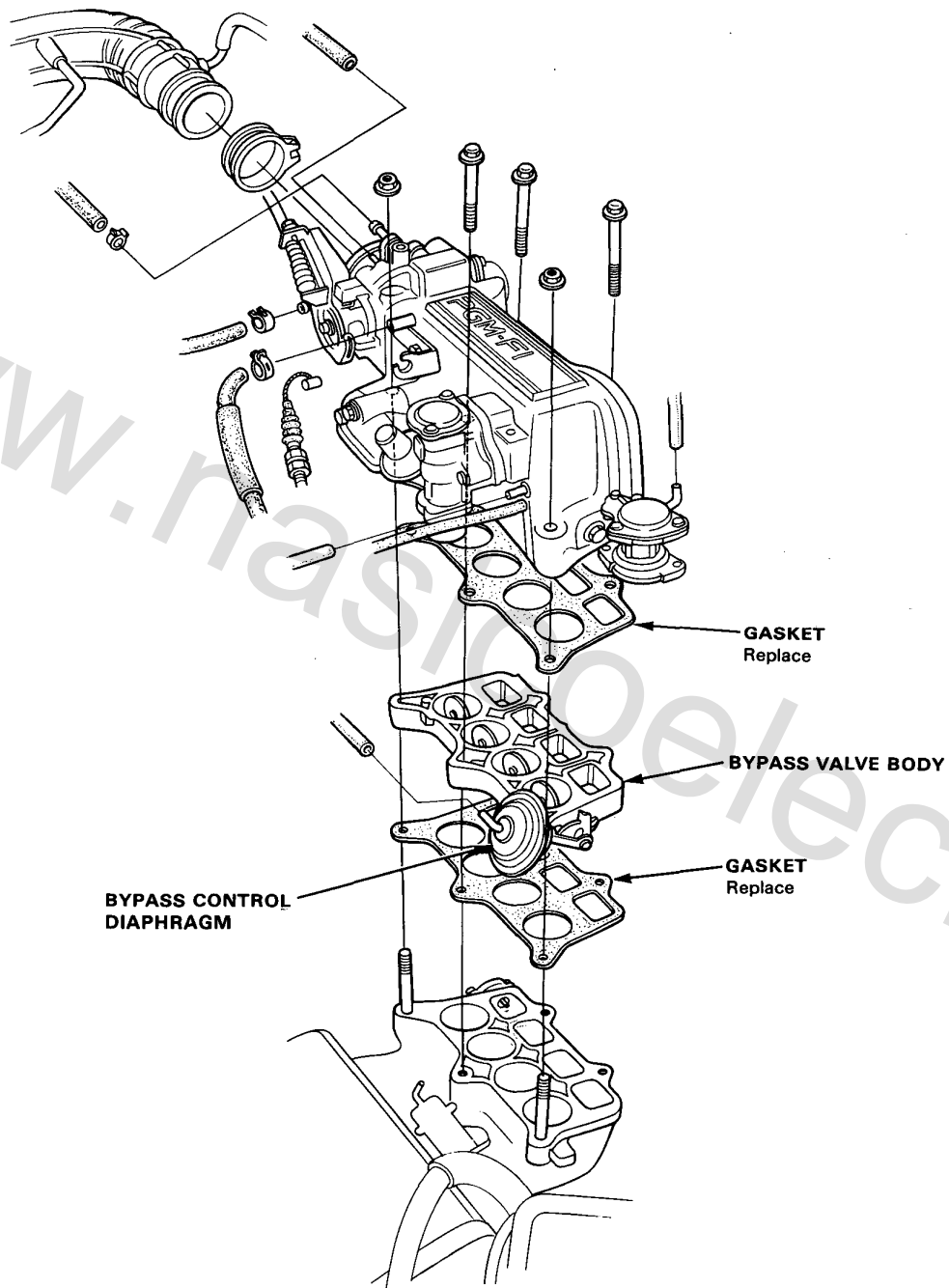
- If any fault is found, clean the linkage and shafts with carburetor cleaner.
- If the problem still exists after cleaning, disassemble the intake manifold and check the bypass valve (page 6-111).

(cont'd)



# Bypass Valve (2.2 l Except KY) (cont'd)

Disassembly



# Emission Control System

## System Troubleshooting Guide

NOTE: Across each row in the chart, the systems that could be sources of a symptom are ranked in the order they should be inspected starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows the system is OK, try the next most likely system ②, etc.

### With CATA:

PAGE	SUB SYSTEM	CATALYTIC CONVERTER	EGR SYSTEM (except KQ)	POSITIVE CRANKCASE VENTILATION SYSTEM	EVAPORATIVE EMISSION CONTROLS
SYMPTOM		—	114	—	—
ROUGH IDLE			①	②	
FREQUENT (AFTER STALLING (WARMING UP))			①		
POOR PERFORMANCE	FAILS EMISSION TEST	①			②
	LOSS OF POWER	①			

### Without CATA :

PAGE	SUB SYSTEM	POSITIVE CRANKCASE VENTILATION SYSTEM	EVAPORATIVE EMISSION CONTROLS (KY)
SYMPTOM		—	—
ROUGH IDLE		①	
POOR PERFORMANCE (FAILS EMISSION TEST)			①

# Emission Control System

## System Troubleshooting Guide

NOTE: Across each row in the chart, the systems that could be sources of a symptom are ranked in the order they should be inspected starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows the system is OK, try the next most likely system ②, etc.

### With CATA:

PAGE	SUB SYSTEM	CATALYTIC CONVERTER	EGR SYSTEM (except KQ)	POSITIVE CRANKCASE VENTILATION SYSTEM	EVAPORATIVE EMISSION CONTROLS
SYMPTOM		—	114	—	—
ROUGH IDLE			①	②	
FREQUENT (AFTER STALLING (WARMING UP)			①		
POOR PERFORMANCE	FAILS EMISSION TEST	①			②
	LOSS OF POWER	①			

### Without CATA :

PAGE	SUB SYSTEM	POSITIVE CRANKCASE VENTILATION SYSTEM	EVAPORATIVE EMISSION CONTROLS (KY)
SYMPTOM		—	—
ROUGH IDLE		①	
POOR PERFORMANCE (FAILS EMISSION TEST)			①



## Tailpipe Emission

### Inspectin

**⚠ WARNING** Do not smoke during this procedure. Keep any open flame away from your work area.

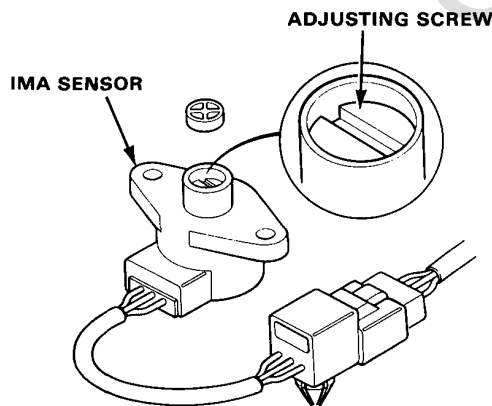
1. Start the engine and warm up to normal operating temperature (cooling fan comes on).
2. Connect tachometer.
3. Check idle speed and adjust the idle speed, if necessary (page 6-102)
4. Warm up and calibrate the CO meter according to the meter manufacture's instructions.
5. Check idle CO with the headlights, heater blower, rear window defogger, cooling fan, and air conditioner off.

#### Specified CO%:

With CATA: 0.1 % maximum

Without CATA:  $1.0 \pm 1.0$  %

- If unable to obtain this reading :  
On With CATA, see ECU troubleshooting guide (page 6-80).  
On other models, adjust by turning the adjusting screw of the IMA sensor.

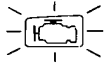


- If unable to obtain a CO reading of specified % by this procedure, check the engine tune-up condition.

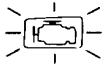
# Emission Control System

## Exhaust Gas Recirculation System

### Troubleshooting Flowchart



Self-diagnosis Check Engine warning light indicates code 12: Most likely a problem in the Exhaust Gas Recirculation (EGR) system.



—Check Engine warning light has been reported on, with service check connector jumped (page 6-84), CODE 12 is indicated.

Turn the ignition switch OFF.

Remove the BACK UP fuse in the under-hood relay box for 10 seconds to reset ECU.

Road test necessary: Warm up the engine to normal operating temperature (cooling fan comes on). Drive the car on the road for approx. 10 minutes. Try to keep the engine speed in the 1700—2500 range.

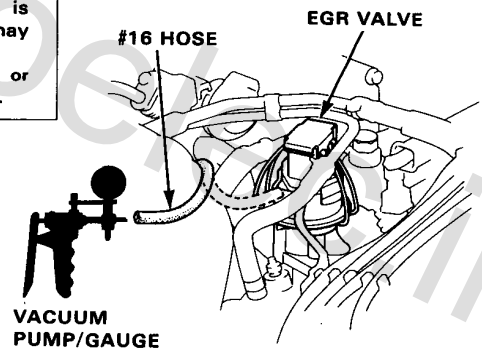
Is Check Engine warning light on and does it indicated CODE 12 ?

NO

Intermittent failure, system is OK at this time (test drive may be necessary). Check for poor connections or loose wires at EGR and ECU.

YES

With the engine at idle, disconnect the #16 hose from the EGR valve and connect a vacuum pump/gauge to the hose.



(To page 6-115)

**Gearshift Mechanism**  
**Mainshaft**  
**Countershaft**

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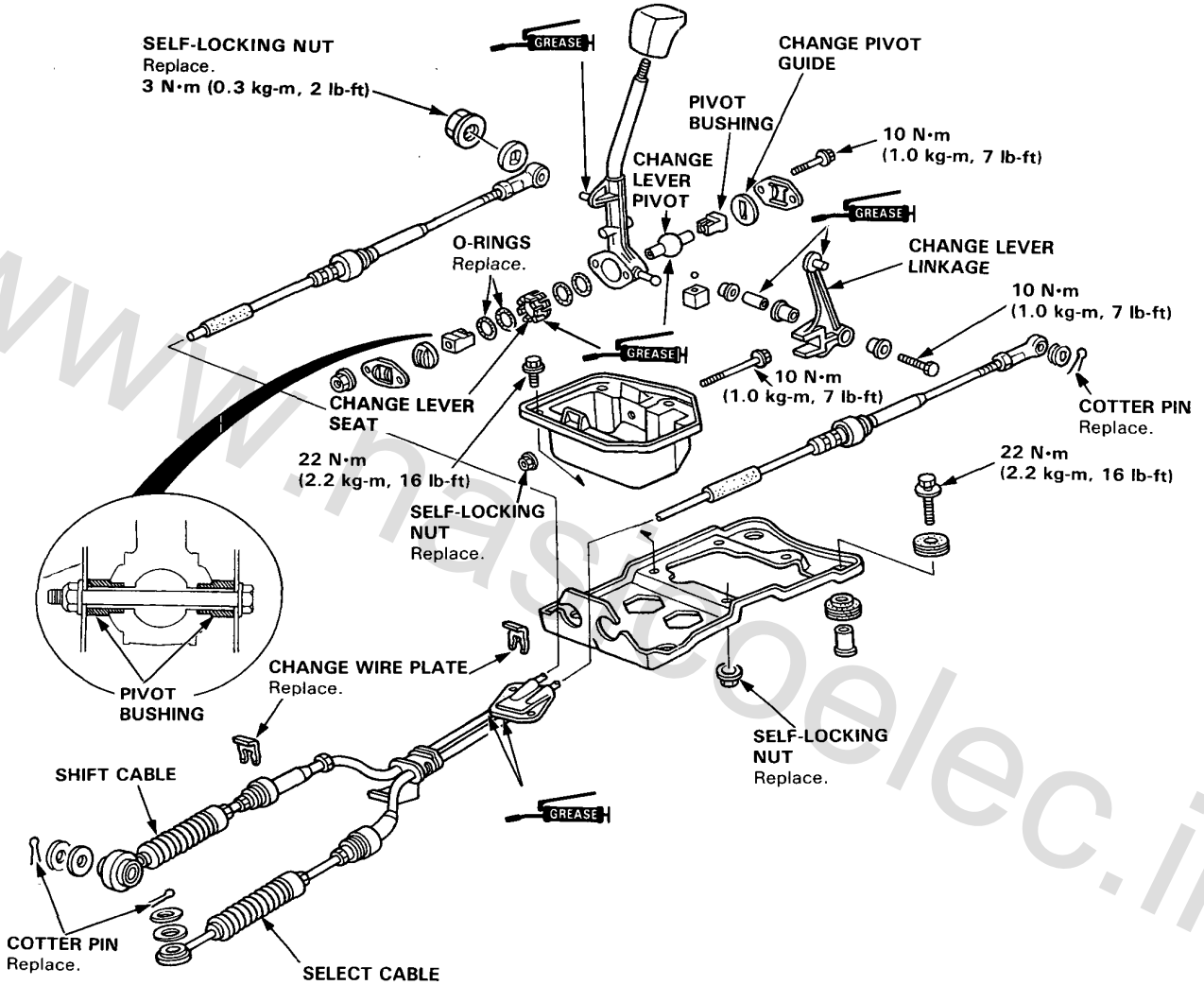


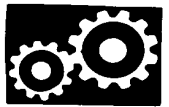
# Gearshift Mechanism

## Overhaul

### NOTE:

- Inspect rubber parts for wear or damage when disassembling.
- Check that new cotter pin is seated firmly.

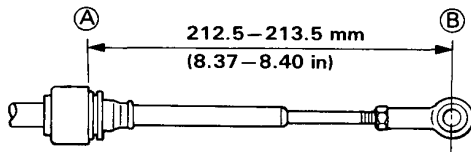




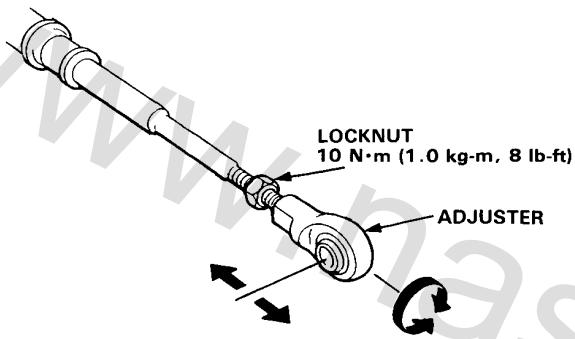
## Cable Adjustment

### Select Cable:

1. With the transmission in neutral, measure the clearance between (A) and (B).



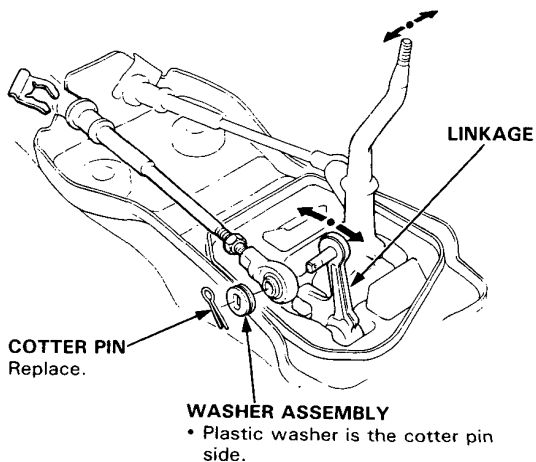
2. If there is no clearance between (A) and (B), loosen the locknut and turn the adjuster as necessary.



3. Tighten the locknut and install the select cable to the linkage.

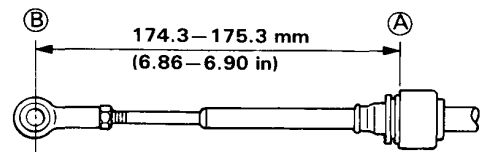
### NOTE:

- Check that new cotter pin is seated firmly.
- After adjustment, check operation of the gear-shift lever.

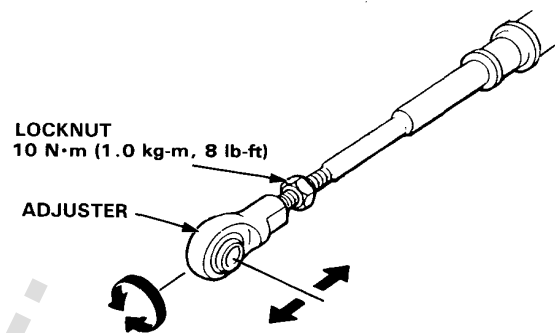


### Shift Cable:

1. With the transmission in neutral, measure the clearance between (A) and (B).

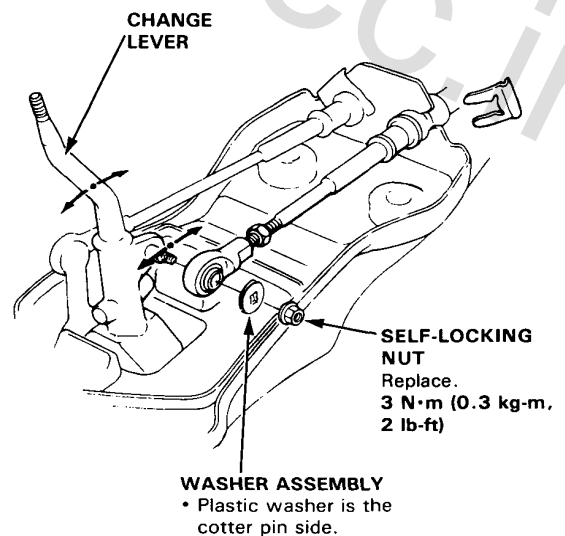


2. If there is no clearance between (A) and (B), loosen the locknut and turn the adjuster as necessary.



3. Tighten the locknut and install the shift cable to the change lever.

NOTE: After adjustment, check operation of the gear-shift lever.



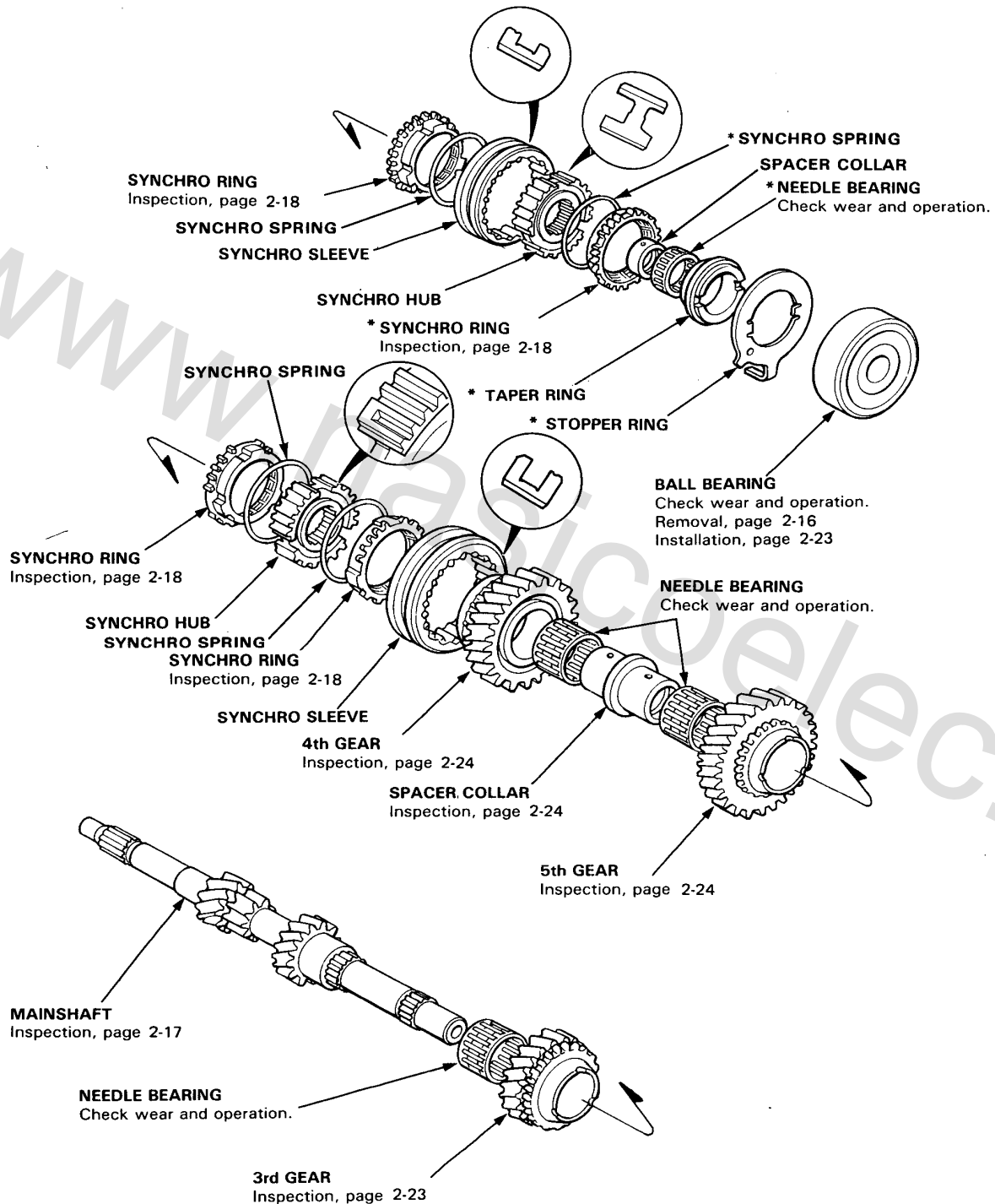
# Mainshaft

## Index



Before assembling, clean all parts in solvent, dry them with compressed air, then coat them with clean oil.

\* Mark parts: H2U5, H2C4 only.




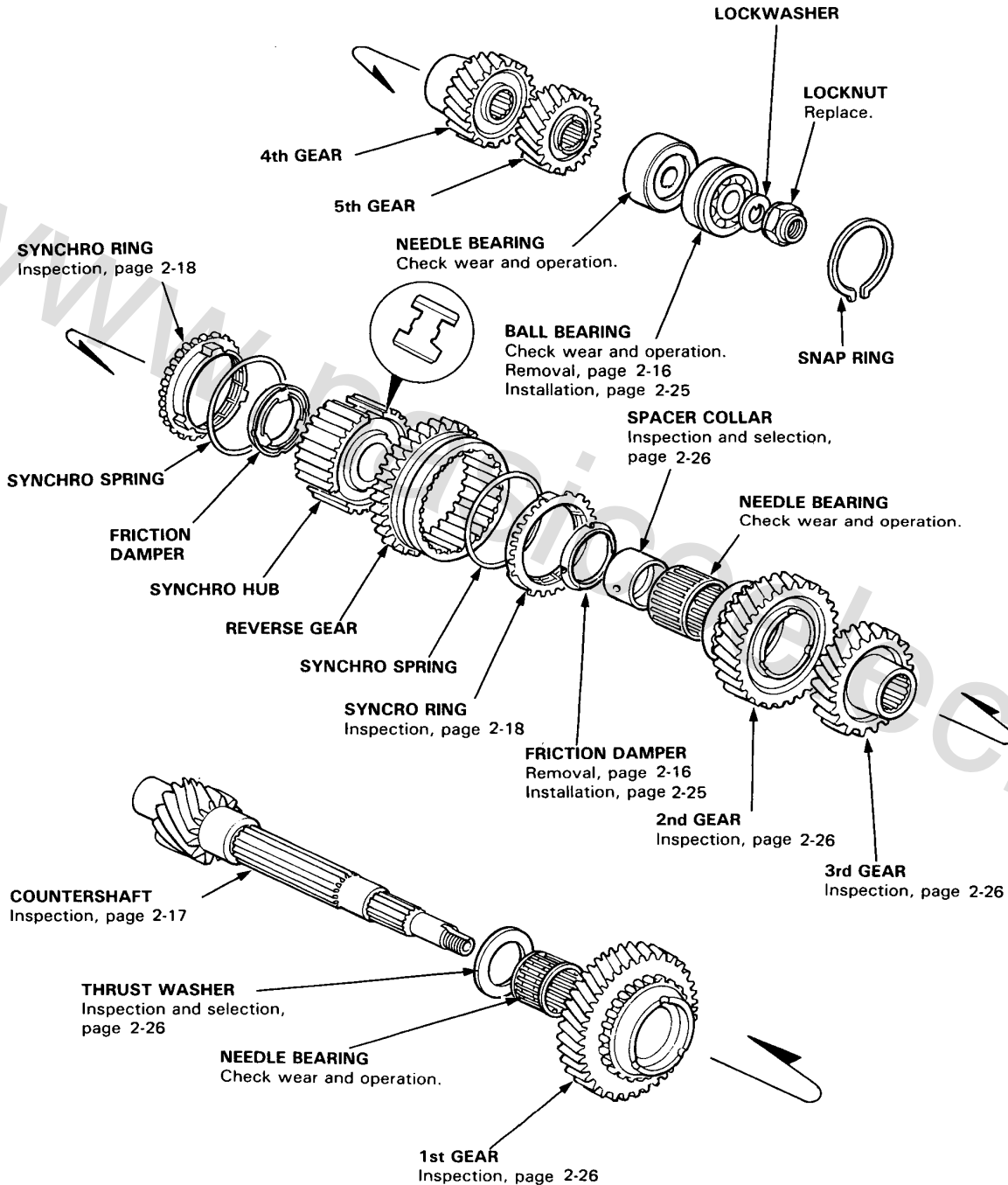
# Countershaft



## Index

NOTE: The needle bearings are of the same size.

 Before assembling, clean all parts in solvent, dry them with compressed air, then coat them with clean oil.



**Service Tips**  
**Discharge Procedure**  
**System Charging**  
    **System Evacuation**  
    **Leak Test**  
    **Charging Procedure**  
**Supplement**

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# Service Tips

**▲ WARNING** When handling refrigerant (R-12) :

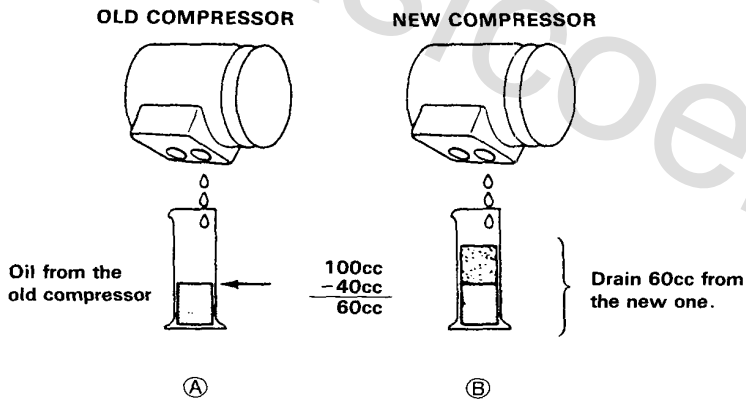
- Always wear eye protection.
- Do not let refrigerant get on your skin or in your eyes; if it does:
  - Do not rub your eyes or skin.
  - Splash large quantities of cool water in your eyes or on your skin.
  - Rush to a physician or hospital for immediate treatment. Do not attempt to treat it yourself.
- Keep refrigerant containers (cans of R-12) stored below 40°C (100 °F).
- Do not handle or discharge refrigerant in an enclosed area near an open flame ; it may ignite and produce a poisonous gas.
- The ozone is a fragile layer surrounding the earth which acts as a shield against the sun's ultra-violet radiation. Chlorine from chemicals called chlorofluorocarbons (CFCs) destroy the ozone in the stratosphere. Automotive air conditioning systems currently use chlorofluorocarbons as the refrigerant.

Auto air conditioning service equipment has been developed to minimize the release of CFCs to the atmosphere. All service procedures should be performed using this equipment according to the manufacturer's instructions.

**CAUTION:**

1. Always disconnect the negative cable from the battery whenever replacing air conditioner parts.
2. Keep moisture and dust out of the system. When disconnecting any lines, plug or cap the fittings immediately; don't remove the caps or plugs until just before you reconnect each line.
3. Before connecting any hose or line, apply a few drops of refrigerant oil to the O-ring.
4. When tightening or loosening a fitting, use a second wrench to support the matching fitting.
5. When discharging the system, use a refrigerant recovery system, Don't release refrigerant into the atmosphere.
6. Add refrigerant oil after replacing the following parts;

Condenser .....	10 cc (1/3 fl oz)
Evaporator .....	25 cc (5/6 fl oz)
Line or hose .....	10 cc (1/3 fl oz)
Receiver .....	10 cc (1/3 fl oz)
Compressor .....	On compressor replacement, subtract the volume of oil drained from the removed compressor from 100 cc (3 1/3 fl oz), and drain the calculated volume of oil from the new compressor: 100 cc (3 1/3 fl oz) - Volume of removed compressor = Draining volume.



# Discharge Procedure

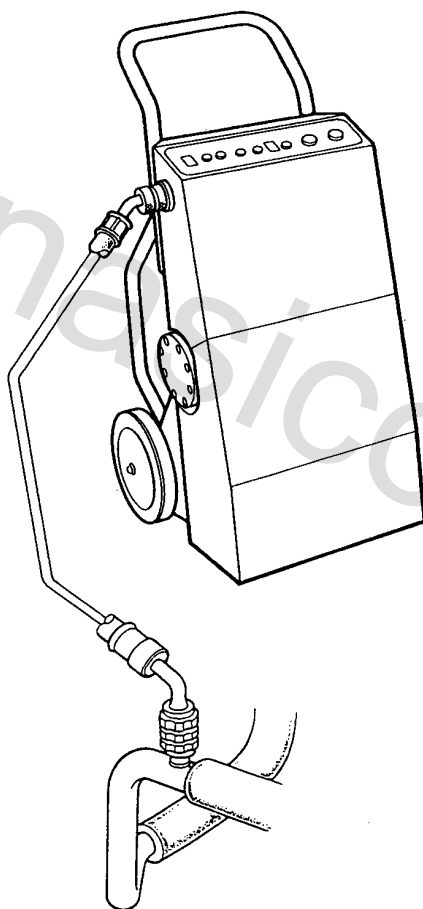


## Discharge

### ⚠ WARNING

- Keep away from open flames. The refrigerant, although nonflammable, will produce a poisonous gas if burned.
  - Work in a well-ventilated area. Refrigerant evaporates quickly, and can force all the air out of a small enclosed area.
1. Connect a Refrigerant Recovery System to the A/C system.
  2. Operate the Refrigerant Recovery System according to the manufacturer's instructions.
- IMPORTANT:** Do not vent refrigerant to the atmosphere. The chlorofluorocarbons (CFCs) used in conventional refrigerant (R-12) may damage the earth's ozone layer. Always use UL-listed, refrigerant recovery/recycling equipment to extract the refrigerant before you open an A/C system to make repairs. Follow the equipment manufacturer's instructions.

Refrigerant Recovery/Recycling System.



# System Charging

## System Evacuation

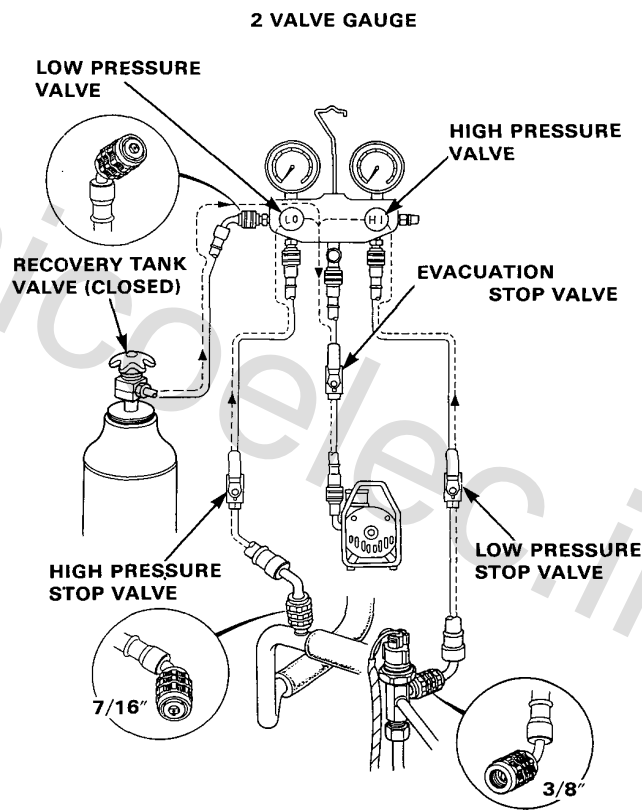
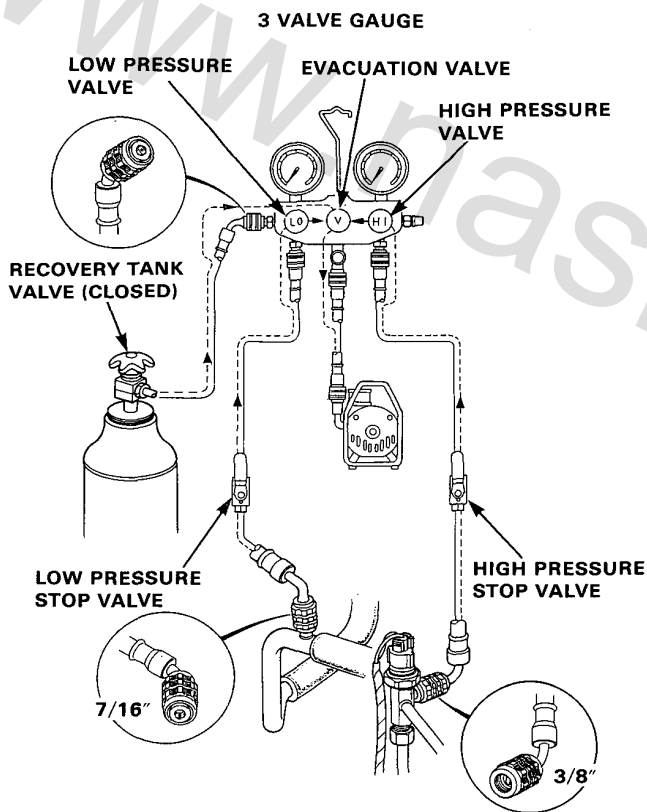
The following are the procedures to be adhered to when servicing air conditioners to reduce the amount of Freon R-12 into the atmosphere.

1. When an A/C System has been opened to the atmosphere, such as during installation or repair, it must be evacuated using a vacuum pump. (If the system has been open for several days, the receiver/dryer should be replaced).
2. Connect a gauge, pump and refrigerant containers (recovery tank of R12) as shown.  
NOTE: Do not open the recovery tank.
3. Start the pump, then open the both pressure valves, both pressure stop valves and evacuation valve (2 valve gauge: evacuation stop valve). Run the pump for about 15 minutes. Close the both pressure valves and

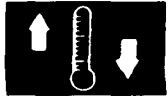
evacuation valve (2 valve gauge: evacuation stop valve) and stop the pump. The low gauge should indicate above 700mmHg. (27 in-Hg) and remain steady with the valves closed.

NOTE: If low pressure does not reach more than 700 mmHg (27 in-Hg) in 15 minutes, there is probably a leak in the system. Check for leaks, and repair (see Leak Test).

4. If there are no leaks open the valves and continue pumping for at least another 15 minutes, then close both valves, stop the pump.







## Leak Test

The following are the procedures to be adhered to when servicing air conditioners to reduce the amount of R-12 into the atmosphere.

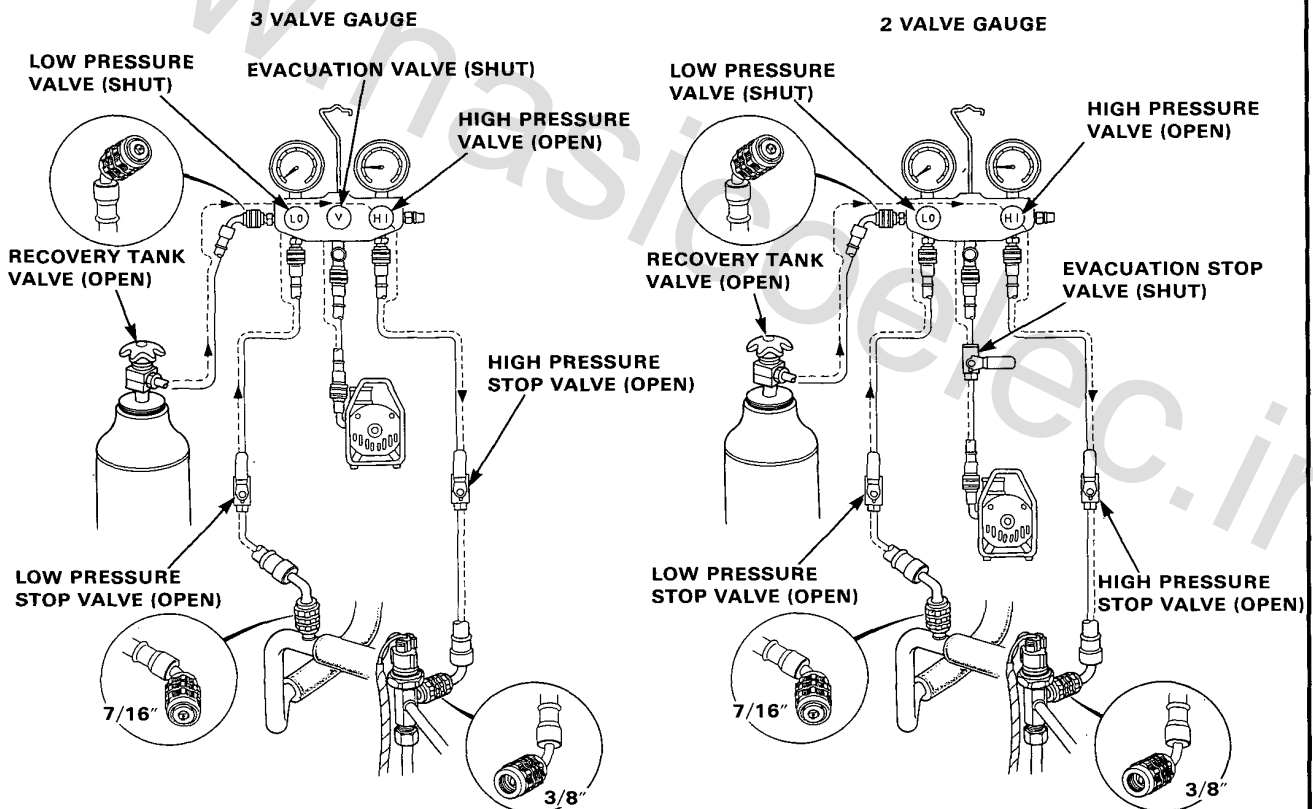
**⚠ WARNING** When handling refrigerant (R-12):

- Always wear eye protection.
- Do not let refrigerant get on your skin or in your eyes. If it does:
  - Do not rub your eyes or skin.
  - Splash large quantities of cool water in your eyes or on your skin.
  - Rush to a physician or hospital for immediate treatment. Do not attempt to treat it yourself.
- Keep refrigerant containers (recovery tank of R-12) stored below 40°C (100°F).
- Keep away from open flame. Refrigerant, although non-flammable, will produce poisonous gas if burned.
- Work in well-ventilated area. Refrigerant evaporates quickly, and can force all the air out of a small, enclosed area.

NOTE: Check for leaks after evacuation.

1. Close the evacuation valve (2 valve gauge; evacuation stop valve).

2. Open the recovery tank.
3. Open high pressure valve to charge the system to about 100 kPa (14 psi), then close the supply valve. NOTE: Close the low pressure valve.
4. Check the system for leaks using a leak detector. NOTE: Particularly check for leaks around the compressor, condenser, and receiver-dryer.
5. If you find any leaks, tighten the joint nuts and bolts to the specified torque.
6. Recheck the system for leaks using a leak detector.
7. If you find leaks that require the system to be opened (to repair or replace hoses, fittings, etc.), release any charge in the system according to the Discharge Procedure on page.
8. After checking and repairing leaks, the system must be evacuated (see System Evacuation on page).



# System Charging

## Charging Procedures

The following are the procedures to be adhered to when servicing air conditioners to reduce the amount of R-12 into the atmosphere.


**⚠ WARNING** When handling refrigerant (R-12):

- Always wear eye protection.
- Do not let refrigerant get on your skin or in your eyes. If it does:
  - Do not rub your eyes or skin.
  - Splash large quantities of cool water in your eyes or on your skin.
  - Rush to a physician or hospital for immediate treatment. Do not attempt to treat it yourself.
- Keep refrigerant containers (recovery tank of R-12) stored below 40°C (100°F).
- Keep away from open flame. Refrigerant, although non-flammable, will produce poisonous gas if burned.
- Work in well-ventilated area. Refrigerant evaporates quickly, and can force all the air out of a small, enclosed area.

**CAUTION:** Do not overcharge the system; the compressor will be damaged.

1. After leak test, check that the high pressure valve is closed and start the engine.
 

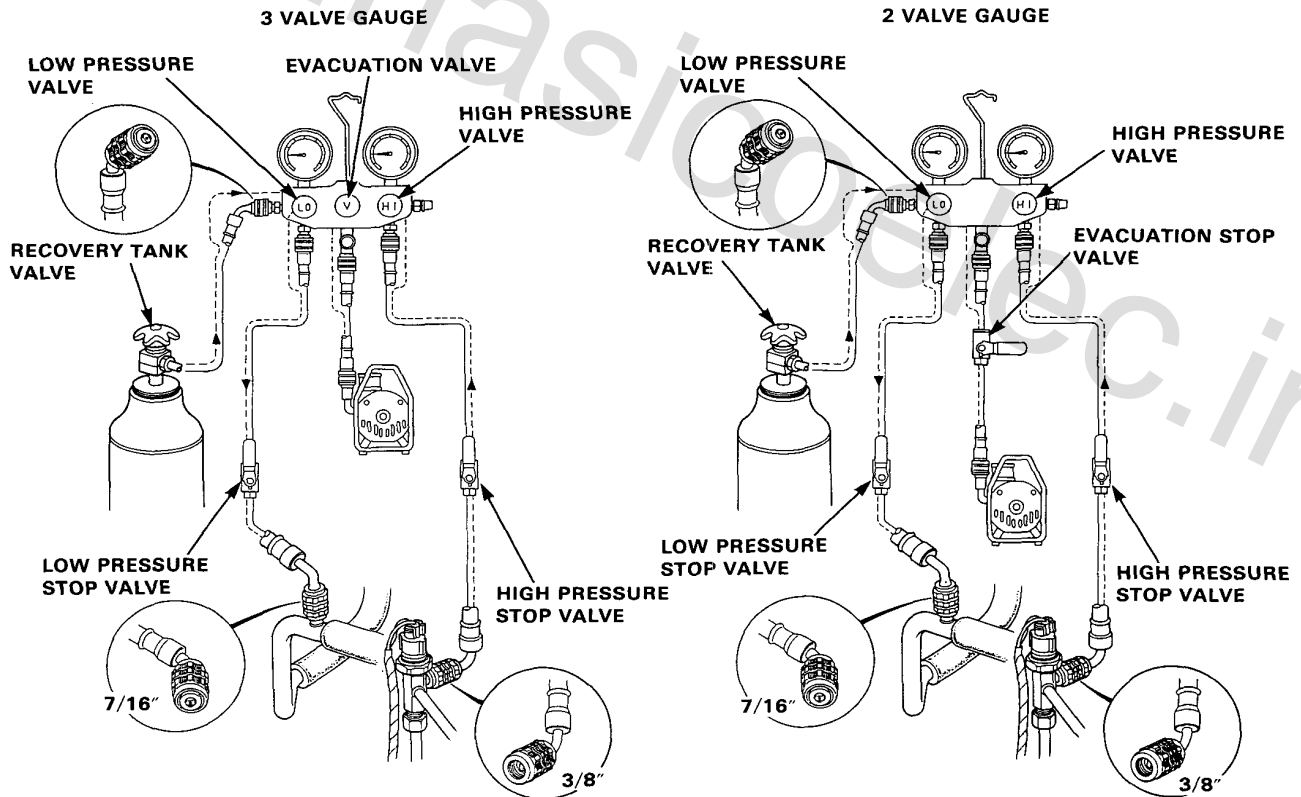
**NOTE:** Run the engine below 1500 rpm.

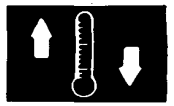
2. Open the front door.
  - Turn the A/C switch on.
  - Turn the air mix dial (lever) to COOL.
  - Turn function control switch (lever) on .
  - Turn the heater fan switch on "E" (MAX).
3. Open the low pressure valve and charge with refrigerant.

**⚠ WARNING**

- Do not open the high gauge valve.
  - Do not turn the cans upside down.
4. Charge the system with refrigerant capacity. Refrigerant capacity: 900–950 g (32–34 oz)
    - ★ Measure the charged refrigerant capacity using a weighing instrument.
  5. When fully charged, close the low pressure valve and the refrigerant cans. Check the system.
  6. Close the high pressure stop valve.
  7. Open the low pressure valve and gradually open the high pressure valve. When both pressure gauge are the same, close the low pressure stop valve and stop the engine.
  8. Disconnect the charge hose quickly.
  9. Check the system for leaks using a leak detector.
 

**NOTE:** Particularly check for leaks around the compressor, condenser, and receiver-dryer.





The following are the procedures to be adhered to when servicing air conditioners to reduce the amount of R-12 into the atmosphere.

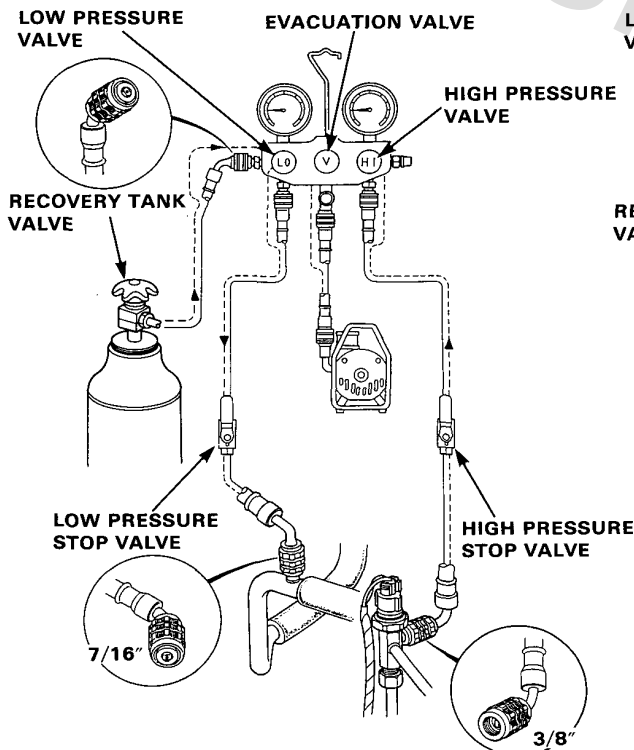
**⚠ WARNING** When handling refrigerant (R-12):

- Always wear eye protection.
- Do not let refrigerant get on your skin or in your eyes. If it does:
  - Do not rub your eyes or skin.
  - Splash large quantities of cool water in your eyes or on your skin.
  - Rush to a physician or hospital for immediate treatment. Do not attempt to treat it yourself.
- Keep refrigerant containers (recovery tank of R-12) stored below 40°C (100°F)
- Keep away from open flame. Refrigerant, although non-flammable, will produce poisonous gas if burned.
- Work in well-ventilated area. Refrigerant evaporates quickly, and can force all the air out of a small, enclosed area.

**CAUTION:** Do not overcharge the system; the compressor will be damaged.

1. Connect the gauge as shown, close both pressure stop valves. Purge air from the charge hose A, then loosen the stop valve connector.
2. Attach a pump and refrigerant containers (can: 250 g x 2) as shown.  
NOTE: Do not open cans.
3. Open both pressure valves and evacuation valve (2 valve gauge: evacuation stop valve), start the pump. The low gauge should indicate above 700 mmHg (27 in-Hg), then run the pump about 1 minute.

**3 VALVE GAUGE**



4. Close both pressure valves and evacuation valve (2 valve gauge: evacuation stop valve). Open both pressure stop valve.
5. Start the engine and turn on A/C switch.
6. Stop the engine and check for leaks using a leak detector.

NOTE: Particularly check for leaks around the compressor, condenser, and receiver-dryer.

7. Test the system using the pressure test and inspection data.

Test condition:

- Start the engine.
- Turn the air mix dial (lever) to COOL.
- Turn the function control switch (lever) on.
- Turn the recirculation control switch on.
- Turn the heater fan switch on "E" (MAX).

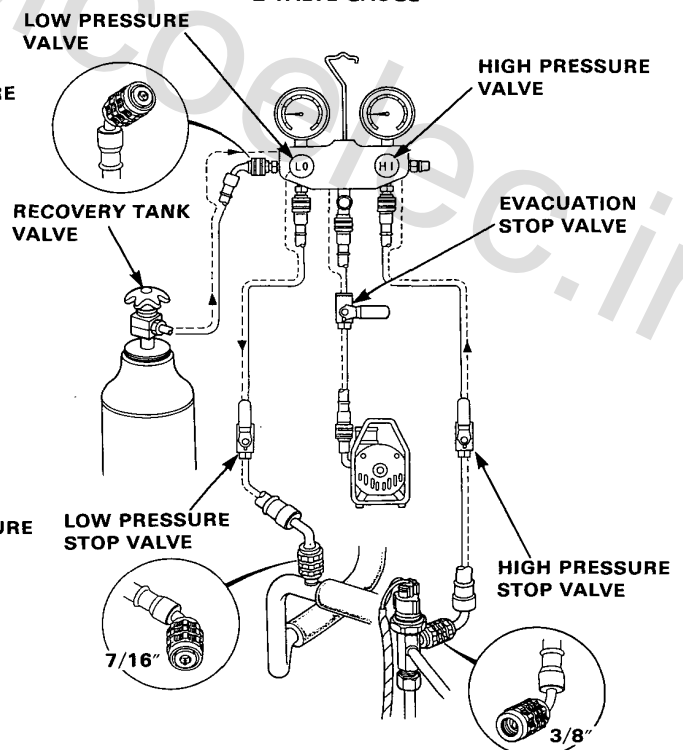
If there is insufficient refrigerant in system, continue to charge system.

8. Open one or two cans, open the low pressure gauge. Charge the system until there are no bubbles in the sight glass.

**⚠ WARNING**

- Do not open the high gauge valve.
  - Do not turn the cans upside down.
9. After adding supplemental refrigerant, close the high pressure stop valve. Open the low pressure valve and gradually open the high pressure valve. When pressure gauges read same, close the low pressure stop valve and stop the engine.
  10. Disconnect the charge hose quickly.
  11. Check the system for leaks using a leak detector.

**2 VALVE GAUGE**



# INTRODUCTION

## How to Use This Manual

This supplement contains information for the 1991 ACCORD AERO DECK.

Refer to following shop manuals for service procedures and data not included in this supplement.

Description	Code No.
ACCORD CHASSIS Maintenance and Repair 90	62SM400
ACCORD SUPPLEMENT 91	62SM420
F18A/F20A/F22A ENGINE Maintenance and Repair	62PT400
H2 MANUAL TRANSMISSION Maintenance and Repair	62PX500
PX4B AUTOMATIC TRANSMISSION Maintenance and Repair	62PX400

The first page of each section is marked with a black tab that lines up with one of the thumb index tabs on this page. You can quickly find the first page of each section without looking through a full table of contents. The symbols printed at the top corner of each page can also be used as a quick reference system.

## Special Information

**▲ WARNING** Indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.

**CAUTION:** Indicates a possibility of personal injury or equipment damage if instructions are not followed.

**NOTE:** Gives helpful information.

**CAUTION:** Detailed descriptions of *standard* workshop procedures, safety principles and service operations are not included. Please note that this manual does contain warnings and cautions against some specific service methods which could cause **PERSONAL INJURY**, or could damage a vehicle or make it unsafe. Please understand that these warnings cannot cover all conceivable ways in which service, whether or not recommended by Honda, might be done, or of the possible hazardous consequences of each conceivable way, nor could Honda investigate all such ways. Anyone using service procedures or tools, whether or not recommended by Honda, *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized.

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\*(Asterisk) marked sections are not included in this manual.

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HONDA MOTOR CO., LTD.  
Service Publication Office

General Info



Special Tools



Specifications

specs

Maintenance



Engine



Fuel and Emissions



Transaxle



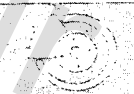
Steering\*



Suspension\*



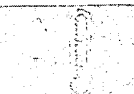
Brakes\*



Body



Wax and  
Air Conditioner\*



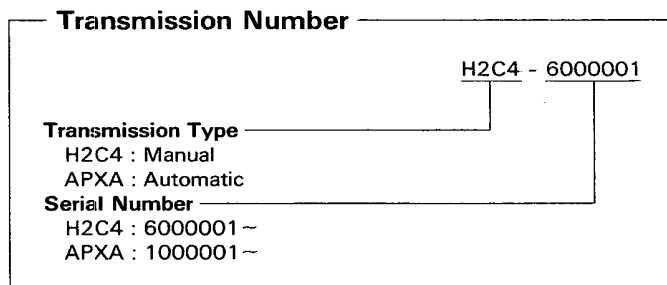
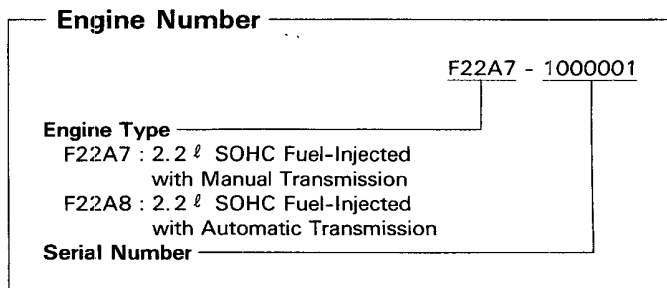
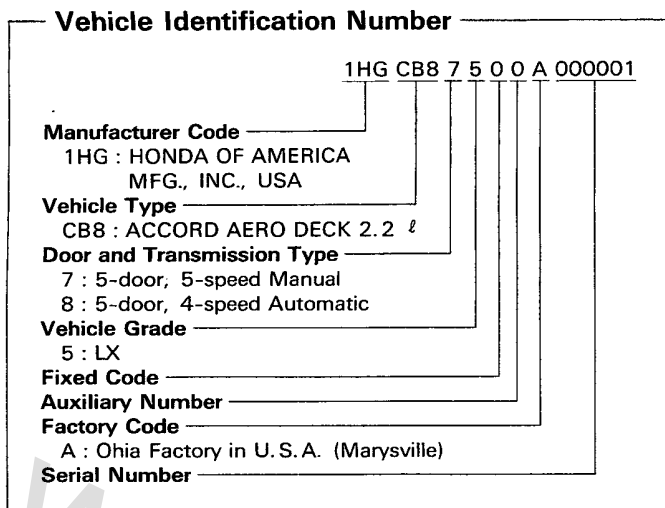
Electrical



**Chassis and Engine Numbers**  
**Identification Number Locations**  
**Label Locations**  
**Lift and Support Points**  
**Towing**  
**Preparation of Work**  
**Symbol Marks**  
**Abbreviation**

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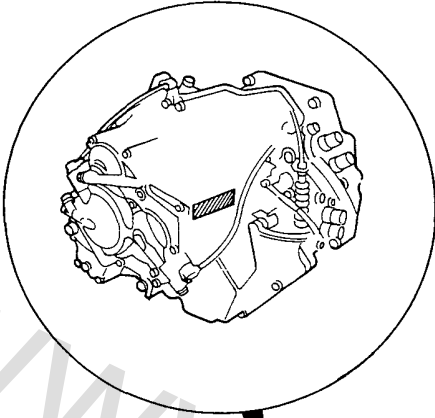
# Chassis and Engine Numbers



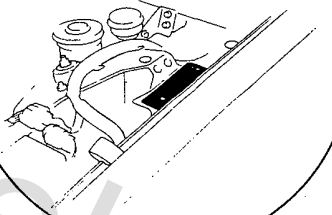
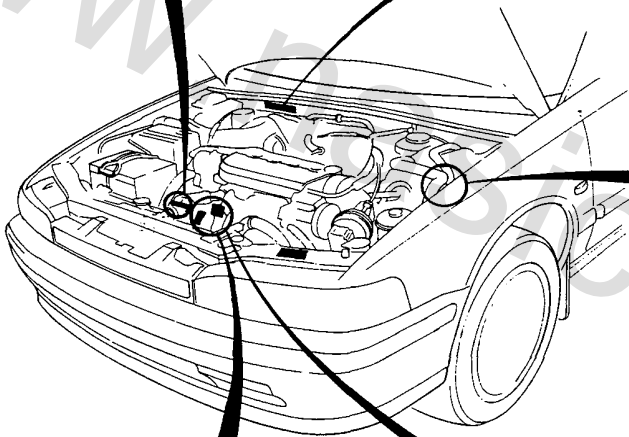
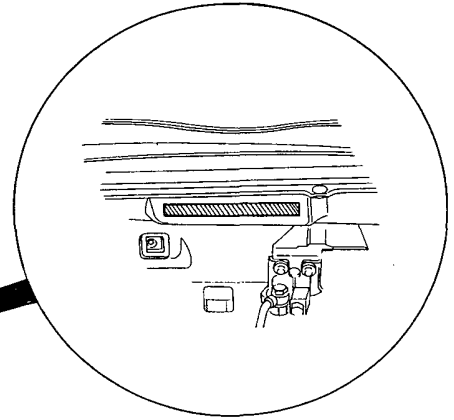
# Identification Number Locations



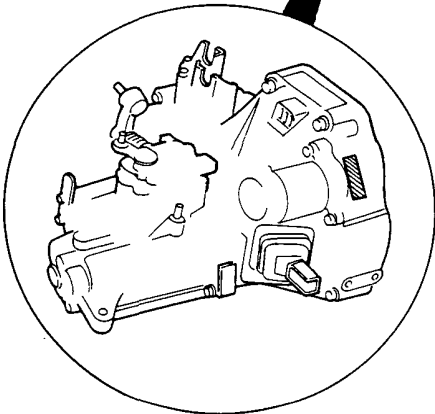
**Transmission Number  
(Automatic)**



**Vehicle Identification Number**



**Vehicle Identification Number**

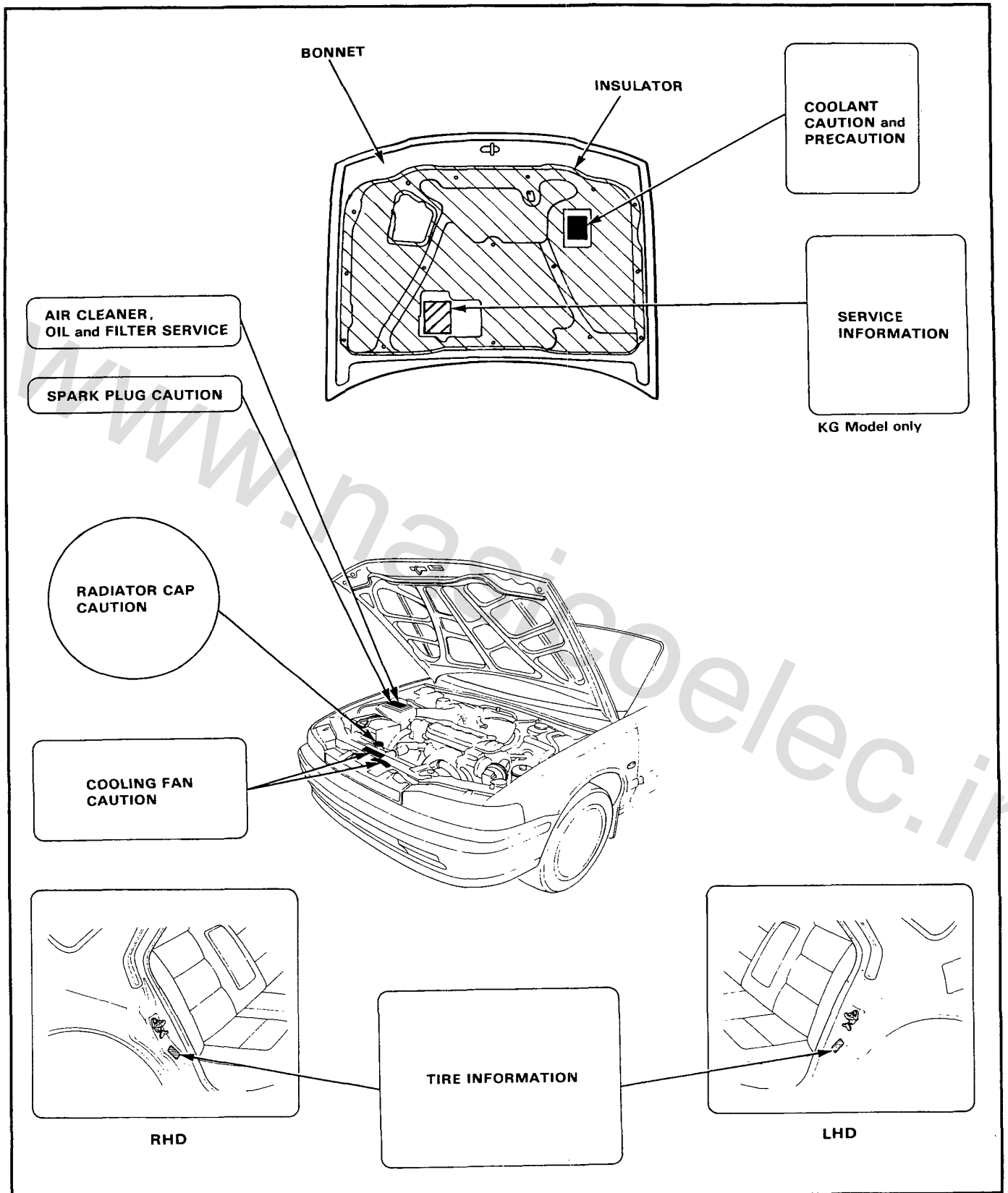


**Transmission Number  
(Manual)**



**Engine Number**

# Label Locations





# Lift and Support Points

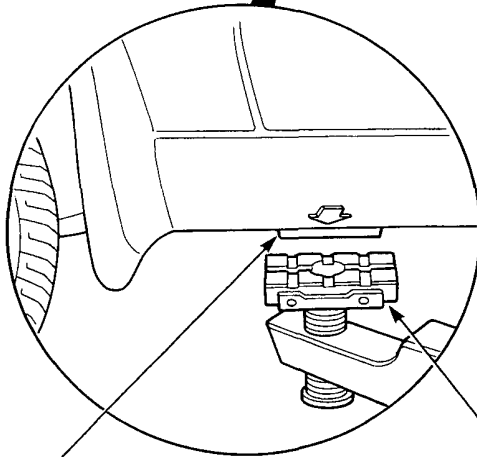
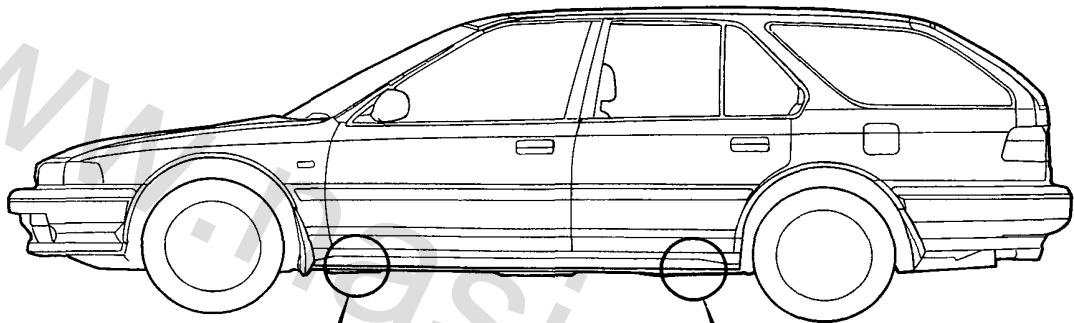


## Hoist

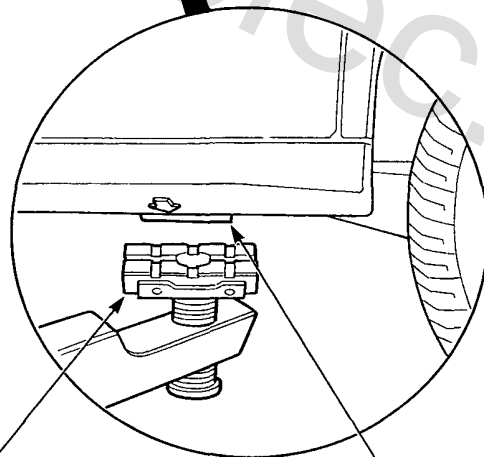
1. Place the lift blocks as shown.
2. Raise the hoist a few inches and rock the car to be sure it is firmly supported.
3. Raise the hoist to full height and inspect lift points for solid support.

**⚠ WARNING** When heavy rear components such as suspension, fuel tank, spare tire and tailgate are to be removed, place additional weight in the trunk before hoisting. When substantial weight is removed from the rear of the car, the center of gravity may change and can cause the car to tip forward on the hoist.

NOTE: Since each tire/wheel assembly weighs approximately 14 kg (30 lbs), placing the front wheels in the trunk will assist with the weight transfer.



FRONT SUPPORT POINT



REAR SUPPORT POINT

LIFT BLOCKS

(cont'd)

# Lift and Support Points (cont'd)

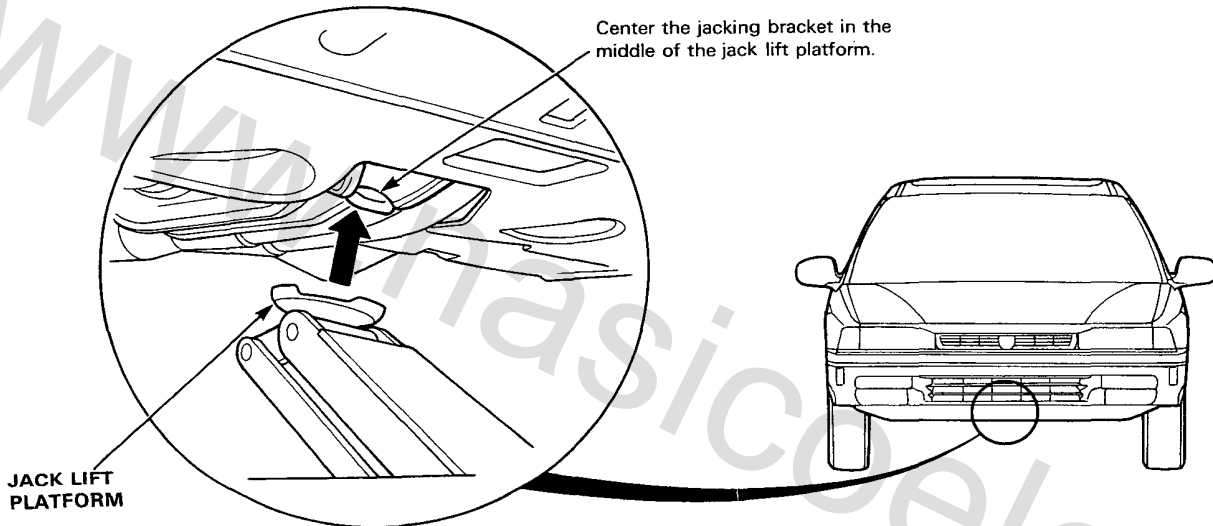
## Floor Jack

1. Set the parking brake and block the wheels that are not being lifted.
2. When lifting the rear of the car, put the gearshift lever in reverse (Automatic in PARK).
3. Raise the car high enough to insert the safety stands.
4. Adjust and place the safety stands as shown on page 1-7 so the car will be approximately level, then lower the car onto the stands.

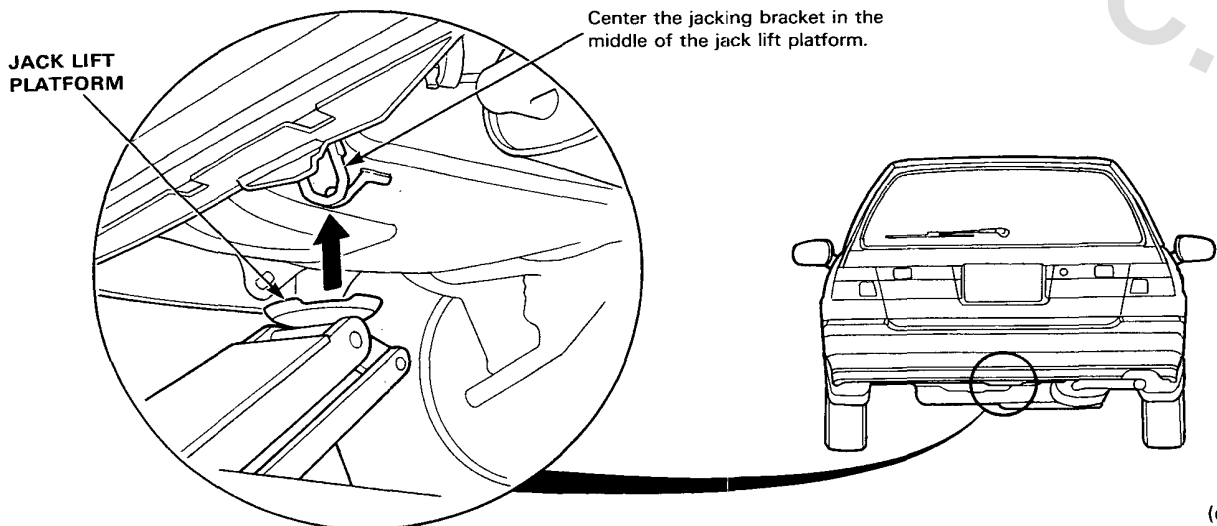
### ▲ WARNING

- Always use safety stands when working on or under any vehicle that is supported by only a jack.
- Never attempt to use a bumper jack for lifting or supporting the car.

### Front



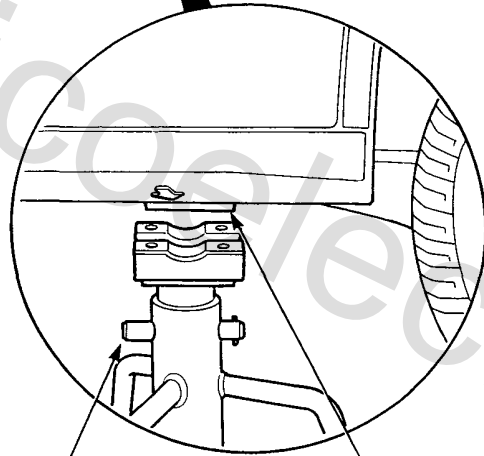
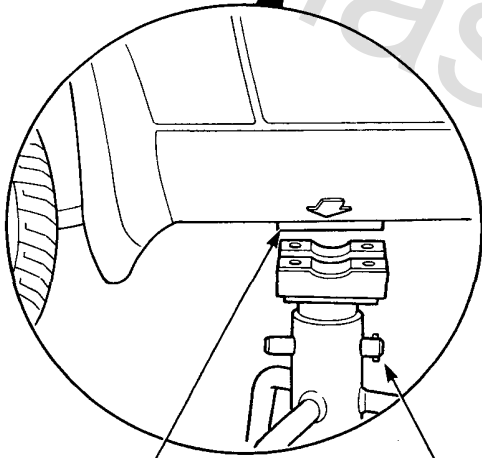
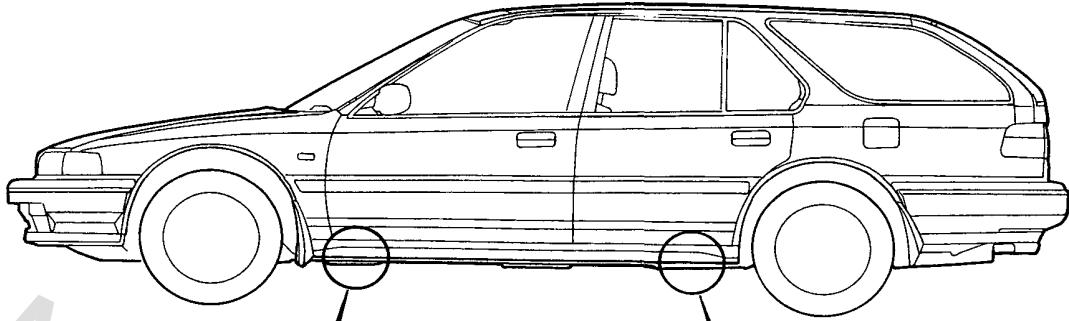
### Rear



(cont'd)



# Safety Stands



FRONT SUPPORT POINT

SAFETY STANDS

REAR SUPPORT POINT

# Towing

If possible, always tow the car with the front wheels off the ground. The tow truck driver should position wood spacer blocks between the car's frame and his chains and lift straps, to avoid damaging the bumper and the body under it.

Do not use the bumpers to lift the car or to support the car's weight while towing. Check local regulations for towing. A chain may be attached to the hook shown in the picture. Do not attach a tow bar to either bumper.

## **▲ WARNING**

**DO NOT push or tow a car to start it. The forward surge when the engine starts could cause a collision. On some types, also, under some conditions, the catalytic converter could be damaged. A car equipped with an automatic transmission cannot be started by pushing or towing.**

If the car is to be towed with the front wheels on the ground, observe the following precautions:

### Manual Transmission

Shift the transmission to Neutral and turn the ignition key to the "I" position.

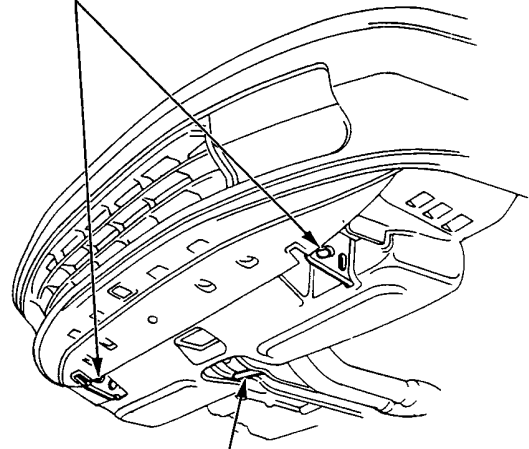
### Automatic Transmission

First, check the automatic transmission fluid level. Start the engine and shift to D<sub>4</sub>, then to N. Return the ignition key to the "I" position.

## **CAUTION:**

- Do not tow with front wheels on the ground when the automatic transmission fluid level is low or the transmission cannot be shifted with the engine running.
- Do not exceed 55 km/h (35 mph) or tow for distances of more than 80 km (50 miles).

**TIE DOWN BRACKETS**



**TOWING HOOK**

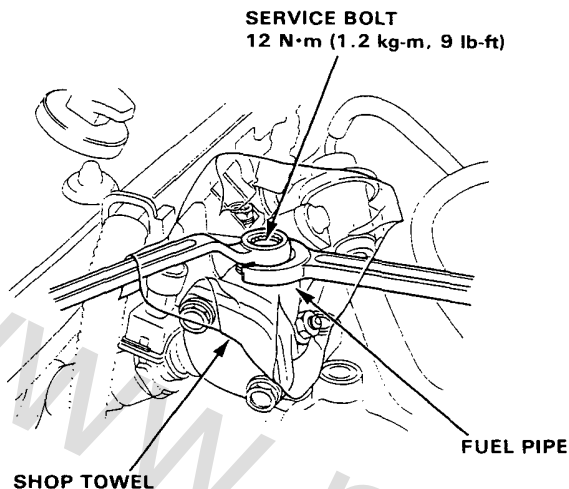
# Preparation of Work



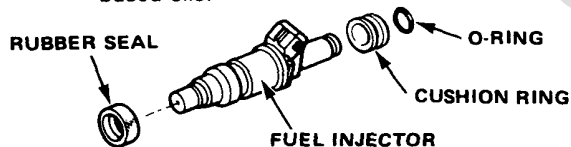
## Special Caution Item For This Car

### Fuel Line Servicing

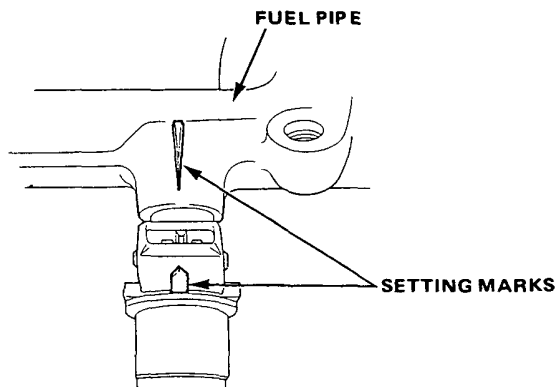
- Relieve fuel pressure by loosening the service bolt provided on the top of the fuel filter before disconnecting a fuel hose or a fuel pipe.



- Be sure to replace washers, O-rings, and rubber seals with new ones when servicing fuel line parts.
- Always apply oil to the surfaces of O-rings and seal rings before installation. Never use brake fluid, radiator fluid, vegetable oils or alcohol-based oils.



- When assembling the flare joint of the high-pressure fuel line, clean the joint and coat with new engine oil.
- When installing an injector, check the angle of the coupler. The center line of the coupler should align with the setting mark on the injector holder.



### Inspection for fuel leakage

- After assembling fuel line parts, turn ON the ignition switch (do not operate the starter) so that the fuel pump is operated for approximately two seconds and the fuel is pressurized. Repeat this operation two or three times and check whether any fuel leakage has occurred in any of the various points in the fuel line.

### Installation of an amateur radio for cars equipped with PGM-FI.

Care has been taken for the Fuel-Injection, A/T, and Cruise control units and its wiring to prevent erroneous operation from external interference, but erroneous operation of the control units may be caused by entry of extremely strong radio waves. Attention must be paid to the following items to prevent erroneous operation of the control units.

- The antenna and the body of the radio must be at least 200 mm (7.9 in.) away from the control units.

The control unit locations:

- Fuel-Injection, A/T: Passenger's side front floor panel.
- Cruise control: Under dash panel of driver's side.
- Do not lead the antenna feeder and the coaxial cable over a long distance parallel to the car's wiring. When crossing the wiring is required, execute crossing at a right angle.
- Do not install a radio with a large output (max. 10 W).

### Apply liquid gasket to the transmission, oil pump cover, right side cover and water outlet. Use HONDA genuine liquid gasket part No. 0Y740-99986.

- Check that the mating surfaces are clean and dry before applying liquid gasket. Degrease the mating surfaces if necessary.
- Apply liquid gasket evenly, being careful to cover all the mating surface.
- To prevent leakage of oil, apply liquid gasket to the inner threads of the bolt holes.
- Do not install the parts if 20 minutes or more have elapsed since applying liquid gasket. Instead, reapply liquid gasket after removing the old residue.
- Wait at least 30 minutes before filling with appropriate liquid (engine oil, coolant and similar fluids).

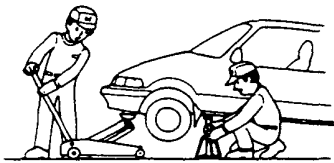
# Preparation of Work

**CAUTION:** Observe all safety precautions and notes while working.

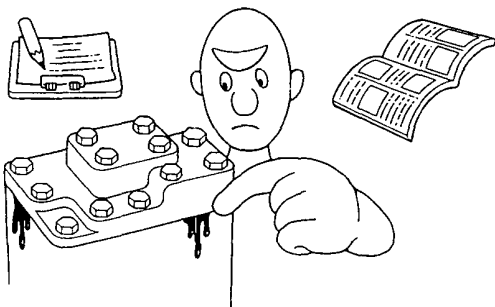
- Protect all painted surfaces and seats against dirt and scratches with a clean cloth or vinyl cover.



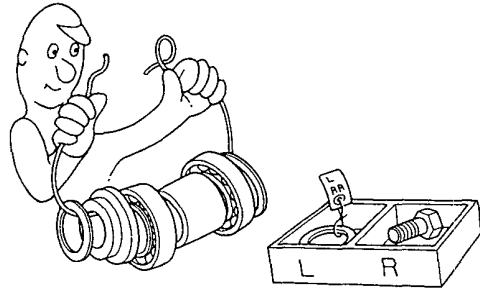
- Work safely and give your work your undivided attention. When either the front or rear wheels are to be raised, block the remaining wheels securely. Communicate as frequently as possible when work involves two or more workers. Do not run the engine unless the shop or working area is well ventilated.



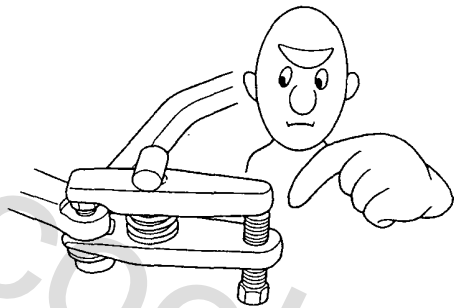
- Prior to removing or disassembling parts, they must be inspected carefully to isolate the cause for which service is necessary. Observe all safety notes and precautions and follow the proper procedures as described in this manual.



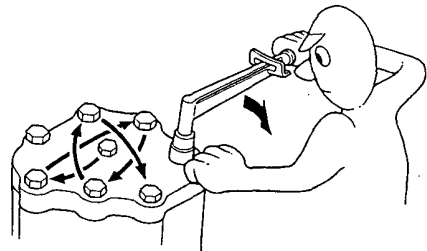
- Mark or place all removed parts in order in a parts rack so they can be reassembled in their original places.



- Use the special tool when use of such a tool is specified.

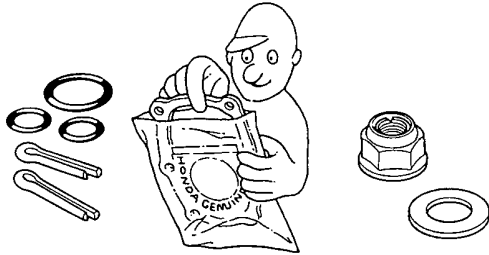


- Parts must be assembled with the proper torque according to the maintenance standards established.
- When tightening a series of bolts or nuts, begin with the center or large diameter bolts and tighten them in crisscross pattern in two or more steps.

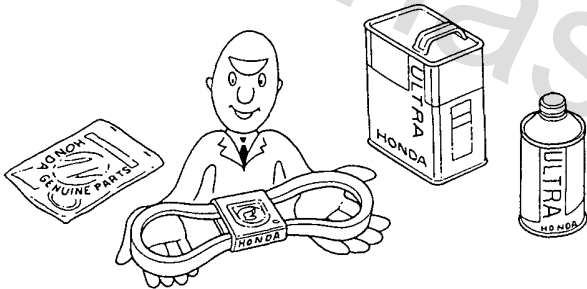




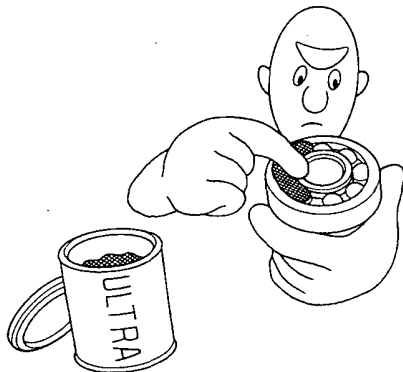
- Use new packings, gaskets, O-rings and cotter pins whenever reassembling.



- Use genuine HONDA parts and lubricants or those equivalent. When parts are to be reused, they must be inspected carefully to make sure they are not damaged or deteriorated and are in good usable condition.

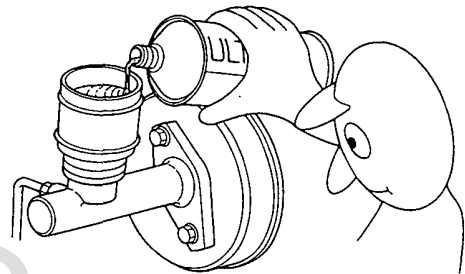


- Coat or fill parts with specified grease as specified (page 4-2). Clean all removed parts with solvent upon disassembly.

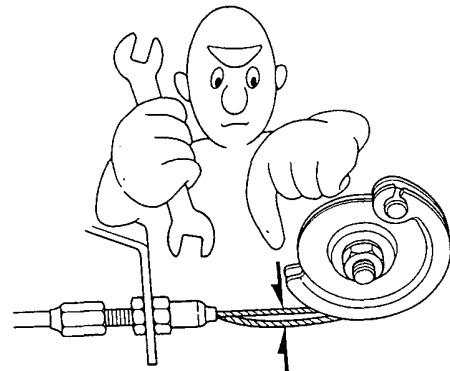


- Brake fluid and hydraulic components

- When replenishing the system, use extreme care to prevent dust and dirt from entering the system.
- Do not mix different brands of fluid as they may not be compatible.
- Do not reuse drained brake fluid.
- Because brake fluid can cause damage to painted and resin surfaces, care should be taken not to spill it on such materials. If spilled accidentally, quickly rinse it with water or warm water from painted or resin surfaces.
- After disconnecting brake hoses or pipes, be sure to plug the openings to prevent loss of brake fluid.
- Clean all disassembled parts only in clean BRAKE FLUID. Blow open all holes and passages with compressed air.



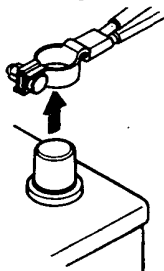
- Keep disassembled parts from air-borne dust and abrasives.
- Check that parts are clean before assembly.
- Avoid oil or grease getting on rubber parts and tubes, unless specified.
- Upon assembling, check every part for proper installation and operation.



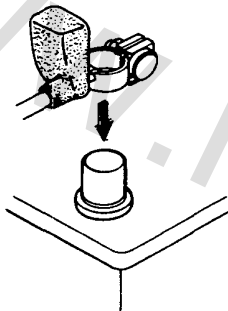
# Preparation of Work

## Electrical

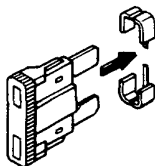
- Before making any repairs on electric wires or parts, disconnect the battery cables from the battery starting with the negative (-) terminal.



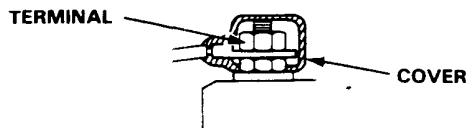
- After making repairs, check each wire or part for proper routing and installation. Also check to see that they are connected properly.
- Always connect the battery positive (+) cable first, then connect the negative (-) cable.



- Coat the terminals with clean grease after connecting the battery cables.
- Don't forget to install the terminal cover over the positive battery terminal after connecting.
- Before installing a new fuse, isolate the cause and take corrective measures, particularly when frequent fuse failure occurs.

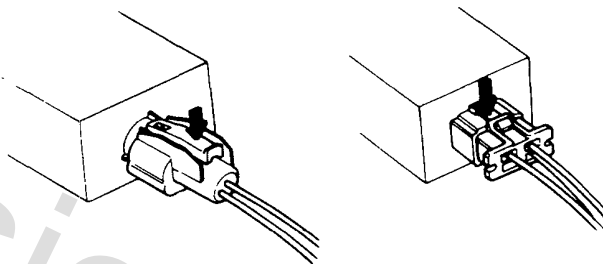
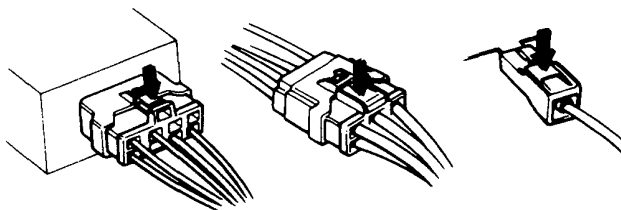


- Be sure to install the terminal cover over the connections after a wire or wire harness has been connected.

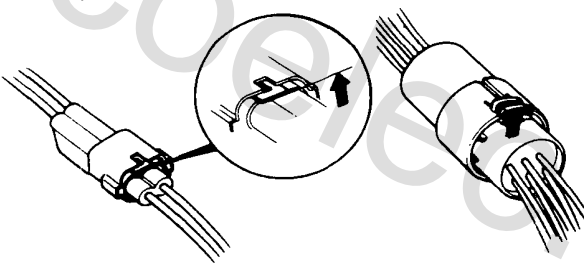


- As to locking connectors, be sure to disengage the lock before disconnecting.
- Conventional connectors may be of two types, those in which the lock is pressed to remove, and those in which the lock is pulled up to remove. Be sure to ascertain the type of locking device before beginning work. The following is a depiction of the means of disconnecting various typical connectors.

### Press to disengage:



### Pull up to disengage:

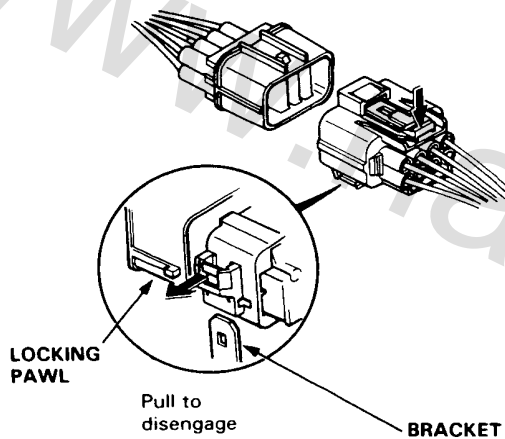




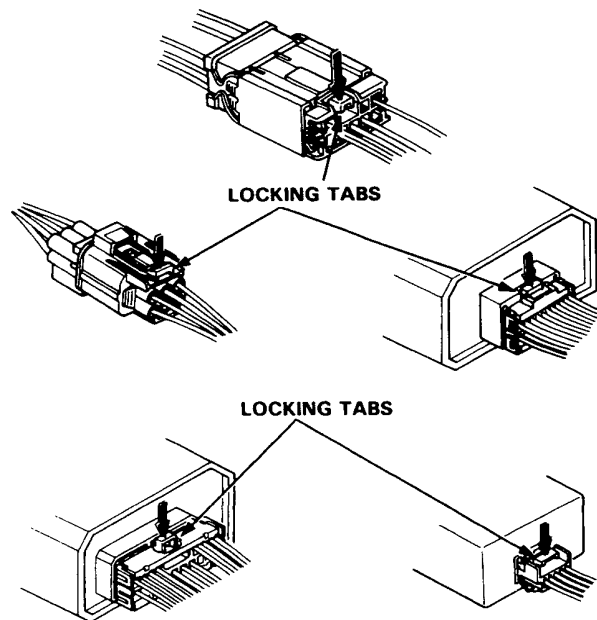


When new type connectors are used, connection and disconnection of them should be done paying attention to the following precautions.

- Because all the connectors except terminal of 1-P are equipped with push-down type locks, unlock them first before disconnecting the connectors.
- On the connectors installed on the bracket a pull type lock is equipped between the bracket and the connector.  
Some connectors of this type can not be disconnected unless they are removed from their brackets. When disconnecting, check their shapes.
- On the bracket mounted connector with dual locks, remove the connector from the bracket before disconnecting.



- Push the locking tab to disconnect.

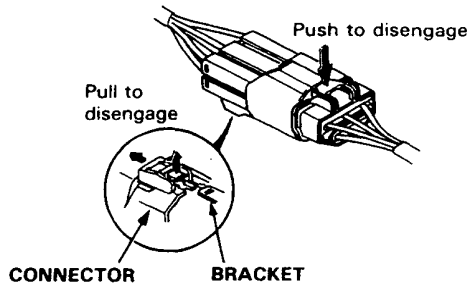


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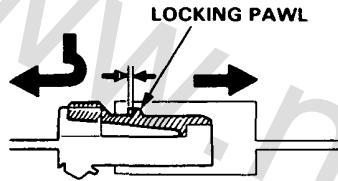
# Preparation of Work

## Electrical (cont'd)

- Pull the locking tab to remove the connector from the bracket.

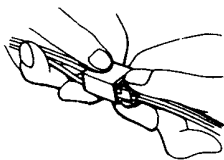


- When disconnecting locks, first press in the connector tightly (to provide clearance to the locking device), then operate the tab fully and remove the connector in the designated manner.

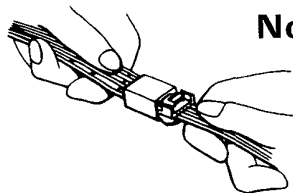


- When disconnecting a connector, pull it off from the mating connector by holding on both connectors.
- Never try to disconnect connectors by pulling on their wires.

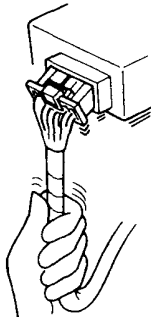
**Good**



**No Good**

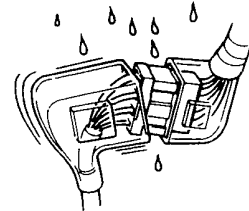


**No Good**



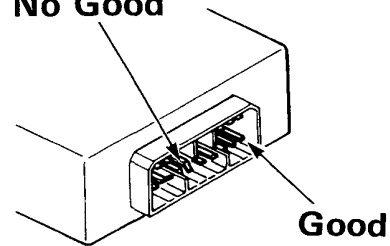
- Place the plastic cover over the mating connector after reconnecting. Also check that the cover is not distorted.

**No Good**

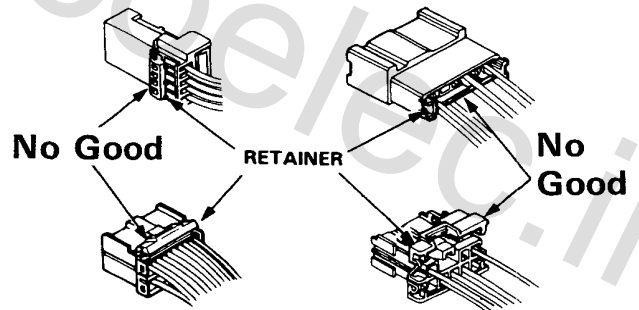


- Before connecting connectors, check to see that the terminals are in place and not bent or distorted.

**No Good**

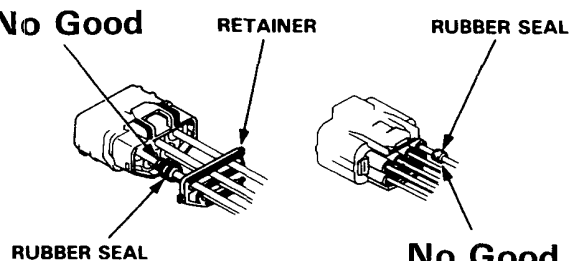


- Check for loose retainer and rubber seals. The illustration shows examples of terminal and seal abnormality.



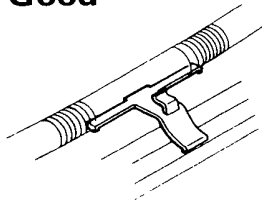
- Example of waterproof connector:

**No Good**

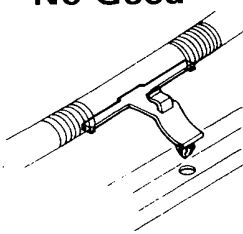




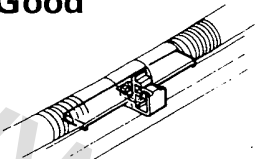
**Good**



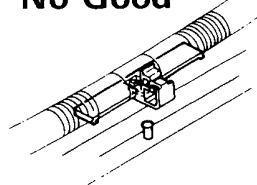
**No Good**



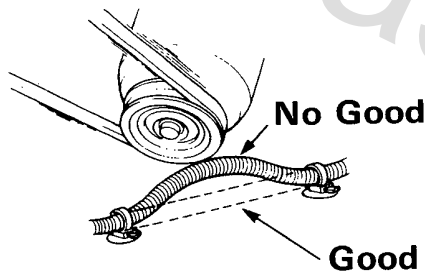
**Good**



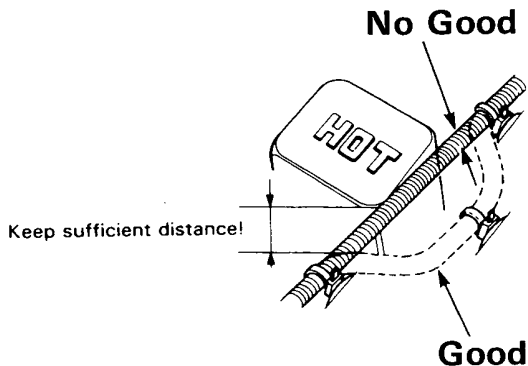
**No Good**



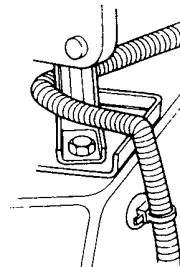
- After clamping, check each harness to be certain that it is not interfering with any moving or sliding parts of the vehicle.
- Keep wire harnesses away from the exhaust pipes and other hot parts.



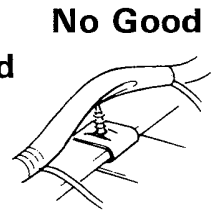
- Always keep a safe distance between wire harnesses and any heated parts.



- Do not bring wire harnesses in direct contact with sharp edges or corners.
- Also avoid contact with the projected ends of bolts, screws and other fasteners.

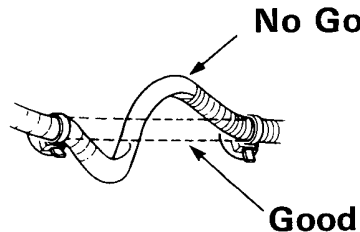


**No Good**

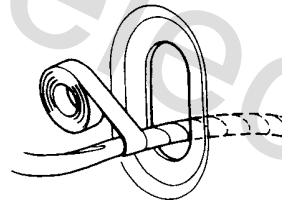


**No Good**

- Route harnesses so they are not pulled taut or slackened excessively.



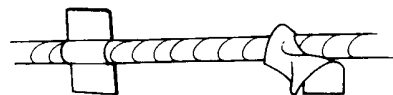
- Protect wires and harnesses with a tape or a tube if they are in contact with a sharp edge or corner.



- Clean the attaching surface thoroughly if an adhesive is used. First, wipe with solvent or alcohol if necessary.

**Good**

**No Good**

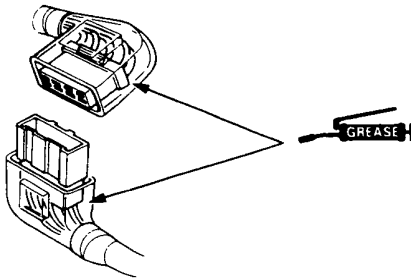


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# Preparation of Work

## Electrical (cont'd)

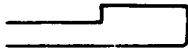
- For the connector which uses insulation grease, clean the connector then apply grease if the grease is insufficient or contaminated.



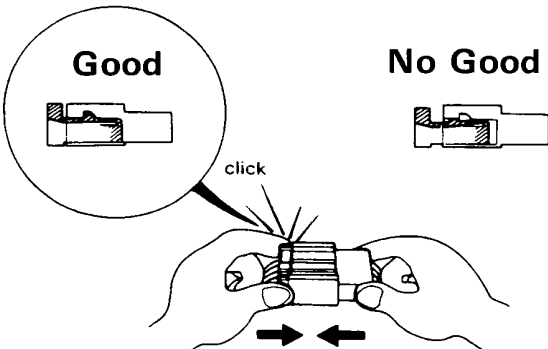
- Insert the connector tightly and make sure it is securely locked.
- Check all the wire harnesses are connected.
- There are two types of locking tab: one that you have to push and the other you should not touch when connecting the connector. Check the shape of the locking tab before connecting.
- The locking tab having a taper end should not be touched when connecting.



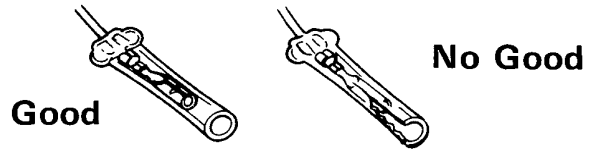
- The locking tab with an angle end should be pushed when connecting.



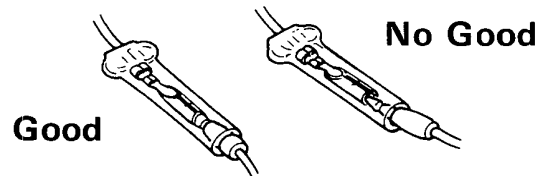
- Insert connectors fully until they will no longer go.
- The connectors must be aligned and engaged securely.
- Do not use wire harnesses with a loose wire or connector.



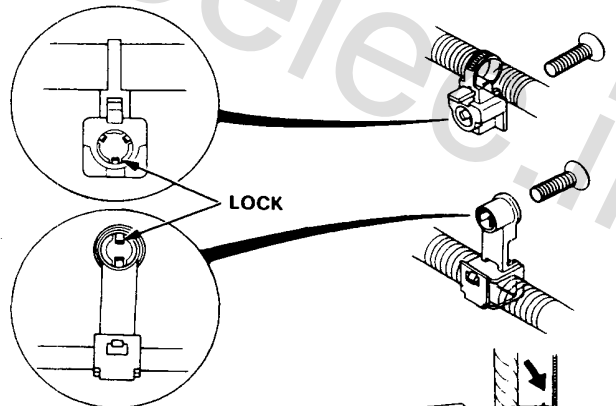
- Before connecting, check each connector cover for damage. Also make sure that the female connector is tight and not loosened from the previous use.



- Insert male connectors into the female connectors fully until they will no longer go.
- Be sure that plastic cover is placed over the connection.
- Position the wires so that the open end of the cover faces down.

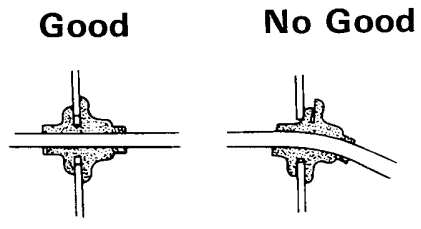


- Secure wires and wire harness to the frame with their respective wire bands at the designated locations. Position the wiring in the bands so that only the insulated surfaces contact the wires or harnesses.
- Remove with care not to damage the lock.

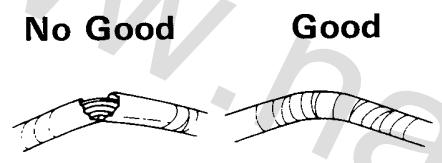




- Seat grommets in their grooves properly.



- Do not damage the insulation when connecting a wire.
- Do not use wires or harnesses with a broken insulation. Repair by wrapping with protective tape or replace with new ones if necessary.

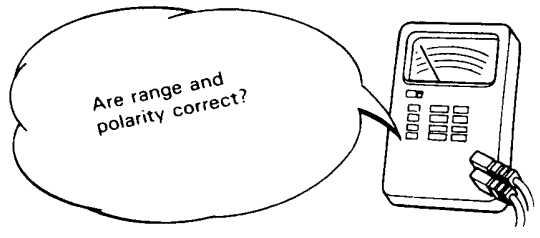


- After installing parts, make sure that wire harnesses are not pinched.

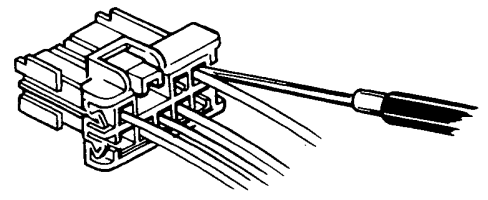


- After routing, check that the wire harnesses are not twisted or kinked.
- Wire harnesses should be routed so that they are not pulled taut, slackened excessively, pinched, or interfering with adjacent or surrounding parts in all steering positions.

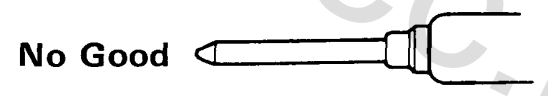
- When using the Service Tester, follow the manufacturer's instructions and those described in the Shop Manual.



- Always insert the probe of the tester from the wire harness side (except waterproof connector).



- Make sure to use the probe with a tapered tip.




- Do not drop parts.




# Symbol Marks

The following symbols stand for:


 : Apply engine oil.

 : Apply brake fluid.

 : Apply grease.

 : Apply Automatic Transmission Fluid.

 : Apply Power Steering Fluid.

 : Apply or check vacuum.

①, ②, ③, ..... : Sequence for removal or installation.  
 ①, ②, ③, ..... : Sequence for removal or installation.

# Abbreviation

A/C	Air Conditioner
A/T	Automatic Transmission
ATF	Automatic Transmission Fluid
B or BAT	Battery
CATA	Catalytic Converter
EACV	Electronic Air Control Valve
ECU	PGM-FI Electronic Control Unit
EGR	Exhaust Gas Recirculation
EX	Exhaust
GND	Ground
IG	Ignition
IN	Intake
INT	Intermittent
L	Left
LHD	Left Hand Drive
M/T	Manual Transmission
RCV	Poaitive Crankcase Ventilation
PGM-FI	Programmed Fuel-Injection
P/S	Power Steering
R	Right
RHD	Right Hand Drive
SW	Switch
SOL. V	Solenoid Valve
TDC	Top Dead Center

P	Parking
R	Reverse
N	Neutral
D <sub>4</sub>	Drive Position (1st~4th)
D <sub>3</sub>	Drive Position (1st~3rd)
2	Fixed 2nd speed
1	Fixed 1st speed
S	S signal/S Switch

**Standards and Services Limits**  
**Design Specifications**  
**Body Specifications**

[www.nasicoelec.ir](http://www.nasicoelec.ir)

# Standards and Service Limits

## 5. Engine/Cylinder Head, Valve Train

		MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Compression		250 min <sup>-1</sup> (rpm) and wide-open throttle	Nominal Minimum Maximum variation	1226 kPa (12.5 kg/cm <sup>2</sup> , 178 psi) 931 kPa (9.5 kg/cm <sup>2</sup> , 135 psi) 196 kPa (2 kg/cm <sup>2</sup> , 28 psi)
Cylinder head		Warpage Height	99.95–100.05 (3.935–3.938)	0.05 (0.002)
Camshaft		End play	0.05–0.15 (0.002–0.006)	0.50 (0.020)
		Oil clearance	0.05–0.089 (0.002–0.0035)	0.150 (0.006)
		Runout	0.015 (0.0006)	0.030 (0.001)
		Cam lobe height	IN 38.526 (1.5167) EX 38.972 (1.5343)	—
Valve		Valve clearance	IN 0.24–0.28 (0.0094–0.0110) EX 0.28–0.32 (0.0110–0.1259)	—
		Valve stem O.D.	IN 5.480–5.490 (0.2157–0.2161) EX 5.450–5.460 (0.2145–0.2149)	5.450 (0.2145) 5.420 (0.2133)
		Stem-to-guide clearance	IN 0.025–0.050 (0.0009–0.0019) EX 0.055–0.080 (0.0021–0.0031)	0.08 (0.0031) 0.12 (0.0047)
		Valve seat	Width Valve stem installed height	IN and EX 1.25–1.55 (0.049–0.061) IN 48.245–48.715 (1.8994–1.9179) EX 50.315–50.785 (1.9809–1.994)
Valve spring		Free length	IN (NH) 53.15 (2.0925) (CH) 53.16 (2.0929) EX (NH) 55.78 (2.196) (CH) 55.80 (2.1968)	— — — —
		I.D.	IN and EX 5.515–5.530 (0.2171–0.2177)	5.53 (0.2177)
		Valve guide installed height	IN 23.75–24.25 (0.9148–0.9547) EX 15.05–15.55 (0.5925–0.6122)	— —
		Rocker arm	Arm-to-shaft clearance	IN 0.017–0.050 (0.0007–0.0020) EX 0.018–0.054 (0.0007–0.0021)

NH: NIHON HATSUJO  
CH: CHUO HATSUJO

## 5. Engine/Engine Block

		MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT	
Cylinder block		Warpage of deck surface	0.07 (0.003) max.	0.10 (0.004)	
		Bore diameter	85.00–85.02 (3.3464–3.3472)	85.07 (3.3492)	
		Bore taper	—	0.05 (0.002)	
		Reboring limit	—	0.5 (0.02)	
Piston		Skirt O.D. (At 21 mm (0.83 in) from bottom of skirt)	A 84.98–84.99 (3.3456–3.4605) B 84.97–84.98 (3.3452–3.3456)	84.97 (3.3452) 84.96 (3.3448)	
		Clearance in cylinder	0.02–0.04 (0.0008–0.0016)	0.05 (0.0020)	
		Piston ring	Piston-to-ring clearance	Top 0.035–0.060 (0.0014–0.0024) Second 0.030–0.055 (0.0011–0.0022)	0.130 (0.0051) 0.130 (0.0051)
Piston ring		Ring end gap	Top 0.20–0.35 (0.0079–0.0138) Second 0.40–0.55 (0.0157–0.0217) Oil 0.20–0.70 (0.0079–0.0276)	0.60 (0.0236) 0.70 (0.0276) 0.80 (0.0315)	
		Connecting rod	Pin-to rod interference	0.013–0.032 (0.0005–0.0013)	—
		Small end bore diameter	21.968–21.981 (0.8649–0.8654)	—	
		Large end bore diameter	Nominal 51 (2.008)	—	
Crankshaft		End play installed on crankshaft	0.15–0.30 (0.006–0.012)	0.40 (0.016)	
		Main journal diameter	No. 1, 2 Journals 49.976–50.000 (1.9676–1.9685) No. 3 Journal 49.972–49.996 (1.9674–1.9683) No. 4, 5 Journals 49.984–50.008 (1.9679–1.9688)	— — —	
		Taper/out-of-round, main journal	0.005 (0.0002) max.	0.010 (0.0004)	
		Rod journal diameter	47.976–48.000 (1.8888–1.8898)	—	
		Taper/out-of-round, rod journal	0.005 (0.0002) max.	0.010 (0.0004)	
		End play	0.10–0.35 (0.004–0.014)	0.45 (0.018)	
Bearings		Runout	0.015 max (0.0006)	0.020 (0.0008)	
		Main bearing-to journal oil clearance	No. 1, 2 Journals 0.021–0.045 (0.0009–0.0018) No. 3 Journal 0.025–0.049 (0.0011–0.0019) No. 4, 5 Journals 0.013–0.037 (0.0005–0.0015)	0.05 (0.002) 0.054 (0.0021) 0.05 (0.002)	
		Rod bearing-to journal oil clearance	0.021–0.049 (0.0008–0.0019)	0.05 (0.002)	



### 5. Engine/Engine Block (cont'd)

MEASUREMENT		STANDARD (NEW)		SERVICE LIMIT
Balancer Shaft	Journal diameter	No. 1 journal (Front)	42.722–42.734 (1.6820–1.6824)	—
		(Rear)	20.938–20.950 (0.8243–0.8248)	—
		No. 2 journal	38.712–38.724 (1.5241–1.5246)	—
	Journal taper	No. 3 journal	34.722–34.734 (1.3670–1.3674)	—
			0.005 (0.0002)	—
	End play	(Front)	0.100–0.350 (0.0040–0.0138)	—
		(Rear)	0.060–0.180 (0.0024–0.0070)	—
Runout		0.020 (0.0008)	—	
Oil Clearance	No. 1 journal (Rear)		0.050–0.075 (0.0020–0.0030)	—
		No. 1(Front), 3 journal	0.066–0.118 (0.0026–0.0046)	—
	No. 2, journal		0.076–0.128 (0.0030–0.0050)	—
Balancer Shaft Bearing	I.D	No. 1 journal (Front)	42.800–42.820 (1.6850–1.6858)	—
		(Rear)	21.000–21.013 (0.8268–0.8273)	—
		No. 2 journal	38.800–38.820 (1.5276–1.5283)	—
		No. 3 journal	34.800–34.820 (1.3701–1.3710)	—

### 5. Engine/Engine Lubrication

MEASUREMENT		STANDARD (NEW)		SERVICE LIMIT
Engine oil	Capacity (US. qt., Imp. qt.)	4.9 (5.2, 4.3) After engine disassembly 3.8 (4.0, 3.3) After oil change, including oil filter 3.5 (3.7, 3.1) After oil change, without oil filter		
Oil pump	Displacement	43.9 ℓ (11.6 US. gal., 9.7 Imp. gal.)/6,000 min <sup>-1</sup> (rpm)		
	Inner-to-outer rotor radial clearance	0.02–0.16 (0.0008–0.0063)		0.2 (0.008)
	Pump body-to-rotor radial clearance	0.10–0.19 (0.0040–0.0075)		0.21 (0.0083)
	Pump body-to-rotor side clearance	0.02–0.07 (0.001–0.003)		0.12 (0.005)
Relief valve	Pressure setting 80°C (176°F)	Idle	69 kPa (0.7 kg/cm <sup>2</sup> , 10 psi) min.	
		3,000 min <sup>-1</sup> (rpm)	3431 kPa (3.5 kg/cm <sup>2</sup> , 50 psi)	

### 5. Engine/Cooling

MEASUREMENT		STANDARD (NEW)		SERVICE LIMIT
Thermostat	Starts to open	78°C ± 2 (172°F ± 3)		86–90°C (187–194°F)
	Full open	90°C (194°F)		
	Valve lift at full open	8 (0.31) max.		
Water pump	Displacement	160 ℓ (42.2 US gal, 35.2 Imp gal)/6,000 min <sup>-1</sup> (rpm)		
Radiator	Capacity (incl. heater) ℓ (US. qt., Imp. qt)	MT: 6.6 (6.97, 5.81) AT: 7.1 (7.50, 6.23) MT: 3.0 (3.17, 2.64) AT: 3.5 (3.70, 3.08)		
	(Includes reservoir tank 0.6 (0.63, 0.53) after overhaul at change pressure cap opening pressure	93–123 kpa (0.95–1.25 kg/cm <sup>2</sup> , 13.5–17.8 psi)		
Cooling fan	"ON" temperature	87°–93°C (189°–199°F)		
	"OFF" temperature	80°–91°C (176°–196°F)		
	"ON" temperature (Fan timer)	105°–111°C (221°–231°F)		
	"OF" temperature (Fan timer)	98°–109°C (208°–228°F)		

# Standards and Service Limits

## 6. Fuel and Emissions

	MEASUREMENT	STANDARD (NEW)
Fuel Pump (PGM-FI)	Delivery pressure Displacement (minimum in 10 seconds) Relief valve opening pressure	240–279 Pa (2.45–2.85 kg/cm <sup>2</sup> , 35–41 lb-ft) 230 cc (7.8 US oz., 8.1 Imp oz.) 441–588 kPa (4.5–6.0 kg/cm <sup>2</sup> , 64–85 psi)
Fuel Pump (CARB)	Delivery pressure Displacement (minimum in minute at 12V)	9–14 kPa (0.09–0.14 kg/cm <sup>2</sup> , 1.3–2.0 psi) 760 cc (25.7 US oz., 26.8 Imp oz.)
Pressure Regulator (PGM-FI)	Pressure with regulator vacuum hose disconnected	240–279 kPa (2.45–2.85 kg/cm <sup>2</sup> , 35–41 psi)
Fuel Tank	Capacity	65 ℓ (17.2 US gal., 14.3 Imp gal.)
Engine	Fast idle	1,400 ± 200 min <sup>-1</sup> (rpm)
	Idle speed (with headlights and cooling fan OFF)	770 ± 50 min <sup>-1</sup> (rpm) 770 ± 50 min <sup>-1</sup> (rpm) in <b>P</b> or <b>N</b> positions
	Idle CO	0.1% maximum

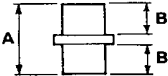
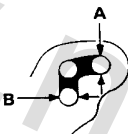
## 7. Clutch

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Clutch pedal	Pedal height	210 (8.3) to floor	---
	Stroke	142.0 (5.6)	---
	Pedal play	9–15 (0.4–0.6)	---
	Disengagement height	90 (3.5) min. to floor 80 (3.1) min. to carpet	---
Flywheel	Clutch surface runout	0.05 (0.002) max.	0.15 (0.006)
Clutch disc	Rivet head depth	1.3 (0.05) min.	0.2 (0.008)
	Surface runout	0.8 (0.03) max.	1.0 (0.04)
	Thickness	8.5–9.2 (0.33–0.36)	6.1 (0.24)
Clutch cover	Unevenness of diaphragm spring	0.6 (0.02) max.	0.8 (0.03)

## 8. Manual Transmission

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (U.S. qt., Imp. qt.)	1.9 (2.0, 1.7) at assembly 2.0 (2.1, 1.8) at oil change	
Mainshaft	End play	0.10–0.16 (0.0039–0.0063)	Adjust with a shim. 29.93 (1.1783)
	Diameter of ball bearing contact area	27.977–27.990 (1.1015–1.1020)	37.930 (1.4933)
	Diameter of third gear contact area	37.984–38.000 (1.4954–1.4961)	27.940 (1.1000)
	Diameter of ball bearing contact area Runout	27.987–28.000 (1.1018–1.1024) 0.02 (0.008) max.	0.05 (0.002)
Mainshaft third and fourth gears	I.D.	43.009–43.025 (1.6933–1.6939)	43.080 (1.6961)
	End play	0.06–0.21 (0.0024–0.0083)	0.30 (0.012)
	Thickness 3rd gear	32.42–32.47 (1.276–1.278)	32.3 (1.27)
	4th gear	30.92–30.97 (1.217–1.219)	30.8 (1.21)
Mainshaft fifth gear	I.D.	43.009–43.025 (1.6933–1.6939)	43.080 (1.6961)
	End play	0.06–0.21 (0.0024–0.0083)	0.30 (0.012)
	Thickness	30.42–30.47 (1.198–1.200)	30.3 (1.193)
Countershaft	End play	0.05–0.21 (0.0019–0.0083)	0.50 (0.02)
	Diameter of needle bearing contact area	33.000–33.015 (1.2992–1.2998)	32.95 (1.297)
	Diameter of ball bearing needle bearing contact area	24.987–25.000 (0.9837–0.9845)	24.94 (0.982)
	Diameter of low gear contact area	39.984–40.000 (1.5742–1.5748)	39.93 (1.572)
	Runout	0.02 (0.0008) max.	0.05 (0002)

## 8. Manual Transmission (cont'd)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Countershaft low gear	I.D. End play	46.009–46.025 (1.8114–1.8120) 0.04–0.10 (0.002–0.004)	46.08 (1.814) Adjust with a washer.
Countershaft second gear	I.D. End play Thickness	50.009–50.025 (1.9689–1.9695) 0.04–0.10 (0.002–0.004) 33.92–33.97 (1.335–1.337)	50.08 (1.972) Adjust with a collar. 32.8 (1.2913)
Spacer collar (Countershaft second gear)	I.D. O.D. Length	36.48–36.49 (1.4362–1.4366) 43.989–44.000 (1.7318–1.7323) 29.03–29.05 (1.1429–1.1437) 28.98–29.00 (1.1409–1.1417)	36.50 (1.437) 43.94 (1.730) — —
Spacer collar (Mainshaft fourth and fifth gears)	I.D. O.D. Length	31.002–31.012 (1.2205–1.2209) 37.989–38.000 (1.4956–1.4961) 56.45–56.55 (2.222–2.226) 26.03–26.08 (1.0248–1.0268)	31.06 (1.223) 37.94 (1.494) — 26.01 (1.024)
		A B	
Reverse idler gear	I.D. Gear-to-reverse gear shaft clearance	20.016–20.043 (0.7880–0.7891) 0.036–0.084 (0.0014–0.0033)	20.09 (0.7909) 0.160 (0.006)
Synchronizer ring	Ring-to-gear clearance (ring pushed against gear)	0.85–1.10 (0.0335–0.0433)	0.40 (0.016)
Shift fork	Synchronizer sleeve groove width Fork-to-synchronizer sleeve clearance	6.75–6.85 (0.266–0.270) 0.35–0.65 (0.014–0.026)	— 1.0 (0.039)
Reverse shift fork	Pawl groove width Fork-to-reverse idle gear clearance Groove width Fork-to fifth/reverse shift Shaft clearance	13.0–13.3 (0.51–0.52) 0.5–1.1 (0.02–0.43) 7.05–7.25 (0.278–0.2854) 7.4–7.7 (0.29–0.30) 0.05–0.35 (0.002–0.014) 0.4–0.8 (0.02–0.03)	1.8 (0.07) — — 0.5 (0.02) 1.0 (0.04)
		at A at B at A at B	
Shift arm	I.D. Shift arm-to-shaft clearance Shift fork diameter at contact area Shift-arm-to-shift fork shaft clearance	15.973–16.000 (0.6289–0.6299) 0.005–0.059 (0.0002–0.0023) 12.9–13.0 (0.508–0.512) 0.2–0.5 (0.01–0.02)	— — — 0.6 (0.02)
Select lever	Pin size of contact area Shaft outer diameter Shift arm cover clearance	7.9–8.0 (0.311–0.315) 15.41–15.68 (0.607–0.617) 0.032–0.102 (0.0013–0.0040)	— — —
Shift arm lever	O.D. Transmission housing clearance	15.941–15.968 (0.6276–0.6287) 0.027–0.139 (0.0011–0.0055)	— —
Inter lock	Bore diameter Shift arm lever clearance	16.00–16.05 (0.630–0.632) 0.032–0.109 (0.0013–0.0043)	— —
Ring gear	Backlash	0.085–0.142 (0.0033–0.0056)	0.200 (0.0079)
Differential carrier	Pinion shaft bore diameter Carrier-to-pinion shaft clearance Driveshaft bore diameter Carrier-to-driveshaft clearance	18.000–18.018 (0.7087–0.7094) 0.017–0.047 (0.0007–0.0019) 28.005–28.025 (1.1026–1.1033) 0.020–0.062 (0.0008–0.0024) 0.055–0.091 (0.0022–0.0036)	— 0.100 (0.0039) — 0.120 0.150
		R L	
Differential pinion gear	Backlash Pinion gear bore diameter Pinion gear-to-pinion shaft clearance	0.05–0.15 (0.002–0.006) 18.042–18.066 (0.7103–0.7113) 0.059–0.095 (0.0023–0.0037)	Selection with 7 types of washers. — 0.150 (0.0059)
Differential taper roller bearing	Preload	1.4–2.6 N·m (14–26 kg·cm, 1.0–1.9 lb·ft)	Selection with 20 types of shims.

# Standards and Service Limits

## 9. Automatic Transmission

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity <sup>ℓ</sup> (U.S. qt., Imp. qt.)	2.4 (2.5, 2.1) at oil change 6.0 (6.4, 5.2) at assembly	
Hydraulic pressure	Line pressure at 2,000 min <sup>-1</sup> (rpm)	784 kPa (8.0 kg/cm <sup>2</sup> , 113 psi) Throttle valve full-closed  833 kPa (8.5 kg/cm <sup>2</sup> , 120 psi) Throttle valve more than 2/8 open	735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi) Throttle valve more than 2/8 open
	4th clutch pressure at 2,000 min <sup>-1</sup> (rpm)	490 kPa (5.0 kg/cm <sup>2</sup> , 74 psi) Throttle valve full-closed  833 kPa (8.5 kg/cm <sup>2</sup> , 120 psi) Throttle valve more than 2/8 open	460 kPa (4.7 kg/cm <sup>2</sup> , 66 psi) Throttle valve full-closed  735 kPa (7.5 kd/cm <sup>2</sup> , 106 psi) Throttle valve more than 2/8 open
	3rd clutch pressure at 2,000 min <sup>-1</sup> (rpm)	490 kPa (5.0 kg/cm <sup>2</sup> , 71 psi) Throttle valve full-closed  833 kPa (8.5 kg/cm <sup>2</sup> , 71 psi) Throttle valve more than 2/8 open	441 kPa (4.5 kg/cm <sup>2</sup> , 64 psi) Throttle valve full-closed  735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi) Throttle valve than 2/8 open
	2nd clutch pressure at 2,000 min <sup>-1</sup> (rpm)	490 kPa (5.0 kg/cm <sup>2</sup> , 71 psi) Throttle valve full-closed  833 kPa (8.5 kg/cm <sup>2</sup> , 120 psi) Throttle valve more than 2/8 open	441 kPa (4.5 kg/cm <sup>2</sup> , 64 psi) Throttle valve full-closed  735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi) Throttle valve more than 2/8 open
	1st clutch pressure at 2,000 min <sup>-1</sup> (rpm)	784-833 kPa (8.0-8.5 kg/cm <sup>2</sup> , 113-120 psi)	735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi)
	Throttle B pressure	closed 0  open 784-833 kPa (8.0-8.5 kg/cm <sup>2</sup> , 113-120 psi)	—  735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi)
	Stall speed	Check with car on level ground	2,350-2,650 min <sup>-1</sup> (rpm)
Clutch	Clutch initial clearance	1st hold 0.8-1.0 (0.031-0.039)	—
		1st, 2nd 0.65-0.85 (0.026-0.033)	—
		3rd, 4th 0.4-0.6 (0.016-0.024)	—
	Clutch return spring free length	1st, 2nd, 3rd, 4th, 33.5 (1.318)	31.5 (1.240)
	Clutch disc thickness	1.88-2.0 (0.074-0.0807)	Until grooves worn out
	Clutch plate thickness	1st, 1.95-2.05 (0.0767-0.0807)	Discoloration
2nd, 2.55-2.65 (0.1003-0.1043) 3rd, 4th, 2.25-2.35 (0.0885-0.0925)			
Clutch end plate thickness	Mark 1 2.05-2.10 (0.081-0.083)	Discoloration	
	Mark 2 2.15-2.20 (0.085-0.087)		
	Mark 3 2.25-2.30 (0.089-0.091)		
	Mark 4 2.35-2.40 (0.093-0.094)		
	Mark 5 2.45-2.50 (0.096-0.098)		
	Mark 6 2.55-2.60 (0.100-0.102)		
Mark 7 2.65-2.70 (0.104-0.106)	Discoloration		
Mark 8 2.75-2.80 (0.108-0.110)			
Mark 9 2.85-2.90 (0.112-0.114)			

**9. Automatic Transmission (cont'd)**

		MEASUREMENT	STANDARD (NEW)		SERVICE LIMIT	
Valve body	Stator camshaft needle bearing contact area I.D. (torque converter side) Stator camshaft needle bearing contact area I.D. (oil pump side) Oil pump driven gear I.D. Oil pump shaft O.D. Oil pump gear side clearance Oil pump gear-to-body clearance		27.000-27.021 (1.0630-1.0638)		Wear or damage	
			Drive Driven	29.000-29.013 (1.417-1.422) 14.016-14.034 (0.5518-0.5525) 13.980-13.990 (0.5504-0.5508) 0.03-0.05 (0.0012-0.0020) 0.21-0.265 (0.0083-0.0104) 0.07-0.125 (0.0027-0.0049)		— Wear or damage Wear or damage 0.07 (0.0028) — —
Regulator valve body	Sealing ring contact area diameter		35.000-35.025 (1.3780-1.3789)		35.050 (1.3799)	
Accumulator body	Sealing ring contact area diameter		32.000-32.025 (1.2598-1.2608)		32.05 (1.2618)	
Stator camshaft	Sealing ring contact area diameter		29.000-29.013 (1.1417-1.1422)		29.05 (1.1436)	
Shifting device and parking brake control	Reverse shift fork thickness Parking brake ratchet pawl Parking gear Throttle cam stopper	Carburetor PGM-FI	5.90-6.00 (0.232-0.236)		5.40 (0.213)	
			18.5-18.6 (0.7283-0.7322) 17.0-17.1 (0.6692-0.6732)		Wear or other defect Wear or other defect — —	
Servo body	Shif fork Shaft I.D.	A	14.000-14.005 (0.5512-0.5514)		—	
		B	14.006-14.010 (0.5514-0.5516)		—	
		C	14.011-14.015 (0.5516-0.5518)		—	
	Shift fork shaft valve bore I.D.		37.000-37.039 (1.4567-1.4582)		37.045 (1.4585)	
Transmission	Diameter of needle bearing contact area On mainshaft and stator shaft On mainshaft 4th gear collar On mainshaft 3rd gear collar	Carburetor PGM-FI	22.984-23.000 (0.9047-0.9055) 31.984-32.000 (1.2592-1.2598)		Wear or damage	
			41.984-42.000 (1.6529-1.6535) 45.984-46.000 (1.8103-1.8110) 40.984-42.000 (1.6135-1.6535) 35.980-35.996 (1.4165-1.4171) 35.984-36.000 (1.4166-1.4173) 39.984-40.000 (1.5741-1.5748) 31.975-31.991 (1.2588-1.2594) 35.984-36.000 (1.4166-1.4173) 14.416-14.434 (0.5675-0.5682) 52.000-52.019 (2.0472-2.0479) 38.000-38.016 (1.4960-1.4966) 47.000-47.016 (1.8504-1.8510) 42.000-42.016 (1.6535-1.6541) 42.000-42.016 (1.6535-1.6541) 48.000-48.016 (1.8897-1.8903) 37.000-37.016 (1.4566-1.4573) 42.010-42.025 (1.6539-1.6545) 20.000-20.050 (0.7874-0.7893) 47.500-47.550 (1.8700-1.8720) 27.500-27.550 (1.0826-1.0846) 20.04-20.08 (0.7889-0.7905) 15.00-15.05 (0.5905-0.5925) 4.95-5.00 (0.1948-0.1968) 1.45-1.50 (0.0570-0.0590) 25.030-25.048 (0.9854-0.9861)		Wear or damage	
	On countershaft 1st gear collar On countershaft 4th gear collar On countershaft reverse gear collar On countershaft parking gear On secondary shaft 1st gear On secondary shaft 2nd gear Reverse idle shaft holder I.D. Mainshaft 3rd gear I.D. 4th gear I.D. Countershaft 1st gear I.D. 4th gear I.D. reverse gear I.D. idle gear I.D. Secondary shaft 1st gear I.D. 2nd gear I.D. Mainshaft 3rd gear collar length 4th gear collar length Countershaft 1st gear collar length 4th gear collar length reverse gear collar length Secondary shaft distance collar length Countershaft 1st gear thickness Countershaft parking gear length				Wear or damage	
			WIRE DIA.	O.D.	FREE LENGTH	No. of COILS
Spring	Regulator valve Spring	A	1.8 (0.0709)	14.7 (0.5887)	86.5 (3.4055)	16.5
		B	1.8 (0.0709)	9.6 (0.3780)	44.0 (1.7323)	7.5
	Stator reaction spring		5.5 (0.2165)	37.4 (1.4724)	30.3 (1.1929)	2.1
	Torque converter check valve spring		1.1 (0.0433)	8.4 (0.3307)	33.8 (1.3307)	12.5
	Relief valve spring		1.0 (0.0394)	8.4 (0.3307)	39.1 (1.5393)	15.1
	Cooler relief valve spring		1.1 (0.0433)	8.4 (0.3307)	46.8 (1.8425)	17.0
	2nd orifice control valve spring		0.6 (0.0236)	6.6 (0.2598)	52.2 (2.0551)	21.0
	Servo orifice control valve spring		0.8 (0.0315)	6.6 (0.2598)	52.5 (2.0669)	33.0
	4th exhaust valve spring		0.9 (0.0354)	7.1 (0.2795)	60.8 (2.3936)	28.9
	1-2 shift spring		1.0 (0.0393)	8.6 (0.3386)	41.3 (1.6259)	16.9
	2-3 shift spring		0.9 (0.0354)	7.6 (0.2992)	57.0 (2.2440)	26.8
	1st accumulator spring		2.1 (0.0826)	16.3 (0.6417)	96.0 (3.7795)	17.1
	4th accumulator spring		2.9 (0.1142)	22.0 (0.8661)	84.5 (3.3267)	10.9
	2nd accumulator spring		3.2 (0.1260)	20.7 (0.8149)	80.7 (3.1771)	10.8
	3rd accumulator spring		2.8 (0.1102)	17.5 (0.6889)	94.2 (3.7088)	16.1
	L/C shift spring		0.9 (0.0354)	7.6 (0.2992)	73.7 (2.9016)	32.0
	L/C timing spring		0.8 (0.0314)	6.6 (0.2598)	64.0 (2.5196)	40.1
	D-inhibitor spring (Servo control valve spring)		1.0 (0.0394)	8.1 (0.3188)	52.6 (2.0708)	22.4
	3rd kick-down spring		1.1 (0.0433)	7.6 (0.2992)	48.3 (1.9015)	23.3
	2nd kick-down spring		1.2 (0.0472)	7.1 (0.2795)	46.9 (1.8464)	20.6
	Throttle adjust spring		0.8 (0.0314)	6.2 (0.2440)	30.0 (1.1811)	8.0
	Throttle B spring		1.5 (0.0591)	8.5 (0.3346)	41.5 (1.6334)	11.2
	1st-hold accumulator spring		4.0 (0.1574)	25.0 (0.9842)	64.7 (2.5472)	7.3
	Modulator valve spring/CPC valve spring		1.4 (0.0551)	9.4 (0.3700)	33.0 (1.2992)	10.5
	L/C control spring		0.8 (0.0314)	6.6 (0.2598)	41.0 (1.6141)	25.0

# Standards and Service Limits

## 9. Automatic Transmission (cont'd)

MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Rign gear	Backlash	0.085—0.142 (0.003—0.006)	0.200 (0.008)
Differential carrier	Pinion shaft bore diameter	18.000—18.018 (0.7087—0.7094)	—
	Carrier-to-pinion shaft clearance	0.017—0.047 (0.001—0.002)	0.100 (0.004)
	Driveshaft bore diameter	28.005—28.025 (1.1026—1.1033)	—
	Carrier-to driveshaft clearance	0.025—0.066 (0.001—0.003)	0.120 (0.005)
Differential pinion gear	Backlash	0.08—0.15 (0.03—0.006)	Adjust with a washer
	Pinion gear bore diameter	18.042—18.066 (0.710—0.711)	—
	Pinion gear-to pinion shaft clearance	0.059—0.095 (0.002—0.004)	0.150 (0.006)
Differential taper roller bearing preload	For used bearing	2.5—3.7 N·m (25—37 kg-cm, 22—32 lb-in)	Adjust with a washer
	After replacement of bearing	2.8—4.0 N·m (28—40 kg-cm, 24—35 lb-in)	Adjust with a washer

## 11. Steering

MEASUREMENT		STANDARD (NEW)	
Steering wheel	Play	10 (0.39) maximum	
Gearbox	Pinion starting torque	Below 1.0N-m (10 kg-cm, 0.72 lb-ft)	
	Angle of rack guide screw loosend from locked position	35° $\pm$ 5°	
Pump	Pump pressure with valve closed (oil temperature: 40°C/104°F minimum) Do not run for more than 5 seconds	7,845—8,826 kPa (80—90 kg/cm <sup>2</sup> , 1,138—1,280 psi) at idle	
Power steering fluid	Capacity	0.5 ℓ (0.53 US qt., 0.44 Imp qt.)	
	Reservoir At change (approx.)	1.8 ℓ 1.90 US qt. 1.58 Imp qt.)	
Power steering belt	Deflection between pulleys with 98 N (10 kg, 22 lbs) force	For used belt	13.0—16.0 (0.51—0.62)
		For new belt	9.5—11.5 (0.37—0.45)
	Belt tension between pulleys (measured with tension gauge)	For used belt	343—490 N (35—50 kg, 77—110 lb)
		For new belt	686—882 N (70—90 kg, 154—198 lb)

## 12. Suspension

MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT		
Wheel alignment	Total toe	0 ± 2 (0 ± 0.08)	—		
		Rear	IN 4 ± 2 (0.16 ± 0.08)		
	Camber	Front	0° 00' ± 1'		
		Rear	-0° 30' ± 1'		
Caster	Front	3° 00' ± 1'	—		
	Front Wheel turning angle	Inward wheel	39° ± 2'		
		Outward wheel (reference)	29° 30'		
Wheel	Rim runout	Steel wheel	Axial	Below 1.0 (0.04)	2.0 (0.08)
			Radial	Below 1.0 (0.04)	1.5 (0.06)
	Aluminum wheel	Axial	Below 0.7 (0.03)	2.0 (0.08)	
		Radial	Below 0.7 (0.03)	1.5 (0.06)	
Wheel bearing	End play	Front	0—0.05 (0—0.002)	—	
		Rear	0—0.05 (0—0.002)	—	

### 13. Brakes

MEASUREMENT		STANDARD (NEW)		SERVICE LIMIT
Parking brake lever	Play in stroke 200 N (20 kg, 44 lbs)	To be locked when pulled 4-8 notches		---
Foot brake pedal	Pedal height (from floor)	MT AT	190 (7.5) 195 (7.7)	---
Master cylinder	Piston-to-push rod clearance	0-0.4 (0-0.016)		---
Disc brake	Disc thickness	Front Rear	23.0 (0.91) 10.0 (0.39)	21.0 (0.83) 8.0 (0.32)
	Disc runout	Front Rear	---	0.10 (0.004) 0.15 (0.006)
	Disc parallelism	Front and rear	---	0.015 (0.0006)
	Pad thickness	Front Rear	12.5 (0.49) 9.0 (0.35)	1.6 (0.06) 1.6 (0.06)
Brake booster	Characteristics at 20 kg (44 lbs) pedal pressure		Line pressure Unit: kPa (kg/cm <sup>2</sup> /psi)	
	Vacuum			
	0 mm (0 in) Hg 300 mm (11.8 in) Hg 500 mm (19.7 in) Hg		922 (9.4/134) minimum 5,494 (56/796) minimum 8,535 (87/1,237) minimum	

### 15. Air Conditioner

MEASUREMENT		STANDARD (NEW)	
Air conditioner system	Lubricant capacity	Condenser Evaporator Line or hose Reservoir	10 cc (0.3 US oz., 0.4 Imp oz.) 25 cc (0.8 US oz., 0.9 Imp oz.) 10 cc (0.3 US oz., 0.4 Imp oz.) 10 cc (0.3 US oz., 0.4 Imp oz.)
Compressor	Lubricant capacity Stator coil resistance at 20°C (68°F) Pulley-to pressure plate clearance		900-950 g (31.7-33.5 oz) 3.4-3.8 Ω 0.35-0.65 (0.014-0.026)
Compressor belt	Deflection between pulleys with 98N (10 kg, 22 lbs) force	For used belt For new belt	10-12 (0.4-0.5) 4.5-7.0 (0.18-0.28)
	Belt tension between pulleys (measured with tension gauge)	For used belt For new belt	441-588 N (45-60 kg, 99-132 lbs) 931-1,127 N (95-115 kg, 209-254 lbs)

# Standards and Service Limits

Unit of length: mm (in.)

## 16. Electrical

		MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT	
Ignition coil	Rated voltage		12 Volts		
	Winding resistance	Primary Secondary	0.6-0.8 Ω 12.9-19.3 kΩ		
Ignition wire	Resistance		25 kΩ maximum		
Spark plug	Type	standard	ZFR6F-11 (NGK) or KJ20CR-L11 (ND)		
	( ): Manufacturer	Option	ZFR7F-11 (NGK) or KJ22CR-L11 (ND)		
	Gap		1.0-1.1 (0.039-0.043)		
Ignition timing	At idling		15° ± 2° BTDC		
Battery	Lighting capacity (20-hours ratio)		65Ah		
	Starting capacity (voltage after 5 sec.)		8.4 V minimum/300 ampere draw at -15°C (59°F)		
Alternator	Output		80A		
	Rotor coil resistance		2.8-3.0 Ω		
	Slip ring O.D.		14.4 (0.57)		
	Brush length		10.5 (0.41)		
	Brush spring tension		300-360 g (10.6-12.7 oz)		
Alternator belt	Deflection at midway between pulleys with 98 N (10 kg, 22 lb) force		Model without A/C	Used belt	10-12 (0.39-0.47)
				New belt	8.5-11 (0.33-0.43)
			Model with A/C	Used belt	10-12 (0.39-0.47)
				New belt	4.5-7.0 (0.18-0.28)
	Belt tension between pulleys (measured with tension gauge)		Model without A/C	Used belt	294-441 N (30-45 kg, 66-99 lb)
				New belt	441-637 N (45-65 kg, 99-143 lb)
			Model with A/C	Used belt	441-637 N (45-65 kg, 99-143 lb)
				New belt	931-1,128 N (95-115 kg, 209-154 lb)
Starting motor	Output		1.6 kw		
	Manufacturer: Mitsuba	Mica depth	0.4-0.5 (0.016-0.02)		
		Commutator runout	0-0.02 (0-0.001)		
		Commutator O.D.	28.0-28.1 (1.10-1.11)		
Brush length		15.8-16.2 (0.62-0.64)			
Manufacturer: NIPPONDENSO	Mica depth	0.5-0.8 (0.02-0.03)			
	Commutator runout	0-0.02 (0-0.001)			
	Commutator O.D.	29.9-30.0 (1.18-1.18)			
	Brush length	15.0-15.5 (0.59-0.61)			
Brush spring tension		16-18N (1.6-1.8 kg, 3.5-4.0 lbs)			
Brush spring tension		19-24N (1.9-2.4 kg, 4.2-5.3 lbs)			



# Design Specifications

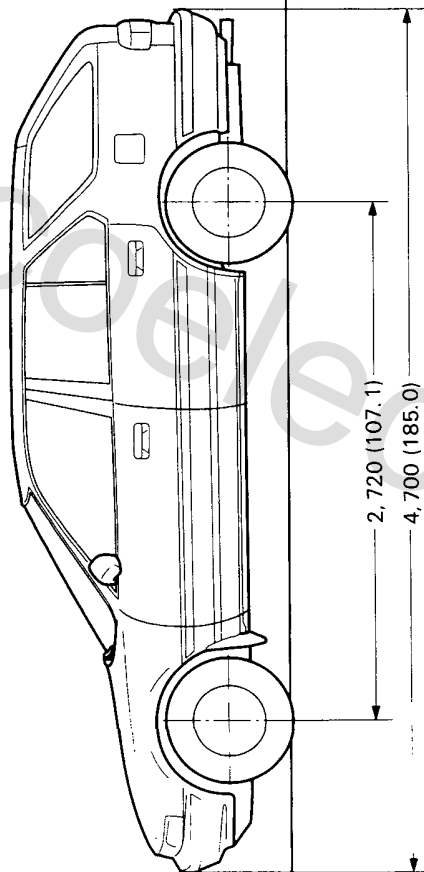
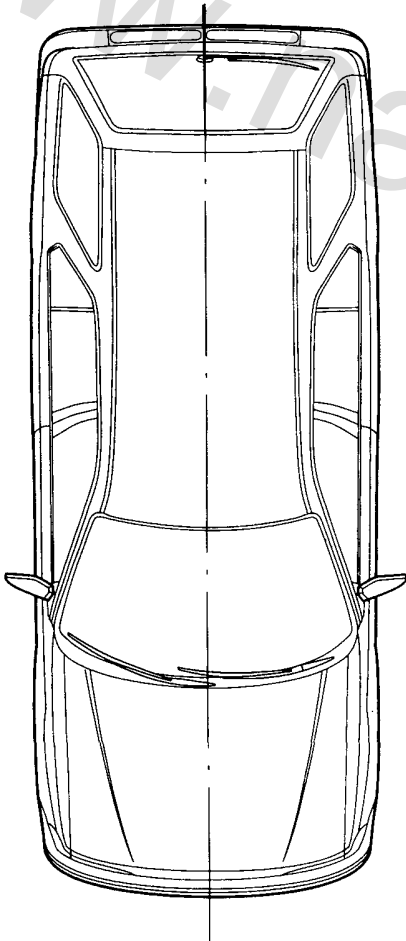
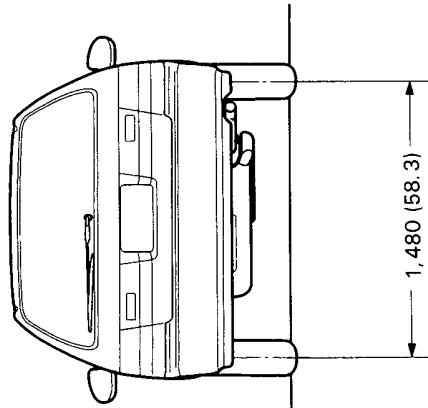
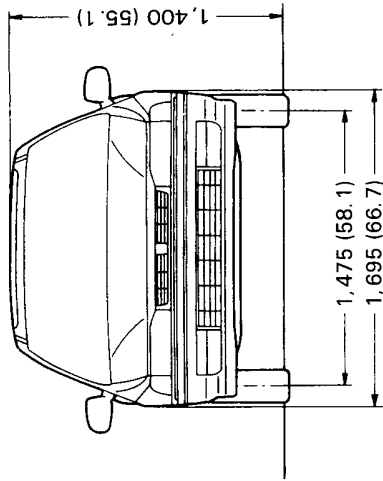
	ITEMS	METRIC	ENGLISH	NOTES
<b>DIMENSIONS</b>	Overall length	4,700 mm	185.0 in	
	Overall width	1,695 mm	66.7 in	
	Overall height	1,400 mm	55.1 in	
	Wheel base	2,720 mm	107.1 in	
	Track	1,475 mm	58.1 in	
		1,480 mm	58.3 in	
	Ground clearance	160 mm	6.3 in	
	Seating capacity		Five	
	Turning circle diameter (at tire center)	10.8 m	35.4 ft	
<b>WEIGHT</b>	Curb weight	MT without A/C	1,405 kg	3,097 lb
		MT with A/C	1,427 kg	3,146 lb
		AT without A/C	1,430 kg	3,153 lb
		AT with A/C	1,452 kg	3,201 lb
	Max permissible weight	1,920 kg	4,233 lb	
<b>ENGINE</b>	Type	Water-cooled, 4-stroke OHC		
	Cylinder arrangement	In-line, 4-cylinders		
	Bore and stroke	85 x 95 mm	3.35 x 3.74 in	
	Displacement	2,156 cm <sup>3</sup>	131.5 cu. in	
	Compression ratio	9.8		
	Valve train	Belt driven, Single Overhead Camshaft		
	Lubrication system	Forced and wet sump		
<b>STARTER</b>	Type	Gear reduction		
	Normal output	1.6 kw		
	Nominal voltage	12 V		
	Hour rating	30 seconds		
	Direction of rotation	Clockwise as viewed from gear end		
	Weight	NIPPONDENSO	4.75 kg	10.5 lb
		Mitsuba	3.7 kg	8.2 lb
<b>TRANSMISSION</b>	Clutch	MT	Single plate dry, diaphragm spring	
		AT	Torque converter with lock-up clutch	
	Clutch lining area		217 cm <sup>2</sup>	33.6 sq. in
	Transmission	MT	Synchronized 5-speed forward, 1 reverse	
		AT	Electronically controlled dual range	
	Primary reduction ratio		4-speed forward automatic, 1 reverse	
			1 : 1 (Direct)	
	Gear ratio	Gear	MT	AT
		1st	3.307	2.705
		2nd	1.809	1.366
		3rd	1.230	1.057
		4th	0.933	0.731
		5th	0.757	—
		Reverse	3.000	2.047
	Final	4.266	4.285	

# Design Specifications

	ITEMS		METRIC	ENGLISH	NOTES
<b>AIR CONDITIONER</b>	Cooling capacity		4,350 kcal/h	17,259 BTU/h	
	-Condition: Compressor speed		1,900 min <sup>-1</sup> (rpm)		
	Outside air temperature		27°C	81°F	
	Outside air humidity		50 %		
	Condenser air temperature		35°C	95°F	
Condenser air velocity		4.5 m/sec.	14.8 ft/sec.		
Blower capacity		440 m <sup>3</sup>	15,542 cu.ft/h		
<b>Compressor</b>	Type		Swash-plate		
	No. of cylinders		10		
	Capacity		178 cc/rev.	10.9 cu.in/rev.	
	Maximum speed		8,800 min <sup>-1</sup> (rpm)		
Lubricant capacity		90-120 cc	3.0-4.0 US oz. 3.2-4.2 Imp oz.		
<b>Condenser</b>		Corrugated fin type			
<b>Evaporator</b>		Corrugated fin type			
<b>Blower</b>	Type		Sirocco fan		
	Motor input		210 W (12 V)		
	Speed control		5-speed		
Maximum capacity		500 m <sup>3</sup> /h	17,662 cu.ft/h		
Temperature control		Air-mix type			
Clutch		Dry single-plate			
Power consumption		40W (12V) maximum			
<b>Refrigerant</b>	Type		R-12		
	Quantity		0.90-0.95 kg	2.0-2.1 lb	
<b>STEERING SYSTEM</b>	Type		Rack and pinion		
	Overall ratio		16.1 : 1		
	Turns, lock-to-lock		3.13		
	Steering wheel diameter		375 mm	14.8 in	
	Power steering fluid capacity		1.8 l	1.9 US qt. 1.6 Imp qt.	
Power steering fluid		Genuine Power Steering Fluid P/N: 08208-99961			
<b>SUSPENSION</b>	Type		Independent double wishbone, coil spring		
	Shock absorber		Independent double wishbone, coil spring Telescopic, hydraulic nitrogen gas-filled		
<b>WHEEL ALIGNMENT</b>	Total toe		0±3 mm	0±0.12 in	
	Camber		IN 2±2 mm	0.08±0.08 in	
	Caster		0° 00' ± 1' -0° 30' ± 1'		
	Caster		3°00'		
<b>BRAKE SYSTEM</b>	Type		Ventilated disc		
	Pad and lining swept area (total)		Solid disk		
			370 cm <sup>2</sup> 277 cm <sup>2</sup>	64 sq. in. 44 sq. in.	
<b>TIRES</b>	Size		195/60R15 87V		
<b>ELECTRICAL</b>	Fuses In the fuse box		7.5A, 10A, 15A, 20A, 30A		
	In the relay box		7.5A, 10A, 15A, 20A, 30A, 50A, 80A		
	Headlights		High/Low		12V-60/55W
	Turn signal lights		Front		12V-21W
			Rear		12V-21W
			Side		12V-5W
	Position lights				12V-5W
	License plate light				12V-5W
	Buck-up lights				12V-21W
	Stop lights				12V-21W
	Taillight				12V-5W
	Rear fog light				12V-21W
	Dome lights				12V-8W
	Door courtesy lights				12V-3.4W
	Rear room light				12V-5W
	Gauge lights				12V-3.4/1.4W
	Indicator lights				12V-0.84/0.91/1.12/1.4W
	Warning lights				12V-1.4/3.4W
	Glove box light				12V-3.4W
	Illumination and pilot lights				12V-1.4/1.2W LED: 0.91W, 0.84W
Heater illumination lights				12V-1.2/1.4W	

# Body Specifications

Unit: mm (in.)



## Maintenance

Lubrication Points.....	4-2
Maintenance Schedule .....	4-4



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Replacement

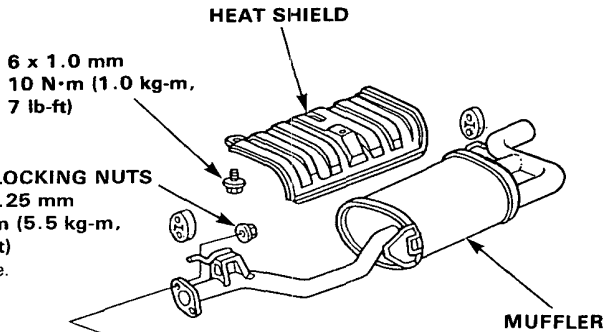
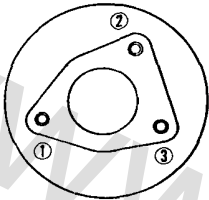
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# Exhaust Pipe and Muffler

## Replacement

NOTE: Use new gaskets and self-locking nuts when reassembling.

### CATALYTIC CONVERTER TORQUE SEQUENCE



6 x 1.0 mm  
10 N·m (1.0 kg-m,  
7 lb-ft)

SELF LOCKING NUTS  
10 x 1.25 mm  
55 N·m (5.5 kg-m,  
40 lb-ft)  
Replace.

MUFFLER

### HEAT SHIELDS

6 x 1.0 mm  
10 N·m (1.0 kg-m, 7 lb-ft)

6 x 1.0 mm  
10 N·m (1.0 kg-m,  
7 lb-ft)

GASKET  
Replace.

CATALYTIC CONVERTER

GASKET  
Replace.

GASKET  
Replace.

SELF-LOCKING NUTS  
10 x 1.25 mm  
34 N·m (3.4 kg-m, 25 lb-ft)  
Replace.

EXHAUST PIPE B

6 x 1.0 mm  
10 N·m (1.0 kg-m, 7 lb-ft)

GASKET  
Replace.

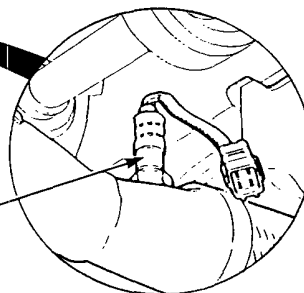
SELF-LOCKING NUTS  
8 x 1.25 mm  
16 N·m (1.6 kg-m,  
Replace.

EXHAUST PIPE A

SELF-LOCKING NUTS  
10 x 1.25 mm  
34 N·m (3.4 kg-m,  
25 lb-ft) Replace.

SELF-LOCKING NUTS  
10 x 1.25 mm  
55 N·m (5.5 kg-m,  
40 lb-ft)  
Replace.

OXYGEN SENSOR  
45 N·m (4.5 kg-m,  
33 lb-ft)  
Be careful not to damage.



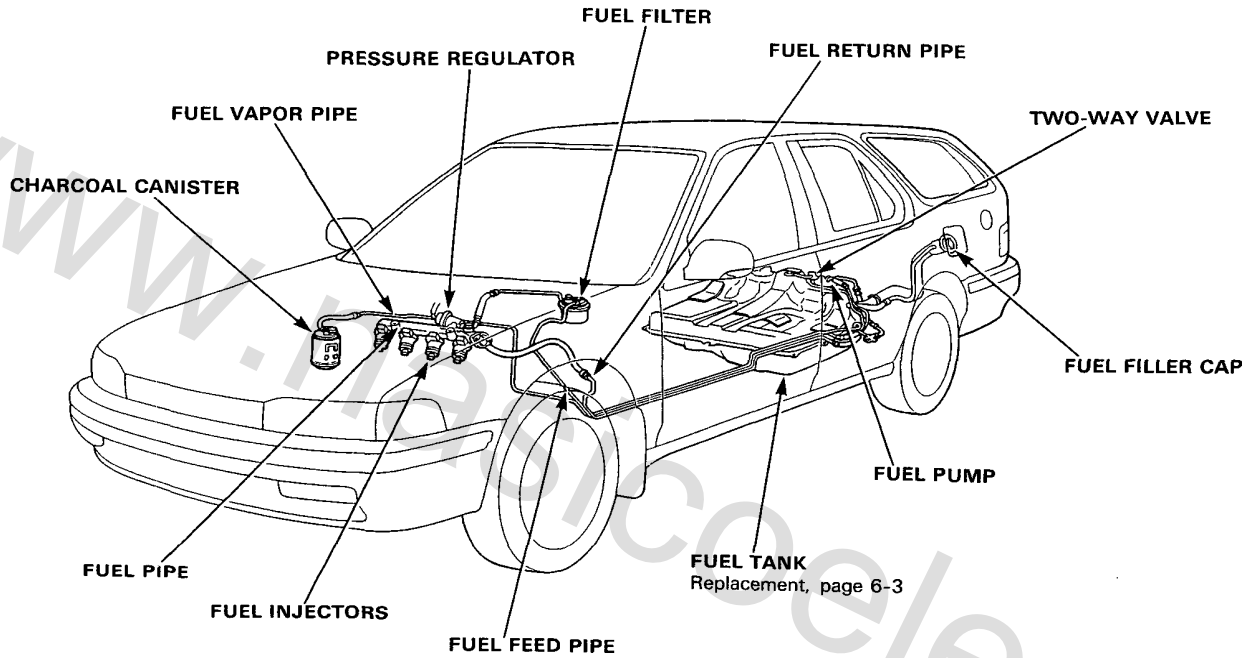
**Component Locations**  
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**Fuel Supply System**  
**Fuel Tank**

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# Component Locations

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# Fuel Supply System

## Fuel Tank

### Replacement

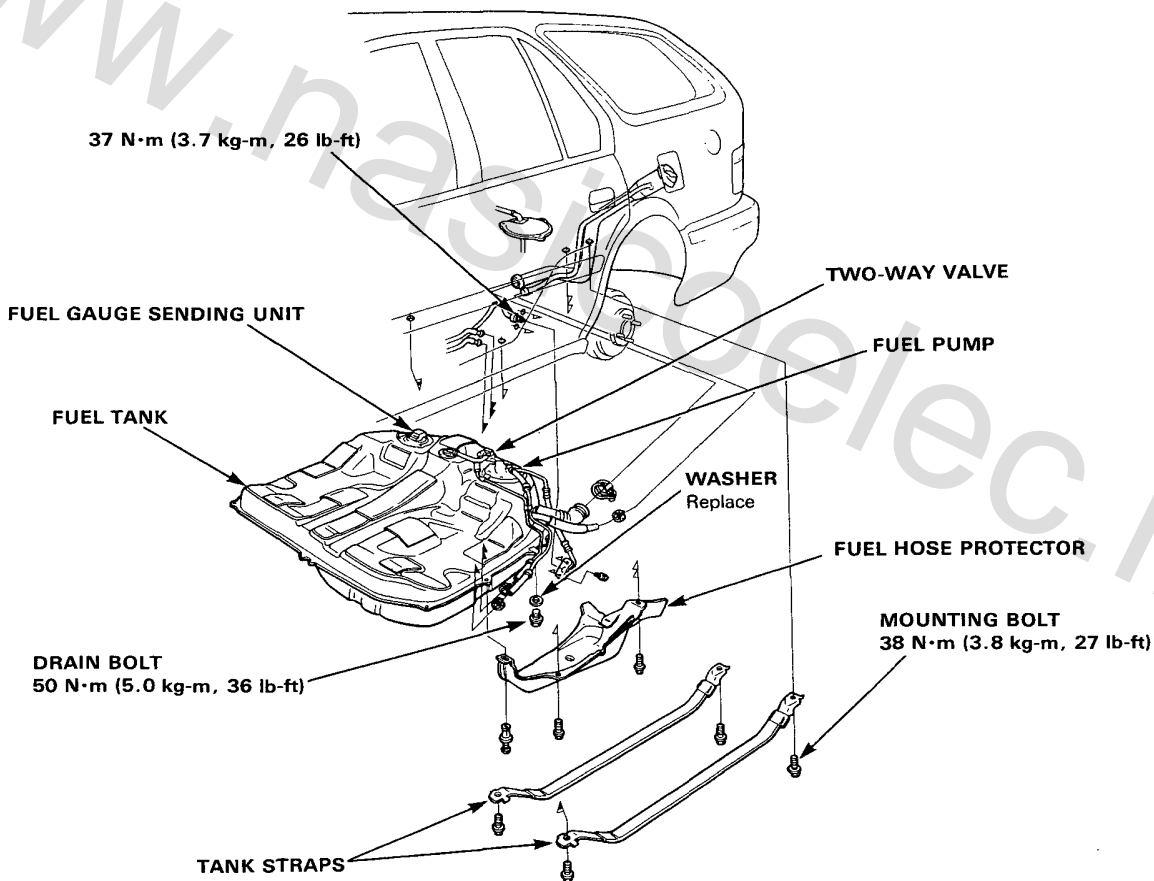
**⚠ WARNING** Do not smoke while working on fuel system. Keep open flame away from work area.

1. Relieve the fuel pressure
2. Block front wheels. Jack up the rear of the car and support with jackstands.
3. Remove the drain bolt and drain the fuel into an approved container.
4. Disconnect the 3P connector in the trunk.
5. Remove the fuel hose protector.
6. Disconnect the hoses.

### CAUTION:

- When disconnecting the hoses, slide back the clamps, then twist hoses as you pull, to avoid damaging them.
- Clean the flared joint of high pressure hoses thoroughly before reconnecting them.

7. Place a jack, or other support, under the tank.
8. Remove the strap bolts and let the straps fall free.
9. Remove the fuel tank.
- NOTE: The tank may stick on the undercoat applied to its mount. To remove, carefully pry it off the mount.
10. Install a new washer on the drain bolt, then install parts in the reverse order of removal.



# Automatic Transmission

**NOTE:**

- Automatic transmission has been modified, from MPXA to APXA.
- Refer to following shop manuals for service procedures.

On-car service of the automatic transmission ..... ACCORD CHASSIS  
Maintenance and Repair (62SM400)  
Automatic Transmission  
PX4B (Fuel-Injected Engine)

Automatic transmission service ..... PX4B AUTOMATIC TRANSMISSION  
Maintenance and Repair (62PX400)  
• PX4B Automatic Transmission B type  
• Differential

www.nasicoelec.ir



**Outline of Model Change**

Automatic transmission has been modified, from MPXA to APXA.

**Carpet/Spare Tire Lid/Rear Floor Box**

**Headliner**

**Interior Trim**

**Rear Seats**

**Rear Window Glass/Quarter Glass**

**Index**

**Rear Window**

**Quarter Glass**

**Seat Belts**

**Rear Replacement**

**Inspection**

**Tailgate**

**Tailgate Latch/Fuel Lid Opener Cable**

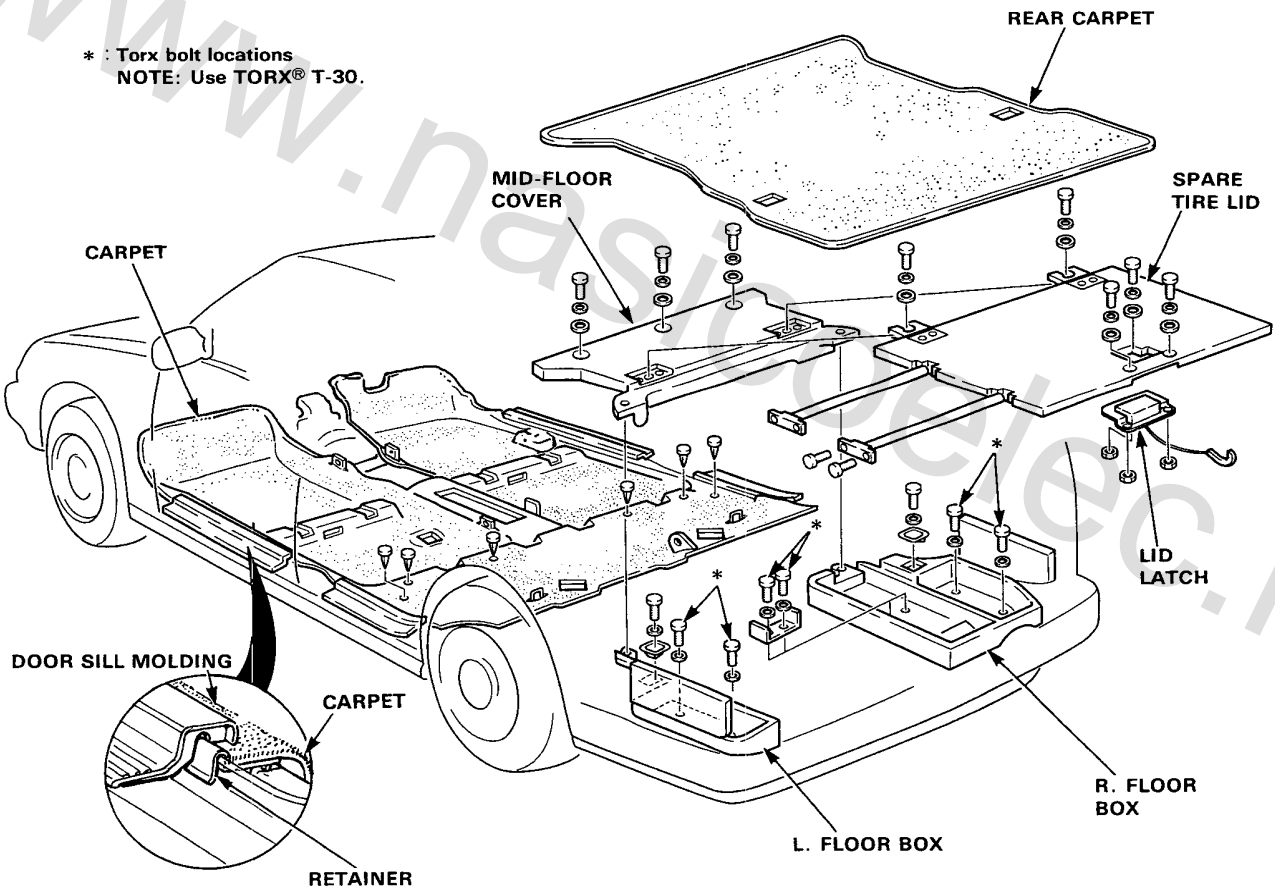
[www.nasicoelec.ir](http://www.nasicoelec.ir)

# Carpet/Spare Tire Lid/Rear Floor Box

## Replacement

1. Remove:
  - Front seats
  - Rear seat
  - Center console
  - Opener cover and footrest
  - Front seat belt lower anchor and center anchor bolts
  - Center pillar lower trim
  - Kick panels
  - Door sill moldings
2. Pry out the clips in the rear and under the dashboard.
3. Remove the carpet by sliding it rearward.
4. Remove the mounting bolts, then remove the floor box and floor cover.

\* : Torx bolt locations  
NOTE: Use TORX® T-30.



5. Install the carpet in the reverse order of removal.

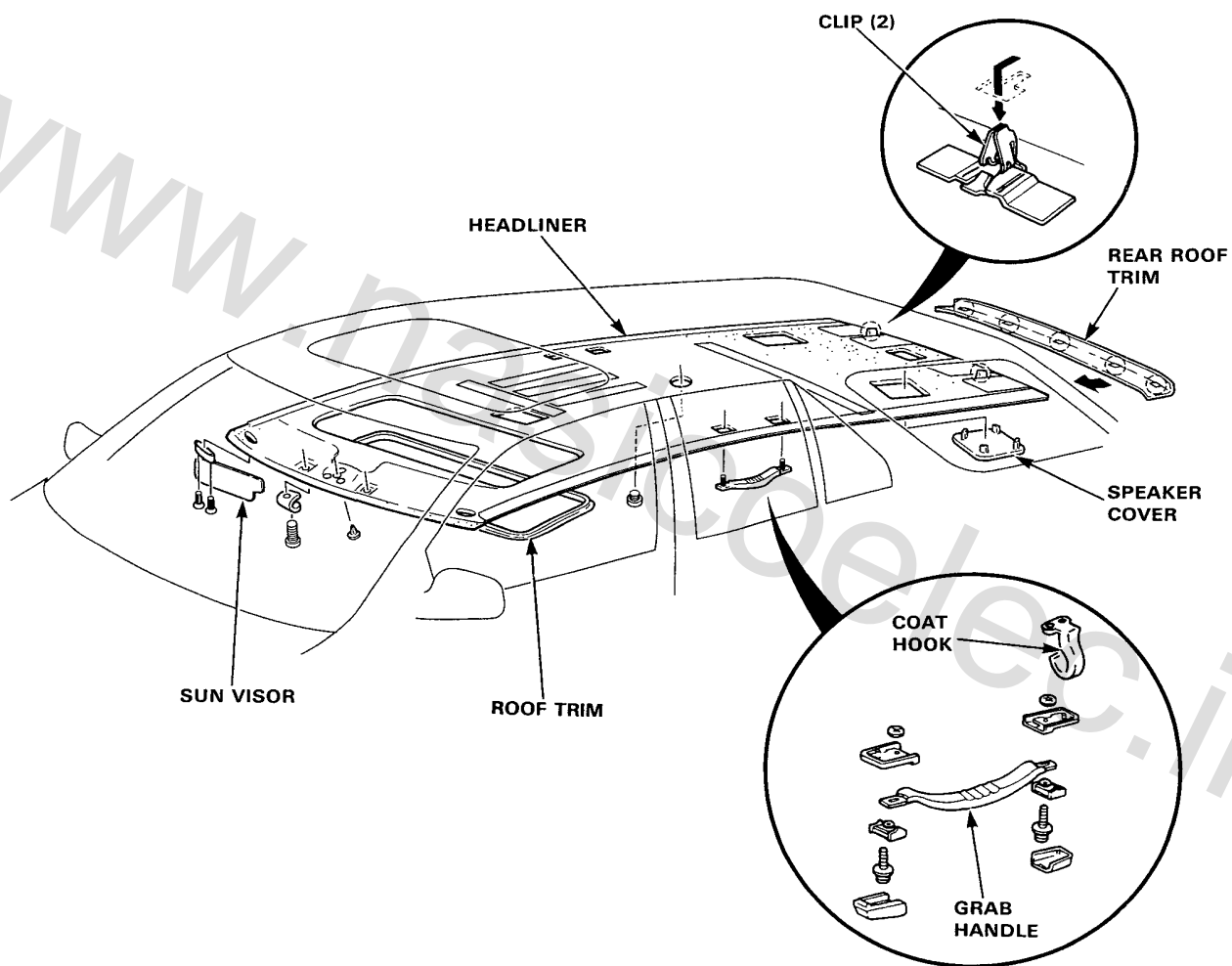
### NOTE:

- Make sure the carpet fits onto the body correctly.
- Take care not to damage the carpet.

# Headliner

## Replacement

1. Remove:
  - Sun visors and holders.
  - Rearview mirror assembly.
  - Front pillar trim.
  - Rear roof side trim.
  - Roof trim (sunroof opening).
  - Quarter window trim panel (page 14-11).
  - Dome lights.
  - Speaker covers (Section 16)
  - Grab handles, and coat hook.
2. Remove the clips and rear roof trim, then remove the headliner.



3. Assemble the headliner in the reverse order of disassembly.

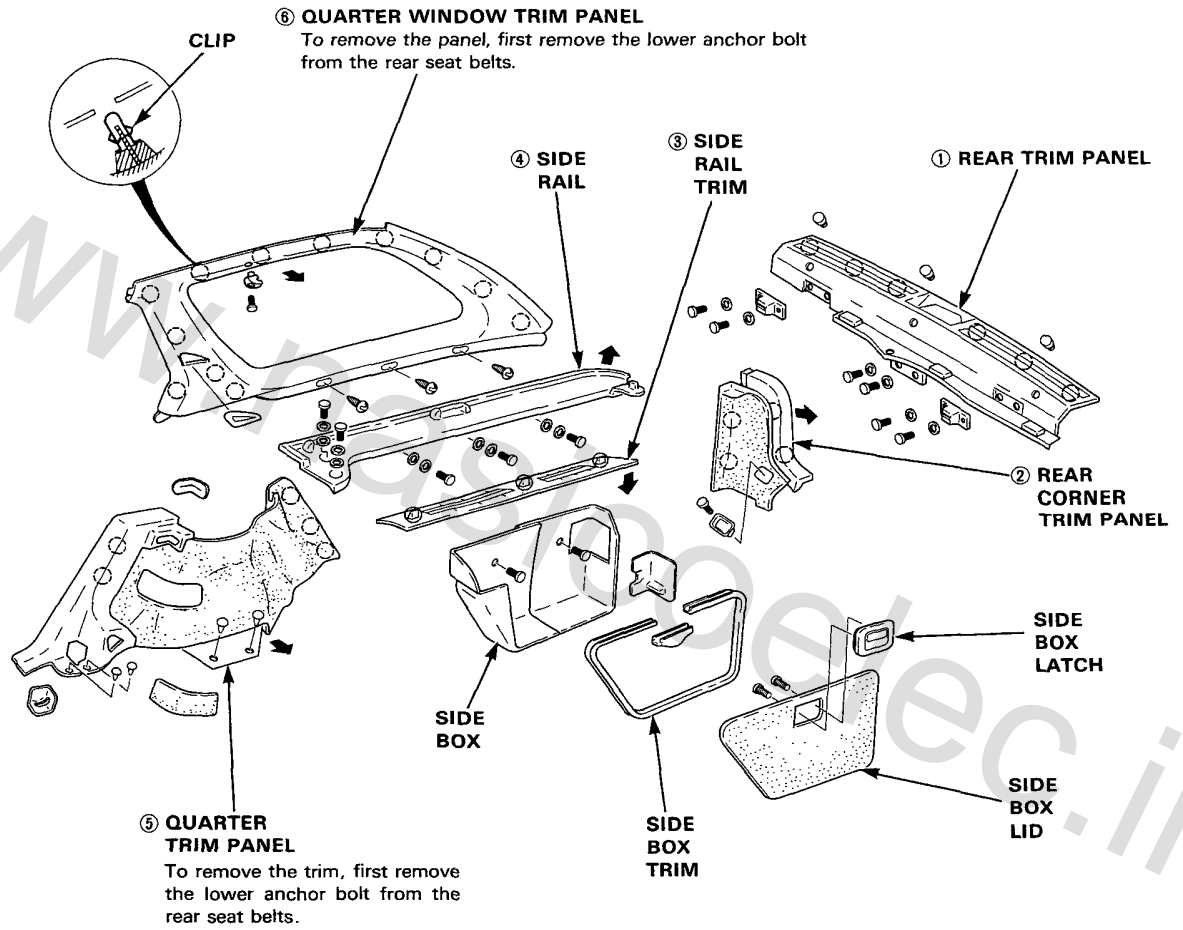
### NOTE:

- When installing the headliner inside the passenger compartment, be careful not to fold or bend it. Also, be careful not to scratch the body.
- Check that the two sides of the headliner are securely attached to the trim.



# Interior Trim Replacement

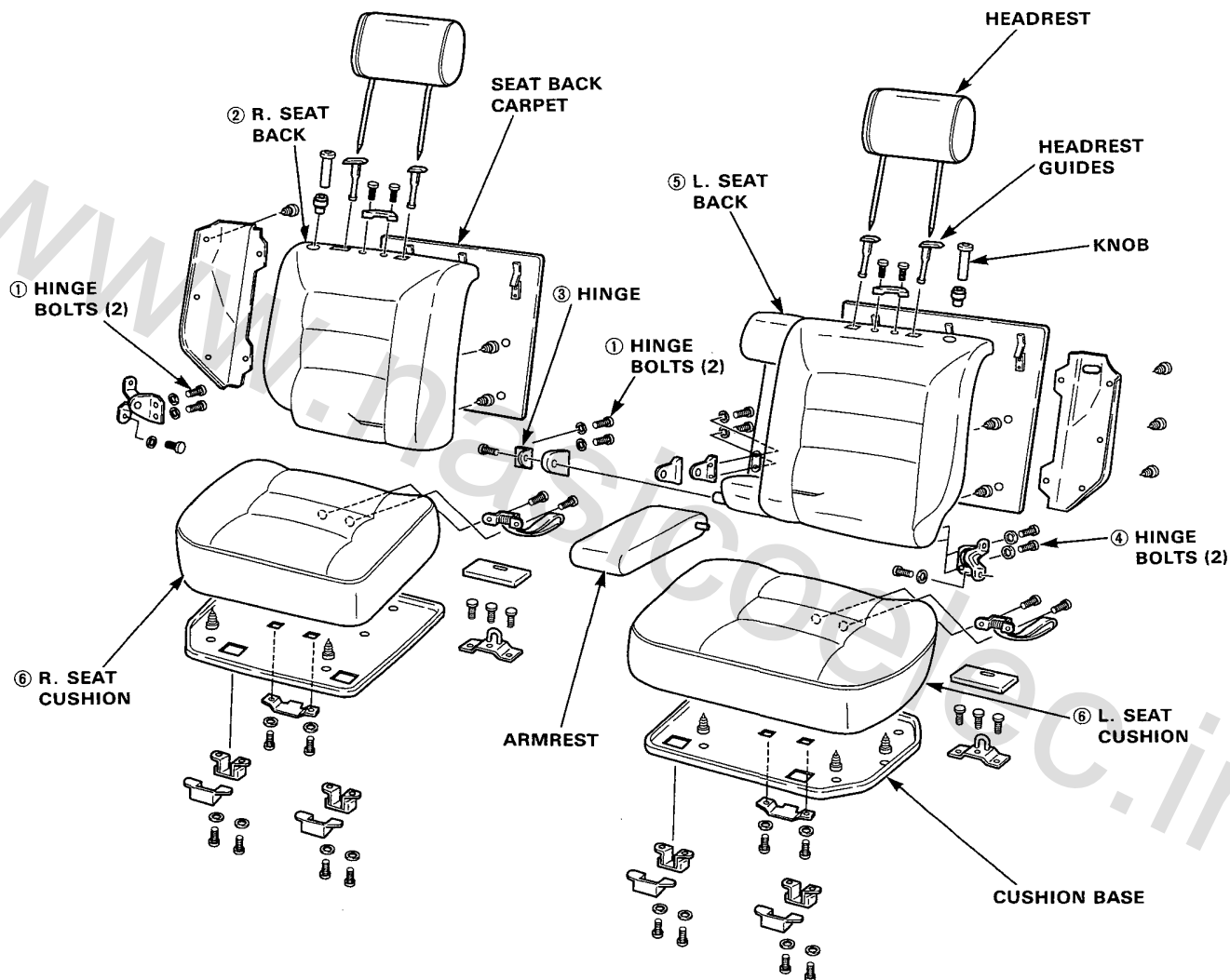
NOTE: Front interior trim is the same as Sedan.  
Disassemble in numbered sequence.  
○: Clip locations





# Rear Seats Replacement

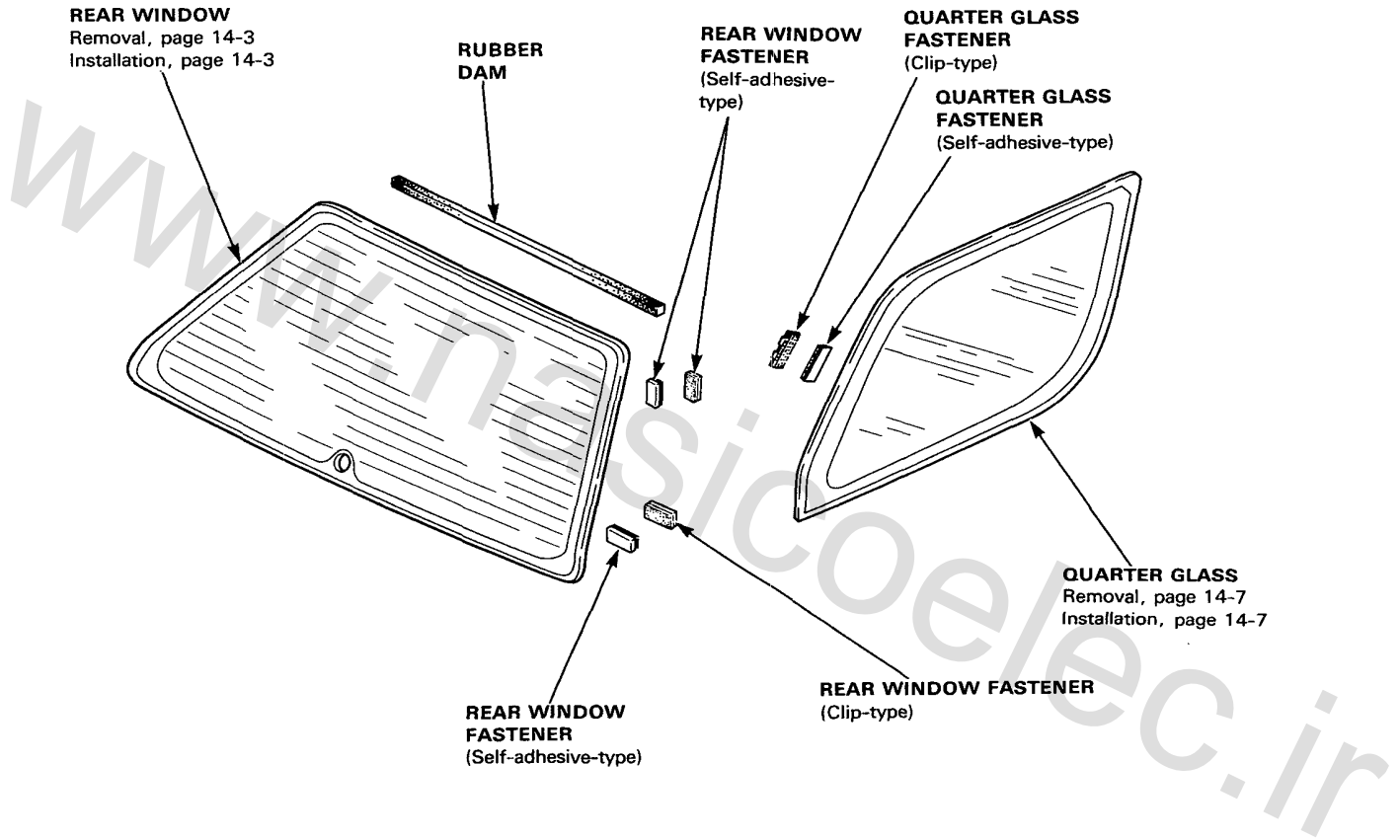
Disassemble in numbered sequence.



# Rear Window Glass, Quarter Glass

Index

---







# Rear Window

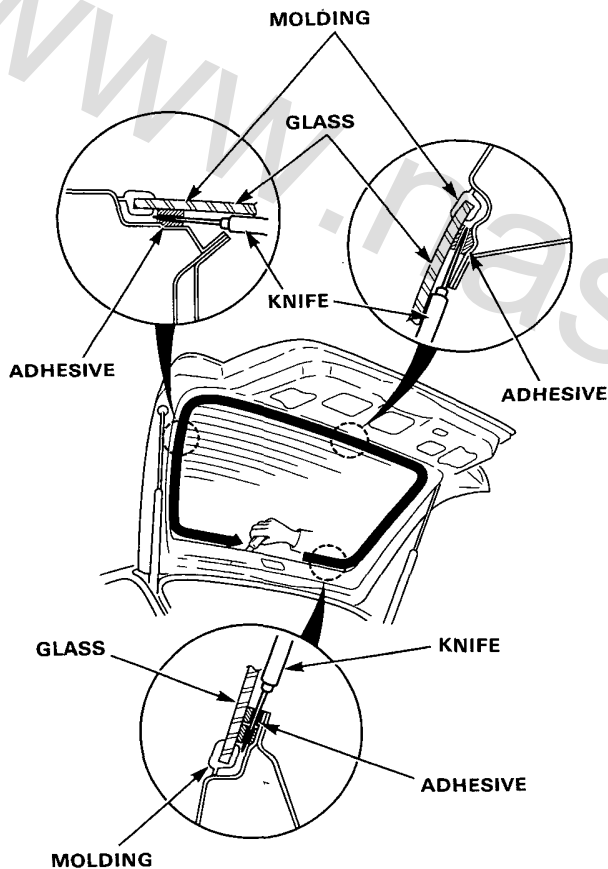
## Removal

### CAUTION:

- Wear gloves to remove and install the glass.
- Do not damage the defroster grid lines.

1. To remove the rear window glass, first remove the:
  - Tailgate trim panel (page 14-18).
  - Rear wiper (See section 16).
  - Rear window trim (page 14-18).
  - High mount brake light (See section 16).
2. Use a knife to cut through the glass adhesive from inside car, all the way around the glass area.

NOTE: Take care not to scratch or score the glass.



## Installation

1. Scrape the old adhesive smooth with a knife, to a thickness of about 2 mm (0.08 in.) on the bonding surface around the entire window glass flange.

### NOTE:

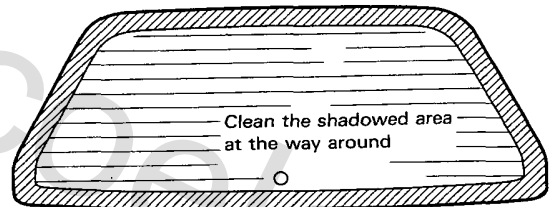
- Do not scrape down to the painted surface of the body; damaged paint will interfere with proper bonding.
- Remove the old window fasteners from the tailgate.
- Mask off surrounding surfaces before applying primer.

2. Clean the body bonding surface with a sponge dampened in alcohol.

NOTE: After cleaning, keep oil, grease or water from getting on the surface.

3. If the glass is to be reinstalled, use a putty knife to scrape off all traces of old adhesive, then clean the glass surface with alcohol where new adhesive is to be applied.

NOTE: Make sure the bonding surface is kept free of water, oil and grease.

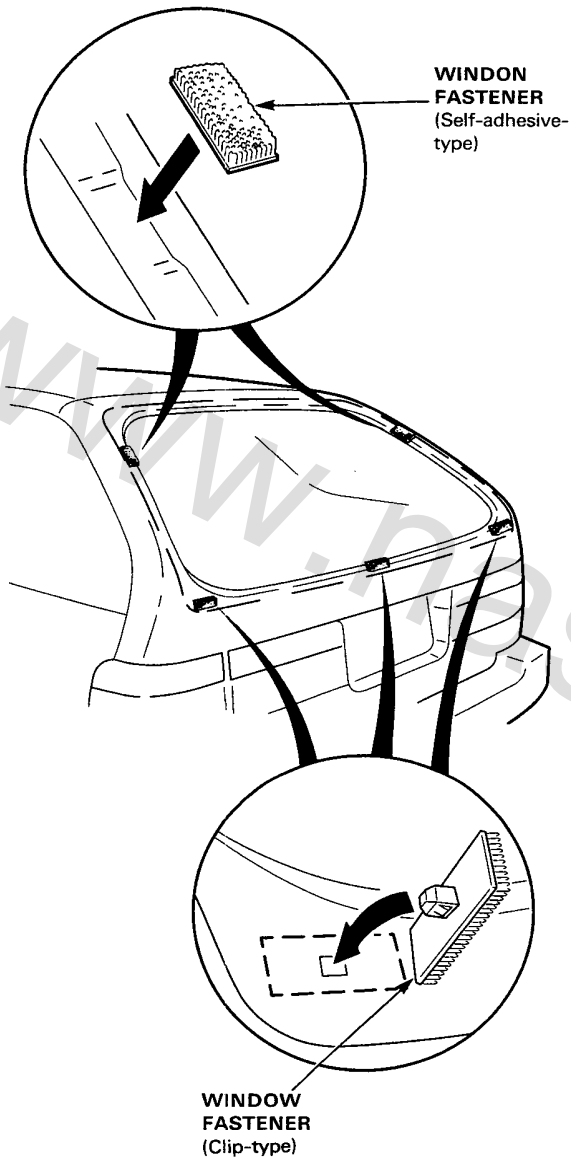


(cont'd)

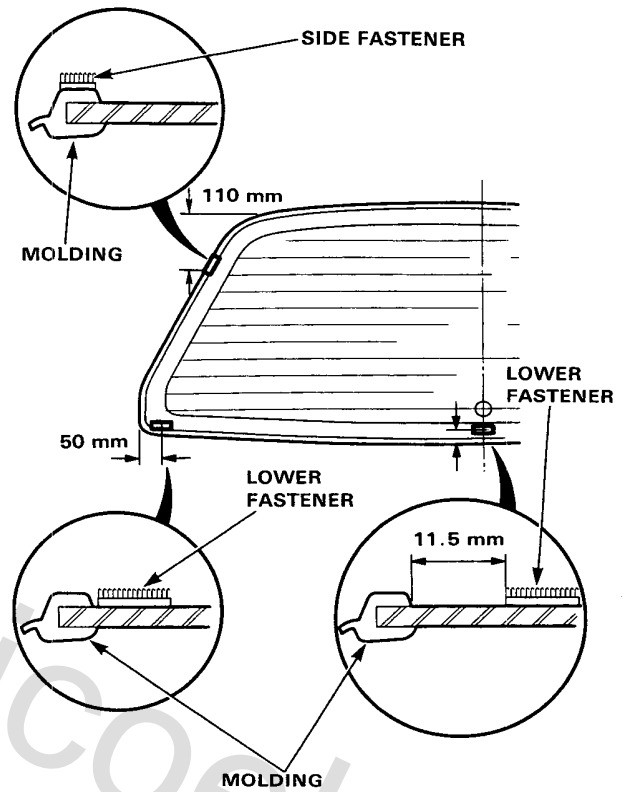
# Rear Window

## Installation (cont'd)

4. Install the window fasteners on the tailgate.



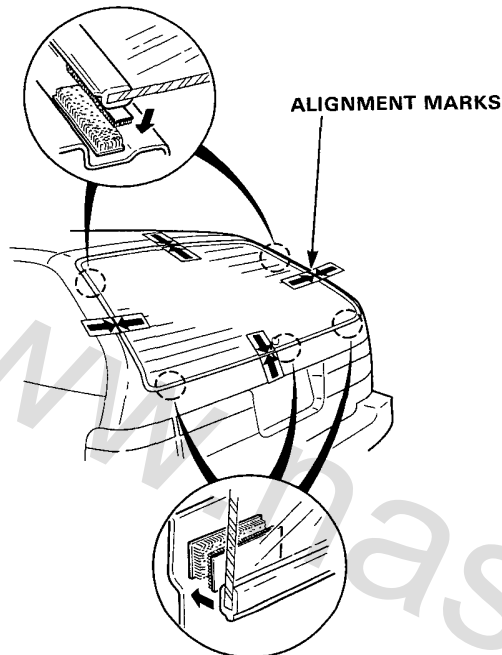
5. Adhere the side and lower window fasteners to the sides and lower edge of the glass as shown.





6. Set the glass upright on the tailgate, and center it in the opening. Mark the location by marking lines across the glass and body with a grease pencil at the four points shown.

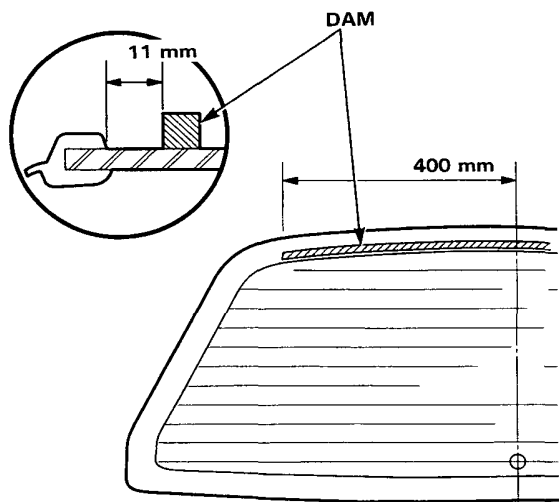
NOTE: Check that the window fasteners align with each other as shown.



7. Center and glue the rubber dam to the inside face of the glass as shown, to contain the adhesive during installation.

NOTE:

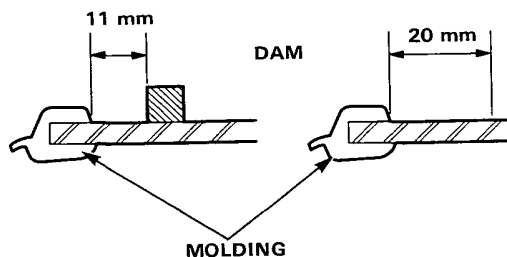
- Be careful not to touch the glass where adhesive will be applied.
- Mask off surrounding surfaces before applying primer.



8. With a sponge, apply a light coat of glass primer around the edge of glass as shown, then lightly wipe it off with gauze or cheesecloth.

NOTE:

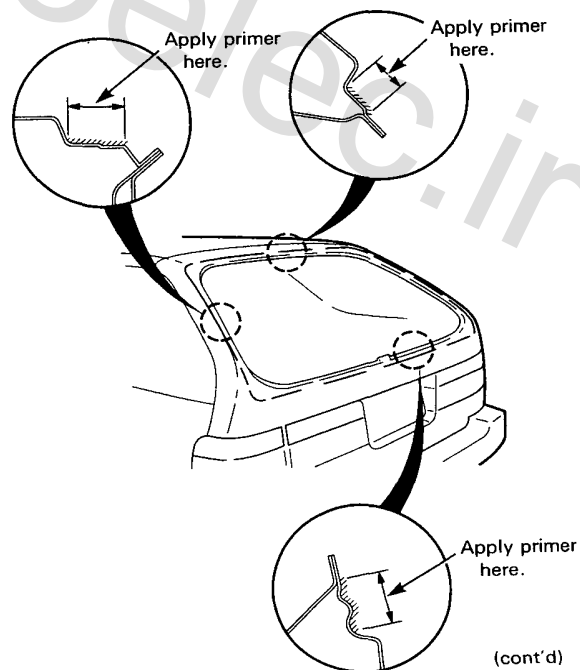
- Do not apply body primer to the glass, and do not get body and glass primer sponges mixed up.
- Never touch the primed surfaces with your hands. If you do, the adhesive may not bond to the glass properly, causing a leak after the glass is installed.
- Keep water, dust, and abrasive materials away from the primed surface.



9. With a sponge, apply a light coat of body primer to the original adhesive remaining around the window opening flange.

NOTE:

- Do not apply glass primer to the body, and be careful not to mix up glass and body primer sponges.
- Never touch the primed surfaces with your hands.



(cont'd)

# Rear Window

## Installation (cont'd)

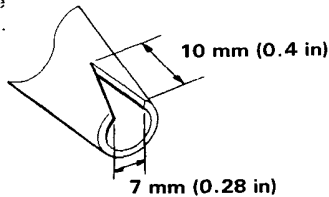
10. Thoroughly mix all the adhesive and hardener together on a glass or metal plate with a putty knife.

**NOTE:**

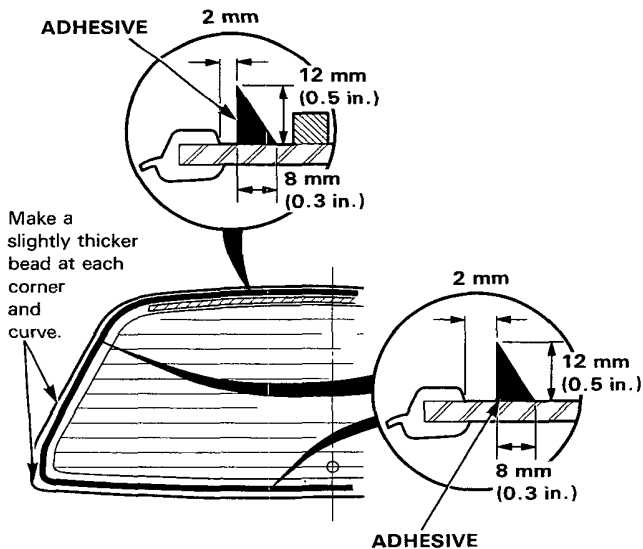
- Clean the plate with a sponge and alcohol before mixing.
- Follow the instructions that come with the adhesive.

11. Before filling a cartridge, cut off the end of the nozzle at the angle shown.

Cut off nozzle end as shown.

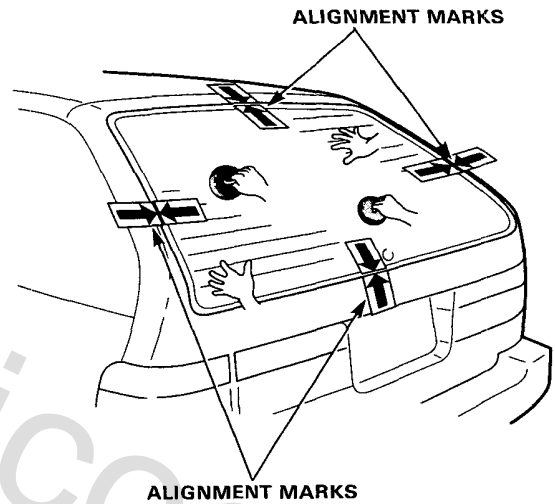


12. Pack adhesive into the cartridge without air pockets, to ensure continuous delivery. Put the cartridge in a caulking gun, and run a bead of adhesive around the edge of the glass as shown.



13. Use suction cups to hold the glass over the opening, then set it down on the adhesive. Lightly push on the glass until its edges are fully seated on the adhesive all the way around.

**NOTE:** Do not open and close the doors until the adhesive is dry.



14. Scrape or wipe the excess adhesive off with a putty knife or gauze.

**NOTE:** Use a soft shop towel dampened with alcohol to remove adhesive from a painted surface or glass.

15. After the adhesive is dry, spray water over the glass and check for leaks. Mark leaking areas and let the glass dry, then seal with sealant.

**NOTE:** Let the car stand for at least 4 hours after glass installation. If the car has to be used within the first 4 hours, it must be driven slowly.

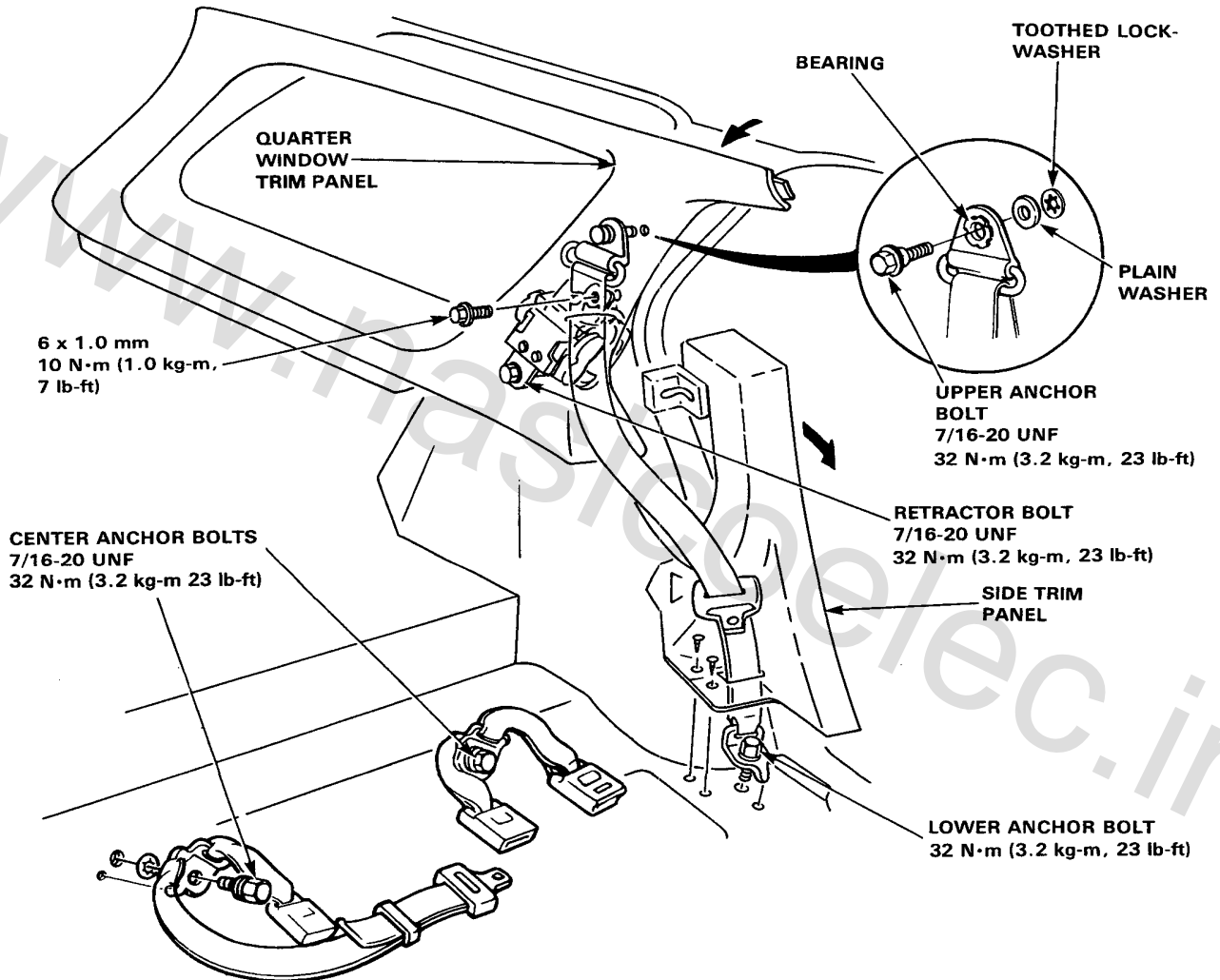
16. Reinstall all remaining removed parts.

# Seat Belts

## Rear Replacement

**CAUTION:** Check the seat belts for damage and replace them if necessary. Be careful not to damage them during removal and installation.

1. Remove:
  - Rear seat back.
  - Side trim panel.
  - Rear side trim.
  - Rear corner trim.
  - Quarter window.
2. Remove the upper anchor bolt, the lower anchor bolt and retractor bolt with a 17 mm socket or box-end wrench.



3. Check that the retractor locking mechanism functions properly.
4. Install the seat belt in the reverse order of removal.

### NOTE:

- Before attaching the rear pillar trim panel and rear seat, make sure there are no twists in the belt.
- Pass the seat belts through the seat belt guides of the seat cushion.
- \* On reassembly, replace the upper anchor bolt and use liquid thread lock.

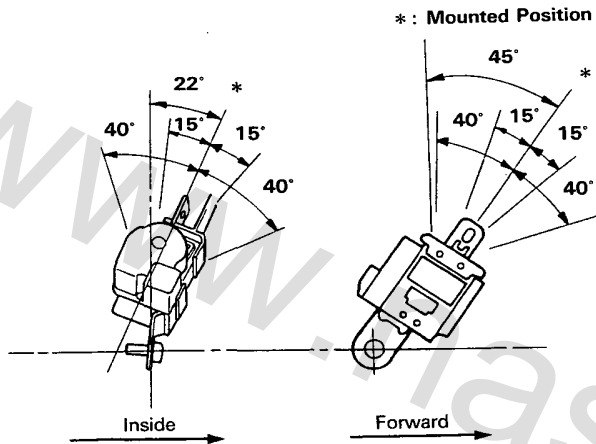


## Inspection

### Retractor Inspection

1. With the retractor installed, check that the belt can be pulled out freely.
2. Make sure that the belt does not lock when the retractor is tilted over slowly to 15° from the mounted position. The belt should lock when the retractor is tilted over 40°.

**CAUTION: Do not attempt to disassemble the retractor.**



3. Replace the belt with a new one if there is any abnormality.

### On the Car Belt Inspection

1. Check that the belt is not twisted or caught on anything.
2. After installing an anchor, check for free movement on its retaining bolt. If necessary, remove the bolt and check that the washers and other parts are not damaged or installed improperly.
3. Check the belts for fouling, damage or discoloration. Clean with a shop towel if fouled.

**CAUTION: Use only soap and water to clean.**

4. Check that the belt does not lock when pulled out slowly. The belt is designed to lock only during a sudden stop or impact.
5. Make sure that the belt will retract automatically when released.
6. Replace the belt with a new one if there is any abnormality.

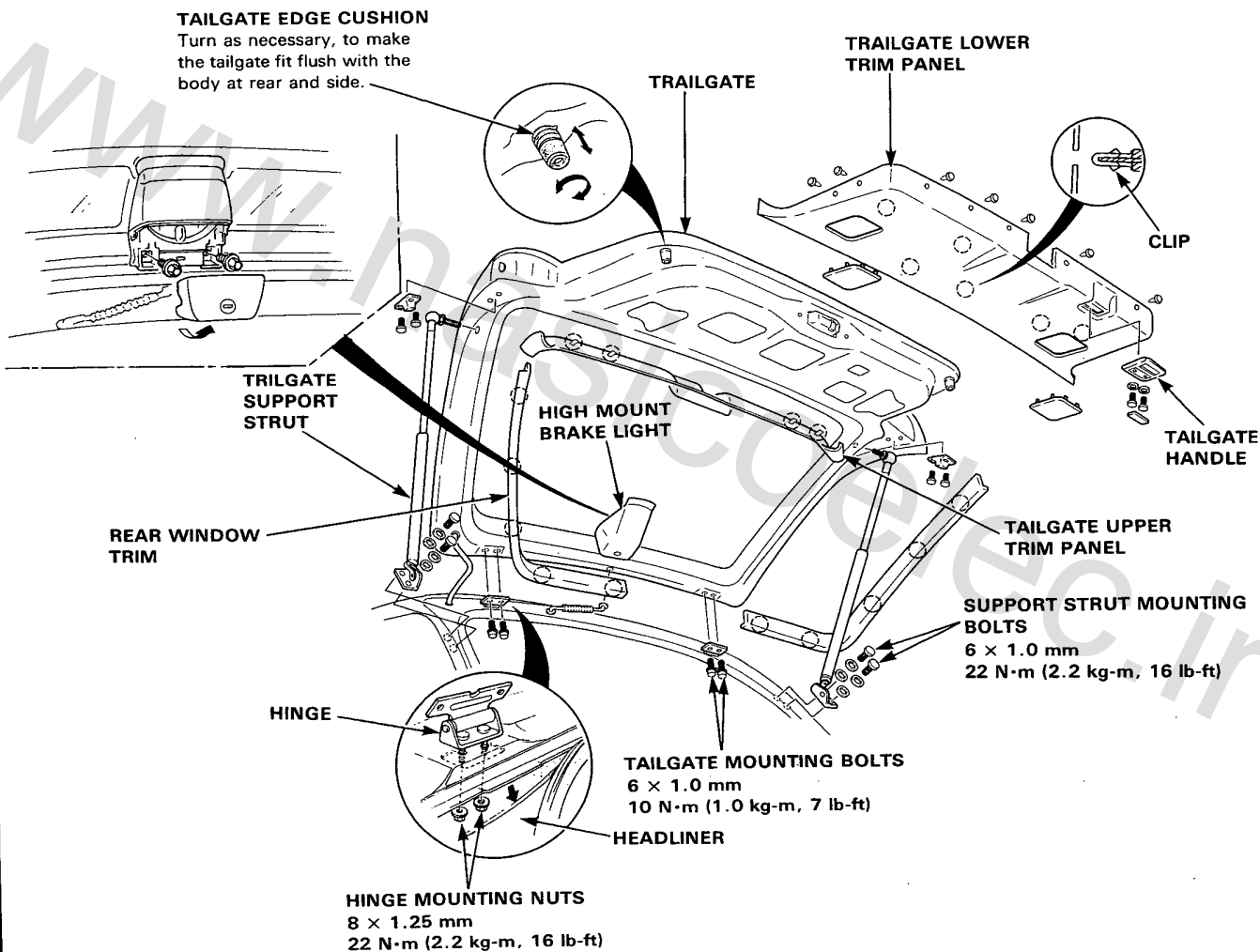


# Tailgate

## Replacement/Adjustment

1. Remove the screws and detach the clips, then remove the tailgate upper and lower trim panels.
2. Pull the wire harness out of the tailgate and disconnect the washer hose.  
NOTE: Before pulling out the wire harness, tie a string to the end of it so you can pull it back in when the tailgate is reinstalled.
3. Remove the tailgate support struts.  
NOTE: Let an assistant hold the tailgate when removing the struts.
4. Remove the tailgate by removing the tailgate mounting bolts.  
NOTE: Take care not to damage the roof panel.

If necessary: Lower the rear of the headliner just enough to gain access to the hinge mounting nuts, then remove the hinge by removing the hinge mounting nuts.



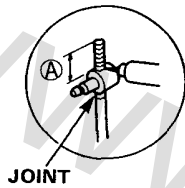
5. installation sequence is essentially the reverse order of removal. However, observe the following:
  - Before tightening the hinge nuts, adjust the tailgate fit and striker.
  - Use care when pulling the wire harness back in to avoid damaging the body.
  - Coat the inside and outside of the grommet with sealant.

# Tailgate Latch/Fuel Lid Opener Cable

## Tailgate Lock Replacement

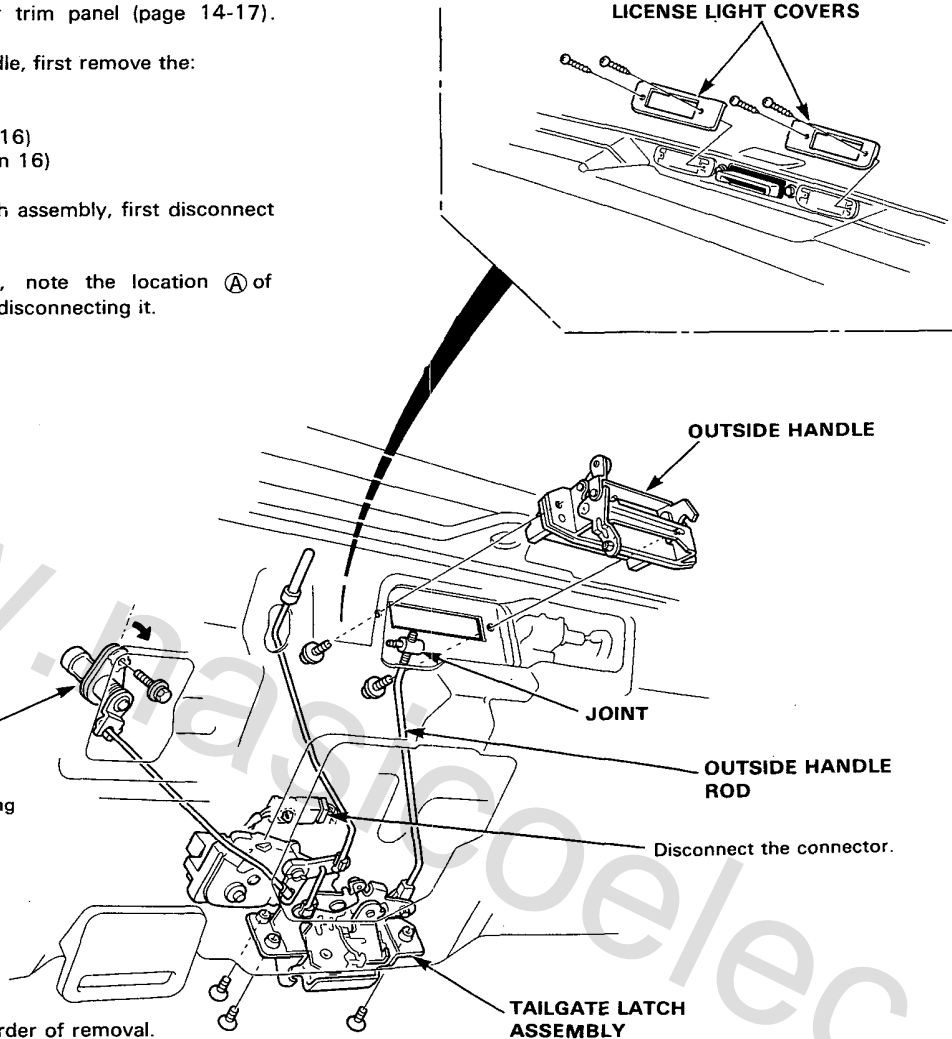
1. Remove the tailgate lower trim panel (page 14-17).
2. To remove the outside handle, first remove the:
  - License light covers
  - Wiper arm (See section 16)
  - Wiper motor (See section 16)
3. To remove the tailgate latch assembly, first disconnect the rod and connector.

NOTE: To ease reassembly, note the location **A** of the rod on the joint before disconnecting it.



JOINT

**TAILGATE LOCK CYLINDER**  
Remove the tailgate lock cylinder by turning it right.



4. Installation is the reverse order of removal.

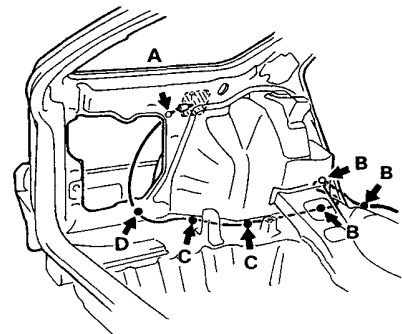
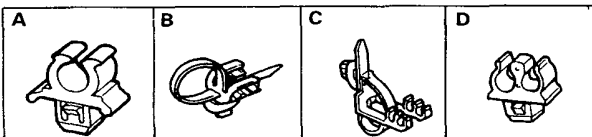
NOTE: After installing, check that the tailgate latch is operated properly.

## Fuel Lid Opener Cable Replacement

Fuel lid opener cable is routed and connected properly as shown.

NOTE: Take care not to bend the cable.

→:Clip locations





# Electrical

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**Brake Lights**

**Brake Light Failure Sensor Test**

**Circuit Diagram**

**Ground Distribution**

**Circuit Identification**

**Power Door Locks**

**Circuit Diagram**

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**Control Unit Input Test**

**Control Unit Input Test (con'd)**

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**Driver's Door Actuator Test**

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**Passenger's Door Actuator Test**

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**Component Location Index**

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**Rear Speaker Replacement**

**Tailgate Latch Switch**

**Test/Replacement**

**Taillights**

**Replacement**

**Wire Harness and Ground Locations**

**Floor**

**Rear**

**Rear Roof**

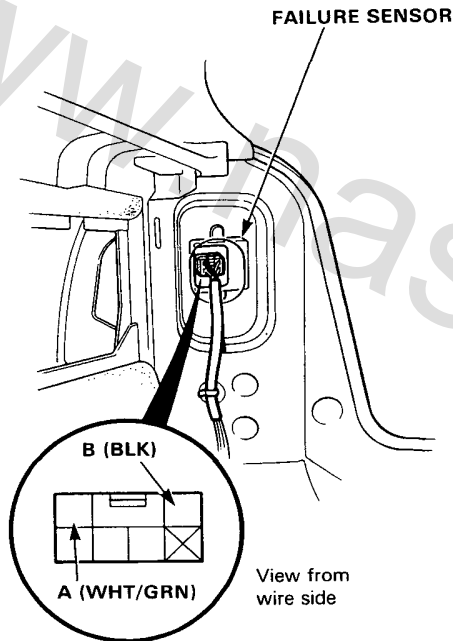
**Tailgate**

**Wiring Diagrams**



## Brake Light Failure Sensor Test

1. First make sure the brake lights come on when the brake pedal is pressed.
  - If none of the brake lights come on, check the brake light circuit.
  - If one of the brake lights does not come on, check whether the bulb is blown. If the bulb is OK, go to step 2.
  - If all the brake lights come on, go to step 2.
2. Open the tailgate and the right rear quarter trim panel. Make sure the **BRAKE LAMP** of the safety indicator does not come on when the A (WHT/GRN) terminal of the 6-P connector is grounded and the ignition switch is turned from OFF to ON.

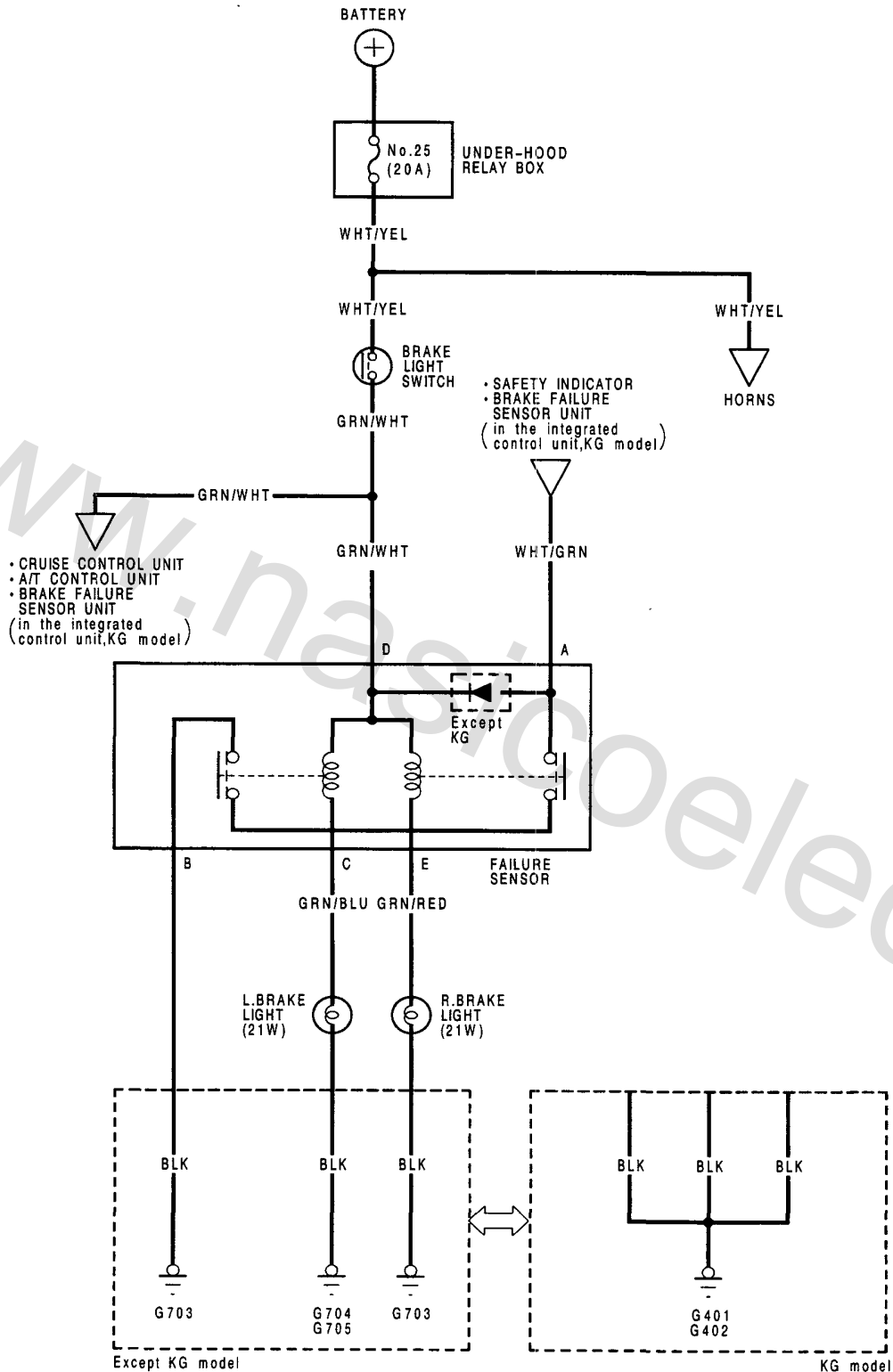


3. Make sure the **BRAKE LAMP** does not come on when the ignition switch is turned from OFF to ON with the B (BLK) terminal of the 6-P connector grounded and the brake pedal pressed.
  - If the **BRAKE LAMP** comes on, replace the failure sensor.
  - If the **BRAKE LAMP** does not come on, check for an open in the BLK wire, and check whether the G703 (or G401, G402) terminal is poor.

- If the **BRAKE LAMP** comes on, check for an open in the WHT/GRN wire between the safety indicator and the failure sensor and whether the safety indicator circuit (main print panel) has a problem.
- If the **BRAKE LAMP** does not come on, go to step 3.

# Brake Lights

## Circuit Diagram

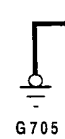
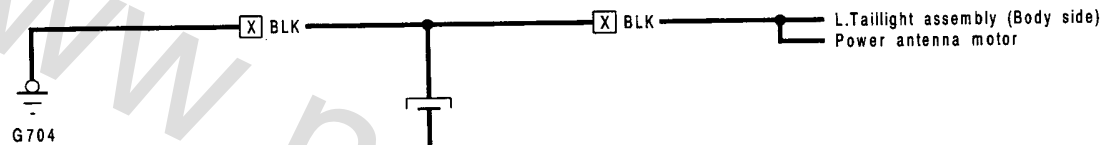
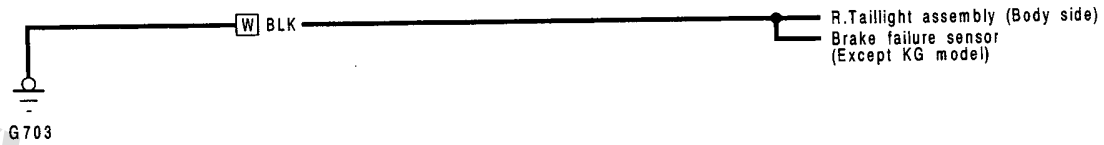
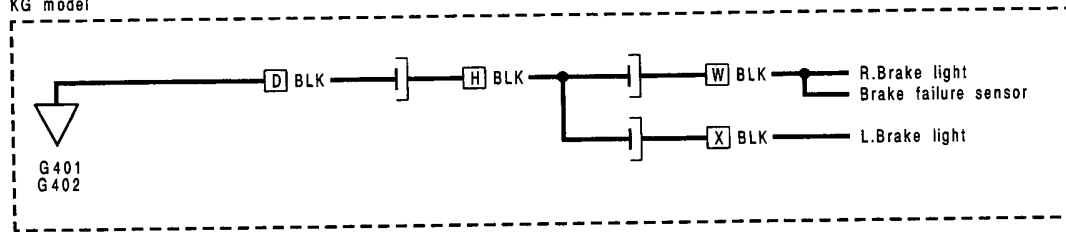


# Ground Distribution

## Circuit Identification



KG model

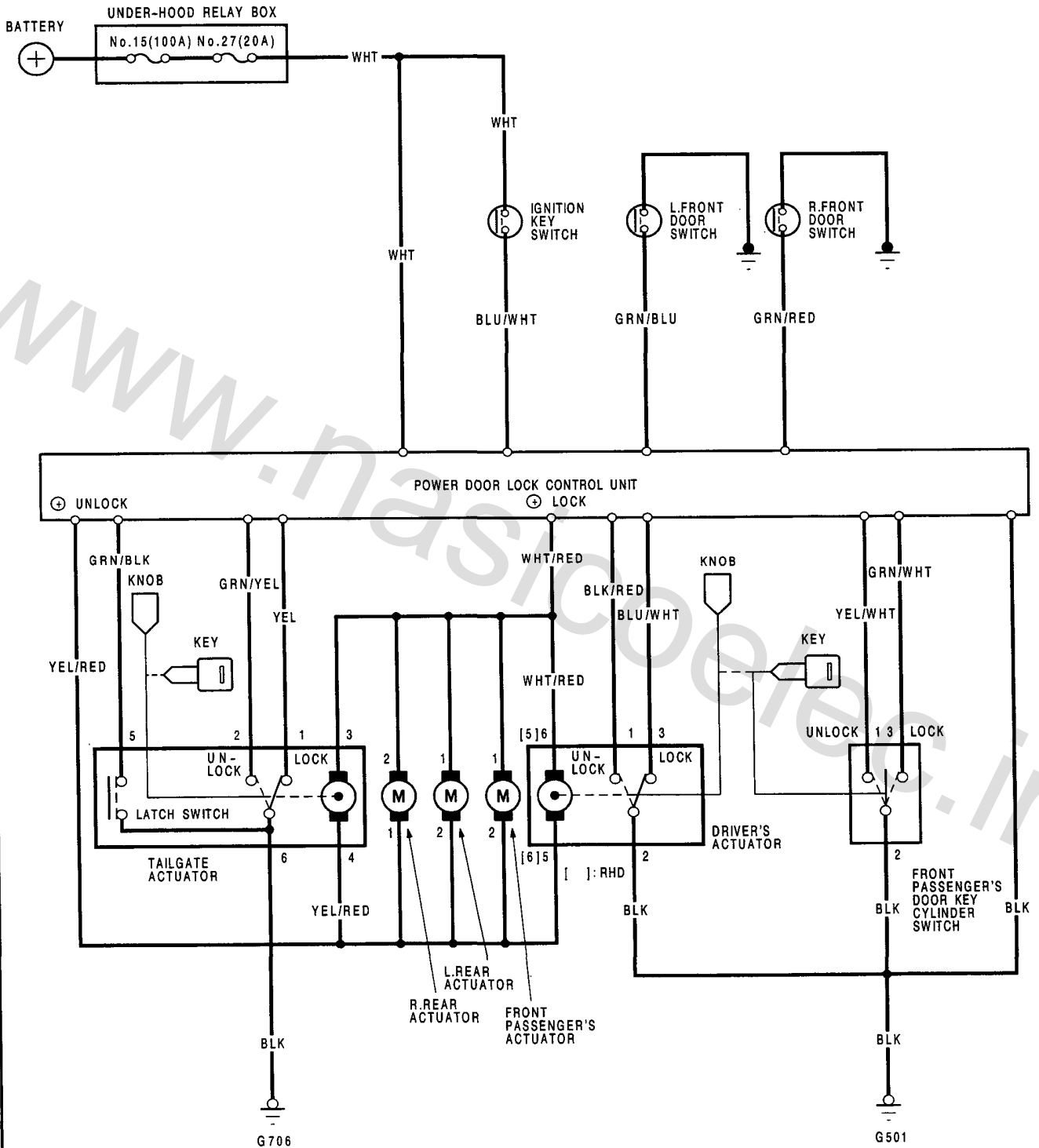


- D** : Main wire harness
- H** : Floor wire harness
- W** : Right rear wire harness

- X** : Left rear wire harness
- Y** : Tailgate wire harness
- Z** : Tailgate sub wire harness



# Circuit Diagram

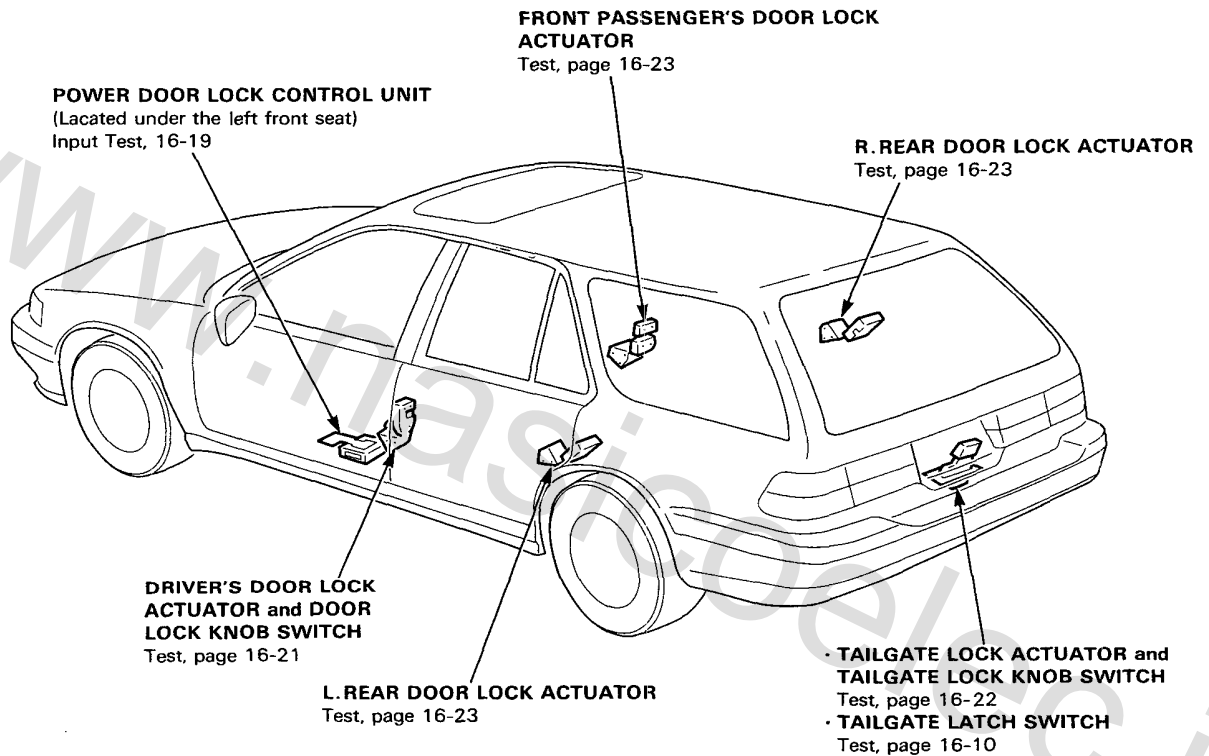


# Power Door Locks

## Component Location Index

NOTE: RHD type is symmetrical to LHD type.

- FRONT PASSENGER'S DOOR KEY CYLINDER SWITCH  
Test, page 16-23
- IGNITION KEY SWITCH  
Test, page 16-24

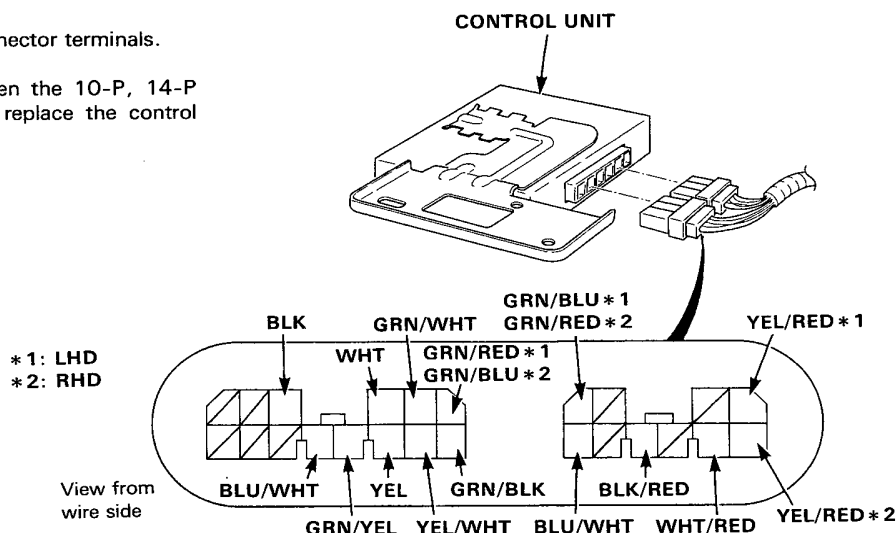




## Control Unit Input Test

Slide the left front seat forward to disconnect the 10-P and 14-P connectors from the control unit.  
Make the following input test at the connector terminals.

NOTE: Recheck the connections between the 10-P, 14-P connectors and the control unit, then replace the control unit if all input tests prove OK.



No.	Terminal	Test condition	Test: desired result	Possible cause (if result is not obtained)
1	BLK	Under all conditions.	Check for continuity to ground: should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G501).</li> <li>• An open in the wire.</li> </ul>
2	WHT	Under all conditions.	Check for voltage to ground: should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No.27 (20 A) fuse.</li> <li>• An open in the wire.</li> </ul>
3	BLU/WHT	Driver's door lock knob in LOCK.	Check for continuity to ground: should be continuity.	<ul style="list-style-type: none"> <li>• Faulty door lock knob switch.</li> <li>• Poor ground (G501).</li> <li>• An open in the wire.</li> </ul>
4	BLK/RED	Driver's door lock knob in UNLOCK.		
5	YEL/RED and WHT/RED	Connect the WHT terminal to the WHT/RED terminal, and the YEL/RED terminal to the BLK terminal momentarily.	Check door lock operation: all doors should lock as the battery is connected momentarily.	<ul style="list-style-type: none"> <li>• Faulty actuators.</li> <li>• An open in the wire.</li> </ul>
		Connect the WHT terminal to the YEL/RED terminal, and the WHT/RED terminal to the BLK terminal momentarily.	Check door lock operation: all doors should unlock as the battery is connected momentarily.	

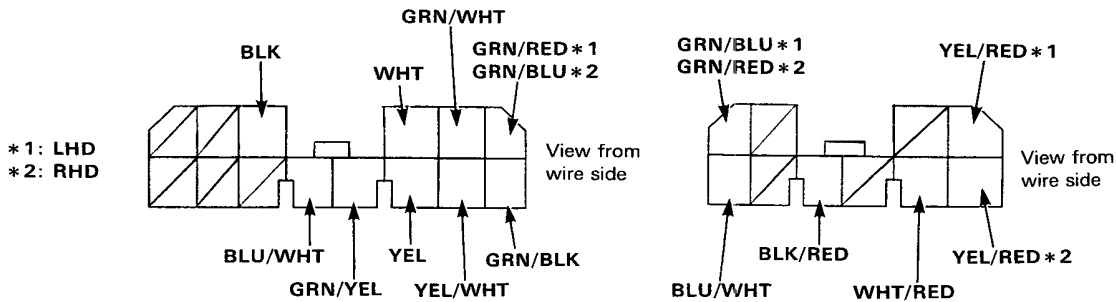
**CAUTION:** To prevent damage to the motor, apply battery voltage momentarily.

(cont'd)



# Power Door Locks

## Control Unit Input Test (cont'd)



No.	Terminal	Test condition	Test: desired result	Possible cause (if result is not obtained)
6	YEL	Tailgate lock knob in LOCK.	Check for continuity to ground: should be continuity.	<ul style="list-style-type: none"> <li>Faulty tailgate lock knob switch.</li> <li>Poor ground (G706).</li> <li>An open in the wire.</li> </ul>
7	GRN/YEL	Tailgate lock knob in UNLOCK.		
8	GRN/BLK	Tailgate opened.	Check for continuity to ground: should be continuity. NOTE: Before testing, remove the No.22 (15A) fuse.	<ul style="list-style-type: none"> <li>Faulty tailgate latch switch.</li> <li>Poor ground (G706).</li> <li>An open in the wire.</li> </ul>
9	GRN/WHT	Front passenger's door key cylinder in LOCK.	Check for continuity to ground: should be continuity. NOTE: Before testing, remove the No.22 (15A) fuse.	<ul style="list-style-type: none"> <li>Faulty passenger's door key cylinder switch.</li> <li>Poor ground (G501).</li> <li>An open in the wire.</li> </ul>
10	YEL/WHT	Front passenger's door key cylinder in UNLOCK.		
11	GRN/BLU	L. front door opened.	Check for continuity to ground: should be continuity. NOTE: Before testing, remove the No.22 (15A) fuse.	<ul style="list-style-type: none"> <li>Faulty door switch.</li> <li>An open in the wire.</li> </ul>
12	GRN/RED	R. front door opened.		
13	BLU/WHT	Ignition key turned from "II" to "O" position.	Check for voltage to ground: should be battery voltage when the ignition key is turned from "II" to "O" position and no voltage when it is removed.	<ul style="list-style-type: none"> <li>Blown No.22 (15A) fuse.</li> <li>Faulty ignition key switch.</li> <li>An open in the wire.</li> </ul>

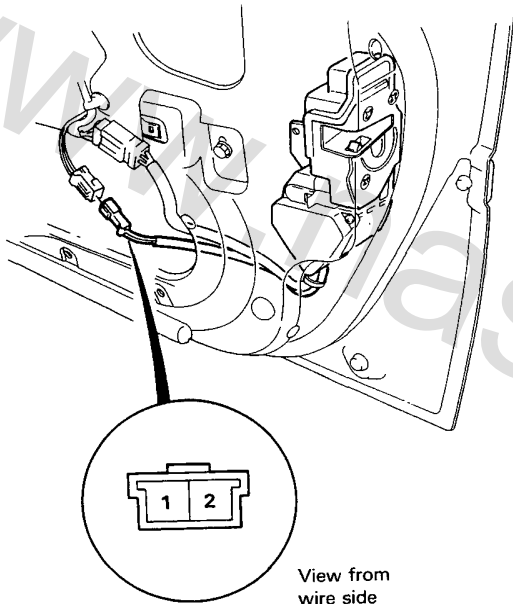


## Passenger's Door Actuator Test

1. Remove the door trim panel.
2. Disconnect the 2-P connector from the actuator.
3. Test actuator operation by connecting battery voltage to the No. 1 and No. 2 terminals.  
Test the actuator in each direction, by switching the leads from the battery.

**CAUTION:** To prevent damage to the motor, apply battery voltage momentarily.

**NOTE:** Right front actuator is shown; rear actuators are similar.



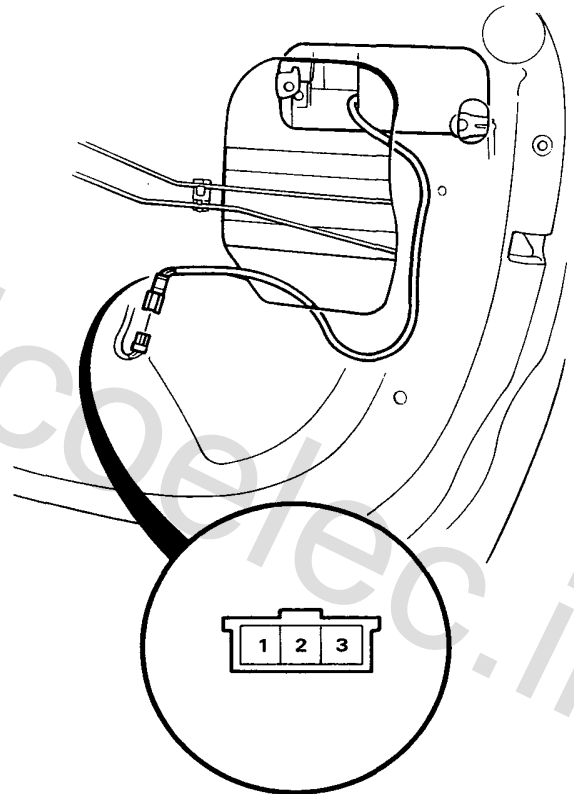
View from wire side

4. If the actuator fails to operate properly, replace it.

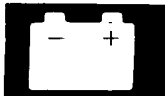
## Door Key Cylinder Switch Test

1. Remove the front passenger's door trim panel.
2. Disconnect the 3-P connector of the key cylinder switch.
3. Check for continuity between the terminals in each switch position according to the table.

Terminal	1	2	3
Position			
UNLOCK		○	○
LOCK	○	○	



View from wire side



# Driver's Door Actuator Test

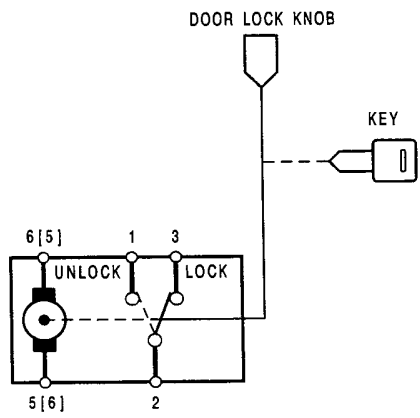
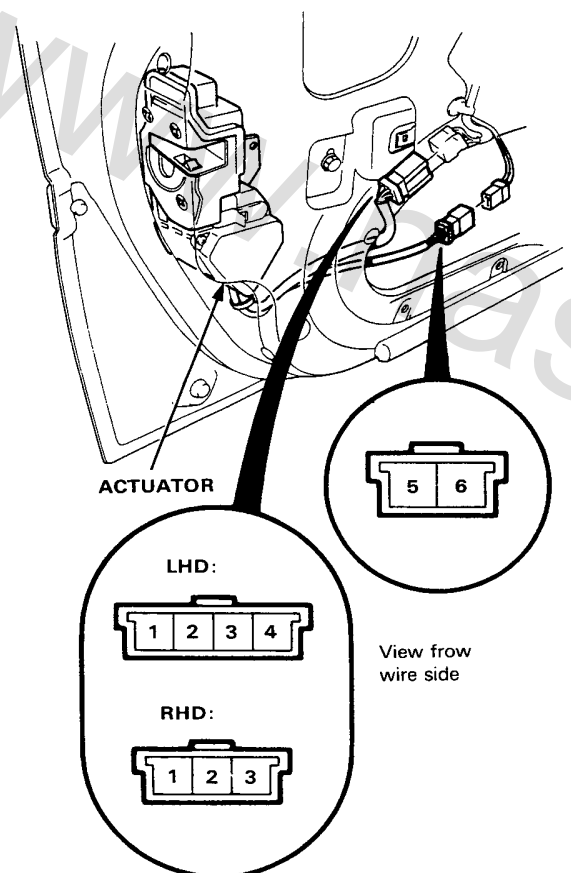
1. Remove the door trim panel.
2. Disconnect the connectors from the actuator.
3. Test actuator operation by connecting battery voltage to the No. 5 and No. 6 terminals. Test the actuator in each direction, by switching the leads from the battery.

**CAUTION:** To prevent damage to the motor, apply battery voltage momentarily.

NOTE: LHD type is shown; RHD type is similar.

5. Check for continuity between the terminals in each switch position according to the table.

Terminal Position	1	2	3
LOCK		○ — ○	○ — ○
UNLOCK	○ — ○	○ — ○	



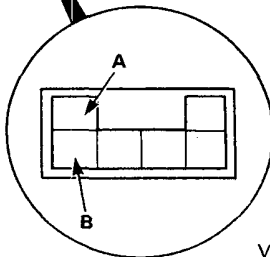
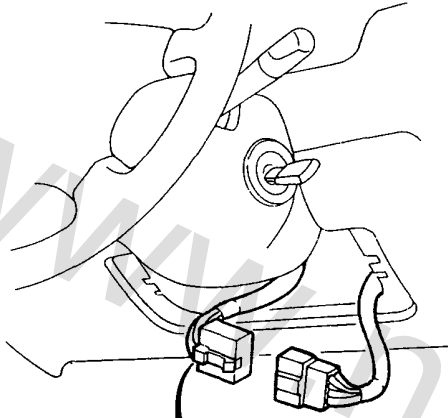
[ ]: RHD

4. If the actuator fails to operate properly, replace it.

# Power Door Locks

## Ignition Key Switch Test

1. Remove the instrument lower panel, then disconnect the 6-P connector from the main wire harness.
2. There should be continuity between the A and B terminals when the ignition switch is turned from "II" to "O" position.  
There should be no continuity when the ignition key is removed.



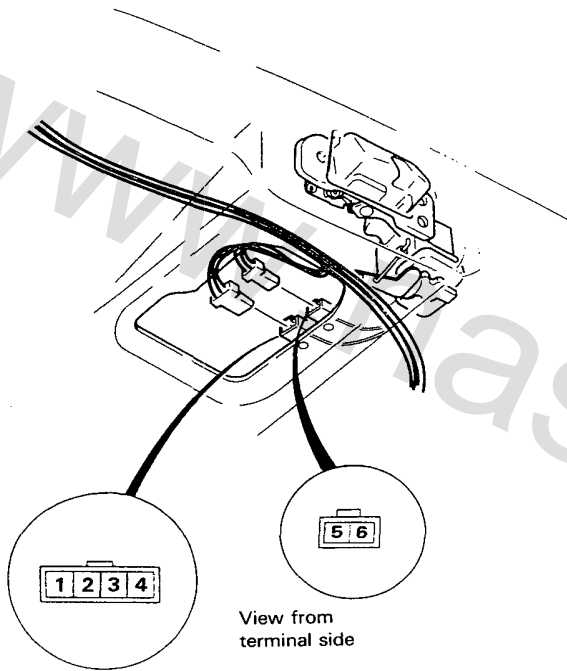
View from  
wire side

# Power Door Locks

## Tailgate Actuator Test

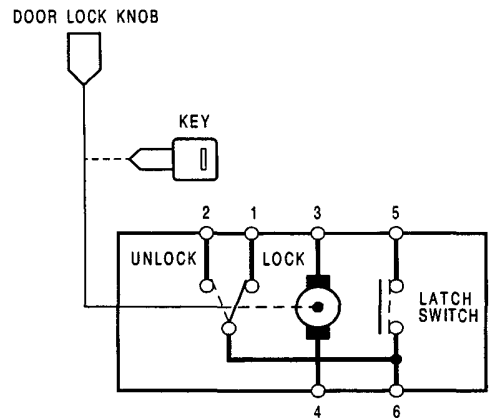
1. Open the tailgate and remove the tailgate trim panel.
2. Disconnect the 4-P and 2-P connectors from the actuator.
3. Test actuator operation by connecting battery voltage to the No. 5 and No. 6 terminals. Test the actuator in each direction, by switching the leads from the battery.

**CAUTION:** To prevent damage to the motor, apply battery voltage momentarily.



5. Check for continuity between the terminals in each switch position according to the table.

Terminal	1	2	6
Position			
LOCK	○	—	○
UNLOCK		○	○



4. If the actuator fails to operate properly, replace it.

# Power Door Locks

## Troubleshooting

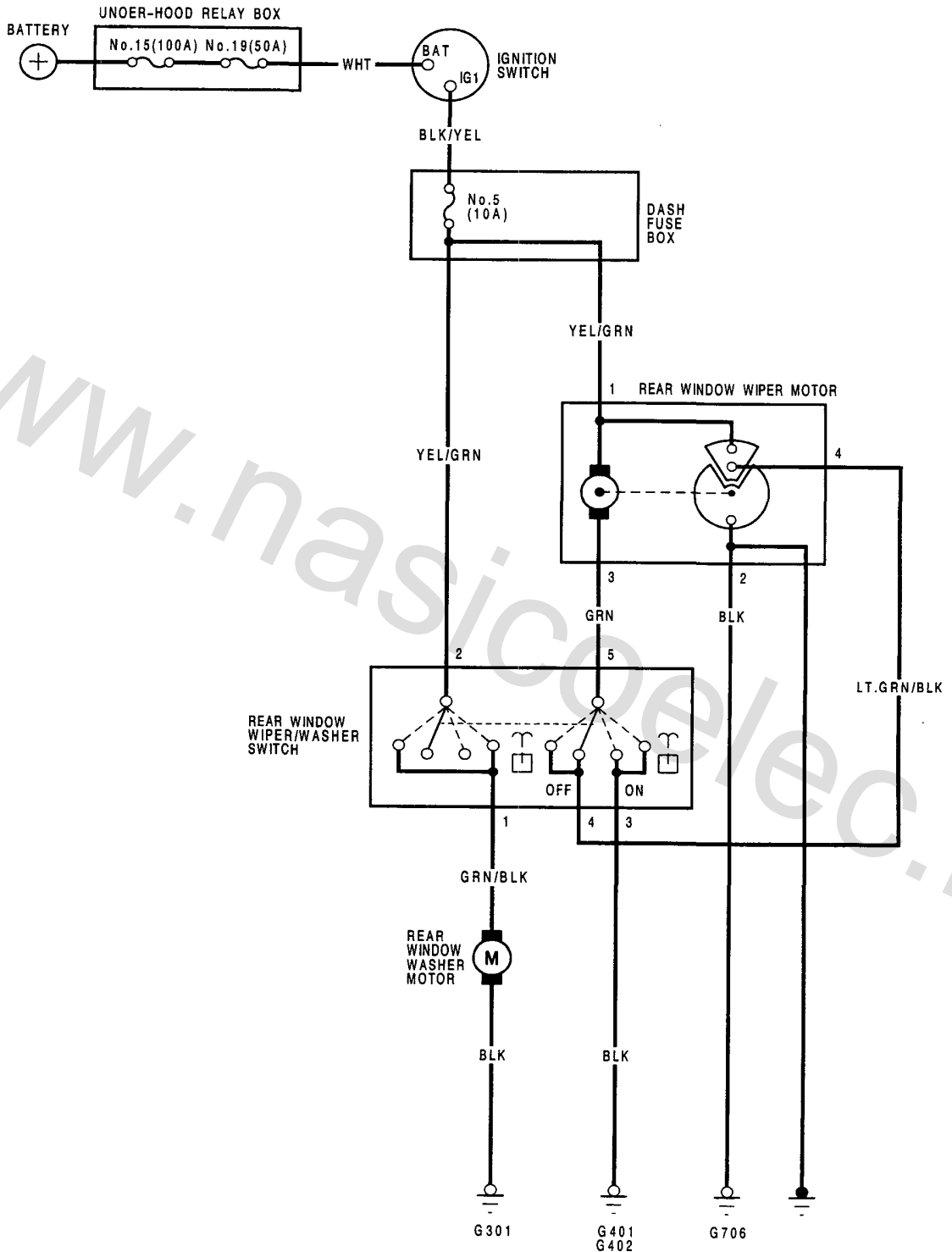
NOTE: The numbers in the table show the troubleshooting sequence.

Symptom		Item to be inspected									
		Blown No. 27 (20 A) fuse (in the under-hood relay box)	Door lock knob switch (in the driver's door lock actuator)	Control unit input	Passenger's door actuators	Disconnected or obstructed door lock rod/linkage	Front passenger's door key cylinder switch.	Tailgate lock knob switch	Poor ground	Open circuit in wires or loose or disconnected terminals	
Power door lock system does not operate at all		1		2					G501	WHT	
Doors do not lock or unlock with driver's door lock knob switch.	All passenger's doors.		1	3		2			G501	BLU/WHT	
	One or more passenger's doors.				1					YEL/RED or WHT/RED	
Doors do not lock or unlock with front passenger's door key cylinder switch.	All doors.			3		2	1		G501	GRN/WHT or YEL/WHT	
	One or more doors.				1					YEL/RED or WHT/RED	
Doors do not lock or unlock with tailgate lock knob switch.	All doors.			3		2		1	G706	GRN/ YEL or YEL	
	One or more doors.				1					YEL/RED or YEL/WHT	

**CAUTION:** To prevent damage to the motor, apply battery voltage momentarily.

# Rear Wiper/Washer

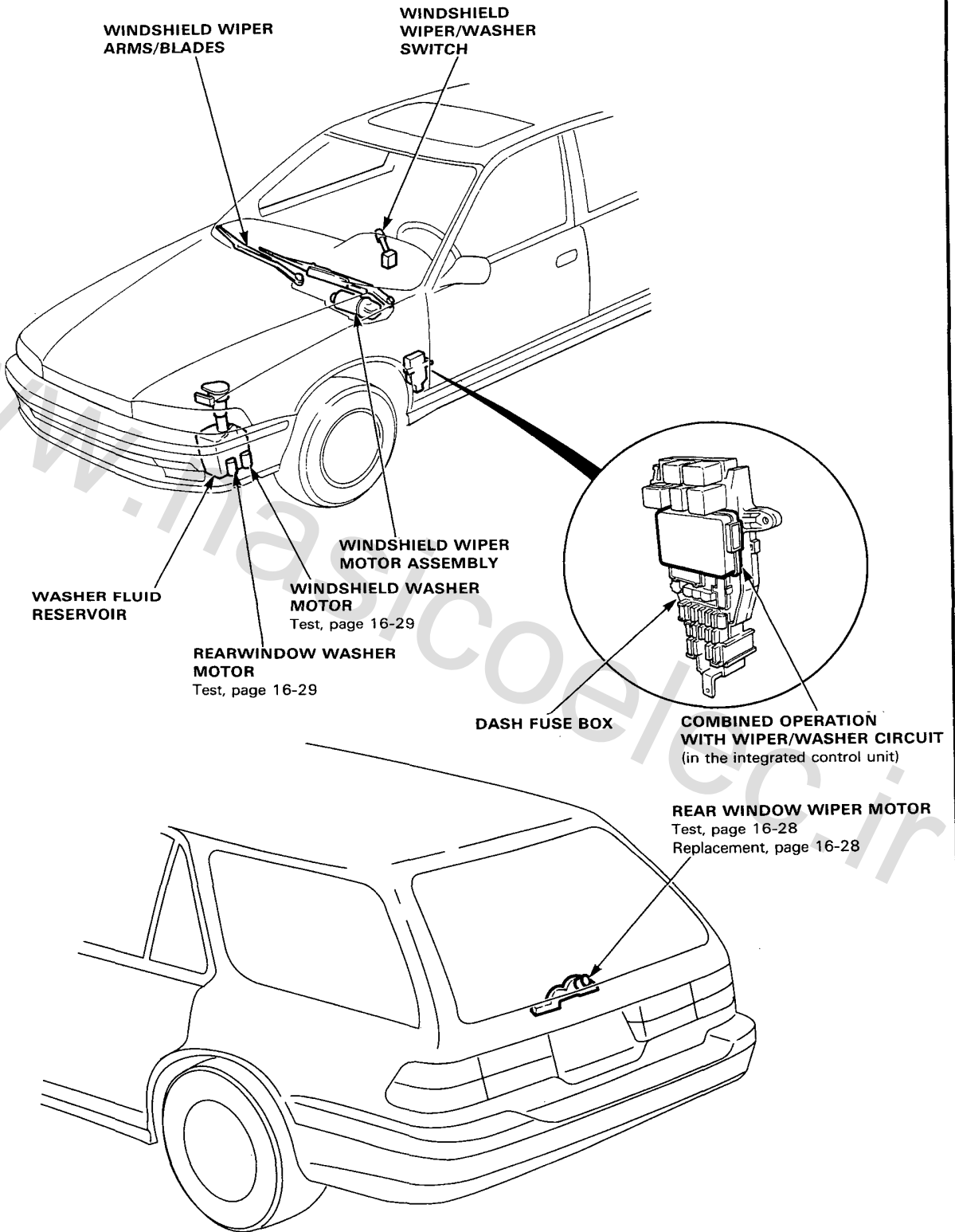
## Circuit Diagram





# Rear Wiper/Washer

## Component Location Index



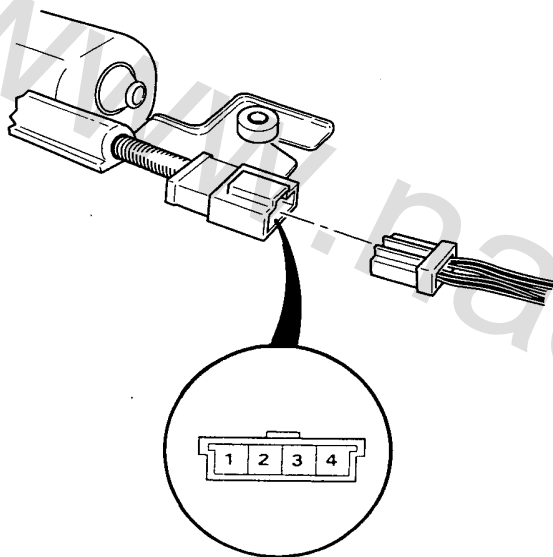


# Rear Wiper/Washer

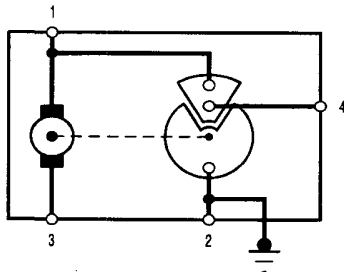
## Wiper Motor Test

1. Remove the tailgate trim panel, then disconnect the 4-P connector.
2. Test wiper motor operation by connecting battery positive wire to No. 1 terminal and battery negative wire to No. 2 terminal. If the motor fails to run smoothly, replace it.
3. While running the motor, check the voltages between the terminals according to the table.

1	4	2	
○	○		voltage should be between 5-10V
	○	○	

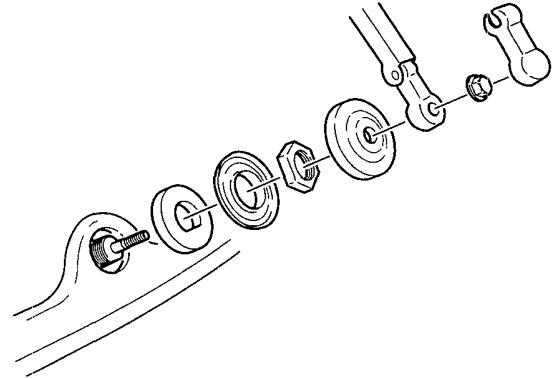


View from terminal side

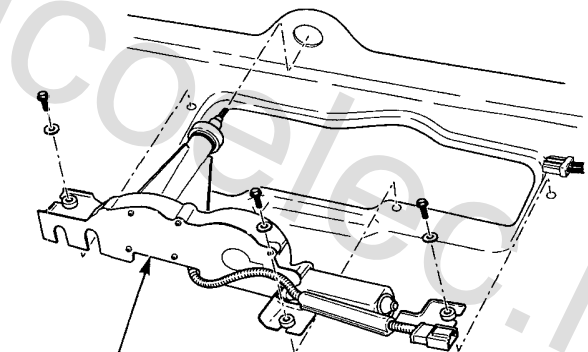


## Wiper Motor Replacement

1. Remove the tailgate trim panel.
2. Remove the trim cover, outer nut, wiper arm, pivot cap, inner nut, washer, and rubber seal as shown below.



3. Disconnect the 4-P connector from the wiper motor.
4. Remove the three mounting bolts and the wiper motor assembly.

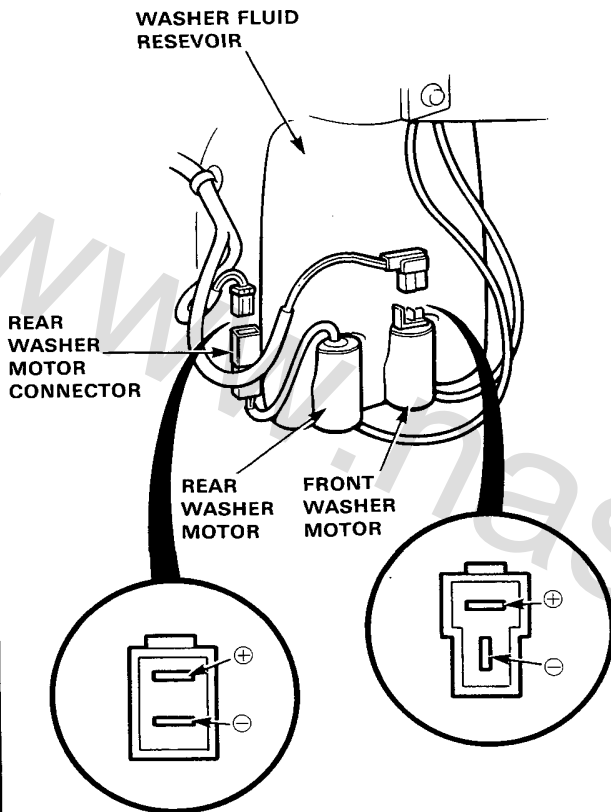


WIPER MOTOR ASSEMBLY



## Washer Motors Test

1. Remove the front bumper and disconnect the 2-P connectors from the washer motors.
2. Test the washer motors operation by connecting battery positive to the  $\oplus$  terminal and negative to the  $\ominus$  terminal.

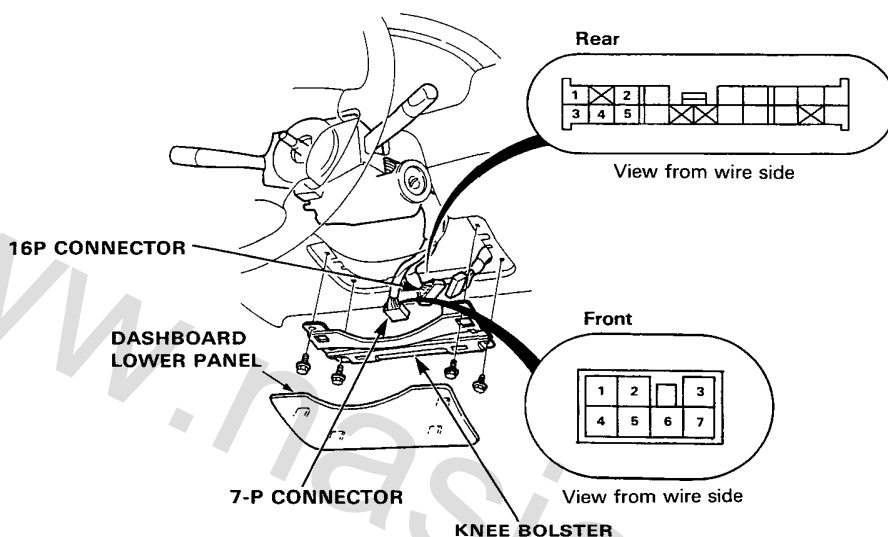


- If the motors fail to run smoothly or are not running, replace them.
- If the motors run smoothly, but there is not enough fluid pumped, check for disconnected, blocked or damaged washer hoses.



## Wiper/Washer Switch Test

1. Remove the dashboard lower panel and knee bolster.
2. Disconnect the 7-P connector from the main wire harness.
3. Check for continuity between the terminals in each switch position according to the table.



### Front

Terminal	1	2	3	4	5	6	7
Position							
OFF					○		○
INT		○	○		○		○
LO	○						○
HI	○			○			
Mist switch "ON"	○			○			
Washer switch "ON"		○				○	

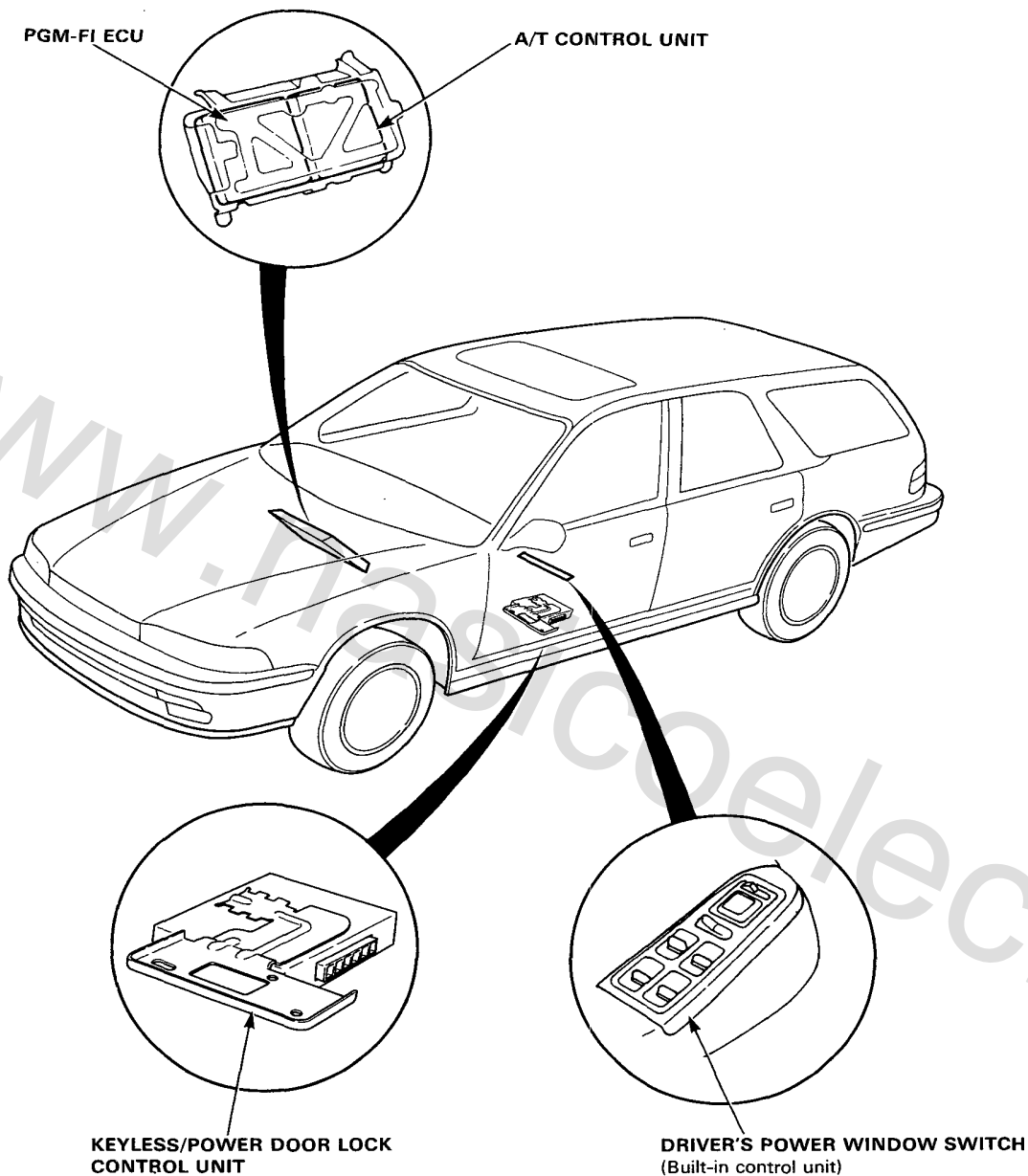
### Rear

Terminal	1	2	3	4	5
Position					
Washer Switch "ON"	○	○		○	○
OFF				○	○
ON			○		○
Washer Switch "ON"	○	○	○		○

# Relays and Control Unit Locations

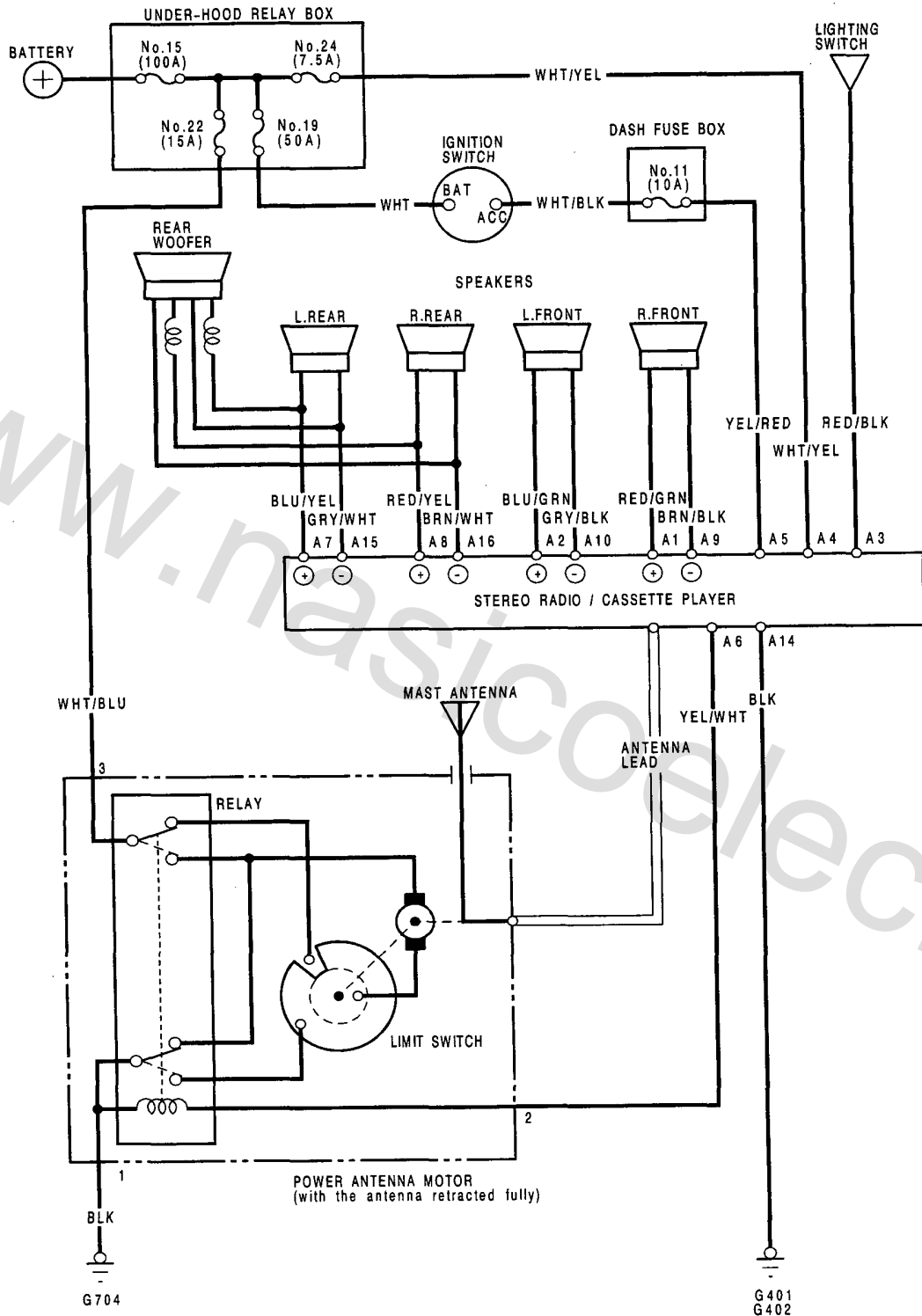
## Floor and Door

NOTE: RHD type is symmetrical to LHD type.



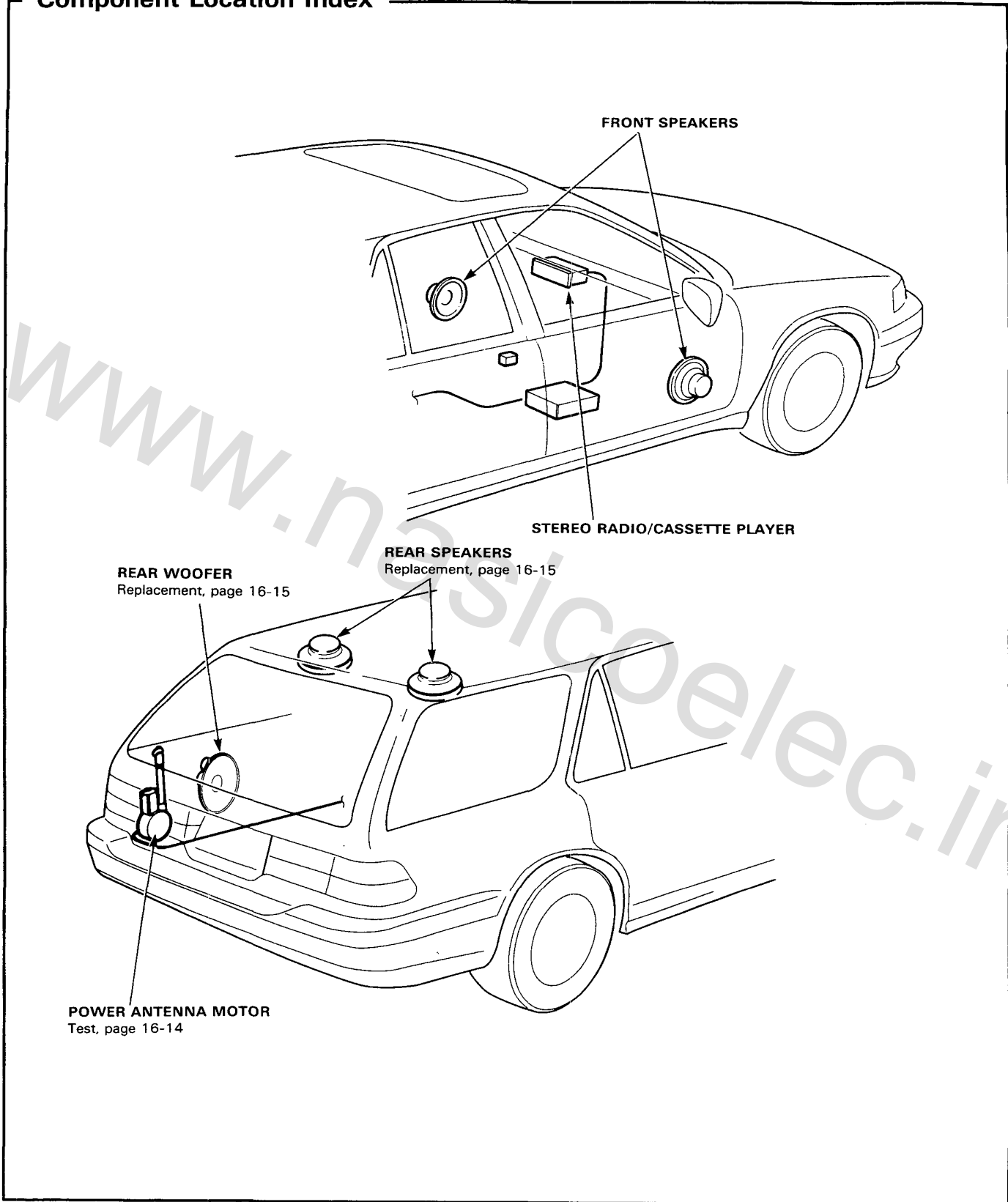


# Circuit Diagram



# Stereo Sound System

## Component Location Index



# Stereo Sound System

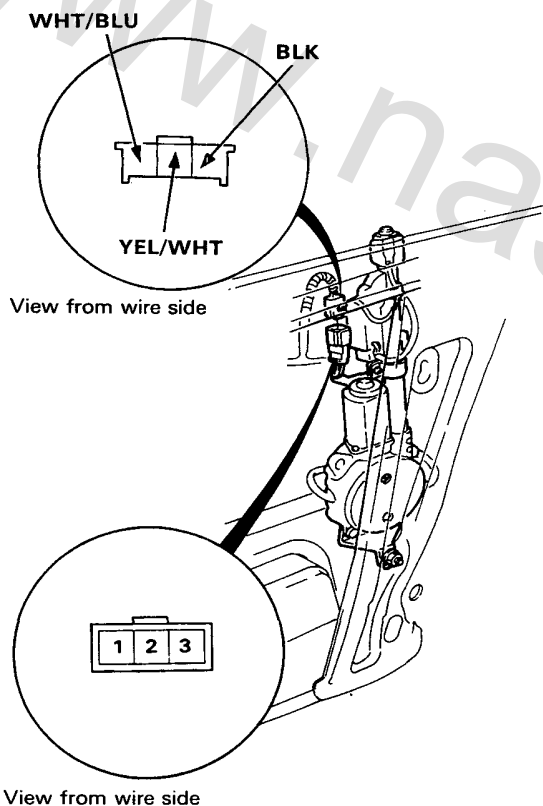
## Power Antenna Motor Test

1. Remove the left rear quarter trim panel.
2. Disconnect the 3-P connector from the motor and remove the connector from its clamp.
3. First check power to the motor at the connector terminals. There should be battery voltage between the WHT/BLU (+) and BLK (-) terminals all the time. There should be battery voltage between the YEL/WHT (+) and BLK (-) terminals only with the ignition and radio switched ON.

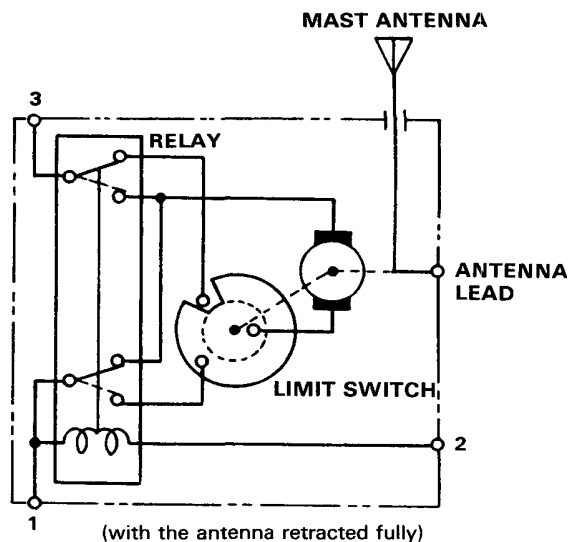
4. Test motor operation:

**FULL EXTEND:** Connect battery positive to the No. 3 and No. 2 terminals and negative to the No. 1 terminal.

**RETRACTED:** Then disconnect battery positive from the No. 2 terminal.



5. If the motor fails to operate properly, replace it.

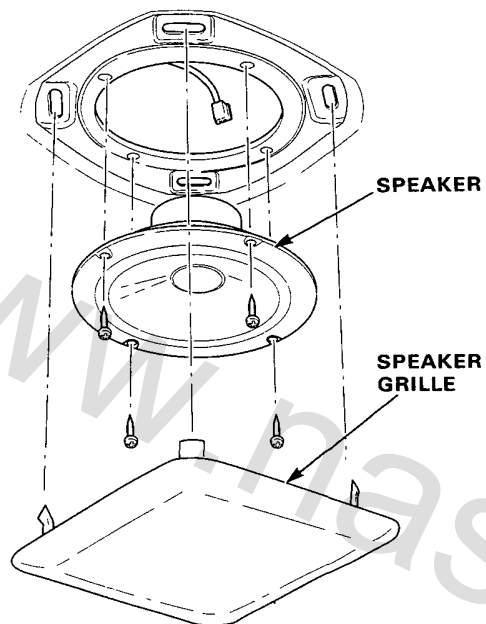




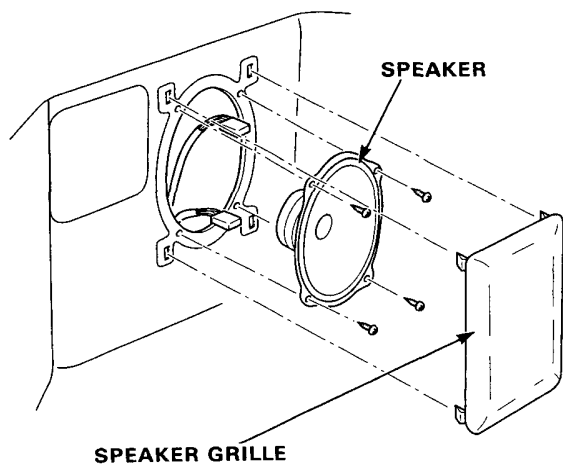
## Rear Speaker Replacement

1. Open the tailgate and pry the speaker grille off.
2. Remove the 4 screws and disconnect the connector (S).

### Right/Left Speaker:



### Woofer Speaker:

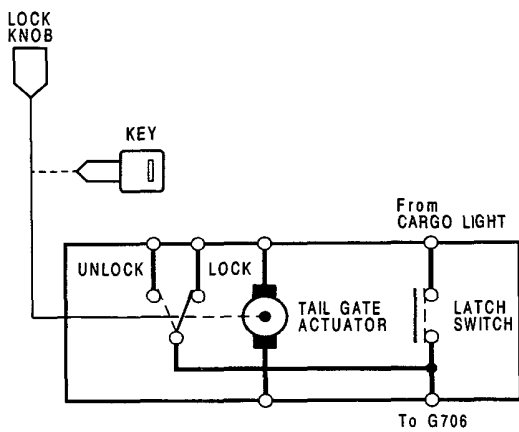
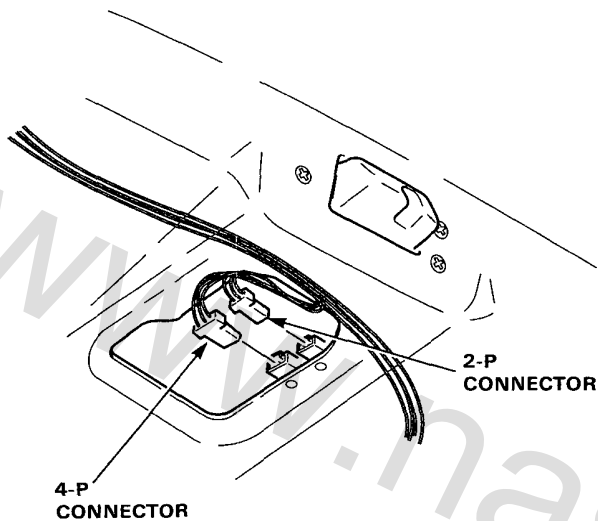




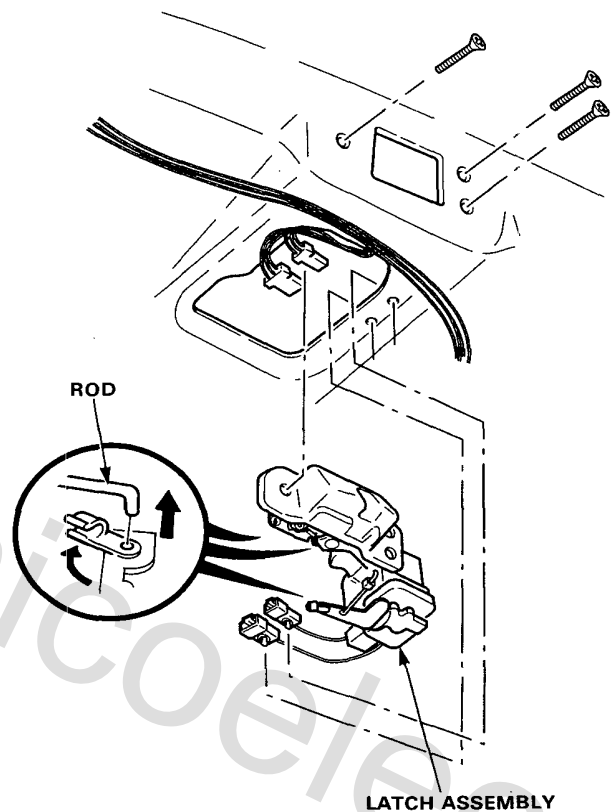
# Tailgate Latch Switch

## Test/Replacement

1. Open the tailgate and remove the tailgate trim panel.
2. Disconnect the 2-P connector from the tailgate latch.
3. There should be continuity between the two tailgate latch switch connector terminals.



4. If necessary, remove the 3 screws and pull the latch of the tailgate, then disconnect the 4-P connector and rods from the latch.



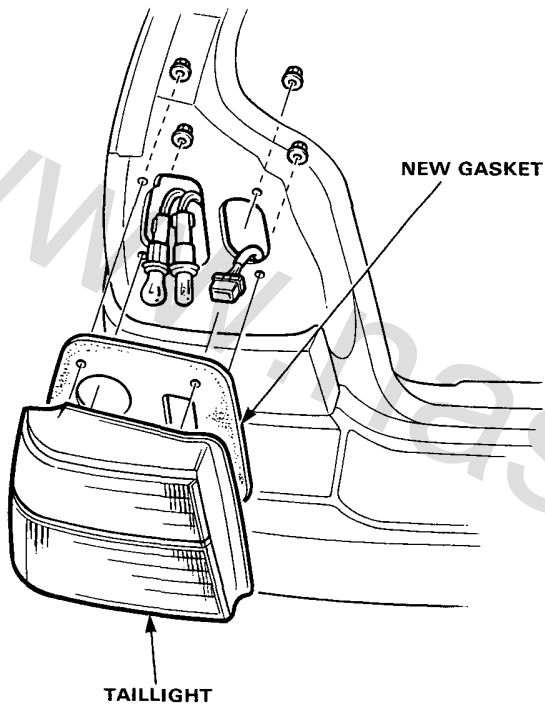


# Taillights

## Replacement

### Body side:

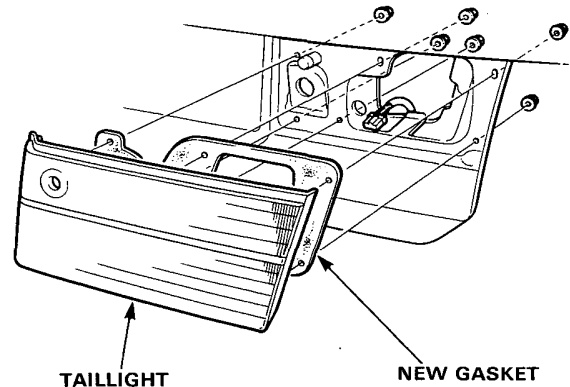
1. Open the tailgate and remove the rear quarter trim panel.
2. Disconnect the 4-P or 6-P connector from the body-side taillight.
3. Remove the 4 mount nuts and the taillight.



4. Inspect the gasket; replace if it is distorted or overly compressed.
5. Make sure that there is no water leakage in the taillights, after installing the taillights.

### Tailgate side:

1. Open the tailgate and remove the tailgate trim panel.
2. Disconnect the 4-P connector from the tailgate-side taillight.
3. Remove the 6 mount nuts and the tailgate-side taillight.



4. Inspect the gasket; replace if it is distorted or overly compressed.
5. Make sure that there is no water leakage in the taillights, after installing the taillights.

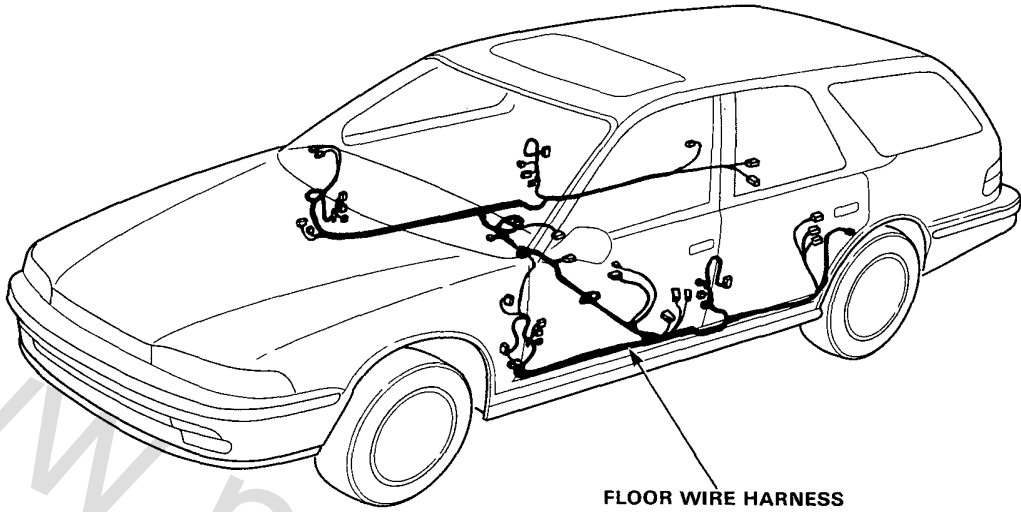
# Wire Harness and Ground Locations



## Floor

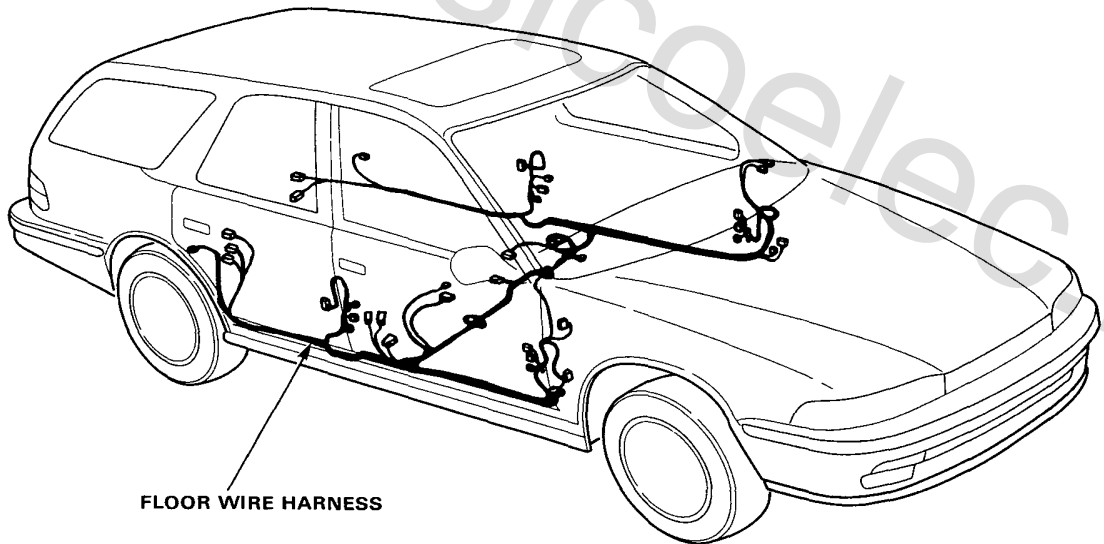
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LHD:



FLOOR WIRE HARNESS

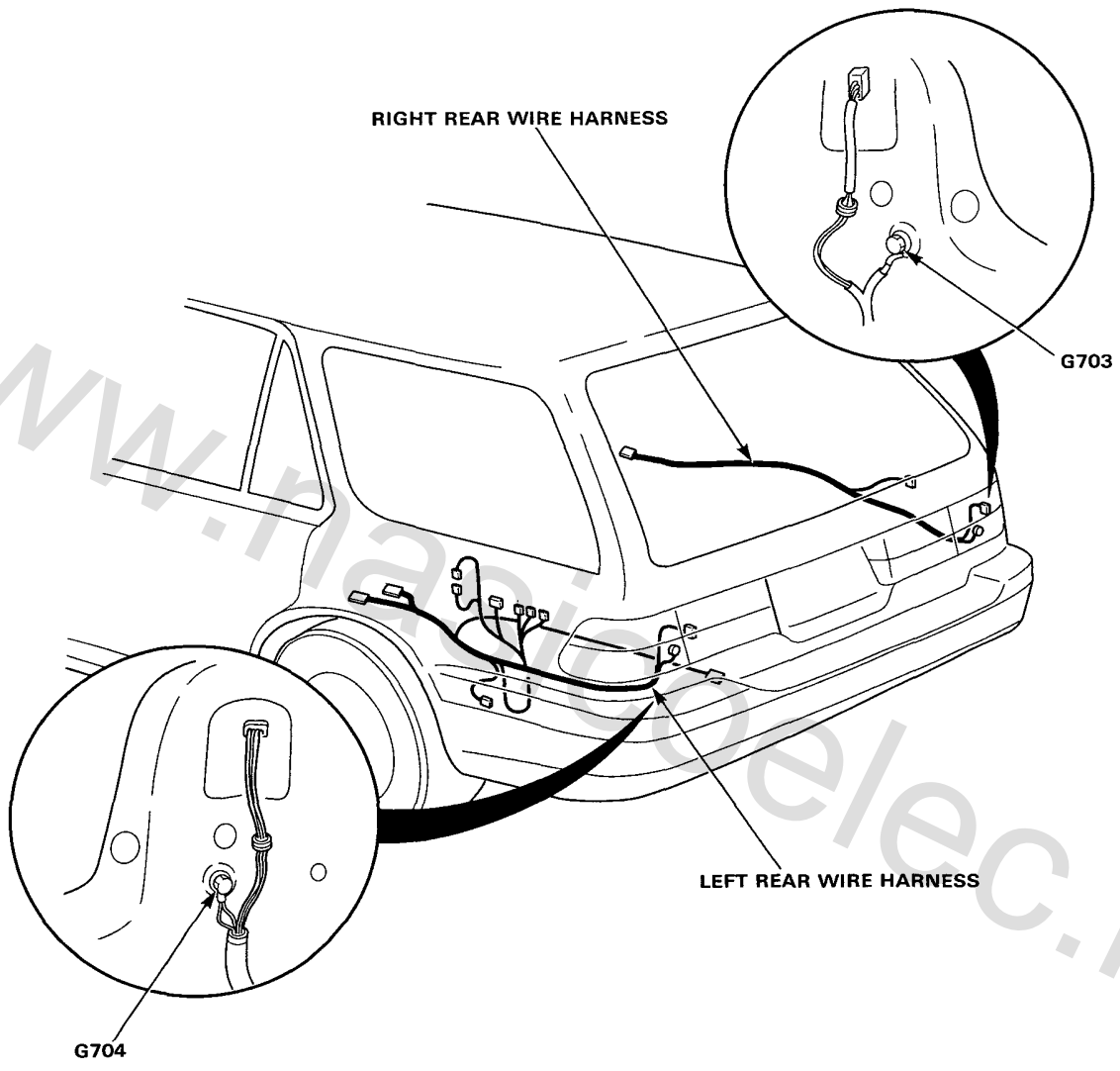
RHD:



FLOOR WIRE HARNESS



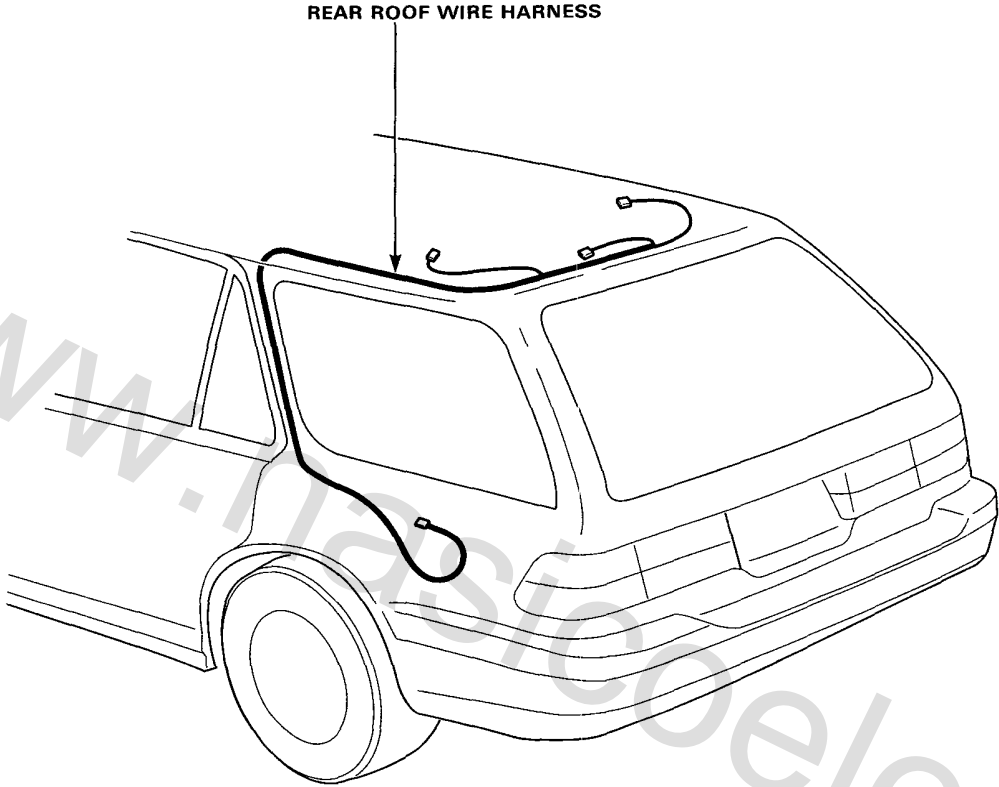
Rear



# Wire Harness and Ground Locations

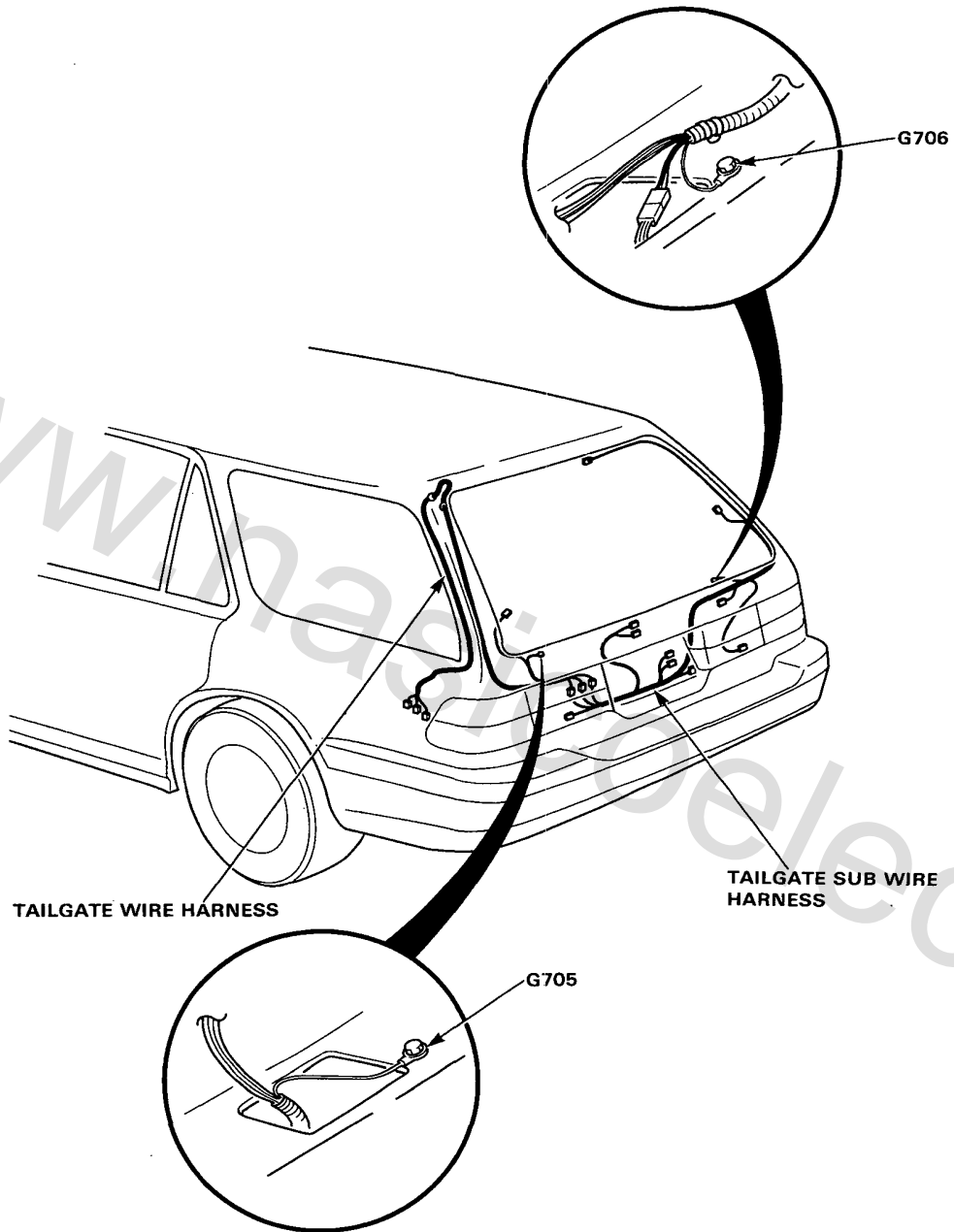
## Rear Roof

---



# Wire Harness and Ground Locations

## Tailgate



# Wiring Diagrams

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Taillights.....	6		

# INTRODUCTION

## How to Use This Manual

This supplement contains information for the 1992 ACCORD and ACCORD AERO DECK.

Refer to following shop manuals for service procedures and data not included in this supplement.

Description	Code No.
ACCORD CHASSIS Maintenance and Repair 90	62SM400
ACCORD SUPPLEMENT 91	62SM420
ACCORD AERO DECK SUPPLEMENT 91	62SM421
F18A/F20A/F22A ENGINE Maintenance and Repair	62PT400
H2 MANUAL TRANSMISSION Maintenance and Repair	62PX500
PX4B AUTOMATIC TRANSMISSION Maintenance and Repair	62PX400

The first page of each section is marked with a black tab that lines up with one of the thumb index tabs on this page. You can quickly find the first page of each section without looking through a full table of contents. The symbols printed at the top corner of each page can also be used as a quick reference system.

## Special Information


**▲ WARNING** Indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.

**CAUTION:** Indicates a possibility of personal injury or equipment damage if instructions are not followed.

**NOTE:** Gives helpful information.

**CAUTION:** Detailed descriptions of *standard* workshop procedures, safety principles and service operations are not included. Please note that this manual does contain warnings and cautions against some specific service methods which could cause **PERSONAL INJURY**, or could damage a vehicle or make it unsafe. Please understand that these warnings cannot cover all conceivable ways in which service, whether or not recommended by Honda, might be done, or of the possible hazardous consequences of each conceivable way, nor could Honda investigate all such ways. Anyone using service procedures or tools, whether or not recommended by Honda, *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized.

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 marked sections are not included in this manual.

First Edition 11/91 590 pages  
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HONDA MOTOR CO., LTD.  
Service Publication Office

General Info 

Special Tools 

Specifications 

Maintenance 

Engine 

Cooling 

Fuel and Emissions 

\* Transaxle 

\* Steering 

Suspension 

\* Brakes  
(Including **ABS**) 

\* Body 

\* Heater and  
Air Conditioner 

\* Electrical  
(Including **SRS**) 

As sections with \* include SRS components, special precautions are required, when servicing.



**Chassis and Engine Numbers**  
**Identification Number Locations**  
**Label Locations**  
**Lift and Support Points**  
**Towing**  
**Preparation of Work**  
**Symbol Marks**  
**Abbreviations**

[www.nasicoelec.ir](http://www.nasicoelec.ir)

# Chassis and Engine Numbers

## Vehicle Identification Number (4D with 2.0 l Carbureted engine)

JHMCB35200C200001

Manufacturer, Make and  
Type of Vehicle

JHM: HONDA MOTOR CO.,  
LTD. JAPAN  
HONDA Passenger car

Body Type

CB3: ACCORD 2.0 l

Body and Transmission Type

5: 4-door 5-speed Manual  
6: 4-door 4-speed Automatic

Vehicle Grade

2: DX, KG/KS (F20A2)  
LX, KY (F20A3 Leaded gasoline)  
3: EX, KF/KG/KS/KE (F20A2)  
KF/KE (F20A3 Unleaded  
gasoline)  
KB/KW/KP/KT/KU/KY  
(F20A3, Leaded gasoline)  
EX (90ps), KG (F20A6)

Fixed Code

Auxiliary Number

Factory Code

C: Sayama Factory in Japan

Model Year

2: 1992

Serial Number

## Vehicle Identification Number (4D with 2.0 l Fuel-injected engine except KB other)

JHMCB35400C200001

Manufacturer, Make and  
Type of Vehicle

JHM: HONDA MOTOR CO.,  
LTD. JAPAN  
HONDA Passenger car

Body Type

CB3: ACCORD 2.0 l

Body and Transmission Type

5: 4-door 5-speed Manual  
6: 4-door 4-speed Automatic

Vehicle Grade

4: 2.0i, KF/KE (F20A5 Unleaded gasoline)  
KB/KW (F20A5 Leaded gasoline)  
KF/KG/KS/KE (F20A8)  
2.0i with ABS  
KF/KE (F20A5 Unleaded gasoline)  
KB (F20A5 Leaded gasoline)  
KF/KG/KS/KE (F20A8)  
EXi, KU (F20A5 Leaded gasoline)

Fixed Code

Auxiliary Number

Factory Code

C: Sayama Factory in Japan

Model Year

2: 1992

Serial Number

## Vehicle Identification Number (4D with 2.0 l Fuel-injected engine KB other)

1HGCC155\*NA700001

Manufacturer, Code and  
Vehicle Type

1HG: HONDA OF AMERICA  
MFG., INC., U.S.A.  
HONDA Passenger car

Body Type

CC1: ACCORD 2.0 l

Body and Transmission Type

5: 4-door 5-speed Manual  
6: 4-door 4-speed Automatic

Vehicle Grade

5: LX  
6: EX

Check Digit

Model Year

N: 1992

Factory Code

A: Ohio Factory in U.S.A. (Marysvill)

Serial Number

## Vehicle Identification Number (4D with 2.2 l Fuel-injected engine)

JHMCB75400C200001

Manufacturer, Make and  
Type of Vehicle

JHM: HONDA MOTOR CO.,  
LTD. JAPAN  
HONDA Passenger car

Body Type

CB7: ACCORD 2.2 l

Body and Transmission Type

5: 4-door 5-speed Manual  
6: 4-door 4-speed Automatic

Vehicle Grade

4: LXi, KQ (F22A9)  
5: 2.2i, KF/KG/KX/KS/KE (F22A3)  
EXi, KQ (F22A9)  
KY (F22A2)

Fixed Code

Auxiliary Number

Factory Code

C: Sayama Factory in Japan

Model Year

2: 1992

Serial Number

**Vehicle Identification Number****(5D with 2.2 l Fuel-injected engine)**

1HGCB87400A000001

**Manufacturer, Code and Vehicle Type**1HG: HONDA OF AMERICA  
MFG.,  
INS., U.S.A.  
HONDA Passenger car**Body Type**CB8: ACCORD AERO DECK 2.2 l  
(KF/KG/KE)  
CB9: ACCORD WAGON 2.2 l (KQ)**Body and Transmission Type**7: 5-door 5-speed Manual  
8: 5-door 4-speed Automatic**Vehicle Grade**4: 2.2i (KF/KG/KE)  
LXi (KQ)  
5: 2.2i with A/C (KF/KG/KE)  
LXi with A/C (KQ)**Fixed Code****Auxiliary Number****Factory Code**

A: Ohio Factory in U.S.A. (Marysvill)

**Model Year**

0: 1992

**Serial Number****Engine Number****(2.2 l engine for 4D European model)**

F22A3-3000001

**Engine Type**F22A3: 2.2 l Fuel-injected engine  
Unleaded gasoline with CATA  
(KF/KG/KX/KS/KE)**Transmission Type**30: Manual  
35: Automatic**Serial Number****Engine Number****(2.2 l engine for 4D except European model)**

F22A2-3000001

**Engine Type**F22A2: 2.2 l Fuel-injected engine  
Leaded gasoline without CATA (KY)  
F22A9: 2.2 l Fuel-injected engine  
Unleaded gasoline with CATA (KQ)**Serial Number**F22A2: 3000001 ~  
F22A9: 2000001 ~**Engine Number****(2.0 l engine)**

F20A2-3000001

**Engine Type**F20A2: 2.0 l Carbureted engine  
Unleaded gasoline with CATA (KF/KG/KS/KE)  
F20A3: 2.0 l Carbureted engine  
Unleaded gasoline without CATA (KF/KE)  
F20A3: 2.0 l Carbureted engine  
Leaded gasoline without CATA  
(KB/KW/KP/KT/KU/KY)  
F20A5: 2.0 l Fuel-injected engine  
Unleaded gasoline without CATA (KF/KE)  
F20A5: 2.0 l Fuel-injected engine  
Leaded gasoline without CATA  
(KB/KB other/KW/KU)  
F20A6: 2.0 l Carbureted engine  
Unleaded gasoline with CATA (KG·90ps)  
F20A8: 2.0 l Fuel-injected engine  
Unleaded gasoline with CATA  
(KF/KG/KX/KS/KE)**Transmission Type**10: F20A8 engine with Manual  
15: F20A8 engine with Automatic  
23: F20A5 engine (KB other) with Manual  
28: F20A5 engine (KB other) with Automatic  
30: F20A2, F20A3, F20A5 and F20A6 engine  
(except KB other) with Manual  
35: F20A2, F20A3, F20A5 engine  
(except KB other) with Automatic**Serial Number****Engine Number****(2.2 l engine for 5D model)**

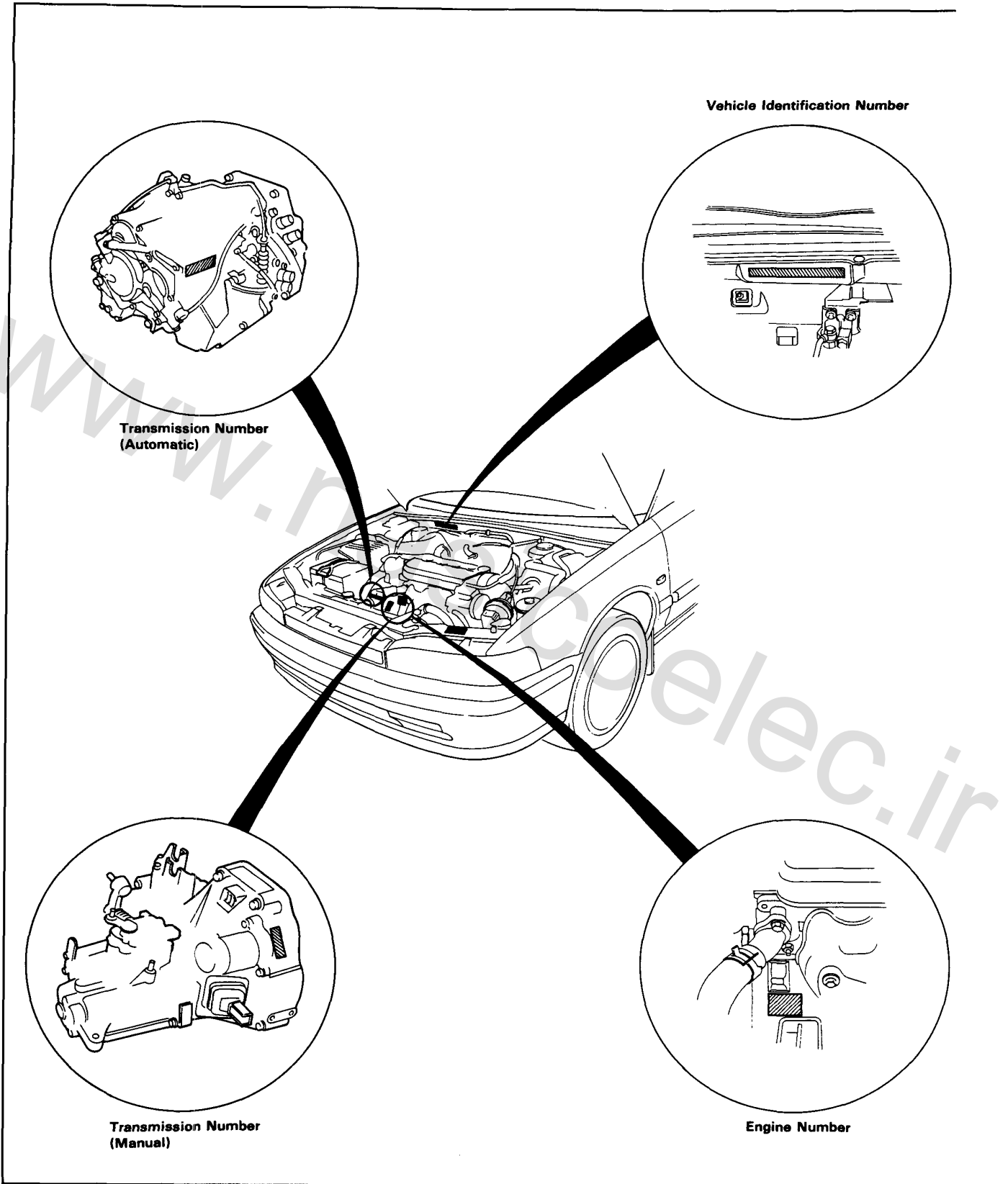
F22A6-2960001

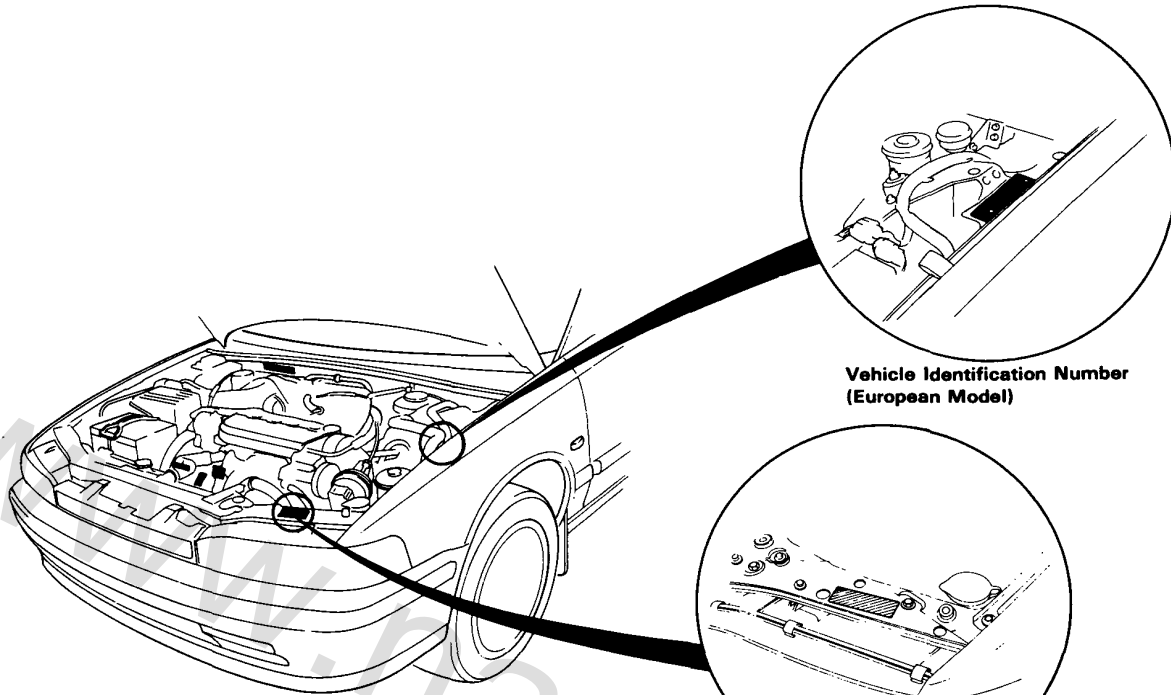
**Engine Type**F22A6: 2.2 l Fuel-injected engine  
Unleaded gasoline with CATA  
for Manual and Automatic (KQ)  
F22A7: 2.2 l Fuel-injected engine  
Unleaded gasoline with CATA  
for Manual (KF/KG/KX/KS/KE)  
F22A8: 2.2 l Fuel-injected engine  
Unleaded gasoline with CATA  
for Automatic (KF/KG/KX/KS/KE)**Serial Number**F22A6: 2960001 ~  
F22A7 and F22A8: 2000001 ~**Transmission Number**

H2C4-3000001

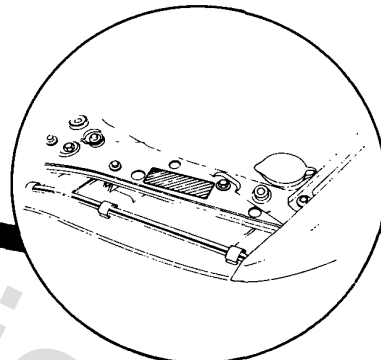
**Transmission Type**H2C4: Manual with F20A5/F20A8/F22A2/F22A3  
engine (4D), F22A7 engine (5D)  
H2S8: Manual with F20A2/F20A3/F20A6 engine  
H2U5: Manual with F22A6 engine  
(5D)/F22A9 engine (4D)  
MPXA: Automatic with 4D  
APX4: Automatic with 5D**Serial Number**Manual (4D): 3000001 ~  
Manual (5D): 7000001 ~  
Automatic (4D): 3000001 ~  
Automatic (5D): 6000001 ~

# Identification Number Locations

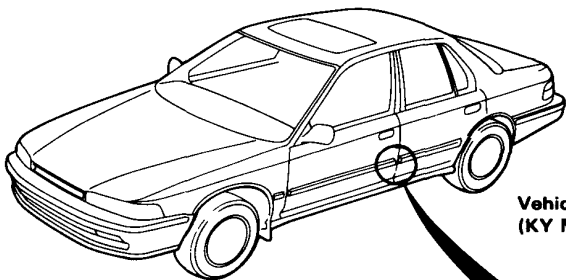




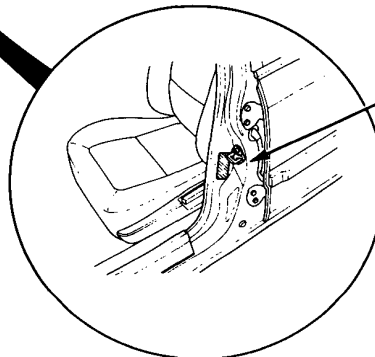
**Vehicle Identification Number  
(European Model)**



**Vehicle Identification Number  
(KQ, KT Model)**



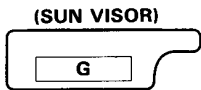
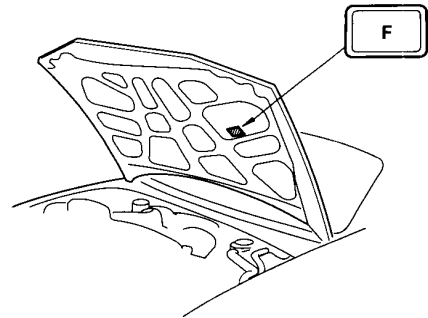
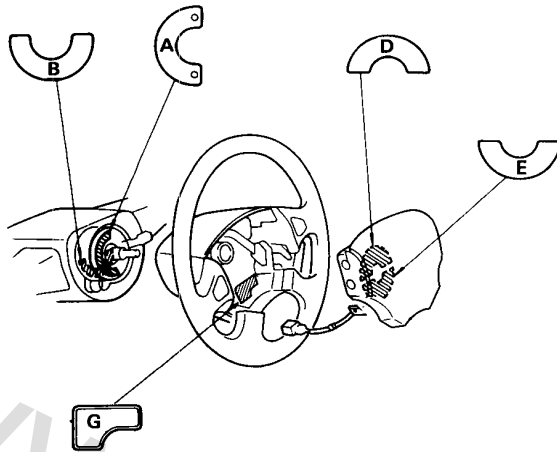
**Vehicle Identification Number  
(KY Model only)**



**CENTER  
PILLAR**

# Label Locations

## Warning/Caution Labels (SRS type I)



### A: CABLE REEL CAUTION A

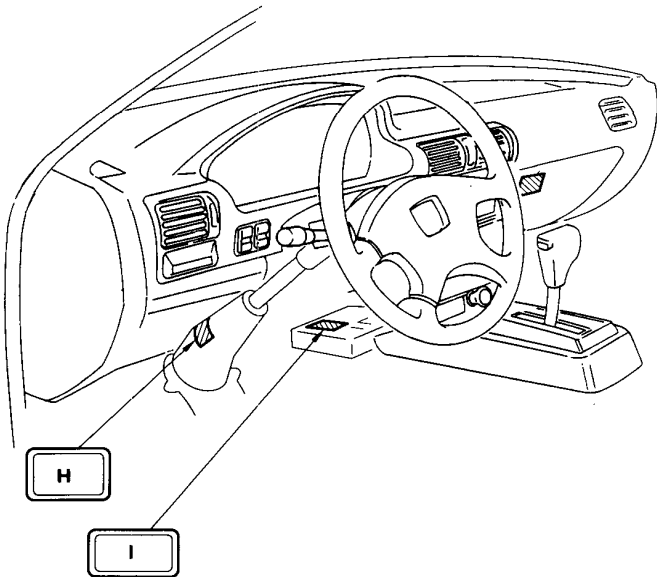
<b>SRS</b>
<b>CAUTION</b>
● REFER TO THE SHOP MANUAL.
<b>ATTENTION</b>
● SE REPORTER AU MANUAL D'ATELIER.
<b>ACHTUNG</b>
● WERKSTATTHANDBUCH LESEN.
<b>WAARSCHUWING</b>
● LEES HET WERKPLAATSHANOBEEK.

### B: CABLE REEL CAUTION B

<b>SRS</b>
<b>CAUTION</b>
● REFER TO THE SHOP MANUAL.
<b>ATTENTION</b>
● SE REPORTER AU MANUEL D'ATELIER.
<b>ACHTUNG</b>
● WERKSTATTHANDBUCH LESEN.
<b>WAARSCHUWING</b>
● LES HET WERKPLAATSHANOBEEK.

### C: STEERING WHEEL WARNING

<b>WARNING</b>	<b>SRS</b>
● REFER TO THE SHOP MANUAL.	
● SE REPORTER AU MANUEL D'ATELIER.	
● WERKSTATTHANDBUCH LESEN.	
● LEES HET WERKPLAATSHANOBEEK.	





#### D: INFLATOR COVER LABEL

- DANGER  
EXPLOSIVE/FLAMMABLE  
POISON  
REFER TO THE SHOP MANUAL.
- DANGER  
EXPLOSIF ET INFLAMMABLE  
POISON  
SE REPORTER AU MANUEL D'ATELIER
- GEFÄHR  
EXPLOSIV/ENTZÜNDBAR  
GIFT  
WERKSTATTHANDBUCH LESEN.
- GEVAAR  
EXPLOSIEGEVAAR/BPANDBAAR  
GIFTIG  
LEES HET WERKPLAATSHANDBOEK.

#### E: MODULE WARNING

- WARNING** **SRS**
- REFER TO THE SHOP MANUAL.
  - SE REPORTER AU MANUEL D'ATELIER.
  - WERKSTATTHANDBUCH LESEN.
  - LEES HET WERKPLAATSHANDBOEK.

#### F: ENGINE HOOD WARNING

**WARNING** **SRS**  
THIS VEHICLE IS EQUIPPED WITH A AIRBAG SYSTEM AS A SUPPLEMENTAL RESTRAINT SYSTEM. (SRS)  
ALL S.R.S. ELECTRICAL WIRING AND CONNECTORS ARE COLORED YELLOW.  
DO NOT USE ELECTRICAL TEST EQUIPMENT ON THESE CIRCUITS.  
TAMPERING WITH OR DISCONNECTING THE S.R.S. WIRING COULD RESULT IN ACCIDENTAL FIRING OF THE INFLATOR OR MAKE THE SYSTEM INOPERATIVE WHICH MAY RESULT IN SERIOUS INJURY.

**ATTENTION** **SRS**  
CE VEHICULE EST EQUIPE D'UN COUSSIN D'AIR DU COTE CONDUCTEUR QUI CONSTITUE UN SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.).  
TOUS LES FILS ET CONNECTEURS ELECTRIQUES DU SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.) SONT DE COULEUR JAUNE. N'UTILISEZ PAS UN EQUIPMENT D'ESSAIS ELECTRIQUES SUR CES CIRCUITS. NE TOUCHEZ PAS ET NE DEBRANCHEZ PAS LES FILS DU SYSTEME S.R.S. CAR CECI POURRAIT DE TRADUIRE PAR LE DECLENCHEMENT ACCIDENTEL DU GONFLEUR OU RENDRE LE SYSTEME INOPERANT ET VOUS EXPOSER AINSI A DE GRAVES BLESSURES.

**WARNING** **SRS**  
DIESES FAHRZEUG IST MIT EINEM FAHRER-AIRBAG (SRS) ALS ZUSÄTZLICHEM RÜCKHALTESYSTEM AUSGERÜSTET.  
ALLE ELEKTRISCHEN KABEL, SOWIE DIE ZUGEHÖRIGEN STECKVERBINDER DES S.R.S.-SYSTEMS SIND IN GELBER FARBE AUSGEFÜHRT.  
KEINE ELEKTRISCHEN PRÜFGERÄTE AN DIE S.R.S.-VERKABELUNG ANSCHLIEßEN.  
VERÄNDERN ODER UNTERBRECHEN DER S.R.S.-VERKABELUNG KANN UNKONTROLLIERTES ZÜNDEN DES GASGENERATORS AUSLÖSEN, ODER DAS SYSTEM AUßER FUNKTION SETZEN WAS ZU ERNSTHAFTEN VERLETZUNGEN FÜHREN KANN.

**WAARSCHUWING** **SRS**  
DIT VOERTUIG IS UITGERUST MET EEN LUCHTKUSSEN AAN DE BESTUURDERSKANT ALS EXTRA BESCHERMING (S.R.S.).  
ALLE ELEKTRISCHE LEIDINGEN EN AANSLUITINGEN VAN DE S.R.S. ZIJN GEEL GEKLEURD. GEBRUIK GEEN ELEKTRISCHE TESTAPPARATUUR VOOR DEZE CIRCUITS. KNOEIEN MET OF LOSKOPPELEN VAN DE S.R.S. LEIDINGEN KAN LEIDEN TOT BRAND IN DE VULINRICHTING OF TOT UITSCHAKELEN VAN HET SYSTEEM DIT KAN TOT ERNSTIGE ONGELUKKEN LEIDEN.

(cont'd)

# Label Localions

## Warning/Caution Labels (SRS type I) (cont'd)

### G: DRIVER INFORMATION

#### **SRS** ALWAYS WEAR YOUR SEAT BELT

- THIS CAR IS EQUIPPED WITH A DRIVER AIRBAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (SRS)
- IT IS DESIGNED TO SUPPLEMENT THE SEAT BELT.
- IF YOUR SRS INDICATOR LIGHTS WHILE DRIVING SEE YOUR AUTHORIZED HONDA DEALER.

#### **SRS** ATTACHEZ TOUJOURS VOTRE CEINTURE

- CE VEHICULE EST EQUIPE D'UN COUSSIN D'AIR DU COTE CONDUCTEUR OUI CONSTITUE UN SYSTEME DE RETENUECOMPLEMENTAIRE (S.R.S.).
- CE COUSSIN D'AIR COMPLETE LA FONCTION DE LA CEINTURE DE SECURITE.
- SI LE TMOIN SRS S'ALLUME PENDANT LA CONDUITE.  
ADRESSEZ VOUS A VOTRE CONCESSIONNAIRE HONDA OFFICIEL.

#### **SRS** SICHERHEITSGURTE BEI JEDER FAHRT ANLEGEN

- DIESES FAHRZEUG BESITZT EINEN FAHRER AIRBAG ALS ZUSATZLICHES RUCKHALESYSTEM (S.R.S.).
- ES IST EINE EPGANZUNG ZUM SICHERHEITSGURT.
- WENN DIE SRS KONTROLLEUCHE WAHREND DER FAHRT AUFLEUCHTET UMGEHEND FINEN HONDA HANDLER AUFsuchen.

#### **SRS** DRAAG ALTIJD UW VEILIGHEIDSGORDEL

- DIT VOERTUIG IS UITGERUST MET EEN LUCHTKUSSEN AAN DE BESTUURDERSKANT ALS EXTRA BESCHERMING (S.R.S.).
- DIT IS ONTWERPEN ALS EXTRA BESCHERMING BIJ DE VEILIGHEIDSGORDEL.
- ALS HEL SRS-WAARSCHUWINGSLAMPJE GAAT BRANDEN ONDER HET RIJDEN, NEEM DAN KONTAKT OP MET EEN HONDA DEALER.

### H: STEERING COLUMN CAUTION (KE)

#### CAUTION **SRS**

TO AVOID DAMAGING THE S.R.S. CABLE OR REEL. WHICH COULD MAKE THE SYSTEM INOPERATIVE. REMOVE THE STEERING WHEEL BEFORE REMOVING THE STEERING SHAFT CONNECTOR BOLT.

#### ATTENTION **SRS**

POUR NE PAS RISQUER D'ENDOMMAGER LE CABLE OU L'ENROULEUR DU S.R.S. ET DE RENDRE AINST LE SYSTEME INOPERANT RETIREZ LE VOLANT AVANT DE DEVINSSER LE BOULON D'ACCOUPEMENT D'ARBRE DE DIRECTION.

### H: STEERING COLUMN CAUTION (KG)

#### ACHTUNNG **SRS**

UM EINE BESCHÄDIGUNG DER SRS-VERKABELUNG, DIE ZUM AUSTALL DES SYSTEMS FÜHREN KANN ZU VERHINDERN, IMMER DAS LENKRAD VOR DEM LENKWELLENVERBINDUNGSBOLZEN AUSBAUEN.

#### WAARSCHUWING **SRS**

OM TE VOORKOMEN DAT DE S.R.S. -KABEL OF -HASPEL BESCHADIGD WORDEN, HETGEEN ERTOE ZOU LEIDEN DAT HET SYSTEEM UITVALT, DIENT U HET STUUR TE VERWIJDEREN VOORDAT U DE STUURSCHACHTCONNECTORBOUT VERWIJDERT.

### I: SRS UNIT CAUTION

#### CAUTION **SRS**

- NO SERVICEABLE PARTS INSIDE.
- DO NOT DISASSEMBLE OR TAMPER.
- DO NOT DROP.
- STORE IN A CLEAN, DRY AREA.

#### ATTENTION

- AUCUN POINT D'INTERVENTION A L'INTERIEUR.
- NO PAS DEMONTER OU TOUCHER.
- NO PAS FAIRE TOMBER.
- RANGER DANS UN ENDROIT PROPRE ET SEC.

#### WAARSCHUWING

- BINNENIN BEVINDEN ZICH GEEN OHDER DELEN DIE AAN ONDERHOUD ONDERHEVIG ZIJN.
- DEMONTEER NIETS EN KNC EI NIET AAN DE S.R.S.
- LAAT DE S.R.S. NIET VALLEN.

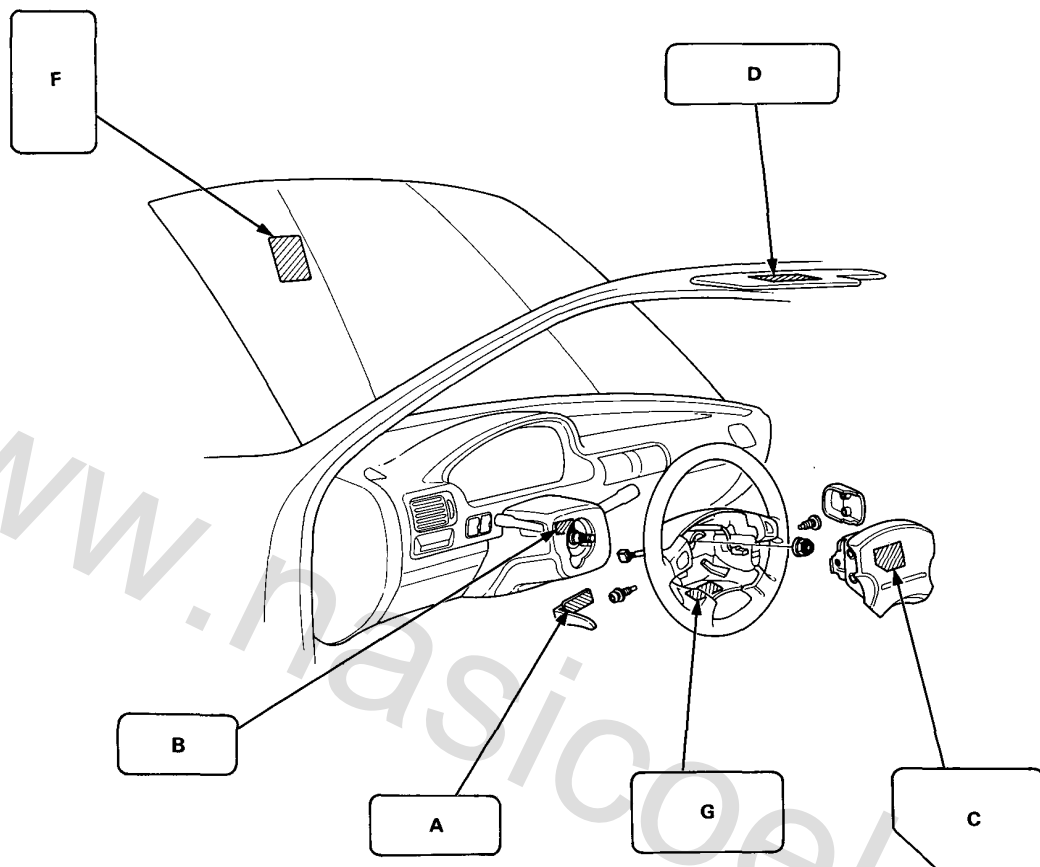
#### ACHTUNG

- WARTUNGSFREIES BAUTEIL: NICHT ÖFFNEN, ZERLEGEN, ODER VERÄNDERN!
- NICHT WERFEN!
- TROCKEN UND GESCHOTZT LAGERN!





## Warning/Caution Labels (SRS type II)



### A: MAINTENANCE LID CAUTION

**CAUTION** **SRS**  
 BEFORE MAINTENANCE, SWITCH OFF THE IGNITION.  
**ATTENTION**  
 AVANT TOUT ENTRETIEN, COUPER LE CONTACT.  
**ACHTUNG**  
 VOR WARTUNG ZÜNDUNG AUSSCHALTEN.  
 LET OP  
 ZET HET KONTAKTSLOT AF ALVORENS MET HET  
 ONDERHOUD TE BEGINNEN.

### B: SLIP RING CAUTION

**CAUTION** **SRS**  
 ● CAUTION REFER TO SHOP MANUAL  
 ● ACHTUNG WERKSTATT HANDBUCH LESEN  
 ● ATTENSION SE REPORTER AU MANUEL D'ATELIER  
 ● WAARSCHUWING LEES HET WERKPLAATS  
 HANDBOEK

### C: MONITOR CAUTION

**CAUTION** **SRS**  
 REFER TO THE SHOP MANUAL  
**ATTENTION**  
 SE REPORTER AU MANUEL D'ATELIER  
**WAARSCHUWING**  
 LEES HET WERKPLAATS HANDBOEK  
**ACHTUNG**  
 ● WERKSTATT HANDBUCH LESEN  
 ● DER GASGENERATOR IN DIESEM GEHÄUSE  
 DARF NUR FÜR INSASSEN-RÜCKHALTESYSTEME  
 MIT LUFTSACK IN KRAFTFAHRZEUGE  
 MONTIERT WERDEN.  
 DIE MONTAGE UND DEMONTAGE  
 DES GASGENERATORS  
 DARF NUR VON DAFÜR  
 GESCHULTEM PERRSONAL  
 VORGENCHMEN VERDEN.

(cont'd)

# Label Locations

## Warning/Caution Labels (SRS type II) (cont'd)

### D: DRIVER INFORMATION

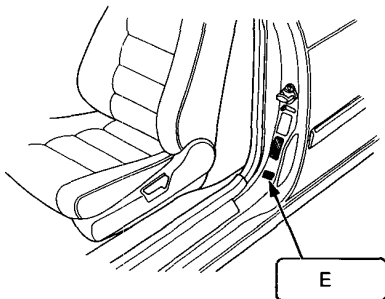
- ALWAYS WEAR YOUR SEAT BELT** **SRS**
- THIS CAR IS EQUIPPED WITH A DRIVER AIRBAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (S.R.S.).
  - IT IS DESIGNED TO SUPPLEMENT THE SEAT BELT.
  - IF YOUR SRS INDICATOR LIGHTS WHILE DRIVING, SEE YOUR AUTHORIZED HONDA DEALER.

- ATTACHEZ TOUJOURS VOTRE CEINTURE** **SRS**
- CE VEHICULE EST EQUIPE D'UN COUSSIN D'AIR POUR LE CONDUCTEUR QUI CONSTITUE UN SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.).
  - CE COUSSIN D'AIR COMPLETE LA FONCTION DE LA CEINTURE DE SECURITE.
  - SI LE TEMON SRS S'ALLUME PENDANT LA CONDUITE, ADRESSEZ-VOUS A VOTRE CONCESSIONNAIRE HONDA OFFICIEL.

- SICHERHEITSGURTE**  
**BEI JEDER FAHRT ANLEGEN** **SRS**
- DIESES FAHRZEUG BESITZT EINEN FAHRER-AIRBAG ALS ZUSÄTZLICHES RÜCKHALTESYSTEM (S.R.S.).
  - ES IST EINE ERGÄNZUNG ZUM SICHERHEITGURT.
  - WENN DIE SRS-KONTROLLEUCHE WÄHREND DER FAHRT AUFLEUCHTET, UMGEHEND FINEN HONDA HÄNDLER AUFsuchen.

- DRAAG ALTIJD UW VEILIGHEIDSGORDEL** **SRS**
- DIT VOERTUIG IS UITGERUST MET EEN LUCHTKUSSEN AAN DE BESTUURDESKANT ALTS EXTRA BESCHERMING (S.R.S.).
  - DIT IS ONTWERPEN ALS EXTRA BESCHERMING BIJ DE VEILIGHEIDSGORDEL.
  - ALS HEL SRS-WAARSCHUWINGSLAMPJE GAAT BRANDEN ONDER HET RIJDEN. NEEM DAN KONTAKT OP MET EEN HONDA DEALER.

### E: LABEL AIRBAG



### F: UNDER-HOOD WARNING

- WARNING** **SRS**
- THIS VEHICLE IS EQUIPPED WITH A DRIVER AIRBAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (SRS). ALL S.R.S. ELECTRICAL WIRING AND CONNECTORS ARE COLORED YELLOW. DO NOT USE ELECTRICAL TEST EQUIPMENT ON THESE CIRCUITS. TAMPERING WITH OR DISCONNECTING THE S.R.S. WIRING COULD RESULT IN ACCIDENTAL FIRING OF THE INFLATOR OR MAKE THE SYSTEM INOPERATIVE, WHICH MAY RESULT IN SERIOUS INJURY.

- ATTENTION** **SRS**
- CE VEHICULE EST EQUIPE D'UN COUSSIN D'AIR DU COTE CONDUCTEUR QUI CONSTITUE UN SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S) TOUS LES FILS ET CONNECTEURS ELECTRIQUES DU SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.) SONT DE COULEUR JAUNE. N'UTILISEZ PAS UN EQUIPEMENT D'ESSAIS ELECTRIQUES SUR CES CIRCUITS. NE TOUCHEZ PAS ET NE DEBRANCHEZ PAS LES FILS DU SYSTEME S.R.S. CAR CECI POURRAIT DE TRADUIRE PAR LE DECLENCHEMENT ACCIDENTEL DU GONFLEUR OU RENDRE LE SYSTEME INOPERANT ET VOUS EXPOSER AINSI A DE GRAVES BLESSURES.

- WARNUNG** **SRS**
- DIESES FAHRZEUG IST MIT EINEM FAHRER-AIRBAG (SRS) ALS ZUSÄTZLICHEM RÜCKHALTESYSTEM AUSGERÜSTET. ALLE ELEKTRISCHEN KABEL, SOWIE DIE ZUGEHÖRIGEN STECKVERBINDER DES S.R.S. -SYSTEMS SIND IN GELBER FARBE AUSGEFÜHRT. KEINE ELEKTRISCHEN PRÜGERÄTE AN DIE S.R.S. -VERKABELUNG ANSCHLIEßEN. VERÄNDERN ODER UNTERBRECHEN DER S.R.S. -VERKABELUNG KANN UNKONTROLLIERTES ZÜNDEN DES GASGENERATORS AUSLÖSEN. ODER DAS SYSTEM AUßER FUNKTION SETZEN. WAS ZU ERNSTHAFTEN VERLETZUNGEN FÜHREN KANN.

- WAARSCHUWING** **SRS**
- DIT VOERTUIG IS UITGERUST MET EEN LUCHTKUSSEN AAN DE BESTUURDESKANT ALS EXTRA BESCHERMING (S.R.S.). ALLE ELEKTRISCHE LEIDINGEN EN AANSLUITINGEN VAN DE S.R.S. ZIJN GEEL GEKLEURD. GEBUIK GEEN ELEKTRISCHE TESTAPPARATUUR VOOR DEZE CIRCUITS. KNOEIEIEN MET OF LOSKOPPELEN VAN DE S.R.S. LEIDINGEN KAN LEIDEN TOT BRAND IN DE VULINRICHTING OF TOT UITSCHAKELEN VAN HET SYSTEME DIT KAN TOT ERNSTIGE ONGELUKKEN LEIDEN.

### G: COVER CAUTION

- CAUTION** **SRS**
- ACHTUNG**
- REFER TO THE SHOP MANUAL
  - SE REPORTER AU MANUEL D'ATELIER.
  - WERKSTATT HANDBUCH LESEN.
  - LEES HET WERKPLAATSHANDBOEK.



# Warning/Caution Labels (except SRS)

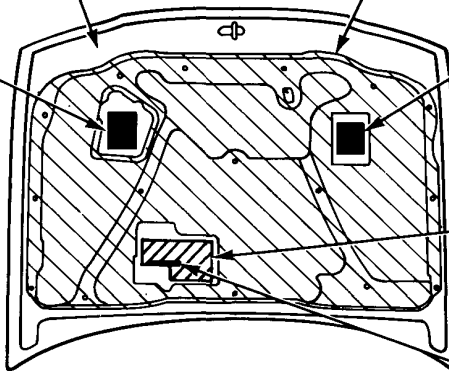
Carbureted Engine:

BONNET

INSULATOR  
(Standard for  
some types)

ABS CAUTION  
(Standard for  
some types)

COOLANT  
CAUTION and  
PRECAUTION



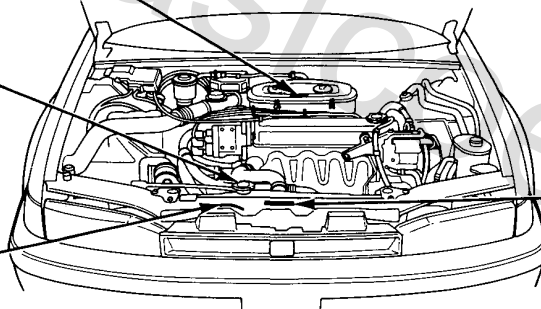
SERVICE  
INFORMATION

AIR CLEANER,  
OIL and FILTER SERVICE

EMISSION LABEL

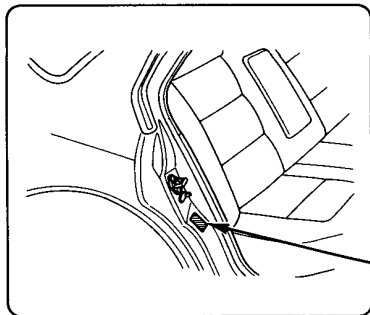
KU Model only

RADIATOR CAP  
CAUTION



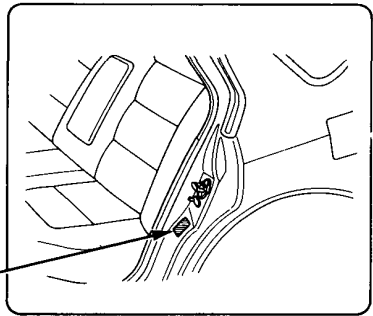
COOLING FAN  
CAUTION

COOLING FAN  
CAUTION



RHD

TIRE INFORMATION



LHD

(cont'd)

# Warning/Caution Labels (except SRS) (cont'd)

Fuel-Injected Engine:

BONNET

INSULATOR  
(Standard for  
some types)

ABS CAUTION  
(Standard for  
some types)

COOLANT  
CAUTION and  
PRECAUTION

AIR CLEANER,  
OIL and FILTER SERVICE

SERVICE  
INFORMATION

SPARK PLUG CAUTION

EMISSION LABEL

KU Model only

RADIATOR CAP  
CAUTION

COOLING FAN  
CAUTION

TIRE INFORMATION

RHD

LHD



# Lift and Support Points

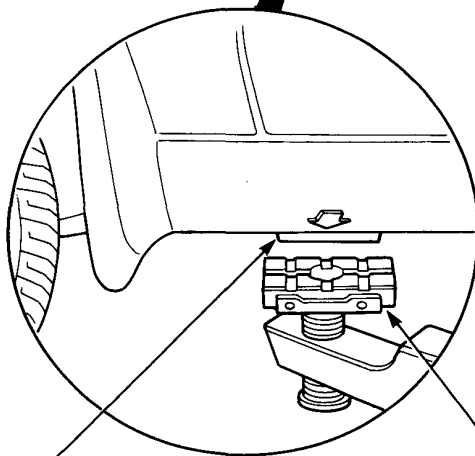
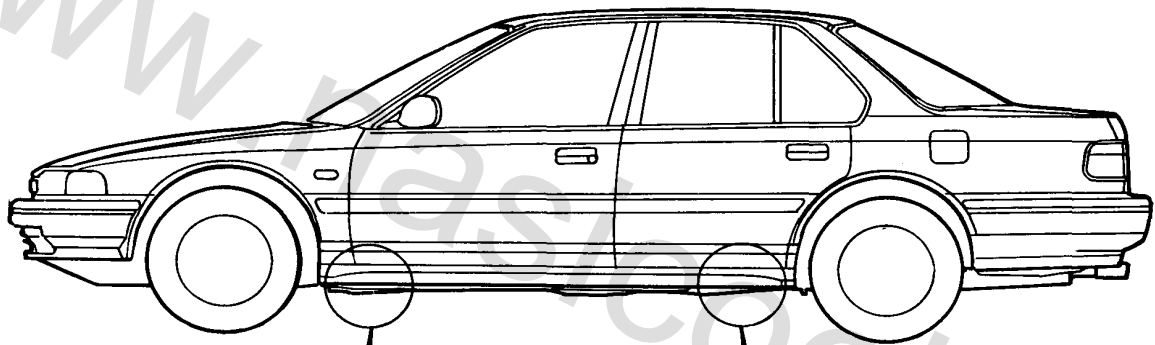
## Hoist

1. Place the lift blocks as shown.
2. Raise the hoist a few inches and rock the car to be sure it is firmly supported.
3. Raise the hoist to full height and inspect lift points for solid support.

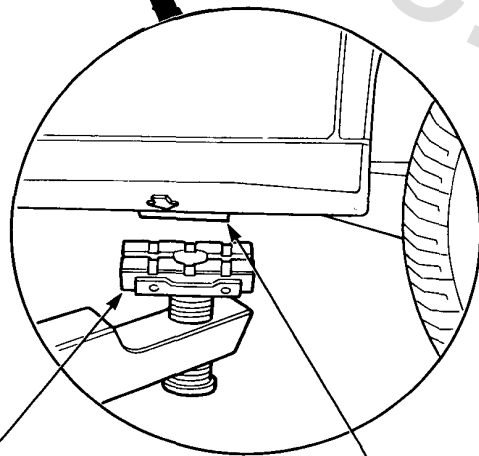
**▲ WARNING** When heavy rear components such as suspension, fuel tank, spare tire and tailgate are to be removed, place additional weight in the trunk before hoisting. When substantial weight is removed from the rear of the car, the center of gravity may change and can cause the car to tip forward on the hoist.

**NOTE:** Since each tire/wheel assembly weighs approximately 14 kg (30 lbs), placing the front wheels in the trunk will assist with the weight transfer.

Lift and support points for the 4-door model are shown in the following illustrations. These points are available for the 5-door model.



FRONT SUPPORT POINT



REAR SUPPORT POINT

LIFT BLOCKS

# Lift and Support Points (cont'd)

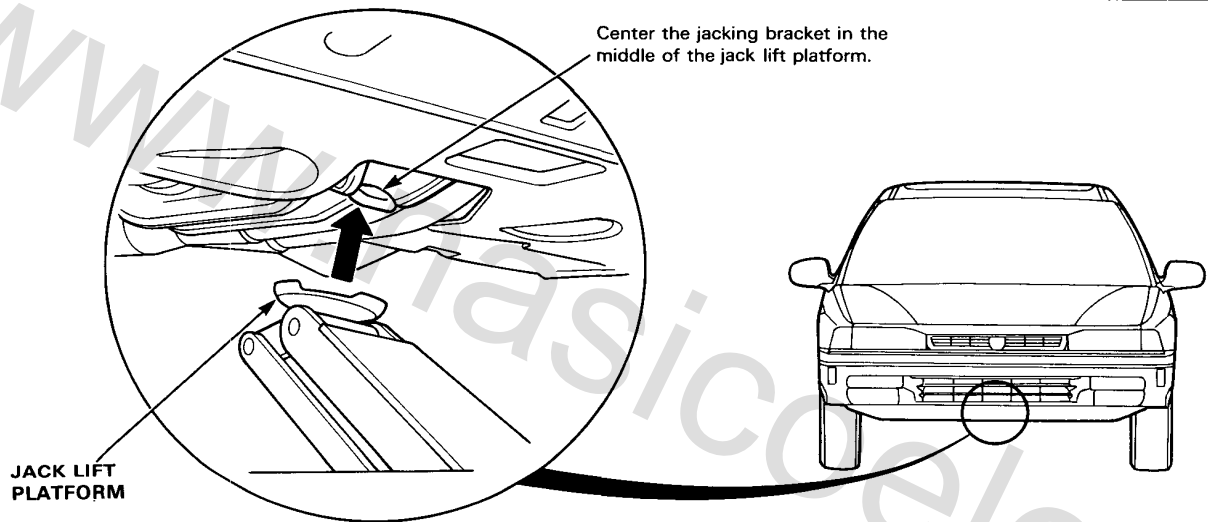
## Floor Jack

1. Set the parking brake and block the wheels that are not being lifted.
2. When lifting the rear of the car, put the gearshift lever in reverse (Automatic in PARK).
3. Raise the car high enough to insert the safety stands.
4. Adjust and place the safety stands as shown on page 1-7 so the car will be approximately level, then lower the car onto the stands.

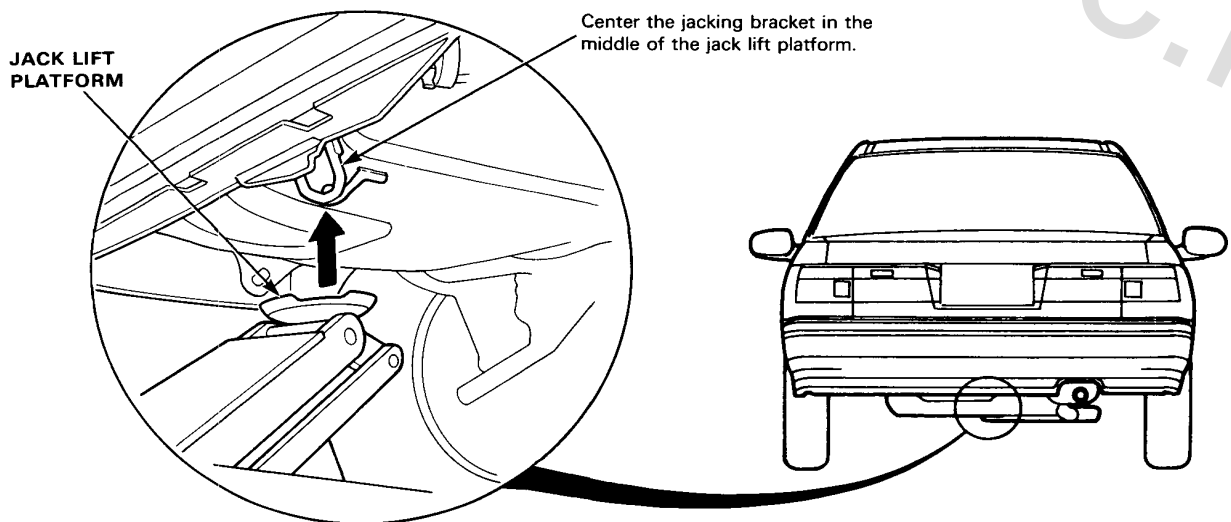
### ▲ WARNING

- Always use safety stands when working on or under any vehicle that is supported by only a jack.
- Never attempt to use a bumper jack for lifting or supporting the car.

### Front

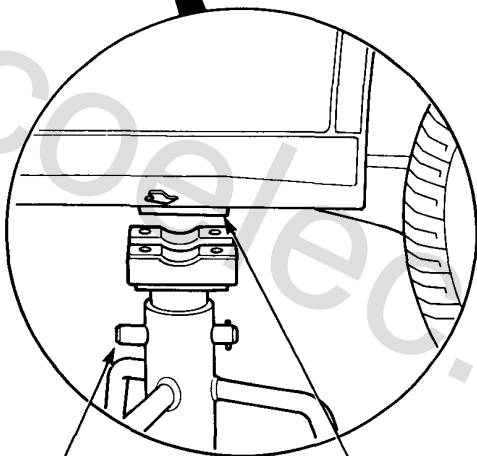
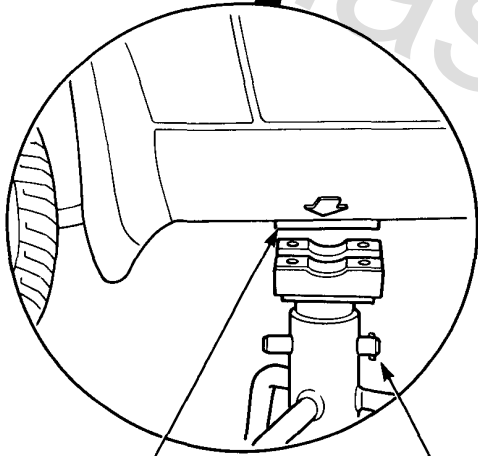
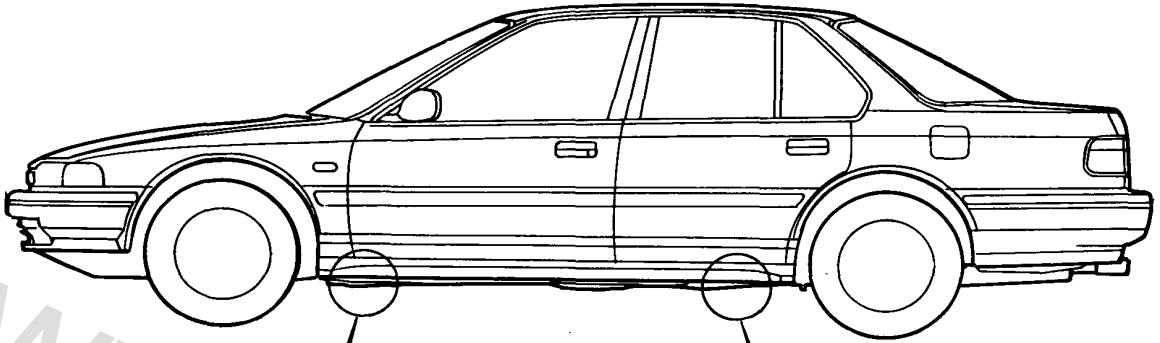


### Rear





# Safety Stands



**FRONT SUPPORT POINT**

**SAFETY STANDS**

**REAR SUPPORT POINT**

# Towing

If possible, always tow the car with the front wheels off the ground. The tow truck driver should position wood spacer blocks between the car's frame and his chains and lift straps, to avoid damaging the bumper and the body under it.

Do not use the bumpers to lift the car or to support the car's weight while towing. Check local regulations for towing. A chain may be attached to the hook shown in the picture. Do not attach a tow bar to either bumper.

## **⚠ WARNING**

**DO NOT** push or tow a car to start it. The forward surge when the engine starts could cause a collision. On some types, also, under some conditions, the catalytic converter could be damaged. A car equipped with an automatic transmission cannot be started by pushing or towing.

If the car is to be towed with the front wheels on the ground, observe the following precautions:

### Manual Transmission

Shift the transmission to Neutral and turn the ignition key to the "I" position.

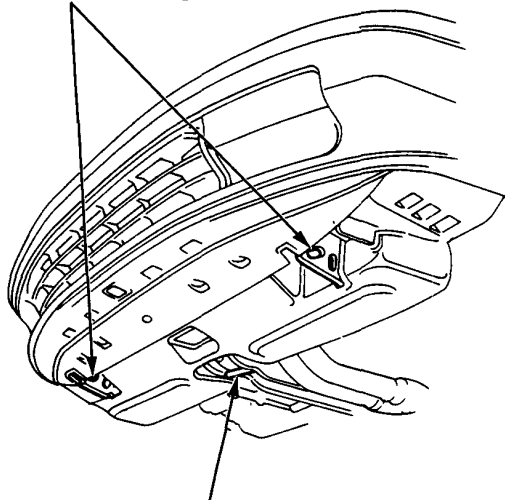
### Automatic Transmission

First, check the automatic transmission fluid level. Start the engine and shift to D<sub>4</sub>, then to N. Return the ignition key to the "I" position.

## **CAUTION:**

- Do not tow with front wheels on the ground when the automatic transmission fluid level is low or the transmission cannot be shifted with the engine running.
- Do not exceed 55 km/h (35 mph) or tow for distances of more than 80 km (50 miles).
- When towing a car with 4WS even with the front wheels off the ground, turn the wheels straight ahead and tie the steering wheel in place.

**TIE DOWN BRACKETS**



**TOWING HOOK**

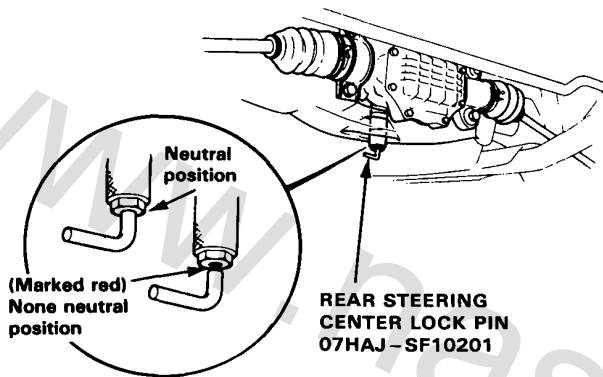


# Preparation of Work

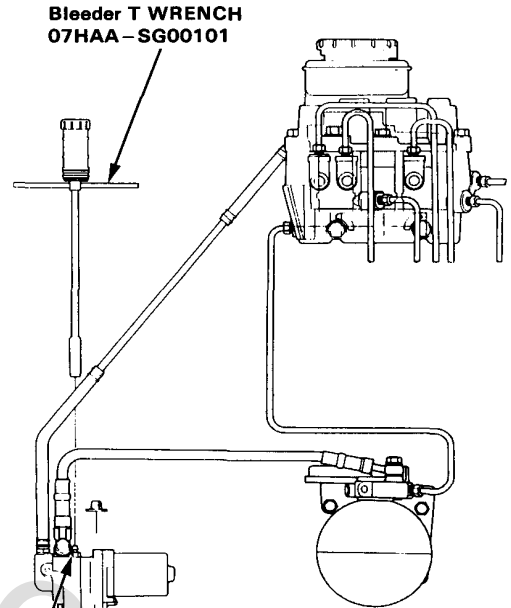


## Special Caution Items For This Car

- 4WS system servicing (with 4WS)
  - Do not disassemble the rear steering gear box.
  - When towing the car even with the front wheels off the ground, center the steering and tie the steering wheel in place.
  - When testing or adjusting the wheel alignment, attach the rear steering center lock pin to the rear steering gear box. Make sure that the rear steering gear box is located at the neutral position.



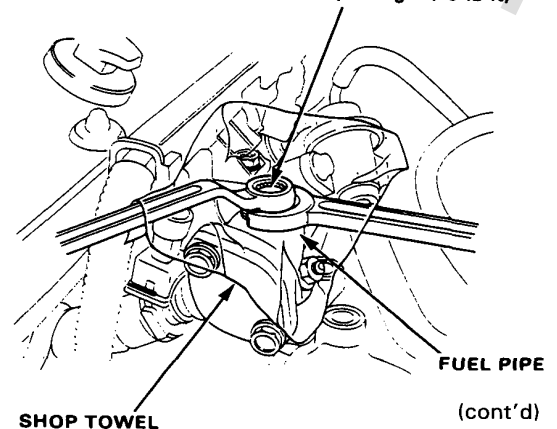
- Anti-lock brake system piping system servicing
  - Disassemble the anti-lock brake system piping system after relieve the high-pressured brake fluid.
  - Otherwise, the high-pressured brake fluid will burst out and it is very dangerous.
  - See section 13 of base manual (62SM400) how to relieve the high-pressured brake fluid.



SERVICE BOLT  
6 N·m (0.6 kg-m, 4 lb-ft)

- Fuel Line Servicing
  - Relieve fuel pressure by loosening the service bolt provided on the top of the fuel filter before disconnecting a fuel hose or a fuel pipe.

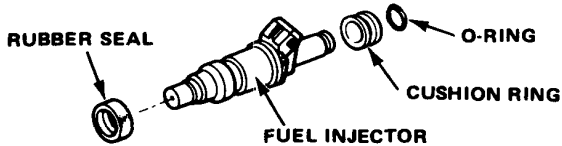
SERVICE BOLT  
12 N·m (1.2 kg-m, 9 lb-ft)



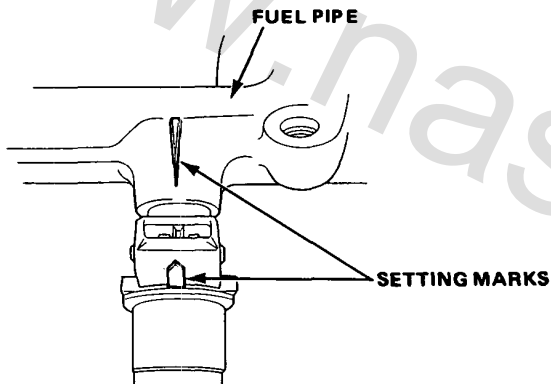
# Preparation of Work

## Special Caution Items For This Car (cont'd)

- Be sure to replace washers, O-rings, and rubber seals with new ones when servicing fuel line parts.
- Always apply oil to the surfaces of O-rings and seal rings before installation. Never use brake fluid, radiator fluid, vegetable oils or alcohol-based oils.



- When assembling the flare joint of the high-pressure fuel line, clean the joint and coat with new engine oil.
- When installing an injector, check the angle of the coupler. The center line of the coupler should align with the setting mark on the injector holder.



- Inspection for fuel leakage
  - After assembling fuel line parts, turn ON the ignition switch (do not operate the starter) so that the fuel pump is operated for approximately two seconds and the fuel is pressurized. Repeat this operation two or three times and check whether any fuel leakage has occurred in any of the various points in the fuel line.

- Installation of an amateur radio for cars equipped with PGM-FI.

Care has been taken for the Fuel-Injection, Carburetor, A/T, Cruise control and anti-lock brake system control units and its wiring to prevent erroneous operation from external interference, but erroneous operation of the control units may be caused by entry of extremely strong radio waves. Attention must be paid to the following items to prevent erroneous operation of the control units.

- The antenna and the body of the radio must be at least 200 mm (7.9 in.) away from the control units.

The control unit locations:

- Fuel-Injection, Carburetor, A/T: Passenger's side front floor panel.
- Cruise control: Under dash panel of driver's side.
- Anti-lock brake system: Right side panel of trunk room.
- Do not lead the antenna feeder and the coaxial cable over a long distance parallel to the car's wiring. When crossing the wiring is required, execute crossing at a right angle.
- Do not install a radio with a large output (max. 10 W).

- Apply liquid gasket to the transmission, oil pump cover, right side cover and water outlet. Use HONDA genuine liquid gasket part No. 0Y740-99986.

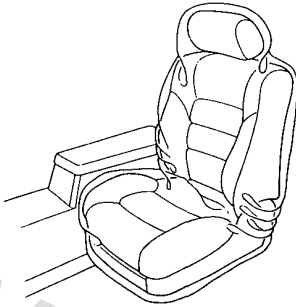
- Check that the mating surfaces are clean and dry before applying liquid gasket. Degrease the mating surfaces if necessary.
- Apply liquid gasket evenly, being careful to cover all the mating surface.
- To prevent leakage of oil, apply liquid gasket to the inner threads of the bolt holes.
- Do not install the parts if 20 minutes or more have elapsed since applying liquid gasket. Instead, reapply liquid gasket after removing the old residue.
- Wait at least 30 minutes before filling with appropriate liquid (engine oil, coolant and similar fluids).



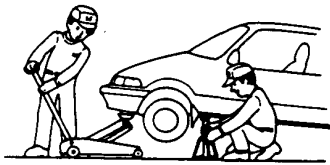
## General Caution

**CAUTION:** Observe all safety precautions and notes while working.

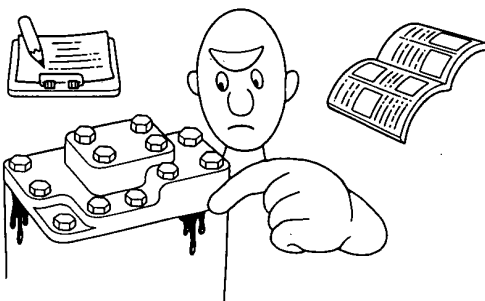
- Protect all painted surfaces and seats against dirt and scratches with a clean cloth or vinyl cover.



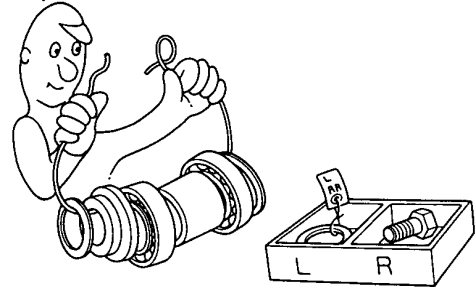
- Work safely and give your work your undivided attention. When either the front or rear wheels are to be raised, block the remaining wheels securely. Communicate at frequently as possible when work involves two or more workers. Do not run the engine unless the shop or working area is well ventilated.



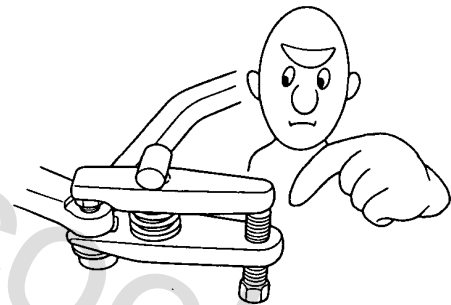
- Prior to removing or disassembling parts, they must be inspected carefully to isolate the cause for which service is necessary. Observe all safety notes and precautions and follow the proper procedures as described in this manual.



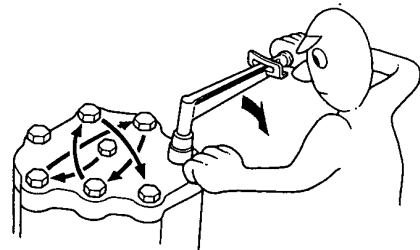
- Mark or place all removed parts in order in a parts rack so they can be reassembled in their original places.



- Use the special tool when use of such a tool is specified.



- Parts must be assembled with the proper torque according to the maintenance standards established.
- When tightening a series of bolts or nuts, begin with the center or large diameter bolts and tighten them in crisscross pattern in two or more steps.

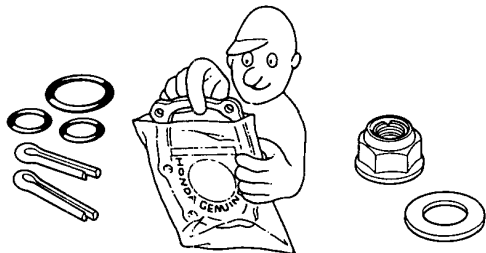


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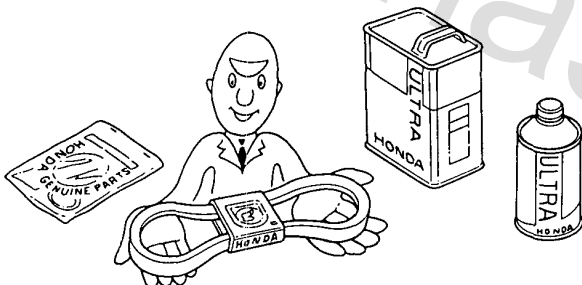
# Preparation of Work

## General Caution (cont'd)

- Use new packings, gaskets, O-rings and cotter pins whenever reassembling.



- Use genuine HONDA parts and lubricants or those equivalent. When parts are to be reused, they must be inspected carefully to make sure they are not damaged or deteriorated and are in good usable condition.

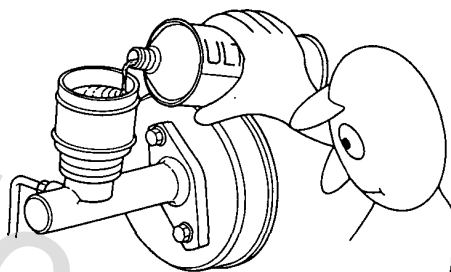


- Coat or fill parts with specified grease as specified (page 4-2). Clean all removed parts with solvent upon disassembly.



### ● Brake fluid and hydraulic components

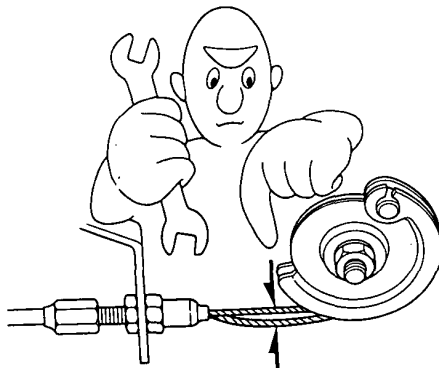
- When replenishing the system, use extreme care to prevent dust and dirt from entering the system.
- Do not mix different brands of fluid as they may not be compatible.
- Do not reuse drained brake fluid.
- Because brake fluid can cause damage to painted and resin surfaces, care should be taken not to spill it on such materials. If spilled accidentally, quickly rinse it with water or warm water from painted or resin surfaces.
- After disconnecting brake hoses or pipes, be sure to plug the openings to prevent loss of brake fluid.
- Clean all disassembled parts only in clean BRAKE FLUID. Blow open all holes and passages with compressed air.



- Keep disassembled parts from air-borne dust and abrasives.
- Check that parts are clean before assembly.

- Avoid oil or grease getting on rubber parts and tubes, unless specified.

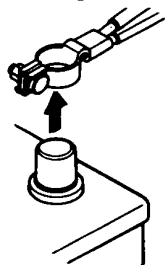
- Upon assembling, check every part for proper installation and operation.



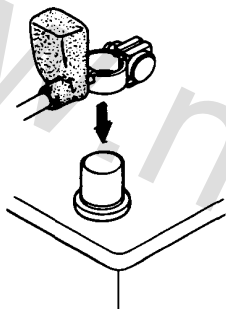


# Electrical

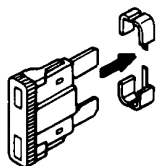
- Before making any repairs on electric wires or parts, disconnect the battery cables from the battery starting with the negative (-) terminal.



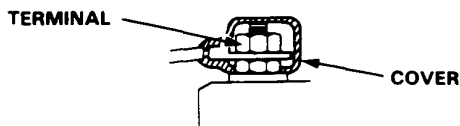
- After making repairs, check each wire or part for proper routing and installation. Also check to see that they are connected properly.
- Always connect the battery positive (+) cable first, then connect the negative (-) cable.



- Coat the terminals with clean grease after connecting the battery cables.
- Don't forget to install the terminal cover over the positive battery terminal after connecting.
- Before installing a new fuse, isolate the cause and take corrective measures, particularly when frequent fuse failure occurs.

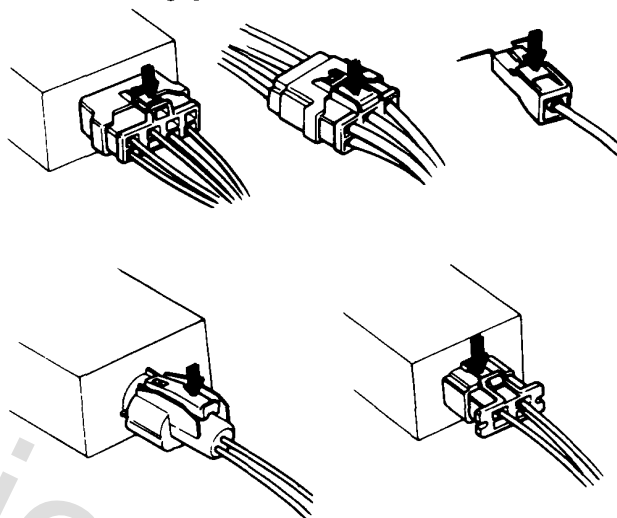


- Be sure to install the terminal cover over the connections after a wire or wire harness has been connected.

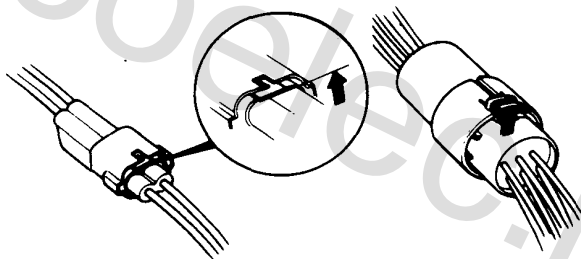


- As to locking connectors, be sure to disengage the lock before disconnecting.
- Conventional connectors may be of two types, those in which the lock is pressed to remove, and those in which the lock is pulled up to remove. Be sure to ascertain the type of locking device before beginning work. The following is a depiction of the means of disconnecting various typical connectors.

Press to disengage:



Pull up to disengage:



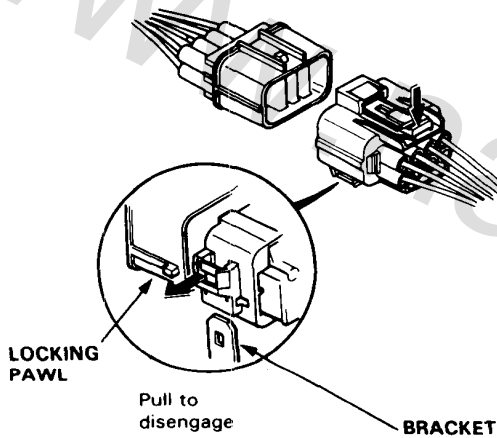
(cont'd)

# Preparation of Work

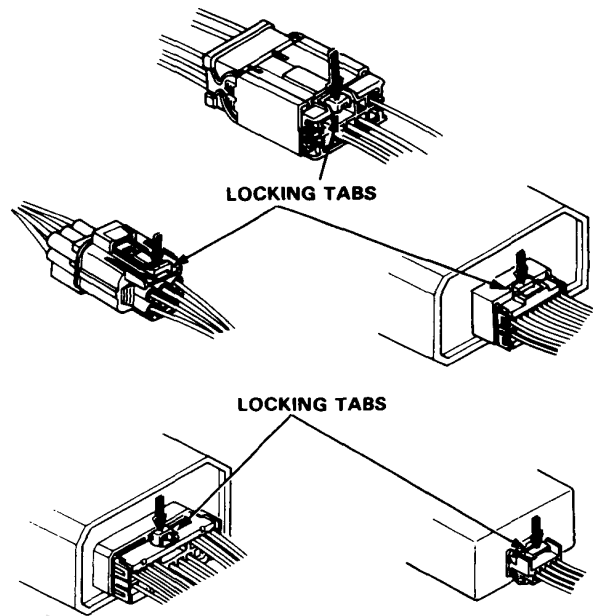
## Electrical (cont'd)

When new type connectors are used, connection and disconnection of them should be done paying attention to the following precautions.

- Because all the connectors except terminal of 1-P are equipped with push-down type locks, unlock them first before disconnecting the connectors.
- On the connectors installed on the bracket a pull type lock is equipped between the bracket and the connector. Some connectors of this type can not be disconnected unless they are removed from their brackets. When disconnecting, check their shapes.
- On the bracket mounted connector with dual locks, remove the connector from the bracket before disconnecting.

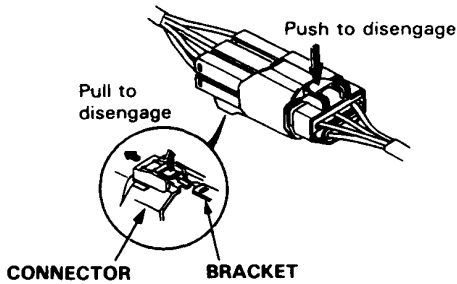


- Push the locking tab to disconnect.

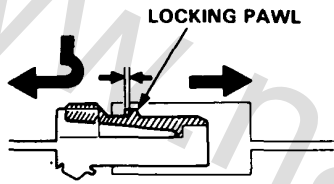




- Pull the locking tab to remove the connector from the bracket.

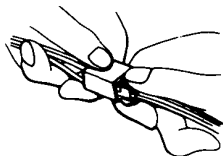


- When disconnecting locks, first press in the connector tightly (to provide clearance to the locking device), then operate the tab fully and remove the connector in the designated manner.

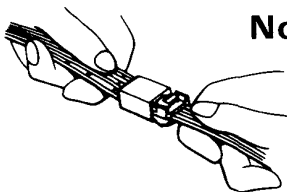


- When disconnecting a connector, pull it off from the mating connector by holding on both connectors.
- Never try to disconnect connectors by pulling on their wires.

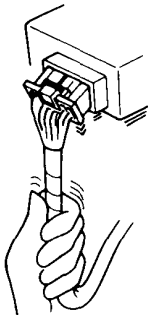
**Good**



**No Good**

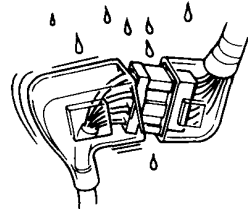


**No Good**



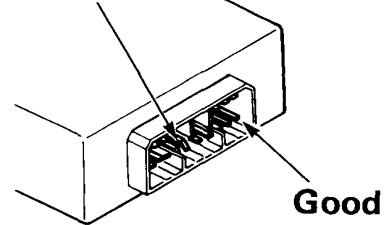
- Place the plastic cover over the mating connector after reconnecting. Also check that the cover is not distorted.

**No Good**

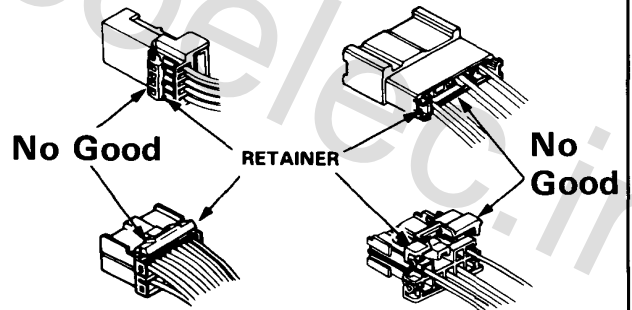


- Before connecting connectors, check to see that the terminals are in place and not bent or distorted.

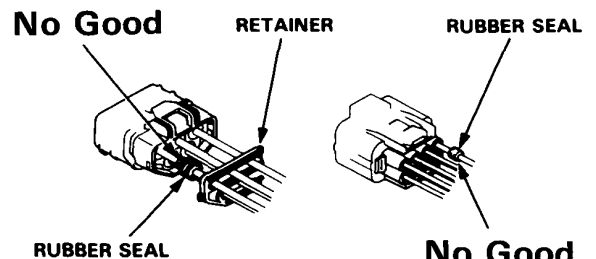
**No Good**



- Check for loose retainer and rubber seals. The illustration shows examples of terminal and seal abnormality.



- Example of waterproof connector:

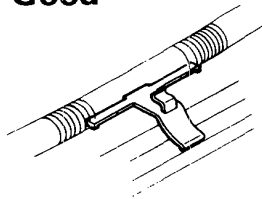


**No Good**  
(cont'd)

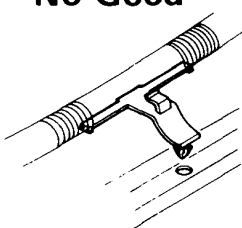
# Preparation of Work

## Electrical (cont'd)

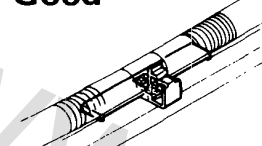
**Good**



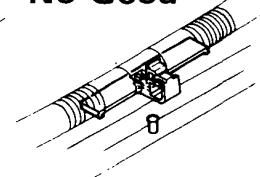
**No Good**



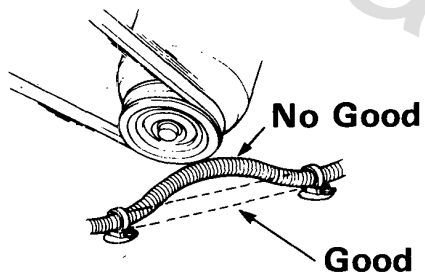
**Good**



**No Good**

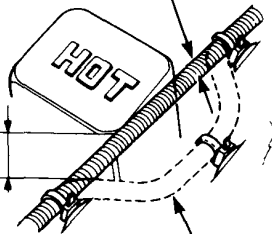


- After clamping, check each harness to be certain that it is not interfering with any moving or sliding parts of the vehicle.
- Keep wire harnesses away from the exhaust pipes and other hot parts.



- Always keep a safe distance between wire harnesses and any heated parts.

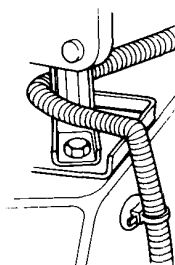
**No Good**



Keep sufficient distance!

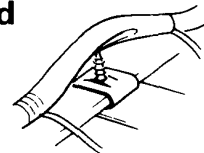
**Good**

- Do not bring wire harnesses in direct contact with sharp edges or corners.
- Also avoid contact with the projected ends of bolts, screws and other fasteners.



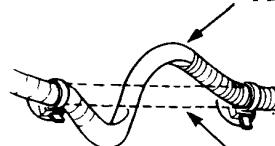
**No Good**

**No Good**



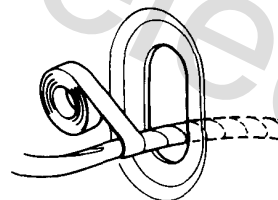
- Route harnesses so they are not pulled taut or slackened excessively.

**No Good**



**Good**

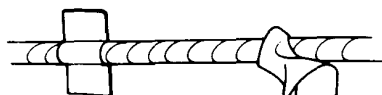
- Protect wires and harnesses with a tape or a tube if they are in contact with a sharp edge or corner.



- Clean the attaching surface thoroughly if an adhesive is used. First, wipe with solvent or alcohol if necessary.

**Good**

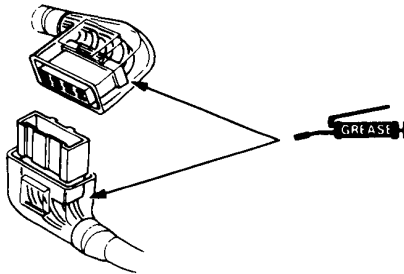
**No Good**







- For the connector which uses insulation grease, clean the connector then apply grease if the grease is insufficient or contaminated.



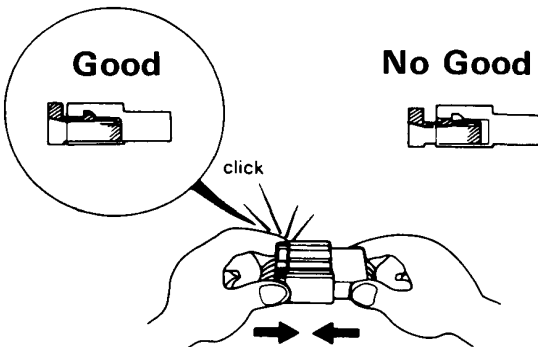
- Insert the connector tightly and make sure it is securely locked.
- Check all the wire harnesses are connected.
- There are two types of locking tab: one that you have to push and the other you should not touch when connecting the connector. Check the shape of the locking tab before connecting.
- The locking tab having a taper end should not be touched when connecting.



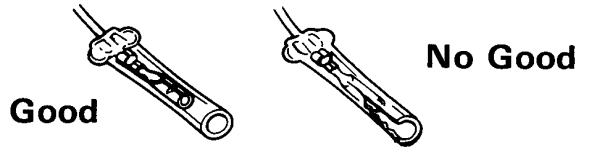
- The locking tab with an angle end should be pushed when connecting.



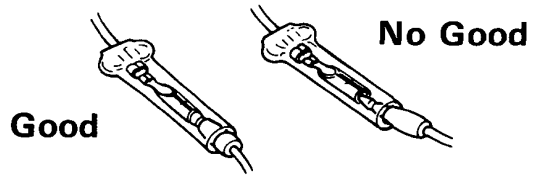
- Insert connectors fully until they will no longer go.
- The connectors must be aligned and engaged securely.
- Do not use wire harnesses with a loose wire or connector.



- Before connecting, check each connector cover for damage. Also make sure that the female connector is tight and not loosened from the previous use.

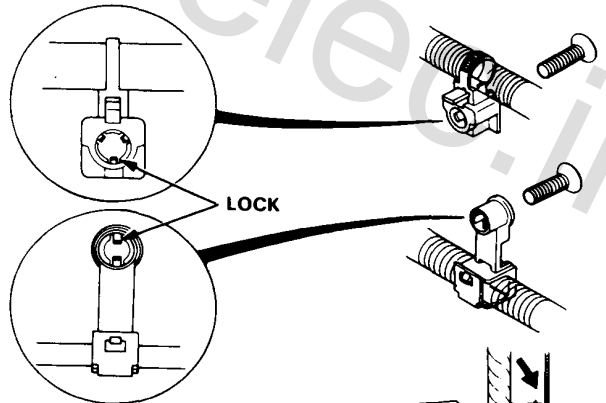


- Insert male connectors into the female connectors fully until they will no longer go.
- Be sure that plastic cover is placed over the connection.
- Position the wires so that the open end of the cover faces down.



- Secure wires and wire harness to the frame with their respective wire bands at the designated locations. Position the wiring in the bands so that only the insulated surfaces contact the wires or harnesses.

- Remove with care not to damage the lock.

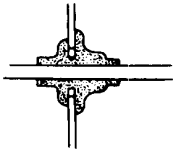


# Preparation of Work

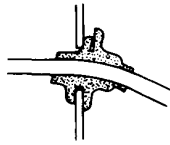
## Electrical (cont'd)

- Seat grommets in their grooves properly.

**Good**



**No Good**



- Do not damage the insulation when connecting a wire.
- Do not use wires or harnesses with a broken insulation. Repair by wrapping with protective tape or replace with new ones if necessary.

**No Good**

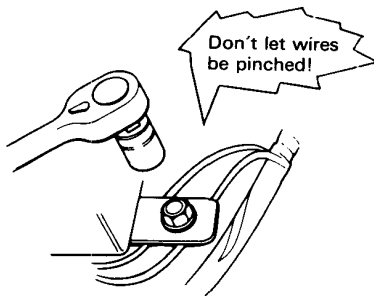


**Good**



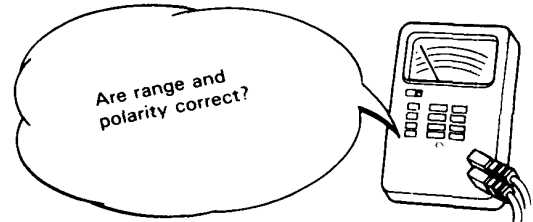
- After installing parts, make sure that wire harnesses are not pinched.

**No Good**

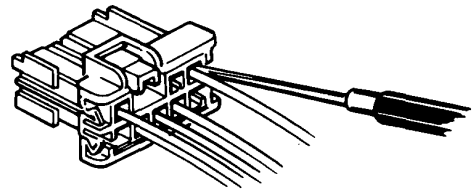


- After routing, check that the wire harnesses are not twisted or kinked.
- Wire harnesses should be routed so that they are not pulled taut, slackened excessively, pinched, or interfering with adjacent or surrounding parts in all steering positions.

- When using the Service Tester, follow the manufacturer's instructions and those described in the Shop Manual.



- Always insert the probe of the tester from the wire harness side (except waterproof connector).

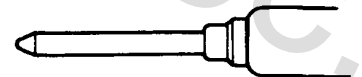


- Make sure to use the probe with a tapered tip.

**Good**

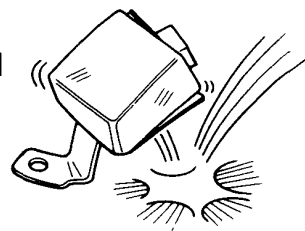


**No Good**



- Do not drop parts.

**No Good**



## Symbol Marks

The following symbols stand for:



:Apply engine oil.



:Apply brake fluid.



:Apply grease.



:Apply Automatic Transmission Fluid.



: Apply Power Steering Fluid.



:Apply or check vacuum.

①, ②, ③, ..... :

①, ②, ③, ..... :Sequence for removal or installation.

## Abbreviation



2WS	Two Wheel Steering
4WS	Four Wheel Steering
ABS	Anti-lock Brake System
A/C	Air Conditioner
A/T	Automatic Transmission
ATF	Automatic Transmission Fluid
B or BAT	Battery
CATA	Catalytic Converter
EACV	Electronic Air Control Valve
ECU	PGM-FI Electronic Control Unit
EGR	Exhaust Gas Recirculation
EX	Exhaust
GND	Ground
IG	Ignition
IN	Intake
INT	Intermittent
L	Left
LHD	Left Hand Drive
M/T	Manual Transmission
PCV	Positive Crankcase Ventilation
PGM-FI	Programmed Fuel-Injection
P/S	Power Steering
R	Right
RHD	Right Hand Drive
SW	Switch
SOL. V	Solenoid Valve
TDC	Top Dead Center

P  
R  
N  
D<sub>4</sub>  
D<sub>3</sub>  
2  
1  
S

Parking  
Reverse  
Neutral  
Drive Position (1st~4th)  
Drive Position (1st~3rd)  
Fixed 2nd speed  
Fixed 1st speed  
S mode (D4 or D3)

**Standards and Services Limits**  
**Design Specifications**  
**Body Specifications**

[www.nasicoelec.ir](http://www.nasicoelec.ir)

# Standards and Service Limits

## 5. Engine/Cylinder Head, Valve Train

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Compression	250 min <sup>-1</sup> (rpm) and wide-open throttle	Nominal Minimum Maximum variation	1226 kPa (12.5 kg/cm <sup>2</sup> , 178 psi) 931 kPa (9.5 kg/cm <sup>2</sup> , 135 psi) 196 kPa (2 kg/cm <sup>2</sup> , 28 psi)
Cylinder head	Warpage Height	99.95–100.05 (3.935–3.938)	0.05 (0.002)
Camshaft	End play	0.05–0.15 (0.002–0.006)	0.50 (0.020)
	Oil clearance	0.050–0.089 (0.002–0.0035)	0.150 (0.006)
Runout		0.015 (0.0006) max.	0.030 (0.001)
	Cam lobe height		
IN	1. F20A2:	38.526 (1.5167)	—
	2. F20A3:	38.526 (1.5167)	—
3.	F20A5:	38.741 (1.5252)	—
	F20A6:	38.526 (1.5167)	—
4.	F20A8:	38.741 (1.5252)	—
	F22A2:	38.741 (1.5252)	—
5.	F22A3:	39.167 (1.5420) MT 38.741 (1.5252) AT	—
	F22A6:	38.741 (1.5252)	—
6.	F22A7:	39.167 (1.5420)	—
	F22A8:	38.741 (1.5252)	—
7.	F22A9:	38.741 (1.5252)	—
	F20A2:	38.778 (1.5266)	—
EX	2. F20A3:	38.778 (1.5266)	—
	3. F20A5:	38.972 (1.5343)	—
4.	F20A6:	38.778 (1.5266)	—
	F20A8:	38.972 (1.5343)	—
5.	F22A2:	38.972 (1.5343)	—
	F22A3:	39.356 (1.5494) MT 38.972 (1.5343) AT	—
6.	F22A6:	39.972 (1.5343)	—
	F22A7:	39.356 (1.5494)	—
7.	F22A8:	39.972 (1.5343)	—
	F22A9:	38.972 (1.5343)	—
Valve	Valve clearance	IN EX	— —
	Valve stem O.D.	IN EX	— —
Stem-to-guide clearance	IN	5.480–5.490 (0.2157–0.2161)	5.450 (0.2146)
	EX	5.450–5.460 (0.2145–0.2149)	5.420 (0.2133)
Valve seat	Width	IN and EX	—
	Valve stem installed height	IN EX	— —
Valve spring	Free length	IN (NH)	—
		(CH)	—
		(AS)	—

- |                                  |   |
|----------------------------------|---|
| 1. F20A2: 2.0 ℓ CARB with CATA   | 7. F22A3: 2.2 ℓ PGM-FI with CATA                |
| 2. F20A3: 2.0 ℓ CARB             | 8. F22A6: 2.2 ℓ PGM-FI with CATA for 5D KQ      |
| 3. F20A5: 2.0 ℓ PGM-FI           | 9. F22A7: 2.2 ℓ PGM-FI with CATA for 5D EC M/T  |
| 4. F20A6: 2.0 ℓ CARB with CATA   | 10. F22A8: 2.2 ℓ PGM-FI with CATA for 5D EC A/T |
| 5. F20A8: 2.0 ℓ PGM-FI with CATA | 11. F22A9: 2.2 ℓ PGM-FI with CATA for KQ        |
| 6. F22A2: 2.2 ℓ PGM-FI           |   |

NH: NIHON HATSUJO  
CH: CHUO HATSUJO  
AS: ASSOCIATED SPRING

- \*1: 2.0 ℓ CARB  
\*2: 2.0 ℓ PGM-FI and 2.2 ℓ

## 5. Engine/Cylinder Head, Valve Train

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Valve spring	Free length	EX (AS): (NH): (CH):	56.28 (2.2157)* <sup>1</sup> 55.78 (2.1960)* <sup>2</sup> 55.80 (2.1968)* <sup>2</sup>	— — —
Valve guide	I.D. Valve guide installed height	IN and EX IN EX	5.515—5.530 (0.2171—0.2177) 23.75—24.25 (0.9148—0.9547) 15.05—15.55 (0.5925—0.6122)	5.53 (0.2177) — —
Rocker arm	Arm-to-shaft clearance	IN EX	0.017—0.050 (0.0007—0.0020) 0.018—0.054 (0.0007—0.0021)	0.080 (0.0031) 0.080 (0.0031)

\*1: 2.0 ℓ CARB

\*2: 2.0 ℓ PGM-FI and 2.2 ℓ

AS: ASSOCIATED SPRING

NH: NIHON HATSUJO

CH: CHUO HATSUJO

## 5. Engine/Engine Block

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Warpage of deck surface Bore diameter Bore taper Reboring limit		0.07 (0.003) max. 85.00—85.02 (3.3464—3.3472) — —	0.10 (0.004) 85.07 (3.3492) 0.05 (0.002) 0.5 (0.02)
Piston	Skirt O.D. ( At 21 mm (0.83 in) ) Clearance in cylinder	A B	84.98—84.99 (3.3456—3.4605) 84.97—84.98 (3.3452—3.3456) 0.02—0.04 (0.0008—0.0016)	84.97 (3.3452) 84.96 (3.3448) 0.05 (0.0020)
Piston ring	Piston-to-ring clearance Ring end gap	Top Second Top Second Oil	0.035—0.060 (0.0014—0.0024) 0.030—0.055 (0.0011—0.0022) 0.20—0.35 (0.0079—0.0138) 0.40—0.55 (0.0157—0.0217) 0.20—0.70 (0.0079—0.0276)	0.130 (0.0051) 0.130 (0.0051) 0.60 (0.0236) 0.70 (0.0276) 0.80 (0.0315)
Connecting rod	Pin-to rod interference Small end bore diameter Large end bore diameter End play installed on crankshaft	2.0 ℓ 2.2 ℓ	0.013—0.032 (0.0005—0.0013) 21.968—21.981 (0.8649—0.8654) Nominal 48 (1.890) Nominal 51 (2.008) 0.15—0.30 (0.006—0.012)	— — — — 0.40 (0.016)
Crankshaft	Main journal diameter Rod journal diameter Taper/out-of-round, main journal Taper/out-of-round, rod journal End play Runout	No. 1, 2 Journals No. 3 Journal No. 4 Journal No. 5 Journal 2.0 ℓ 2.2 ℓ 2.0 ℓ 2.2 ℓ	49.976—50.000 (1.9676—1.9685) 49.972—49.996 (1.9674—1.9683) 49.984—50.008 (1.9679—1.9688) 49.984—50.008 (1.9679—1.9688) 49.988—50.012 (1.9680—1.9690) 0.005 (0.0002) max. 44.976—45.000 (1.7710—1.7717) 47.976—48.000 (1.8888—1.8898) 0.005 (0.0002) max. 0.10—0.35 (0.004—0.014) 0.015 max. (0.0006)	— — — — — 0.010 (0.0004) — — 0.010 (0.0004) 0.45 (0.018) 0.020 (0.0008)
Bearings	Main bearing-to journal oil clearance Rod bearing-to journal oil clearance	No. 1, 2 Journals No. 3 Journal No. 4 Journal No. 5 Journal 2.2 ℓ 2.0 ℓ	0.021—0.045 (0.0009—0.0018) 0.025—0.049 (0.0001—0.0019) 0.013—0.037 (0.0005—0.0015) 0.009—0.033 (0.0004—0.0013) 0.021—0.049 (0.0008—0.0019) 0.015—0.043 (0.0006—0.0017)	0.05 (0.002) 0.054 (0.0021) 0.05 (0.002) 0.05 (0.002) 0.05 (0.002) 0.05 (0.002)

# Standards and Service Limits

## 5. Engine/Engine Block

		MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Balancer Shaft	Journal diameter	No.1 journal (Front)	42.722–42.734 (1.6820–1.6824)	---
		(Rear)	20.938–20.950 (0.8243–0.8248)	---
		No.2 journal	38.712–38.724 (1.5241–1.5246)	---
	Journal taper	No.3 journal	34.722–34.734 (1.3670–1.3674)	---
			0.005 (0.0002)	---
	End play	(Front)	0.100–0.350 (0.0040–0.0138)	---
		(Rear)	0.060–0.180 (0.0024–0.0070)	---
	Runout		0.020 (0.0008)	---
Oil Clearance		No.1 journal (Rear)	0.050–0.075 (0.0020–0.0030)	---
		No.1, 3 journal	0.066–0.118 (0.0026–0.0046)	---
	No.2, journal	0.076–0.128 (0.0030–0.0050)	---	
Balancer Shaft Bearing	I.D	No.1 journal (Front)	42.800–42.820 (1.6850–1.6858)	---
		(Rear)	21.000–21.013 (0.8268–0.8273)	---
		No.2 journal	38.800–38.820 (1.5276–1.5283)	---
		No.3 journal	34.800–34.820 (1.3701–1.3710)	---

## 5. Engine/Engine Lubrication

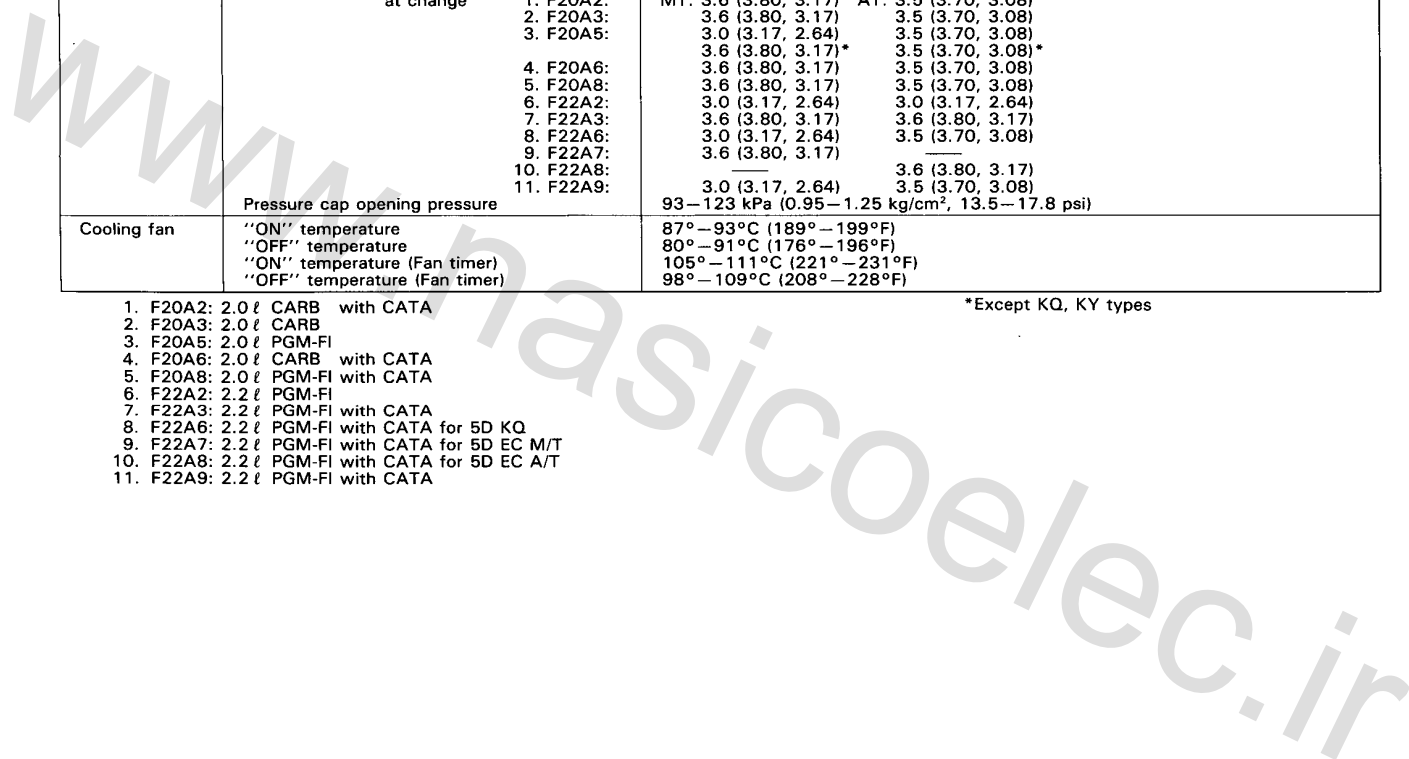
		MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Engine oil	Capacity ℓ (US. qt., Imp. qt.)		4.9 (5.2, 4.3) After engine disassembly	
			3.8 (4.0, 3.3) After oil change, including oil filter	
			3.5 (3.7, 3.1) After oil change, without oil filter	
Oil pump	Displacement		43.9 ℓ (11.6 US. gal., 9.7 Imp. gal.)/6,000 min <sup>-1</sup> (rpm)	
		Inner-to-outer rotor radial clearance	0.02–0.16 (0.0008–0.0063)	0.2 (0.008)
		Pump body-to-rotor radial clearance	0.10–0.19 (0.0040–0.0075)	0.21 (0.0083)
		Pump body-to-rotor side clearance	0.02–0.07 (0.001–0.003)	0.12 (0.005)
Relief valve	Pressure setting 80°C (176°F)	Idle	69 kPa (0.7 kg/cm <sup>2</sup> , 10 psi) min.	
		3,000 min <sup>-1</sup> (rpm)	3431 kPa (3.5 kg/cm <sup>2</sup> , 50 psi)	

### 5. Engine/Cooling

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Thermostat	Starts to open Full open Valve lift at full open	78°C ± 2 (172°F ± 3) 90°C (194°F) 8 (0.31) max.	86–90°C (187–194°F)
Water pump	Displacement	160 ℓ (42.2 US gal, 35.2 Imp gal)/6,000 min <sup>-1</sup> (rpm)	
Radiator	Capacity (incl. heater) ℓ (US qt, Imp qt) (Includes reservoir tank 0.6 (0.63, 0.53))		
	after overhaul	1. F20A2: MT: 7.2 (7.61, 6.34) AT: 7.1 (7.50, 6.23) 2. F20A3: 7.2 (7.61, 6.34) 7.1 (7.50, 6.23) 3. F20A5: 6.6 (6.97, 5.81) 7.1 (7.50, 6.23) 7.2 (7.61, 6.34)* 7.1 (7.50, 6.23)* 4. F20A6: 7.2 (7.61, 6.34) 7.1 (7.50, 6.23) 5. F20A8: 7.2 (7.61, 6.34) 7.1 (7.50, 6.23) 6. F22A2: 6.6 (6.97, 5.81) 7.1 (7.50, 6.23) 7. F22A3: 7.2 (7.61, 6.34) 7.1 (7.50, 6.23) 8. F22A6: 6.6 (6.97, 5.81) 7.1 (7.50, 6.23) 9. F22A7: 7.2 (7.61, 6.34) — 10. F22A8: — 7.1 (7.50, 6.23) 11. F22A9: 6.6 (6.97, 5.81) 7.1 (7.50, 6.23)	
	at change	MT: 3.6 (3.80, 3.17) AT: 3.5 (3.70, 3.08) 1. F20A2: 3.6 (3.80, 3.17) 3.5 (3.70, 3.08) 2. F20A3: 3.0 (3.17, 2.64) 3.5 (3.70, 3.08) 3. F20A5: 3.6 (3.80, 3.17)* 3.5 (3.70, 3.08)* 4. F20A6: 3.6 (3.80, 3.17) 3.5 (3.70, 3.08) 5. F20A8: 3.6 (3.80, 3.17) 3.5 (3.70, 3.08) 6. F22A2: 3.0 (3.17, 2.64) 3.0 (3.17, 2.64) 7. F22A3: 3.6 (3.80, 3.17) 3.6 (3.80, 3.17) 8. F22A6: 3.0 (3.17, 2.64) 3.5 (3.70, 3.08) 9. F22A7: 3.6 (3.80, 3.17) — 10. F22A8: — 3.6 (3.80, 3.17) 11. F22A9: 3.0 (3.17, 2.64) 3.5 (3.70, 3.08)	
	Pressure cap opening pressure	93–123 kPa (0.95–1.25 kg/cm <sup>2</sup> , 13.5–17.8 psi)	
Cooling fan	"ON" temperature "OFF" temperature "ON" temperature (Fan timer) "OFF" temperature (Fan timer)	87°–93°C (189°–199°F) 80°–91°C (176°–196°F) 105°–111°C (221°–231°F) 98°–109°C (208°–228°F)	

1. F20A2: 2.0 ℓ CARB with CATA
2. F20A3: 2.0 ℓ CARB
3. F20A5: 2.0 ℓ PGM-FI
4. F20A6: 2.0 ℓ CARB with CATA
5. F20A8: 2.0 ℓ PGM-FI with CATA
6. F22A2: 2.2 ℓ PGM-FI
7. F22A3: 2.2 ℓ PGM-FI with CATA
8. F22A6: 2.2 ℓ PGM-FI with CATA for 5D KQ
9. F22A7: 2.2 ℓ PGM-FI with CATA for 5D EC M/T
10. F22A8: 2.2 ℓ PGM-FI with CATA for 5D EC A/T
11. F22A9: 2.2 ℓ PGM-FI with CATA

\*Except KQ, KY types





# Standards and Service Limits

## 6. Fuel and Emissions

MEASUREMENT		STANDARD (NEW)
Fuel pump (PGM-FI)	Delivery pressure Displacement (minimum in 10 seconds) Relief valve opening pressure	240–279 kPa (2.45–2.85 kg/cm <sup>2</sup> , 35–41 psi) 230 cc (7.8 US oz, 8.1 Imp oz) 441–588 kPa (4.5–6.0 kg/cm <sup>2</sup> , 64–85 psi)
Fuel pump (CARB)	Delivery pressure Displacement (minimum in minute at 12V)	9–12 kPa (0.09–0.12 kg/cm <sup>2</sup> , 1.3–1.7 psi) 700 cc (23.7 US oz, 19.7 Imp oz)
Pressure regulator (PGM-FI)	Pressure with regulator vacuum hose disconnected	240–279 kPa (2.45–2.85 kg/cm <sup>2</sup> , 34–41 psi)* <sup>1</sup> 275–324 kPa (2.80–3.30 kg/cm <sup>2</sup> , 40–47 psi)* <sup>2</sup>
Fuel tank	Capacity 2WS: 4WS:	65 ℓ (17.2 US gal, 14.3 Imp gal) 60 ℓ (15.9 US gal, 13.2 Imp gal)
Engine	Fast idle	PGM-FI: 1,400 ± 400 min <sup>-1</sup> (rpm) CARB: 3,400 ± 500 min <sup>-1</sup> (rpm)
	Idle speed (with headlights and cooling fan OFF)	MT with carbureted engine: MT with PGM-FI engine: AT with carbureted engine: AT with PGM-FI engine:
	Idle CO	With CATA: Without CATA:
		800 ± 50 min <sup>-1</sup> (rpm) 770 ± 50 min <sup>-1</sup> (rpm) 750 ± 50 min <sup>-1</sup> (rpm) in <b>[N]</b> or <b>[P]</b> positions 770 ± 50 min <sup>-1</sup> (rpm) in <b>[N]</b> or <b>[P]</b> positions
		0.1% maximum 1.0 ± 1.0%

\*1: F20A5, F22A2, F22A3, F22A7, F22A8 engine

\*2: Except F20A5, F22A2, F22A3, F22A7, F22A8 engine

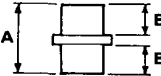
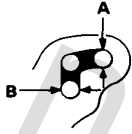
## 7. Clutch

MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Clutch pedal	Pedal height	RHD: LHD:	— — — — — —
	Stroke Pedal play Disengagement height	210 (8.3) to floor 184 (7.2) to floor 142.0 (5.6) 9–15 (0.4–0.6) 90 (3.5) min. to floor 80 (3.1) min. to carpet	
Flywheel	Clutch surface runout	0.05 (0.002) max.	0.15 (0.006)
Clutch disc	Rivet head depth	1.3 (0.05) min.	0.2 (0.008)
	Surface runout Thickness	0.6 (0.02) max. 8.4–9.1 (0.33–0.36)	1.0 (0.04) 6.0 (0.24)
Clutch cover	Unevenness of diaphragm spring	0.6 (0.02) max.	0.8 (0.03)

## 8. Manual Transmission

MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (US. qt., Imp. qt.)	1.9 (2.0, 1.7) at assembly 2.0 (2.1, 1.8) at oil change	
Mainshaft	End play	0.10–0.16 (0.0039–0.0063)	Adjust with a shim.
	Diameter of ball bearing contact area	27.977–27.990 (1.1015–1.1020)	27.940 (1.1000)
	Diameter of third gear contact area	37.984–38.000 (1.4954–1.4961)	37.930 (1.4933)
	Diameter of ball bearing contact area Runout	27.987–28.000 (1.1018–1.1024) 0.02 (0.0008) max.	27.940 (1.1000) 0.05 (0.002)
Mainshaft third and fourth gears	I.D.	43.009–43.025 (1.6933–1.6939)	43.080 (1.6961)
	End play	0.06–0.21 (0.0024–0.0083)	0.30 (0.012)
	Thickness 3rd gear 4th gear	32.42–32.47 (1.276–1.278) 30.92–30.97 (1.217–1.219)	32.3 (1.27) 30.8 (1.21)
Mainshaft fifth gear	I.D.	43.009–43.025 (1.6933–1.6939)	43.080 (1.6961)
	End play Thickness	0.06–0.21 (0.0024–0.0083) 30.92–30.97 (1.217–1.219)	0.30 (0.012) 30.8 (1.21)
Countershaft	End play	0.05–0.40 (0.0019–0.0157)	0.50 (0.02)
	Diameter of needle bearing contact area	38.000–38.015 (1.4961–1.4967)	37.95 (1.4941)
	Diameter of ball bearing needle bearing contact area	24.987–25.000 (0.9837–0.9845)	24.94 (0.982)
	Diameter of low gear contact area Runout	39.984–40.000 (1.5742–1.5748) 0.02 (0.0008) max.	39.93 (1.572) 0.05 (0.002)

## 8. Manual Transmission

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Countershaft low gear	I.D. End play	46.009–46.025 (1.8114–1.8120) 0.04–0.10 (0.002–0.004)	46.08 (1.814) Adjust with a washer.
Countershaft second gear	I.D. End play Thickness	47.009–47.025 (1.8507–1.8514) 0.04–0.10 (0.002–0.004) 34.62–34.67 (1.3630–1.3650)	47.08 (1.8535) Adjust with a collar. 33.5 (1.3189)
Spacer collar (Countershaft second gear)	I.D. O.D. Length	36.48–36.49 (1.4362–1.4366) 41.989–42.000 (1.6531–1.6535) 29.02–29.04 (1.1425–1.1433) 29.07–29.09 (1.1445–1.1453)	36.50 (1.437) 41.94 (1.651) — —
Spacer collar (Mainshaft fourth and fifth gears)	I.D. O.D. Length	31.002–31.012 (1.2205–1.2209) 37.989–38.000 (1.4956–1.4961) 56.45–56.55 (2.222–2.226) 26.03–26.08 (1.0248–1.0268)	31.06 (1.223) 37.94 (1.494) — 26.01 (1.024)
		A B	
Reverse idler gear	I.D. Gear-to-reverse gear shaft clearance	20.016–20.043 (0.7880–0.7891) 0.036–0.084 (0.0014–0.0033)	20.09 (0.7909) 0.160 (0.0006)
Synchronizer ring	Ring-to-gear clearance (ring pushed against gear)	0.85–1.10 (0.0335–0.0433)	0.40 (0.016)
Shift fork	Synchronizer sleeve groove width Fork-to-synchronizer sleeve clearance	6.75–6.85 (0.266–0.270) 0.35–0.65 (0.014–0.026)	— 1.0 (0.039)
Reverse shift fork	Pawl groove width Fork-to-reverse idle gear clearance Groove width Fork-to fifth/reverse shift Shaft clearance	13.0–13.3 (0.51–0.52) 0.5–1.1 (0.02–0.43) 7.05–7.25 (0.278–0.2854) 7.4–7.7 (0.29–0.30) 0.05–0.35 (0.002–0.014) 0.4–0.8 (0.02–0.03)	— 1.8 (0.07) — — 0.5 (0.02) 1.0 (0.04)
		at A at B at A at B	
Shift arm	I.D. Shift arm-to-shaft clearance Shift fork diameter at contact area Shift-arm-to-shift fork shaft clearance	15.973–16.000 (0.6289–0.6299) 0.005–0.059 (0.0002–0.0023) 12.9–13.0 (0.508–0.512) 0.2–0.5 (0.01–0.02)	— — — 0.6 (0.02)
Select lever	Pin size of contact area Shaft outer diameter Shift arm cover clearance	7.9–8.0 (0.311–0.315) 15.41–15.68 (0.607–0.617) 0.032–0.102 (0.0013–0.0040)	— — —
Shift arm lever	O.D. Transmission housing clearance	15.941–15.968 (0.6276–0.6287) 0.027–0.139 (0.0011–0.0055)	— —
Inter lock	Bore diameter Shift arm lever clearance	16.00–16.05 (0.630–0.632) 0.032–0.109 (0.0013–0.0043)	— —
Ring gear	Backlash	0.085–0.142 (0.0033–0.0056)	0.200 (0.0079)
Differential carrier	Pinion shaft bore diameter Carrier-to-pinion shaft clearance Driveshaft bore diameter Carrier-to-driveshaft clearance	18.000–18.018 (0.7087–0.7094) 0.017–0.047 (0.0007–0.0019) 28.005–28.025 (1.1026–1.1033) 0.025–0.066 (0.0009–0.0026) 0.055–0.091 (0.0022–0.0036)	— 0.100 (0.0039) — 0.120 0.150
		R L	
Differential pinion gear	Backlash Pinion gear bore diameter Pinion gear-to-pinion shaft clearance	0.05–0.15 (0.002–0.006) 18.042–18.066 (0.7103–0.7113) 0.059–0.095 (0.0023–0.0037)	Selection with 7 types of washers. — 0.150 (0.0059)
Differential taper roller bearing	Preload	1.4–2.6 N·m (14–26 kg·cm, 1.0–1.9 lb·ft)	Selection with 20 types of shims.

# Standards and Service Limits

## 9. Automatic Transmission

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (U.S. qt., Imp. qt.)		2.4 (2.5, 2.1) at oil change 6.0 (6.4, 5.2) at assembly	
Hydraulic pressure	Line pressure at 2,000 min <sup>-1</sup> (rpm)	Carburetor	760 kPa (7.75 kg/cm <sup>2</sup> , 110 psi) Throttle valve full- closed  808 kPa (8.25 kg/cm <sup>2</sup> , 117 psi) Throttle valve more than 2/8 open	710 kPa (7.25kg/cm <sup>2</sup> , 103 psi) Throttle valve more than 2/8 open
		PGM-FI	784 kPa (8.0 kg/cm <sup>2</sup> , 113 psi) Throttle valve full-closed  833 kPa (8.5 kg/cm <sup>2</sup> , 120psi) Throttle valve more than 2/8 open	735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi) Throttle valve more than 2/8 open
	4th clutch pressure at 2,000 min <sup>-1</sup> (rpm)	Carburetor	411 kPa (4.2 kg/cm <sup>2</sup> , 59 psi) Throttle valve full-closed  808 kPa (8.25 kg/cm <sup>2</sup> , 117 psi) Throttle Valve more than 2/8 open	352 kPa (3.6 kg/cm <sup>2</sup> , 51 spi) Throttle valve full-closed  710 kPa (7.25 kg/cm <sup>2</sup> , 103 psi) Throttle valve more than 2/8 open
		PGM-FI	520 kPa (5.3 kg/cm <sup>2</sup> , 75 psi) Throttle valve full-closed  833 kPa (8.5 kg/cm <sup>2</sup> , 120 psi) Throttle valve more than 2/8 open	460 kPa (4.7 kg/cm <sup>2</sup> , 66 psi) Throttle valve full-closed  735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi) Throttle valve more than 2/8 open
	3rd clutch pressure at 2,000 min <sup>-1</sup> (rpm)	Carburetor	392 kPa (4.0 kg/cm <sup>2</sup> , 57 psi) Throttle valve full-closed  808 kPa (8.25 kg/cm <sup>2</sup> , 117 psi) Throttle valve more than 2/8 open	352 kPa (3.6 kg/cm <sup>2</sup> , 51 psi) Throttle valve full-closed  710 kPa (7.25 kg/cm <sup>2</sup> , 103 psi) Throttle volve more than 2/8 open
		PGM-FI	490 kPa (5.0 kg/cm <sup>2</sup> , 71 psi) Throttle valve full-closed  833 kPa (8.5 kg/cm <sup>2</sup> , 120 psi) Throttle valve more than 2/8 open	441 kPa (4.5 kg/cm <sup>2</sup> , 64 psi) Throttle valve full-closed  735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi) Throttle valve more than 2/8 open
	2nd clutch pressure at 2,000 min <sup>-1</sup> (rpm)	Carburetor	392 kPa (4.0 kg/cm <sup>2</sup> , 57 psi) Throttle valve full-closed  808 kPa (8.25 kg/cm <sup>2</sup> , 117 psi) Throttle valve more than 2/8 open	352 kPa (3.6 kg/cm <sup>2</sup> , 51 psi) Throttle valve full-closed  710 kPa (7.25 kg/cm <sup>2</sup> , 103 psi) Throttle valve more than 2/8 open
		PGM-FI	490 kPa (5.0 kg/cm <sup>2</sup> , 71 psi) Throttle valve full-closed  833 kPa (8.5 kg/cm <sup>2</sup> , 120 psi) Throttle valve more than 2/8 open	441 kPa (4.5 kg/cm <sup>2</sup> , 64 psi) Throttle valve full-closed  735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi) Throttle valve more than 2/8 open
	1st clutch pressure at 2,000 min <sup>-1</sup> (rpm)	Carburetor	750–808 kPa (7.75–8.25 kg/cm <sup>2</sup> , 110–117 psi)	710 kPa (7.25 kg/cm <sup>2</sup> , 103 psi)
		PGM-FI	784–833 kPa (8.0–8.5 kg/cm <sup>2</sup> , 113–120 psi)	735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi)

## 9. Automatic Transmission

MEASUREMENT		STANDARD (NEW)		SERVICE LIMIT	
Hydraulic pressure	Governor pressure at (37.5 mph) 60 km/h	Carburetor with CATA	225–235 kPa (2.30–2.40 kg/cm <sup>2</sup> , 32–34 psi)	220 kPa (2.25 kg/cm <sup>2</sup> , 32 psi)	
		Carburetor without CATA	166–176 kPa (1.70–1.80 kg/cm <sup>2</sup> , 24–25 psi)	162 kPa (1.65 kg/cm <sup>2</sup> , 23 psi)	
	Throttle pressure A	Carburetor with CATA	closed	0	—
			open	514–530 kPa (5.25–5.4 kg/cm <sup>2</sup> , 74–76 psi)	509 kPa (5.2 kg/cm <sup>2</sup> , 73 psi)
		Carburetor with CATA	closed	0	—
			open	485–500 kPa (4.95–5.10 kg/cm <sup>2</sup> , 70–72 psi)	480 kPa (4.9 kg/cm <sup>2</sup> , 69 psi)
	Throttle pressure B	Carburetor	closed	0	—
			open	760–808 kPa (7.75–8.25 kg/cm <sup>2</sup> , 110–117 psi)	710 kPa (7.25 kg/cm <sup>2</sup> , 103 psi)
		PGM-FI	closed	0	—
			open	784–833 kPa (8.0–8.5 kg/cm <sup>2</sup> , 113–120 psi)	735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi)
Stall speed	Check with car on level ground	2.350–2.650 min <sup>-1</sup> (rpm)			
Clutch	Clutch initial clearance	1st-hold	0.8–1.0 (0.031–0.039)	—	
		1st, 2nd	0.65–0.85 (0.026–0.033)	—	
		3rd, 4th	0.4–0.6 (0.016–0.024)	—	
	Clutch return spring free length	Carburetor	1st, 2nd, 3rd: 33.9 (1.33) 4th: 30.2 (1.189)	31.9 (1.256) 28.2 (1.110)	
		PGM-FI	1st, 2nd, 3rd, 4th: 33.5 (1.318)	31.5 (1.240)	
	Clutch disc thickness		1.88–2.0 (0.074–0.079)	Until grooves worn out	
	Clutch plate thickness	Carburetor	1st, 2nd: 2.25–2.35 (0.089–0.093)	Discoloration ↑ Discoloration	
			3rd, 4th, 1st-hold: 1.95–2.05 (0.077–0.081)		
			1st: 1.95–2.05 (0.0767–0.0807)		
		PGM-FI	2nd: 2.55–2.65 (0.1003–0.1043)		
3rd, 4th: 2.25–2.35 (0.0885–0.0925)					
Clutch end plate thickness	Mark 1	2.05–2.10 (0.081–0.83)			
	Mark 2	2.15–2.20 (0.085–0.087)			
	Mark 3	2.25–2.30 (0.089–0.091)			
	Mark 4	2.35–2.40 (0.093–0.094)			
	Mark 5	2.45–2.50 (0.096–0.098)			
	Mark 6	2.55–2.60 (0.100–0.102)			
	Mark 7	2.65–2.70 (0.104–0.106)			
	Mark 8	2.75–2.80 (0.108–0.110)			
	Mark 9	2.85–2.90 (0.112–0.114)			
	* Mark 10	2.95–3.00 (0.116–0.118)			

\*Carburated engine only.

# Standards and Service Limits

## 9. Automatic Transmission (cont'd)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Valve body	Stator camshaft needle bearing contact area I.D. (torque converter side)	27.000–27.021 (1.0630–1.0638)	Wear or damage
	Stator camshaft needle bearing contact area I.D. (oil pump side)	29.000–29.013 (1.417–1.1422)	—
	Oil pump driven gear I.D.	14.016–14.034 (0.5518–0.5525)	Wear or damage
	Oil pump gear shaft O.D.	13.980–13.990 (0.5504–0.5508)	Wear or damage
	Oil pump gear side clearance	0.03–0.05 (0.0012–0.0020)	0.07 (0.0028)
	Oil pump gear-to-body clearance	—	—
	Drive	0.21–0.265 (0.0083–0.0104)	—
	Driven	0.07–0.125 (0.0027–0.0049)	—
Regulator valve body	Sealing ring contact area diameter	35.000–35.025 (1.3780–1.3789)	35.050 (1.3799)
Accumulator body	Sealing ring contact area diameter	32.000–32.013 (1.2598–1.2600)	32.05 (1.2618)
Stator camshaft	Sealing ring contact area diameter	29.000–29.013 (1.1417–1.1422)	29.05 (1.1436)
Shifting device and parking brake control	Reverse shift fork thickness	5.90–6.00 (0.232–0.236)	5.40 (0.213)
	Parking brake ratchet pawl	—	Wear or other defect
	Parking gear	—	Wear or other defect
	Throttle cam stopper	—	—
	Carburetor PGM-FI	18.5–18.6 (0.7283–0.7322)	—
		17.0–17.1 (0.6692–0.6732)	—
Servo body	Shift fork shaft I.D.	A	14.000–14.005 (0.5512–0.5514)
		B	14.006–14.010 (0.5514–0.5516)
		C	14.011–14.015 (0.5516–0.5518)
	Shift fork shaft valve bore I.D.		37.000–37.039 (1.4567–1.4582)
Transmission	Diameter of needle bearing contact area	22.984–23.000 (0.9049–0.9055)	Wear or damage
	On mainshaft and stator shaft	31.984–32.000 (1.2592–1.2598)	
	On mainshaft 4th gear collar	41.984–42.000 (1.6529–1.6535)	↑
	On mainshaft 3rd gear collar	45.984–46.000 (1.8103–1.8110)	
	Carburetor PGM-FI	40.984–41.000 (1.6142–1.6535)	
	On counter shaft 1st gear collar	31.975–31.991 (1.2589–1.2595)	
	On counter shaft 4th gear	35.979–36.000 (1.4165–1.4173)	
	On counter shaft reverse gear	39.984–40.000 (1.5741–1.5748)	
	On counter shaft parking gear	31.975–31.991 (1.2588–1.2594)	
	On secondary shaft 1st gear	31.975–31.991 (1.2588–1.2594)	
	On secondary shaft 2nd gear	14.416–14.434 (0.5675–0.5682)	
	Reverse idler gear shaft holder I.D.	48.000–48.019 (1.8898–1.8905)	
	Mainshaft 3rd gear I.D.	52.000–52.019 (2.0472–2.0479)	
	Carburetor PGM-FI	38.005–38.021 (1.4963–1.4969)	
4th gear I.D.		Wear or damage	

## 9. Automatic Transmission

Unit of length: mm (in.)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission	Countershaft 1st gear I.D.	47.000—47.016 (1.8504—1.8510)	Wear or damage ↑ ↓
	4th gear I.D.	38.000—38.016 (1.4961—1.4967)	
	reverse gear I.D.	42.000—42.016 (1.6535—1.6541)	
	idler gear I.D.	48.000—48.016 (1.8897—1.8903)	
	Secondary shaft 1st gear I.D.	37.000—37.016 (1.4566—1.4573)	
	2nd gear I.D.	37.000—37.016 (1.4566—1.4573)	
	Mainshaft 3rd gear collar length	20.000—20.050 (0.7874—0.7893)	
	Carburetor PGM-FI	19.500—19.550 (0.7677—0.7697)	
	4th gear collar length	47.500—47.550 (1.8700—1.8720)	
	Countershaft 1st gear collar length	27.500—27.550 (1.0826—1.0846)	
	Secondary shaft distance collar length	4.95—5.00 (0.1948—0.1968)	
	Secondary shaft 2nd gear thrust washer thickness	4.35—4.45 (0.1713—0.1752)	
	Countershaft 1st gear thrust washer thickness	1.45—1.50 (0.0570—0.0590)	
	Countershaft idler gear thrust washer thickness	3.45—3.55 (0.1358—0.1398)	
Countershaft parking gear length	25.030—25.048 (0.9854—0.9861)	Wear or damage	

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# Standards and Service Limits

Unit of length: mm (in.)

## 9. Automatic Transmission (cont'd)

	MEASUREMENT	STANDARD (NEW)			
		WIRE DIA.	O.D.	FREE LENGTH	No. of COILS
Spring (Carburetor)	One way ball spring	0.29 (0.0114)	4.0 (0.1574)	14.0 (0.5511)	13.0
	Regulator valve spring A	1.80 (0.0708)	14.7 (0.5787)	86.5 (3.4055)	16.5
	Regulator valve spring B	1.80 (0.0708)	9.6 (0.3779)	44.0 (1.7328)	7.5
	Stator reaction spring	5.50 (0.2165)	37.4 (1.4724)	30.3 (1.1929)	2.1
	Throttle modulator spring	with CATA 1.20 (0.0472)	9.4 (0.3700)	27.2 (1.0708)	8.0
	without CATA	1.20 (0.0472)	9.4 (0.3700)	26.3 (1.0354)	8.0
	Torque convertor check valve spring	1.10 (0.0433)	8.4 (0.3307)	36.4 (1.4331)	12.0
	Relife valve spring	1.00 (0.0393)	8.4 (0.3307)	39.1 (1.5393)	15.1
	Cooler check valve spring	1.10 (0.0433)	8.4 (0.3307)	46.8 (1.8425)	17.0
	Governor spring A	with CATA 1.0 (0.0393)	18.8 (0.7401)	25.8 (1.0157)	4.0
	without CATA	1.0 (0.0393)	18.8 (0.7401)	41.2 (1.6220)	4.0
		1.0 (0.0393)	18.8 (0.7401)	44.3 (1.7440)	4.0
	Governor spring B	with CATA 0.8 (0.0314)	11.8 (0.4645)	22.9 (0.9016)	7.0
	without CATA	0.9 (0.0354)	11.8 (0.4645)	18.4 (0.7244)	6.2
		0.9 (0.0354)	11.8 (0.4645)	21.4 (0.8425)	6.2
	Second orifice control spring	0.7 (0.0275)	6.6 (0.2598)	53.3 (2.0984)	20.5
	Servo orifice spring	0.9 (0.0354)	7.1 (0.2795)	61.2 (2.4094)	28.2
	Throttle spring A	1.0 (0.0393)	8.5 (0.3346)	21.0 (0.8267)	5.8
		1.0 (0.0393)	8.5 (0.3346)	21.0 (0.8267)	5.4
		1.0 (0.0393)	8.5 (0.3346)	22.2 (0.8740)	6.0
		1.0 (0.0393)	8.5 (0.3346)	22.1 (0.8701)	5.5
	Throttle adjust spring A	0.8 (0.0314)	6.2 (0.2440)	27.0 (1.0630)	23.0
	Throttle adjust spring B	0.8 (0.0314)	6.2 (0.2440)	30.0 (1.1811)	8.0
	Throttle spring B	1.4 (0.0551)	8.5 (0.3346)	41.6 (1.6378)	14.0
	1-2 shift spring	with CATA 0.5 (0.0196)	4.6 (0.1811)	42.3 (1.6653)	25.0
	without CATA	0.6 (0.0236)	6.1 (0.2401)	42.3 (1.6653)	21.1
	1-2 shift ball spring	with CATA 0.4 (0.0157)	4.5 (0.1771)	13.0 (0.5118)	8.7
	without CATA	0.4 (0.0157)	4.5 (0.1771)	12.6 (0.4960)	8.7
	2-3 shift spring	with CATA 0.9 (0.0354)	7.6 (0.2992)	70.0 (2.7559)	28.2
	without CATA	0.8 (0.0314)	7.6 (0.2992)	58.9 (2.3188)	16.8
	2-3 shift ball spring	with CATA 0.5 (0.0196)	4.5 (0.1771)	11.7 (0.4606)	10.5
	without CATA	0.5 (0.0196)	4.5 (0.1771)	14.1 (0.5551)	10.5
	3-4 shift spring	with CATA 0.9 (0.0354)	9.6 (0.3779)	35.8 (1.4094)	10.3
	without CATA	0.9 (0.0354)	9.6 (0.3779)	27.7 (1.0905)	10.3
	3-4 shift ball spring	with CATA 0.5 (0.0196)	4.5 (0.1771)	11.5 (0.4527)	7.4
	without CATA	0.5 (0.0196)	4.5 (0.1771)	11.3 (0.4448)	7.4
	1st-hold accumulator spring	4.0 (0.1574)	21.5 (0.8464)	71.7 (2.8228)	8.3
	1st accumulator spring	1.8 (0.0709)	16.3 (0.6417)	115.4 (4.5433)	18.6
	4th accumulator spring	2.6 (0.1023)	16.0 (0.6292)	84.6 (3.3307)	14.3
	2nd accumulator spring	3.2 (0.1378)	22.0 (0.8661)	77.1 (3.0354)	10.0
	3rd accumulator spring	2.6 (0.1023)	17.5 (0.6889)	78.6 (3.0944)	11.0
	L/C shift spring	0.9 (0.0354)	7.6 (0.2992)	73.7 (2.9015)	32.0
	L/C timing spring B	with CATA 1.0 (0.0393)	6.6 (0.2598)	84.0 (3.3070)	42.4
	without CATA	1.0 (0.0393)	6.6 (0.2598)	79.1 (3.1141)	42.4
	L/C timing spring A	with CATA 0.9 (0.0354)	6.6 (0.2598)	55.9 (2.2007)	27.3
	without CATA	0.9 (0.0354)	6.6 (0.2598)	50.0 (1.9685)	27.3
	Governor cut spring	0.8 (0.0314)	7.6 (0.2992)	44.5 (1.7519)	17.0
	L/C control spring	0.7 (0.0275)	6.6 (0.2598)	42.9 (1.6889)	14.1
	CPC valve spring	1.4 (0.0551)	9.4 (0.3700)	31.2 (1.2283)	10.9
	3rd kick down spring	0.9 (0.0354)	7.6 (0.2992)	62.7 (2.4684)	27.5
	Reverse control spring	0.7 (0.0275)	7.1 (0.2795)	40.0 (1.5748)	20.8
	L/C cut spring	0.7 (0.0275)	7.6 (0.2992)	31.0 (1.2204)	12.7
	Accumulator control spring	1.2 (0.0472)	7.7 (0.3031)	45.6 (1.7952)	21.8
	2nd kick down spring	1.2 (0.0472)	7.1 (0.2795)	46.9 (1.8464)	20.6
	Servo control spring	0.9 (0.0354)	6.4 (0.2519)	32.5 (1.2795)	17.5
	2-1 timing spring	0.7 (0.0275)	5.6 (0.2204)	33.0 (1.2992)	21.7
	4th exhaust spring	0.8 (0.0314)	6.1 (0.2401)	51.1 (2.0118)	26.6

## 9. Automatic Transmission

	MEASUREMENT		STANDARD (NEW)			
			WIRE DIA.	O.D.	FREE LENGTH	No. of COILS
Spring (PGM-FI)	Regulator valve spring	A	1.8 (0.0709)	14.7 (0.5887)	86.5 (3.4055)	16.5
		B	1.8 (0.0709)	9.6 (0.3779)	44.0 (1.7323)	12.7
	Stator reaction spring		4.5 (0.1772)	35.4 (1.3937)	30.3 (1.1929)	1.92
	Torque converter check valve spring		1.1 (0.0433)	8.4 (0.3307)	36.4 (1.4331)	12.0
	Relief valve spring		1.0 (0.0394)	8.4 (0.3307)	39.1 (1.5393)	15.1
	Cooler check valve spring		1.1 (0.0433)	8.4 (0.3307)	46.8 (1.8425)	17.0
	2nd orifice spring		0.6 (0.0236)	6.6 (0.2598)	55.8 (2.1968)	15.8
	Servo orifice spring		0.8 (0.0315)	6.6 (0.2598)	52.5 (2.0669)	33.0
	4th exhaust spring		0.9 (0.0354)	7.1 (0.2795)	60.8 (2.3936)	28.9
	1-2 shift spring		1.0 (0.0393)	8.6 (0.3386)	41.3 (1.6259)	16.9
	2-3 shift spring		0.9 (0.0354)	7.6 (0.2992)	57.0 (2.2440)	26.8
	1st accumulator spring		1.8 (0.0709)	16.3 (0.6417)	115.4 (4.5433)	18.6
	4th accumulator spring		2.9 (0.1142)	22.0 (0.8661)	90.1 (3.5472)	10.9
	2nd accumulator spring		3.5 (0.1378)	22.0 (0.8661)	77.1 (3.0354)	10.0
	3rd accumulator spring		2.8 (0.1102)	17.5 (0.6889)	94.2 (3.7086)	16.1
	L/C shift spring		0.9 (0.0354)	7.6 (0.2992)	73.7 (2.9016)	32.0
	L/C timing spring		0.8 (0.0314)	6.6 (0.2598)	51.1 (2.0118)	14.7
	Servo control spring		1.0 (0.0394)	8.1 (0.3188)	52.6 (2.0708)	22.4
	3rd kick-down spring		1.1 (0.0433)	7.6 (0.2992)	48.3 (1.9015)	23.3
	2nd kick-down spring		1.2 (0.0472)	7.1 (0.2795)	46.9 (1.8464)	20.6
	Throttle adjust spring		0.8 (0.0314)	6.2 (0.2440)	30.0 (1.1811)	8.0
	Throttle B spring		1.4 (0.0551)	8.5 (0.3346)	41.5 (1.6339)	10.5
			1.4 (0.0551)	8.5 (0.3346)	41.5 (1.6339)	11.2
			1.4 (0.0551)	8.5 (0.3346)	41.6 (1.6378)	12.4
	1st-hold accumulator spring		4.0 (0.1574)	25.0 (0.9842)	64.7 (2.5472)	7.3
	CPC valve spring		1.4 (0.0551)	9.4 (0.3700)	33.0 (1.2992)	10.5
	L/C control spring		0.7 (0.0276)	6.6 (0.2598)	38.0 (1.4961)	14.1

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# Standards and Service Limits

## 9. Automatic Transmission (cont'd)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Rign gear	Backlash	0.085–0.142 (0.003–0.006)	0.200 (0.008)
Differential carrier	Pinion shaft bore diameter	18.000–18.018 (0.7087–0.7094)	—
	Carrier-to-pinion shaft clearance	0.017–0.047 (0.001–0.002)	0.100 (0.004)
	Driveshaft bore diameter	28.005–28.025 (1.1026–1.1033)	—
	Carrier-to driveshaft clearance	0.025–0.066 (0.001–0.003)	0.120 (0.005)
Differential pinion gear	Backlash	0.05–0.15 (0.02–0.006)	Adjust with a washer
	Pinion gear bore diameter	18.042–18.066 (0.710–0.711)	—
	Pinion gear-to pinion shaft clearance	0.059–0.095 (0.002–0.004)	0.120 (0.005)
Differential tapered roller bearing preload	For used bearing	2.5–3.7 N·m (25–37 kg·cm, 1.8–2.7 lb-ft)	Adjust with a washer
	After replacement of bearing	2.8–4.0 N·m (28–48 kg·cm, 2.0–2.9 lb-ft)	Adjust with a washer

## 11. Steering

	MEASUREMENT	STANDARD (NEW)	
Steering wheel	Play	10 (0.39) maximum	
Gearbox	Pinion starting torque	Below 1.0N·m (10 kg·cm, 0.72 lb-ft)	
	Angle of rack guide screw loosend from locked position	20° + 5° - 0	
Pump	Pump pressure with valve closed (oil temperature: 40°C/104°F minimum) Do not run for more than 5 seconds	7,845–8,826 kPa (80–90 kg/cm <sup>2</sup> , 1,138–1,280 psi) at idle	
Power steering fluid	Capacity	0.5 ℓ (0.53 US qt, 0.44 Imp qt)	
	Reservoir At change (approx.)	1.8 ℓ (1.90 US qt, 1.58 Imp qt)	
Power steering belt	Deflection between pulleys with 98 N (10 kg, 22 lbs) force	For used belt	13.0–16.0 (0.51–0.62)*
		For new belt	9.5–11.5 (0.37–0.45)
	Belt tension between pulleys (measured with belt tension gauge)	For used belt	343–490 N (35–50 kg, 77–110 lb)*
		For new belt	686–882 N (70–90 kg, 154–198 lb)

\*When using a new belt, first adjust the deflection or tension to these values, then readjust the deflection or tension to the values for the used belts after running engine for five minutes.

## 12. Suspension

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT		
Wheel alignment	Total toe	Front	0±2 (0±0.08)	—	
		Rear	2WS: IN 2±2 (0.08±0.08) 4WS: IN 3±2 (0.12±0.08)	—	
	Camber	Front	0° 00' ± 1'	—	
		Rear	-0° 30' ± 1'	—	
	Caster	Front	2WS: 29° 30'	—	
			4WS: 3° 00' ± 1'	—	
	Front Wheel turning angle	Inward wheel	2WS: 39° 05' ± 2° 4WS: 38° 50' ± 2°	—	
Outward wheel (reference)		2WS: 29° 30' 4WS: 29° 30'	—		
Rear Wheel turning angle (4WS only)	Inward wheel	5° 50' ± 1'	—		
	Outward wheel (reference)	6° 10' ± 1'	—		
Wheel	Rim runout	Steel wheel	Below 1.0 (0.04)	2.0 (0.08)	
		Aluminum wheel	Axial	Below 1.0 (0.04)	1.5 (0.06)
			Axial	Below 0.7 (0.03)	2.0 (0.08)
		Radial	Below 0.7 (0.03)	1.5 (0.06)	
Wheel bearing	End play	Front	0–0.05 (0–0.002)	—	
		Rear	0–0.05 (0–0.002)	—	

### 13. Brakes

MEASUREMENT		STANDARD (NEW)		SERVICE LIMIT	
Parking brake lever	Play in stroke 200 N (20 kg, 44 lbs)	To be locked when pulled 4-8 notches		—	
Foot brake pedal	Pedal height (from floor)	LHD: MT	165 ± 0.5 (6.5 ± 0.02)	—	
		AT	170 ± 0.5 (6.7 ± 0.02)	—	
	Free play	RHD: MT	190 (7.5) minimum	—	
		AT	195 (7.7) minimum	—	
Master cylinder	Piston-to-push rod clearance	0-0.4 (0-0.016)		5 (0.20)	
Brake drum	I.D.	220 (8.66)		221 (8.70)	
Lining	Thickness	4.5 (0.18)		2.0 (0.08)	
Disc brake	Disc thickness	Front	23.0 (0.91)	21.0 (0.83)	
		Rear	10.0 (0.39)	8.0 (0.32)	
	Disc runout	Front	—	0.10 (0.004)	
		Rear	—	0.10 (0.004)	
	Disc parallelism	Front and rear	—	0.015 (0.0006)	
Pad thickness	Front	2.0 ℓ model: 12.5 (0.49) 2.2 ℓ model: 12.0 (0.47)	1.6 (0.06)		
	Rear	9.0 (0.35)	1.6 (0.06)		
Brake booster	Characteristics at 20 kg (44 lbs) pedal pressure	Line pressure Unit: kPa (kg/cm <sup>2</sup> /psi)			
		Vacuum	Brakes	Conventional type	with anti-lock-brake system
		0 mm (0 in) Hg		922 (9.4/134) minimum	813 (8.3/118) minimum
	300 mm (11.8 in) Hg		5,494 (56/796) minimum	6,076 (62/882) minimum	
	500 mm (19.7 in) Hg		8,535 (87/1,237) minimum	8,134 (83/1,180) minimum	

### 15. Air Conditioner

MEASUREMENT		STANDARD (NEW)	
Air conditioner system	Lubricant capacity	Condenser	10 cc (0.3 US oz, 0.4 Imp oz)
		Evaporator	25 cc (0.8 US oz, 0.9 Imp oz)
		Line or hose	10 cc (0.3 US oz, 0.4 Imp oz)
		Reservoir	10 cc (0.3 US oz, 0.4 Imp oz)
Compressor	Lubricant capacity		800-850 g (28.2-30.0 oz)
	Stator coil resistance at 20°C (68°F)		3.4-3.8 Ω
	Pulley-to pressure plate clearance		0.35-0.65 (0.014-0.026)
Compressor belt	Deflection between pulleys with 98N (10 kg, 22 lbs) force	For used belt	10-12 (0.4-0.5)*
		For new belt	4.5-7.0 (0.18-0.28)
Compressor belt	Belt tension between pulleys (measured with belt tension gauge)	For used belt	441-588 N (45-60 kg, 99-132 lbs)
		For new belt	931-1,127 N (95-115 kg, 209-254 lbs)

\*When using a new belt, first adjust the deflection or tension to these values, then readjust the deflection or tension to the values for the used belts after running engine for five minutes.

# Standards and Service Limits

Unit of length: mm (in.)

## 16. Electrical

MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT	
Ignition coil	Rated voltage	12 Volts		
	Winding resistance	Primary	0.6–0.8 Ω < 0.5–0.7 Ω >	
		Secondary	12.8–19.2 kΩ < 14.4–21.6 kΩ >	
	< >: Carbureted engine			
Ignition wire	Resistance	25 kΩ maximum		
Spark plug	Type ( ): Manufacturer	Standard	ZFR5F-11 (NGK) or KJ16CR-L11 (ND)* <sup>1</sup> ZFR6F-11 (NGK) or KJ20CR-L11 (ND)* <sup>2</sup>	
		Option	ZFR5F-11 (NGK) or KJ16CR-L11 (ND)* <sup>3</sup> ZFR6F-11 (NGK) or KJ20CR-L11 (ND)* <sup>4</sup> ZFR7F-11 (NGK) or KJ22CR-L11 (ND)* <sup>5</sup>	
	Gap	1.0–1.1 (0.039–0.043)		
Ignition timing	At idling	PGM-FI engine: 15° ± 2° BTDC Carbureted engine: F20A2, F20A3-MT, F20A6: 15° ± 2° BTDC F20A3-AT (KY): 0° ± 2° BTDC F20A3-AT (others): 10° ± 2° BTDC		
Battery	Lighting capacity (20-hours ratio) < >: KY, KQ (except 5D), KP, KT	65Ah < 47Ah >		
	Starting capacity (voltage after 5 sec.)	8.4 V minimum/300 ampere draw at –15°C (59°F)		
Alternator	Output < >: Carbureted engine (except KS, KU, KW, KY)	80A < 70A >		
	Rotor coil resistance	2.8–3.0 Ω	—	
	Slip ring O.D.	14.4 (0.57)	14.0 (0.55)	
	Brush length	10.5 (0.41)	5.5 (0.22)	
	Brush spring tension	300–360 g (10.6–12.7 oz)		
Alternator belt	Deflection at midway between pulleys with 98 N (10 kg, 22 lb) force	Model without A/C	Used belt*	10–12 (0.39–0.47)
			New belt	8.5–11 (0.33–0.43)
		Model with A/C	Used belt*	10–12 (0.39–0.47)
			New belt	4.5–7.0 (0.18–0.28)
	Belt tension between pulleys (measured with belt tension gauge)	Model without A/C	Used belt*	294–441 N (30–45 kg, 66–99 lb)
			New belt	441–637 N (45–65 kg, 99–143 lb)
		Model with A/C	Used belt*	441–637 N (45–65 kg, 99–143 lb)
			New belt	931–1,128 N (95–115 kg, 209–154 lb)
Starting motor	Output	4D European except KE	MT: 1.4 kW (2.2 t: 1.6 kW)	AT: 1.6 kW
		Except European and KE	MT: 1.4 kW	AT: 1.4 kW
	5D KE	MT: 1.4 kW	AT: 1.4 kW	
	Except KE	MT: 1.6 kW	AT: 1.6 kW	
	Manufacturer: Mitsuba	Mica depth	0.4–0.5 (0.016–0.02)	0.15 (0.006)
	Commutator runout	0–0.02 (0–0.001)	0.05 (0.002)	
	Commutator O.D.	28.0–28.1 (1.10–1.11)	27.5 (1.08)	
	Brush length	15.8–16.2 (0.62–0.64)	10.0 (0.39)	
	Brush spring tension	16–18 N (1.6–1.8 kg, 3.5–4.0 lbs)		
Manufacturer: ND	Mica depth	0.5–0.8 (0.02–0.03)	0.2 (0.01)	
	Commutator runout	0–0.02 (0–0.001)	0.05 (0.002)	
	Commutator O.D.	29.9–30.0 (1.18–1.18)	29.0 (1.14)	
	Brush length	15.0–15.5 (0.59–0.61)	10.0 (0.39)	
	Brush spring tension	19–24 N (1.9–2.4 kg, 4.2–5.3 lbs)		

\*When using a new belt, first adjust the deflection or tension to these values, then readjust the deflection or tension to the values for the used belts after running engine for five minutes.

- \*1: Except the European and GULF model of Engine type F20A3.
- \*2: European and GULF model of Engine type F20A3.  
All fuel injection type.
- \*3: Engine type F20A8, F22A2, F22A6 and F22A9.  
European and GULF model of Engine type F20A3.  
European model of Engine type F20A5.
- \*4: Except the European and GULF model of Engine type F20A3.  
Except the European and Hong Kong model of Engine type F20A5.
- \*5: Engine type F20A2, F20A6, F20A8, F22A2, F22A3, F22A6, F22A7, F22A8 and F22A9.  
European and GULF model of Engine type F20A3.  
European model of Engine type F20A5.

# Design Specifications (4D)

	ITEMS	METRIC	ENGLISH	NOTES					
<b>DIMENSIONS</b>	Overall length	4,700 mm 4,705 mm 4,710 mm 4,710 mm	185.0 in 185.2 in 185.4 in 185.4 in	Gulf model Australian model Finish model					
	Overall width	1,695 mm 1,705 mm 1,705 mm	66.7 in 67.1 in 67.1 in						
	Overall height	1,390 mm 1,400 mm 1,400 mm	54.7 in 55.1 in 55.1 in	Gulf model Australian model					
	Wheelbase	2,720 mm	107.1 in						
	Track	1,475 mm 1,480 mm	58.1 in 58.3 in	Gulf model					
	Ground clearance	160 mm 170 mm	6.3 in 6.7 in						
	Seating capacity		Five	Gulf model					
	Turning circle diameter (at tire center)	4.9 m 5.4 m		16.1 ft 17.7 ft	4WS 2WS				
	<b>WEIGHT</b>	Curb weight	See page 3-19						
		Max. permissible weight (for European)							
2.0 ℓ without Anti-lock brake system		1,740 kg		3,836 lb					
2.0 ℓ with Anti-lock brake system		1,760 kg		3,880 lb					
2.2 ℓ		1,840 kg		4,056 lb					
<b>ENGINE</b>	Type	Water-cooled, 4-stroke OHC							
	Cylinder arrangement	4-cylinder in-line transvers							
	Bore and stroke	85 × 88 mm 85 × 95 mm	3.35 × 3.46 in 3.35 × 3.74 in	2.0 ℓ 2.2 ℓ					
	Displacement	1,997 cm <sup>3</sup> 2,156 cm <sup>3</sup>	121.8 cu-in 131.5 cu-in	2.0 ℓ 2.2 ℓ					
	Compression ratio	2.0 ℓ carbureted 2.0 ℓ fuel-injected 2.2 ℓ (F22A3) 2.2 ℓ (F22A2) 2.2 ℓ (F22A9)	9.0 : 1 < 8.9 : 1 > 9.6 : 1 < 9.0 : 1 > 9.8 : 1 8.9 : 1 8.8 : 1	< > : With catalytic converter					
	Valve train	Belt driven, single overhead camshaft							
	Lubrication system	Forced and wet sump, trochoid pump							
	Fuel required	F20A5*1 engine: Premium unleaded grade gasoline with 98 R.O.N. or higher F20A3, F20A5*2, F22A3 engine: Premium unleaded grade gasoline with 95 R.O.N. or higher F20A2, F20A3*1, F20A6, F22A 9 engine: Unleaded grade gasoline with 91 R.O.N. or higher F20A3*2, F22A2 engine: Leaded grade gasoline with 91 R.O.N. or higher							
	<b>STARTER</b>	Type	Gear reduction						
		Normal output	European except KE Except European and KE	MT: 1.4 kW (2.2 ℓ: 1.6 kW) AT: 1.6 kW	AT: 1.4 kW				
Normal voltage			12 V						
Hour rating			30 seconds						
Direction of rotation			Clockwise as viewed from gear end						
<b>TRANSMISSION</b>	Clutch	MT AT	Single plate dry, diaphragm spring Torque converter with lock-up clutch 203 cm <sup>3</sup>   31.5 sq. in						
	Clutch lining area		Synchronized 5-speed forward, 1 reverse 4-speed forward automatic, 1 reverse or Electronically controlled dual range 4-speed forward automatic, 1 reverse						
	Transmission	MT AT	1 : 1 (Direct)						
	Primary reduction ratio								
	Gear ratio			MT			AT		
			Gear	①	②	③	④	⑤	⑥
			1st	3.307	3.307	3.307	2.705	2.705	2.705
			2nd	1.857	1.809	1.809	1.482	1.482	1.366
			3rd	1.269	1.230	1.230	1.028	1.028	1.028
			4th	0.966	0.933	0.903	0.731	0.707	0.731
		5th	0.787	0.757	0.705	—	—	—	
	Reverse	3.000	3.000	3.000	2.047	2.047	2.047		
	Final	4.266	4.266	4.062	4.285	4.285	4.285		

①: F20A2, F20A3, F20A6 ②: F20A5, F20A8, F22A2, F22A3, F22A7 ③: F22A9  
④: 0, F20A2, F20A3, F20A6 ⑤: F22A6, F22A2, F22A9 ⑥: F22A3

\*1: Except the UK (can be used UNLEADED) and FRANCE  
\*2: U.K. and FRANCE only

(cont'd)

# Design Specifications (4D)

(cont'd)

	ITEMS	METRIC	ENGLISH	NOTES	
<b>AIR CONDITIONER</b>	Cooling capacity	4,650 kcal/h	18,451 BTU/h		
	-Condition: Compressor speed	1,900 min <sup>-1</sup> (rpm)			
	Outside air temperature	27°C	81°F		
	Outside air humidity	50 %			
	Condenser air temperature	35°C	95°F		
Condenser air velocity	4.5 m/sec.	14.8 ft/sec.			
Blower capacity	440 m <sup>3</sup>	15,542 cu.ft/h			
Compressor	Type	Swash-plate			
No. of cylinders		10			
Capacity		178 cc/rev.	10.9 cu.in./rev.		
Maximum speed		8,800 min <sup>-1</sup> (rpm)			
Lubricant capacity		90-120 cc	3.0-4.0 US oz. 3.2-4.2 Imp oz.		
Condenser		Corrugated fin type			
Evaporator		Corrugated fin type			
Blower	Type	Sirocco fan			
Motor input		210 W (12 V)			
Speed control		5-speed			
Maximum capacity		500 m <sup>3</sup> /h	17,662 cu.ft/h		
Temperature control		Air-mix type			
Clutch	Type	Dry single-plate			
Power consumption		40W (12V) maximum			
Refrigerant	Type	R-12			
Quantity		0.80-0.85 kg	1.8-1.9 lb		
<b>STEERING SYSTEM</b>	Type	Rack and pinion			
	Overall ratio	16.1 : 1 <13.0 : 1>		< > : 4WS	
	Turns, lock-to-lock	3.13 <2.5>		< > : 4WS	
	Steering wheel diameter	375 mm	14.8 in.		
	Power steering fluid capacity	1.8 ℓ	1.9 US qt. 1.6 Imp qt.		
Power steering fluid		Genuine Power Steering Fluid P/N: 08208-99961			
<b>SUSPENSION</b>	Type	Independent double wishbone, coil spring			
	Shock absorber	Front Rear Front and rear	Independent double wishbone, coil spring Telescopic, hydraulic (nitrogen gas-filled)		( ) : except KP, KT
<b>WHEEL ALIGNMENT</b>	Total toe	Front	0 mm	0.0	
		Rear	IN 2.0 mm	0.08 in	
			IN 3.0 mm	0.12 in	
	Camber	Front	0°00'		
	Rear	-0°30'			
		-0°20'			
		3°00'			
<b>CASTER</b>	Type	Front	Ventilated disc		
		Rear	Drum		
	Pad and lining swept area (total)		2.2 ℓ (except KY) or ABS or 4WS: Solid disc		
		Front 15 in	415 cm <sup>2</sup>	64 sq. in	
	14 in	311 cm <sup>2</sup>	48 sq. in		
	Rear Drum	242 cm <sup>2</sup>	38 sq. in		
	Disc	281 cm <sup>2</sup>	44 sq. in		
<b>TIRES</b>	Size/Pressure	See the tyre label attached to the driver's side rear door jamb.			
<b>ELECTRICAL</b>	Fuses In the anti-lock brake system fuse box	7.5A, 15A, 50A			
	In the fuse box	7.5A, 10A, 15A, 30A			
	In the relay box	7.5A, 10A, 15A, 20A, 30A, 40A, 50A, 80A			
	Headlights	High/Low	12V-65/55W, 55W		
	Turn signal lights	Front	12V-21W		
		Rear	12V-21W		
	Position lights		12V-5W		
	License plate lights		12V-5W		
	Buck-up lights		12V-21W		
	Stop lights		12V-21W		
	High mount brake light		12V-45CP		
	Taillights		12V-5W		
	Rear fog lamp		12V-21W		
	Interior light		12V-8W		
	Door courtesy lights		12V-3.4W		
	Vanity mirror light		12V-1.8W		
	Boot light		12V-3.4W		
	Trunk light		12V-3.4W		
	Gauge lights		12V-3.4/1.4W		
	Indicator lights		12V-0.84/0.91/1.12/1.2/1.4W		
	Warning lights		12V-1.4/3.4W		
	Glove box light		12V-3.4W		
Illumination and pilot lights		12V-1.4/1.2W LED: 0.91W, 0.84W			
Heater illumination lights		12V-1.2/1.4W			

**European Models**

	ITEM	METRIC	ENGLISH	NOTES
WEIGHT	Carb weight			
	2.0 l CARB M/T DX	1,225 kg	2,701 lb	KG
		1,235 kg	2,723 lb	KS
	EX	1,225 kg	2,701 lb	KB, KF*
		1,230 kg	2,712 lb	KG, KF
		1,240 kg	2,734 lb	KE, KS
	EX with ABS	1,242 kg	2,738 lb	KB, KF*
		1,247 kg	2,749 lb	KG, KF
		1,257 kg	2,771 lb	KE, KS
	2.0 l CARB A/T DX	1,250 kg	2,756 lb	KG
		1,260 kg	2,778 lb	KS
	EX	1,250 kg	2,756 lb	KB, KF*
		1,255 kg	2,767 lb	KG
	EX with ABS	1,265 kg	2,765 lb	KE, KS
		1,267 kg	2,793 lb	KB, KF*
		1,272 kg	2,804 lb	KG
		1,282 kg	2,826 lb	KE, KS
	2.0 l PGM-FI M/T EXi	1,245 kg	2,745 lb	KB, KF*, KS
		1,250 kg	2,756 lb	KG
		1,255 kg	2,767 lb	KF
		1,260 kg	2,778 lb	KE
	EXi with ABS	1,262 kg	2,782 lb	KB, KF*, KS
		1,267 kg	2,793 lb	KG
		1,272 kg	2,804 lb	KF
		1,285 kg	2,833 lb	KX
		1,277 kg	2,815 lb	KE
	2.0 l PGM-FI A/T EXi	1,270 kg	2,800 lb	KB, KF*, KS
		1,275 kg	2,810 lb	KG
	1,280 kg	2,822 lb	KF	
	1,285 kg	2,833 lb	KE	
EXi with ABS	1,287 kg	2,837 lb	KB, KF*, KS	
	1,292 kg	2,848 lb	KG	
	1,297 kg	2,859 lb	KF	
	1,310 kg	2,888 lb	KX	
	1,302 kg	2,870 lb	KE	
2.2 l M/T EXT	1,310 kg	2,888 lb	KG, KX	
	1,305 kg	2,877 lb	KF	
	1,315 kg	2,899 lb	KE, KS	
EXT with 4WS	1,345 kg	2,965 lb	KG, KX	
	1,340 kg	2,954 lb	KF	
	1,350 kg	2,976 lb	KE	
2.2 l A/T EXT	1,335 kg	2,943 lb	KG, KX	
	1,330 kg	2,932 lb	KF	
	1,340 kg	2,954 lb	KE, KS	
EXT with 4WS	1,370 kg	3,020 lb	KG, KX	
	1,365 kg	3,009 lb	KF	
	1,375 kg	3,031 lb	KE	
Weight Distributions (Front/Rear)				
2.0 l CARB M/T DX	750/475 kg	1,635/1,047 lb	KG	
	755/480 kg	1,664/1,058 lb	KS	
EX	745/480 kg	1,642/1,058 lb	KB, KF*	
	750/480 kg	1,635/1,058 lb	KG, KF	
EX with ABS	775/485 kg	1,664/1,069 lb	KE, KS	
	760/482 kg	1,675/1,063 lb	KB, KF*	
	765/482 kg	1,687/1,063 lb	KG, KF	
	770/487 kg	1,698/1,074 lb	KE, KS	
2.0 l CARB A/T DX	775/475 kg	1,709/1,047 lb	KG	
	780/480 kg	1,720/1,058 lb	KS	
EX	770/480 kg	1,698/1,058 lb	KB, KF*	
	775/480 kg	1,709/1,058 lb	KG	
EX with ABS	780/485 kg	1,720/1,069 lb	KE, KS	
	785/482 kg	1,731/1,063 lb	KB, KF*	
	790/482 kg	1,742/1,063 lb	KG	
	795/487 kg	1,753/1,074 lb	KE, KS	
2.0 l PGM-FI M/T EXi	755/490 kg	1,664/1,080 lb	KB, KF*, KS	
	755/495 kg	1,664/1,091 lb	KG	
	760/495 kg	1,675/1,091 lb	KF	
	765/495 kg	1,687/1,091 lb	KE	
EXi with ABS	770/492 kg	1,698/1,085 lb	KB, KF*, KS	
	770/497 kg	1,698/1,096 lb	KG	
	775/497 kg	1,710/1,096 lb	KF	
	780/505 kg	1,720/1,113 lb	KX	
	780/497 kg	1,720/1,096 lb	KE	

KF\*: French territory except main land.

# Design Specifications (4D)

## European Models (cont'd)

	ITEM	METRIC	ENGLISH	NOTES
WEIGHT (cont'd)	Weight Distributions (Front/Rear) 2.0 ℓ PGM-FI A/T EXi	780/490 kg	1,720/1,080 lb	KB, KF*, KS KG
		780/495 kg	1,720/1,091 lb	
	EXi with ABS	785/495 kg	1,731/1,091 lb	KB, KF*, KS KG KF KE
		790/495 kg	1,742/1,091 lb	
		795/492 kg	1,753/1,085 lb	
		795/497 kg	1,753/1,096 lb	
		800/497 kg	1,764/1,096 lb	
		805/505 kg	1,775/1,113 lb	
	2.2 ℓ M/T EXT	805/497 kg	1,775/1,096 lb	KG, KX KF KE, KS KG, KX KF KE
		805/500 kg	1,775/1,102 lb	
		810/500 kg	1,786/1,113 lb	
		805/540 kg	1,775/1,190 lb	
		805/535 kg	1,775/1,179 lb	
	EXT with 4WS	810/540 kg	1,786/1,190 lb	KG, KX KF KE, KS KG, KX KF KE
		830/505 kg	1,830/1,113 lb	
	2.2 ℓ A/T EXT	830/500 kg	1,830/1,102 lb	KG, KX KF KE, KS KG, KX KF KE
		835/505 kg	1,841/1,113 lb	
		830/540 kg	1,830/1,190 lb	
830/535 kg		1,830/1,179 lb		
835/540 kg		1,843/1,190 lb		

KF\*: French territory except main land.

## Except European Models

	ITEM	METRIC	ENGLISH	NOTES		
WEIGHT	Carb Weight 2.0 ℓ CARB M/T	LX	1,265 kg	2,786 lb	KY	
		EX	1,285 kg	2,830 lb	KY	
		EX*1	1,300 kg	2,863 lb	KY	
	2.0 ℓ CARB A/T	LX	1,290 kg	2,841 lb	KY	
		EX	1,310 kg	2,885 lb	KY	
		EX*1	1,325 kg	2,918 lb	KY	
	2.2 ℓ PGM-FI M/T	EXi	1,320 kg	2,907 lb	KY	
		LXi	1,270 kg	2,979 lb	KQ	
		EXi	1,280 kg	2,819 lb	KQ	
		EXi*2	1,325 kg	2,918 lb	KQ	
	2.2 ℓ PGM-FI A/T	EXi	1,350 kg	2,974 lb	KY	
		LXi	1,300 kg	2,663 lb	KQ	
		EXi	1,310 kg	2,885 lb	KQ	
		EXi*2	1,355 kg	2,985 lb	KQ	
	Weight Distributions (Front/Rear)	2.0 ℓ CARB M/T	LX	760/505 kg	1,674/1,112 lb	KY
			EX	770/515 kg	1,690/1,134 lb	KY
			EX*1	775/525 kg	1,707/1,156 lb	KY
		2.0 ℓ CARB A/T	LX	790/500 kg	1,740/1,101 lb	KY
			EX	795/515 kg	1,751/1,134 lb	KY
			EX*1	800/525 kg	1,762/1,156 lb	KY
		2.2 ℓ PGM-FI M/T	EXi	790/530 kg	1,740/1,167 lb	KY
			LXi	755/515 kg	1,663/1,134 lb	KQ
			EXi	765/515 kg	1,685/1,134 lb	KQ
			EXi*2	780/545 kg	1,645/1,200 lb	KQ
		2.2 ℓ PGM-FI A/T	EXi	820/530 kg	1,806/1,167 lb	KY
			LXi	790/510 kg	1,740/1,123 lb	KQ
			EXi	800/510 kg	1,762/1,123 lb	KQ
			EXi*2	815/540 kg	1,795/1,190 lb	KQ

\*1: Cars with sunroof, \*2: Cars with 4WS and ABS.

# Design Specifications (5D)

	ITEMS	METRIC	ENGLISH	NOTES			
<b>DIMENSIONS</b>	Overall length	4,740 mm	186.6 in	European model Australian model European model Australian model			
	Overall width	4,745 mm 1,695 mm 1,715 mm	186.8 in 66.7 in 67.5 in				
	Overall height	1,400 mm	55.1 in				
	Wheel base	2,720 mm	107.1 in				
	Track	1,475 mm 1,480 mm	58.1 in 58.3 in				
	Ground clearance	160 mm	6.3 in				
<b>WEIGHT</b>	Turning circle diameter (at tire center)	11.6 m	Five 38.1 ft				
	Curb weight	MT without A/C MT with A/C AT without A/C AT with A/C	1,405 kg 1,427 kg 1,430 kg 1,452 kg	3,097 lb 3,146 lb 3,153 lb 3,201 lb			
<b>ENGINE</b>	Max permissible weight	1,920 kg	4,233 lb				
	Type Cylinder arrangement Bore and stroke Displacement Compression ratio Valve train Lubrication system Fuel required	Water-cooled, 4-stroke OHC 4-cylinder In-line transverse 85 x 95 mm   3.35 x 3.74 in 2,156 cm <sup>3</sup>   131.5 cu. in F22A7, F22A8: 9.8, F22A6: 8.8 Belt driven, single overhead camshaft Forced and wet sump, trochoid pump F22A7, F22A8 engine: Premium unleaded grade gasoline with 95 R.O.N. or higher F22A6 engine: Unleaded grade gasoline with 91 R.O.N. or higher					
<b>STARTER</b>	Type Normal output Nominal voltage Hour rating Direction of rotation Weight	Gear reduction 1.6 kW < 1.4 kW > 12 V 30 seconds Clockwise as viewed from gear end		< > KE			
		NIPPONDENSO Mitsuba 1.6 kW Mitsuba 1.4 kW	4.75 kg   10.5 lb 3.7 kg   8.2 lb 3.5 kg   7.7 lb				
<b>TRANSMISSION</b>	Clutch	MT AT	Single plate dry, diaphragm spring Torque converter with lock-up clutch				
	Clutch lining area		203 cm <sup>2</sup>   31.5 sq. in				
	Transmission	MT AT	Synchronized 5-speed forward, 1 reverse Electronically controlled dual range 4-speed forward automatic, 1 reverse 1 : 1 (Direct)				
	Primary reduction ratio						
	Gear ratio		Gear	MT ①	MT ②	AT ③	AT ④
			1st	3.307	3.307	2.705	2.705
			2nd	1.809	1.809	1.366	1.482
		3rd	1.230	1.230	1.057	1.057	
		4th	0.933	0.903	0.731	0.707	
		5th	0.757	0.705	—	—	
	Reverse	3.000	3.000	2.047	2.047		
	Final	4.266	4.266	4.285	4.285		

- ① F22A7 engine
- ② F22A6 engine
- ③ F22A8 engine
- ④ F22A6 engine

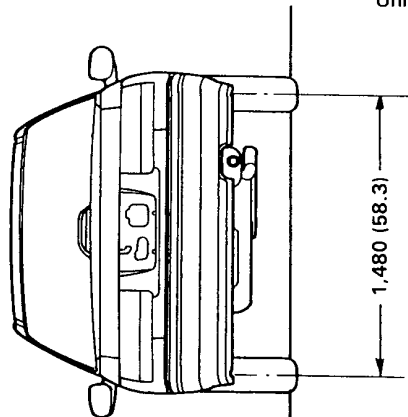
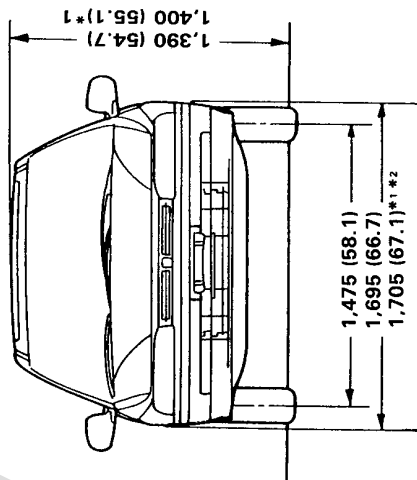


# Design Specifications (5D)

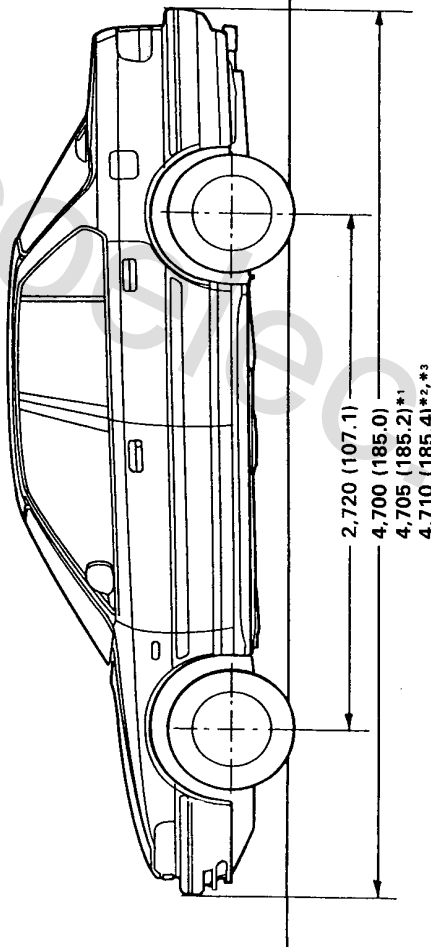
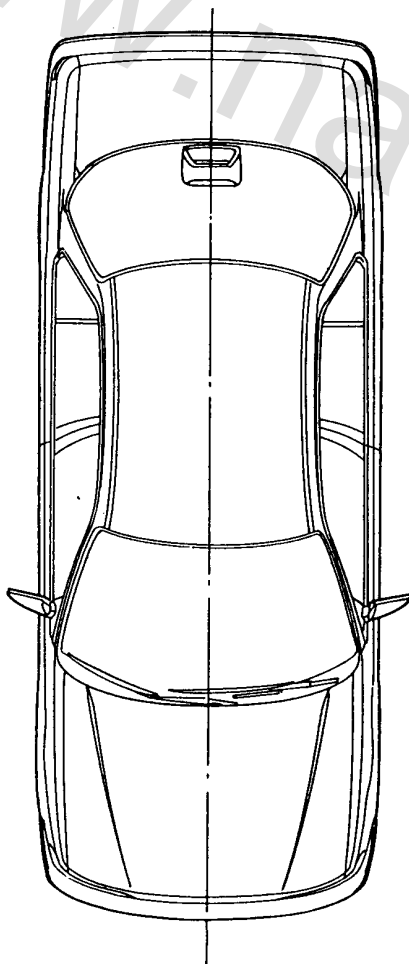
	ITEMS		METRIC	ENGLISH	NOTES	
<b>AIR CONDITIONER</b>	Cooling capacity		4,650 kcal/h	18,451 BTU/h		
	-Condition: Compressor speed		1,900 min <sup>-1</sup> (rpm)			
	Outside air temperature		27°C	81°F		
	Outside air humidity		50 %			
	Condenser air temperature		35°C	95°F		
Condenser air velocity		4.5 m/sec.	14.8 ft/sec.			
Blower capacity		440 m <sup>3</sup>	15,542 cu.ft/h			
Compressor Type		Swash-plate				
No. of cylinders		10				
Capacity		178 cc/rev.	10.9 cu.in/rev.			
Maximum speed		8,800 min <sup>-1</sup> (rpm)				
Lubricant capacity		90-120 cc	3.0-4.0 US oz.	3.2-4.2 Imp oz.		
Condenser		Corrugated fin type				
Evaporator		Corrugated fin type				
Blower Type		Sirocco fan				
Motor input		210 W (12 V)				
Speed control		5-speed				
Maximum capacity		500 m <sup>3</sup> /h	17,662 cu.ft/h			
Temperature control		Air-mix type				
Clutch		Dry single-plate				
Power consumption		40W (12V) maximum				
Refrigerant Type		R-12				
Quantity		0.80-0.85 kg	1.8-1.9			
<b>STEERING SYSTEM</b>	Type		Rack and pinion			
	Overall ratio		16.1 : 1			
	Turns, lock-to-lock		3.13			
	Steering wheel diameter		375 mm	14.8 in		
Power steering fluid capacity		1.8 ℓ	1.9 US qt.	1.6 Imp qt.		
Power steering fluid		Genuine Power Steering Fluid P/N: 08208-99961				
<b>SUSPENSION</b>	Type		Independent double wishbone, coil spring			
	Shock absorber		Independent double wishbone, coil spring Telescopic, hydraulic nitrogen gas-filled			
<b>WHEEL ALIGNMENT</b>	Total toe		0 mm	0 in		
	Front		IN 2.0 mm	0.08 in		
	Rear					
	Camber			0°00'		
Front			-0°30'			
Rear			3°00'			
Caster						
<b>BRAKE SYSTEM</b>	Type		Front Ventilated disc			
	Rear		Solid disk			
	Pad and lining swept area (total)		Front 370 cm <sup>2</sup> Rear 277 cm <sup>2</sup>	64 sq. in 44 sq. in		
<b>TIRES</b>	Size/Pressure		See the tyre label attached to the driver's side rear door jamb.			
<b>ELECTRICAL</b>	Fuses In the fuse box		7.5A, 10A, 15A, 20A, 30A			
	In the relay box		7.5A, 10A, 15A, 20A, 30A, 50A, 80A			
	Headlights		Outside	12V-60/55W		
	Inside		12V-55W			
	Turn signal lights		Front	12V-21W		
	Rear		12V-21W			
	Side		12V-5W			
	Position lights		12V-5W			
	License plate light		12V-5W			
	Buck-up lights		12V-21W			
	Stop/Taillight		12V-21/5W			
	Rear fog lamp		12V-21W			
	Interior lights		12V-8W			
	Door courtesy lights		12V-3.4W			
	Luggage area light		12V-5W			
	High mount brake light		12V-45CP			
	Gauge lights		12V-3.4/1.4W			
	Indicator lights		12V-0.84/0.91/1.12/1.4W			
	Warning lights		12V-1.4/3.4W			
	Glove box light		12V-3.4W			
	Illumination and pilot lights		12V-1.4/1.2W LED: 0.91W, 0.84W			
Heater illumination lights		12V-1.2/1.4W		KQ only		

# Body Specifications

4-door



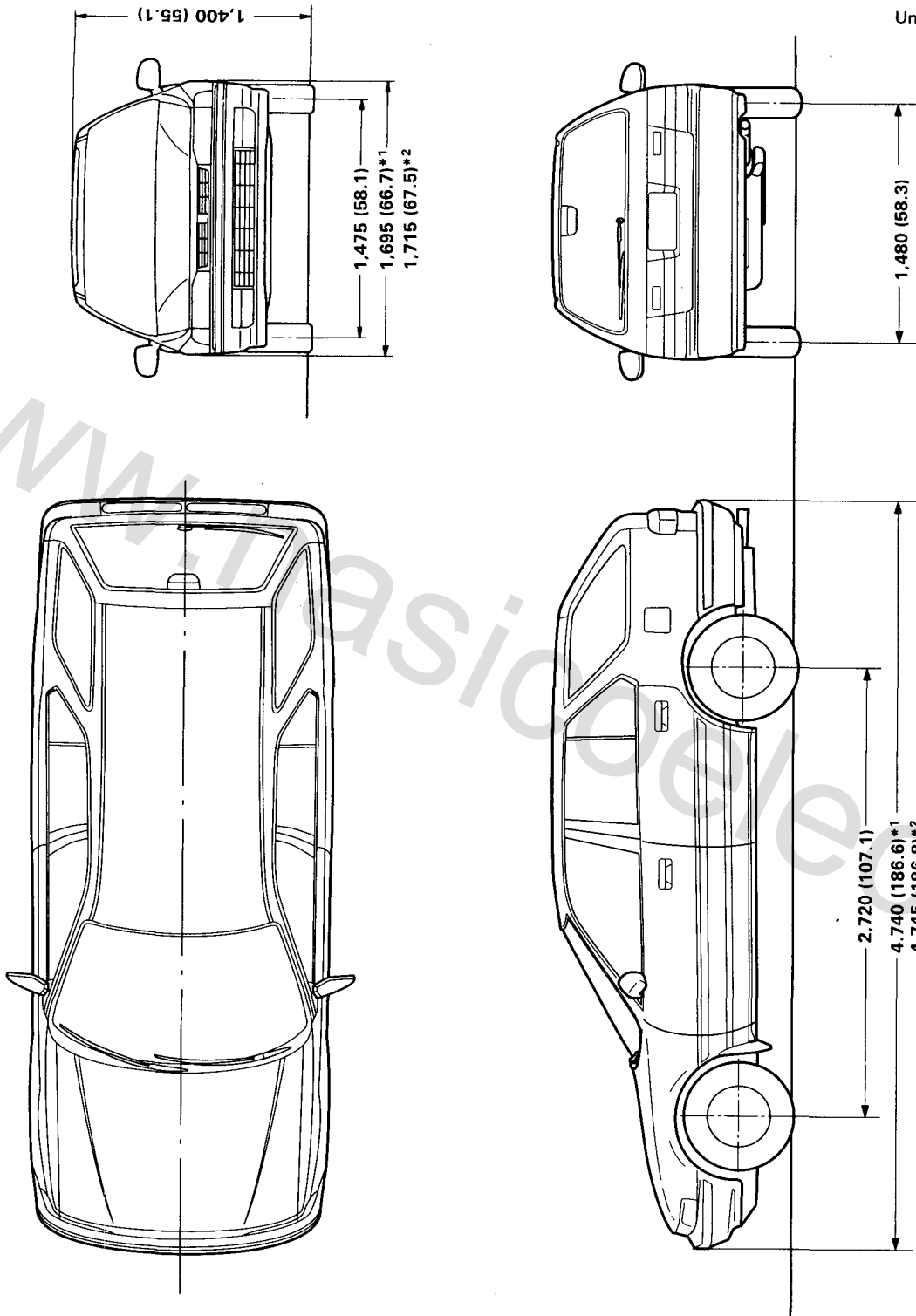
Unit: mm (in)



\*1: Gulf model \*2: Australian model \*3: Finish model

5-door

Unit: mm (in.)



\*1: European model \*2: Australian model

**Timing Belt and Balancer Belt**

**Special Tools**

**Illustrated Index**

**Timing Belt Inspection**

**Timing Belt Tension Adjustment**

**Timing Balancer Belt Inspection**

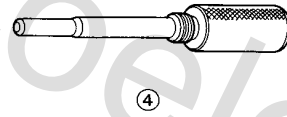
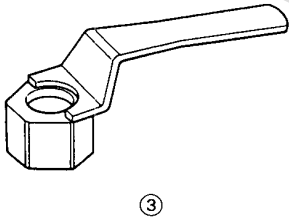
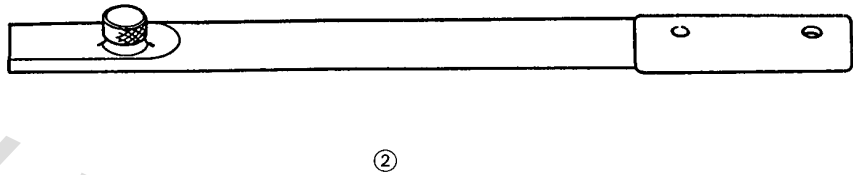
**Positioning Timing Belt**

**Replacement**

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# Special Tools

Ref. No.	Tool Number	Description	Q'ty	Remarks
①	07JAA-0010200	Socket Wrench 19 mm	1	
②	07JAB-0010200	Handle	1	
③	07MAB-PY30100	Pulley Holder Attachment HEX 50 mm	1	
④	07LAG-PT20100	Balancer Shaft Lock Pin	1	



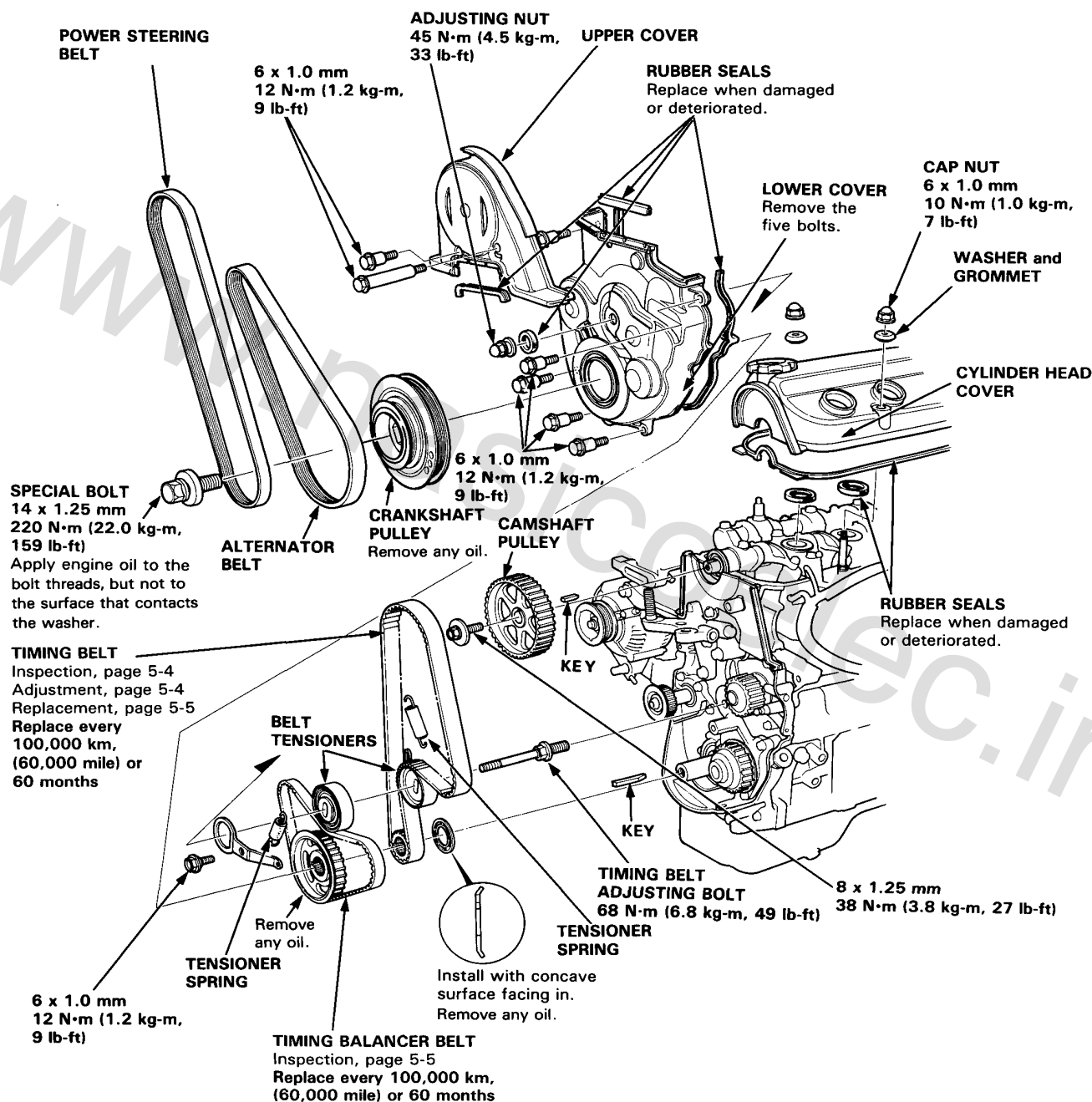


# Timing Belt and Timing Balancer Belt

## Illustrated Index

### NOTE:

- Refer to page 5-6 for positioning crank and pulley before installing timing belt.
- Before removing, mark direction of rotation.



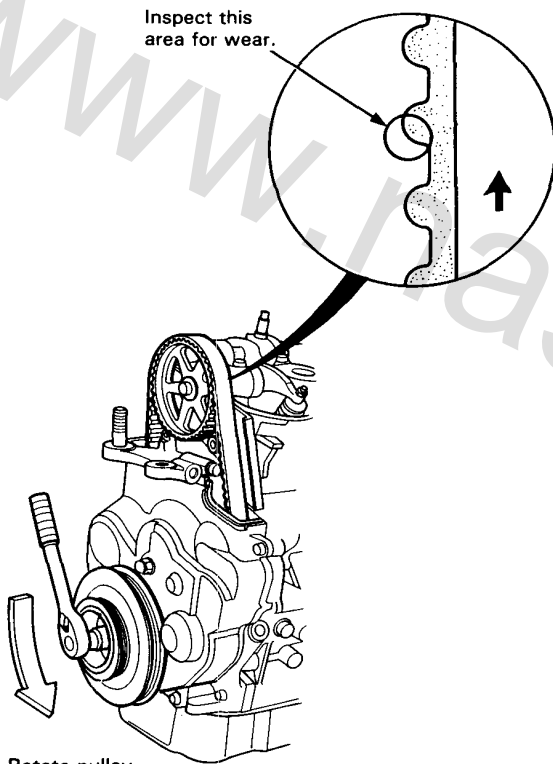
# Timing Belt

## Inspection

1. Disconnect the alternator terminal and the connector, then remove the engine wire harness from the cylinder head cover.
2. Remove the cylinder head cover.
3. Remove the timing belt upper cover.
4. Inspect the timing belt for cracks and oil soaking.

### NOTE:

- Replace the belt if oil soaked.
- Remove any oil or solvent that gets on the belt.



Rotate pulley and inspect belt.

5. After inspecting, retorque the crank pulley bolt to 220 N·m (22.0 kg·m, 159 lb-ft).

## Tension Adjustment

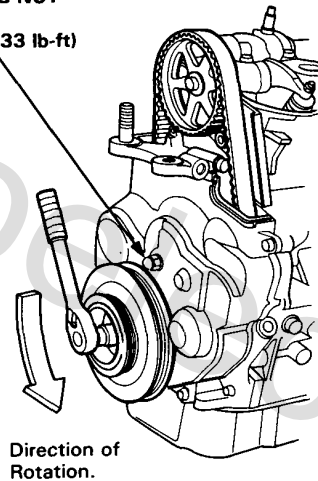
**CAUTION:** Always adjust timing belt tension with the engine cold.

### NOTE:

- The adjuster is spring-loaded to properly tension the belt. Do not apply any extra pressure to the belt while performing the adjustment.
- Inspect the timing balancer belt before adjusting the belt tension.
- Do not loosen the adjusting nut more than one full turn.

1. Disconnect the alternator terminal and the connector, then remove the engine wire harness from the cylinder head cover.
2. Remove the cylinder head cover.
3. Set the No. 1 piston at TDC (page 5-6)
4. Loosen the adjusting nut 2/3-1 turn, then tighten it.

**ADJUSTING NUT**  
45 N·m  
(4.5 kg·m, 33 lb-ft)



5. Rotate the crankshaft counterclockwise 3-teeth on the camshaft pulley, then reloosen the adjusting nut to create tension on the timing belt.
6. Tighten the adjusting nut.
7. After adjusting, retorque the crank pulley bolt to 220 N·m (22.0 kg·m, 159 lb-ft).



# Timing Balancer Belt

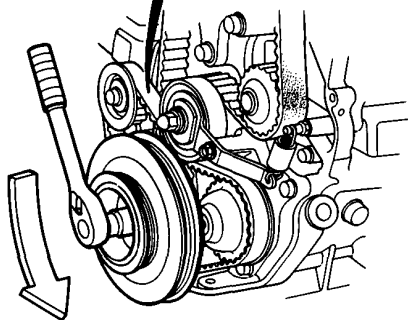
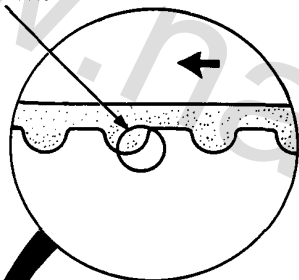
## Inspection

1. Disconnect the alternator terminal and the connector, then remove the engine wire harness from the cylinder head cover.
2. Remove the cylinder head cover.
3. Remove the timing belt upper cover.
4. Remove the crankshaft pulley.
5. Remove the timing belt lower cover.
6. Install the crankshaft pulley.
7. Inspect the timing balancer belt for cracks and oil soaking.

### NOTE:

- Replace the belt if oil soaked.
- Remove any oil or solvent that gets on the belt.

Inspect this area for wear.



Rotate pulley and inspect belt.

8. After inspecting, retorque the crank pulley bolt to 220 N·m (22.0 kg-m, 159 lb-ft).

NOTE: Refer to page 5-10 for timing balancer belt tension adjustment.



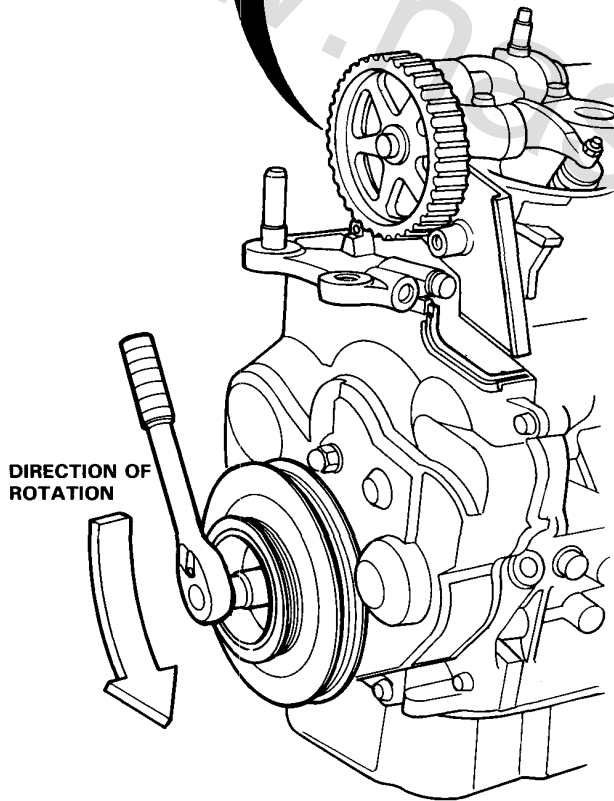
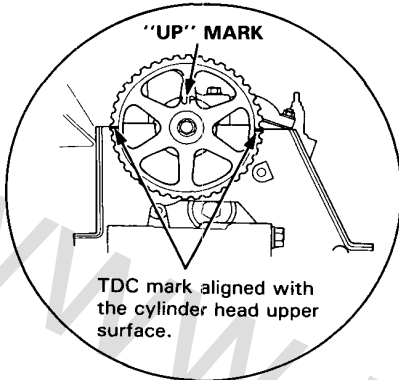
# Timing Belt

## Positioning Crankshaft Before Installing Timing Belt

### NOTE:

- Install the timing belt with the No. 1 piston at TDC (Top Dead Center) on the compression stroke.
- After installing, retorque the crank pulley bolt to 220 N·m (22.0 kg·m, 159 lb·ft).

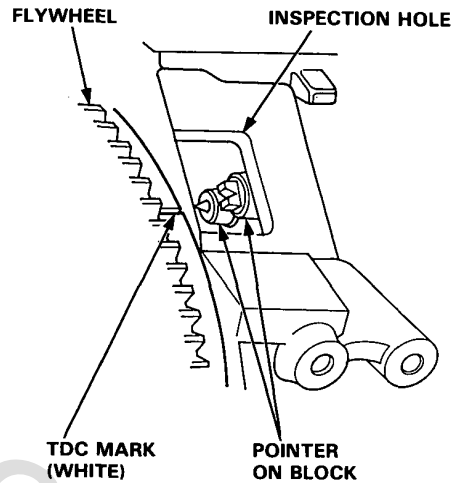
### CAMSHAFT TDC POSITION:



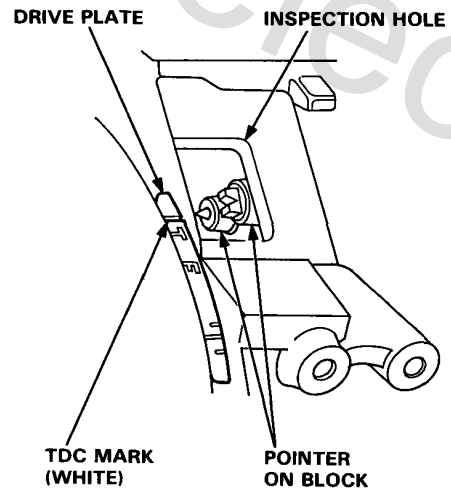
NOTE: When turning the crankshaft with a socket wrench, install the crankshaft pulley and the pulley bolt.

### CRANKSHAFT TDC POSITION:

#### MANUAL TRANSMISSION:



#### AUTOMATIC TRANSMISSION:



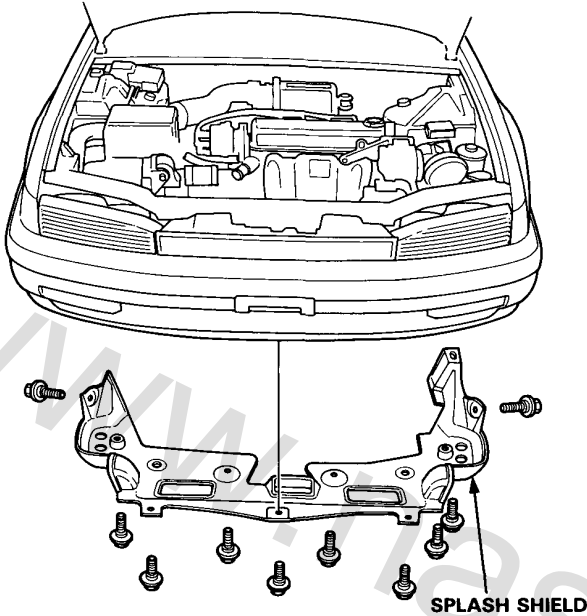


# Timing Belt and Timing Balancer Belt

## Replacement

NOTE: Turn the crankshaft so that the No. 1 cylinder is at TDC (page 5-6)

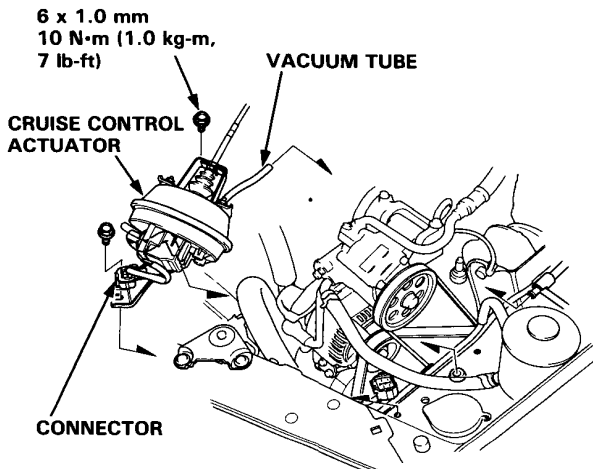
1. Remove the splash shield.



2. Disconnect the connector, then remove the cruise control actuator.

NOTE:

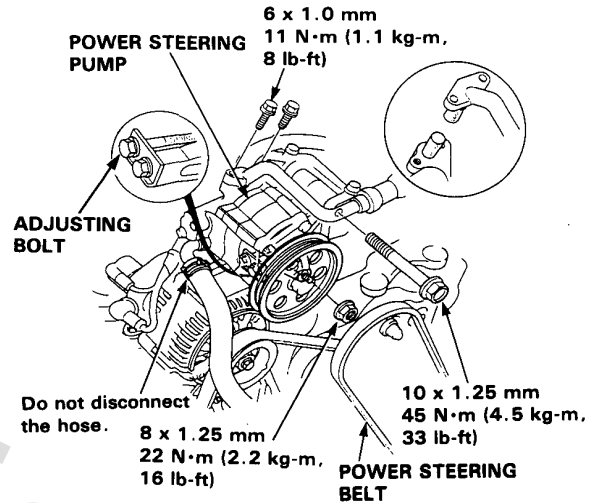
- Do not disconnect the control cable.
- Take care not to bend the cable when removing the actuator. Always replace a kinked cable with a new one.



3. Remove the mounting bolt, nut and V-belt from the power steering pump, then remove the pipe. Pull the pump away from the mounting bracket.

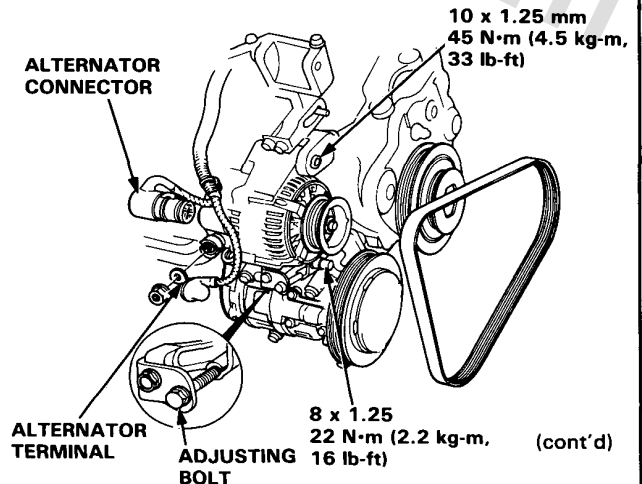
NOTE:

- Plug the pipe and the pump port.
- Do not disconnect the hose.
- After installing, adjust the tension of the power steering belt.



4. Disconnect the alternator terminal and the connector, then remove the engine wire harness from the cylinder head cover.
5. Loosen the alternator mounting bolt, nut and the adjusting nut, then remove the alternator belt or air conditioner belt (cars equipped with air conditioner).

NOTE: After installing, adjust the tension of the alternator belt or air conditioner belt.




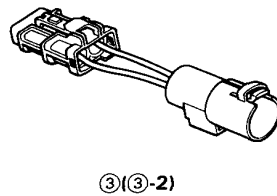
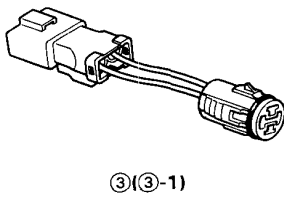
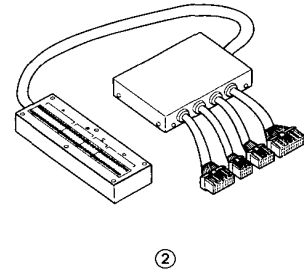
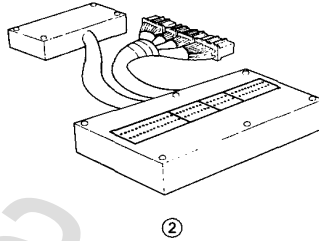
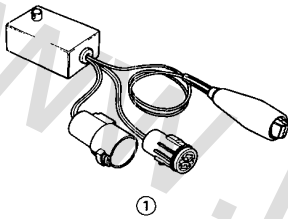
**Special Tools**  
**Compound Locations**  
**System Description**  
    **Vacuum Connections**  
    **Electrical Connections**  
**Troubleshooting**  
    **Self - diagnostic Procedure**  
**PGM - CARB Control System**  
    **Symptom - to System Chart**  
**Carburetor**  
    **Idle Speed/Mixture**  
**Emission Control System**  
    **Tailpipe Emission**

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# Special Tools

## Special Tools

Ref. No.	Tool Number	Description	Remark
①	07JAZ-SH20100	R.P.M. Connecting Adaptor	 Component Tools
②	07LAJ-PT30100 or 07LAJ-PT3010A	Test Harness	
②	07LAJ-PT3010A	R.P.M. Connecting Adaptor	
③	07LAZ-PT30100	R.P.M. Connecting Adaptor (A)	
③-1	07LAZ-PT30110	R.P.M. Connecting Adaptor (A)	
③-2	07LAZ-PT30120	R.P.M. Connecting Adaptor (B)	
④	07411-0020000	Digital Circuit Tester	

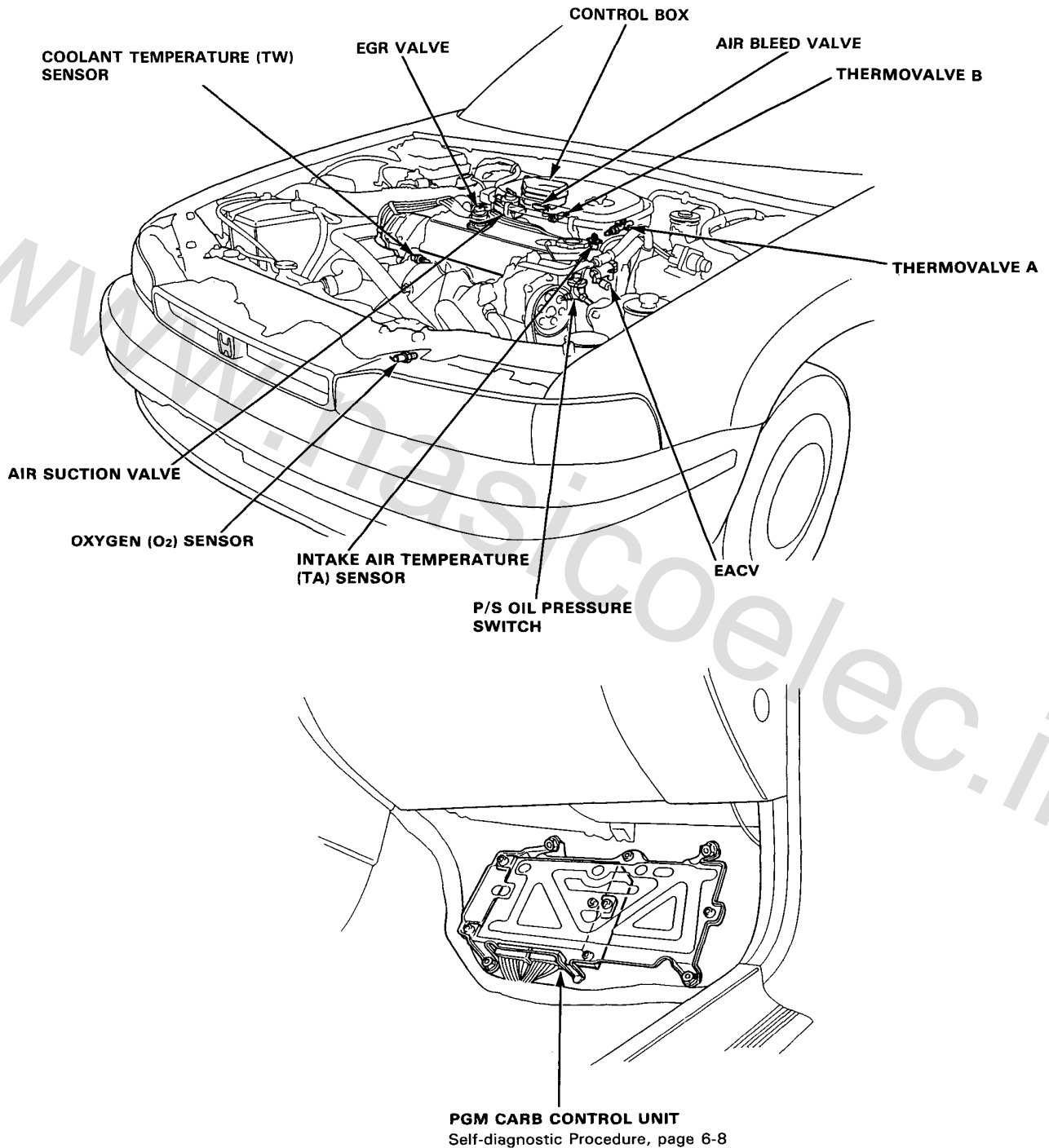


# Component Locations



## Index

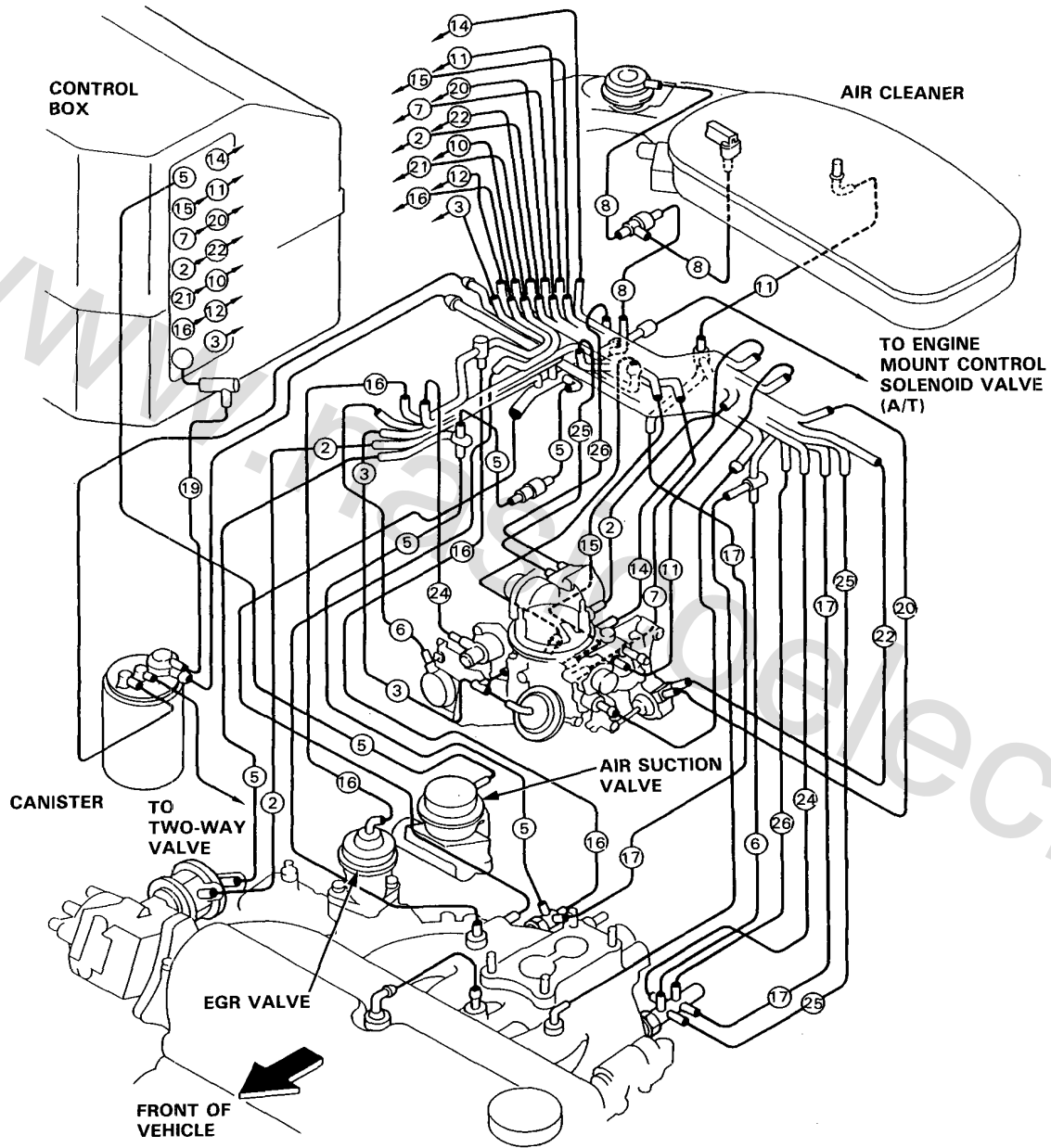
[KF with CATA]



# System Description

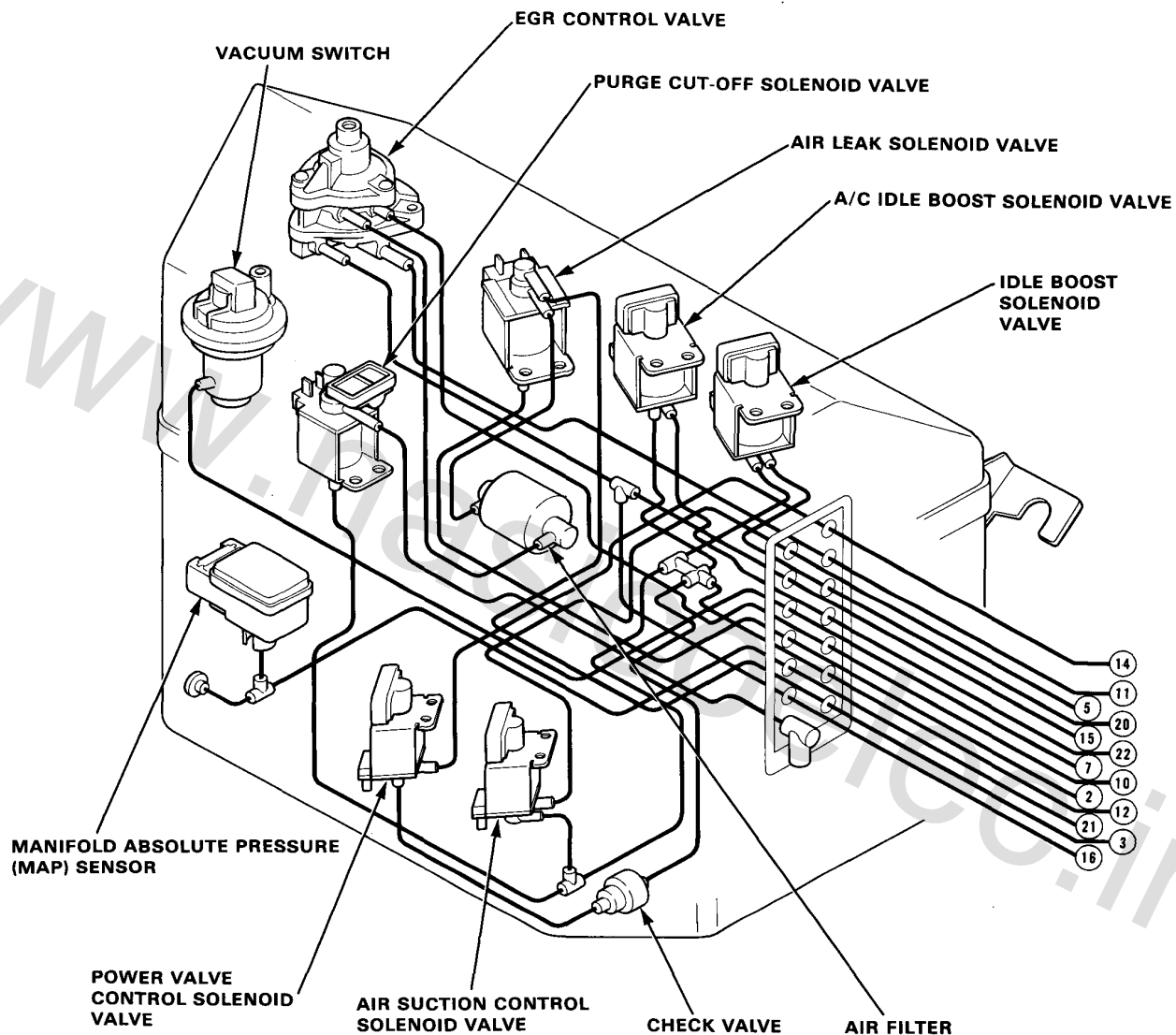
## Vacuum Connections

[KF with CATA]





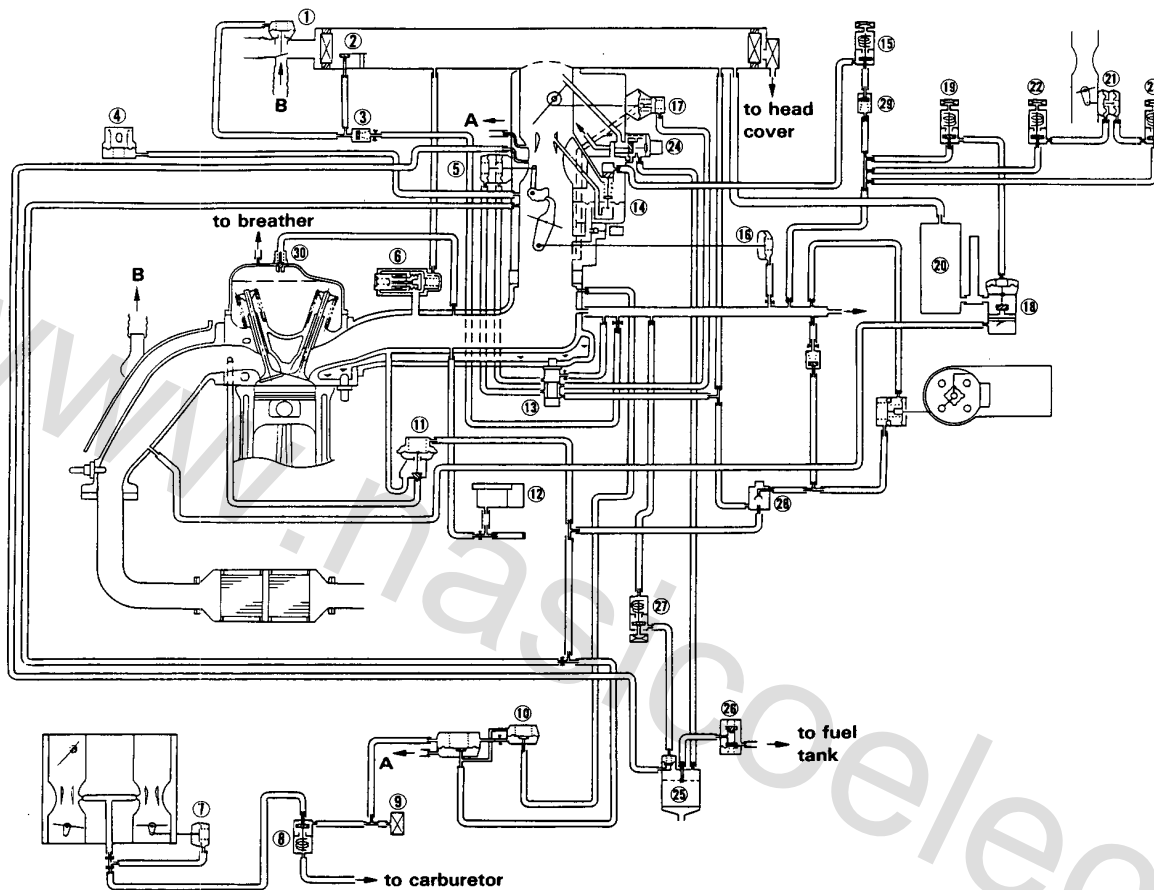
**Control Box**  
[KF with CATA]



# System Descriptions

## Vacuum Connections

[KF with CATA]



- |   |                                      |
|---|--------------------------------------|
| ① AIR CONTROL DIAPHRAGM                   | ⑲ THROTTLE CONTROLLER                |
| ② AIR BLEED VALVE                         | ⑳ CHOKE OPENER                       |
| ③ CHECK VALVE                             | ㉑ AIR SUCTION VALVE                  |
| ④ VACUUM SWITCH                           | ㉒ AIR SUCTION CONTROL SOLENOID VALVE |
| ⑤ FAST IDLE UNLOADER                      | ㉓ AIR CHAMBER                        |
| ⑥ EACV                                    | ㉔ IDLE BOOST THROTTLE CONTROLLER     |
| ⑦ SECONDARY DIAPHRAGM                     | ㉕ IDLE BOOST SOLENOID VALVE          |
| ⑧ AIR LEAK SOLENOID VALVE                 | ㉖ A/C IDLE BOOST SOLENOID VALVE      |
| ⑨ AIR FILTER                              | ㉗ AIR VENT CUT-OFF SOLENOID VALVE    |
| ⑩ EGR CONTROL VALVE                       | ㉘ CANISTER                           |
| ⑪ EGR VALVE                               | ㉙ TWO-WAY VALVE                      |
| ⑫ MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR | ㉚ PURGE CUT-OFF SOLENOID VALVE       |
| ⑬ THERMOVALVE A                           | ㉛ THERMOVALVE B                      |
| ⑭ POWER VALVE                             | ㉜ CHECK VALVE                        |
| ⑮ POWER VALVE CONTROL SOLENOID VALVE      | ㉝ PCV VALVE                          |

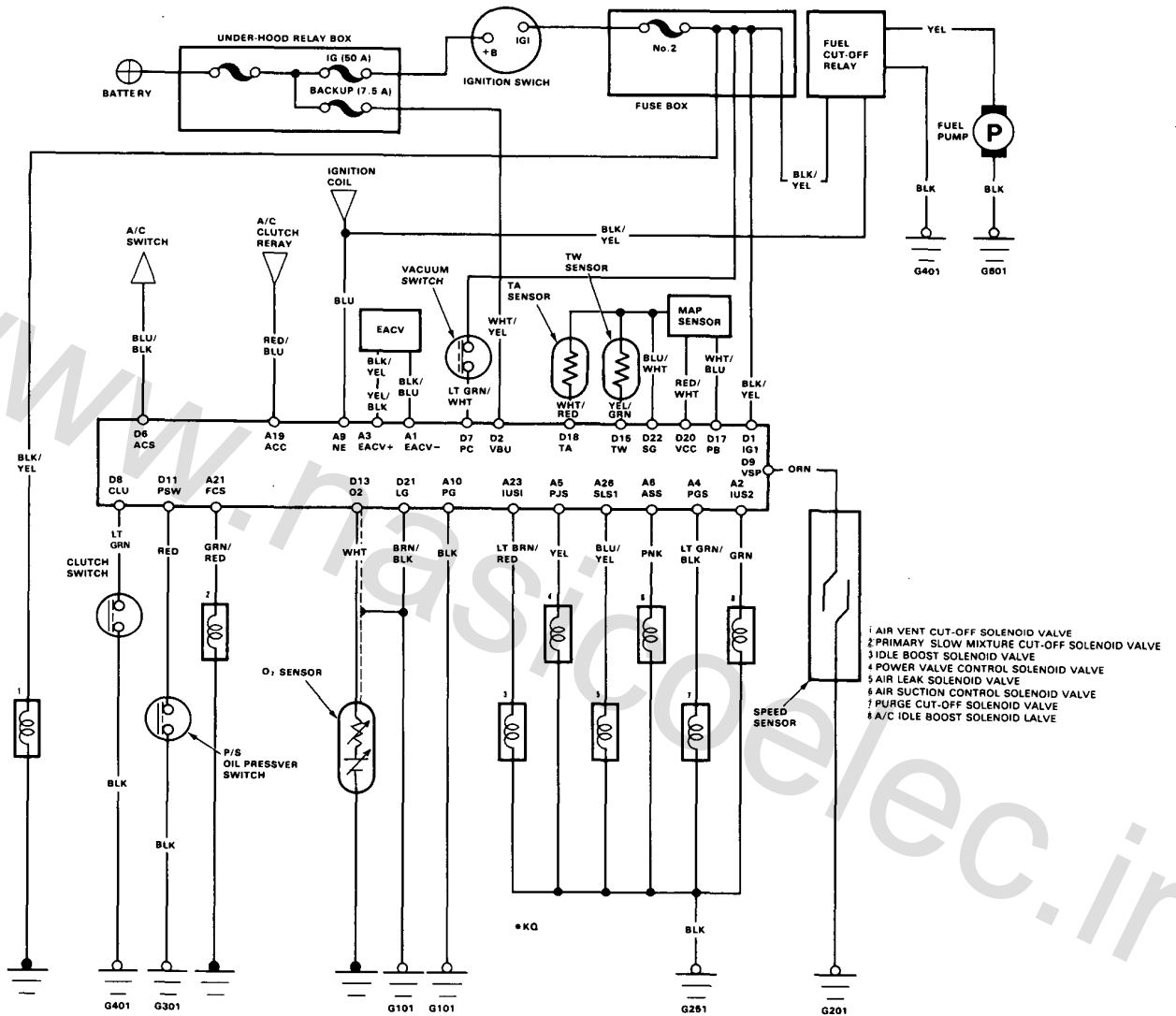


# System Descriptions

## Electrical Connections

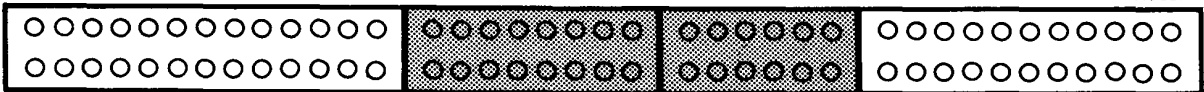


[KF with CATA]



A1 A3 A5 A7 A9 A11 A13 A15 A17 A19 A21 A23 A25

D1 D3 D5 D7 D9 D11 D13 D15 D17 D19 D21



A2 A4 A6 A8 A10 A12 A14 A16 A18 A20 A22 A24 A26

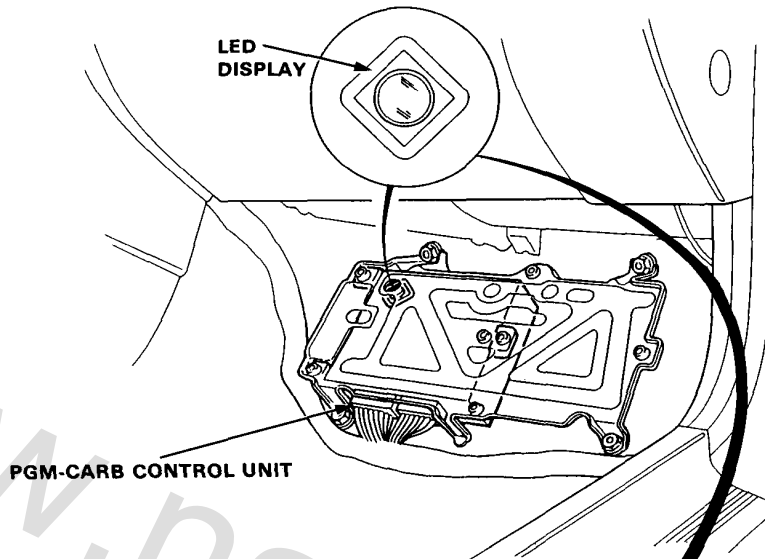
D2 D4 D6 D8 D10 D12 D14 D16 D18 D20 D22

TERMINAL LOCATION

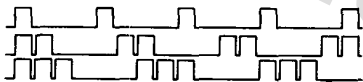
# Troubleshooting

## Self-Diagnostic Procedure

Turn the ignition on, pull down the passenger's side carpet from under the dashboard and observe the LED on the top of the control unit. The LED indicates a system failure code by its blinking frequency. The control unit LED can indicate any number of simultaneous component problems by blinking separate codes, one after another.

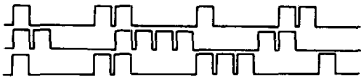


### Separate Problems:



- = See Problem CODE 1
- = See Problem CODE 2
- = See Problem CODE 3

### Simultaneous Problems:



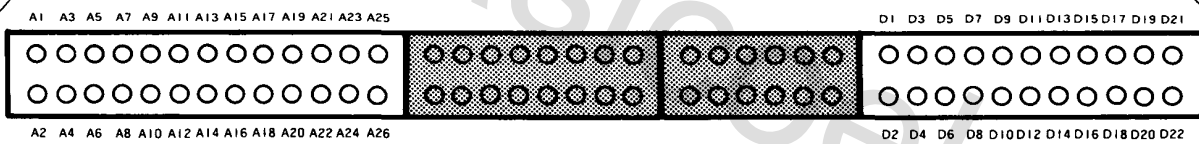
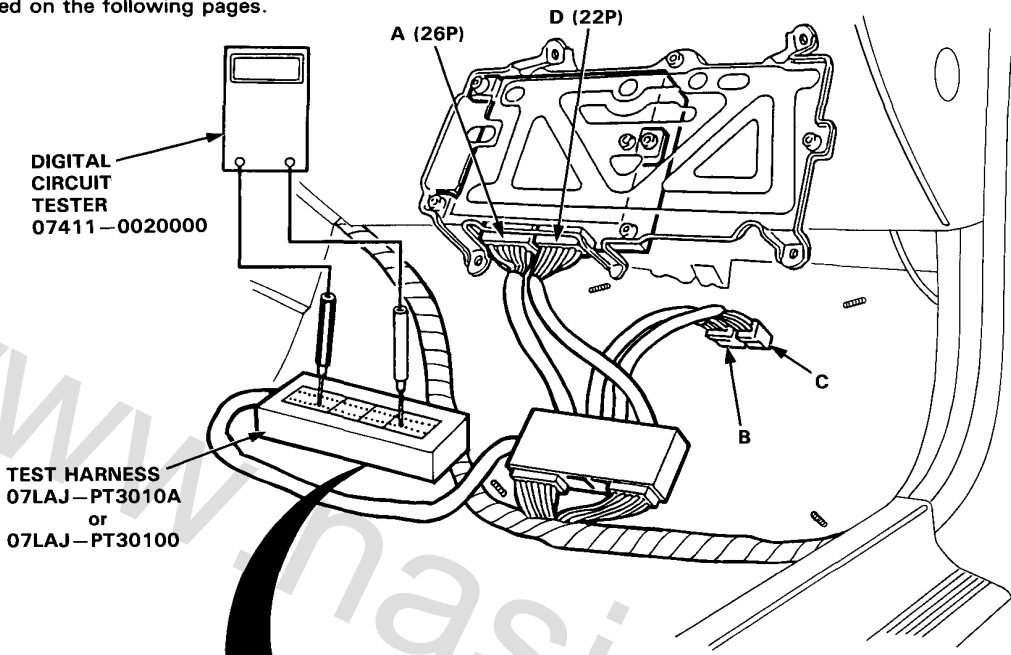
- = See Problem CODE 1 and 2
- = See Problem CODE 2 and 4
- = See Problem CODE 1,2 and 3

SELF-DIAGNOSIS INDICATOR BLINKS	SYSTEM INDICATED
1	OXYGEN CONTENT
2	VEHICLE SPEED PULSER
3	MANIFOLD ABSOLUTE PRESSURE
4	VACUUM SWITCH SIGNAL
5	MANIFOLD ABSOLUTE PRESSURE
6	COOLANT TEMPERATURE
8	IGNITION COIL SIGNAL
10	INTAKE AIR TEMPERATURE
14	ELECTRONIC AIR CONTROL

If CODE 7, 9, 11, 12, 13 (or more than 14), count the number of blinks again; if the indicator is in fact blinking these codes, substitute a known-good control unit and recheck. If the indication goes away, replace the original control unit. The control unit LED may come on, indicating a system problem, when, in fact, there is a poor or intermittent electrical connection. First, check the electrical connections, clean or repair connections if necessary.



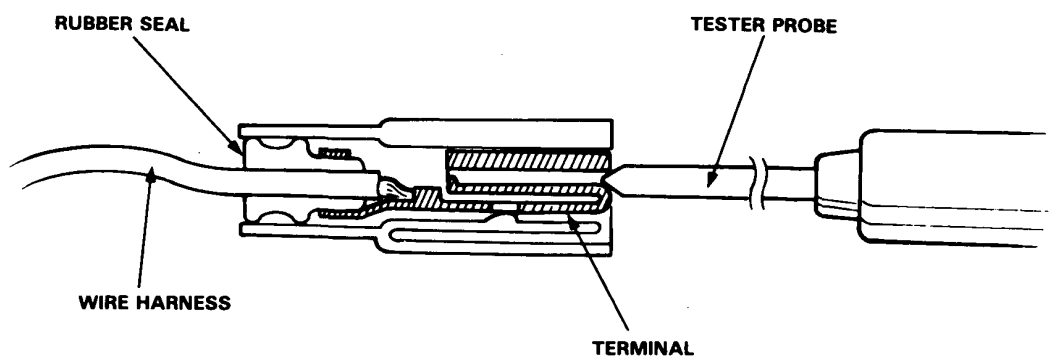
If the inspection for a particular code requires the ECU test harness, remove the door sill molding, the small cover on the kick panel, and pull the carpet back to expose the control unit. Unbolt the control unit bracket. Remove the control unit from the bracket. Connect the ECU test harness. Then check the system according to the procedure described for the appropriate code (s) listed on the following pages.



TERMINAL LOCATION

**CAUTION:**

- Puncturing the insulation on a wire can cause poor or intermittent electrical connections.
- For testing at connectors other than the ECU test harness, bring the tester probe into contact with the terminal from the connector side of wire harness connectors in the engine compartment. For female connectors, just touch lightly with the tester probe and do not insert the probe.



# Symptom-to System Chart

[KF with CATA]

NOTE: Across each row in the chart, the systems that could be sources of a symptom are ranked in the order they should be inspected starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows the system is OK, try the next most likely system ②, etc.

PAGE	SYSTEM	PGM-CARB CONTROL SYSTEM						
		PGM-CARB CONTROL UNIT	O <sub>2</sub> OXYGEN SENSOR	VEHICLE SPEED PULSER	MANIFOLD ABSOLUTE PRESSURE SENSOR	VACUUM SWITCH	COOLANT TEMPERATURE SENSOR	IGNITION COIL SIGNAL
SYMPTOM		---	---	---	---	---	---	---
SELF-DIAGNOSIS INDICATOR (LED) BLINKS		⑦ or *	①	②	③ or ⑤	④	⑥	⑧
ENGINE WON'T START								
DIFFICULT TO START ENGINE WHEN COLD		(BU)						
IRREGULAR IDLING	WHEN COLD FAST IDLE OUT OF SPECIFIC	(BU)						
	ROUGH IDLE	(BU)	③		②			
	WHEN WARM ENGINE SPEED TOO HIGH	(BU)						
	WHEN WARM ENGINE SPEED TOO LOW	(BU)						
FREQUENT STALLING	WHILE WARMING UP	(BU)			②		③	
	AFTER WARMING UP	(BU)			②			
POOR PERFORMANCE	MISFIRE OR ROUGH RUNNING	(BU)	③	③	②			
	FAILS EMISSION TEST	(BU)	②		①			
	LOSS OF POWER	(BU)			③			

\* CODE 7, 9, 11, 12, 13, or exceeds 14: count the number of blinks again. If the indicator is in fact blinking these codes, substitute a known-good control unit and recheck. If the indication goes away, replace the original ECU.

(BU): When the self-diagnosis indicator is on, the back-up system is in operation.

Substitute a known-good control unit and recheck. If the indication goes away, replace the original ECU.



PGM-CARB CONTROL SYSTEM							EMISSION CONTROL	
INTAKE AIR TEMPERATURE SENSOR	CLUTCH SWITCH SIGNAL	P/S OIL PRESSURE SWITCH	A/C SIGNAL	CARBURETOR	FUEL SUPPLY	AIR INTAKE	ELECTRONIC AIR CONTROL VALVE	OTHER EMISSION CONTROL
10							14	
				2	1			
				1				
3				1				3
3				1			3	3
		3	3	1				
				1				
				1			3	
				1			1	
				1	2			
				2		3	3	3
				3	2	1		2

# Carburetor

## Idle Speed / Mixture

[KF with CATA]

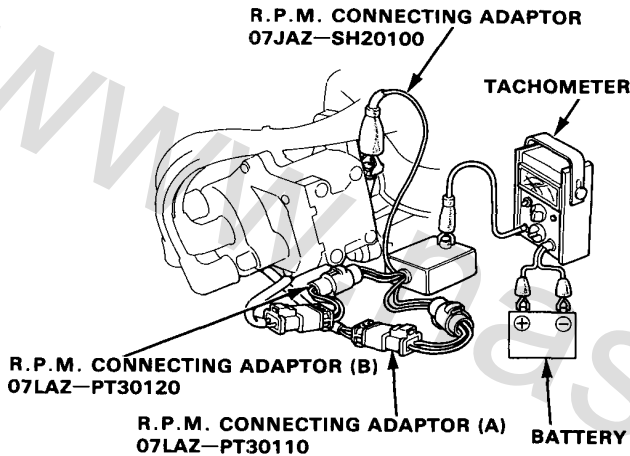
### CO Meter Method

**⚠ WARNING** Do not smoke during this procedure.  
Keep any open flame away from your work area.

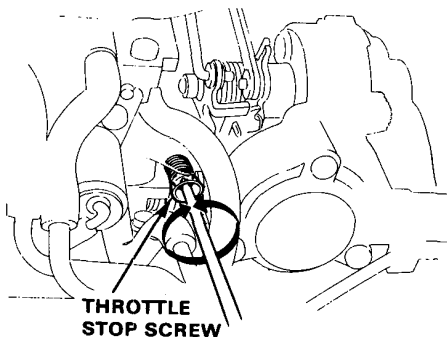
#### NOTE:

- Check that the self-diagnosis indicator before making idle speed and mixture inspections.

1. Start the engine and warm it up to normal operating temperature (the cooling fan comes twice).
2. Connect a tachometer.



3. Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500–3,000 min<sup>-1</sup> (rpm) for 1 minute. Check idle speed with the headlights, heater blower, rear window defogger, cooling fan and air conditioner off.  
Idle speed should be: 800 ± 50 min<sup>-1</sup> (rpm)



Adjust the idle speed, if necessary, by turning the throttle stop screw.

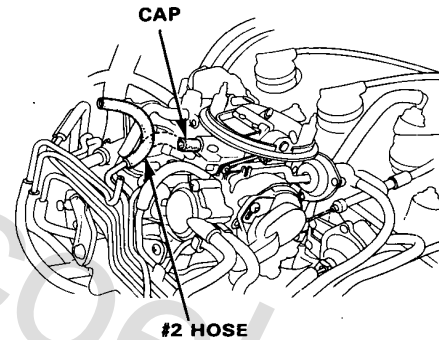
NOTE: If the idle speed is excessively high, check the throttle control system.

4. Calibrate the NDIR CO Meter in accordance with the manufacturer's recommended procedures. Insert exhaust gas sampling probe into the tailpipe at least 40 cm.
5. Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500–3,000 min<sup>-1</sup> (rpm) for 1 minute. Check specification for idle CO with cooling fan, air conditioner OFF and headlights OFF.

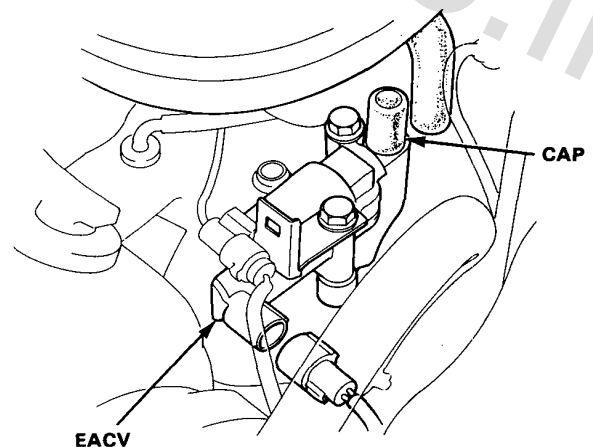
**Specified CO%: 0.1%**

- If idle CO is as specified, go to step 13.
- If not, go to step 6 through 12.

6. Disconnect the #2 vacuum hose from the carburetor, then cap the carburetor.

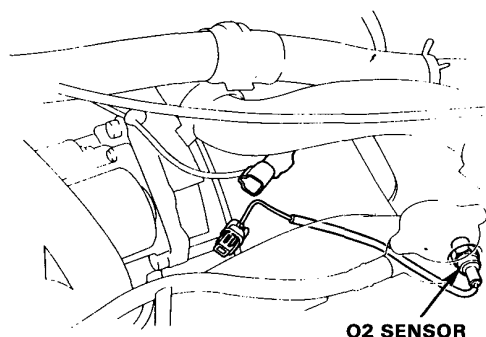


7. Disconnect the 2P connector from the EACV and disconnect the hose from the EACV, then cap the EACV.





8. Disconnect the wire harness from the O<sup>2</sup> sensor.

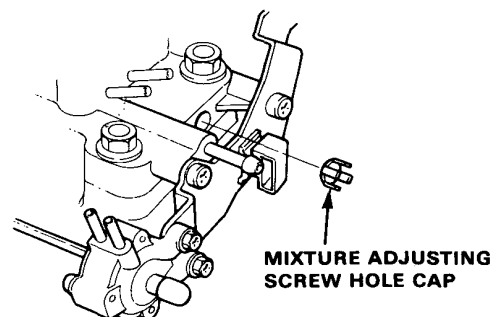


9. Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500–3,000 min<sup>-1</sup> (rpm) for 1 minute. Check specification for idle CO.

**Specified CO%: 2.5 ± 0.5%**

- If not, specification, go to step 10.

10. Remove mixture adjusting screw hole plug and adjust by turning mixture adjusting screw to obtain proper CO reading.



— Turning mixture adjusting screw

clockwise: CO reading decreases  
counterclockwise: CO reading increases

Readjust idle speed if necessary, and recheck idle CO.

11. Reconnect the connector and hose. Remove BACK UP fuse for 10 seconds to reset control unit.
12. Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500–3,000 min<sup>-1</sup> (rpm) for 1 minute. Recheck idle CO.

**Specified CO%: 0.1%**

- If idle CO is as specified, go to step 13.
- If not, check the self-diagnosis indicator (page 6-8). If not, inspect the EACV and the catalytic converter, then repeat step 6.

13. Recheck idle speed.  
**Idle speed should be: 800 ± 50 min<sup>-1</sup> (rpm)**

(cont'd)

# Carburetor

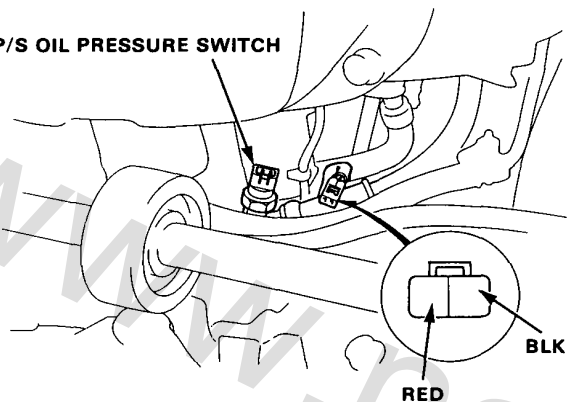
## Idle Speed/Mixture (cont'd)

- If idle speed is as specified, go to step 14.
- If idle speed is not as specified, adjust by turning throttle stop screw, then repeat step 5.

14. Reinstall the mixture adjusting screw hole cap.

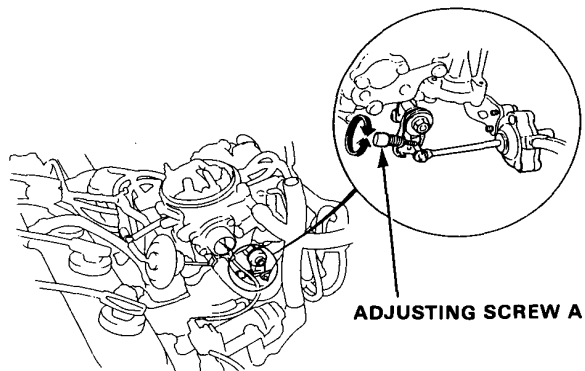
15. Disconnect the connector on the P/S oil pressure switch.

P/S OIL PRESSURE SWITCH



16. Check the idle speed.

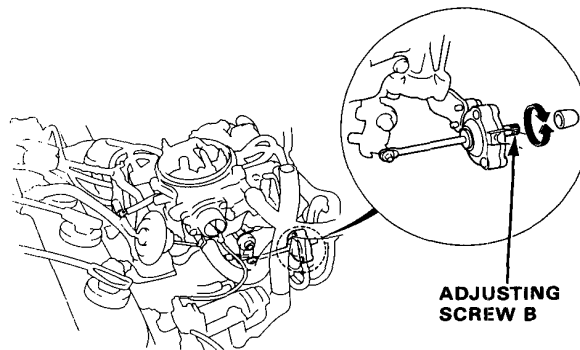
Idle speed should be:  $950 \pm 50 \text{ min}^{-1} \text{ (rpm)}$



Adjust the idle speed, if necessary, by turning the adjusting screw A.

17. If equipped with air conditioner, check the idle speed with the A/C on.

Idle speed should be:  $800 \pm 50 \text{ min}^{-1} \text{ (rpm)}$



Adjust the idle speed, if necessary, by turning the adjusting screw B.





# Emission Control System

## Tailpipe Emissions

### Inspection

NOTE: It is not possible to use a CO meter to adjust the idle mixture; the effect of the catalytic converter prevents accurate tracking of such small changes in air-fuel ratio.

**⚠ WARNING** Do not smoke during this procedure. Keep any open flame away from your work area.

1. Warm up and calibrate the CO meter according to the meter manufacturer's instructions.
2. Start the engine and warm it up to normal operating temperature (the cooling fan comes on twice).
3. Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500–3,000  $\text{min}^{-1}$  (rpm) for 1 minute.
4. Check idle CO with the headlights, heater blower, rear window defogger, cooling fan, and air conditioner off.

**Specified CO %: below 0.1%**



# Emission Control System

## Tailpipe Emissions

### Inspection

NOTE: It is not possible to use a CO meter to adjust the idle mixture; the effect of the catalytic converter prevents accurate tracking of such small changes in air-fuel ratio.

**⚠ WARNING** Do not smoke during this procedure. Keep any open flame away from your work area.

1. Warm up and calibrate the CO meter according to the meter manufacturer's instructions.
2. Start the engine and warm it up to normal operating temperature (the cooling fan comes on twice).
3. Turn the ignition switch OFF. Restart the engine and hold engine at idle for 2 minutes. And hold engine at 2,500–3,000  $\text{min}^{-1}$  (rpm) for 1 minute.
4. Check idle CO with the headlights, heater blower, rear window defogger, cooling fan, and air conditioner off.

**Specified CO %: below 0.1%**

**Special Tools**

**System Description**

**Vacuum Connections**

**Troubleshooting**

**Troubleshooting Guide ((with CATA)**

**PGM - CARB Control System - Troubleshooting Flowcharts**

**Oxygen Sensor**

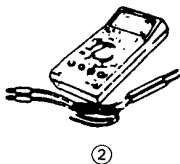
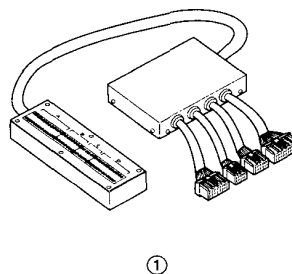
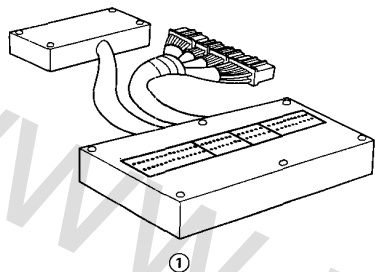
**Oxygen Sensor Heater**

[www.nasicoelec.ir](http://www.nasicoelec.ir)

# Special Tools

## Special Tools

Ref. No.	Tool Number	Description	Remarks
①	07LAJ-PT30100 or	Test Harness	
① ②	07LAJ-PT3010A 07411-0020000	Digital Circuit Tester	

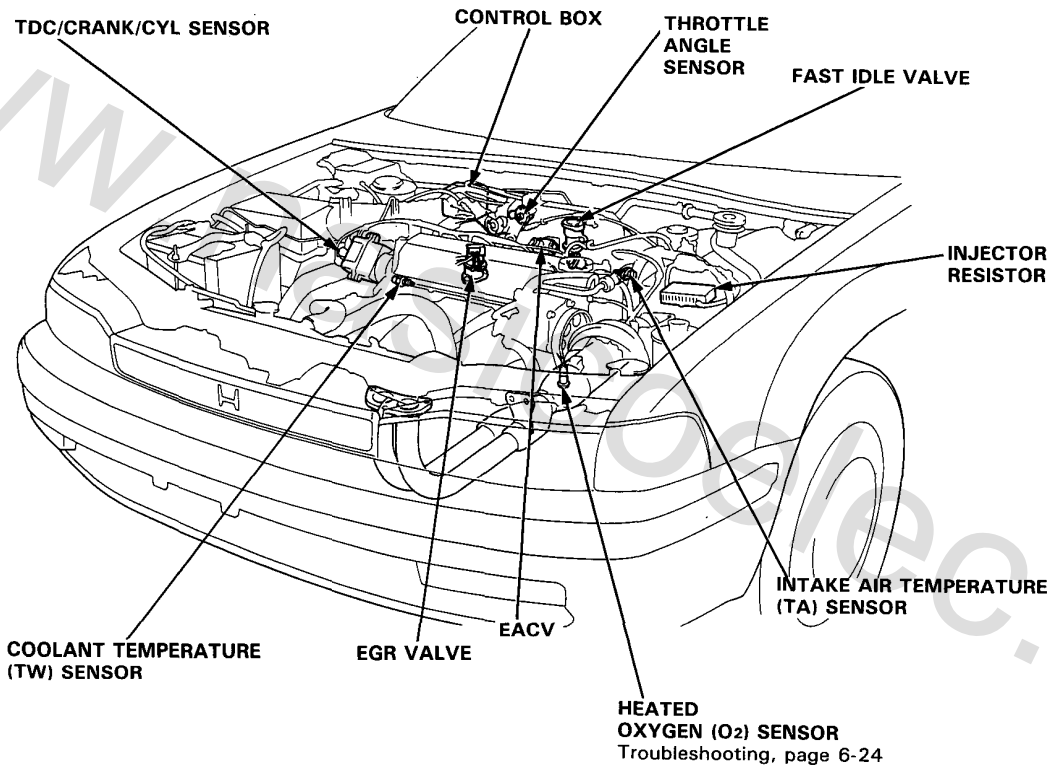


# Component Locations



## Index

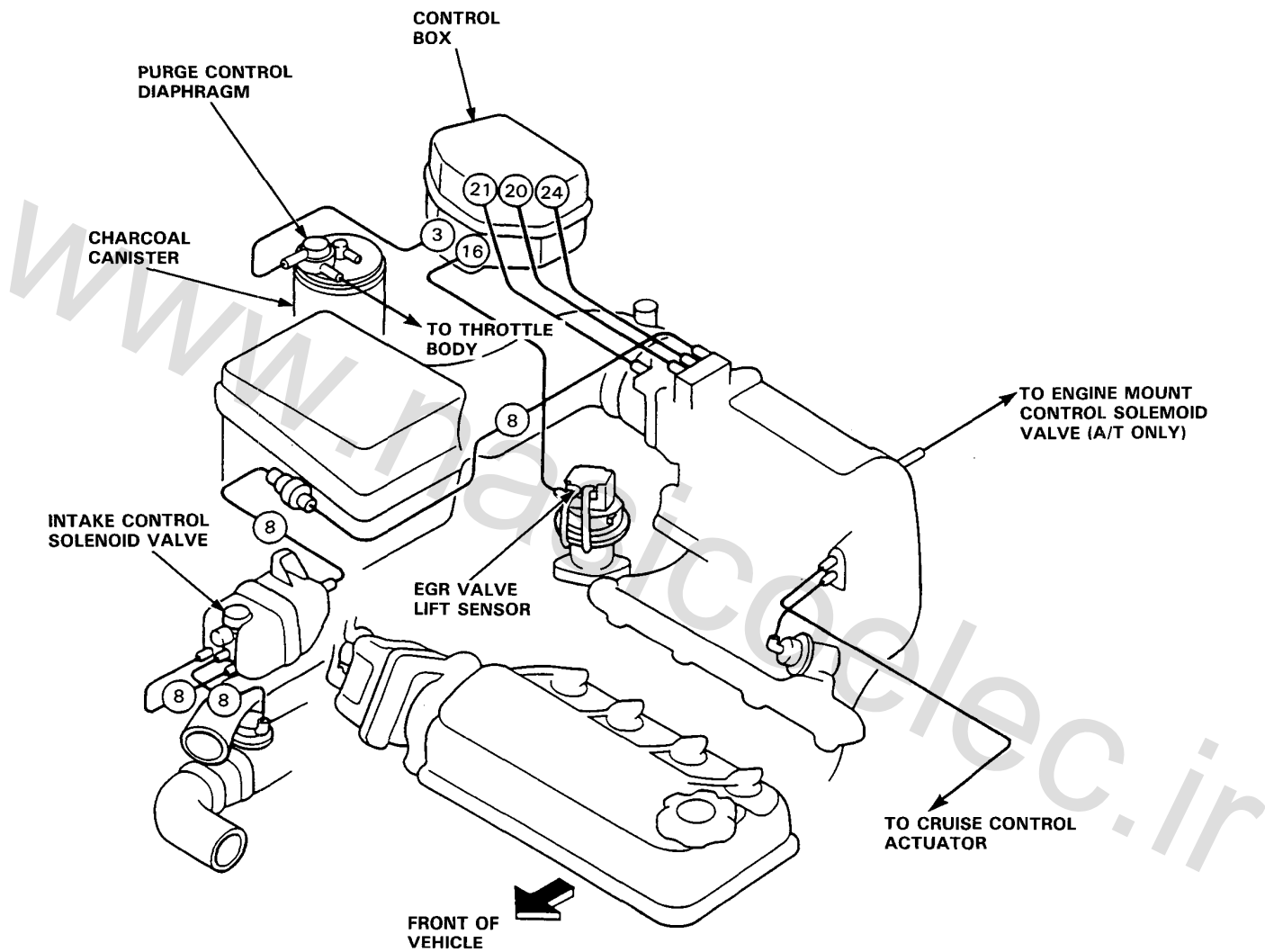
[2.0 l with CATA]



# System Description

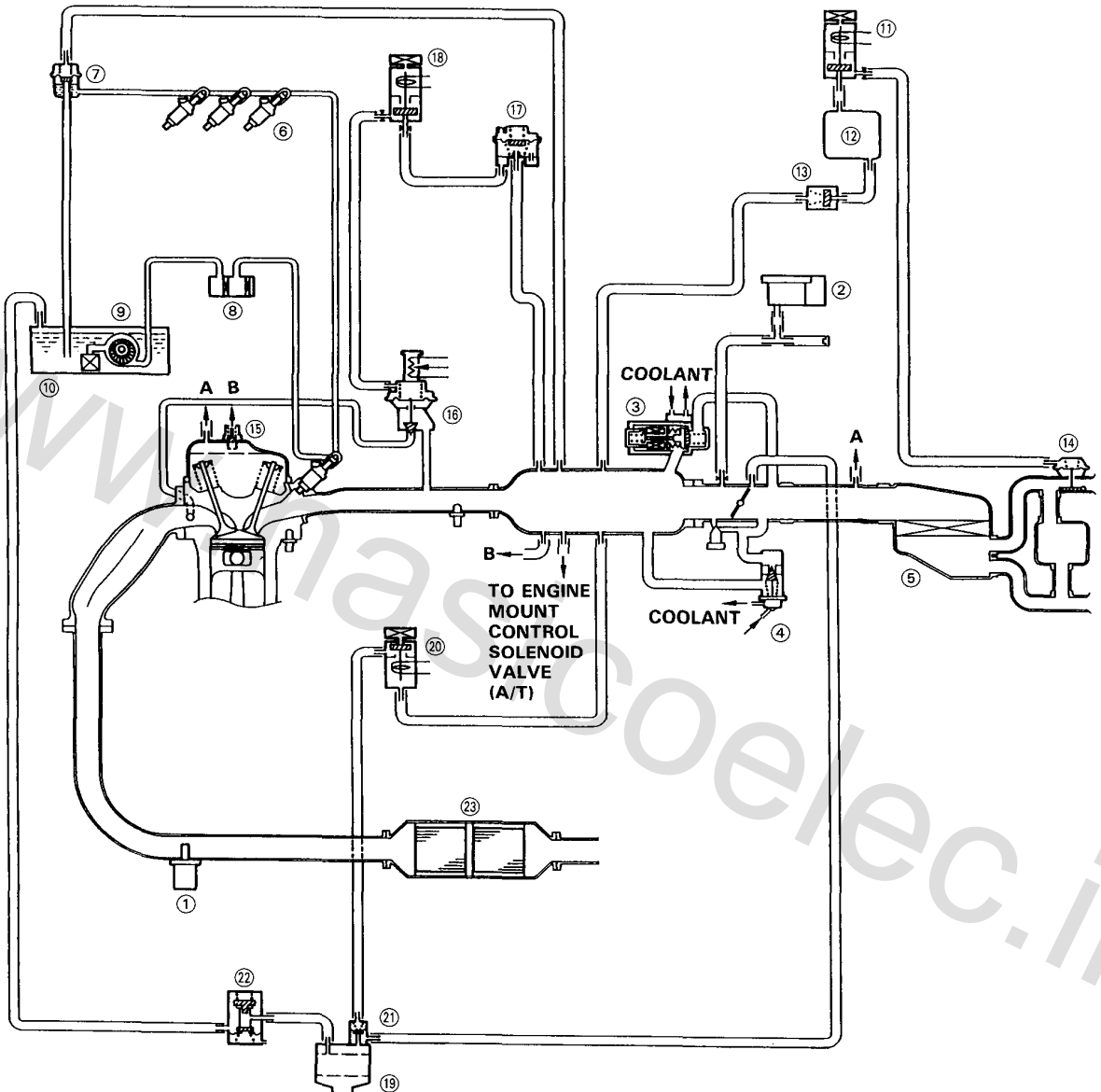
## Vacuum Connections

[2.0 l with CATA]





[2.0 l with CATA]

























- ① HEATED OXYGEN (O<sub>2</sub>) SENSOR
- ② MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR
- ③ ELECTRONIC AIR CONTROL VALVE (EACV)
- ④ FAST IDLE VALVE
- ⑤ AIR CLEANER
- ⑥ FUEL INJECTOR
- ⑦ PRESSURE REGULATOR
- ⑧ FUEL FILTER
- ⑨ FUEL PUMP
- ⑩ FUEL TANK
- ⑪ INTAKE CONTROL SOLENOID VALVE
- ⑫ AIR CHAMBER

- ⑬ CHECK VALVE
- ⑭ INTAKE CONTROL DIAPHRAGM
- ⑮ PCV VALVE
- ⑯ EGR VALVE
- ⑰ CONSTANT VACUUM CONTROL (CVC) VALVE
- ⑱ EGR CONTROL SOLENOID VALVE
- ⑲ CHARCOAL CANISTER
- ⑳ PURGE CUT-OFF SOLENOID VALVE
- ㉑ PURGE CONTROL DIAPHRAGM VALVE
- ㉒ TWO-WAY VALVE
- ㉓ CATALYTIC CONVERTER

# Troubleshooting

## Troubleshooting Guide [With CATA]

NOTE: Across each row in the chart, the systems that could be sources of a symptom are ranked in the order they should be inspected starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows the system is OK, try the next most likely system ②, etc.

PAGE	SYSTEM	PGM-FI							
		ECU	OXYGEN SENSOR	MANIFOLD ABSOLUTE PRESSURE SENSOR	TDC/CRANK/CYL SENSOR	COOLANT TEMPERATURE SENSOR	THROTTLE ANGLE SENSOR	INTAKE AIR TEMPERATURE SENSOR	ATMOSPHERIC PRESSURE SENSOR
SYMPTOM		—	24, 28	—	—	—	—	—	—
CHECK ENGINE WARNING LIGHT TURNS ON		 or 							
CHECK ENGINE WARNING LIGHT BLINKS		 or 	 or 	 or 	 or  or 				
ENGINE WON'T START		③			③				
DIFFICULT TO START ENGINE WHEN COLD		(BU)		③	③	①			③
IRREGULAR IDLING	WHEN COLD FAST IDLE OUT OF SPEC	(BU)				③			
	ROUGH IDLE	(BU)		③					
	WHEN WARM IDLE SPEED TOO HIGH	(BU)							
	WHEN WARM IDLE SPEED TOO LOW	(BU)							
FREQUENT STALLING	WHILE WARMING UP	(BU)				③			
	AFTER WARMING UP	(BU)							③
POOR PERFORMANCE	MISFIRE OR ROUGH RUNNING	(BU)			③				
	FAILS EMISSION TEST	(BU)	③	②					
	LOSS OF POWER	(BU)		③			②		

- if codes other than those listed above are indicated, count the number of blinks again. If the indicator is in fact blinking these codes, substitute a known-good ECU and recheck. If the indication goes away, replace the original ECU.
- (BU): When the Check Engine warning light and the self-diagnosis indicator are on, the back-up system is in operation. Substitute a known-good ECU and recheck. If the indication goes away, replace the original ECU.





PGM-FI				IDLE CONTROL		FUEL SUPPLY	AIR INTAKE	EMISSION CONTROL	
IGNITION OUTPUT SIGNAL	VEHICLE SPEED SENSOR	A/T FI Signal A	A/T FI Signal B	ELECTRONIC AIR CONTROL VALVE	OTHER IDLE CONTROLS			EGR CONTROL SYSTEM	OTHER EMISSION CONTROLS
—	—	—	—	—	—	—	—	—	—
①						②			
					②				
				①	②				
				①		②		③	
				①	②				
				①		②			
				①	②	③			
				③	①	②		③	
				③		①		③	
						②			①
						①	③		③

# PGM-FI Control System

## Troubleshooting Flowchart — Oxygen Sensor



Self-diagnosis Check Engine warning light indicates code 1: A problem in the Heated Oxygen (O<sub>2</sub>) Sensor circuit.



— Check Engine warning light has been reported on, with service check connector jumped CODE 1 is indicated.

Turn the ignition switch OFF.

Remove BACK UP fuse in the under-hood relay box for 10 seconds to reset ECU.

Inspect fuel pressure.

Is it normal ?

NO

Go to Fuel Supply System.

YES

Warm up engine to normal operating temperature (cooling fan comes on).

Run engine for 10 seconds.

Road test with the Transmission in 2nd gear, accelerate using wide open throttle for at least 5 seconds. Then decelerate for at least 5 seconds with the throttle completely closed.

Is Check Engine warning light on and does it indicate CODE 1 ?

NO

Intermittent failure, system is OK at this time. Check for poor connections or loose wires.

YES

(To page 6-25)



(From page 6-24)

Turn the ignition switch OFF.

Disconnect the O<sub>2</sub> sensor connector and connect A (-) terminal to B (+) terminal with a battery.

After two minutes, measure voltage between C (-) terminal and D (+) terminal.

Start the engine.

Is the voltage above 0.6 V at wide open throttle to 4,500 min<sup>-1</sup>(rpm) and below 0.4 V when the throttle is quickly released from 4,500 min<sup>-1</sup>(rpm) ?

NO

Replace O<sub>2</sub> sensor.

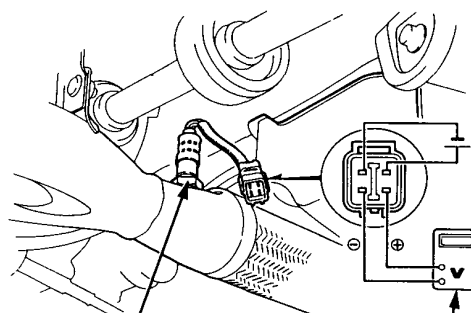
YES

Stop engine.

Connect the O<sub>2</sub> sensor connector to engine wire harness.

Connect the test harness between the ECU and connector.

(To page 6-26)



O<sub>2</sub> SENSOR  
45 N·m (4.5 kg·m, 33 lb·ft)

DIGITAL MULTIMETER  
07411-0020000

(cont'd)

# PGM-FI Control System

## Troubleshooting Flowchart — Oxygen Sensor (cont'd)

(From page 6-25)

Restart and warm up engine to normal operating temperature (cooling fan comes on).

Measure voltage between D14 (+) and A26 (-) terminal.

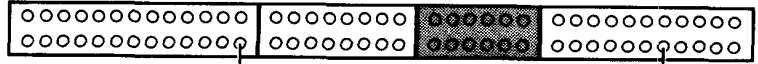
Is the voltage above 0.6 V at wide open throttle to 4,500  $\text{min}^{-1}$ (rpm) and 0.4 V when the throttle is quickly released from 4,500  $\text{min}^{-1}$ (rpm) ?

NO

Repair short or open in WHT wire between ECU (D14) and O<sub>2</sub> sensor.

YES

Substitute a known-good ECU and recheck. If symptom/indication goes away, replace the original ECU.



Above 0.6 V at wide open throttle to 4,500  $\text{min}^{-1}$ (rpm).  
Below 0.4 V when the throttle is quickly released from 4,500  $\text{min}^{-1}$ (rpm).

# PGM-FI Control System

## Troubleshooting Flowchart — Oxygen Sensor Heater



Self-diagnosis Check Engine warning light indicates code 41: A problem in the Oxygen (O<sub>2</sub>) Sensor Heater circuit.



— Engine is running.  
— Check Engine warning light has been reported on, with service check connector jumped, CODE 41 is indicated.

Turn the ignition switch OFF.

Remove BACK UP fuse in the under-hood relay box for 10 seconds to reset ECU.

Start engine.

Is Check Engine warning light on and does it indicate CODE 41 ?

NO

Intermittent failure, system is OK at this time (test driving may be necessary).  
Check for poor connections or loose wires at O<sub>2</sub> sensor connector.

YES

Stop engine.

Disconnect the 4P connector from the O<sub>2</sub> sensor.

Measure resistance between terminals A and B on the O<sub>2</sub> sensor.

Is there 10–40 Ω ?

NO

Replace O<sub>2</sub> sensor.

YES

Check for continuity to body ground on each terminal on the O<sub>2</sub> sensor.

Does continuity exist ?

YES

Replace O<sub>2</sub> sensor.

NO

Check for continuity between terminal A and terminals C and D individually.

Does continuity exist ?

YES

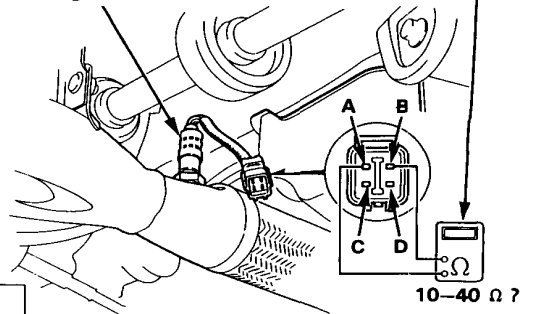
Replace O<sub>2</sub> sensor.

NO

(To page 6-29)

O<sub>2</sub> SENSOR  
45 N·m (45 kg-m, 33 lb-ft)

DIGITAL MULTIMETER  
07411-0020000



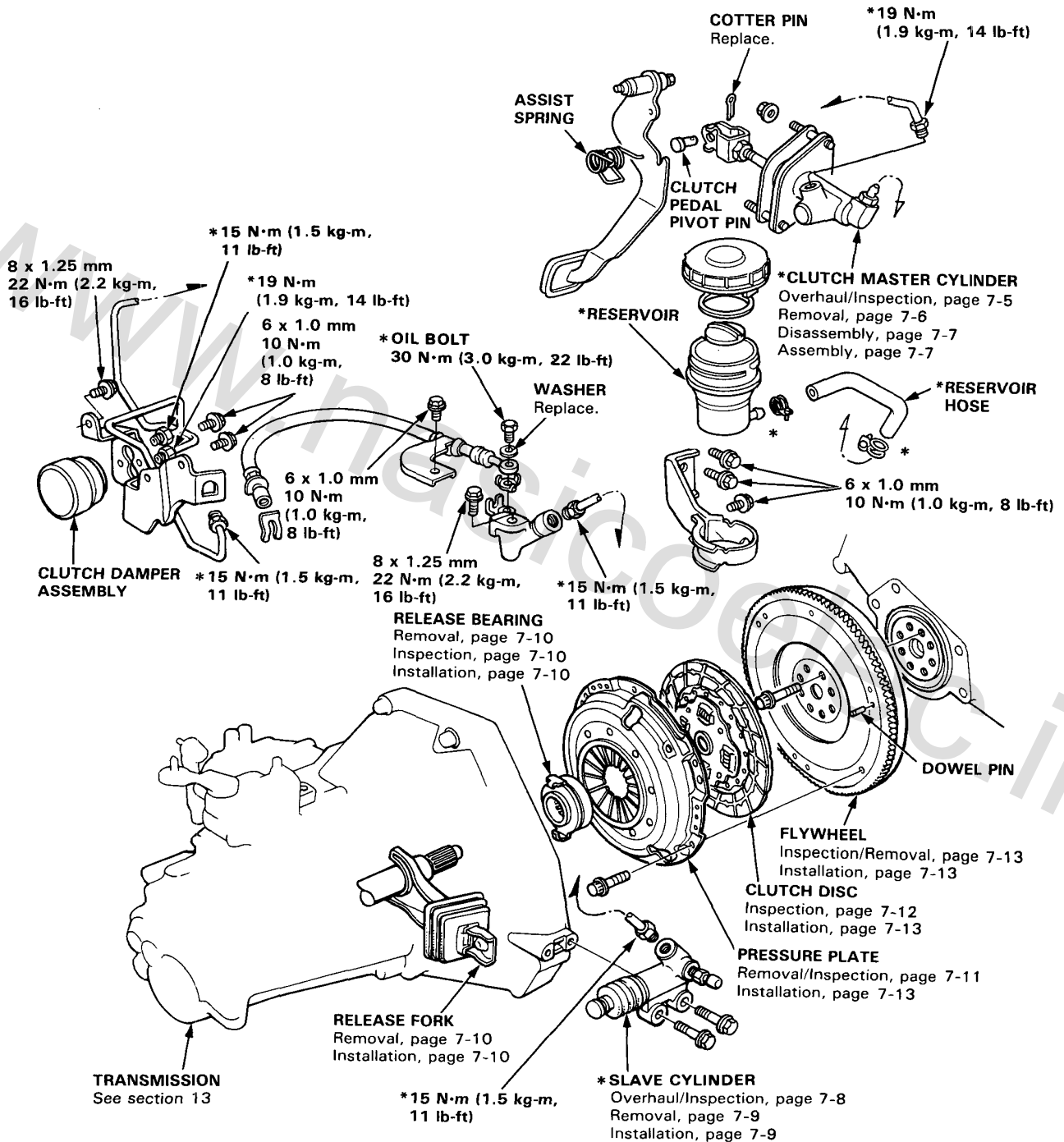
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# Illustrated Index

**NOTE:**

- Whenever the transmission is removed, the release bearing sliding surface should be cleaned and greased.
- If the \* mark parts were removed, the clutch hydraulic system must be bled.



**Special Tools**

**Gearshift Mechanism Overhaul**

**Transmission Assembly Removal**

**Countershaft Bearing (Clutch Housing) Replacement**

**Countershaft Clearance Inspection**

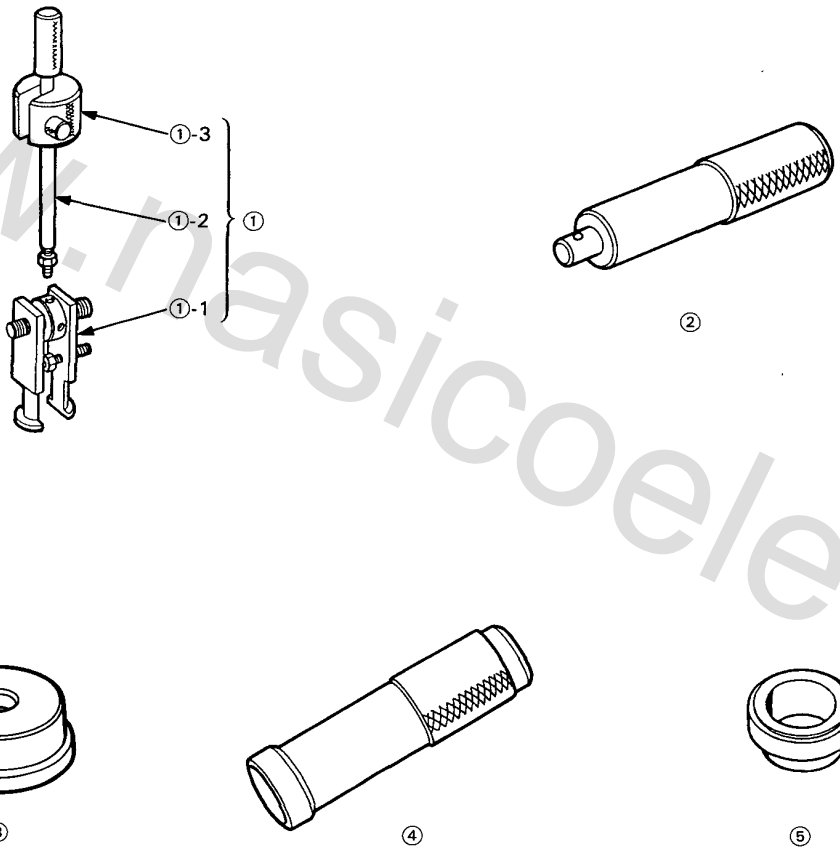
**Transmission Assembly Installation**

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# Special Tools

Ref. No.	Tool Number	Description	Qty	Remarks
①	07JAC-PH80000	Adjustable Bearing Remover Set	1	} Component Tools
①-1	07JAC-PH80100	Bearing Remover Attachment	(1)	
①-2	07JAC-PH80200	Remover Handle Assembly	(1)	
①-3	07741-0010201	Remover Weight	(1)	
②	07749-0010000	Outer Handle A	1	
③	07947-6340400	Driver Attachment	1	
④	07746-0030100	Inner Handle C	1	
⑤	07746-0030200	Inner Driver, 25 mm	1	



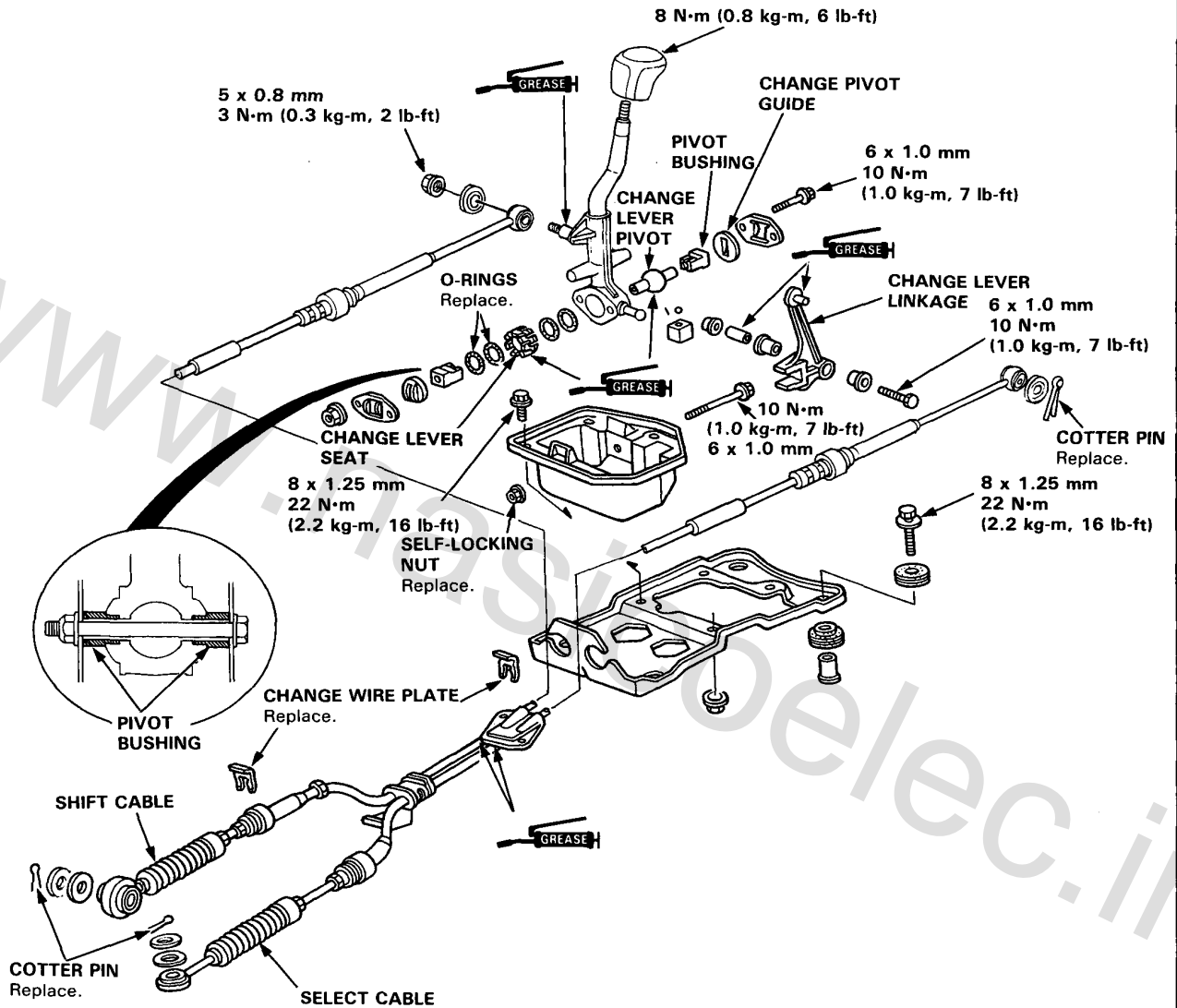


# Gearshift Mechanism

## Overhaul

### NOTE:

- Inspect rubber parts for wear and damage when disassembling.
- Check that the new cotter pin is seated firmly.



# Transmission Assembly

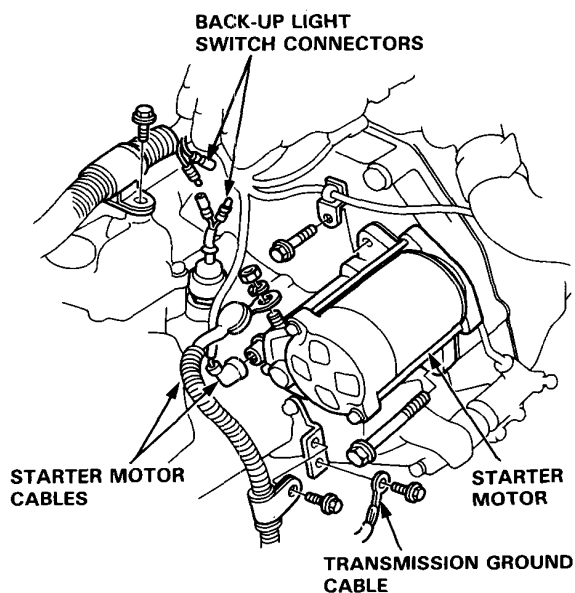
## Removal

### ⚠ WARNING

- Make sure jacks and safety stands are placed properly, and hoist brackets are attached to correct positions on the engine.
- Apply parking brake and block rear wheels, so car will not roll off stands and fall on you while working under it.

**CAUTION:** Use fender covers to avoid damaging painted surfaces.

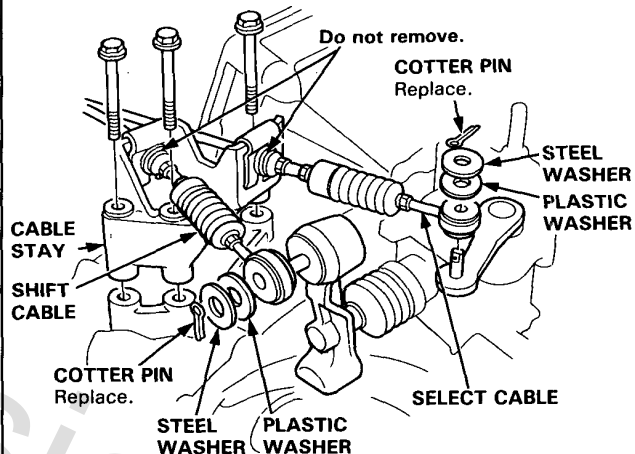
1. Disconnect the battery negative (-) and positive (+) cables from the battery, and remove the battery.
2. Remove the air intake hose and battery base (see section 6).
3. Disconnect the starter motor cables, remove the starter mounting bolts, then remove the starter motor.
4. Disconnect the transmission ground cable.
5. Disconnect the back-up light switch connectors.



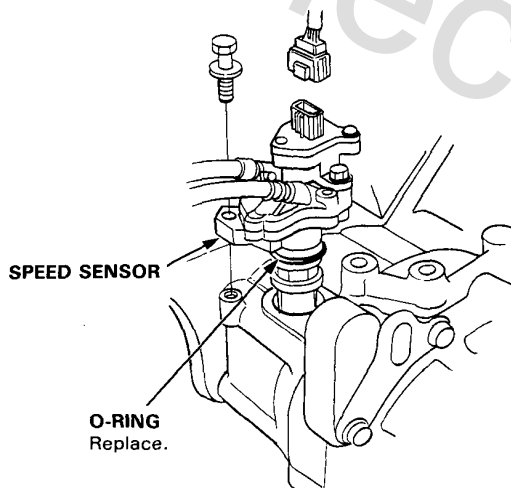
6. Shift the transmission into reverse gear by moving the shift levers.
7. First remove the cable stay and disconnect the cables from the top housing of the transmission.

**NOTE:** Remove both cables and the stay together.

**CAUTION:** Take care not to bend the cables.



8. Disconnect the connector and remove the speed sensor, but leave its hoses connected.

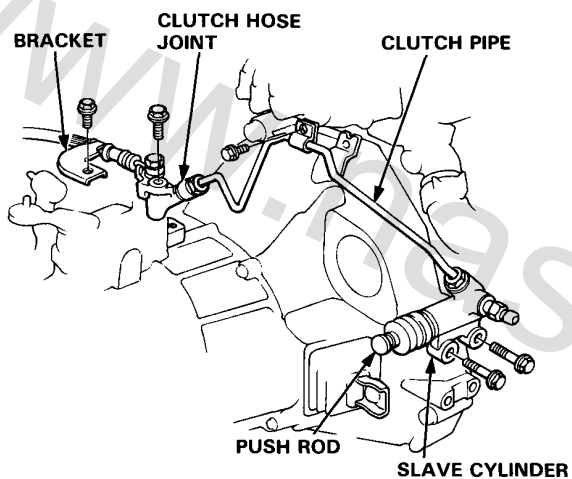




9. Remove both front wheels.
10. Remove the undercarriage splash shield.
11. Drain the transmission oil.
12. Remove the mounting bolts and clutch slave cylinder with the clutch pipe and push rod.
13. Remove the mounting bolt and clutch hose joint with the clutch pipe and clutch hose.

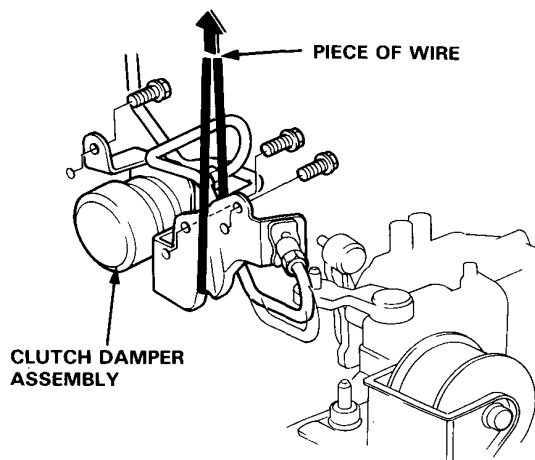
**NOTE:**

- Do not operate the clutch pedal once the slave cylinder has been removed.
- Take care not to bend the pipe.



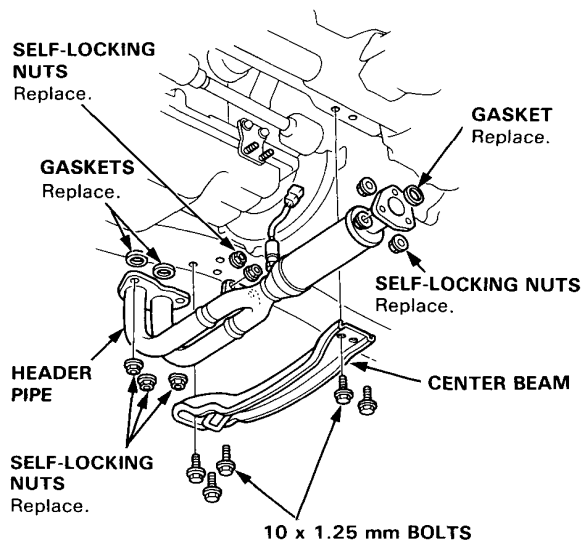
14. Remove the clutch damper assembly and support it with a piece of wire.

**NOTE:** Do not disconnect the pipes.



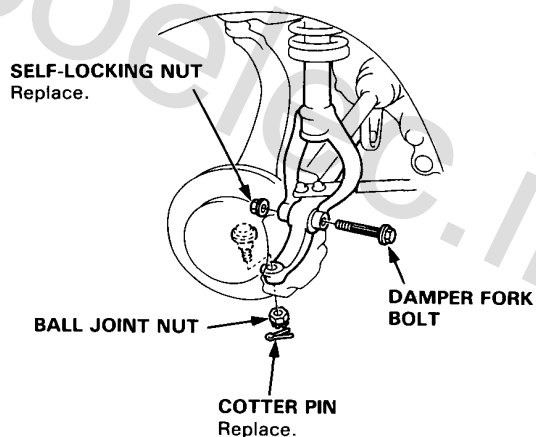
15. Remove the center beam.

16. Remove the header pipe.



17. Remove the cotter pin and lower arm ball joint nuts, then separate the ball joints and lower arms (see section 12).

18. Remove the damper fork bolt.

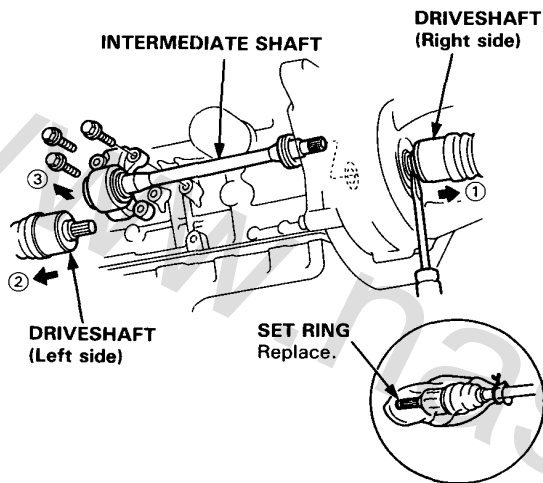


(cont'd)

# Transmission Assembly

## Removal (cont'd)

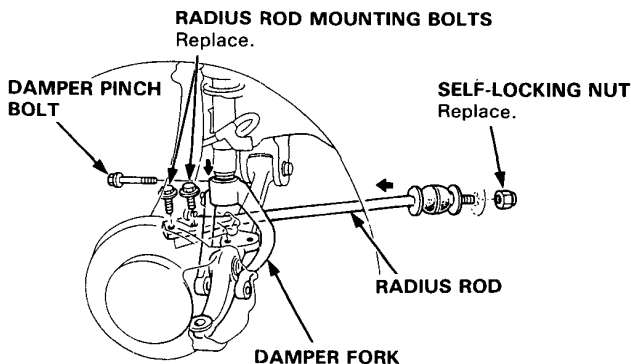
19. Pry the right and left driveshafts out of the differential and the intermediate shaft.
20. Pull on the inboard joint and remove the right and left driveshafts (see section 10).
21. Remove the 3 mounting bolts and lower the bearing support.
22. Remove the intermediate shaft from the differential (see section 10).



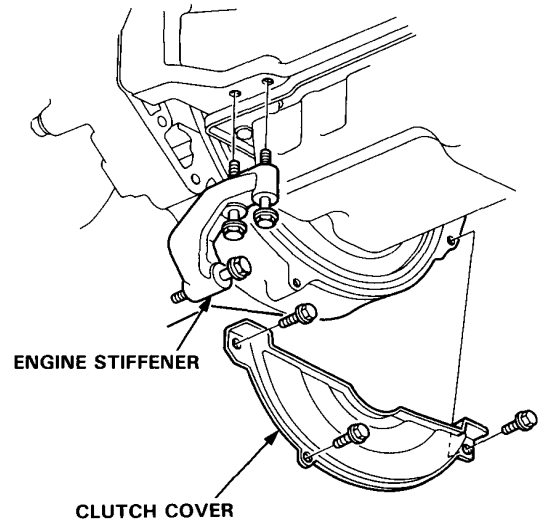
### NOTE:

- Coat all precision finished surfaces with clean engine oil or grease.
- Tie plastic bags over the driveshaft ends.

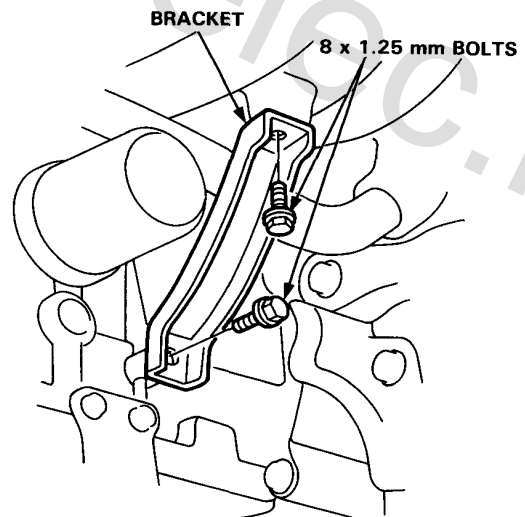
23. Remove the right damper pinch bolt, then separate the damper fork and damper.
24. Remove the bolts and nut, then remove the right radius rod.

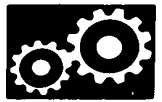


25. Remove the engine stiffener.
26. Remove the clutch cover.

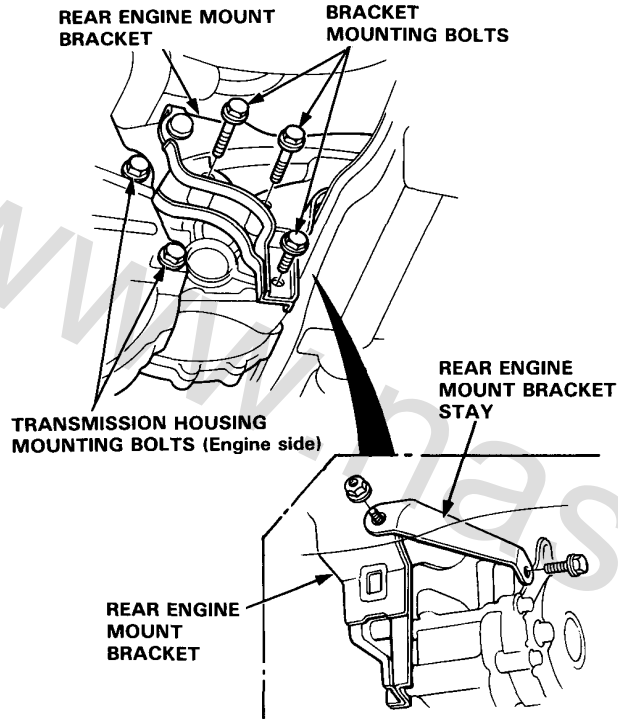


27. Remove the intake manifold bracket.

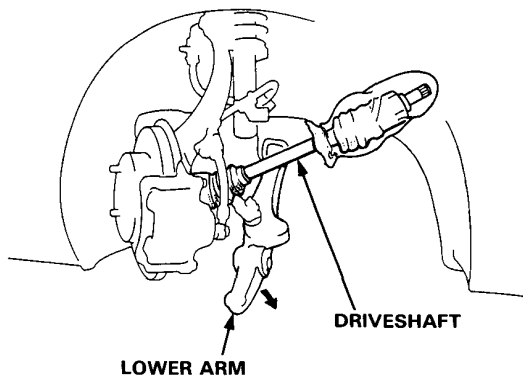




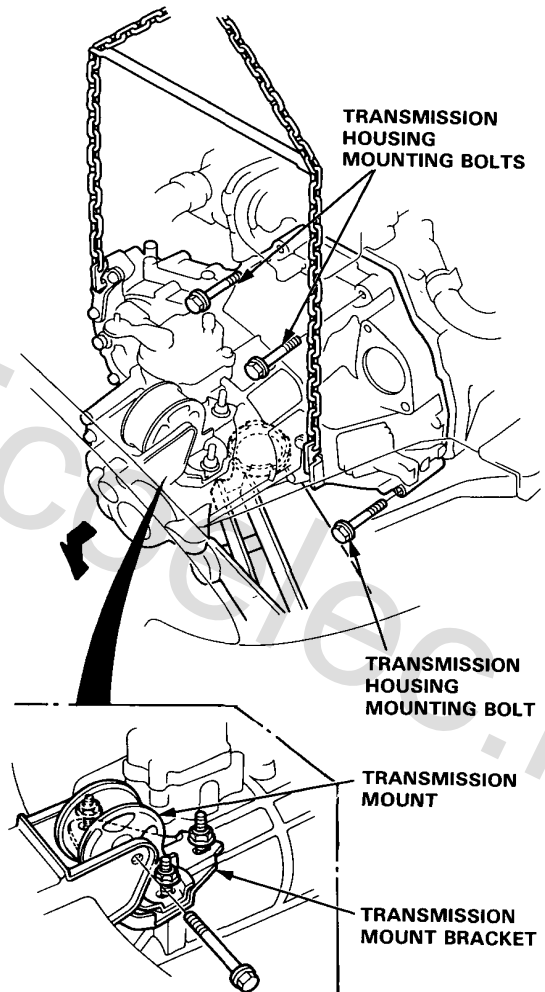
28. Remove the rear engine mount bracket stay.
29. Remove the 3 rear engine mount bracket mounting bolts.
30. Remove the transmission housing mounting bolt (Engine side).



31. Swing the right driveshaft to the inner fender.



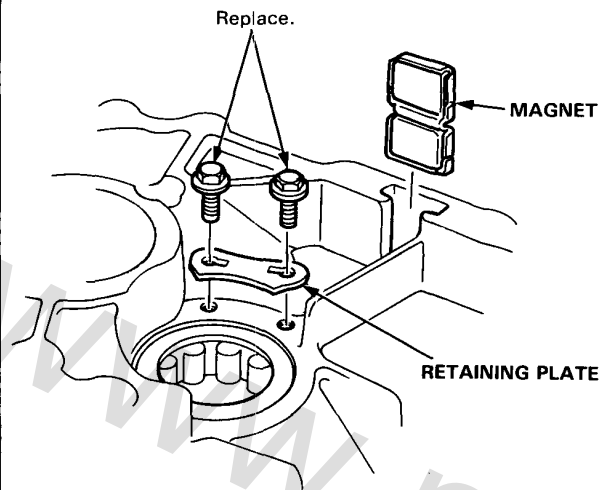
32. Place a floor jack under the transmission and raise transmission just enough to take weight off of the mounts.
33. Remove the transmission mount mounting bolt and loosen the mount bracket mounting nuts.
34. Remove the 3 transmission housing mounting bolts.



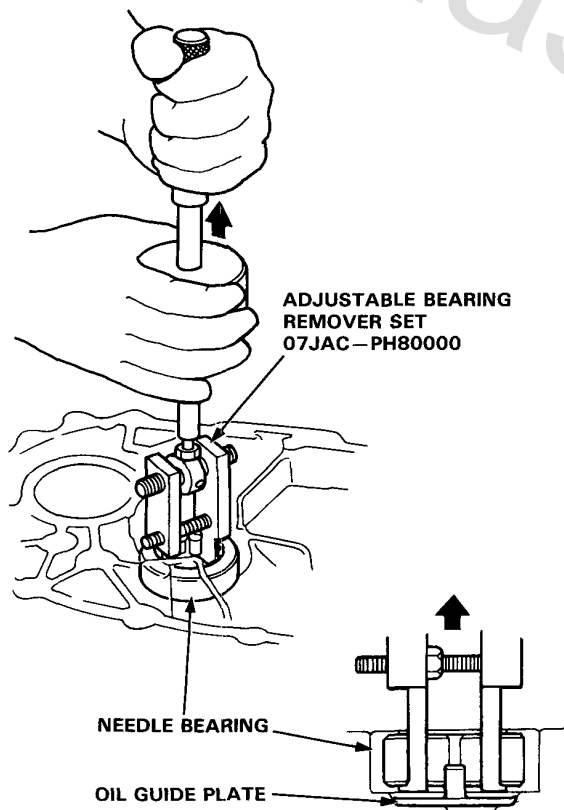
# Countershaft Bearing (Clutch Housing)

## Replacement

1. Remove the differential assembly.
2. Remove the retaining plate from the clutch housing. Remove the magnet.

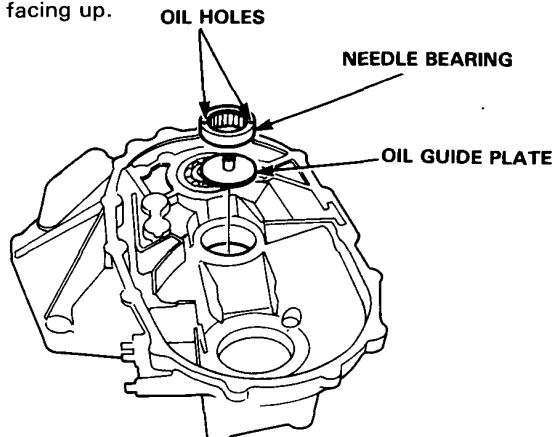


3. Remove the needle bearing with the special tool, then remove the oil guide plate.

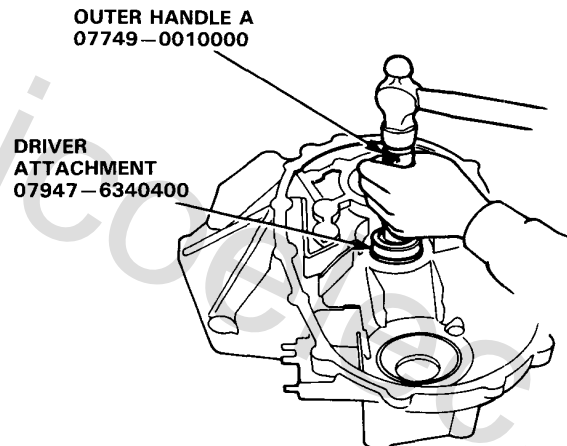


4. Position the oil guide plate and new needle bearing in the bore of the clutch housing.

NOTE: Position the needle bearing with the oil hole facing up.

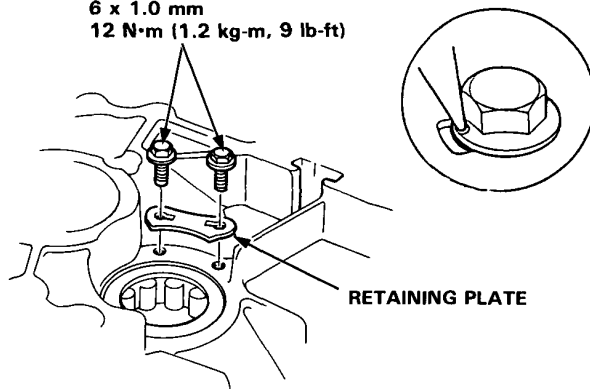


5. Drive the needle bearing using the special tools.



6. Install the needle bearing retaining plate and stake the bolt heads in the groove in the retaining plate.

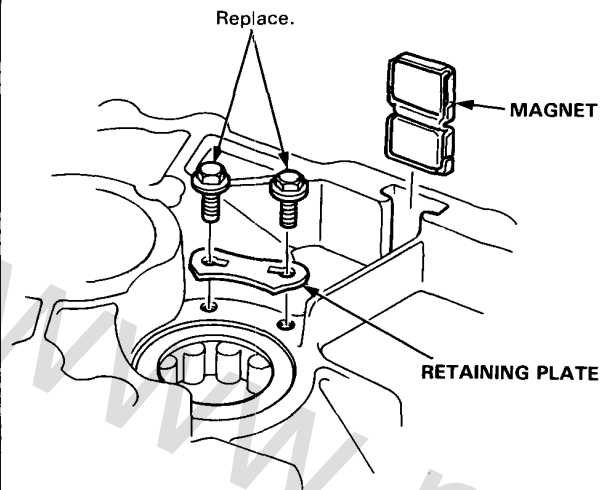
6 x 1.0 mm  
12 N·m (1.2 kg-m, 9 lb-ft)



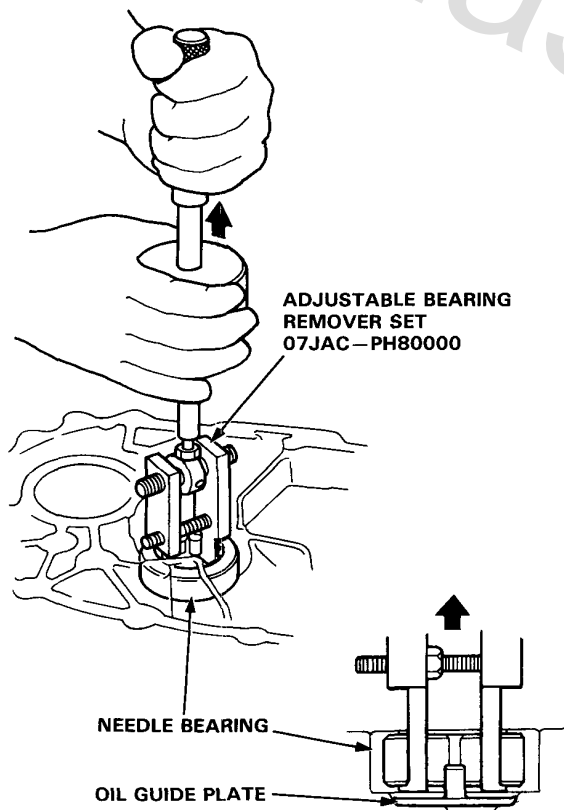
# Countershaft Bearing (Clutch Housing)

## Replacement

1. Remove the differential assembly.
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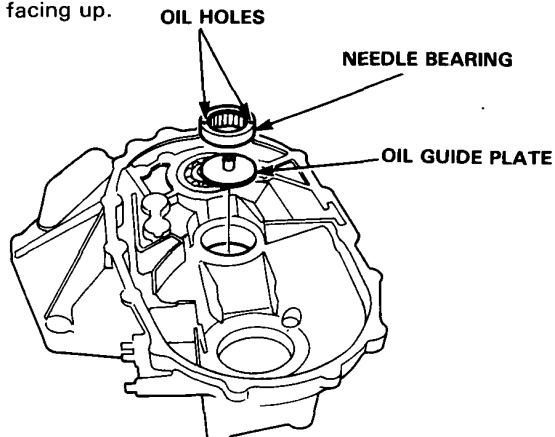


3. Remove the needle bearing with the special tool, then remove the oil guide plate.

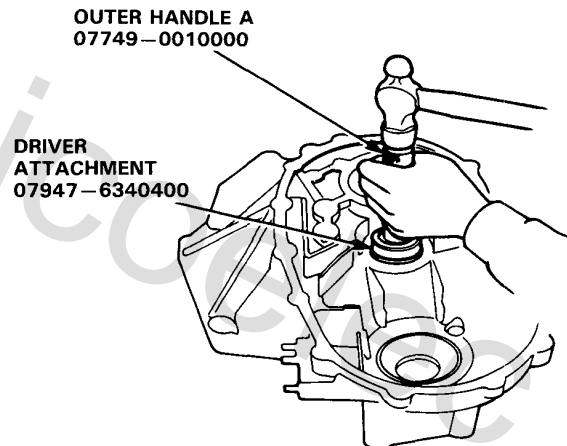


4. Position the oil guide plate and new needle bearing in the bore of the clutch housing.

NOTE: Position the needle bearing with the oil hole facing up.

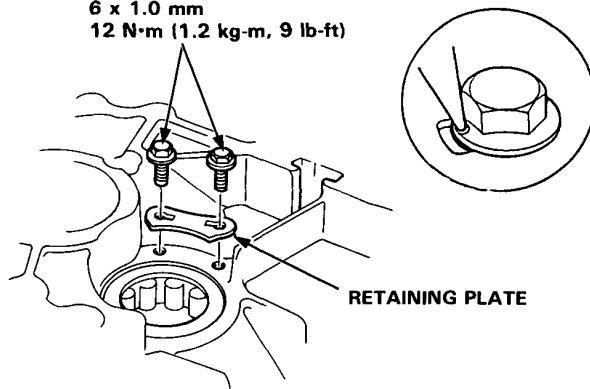


5. Drive the needle bearing using the special tools.



6. Install the needle bearing retaining plate and stake the bolt heads in the groove in the retaining plate.

6 x 1.0 mm  
12 N·m (1.2 kg-m, 9 lb-ft)





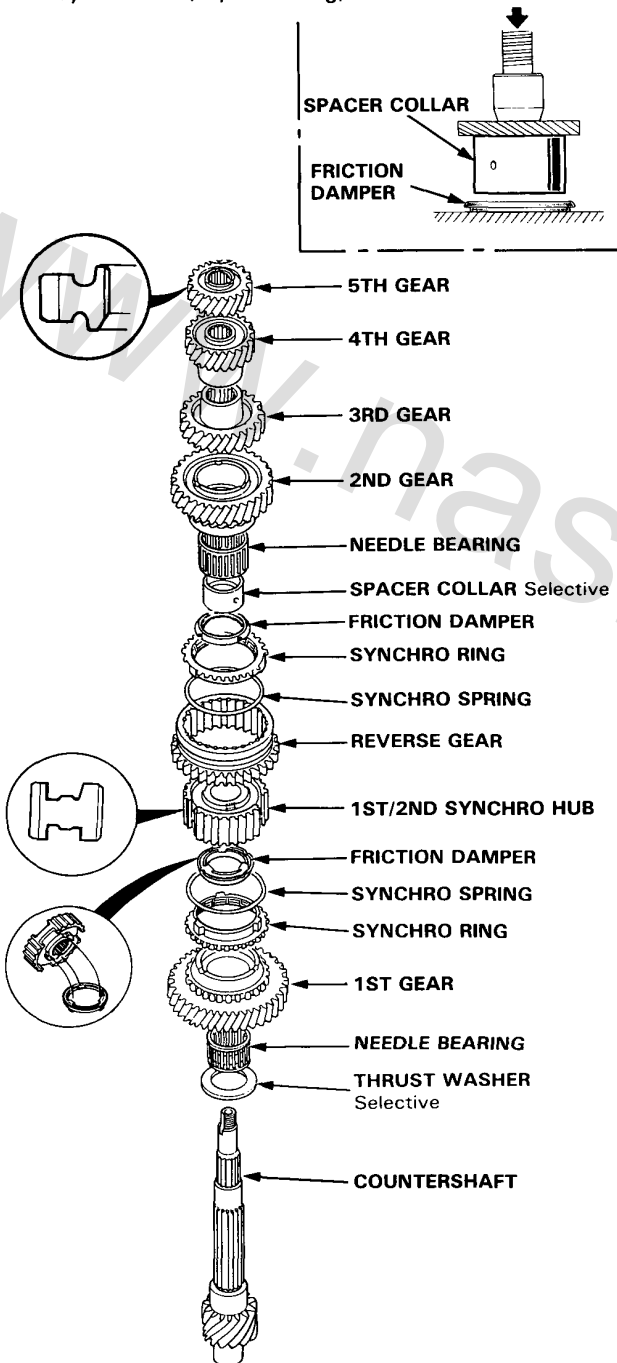


# Countershaft

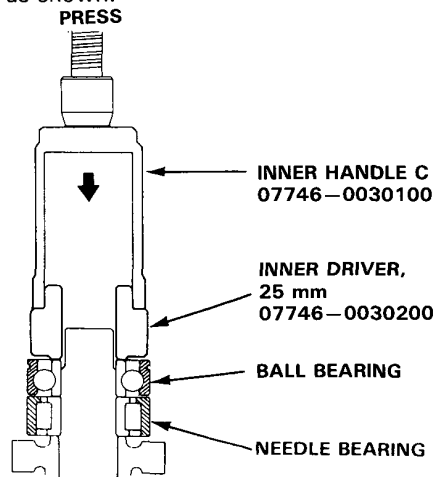
## Clearance Inspection

NOTE: Two types of 36 x 44 x 29 mm collars and five types of thrust washers for 1st gear are available for the adjustment of the clearance between the gears on the countershaft (page 8-10).

1. Assemble the gears, spacer collars, thrust washer, synchro hub, synchro ring, etc. as shown below.



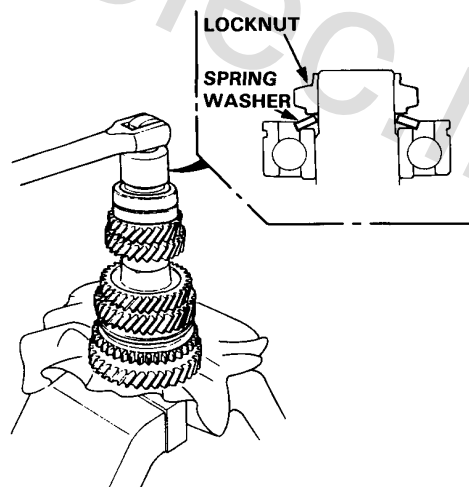
2. Install the needle bearing.
3. Install the ball bearing using the special tool and a press as shown.



4. Install the spring washer.
5. Tighten the locknut, then stake the locknut tab into groove.

NOTE: Place the shaft in a vice with soft jaws.

130 → 0 → 130 N·m (13.0 → 0 → 13.0 kg-m,  
94 → 0 → 94 lb-ft)



(cont'd)

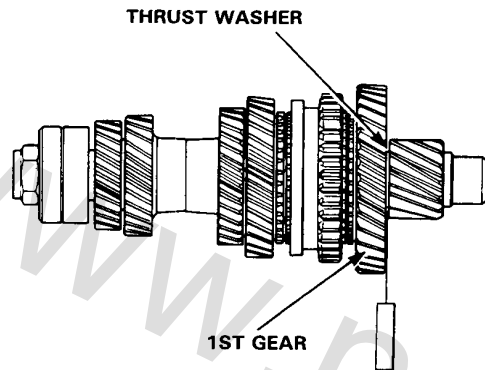
# Countershaft

## Clearance Inspection (cont'd)

6. Measure and record the clearance between the 1st gear and thrust washer.

**Standard:** 0.04–0.10 mm  
(0.0016–0.0039 in)

**Service Limit:** 0.18 mm (0.0070 in)



7. If the clearance is out of tolerance, select the appropriate thrust washer for the correct clearance from the charts.

### THRUST WASHER

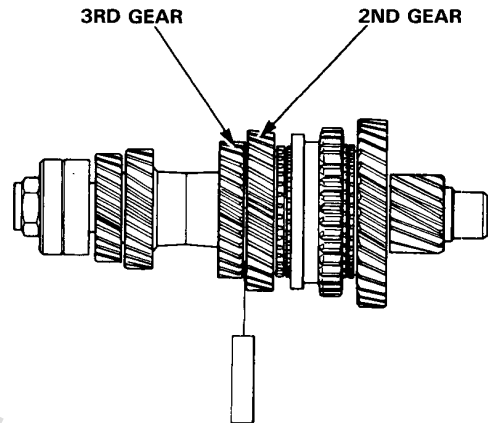
	PART NUMBER	THICKNESS
A	23921-PG1-000	1.96 mm (0.0771 in)
B	23922-PG1-000	1.99 mm (0.0783 in)
C	23923-PG1-000	2.02 mm (0.0795 in)
D	23924-PG1-000	2.05 mm (0.0807 in)
E	23925-PG1-000	2.08 mm (0.0819 in)

8. Replace 1st gear if its thickness is less than the service limit.

9. Measure the clearance between the 2nd gear and 3rd gear.

**Standard:** 0.04–0.10 mm  
(0.0016–0.0039 in)

**Service Limit:** 0.18 mm (0.0070 in)



10. If the clearance is out of tolerance, select the appropriate spacer collar for the correct clearance from the charts.

### SPACER COLLAR

	PART NUMBER	THICKNESS
A	23917-P21-010	29.02–29.04 mm (1.1425–1.1433 in)
B	23918-P21-010	29.07–29.09 mm (1.1445–1.1453 in)

11. Replace 2nd gear if its thickness is less than the service limit.

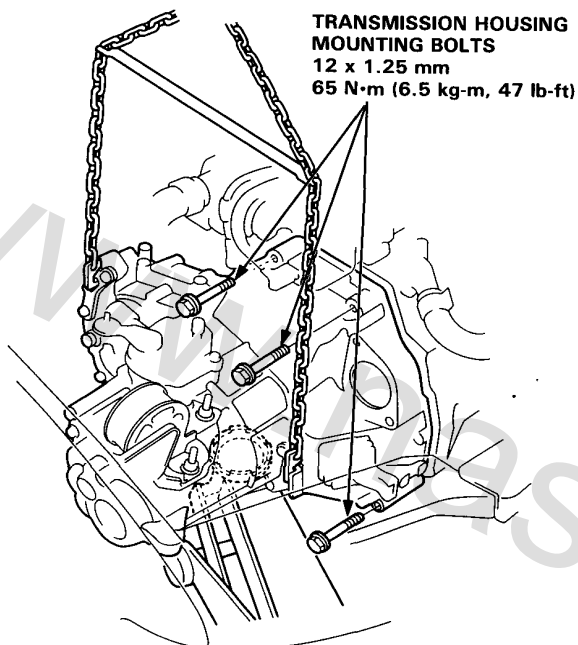
12. Stake the locknut tab in the groove.



# Transmission Assembly

## Installation

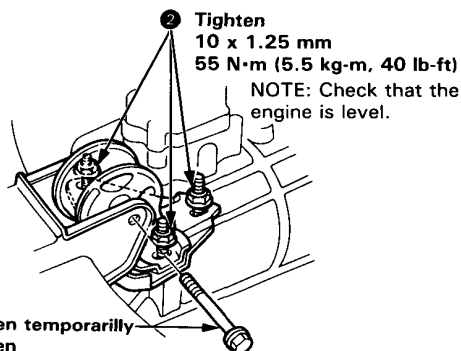
1. Place the transmission on the transmission jack, and raise to the engine level.
2. Check that the 4 dowel pins are installed.
3. Install the 3 transmission housing mounting bolts.



4. Install the transmission mount and mount bracket.

**NOTE:** Torque mounting bolt and nuts in sequence shown.

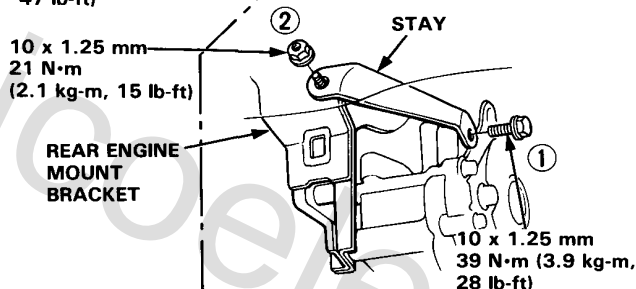
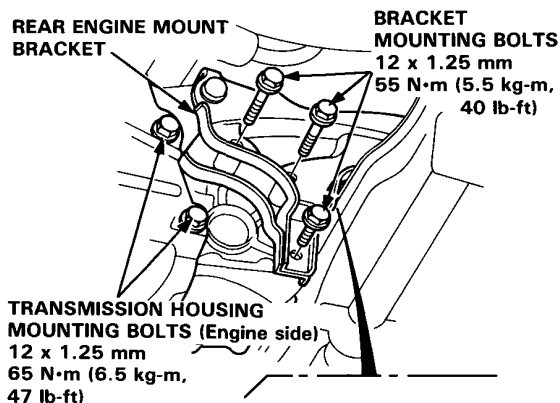
**CAUTION:** Check that the bushings are not twisted or offset.



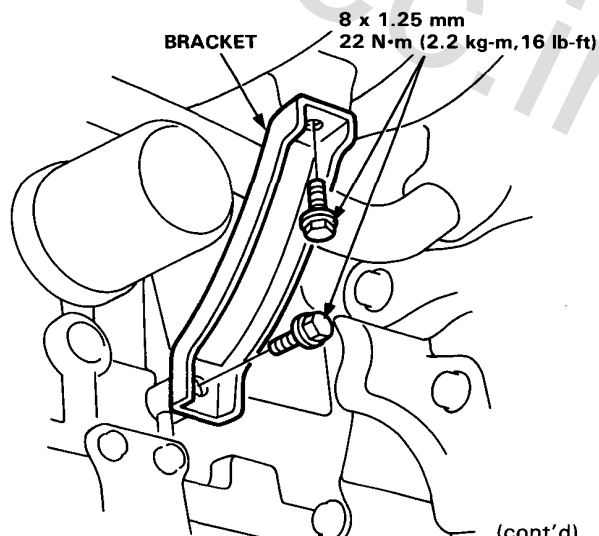
- 1 Tighten temporarily
- 3 Tighten  
12 x 1.25 mm  
65 N·m (6.5 kg-m, 47 lb-ft)

5. Install the transmission housing mounting bolts (Engine side).
6. Install the 3 rear engine bracket mounting bolts.
7. Install the rear engine mount bracket stay.

**NOTE:** Loosely install the stay mounting bolt and nut, then torque in the sequence shown.



8. Install the intake manifold bracket.



(cont'd)

## **Special Tools**

### **Description**

**Transmission Sectional View**

### **Pressure Testing**

**Throttle Control Cable**

### **Illustrated Index**

**R.Side Cover**

**Transmission Housing**

**Torque Converter Housing**

**R.Side Cover Removal**

**Transmission Housing Removal**

**Torque Converter Housing/Valve Body Removal**

**Main Valve Body**

**Servo Body**

**Mainshaft**

**Countershaft**

**Secondary Shaft**

**Clutch Inspection**

**Transmission Housing Bearings**

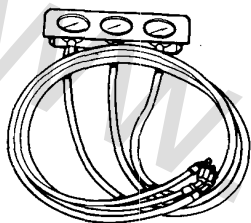
**Removal/Installation**

**Transmission Reassembly**

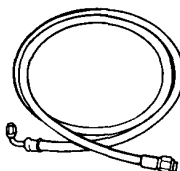
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# Special Tools

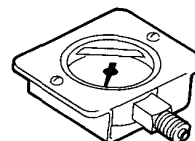
Ref. No.	Tool Number	Description	Qty	Remarks
①	07406-0020003	A/T Oil Pressure Gauge Set	1	
①-1	07406-0020201	A/T Oil Pressure Gauge Hose	1	
②	07406-0070000	A/T Low Pressure Gauge	1	
③	07GAB-PF50101 or 07GAB-PF50100	Mainshaft Holder	1	
④	07HAC-PK40101	Housing Puller	1	
⑤	07LGC-0010100	Snap Ring Pliers	1	
⑥	07749-0010000	Driver	1	
⑦	07746-0010600	Attachment, 72 x 75 mm	1	
⑧	07NAD-PX40100	Attachment, 78 x 80 mm	1	
⑨	07HAF-PK40100	Gear Installer	1	



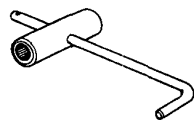
①



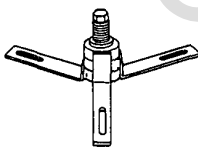
①-1



②



③



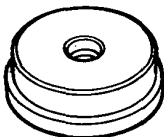
④



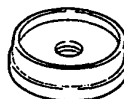
⑤



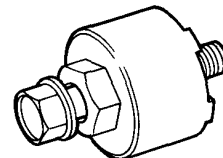
⑥



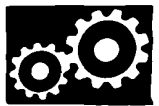
⑦



⑧

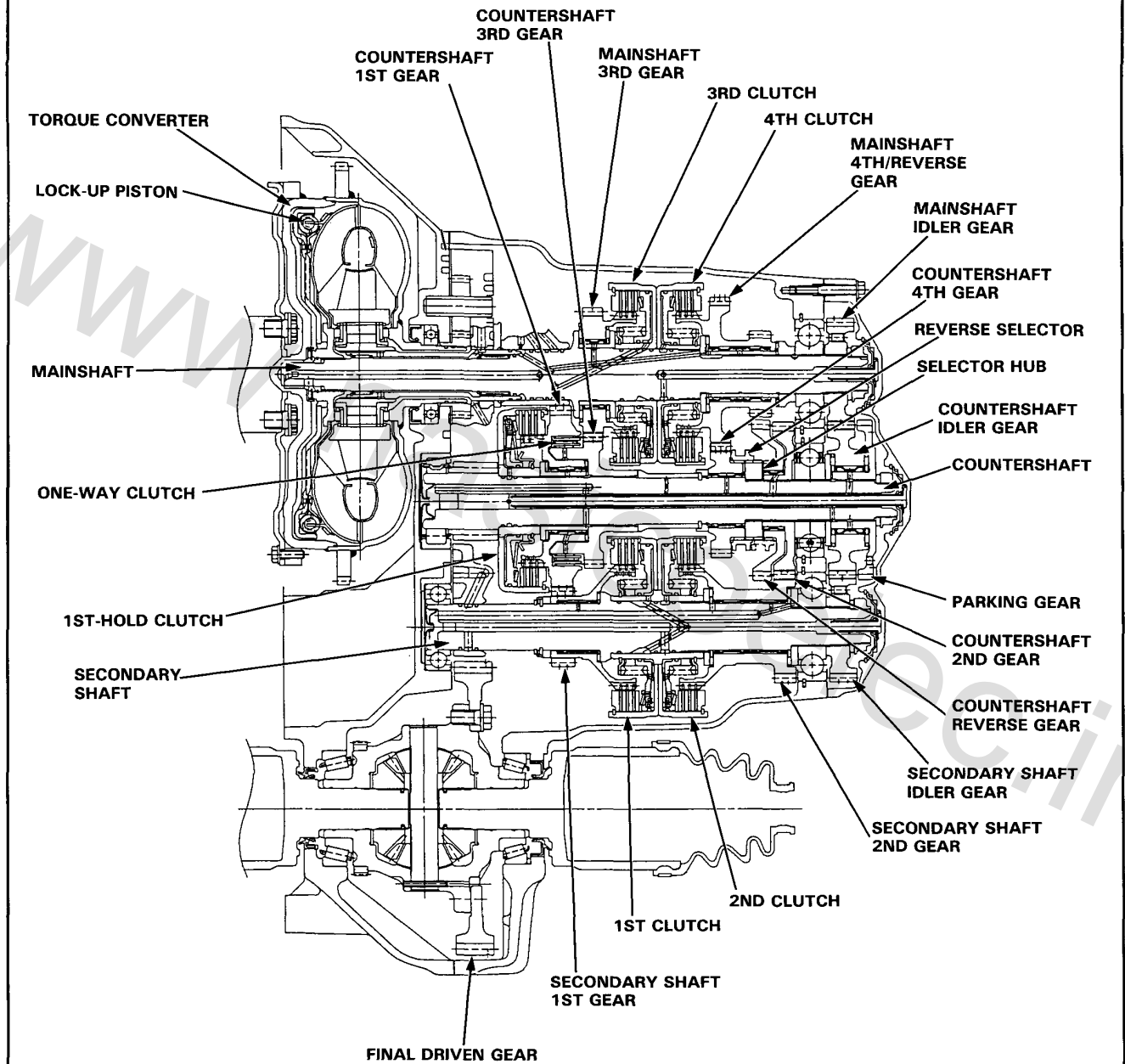


⑨



# Description

## Transmission Sectional View



# Pressure Testing

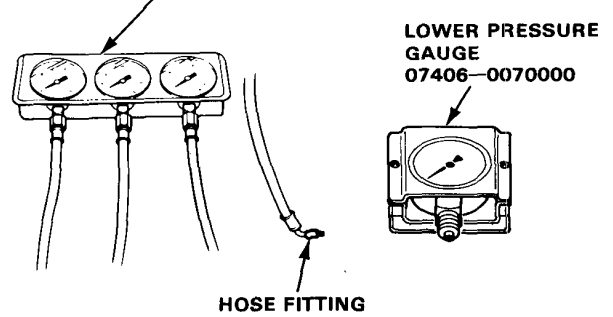
**CAUTION:**

- Before testing, be sure the transmission is filled to the proper level.
- Connect an oil pressure gauge securely, being sure not to allow dust and other foreign particles to enter the inspection hole.
- Warm up the engine before testing.
- Set the parking brake securely, and block both rear wheels.
- Raise the front of the car and support with safety stands.

**NOTE:** Do not reuse old aluminum washers. Install the sealing bolt in the inspection hole and tighten to the specified torque 18 N·m (1.8 kg-m, 12 lb-ft).

1. Stop the engine and connect a tachometer.
2. Connect an oil pressure gauge to each inspection hole.

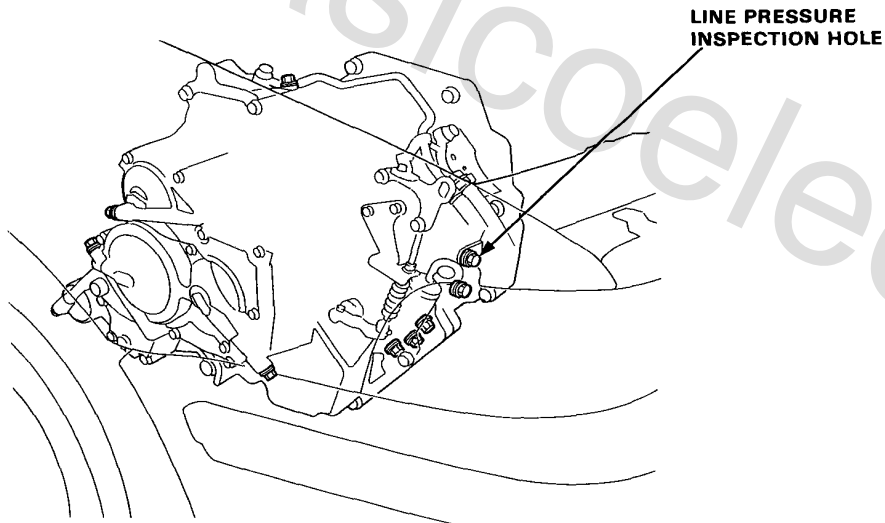
**GAUGE SET 07406-0020003 (Includes Pressure Hoses)**  
**A/T OIL PRESSURE GAUGE HOSE 07406-0020201**



3. Start the engine and measure respective pressures as follows.

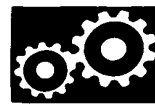
**Line Pressure Measurement**

1. Set the parking brake and block both rear wheels securely.
2. Run the engine at 2,000 min<sup>-1</sup> (rpm).
3. Measure the line pressure.



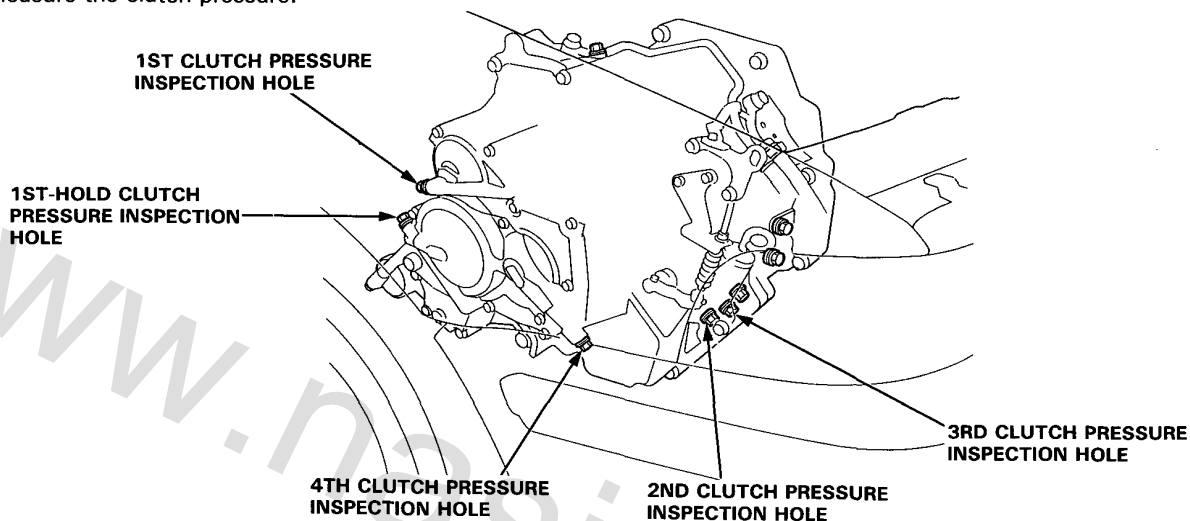
PRESSURE	SELECTOR POSITION	SYMPTOM	PROBABLE CAUSE	FLUID PRESSURE	
				Standard	Service Limit
Line	N or P	No (or low) Line pressure	Torque converter, oil pump pressure regulator, torque converter check valve, oil pump	760—809 kPa (7.75—8.25 kg/cm <sup>2</sup> , 110—117 psi)	711 kPa (7.25 kg/cm <sup>2</sup> , 103 psi)

**NOTE:** Higher pressures may be indicated if measurements are made in selector positions other than N or P.



### Clutch Pressure Measurement

1. Set the parking brake and block both rear wheels securely.
2. Raise the front of the car and support with safety stands.
3. Allow the front wheels to rotate freely.
4. Run the engine at 2,000 min<sup>-1</sup> (rpm).
5. Measure the clutch pressure.



PRESSURE	SELECTOR POSITION	SYMPTOM	PROBABLE CAUSE	FLUID PRESSURE	
				Standard	Service Limit
1st Clutch	<b>1</b>	No or low 1st pressure	1st Clutch	760–809 kPa (7.75–8.25 kg/cm <sup>2</sup> , 110–117 psi)	711 kPa (7.25 kg/cm <sup>2</sup> , 103 psi)
1st-hold Clutch	<b>1</b>	No or low 1st-hold pressure	1st-hold Clutch		
2nd Clutch	<b>2</b>	No or low 2nd pressure	2nd Clutch		
2nd Clutch	<b>D<sub>3</sub></b> or <b>D<sub>4</sub></b>	No or low 2nd pressure	2nd Clutch	392 kPa (4.0 kg/cm <sup>2</sup> , 57 psi) (throttle fully closed)	353 kPa (3.6 kg/cm <sup>2</sup> , 51 psi) (throttle fully closed)
3rd Clutch	<b>D<sub>3</sub></b>	No or low 3rd pressure	3rd Clutch	809 kPa (8.25 kg/cm <sup>2</sup> , 117 psi) (throttle more than 1/4 opened)	711 kPa (7.25 kg/cm <sup>2</sup> , 103 psi) (throttle more than 1/4 opened)
4th Clutch	<b>D<sub>4</sub></b>	No or low 4th pressure	4th Clutch	412 kPa (4.2 kg/cm <sup>2</sup> , 60 psi) (throttle fully closed)	353 kPa (3.6 kg/cm <sup>2</sup> , 51 psi) (throttle fully closed)
	<b>R</b>	No or low 4th pressure	Servo valve or 4th Clutch	809 kPa (8.25 kg/cm <sup>2</sup> , 117 psi) (throttle more than 1/4 opened)	711 kPa (7.25 kg/cm <sup>2</sup> , 103 psi) (throttle more than 1/4 opened)
				760–809 kPa (7.75–8.25 kg/cm <sup>2</sup> , 110–117 psi)	711 kPa (7.25 kg/cm <sup>2</sup> , 103 psi)

(cont'd)



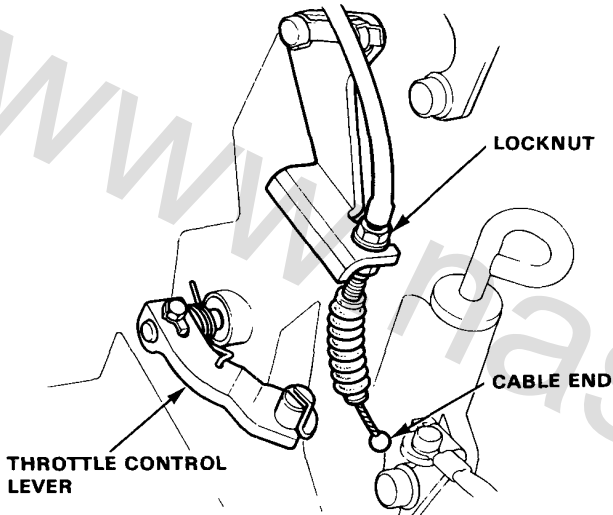
# Pressure Testing

(cont'd)

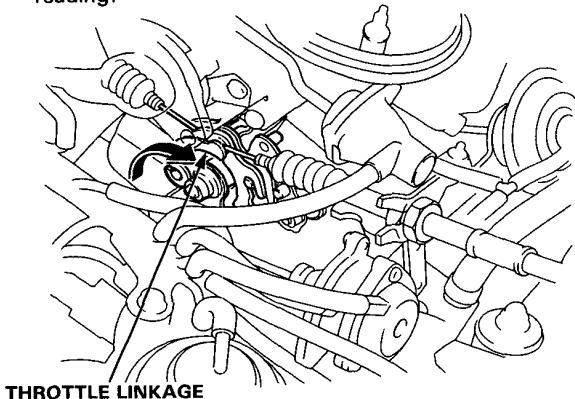
## Clutch Low/High Pressure Test

1. Set the parking brake and block rear wheels securely.
2. Raise the car and support with safety stands.
3. Attach the gauge set to the appropriate pressure test port.
4. Remove the cable end of the throttle control lever.

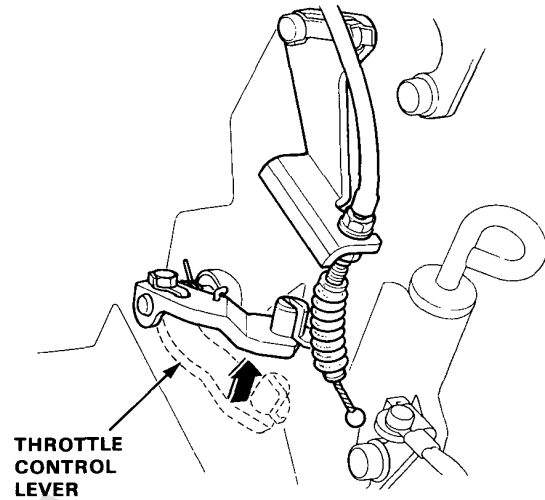
NOTE: Do not loosen the locknuts, simply unhook the cable end.



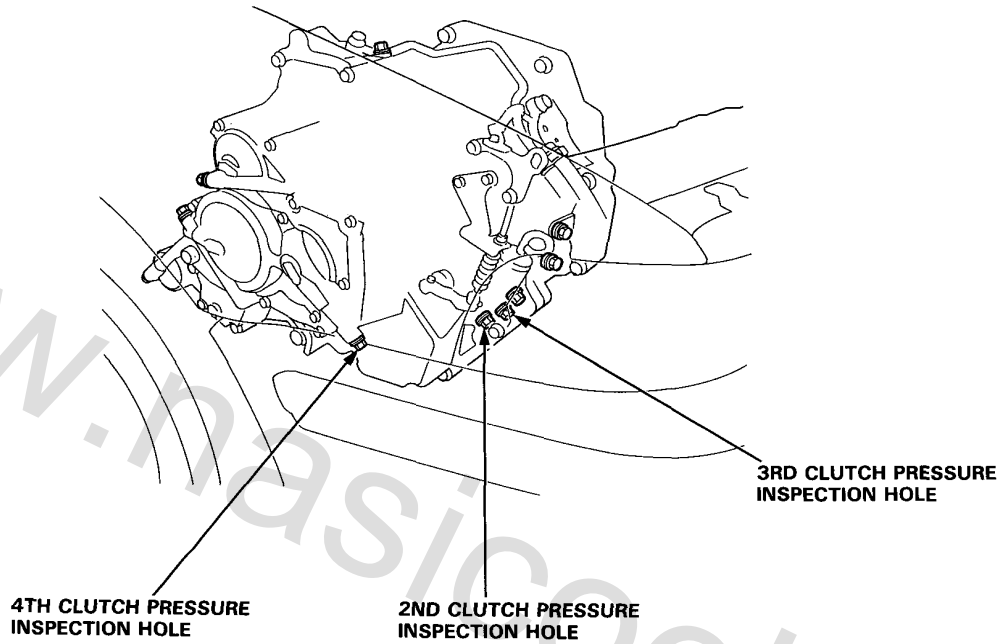
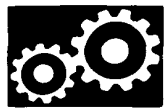
5. Warm up the engine to normal operating temperature (cooling fan comes on).
6. With the engine idling, move the selector lever to  or .
7. Slowly move the throttle linkage to increase engine rpm until pressure is indicated on the appropriate gauge. Then release the throttle linkage, allowing the engine to return to an idle, and record the pressure reading.



8. With the engine idling, lift the throttle control lever up approximately 1/2 of its possible travel and increase the engine rpm until pressure is indicated on the appropriate gauge. Record the highest pressure reading obtained.



9. Repeat steps 7 and 8 for each clutch pressure being inspected.



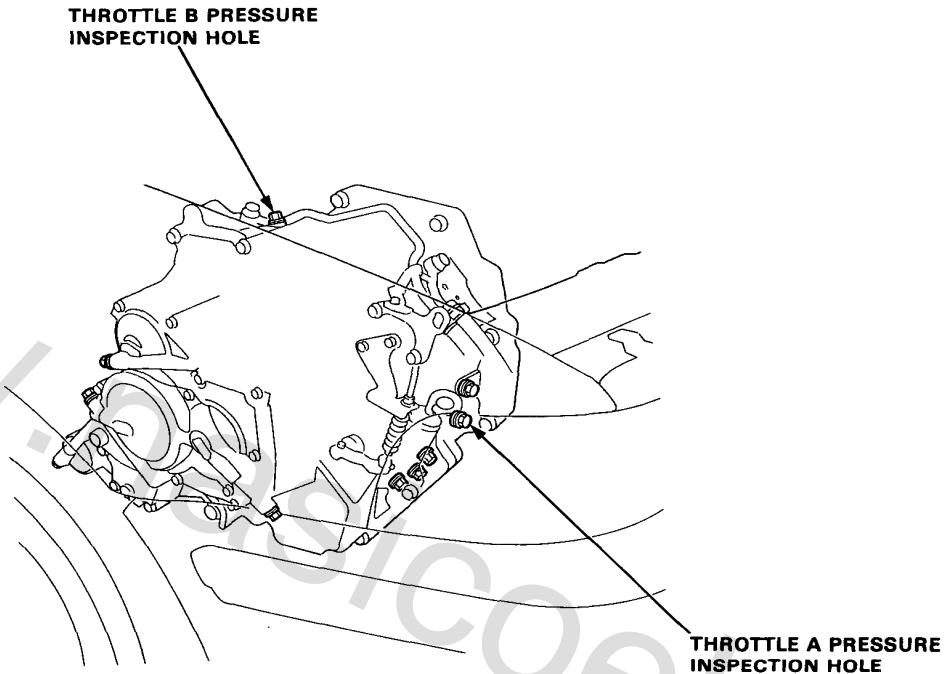
PRESSURE	SELECTOR POSITION	SYMPTOM	PROBABLE CAUSE	FLUID PRESSURE	
				Standard	Service Limit
2nd Clutch	D <sub>2</sub> or D <sub>4</sub>	No or low 2nd pressure	2nd Clutch	392–814 kPa (4.0–8.25 kg/cm <sup>2</sup> , 57–117 psi)	353 kPa (3.6 kg/cm <sup>2</sup> , 51 psi) with lever released.
3rd Clutch	D <sub>3</sub> or D <sub>5</sub>	No or low 3rd pressure	3rd Clutch		711 kPa (7.25 kg/cm <sup>2</sup> , 103 psi) with lever in half or more throttle position.
4th Clutch	D <sub>4</sub>	No or low 4th pressure	4th Clutch	412–809 kPa (4.2–8.25 kg/cm <sup>2</sup> , 60–117 psi)	353 kPa (3.6 kg/cm <sup>2</sup> , 51 psi) with lever released. 711 kPa (7.25 kg/cm <sup>2</sup> , 103 psi) with lever in half or more throttle position.

# Pressure Testing

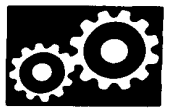
(cont'd)

## Throttle Pressure Measurement

1. Set the parking brake and block both rear wheels securely.
2. Run the engine at  $1,000 \text{ min}^{-1}$  (rpm).
3. Disconnect the throttle control cable from the throttle lever and set the control lever in full throttle position.

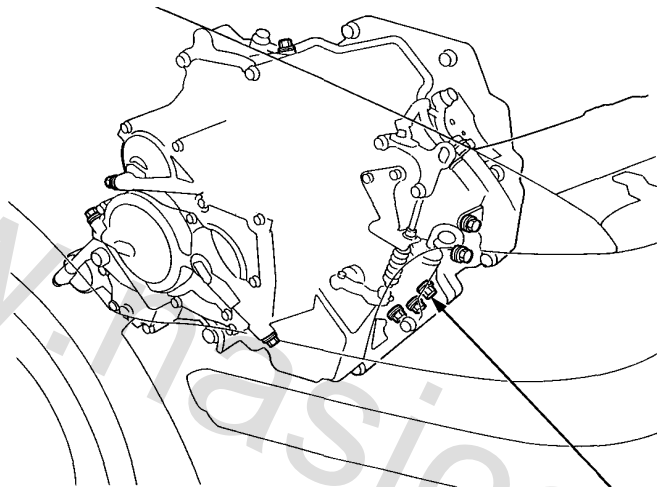


PRESSURE	SELECTOR POSITION	SYMPTOM	PROBABLE CAUSE	FLUID PRESSURE		
				Standard	Service Limit	
Throttle A	D <sub>1</sub> or D <sub>2</sub>	No or low Throttle A pressure	Throttle valve A	F20A2 Engine	514—530 kPa (5.25—5.4 kg/cm <sup>2</sup> , 74—76 psi)	509 kPa (5.2 kg/cm <sup>2</sup> , 73 psi)
				F20A3 Engine	485—500 kPa (4.95—5.1 kg/cm <sup>2</sup> , 70—72 psi)	480 kPa (4.9 kg/cm <sup>2</sup> , 69 psi)
Throttle B	D <sub>1</sub> or D <sub>2</sub>	No or low Throttle B pressure	Throttle valve B	0 kPa (0 kg/cm <sup>2</sup> , 0 psi) with lever released 760—808 kPa (7.75—8.25 kg/cm <sup>2</sup> , 110—117 psi) with lever in full throttle position	710 kPa (7.25 kg/cm <sup>2</sup> , 103 psi) with lever in full throttle position	



### Governor Pressure Measurement

1. Set the parking brake and block both rear wheels securely.
2. Raise the front of the car and support with safety stands.
3. Run the vehicle at 60 km/h (38 mph).



**GOVERNOR PRESSURE  
INSPECTION HOLE**

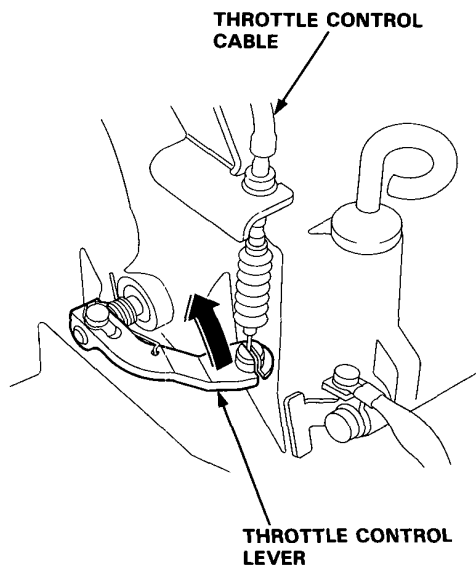
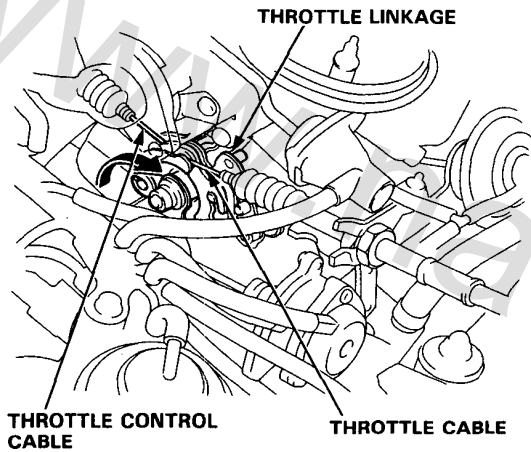
PRESSURE	SELECTOR POSITION	SYMPTOM	PROBABLE CAUSE	FLUID PRESSURE		
					Standard	Service Limit
Governor	D or D	No or low governor pressure	Governor valve	F20A2 Engine	225—235 kPa (2.3—2.4 kg/cm <sup>2</sup> , 32—34 psi)	220 kPa (2.25 kg/cm <sup>2</sup> , 32 psi)
				F20A3 Engine	166—176 kPa (1.7—1.8 kg/cm <sup>2</sup> , 24—25 psi)	162 kPa (1.65 kg/cm <sup>2</sup> , 23 psi)

# Throttle Control Cable

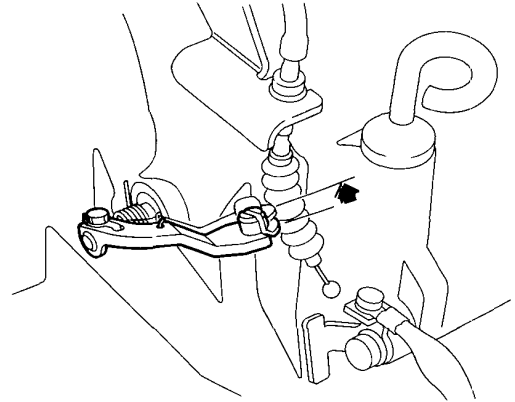
## Inspection

NOTE: Before inspecting the throttle control cable, make sure;

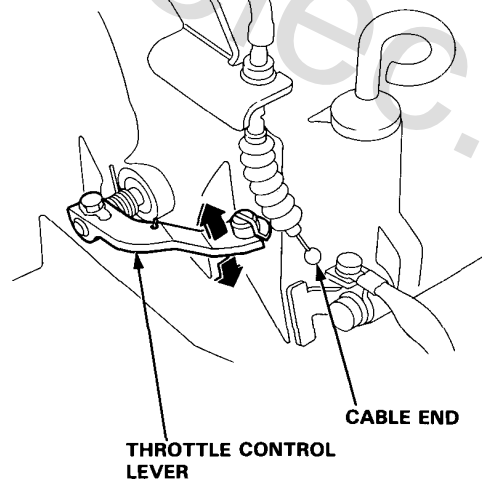
- Throttle cable free play is correct (see Section 11).
  - Idle speed is correct (see Section 11).
  - To warm up the engine to normal operating temperature (cooling fan comes on).
1. Verify that the throttle control lever is synchronized with the throttle linkage while depressing and releasing the accelerator pedal.
  2. If the throttle control lever is not synchronized with the throttle linkage, adjust the throttle control cable.

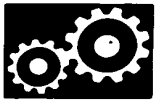


3. Check that there is play in the throttle control lever while depressing the accelerator pedal to the full-throttle position.



4. Remove the cable end of the throttle control cable from the throttle control lever.
5. Check that the throttle control lever moves smoothly.





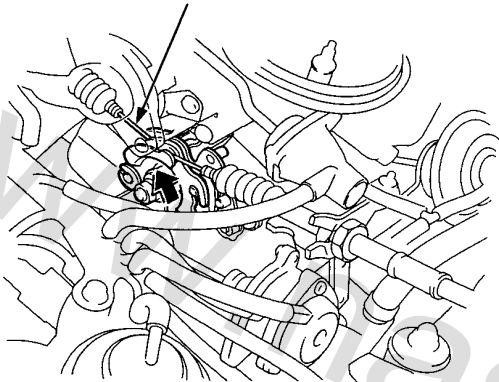
## Adjustment

NOTE: Before adjusting the throttle control cable, make sure;

- Throttle cable free play is correct (see Section 11).
- Idle speed is correct (see Section 11).
- To warm up the engine to normal operating temperature (cooling fan comes on).

1. Verify that the throttle linkage is in the full-closed position.

THROTTLE LINKAGE



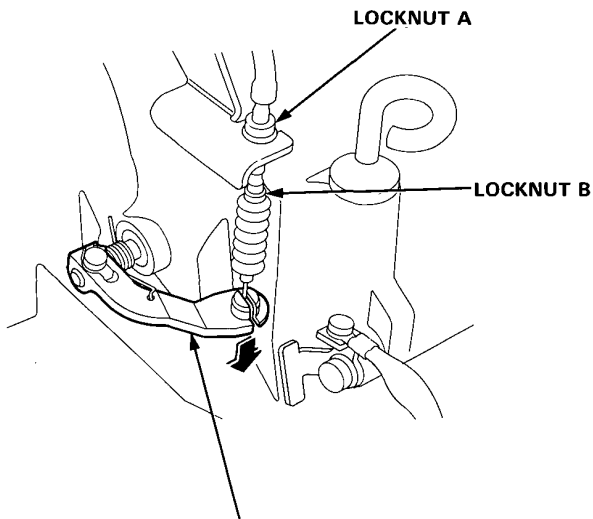
2. Loosen the locknut of the throttle control cable at the throttle control lever.
3. Remove the free play of the throttle control cable with the locknut, while pushing the throttle control lever to the full-closed position as shown.

LOCKNUT A

LOCKNUT B

THROTTLE CONTROL LEVER

Push in this direction.

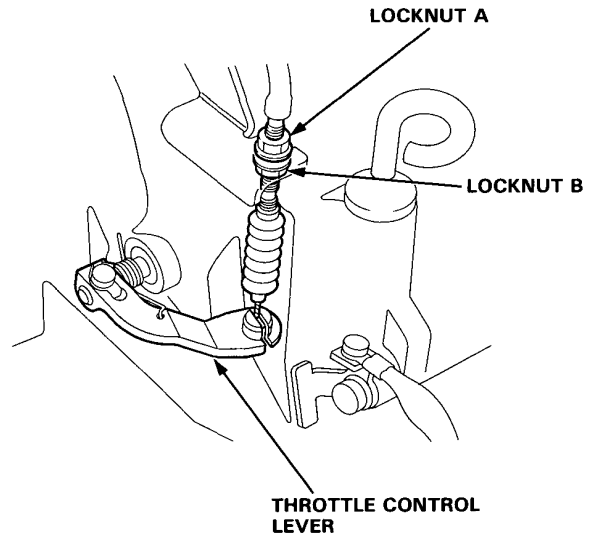


4. Tighten the locknut.

LOCKNUT A

LOCKNUT B

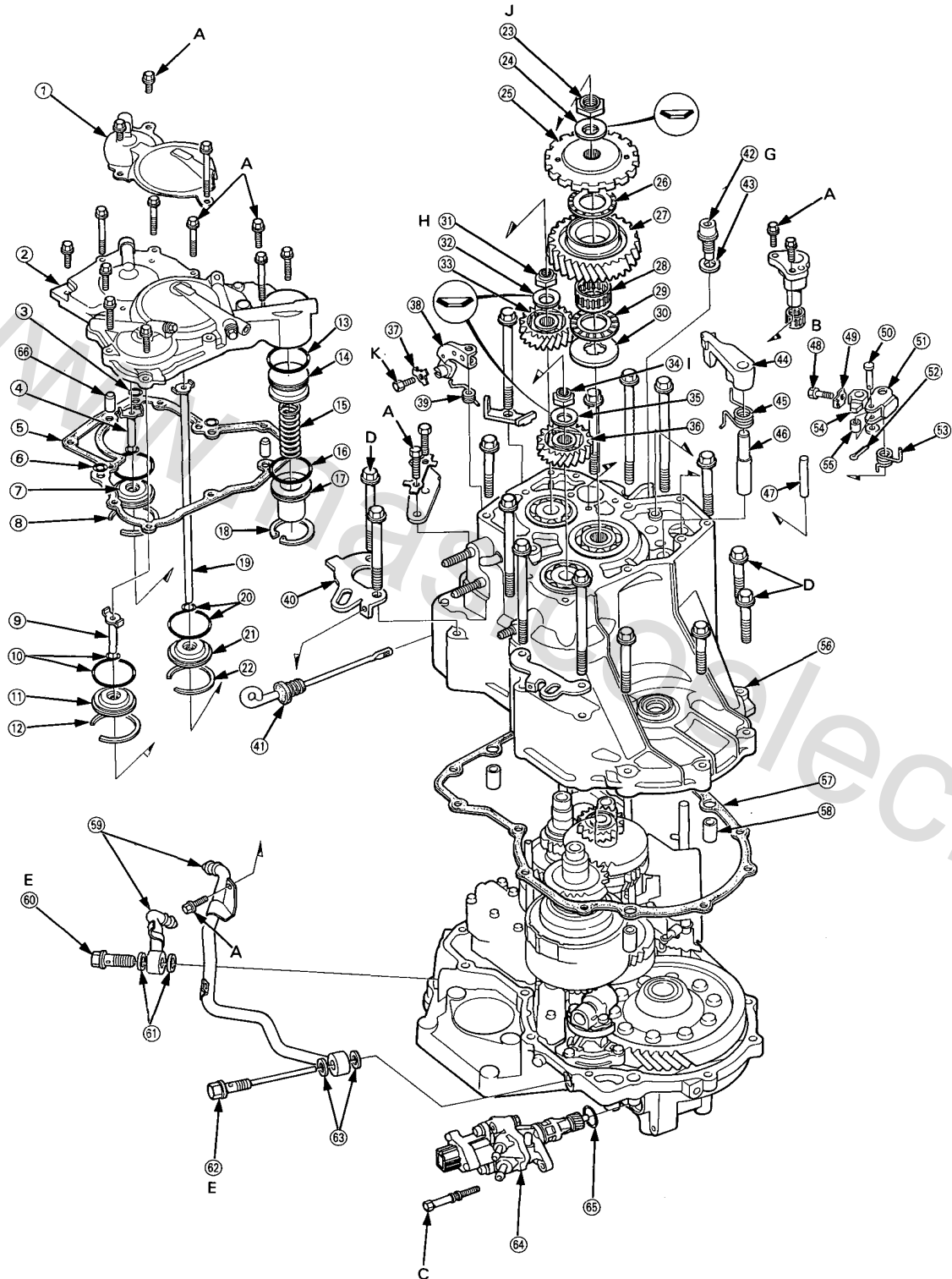
THROTTLE CONTROL LEVER

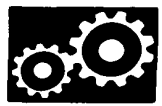


5. After tightening the locknuts, inspect the synchronization and throttle control lever movement.

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## R. Side Cover





- ① R. SIDE COVER PROTECTOR
- ② R. SIDE COVER
- ③ O-RING Replace.
- ④ 4TH CLUTCH FEED PIPE
- ⑤ R. SIDE COVER GASKET Replace.
- ⑥ O-RING Replace.
- ⑦ FEED PIPE GUIDE
- ⑧ SNAP RING
- ⑨ 1ST CLUTCH FEED PIPE
- ⑩ O-RING Replace.
- ⑪ FEED PIPE GUIDE
- ⑫ SNAP RING
- ⑬ O-RING Replace.
- ⑭ 1ST-HOLD ACCUMULATOR PISTON
- ⑮ 1ST-HOLD ACCUMULATOR SPRING
- ⑯ O-RING Replace.
- ⑰ 1ST-HOLD ACCUMULATOR COVER
- ⑱ SNAP RING
- ⑲ 1ST-HOLD CLUTCH FEED PIPE
- ⑳ O-RING Replace.
- ㉑ FEED PIPE GUIDE
- ㉒ SNAP RING
- ㉓ COUNTERSHAFT LOCKNUT, 24 x 1.25 mm  
(Flange nut) Replace.
- ㉔ CONICAL SPRING WASHER Replace.
- ㉕ PARKING GEAR
- ㉖ THRUST NEEDLE BEARING
- ㉗ COUNTERSHAFT IDLER GEAR
- ㉘ NEEDLE BEARING
- ㉙ THRUST NEEDLE BEARING
- ㉚ THRUST WASHER
- ㉛ MAINSHAFT LOCKNUT, 24 x 1.25 mm  
(Flange nut) Replace.  
NOTE: Left-hand threads
- ㉜ CONICAL SPRING WASHER Replace.
- ㉝ MAINSHAFT IDLER GEAR
- ㉞ SECONDARY SHAFT LOCKNUT, 24 x 1.25 mm  
(Flange nut) Replace.
- ㉟ CONICAL SPRING WASHER Replace.
- ㊱ SECONDARY SHAFT IDLER GEAR
- ㊲ LOCK WASHER Replace.
- ㊳ THROTTLE CONTROL LEVER
- ㊴ THROTTLE CONTROL LEVER SPRING
- ㊵ TRANSMISSION HANGER
- ㊶ ATF LEVEL GAUGE
- ㊷ DRAIN PLUG
- ㊸ SEALING WASHER Replace.
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- ㊺ PARKING BRAKE PAWL SPRING
- ㊻ PARKING BRAKE PAWL SHAFT
- ㊼ PARKING BRAKE PAWL STOPPER
- ㊽ SPECIAL BOLT
- ㊾ LOCK WASHER Replace.
- ㊿ ROLLER PIN
- ① PARKING BRAKE LEVER
- ② COTTER PIN Replace.
- ③ PARKING BRAKE SPRING
- ④ PARKING BRAKE STOPPER
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- ⑥ TRANSMISSION HOUSING
- ⑦ TRANSMISSION HOUSING GASKET Replace.
- ⑧ DOWEL PIN
- ⑨ ATF COOLER PIPE
- ⑩ JOINT BOLT
- ⑪ SEALING WASHER Replace.
- ⑫ JOINT BOLT
- ⑬ SEALING WASHER Replace.
- ⑭ SPEEDOMETER SENSOR
- ⑮ O-RING Replace.
- ⑯ DOWEL PIN
- ⑰ REVERSE IDLER GEAR SHAFT HOLDER
- ⑱ NEEDLE BEARING

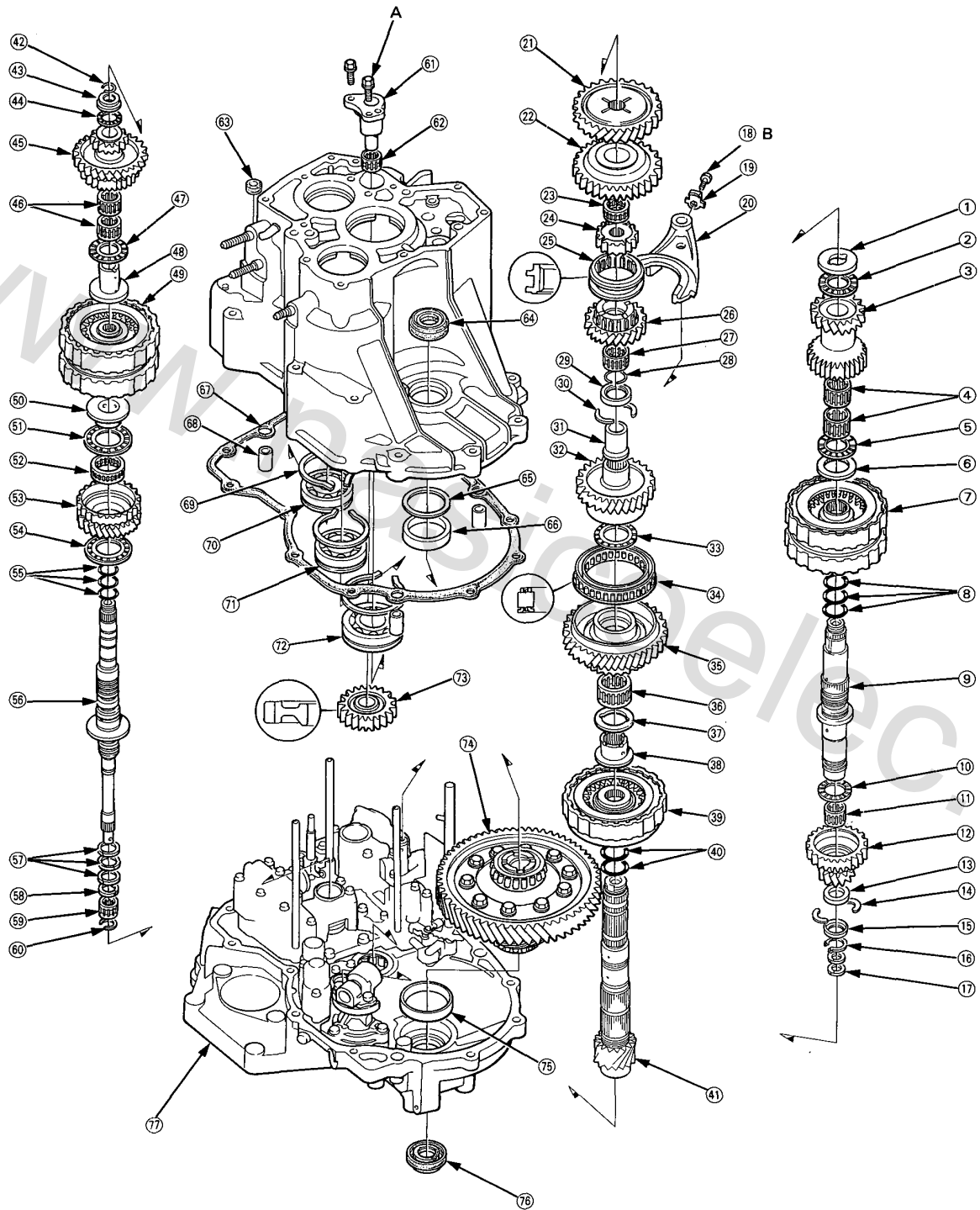
#### TORQUE SPECIFICATIONS

Ref. No.	Torque Value	Bolt Size	Remarks
A	12 N·m (1.2 kg-m, 9 lb-ft)	6 × 1.0 mm	
B	14 N·m (1.4 kg-m, 10 lb-ft)	6 × 1.0 mm	
C	18 N·m (1.8 kg-m, 13 lb-ft)	8 × 1.25 mm	
D	55 N·m (5.5 kg-m, 40 lb-ft)	10 × 1.25 mm	
E	29 N·m (2.9 kg-m, 21 lb-ft)	12 × 1.25 mm	
G	50 N·m (5.0 kg-m, 36 lb-ft)	18 × 1.5 mm	Joint Bolt
H	230 → 0 → 170 N·m (23.0 → 0 → 17.0 kg-m, 166 → 0 → 123 lb-ft)	24 × 1.25 mm	Drain Plug
I	230 → 0 → 170 N·m (23.0 → 0 → 17.0 kg-m, 166 → 0 → 123 lb-ft)	24 × 1.25 mm	Mainshaft Locknut
J	230 → 0 → 170 N·m (23.0 → 0 → 17.0 kg-m, 166 → 0 → 123 lb-ft)	24 × 1.25 mm	Left-hand threads
K	8 N·m (0.8 kg-m, 6 lb-ft)	5 × 0.8 mm	Secondary Shaft
			Locknut
			Countershaft
			Locknut



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## Transmission Housing





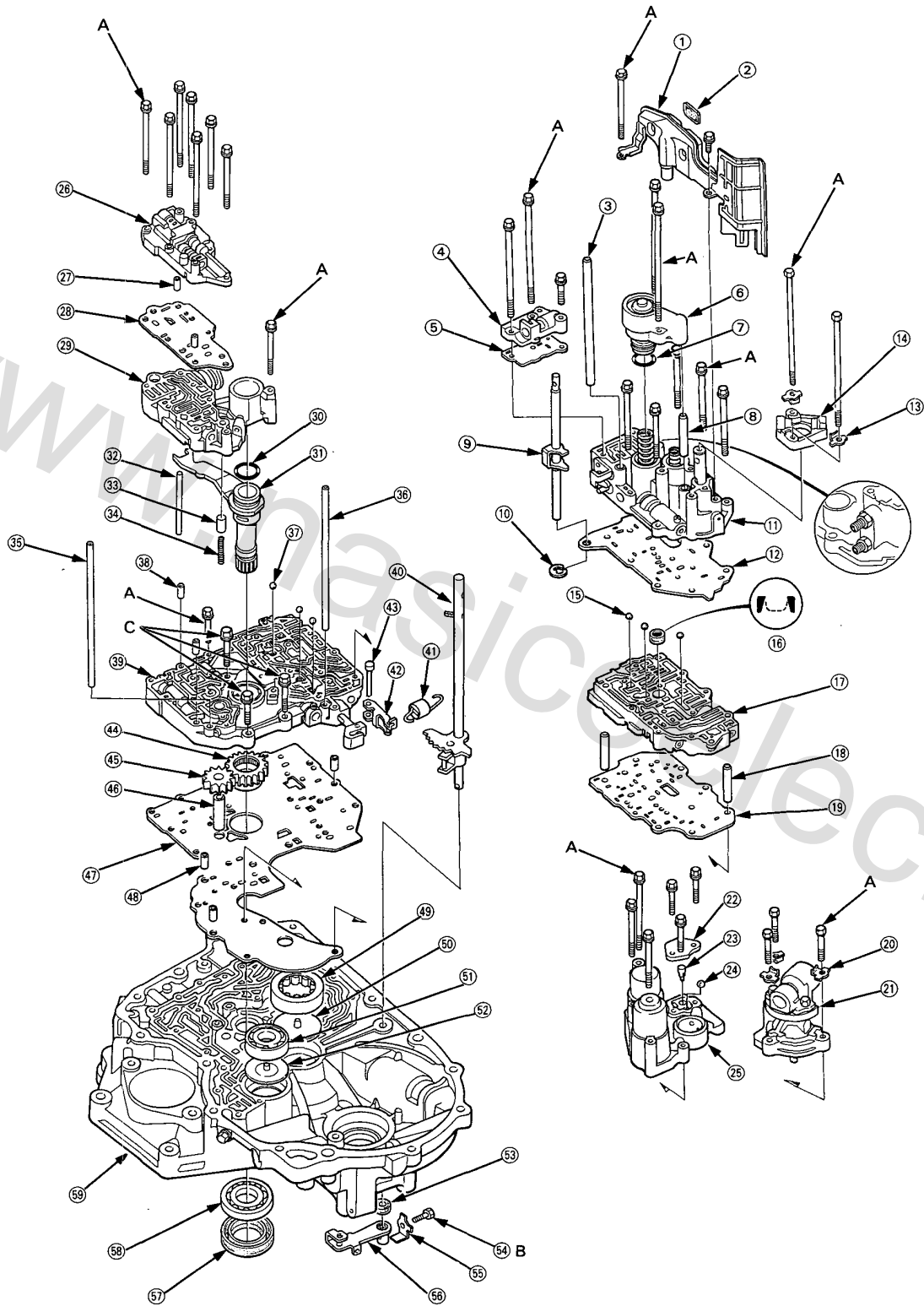
- ① THRUST WASHER
- ② THRUST NEEDLE BEARING
- ③ SECONDARY SHAFT 2ND GEAR
- ④ NEEDLE BEARING
- ⑤ THRUST NEEDLE BEARING
- ⑥ SPLINED WASHER Selective part
- ⑦ 1ST/2ND CLUTCH ASSEMBLY
- ⑧ O-RINGS Replace.
- ⑨ SECONDARY SHAFT
- ⑩ THRUST NEEDLE BEARING
- ⑪ NEEDLE BEARING
- ⑫ SECONDARY SHAFT 1ST GEAR
- ⑬ DISTANCE COLLAR, 5.0 mm
- ⑭ COTTERS, 29 mm
- ⑮ COTTER RETAINER
- ⑯ SNAP RING
- ⑰ SEALING RINGS, 32 mm
- ⑱ LOCK BOLT
- ⑲ LOCK WASHER Replace.
- ⑳ SHIFT FORK
- ㉑ COUNTERSHAFT 2ND GEAR
- ㉒ COUNTERSHAFT REVERSE GEAR
- ㉓ NEEDLE BEARING
- ㉔ REVERSE SELECTOR
- ㉕ REVERSE SELECTOR HUB
- ㉖ COUNTERSHAFT 4TH GEAR
- ㉗ NEEDLE BEARING
- ㉘ SNAP RING
- ㉙ COLLAR, 32 mm
- ㉚ COTTERS, 29 mm
- ㉛ DISTANCE COLLAR
- ㉜ COUNTERSHAFT 3RD GEAR
- ㉝ THRUST NEEDLE BEARING
- ㉞ ONE-WAY CLUTCH
- ㉟ COUNTERSHAFT 1ST GEAR
- ㊱ NEEDLE BEARING
- ㊲ THRUST WASHER
- ㊳ COUNTERSHAFT 3RD GEAR COLLAR
- ㊴ 1ST-HOLD CLUTCH ASSEMBLY
- ㊵ O-RINGS Replace.
- ㊶ COUNTERSHAFT
- ㊷ SNAP RING
- ㊸ COLLAR
- ㊹ THRUST NEEDLE BEARING
- ㊺ MAINSHAFT 4TH/REVERSE GEAR
- ㊻ NEEDLE BEARINGS
- ㊼ THRUST NEEDLE BEARING
- ㊽ 4TH GEAR COLLAR
- ㊾ 3RD/4TH CLUTCH ASSEMBLY
- ㊿ 3RD GEAR COLLAR
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- ⑱ DOWEL PIN
- ⑲ SNAP RING
- ㉑ TRANSMISSION HOUSING MAINSHAFT BEARING
- ㉒ TRANSMISSION HOUSING SECONDARY SHAFT BEARING
- ㉓ TRANSMISSION HOUSING COUNTERSHAFT BEARING
- ㉔ REVERSE IDLER GEAR
- ㉕ DIFFERENTIAL ASSEMBLY
- ㉖ BEARING OUTER RACE
- ㉗ TORQUE CONVERTER HOUSING OIL SEAL Replace.
- ㉘ TORQUE CONVERTER HOUSING

#### TORQUE SPECIFICATIONS

Ref. No.	Torque Value	Bolt Size	Remarks
A	12 N·m (1.2 kg-m, 9 lb-ft)	6 × 1.0 mm	
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## Torque Converter Housing





- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>① ATF STRAINER</li> <li>② MAGNET</li> <li>③ OIL FEED PIPE</li> <li>④ MODULATOR VALVE BODY</li> <li>⑤ MODULATOR SEPARATOR PLATE</li> <li>⑥ 4TH ACCUMULATOR COVER</li> <li>⑦ O-RING Replace.</li> <li>⑧ OIL FEED PIPE</li> <li>⑨ THROTTLE CONTROL SHAFT</li> <li>⑩ E-RING Replace.</li> <li>⑪ SERVO BODY</li> <li>⑫ SERVO SEPARATOR PLATE</li> <li>⑬ LOCK WASHER Replace.</li> <li>⑭ SERVO DETENT BASE</li> <li>⑮ CHECK BALL</li> <li>⑯ FILTER Replace.</li> <li>⑰ SECONDARY VALVE BODY</li> <li>⑱ DOWEL PIN</li> <li>⑲ SECONDARY SEPARATOR PLATE</li> <li>⑳ LOCK WASHER Replace.</li> <li>㉑ GOVERNOR BODY</li> <li>㉒ ACCUMULATOR BODY COVER</li> <li>㉓ 1ST ACCUMULATOR CHOKE</li> <li>㉔ STEEL BALL</li> <li>㉕ 1ST/2ND ACCUMULATOR BODY</li> <li>㉖ THROTTLE VALVE BODY</li> <li>㉗ DOWEL PIN</li> <li>㉘ THROTTLE SEPARATOR PLATE</li> <li>㉙ REGULATOR VALVE BODY</li> <li>㉚ O-RING Replace.</li> <li>㉛ STATOR SHAFT</li> </ul> | <ul style="list-style-type: none"> <li>㉜ STOPPER PIN</li> <li>㉝ TORQUE CONVERTER CHECK VALVE</li> <li>㉞ TORQUE CONVERTER CHECK VALVE SPRING</li> <li>㉟ OIL FEED PIPE</li> <li>㊱ OIL FEED PIPE</li> <li>㊲ CHECK BALL</li> <li>㊳ DOWEL PIN</li> <li>㊴ MAIN VALVE BODY</li> <li>㊵ CONTROL SHAFT ASSEMBLY</li> <li>㊶ DETENT SPRING</li> <li>㊷ DETENT ARM</li> <li>㊸ DETENT ARM SHAFT</li> <li>㊹ OIL PUMP DRIVE GEAR</li> <li>㊺ OIL PUMP DRIVEN GEAR</li> <li>㊻ OIL PUMP DRIVEN GEAR SHAFT</li> <li>㊼ MAIN SEPARATOR PLATE</li> <li>㊽ DOWEL PIN</li> <li>㊾ COUNTERSHAFT NEEDLE BEARING</li> <li>㊿ OIL GUIDE PLATE Replace.</li> <li>① SECONDARY SHAFT BALL BEARING</li> <li>② OIL GUIDE PLATE Replace.</li> <li>③ OIL SEAL Replace.</li> <li>④ SPECIAL BOLT</li> <li>⑤ LOCK WASHER Replace.</li> <li>⑥ CONTROL LEVER</li> <li>⑦ OIL SEAL Replace.</li> <li>⑧ MAINSHAFT BALL BEARING</li> <li>⑨ TORQUE CONVERTER HOUSING</li> </ul> |
|--|---|

#### TORQUE SPECIFICATIONS

Ref. No.	Torque Value	Bolt Size	Remarks
A	12 N·m (1.2 kg-m, 9 lb-ft)	6 × 1.0 mm	
B	14 N·m (1.4 kg-m, 10 lb-ft)	6 × 1.0 mm	
C	18 N·m (1.8 kg-m, 13 lb-ft)	8 × 1.25 mm	

# R. Side Cover

## Removal

### NOTE:

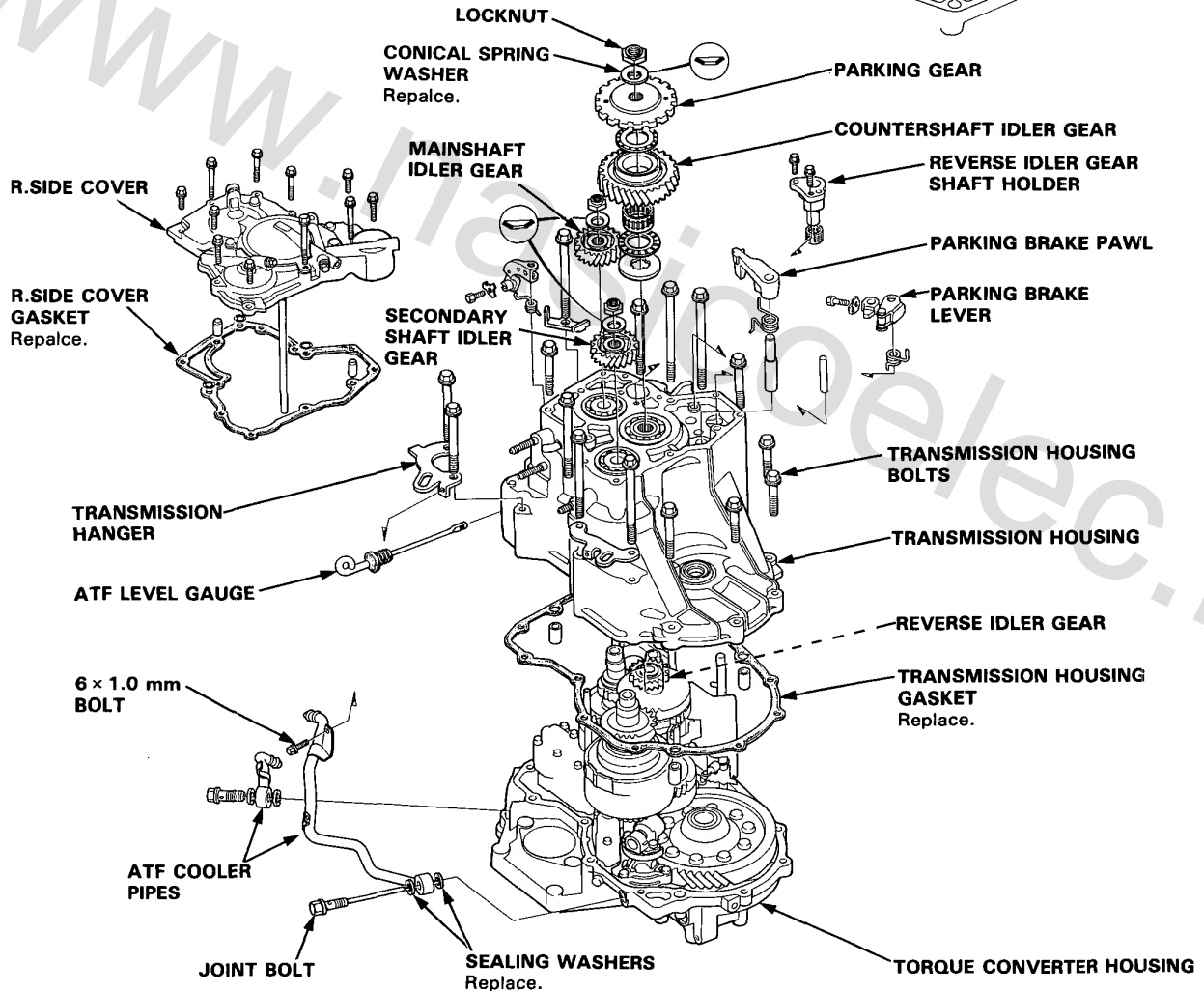
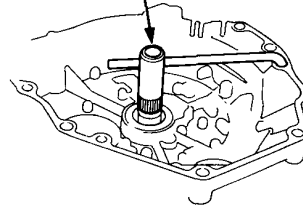
- Clean all parts thoroughly in solvent or carburetor cleaner and dry with compressed air.
- Blow out all passages.
- When removing the transmission R. side cover, replace the following:
  - R. side cover gasket
  - Lock washers
  - Transmission housing gasket
  - O-rings
  - Each shaft locknut and conical spring washer
  - Sealing washers

1. Remove the 11 bolts securing the R. side cover, then remove the cover.

NOTE: It is not necessary to remove the R. side cover protector.

2. Slip the special tool onto the mainshaft.

**MAINSHAFT HOLDER**  
07GAB-PF50101 or  
07GAB-PF50100



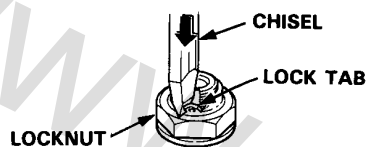


- Engage the parking brake pawl with the parking gear.
- Cut the lock tabs of each shaft locknut using a chisel as shown. Then remove the locknuts and conical spring washers from each shaft.

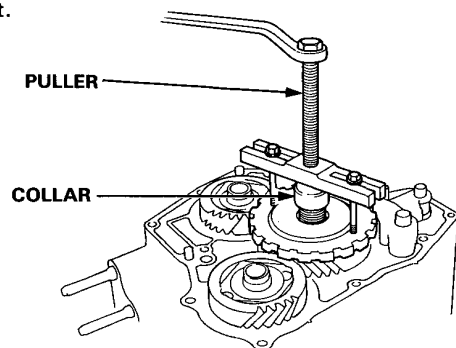
**NOTE:**

- Mainshaft locknut has left-hand threads.
- Clean the old locknuts, they are used when installing to press the idler gears on the mainshaft and secondary shaft and the parking gear on the countershaft.

**CAUTION:** Keep all of the chiseled particles out of the transmission.



- Remove the special tool from the mainshaft after removing the locknuts.
- Remove the parking gear using a puller from the countershaft as shown. Then remove the idler gears using a puller from the mainshaft and secondary shaft.



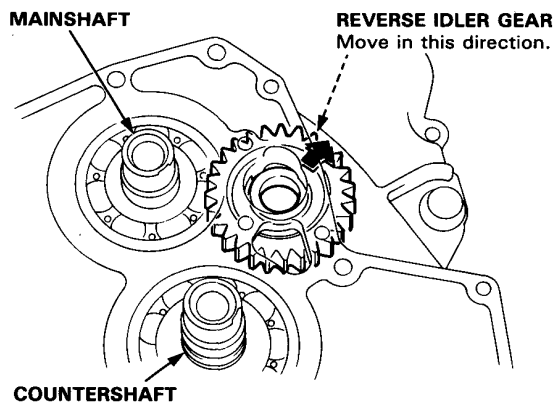
- Remove the countershaft idler gear, needle bearing, thrust needle bearing, and thrust washer from the countershaft.
- Remove the parking brake pawl, spring, shaft, and stopper from the housing.
- Remove the throttle control lever and spring from the throttle control shaft.
- Remove the ATF cooler pipe mounting bolt from the transmission hanger.
- Remove the transmission housing mounting bolts.

- Remove the reverse idler gear shaft assembly.

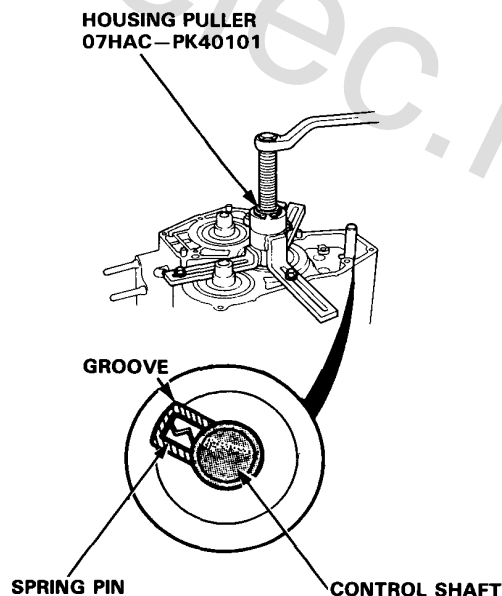
**NOTE:** The steel ball will not pop out because it is staked in the shaft.

- Move the reverse idler gear to disengage it from the countershaft reverse gear as shown.

**NOTE:** The transmission housing will not separate from the torque converter housing if the reverse idler gear is not removed.

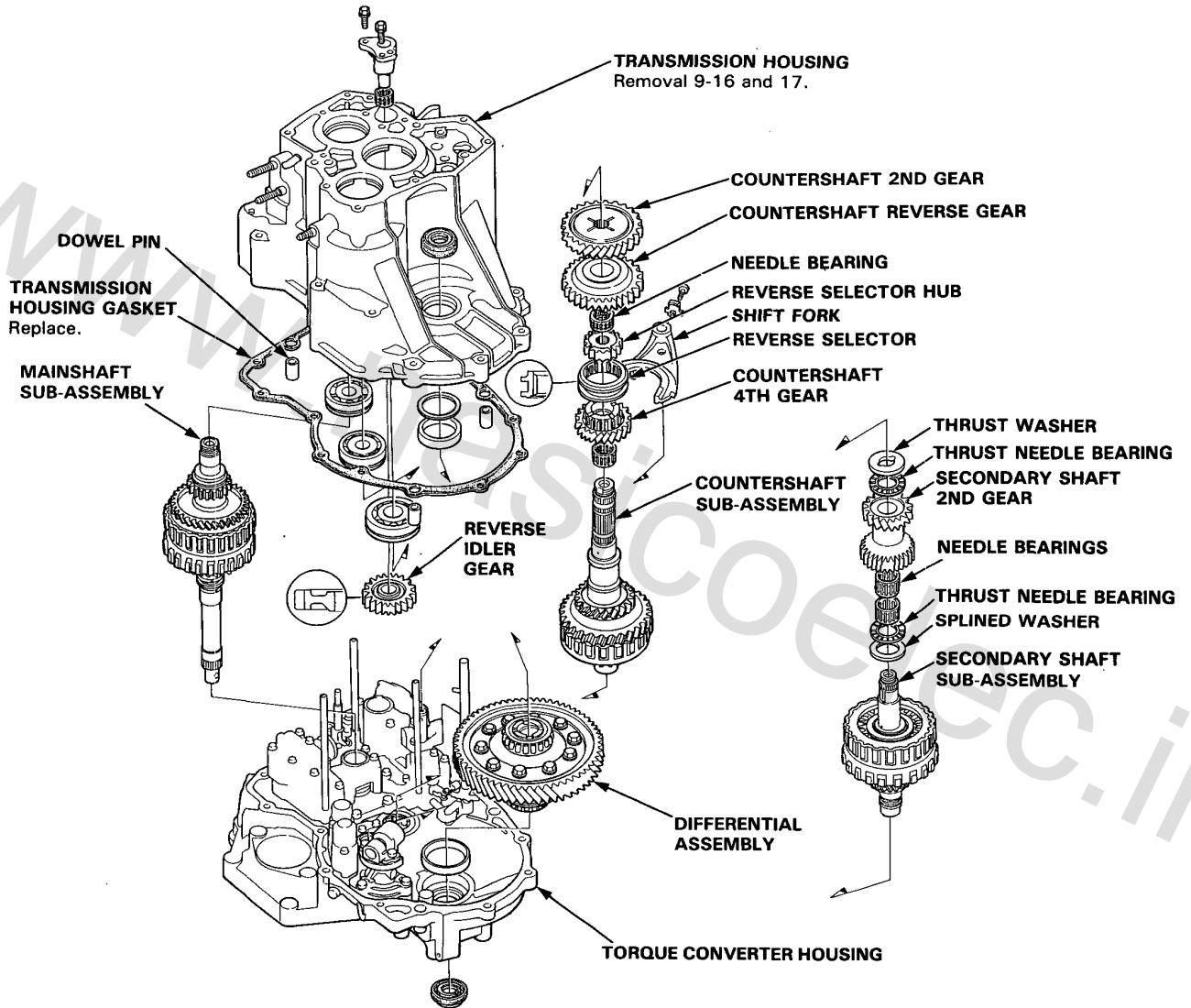


- Align the spring pin with the transmission housing groove by turning the control shaft.
- Install the special tool on the transmission housing, then remove the housing as shown.



# Transmission Housing

## Removal





**NOTE:**

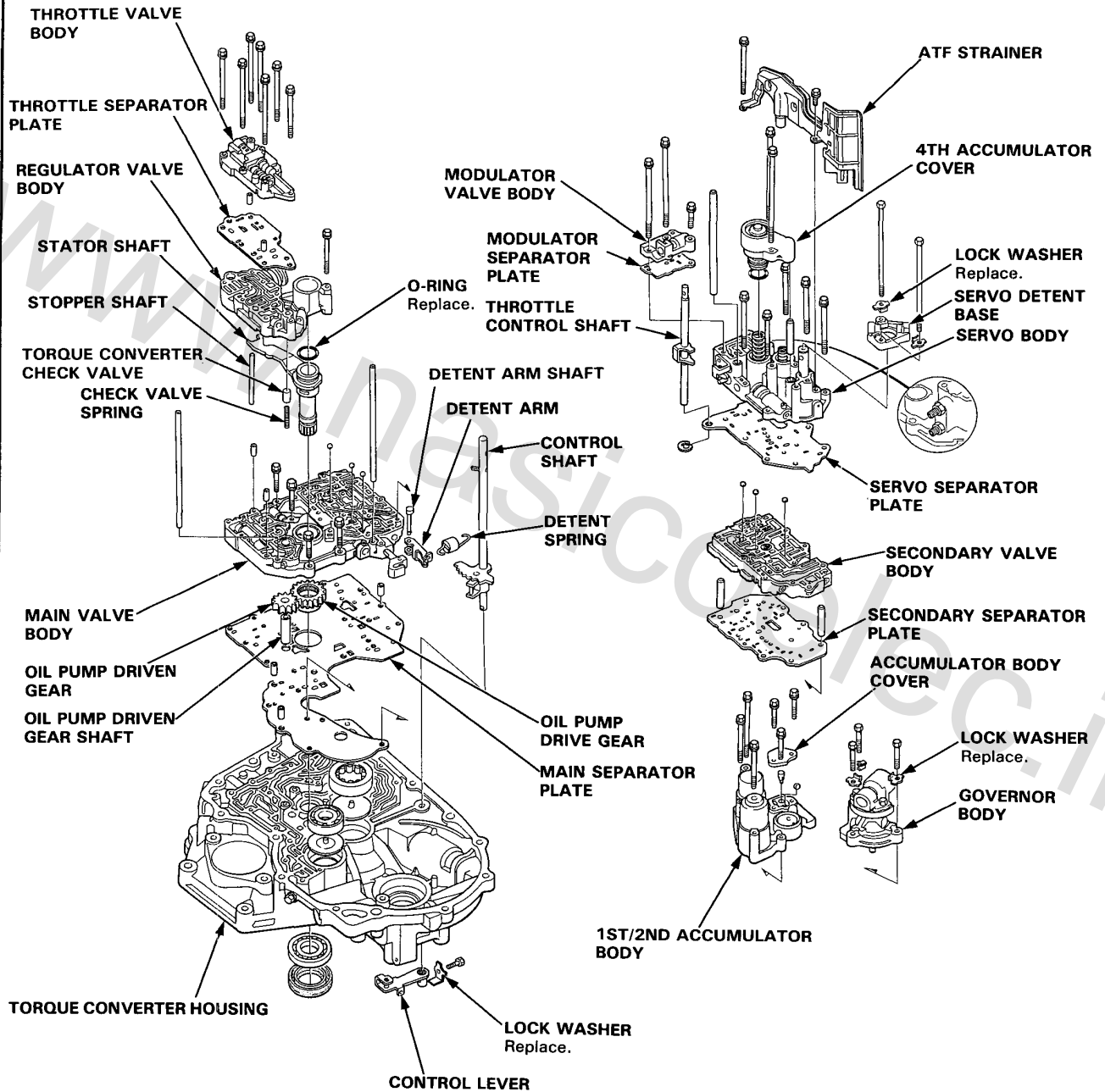
- Clean all parts thoroughly in solvent or carburetor cleaner and dry with compressed air.
- Blow out all passages.
- When removing the transmission housing, replace the following:
  - Transmission housing gasket
  - Lock washer

1. Remove the transmission housing (9-16 and 17).
2. Remove the reverse idler gear from the transmission housing.
3. Remove the countershaft 2nd gear, reverse gear, secondary shaft 2nd gear, thrust washer, and thrust needle bearing together from the countershaft and secondary shaft.
4. Remove the lock bolt securing the shift fork, then remove the fork with the reverse selector from the countershaft.
5. Remove the needle bearings, thrust needle bearing, and splined washer from the secondary shaft.
6. Remove the secondary shaft sub-assembly.
7. Remove the mainshaft sub-assembly.
8. Remove the countershaft sub-assembly.
9. Remove the differential assembly.



# Torque Converter Housing/Valve Body

## Removal





**NOTE:**

- Clean all parts thoroughly in solvent or carburetor cleaner and dry with compressed air.
- Blow out all passages.
- When removing the valve body replace the following:
  - O-rings
  - Lock washers

1. Remove the lock bolt securing the control lever, then remove the control lever.
2. Remove the 2 bolts securing the servo detent base, then remove the servo detent base.
3. Remove the 2 bolts securing the ATF strainer, then remove the ATF strainer.
4. Remove the oil feed pipes from the servo body and main valve body.
5. Remove the 3 bolts securing the modulator valve body, then remove the modulator valve body and separator plate.
6. Remove the 2 bolts securing the 4th accumulator cover, then remove the 4th accumulator cover and oil feed pipe.

**NOTE:** The 4th accumulator cover is spring loaded, to prevent stripping the threads in the servo body, press down on the accumulator cover while unscrewing the bolts.

7. Remove the 5 bolts securing the servo body, then remove the servo body and separator plate.
8. Remove the secondary valve body and separator plate.
9. Remove the 7 bolts securing the throttle valve body, then remove the throttle valve body and separator plate.
10. Remove the 1 bolt securing the regulator valve body, then remove the regulator valve body.

11. Remove the stator shaft and stopper shaft.
12. Remove the detent spring from the detent arm, then remove the control shaft from the torque converter housing.
13. Remove the detent arm and detent arm shaft from the main valve body.
14. Remove the 4 bolts securing the main valve body, then remove the main valve body.
15. Remove the 6 bolts securing the 1st/2nd accumulator body, then remove the 1st/2nd accumulator body.
16. Remove the 3 bolts securing the governor body, then remove the governor body.
17. Remove the oil pump driven gear shaft, then remove the oil pump gears.
18. Remove the main separator plate with 3 dowel pins.

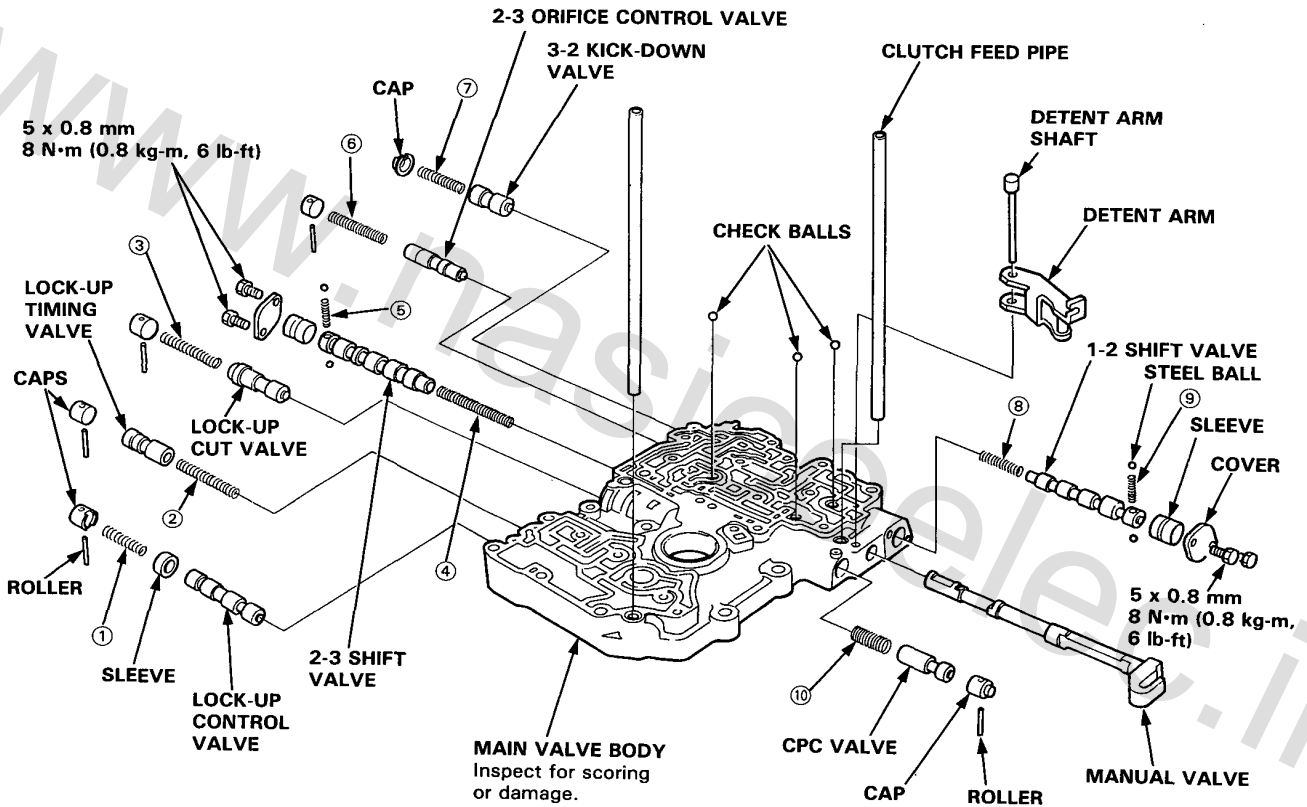
# Main Valve Body

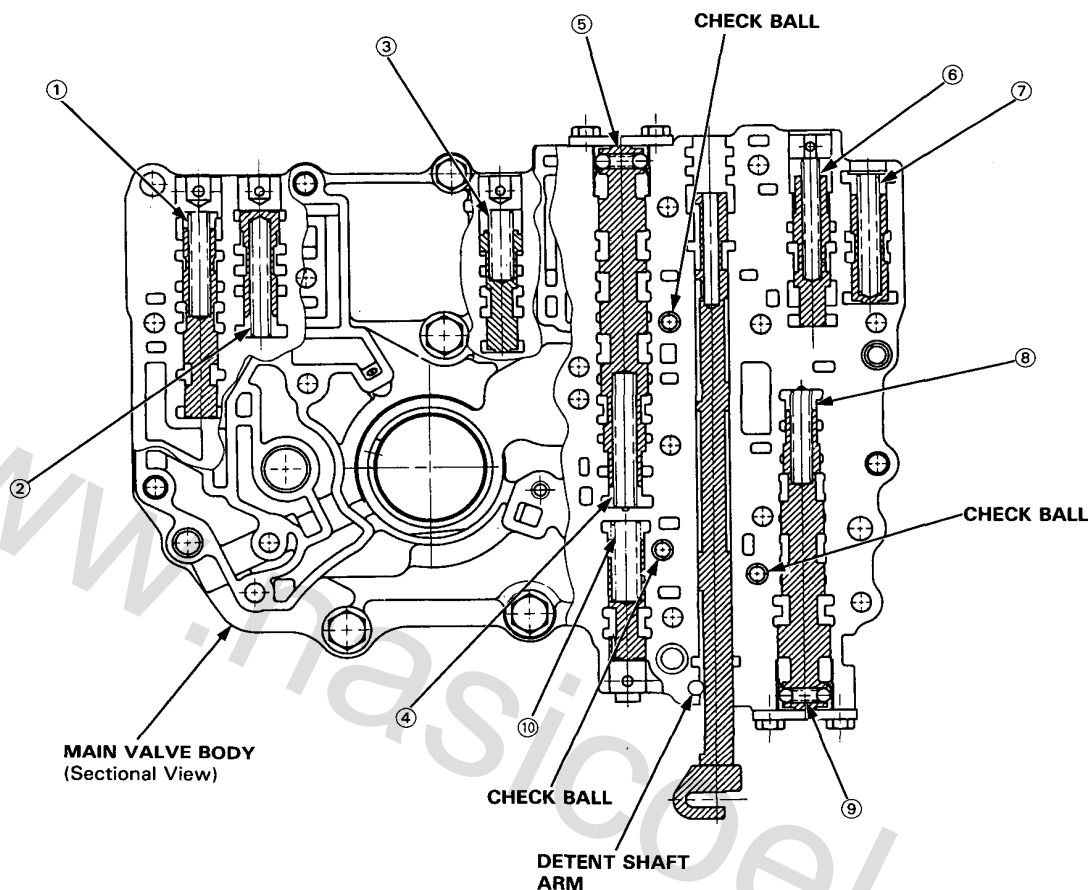
## Disassembly/Inspection/Reassembly

### NOTE:

- Clean all parts thoroughly in solvent or carburetor cleaner, and dry with compressed air. Blow all passages.
- Replace valve body as an assembly if any parts are worn or damaged.
- Check all valves for free movement. If any fail to slide freely, see Valve Body Repair.
- Coat all parts with ATF before reassembly.

**CAUTION:** Do not use a magnet to remove the check balls; it may magnetize the balls.





### SPRING SPECIFICATIONS

Unit of length: mm (in)

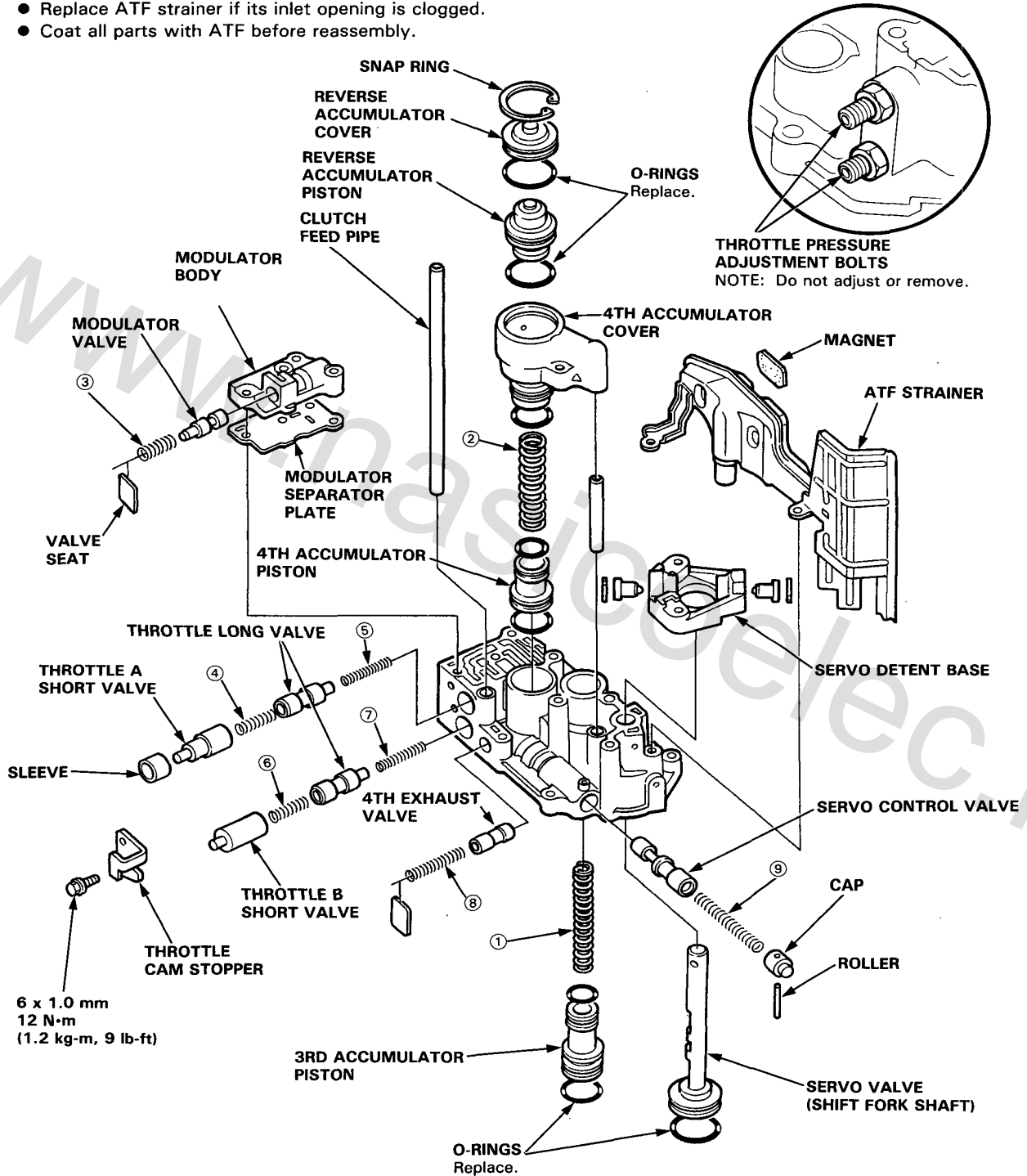
No.	SPRING	STANDARD (NEW)				
		WIRE DIA.	O.D.	FREE LENGTH	No. of COILS	
①	Lock-Up Control Spring	0.7 (0.028)	6.6 (0.260)	42.9 (1.689)	14.1	
②	Lock-Up Timing A Spring	F20A2	0.9 (0.035)	6.6 (0.260)	55.9 (2.201)	27.3
		F20A3	0.9 (0.035)	6.6 (0.260)	50.0 (1.969)	27.3
③	Lock-Up Cut Spring	0.7 (0.028)	7.6 (0.299)	31.0 (1.220)	12.7	
④	2-3 Shift Spring	F20A2	0.9 (0.035)	7.6 (0.299)	70.0 (2.756)	28.2
		F20A3	0.8 (0.031)	7.6 (0.299)	58.9 (2.319)	16.8
⑤	2-3 Shift Ball Spring	F20A2	0.5 (0.020)	4.5 (0.177)	11.7 (0.461)	10.5
		F20A3	0.5 (0.020)	4.5 (0.177)	14.1 (0.555)	10.5
⑥	2-3 Orifice Control Spring	0.7 (0.028)	6.6 (0.260)	53.3 (2.098)	20.5	
⑦	3-2 Kick-Down Spring	1.2 (0.047)	7.1 (0.280)	46.9 (1.846)	20.6	
⑧	1-2 Shift Spring	F20A2	0.5 (0.020)	4.6 (0.181)	42.3 (1.665)	25.0
		F20A3	0.6 (0.024)	6.1 (0.240)	42.3 (1.665)	21.1
⑨	1-2 Shift Ball Spring	F20A2	0.4 (0.016)	4.5 (0.177)	13.0 (0.512)	8.7
		F20A3	0.4 (0.016)	4.5 (0.177)	12.6 (0.496)	8.7
⑩	CPC Valve Spring	1.4 (0.055)	9.4 (0.370)	31.2 (1.228)	10.9	

# Servo Body

## Disassembly/Inspection/Reassembly

**NOTE:**

- Clean all parts thoroughly in solvent or carburetor cleaner, and dry with compressed air. Blow out all passages.
- Replace the servo body as an assembly if any parts are worn or damaged.
- Replace ATF strainer if its inlet opening is clogged.
- Coat all parts with ATF before reassembly.





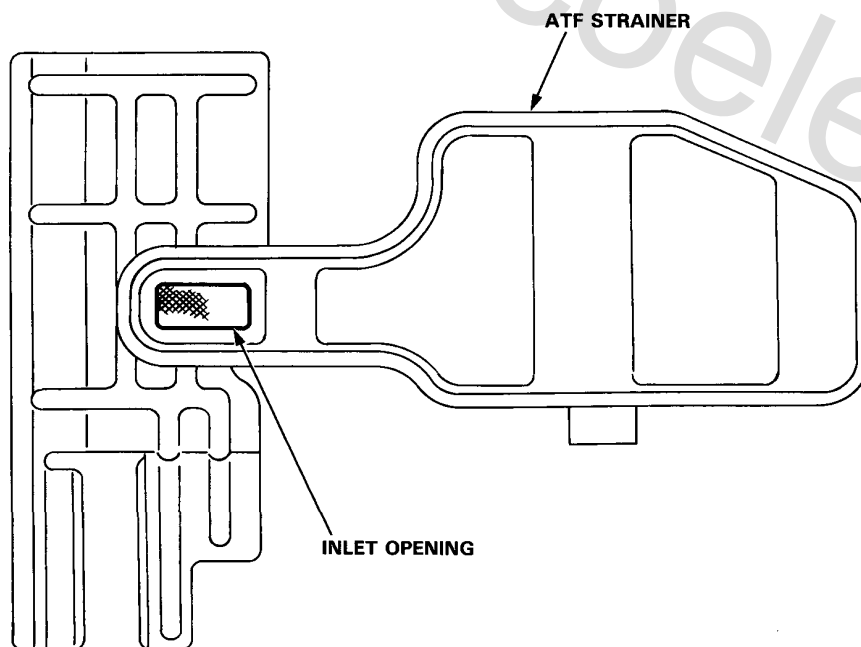
## SPRING SPECIFICATIONS

Unit of length: mm (in)

No.	SPRING	STANDARD (NEW)				
		WIRE DIA.	O.D.	FREE LENGTH	No. of COILS	
①	3rd Accumulator Spring	2.6 (0.102)	17.5 (0.689)	78.6 (3.094)	11	
②	4th Accumulator Spring	2.6 (0.102)	16.0 (0.630)	84.6 (3.331)	14.3	
③	Modulator Spring	F20A2	1.2 (0.047)	9.4 (0.370)	27.2 (1.071)	8.0
		F20A3	1.2 (0.047)	9.4 (0.370)	26.3 (1.035)	8.0
④	Throttle A Spring	1.0 (0.039)	8.5 (0.335)	21.0 (0.827)	5.8	
		1.0 (0.039)	8.5 (0.335)	21.0 (0.827)	5.4	
		1.0 (0.039)	8.5 (0.335)	22.2 (0.874)	6.0	
		1.0 (0.039)	8.5 (0.335)	22.1 (0.870)	5.5	
⑤	Throttle A Adjusting Spring	0.8 (0.031)	6.2 (0.244)	27.0 (1.063)	8.5	
⑥	Throttle B Spring	1.4 (0.055)	8.5 (0.335)	41.6 (1.638)	14.0	
		1.4 (0.055)	8.5 (0.335)	41.5 (1.634)	10.5	
		1.4 (0.055)	8.5 (0.335)	41.5 (1.634)	11.2	
		1.4 (0.055)	8.5 (0.335)	41.6 (1.638)	12.4	
⑦	Throttle B Adjusting Spring	0.8 (0.031)	6.2 (0.244)	30.0 (1.181)	8	
⑧	4th Exhaust Spring	0.8 (0.031)	6.1 (0.240)	51.1 (2.012)	26.6	
⑨	Servo Control Spring	0.9 (0.035)	6.4 (0.252)	32.5 (1.280)	17.5	

### NOTE:

- After disassembly of the ATF strainer, check that it is in good condition, and the inlet opening is not clogged. Replace the strainer with a new one if it is clogged or damaged.
- The strainer can be reused if it is not clogged. Clean the inlet opening thoroughly with compressed air before reinstalling it.

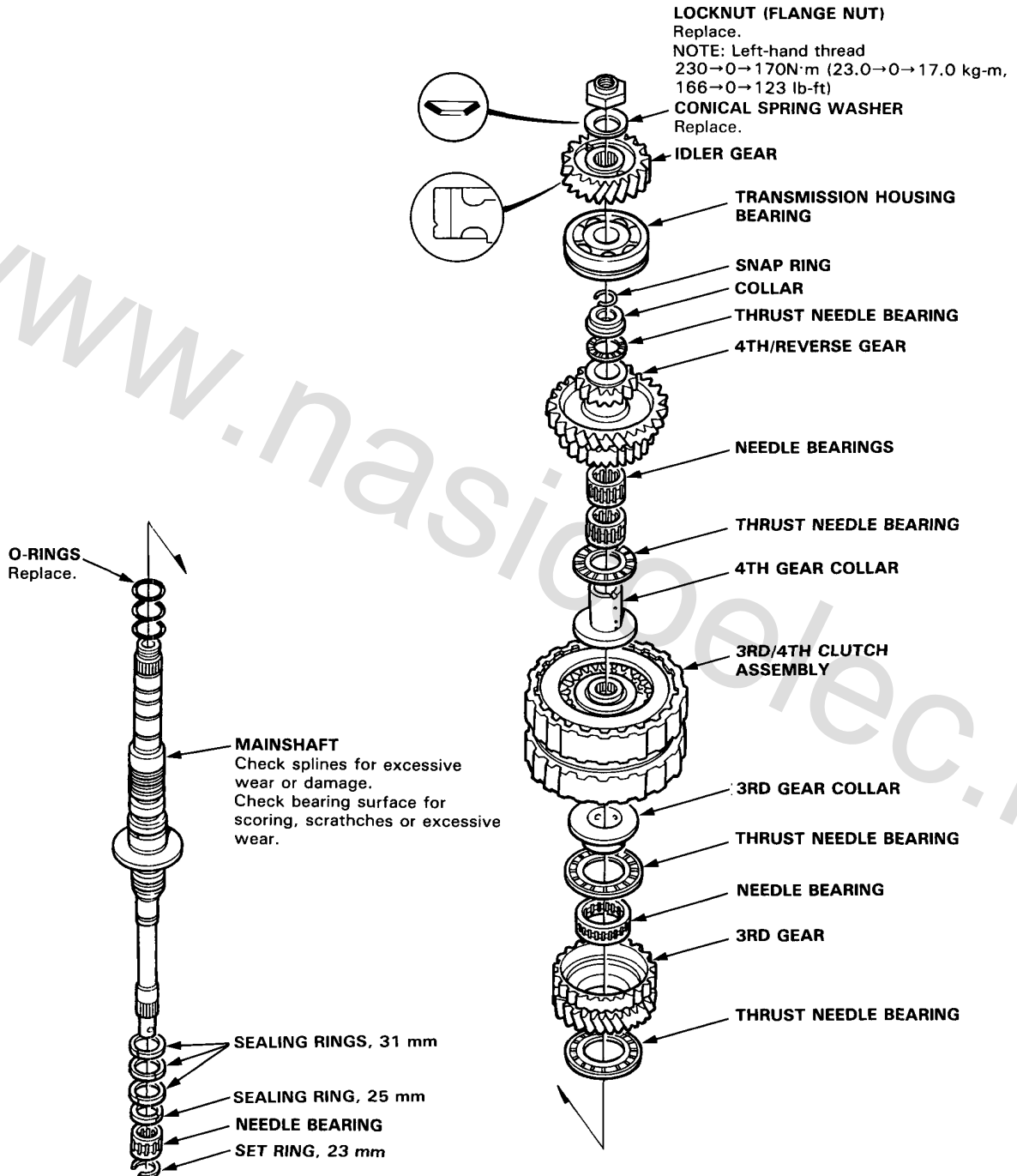


# Mainshaft

## Disassembly/Inspection/Reassembly

### NOTE:

- Lubricate all parts with ATF during reassembly.
- Install thrust needle bearings with unrolled edge of bearing retainer facing washer.
- Inspect thrust needle and needle bearings for galling and rough movement.
- Before installing the O-rings, wrap the shaft splines with tape to prevent damage to the O-rings.



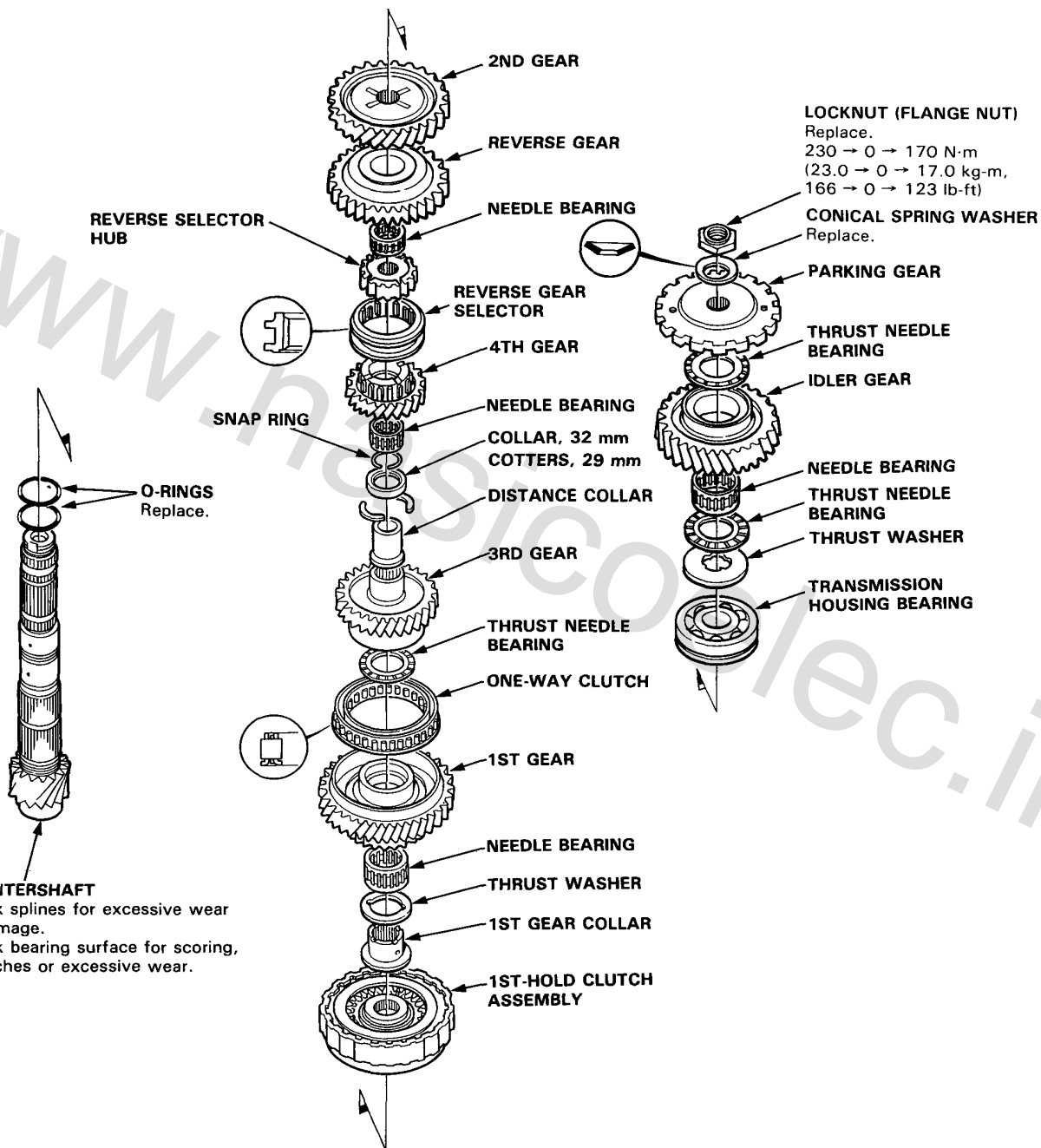


# Countershaft

## Disassembly/Inspection/Reassembly

### NOTE:

- Lubricate all parts with ATF during reassembly.
- Install thrust needle bearings with unrolled edge of bearing retainer facing washer.
- Inspect thrust needle and needle bearings for galling and rough movement.
- Before installing the O-rings, wrap the shaft splines with tape to prevent damage to the O-rings.



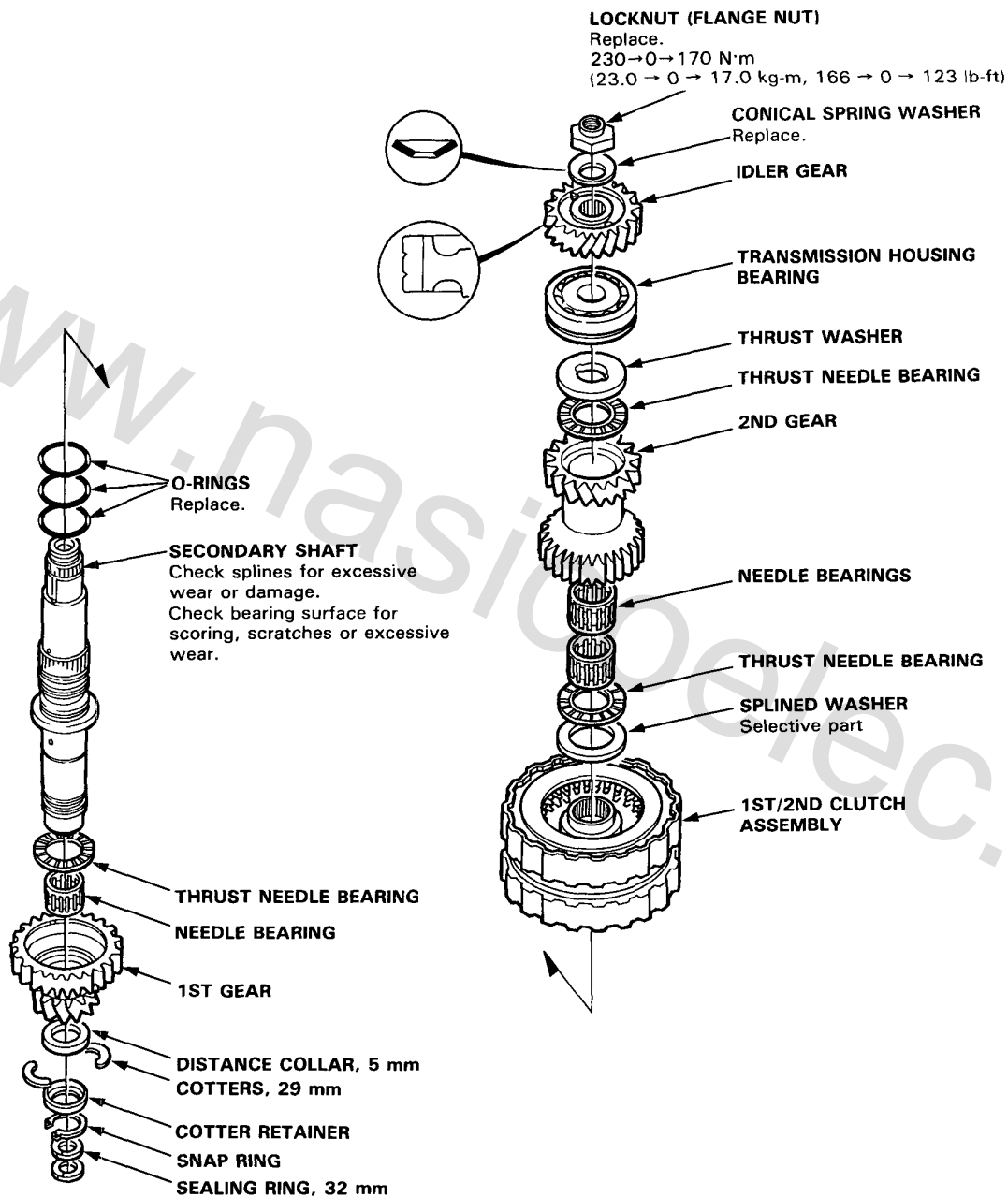


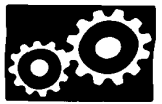
# Secondary Shaft

## Disassembly/Inspection/Reassembly

### NOTE:

- Lubricate all parts with ATF during reassembly.
- Install thrust needle bearings with unrolled edge of bearing retainer facing washer.
- Inspect thrust needle and needle bearings for galling and rough movement.
- Before installing the O-ring, wrap the shaft splines with tape to prevent damage to the O-rings.



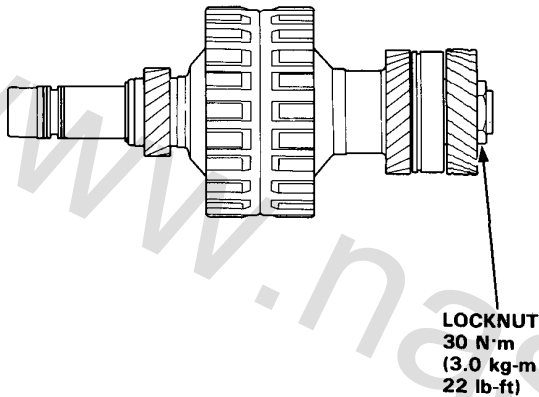


## Inspection

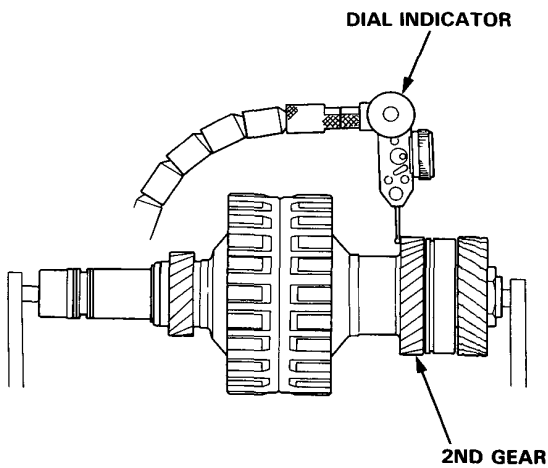
### • Clearance Measurement

NOTE: Lubricate all parts with ATF during assembly.

1. Remove the secondary shaft bearing from the transmission housing (see page 9-33).
2. Assemble the secondary shaft assembly without O-rings, then torque the secondary shaft locknut to 30 N·m (3.0 kg·m, 22 lb·ft).



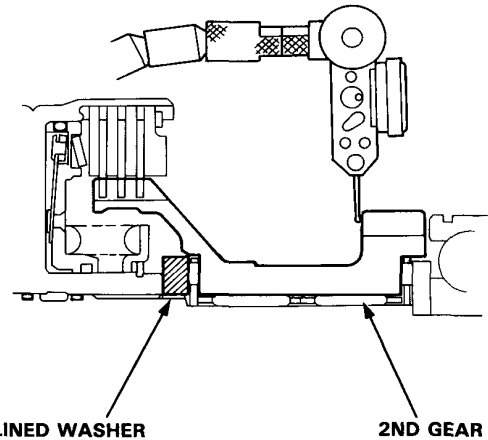
3. Attach the dial indicator to the secondary shaft 2nd gear as shown.



4. Measure the 2nd gear axial clearance moving the 2nd gear.

**STANDARD: 0.07–0.15 mm (0.003–0.006 in)**

NOTE: Take measurement in at least three places and take average as the actual clearance.



5. If the clearance is out of tolerance, remove the splined washer and measure the thickness.

### SPLINED WASHER

No	Part Number	Thickness
1	90406-PX3-700	3.85 mm (0.152 in)
2	90407-PX3-700	3.90 mm (0.154 in)
3	90408-PX3-700	3.95 mm (0.156 in)
4	90409-PX3-700	4.00 mm (0.157 in)
5	90410-PX3-700	4.05 mm (0.159 in)
6	90411-PX3-700	4.10 mm (0.161 in)
7	90412-PX3-700	4.15 mm (0.163 in)
8	90413-PX3-700	4.20 mm (0.165 in)
9	90414-PX3-700	4.25 mm (0.167 in)

6. After replacing the splined washer, make sure that the clearance is within tolerance.

# Clutch

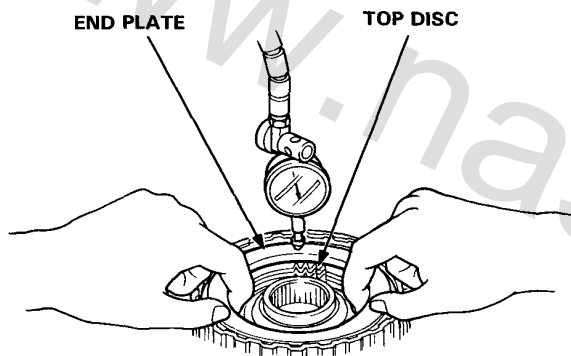
## Inspection

1. Measure the clearance between the clutch end plate and top disc with a dial indicator. Zero the dial indicator with the clutch end plate lowered and lift it up to the snap ring. The distance that the clutch end plate moves is the clearance between the clutch end plate and top disc.

NOTE: Measure at three locations.

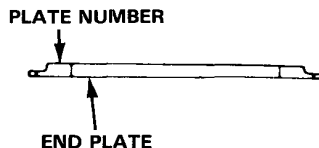
### End Plate-to-Top Disc Clearance:

Clutch	Service Limit
1st	0.65–0.85 mm (0.026–0.033 in)
2nd	0.65–0.85 mm (0.026–0.033 in)
3rd	0.40–0.60 mm (0.016–0.024 in)
4th	0.40–0.60 mm (0.016–0.024 in)
1st-Hold	0.80–1.00 mm (0.031–0.039 in)



2. If the clearance is not within the service limits, select a new clutch end plate from the following table.

NOTE: If the thickest clutch end plate is installed but the clearance is still over the standard, replace the clutch discs and clutch plates.



### CLUTCH END PLATE

#### • 1ST and 2ND CLUTCHES

Plate No.	Part Number	Thickness mm (in)
1	22631-PR9-003	2.1 (0.083)
2	22632-PR9-003	2.2 (0.087)
3	22633-PR9-003	2.3 (0.091)
4	22634-PR9-003	2.4 (0.094)
5	22635-PR9-003	2.5 (0.098)
6	22636-PR9-003	2.6 (0.102)
7	22637-PR9-003	2.7 (0.106)
8	22638-PR9-003	2.8 (0.110)
9	22639-PR9-003	2.9 (0.114)

#### • 3RD and 4TH CLUTCHES

Plate No.	Part Number	Thickness mm (in)
1	22551-PF4-000	2.1 (0.082)
2	22552-PF4-000	2.2 (0.086)
3	22553-PF4-000	2.3 (0.090)
4	22554-PF4-000	2.4 (0.094)
5	22555-PF4-000	2.5 (0.098)
6	22556-PF4-000	2.6 (0.102)
7	22557-PF4-000	2.7 (0.106)
8	22558-PF4-000	2.8 (0.110)
9	22559-PF4-000	2.9 (0.114)
10	22560-PF4-000	3.0 (0.118)

#### • 1ST-HOLD CLUTCH

Plate No.	Part Number	Thickness mm (in)
1	22551-PX4-003	2.1 (0.083)
2	22552-PX4-003	2.2 (0.087)
3	22553-PX4-003	2.3 (0.091)
4	22554-PX4-003	2.4 (0.094)
5	22555-PX4-003	2.5 (0.098)
6	22556-PX4-003	2.6 (0.102)
7	22557-PX4-003	2.7 (0.106)
8	22558-PX4-003	2.8 (0.110)
9	22559-PX4-003	2.9 (0.114)



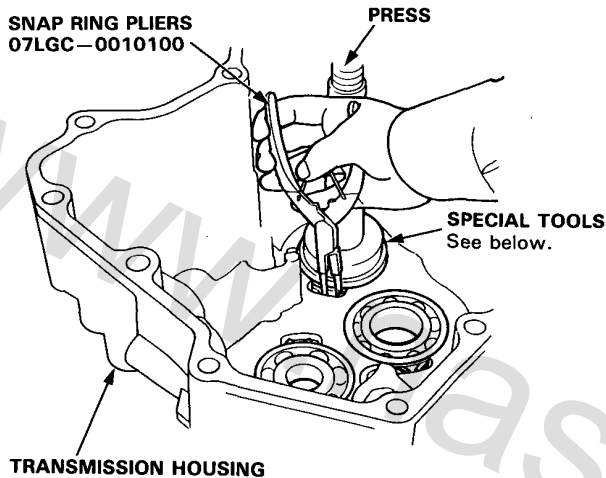
# Transmission Housing Bearings

## Removal/Installation

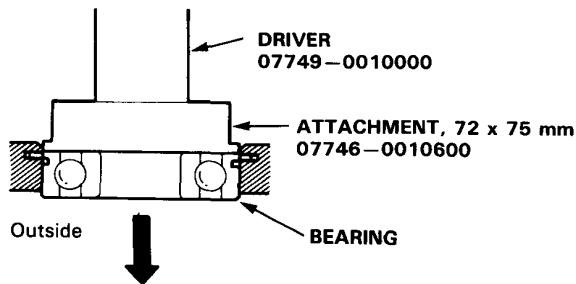
NOTE: Lubricate all parts with ATF before assembly.

1. To remove the mainshaft, countershaft and secondary shaft bearings from the transmission housing, expand each snap ring with snap ring pliers, then push the bearing out using the special tool and a press as shown.

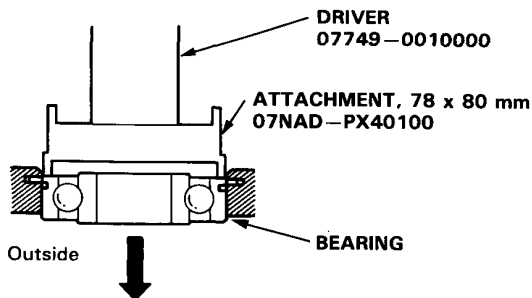
NOTE: Do not remove the snap rings unless it's necessary to clean the grooves in the housing.



### • Mainshaft and Secondary Shaft Bearings

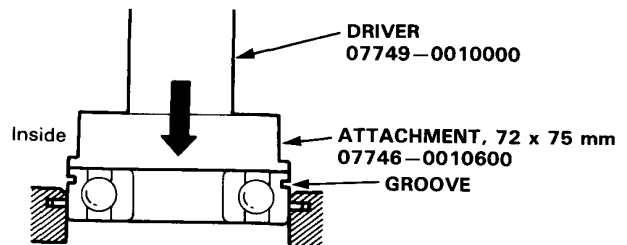


### • Countershaft Bearing

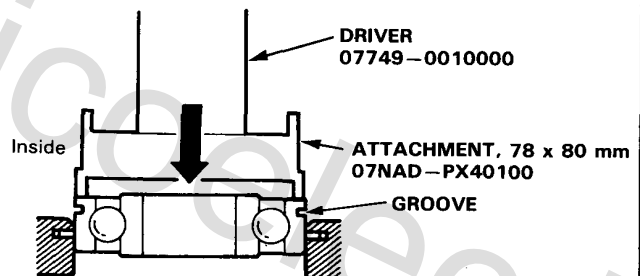


2. Expand each snap ring with snap ring pliers, insert the new bearing part-way into the housing using the special tool and a press as shown. Install with groove side of the bearing facing inside the housing.
3. Release the pliers, then push the bearing down into the housing until the snap ring snaps in place around it.

### • Mainshaft and Secondary Shaft Bearings

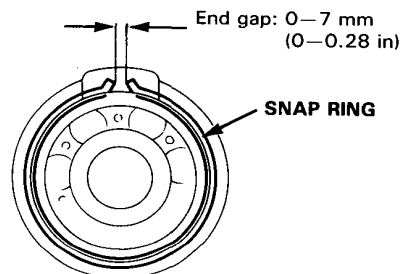


### • Countershaft Bearing



4. After installing the ball bearings verify the following:

- The snap ring is seated in the bearing and housing grooves.
- The snap ring operates freely.
- The ring end gap is correct.

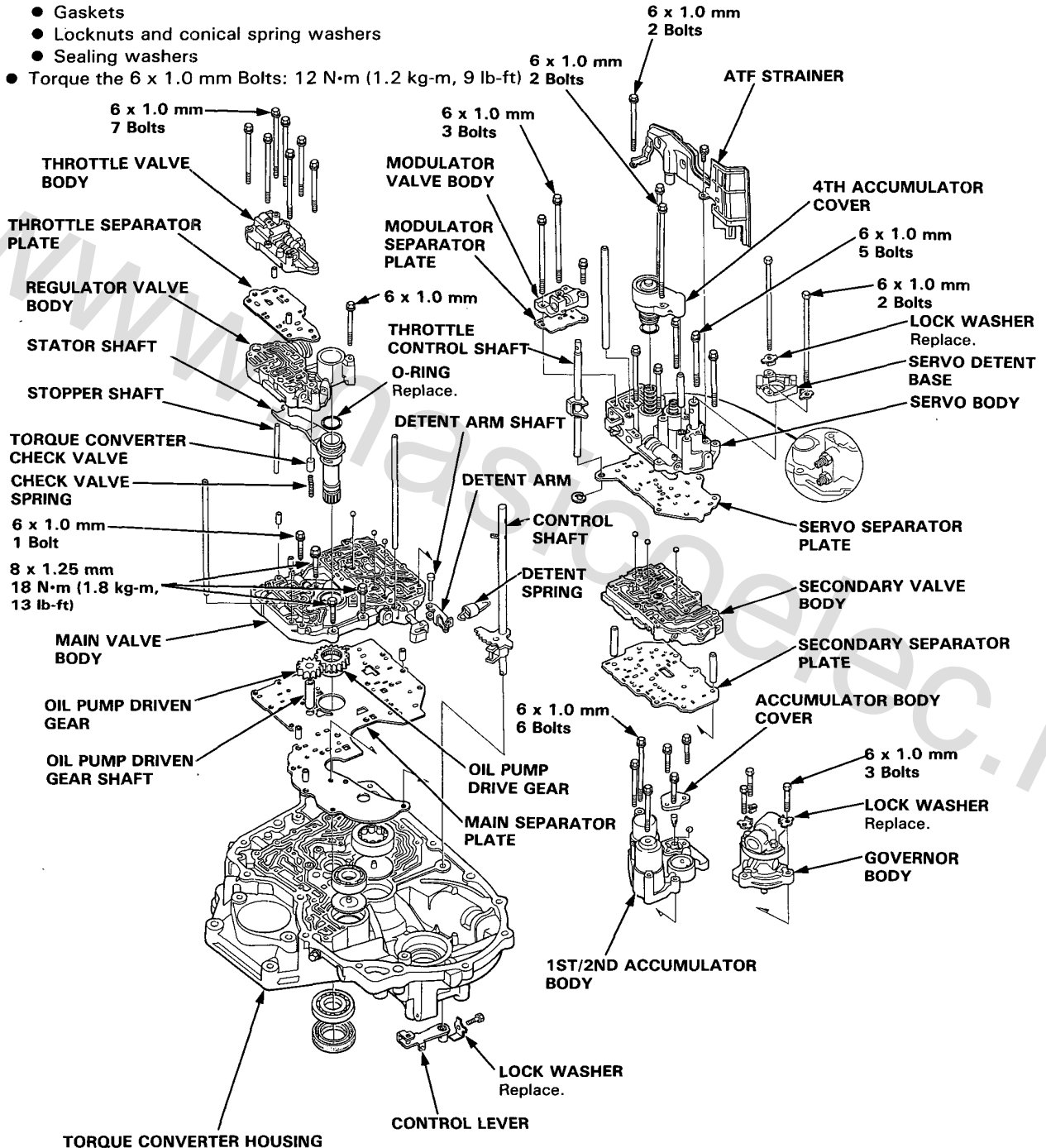


# Transmission/Valve Body

## Reassembly

### NOTE:

- Coat all parts with ATF.
- Replace these parts:
  - O-rings
  - Lock washers
  - Gaskets
  - Locknuts and conical spring washers
  - Sealing washers
- Torque the 6 x 1.0 mm Bolts: 12 N·m (1.2 kg-m, 9 lb-ft)



## **Special Tools**

### **Description**

**Transmission Sectional View**

**Electrical Control System**

### **Component Location**

### **Circuit Diagram**

### **Electrical Troubleshooting**

**Troubleshooting Procedures**

**Symptom - to -Component Chart**

**Troubleshooting Flowchart**

### **Road Test**

### **Pressure Testing**

### **Shift Indicator Panel**

### **Shift Cable**

### **Gearshift Selector**

### **Throttle Control Cable**

### **Illustration Index**

**R. Side Cover**

**Transmission Housing**

**Torque Converter Housing**

### **R. Side Cover**

**Removal**

### **Transmission Housing**

**Removal**

### **Torque Converter Housing/Valve Body**

**Removal**

### **Main Valve Body**

### **Secondary Valve Body**

### **Mainshaft**

### **Countershaft**

### **Secondary Shaft**

### **Transmission Housing Bearings**

**Removal/Installation**

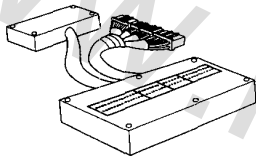
### **Transmission**

**Reassembly**

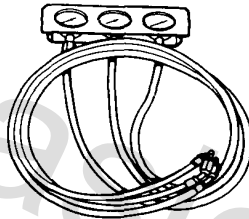
[www.nasicoelec.ir](http://www.nasicoelec.ir)

# Special Tools

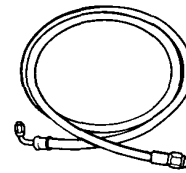
Ref. No.	Tool Number	Description	Qty	Remarks
①	07LAJ—PT30100 or 07LAJ—PT3010A	Test Harness	1	
②	07406—002003	A/T Oil Pressure Gauge Set	1	
②-1	07406—0020201	A/T Oil Pressure Gauge Hose	1	
③	07406—0070000	A/T Low Pressure Gauge	1	
④	07GAB—PF50101 or 07GAB—PF50100	Mainshaft Holder	1	
⑤	07HAC—PK40101	Housing Puller	1	
⑥	07LGC—0010100	Snap Ring Pliers	1	
⑦	07749—0010000	Driver	1	
⑧	07746—0010600	Attachment, 72 x 75 mm	1	
⑨	07NAD—PX40100	Attachment, 78 x 80 mm	1	
⑩	07HAF—PK40100	Gear Installer	1	



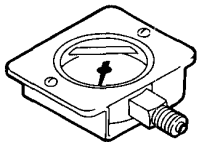
①



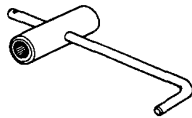
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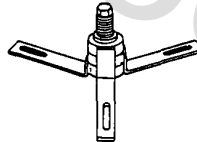
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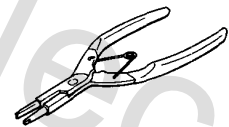
③



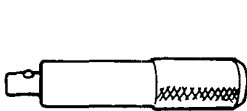
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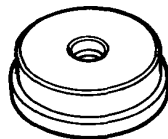
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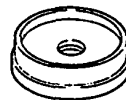
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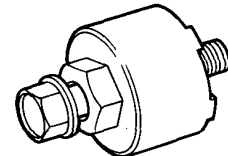
⑦



⑧



⑨

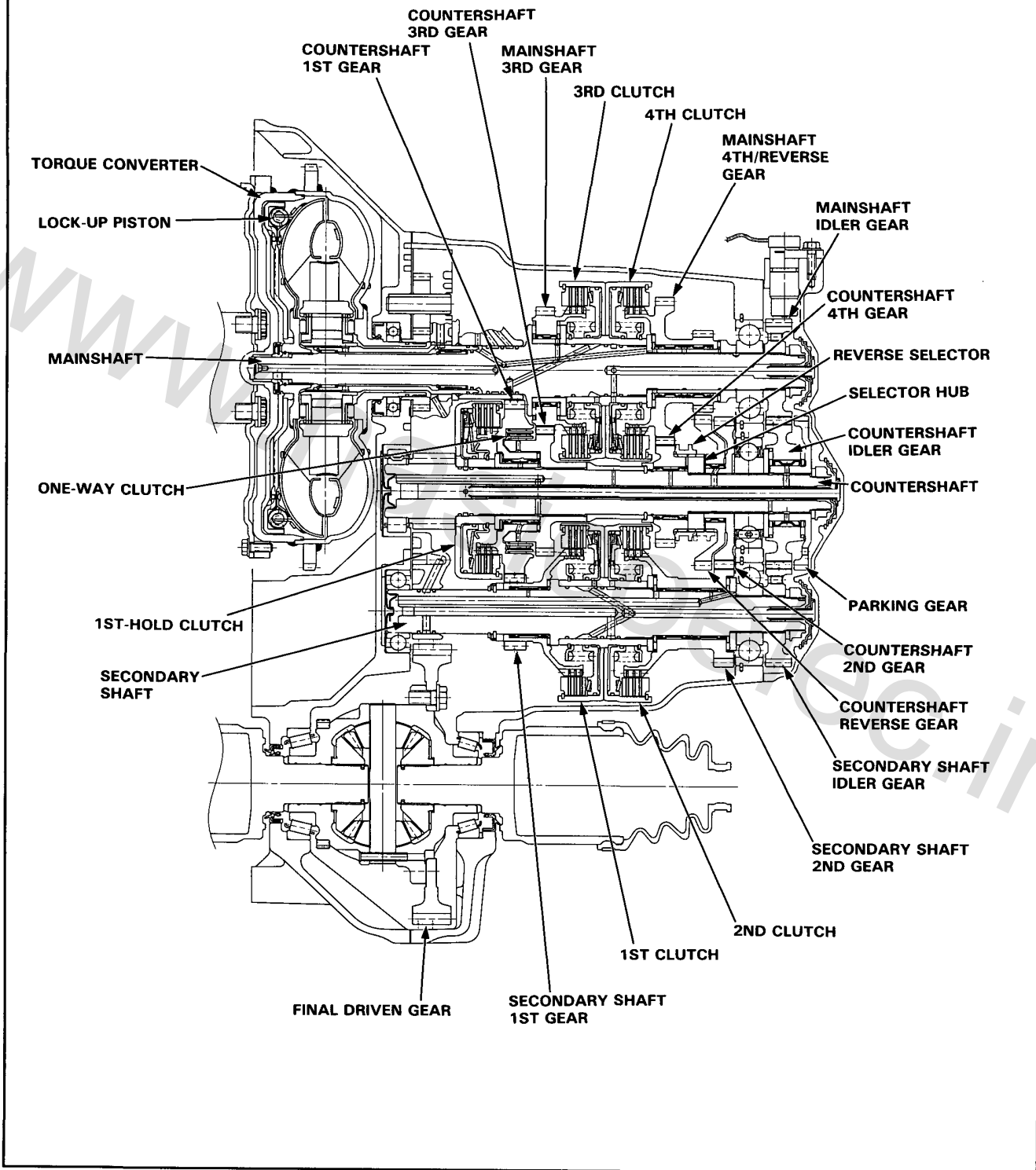


⑩

# Description



## Transmission Sectional View



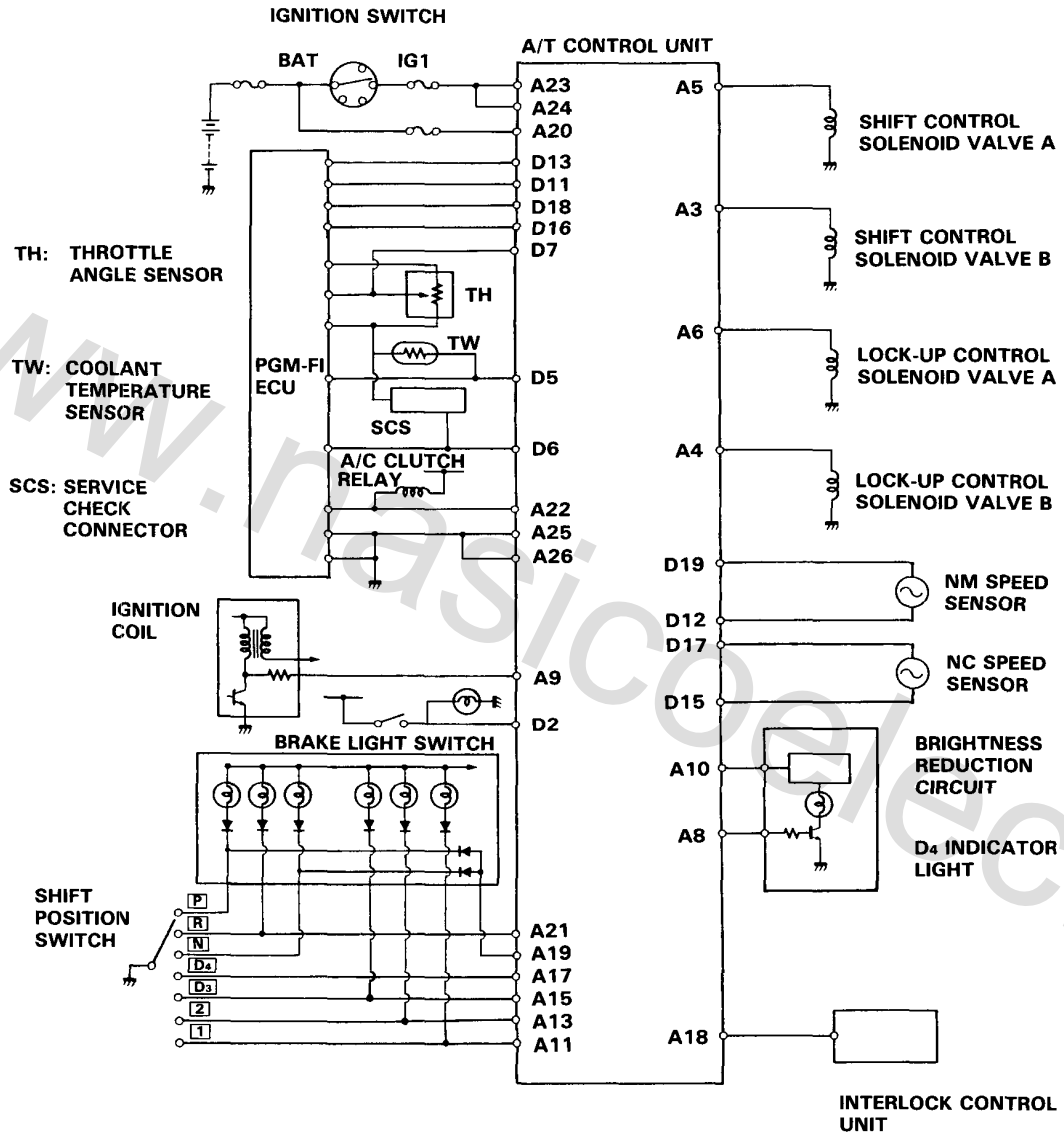


# Description

## Electrical Control System

KB other

Circuit Diagram and Terminal Location



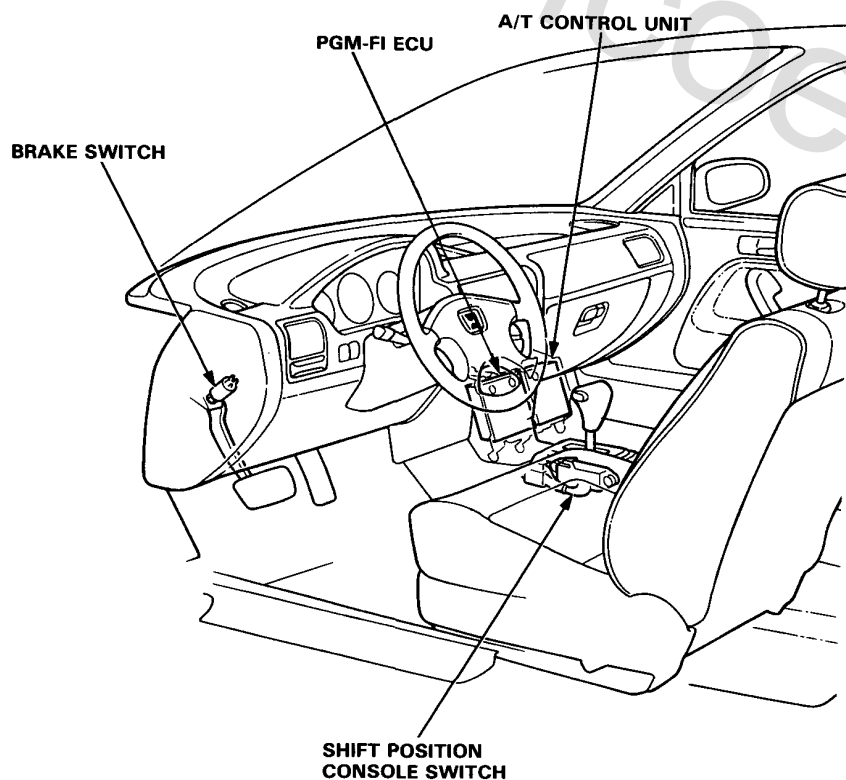
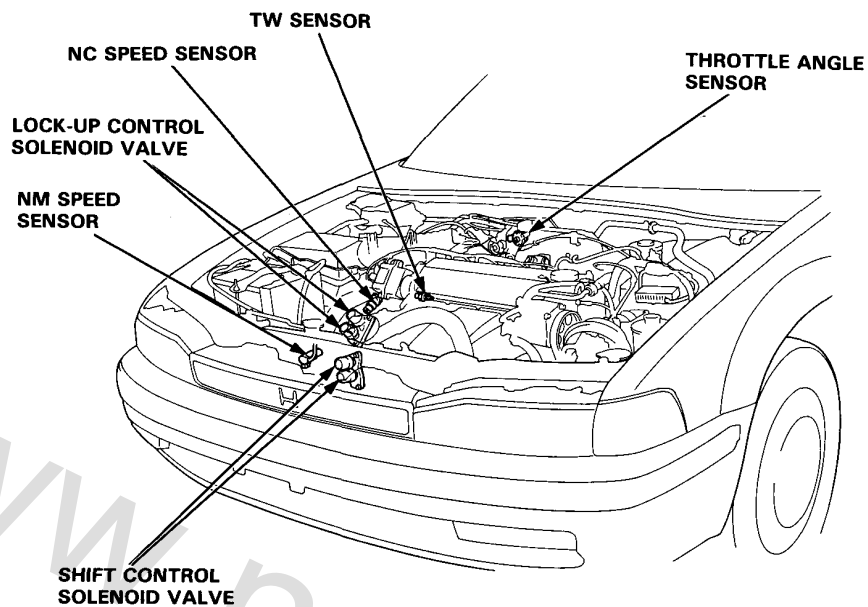
⊠											⊠										
A3	A5		A9	A11	A13	A15	A17	A19	A21	A23	A25	D5	D7	D9	D11	D13	D15	D17	D19		
A4	A6	A8	A10					A18	A20	A22	A24	A26	D2	D6		D12	D16	D18			

TERMINAL LOCATION

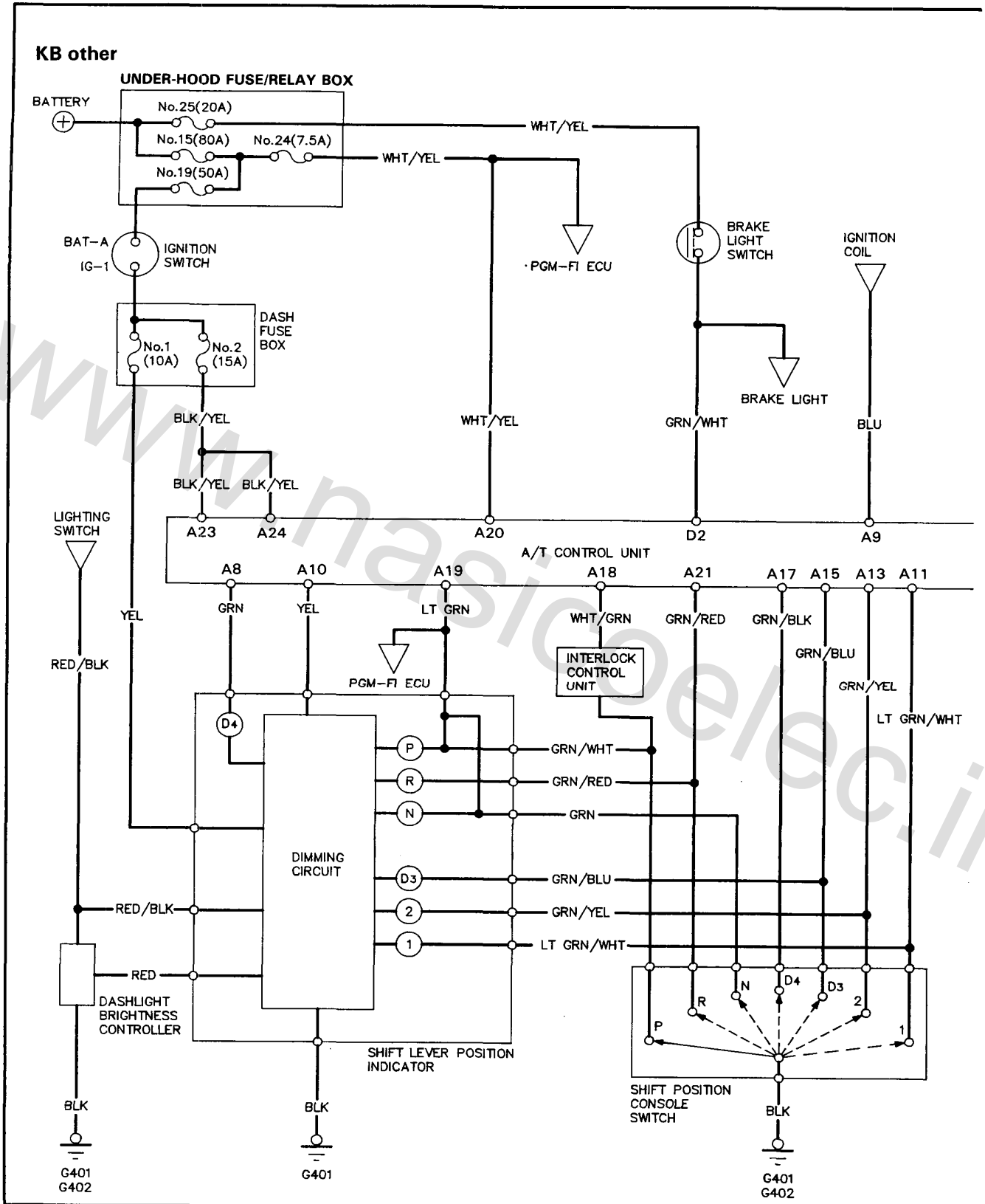


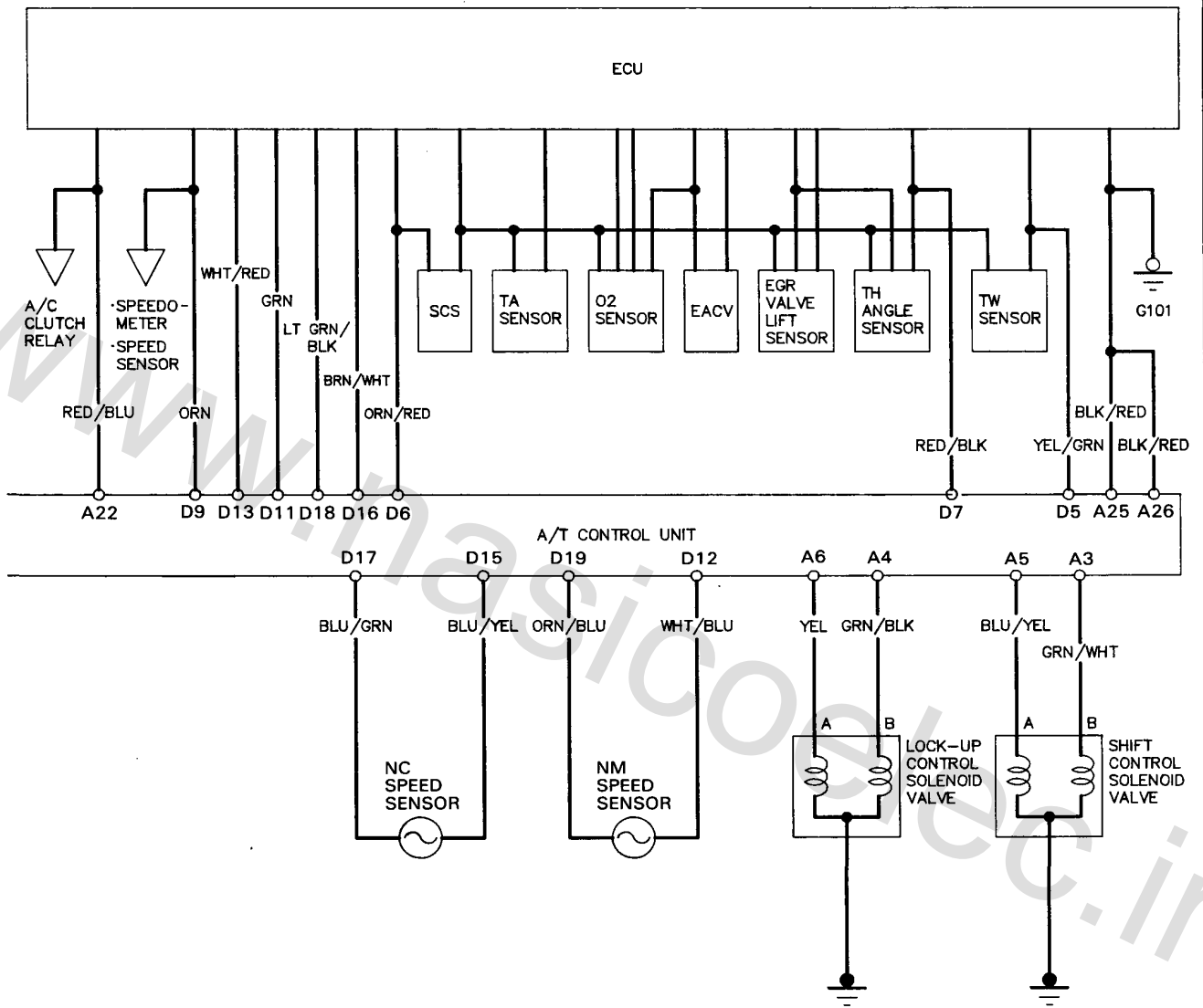
# Component Location

KB other



# Circuit Diagram





					⊠										
A3	A5		A9	A11	A13	A15	A17	A19	A21	A23	A25				
A4	A6	A8	A10				A18	A20	A22	A24	A26				

					⊠									
		D5	D7	D9	D11	D13	D15	D17	D19					
D2		D6			D12		D16	D18						

TERMINAL LOCATION

# Electrical Troubleshooting

## Troubleshooting Procedures

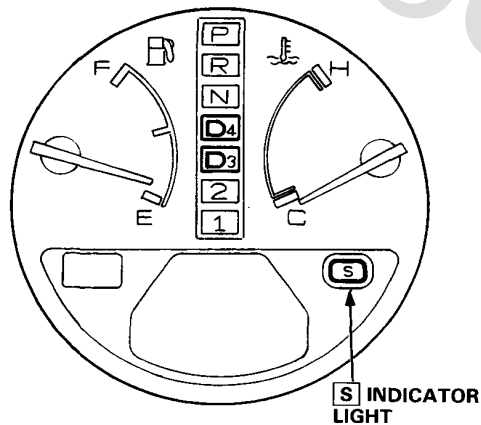
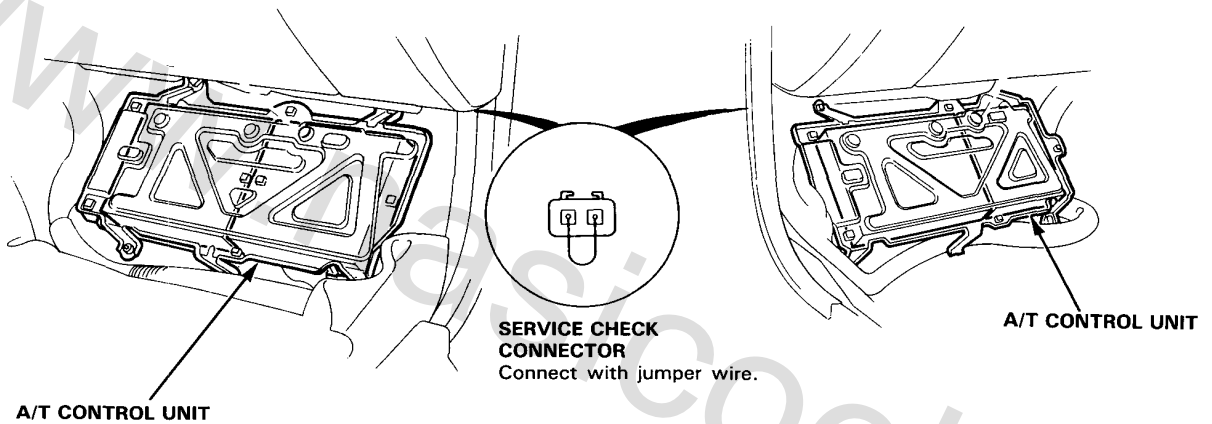
### Except KB other

When the A/T control unit senses an abnormality in the input or output systems, the **[S]** indicator light in the gauge assembly will blink. However, when the Service Check Connector (located to the lower right (LHD) or left (RHD) of the glove compartment) is shorted with a jumper wire, the **[S]** indicator light will also blink the problem code when the ignition switch is turned on.

When the **[S]** indicator light has been reported on, connect the two terminals of the Service Check Connector together with a jumper wire. Then turn on the ignition switch and observe either the **[S]** indicator light.

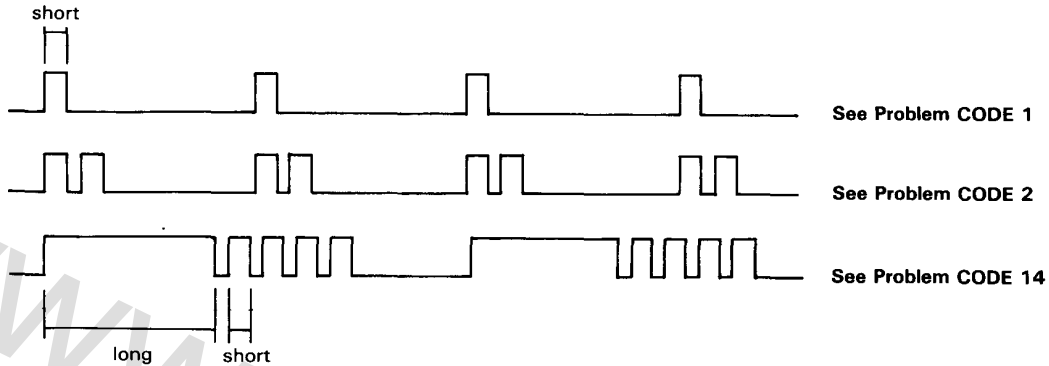
LHD:

RHD:



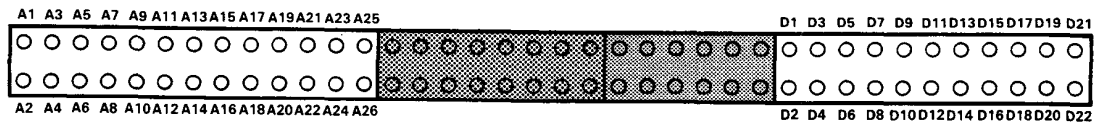
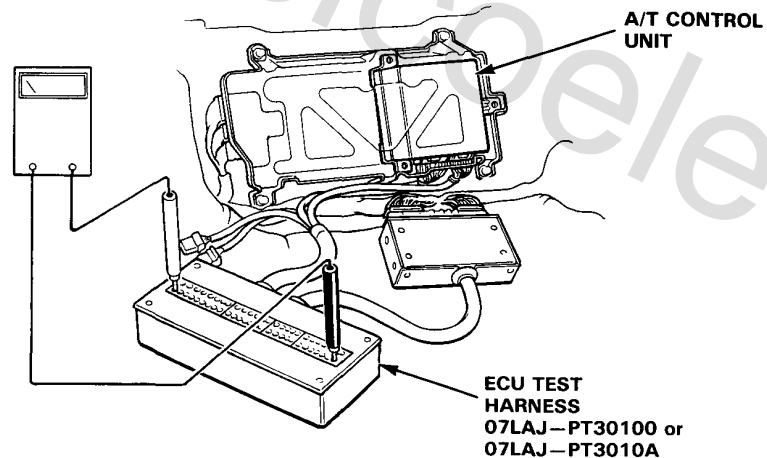


Problem codes 1 through 9 are indicated by individual short blinks, Problem codes 10 through 15 are indicated by a series of long and short blinks. One long blink equals 10 short blinks. Add the long and short blinks together to determine the problem code. After determining the problem code, refer to the electrical system Symptom-to-Component Chart.



Some PGM-FI problems will also make the **S** indicator light come on. After repairing the PGM-FI system, disconnect the Back Up fuse (7.5 A) in the under-hood relay box for more than 10 seconds to reset the A/T control unit memory.

**NOTE:** Disconnecting the Back up fuse also cancels the radio preset stations and the clock setting. Make note of the radio presets before removing the fuse so you can reset them.



**Terminal Locations**

**NOTE:**

- Only the A and D sections of the ECU test harness are used for A/T troubleshooting.
- Unless otherwise noted, use only the Digital Multimeter for testing.

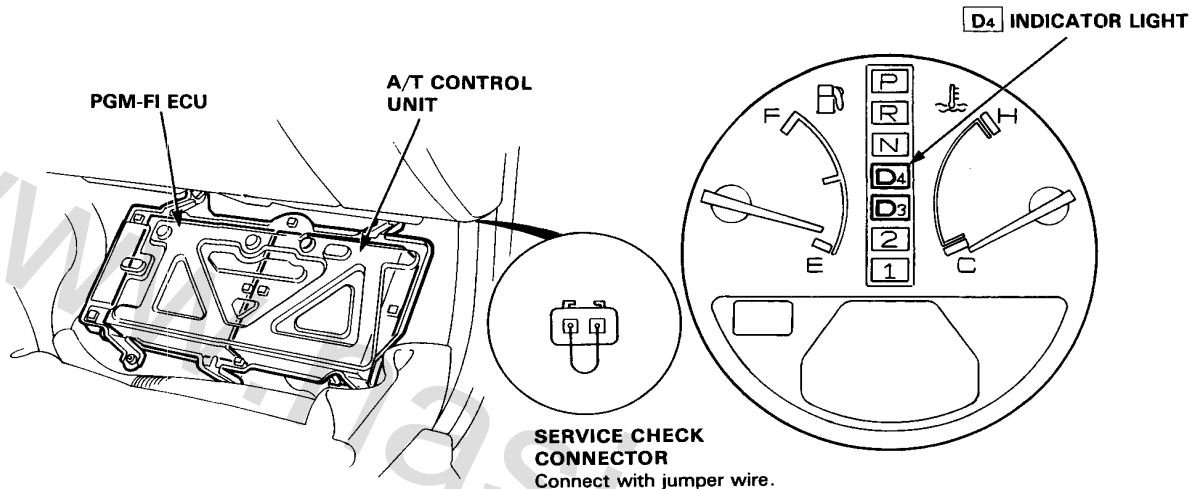
# Electrical Troubleshooting

## Troubleshooting Procedures

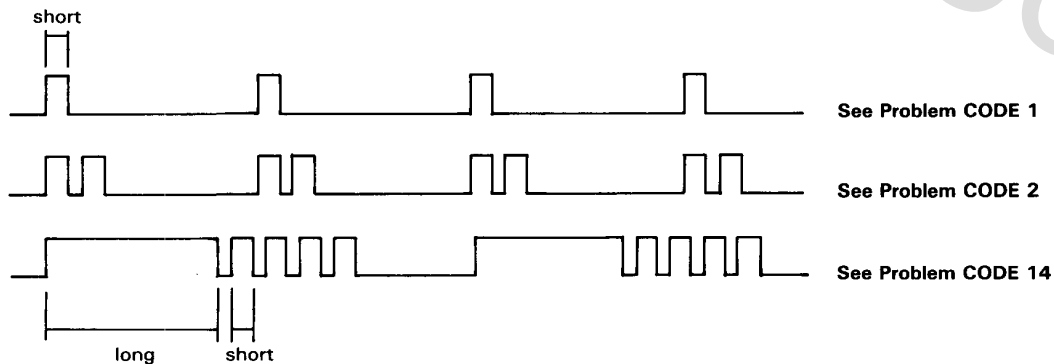
### KB other

When the A/T control unit senses an abnormality in the input or output systems, the **D4** indicator light in the gauge assembly will blink. However, when the Service Check Connector (located to the lower right of the glove compartment) is connected with a jumper wire, the **D4** indicator light will blink the problem code when the ignition switch is turned on.

When the **D4** indicator light has been reported on, connect the two terminals of the Service Check Connector together with a jumper wire. Then turn on the ignition switch and observe either the **D4** indicator light.

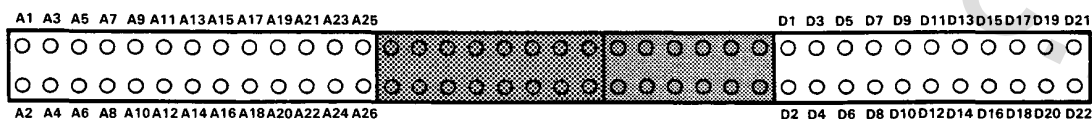
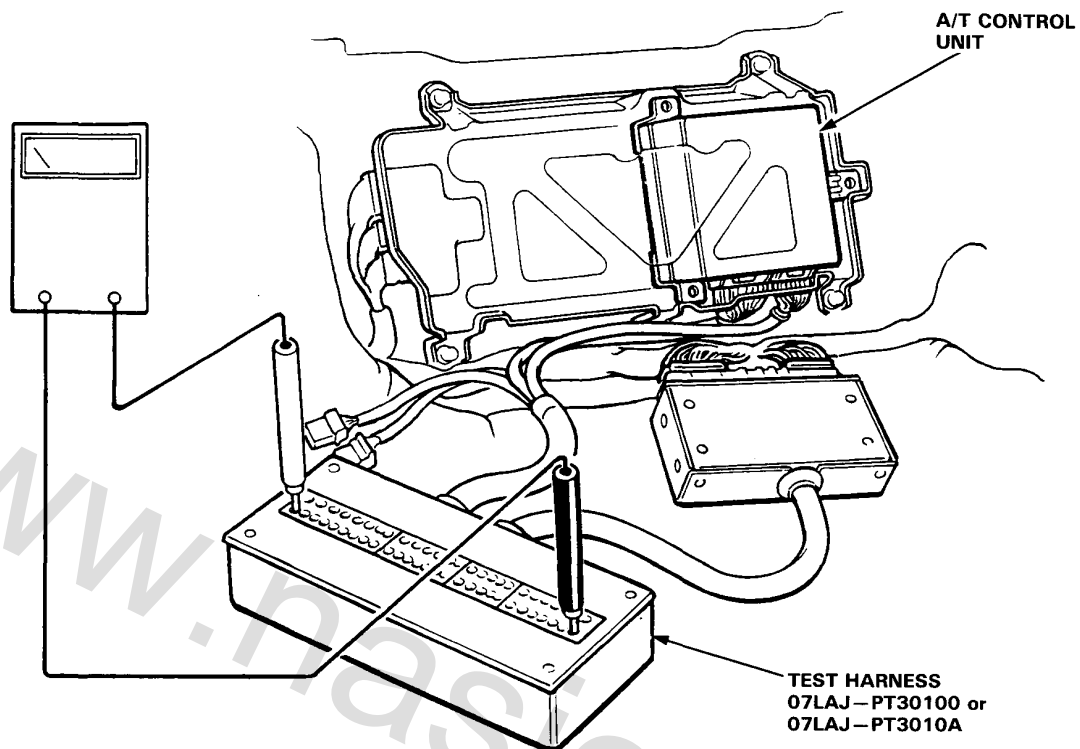


Problem codes 1 through 9 are indicated by individual short blinks, Problem codes 10 through 15 are indicated by a series of long and short blinks. One long blink equals 10 short blinks. Add the long and short blinks together to determine the problem code. After determining the problem code, refer to the electrical system Symptom-to-Component Chart on page 14-36.



Some PGM-FI problems will also make the **D4** indicator light come on. After repairing the PGM-FI system, disconnect the Back Up fuse (7.5 A) in the under-hood fuse/relay box for more than 10 seconds to reset the A/T control unit memory.

**NOTE:** Disconnecting the Back up fuse also cancels the radio preset stations and the clock setting. Make note of the radio presets before removing the fuse so you can reset them.



Terminal Locations

NOTE:

- Only the A and D sections of the ECU test harness are used for A/T troubleshooting.
- Unless otherwise noted, use only the Digital Multimeter for testing.



# Electrical Troubleshooting

## Symptom-to-Component Chart

KB other

Number of <b>D4</b> indicator light blinks while Service Check Connector is jumped.	<b>D4</b> indicator light	Possible Cause	Symptom	Refer to page
1	Blinks	<ul style="list-style-type: none"> <li>• Disconnected lock-up control solenoid valve A connector</li> <li>• Short or open in lock-up control solenoid valve A wire</li> <li>• Faulty lock-up control solenoid valve A</li> </ul>	<ul style="list-style-type: none"> <li>• Lock-up clutch does not engage.</li> <li>• Lock-up clutch does not disengage.</li> <li>• Unstable idle speed.</li> </ul>	9-56
2	Blinks	<ul style="list-style-type: none"> <li>• Disconnected lock-up control solenoid valve B connector</li> <li>• Short or open in lock-up control solenoid valve B wire</li> <li>• Faulty lock-up control solenoid valve B</li> </ul>	<ul style="list-style-type: none"> <li>• Lock-up clutch does not engage.</li> </ul>	9-57
3	Blinks or OFF	<ul style="list-style-type: none"> <li>• Disconnected throttle angle sensor connector</li> <li>• Short or open in throttle angle sensor wire</li> <li>• Faulty throttle angle sensor</li> </ul>	<ul style="list-style-type: none"> <li>• Lock-up clutch does not engage.</li> </ul>	9-58
4	Blinks	<ul style="list-style-type: none"> <li>• Disconnected sensor connector</li> <li>• Short or open in speed sensor wire</li> <li>• Faulty speed sensor</li> </ul>	<ul style="list-style-type: none"> <li>• Lock-up clutch does not engage.</li> </ul>	9-59
5	Blinks	<ul style="list-style-type: none"> <li>• Short in shift position console switch wire</li> <li>• Faulty shift position console switch</li> </ul>	<ul style="list-style-type: none"> <li>• Fails to shift other than 2nd ↔ 4th gears.</li> <li>• Lock-up clutch does not engage.</li> </ul>	9-60
6	OFF	<ul style="list-style-type: none"> <li>• Disconnected shift position console switch connector</li> <li>• Open in shift position console switch wire</li> <li>• Faulty shift position console switch</li> </ul>	<ul style="list-style-type: none"> <li>• Fails to shift other than 2nd ↔ 4th gears.</li> <li>• Lock-up clutch does not engage.</li> <li>• Lock-up clutch engages and disengages alternately.</li> </ul>	9-62
7	Blinks	<ul style="list-style-type: none"> <li>• Disconnected shift control solenoid valve A connector</li> <li>• Short or open in shift control solenoid valve A wire</li> <li>• Faulty shift control solenoid valve A</li> </ul>	<ul style="list-style-type: none"> <li>• Fails to shift (between 1st ↔ 4th, 2nd ↔ 4th or 2nd ↔ 3rd gears only).</li> <li>• Fails to shift (stuck in 4th gear)</li> </ul>	9-64
8	Blinks	<ul style="list-style-type: none"> <li>• Disconnected shift control solenoid valve B connector</li> <li>• Short or open in shift control solenoid valve B wire</li> <li>• Faulty shift control solenoid valve B</li> </ul>	<ul style="list-style-type: none"> <li>• Fails to shift (stuck in 1st or 4th gears).</li> </ul>	9-65



Number of <b>D4</b> indicator light blinks while Service Check Connector is jumped.	<b>D4</b> indicator light	Possible Cause	Symptom	Refer to page
9	Blinks	<ul style="list-style-type: none"> <li>• Disconnected NC speed sensor connector</li> <li>• Short or open in the NC speed sensor wire</li> <li>• Faulty NC speed sensor</li> </ul>	• Lock-up clutch does not engage.	9-66
10	Blinks	<ul style="list-style-type: none"> <li>• Disconnected water temperature sensor connector</li> <li>• Short or open in the water temperature sensor wire</li> <li>• Faulty water temperature sensor</li> </ul>	• Lock-up clutch does not engage.	9-68
11	OFF	<ul style="list-style-type: none"> <li>• Disconnected ignition coil connector</li> <li>• Short or open in ignition coil wire</li> <li>• Faulty ignition coil</li> </ul>	• Lock-up clutch does not engage.	9-69
14	OFF	<ul style="list-style-type: none"> <li>• Short or open in FAS wire</li> <li>• Trouble in PGM-FI ECU</li> </ul>	• Transmission jerks hard when shifting.	9-70
15	OFF	<ul style="list-style-type: none"> <li>• Disconnected NM speed sensor connector</li> <li>• Short of open in NM speed sensor wire</li> <li>• Faulty NM speed sensor</li> </ul>	• Transmission jerks hard when shifting.	9-72

If the self-diagnosis **D4** indicator light does not blink, perform an inspection according to the table listed below.

Sympton	Probable Cause	Ref. page
<b>D4</b> indicator light is on steady, not blinking whenever the ignition is on.	_____	9-74
<b>D4</b> indicator light does not come on for 2 seconds after ignition is first turned on.	_____	9-75
Shift lever cannot be moved from <b>P</b> position with depressing the brake pedal.	Check brake light signal.	9-76
Lock-up clutch does not have duty operation (ON-OFF).	Check A/C signal with A/C on.	9-77
Lock-up clutch does not engage.		

- If a customer describes the symptoms for codes 3, 6, or 11, yet the **D4** indicator light is not blinking, it will be necessary to recreate the symptom by test driving, and then checking the **D4** indicator light with the ignition still ON.
- If the **D4** indicator light displays codes other than those listed above or stays lit continuously, the control unit is faulty.
- Sometimes the **D4** indicator light and the Check Engine light may come on simultaneously. If so, check the PGM-FI system according to the number of blinks on the PGM-FI ECU self-diagnosing indicator, then reset the memory by removing the Back-Up fuse in the under hood fuse/relay box for more than 10 seconds. Drive the vehicle for several minutes at speed over 30 mph (50 km/h), then recheck the lights.

**NOTE:** Disconnecting the Back up fuse also cancels the radio preset stations and the clock setting. Make note of the radio presets before removing the fuse so you can reset them.

# Electrical Troubleshooting

## Troubleshooting Flowchart

KB other

Self-diagnosis **D4** indicator light blinks once.

Disconnect the 26P connector from the control unit.

Turn the ignition switch ON.

Measure the voltage between the A6 (YEL) and A25 (BLK/RED) terminals.

Is there voltage?

YES

Repair short to power source in YEL wire between the A6 terminal and the lock-up control solenoid valve A.

NO

Turn the ignition switch OFF.

Disconnect the 2P connector from the lock-up control solenoid valve assembly.

Check for continuity between the A6 (YEL) and A25 (BLK/RED) terminals.

Is there continuity?

YES

Repair short to ground in YEL wire between the A6 terminal and the lock-up control solenoid valve A.

NO

Connect the 2P connector to the lock-up control solenoid valve assembly.

Measure the resistance between the A6 (YEL) and A25 (BLK/RED) terminals.

Is the resistance 12 – 24  $\Omega$ ?

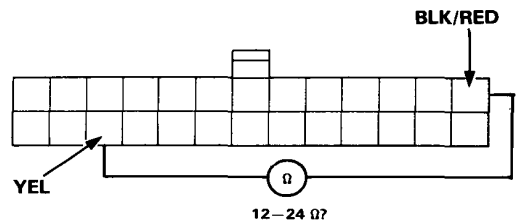
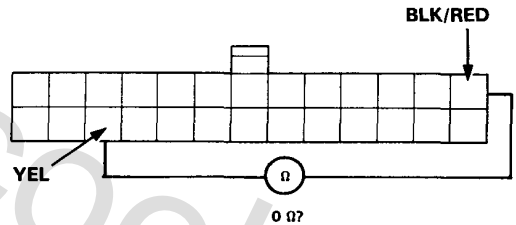
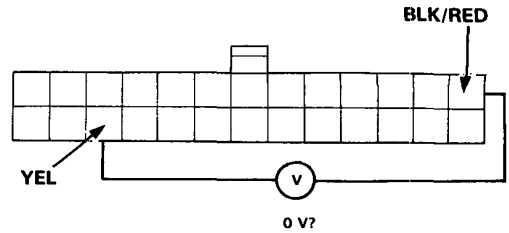
NO

Check for open in YEL wire between the A6 terminal and the lock-up control solenoid valve A. If wire is OK, check the lock-up control solenoid valve A.

YES

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

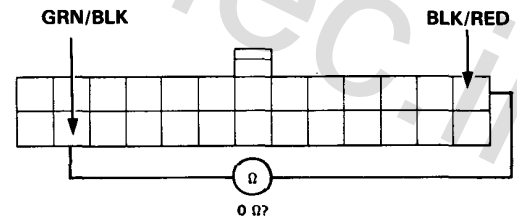
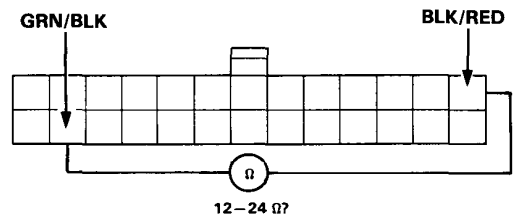
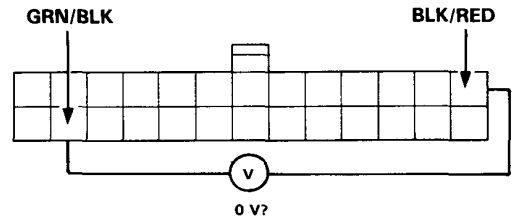
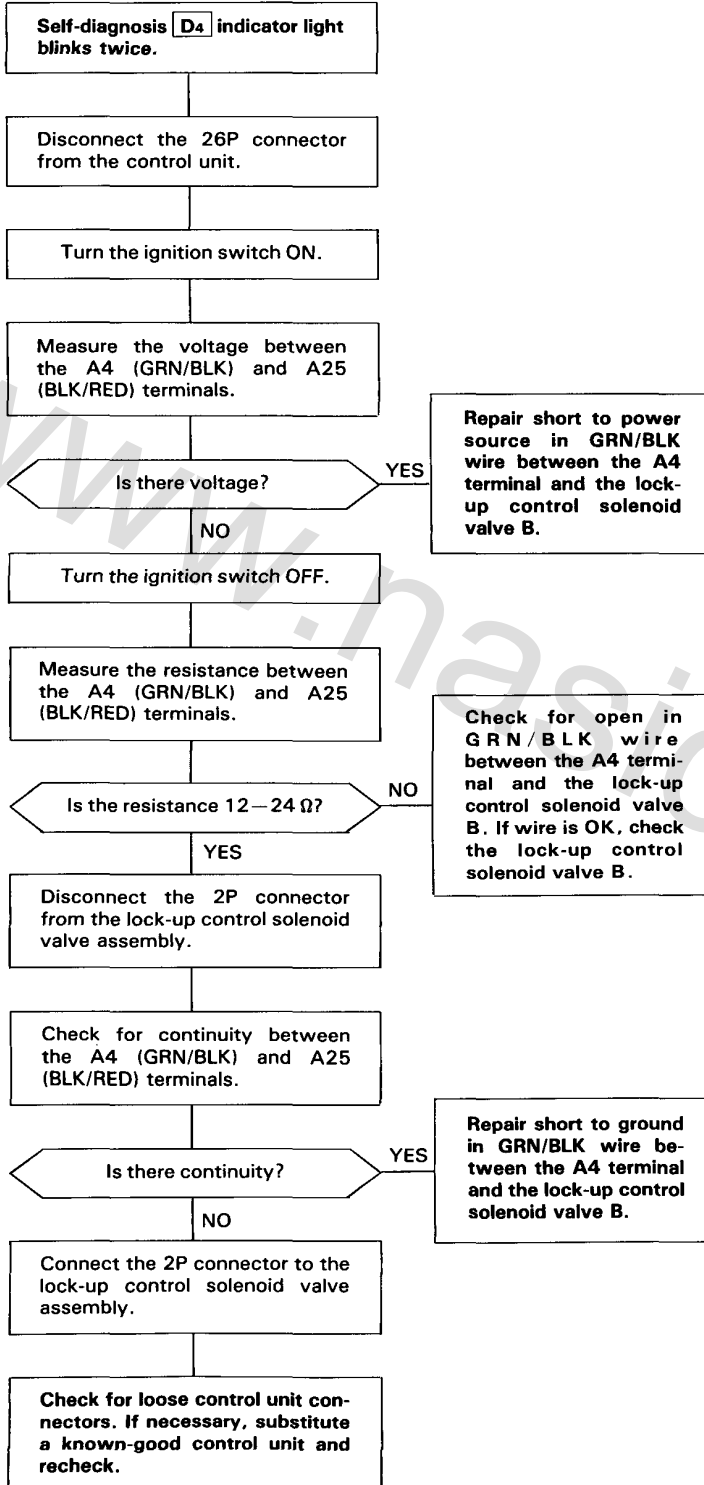
NOTE: View from wire side.





## KB other

NOTE: View from wire side.



(cont'd)

# Electrical Troubleshooting

## Troubleshooting Flowchart (cont'd)

KB other

Self-diagnosis **D4** indicator light blinks three times.

Turn the ignition switch ON.

Check whether the Check Engine warning light blinks (Section 6).

Does the Check Engine warning light blink?

**YES** Repair the PGM-FI System. See Section 6.

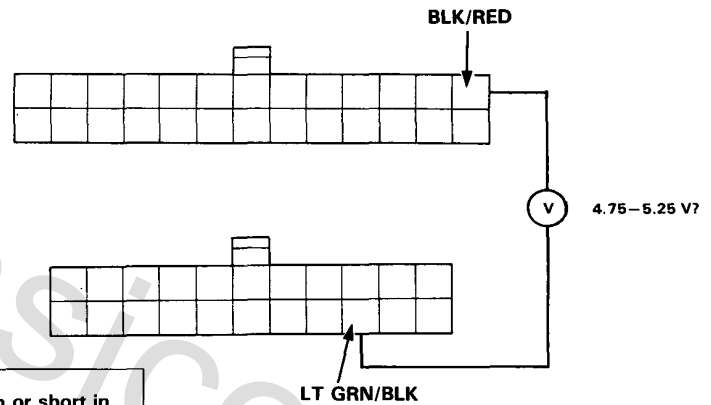
NOTE: View from wire side.

**NO**  
Turn the ignition switch OFF.

Disconnect the 26P and 22P connectors from the control unit.

Turn the ignition switch ON.

Measure the voltage between the D18 (LT GRN/BLK) and A25 (BLK/RED) terminals.



Is the voltage 4.75-5.25 V?

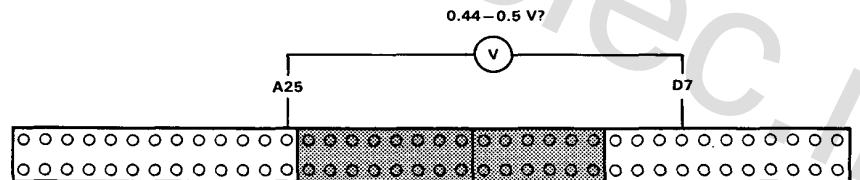
**NO** Repair open or short in LT GRN/BLK wire between the D18 terminal and the D14 terminal of the ECU.

**YES**  
Turn the ignition switch OFF.

Connect the Test Harness between the connectors and the control unit.

Turn the ignition switch ON.

Measure the voltage between the D7 and A25 terminals.



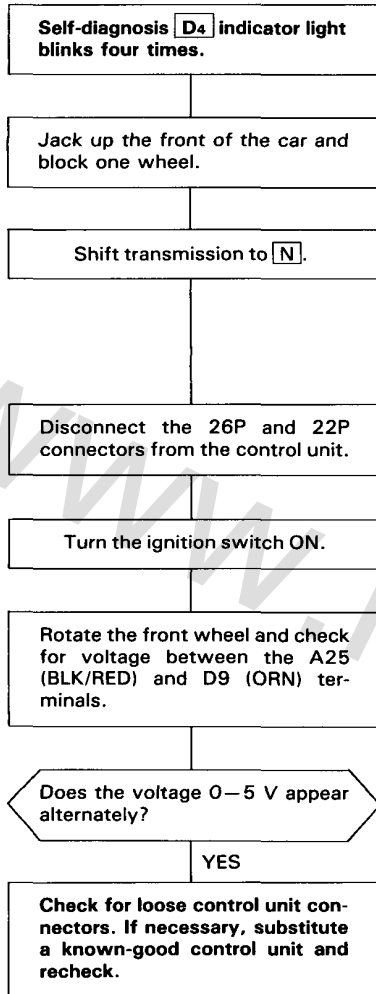
Is the voltage 0.44-0.56 V?\*

**NO** Repair open or short in RED/BLK wire between the D7 terminal and the throttle angle sensor.

**YES** \* ± 10%  
Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.



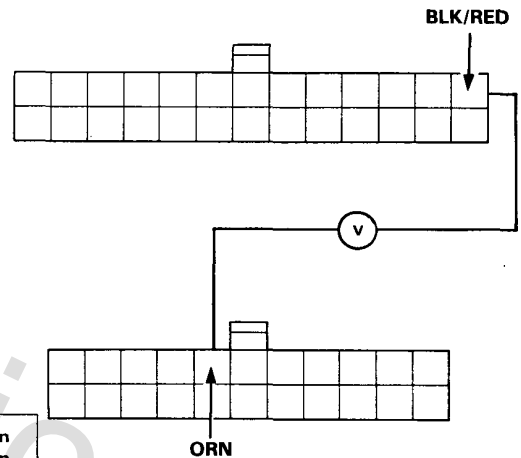
## KB other



### ⚠ WARNING

- Set the parking brake securely and block the rear wheels.
- Jack up the front of the car and support with a rigid jack.

NOTE: View from wire side.



Check for short or open in ORN wire between the D9 terminal and the speed sensor. If wire is OK, check the speed sensor.

(cont'd)

# Electrical Troubleshooting

## Troubleshooting Flowchart (cont'd)

### KB other

Self-diagnosis [D4] indicator light blinks five times.

Turn the ignition switch ON.

Observe the A/T shift indicator and select each position separately.

Does the indicator light properly? **NO** See A/T shift position indicator inspection (Section 16).

**YES**  
Turn the ignition switch OFF.

Connect the Test Harness between the control unit and connectors.

Turn the ignition switch ON.

Shift to other than [R] position.

Measure the voltage between the A21 and A25 terminals.

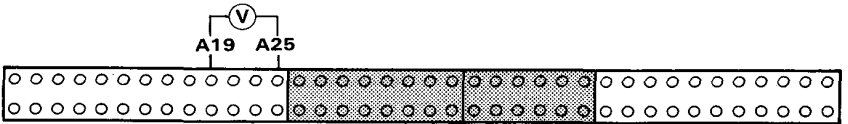
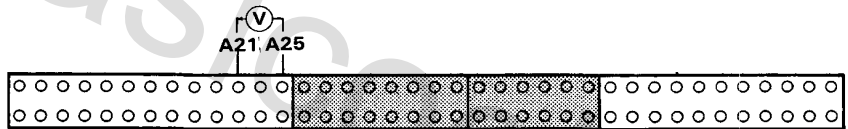
Is there battery voltage? **NO** Check for short in GRN/RED wire between the A21 terminal and the shift position console switch. If wire OK, check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

**YES**  
Shift to other than [N] and [P] position.

Measure the voltage between the A19 and A25 terminals.

Is there battery voltage? **NO** Check for short in LT GRN wire between the A19 terminal and the shift position console switch. If wire is OK, check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

**YES**  
To page 9-61





From page 9-60

Shift to other than **D4** position.

Measure the voltage between the A17 and A25 terminals.

Is there battery voltage?

NO

YES

Shift to other than **D3** position.

Measure the voltage between the A15 and A25 terminals.

Is there battery voltage?

NO

YES

Shift to other than **2** position.

Measure the voltage between the A13 and A25 terminals.

Is there battery voltage?

NO

YES

Shift to other than **1** position.

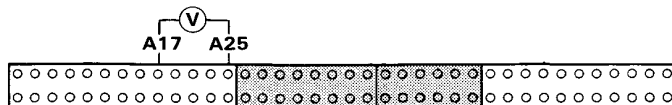
Measure the voltage between the A11 and A25 terminals.

Is there battery voltage?

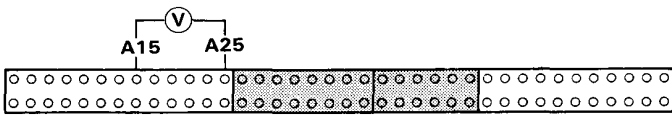
NO

YES

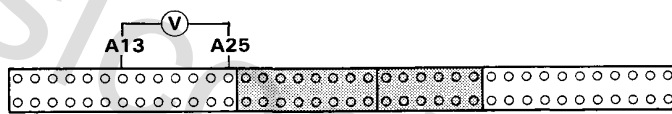
Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.



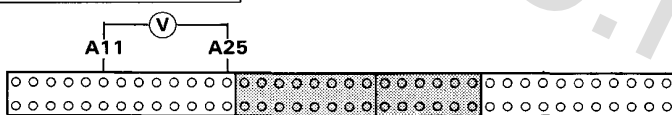
Check for short in GRN/BLK wire between the A17 terminal and the shift position console switch. If wire is OK, check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.



Check for short in GRN/BLU wire between the A15 terminal and the shift position console switch. If wire is OK, check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.



Check for short in GRN/YEL wire between the A13 terminal and the shift position console switch. If wire is OK, check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.



Check for short in LT GRN/WHT wire between the A11 terminal and shift position console switch or shift position indicator. If wire is OK, check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

(cont'd)



# Electrical Troubleshooting

## Troubleshooting Flowchart (cont'd)

KB other

Self-diagnosis **D4** indicator light blinks six times.

Turn the ignition switch ON.

Observe the A/T shift indicator and select each position separately.

Does the indicator light properly? **NO** See A/T shift position indicator inspection. (Section 16).

**YES**  
Turn the ignition switch OFF.

Connect the Test Harness between the control unit and connectors.

Turn the ignition switch ON.

Shift to **R** position.

Measure the voltage between the A21 and A25 terminals.

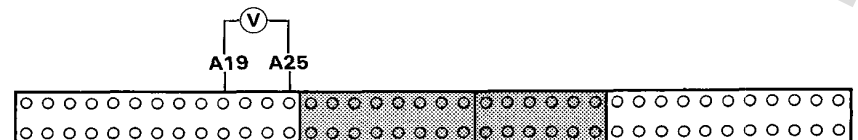
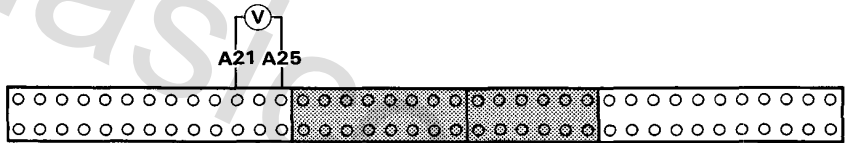
Is there voltage? **YES** Repair open in GRN/RED wire between the A21 terminal and the shift position console switch.

**NO**  
Shift to **N** or **P** position.

Measure the voltage between the A19 and A25 terminal.

Is there voltage? **YES** Repair open in LT GRN wire between the A19 terminal and the shift position console switch.

**NO**  
To page 9-63





From page 9-62

Shift to **D4** position.

Measure the voltage between the A17 and A25 terminals.

Is there voltage?

YES

Repair open in GRN/BLK wire between the A17 terminal and the shift position console switch.

NO

Shift to **D3** position.

Measure the voltage between the A15 and A25 terminals.

Is there voltage?

YES

Repair open in GRN/BLU wire between the A15 terminal and the shift position console switch.

NO

Shift to **2** position.

Measure the voltage between the A13 and A25 terminals.

Is there voltage?

YES

Repair open in GRN/YEL wire between the A13 terminal and the shift position console switch.

NO

Shift to **1** position.

Measure the voltage between the A11 and A25 terminals.

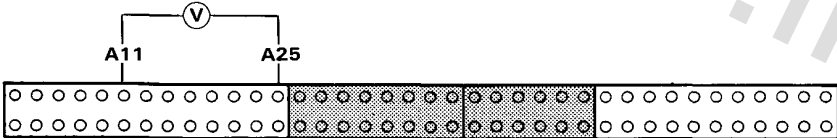
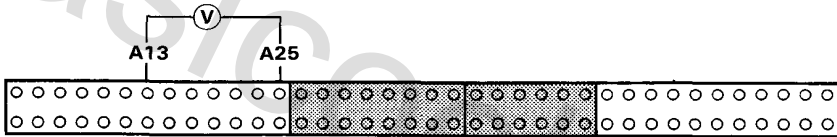
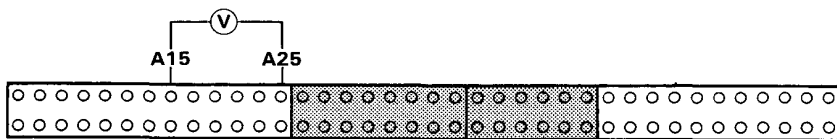
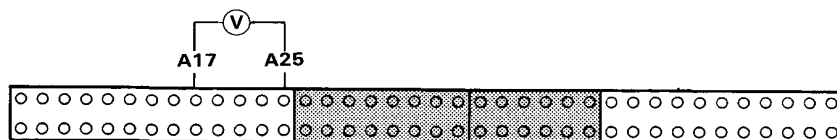
Is there voltage?

YES

Repair open in LT GRN/WHT wire between the A11 terminal and the shift position console switch.

NO

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.



(cont'd)

# Electrical Troubleshooting

## Troubleshooting Flowchart (cont'd)

KB other

Self-diagnosis **D4** indicator light blinks seven times.

Disconnect the 26P connector from the control unit.

Turn the ignition switch ON.

Measure the voltage between the A5 (BLU/YEL) and A25 (BLK/RED) terminals.

Is there voltage?

**YES**  
Repair short to power source in BLU/YEL wire between the A5 terminal and the shift control solenoid valve A.

**NO**

Turn the ignition switch OFF.

Measure the resistance between the A5 (BLU/YEL) and A25 (BLK/RED) terminals.

Is the resistance 12 – 24 Ω?

**NO**  
Check for open in BLU/YEL wire between the A5 terminal and the shift control solenoid valve A. If wire is OK, check the shift control solenoid valve A.

**YES**

Disconnect the 2P connector from the shift control solenoid valve assembly.

Check for continuity between the A5 (BLU/YEL) and A25 (BLK/RED) terminals.

Is there continuity?

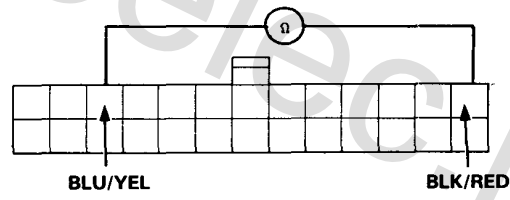
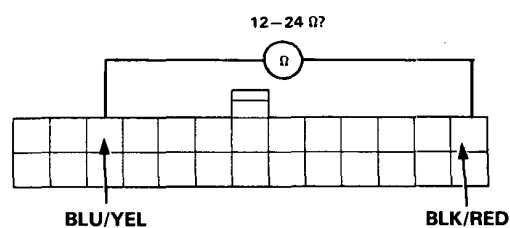
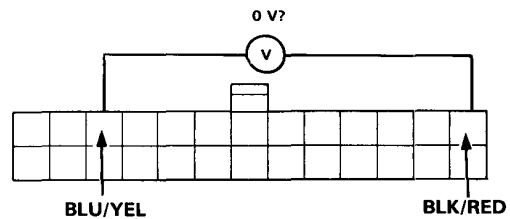
**YES**  
Repair short to ground in BLU/YEL wire between the A5 terminal and the shift control solenoid valve A.

**NO**

Connect the 2P connector to the shift control solenoid valve assembly.

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

NOTE: View from wire side.





## KB other

Self-diagnosis **D4** indicator light blinks eight times.

Disconnect the 26P connector from the control unit.

Turn the ignition switch ON.

Measure the voltage between the A3 (GRN/WHT) and A25 (BLK/RED) terminals.

Is there voltage?

YES

Repair short to power source in GRN/WHT wire between the A3 terminal and shift control solenoid valve B.

NO

Turn the ignition switch OFF.

Measure the resistance between the A3 (GRN/WHT) and A25 (BLK/RED) terminals.

Is the resistance 12–24  $\Omega$ ?

NO

Check for open in GRN/WHT wire between the A3 terminal and the shift control solenoid valve B. If wire is OK, check the shift control solenoid valve B.

YES

Disconnect the 2P connector from the shift control solenoid valve assembly.

Check for continuity between the A3 (GRN/WHT) and A25 (BLK/RED) terminals.

Is there continuity?

YES

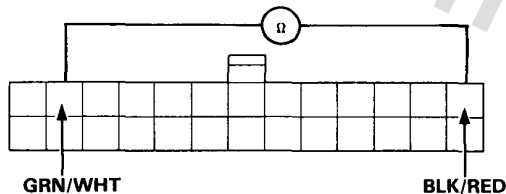
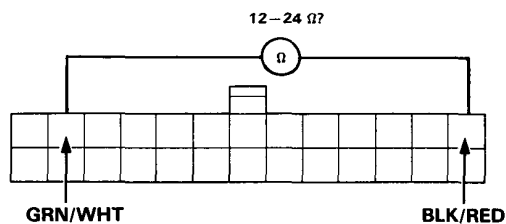
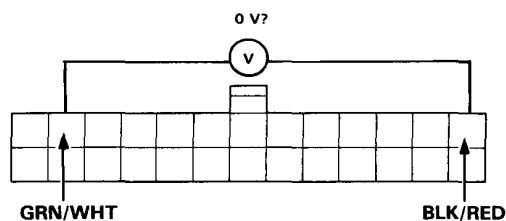
Repair short to ground in GRN/WHT wire between the A3 terminal and the shift control solenoid valve B.

NO

Connect the 2P connector to the shift control solenoid valve assembly.

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

NOTE: View from wire side.

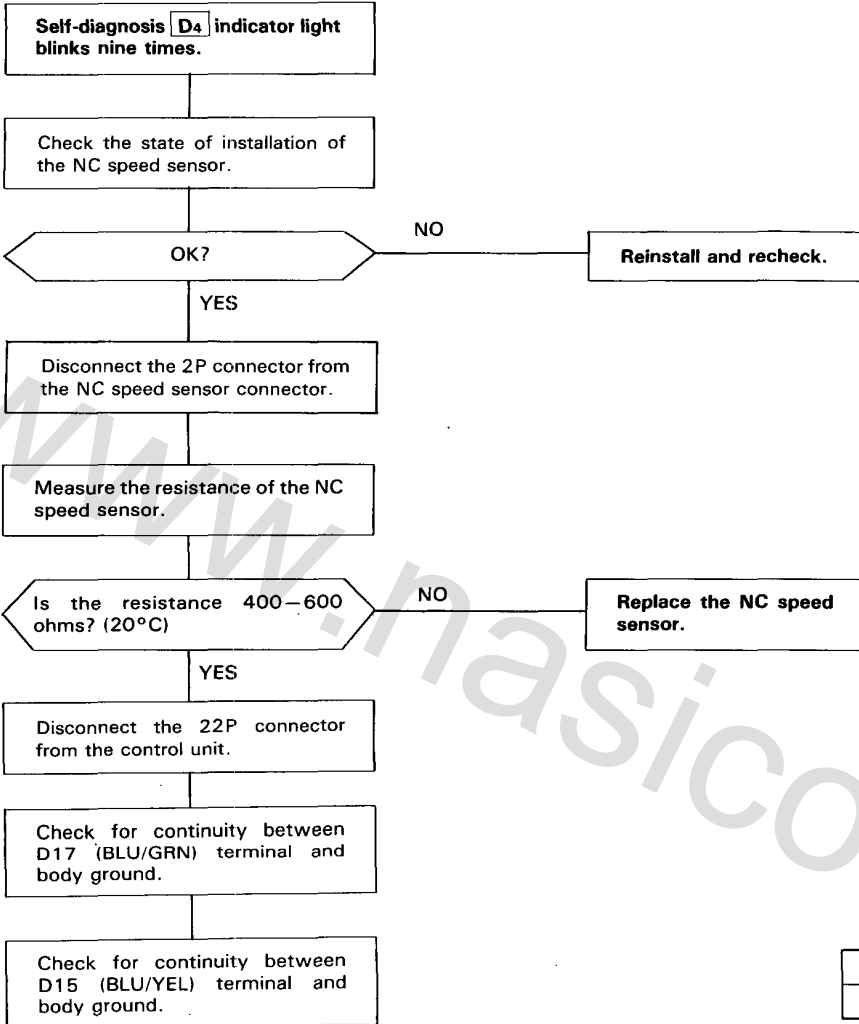


(cont'd)

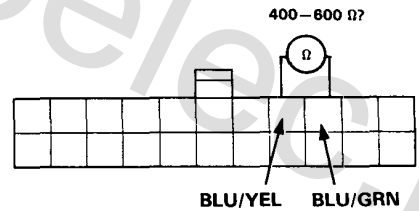
# Electrical Troubleshooting

## Troubleshooting Flowchart (cont'd)

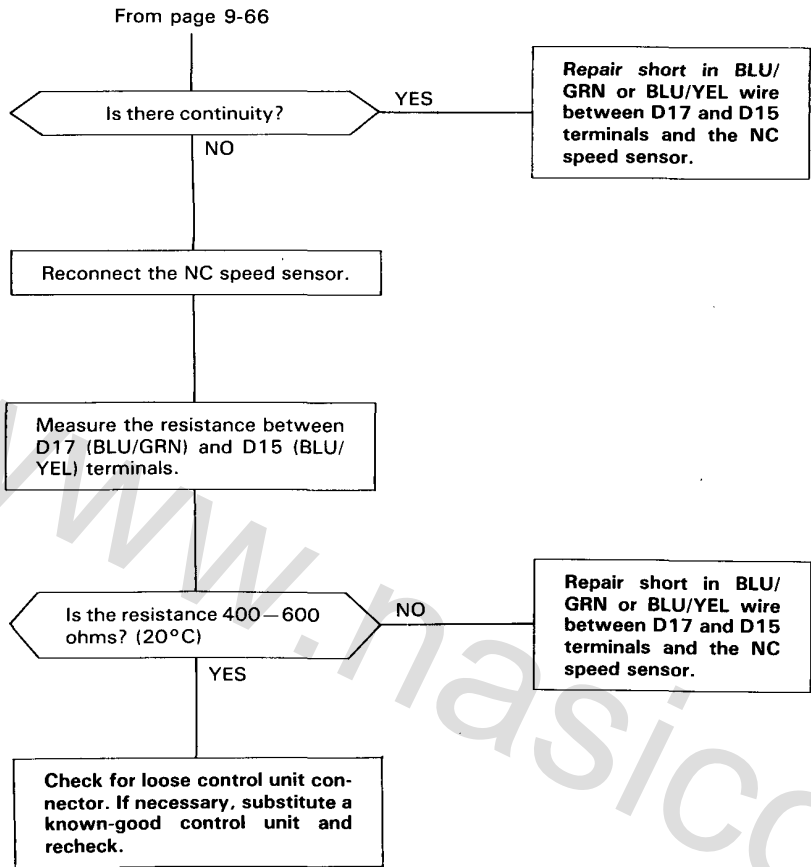
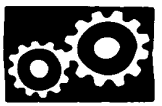
### KB other



To page 9-67



NOTE: View from wire side.

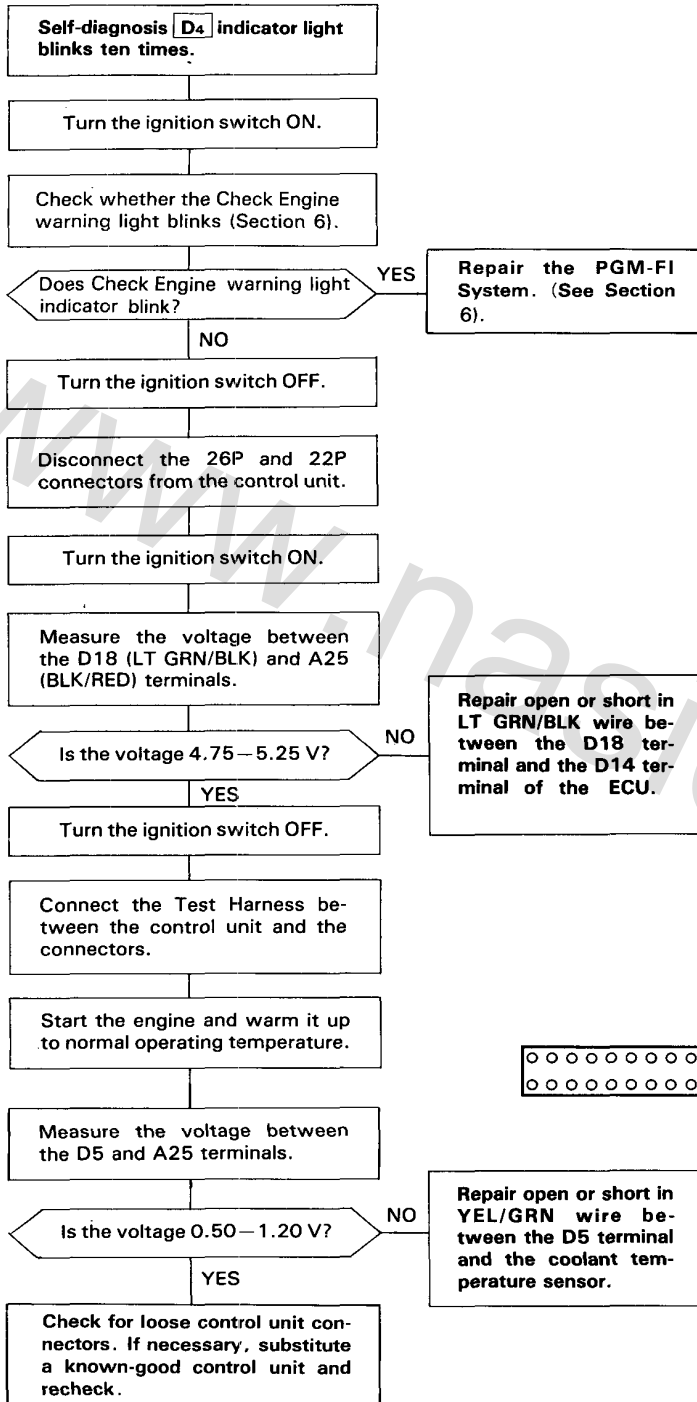


(cont'd)

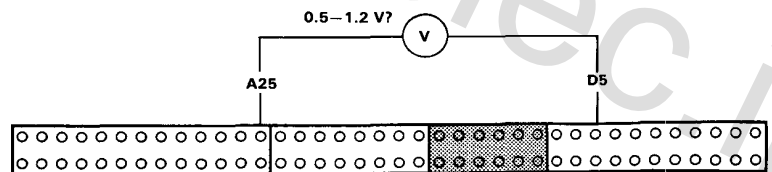
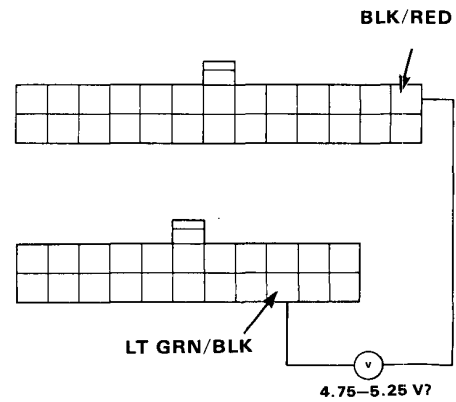
# Electrical Troubleshooting

## Troubleshooting Flowchart (cont'd)

### KB other



NOTE: View from wire side.





## KB other

Self-diagnosis **D<sub>4</sub>** indicator light blinks eleven times.

Disconnect the 26P connector from the control unit.

Shift to **P** position.

Measure the voltage between the A9 (BLU) and A25 (BLK/RED) terminals.

Is there battery voltage?

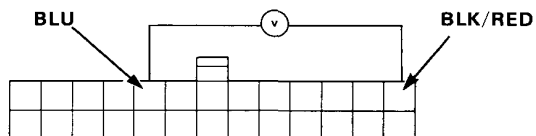
YES

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

NO

Repair open or short in BLU wire between the A9 terminal and the ignition coil.

NOTE: View from wire side.



(cont'd)



# Electrical Troubleshooting

## Troubleshooting Flowchart (cont'd)

KB other

Self-diagnosis **D4** indicator light blinks fourteen times.

Start the engine and warm it up to normal operating temperature.

Shift to **P** position.

Turn the ignition switch OFF.

Connect the Test Harness between the control unit and connectors.

Turn the ignition switch ON and wait for at least two seconds.

Using an analog voltmeter, measure the voltage between the D16 (+) and A25 (-) terminals.

Is there approx. 5 V for over five seconds?

YES

Jack up the front of the car.

Start the engine.

Shift to **D4** position.

Raise the engine to over 2,000 min<sup>-1</sup> (rpm) (over 40 mph in 4th gear) for five seconds.

Release and depress the throttle so that the transmission downshifts and upshifts.

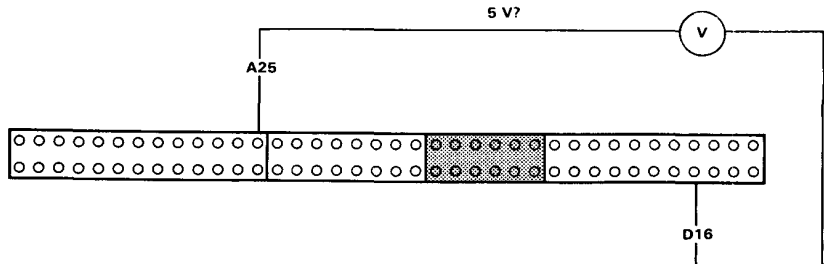
Using an analog voltmeter, measure the voltage between D16 (+) and A25 (-) terminals



To page 9-71

### ⚠ WARNING

- Make sure jacks and safety stands are placed properly (see Section 1).
- While testing, be careful of the rotating front wheels.



NO Does the meter jerk from 0 V to 4 V approx. every four seconds?

YES

Refer to PGM-FI A/T Signal (Section 6).

NO

Is the Check Engine light on?

YES

Repair the PGM-FI System (Section 6).

NO

Turn the ignition switch OFF.

Disconnect the A connector from the PGM-FI ECU.

Check for continuity on the BRN/WHT wire between the D16 terminal on the A/T control unit and the PGM-FI ECU.



To page 9-71



From page 9-70

A

Does the meter jerk toward 0 V only when the transmission shifts?

YES

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

NO

Apply the brake and shift to **P** position.

Turn the ignition switch OFF.

Disconnect the A connector from the PGM-FI ECU.

Check for continuity on the BRN/WHT wire between the D16 terminal on the A/T control unit and the PGM-FI ECU.

Is there continuity?

NO

Repair open in BRN/WHT wire.

YES

Check for continuity, on the BRN/WHT wire between the D16 terminal on the A/T control unit and the PGM-FI ECU.

Is there continuity?

YES

Repair short in BRN/WHT wire.

NO

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

From page 9-70

B

Is there continuity?

NO

Repair open in BRN/WHT wire.

YES

Check for continuity on the BRN/WHT wire between the D16 terminal on the A/T control unit and the PGM-FI ECU.

Is there continuity?

YES

Repair short in BRN/WHT wire.

(cont'd)

# Electrical Troubleshooting

## Troubleshooting Flowchart (cont'd)

KB other

Self-diagnosis **D4** indicator light blinks fifteen times.

Check the state of installation of NM and NC speed sensor.

OK?

NO

Reinstall and recheck.

YES

Disconnect the 2P connector from the NM speed sensor.

Measure the resistance of the NM speed sensor.

Is the resistance 400–600 ohms? (20°C)

NO

Replace the NM speed sensor.

YES

Disconnect the 22P connector from the control unit.

Check the continuity between D19 (ORN/BLU) and D12 (WHT/BLU) terminals and body ground.

Is the continuity?

YES

Repair short in ORN/BLU or WHT/BLU wires between D19 and D12 terminals and the NM speed sensor.

NO

Reconnect the 2P connector to the NM speed sensor.

Measure the resistance between D19 (ORN/BLU) and D12 (WHT/BLU) terminals.

Is the resistance 400–600 ohms? (20°C)

NO

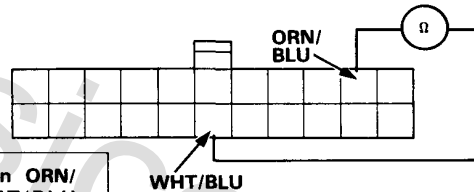
Check for continuity between D19 (ORN/BLU) terminal and the NM speed sensor.

YES

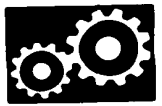
To page 9-73

NOTE: A code 15 on the A/T control unit doesn't always mean there's an electrical problem in the NM or NC circuit, code 15 may also indicate a mechanical problem in the trans.

NOTE: View from wire side.



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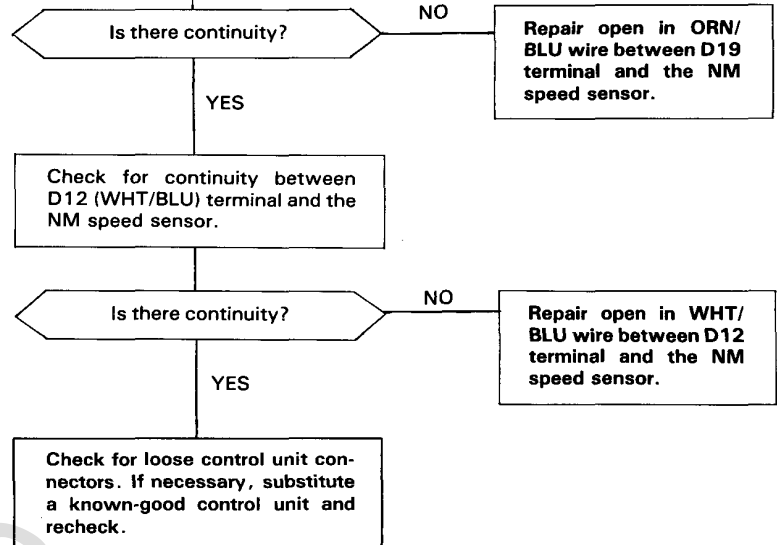
From page 9-72

A

Run Electrical Troubleshooting for code 9. Check for loose control unit connector. If necessary, substitute a known-good control unit and recheck.

From page 9-72

B

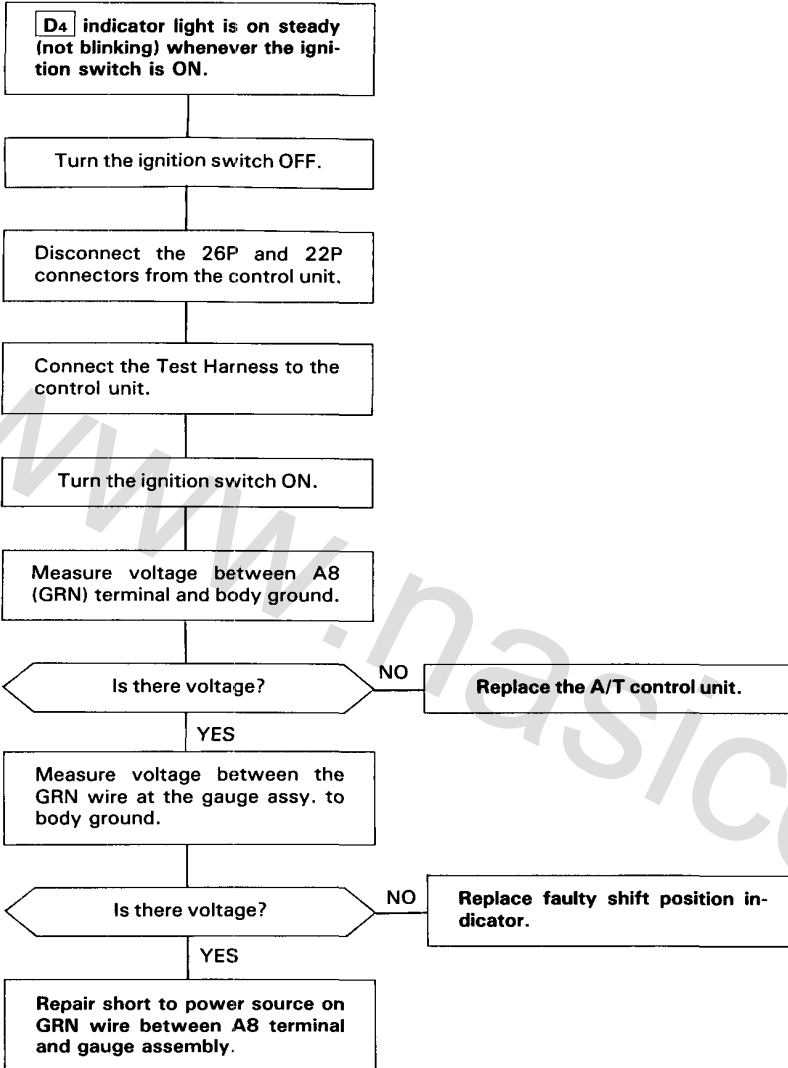


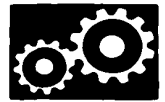
(cont'd)

# Electrical Troubleshooting

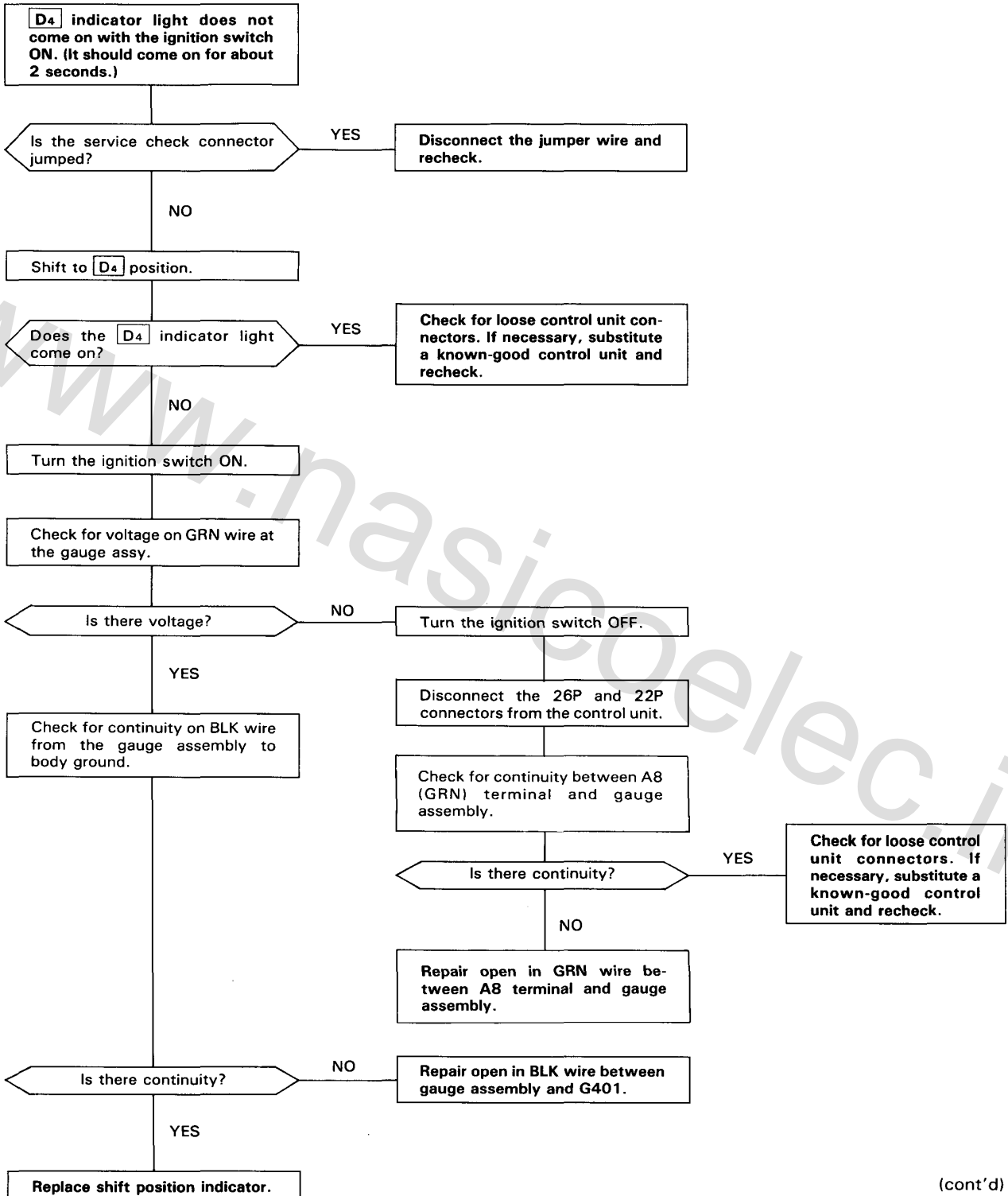
## Troubleshooting Flowchart (cont'd)

### KB other





## KB other

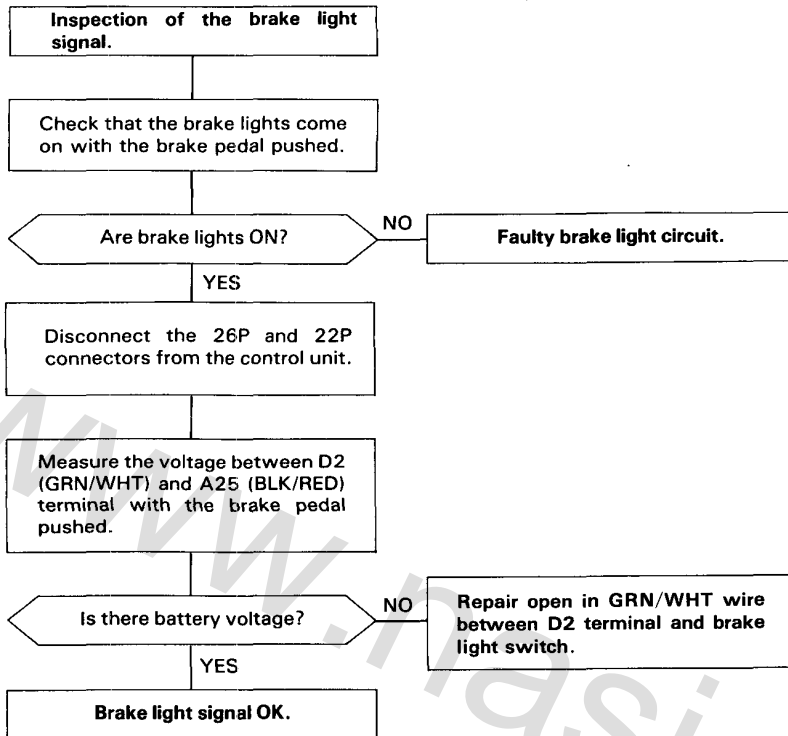


(cont'd)

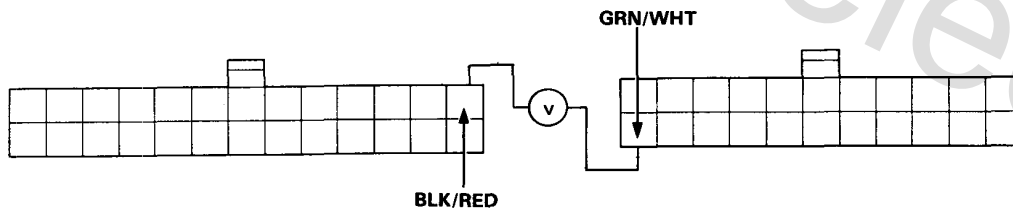
# Electrical Troubleshooting

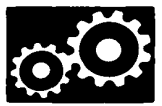
## Troubleshooting Flowchart (cont'd)

### KB other

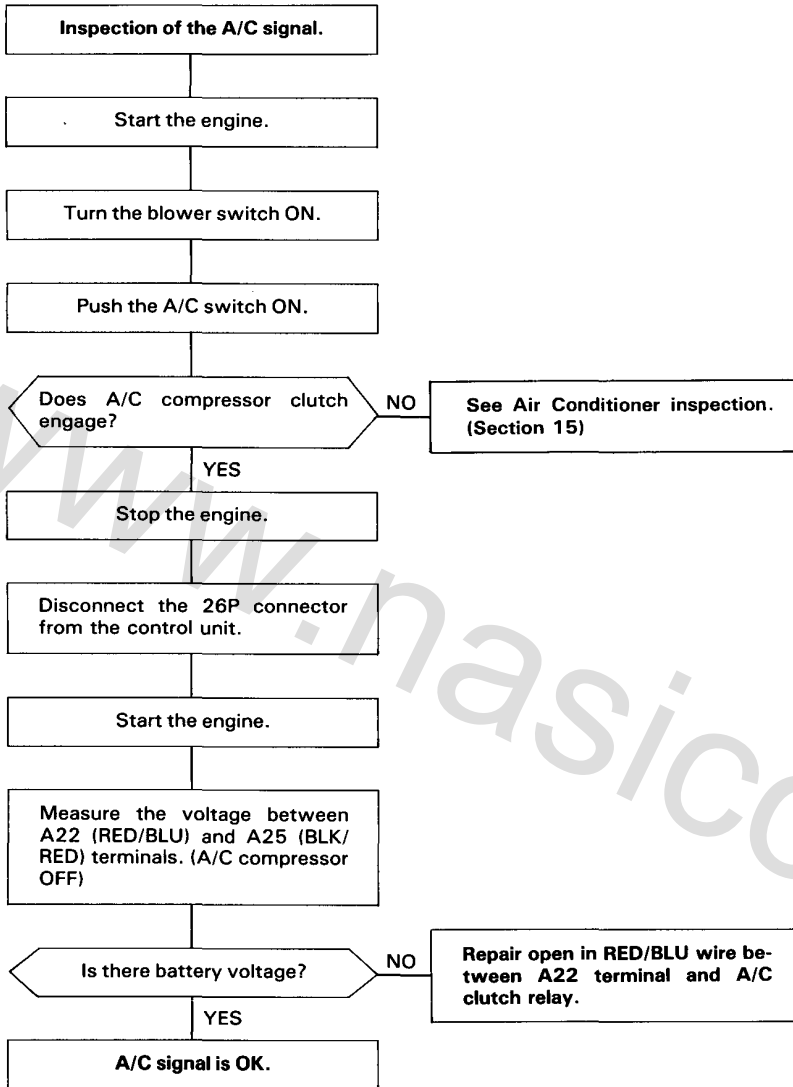


NOTE: View from wire side.

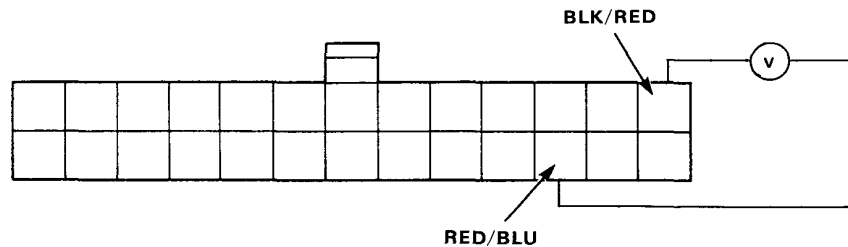




### KB other



NOTE: View from wire side.





# Road Test

NOTE: Warm up the engine to operating temperature.

1. Apply parking brake and block the wheels. Start the engine, then move the selector lever to **D<sub>4</sub>** while depressing the brake pedal. Depress the accelerator pedal, and release it suddenly. Engine should not stall.
2. Repeat same test in **D<sub>3</sub>** position.
3. Shift the selector lever to **D<sub>4</sub>** position and check that the shift points occur at approximate speeds shown. Also check for abnormal noise and clutch slippage.

## F20A8, F22A3, and F22A8 Engines

**D<sub>4</sub>** Position: Normal Mode (S switch OFF)

### ● Upshift

		1st→2nd	2nd→3rd	3rd→4th	Lock-up Clutch ON
0.7/8 throttle Coasting down-hill from a stop	km/h	21–24	42–45	58–64	23–27
	mph	13–15	26–28	36–40	14–17
3.5/8 throttle Acceleration from a stop	km/h	27–34	56–63	87–97	97–105
	mph	17–21	35–39	54–60	60–65
Full-throttle Acceleration from a stop	km/h	48–56	108–114	151–164	130–138
	mph	30–35	67–71	94–102	81–86

### ● Downshift

		Lock-up Clutch OFF	4th→3rd	3rd→2nd	2nd→1st
0.7/8 throttle Coasting or braking to a stop	km/h	21–26	29–35	—	(3rd→1st) 10–16
	mph	13–16	18–22	—	(3rd→1st) 6–10
3.5/8 throttle When car is slowed by increased grade, wind, etc.	km/h	77–85	—	—	—
	mph	48–53	—	—	—
Full-throttle When car is slowed by increased grade, wind, etc.	km/h	127–135	126–135	85–94	40–48
	mph	79–84	78–84	53–59	25–30

**D<sub>4</sub>** Position: S Mode (S switch ON)

### ● Upshift

		1st→2nd	2nd→3rd	3rd→4th	Lock-up Clutch ON
0.7/8 throttle Coasting down-hill from a stop	km/h	18–21	42–45	77–84	40–45
	mph	11–13	26–28	48–52	25–28
3.5/8 throttle Acceleration from a stop	km/h	27–34	77–84	113–122	121–129
	mph	17–21	48–52	70–76	75–80
Full-throttle Acceleration from a stop	km/h	48–56	108–114	154–164	138–146
	mph	30–35	67–71	96–102	86–91

### ● Downshift

		Lock-up Clutch OFF	4th→3rd	3rd→2nd	2nd→1st
0.7/8 throttle Coasting or braking to a stop	km/h	40–45	29–35	—	(3rd→1st) 10–16
	mph	25–28	18–22	—	(3rd→1st) 6–10
3.5/8 throttle When car is slowed by increased grade, wind, etc.	km/h	95–103	—	—	—
	mph	59–64	—	—	—
Full-throttle When car is slowed by increased grade, wind, etc.	km/h	127–135	126–135	86–98	40–48
	mph	79–84	78–84	55–61	25–30



F20A5 (except KB other) and F22A2 Engines

**D4** Position: Normal Mode (S switch OFF)

● Upshift

		1st→2nd	2nd→3rd	3rd→4th	Lock-up Clutch ON
0.7/8 throttle Coasting down-hill from a stop	km/h	14–18	27–31	40–46	17–21
	mph	9–11	17–19	25–29	11–13
3.5/8 throttle Acceleration from a stop	km/h	28–34	53–59	74–82	97–104
	mph	17–21	33–37	46–51	60–65
Full-throttle Acceleration from a stop	km/h	42–49	102–110	149–158	130–138
	mph	26–30	63–68	93–98	81–86

● Downshift

		Lock-up Clutch OFF	4th→3rd	3rd→2nd	2nd→1st
0.7/8 throttle Coasting or braking to a stop	km/h	15–21	26–32	—	(3rd→1st) 9–15
	mph	9–13	16–20	—	(3rd→1st) 6–9
3.5/8 throttle When car is slowed by increased grade, wind, etc.	km/h	89–96	—	—	—
	mph	55–60	—	—	—
Full-throttle When car is slowed by increased grade, wind, etc.	km/h	126–134	124–133	85–94	39–46
	mph	78–83	77–83	53–58	24–29

**D4** Position: S Mode (S switch ON)

● Upshift

		1st→2nd	2nd→3rd	3rd→4th	Lock-up Clutch ON
0.7/8 throttle Coasting down-hill from a stop	km/h	17–21	39–43	77–83	36–40
	mph	11–13	24–27	48–52	22–25
3.5/8 throttle Acceleration from a stop	km/h	37–43	72–78	106–114	122–129
	mph	23–27	45–48	66–71	76–80
Full-throttle Acceleration from a stop	km/h	43–50	102–110	149–158	130–138
	mph	27–31	63–68	93–98	81–86

● Downshift

		Lock-up Clutch OFF	4th→3rd	3rd→2nd	2nd→1st
0.7/8 throttle Coasting or braking to a stop	km/h	35–40	31–37	—	(3rd→1st) 11–17
	mph	22–25	19–23	—	(3rd→1st) 7–11
3.5/8 throttle When car is slowed by increased grade, wind, etc.	km/h	107–114	—	—	—
	mph	66–71	—	—	—
Full-throttle When car is slowed by increased grade, wind, etc.	km/h	126–134	124–133	85–94	39–46
	mph	78–83	77–83	53–58	24–29

(cont'd)

# Road Test

(cont'd)

## F22A9 Engine

**D4** Position: Normal Mode (S switch OFF)

### ● Upshift

		1st→2nd	2nd→3rd	3rd→4th	Lock-up Clutch ON
0.7/8 throttle Coasting down-hill from a stop	km/h	21–24	42–45	58–64	23–27
	mph	13–15	26–28	36–40	14–17
3.5/8 throttle Acceleration from a stop	km/h	27–34	56–63	87–97	97–105
	mph	17–21	35–39	54–60	60–65
Full-throttle Acceleration from a stop	km/h	48–56	101–109	151–161	135–143
	mph	30–35	63–68	94–100	84–89

### ● Downshift

		Lock-up Clutch OFF	4th→3rd	3rd→2nd	2nd→1st
0.7/8 throttle Coasting or braking to a stop	km/h	21–26	29–35	—	(3rd→1st) 10–16
	mph	13–16	18–22	—	(3rd→1st) 6–10
3.5/8 throttle When car is slowed by increased grade, wind, etc.	km/h	77–85	—	—	—
	mph	48–53	—	—	—
Full-throttle When car is slowed by increased grade, wind, etc.	km/h	129–137	126–135	85–95	40–48
	mph	80–85	78–84	53–59	25–30

**D4** Position: S Mode (S switch ON)

### ● Upshift

		1st→2nd	2nd→3rd	3rd→4th	Lock-up Clutch ON
0.7/8 throttle Coasting down-hill from a stop	km/h	18–21	39–42	61–68	37–42
	mph	11–13	24–26	38–42	23–26
3.5/8 throttle Acceleration from a stop	km/h	27–34	66–72	100–109	111–119
	mph	17–21	41–45	62–68	69–74
Full-throttle Acceleration from a stop	km/h	48–56	101–109	154–164	143–151
	mph	30–35	63–68	96–102	89–94

### ● Downshift

		Lock-up Clutch OFF	4th→3rd	3rd→2nd	2nd→1st
0.7/8 throttle Coasting or braking to a stop	km/h	35–40	29–35	—	(3rd→1st) 10–16
	mph	22–25	18–22	—	(3rd→1st) 6–10
3.5/8 throttle When car is slowed by increased grade, wind, etc.	km/h	84–92	—	—	—
	mph	52–57	—	—	—
Full-throttle When car is slowed by increased grade, wind, etc.	km/h	129–137	126–135	89–98	40–48
	mph	80–85	78–84	55–61	25–30



F22A6 Engine

**D4** Position: Normal Mode (S switch OFF)

● Upshift

		1st→2nd	2nd→3rd	3rd→4th	Lock-up Clutch ON
0.7/8 throttle Coasting down-hill from a stop	km/h	21–24	42–45	58–64	23–27
	mph	13–15	26–28	36–40	14–17
3.5/8 throttle Acceleration from a stop	km/h	27–34	56–63	87–97	97–105
	mph	17–21	35–39	54–60	60–65
Full-throttle Acceleration from a stop	km/h	48–56	101–109	151–161	135–143
	mph	30–35	63–68	94–100	84–89

● Downshift

		Lock-up Clutch OFF	4th→3rd	3rd→2nd	2nd→1st
0.7/8 throttle Coasting or braking to a stop	km/h	21–26	26–32	—	(3rd→1st) 10–16
	mph	13–16	16–20	—	(3rd→1st) 6–10
3.5/8 throttle When car is slowed by increased grade, wind, etc.	km/h	77–85	—	—	—
	mph	48–53	—	—	—
Full-throttle When car is slowed by increased grade, wind, etc.	km/h	129–137	126–135	85–95	40–48
	mph	80–85	78–84	53–59	25–30

**D4** Position: S Mode (S switch ON)

● Upshift

		1st→2nd	2nd→3rd	3rd→4th	Lock-up Clutch ON
0.7/8 throttle Coasting down-hill from a stop	km/h	18–21	39–42	61–68	37–42
	mph	11–13	24–26	38–42	23–26
3.5/8 throttle Acceleration from a stop	km/h	27–34	66–72	100–109	111–119
	mph	17–21	41–45	62–68	69–74
Full-throttle Acceleration from a stop	km/h	48–56	101–109	154–164	143–151
	mph	30–35	63–68	96–102	89–94

● Downshift

		Lock-up Clutch OFF	4th→3rd	3rd→2nd	2nd→1st
0.7/8 throttle Coasting or braking to a stop	km/h	35–40	26–32	—	(3rd→1st) 10–16
	mph	22–25	16–20	—	(3rd→1st) 6–10
3.5/8 throttle When car is slowed by increased grade, wind, etc.	km/h	84–92	—	—	—
	mph	52–57	—	—	—
Full-throttle When car is slowed by increased grade, wind, etc.	km/h	129–137	126–135	89–98	40–48
	mph	80–85	78–84	55–61	25–30

(cont'd)

# Road Test

(cont'd)

F20A5 Engine: KB other

## ● Upshift

		1st→2nd	2nd→3rd	3rd→4th	Lock-up Clutch ON
0.7/8 throttle Coasting down-hill from a stop	km/h	14–18	27–31	40–46	17–21
	mph	9–11	17–19	25–29	11–13
3.5/8 throttle Acceleration from a stop	km/h	28–34	53–59	74–82	97–104
	mph	17–21	33–37	46–51	60–65
Full-throttle Acceleration from a stop	km/h	42–49	102–110	149–158	130–138
	mph	26–30	63–68	93–98	81–86

## ● Downshift

		Lock-up Clutch OFF	4th→3rd	3rd→2nd	2nd→1st
0.7/8 throttle Coasting or braking to a stop	km/h	15–21	26–32	—	(3rd→1st) 9–15
	mph	9–13	16–20	—	(3rd→1st) 6–9
3.5/8 throttle When car is slowed by increased grade, wind, etc.	km/h	89–96	—	—	—
	mph	55–60	—	—	—
Full-throttle When car is slowed by increased grade, wind, etc.	km/h	126–134	124–133	85–94	39–46
	mph	78–83	77–83	53–58	24–29

4. Accelerate to about 35 mph (57 km/h) so the transmission is in 4th, then shift **D4** to **2**. The car should immediately begin slowing down from engine braking.

**CAUTION:** Do not shift from **D4** or **D3** to **2** or **1** at speeds over 62.5 mph (100 km/h); you may damage the transmission.

### **1** (1st Gear)

1. Accelerate from a stop at full throttle. Check that there is no abnormal noise or clutch slippage.
2. Upshifts and downshifts should not occur with the selector in this position.

### **2** (2nd Gear)

1. Accelerate from a stop at full throttle. Check that there is no abnormal noise or clutch slippage.
2. Upshifts and downshifts should not occur with the selector in this position.

### **R** (Reverse)

Accelerate from a stop at full throttle, and check for abnormal noise and clutch slippage.

### **P** (Park)

Park car on slope (approx. 16°), apply the parking brake, and shift into Park. Release the brake; the car should not move.

# Pressure

## Testing

### ⚠ WARNING

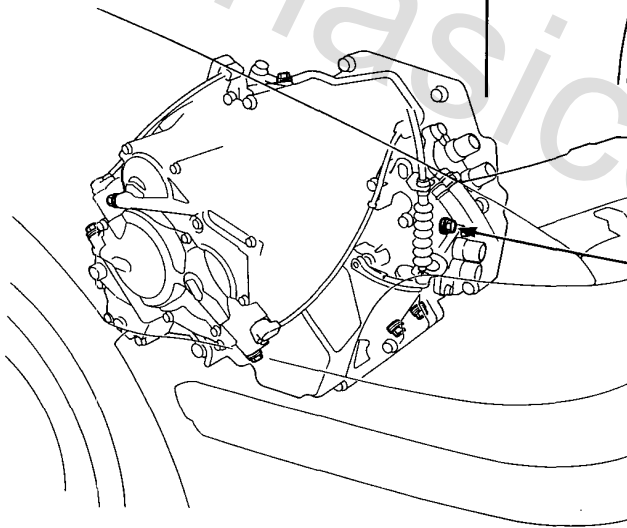
- Make sure jacks and safety stands are placed properly.
- While testing, be careful of the rotating front wheels.

### CAUTION:

- Before testing, be sure the transmission is filled to the proper level.
- Connect an oil pressure gauge securely, being sure not to allow dust and other foreign particles to enter the inspection hole.
- Warm up the engine before testing.
- Set the parking brake securely, and block both rear wheels.
- Raise the front of the car and support with safety stands.

### Line Pressure Measurement

1. Set the parking brake and block both rear wheels securely.
2. Run the engine at 2,000 min<sup>-1</sup> (rpm).
3. Measure the line pressure.

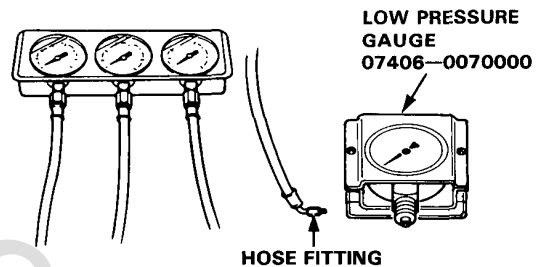


NOTE: Do not reuse old aluminum washers. Install the sealing bolt in the inspection hole and tighten to the specified torque 18 N·m (1.8 kg-m, 12 lb-ft).

1. Stop the engine and connect a tachometer.
2. Connect an oil pressure gauge securely to each inspection hole.
3. Start the engine and measure respective pressures as follows.

A/T OIL PRESSURE GAUGE SET 07406-0020003 (Includes Pressure Hoses)

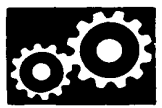
A/T OIL PRESSURE GAUGE HOSE 07406-0020201



LINE PRESSURE INSPECTION HOLE

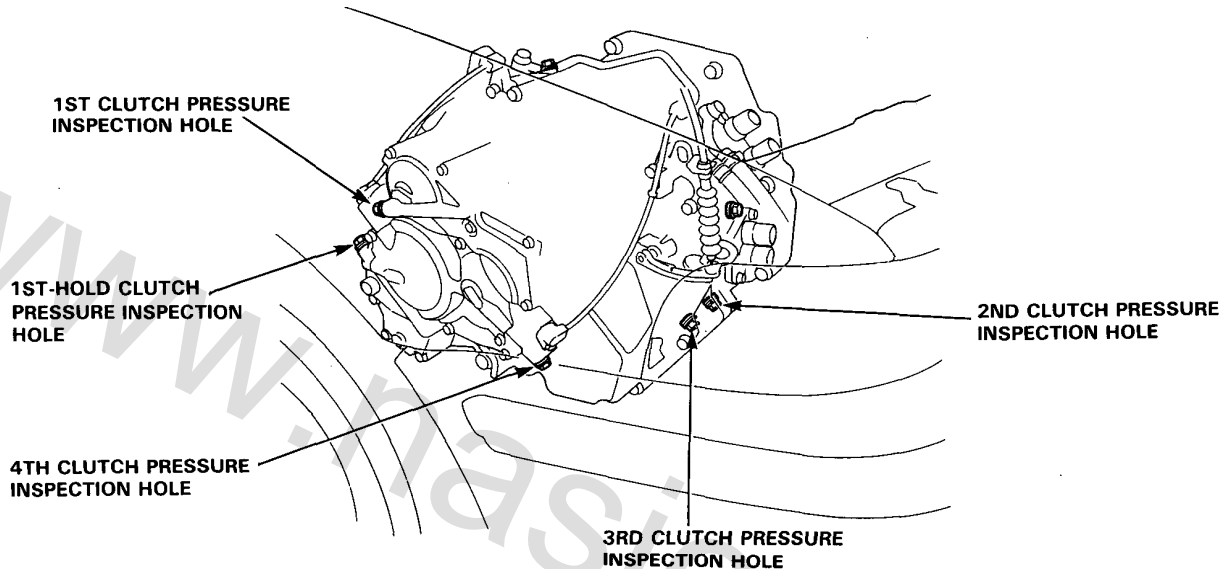
PRESSURE	SELECTOR POSITION	SYMPTOM	PROBABLE CAUSE	FLUID PRESSURE	
				Standard	Service Limit
Line	<b>N</b> or <b>P</b>	No (or low) line pressure	Torque converter, oil pump pressure regulator, torque converter check valve, oil pump	785–834 kPa (8.0–8.5 kg/cm <sup>2</sup> , 114–121 psi)	735 kPa (7.5 kg/cm <sup>2</sup> , 107 psi)

NOTE: Higher pressures may be indicated if measurements are made in selector positions other than **N** or **P**.



### Clutch Pressure Measurement

1. Set the parking brake and block both rear wheels securely.
2. Raise the front of the car and support with safety stands.
3. Allow the front wheels to rotate freely.
4. Run the engine at 2,000 min<sup>-1</sup> (rpm).
5. Measure each clutch pressure.



PRESSURE	SELECTOR POSITION	SYMPTOM	PROBABLE CAUSE	FLUID PRESSURE	
				Standard	Service Limit
1st Clutch	1	No or low 1st pressure	1st Clutch	785–834 kPa (8.0–8.5 kg/cm <sup>2</sup> , 114–121 psi)	735 kPa (7.5 kg/cm <sup>2</sup> , 107 psi)
1st-hold Clutch	1	No or low 1st-hold pressure	1st-hold Clutch		
2nd Clutch	2	No or low 2nd pressure	2nd Clutch		
2nd Clutch	2	No or low 2nd pressure	2nd Clutch	490 kPa (5.0 kg/cm <sup>2</sup> , 71 psi) (throttle fully closed)	441 kPa (4.5 kg/cm <sup>2</sup> , 64 psi) (throttle fully closed)
3rd Clutch	D <sub>3</sub>	No or low 3rd pressure	3rd Clutch	834 kPa (8.5 kg/cm <sup>2</sup> , 121 psi) (throttle more than 1/4 opened)	735 kPa (7.5 kg/cm <sup>2</sup> , 107 psi) (throttle more than 1/4 opened)
4th Clutch	D <sub>4</sub>	No or low 4th pressure	4th Clutch	520 kPa (5.3 kg/cm <sup>2</sup> , 75 psi) (throttle fully closed)	461 kPa (4.7 kg/cm <sup>2</sup> , 67 psi) (throttle fully closed)
	R	No or low 4th pressure	Servo valve or 4th Clutch	834 kPa (8.5 kg/cm <sup>2</sup> , 121 psi) (throttle more than 1/4 opened)	735 kPa (7.5 kg/cm <sup>2</sup> , 107 psi) (throttle more than 1/4 opened)
				785–834 kPa (8.0–8.5 kg/cm <sup>2</sup> , 114–121 psi)	735 kPa (7.5 kg/cm <sup>2</sup> , 107 psi)

(cont'd)

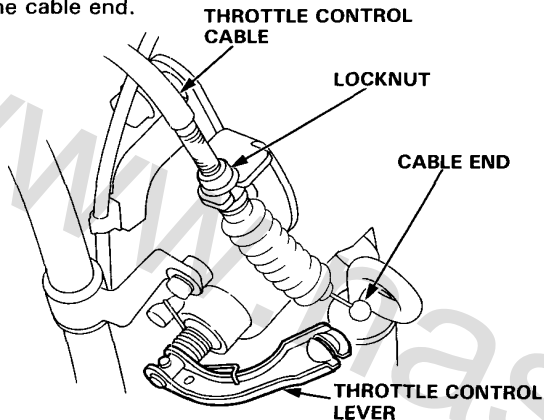
# Pressure

## Testing (cont'd)

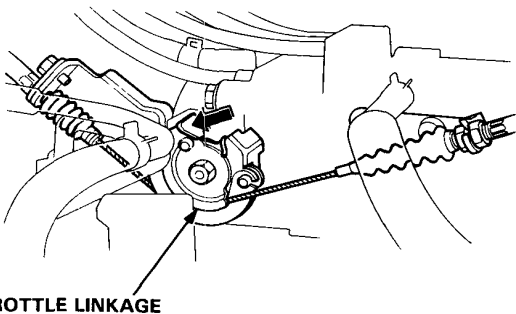
### Low/High Pressure Test

1. Set the parking brake and block rear wheels securely.
2. Raise the car and support with safety stands.
3. Attach the gauge set to the appropriate pressure test port.
4. Remove the cable end of the throttle control lever.

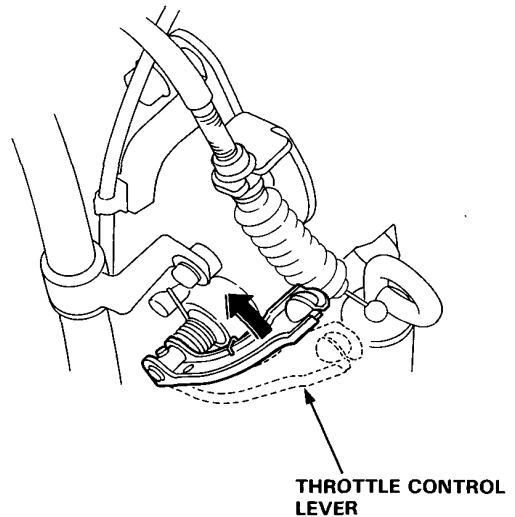
NOTE: Do not loosen the locknuts, simply unhook the cable end.



5. Warm up the engine to normal operating temperature (cooling fan comes on).
6. With the engine idling, move the selector lever to **D3** or **D4**.
7. Slowly move the throttle linkage to increase engine rpm until pressure is indicated on the appropriate gauge. Then release the throttle linkage, allowing the engine to return to an idle, and record the pressure reading.

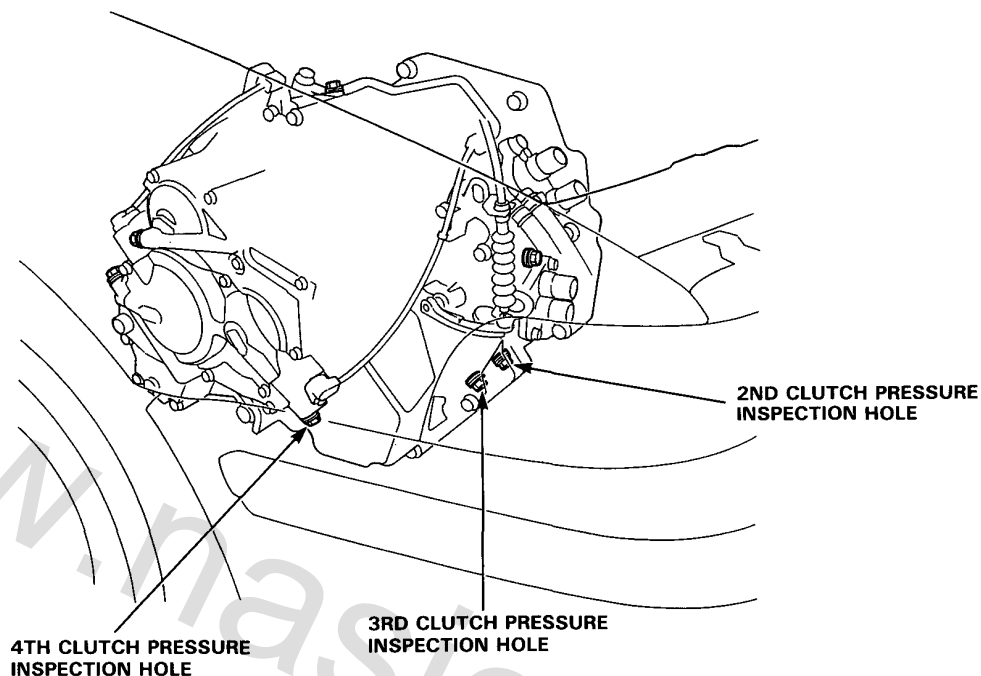


8. With the engine idling, lift the throttle control lever up approximately 1/2 of its possible travel and increase the engine rpm until pressure is indicated on the appropriate gauge. Record the highest pressure reading obtained.



9. Repeat steps 7 and 8 for each clutch pressure being inspected.





PRESSURE	SELECTOR POSITION	SYMPTOM	PROBABLE CAUSE	FLUID PRESSURE	
				Standard	Service Limit
2nd Clutch	D <sub>3</sub> or D <sub>4</sub>	No or low 2nd pressure	2nd Clutch	490–834 kPa (5.0–8.5 kg/cm <sup>2</sup> , 71–121 psi) varies with throttle opening	441 kPa (4.5 kg/cm <sup>2</sup> , 64 psi) with lever released
3rd Clutch	D <sub>3</sub> or D <sub>4</sub>	No or low 3rd pressure	3rd Clutch		735 kPa (7.5 kg/cm <sup>2</sup> , 107 psi) with lever in full throttle position
4th Clutch	D <sub>4</sub>	No or low 4th pressure	4th Clutch	520–834 kPa (5.3–8.5 kg/cm <sup>2</sup> , 75–121 psi) varies with throttle opening	461 kPa (4.7 kg/cm <sup>2</sup> , 67 psi) with lever released 735 kPa (7.5 kg/cm <sup>2</sup> , 107 psi) with lever in full throttle position

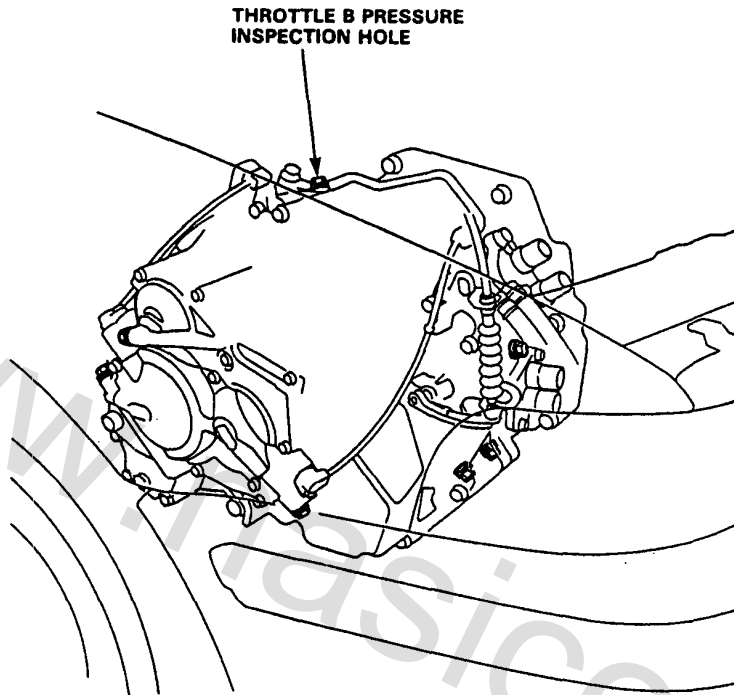
(cont'd)

# Pressure

## Testing (cont'd)

### Throttle B Pressure Measurement

1. Set the parking brake securely and block the wheels.
2. Run the engine at  $1,000 \text{ min}^{-1}$  (rpm)
3. Disconnect the throttle control cable from the throttle lever and set the control lever in full throttle position.



PRESSURE	SELECTOR POSITION	SYMPTOM	PROBABLE CAUSE	FLUID PRESSURE	
				Standard	Service Limit
Throttle B	D <sub>3</sub> or D <sub>4</sub>	No (or low) throttle B pressure	Throttle valve B	0 kPa (0 kg/cm <sup>2</sup> , 0 psi) with lever released 785–834 kPa (8.0–8.5 kg/cm <sup>2</sup> , 114–121 psi) with lever in full throttle position	735 kPa (7.5 kg/cm <sup>2</sup> , 107 psi) with lever in full throttle position.



# Shift Indicator Panel

## Adjustment

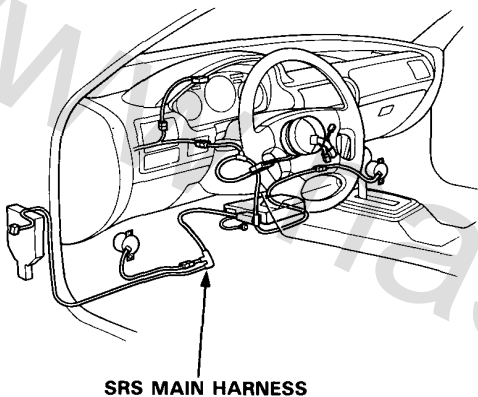
### ACCORD AERO DECK

SRS wire harness is routed near the gearshift selector.

NOTE: LHD is shown; RHD is similar.

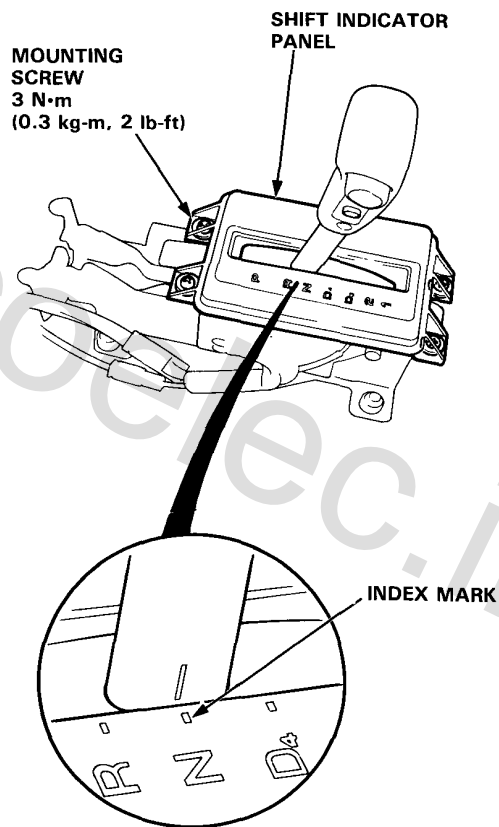
#### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.



1. Check that the index mark of the indicator aligns with the **N** mark of the shift indicator panel with the transmission in NEUTRAL.
2. If not aligned, remove the center console. (see Section 14).
3. Remove the shift indicator panel mounting screws and adjust by moving the panel.

NOTE: Whenever the shift indicator panel is removed, reinstall the panel as described above.



# Shift Cable

## Adjustment

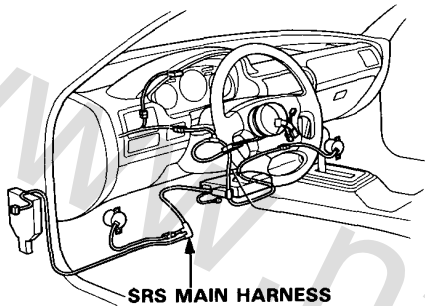
### ACCORD AERO DECK

SRS wire harness is routed near the gearshift selector.

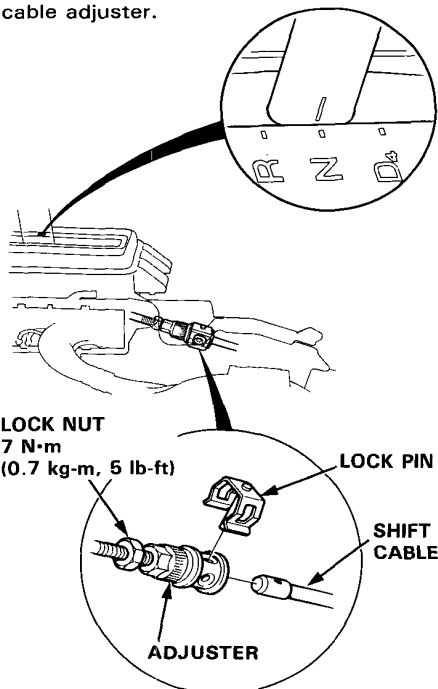
NOTE: LHD is shown; RHD is similar.

#### CAUTION:

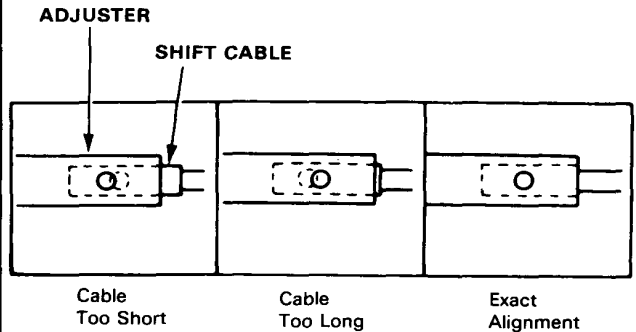
- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.



1. Start the engine. Shift to reverse to see if the reverse gear engages. If not, refer to Troubleshooting.
2. With the engine off, remove the console (see Section 14).
3. Shift to **N** position, then remove the lock pin from the cable adjuster.



4. Check that the hole in the adjuster is perfectly aligned with the hole in the shift cable.



NOTE: There are two holes in the end of the shift cable. They are positioned 90° apart to allow cable adjustments in 1/4 turn increments.

5. If not perfectly aligned, loosen the lock nut on shift cable and adjust as required.
6. Tighten the lock nut.
7. Install the lock pin on the adjuster.

NOTE: If you feel the lock pin binding as you reinstall it, the cable is still out of adjustment and must be readjusted.

8. Start the engine and check the shift lever in all gears. If any gear does not work properly, refer to troubleshooting.



## Removal/Installation

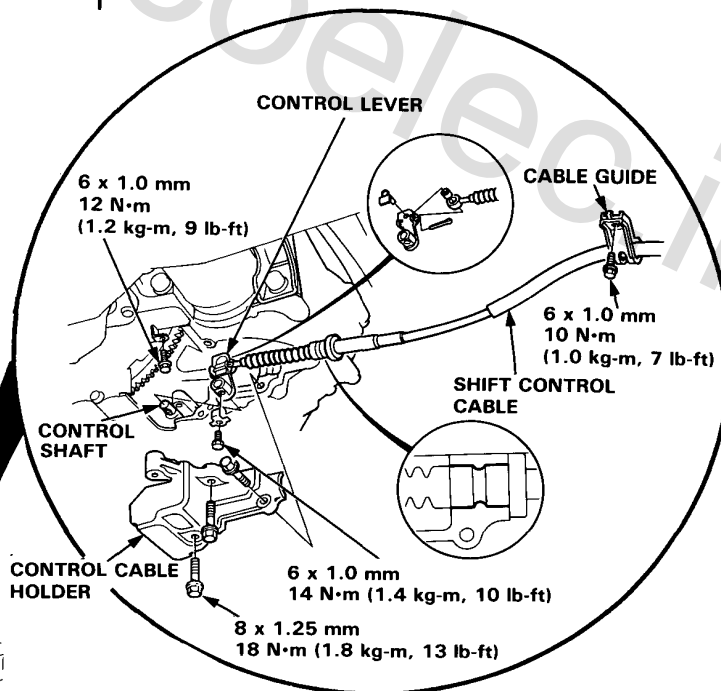
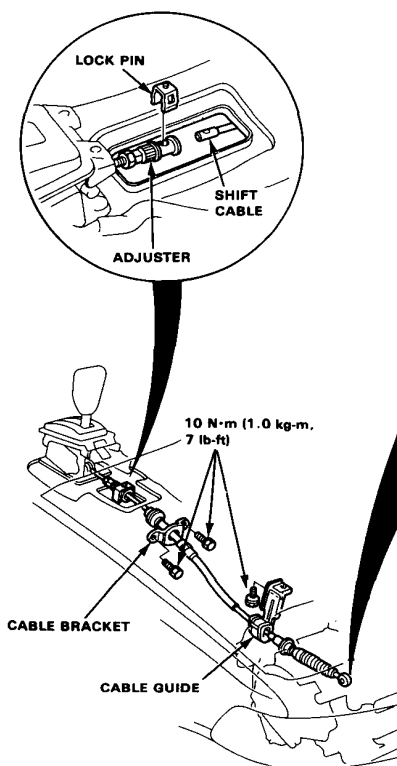
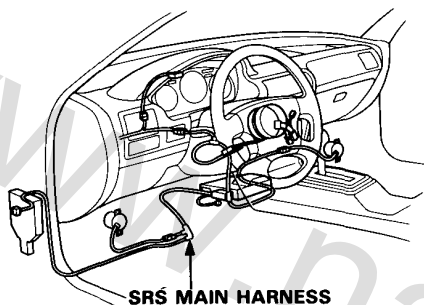
### ACCORD AERO DECK

SRS wire harness is routed near the gearshift selector.

NOTE: LHD is shown; RHD is similar.

#### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.



#### ⚠ WARNING

- Make sure jacks and safety stands are placed properly and hoist brackets are attached to correct positions on the engine.
- Apply parking brake and block rear wheels, so car will not roll off stands and fall on you while working under it.

1. Remove the front console (see Section 14).
2. Remove the lock pin from the cable adjuster.
3. Remove the bolts, then remove the cable bracket and cable guide.
4. Remove the exhaust pipe A and center beam.
5. Remove cable holder.
6. Remove the shift cable with control lever from the control shaft.

**CAUTION:** Take care not to bend the cable when removing it.

7. Install the shift cable in the reverse order of removal.

NOTE: On reassembly, check the cable adjustment (page 9-90).

# Gearshift Selector

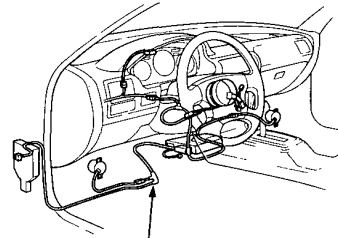
## ACCORD AERO DECK

SRS wire harness is routed near the gearshift selector.

NOTE: LHD is shown; RHD is similar.

### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.



SRS MAIN HARNESS

PUSH KNOB SPRING

PUSH KNOB

SELECTOR LEVER KNOB

3 N·m (0.3 kg-m, 2 lb-ft)  
Apply non hardening thread lock sealant.

SLIDER

3 N·m (0.3 kg-m, 2 lb-ft)  
Apply non hardening thread lock sealant.

S SWITCH

SHIFT INDICATOR PANEL

LOCK PIN ROD

Replace.

LOCK PIN

ADJUSTER

10 N·m (1.0 kg-m, 7 lb-ft)

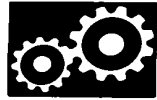
SHIFT POSITION  
CONSOLE SWITCH  
See section 16.

10 N·m (1.0 kg-m,  
7 lb-ft)

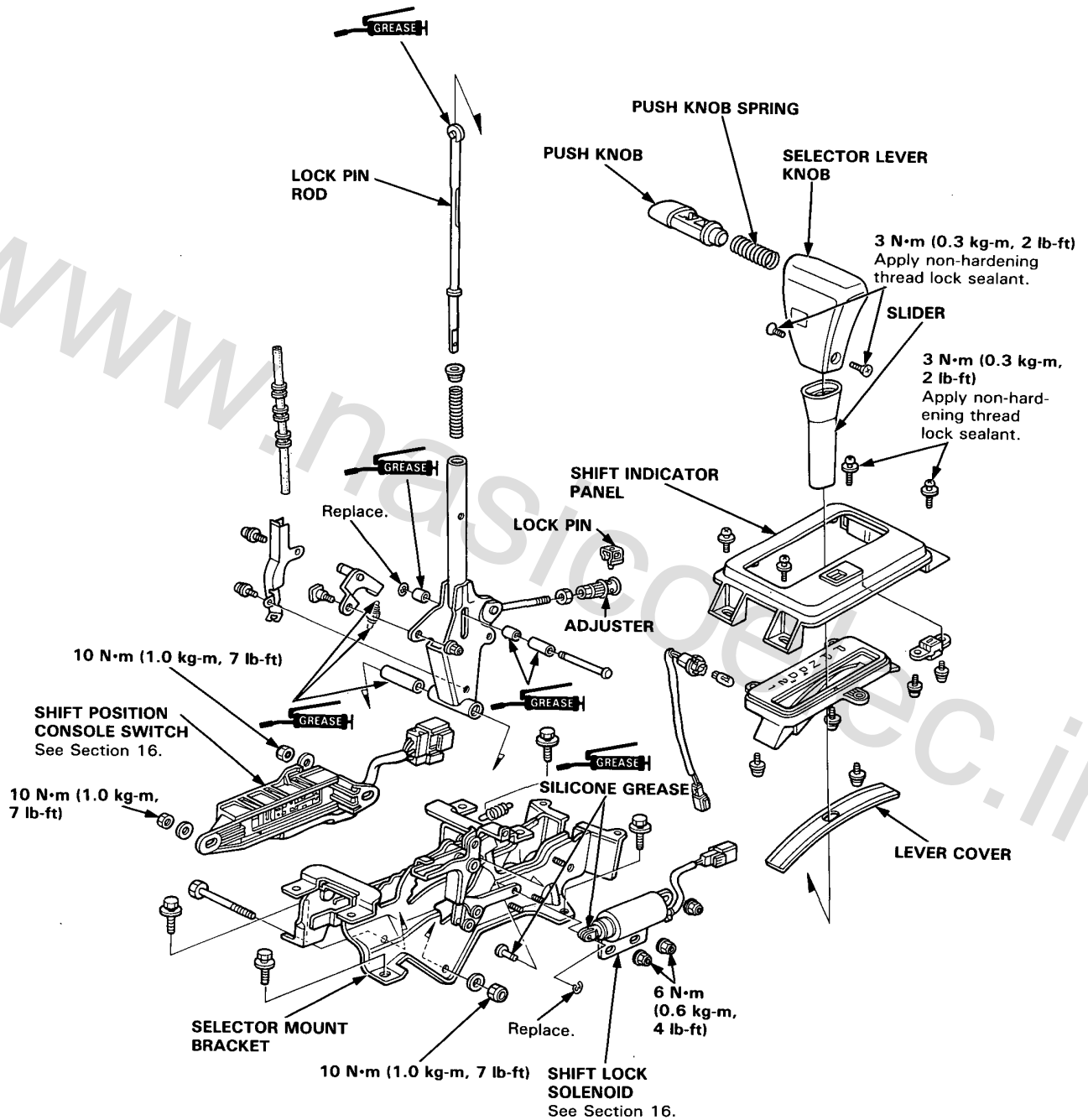
SELECTOR MOUNT  
BRACKET

10 N·m (1.0 kg-m, 7 lb-ft)

LEVER COVER



KB other



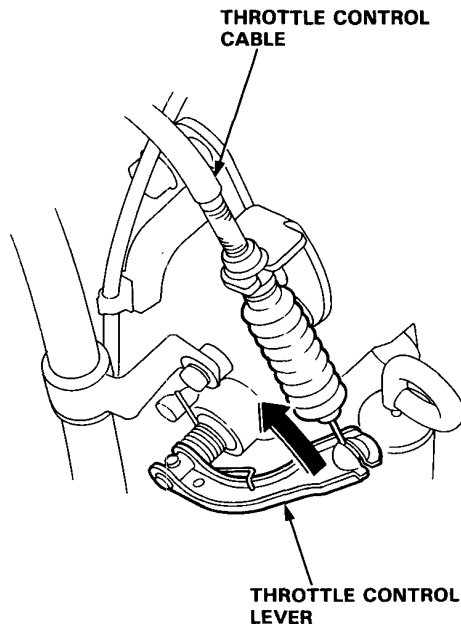
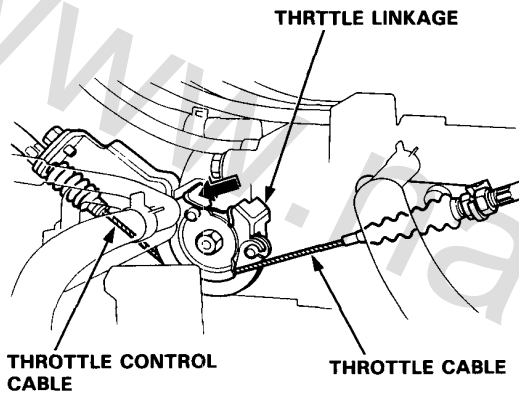
# Throttle Control Cable

## Inspection

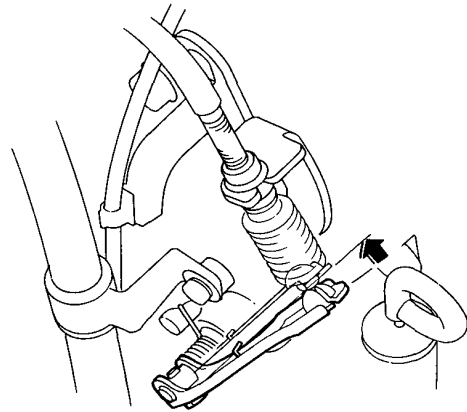
NOTE: Before inspecting the throttle control cable, make sure;

- Throttle cable free play is correct (see Section 6).
- Idle speed is correct (see Section 6).
- To warm up the engine to normal operating temperature (cooling fan comes on).

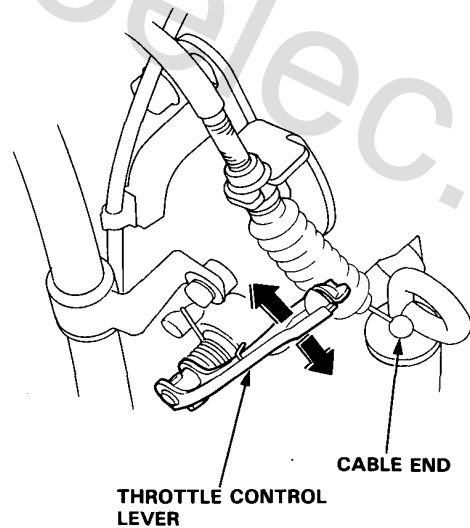
1. Verify that the throttle control lever is synchronized with the throttle linkage while depressing and releasing the accelerator pedal.
2. If the throttle control lever is not synchronized with the throttle linkage, adjust the throttle control cable.



3. Check that there is play in the throttle control lever while depressing the accelerator pedal to the full-throttle position.



4. Remove the cable end of the throttle control cable from the throttle control lever.
5. Check that the throttle control lever moves smoothly.





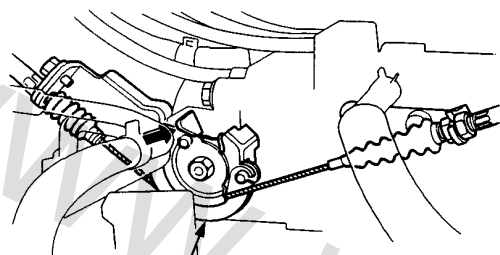


## Adjustment

NOTE: Before adjusting the throttle control cable, make sure;

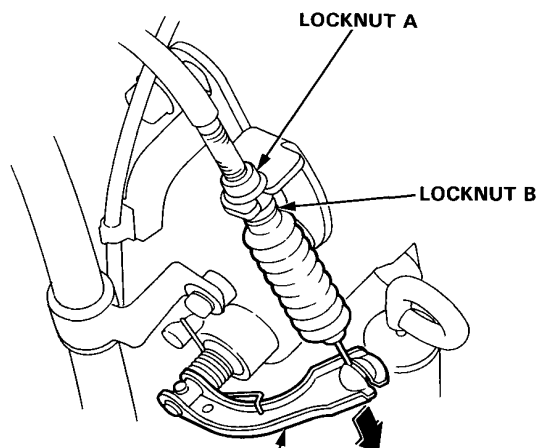
- Throttle cable free play is correct (see Section 6).
- Idle speed is correct (see Section 6).
- To warm up the engine to normal operating temperature (cooling fan comes on).

1. Verify that the throttle linkage is in the full-closed position.



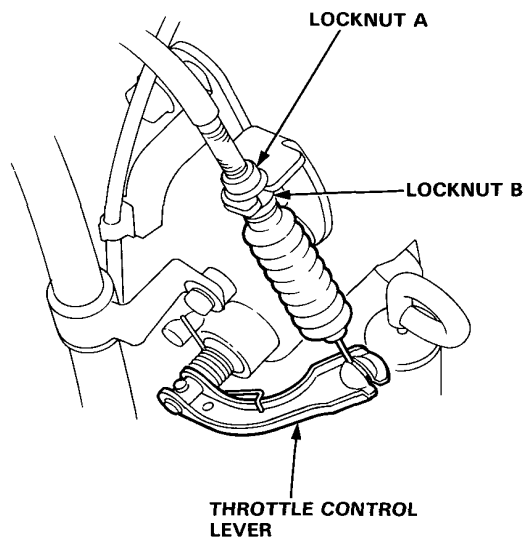
THROTTLE LINKAGE

2. Loosen the locknut of the throttle control cable at the throttle control lever.
3. Remove the free play of the throttle control cable with the locknut, while pushing the throttle control lever to the full-closed position as shown.



THROTTLE CONTROL LEVER  
Push in this direction.

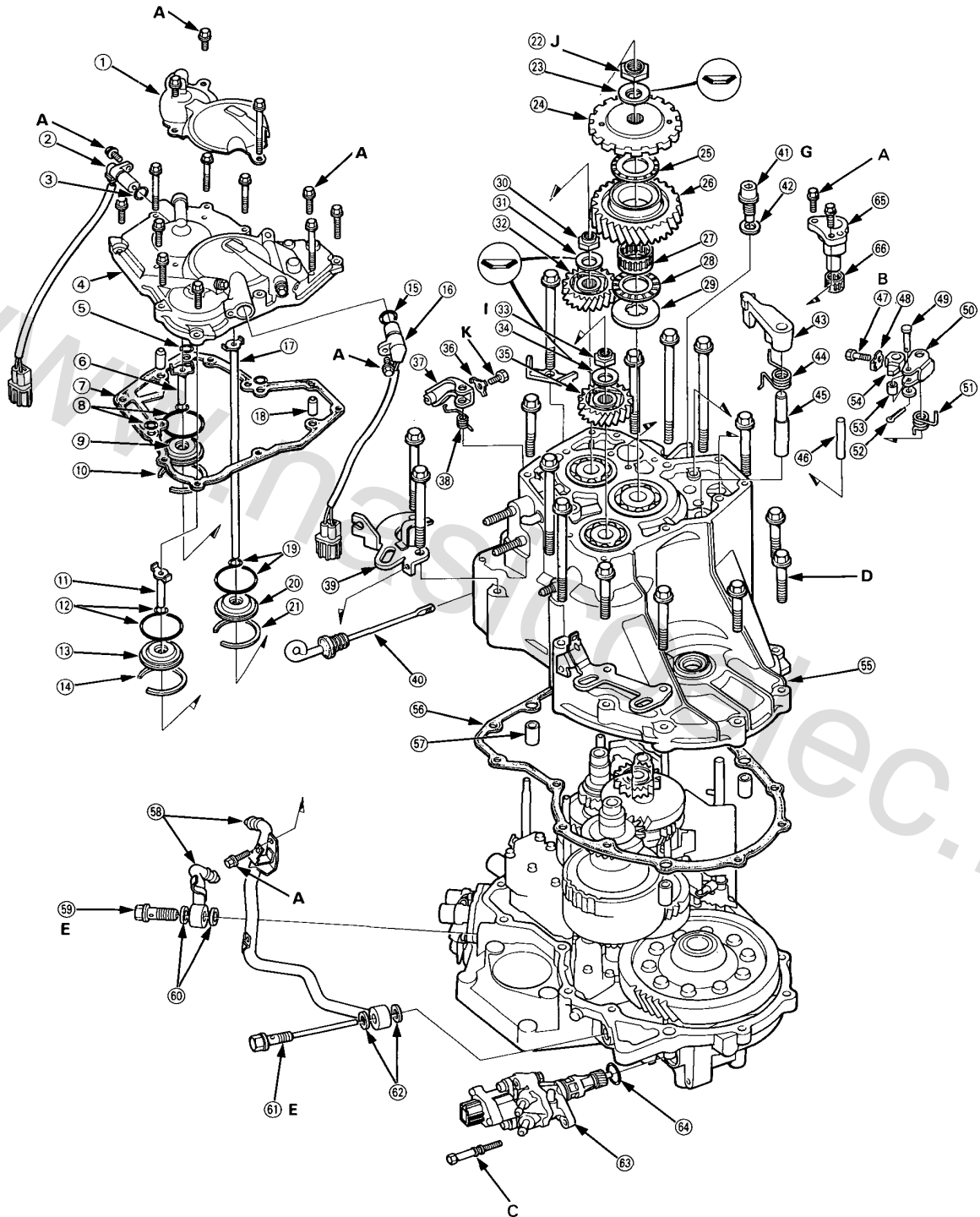
4. Tighten the locknut.



5. After tightening the locknuts, inspect the synchronization and throttle control lever movement.

# Illustrated Index

## R. Side Cover





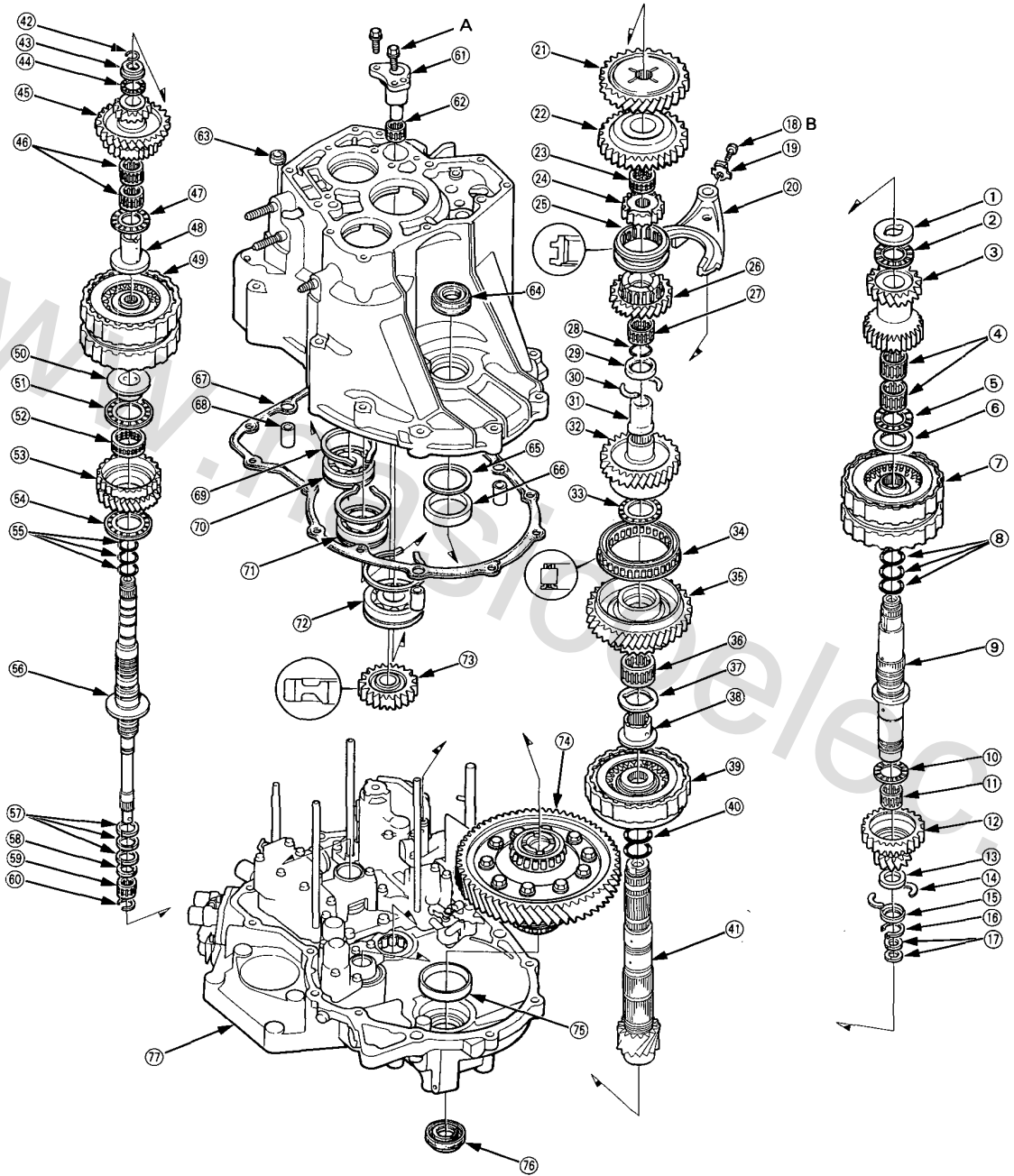
- ① R.SIDE COVER PROTECTOR
- ② NM SPEED SENSOR
- ③ O-RING Replace.
- ④ R.SIDE COVER
- ⑤ O-RING Replace.
- ⑥ 4TH CLUTCH FEED PIPE
- ⑦ R.SIDE COVER GASKET Replace.
- ⑧ O-RINGS Replace.
- ⑨ FEED PIPE GUIDE
- ⑩ SNAP RING
- ⑪ 1ST CLUTCH FEED PIPE
- ⑫ O-RINGS Replace.
- ⑬ FEED PIPE GUIDE
- ⑭ SNAP RING
- ⑮ O-RING Replace.
- ⑯ NC SPEED SENSOR
- ⑰ 1ST-HOLD CLUTCH FEED PIPE
- ⑱ DOWEL PIN
- ⑲ O-RINGS Replace.
- ⑳ FEED PIPE GUIDE
- ㉑ SNAP RING
- ㉒ COUNTERSHAFT LOCKNUT, 24 × 1.25 mm  
(Flange nut) Replace.
- ㉓ CONICAL SPRING WASHER Replace.
- ㉔ PARKING GEAR
- ㉕ THRUST NEEDLE BEARING
- ㉖ COUNTERSHAFT IDLER GEAR
- ㉗ NEEDLE BEARING
- ㉘ THRUST NEEDLE BEARING
- ㉙ THRUST WASHER
- ㉚ MAINSHAFT LOCKNUT, 24 × 1.25 mm  
(Flange nut) Replace.
- NOTE: Left-hand threads
- ㉛ CONICAL SPRING WASHER Replace.
- ㉜ MAINSHAFT IDLER GEAR
- ㉝ SECONDARY SHAFT LOCKNUT, 24 × 1.25 mm  
(Flange nut) Replace.
- ㉞ CONICAL SPRING WASHER Replace.
- ㉟ LOCK WASHER Replace.
- ㊱ THROTTLE CONTROL LEVER
- ㊲ THROTTLE CONTROL LEVER SPRING
- ㊳ TRANSMISSION HANGER
- ㊴ ATF LEVEL GAUGE
- ㊵ DRAIN PLUG
- ㊶ SEALING WASHER Replace.
- ㊷ PARKING BRAKE PAWL
- ㊸ PARKING BRAKE PAWL SPRING
- ㊹ PARKING BRAKE PAWL STOPPER
- ㊺ PARKING BRAKE PAWL SHAFT
- ㊻ LOCK BOLT
- ㊼ LOCK WASHER Replace.
- ㊽ ROLLER PIN
- ㊾ PARKING BRAKE LEVER
- ㊿ PARKING BRAKE SPRING
- ① COTTER PIN Replace.
- ② PARKING BRAKE ROLLER
- ③ PARKING BRAKE STOPPER
- ④ TRANSMISSION HOUSING
- ⑤ TRANSMISSION HOUSING GASKET Replace.
- ⑥ DOWEL PIN
- ⑦ ATF COLLER PIPES
- ⑧ JOINT BOLT
- ⑨ SEALING WASHERS Replace.
- ⑩ JOINT BOLT
- ⑪ SEALING WASHERS Replace.
- ⑫ SPEED SENSOR
- ⑬ O-RING Replace.
- ⑭ REVERSE IDLER GEAR SHAFT HOLDER
- ⑮ NEEDLE BEARING

#### TORQUE SPECIFICATIONS

Ref No.	Torque Value	Bolt Size	Remarks
A	12 N·m (1.2 kg-m, 9 lb-ft)	6 × 1.0 mm	
B	14 N·m (1.4 kg-m, 10 lb-ft)	6 × 1.0 mm	
C	18 N·m (1.8 kg-m, 13 lb-ft)	8 × 1.25 mm	
D	55 N·m (5.5 kg-m, 40 lb-ft)	10 × 1.25 mm	
E	29 N·m (2.9 kg-m, 21 lb-ft)	12 × 1.25 mm	
G	50 N·m (5.0 kg-m, 36 lb-ft)	18 × 1.5 mm	
H	230 → 0 → 170 N·m (23.0 → 0 → 17.0 kg-m, 166 → 0 → 123 lb-ft)	24 × 1.25 mm	Joint Bolt Drain Plug Mainshaft Locknut
I	230 → 0 → 170 N·mm (23.0 → 0 → 17.0 kg-m, 166 → 0 → 123 lb-ft)	24 × 1.25 mm	Left-hand threads Secondary Shaft Locknut
J	230 → 0 → 170 N·mm (230 → 0 → 17.0 kg-m, 166 → 0 → 123 lb-ft)	24 × 1.25 mm	Countershaft Locknut
K	8 N·m (0.8 kg-m, 6 lb-ft)	5 × 0.8 mm	

# Illustrated Index

## Transmission Housing





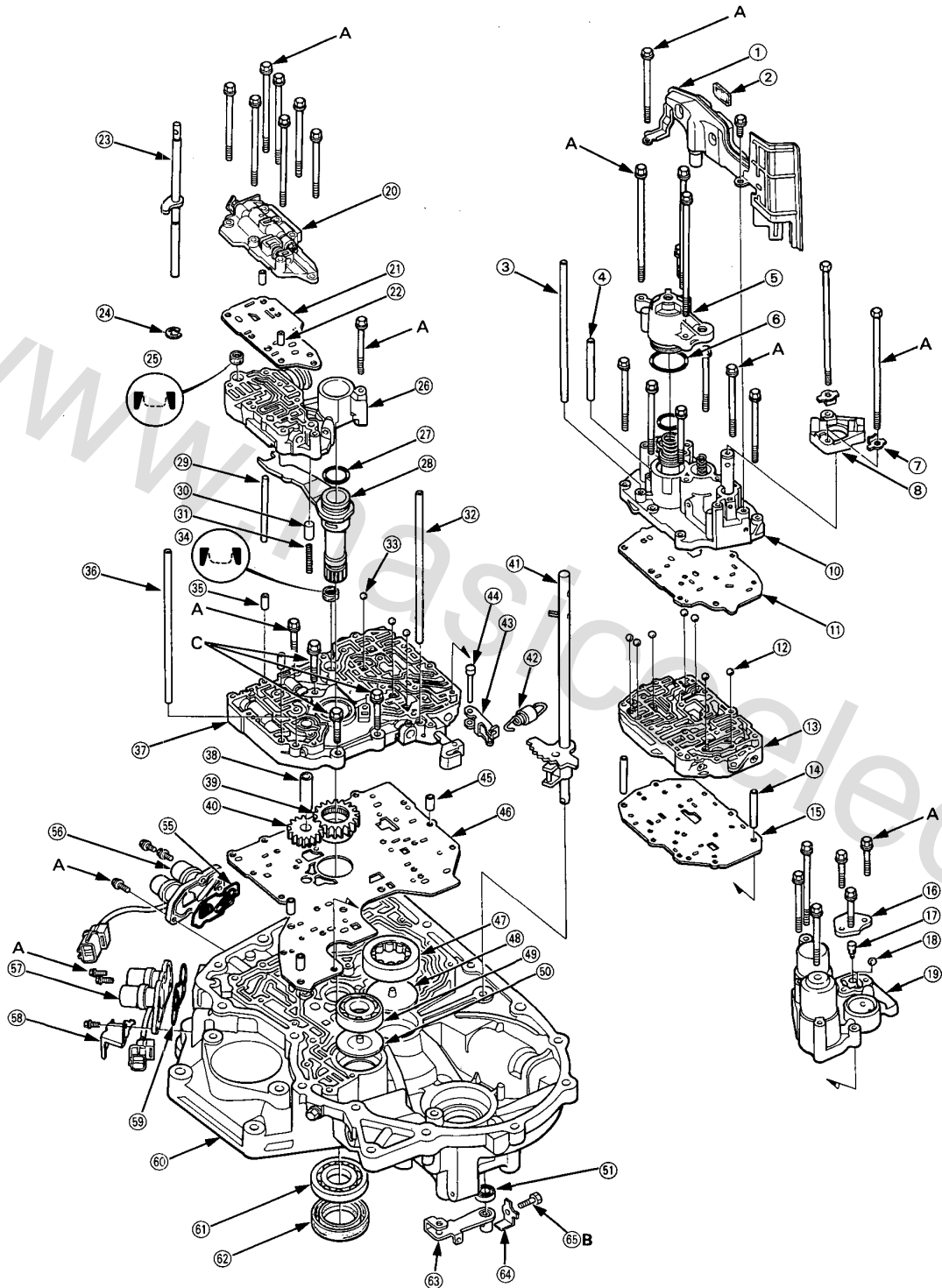
- ① THRUST WASHER
- ② THRUST NEEDLE BEARING
- ③ SECONDARY SHAFT 2ND GEAR
- ④ NEEDLE BEARING
- ⑤ THRUST NEEDLE BEARING
- ⑥ SPLINED WASHER Selective part
- ⑦ 1ST/2ND CLUTCH ASSEMBLY
- ⑧ O-RINGS Replace.
- ⑨ SECONDARY SHAFT
- ⑩ THRUST NEEDLE BEARING
- ⑪ NEEDLE BEARING
- ⑫ SECONDARY SHAFT 1ST GEAR
- ⑬ DISTANCE COLLAR, 5.0 mm
- ⑭ COTTERS, 29 mm
- ⑮ COTTER RETAINER
- ⑯ SNAP RING
- ⑰ SEALING RINGS, 32 mm
- ⑱ LOCK BOLT
- ⑲ LOCK WASHER Replace.
- ⑳ SHIFT FORK
- ㉑ COUNTERSHAFT 2ND GEAR
- ㉒ COUNTERSHAFT REVERSE GEAR
- ㉓ NEEDLE BEARING
- ㉔ REVERSE SELECTOR
- ㉕ REVERSE SELECTOR HUB
- ㉖ COUNTERSHAFT 4TH GEAR
- ㉗ NEEDLE BEARING
- ㉘ SNAP RING
- ㉙ COLLAR, 32 mm
- ㉚ COTTERS, 29 mm
- ㉛ DISTANCE COLLAR
- ㉜ COUNTERSHAFT 3RD GEAR
- ㉝ THRUST NEEDLE BEARING
- ㉞ ONE-WAY CLUTCH
- ㉟ COUNTERSHAFT 1ST GEAR
- ㊱ NEEDLE BEARING
- ㊲ THRUST WASHER
- ㊳ COUNTERSHAFT 3RD GEAR COLLAR
- ㊴ 1ST-HOLD CLUTCH ASSEMBLY
- ㊵ O-RINGS Replace.
- ㊶ COUNTERSHAFT
- ㊷ SNAP RING
- ㊸ COLLAR
- ㊹ THRUST NEEDLE BEARING
- ㊺ MAINSHAFT 4TH/REVERSE GEAR
- ㊻ NEEDLE BEARINGS
- ㊼ THRUST NEEDLE BEARING
- ㊽ 4TH GEAR COLLAR
- ㊾ 3RD/4TH CLUTCH ASSEMBLY
- ㊿ 3RD GEAR COLLAR
- ① THRUST NEEDLE BEARING
- ② NEEDLE BEARING
- ③ MAINSHAFT 3RD GEAR
- ④ THRUST NEEDLE BEARING
- ⑤ O-RINGS Replace.
- ⑥ MAINSHAFT
- ⑦ SEALING RINGS, 35 mm
- ⑧ SEALING RING, 29 mm
- ⑨ NEEDLE BEARING
- ⑩ SET RING
- ⑪ REVERSE IDLER GEAR SHAFT HOLDER
- ⑫ NEEDLE BEARING
- ⑬ OIL SEAL Replace.
- ⑭ TRANSMISSION HOUSING OIL SEAL Replace.
- ⑮ THRUST SHIM Selective part
- ⑯ BEARING OUTER RACE
- ⑰ TRANSMISSION HOUSING GASKET Replace.
- ⑱ DOWEL PIN
- ⑲ SNAP RING
- ㉑ TRANSMISSION HOUSING MAINSHAFT BEARING
- ㉒ TRANSMISSION HOUSING SECONDARY SHAFT BEARING
- ㉓ TRANSMISSION HOUSING COUNTERSHAFT BEARING
- ㉔ REVERSE IDLER GEAR
- ㉕ DIFFERENTIAL ASSEMBLY
- ㉖ BEARING OUTER RACE
- ㉗ TORQUE CONVERTER HOUSING OIL SEAL Replace.
- ㉘ TORQUE CONVERTER HOUSING

#### TORQUE SPECIFICATIONS

Ref No.	Torque Value	Bolt Size	Remarks
A	12 N·m (1.2 kg-m, 9 lb-ft)	6 × 1.0 mm	
B	14 N·m (1.4 kg-m, 10 lb-ft)	6 × 1.0 mm	

# Illustrated Index

## Torque Converter Housing





- ① ATF STRAINER
- ② MAGNET
- ③ OIL FEED PIPE
- ④ OIL FEED PIPE
- ⑤ 4TH ACCUMULATOR COVER
- ⑥ O-RING Replace.
- ⑦ LOCK WASHER Replace.
- ⑧ SERVO DETENT BASE
- ⑨ DOWEL PIN
- ⑩ SERVO BODY
- ⑪ SERVO SEPARATOR PLATE
- ⑫ CHECK BALL
- ⑬ SECONDARY VALVE BODY
- ⑭ DOWEL PIN
- ⑮ SECONDARY SEPARATOR PLATE
- ⑯ ACCUMULATOR BODY COVER
- ⑰ 1ST ACCUMULATOR CHOKE
- ⑱ STEEL BALL
- ⑲ 1ST/2ND ACCUMULATOR BODY
- ⑳ THROTTLE VALVE BODY
- ㉑ THROTTLE SEPARATOR PLATE
- ㉒ DOWEL PIN
- ㉓ THROTTLE CONTROL SHAFT
- ㉔ E RING Replace.
- ㉕ FILTER Replace.
- ㉖ REGULATOR VALVE BODY
- ㉗ O-RING Replace.
- ㉘ STATOR SHAFT
- ㉙ STOPPER SHAFT
- ㉚ TORQUE CONVERTER CHECK VALVE
- ㉛ TORQUE CONVERTER CHECK VALVE SPRING

- ㉜ OIL FEED PIPE
- ㉝ CHECK BALL
- ㉞ FILTER Replace.
- ㉟ DOWEL PIN
- ㊱ OIL FEED PIPE
- ㊲ MAIN VALVE BODY
- ㊳ OIL PUMP DRIVEN GEAR SHAFT
- ㊴ OIL PUMP DRIVE GEAR
- ㊵ OIL PUMP DRIVEN GEAR
- ㊶ CONTROL SHAFT
- ㊷ DETENT SPRING
- ㊸ DETENT ARM
- ㊹ DETENT ARM SHAFT
- ㊺ DOWEL PIN
- ㊻ MAIN SEPARATOR PLATE
- ㊼ COUNTERSHAFT NEEDLE BEARING
- ㊽ OIL GUIDE PLATE Replace.
- ㊾ SECONDARY SHAFT BALL BEARING
- ㊿ OIL GUIDE PLATE Replace.
- ① OIL SEAL Replace.
- ② SHIFT CONTROL SOLENOID FILTER/GASKET Replace.
- ③ SHIFT CONTROL SOLENOID VALVE ASSEMBLY
- ④ LOCK-UP CONTROL SOLENOID VALVE ASSEMBLY
- ⑤ CONECTOR HOLDER
- ⑥ LOCK-UP CONTROL SOLENOID FILTER/GASKET Replace.
- ⑦ TORQUE CONVERTER HOUSING
- ⑧ MAINSHAFT BALL BEARING
- ⑨ OIL SEAL Replace.
- ⑩ CONTROL LEVER
- ⑪ LOCK WASHER Replace.
- ⑫ LOCK BOLT

#### TORQUE SPECIFICATIONS

Ref No.	Torque Value	Bolt Size	Remarks
A	12 N·m (1.2 kg-m, 9 lb-ft)	6 × 1.0 mm	
B	14 N·m (1.4 kg-m, 10 lb-ft)	6 × 1.0 mm	
C	18 N·m (1.8 kg-m, 13 lb-ft)	8 × 1.25 mm	

# R. Side Cover

## Removal

### NOTE:

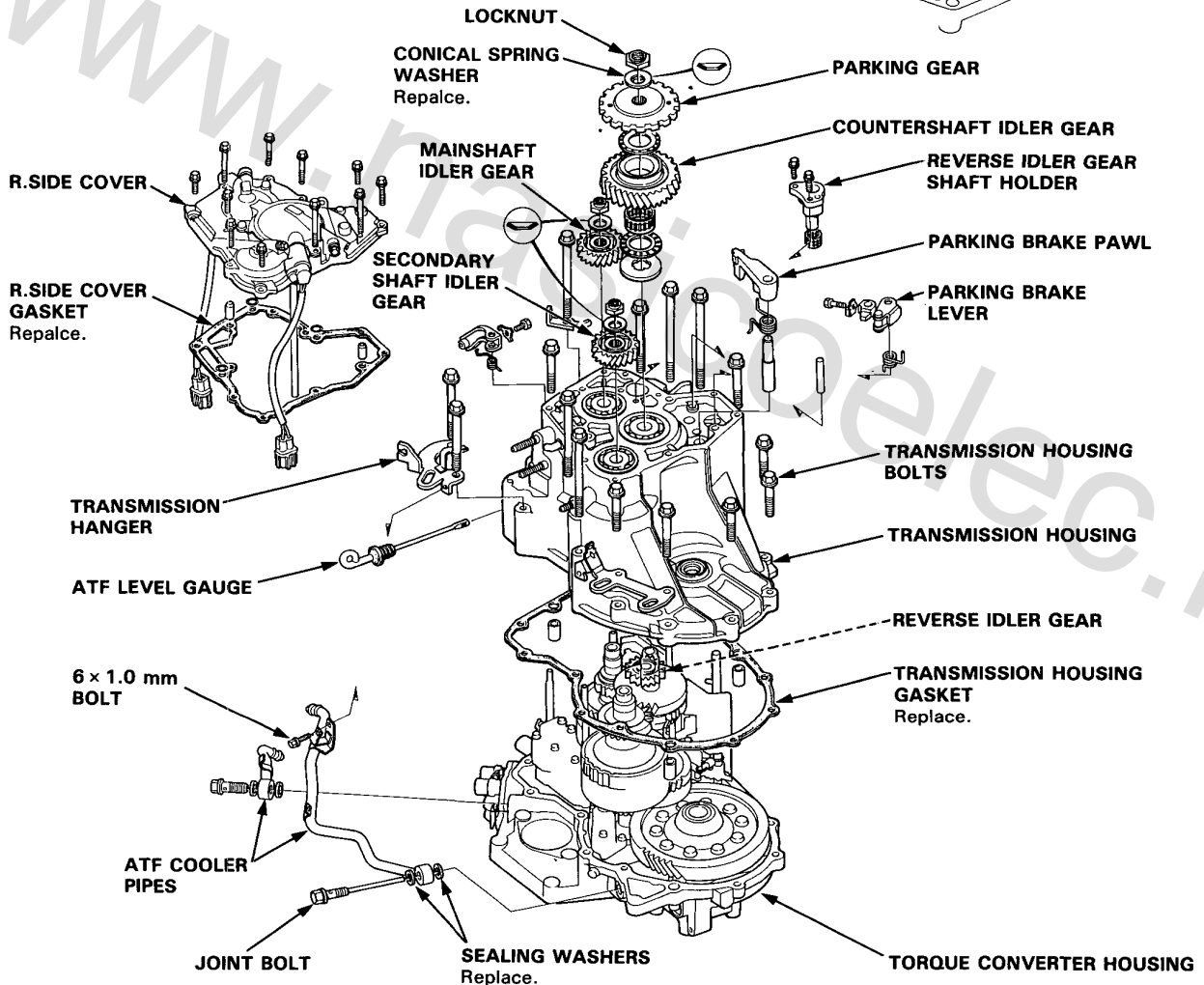
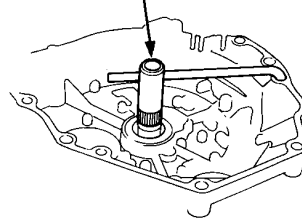
- Clean all parts thoroughly in solvent or carburetor cleaner and dry with compressed air.
- Blow out all passages.
- When removing the transmission R. side cover, replace the following:
  - R. side cover gasket
  - Lock washers
  - Transmission housing gasket
  - O-rings
  - Each shaft locknut and conical spring washer
  - Sealing washers

1. Remove the 11 bolts securing the R. side cover, then remove the cover.

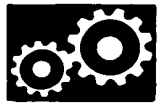
NOTE: It is not necessary to remove the R. side cover protector.

2. Slip the special tool onto the mainshaft.

**MAINSHAFT HOLDER**  
07GAB-PF50101 or  
07GAB-PF50100





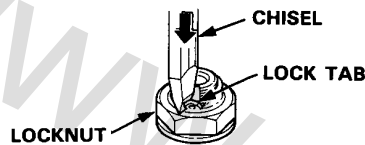


- Engage the parking brake pawl with the parking gear.
- Cut the lock tabs of each shaft locknut using a chisel as shown. Then remove the locknuts and conical spring washers from each shaft.

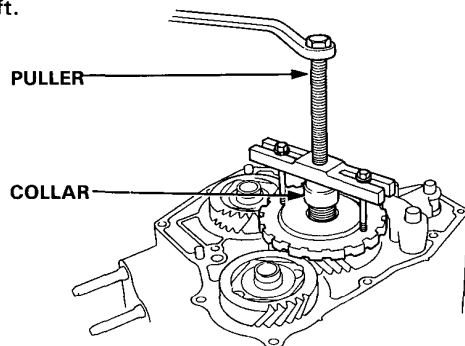
**NOTE:**

- Mainshaft locknut has left-hand threads.
- Clean the old locknuts, they are used when installing to press the idler gears on the mainshaft and secondary shaft and the parking gear on the countershaft.

**CAUTION:** Keep all of the chiseled particles out of the transmission.



- Remove the special tool from the mainshaft after removing the locknuts.
- Remove the parking gear using a puller from the countershaft as shown. Then remove the idler gears using a puller from the mainshaft and secondary shaft.



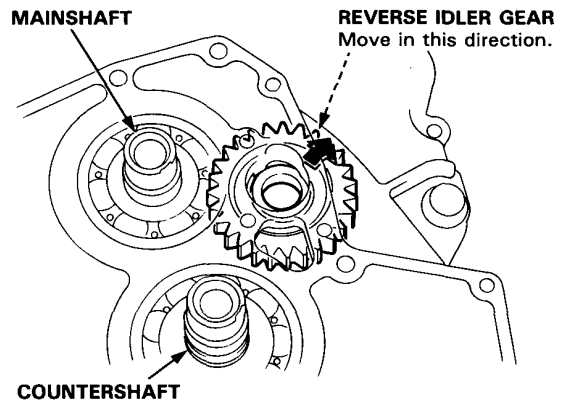
- Remove the countershaft idler gear, needle bearing, thrust needle bearing, and thrust washer from the countershaft.
- Remove the parking brake pawl, spring, shaft, and stopper from the housing.
- Remove the throttle control lever and spring from the throttle control shaft.
- Remove the ATF cooler pipe mounting bolt from the transmission hanger.
- Remove the transmission housing mounting bolts.

- Remove the reverse idler gear shaft assembly.

**NOTE:** The steel ball will not pop out because it is staked in the shaft.

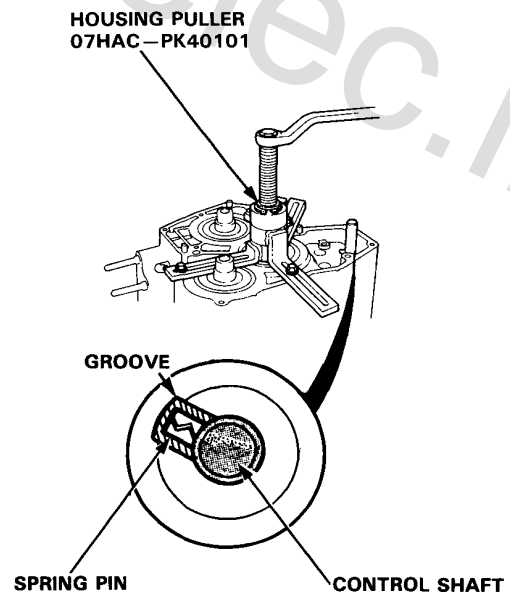
- Move the reverse idler gear to disengage it from the countershaft reverse gear as shown.

**NOTE:** The transmission housing will not separate from the torque converter housing if the reverse idler gear is not removed.



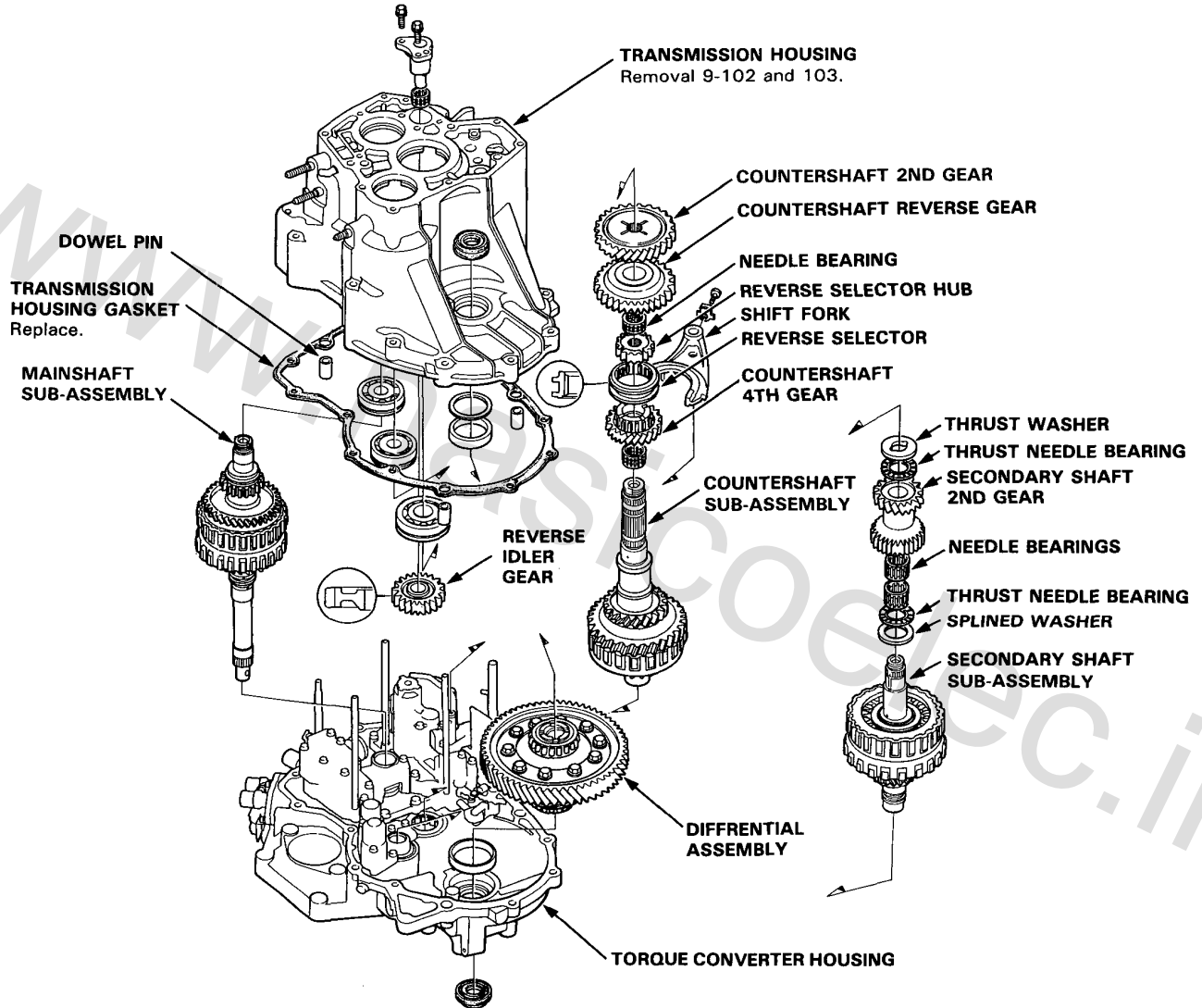
- Align the spring pin with the transmission housing groove by turning the control shaft.

- Install the special tool on the transmission housing, then remove the housing as shown.



# Transmission Housing

## Removal





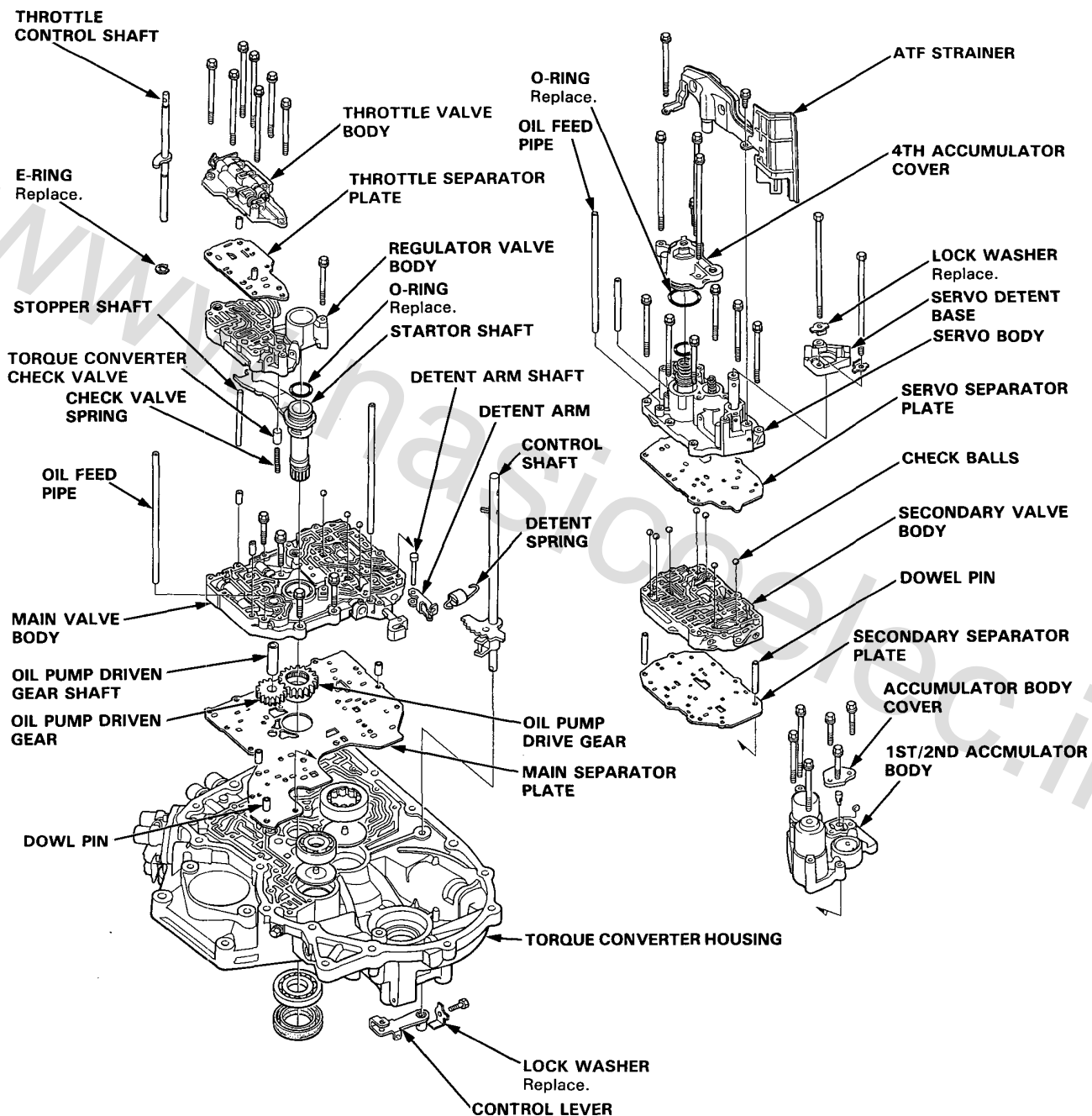
**NOTE:**

- Clean all parts thoroughly in solvent or carburetor cleaner and dry with compressed air.
- Blow out all passages.
- When removing the transmission housing, replace the following:
  - Transmission housing gasket
  - Lock washer

1. Remove the transmission housing (9-102 and 103).
2. Remove the reverse idler gear from the transmission housing.
3. Remove the countershaft 2nd gear, reverse gear, secondary shaft 2nd gear, thrust washer, and thrust needle bearing together from the countershaft and secondary shaft.
4. Remove the lock bolt securing the shift fork, then remove the fork with the reverse selector from the countershaft.
5. Remove the needle bearings, thrust needle bearing, and splined washer from the secondary shaft.
6. Remove the secondary shaft sub-assembly.
7. Remove the mainshaft sub-assembly.
8. Remove the countershaft sub-assembly.
9. Remove the differential assembly.

# Torque Converter Housing/Valve Body

## Removal





**NOTE:**

- Clean all parts thoroughly in solvent or carburetor cleaner and dry with compressed air.
- Blow out all passages.
- When removing the valve body replace the following:
  - O-rings
  - Lock washers

1. Remove the lock bolt securing the control lever, remove the control lever.
2. Remove the 2 bolts securing the servo detent base, then remove the servo detent base.
3. Remove the 2 bolts securing the ATF strainer, then remove the ATF strainer.
4. Remove the oil feed pipes from the servo body and main valve body.
5. Remove the 3 bolts securing the 4th accumulator cover, then remove the 4th accumulator cover.

NOTE: The 4th accumulator cover is spring loaded, to prevent stripping the threads in the servo body, press down on the accumulator cover while unscrewing the bolts in a criss-cross pattern.

6. Remove the 7 bolts securing the servo body, then remove the servo body and separator plate.
7. Remove the secondary valve body and separator plate.
8. Remove the 7 bolts securing the throttle valve body, then remove the throttle valve body and separator plate.
9. Remove the 1 bolt securing the regulator valve body, then remove the regulator valve body.

10. Remove the stator shaft and stopper shaft.
11. Remove the detent spring from the detent arm, then remove the control shaft from the torque converter housing.
12. Remove the detent arm and detent arm shaft from the main valve body.
13. Remove the 4 bolts securing the main valve body, then remove the main valve body.
14. Remove the 6 bolts securing the 1st/2nd accumulator body, then remove the 1st/2nd accumulator body.
15. Remove the oil pump driven gear shaft, then remove the oil pump gears.
16. Remove the main separator plate with 3 dowel pins.

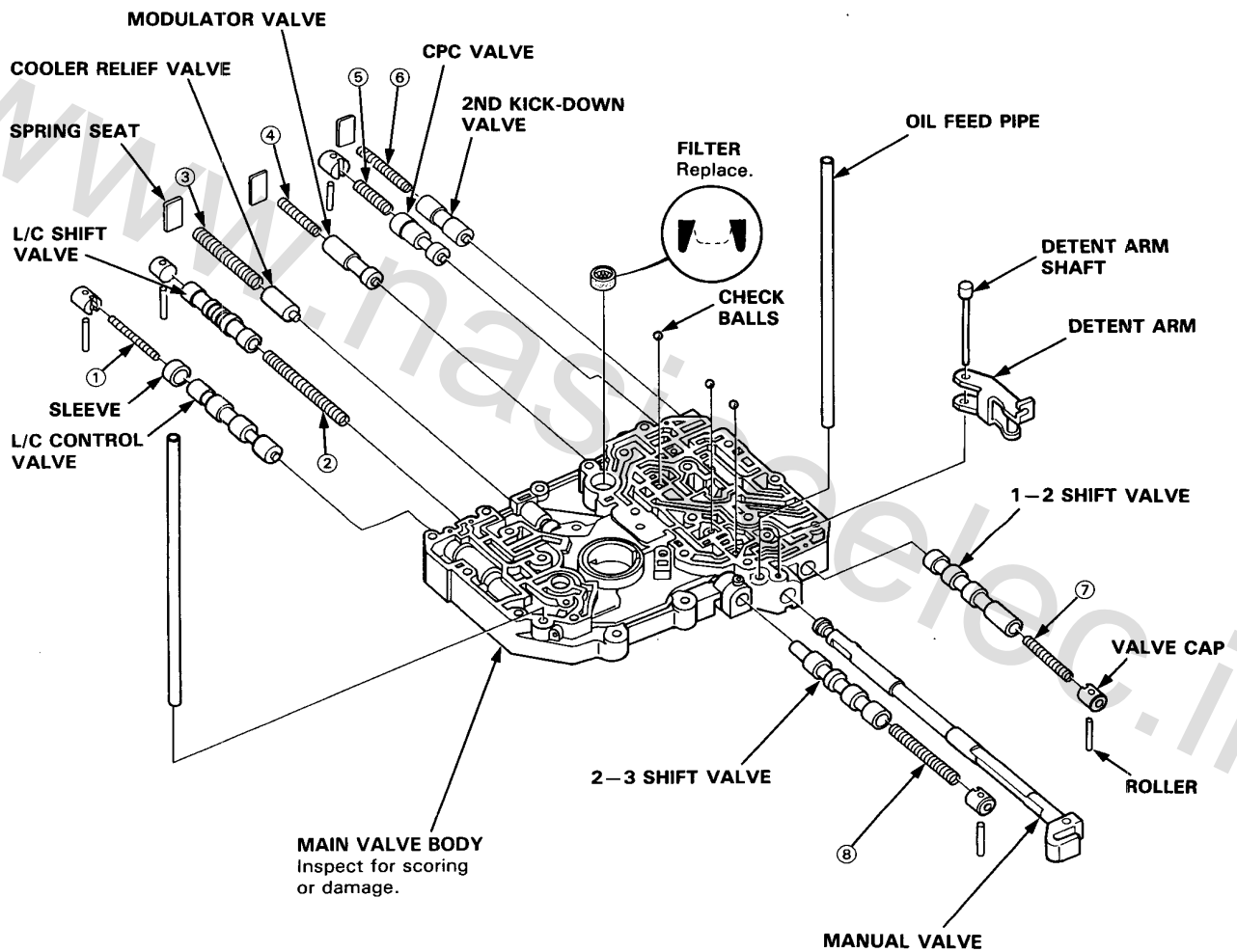
# Main Valve Body

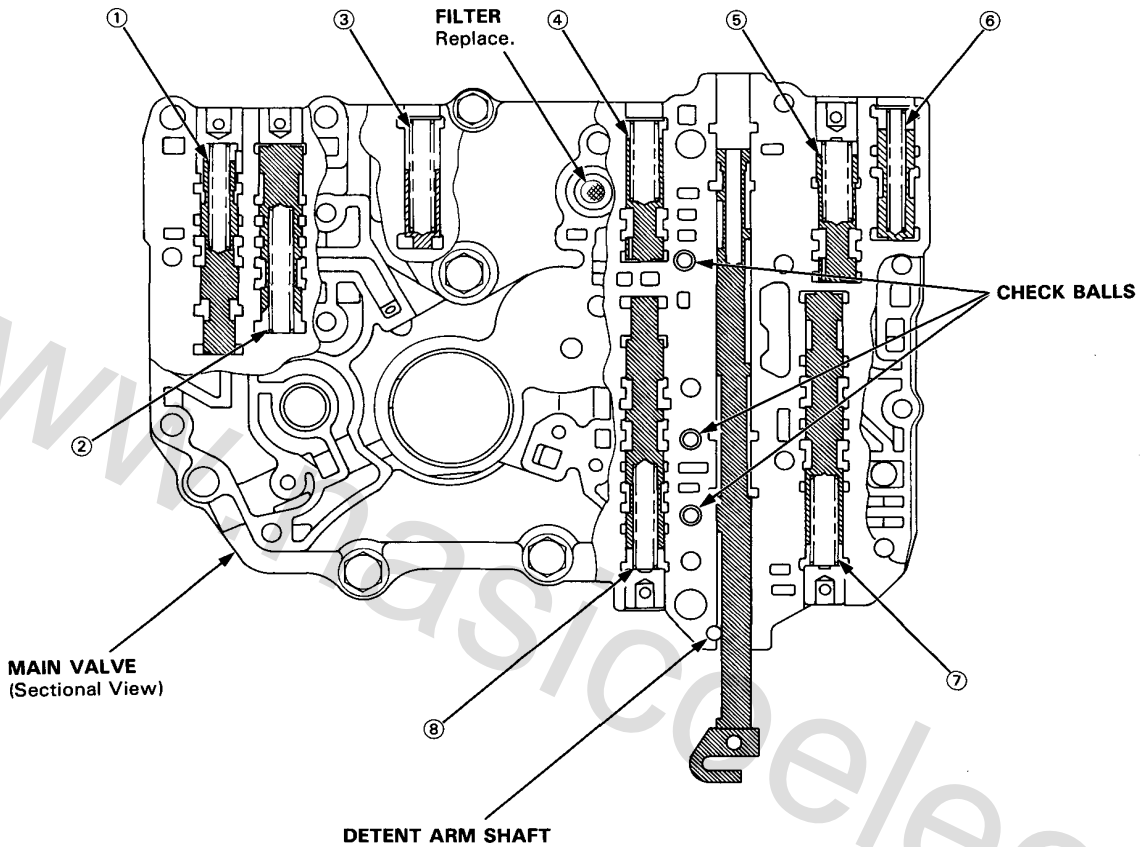
## Disassembly/Inspection/Reassembly

### NOTE:

- Clean all parts thoroughly in solvent or carburetor cleaner, and dry with compressed air. Blow all passages.
- Replace valve body as an assembly if any parts are worn or damaged.
- Check all valves for free movement. If any fail to slide freely, see Valve Body Repair.

**CAUTION:** Do not use a magnet to remove the check balls; it may magnetize the balls.





### SPRING SPECIFICATIONS

Unit of length: mm (in)

No.	SPRINGS	STANDARD (NEW)			
		WIRE DIA.	O.D.	FREE LENGTH	No. of COILS
①	Lock-up control valve spring	0.7 (0.028)	6.6 (0.260)	38.0 (1.496)	14.1
②	Lock-up shift valve spring	0.9 (0.035)	7.6 (0.299)	73.7 (2.902)	32.0
③	Cooler relief valve spring	1.1 (0.043)	8.4 (0.331)	46.8 (1.843)	17.0
④	Modulator valve spring	1.4 (0.055)	9.4 (0.370)	33.0 (1.299)	10.5
⑤	CPC valve spring	1.4 (0.055)	9.4 (0.370)	33.0 (1.299)	10.5
⑥	2nd kick-down valve spring	1.2 (0.047)	7.1 (0.280)	46.9 (1.846)	20.6
⑦	1-2 shift valve spring	1.0 (0.039)	8.6 (0.339)	41.3 (1.626)	16.9
⑧	2-3 shift valve spring	0.9 (0.035)	7.6 (0.299)	57.0 (2.244)	26.8

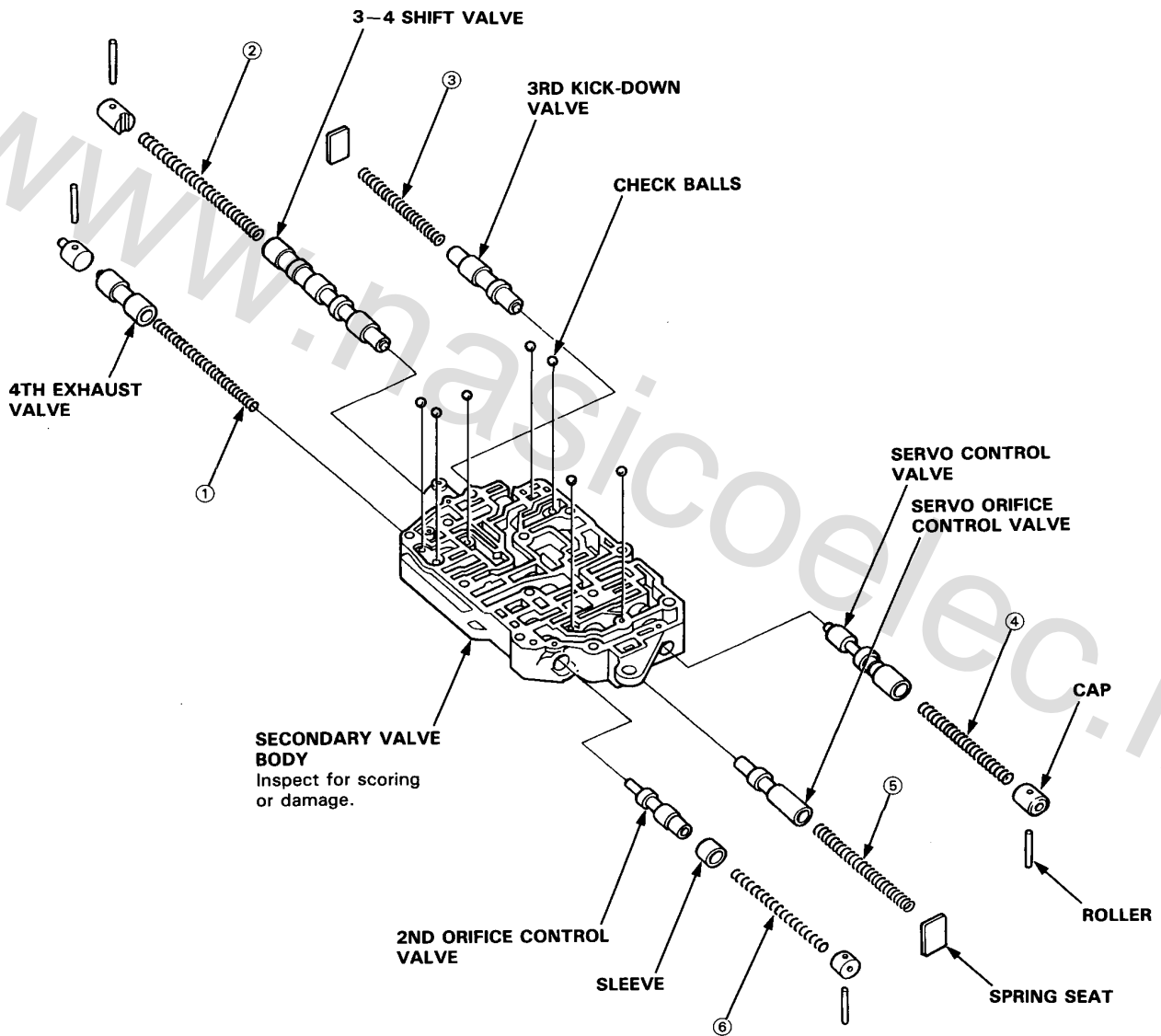
# Secondary Valve Body

## Disassembly/Inspection/Reassembly

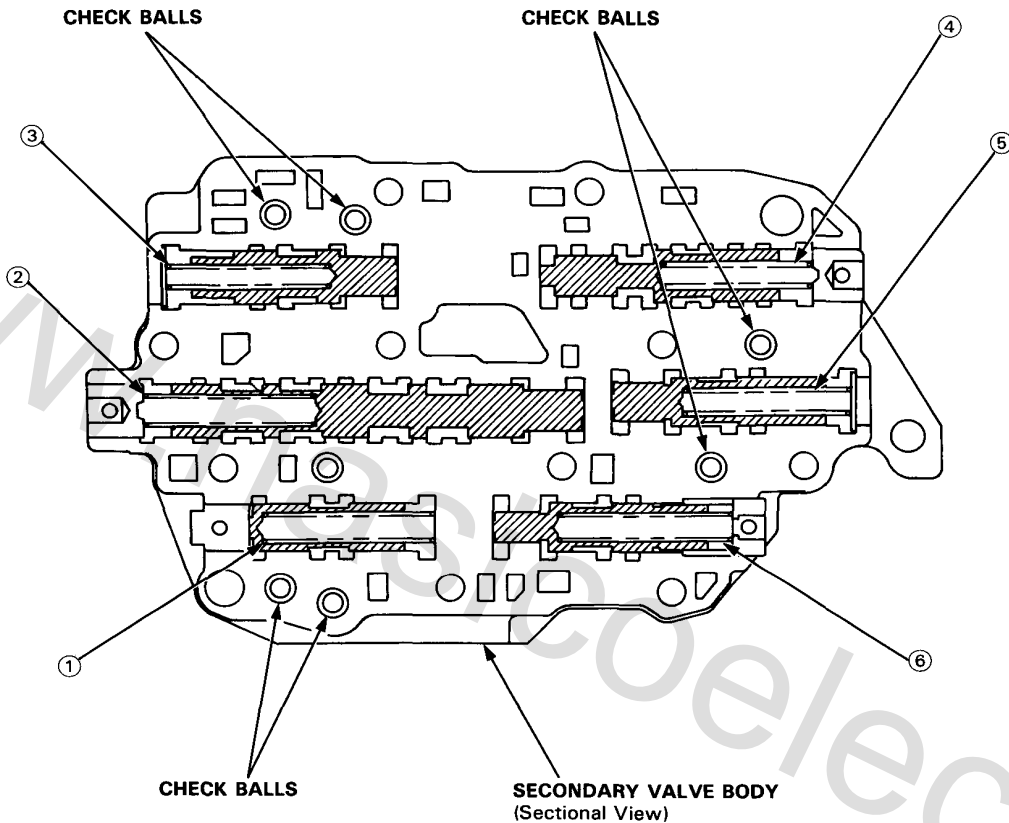
### NOTE:

- Clean all parts thoroughly in solvent or carburetor cleaner, and dry with compressed air. Blow out all passages.
- Check all valves for free movement. If any fail to slide freely, see Valve Body Repair.
- Coat all parts with ATF before assembling.
- Replace the valve body as an assembly if any parts are worn or damaged.

**CAUTION:** Do not use a magnet to remove the check balls; it may magnetize the balls.







### SPRING SPECIFICATIONS

Unit of length: mm (in)

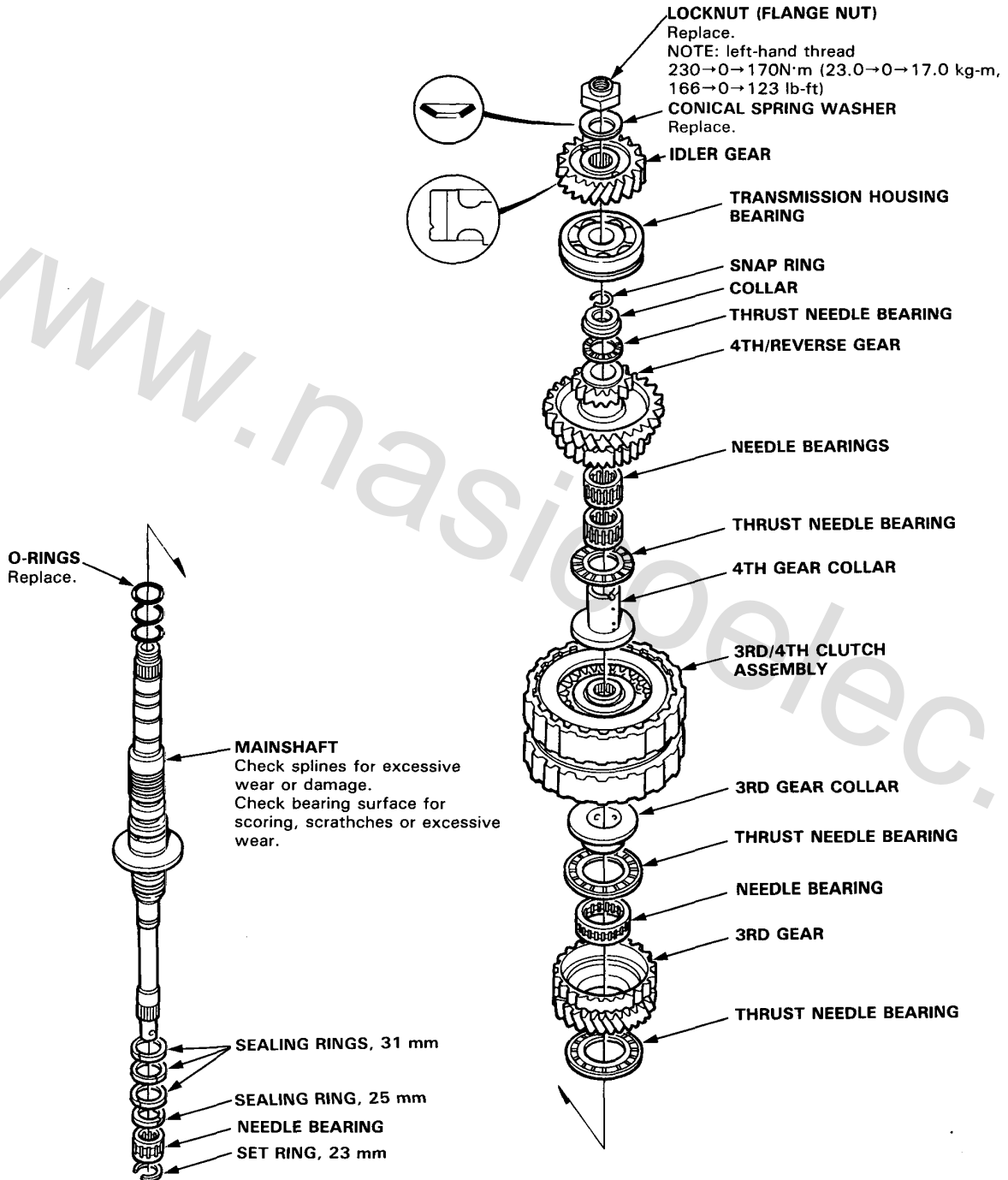
No.	SPRINGS	STANDARD (NEW)			
		WIRE DIA.	O.D.	FREE LENGTH	No. of COILS
①	4th exhaust valve spring	0.9 (0.035)	7.1 (0.280)	60.8 (2.394)	28.9
②	3-4 shift valve spring	0.9 (0.035)	7.6 (0.299)	57.0 (2.244)	26.8
③	3rd kick-down valve spring	1.1 (0.043)	7.6 (0.299)	48.3 (1.902)	23.3
④	Servo control valve spring	1.0 (0.039)	8.1 (0.319)	52.6 (2.071)	22.4
⑤	Servo orifice control valve spring	0.8 (0.031)	6.6 (0.260)	52.5 (2.067)	33.0
⑥	2nd orifice control valve spring	0.6 (0.024)	6.6 (0.260)	55.8 (2.200)	15.8

# Mainshaft

## Disassembly/Inspection/Reassembly

### NOTE:

- Lubricate all parts with ATF during reassembly.
- Install thrust needle bearings with unrolled edge of bearing retainer facing washer.
- Inspect thrust needle and needle bearings for galling and rough movement.
- Before installing the O-rings, wrap the shaft splines with tape to prevent damage to the O-rings.



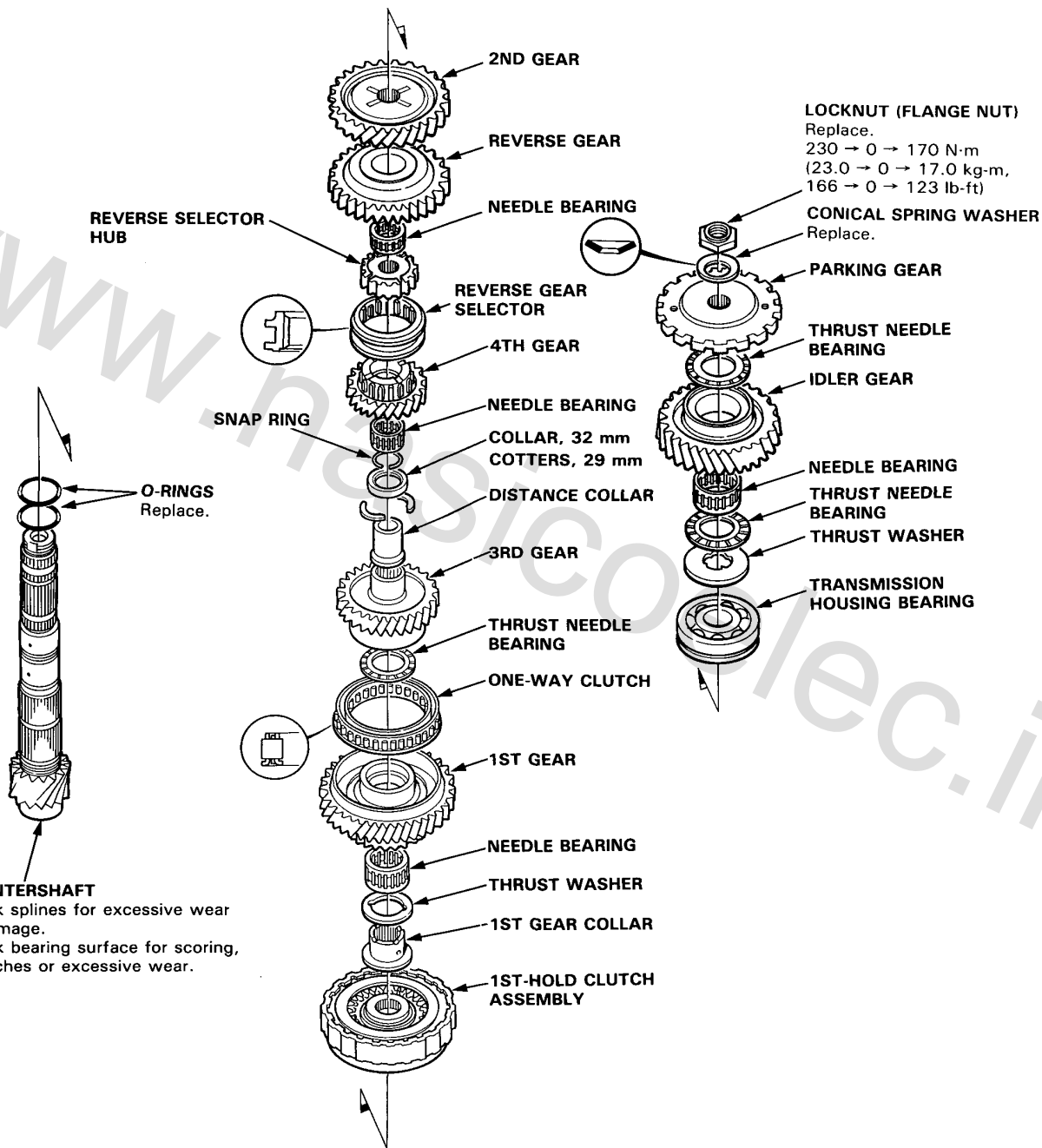


# Countershaft

## Disassembly/Inspection/Reassembly

### NOTE:

- Lubricate all parts with ATF during reassembly.
- Install thrust needle bearings with unrolled edge of bearing retainer facing washer.
- Inspect thrust needle and needle bearings for galling and rough movement.
- Before installing the O-rings, wrap the shaft splines with tape to prevent damage to the O-rings.

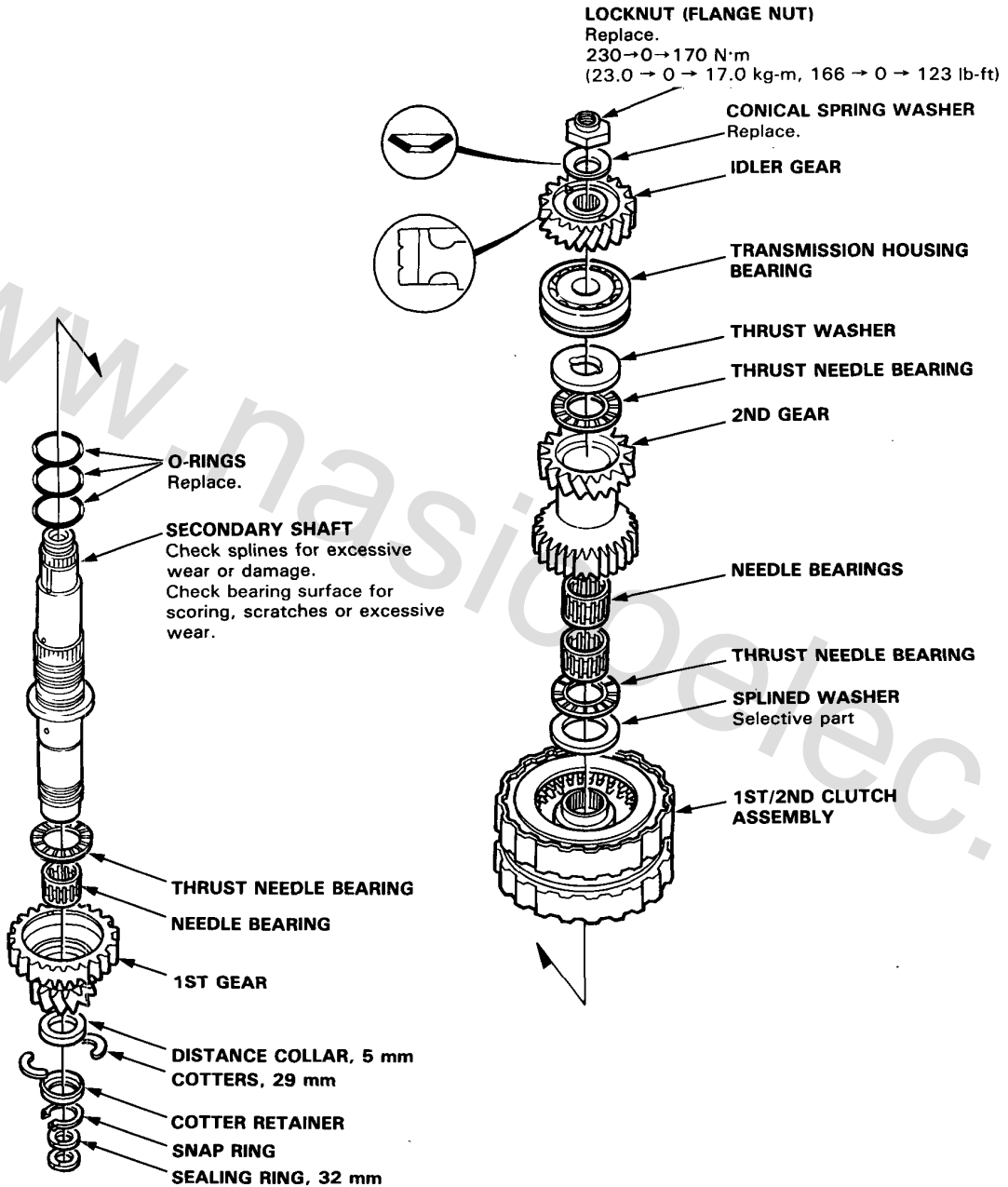


# Secondary Shaft

## Disassembly/Inspection/Reassembly

**NOTE:**

- Lubricate all parts with ATF during reassembly.
- Install thrust needle bearings with unrolled edge of bearing retainer facing washer.
- Inspect thrust needle and needle bearings for galling and rough movement.
- Before installing the O-ring, wrap the shaft splines with tape to prevent damage to the O-rings.



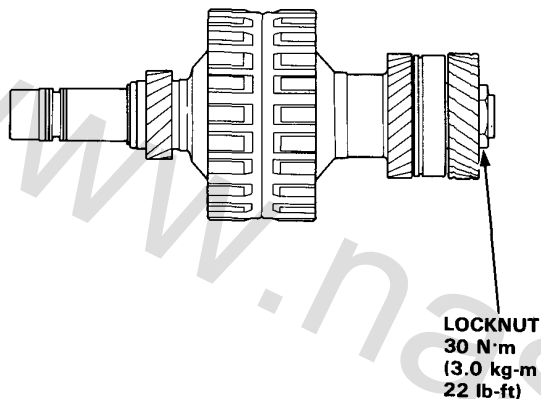


## Inspection

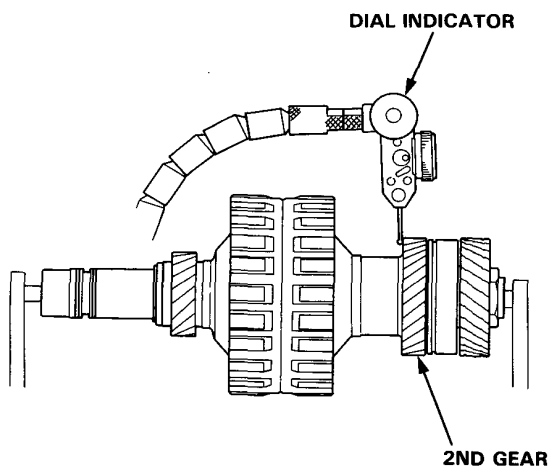
### • Clearance Measurement

NOTE: Lubricate all parts with ATF during assembly.

1. Remove the secondary shaft bearing from the transmission housing (see page 9-116).
2. Assemble the secondary shaft assembly without O-rings, then torque the secondary shaft locknut to 30 N·m (3.0 kg·m, 22 lb·ft).



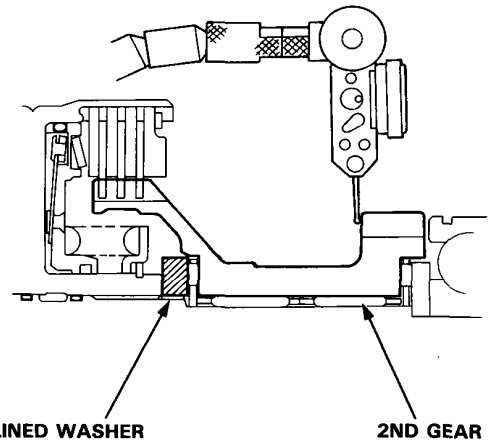
3. Attach the dial indicator to the secondary shaft 2nd gear as shown.



4. Measure the 2nd gear axial clearance moving the 2nd gear.

**STANDARD: 0.07–0.15 mm (0.003–0.006 in)**

NOTE: Take measurement in at least three places and take average as the actual clearance.



5. If the clearance is out of tolerance, remove the splined washer and measure the thickness.

### SPLINED WASHER

No	Part Number	Thickness
1	90406-PX4-700	4.05 mm (0.159 in)
2	90407-PX4-700	4.10 mm (0.161 in)
3	90408-PX4-700	4.15 mm (0.163 in)
4	90409-PX4-700	4.20 mm (0.165 in)
5	90410-PX4-700	4.25 mm (0.167 in)
6	90411-PX4-700	4.30 mm (0.169 in)
7	90412-PX4-700	4.35 mm (0.171 in)
8	90413-PX4-700	4.40 mm (0.173 in)
9	90414-PX4-700	4.45 mm (0.175 in)

6. After replacing the splined washer, make sure that the clearance is within tolerance.

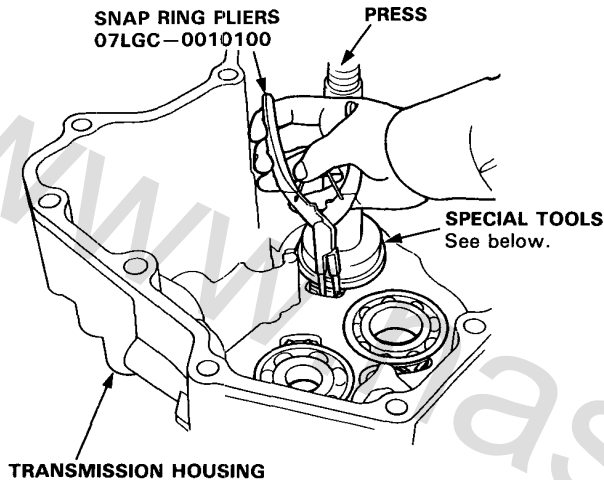
# Transmission Housing Bearings

## Removal/Installation

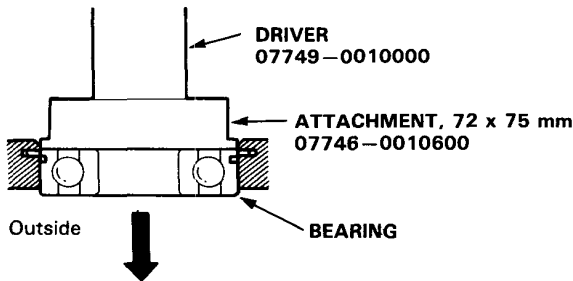
NOTE: Lubricate all parts with ATF before assembly.

1. To remove the mainshaft, countershaft and secondary shaft bearings from the transmission housing, expand each snap ring with snap ring pliers, then push the bearing out using the special tool and a press as shown.

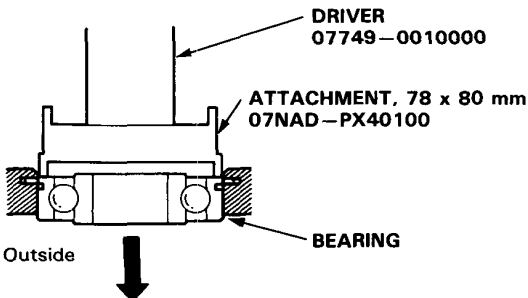
NOTE: Do not remove the snap rings unless it's necessary to clean the grooves in the housing.



### ● Mainshaft and Secondary Shaft Bearings

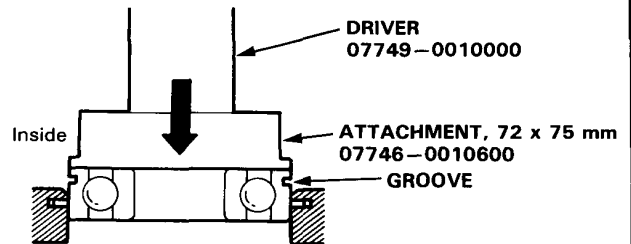


### ● Countershaft Bearing

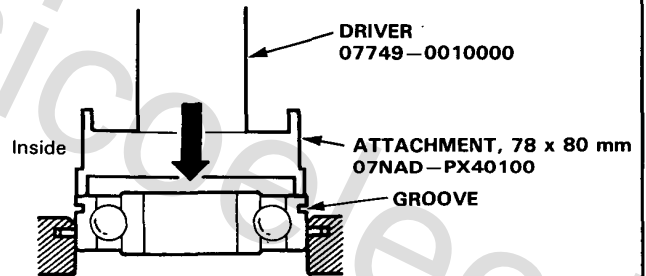


2. Expand each snap ring with snap ring pliers, insert the new bearing part-way into the housing using the special tool and a press as shown. Install with groove side of the bearing facing inside the housing.
3. Release the pliers, then push the bearing down into the housing until the snap ring snaps in place around it.

### ● Mainshaft and Secondary Shaft Bearing

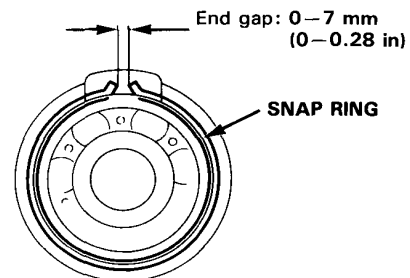


### ● Countershaft Bearings



4. After installing the ball bearings, verify the following:

- The snap ring is seated in the bearing and housing grooves.
- The snap ring operates freely.
- The ring end gap is correct.

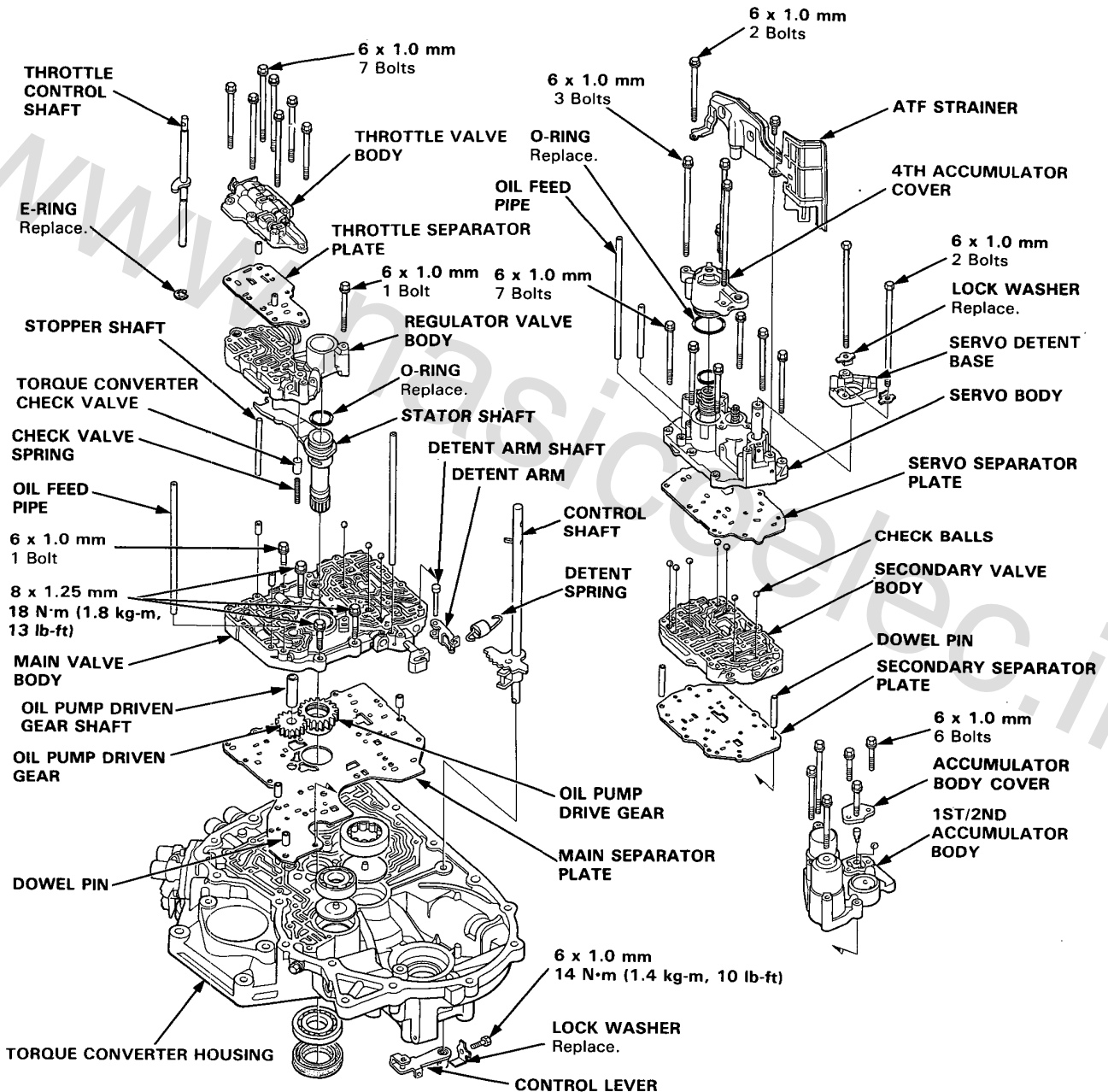


# Transmission/Valve Body

## Reassembly

### NOTE:

- Coat all parts with ATF.
- Replace these parts:
  - O-rings
  - Lock washers
  - Gaskets
  - Locknuts and conical spring washer
  - Sealing washer
- Torque the 6 x 1.0 mm Bolts: 12 N·m (1.2 kg·m, 9 lb·ft)



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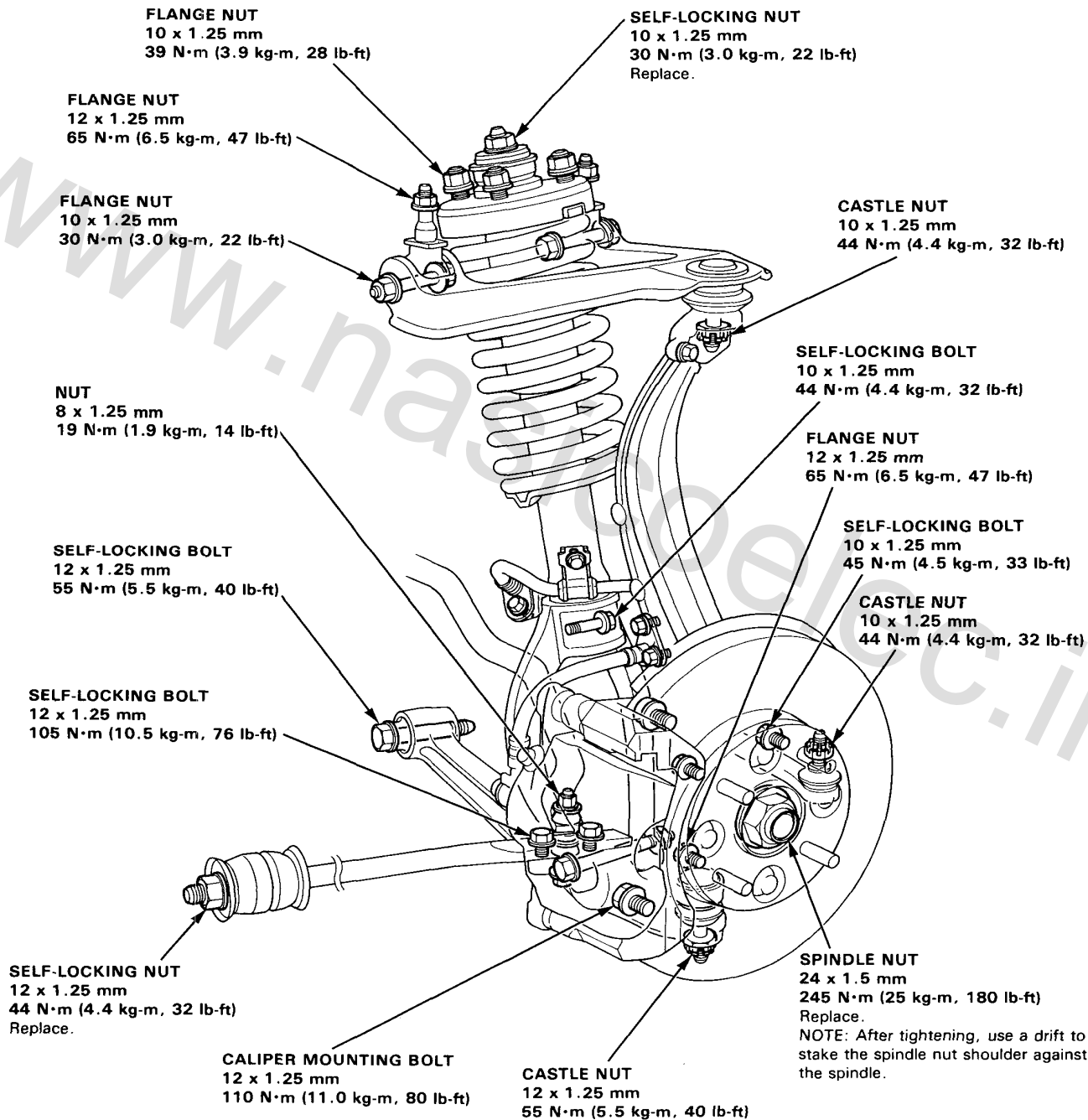
# Front Suspension

## Torque Specifications

### CAUTION:

- Replace the self-locking nuts after removal.
- Replace the self-locking bolts if you can easily thread a non-self-locking nut past their nylon locking inserts.  
(If should require 1 N·m (0.1 kg-m, 0.7 lb-ft) of torque to turn the test nut on the bolt).  
The vehicle should be on the ground before any bolts or nuts connected to rubber mounts or bushings are tightened.

NOTE: Wipe off the grease before tightening the nut at the ball joint.

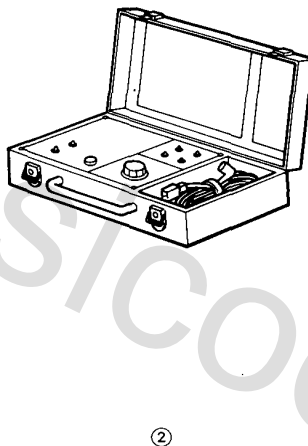
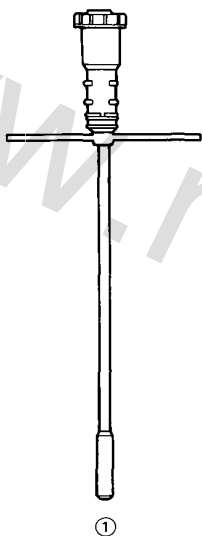


**Special Tools**  
**Pedal Height (LHD only)**  
    **Adjustment**  
**Circuit Diagram**  
**Wiring/Connector Location**  
**ALB Checker**  
    **Function Test**  
    **Wheel Sensor Signal Confirmation**  
**Troubleshooting**  
    **Anti - lock Brake System**  
        **Indicator Light**  
    **Symptom - to System Chart**  
    **Flowcharts**  
**Mater Cylinder, Booster (LHD only)**  
    **Removal/Installation**  
**Hydraulic System**  
    **Index/Hydraulic Connections**  
    **Relieving Accumulator/**  
        **Line Pressure**  
**Modulator Unit**  
    **Index/Torque**  
**Solenoids**  
    **Leak Test**  
**Piston**  
    **Replacement**  
**Power Unit**  
    **Index/Torque**  
    **Accumulator Disposal**  
**Bleeding**  
    **Air Bleeding with ALB Checker**

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# Special Tools

Ref. No.	Tool Number	Description	Q'ty	Page Reference
①	07HAA-SG00100 or 07HAA-SG00101	Bleeder-T Wrench	1	13-13, 13-20, 13-34, 13-41
②	07HAJ-SG00602 or 07HAJ-SG00601 or 07508-SB00000 and 07HAJ-SG00400	ALB Checker  Adaptor	1	13-7, 13-9, 13-41

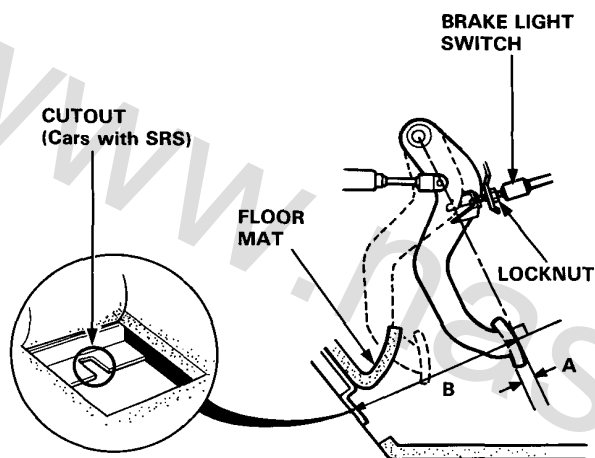


# Pedal Height (LHD only)

## Adjustment

1. Disconnect the brake light switch connector, loosen the brake light switch locknut and back off the brake light switch until it is no longer touching the brake pedal.
2. Turn up the floor mat and measure the pedal height from the left side center of the pedal surface to the floor, at right angles with the pedal surface as shown.

NOTE: On cars with SRS, the cutout is made to achieve the measurement to the floor.



### A: Pedal Play

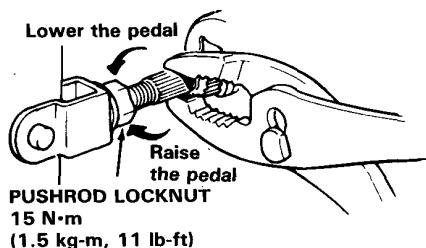
1–5 mm (0.04–0.20 in)

### B: Pedal Height

Manual Transmission: 165 ± 0.5 mm  
(6.5 ± 0.02 in)

Automatic Transmission: 170 ± 0.5 mm  
(6.7 ± 0.02 in)

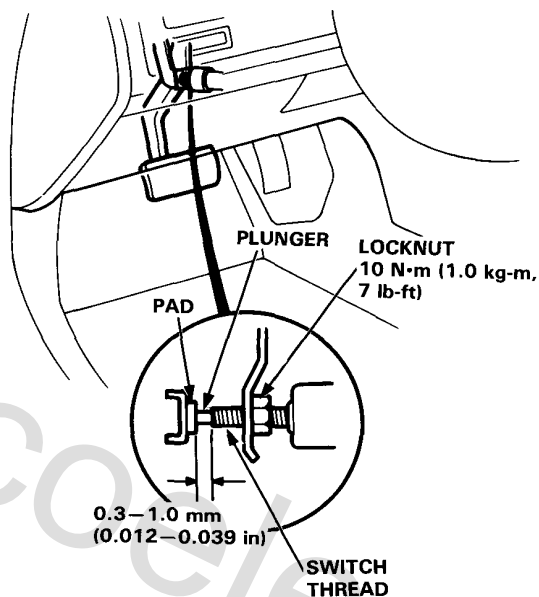
3. Loosen the pushrod locknut and screw the pushrod in or out with pliers until the pedal height from the floor is properly adjusted. After adjustment, tighten the locknut.



PUSHROD LOCKNUT  
15 N·m  
(1.5 kg·m, 11 lb-ft)

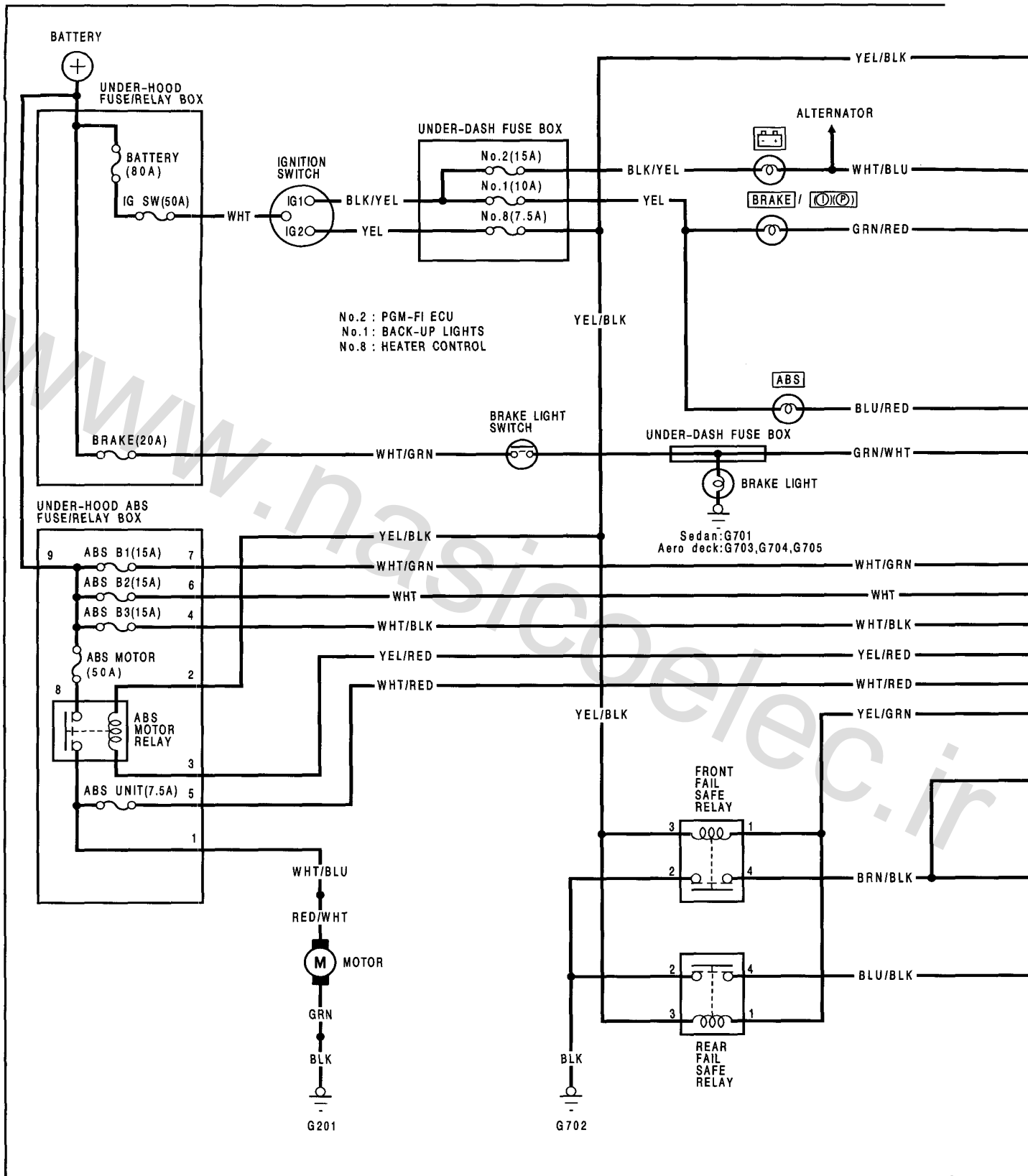
4. Screw in the brake light switch until its plunger is fully depressed (threaded end touching pad on the pedal arm). Then back off the switch so that the clearance between the threaded end and pad is 0.3–1.0 mm (0.012–0.039 in), and tighten the locknut.  
Connect the brake light switch connector.

CAUTION: Check that the brake lights go off when the pedal is released.



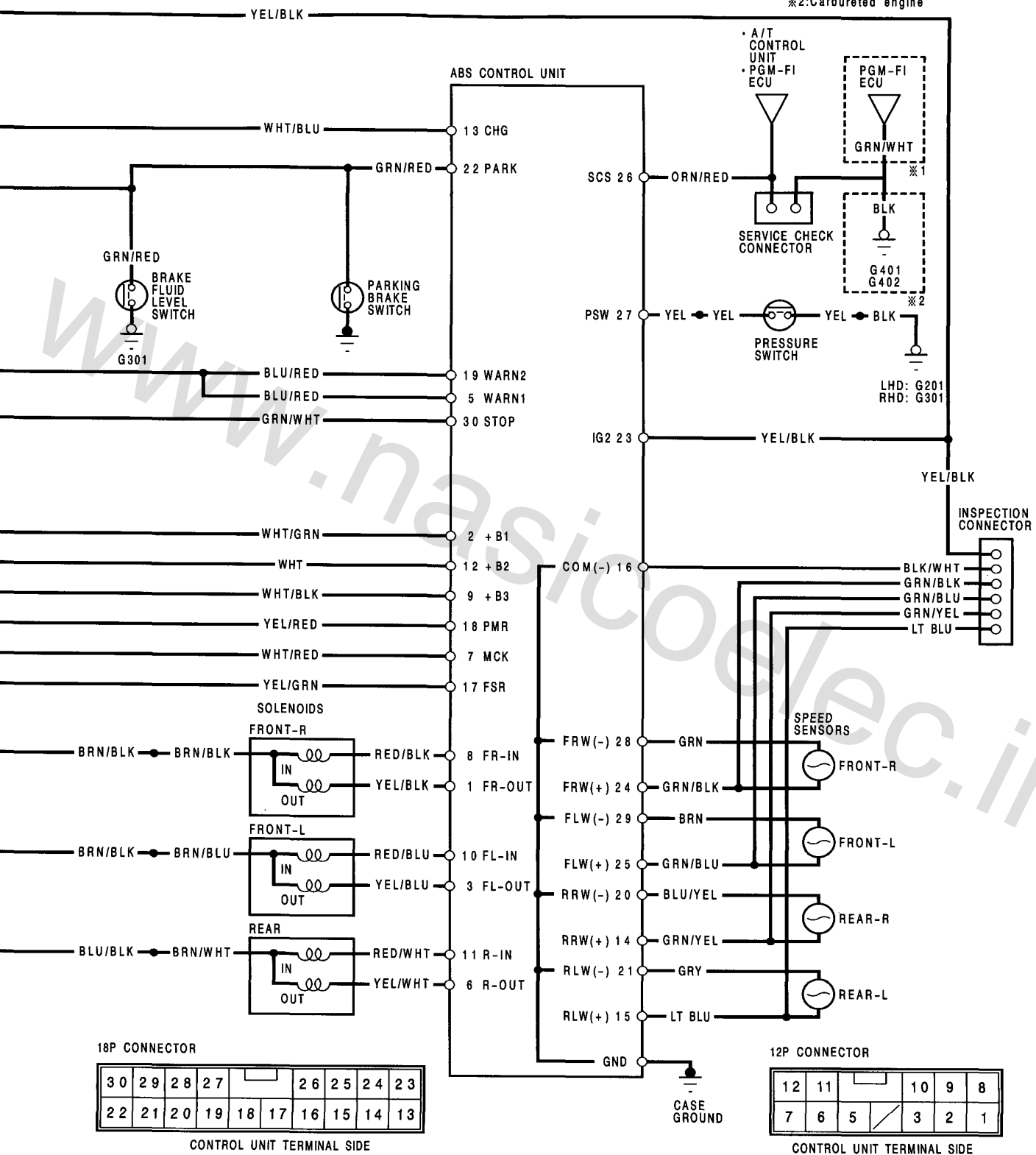
NOTE: After adjusting the pedal height check for cruise control operation.

# Circuit Diagram





※1:Fuel-Injected engine  
 ※2:Carbureted engine



18P CONNECTOR

30	29	28	27		26	25	24	23	
22	21	20	19	18	17	16	15	14	13

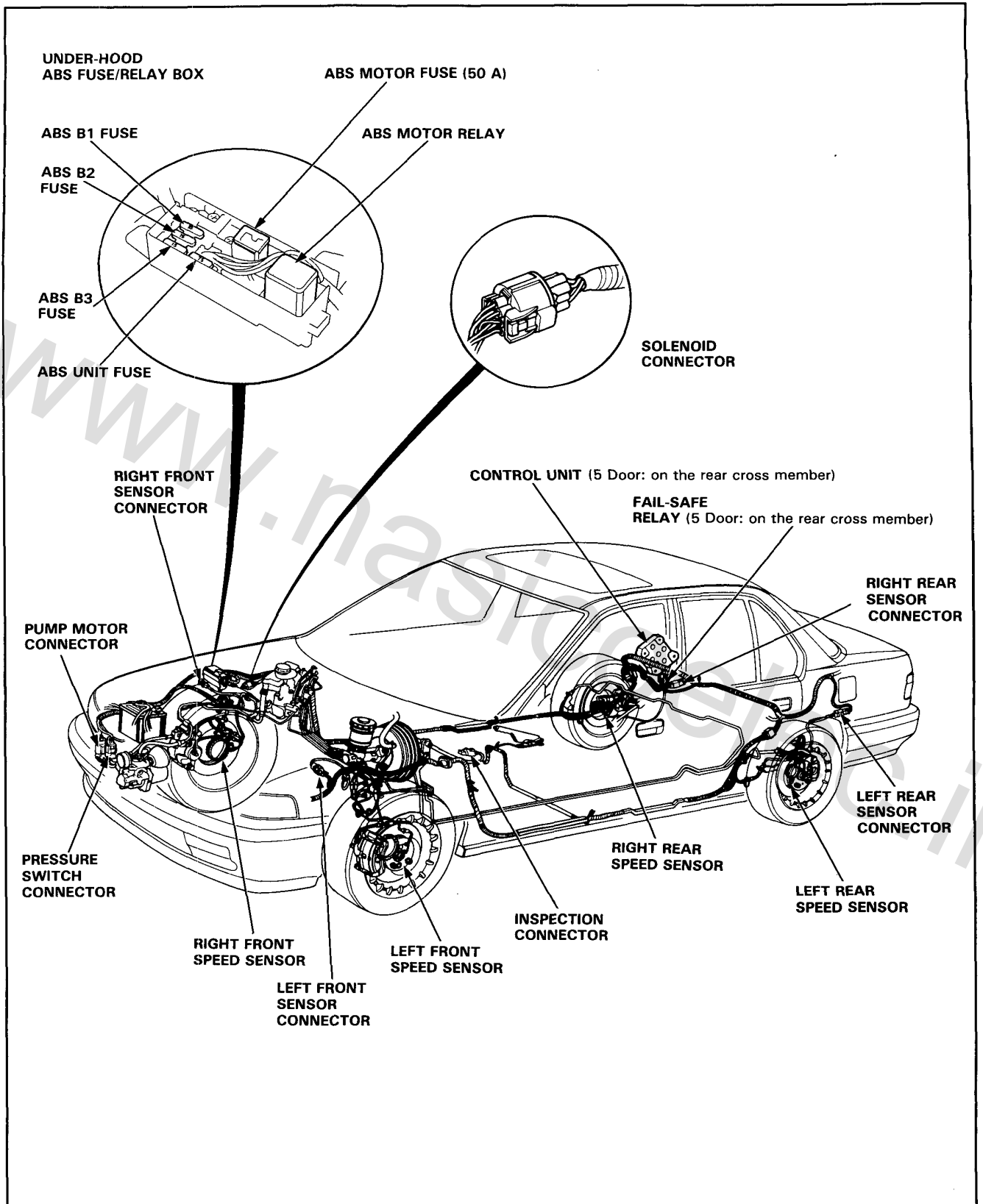
CONTROL UNIT TERMINAL SIDE

12P CONNECTOR

12	11		10	9	8
7	6	5	3	2	1

CONTROL UNIT TERMINAL SIDE

# Wiring/Connector Location



# ALB Checker

## Function Test

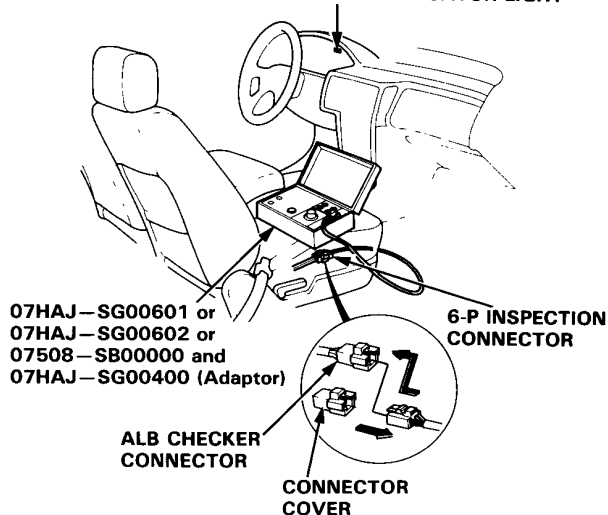
**NOTE:**

- The ALB checker is designed to confirm proper operation of the anti-lock brake system by simulating each system function and operating condition. Before using the checker, confirm that the anti-lock brake system indicator light is not indicating some other problem with the system. The light should go on when the ignition is first turned on and then go off and stay off one second after the engine is started.
- The checker should be used through modes 1–5 to confirm proper operation of the system in any one of the following situations:
  - After replacing any anti-lock brake system component.
  - After replacing or bleeding the system fluid (0 mode not necessary).
  - After any body or suspension repair that may have affected the sensors or their wiring.
- The procedure for modes 1–5 are on this page and 13-8, mode 0 (wheel sensor signal) is on page 13-9.
- Use the following models of ALB checkers:  
 07HAJ–SG00601 or  
 07HAJ–SG00602 or  
 07508–SB00000 and  
 07HAJ–SG00400 (Adaptor)

**⚠ WARNING** Disconnect the ALB checker before driving the car. A collision can result from a reduction, or complete loss, of braking ability causing severe personal injury or death.

1. With the ignition switch off, disconnect the 6-P inspection connector from the connector cover located on the cross-member under the passenger's seat and connect the 6-P inspection connector to the ALB checker.

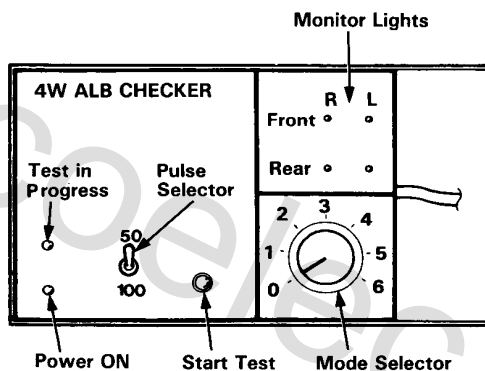
**ANTI-LOCK BRAKE SYSTEM INDICATOR LIGHT**



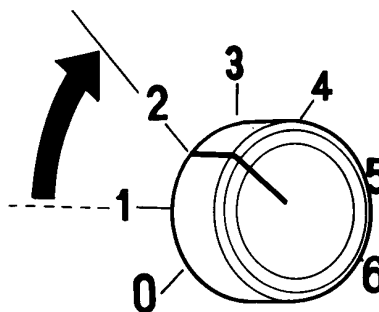
**NOTE:** Place the vehicle on level ground with the wheels blocked, put the transmission in neutral for manual transmission models, and in P for automatic transmission models.

2. Start the engine and release the parking brake.
3. Operate the ALB checker as follows:
  - (1) Set the pulse selector switch to 50.
  - (2) Turn the Mode Selector switch to "1".
  - (3) Push the Start Test switch:
    - The test in progress light should come ON.
    - In one or two more seconds, all four monitor lights should come on (If not the checker is faulty).
    - The anti-lock brake system indicator light should not come ON (If it comes on the checker harness to the 6-P connector connection is faulty).

**NOTE:** When the test in progress indicator light is ON. Don't turn the Mode Selector switch.



4. Turn the Mode Selector Switch to "2."



(cont'd)



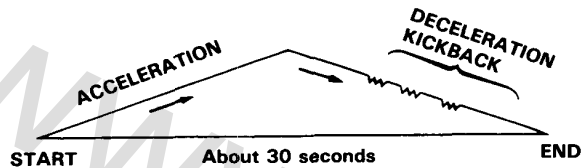
# ALB Checker

## Function Test (cont'd)

5. Depress the brake pedal firmly and push the Start Test switch.

The anti-lock brake system indicator light should not go on while the Test in Progress light is ON. There should be kickback on the brake pedal. If not as described, go to troubleshooting, page 13-12.

NOTE: The operation sequence simulated by Modes 2, 3, 4 and 5:



6. Turn the Mode Selector switch to 3, 4 and 5. Perform step 5 for each of the test mode positions.

**Mode 1:**

Sends the simulated driving signal 0 km/h (0 mph) → 180 km/h (112 mph) → 0 km/h (0 mph) of each wheel to the control unit to check the control unit self diagnosis circuit. There should be NO kickback.

**Mode 2:**

Sends the driving signal of each wheel, then sends the lock signal of the left rear wheel to the control unit. There should be kickback.

**Mode 3:**

Sends the driving signal of each wheel, then sends the lock signal of the right rear wheel to the control unit. There should be kickback.

**Mode 4:**

Sends the driving signal of each wheel, then sends the lock signal of the left front wheel to the control unit. There should be kickback.

**Mode 5:**

Sends the driving signal of each wheel, then sends the lock signal of the right front wheel to the control unit. There should be kickback.

**Mode 6:**

Not used on this model.

**Inspection points:**

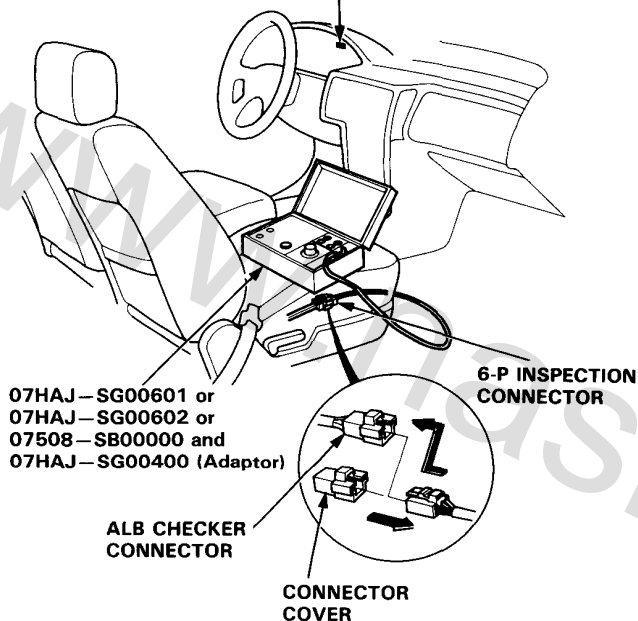
1. The anti-lock brake system indicator light comes ON in mode 1.
  - Check the wiring.
2. There is no kickback in modes 2 through 5.
  - Shorted wires.
  - Faulty or disconnected power unit connector.
  - Faulty power unit.

## Wheel Sensor Signal Confirmation

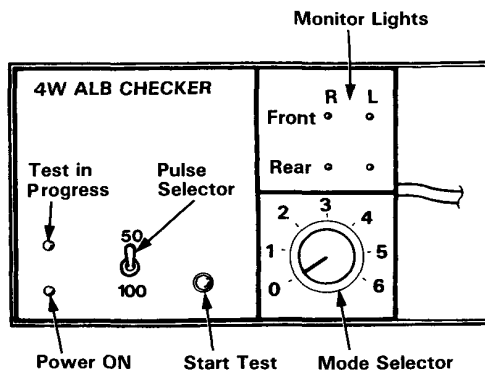
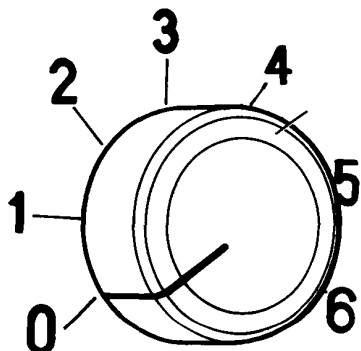
**NOTE:** Use the ALB checker (mode 0) to confirm proper wheel sensor operation.

1. Disconnect the 6-P inspection connector from the connector cover located on the cross-member under the passenger's seat and connect the 6-P inspection connector to the ALB checker.

### ANTI-LOCK BRAKE SYSTEM INDICATOR LIGHT



2. Raise the car so that all four wheels are off the ground and support on safety stands.
3. Turn the ignition switch ON.
4. Turn the Mode Selector switch to "0."



5. With the transmission in neutral, rotate each wheel briskly (one revolution per second) by hand, and confirm that its respective monitor light on the checker blinks as the wheel rotates.

### NOTE:

- Rotating a wheel too slowly will produce only a weak blink of its monitor light that may be difficult to see.
- In bright sunlight, the monitor light may be difficult to see. Perform tests in a shaded area.
- In some instances, it may not be possible to spin the front wheels fast enough to get a monitor indication. If necessary, start the engine and slowly accelerate and decelerate the front wheels. The monitor lights should blink, indicating a good wheel sensor signal.

If any monitor light fails to blink, check the suspected sensor, its air gap and its wiring/connectors.

# Troubleshooting

## Anti-lock Brake System Indicator Light

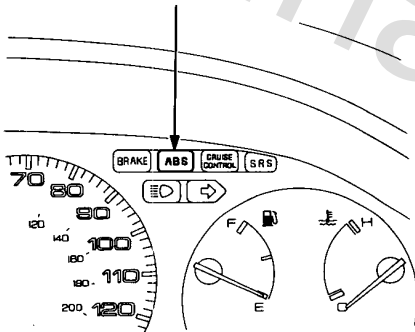
### Temporary Driving Conditions:

1. The anti-lock brake system indicator light comes on and the control unit memorizes the problem under certain conditions.

NOTE: Problem codes explained on page 13-12.

- The tire(s) adhesion is lost due to excessive cornering speed.  
Problem codes: 5, 5-4, 5-8.
  - The vehicle loses traction when starting from a stuck condition on a muddy, snowy, or sandy road.  
Problem code: 4-1, 4-2, 4-4, 4-8.
  - When the parking brake is applied for more than 30 seconds while the vehicle is being driven.  
Problem code: 2-1.
  - The vehicle is driven on an extremely rough road.
2. The anti-lock brake system is OK if the anti-lock brake system indicator light goes off after the engine is restarted.

### ANTI-LOCK BRAKE SYSTEM INDICATOR LIGHT



3. If you receive a customer's report that the anti-lock brake system indicator light sometimes comes on, check the system using the ALB checker to confirm whether there is any trouble in the system.  
See page 13-7.
4. The anti-lock brake system indicator light will come on and the control unit will memorize a problem code when there is insufficient battery voltage to the control unit. An example would be when the battery is so weak that the car must be jump-started. After the battery is sufficiently recharged, the anti-lock brake system indicator light will work normally after the engine is stopped and restarted.

However, after recharging the battery, the problem code must be cleared from the control unit's memory by disconnecting the ABS B2 (15 A) fuse for at least 3 seconds.

### Anti-lock Brake System Indicator Light Circuit:

**CAUTION:** Use only the digital multimeter to check the system.

1. The indicator light does not go on when the ignition switch is turned on.

Check the following items. If they are OK, check the control unit connectors. If not loose or disconnected, substitute a known-good control unit and recheck:

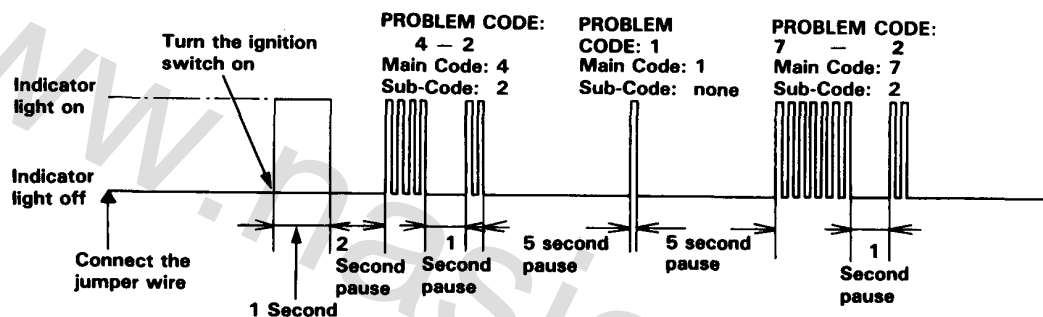
- Blown anti-lock brake system indicator light bulb.
  - Open circuit in YEL wire between No. 1 (10 A) fuse and gauge assembly.
  - Open circuit in BLU/RED wire between gauge assembly and control unit.
  - Loose component grounding of the control unit to the body.
2. The anti-lock brake system indicator light remains ON after the engine is started, however the anti-lock brake system indicator light does not blink any code or sub-code. Check the following items:
    - Loose or poor connection of the wire harness at the control unit.
    - Faulty ABS B2 (15 A) fuse.
    - Open circuit in WHT wire between ABS B2 (15 A) fuse and control unit.
    - Open circuit in YEL/BLK wire between fuse No. 8 (7.5 A) and control unit.
    - Short circuit in BLU/RED wire between gauge assembly and control unit.
    - Open circuit in WHT/BLU wire between alternator and control unit.

If the problem is not found, substitute a known-good control unit and recheck whether the anti-lock brake system indicator light remains ON.

**Comes on and remains on while running:**

1. Stop the engine.
2. Turn the ignition switch on and make sure that the anti-lock brake system indicator light comes on.
3. Restart the engine and check the anti-lock brake system indicator light.
  - There is no problem in the anti-lock brake system if the anti-lock brake system indicator light goes off.
  - Go to step 4 if the anti-lock brake system indicator light goes off and then comes back on.
4. Stop the engine.
5. Disconnect the service check connector from the connector cover located under the dash on the passenger side of the car.  
Connect the two terminals of the service check connector with a jumper wire.
6. Turn the ignition switch on, but do not start the engine.
7. Record the blinking frequency of the anti-lock brake system indicator light.  
The blinking frequency indicates the problem code.

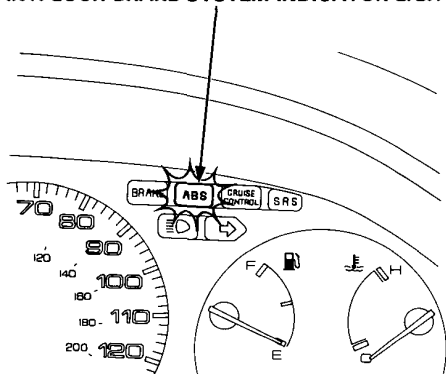
**CAUTION:** Before starting the engine, disconnect the jumper wire from the service check connector, or else the Check Engine light will stay on with the engine running.



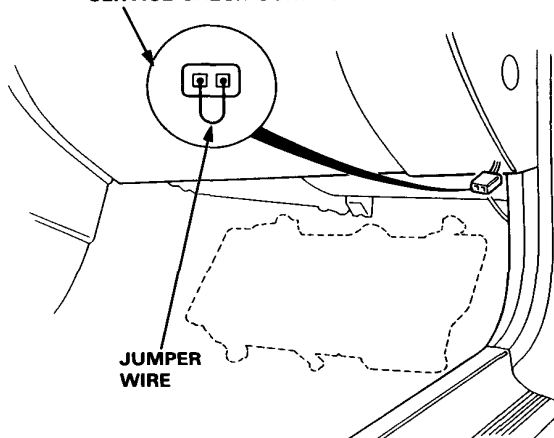
**NOTE:**

- The control unit can indicate three problem codes (one, two or three problems).
- If the anti-lock brake system indicator light does not light, see Troubleshooting of Anti-lock Brake System Indicator Light Circuit page 13-10.
- If you miscount the blinking frequency, turn the ignition switch off then on to cycle the anti-lock brake system indicator light again.
- After the repair is completed, disconnect the ABS B2 (15 A) fuse for at least 3 seconds to erase the control unit's memory. Then turn the ignition key on again and recheck.
- The memory is erased if the connector is disconnected from the control unit or the control unit is removed from the body.
- After recording the main and sub-code (if applicable), refer to the Symptom-to-System Chart.

**ANTI-LOCK BRAKE SYSTEM INDICATOR LIGHT**



**SERVICE CHECK CONNECTOR**



# Troubleshooting

## Symptom-to-System Chart

PROBLEM CODE		PROBLEMATIC COMPONENT/ SYSTEM	AFFECTED				See page	OTHER COMPONENT	See page
MAIN CODE	SUB CODE		FRONT RIGHT	FRONT LEFT	REAR RIGHT	REAR LEFT			
	—	Pump motor over-run	—	—	—	—	13-13	Pressure switch	
	②	Pump motor circuit problem	—	—	—	—	13-15	Motor relay unit fuse Motor fuse	
①	③	High pressure leakage	—	—	—	—	13-18	Solenoid	
	④	Pressure switch	—	—	—	—	13-19		
	⑧	Accumulator gas leakage	—	—	—	—	13-20		
②	①	Parking brake switch-related problem	—	—	—	—	13-20	Brake fluid level switch BRAKE light	
③	①	Pulser(s)	○						
	②			○					
	④				○	○			
④	①	Speed sensor	○				13-21		
	②			○					
	④				○				
	⑧					○			
⑤	—	Speed sensor(s)			○	○	13-22	Modulator	
	④				○				
	⑧					○			
⑥	—	Fail-safe relay (Open, short)	—	—	—	—	13-23 (Function Test)	Front or rear fail-safe relay	
	①		—	—	—	—		Front fail-safe relay	
	④		—	—	—	—		Rear fail-safe relay	
⑦	①	Solenoid related problem (Open)	○				13-28	ABS B3 fuse	
	②			○				ABS B1 fuse Front fail-safe relay	
	④				○	○		Rear fail-safe relay	

# Flowcharts

## Problem code 1: Pump Motor Over-run

**CAUTION:** Use only the digital multimeter to check the system.

Bleed high pressure fluid from the maintenance bleeder with the Bleeder T-wrench.

Remove the pump motor relay.

Connect the No. 1 and 8 terminals using a jumper wire for about 8 seconds.

Does the pump motor run with an increasingly loud, raspy sound?

NO

Pump runs with a constant soft sound:  
Bleed air from anti-lock brake system using the procedure on page 13-41 and check the pump sound again.

YES

Check the accumulator fluid quantity by bleeding the high pressure line with the Bleeder T-wrench.

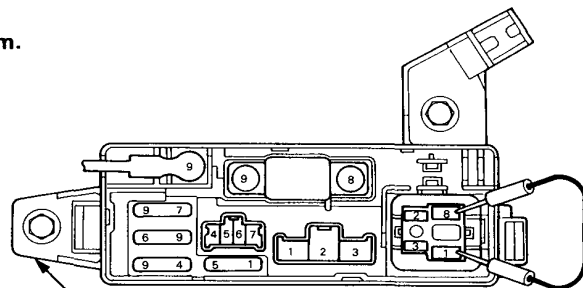
Is there 40–70 cc?

NO

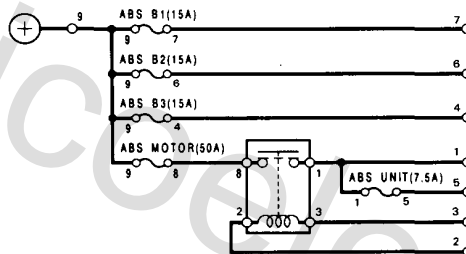
(To page 13-14)

YES

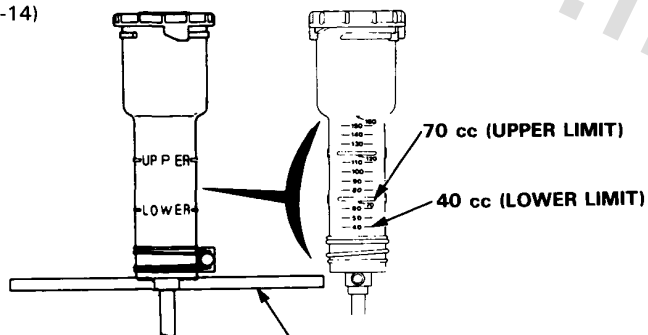
(To page 13-14)



**UNDER-HOOD ABS FUSE/RELAY BOX**



**UNDER-HOOD ABS FUSE/RELAY BOX CIRCUIT DIAGRAM**



**BLEEDER T-WRENCH  
07HAA-SG00100  
or  
07HAA-SG00101**

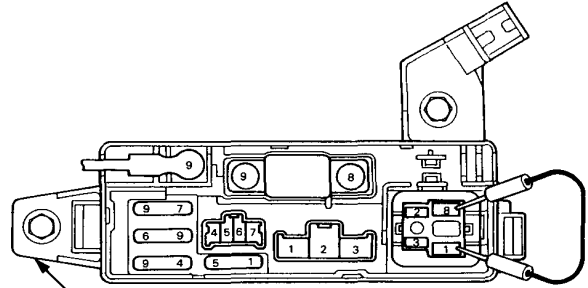
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# Troubleshooting

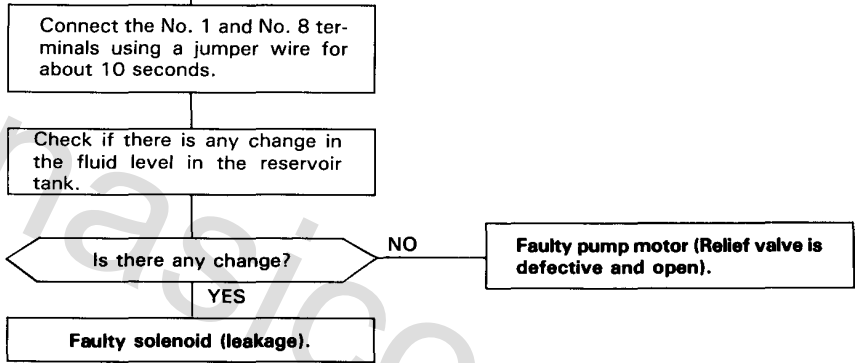
## Flowcharts (cont'd)

(From page 13-13)

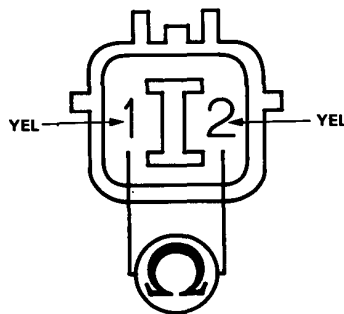
(From page 13-13)



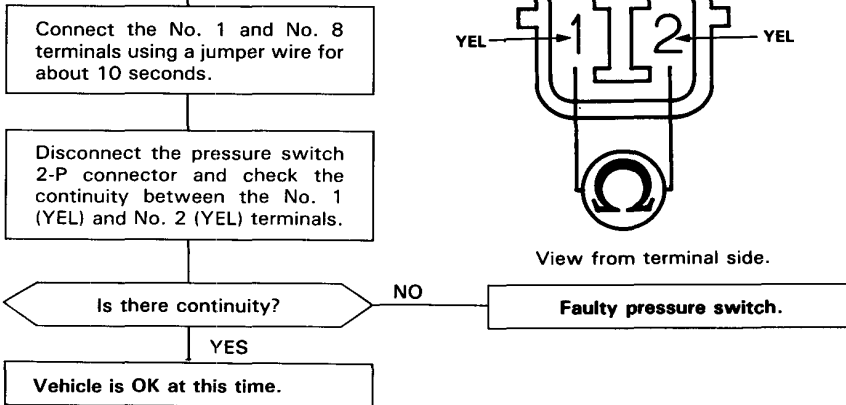
**UNDER-HOOD ABS FUSE/RELAY BOX**



**SWITCH-SIDE CONNECTOR**



View from terminal side.



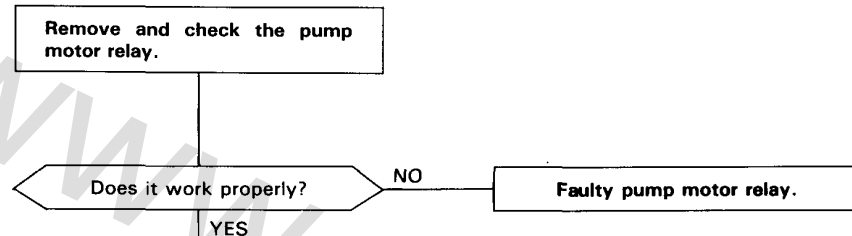
**Problem code 1-2: Pump Motor Circuit Problem**

**CAUTION:** Use only the digital multimeter to check the system.

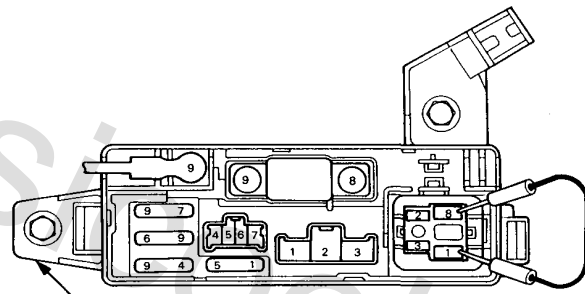
**NOTE:** If a malfunction is detected, this code appears and the fail-safe function is activated. The indicator light comes ON after restarting the engine until the malfunction code is erased (by disconnecting the ABS B2 fuse for 3 seconds).

**Pre-test steps:**

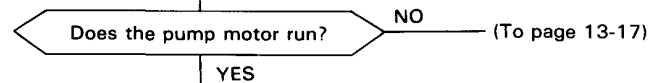
- Check ABS MOTOR (50 A) FUSE
- Check ABS UNIT (7.5 A) FUSE
- Check for loose under-hood ABS fuse/relay box connectors.



Connect the No. 1 and No. 8 terminals using a jumper wire.



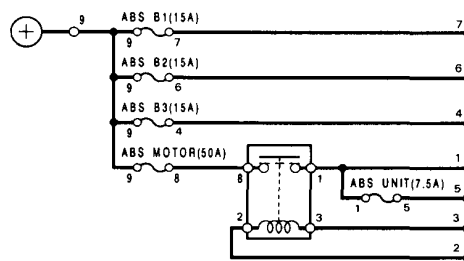
**UNDER-HOOD ABS FUSE/RELAY BOX**



Disconnect the jumper wire.

Disconnect the 2-P connector from the pump motor.

(To page 13-16)



**UNDER-HOOD ABS FUSE/RELAY BOX CIRCUIT DIAGRAM**

(cont'd)



# Troubleshooting

## Flowcharts (cont'd)

(From page 13-15)

Remove the ABS UNIT (7.5 A) fuse from under-hood ABS fuse/relay box.

Turn the ignition switch ON.

Check for voltage between the under-hood ABS fuse/relay box ABS unit fuse No. 5 terminal and body ground.

Is there battery voltage?

NO

Repair open in WHT/RED wire between the ABS unit fuse and control unit.

YES

Reinstall the fuse to the under-hood ABS fuse/relay box.

Check for voltage between the pump motor relay No. 1 terminal and body ground.

Is there battery voltage?

NO

Faulty under-hood ABS fuse/relay box.

YES

Check for voltage between the No. 2 terminal and body ground.

Is there battery voltage?

NO

Repair open in BLK/YEL wire between the fuse and pump motor relay.

YES

Reinstall the pump motor relay.

Disconnect the 18-P connector from the control unit.

Check for voltage between the control unit connector No.18 (YEL/RED) terminal and body ground.

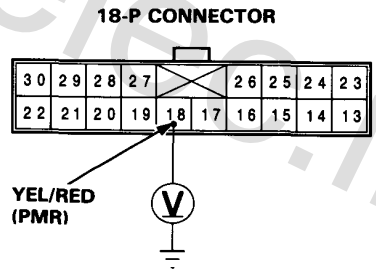
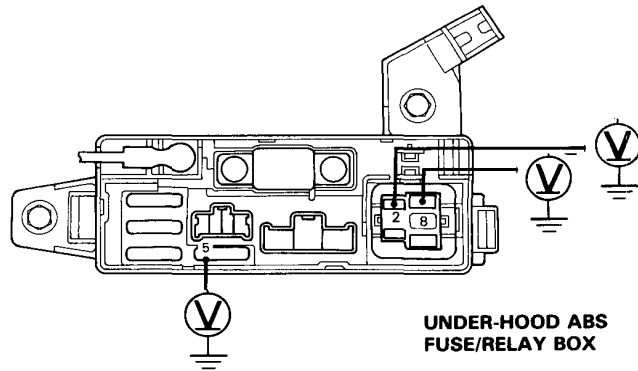
Is there battery voltage?

NO

Repair open in YEL/RED wire between the pump motor relay and control unit.

YES

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.



View from control unit terminal side.

(From page 13-13)

Check for voltage between the No. 1 terminal and body ground.

Is there battery voltage?

NO

Faulty under-hood ABS fuse/relay box.

YES

Disconnect the 2-P connectors from the pump motor.

Check for voltage between the No. 1 (WHT/BLU) terminal and body ground.

Is there battery voltage?

NO

Repair open in WHT/BLU wire between the motor relay and pump motor.

YES

Check for voltage between the No. 1 (WHT/BLU) terminal and No. 2 (BLK) terminal.

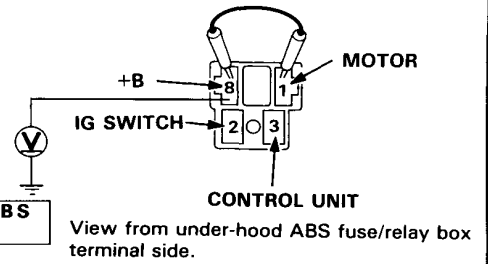
Is there battery voltage?

NO

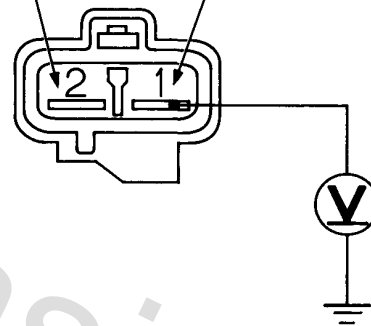
Repair open in BLK wire between the pump motor and ground or poor ground (G201).

YES

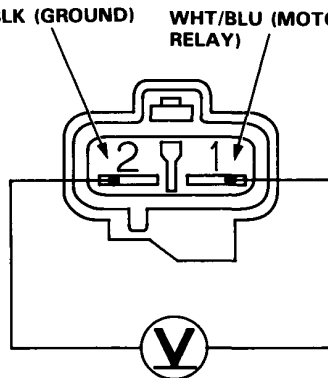
Faulty pump motor.



HARNES-SIDE CONNECTOR  
BLK (GROUND) WHT/BLU (MOTOR RELAY)



HARNES-SIDE CONNECTOR  
BLK (GROUND) WHT/BLU (MOTOR RELAY)



(cont'd)

# Troubleshooting

## Flowcharts (cont'd)

**Problem code 1-3: High Pressure Leakage**

**CAUTION:** Use only the digital multimeter to check the system.

**Pre-test steps:**

- Check reservoir fluid level, and if necessary, fill to the MAX level.
- Check for fluid leaks from the functional parts and replace the faulty parts if there is a leak.

**Functional parts:**

- Modulator
- Power unit
- High pressure hoses

Bleed high pressure fluid from the maintenance bleeder with the Bleeder T-wrench.

Remove the pump motor relay.

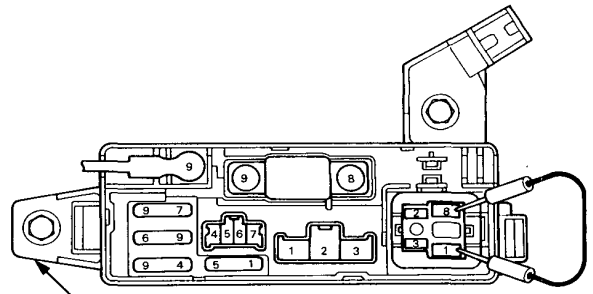
Connect the No. 1 and No. 8 terminals using a jumper wire for about 10 seconds.

Disconnect the 2-P connector from the pressure switch.

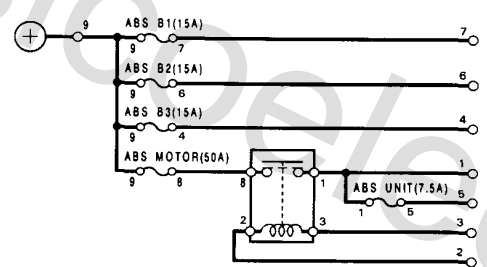
After 30 minutes, check for continuity between the No.1 (YEL) and No.2 (YEL) terminals on the switch side of connector.

Is there continuity? **YES** → Vehicle is OK at this time.

**NO** → Faulty solenoid (leakage).

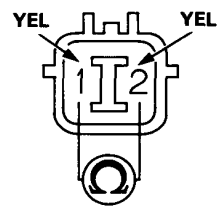


**UNDER-HOOD ABS FUSE/RELAY BOX**



**UNDER-HOOD ABS FUSE/RELAY BOX CIRCUIT DIAGRAM**

**SWITCH-SIDE CONNECTOR**



**View from terminal side.**

**Problem code 1-4: Pressure Switch Circuit**

**CAUTION:** Use only the digital multimeter to check the system.

Bleed high pressure fluid from the maintenance bleeder with the Bleeder T-wrench (see page 19-80).

Disconnect the 2-P connector from the pressure switch.

Check the continuity of pressure switch between the No.1 (YEL) and No.2 (YEL) terminals.

Is there continuity?

YES

**Faulty pressure switch (closed).**

NO

Check for continuity between the No.1 (YEL) terminal and body ground on the harness-side connector.

Is there continuity?

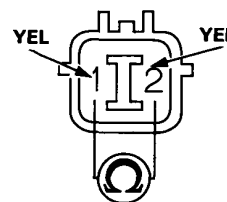
YES

**Repair short in YEL wire between the control unit and pressure switch.**

NO

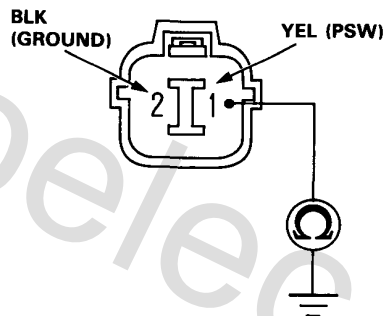
Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

**SWITCH-SIDE CONNECTOR**



View from terminal side.

**HARNESS-SIDE CONNECTOR**



View from terminal side.

(cont'd)

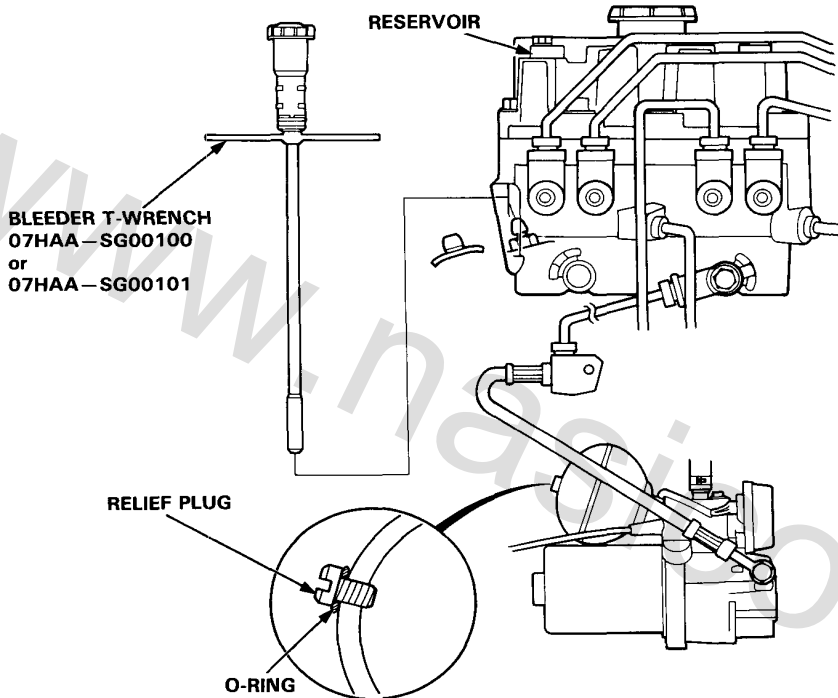
# Troubleshooting

## Flowcharts (cont'd)

### Problem Code 1-8: Accumulator Gas Leakage

Check the following items:

- The relief plug is loose.
- The relief plug O-ring is out of place.
- Bleed the high pressure line with the Bleeder T-wrench. Operate the pump motor for 10 seconds and bleed the high pressure line again with the Bleeder T-wrench. If no fluid or more than 70 cc of fluid comes out, it is likely that the gas has leaked out.



### Problem code 2-1: Parking Brake Switch Related Problem

If the parking brake has been released, the following items are possible causes. If they are OK, check the control unit connectors for good connection. If not loose or disconnected, substitute a known-good control unit and recheck.

NOTE: Before Troubleshooting Problem Code 2-1, remove the ABS B2 (15 A) fuse for 3 seconds to clear the control unit's memory, then test drive the car.

If the anti-lock brake system indicator light stays off, the probability is that the car was driven with the parking brake applied.

- The parking brake is applied for more than 30 seconds while driving.
- The brake fluid level in the master cylinder is too low.
- GRN/RED wire is shorted between the **BRAKE** indicator light and parking brake switch.
- GRN/RED wire is shorted between the **BRAKE** indicator light and brake fluid level switch.
- The **BRAKE** indicator light is blown.
- GRN/RED has an open between the **BRAKE** indicator light and the control unit.
- The stop light is blown.

### Problem Code 4-1 to 4-8: Speed Sensor

**CAUTION:** Use only the digital multimeter to check the system.

**NOTE:** If a malfunction is detected, this code appears and the fail-safe function is activated. The indicator light comes ON after restarting the engine until the malfunction code is erased (by disconnecting the ABS B2 fuse for 3 seconds).

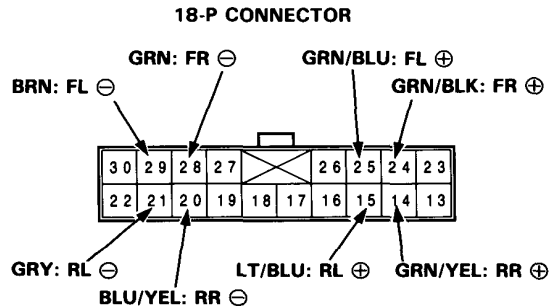
Disconnect the 18-P connector from the control unit.

Check each sensor for continuity between the positive and negative:

- GRN/BLK: Front Right Positive
- GRN: Front Right Negative
- GRN/BLU: Front Left Positive
- BRN: Front Left Negative
- GRN/YEL: Rear Right Positive
- BLU/YEL: Rear Right Negative
- LT BLU: Rear Left Positive
- GRY: Rear Left Negative

\* table

Front	700 – 1100 Ω
Rear	2 Door • 4 Door
	2WS 1000 – 1500 Ω
	4WS 600 – 900 Ω
	5 Door
2WS	600 – 900 Ω



Is the resistance as specified?  
\*See table

YES

Check for continuity to ground of wire and sensor.

View from control unit terminal side.

Is there continuity?

YES

Repair short in sensor wire or faulty speed sensor.

NO

Disconnect the 2-P connector of the speed sensor.

Check for resistance between the sensor terminals.

Is the resistance as specified?  
\*See table

NO

Faulty speed sensor.

YES

Reconnect the 18-P connector from the control unit.

Check each wire for continuity between the speed sensor harness-side terminals and body ground.

Is there continuity? \*\*

NO

Repair open in wire harness.

YES

Check for loose speed sensor connectors. If necessary, substitute a known-good control unit and recheck.

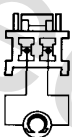
\*\* Positive: Less than 3.3 kΩ is OK.  
Negative: Less than 1 Ω is OK.

#### SENSOR-SIDE CONNECTOR

FRONT

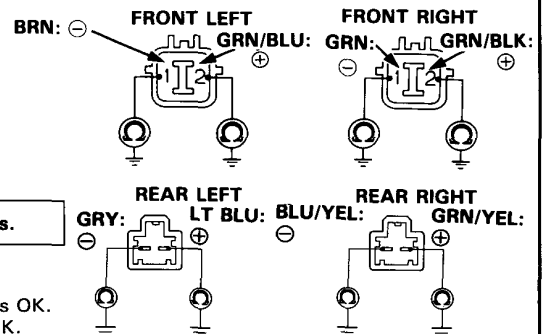


REAR



View from terminal side.

#### HARNESS-SIDE CONNECTOR



View from terminal side.

(cont'd)

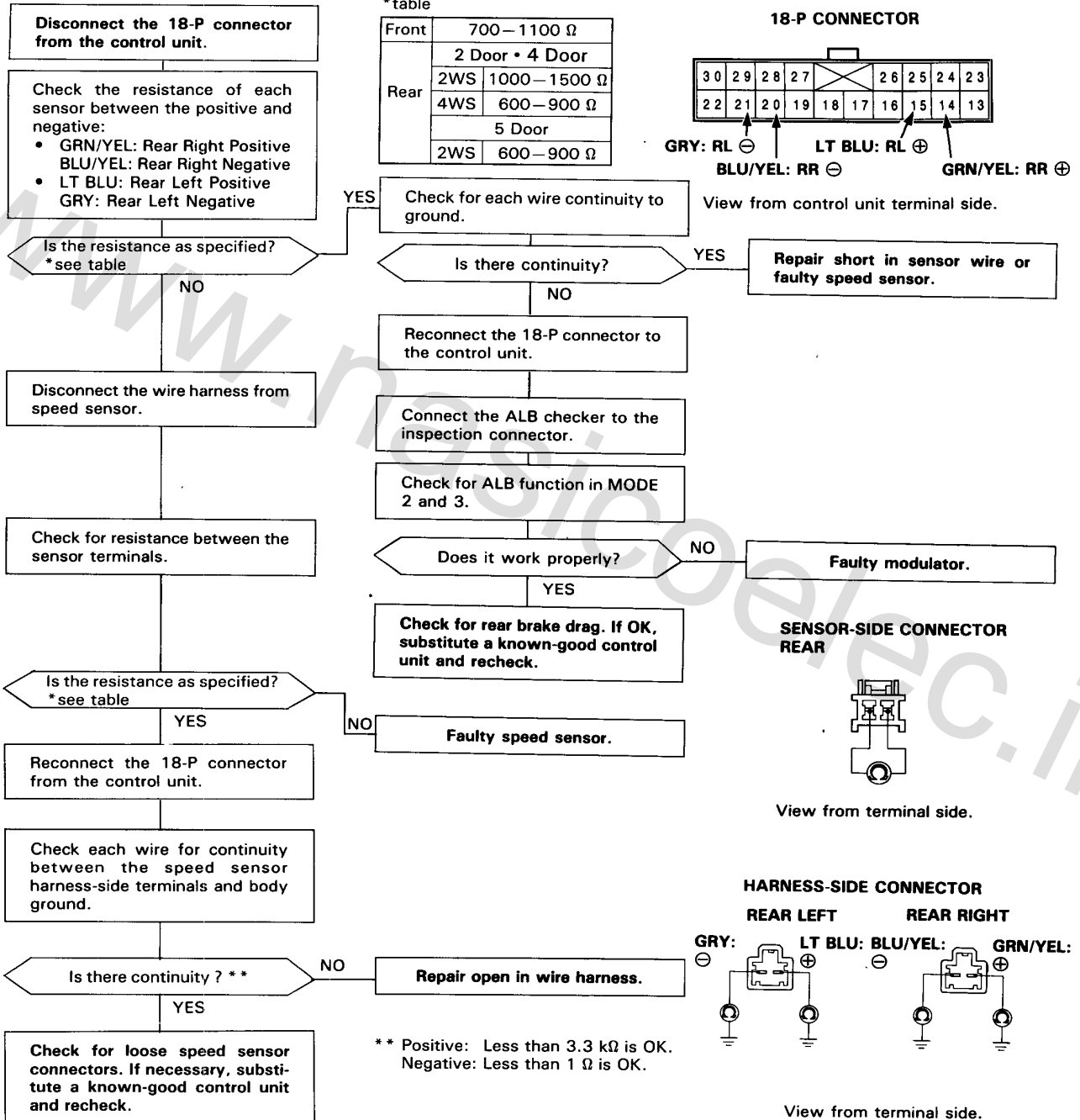
# Troubleshooting

## Flowcharts (cont'd)

### Problem Code 5 to 5-8: Speed Sensor(s)

**CAUTION:** Use only the digital multimeter to check the system.

**NOTE:** If a malfunction is detected, this code appears and the fail-safe function is activated. The indicator light comes ON after restarting the engine until the malfunction code is erased (by disconnecting the ABS B2 fuse for 3 seconds.)



### Problem Code 6-1: Front Fail-Safe Relay Circuit

**CAUTION:** Use only the digital multimeter to check the system.

Pre-test steps:

- Check ABS B1 (15 A) FUSE
- Check ABS B3 (15 A) FUSE
- Check for loose under-hood ABS fuse/relay box connectors.

**Remove the front fail-safe relay.**

Wire colors of the fail-safe relay connector  
 Front: BRN/BLK, YEL/BLK, YEL/GRN, BLK  
 Rear: BLU/BLK, YEL/BLK, YEL/GRN, BLK

Check relay function.

Does it work properly? **Faulty front fail-safe relay.**

Disconnect the 10-P connector from the solenoid.

Turn the ignition switch ON.

Check for voltage between the fail-safe relay No. 3 (BLK/YEL) terminal and body ground.

Is there battery voltage? **NO** → **Repair open in BLK/YEL wire between the fuse and front fail-safe relay.**

Turn the ignition switch OFF.

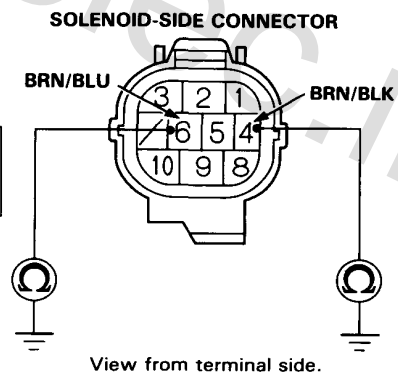
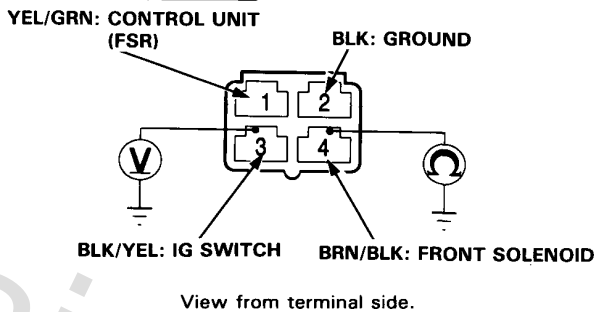
Check for continuity between the fail-safe relay No. 4 (BRN/BLK) terminal and body ground.

Is there continuity? **YES** → **Repair short in BRN/BLK wire between the solenoid and front fail-safe relay.**

Check each wire for continuity between the solenoid terminals and body ground  
 No. 4 (BRN/BLK): Front Right  
 No. 6 (BRN/BLU): Front Left

Is there continuity? **YES** → **Faulty solenoid (short).**

**NO**  
(To page 13-24)



(cont'd)



# Troubleshooting

## Flowcharts (cont'd)

(From page 13-23)

Disconnect the 18-P and 12-P connector from the control unit.

Check each wire for continuity between the control unit and body ground.

No. 8 (RED/BLK): Front Right Inlet  
 No. 1 (YEL/BLK): Front Right Outlet  
 No. 10 (RED/BLU): Front Left Inlet  
 No. 3 (YEL/BLU): Front Left Outlet

Is there continuity?

YES

NO

Disconnect the rear fail-safe relay connector.

Check for continuity between the No. 17 (YEL/GRN) terminal and body ground.

Is there continuity?

YES

NO

Reinstall the front fail-safe relay.

Turn the ignition switch ON.

Check for voltage between the control unit connector No. 17 (YEL/GRN) terminal and body ground.

Is there battery voltage?

NO

YES

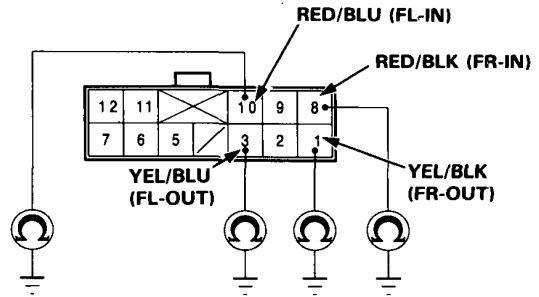
Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

Repair short in wire between the solenoid and control unit:  
 RED/BLK: Front Right Inlet  
 YEL/BLK: Front Right Outlet  
 RED/BLU: Front Left Inlet  
 YEL/BLU: Front Left Outlet

Repair short in YEL/GRN wire between the control unit and front fail-safe relay.

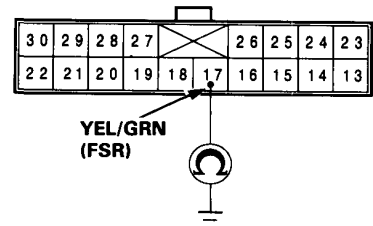
Repair open in YEL/GRN wire between the front fail-safe relay and control unit.

12-P CONNECTOR



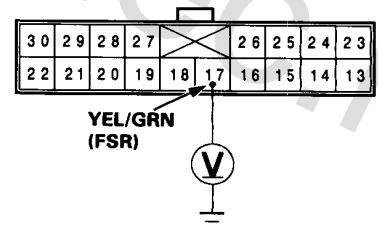
View from control unit terminal side.

18-P CONNECTOR



View from control unit terminal side.

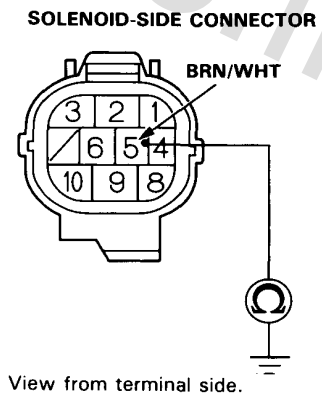
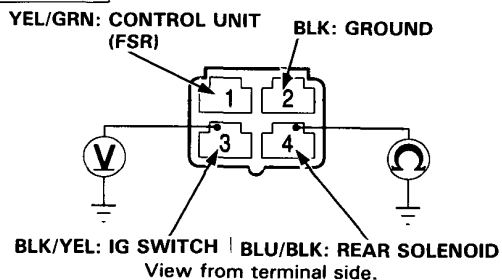
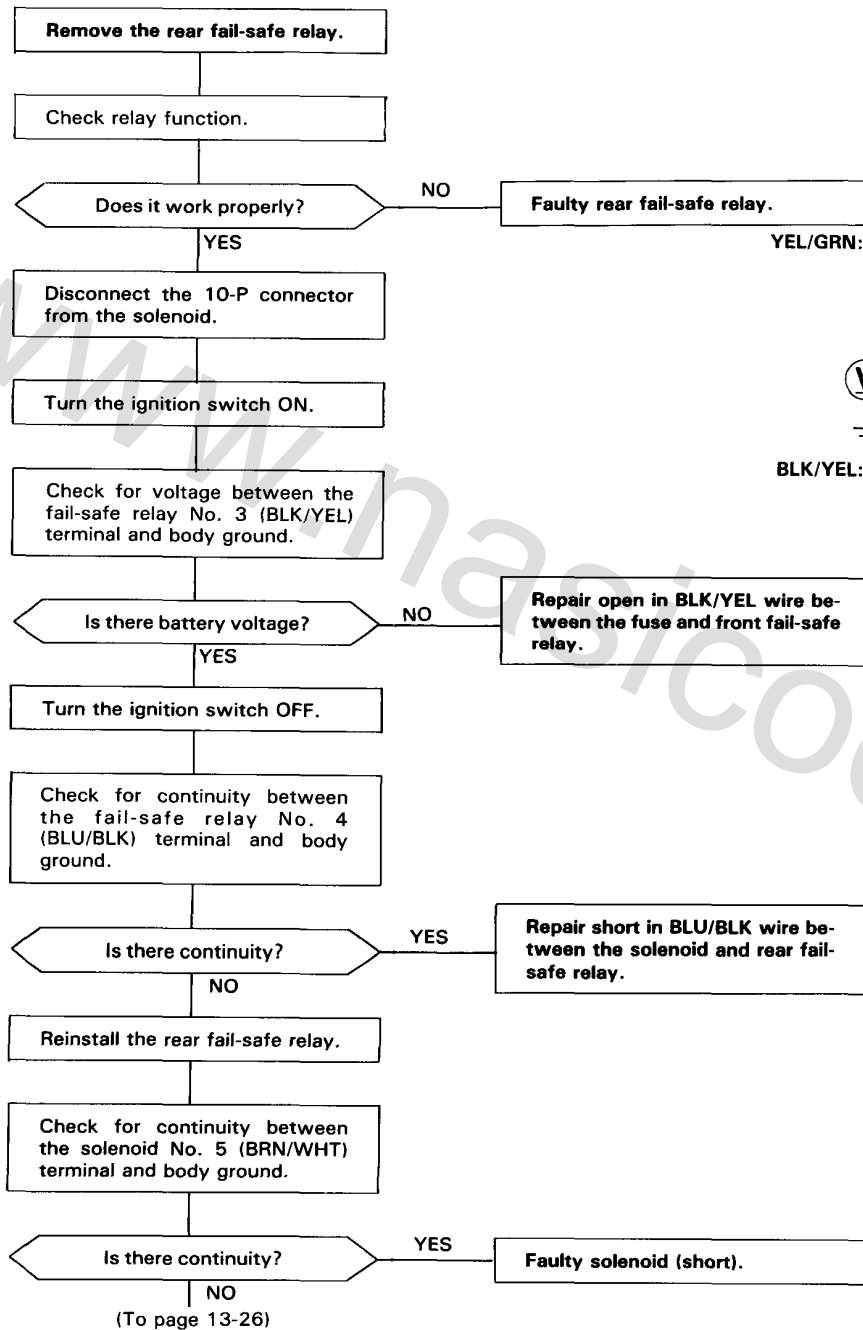
18-P CONNECTOR



View from control unit terminal side.

### Problem Code 6-4: Rear Fail-Safe Relay Circuit

**CAUTION:** Use only digital multimeter to check the system.

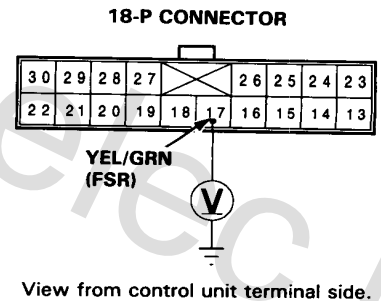
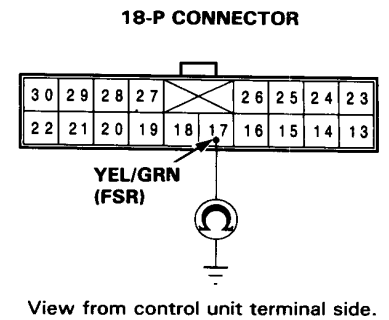
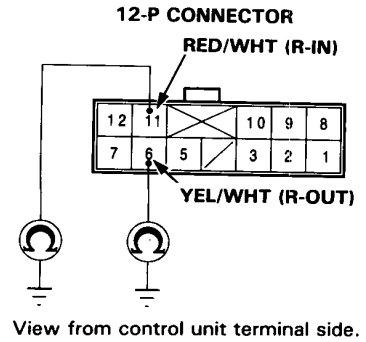
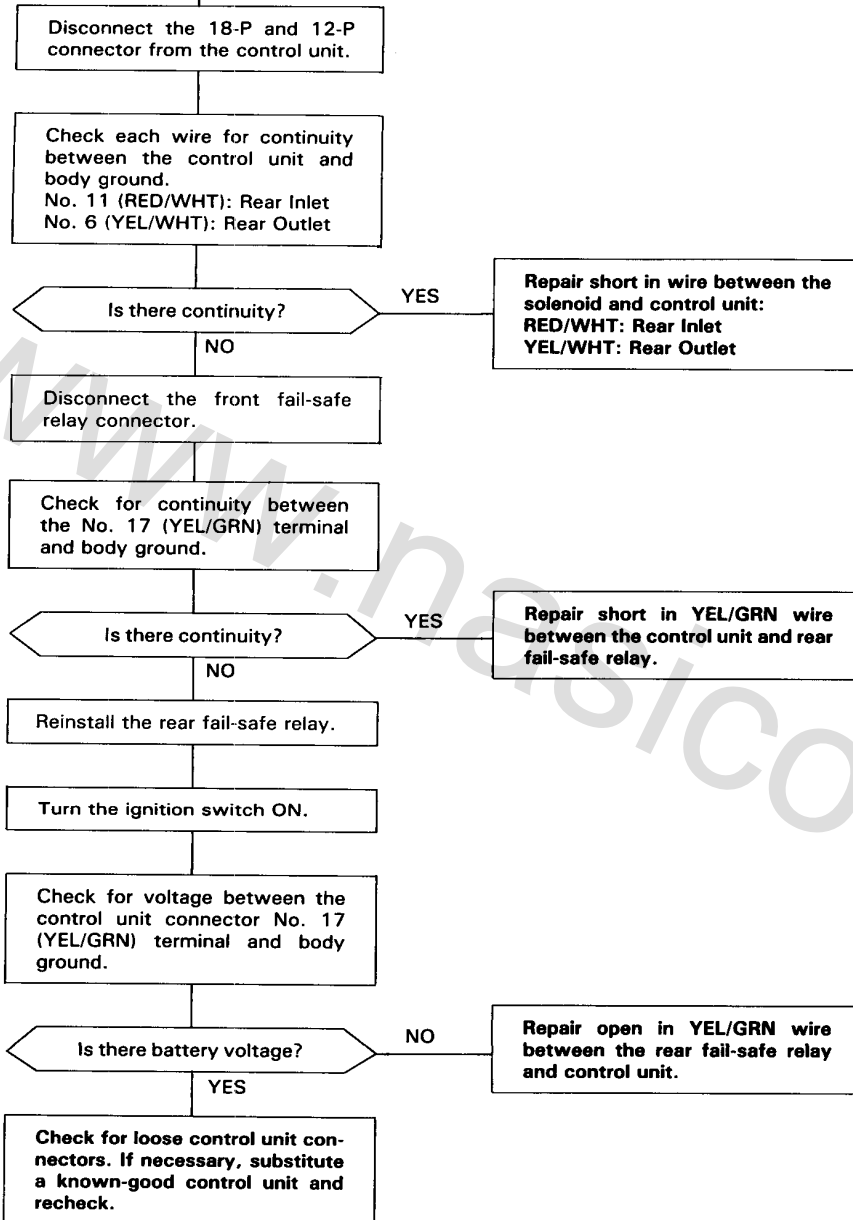


(cont'd)

# Troubleshooting

## Flowcharts (cont'd)

(From page 13-25)



**Problem code 7-1 and 7-2 Front Solenoid Related Problem**

**CAUTION:** Use only the digital multimeter to check the system.

Pre-test steps:

- Check ABS B1 (15 A) FUSE
- Check ABS B3 (15 A) FUSE
- Check for loose under-hood ABS fuse/relay box connectors.

Disconnect the 10-P connector from the solenoids.

Check for resistance between the solenoid terminals:  
No. 1 (RED/BLK) and No. 4 (BRN/BLK): Front Right Inlet  
No. 3 (RED/BLU) and No. 6 (BRN/BLU): Front Left Inlet

Is there 1-3Ω?

NO

Faulty solenoid.

YES

Check for resistance between the solenoid terminals:  
No. 8 (YEL/BLK) and No. 4 (BRN/BLK): Front Right Outlet  
No. 10 (YEL/BLU) and No. 6 (BRN/BLU): Front Left Outlet

Is there 1-3Ω?

NO

Faulty solenoid.

YES

Disconnect the 12-P connector from control unit.

Check each wire for continuity between the control unit and front solenoid:  
RED/BLK: Front Right Inlet  
YEL/BLK: Front Right Outlet  
RED/BLU: Front Left Inlet  
YEL/BLU: Front Left Outlet

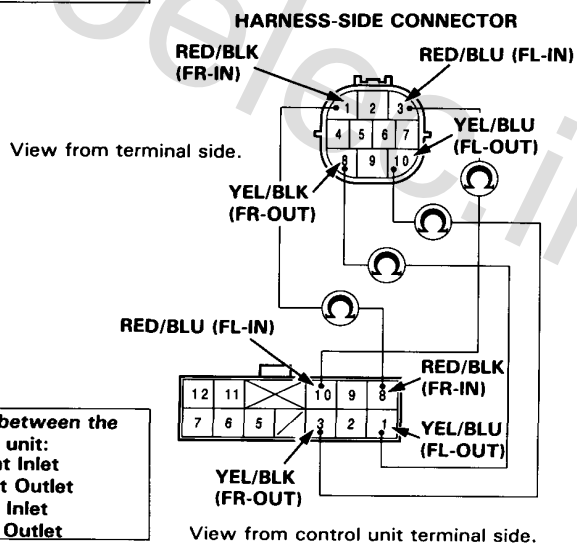
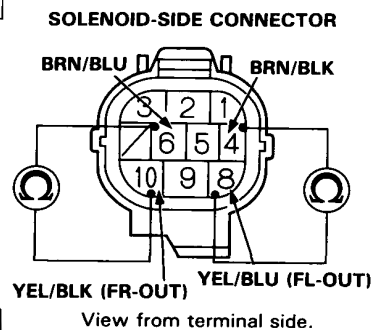
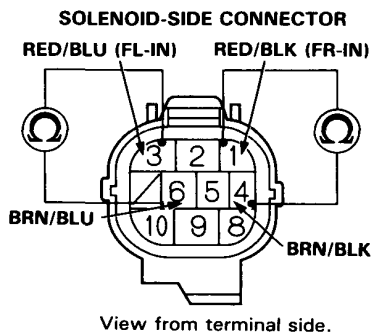
Is there continuity?

NO

Repair open in wire between the solenoid and control unit:  
RED/BLK: Front Right Inlet  
YEL/BLK: Front Right Outlet  
RED/BLU: Front Left Inlet  
YEL/BLU: Front Left Outlet

YES

(To page 13-28)



(cont'd)

# Troubleshooting

## Flowcharts (cont'd)

(From page 13-27)

Check each wire for continuity between the control unit and body ground:

- No. 8 (RED/BLK): Front Right Inlet
- No. 1 (YEL/BLK): Front Right Outlet
- No. 10 (RED/BLU): Front Left Inlet
- No. 3 (YEL/BLU): Front Left Outlet

Is there continuity?

YES

NO

Remove the front fail-safe relay.

Check for relay function.

Does it work properly?

NO

YES

Check for continuity between the fail-safe relay connector No. 2 (BLK) terminal and body ground.

Is there continuity?

NO

YES

Check BRN/BLK wire for continuity between the solenoids and front fail-safe relay.

Is there continuity?

NO

YES

Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

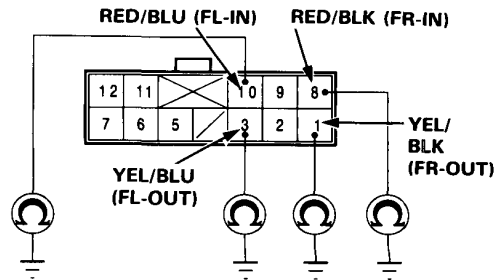
Repair short in wire between the solenoid and control unit:  
 RED/BLK: Front Right Inlet  
 YEL/BLK: Front Right Outlet  
 RED/BLU: Front Left Inlet  
 YEL/BLU: Front Right Outlet

Faulty front fail-safe relay.

Repair open in BLK wire between the fail-safe relay and ground or poor ground (G503).

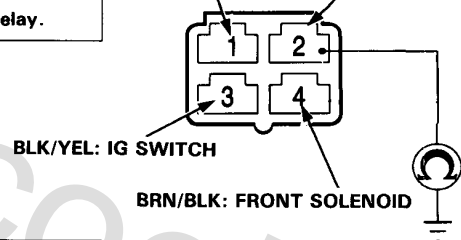
Repair open in BRN/BLK wire between the solenoids and front fail-safe relay.

12-P CONNECTOR



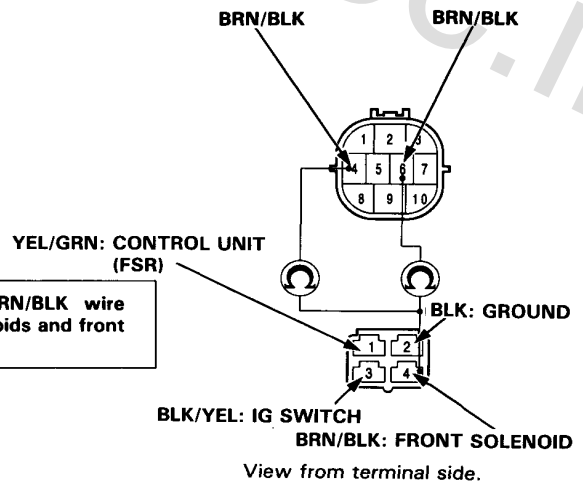
View from control unit terminal side.

YEL/GRN: CONTROL UNIT (FSR)      BLK: GROUND



View from terminal side.

HARNESS-SIDE CONNECTOR



View from terminal side.

### Problem Code 7-4: Rear Solenoid Problem

**CAUTION:** Use only the digital multimeter to check the system.

Disconnect the 10-P connector from the solenoids.

Check for resistance between the solenoid terminals:  
 No.2 (RED/WHT) and No.5 (BRN/WHT): Rear Inlet  
 No.9 (YEL/WHT) and No.5 (BRN/WHT): Rear Outlet

Is there 1-3Ω?

NO

Faulty solenoid.

YES

Disconnect the 12-P connector from control unit.

Check each wire for continuity between the control unit and rear solenoid:  
 RED/WHT: Rear Inlet  
 YEL/WHT: Rear Outlet

Is there continuity?

NO

Repair open in wire between the solenoid and control unit:  
 RED/WHT: Rear Inlet  
 YEL/WHT: Rear Outlet

YES

Check each wire for continuity between the control unit and body ground:  
 No.11 (RED/WHT): Rear Inlet  
 No.6 (YEL/WHT): Rear Outlet

Is there continuity?

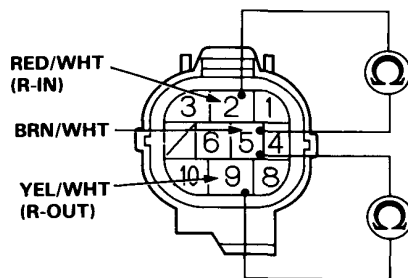
YES

Repair short in wire between the solenoid and control unit:  
 RED/WHT: Rear Inlet  
 YEL/WHT: Rear Outlet

NO

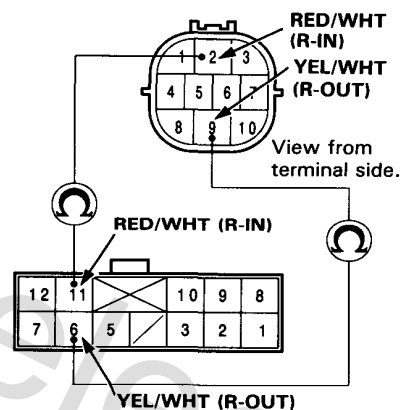
(To page 13-30)

**SOLENOID-SIDE CONNECTOR**



View from terminal side.

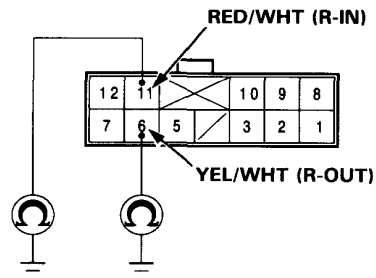
**HARNESS-SIDE CONNECTOR**



View from terminal side.

View from control unit terminal side.

**12-P CONNECTOR**



View from control unit terminal side.

(cont'd)

# Troubleshooting

## Flowcharts (cont'd)

(From page 13-29)

Remove the rear fail-safe relay.

Check for relay function.

Does it work properly?

NO

Faulty rear fail-safe relay.

YES

Check for continuity between the fail-safe relay connector No. 3 (BLK) terminal and body ground.

Is there continuity?

NO

Repair open in BLK wire between the fail-safe relay and ground or poor ground (G503).

YES

Check BLU/BLK wire for continuity between the solenoid and rear fail-safe relay.

Is there continuity?

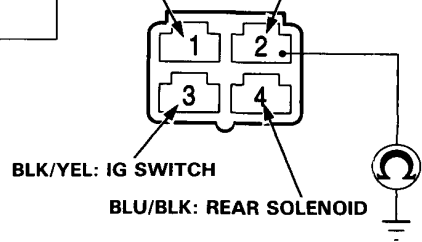
NO

Repair open in BLU/BLK wire between the solenoid and rear fail-safe relay.

YES

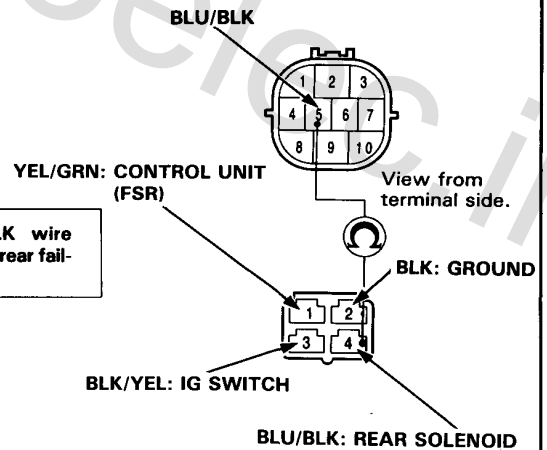
Check for loose control unit connectors. If necessary, substitute a known-good control unit and recheck.

YEL/GRN: CONTROL UNIT (FSR)      BLK: GROUND



View from terminal side.

HARNESS-SIDE CONNECTOR



View from terminal side.

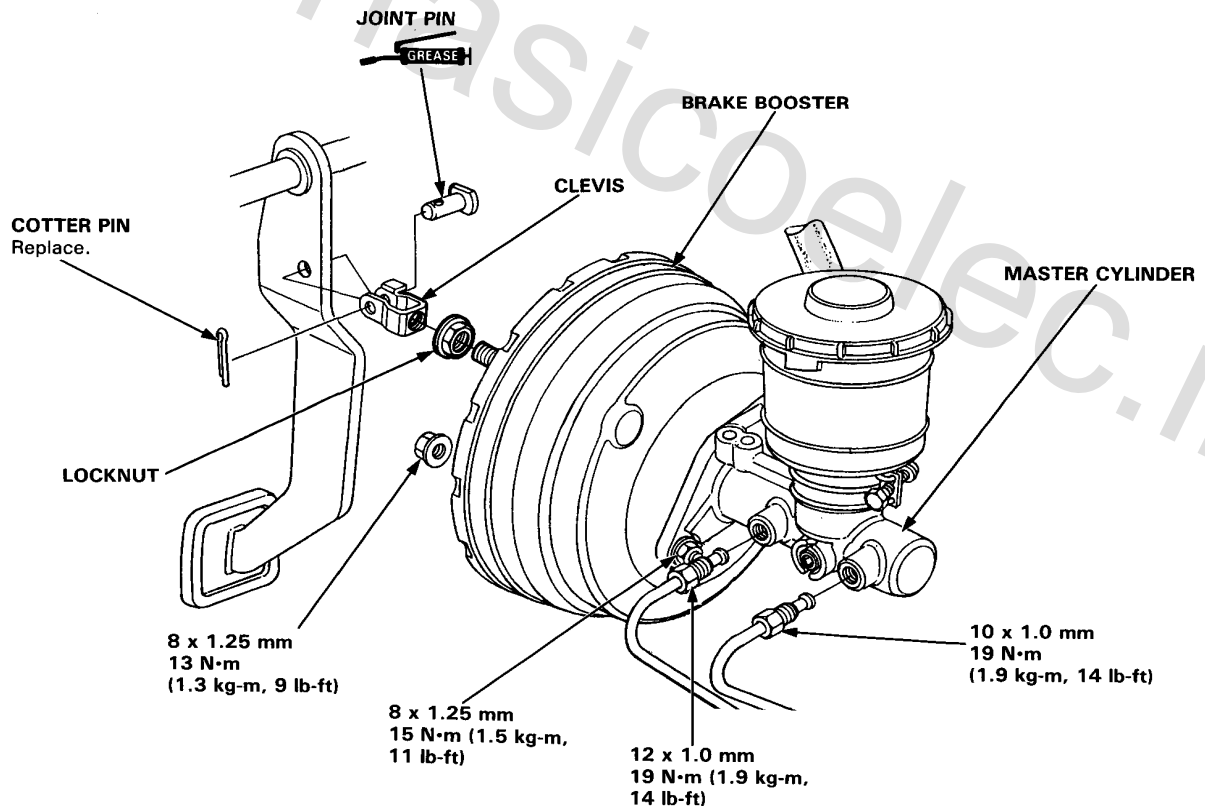
# Master Cylinder, Booster (LHD only)

## Removal/Installation

### CAUTION:

- Be careful not to bend or damage the brake pipes when removing the master cylinder and booster.
- Do not spill brake fluid on the car; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- To prevent spills, cover the hose joints with rags or shop towels.
- Before reassembling, check that all parts are free of dust and other foreign particles.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Do not mix different brands of brake fluid as they may not be compatible.
- Do not reuse the drained fluid. Use only clean DOT 3 or 4 brake fluid.
- When connecting the brake pipes, make sure that there is no interference between the brake pipes and other parts.
- Do not disassemble the booster. Replace it as a complete assembly.

1. Drain the brake fluid from the master cylinder.
2. Disconnect the brake fluid level switch connectors.
3. Disconnect the brake pipes from the master cylinder.
4. Remove the master cylinder mounting nuts and the master cylinder.
5. Disconnect the vacuum hose from the booster and remove the check valve bracket.
6. Loosen the pushrod locknut.
7. Remove the cotter pin and joint pin.
8. Remove the booster mounting nuts.
9. Remove the clevis from the pushrod, then remove the booster from the body.



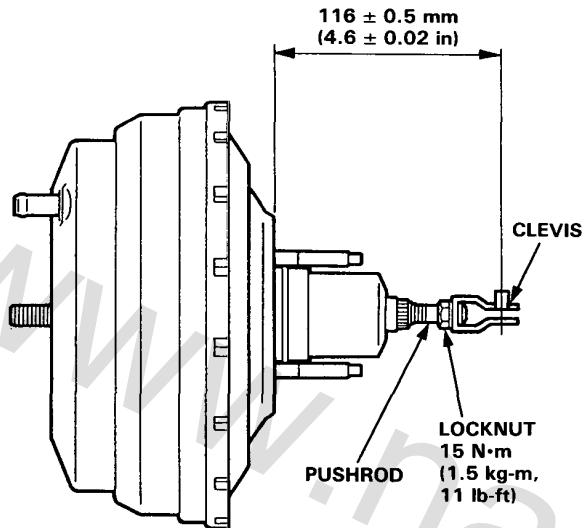
(cont'd)



# Master Cylinder, Booster (LHD only)

## Removal/Installation (cont'd)

10. Install the booster on the body and install the clevis onto the pushrod.
11. Adjust the pushrod length as shown.



12. Install the removed parts in the reverse order of removal.

**NOTE:** Before installing the master cylinder, check and adjust the pushrod clearance.

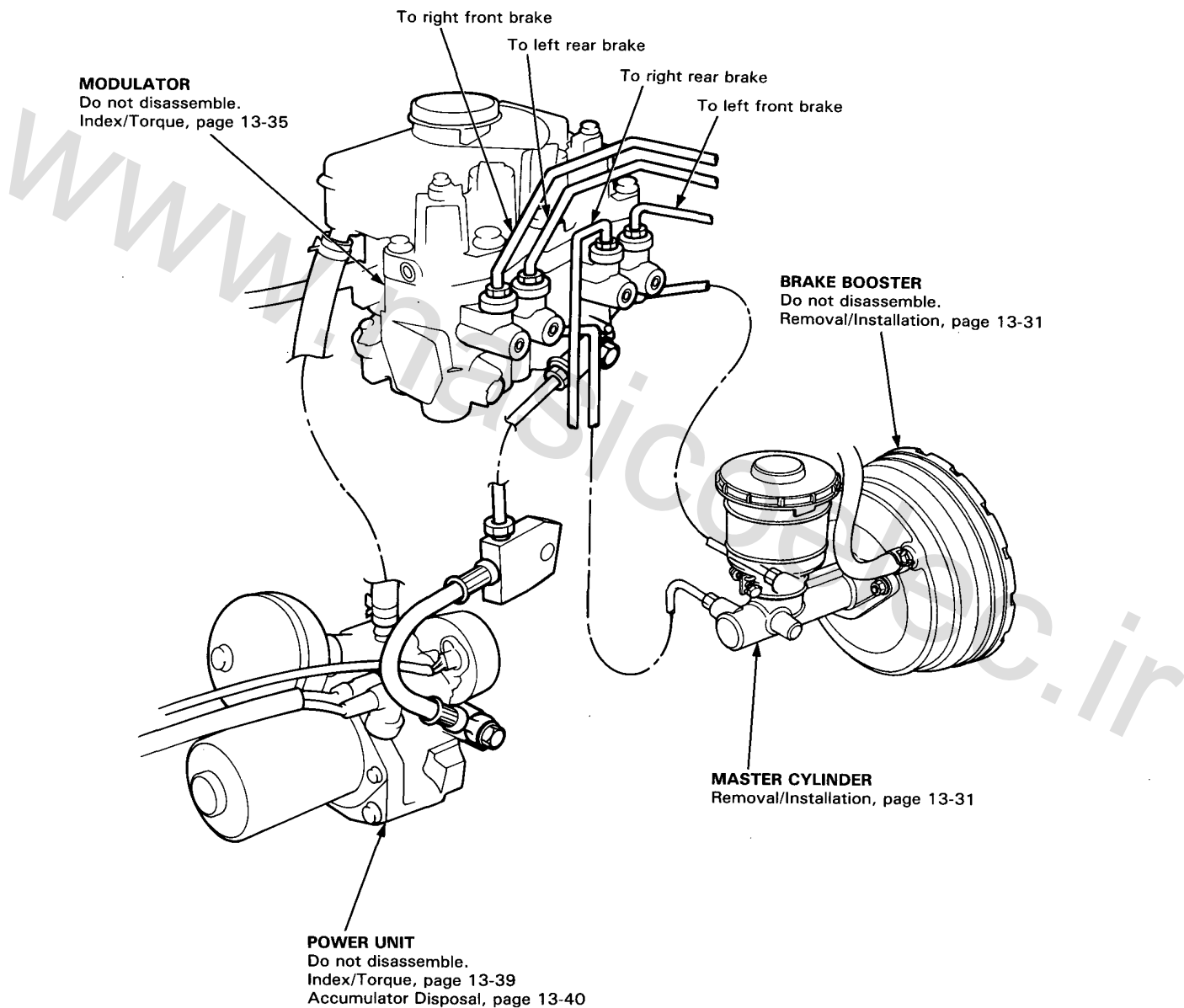
13. After installation, check and adjust the brake pedal height (page 13-3).
14. Fill and bleed the brake system.

# Hydraulic System

## Index/Hydraulic Connections

**CAUTION:** Do not spill brake fluid on the car; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.

**WARNING** Before removing the modulator-to-power unit high-pressure line, be sure to relieve the high pressure fluid from the maintenance bleeder (page 13-34).



# Hydraulic System

## Relieving Accumulator/Line Pressure

**▲ WARNING** Use the Bleeder T-wrench before disassembling the parts shaded in the illustration.

1. Open the hood.
2. Remove the red cap from the bleeder on the modulator.
3. Install the Bleeder T-wrench on the maintenance bleeder and turn it out slowly 90° to collect high-pressure fluid into the reservoir. Turn the T-wrench out one complete turn to drain the brake fluid thoroughly.
4. Retighten the maintenance bleeder and discard the fluid.
5. Reinstall the red cap.

### Reservoir Brake Fluid Draining

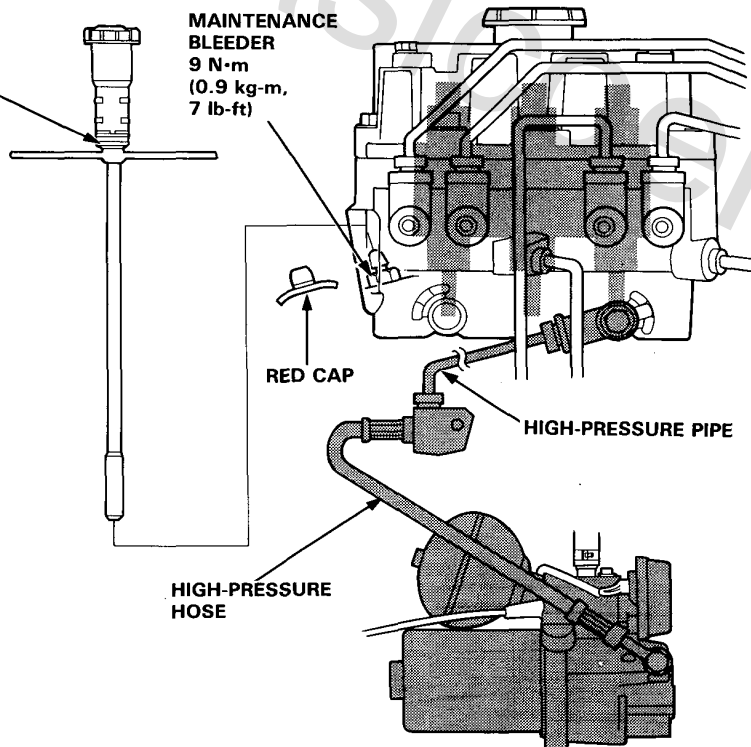
1. Draining brake fluid from modulator tank:  
The brake fluid may be sucked out through the top of the modulator tank with a syringe. It may also be drained through the reservoir-to-power unit hose by disconnecting it at the power unit.
2. Draining brake fluid from master cylinder:  
Loosen the bleed screw and pump the brake pedal to drain the brake fluid from the master cylinder.

**▲ WARNING**

- High-pressure fluid will squirt out if the shaded pipe/hose is removed.
- To drain high-pressure brake fluid, follow the procedure on this page.

BLEEDER T-WRENCH  
07HAA—SG00100 or  
07HAA—SG00101

MAINTENANCE  
BLEEDER  
9 N·m  
(0.9 kg·m,  
7 lb-ft)

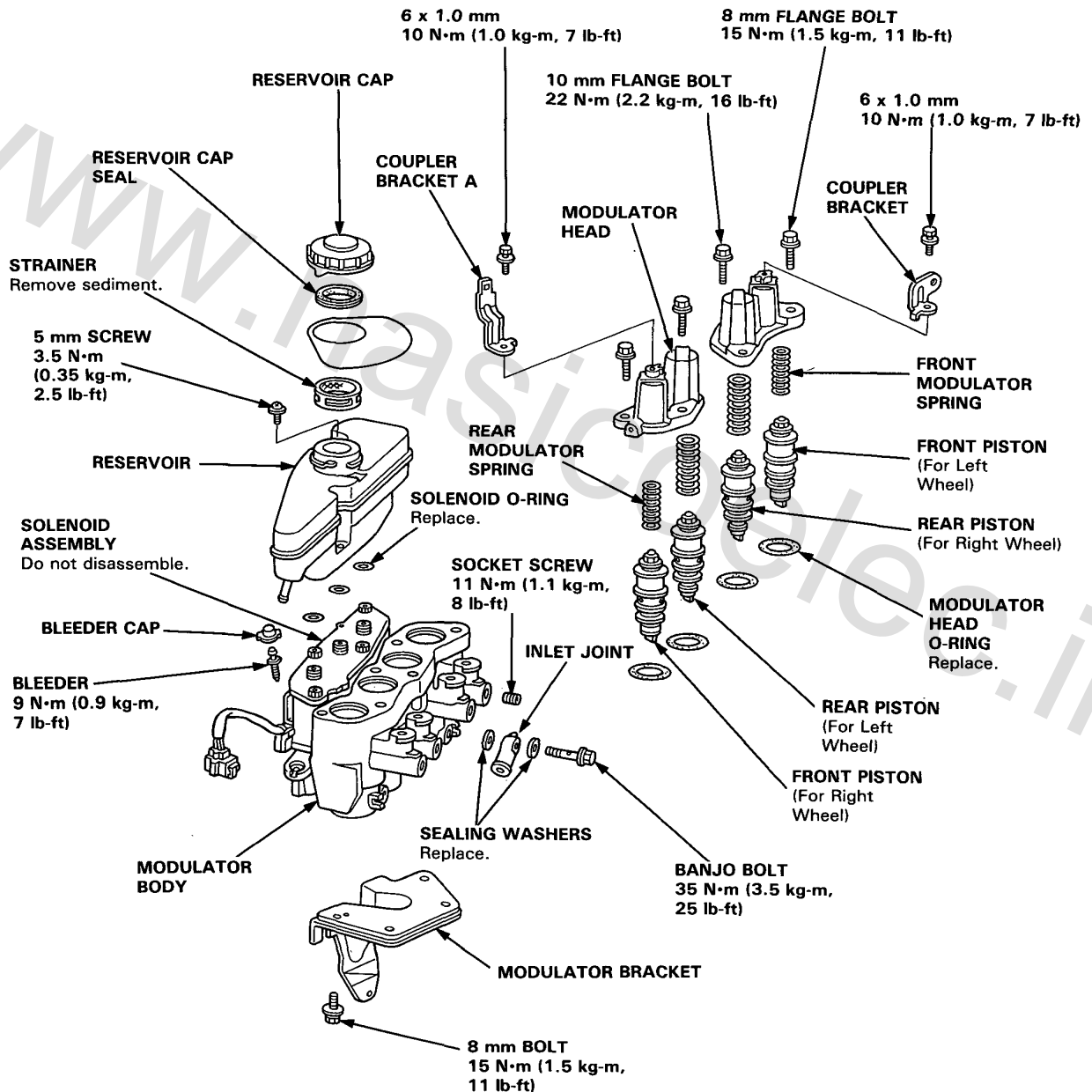


# Modulator Unit

## Index/Torque

### CAUTION:

- Do not spill brake fluid on the car; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- Before reassembling, check that all parts are free of dust and other foreign particles.
- Replace parts with new ones whenever specified to do so.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Do not mix different brands of brake fluid as they may not be compatible.
- Do not reuse the drained fluid. Use only clean DOT 3 or 4 brake fluid.



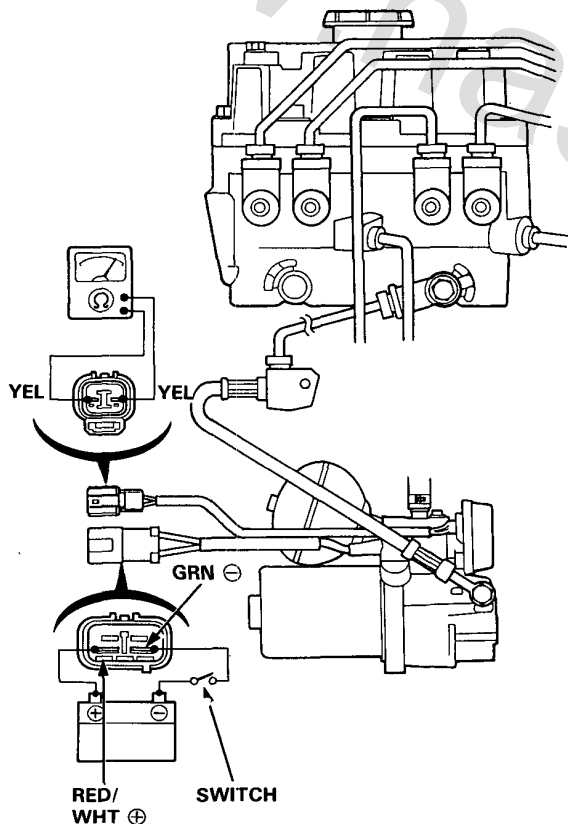
# Solenoids

## Leak Test

NOTE: If a solenoid leaks excessively, the brake fluid level in the modulator reservoir tank will rise when operating the ABS motor. The modulator reservoir may also overflow.

1. Connect an ohmmeter between the YEL and YEL terminals of the pressure switch connector.
2. Attach the positive (+) lead of a fully charged 12 V battery to the RED/WHT terminal of the motor connector and negative (-) lead to the GRN terminal, and install a switch between negative lead and GRN terminal as shown.
3. Turn the switch on to allow sufficient pressure to build up within the accumulator and check for continuity. If the ohmmeter shows continuity (pressure switch turned on), run the motor for 10 seconds more, then turn the switch off.

- Check if the solenoid hisses or squeaks. Replace the modulator if the solenoid hisses or squeaks.
- Check the pressure switch for continuity within 30 minutes. It is normal if there is continuity. If there is no continuity, a solenoid is faulty or high-pressure line leaks.



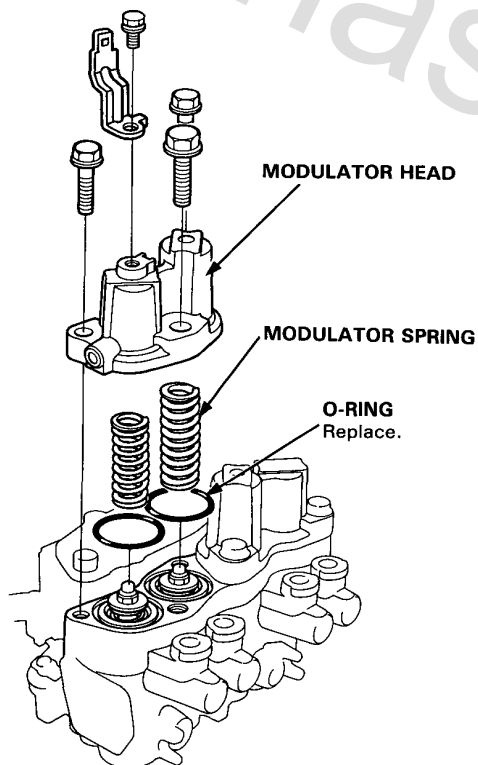
# Piston

## Replacement

### CAUTION:

- Do not spill brake fluid on the car; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- Before reassembling, check that all parts are free of dust and other foreign particles.
- Replace parts with new ones whenever specified to do so.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Do not mix different brands of brake fluid as they may not be compatible.
- Do not reuse the drained fluid. Use only clean DOT 3 or 4 brake fluid.

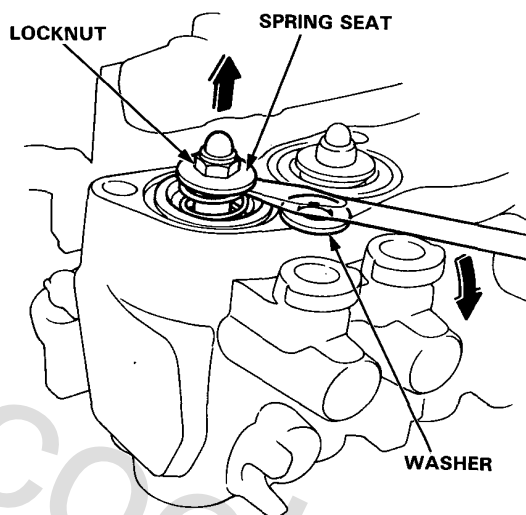
1. Remove the modulator head.
2. Remove the modulator springs and O-rings.



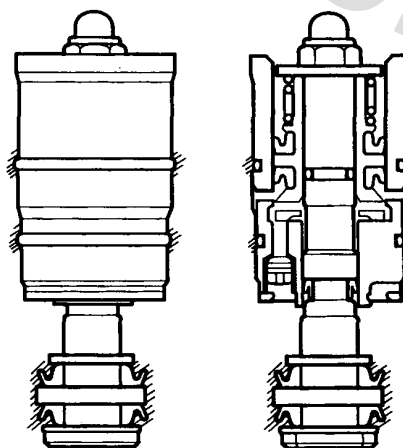
3. Insert the screwdriver under the spring seat, pry the piston assembly off slightly, then pull the piston assembly while grasping the locknut with pliers.

### NOTE:

- Place a suitable washer between the screwdriver and modulator body to prevent damage to the modulator body.
- Be careful not to damage the piston sleeve.



4. Apply rubber grease to the shaded areas of a new piston assembly as shown.

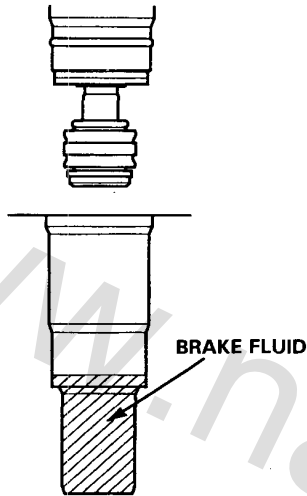


(cont'd)

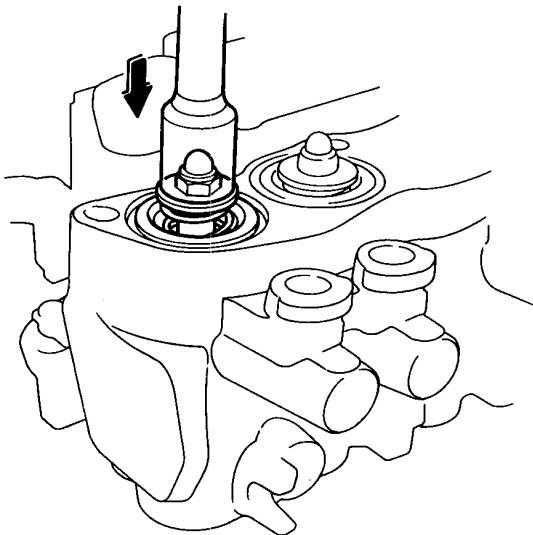
# Piston

## Replacement (cont'd)

5. Pour brake fluid into the piston hole in the modulator body.
6. Coat the sliding surface of the piston with brake fluid and install the piston assembly into the modulator body.



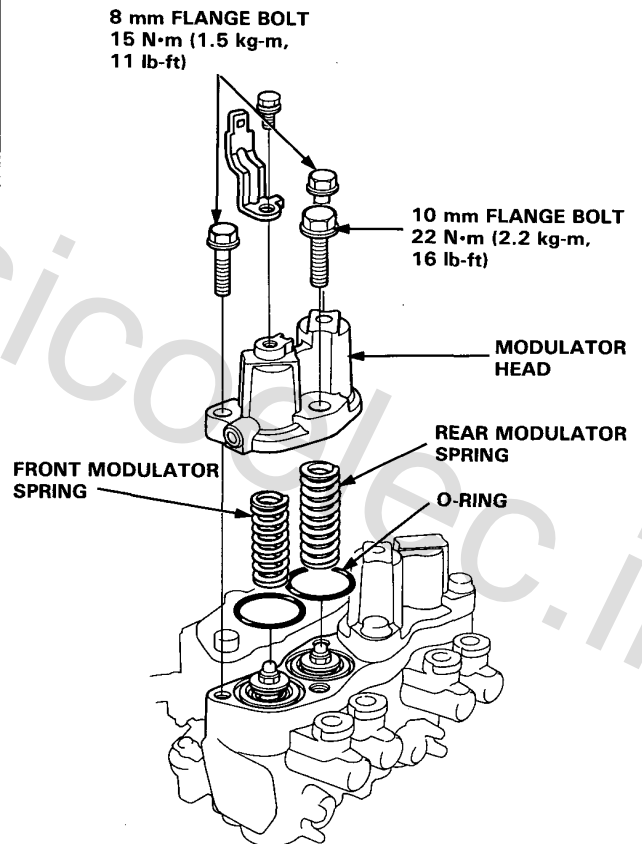
7. Push down the piston several times until no bubbles come out from the solenoid side.



8. Install new O-rings into the grooves in the modulator body.
9. Install the modulator springs.

NOTE: Do not interchange the front and rear modulator springs. The longer spring is the rear modulator spring.

10. Install the modulator head onto the body, being careful not to bind the O-rings.



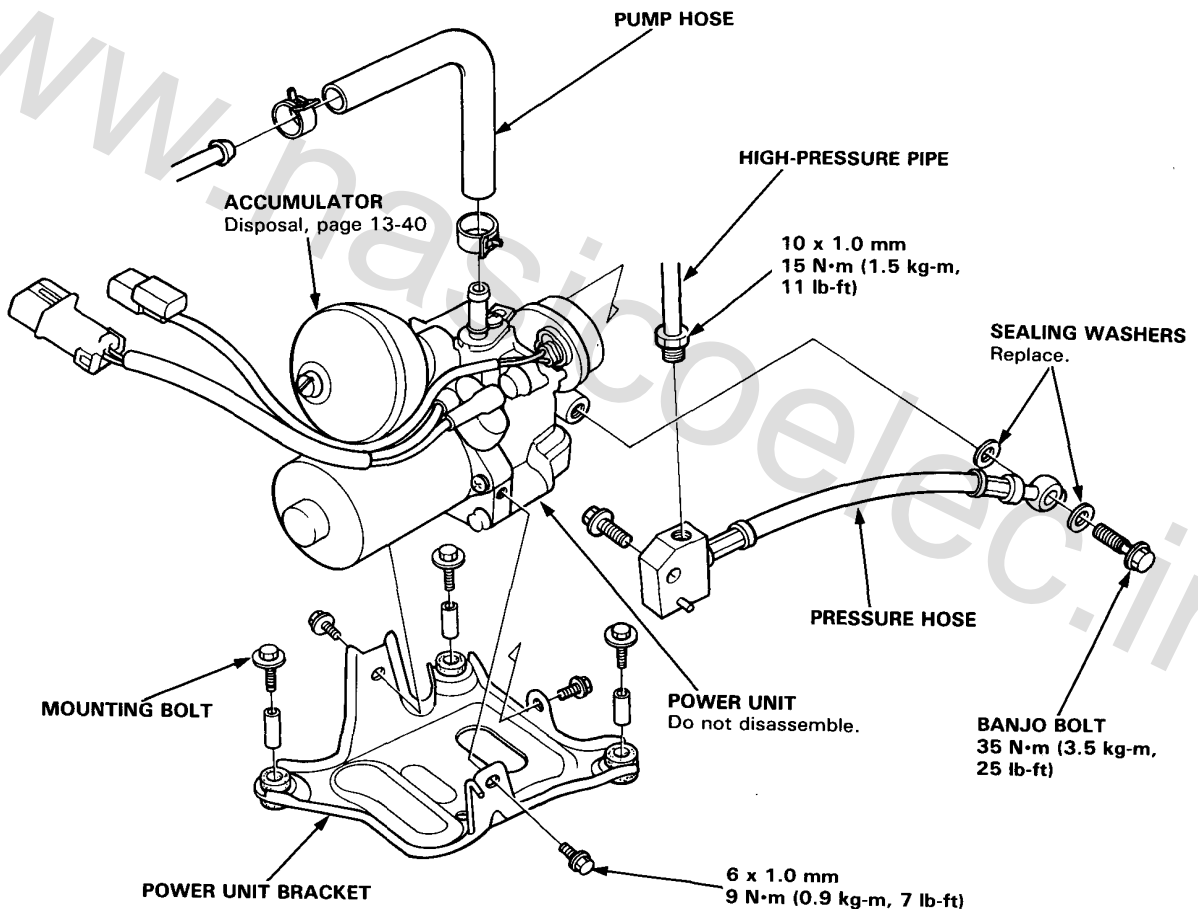
# Power Unit

## Index/Torque

**⚠ WARNING** Before removing the modulator-to-power unit high-pressure line, be sure to relieve the high pressure fluid from the maintenance bleeder (page 13-34).

### CAUTION:

- Be careful not to bend or damage the brake pipes when removing the power unit.
- Do not spill brake fluid on the car; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- To prevent spills, cover the hose joints with rags or shop towels.
- Before reassembling, check that all parts are free of dust and other foreign particles.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Do not mix different brands of brake fluid as they may not be compatible.
- Do not reuse the drained fluid. Use only clean DOT 3 or 4 brake fluid.
- When connecting the brake pipes, make sure that there is no interference between the brake pipes and other parts.
- Do not disassemble the power unit. Replace the power unit as an assembly if it is defective.



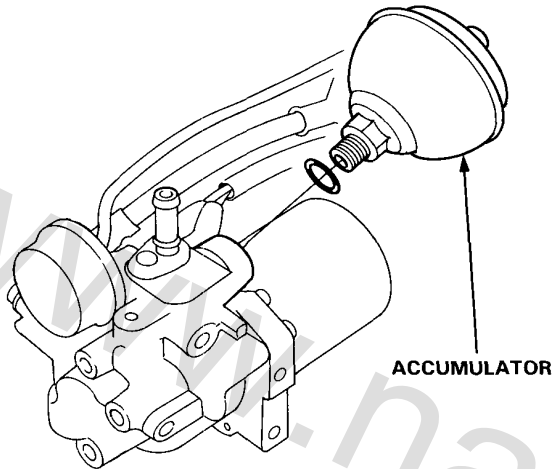


# Power Unit

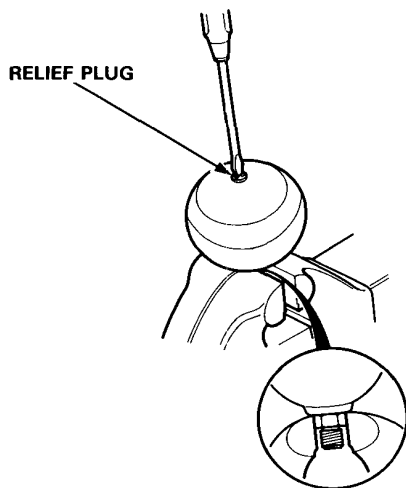
## Accumulator Disposal

**⚠ WARNING** The accumulator contains high pressure nitrogen gas. Do not puncture, expose to the flame, or attempt to disassemble the accumulator or it may explode and severe personal injury may result.

1. Secure the power unit in a vise and remove the accumulator from the power unit.



2. Secure the accumulator in a vise so that the relief plug points straight up.
3. Slowly turn the plug 3-1/2 turns and then wait 3 minutes for all pressure to escape.
4. Remove the plug completely and dispose of the accumulator.



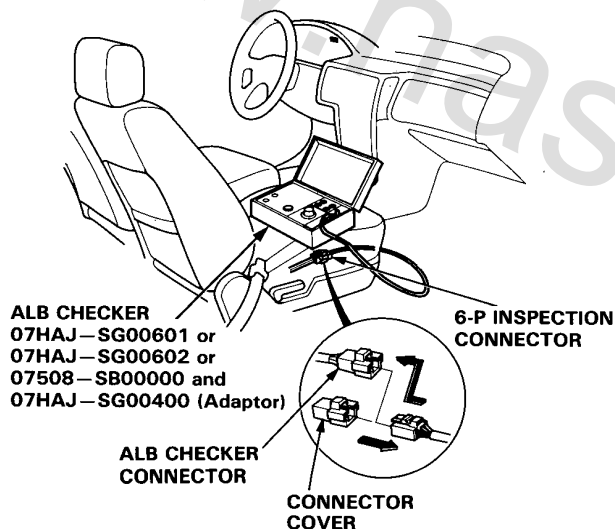
# Bleeding

## Air Bleeding with ALB Checker

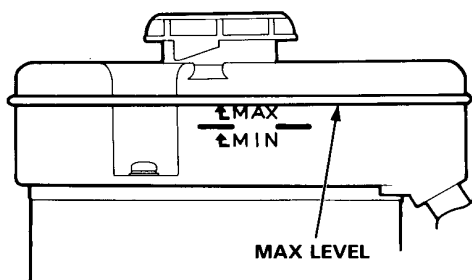
### CAUTION:

- Do not spill brake fluid on the car; it may damage the paint; if brake fluid does contact the paint, wash it off immediately with water.
- Make sure no dirt or other foreign matter is allowed to contaminate the brake fluid.
- Do not mix different brands of brake fluid as they may not be compatible.
- Do not reuse the drained fluid. Use only clean DOT 3 or 4 brake fluid.

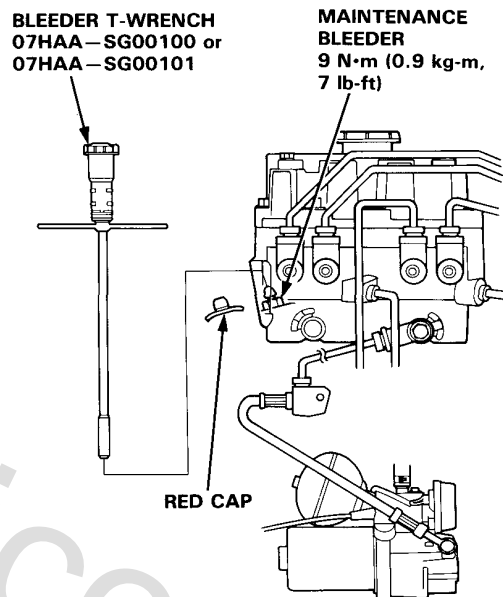
1. Place the vehicle on level ground with the wheels blocked. Put the transmission in neutral for manual transmission models, and in P for automatic transmission models. Release the parking brake.
2. Disconnect the 6-P inspection (orange) connector from the cross-member under the passenger's seat and connect the inspection connector to the ALB checker.



3. Fill the modulator reservoir to the MAX level and install the reservoir cap.



4. Start the engine and allow it to idle for a few minutes, then stop it. Check the fluid level in the modulator reservoir and refill to the MAX level if necessary.
5. Bleed high-pressure fluid from the maintenance bleeder with the special tool.



6. Start the engine and allow it to idle for a few minutes, then stop it. Check the fluid level in the modulator reservoir and refill to the MAX level if necessary.
7. Turn the Mode Selector switch of the checker to 2.
8. While depressing the brake pedal firmly, push the Start Test switch to operate the modulator. There should be kickback on the brake pedal. If not, repeat steps 5 to 8.

NOTE: Continue to depress the brake pedal firmly when operating the checker.

9. Turn the Mode Selector switch to 3, 4 and 5. Perform step 8 for each of the test mode positions.
10. Refill the modulator reservoir to the MAX level and install the reservoir cap.

**▲ WARNING** Disconnect the ALB checker before driving the car. A collision can result from a reduction or complete loss of braking ability, causing severe personal injury or death.

**Bumper**  
    **Front Replacement**  
**Carpet/Door Sill Mouldings**  
**Console**  
**Dashboard**  
    **Component Removal/Installation**  
    **Replacement**  
**Front Grille/Licence Plate Trim**  
**Front Seat - back Cover**  
**Rear Emblems**

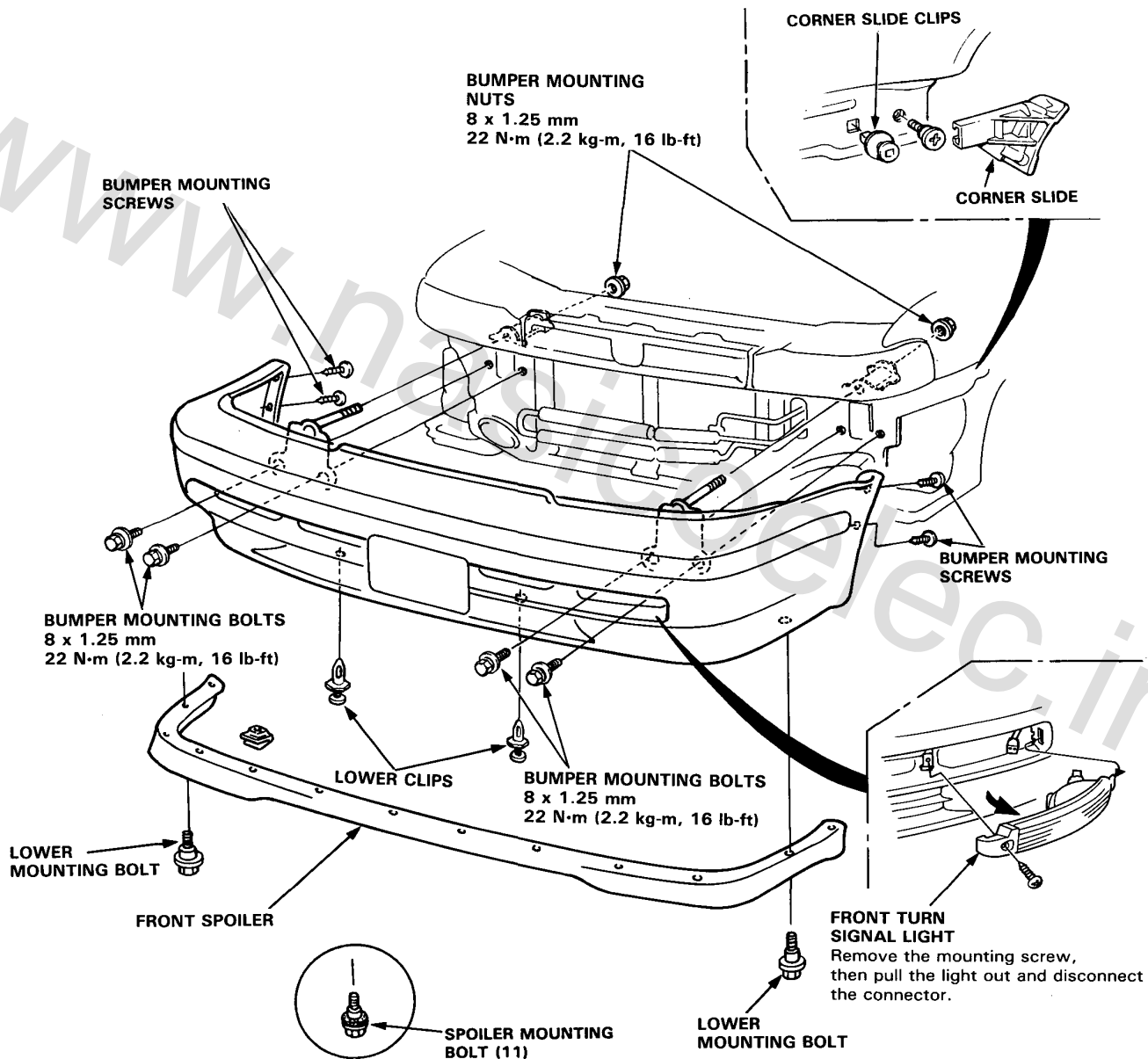
[www.nasicoelec.ir](http://www.nasicoelec.ir)



# Front Bumper Replacement

NOTE: An assistant is helpful when removing the front bumper.

1. Open the hood, then remove the bumper mounting nuts.
2. Remove the right and left front turn signal lights.
3. Remove the 2 bumper mounting screws on each side at the corner edge of the bumper.
4. Remove the 2 lower clips, the lower mounting bolts on each side and the 4 bumper mounting bolts.  
NOTE: When removing the clips, loosen the screw, then remove the clips with a clip remover.
5. Remove the bumper by sliding it forward.  
NOTE: Take care not to scratch the bumper.



6. Installation is the reverse of the removal procedure.

# Carpet/Door Sill Moldings

## Replacement

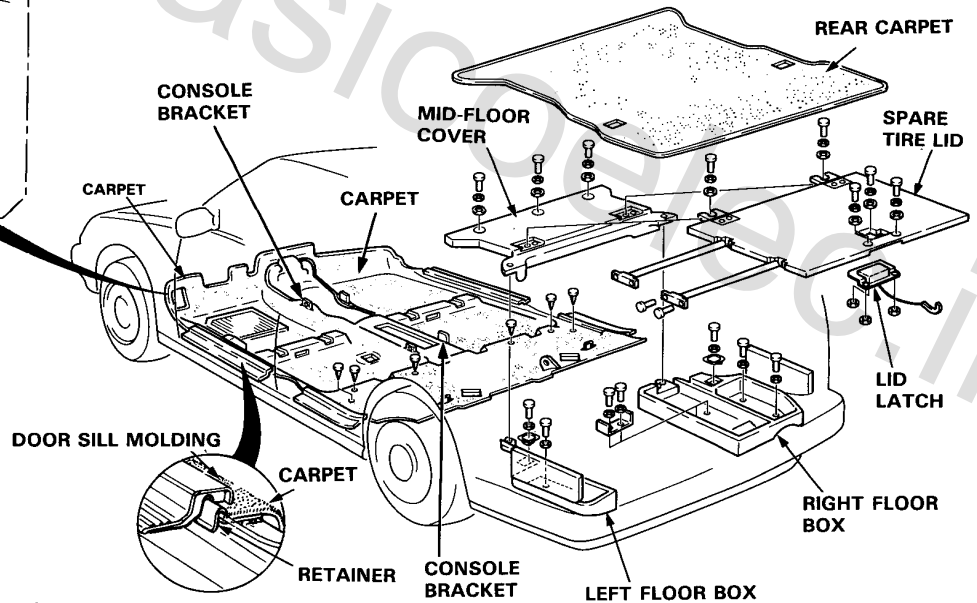
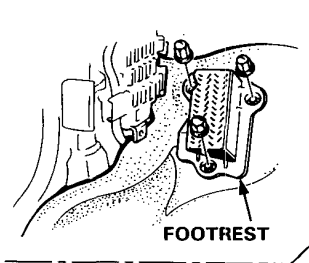
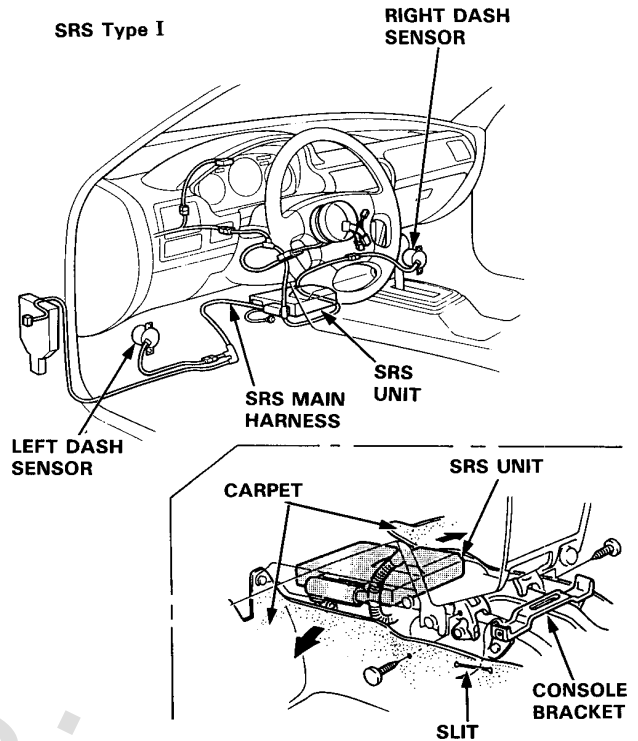
### Aero Deck (KG, KE):

SRS wire harnesses are routed near the carpet.

### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damage wiring.
- Before disconnecting the SRS wire harness, install the short connector on the airbag (see page 16-105).

1. Remove:
  - Front seats
  - Rear seat cushion
  - Consoles
  - Open cover
  - Front seat belt lower anchors
  - Center pillar lower trims
  - Kick panels and door sill moldings
2. Pry out the clips at the rear edge and under the dashboard.
3. Remove the carpet by sliding it rearward.



4. Installation is the reverse of the removal procedure.

### NOTE:

- Take care not to damage, wrinkle or twist the carpet.
- Make sure the seat harnesses are routed correctly.
- Pass the console bracket through the carpet.



# Console

## Replacement

**Aero Deck (KG, KE):**

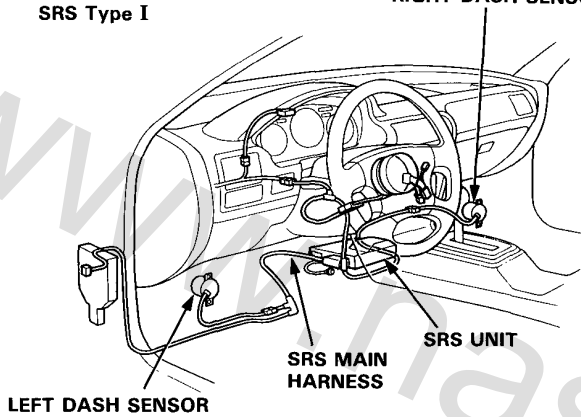
SRS harnesses are routed near the console.

**CAUTION:**

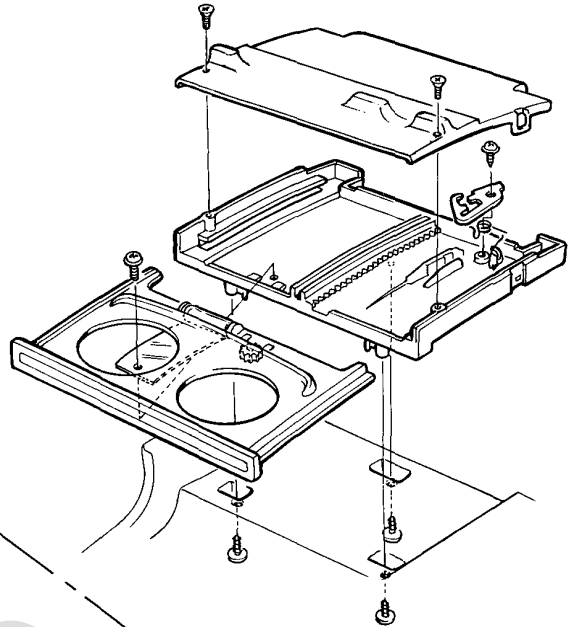
- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damage wiring.
- Before disconnecting the SRS wire harness, install the short connector on the airbag (see page 16-105).

SRS Type I

RIGHT DASH SENSOR



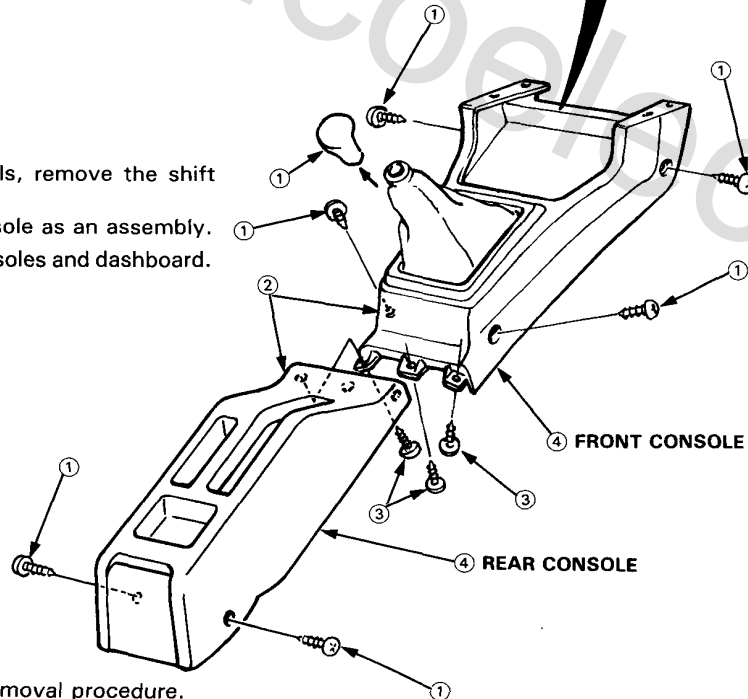
**Beverage Holder removal:**  
(KB other model)



Disassemble in numbered sequence.

**NOTE:**

- Lift up the parking brake lever.
- For manual transmission models, remove the shift lever knob.
- Remove the front and rear console as an assembly.
- Take care not to scratch the consoles and dashboard.



Installation is the reverse of the removal procedure.



# Dashboard

## Component Removal/Installation

SRS wire harnesses are routed near the dashboard and steering column.

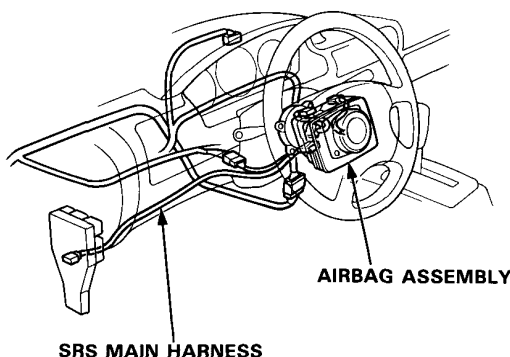
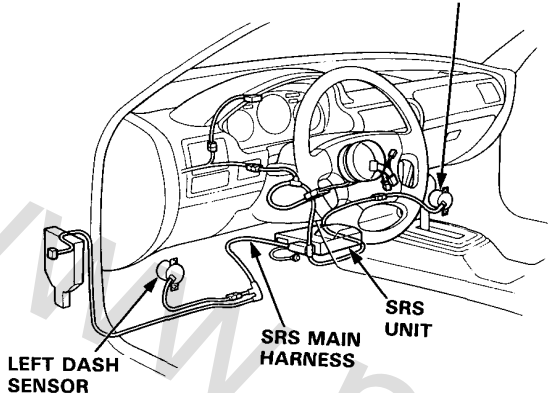
### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow other insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- SRS Type I only: Before disconnecting the SRS wire harness, install the short connector on the airbag (see page 16-105).

SRS Type I: Aero Deck (KG, KE)

RIGHT DASH SENSOR

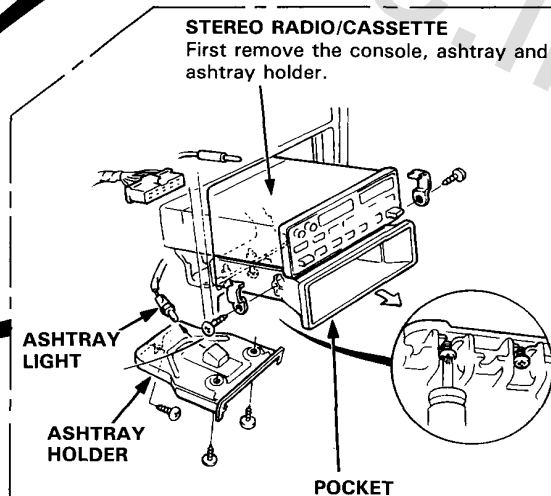
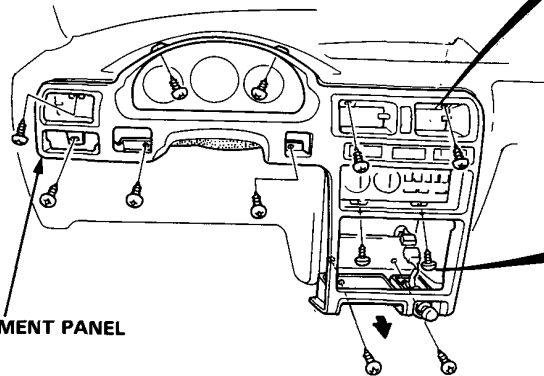
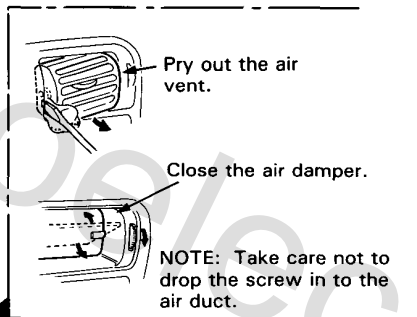
SRS Type II: Sedan



### Instrument Panel Removal:

NOTE: Take care not to scratch or score the dashboard and instrument panel.

1. Remove:
  - Console (page 14-3)
  - Ashtray and ashtray holder
  - Stereo radio/cassette
  - Coin box, cruise control master switch, sunroof switch and panel brightness controller
  - Side and center air vents
2. Remove the 12 mounting screws and disconnect the connectors.
3. Carefully pull out the instrument panel from the dashboard.



4. Installation is the reverse of the removal procedure.

# Dashboard

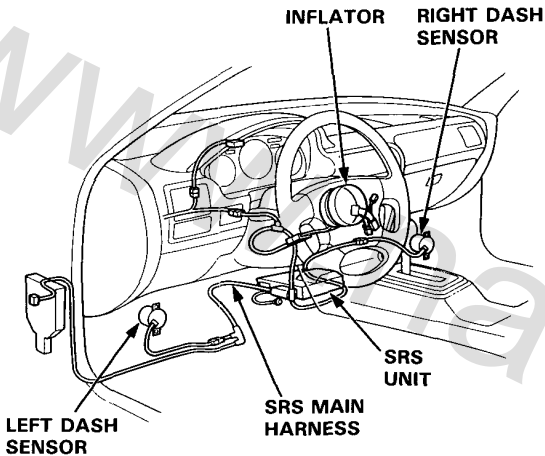
## Replacement

SRS wire harnesses are routed near the dashboard and steering column.

### CAUTION:

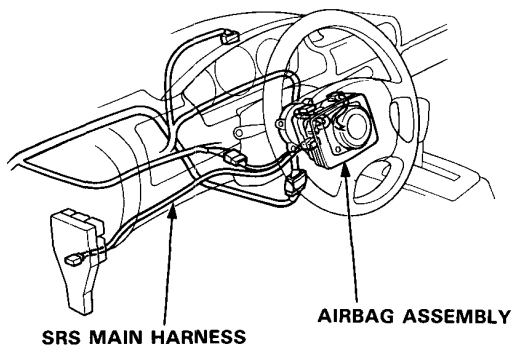
- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damage wiring.
- SRS Type I only: Before disconnecting the SRS wire harness, install the short connector on the airbag (see page 16-105).

### SRS Type I: Aero Deck (KG, KE)



**⚠ WARNING** To avoid accidental deployment and possible injury always install the protective short connector on the inflator connector when the harness is disconnected.

### SRS Type II: Sedan

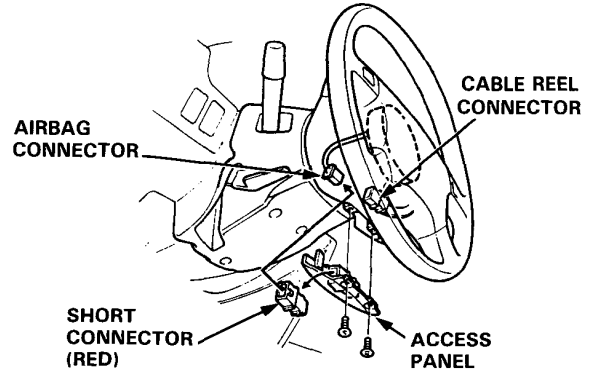


**⚠ WARNING** Before removing the steering column, first disconnect the connector between the slip ring and the SRS main harness.

1. Remove the console (page 14-3).
2. Remove the lower panel and knee bolster (KB other model only).
3. Disconnect the cable reel connector or slip ring connector (see Section 16).

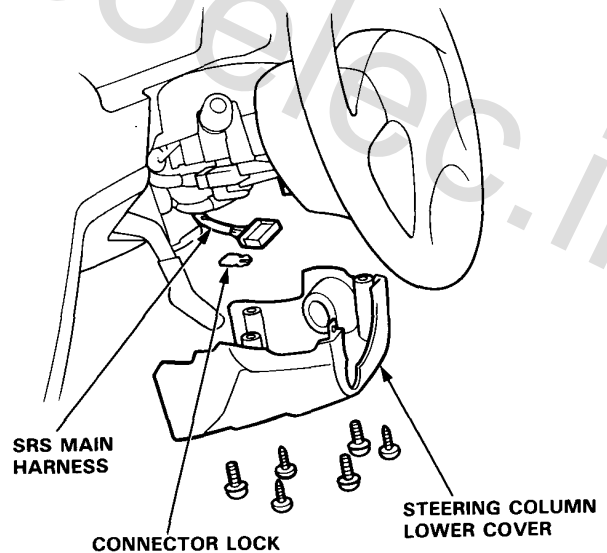
### SRS Type I: Aero Deck (KG, KE)

Install the short connector (RED) on the airbag.



### SRS Type II: Sedan

Remove the steering column lower cover. Pull out the connector lock, then disconnect the SRS main harness connector from the slip ring.



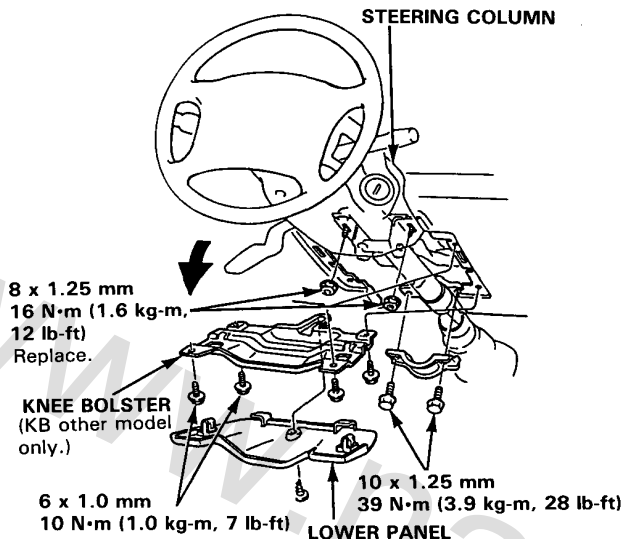




- Lower or remove the steering column (see Section 11).

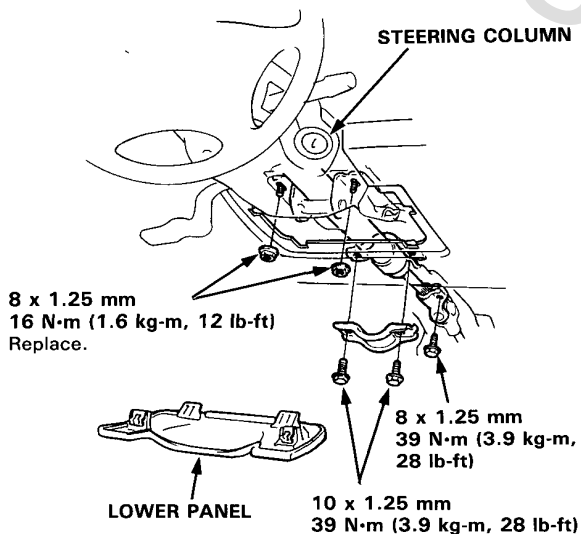
**SRS Type I: Aero Deck (KG, KE)**

Lower the steering column.



**SRS Type II: Sedan**

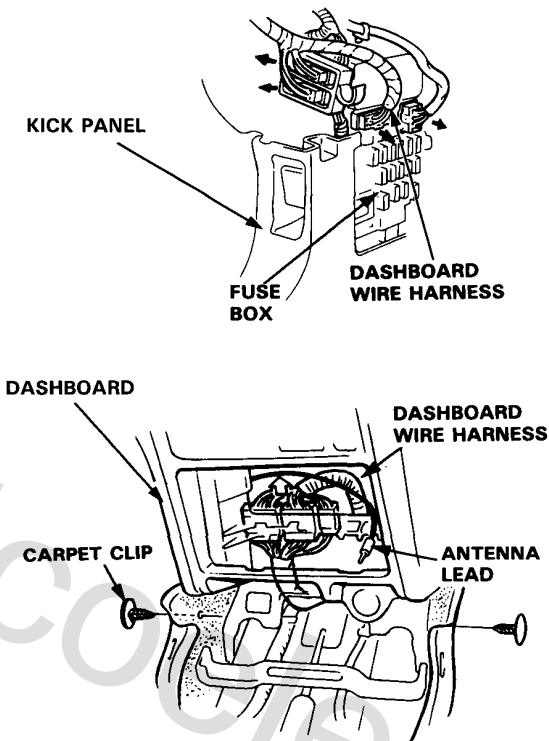
Remove the steering column.



**NOTE:** To prevent damage to the steering column, wrap it with a shop towel.

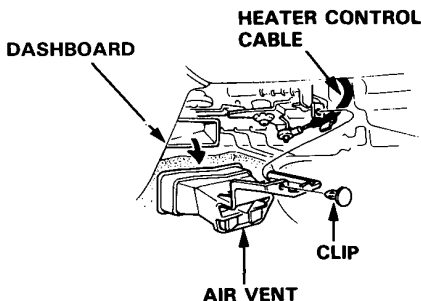
- Disconnect the dashboard wire harness from the connectors and fuse box.
- Remove the radio/pocket and disconnect the dashboard wire harness.

**Driver's side:**



- Disconnect the heater control cable and function control cable (Lever type).

**Passenger's side:**



(cont'd)

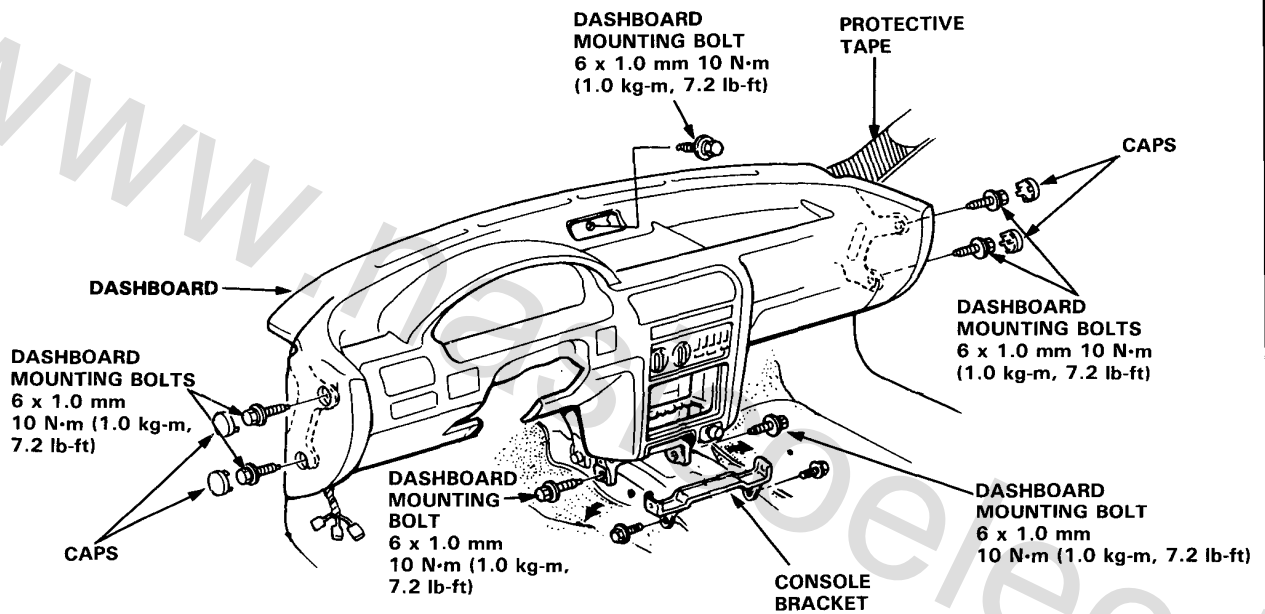
# Dashboard

## Replacement (cont'd)

8. Remove the caps on both side and clock.
9. Remove the 7 dashboard mounting bolts.
10. Lift and remove the dashboard.

### NOTE:

- Use protective tape on the bottom of the front pillar trim.
- Take care not to scratch the dashboard.
- When prying with a flat tip screwdriver, wrap it with protective tape to prevent damage.



11. Installation is the reverse of the removal procedure.

### NOTE:

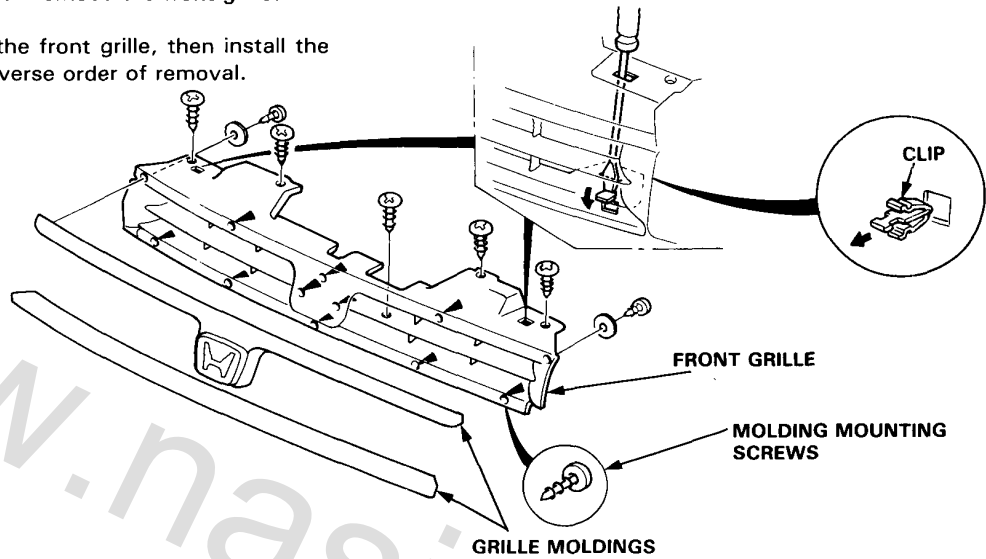
- Make sure the dashboard fits onto the body correctly.
- Before tightening the dashboard bolts, make sure the dashboard wires are not pinched, and that the dashboard is not interfering with the heater control and function cables.

# Front Grille/License Plate Trim

## Front Grille Replacement

NOTE: Take care not to damage the front grille and grille moldings.

1. Remove the 5 screws.
2. Push the clips on each side with a flat tip screwdriver as shown, then remove the front grille.
3. Set the clips onto the front grille, then install the front grille in the reverse order of removal.



## License Plate Trim Replacement

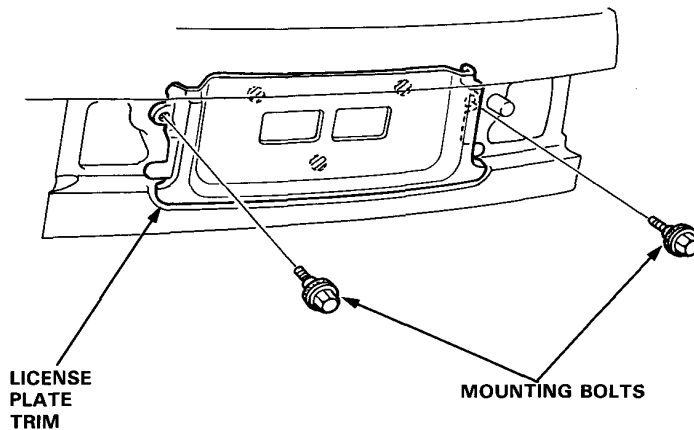
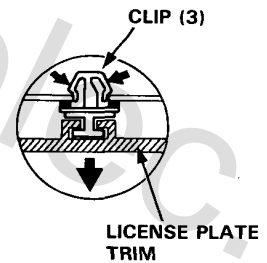
1. Remove the taillights and license plate.
2. Remove the bolts and detach the clips from inside of the trunk lid, then remove the license plate trim.

NOTE: Take care not to scratch the trim.

3. Installation is the reverse of the removal procedure.

NOTE: If necessary, replace any damaged clips.

⊙ : Clip locations



# Front Seat-back Cover

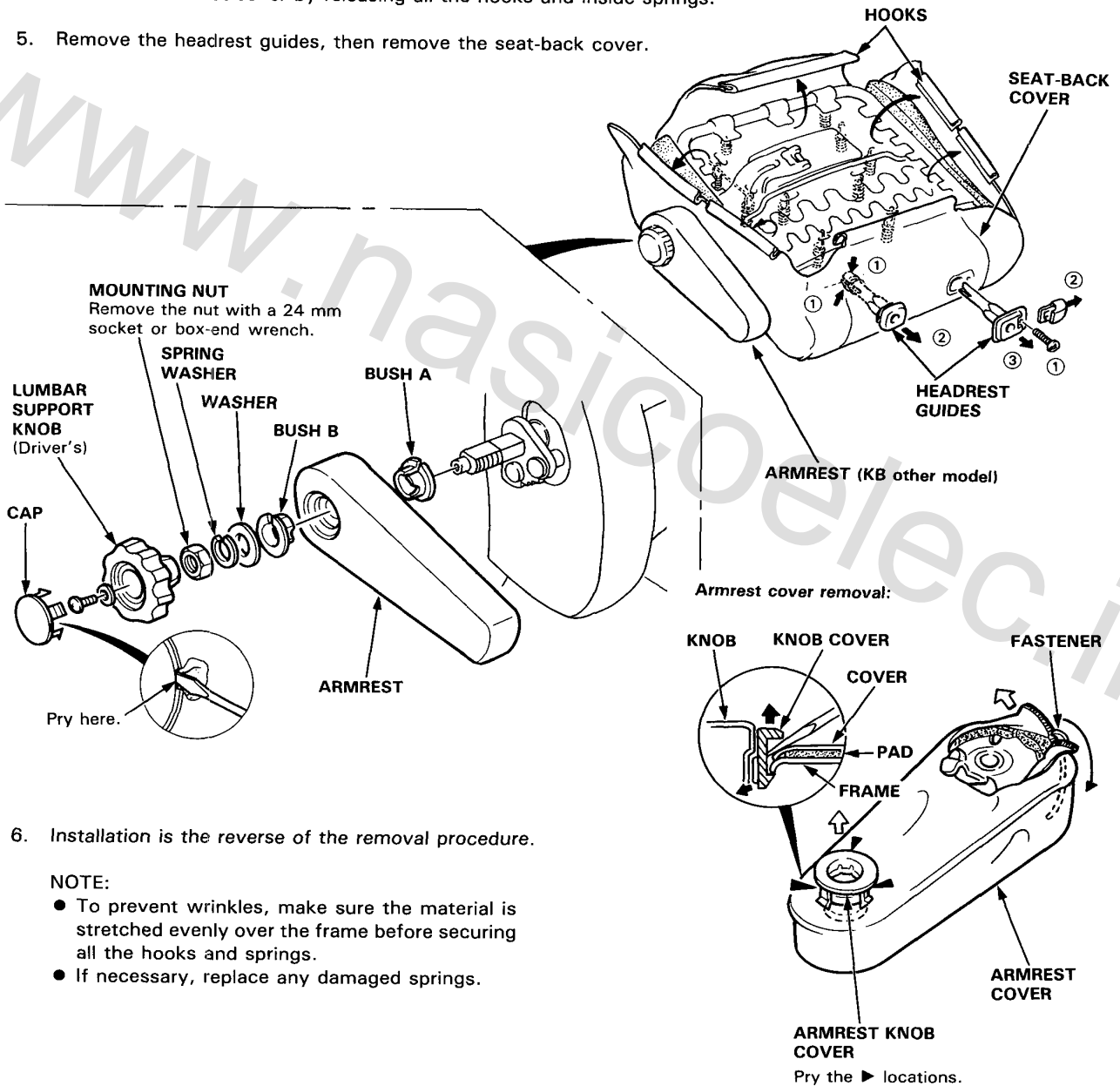
## Replacement

**CAUTION:** Wear gloves to remove and install the seat cover.

**NOTE:** Take care not to split the seams or damage the cover.

### Seat-back cover removal:

1. Remove the seat-back from the seat track and recline adjuster.
2. Remove the headrest from the seat-back.
3. Remove the lumbar support knob and armrest (KB other model).
4. Turn over the seat cover by releasing all the hooks and inside springs.
5. Remove the headrest guides, then remove the seat-back cover.



6. Installation is the reverse of the removal procedure.

### NOTE:

- To prevent wrinkles, make sure the material is stretched evenly over the frame before securing all the hooks and springs.
- If necessary, replace any damaged springs.



# Rear Emblems

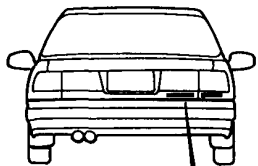
## Installation

Apply the emblems where shown.

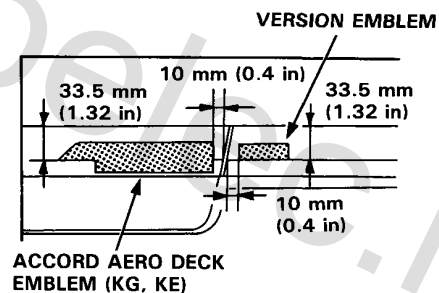
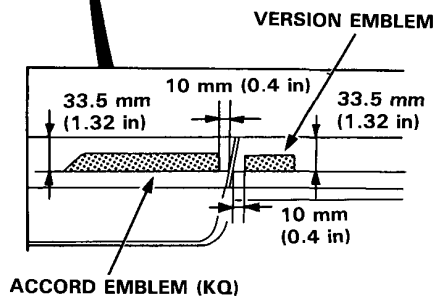
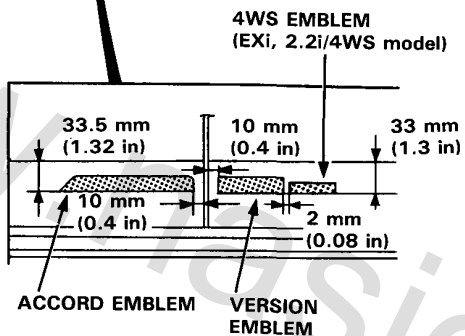
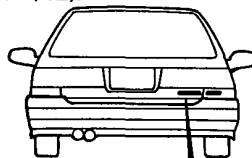
**NOTE:**

- Before applying, clean the body surface with a sponge dampened in alcohol.
- After cleaning, keep oil, grease on water from getting on the surface.
- When applying, make sure there are no wrinkles in the emblems.

**Sedan:**



**Aero Deck (KG, KE)/Wagon (KQ):**



# Heater and Air Conditioner

## SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Some models of the ACCORD SEDAN and ACCORD AERO DECK include a driver's side airbag, located in the steering wheel hub, as part of a Supplemental Restraint System (SRS). There are two types of SRS: Type I (SRS unit is not part of the airbag assembly), which is used for Aero Deck models, and type II (SRS unit is part of the airbag assembly), which is used for Sedan models. Information necessary to safely service the SRS is included in this shop manual. Items marked \* on the contents page of each section include, \* or are located near, SRS components. Servicing, disassembling or replacing these items will require special precautions and tools, and should therefore be done only by an authorized HONDA dealer.

### **▲ WARNING**

- **To avoid rendering the SRS inoperative, which can lead to personal injury or death in the event of a severe frontal collision, all service work must be performed by an authorized HONDA dealer.**
  - **Improper service, including incorrect removal and installation of the SRS, and replacing with wrong parts, can lead to personal injury caused by unintentional activation of the airbag.**
  - **All SRS electrical wiring harnesses are covered with yellow outer insulation. Related components are located in the steering column, the dashboard, and behind the dashboard lower cover. Do not use electrical test equipment on these circuits.**
- Service work nearby and in the areas listed below may affect the SRS and must therefore be performed by an authorized HONDA dealer.**

### **SRS Type I:**

- Steering wheel
- Behind the instrument panel
- Under-dash fuse box
- Dashboard lower panel (repair and paint work)
- Center console
- Installing of car stereo units and other accessories
- A/C heater

### **SRS Type II:**

- Steering wheel (Be careful that the steering wheel receives no strong shocks as the SRS unit (sensors), inflator, etc. are located in it.)
- Behind the instrument panel
- Under-dash fuse box



### **Outline of Model Change**

- Before removing the heater assembly and the heater control panel, read the WARNING above. (Made necessary by change in the SRS system.), and see section 16.

## SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

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- Behind the instrument panel
- Under-dash fuse box

## Special Tools

### Relay and Control Unit Locations

- Engine Compartment

- Dashboard

- Seat

- Door and Floor

### Wire Harness and Ground Locations

- Engine Compartment

- Dashboard

- Floor

- Trunk

- Rear

- Tailgate

- Door

- Roof

- Rear Roof

- Seat

### Fuses

- Under - hood Fuse/Relay Box

- Under - hood Fuse Box

- Under - hood ABS Fuse/Relay Box

### Power Distribution

### Ground Distribution

### Charging System

- Troubleshooting

### Gauge Assembly

- Circuit Diagram (with SRS)

- Terminal Locations (with SRS)

- Bulb Locations

- Nippon Denso (with SRS)

- Nippon Seiki (with SRS)

### Safety Indicator

### Circuit Diagram

- (with SRS Sedan)

- (with SRS Aero deck)

- Indicator Input Test (with SRS)

### Shift Lever Position Indicator

- Circuit Diagram (with SRS)

- Indicator Input Test (WITH SRS)

### Brake/ High Mount Brake Light

- Circuit Diagram

- (Wagon KQ model)

### Brake Light Failure Sensor Test

- (Wagon KQ model)

### High Mount Brake Light Bulb

- Replacement (Wagon KQ model)

### Horns

- Component Locations Index (with SRS)

- Circuit Diagram (with SRS)

- Switch Test

- (with SRS Type 1)

- (with SRS Type 2)

- Horn Relay Test

### Cruise Control



**Component Locations Index (with  
SRS)**

**Circuit Diagram  
(with SRS Type 1)**

**(with SRS Type 2)**

**SET/RESUME Switch Test  
(with SRS Type 1)**

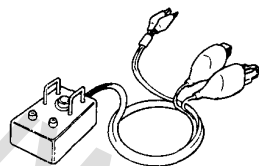
**(with SRS Type 2)**

**Slip Ring Replacement/Test (with  
SRS Type 2)**

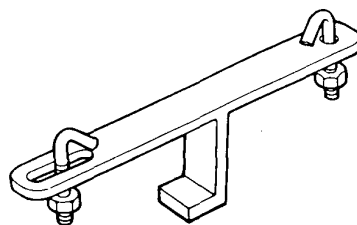
[www.nasicoelec.ir](http://www.nasicoelec.ir)

# Special Tools

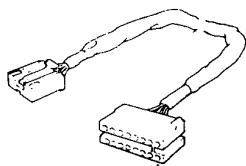
Ref. No.	Tool Number	Description	Qty	Page Reference
①	07HAZ-SG00500	Deployment Tool	1	16-124
②	07MAZ-SS10100	SRS Disposal Bracket (SRS Type I)	1	16-156
③	07MAZ-SL00500	Test Harness A (SRS Type II)	1	16-111
④	07MAZ-SP00500	Test Harness B (SRS Type II)	1	16-114
⑤	07LAZ-SL40300	Test Harness C (SRS Type II)	1	16-84, 93, 117
⑥	07LAZ-SL40400	Test Harness D (SRS Type II)	1	16-115



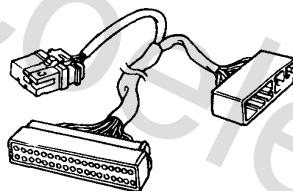
①



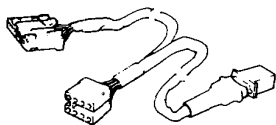
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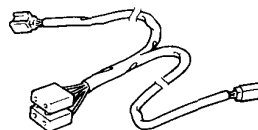
③



④



⑤



⑥

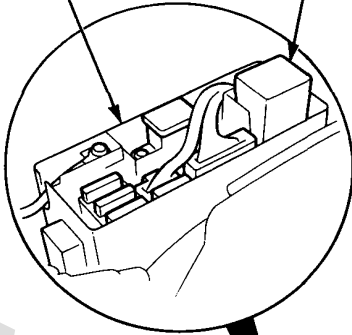


# Relays and Control Unit Locations

## Engine Compartment

UNDER-HOOD ABS  
FUSE/RELAY BOX

ABS MOTOR RELAY



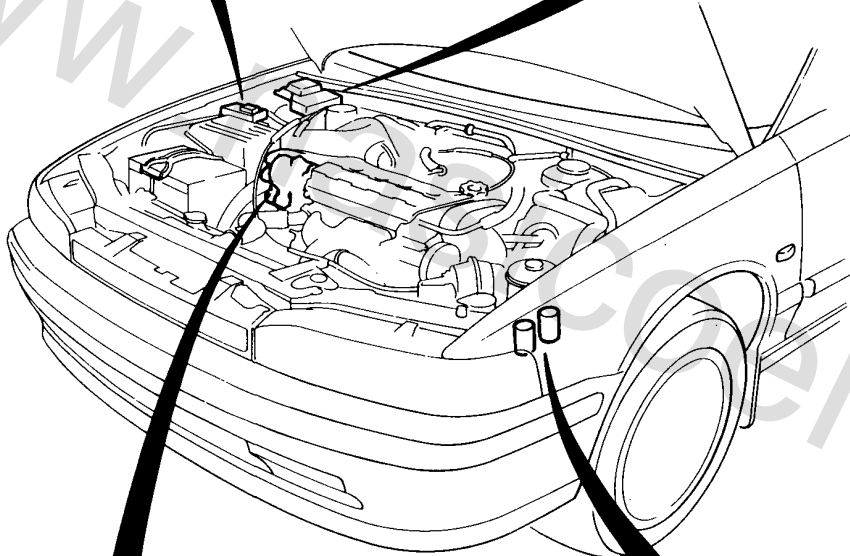
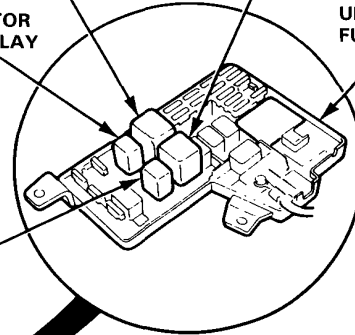
DIMMER  
RELAY

HEADLIGHT  
RELAY

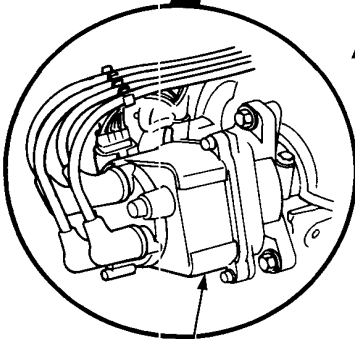
RADIATOR  
FAN RELAY

UNDER-HOOD  
FUSE/RELAY BOX

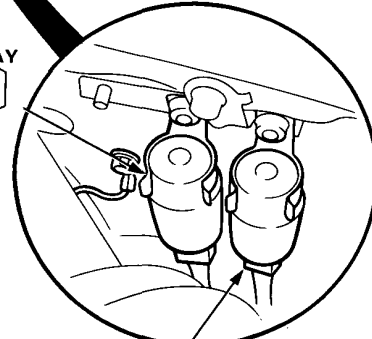
POWER  
WINDOW  
RELAY



A/C COMPRESSOR CLUTCH RELAY  
[Wire colors: BLK/YEL, BLK/YEL,  
RED/BLU, and RED]



DISTRIBUTOR  
(Has built-in igniter unit)

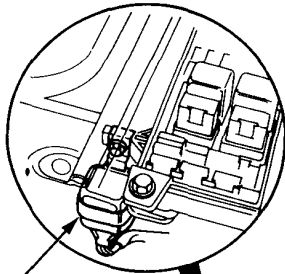


CONDENSER FAN RELAY  
[Wire colors: YEL/WHT, WHT,  
BLU, and BLU/YEL]

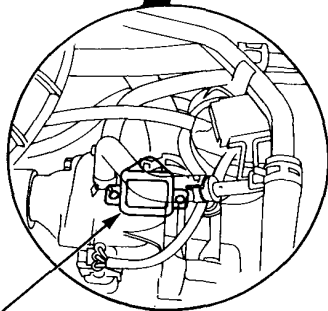
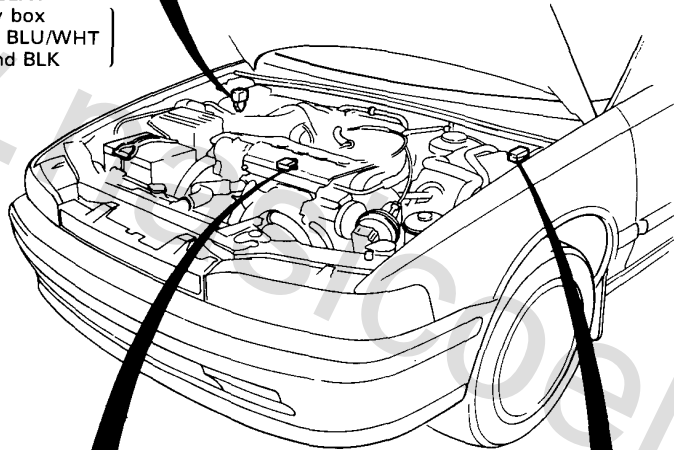
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# Relays and Control Unit Locations

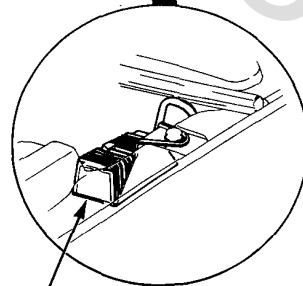
## Engine Compartment (cont'd)



**INTERMITTENT WIPER RELAY**  
Located under the relay box  
Wire colors: BLU/WHT, BLU/WHT  
GRN/RED, GRN/BLK, and BLK



**SPEED SENSOR**

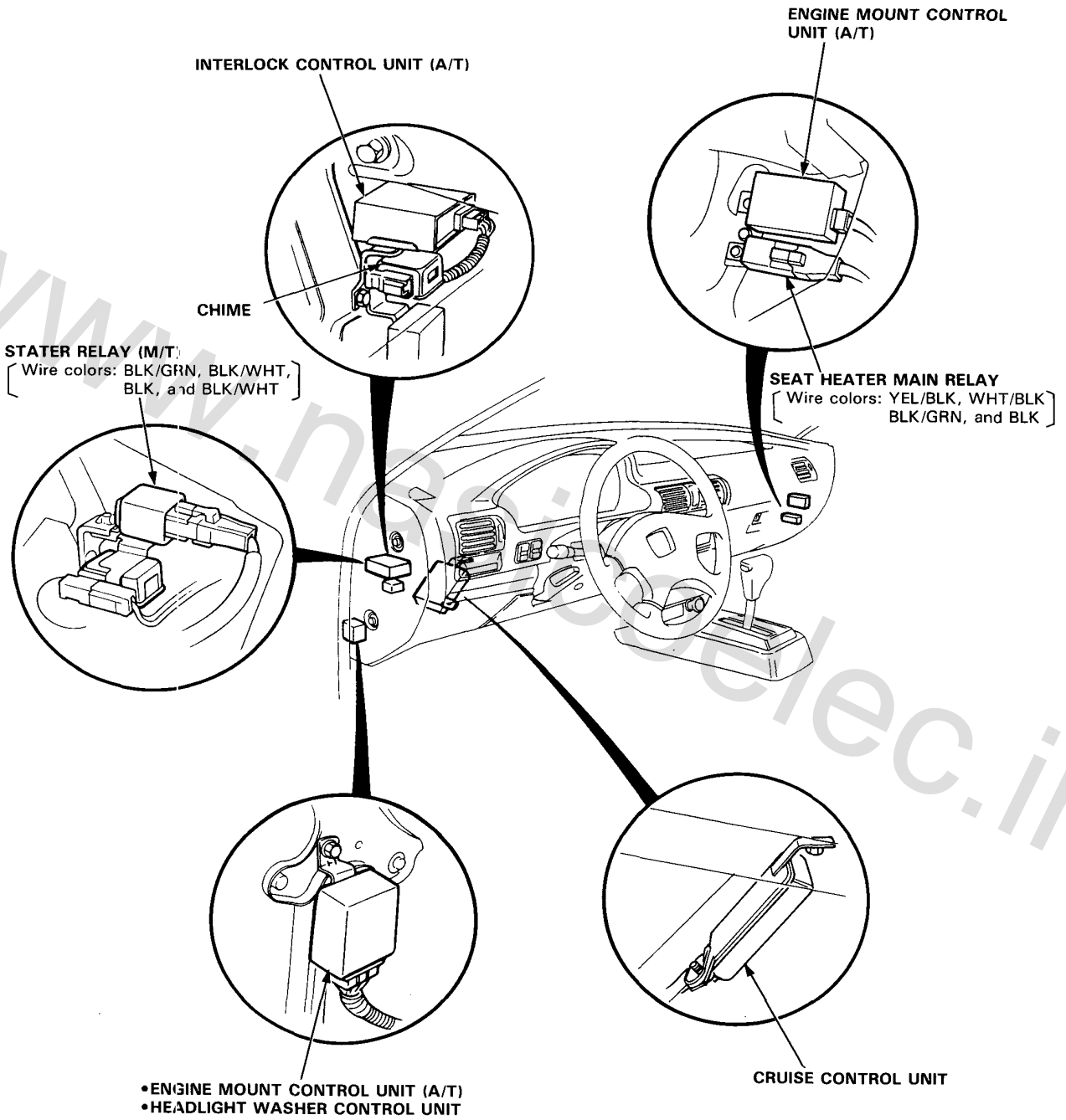


**DIM-DIP RESISTOR**  
(KE mode only)



# Dashboard

NOTE: RHD type is symmetrical to LHD type.

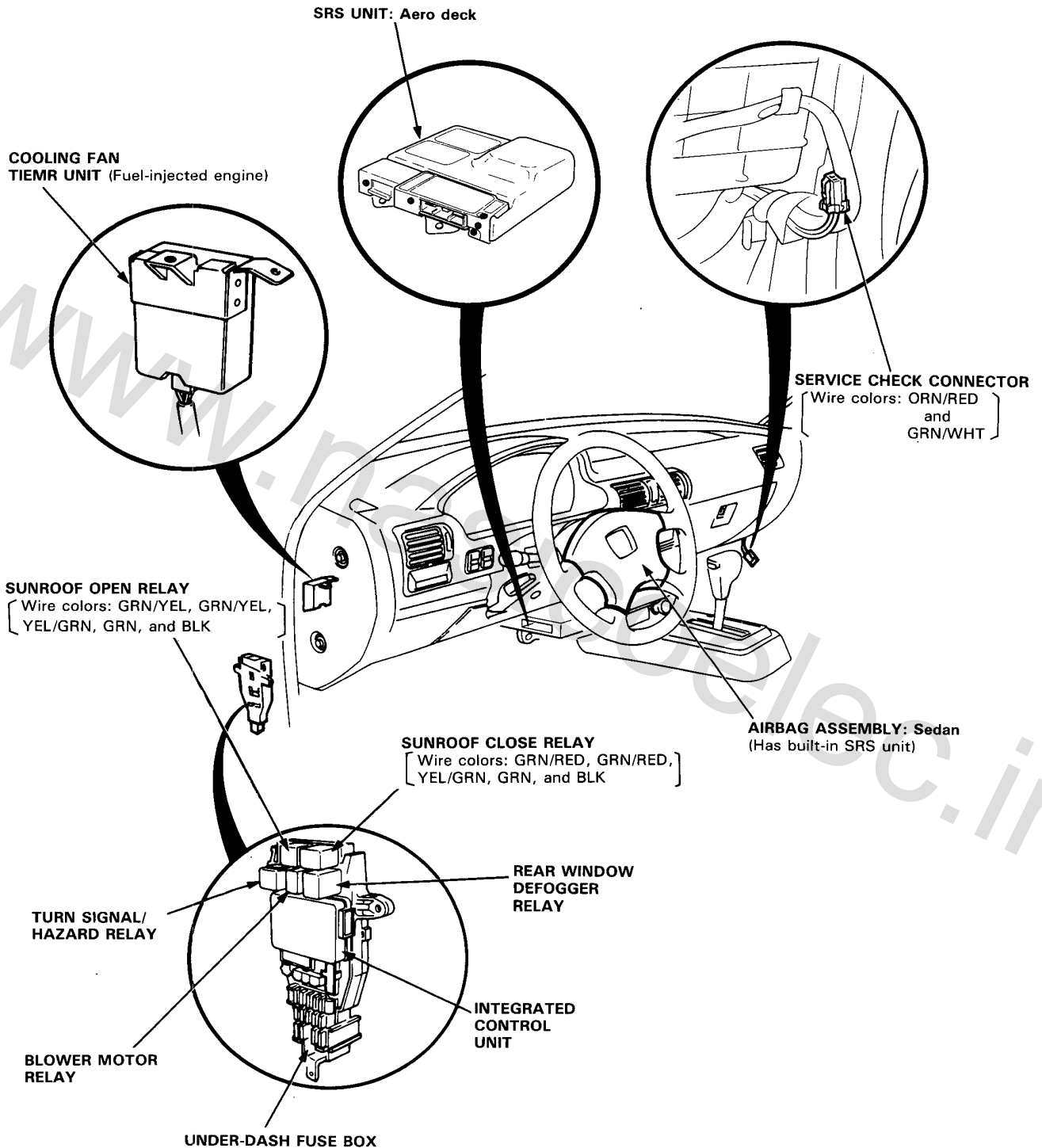


(cont'd)

# Relays and Control Unit Locations

## Dashboard (cont'd)

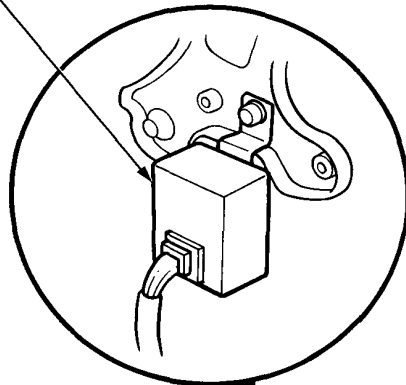
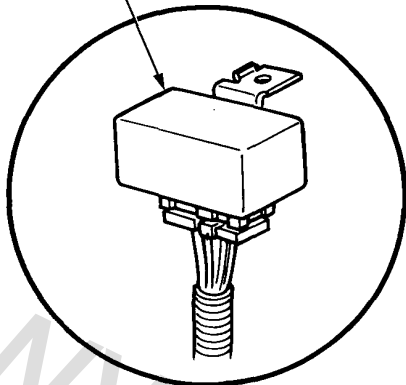
NOTE: RHD type is symmetrical to LHD type.



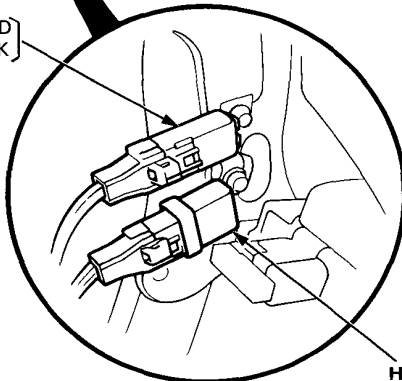


- Fuel-injected engine: PGM-FI MAIN RELAY
- Carbureted engine: FUEL CUT RELAY

**DELAY RELAY**  
(Carbureted engine: Except PGM-CARB)



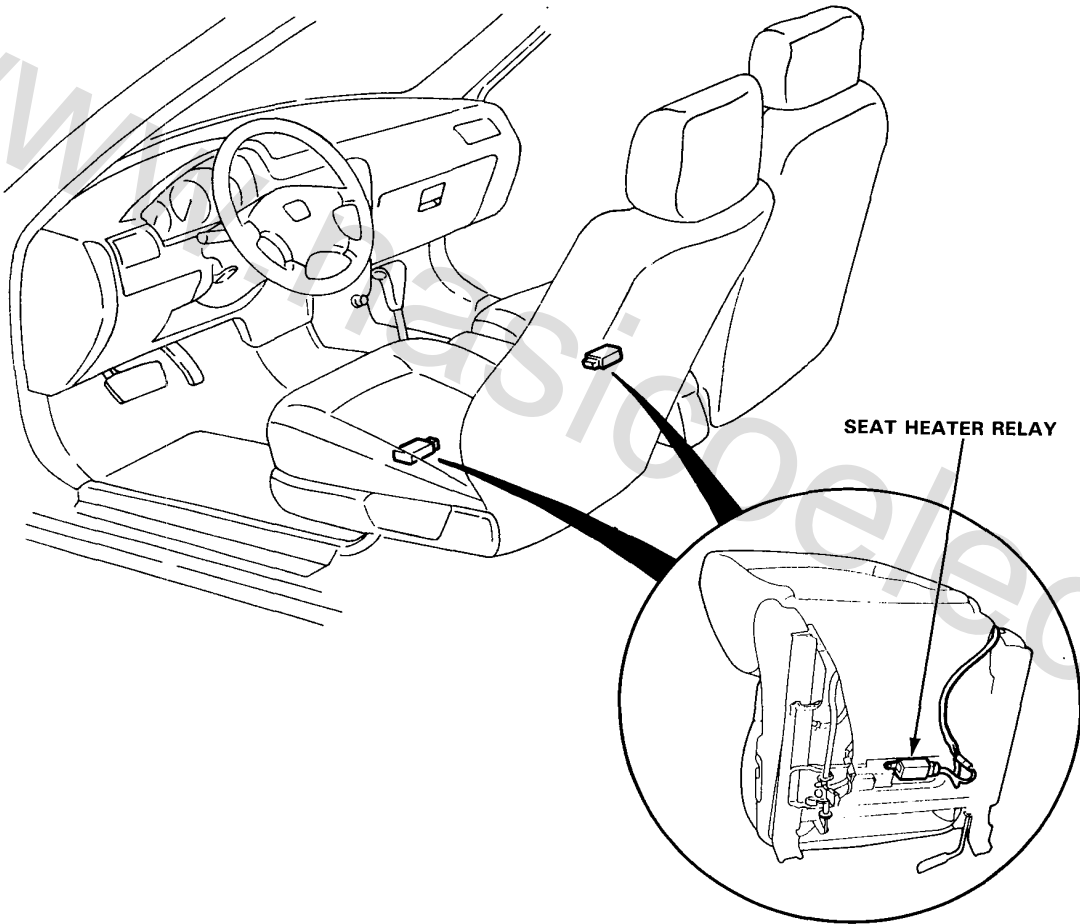
**CIGARETTE LIGHTER RELAY**  
[ Wire colors: WHT/BLU, YEL/RED  
WHT/RED, and BLK ]



**HORN RELAY**  
[ Wire colors: WHT/YEL, BLU/RED  
LT GRN/BLU, and BLK ]

# Relay and Control Unit Locations

Seat







# Door and Floor

## Sedan:

NOTE: RHD type is symmetrical to LHD type, but except ABS CONTROL UNIT.

Fuel-injected engine PGM-FI ECU

Carbureted engine: PGM-CARB. CONTROL UNIT

ABS FRONT FAIL-SAFE RELAY

Wire colors: YEL/GRN, BLK, YEL/BLK, and BRN/BLK

ABS CONTROL UNIT

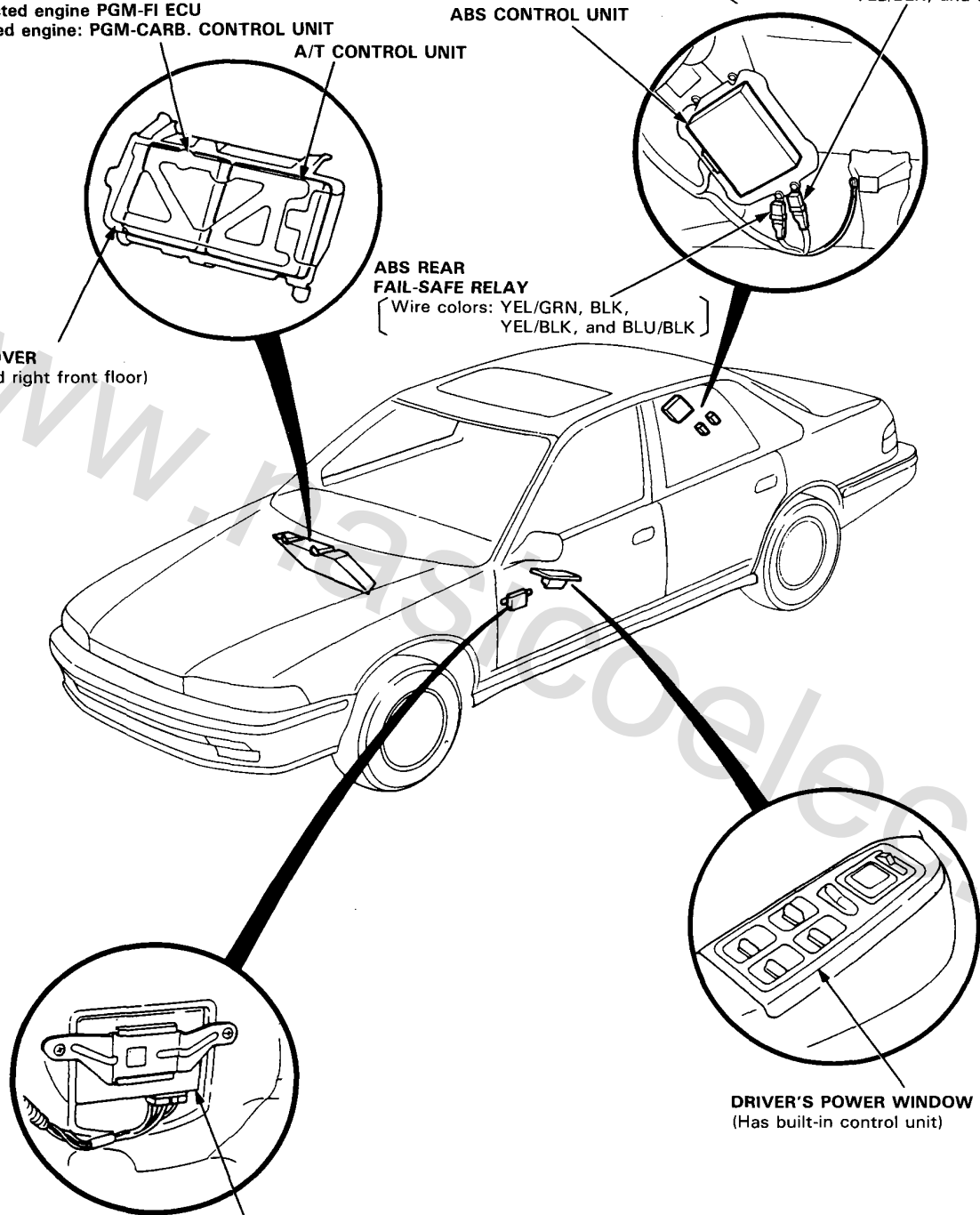
A/T CONTROL UNIT

ABS REAR FAIL-SAFE RELAY

Wire colors: YEL/GRN, BLK, YEL/BLK, and BLU/BLK

ECU COVER

(Located right front floor)



POWR DOOR LOCK CONTROL UNIT (Sedan)

DRIVER'S POWER WINDOW SWITCH (Has built-in control unit)

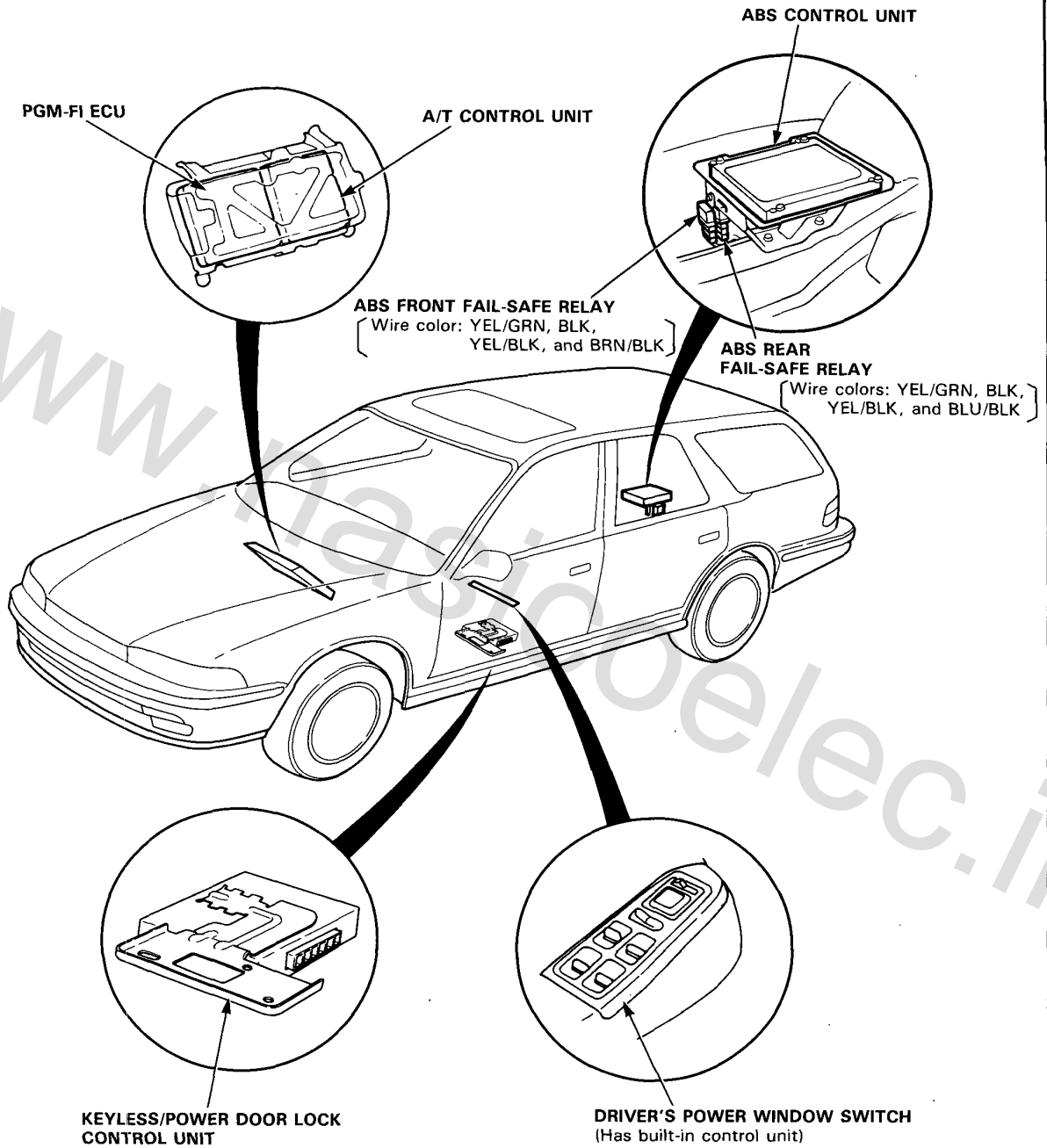
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# Relays and Control Unit Locations

## Floor and Door (cont'd)

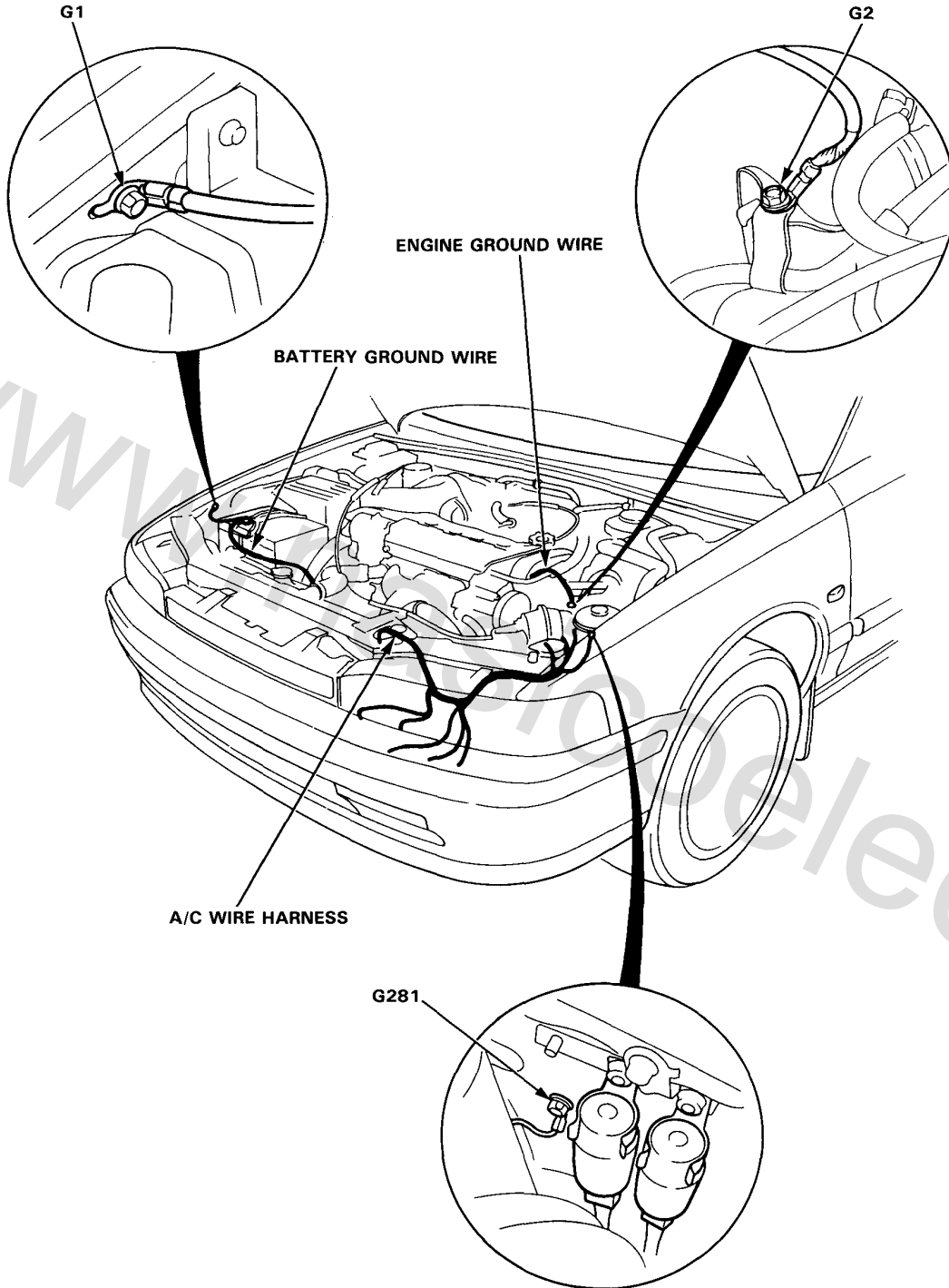
### Aerodeck:

NOTE: RHD type is symmetrical to LHD type, but except KEYLESS/POWER DOOR LOCK CONTROL UNIT.



# Wire Harness and Ground Locations

## Engine Compartment

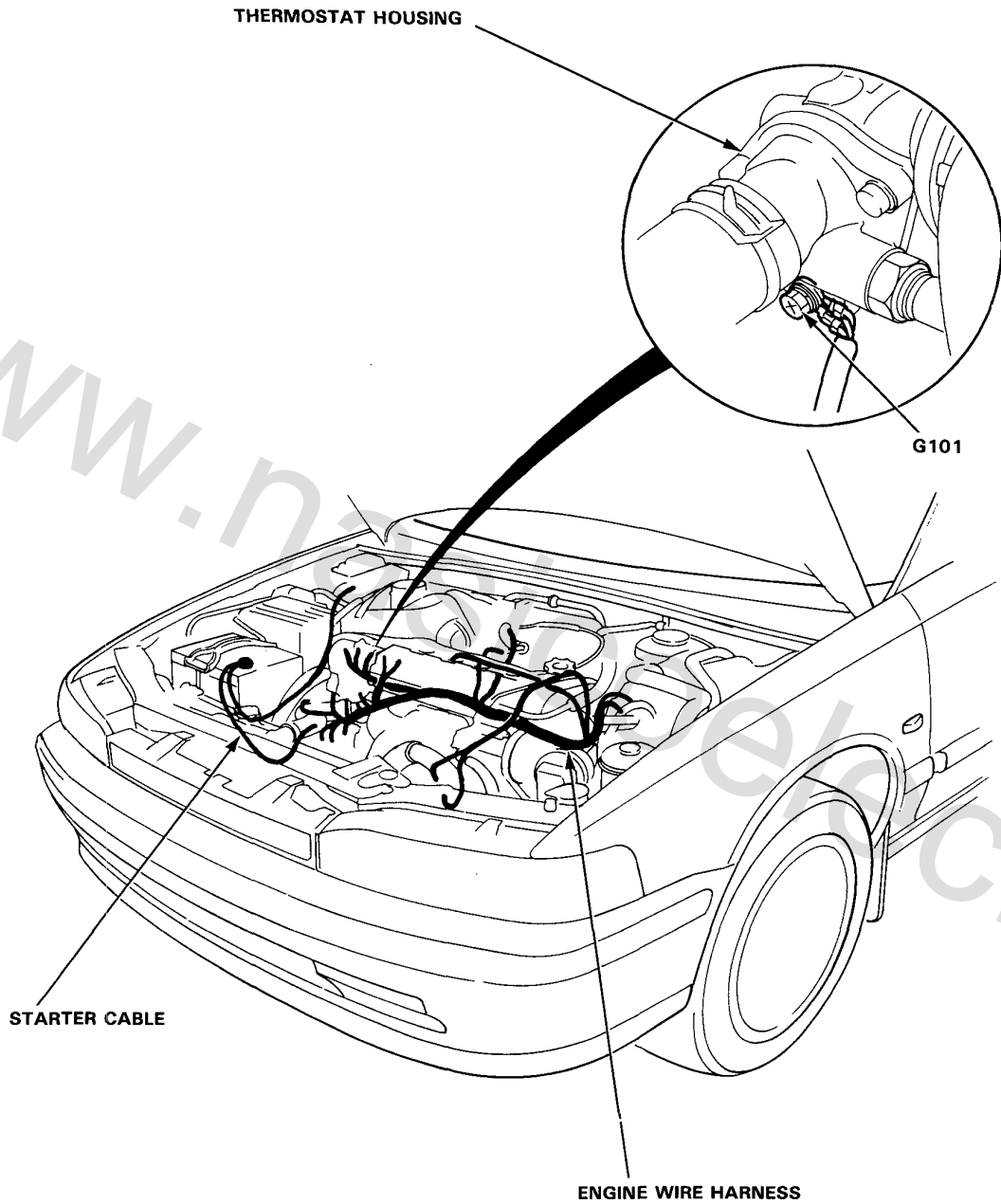


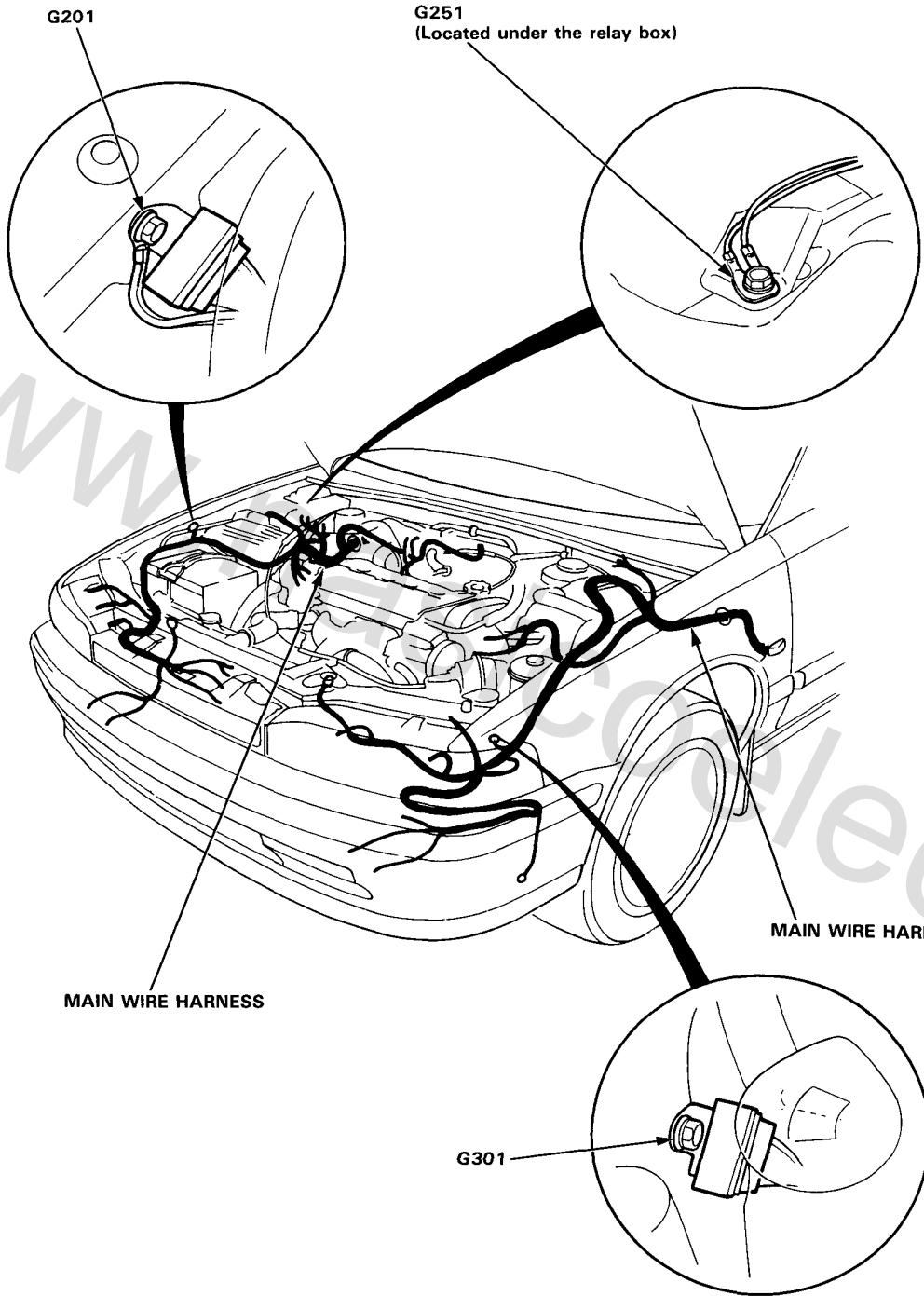
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# Wire Harness and Gound Locations

Engine Compartment (cont'd)

---

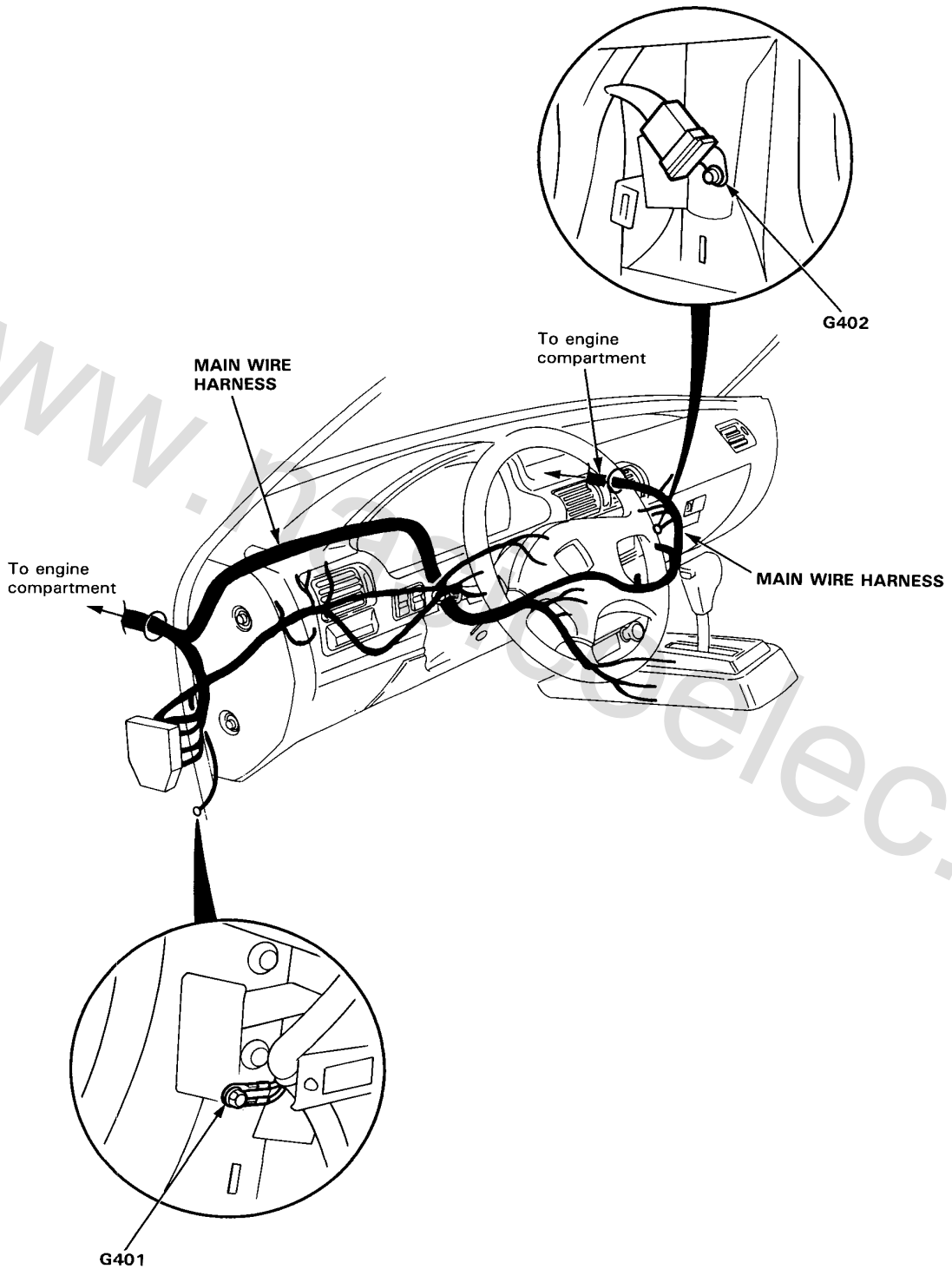




# Wire Harness and Ground Locations

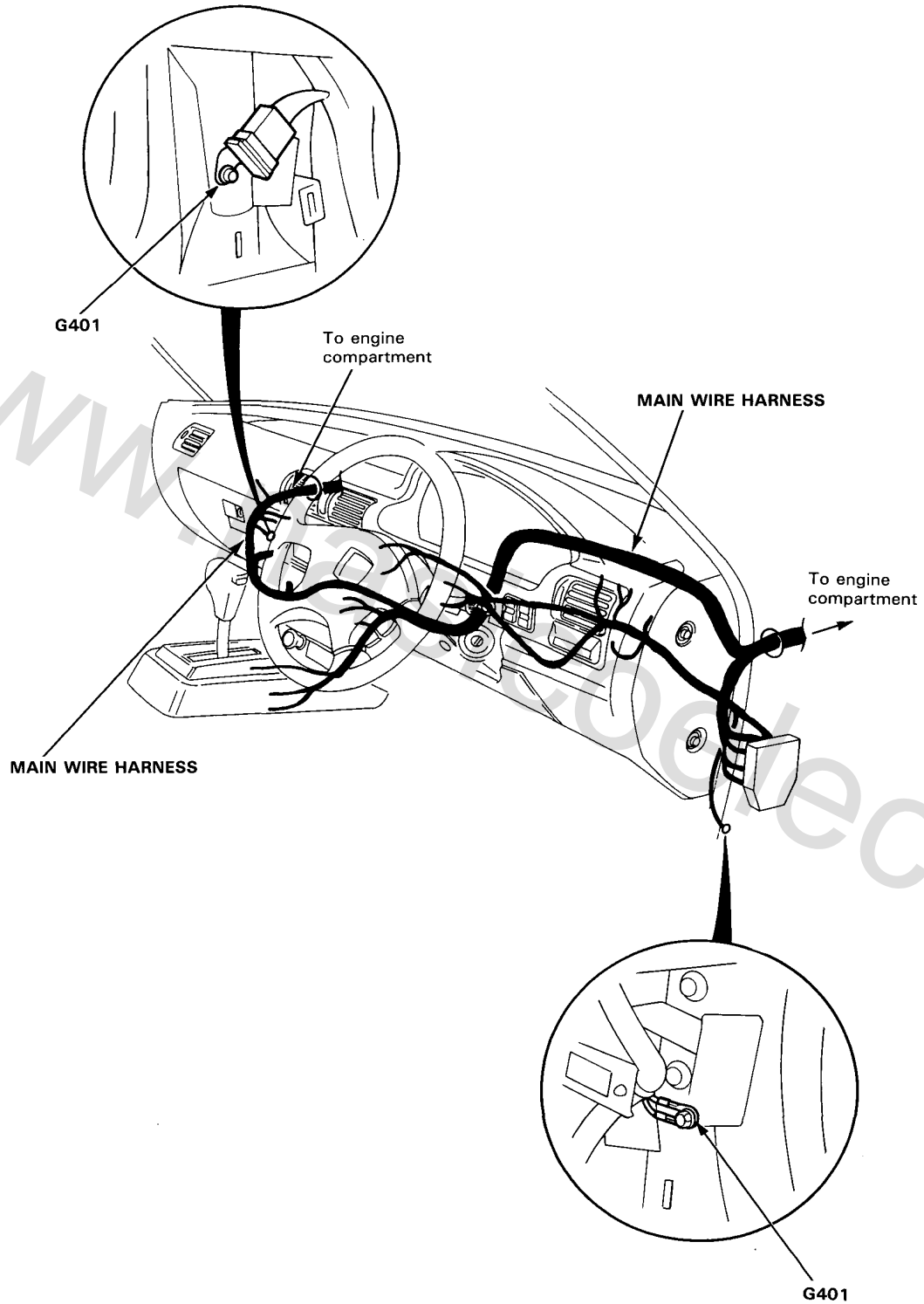
## Dashboard (LHD)

---





(RHD)

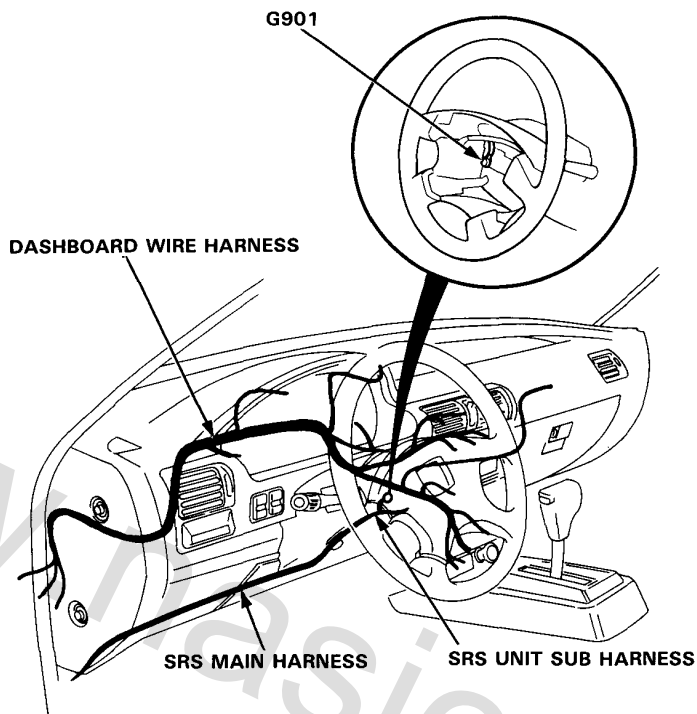


# Wire Harness and Ground Locations

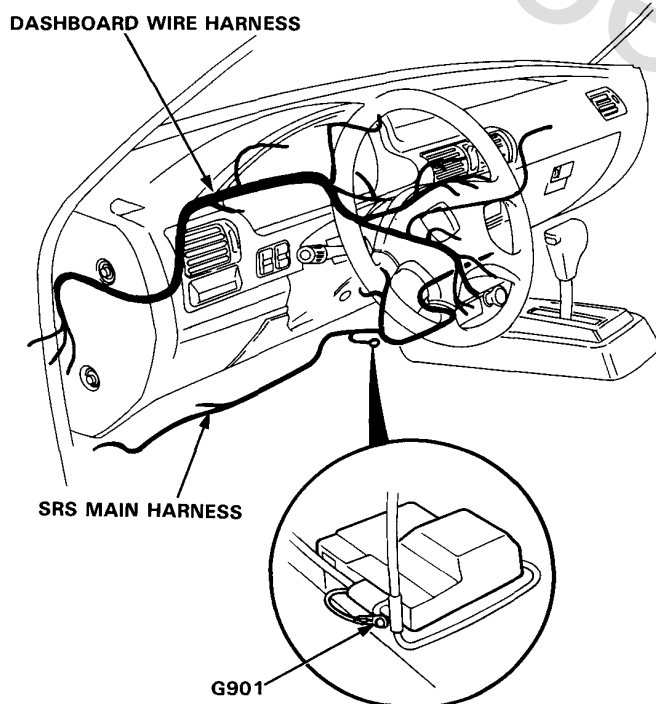
## Dashboard (LHD)

---

Sedan:



Aero deck:

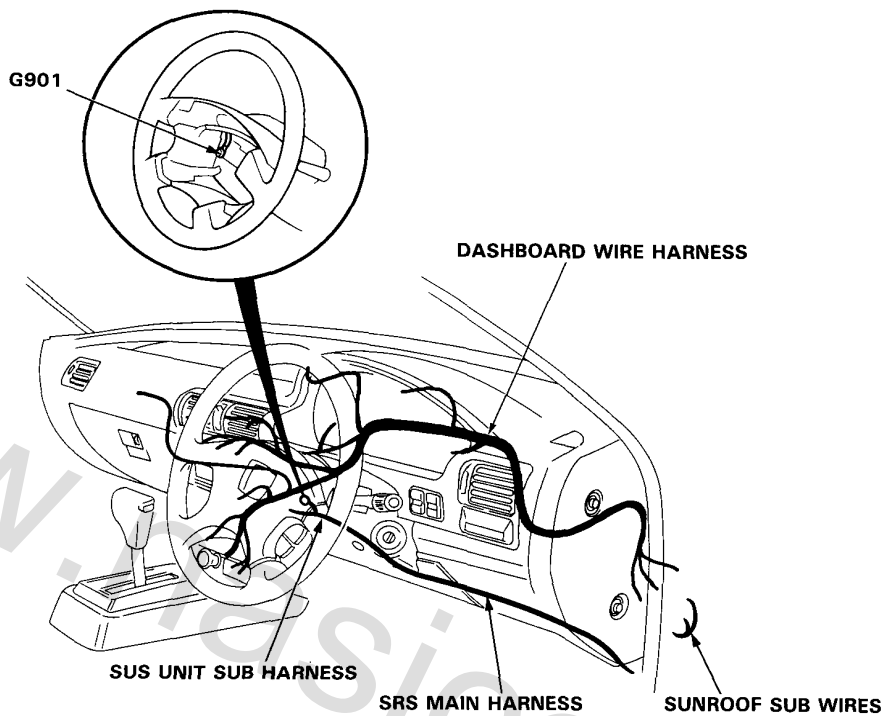




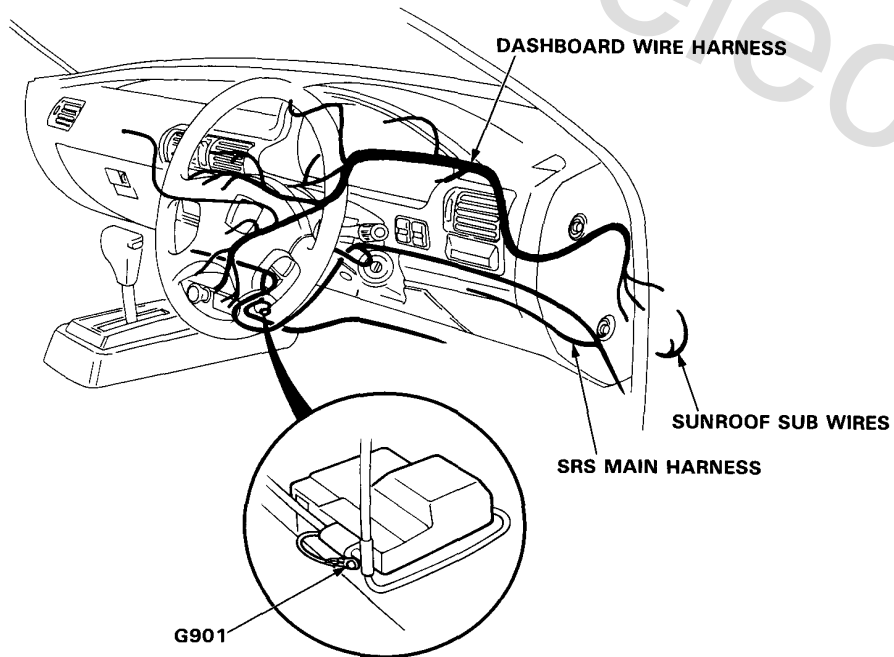


(RHD)

Sedan:



Aero deck/Wagon:

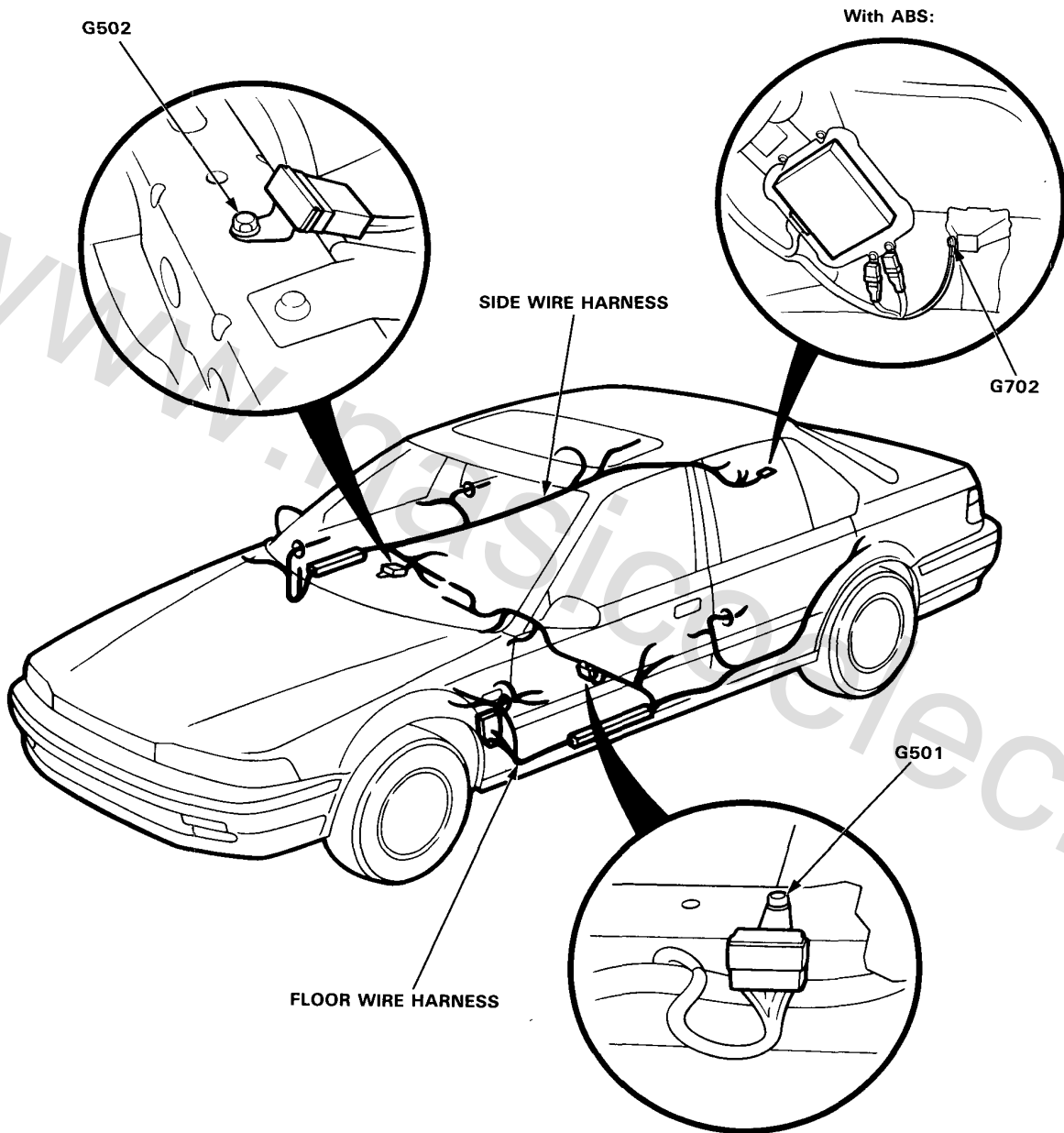


# Wire Harness and Ground Locations

Floor (LHD)

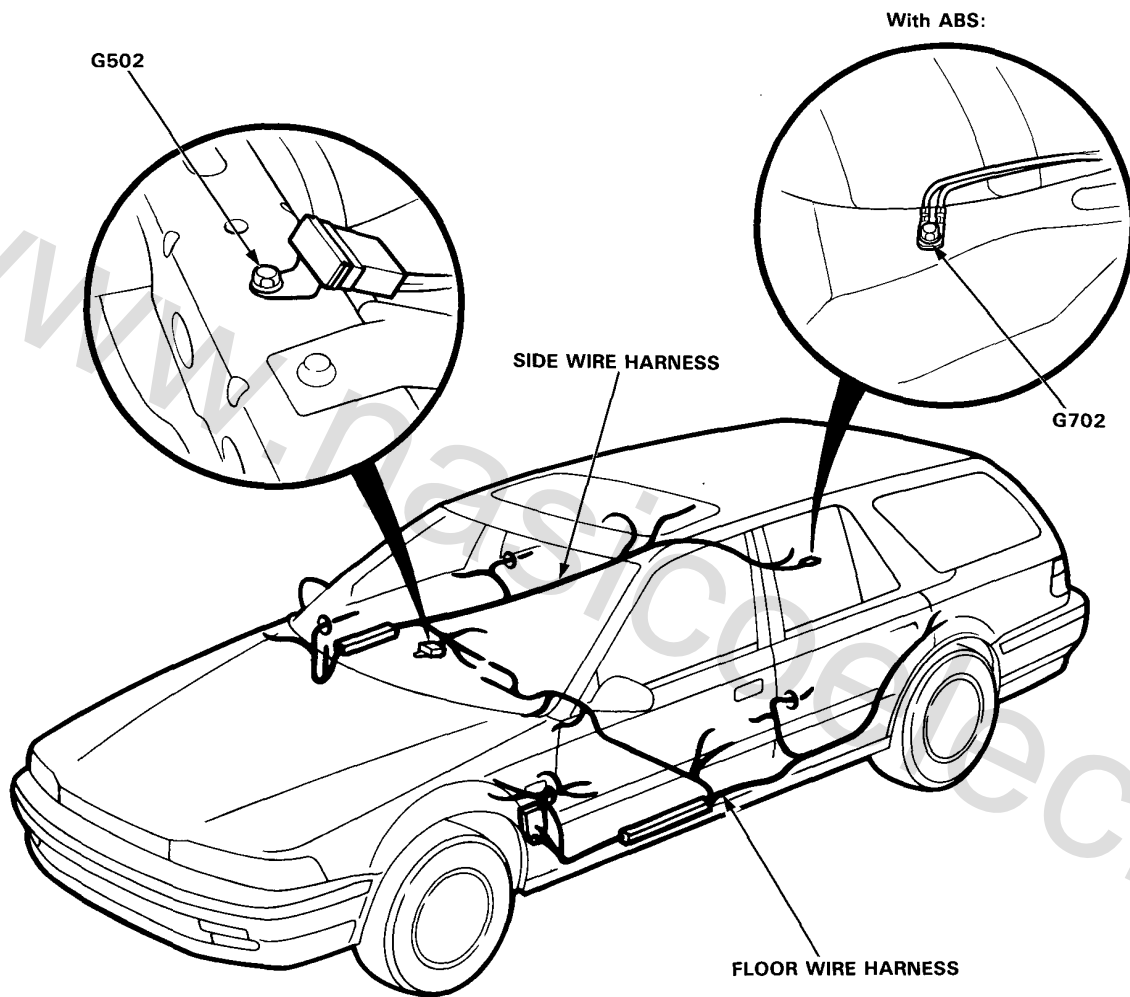
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Sedan:





Aero deck:

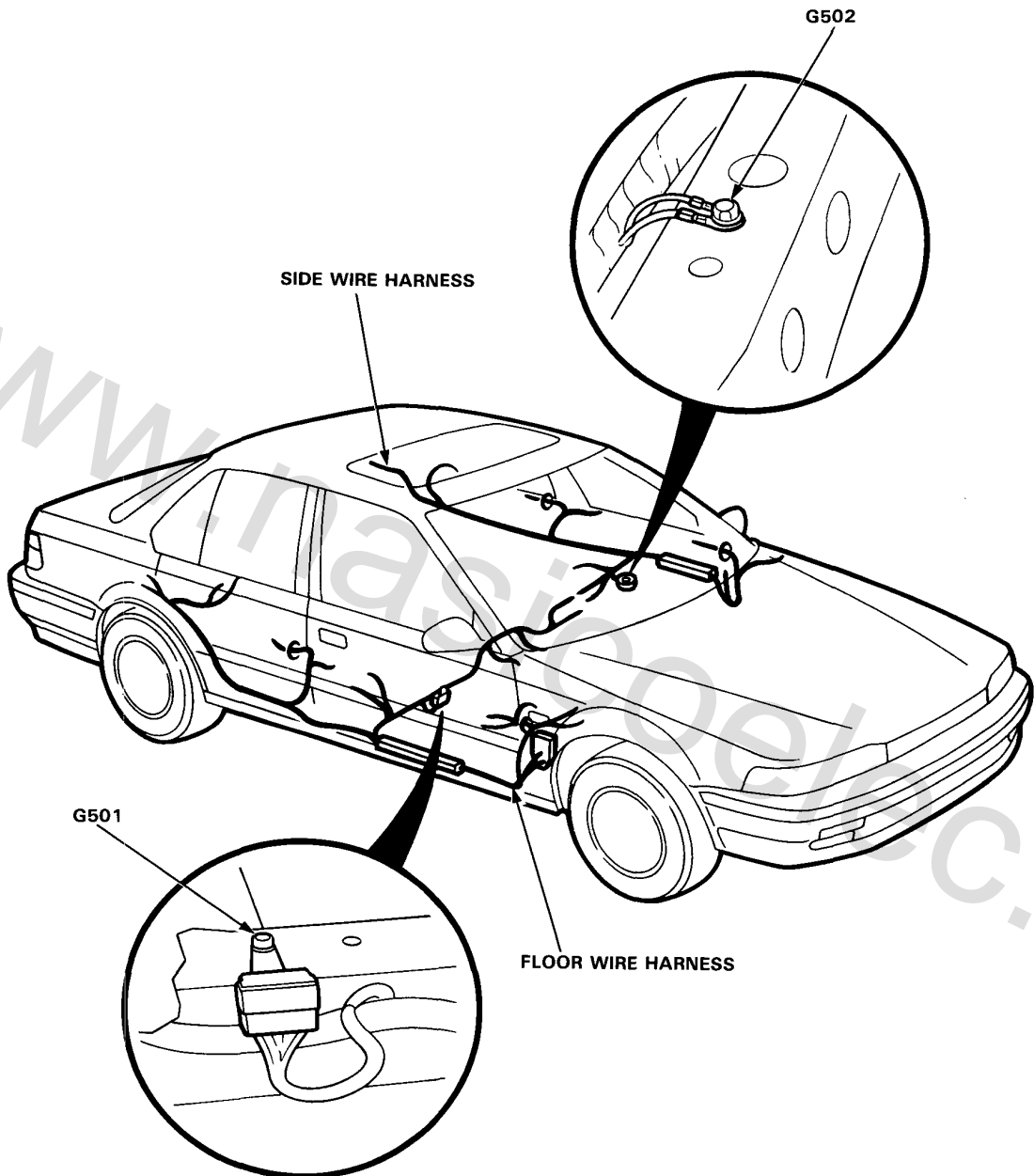


# Wire Harness and Ground Locations

Floor (RHD)

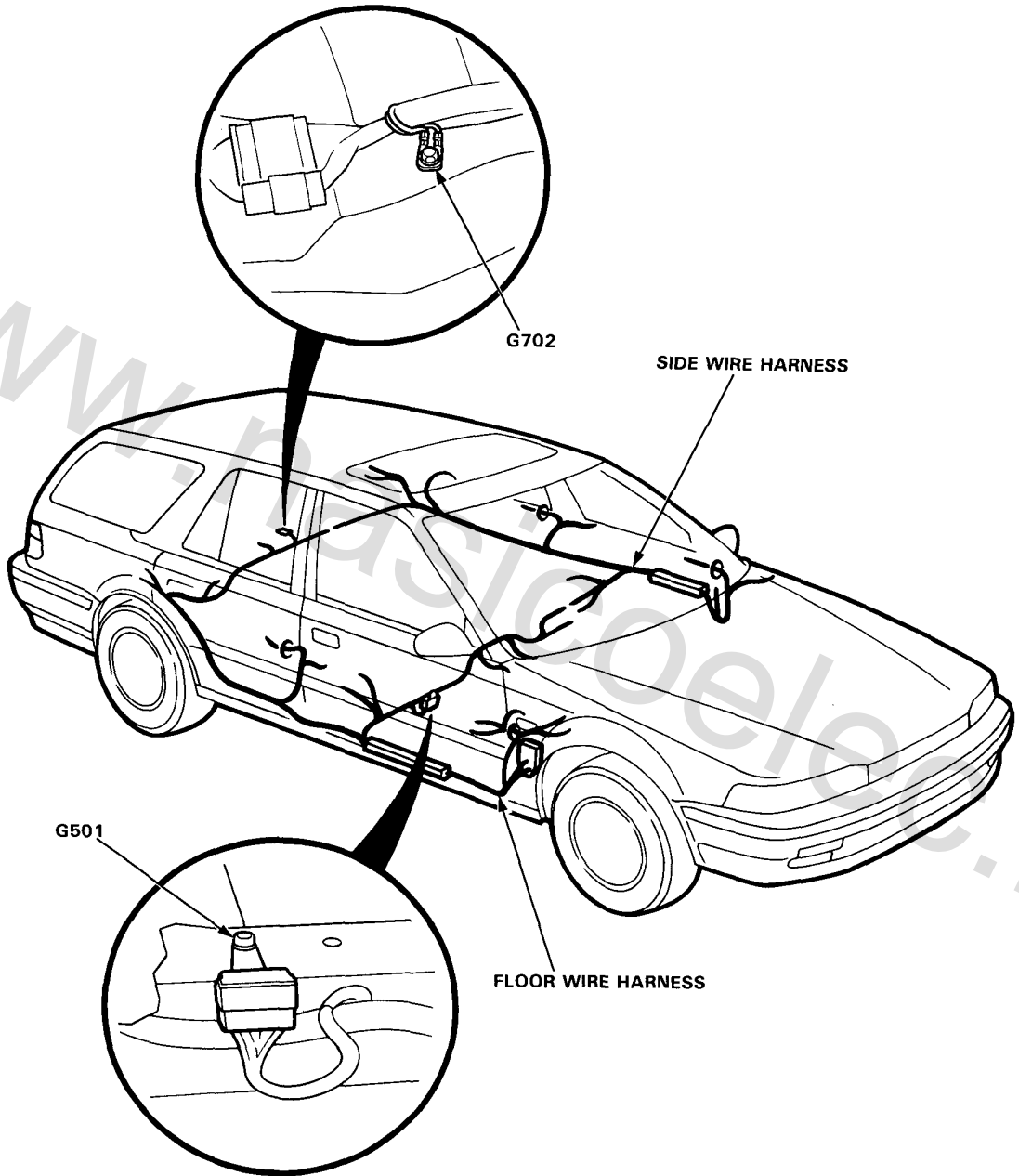
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Sedan:





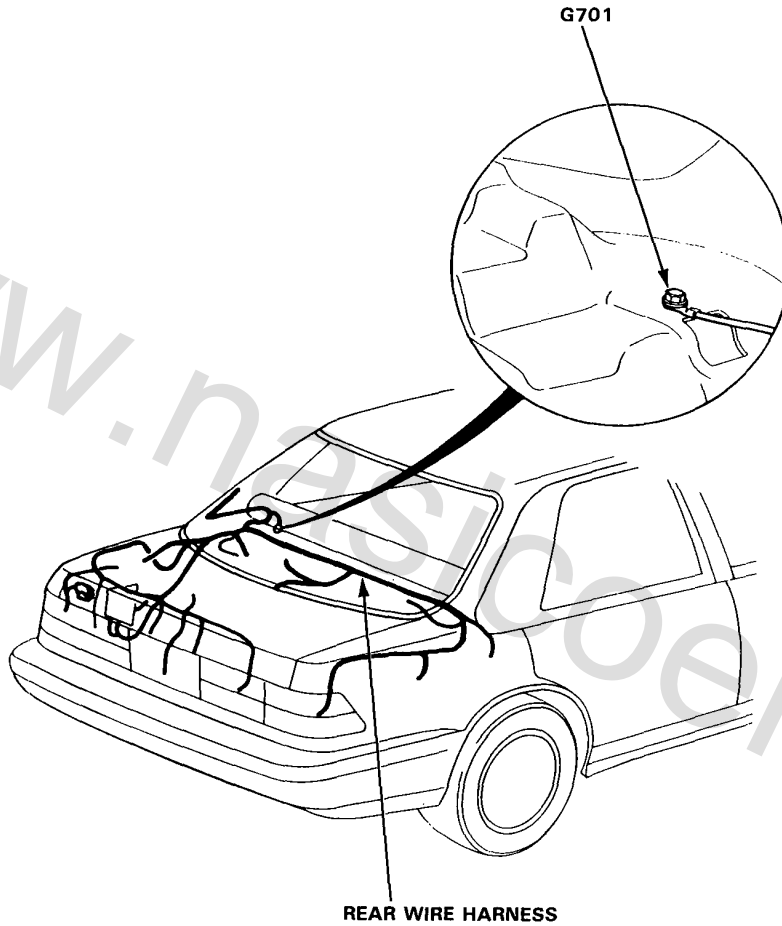
**Aero deck/Wagon:**



# Wire Harness and Ground Locations

Trunk (LHD)

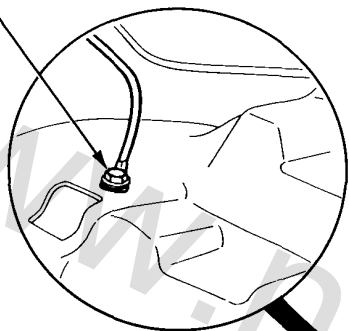
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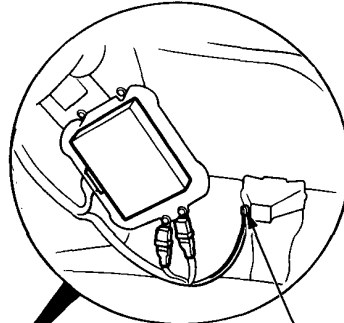


(RHD)

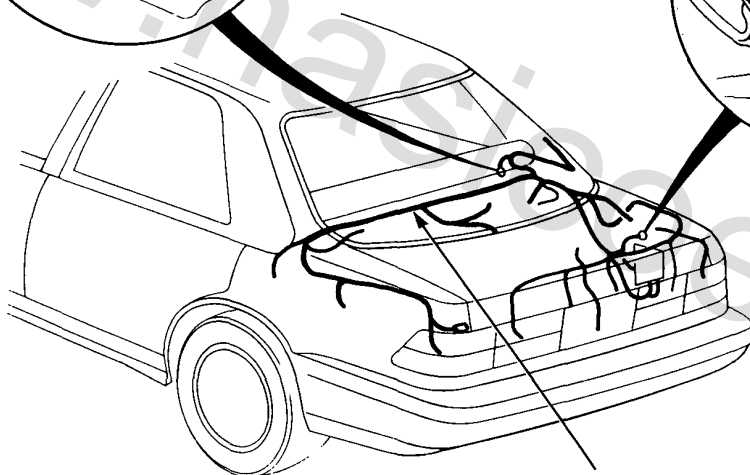
G701



With ABS:



G702

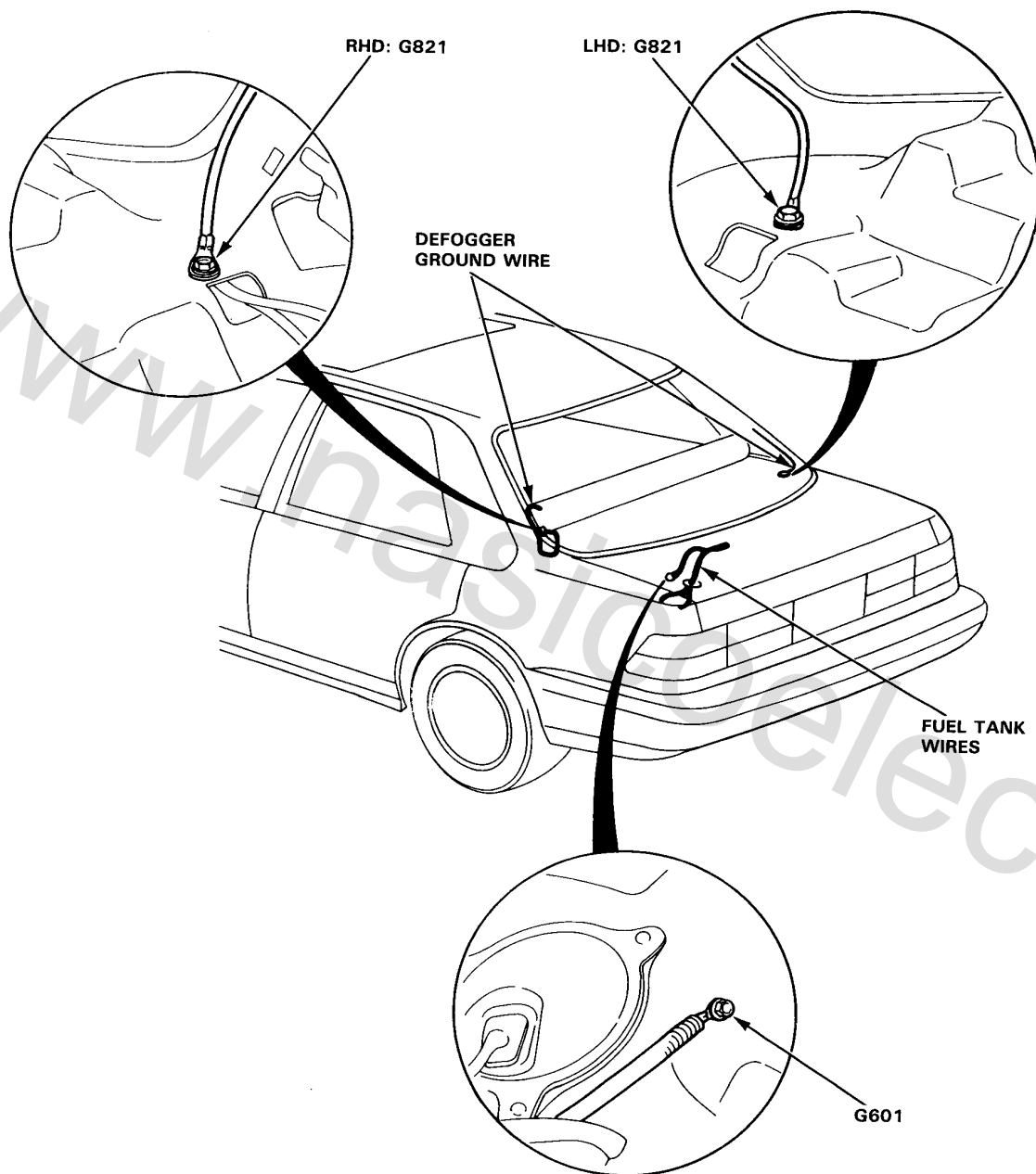


REAR WIRE HARNESS

# Wire Harness and Ground Locations

Trunk

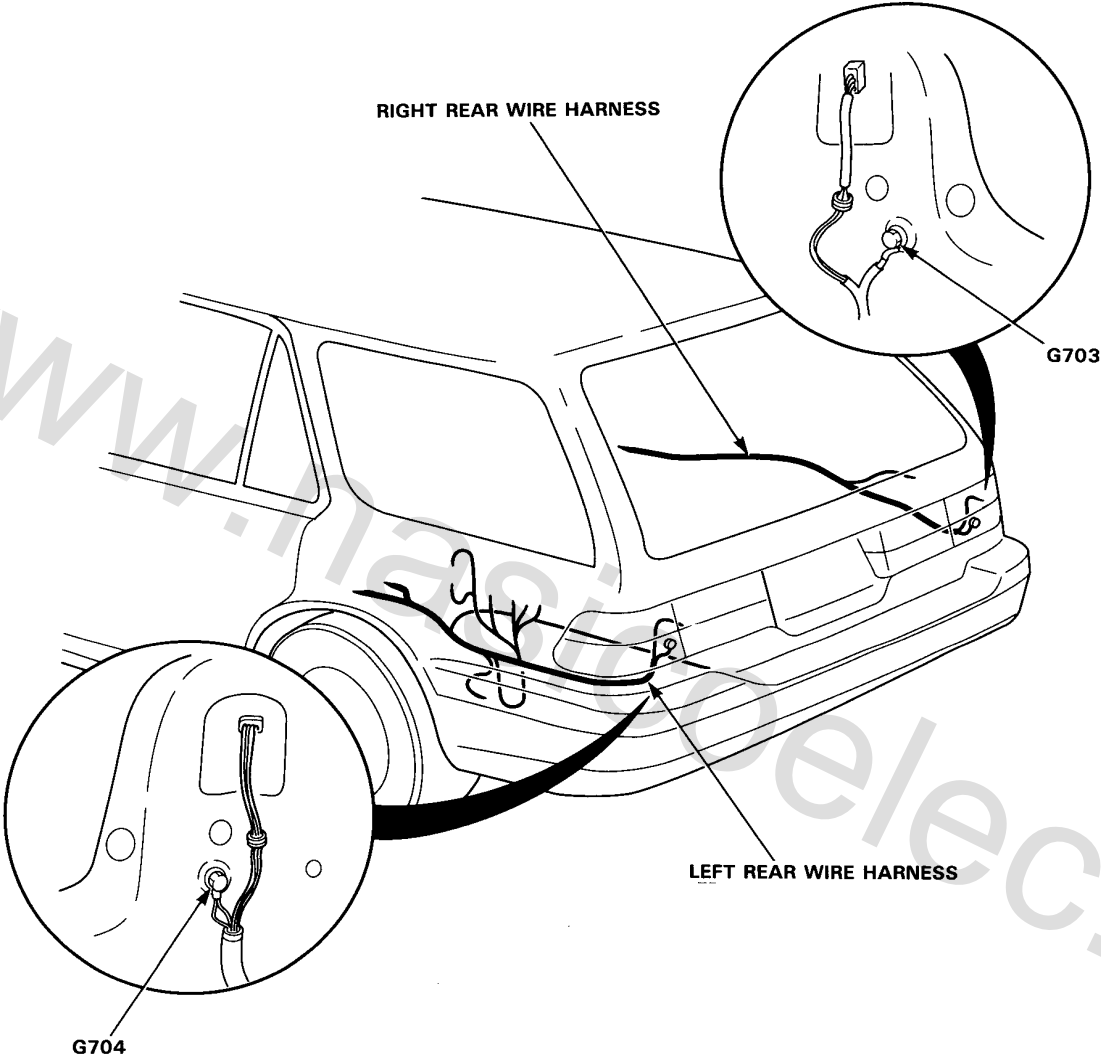
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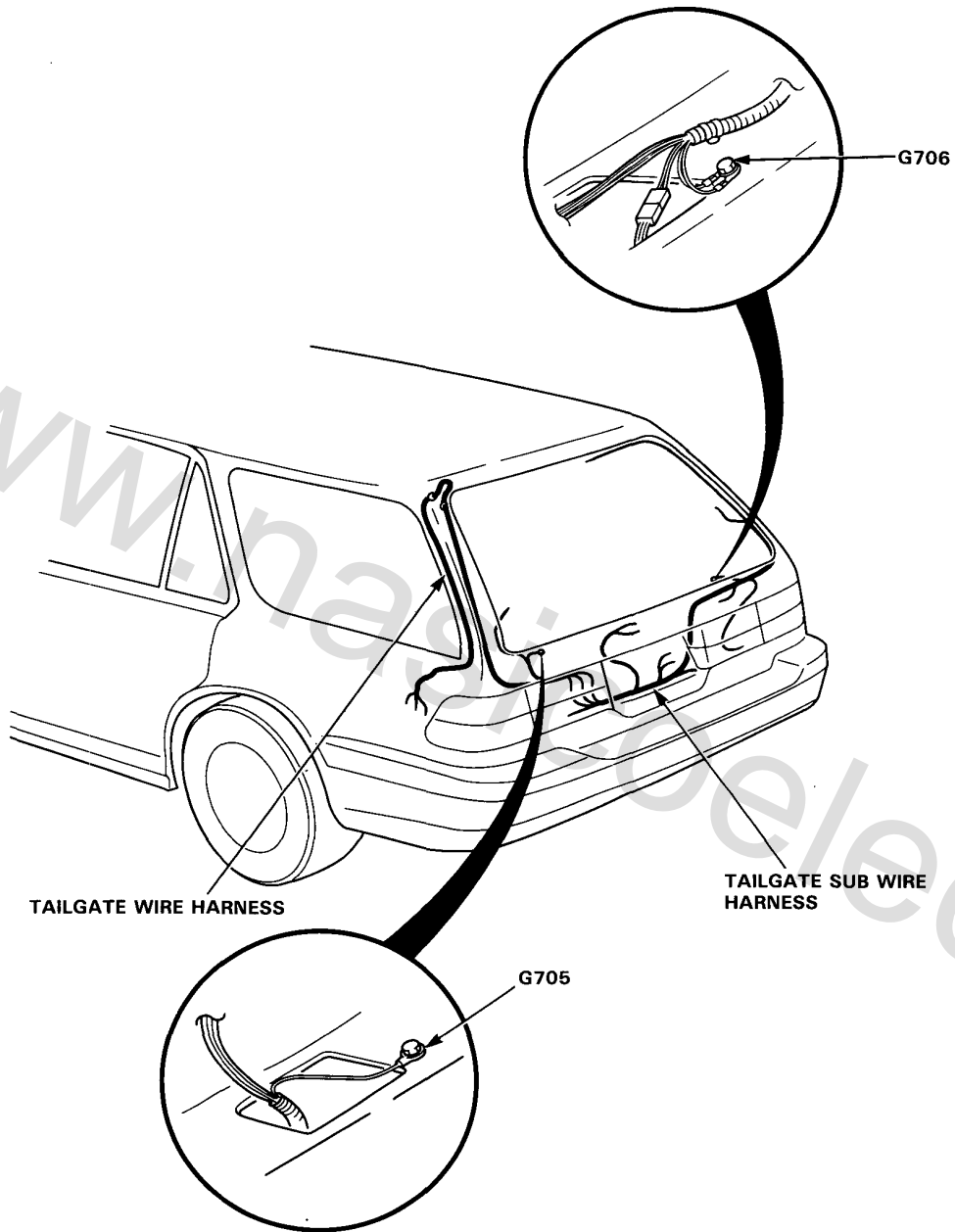
Rear



# Wire Harness and Ground Locations

## Tailgate

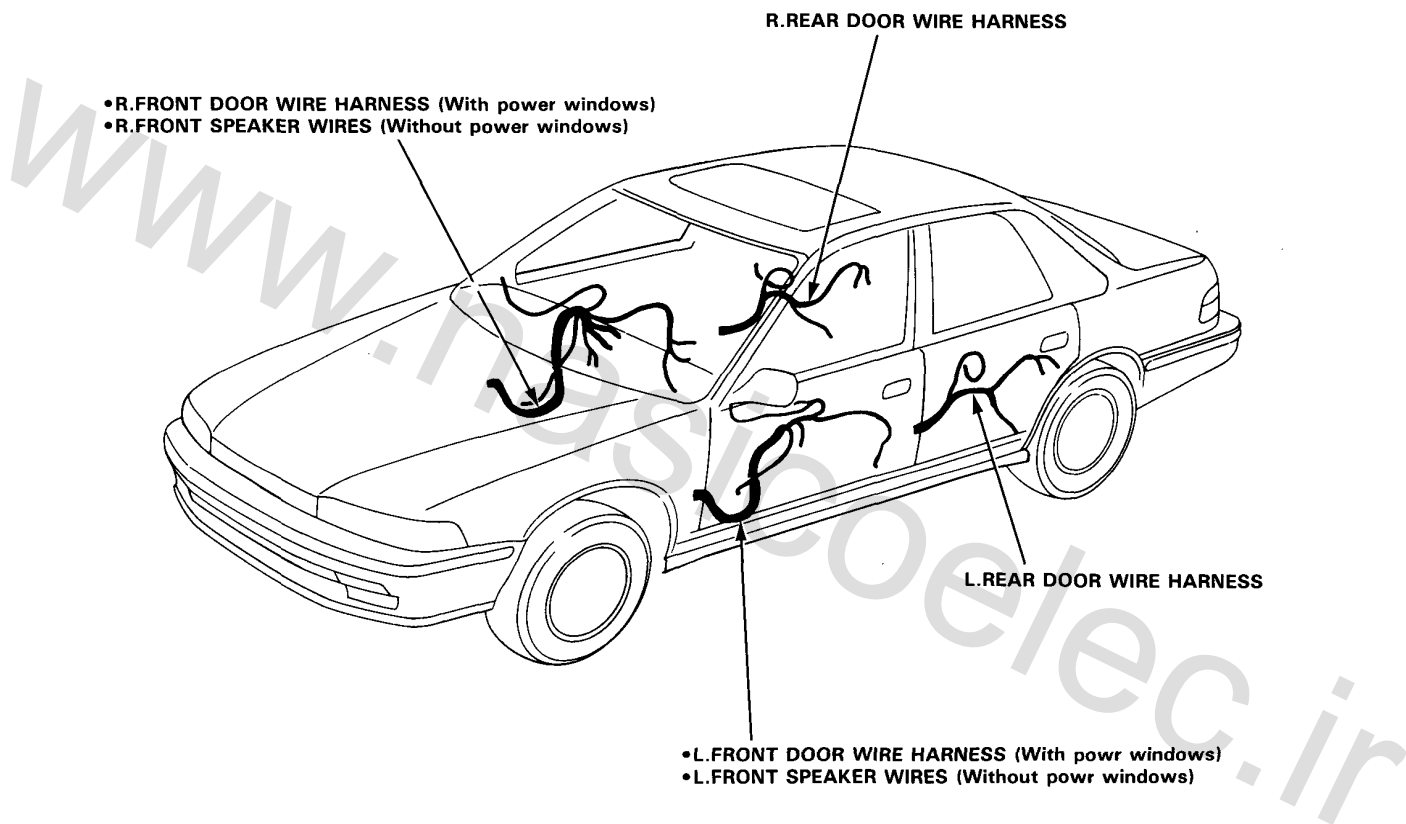
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# Door

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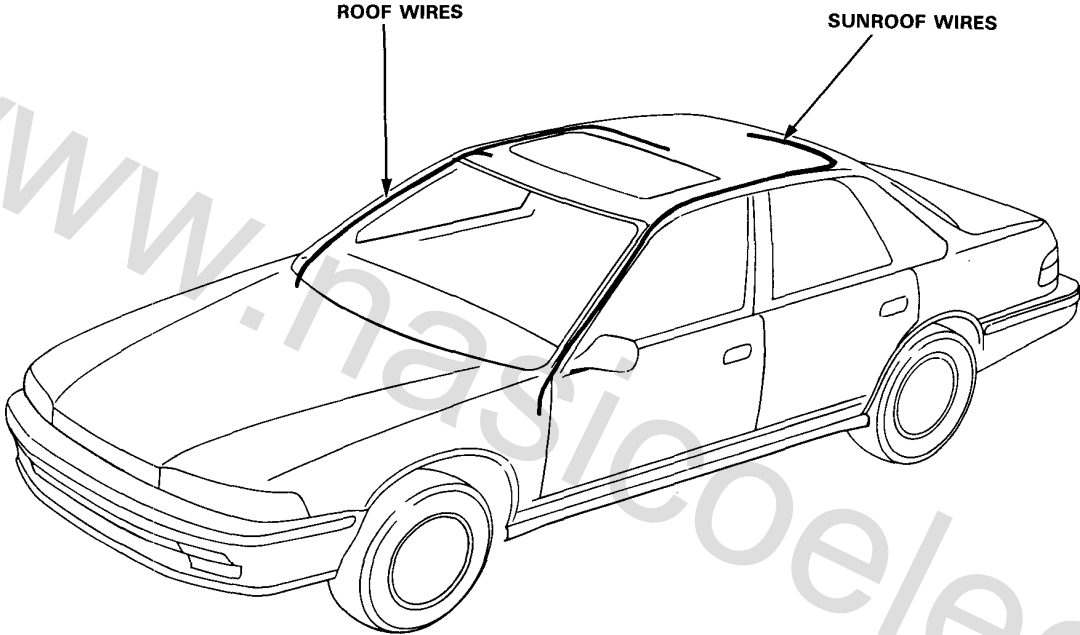


# Wire Harness and Ground Locations

## Roof

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Sedan and Aero deck/Wagon:

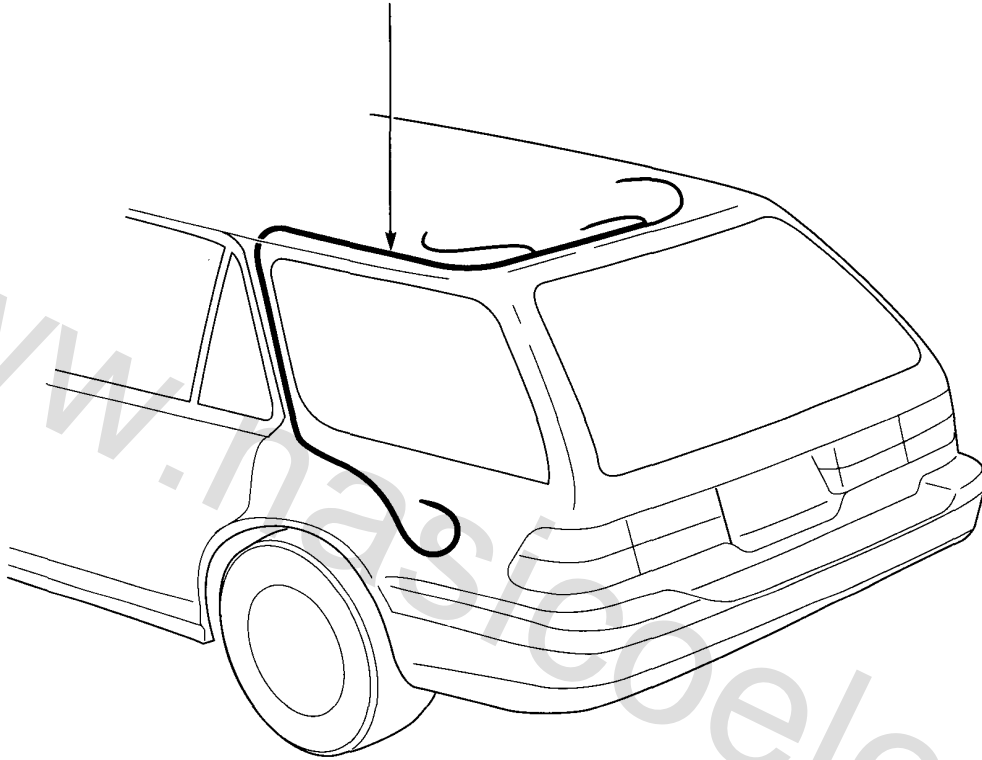




## Rear Roof

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REAR ROOF WIRE HARNESS



www.mastecoelec.ir

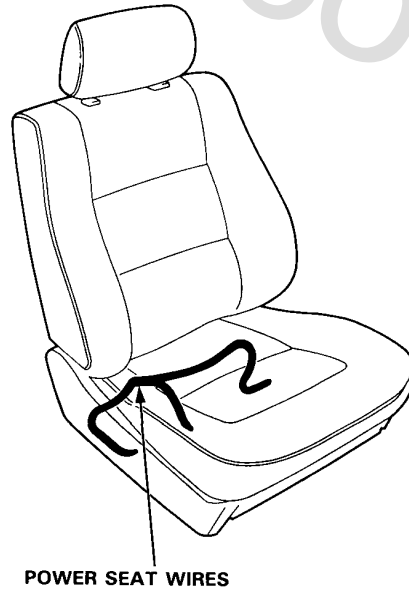
# Wire Harness and Ground Locations

Seat

---



Height adjuster only:

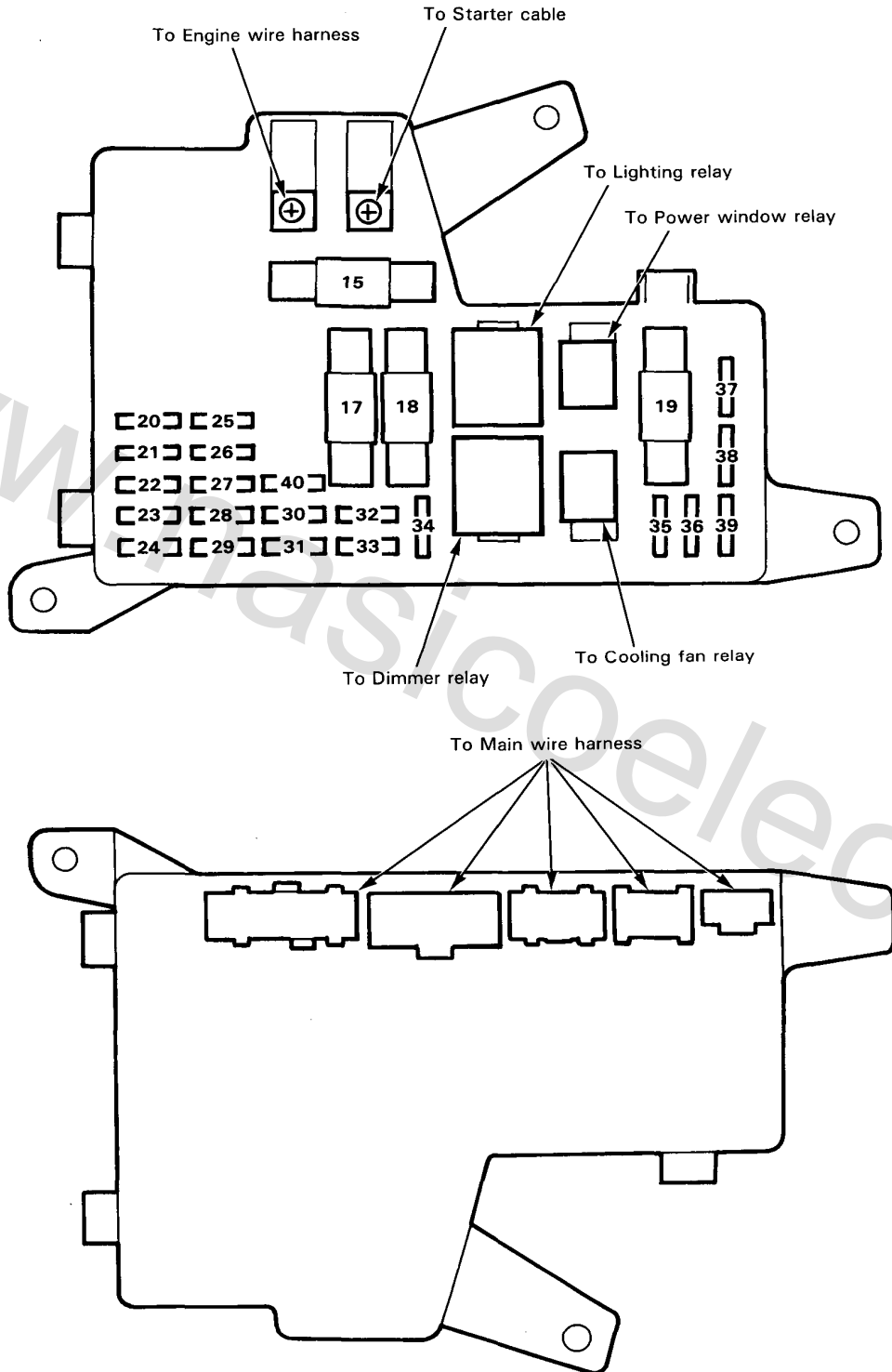




# Fuses

## Under-Hood Fuse/Relay Box

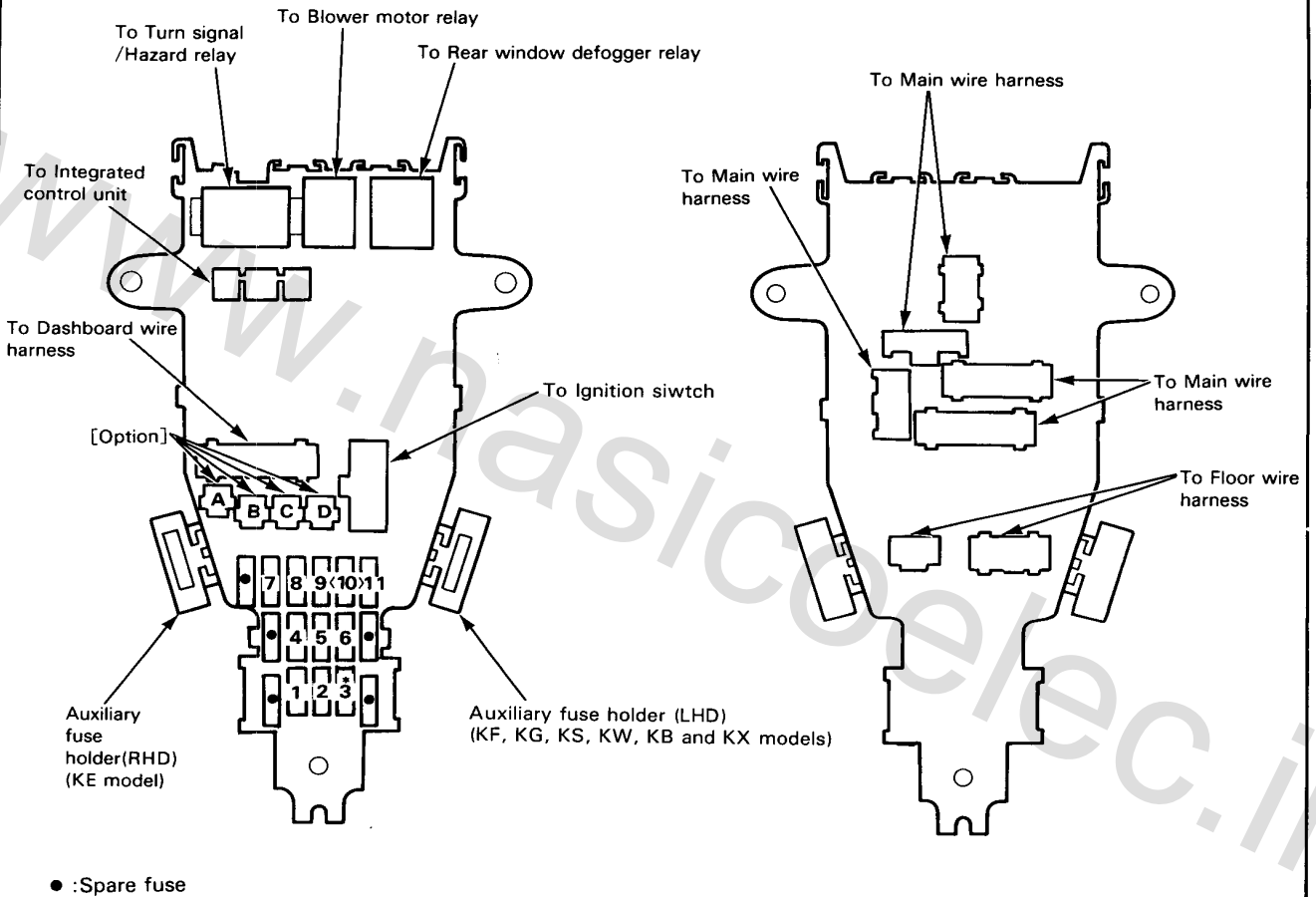
NOTE: Under-hood fuse/relay box is located right side, engine compartment.



# Fuses

## Under-Dash Fuse Box

NOTE: Under-dash fuse box is located behind left kick panel (LHD) or right kick panel (RHD).

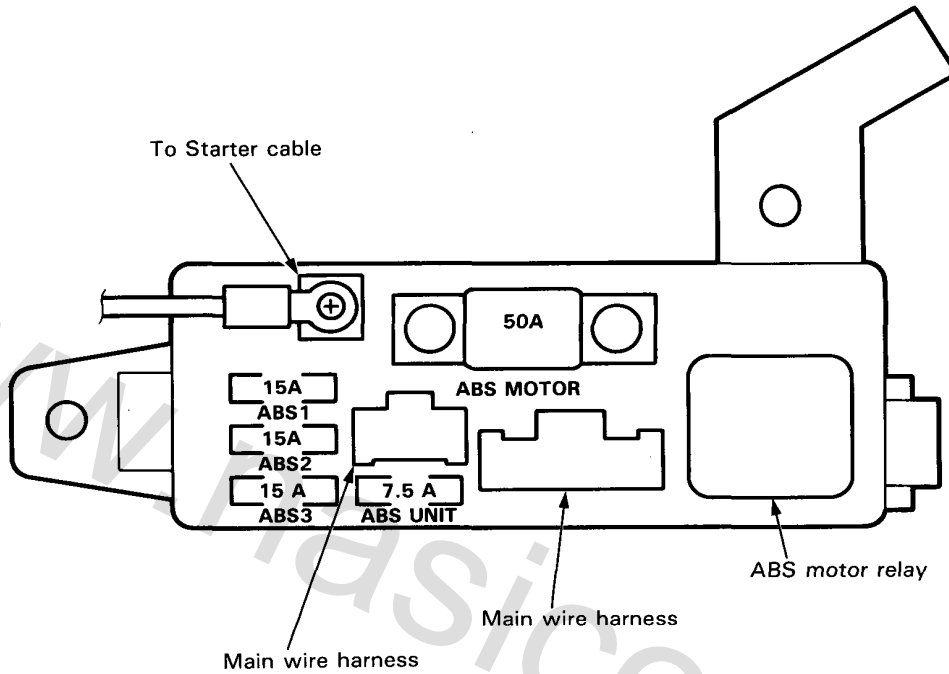






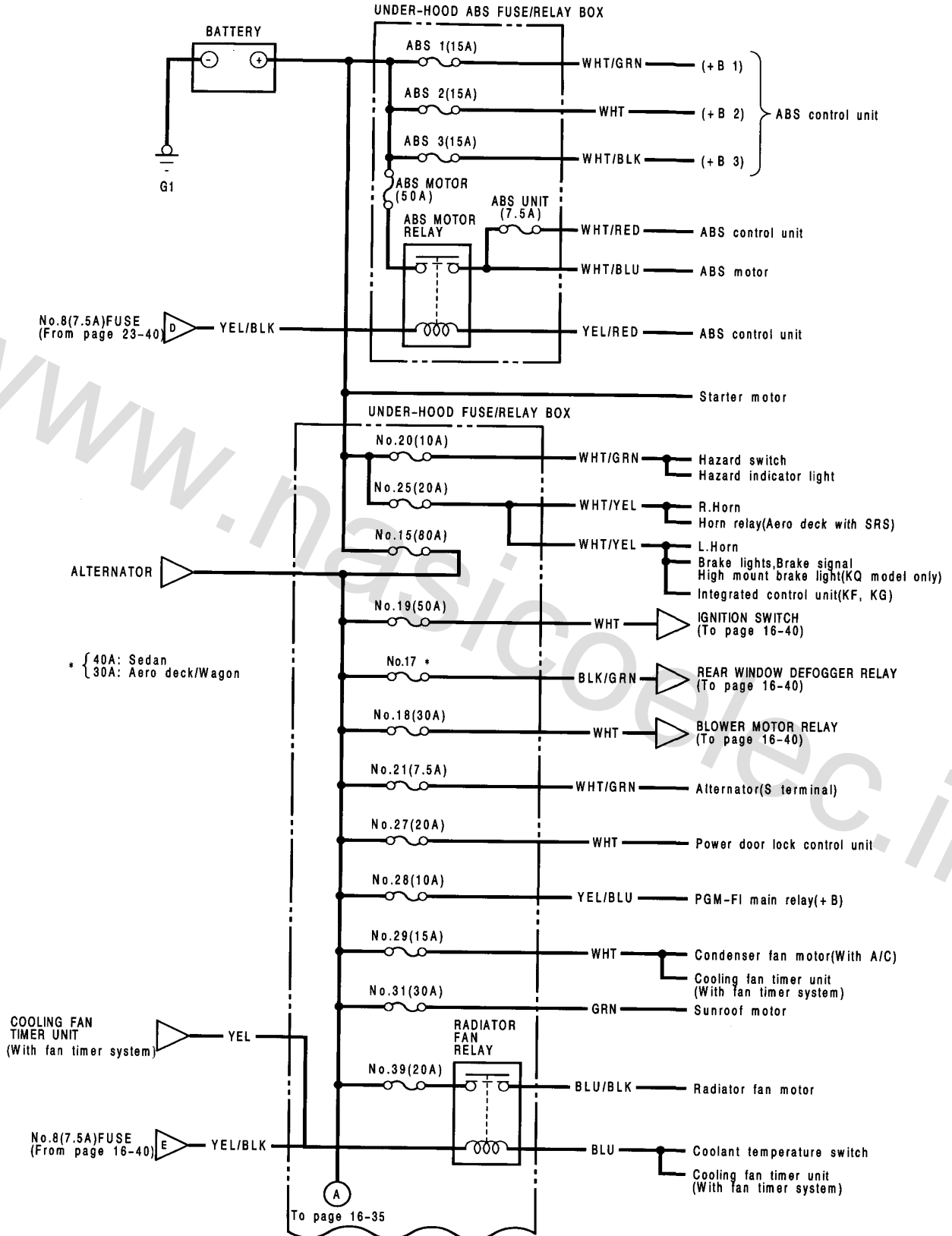
## Under-Hood ABS Fuse/Relay Box

NOTE: ABS Fuse/Relay box is on the right side of the engine compartment.



# Power Distribution

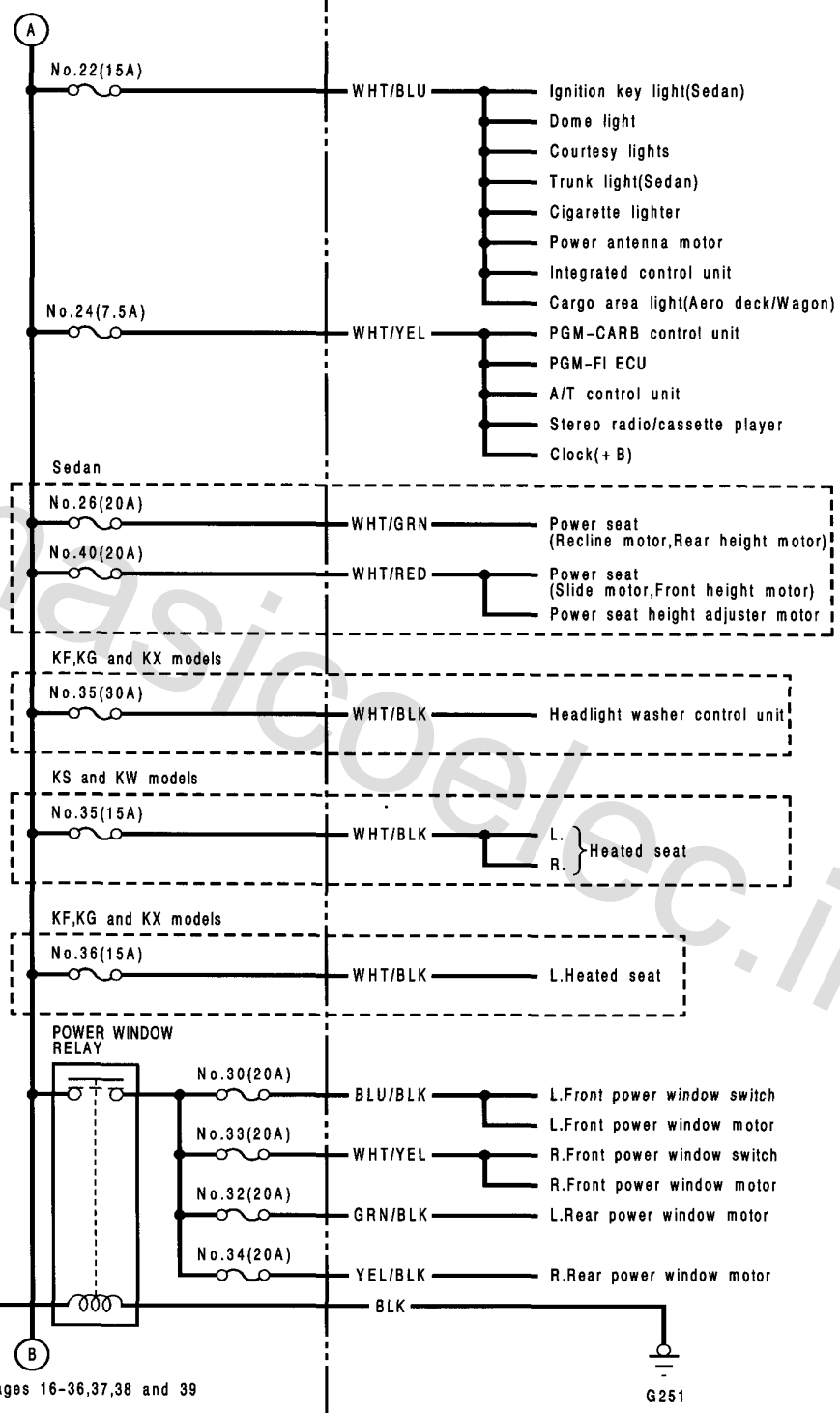
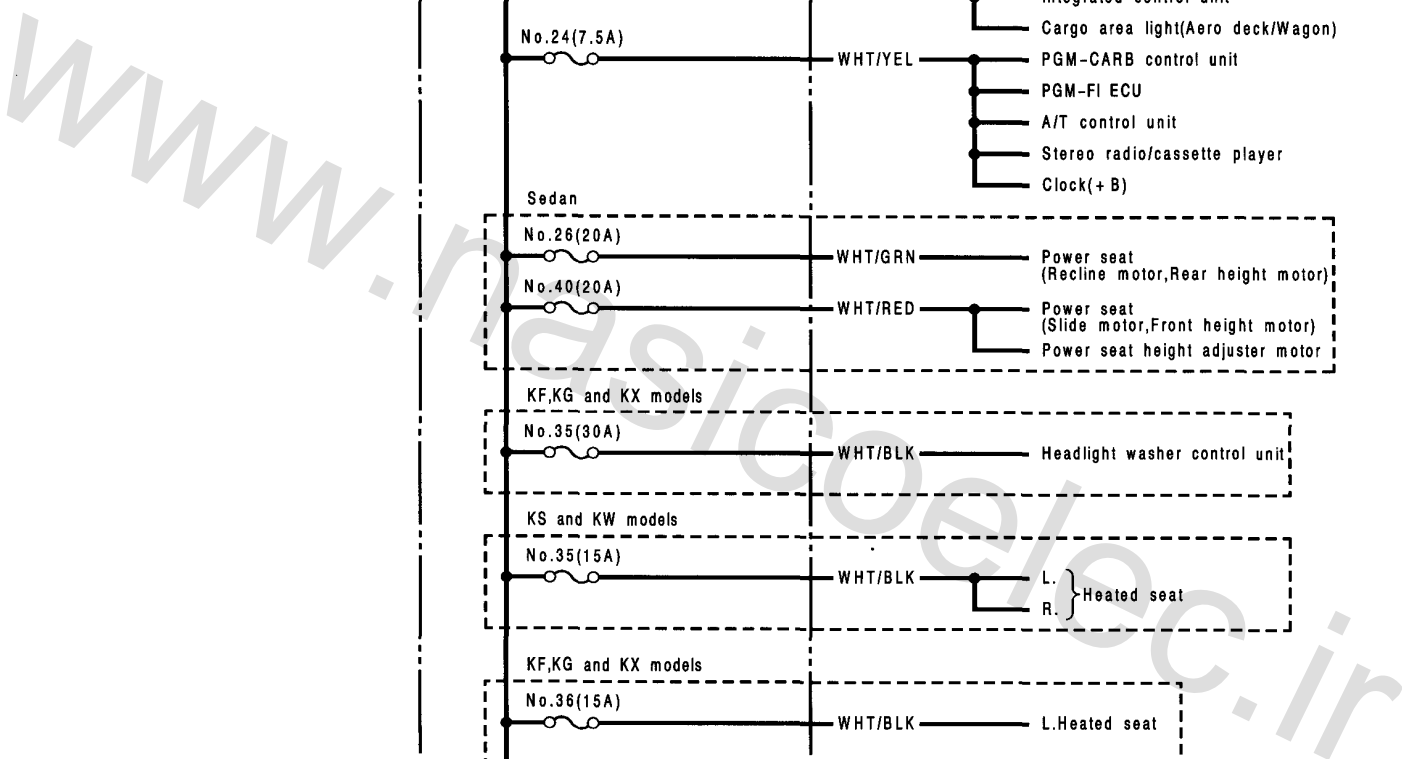
## Circuit Identification





UNDER-HOOD FUSE/RELAY BOX

From page 16-34



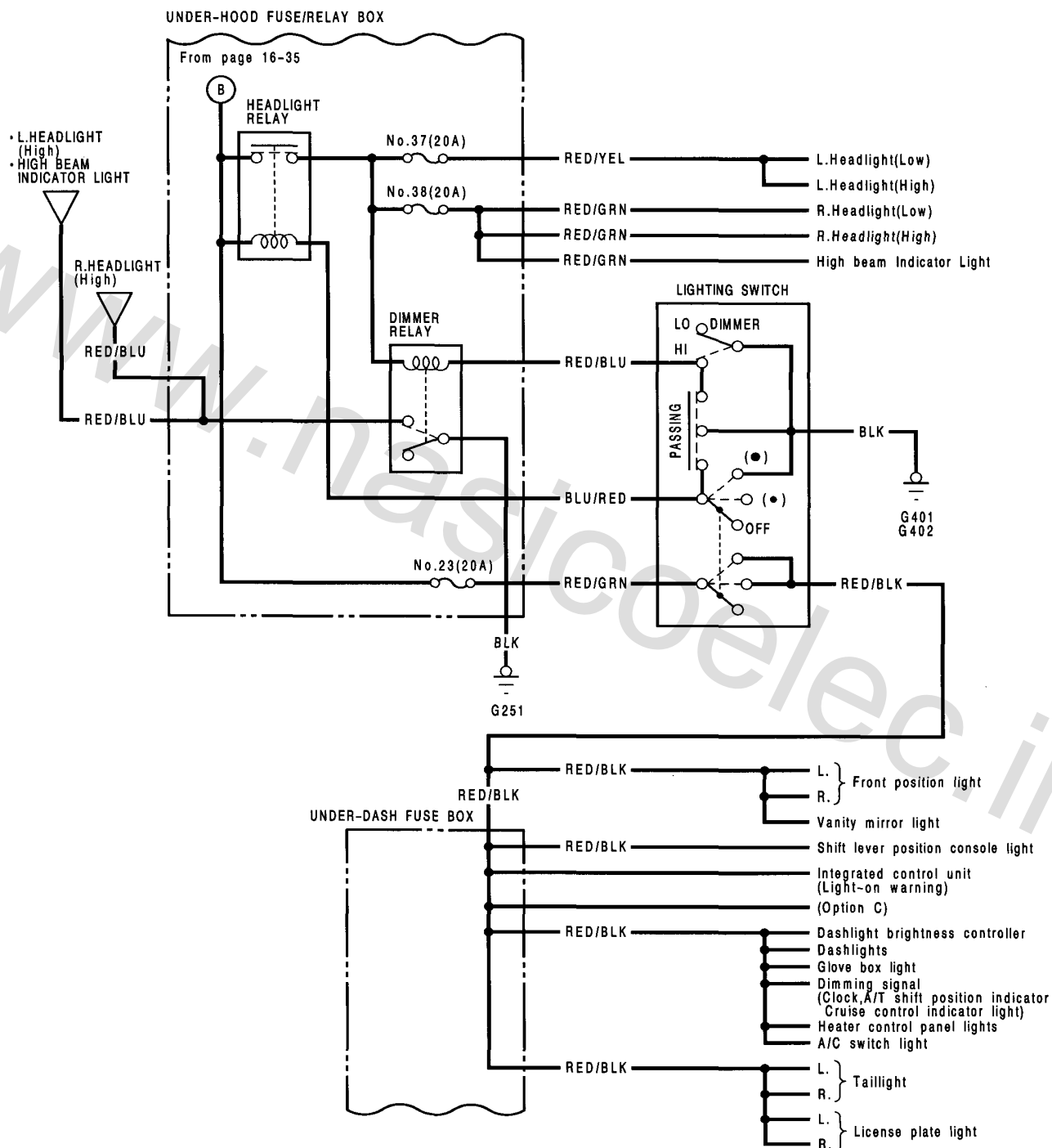
To pages 16-36, 37, 38 and 39

(cont'd)





KY,KQ,KP,KT and KU models :

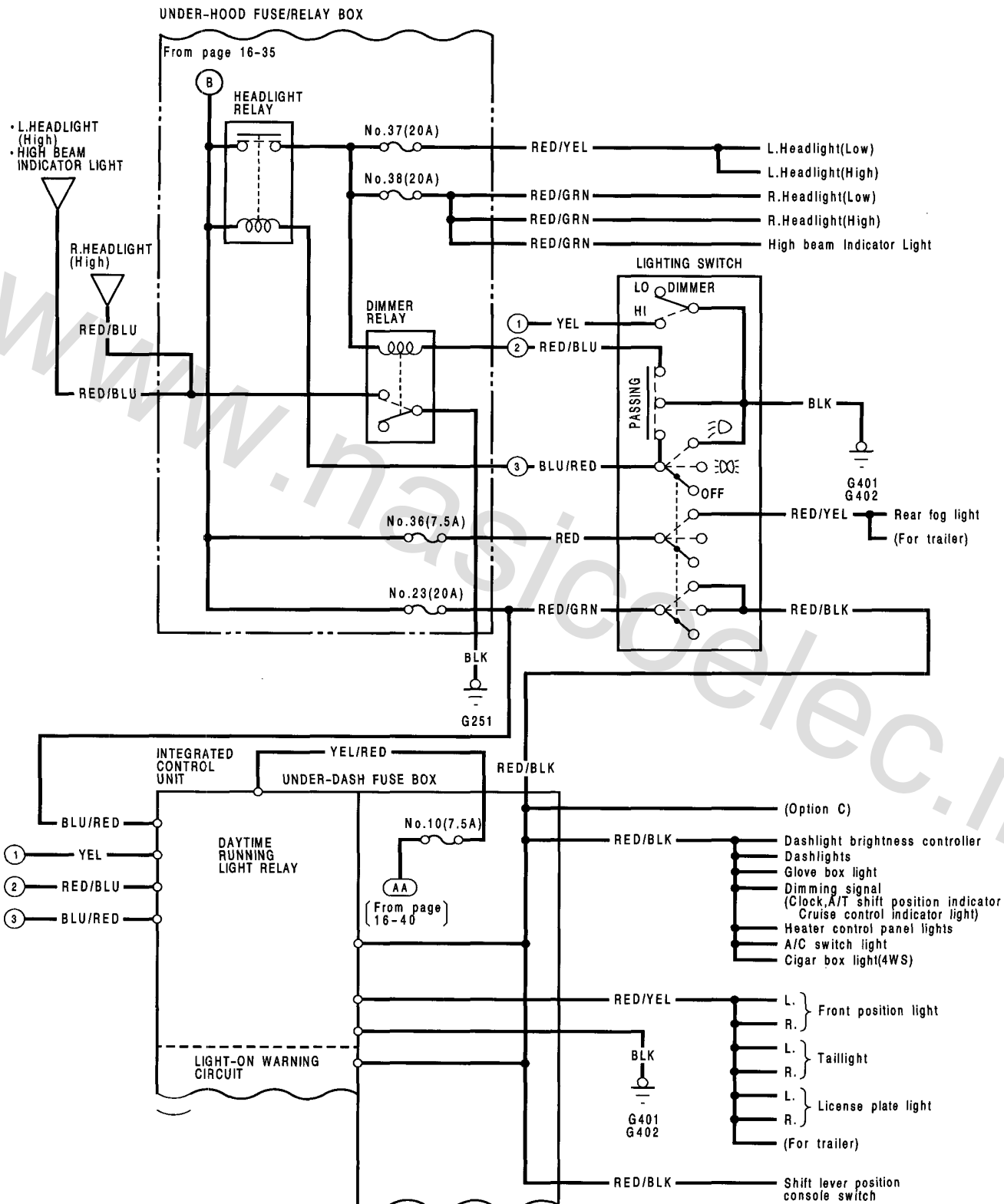


(cont'd)

# Power Distribution

## Circuit Identification (cont'd)

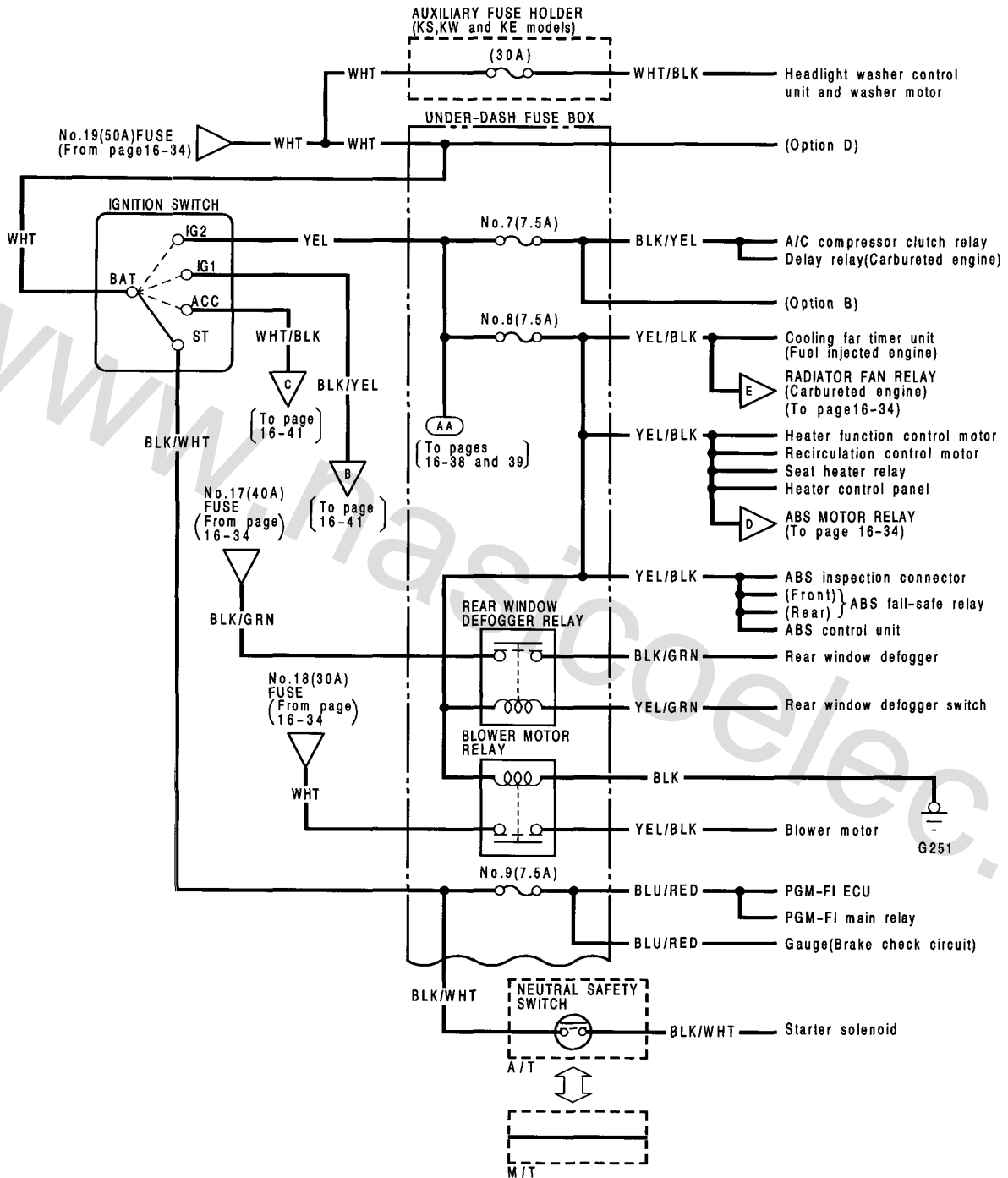
With Daytime Light :





# Power Distribution

## Circuit Identification (cont'd)





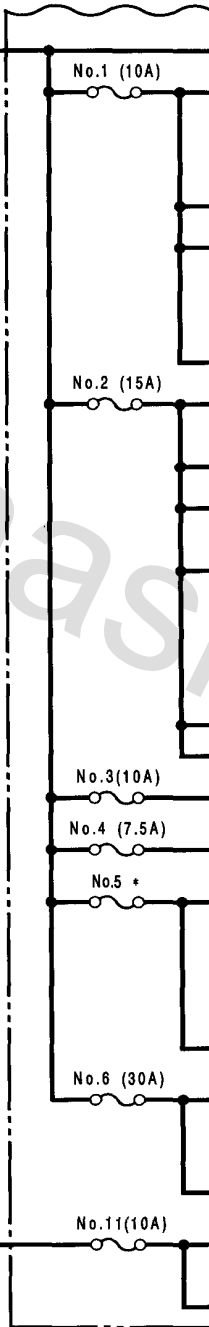


UNDER-DASH FUSE BOX

IGNITION SWITCH  
(From page  
16-40)



BLK/YEL



- BLK/YEL — Ignition coil
- YEL — Gauge and warning/indicator lights
- YEL — Shift lever position indicator } (A/T)
- YEL — Safety indicator
- YEL — Turn signal lights/relay
- YEL — Clock
- YEL — Shift position console switch
- YEL — Speed sensor
- YEL — Back-up lights
- (Internal connection)
- Integrated control unit(IG1)
- BLK/YEL — PGM-CARB control unit
- BLK/YEL — Cooling fan timer unit (With fan timer system)
- BLK/YEL — A/T control unit
- BLK/YEL — PGM-FI main relay
- BLK/YEL — Fuel cut relay
- BLK/YEL — Emission control solenoid valves
- BLK/YEL — Intake air control solenoid valve
- BLK/YEL — Engine mount control solenoid valve
- BLK/YEL — Engine mount control unit
- BLK/YEL — Air vent cut solenoid valve (Carbureted engine : Except KT and KP models)
- BLK/YEL — Bypass control solenoid valve
- BLK/YEL — Voltage regulator
- BLK/YEL — Charge warning light
- SRS unit(TYPE I)
- SRS unit
- BLK/RED — Cruise control main switch and Cruise control unit
- YEL/GRN — Sunroof relay(Open) and sunroof Sunroof relay(Close) motor
- YEL/GRN — Power window relay(To page16-35)
- YEL/GRN — L. } Headlight adjuster unit
- YEL/GRN — R. }
- YEL/GRN — Rear windshield wiper/washer switch(Aero deck/Wagon)
- YEL/GRN — Power door mirrors
- YEL/GRN — Rear wiper motor(Aero deck/Wagon)
- GRN/BLK — Windshield wiper motor
- GRN/BLK — Washer motors
- GRN/BLK — Intermittent wiper relay
- GRN/BLK — Headlight washer control unit
- (Internal connection)
- Integrated control unit (wiper washer circuit)
- YEL/RED — Stereo radio/cassette player
- YEL/RED — Cigarette lighter relay
- (Option A)

\*7.5A:Sedan  
\*10A:Aero deck

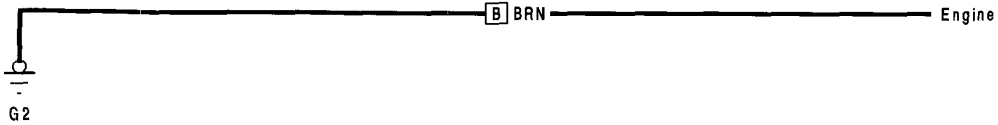
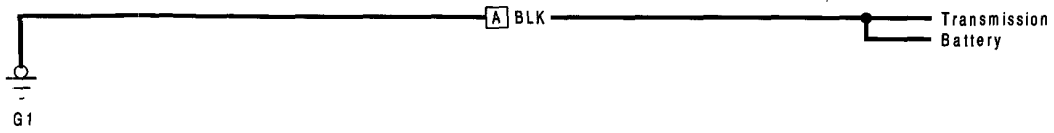
IGNITION SWITCH  
(From page  
16-40)



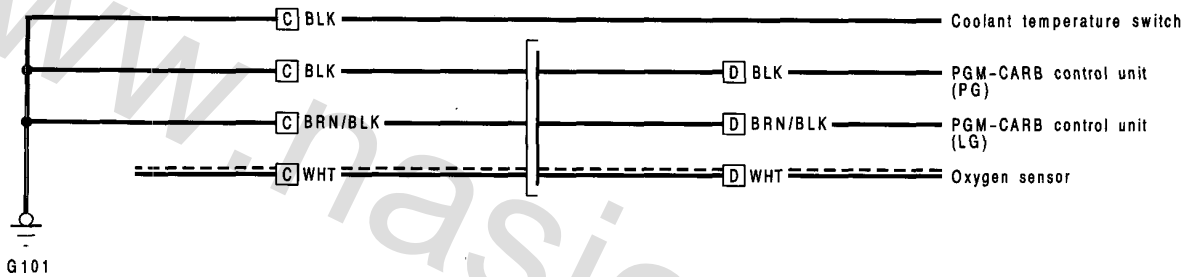
WHT/BLK

# Ground Distribution

## Circuit Identification



Carbureted Engine:

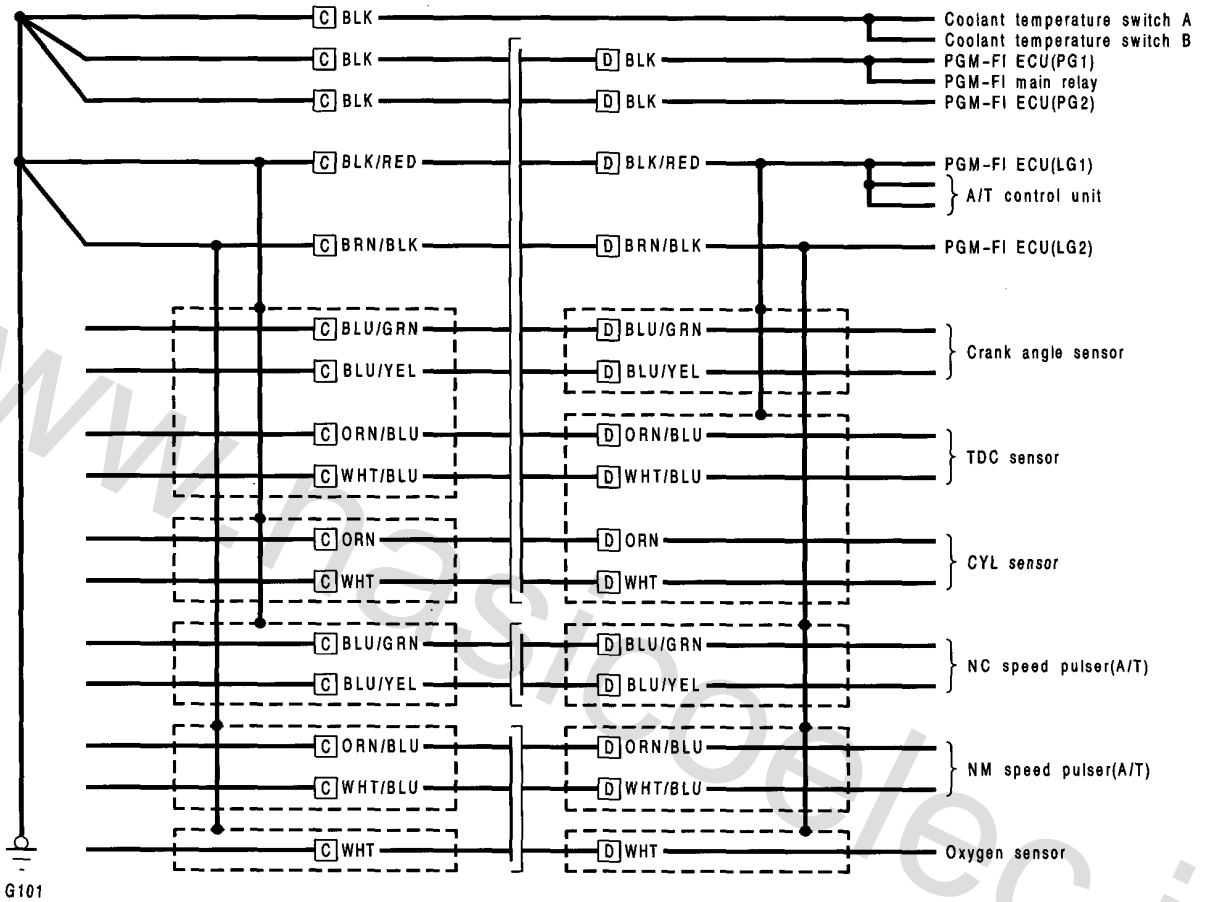


- A : Battery ground wire
- B : Engine ground wire
- C : Engine wire harness
- D : Main wire harness

----- Shield wire



Fuel-Injected Engine:



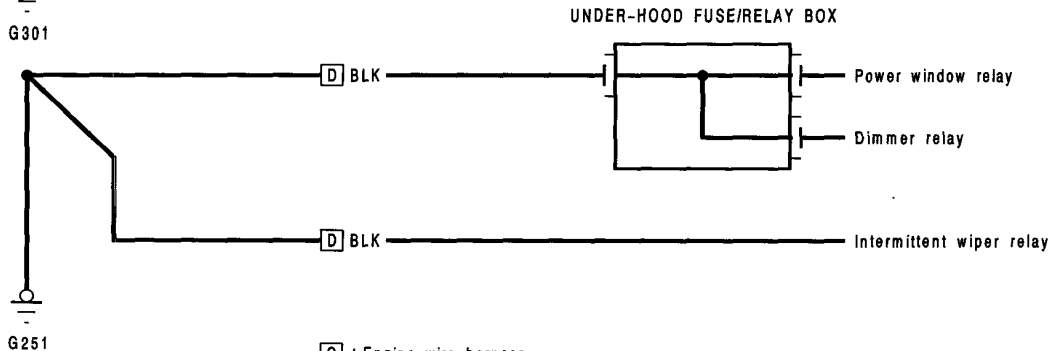
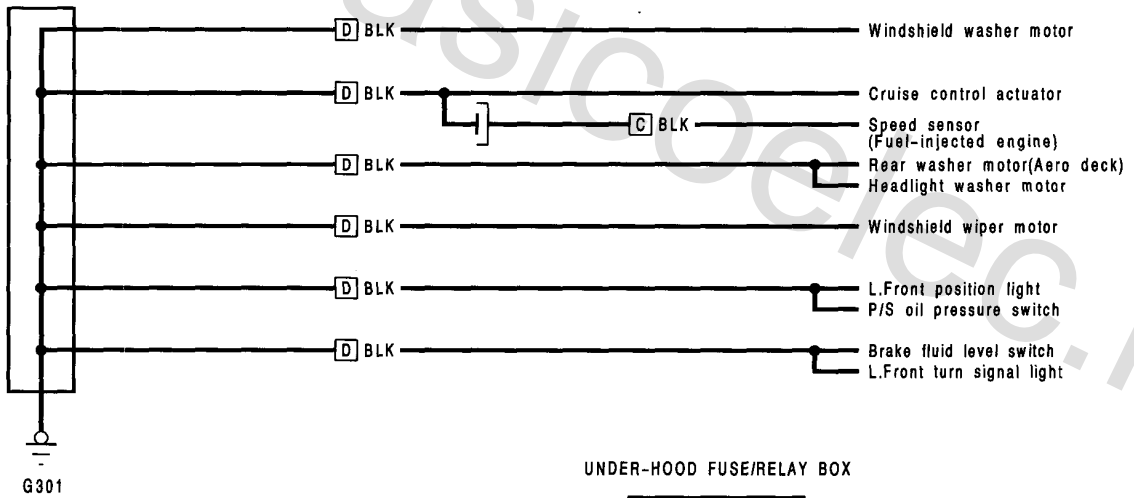
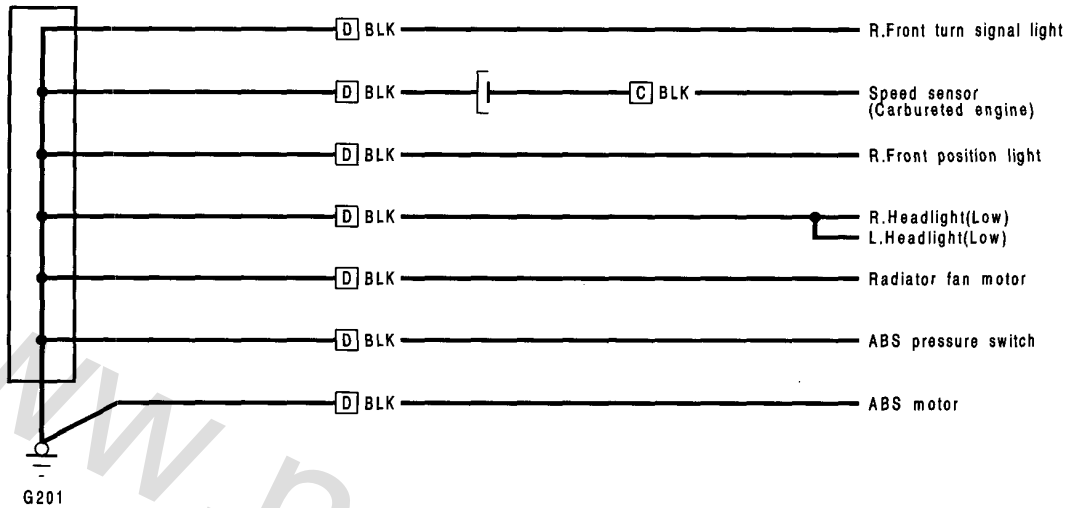
C : Engine wire harness  
D : Main wire harness

----- Shield wire

# Ground Distribution

## Circuit Identification (LHD)

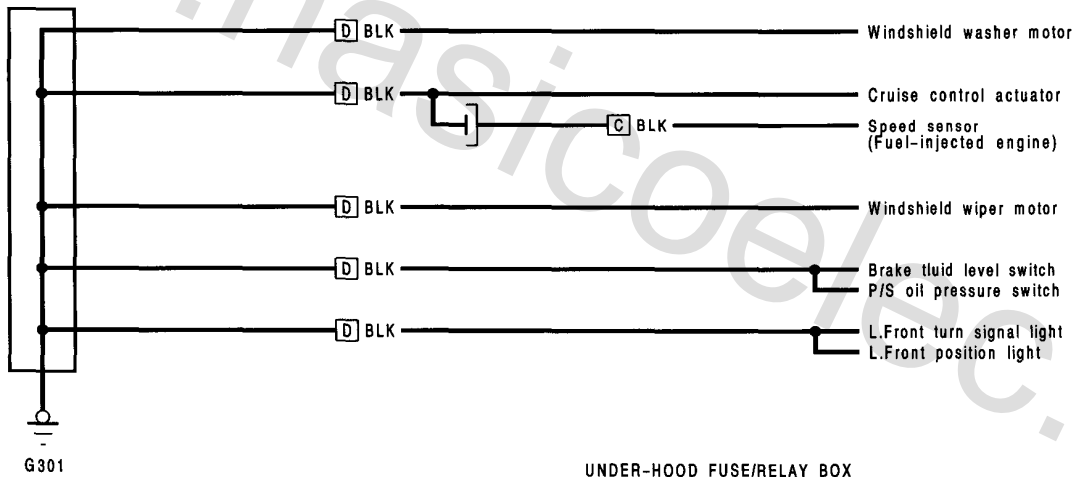
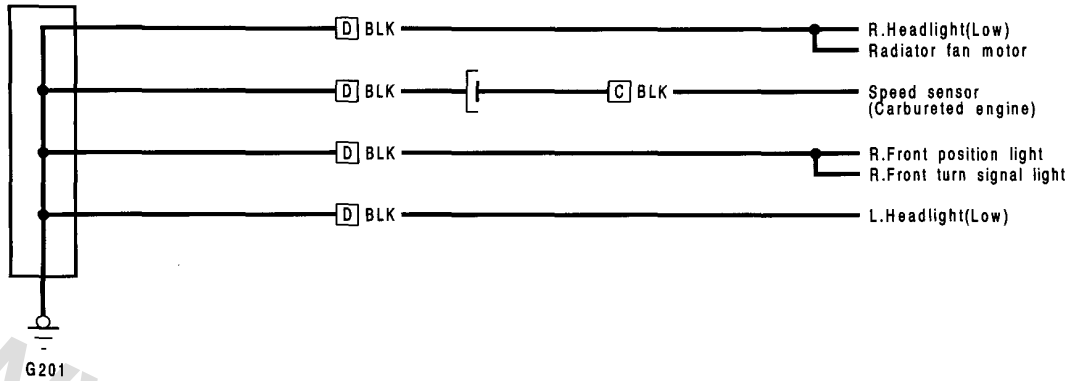
Europe model:



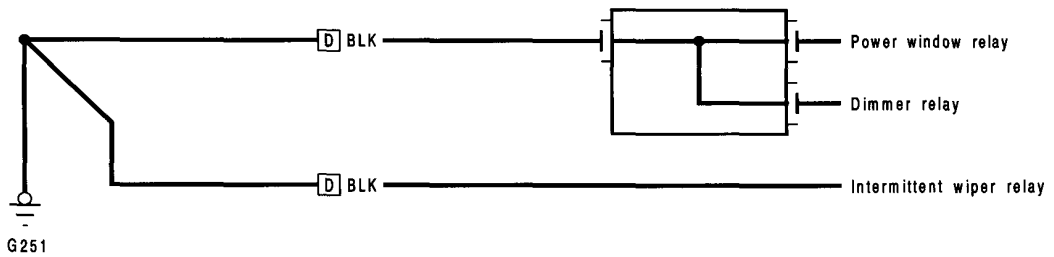
**C** : Engine wire harness  
**D** : Main wire harness



Except europe model:



UNDER-HOOD FUSE/RELAY BOX



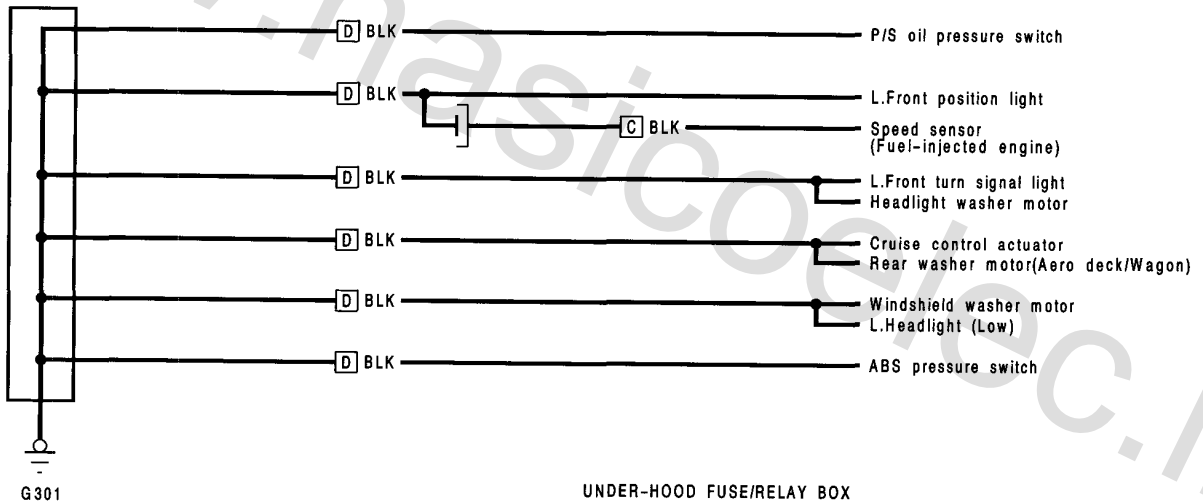
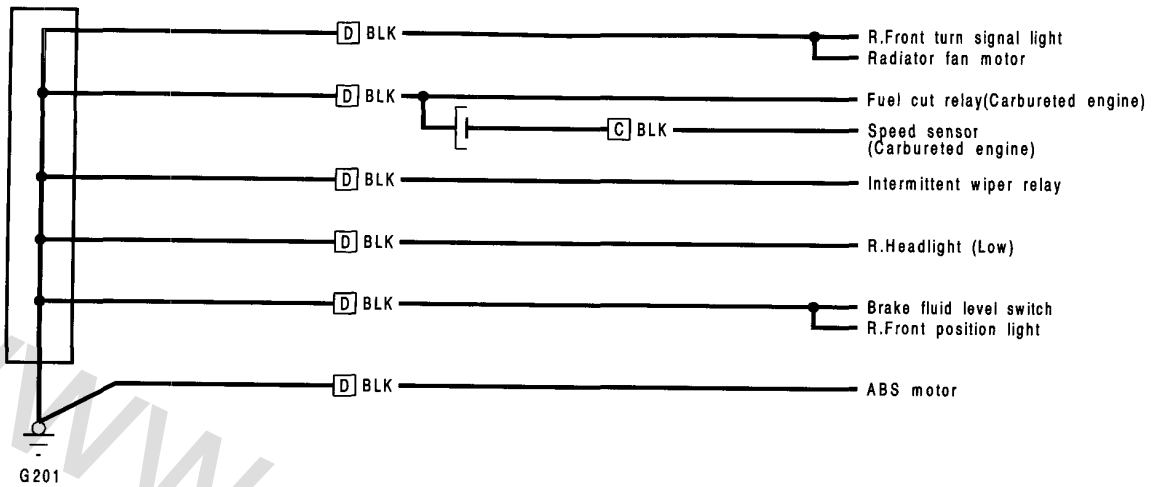
C : Engine wire harness

D : Main wire harness

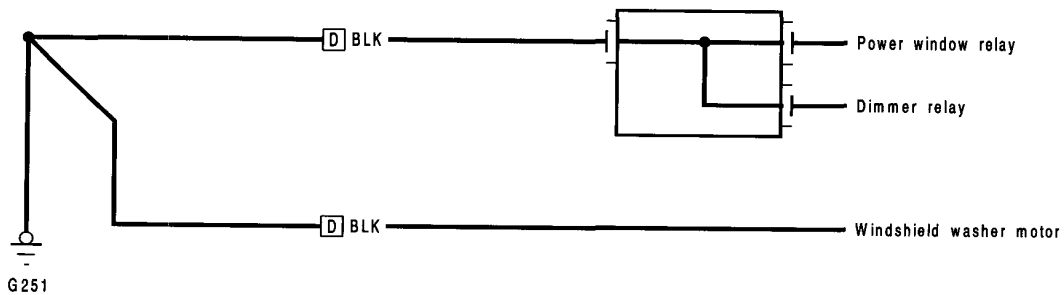
(cont'd)

# Ground Distribution

## Circuit Identification (RHD) (cont'd)



### UNDER-HOOD FUSE/RELAY BOX

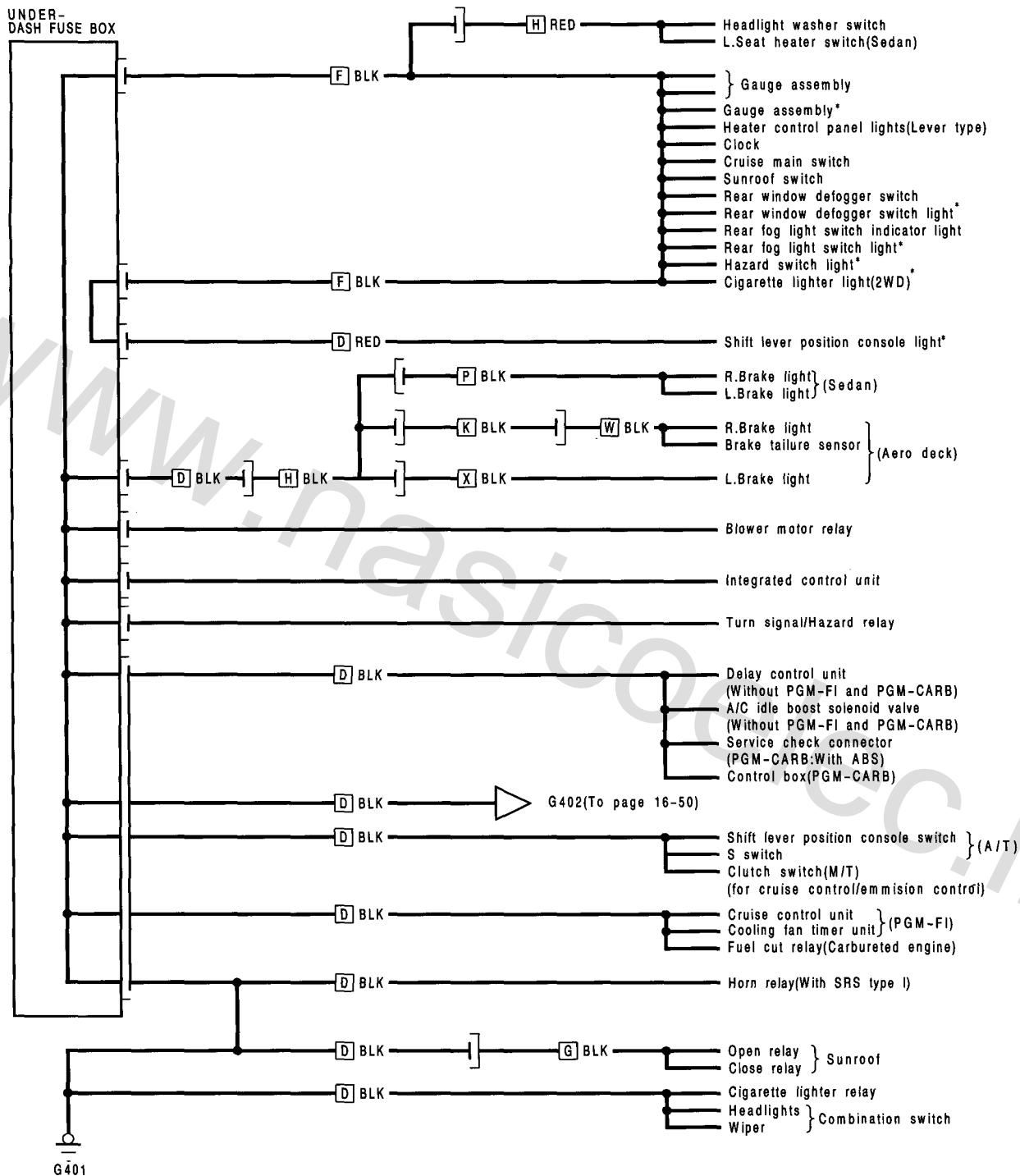


[C] : Engine wire harness  
 [D] : Main wire harness



(LHD)

Europe model:



\*: Without dashlight brightness controller

**D** : Main wire harness  
**F** : Dashboard wire harness  
**G** : Sunroof wires

**H** : Floor wire harness  
**K** : Side wire harness  
**P** : Rear wire harness

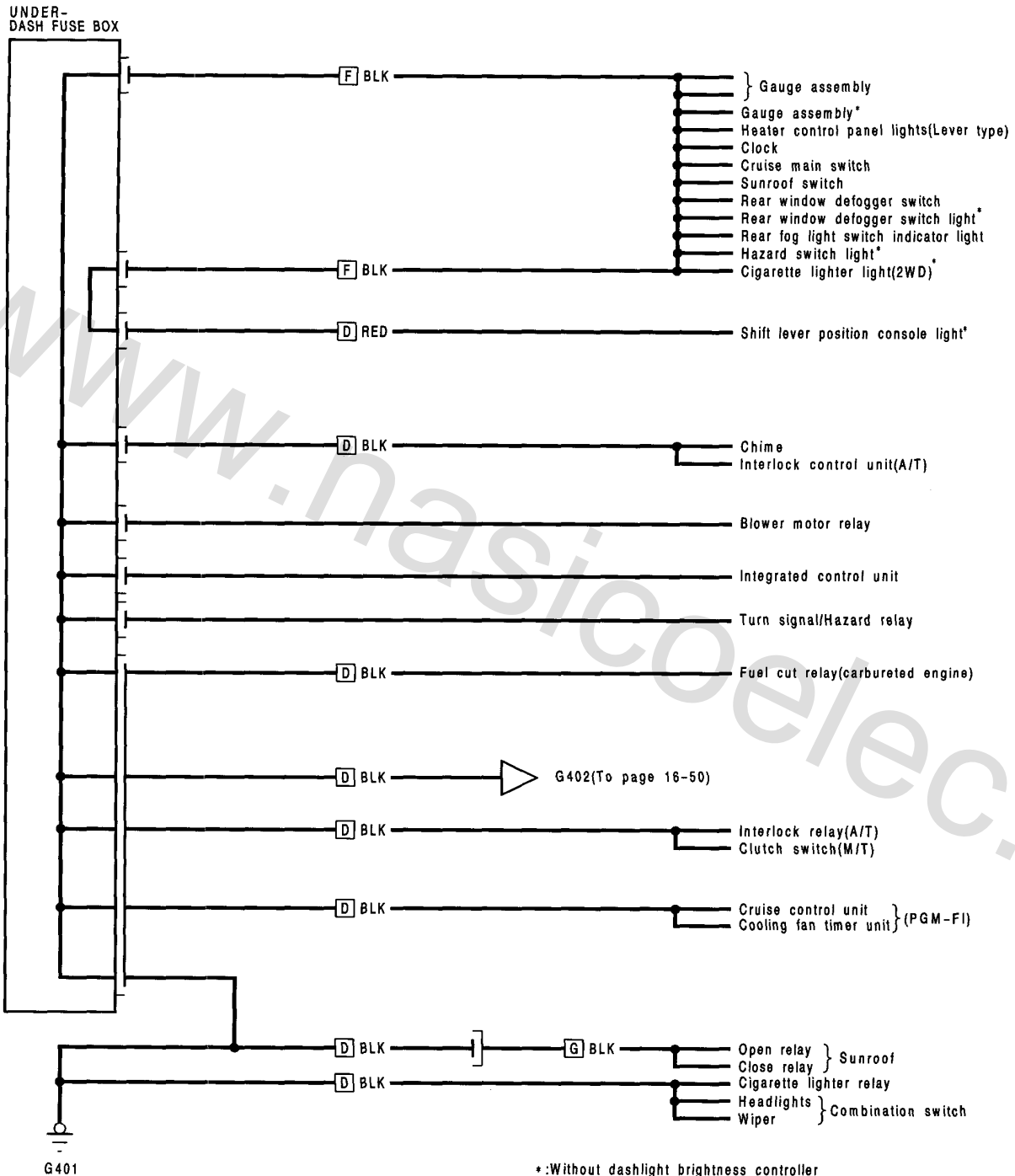
**W** : Right rear wire harness  
**X** : Left rear wire harness

(cont'd)

# Ground Distribution

## Circuit Identification (LHD)

Excep europe model:

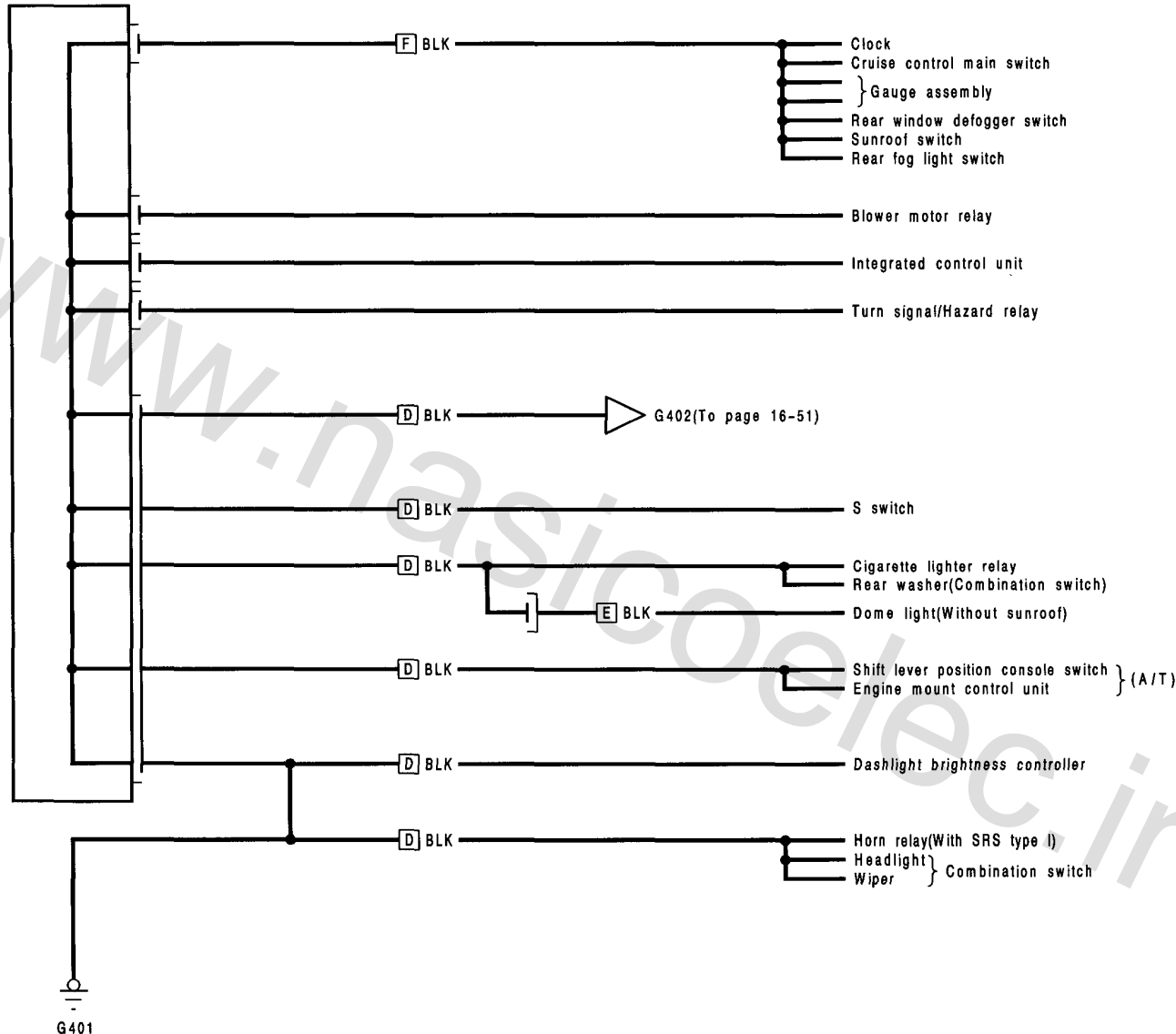


- D** : Main wire harness
- F** : Dashboard wire harness
- G** : Sunroof wires





UNDER-DASH FUSE BOX

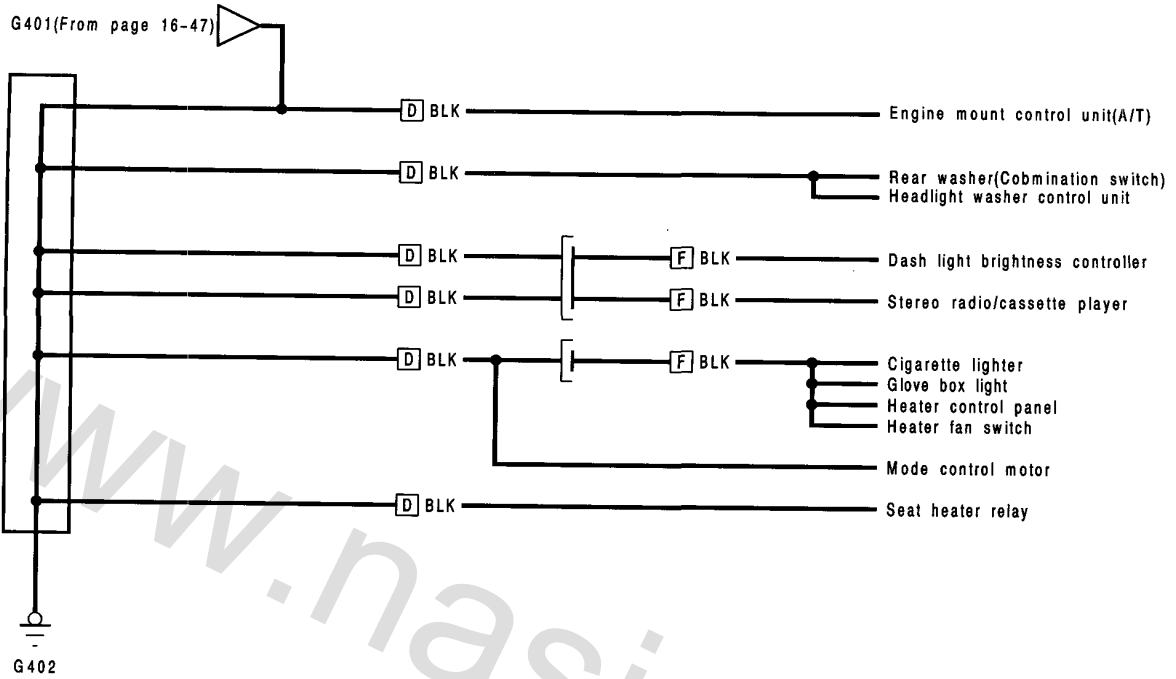


- D** : Main wire harness
- F** : Dashboard wire harness
- E** : Roof wires

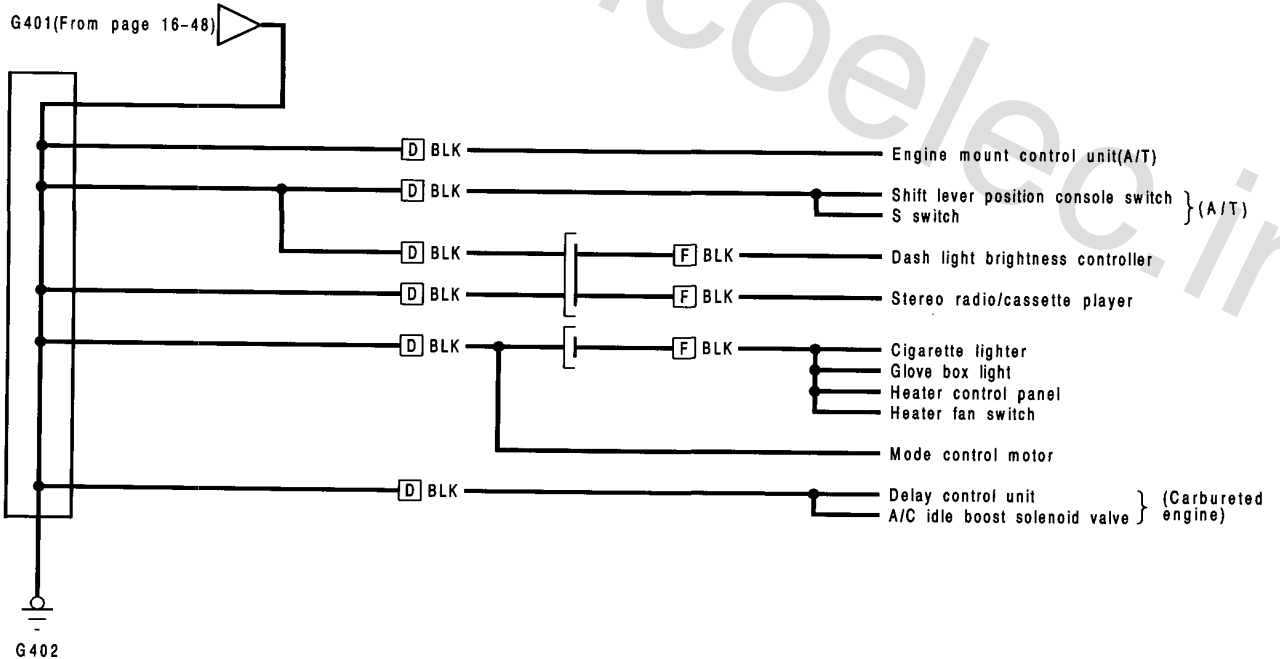
# Ground Distribution

## Circuit Identification (LHD)

Europe model:



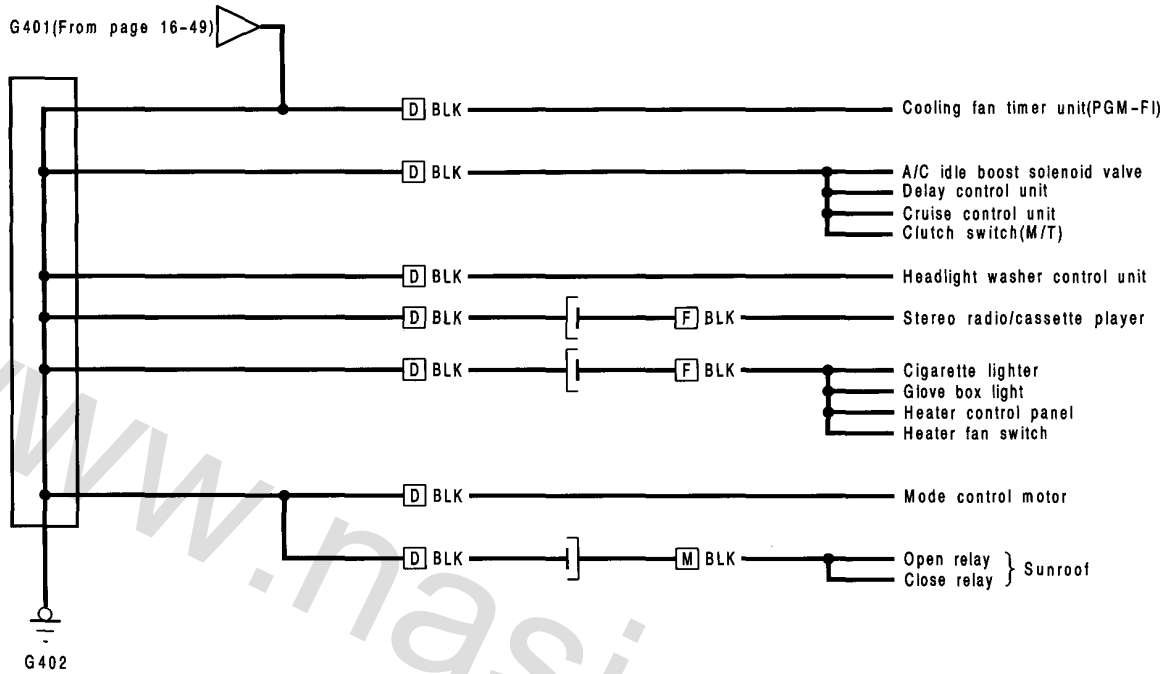
Except europe model:



[D] : Main wire harness  
[F] : Dashboard wire harness



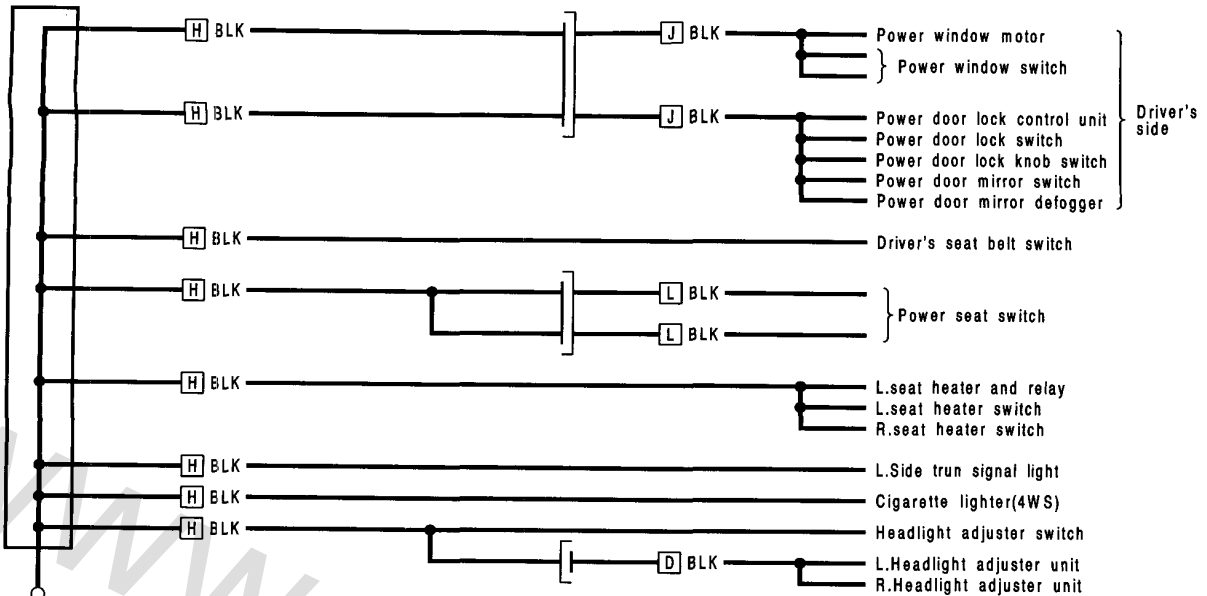
(RHD)



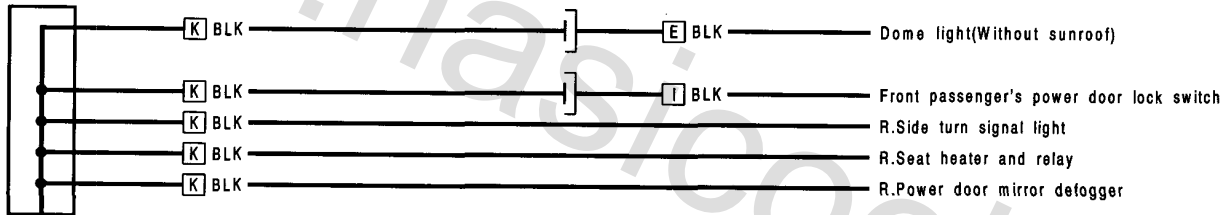
- [D] : Main wire harness
- [F] : Dashboard wire harness
- [M] : Sunroof sub wires

# Ground Distribution

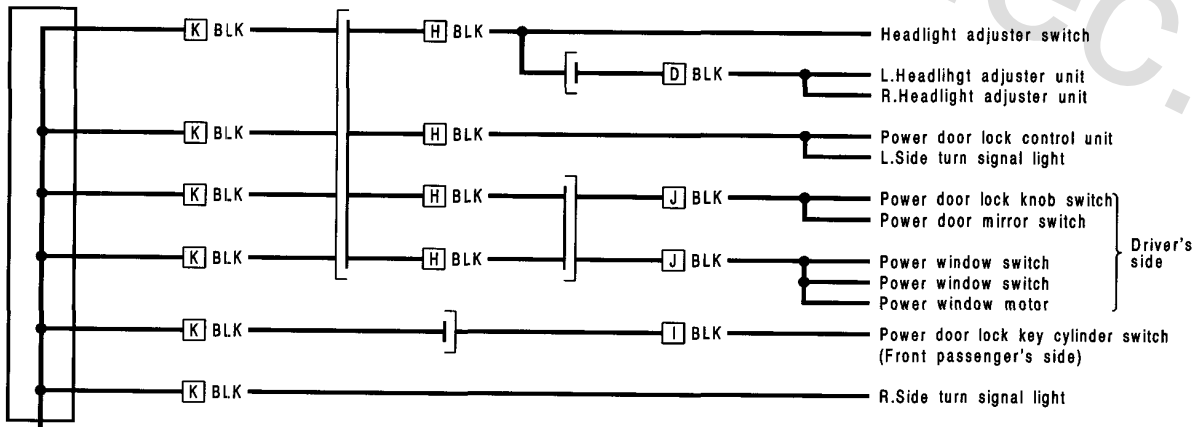
## Circuit Identification (LHD)



G501 (Sedan)



G502 (Sedan)



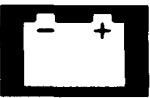
G502 (Aero deck/Wagon)

[D] : Main wire harness  
[E] : Roof wires

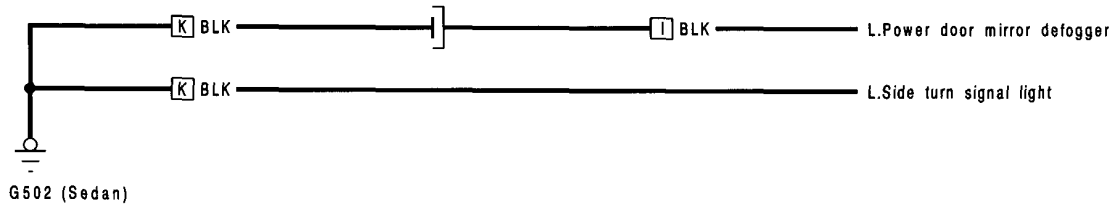
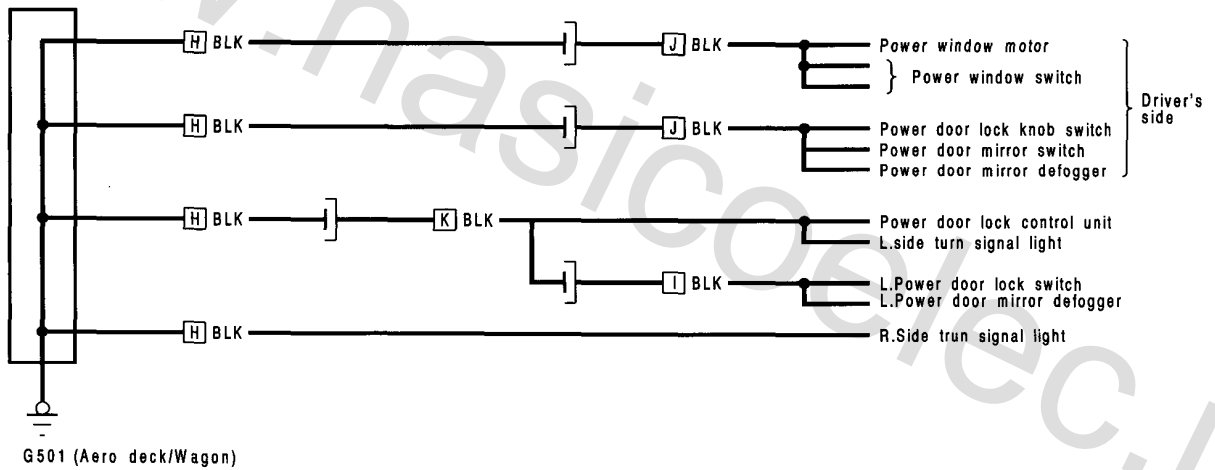
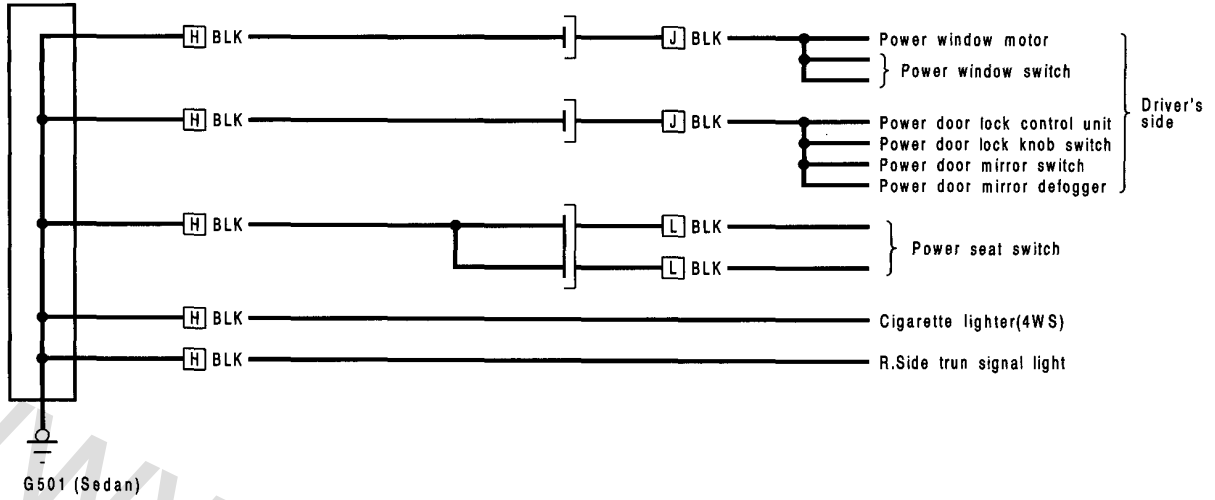
[H] : Floor wire harness  
[I] : Right front door wire harness

[J] : Driver door wire harness  
[K] : Side wire harness

[L] : Power seat wires



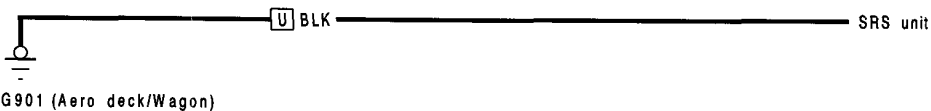
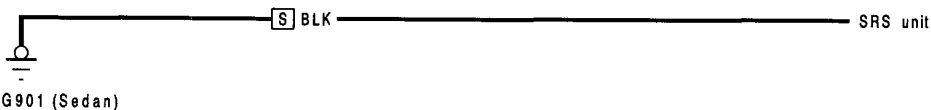
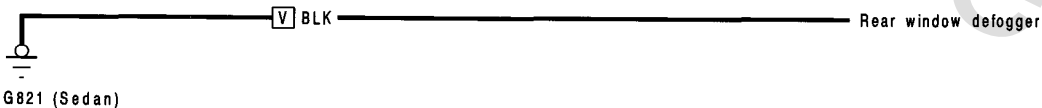
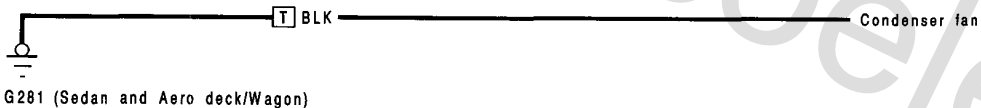
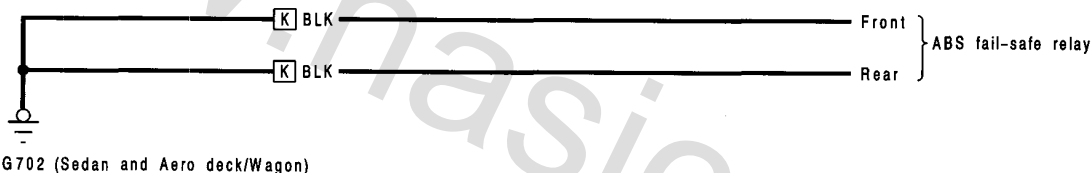
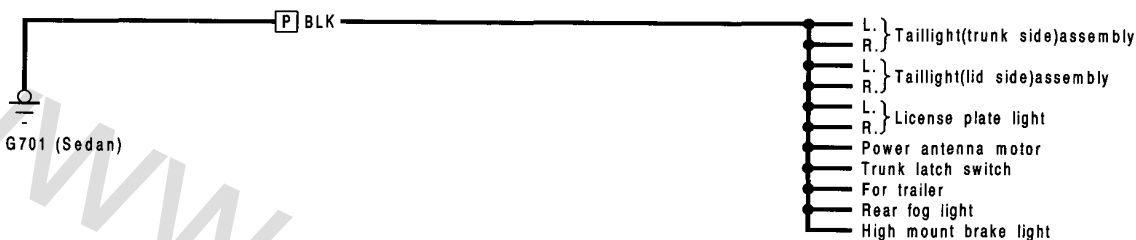
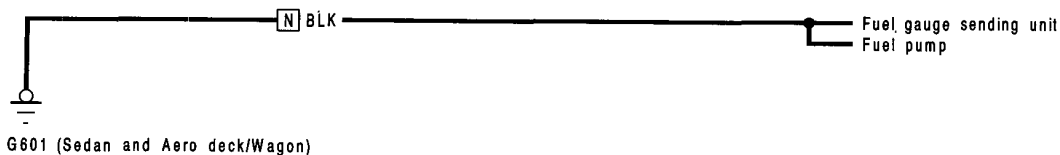
(RHD)



[H] : Floor wire harness      [J] : Driver door wire harness      [L] : Power seat wires  
 [I] : Right front door wire harness      [K] : Side wire harness

# Ground Distribution

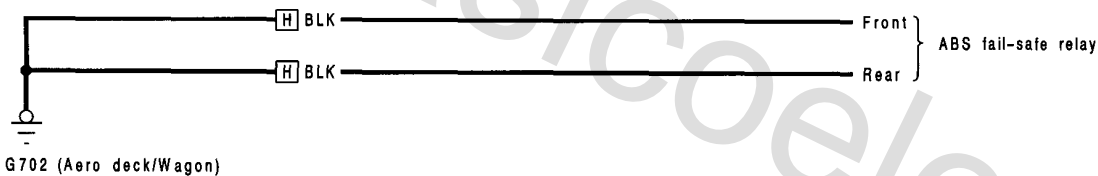
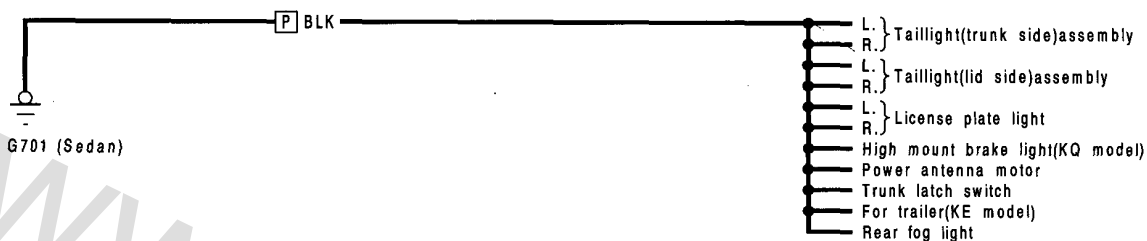
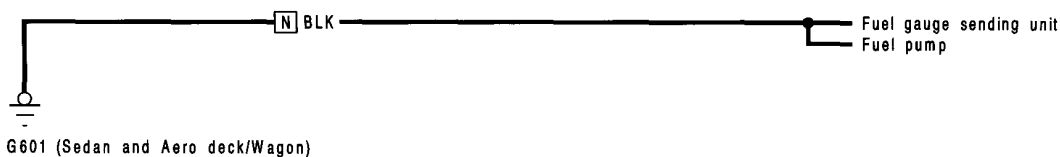
## Circuit Identification (LHD)



- |                                 |                                 |
|---------------------------------|---------------------------------|
| <b>K</b> : Side wire harness    | <b>T</b> : A/C wire harness     |
| <b>N</b> : Fuel tank wires      | <b>U</b> : SRS main harness     |
| <b>P</b> : Rear wire harness    | <b>V</b> : Defogger ground wire |
| <b>S</b> : SRS unit sub harness |                                 |



(RHD)



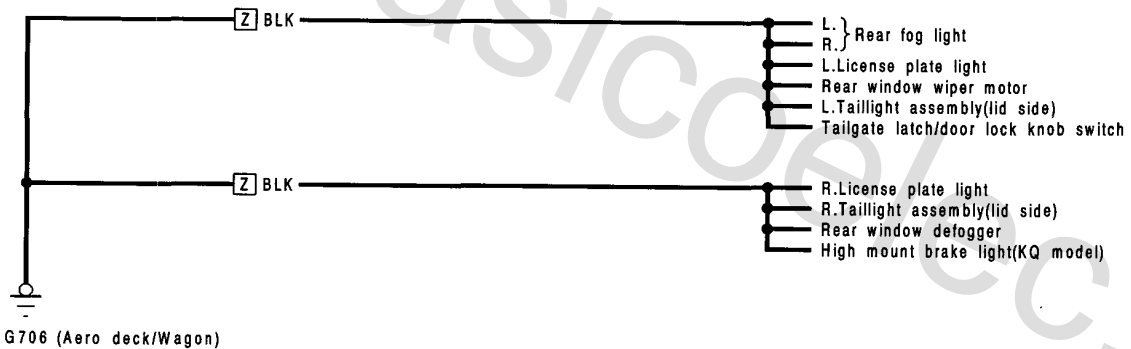
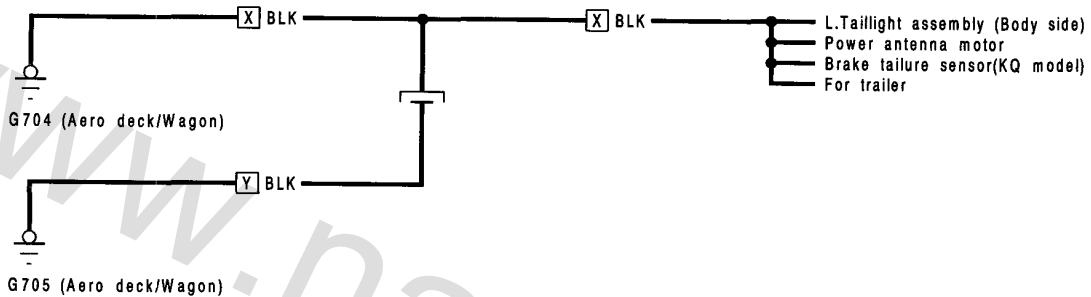
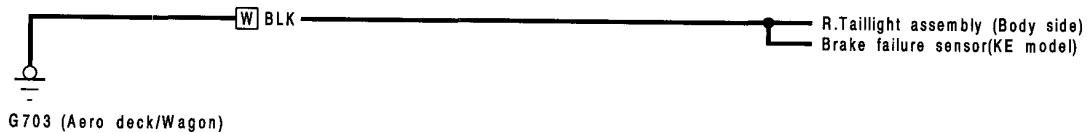
[H] : Floor wire harness  
 [N] : Fuel tank wires  
 [P] : Rear wire harness

[S] : SRS unit sub harness  
 [T] : A/C wire harness

[U] : SRS main harness  
 [V] : Defogger ground wire

# Ground Distribution

## Circuit Identification



- W : Right rear wire harness
- X : Left rear wire harness
- Y : Tailhgte wire harness
- Z : Tailhgte sub wire harness





# Charging System

## Troubleshooting

### NOTE:

- Before troubleshooting check:
  - Tightness of the alternator belt.
  - That the self-diagnosis indicator light of the PGM-FI ECU does not blink. If it blinks (20 times), refer to section 11.
- Troubleshoot by performing following tests in the order listed below.

#### Malfunction:

- Charging system light does not go off.
- Charging system light does not go on.
- Battery is dead or low.

1. Test the operation of the alternator and regulator (see page 16-58).

2. Test the operation of the charging system light (see page 16-59).

3. Check the IG and S terminal voltage of the alternator connector (see page 16-60).

Charging system light does not go off because the engine idle speed is too low:

- Check the idle speed.

(cont'd)

# Charging System

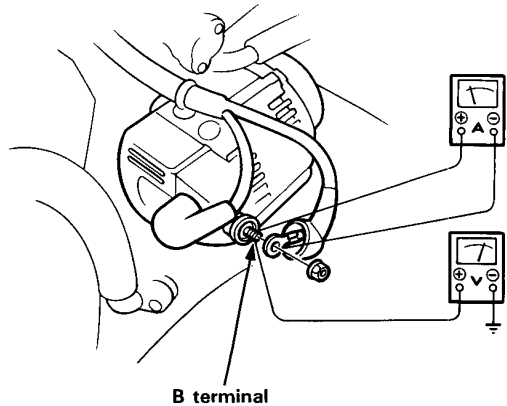
## Troubleshooting (cont'd)

### Alternator/Regulator Operation Test:

**CAUTION:** Be careful during testing as the cooling fan comes on suddenly while the engine is running.

Be sure to use a good battery. Disconnect the B terminal, then connect an ammeter, and a voltmeter as shown.

**NOTE:** Be sure to use an ammeter capable of measuring amperages higher than 120 A.



Start the engine, and let it idle until it reaches normal operating temperature (cooling fan comes on 2 tiems).

Raise the engine speed to 2000 rpm and hold it there. Turn the headlights (HI) on, and check the voltage at the battery terminals.

**CAUTION:** As the headlights warm up considerably, do not cover them.

Is the voltage between 13.9 and 15.1 V?

NO

Test the alternator (see page 16-61).

YES

Turn the blower motor and the rear window defogger on, and check the battery voltage.

Is the battery voltage less than 13.5 V?

NO

Turn also the fog lights, brake lights, etc. on)

YES

Read the amperage.

Are there more than \*A?

NO

Test the alternator (see page 16-61).

YES

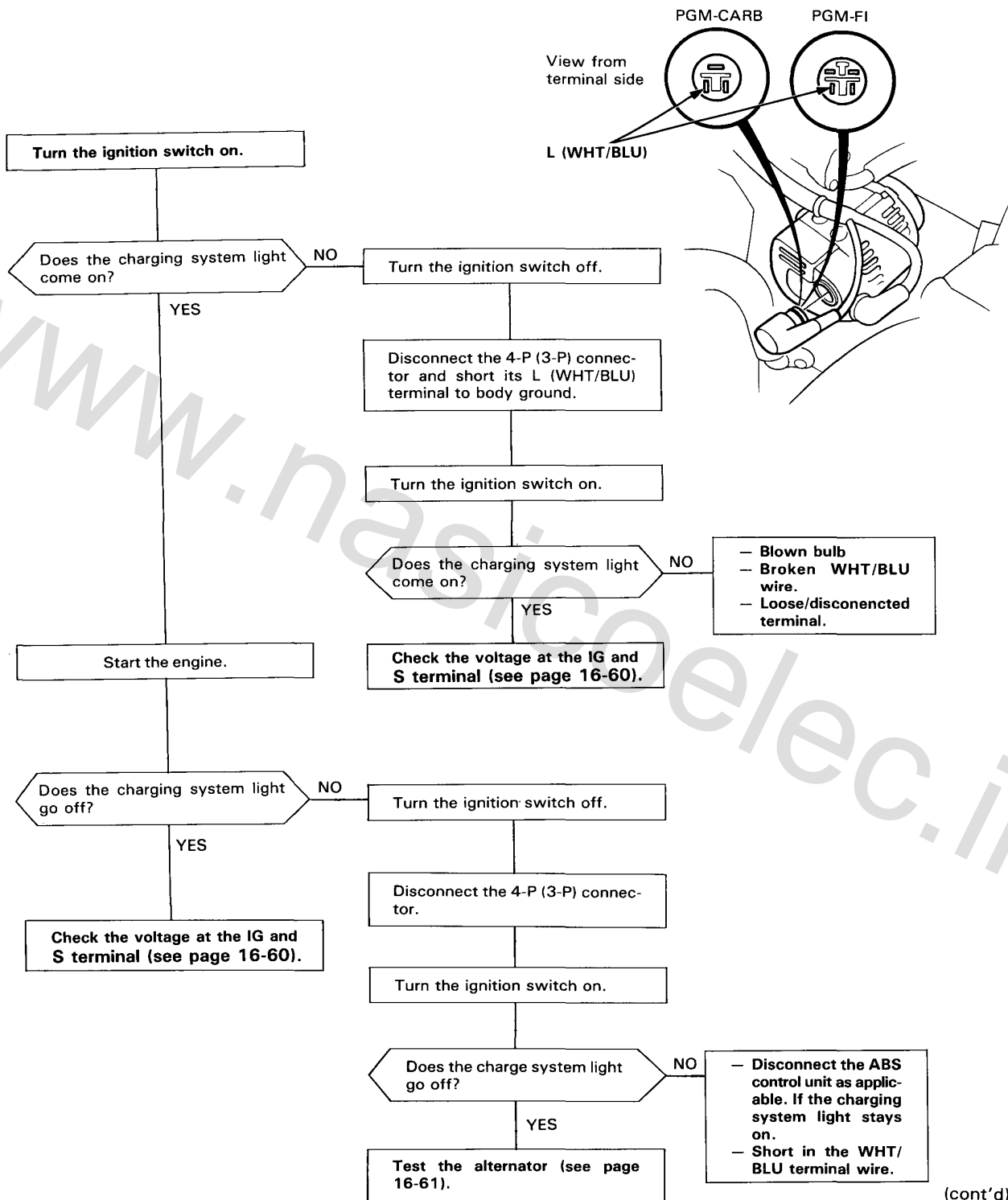
Alternator/Regulator operation is OK. Test the charging system light operation (see page 16-59).

\*:

- with A/C: 60 A
- without A/C: 55 A



### Charging System Light Test:



(cont'd)

# Charging System

## Troubleshooting (cont'd)

### Voltage Checks at IG and S Terminals:

Turn the ignition switch off.

Are the B terminal, the 4-P (3-P) connector and under-hood fuse/relay box terminals securely tightened?

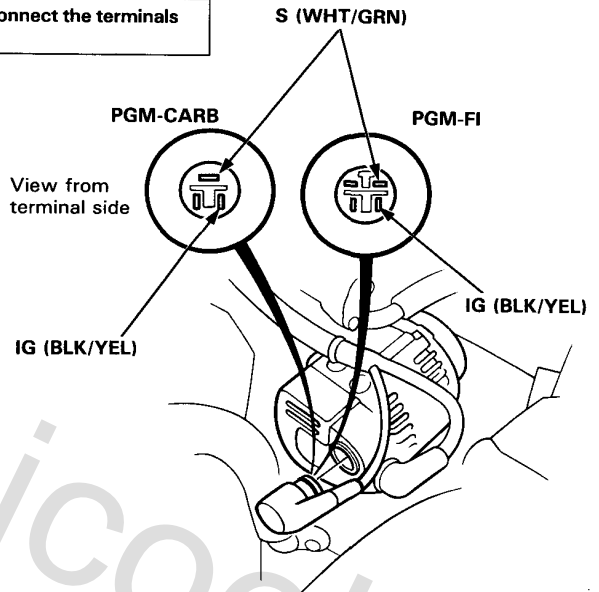
NO

Tighten or reconnect the terminals securely.

YES

Disconnect the 4-P (3-P) connector and turn the ignition switch on.

Measure the voltage between body ground and the IG terminal of the 4-P (3-P) connector.



Is there battery voltage?

NO

– Blown No. 2 (15 A) fuse  
– An open in the BLK/YEL wire.

YES

Measure the voltage between body ground and the S terminal of the 4-P (3-P) connector.

Is there battery voltage?

NO

– Blown No. 21 (7,5 A) fuse  
– An open in the WHT/GRN wire.

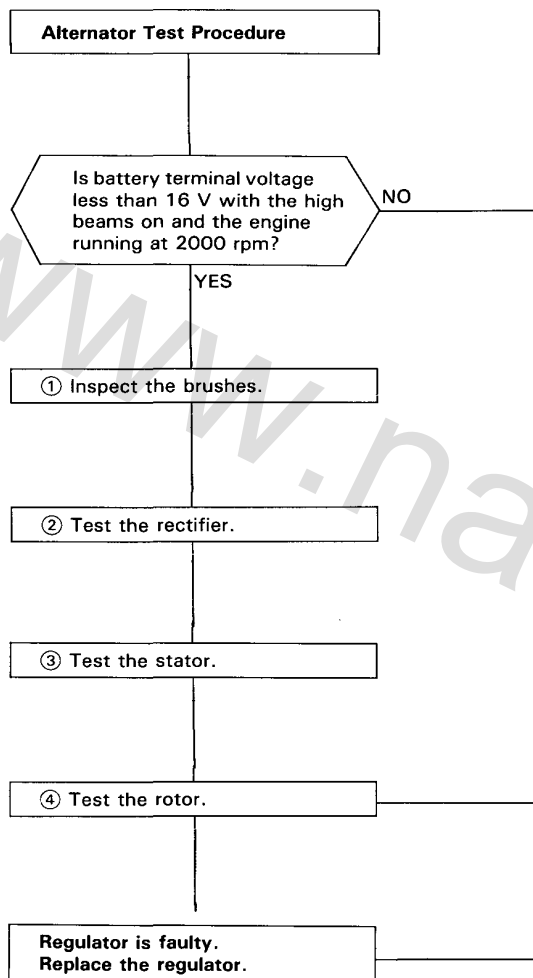
YES

Check the battery.



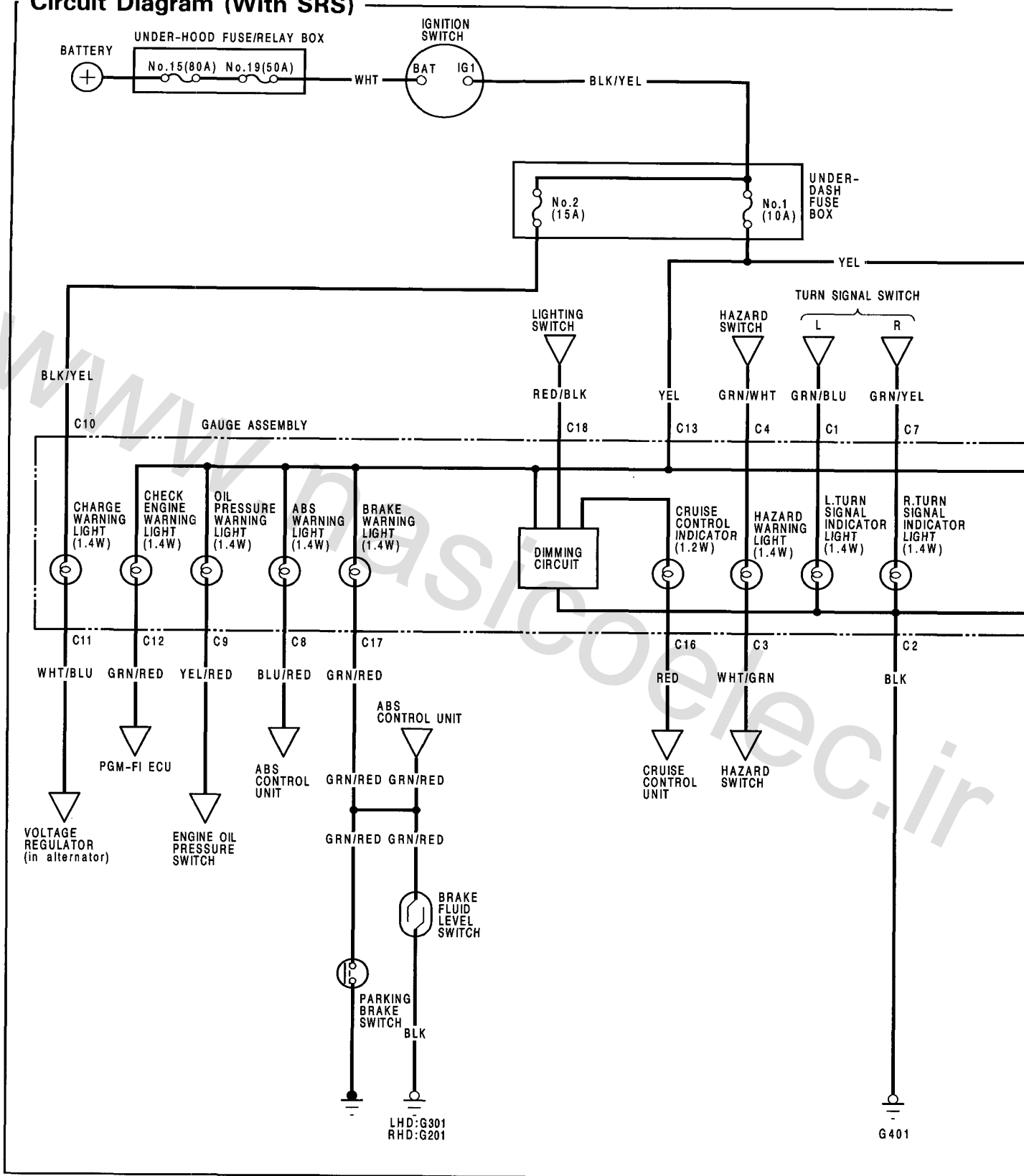
### Alternator Test:

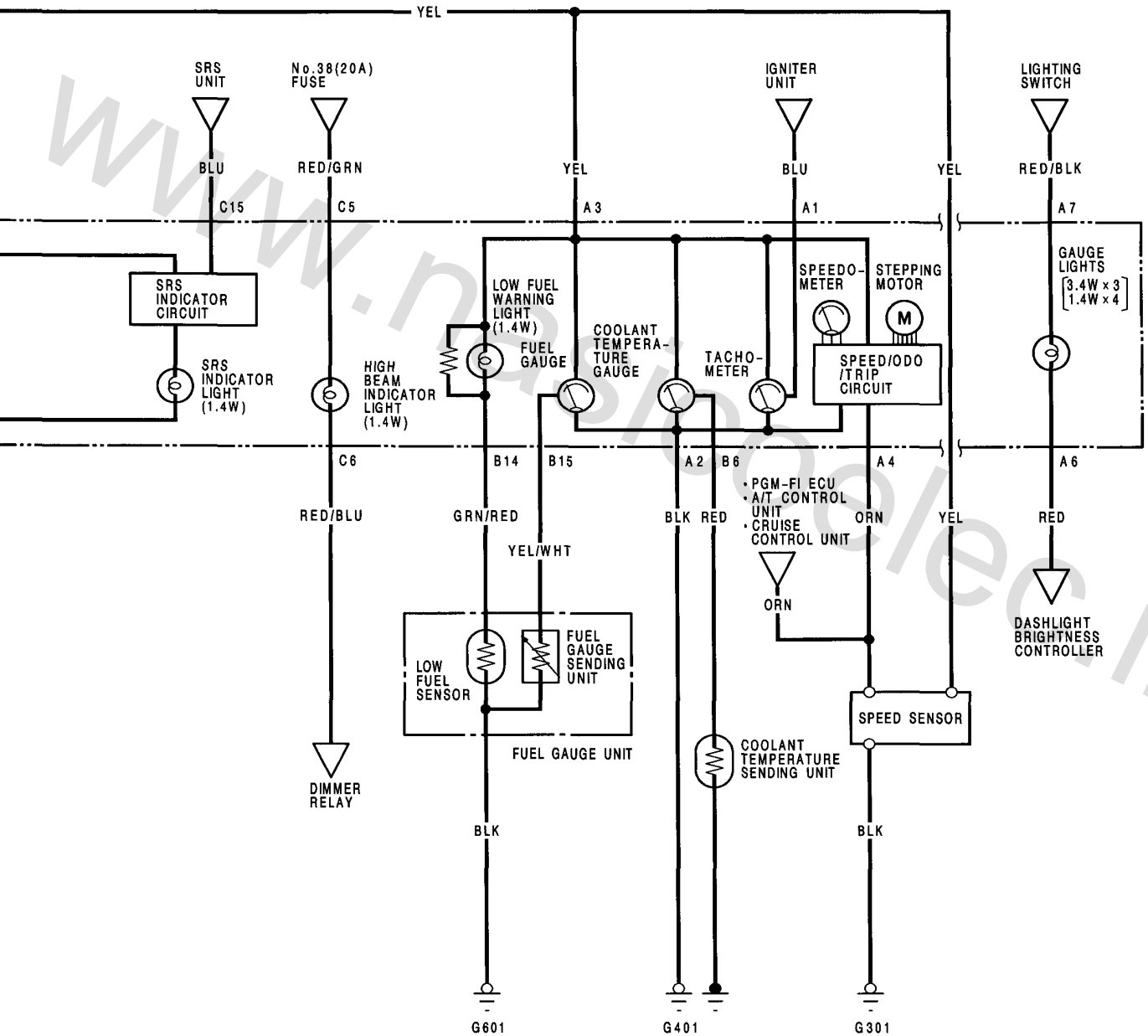
NOTE: Because an overall check is necessary to avoid misleading conclusions, test the alternator in the order described below.



# Gauge Assembly

## Circuit Diagram (With SRS)





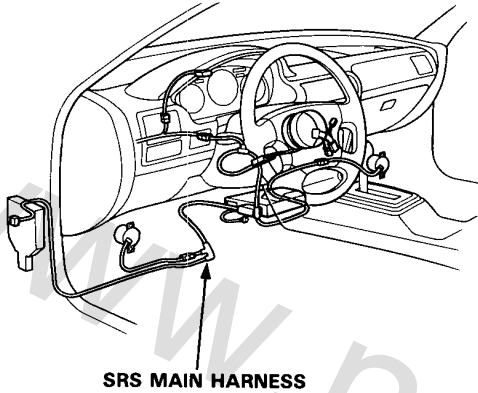
# Gauge Assembly

## Terminal Locations (With SRS)

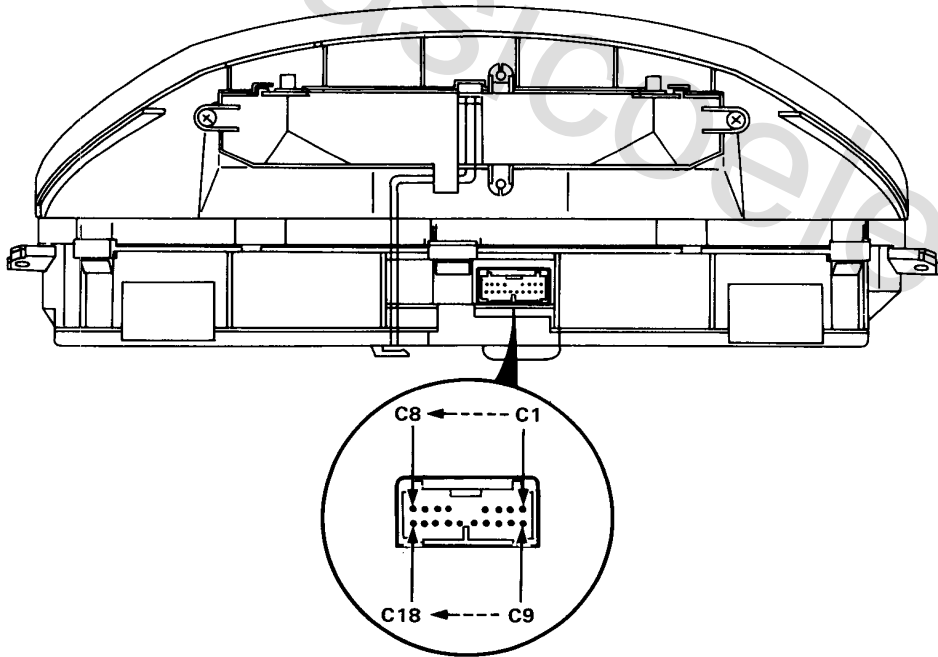
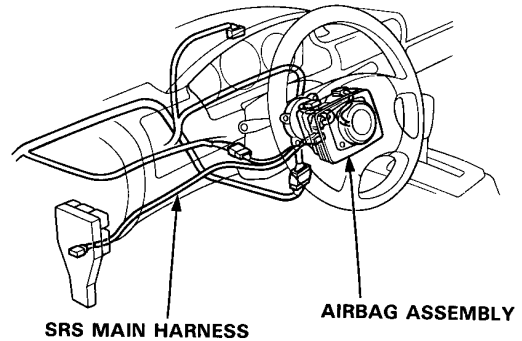
### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- SRS Type I only: Before disconnecting the SRS wire harness, install the short connector on the airbag (see page 16-105).
- SRS Type II only: Before disconnecting the SRS wiring harness, turn the ignition switch off, disconnect the negative and positive battery cables, and wait at least three minutes.

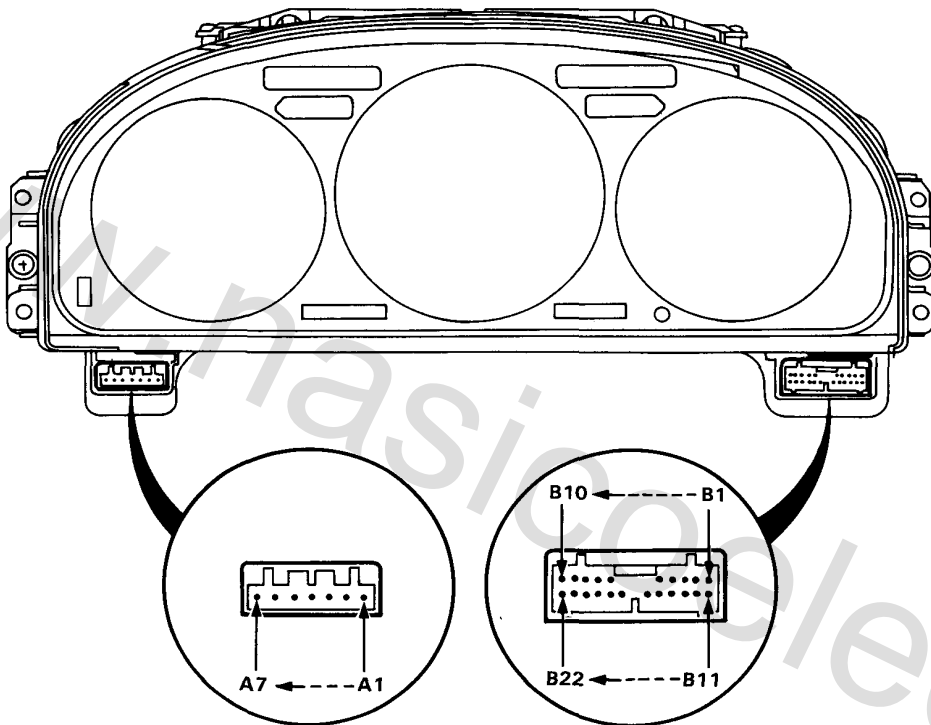
SRS Type I



SRS Type II

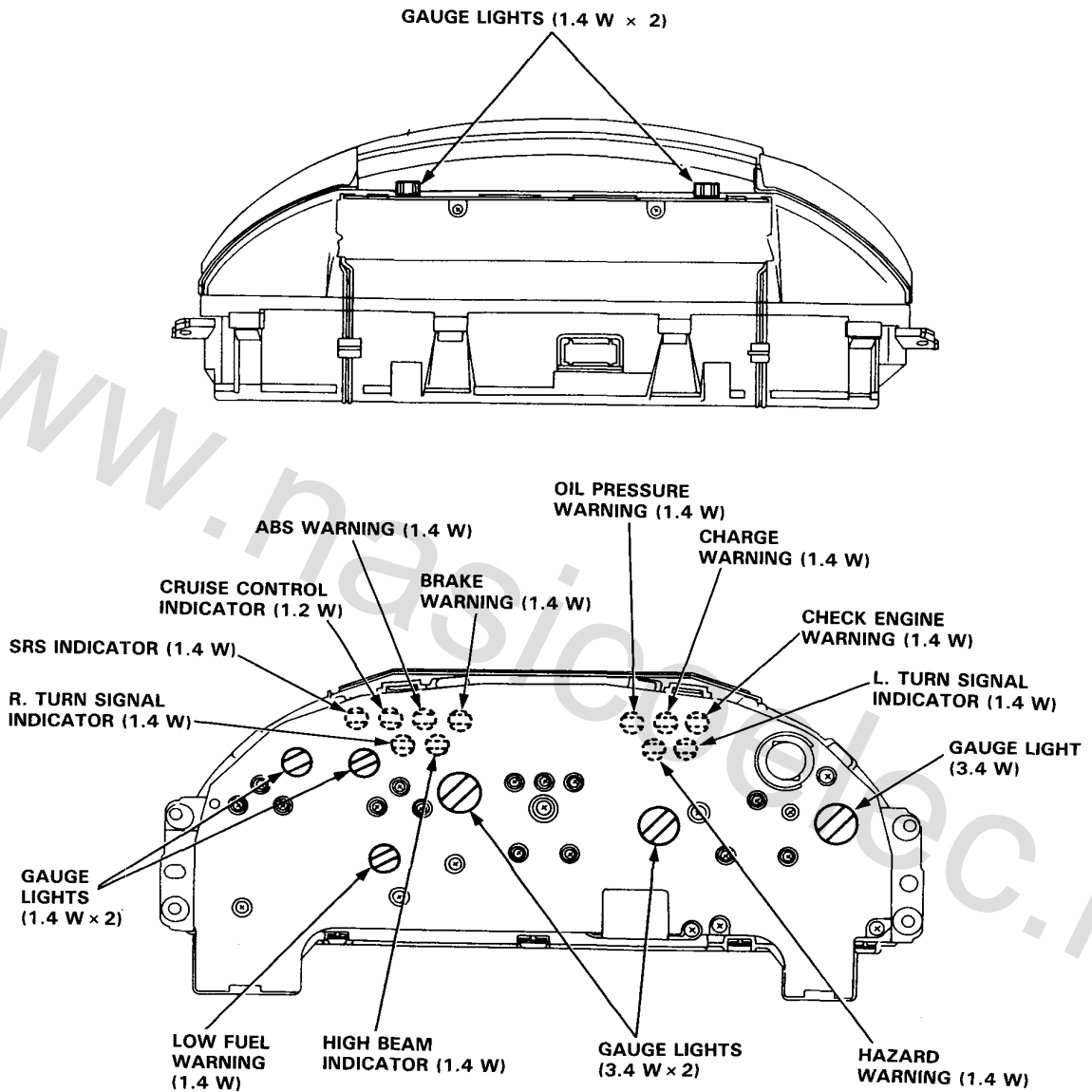






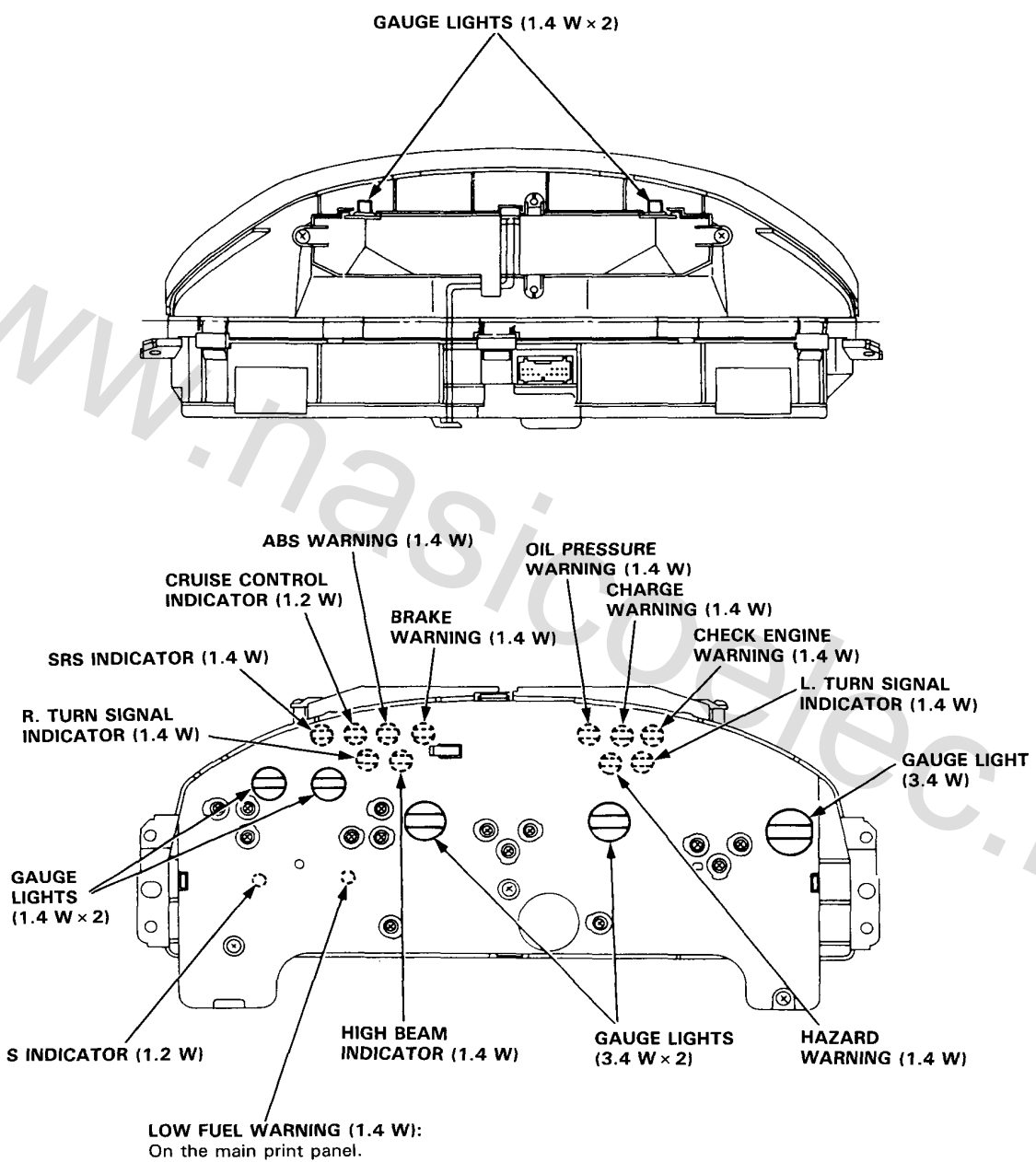
# Gauge Assembly

## Bulb Locations (Nippon Denso: With SRS)



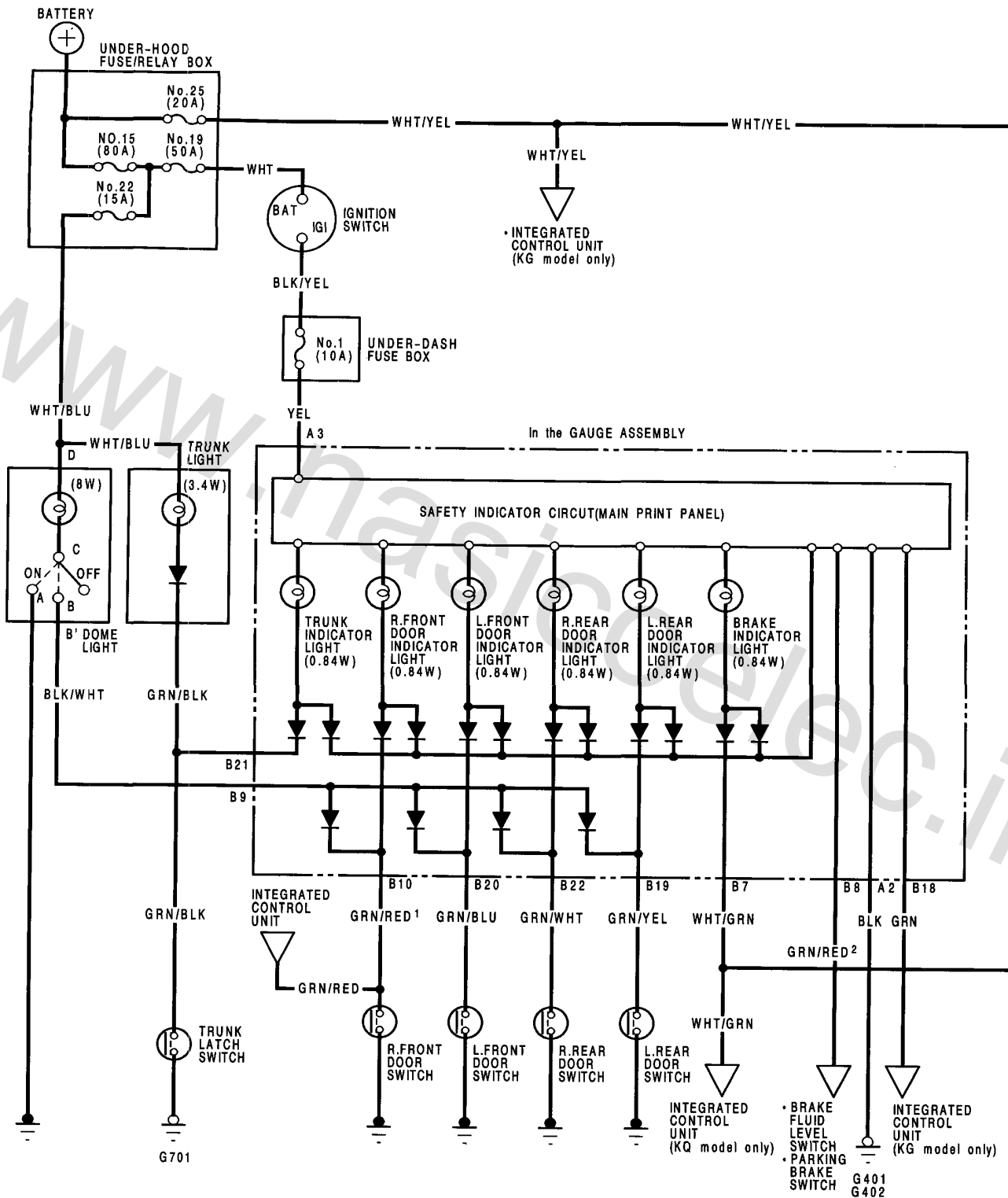


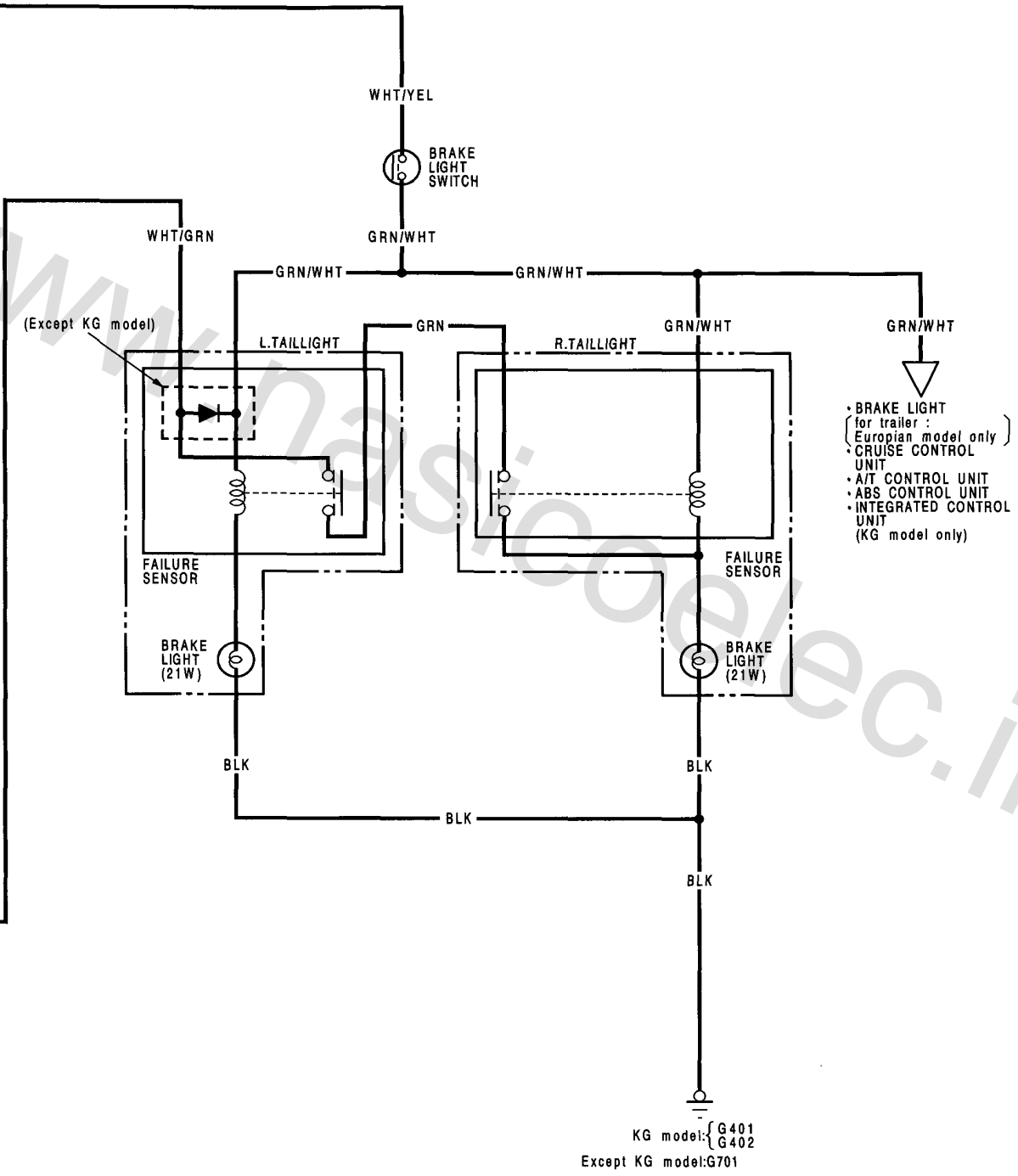
# Bulb Locations (Nippon Seiki: With SRS)



# Safety Indicator

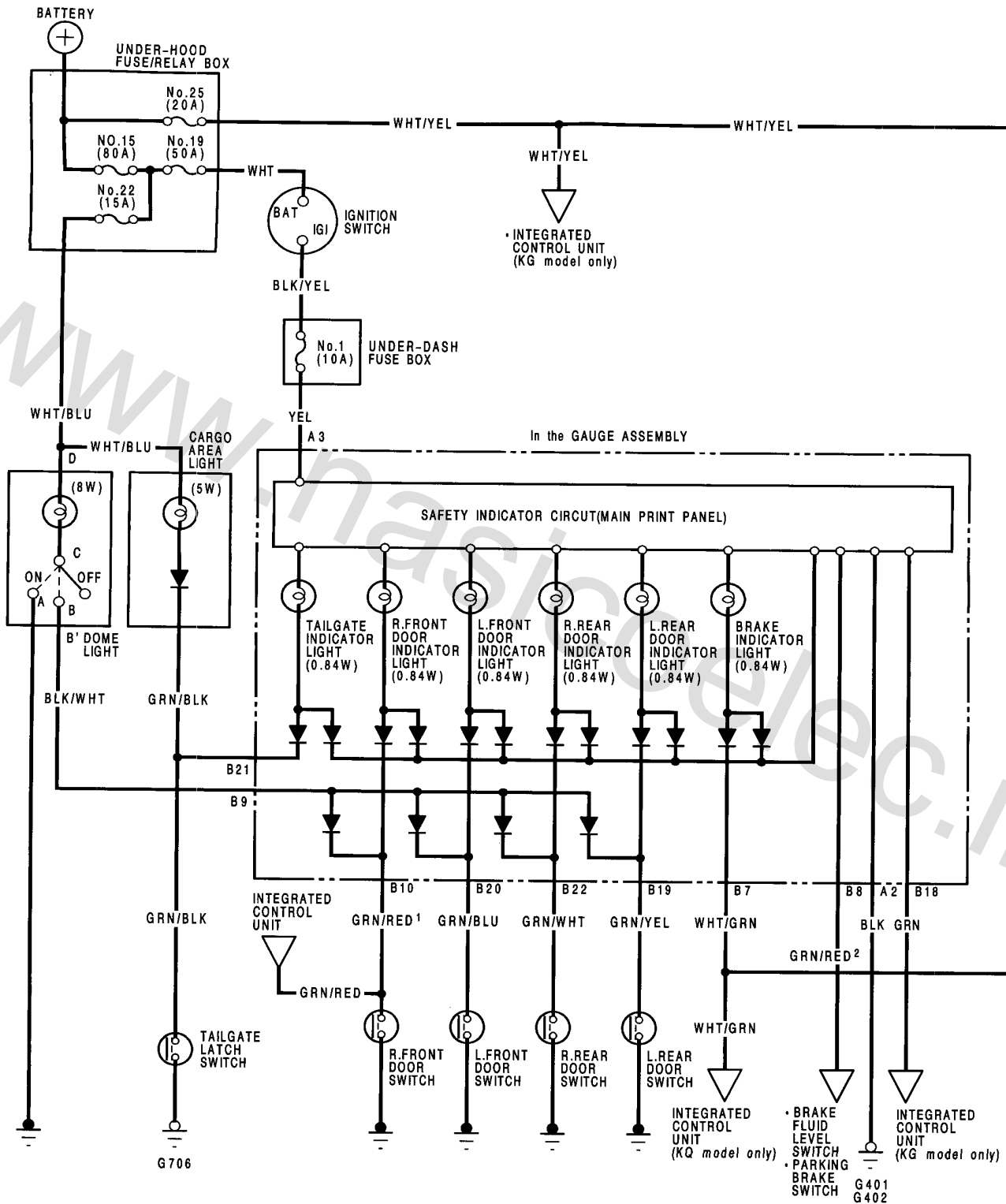
## Circuit Diagram (With SRS: Sedan)

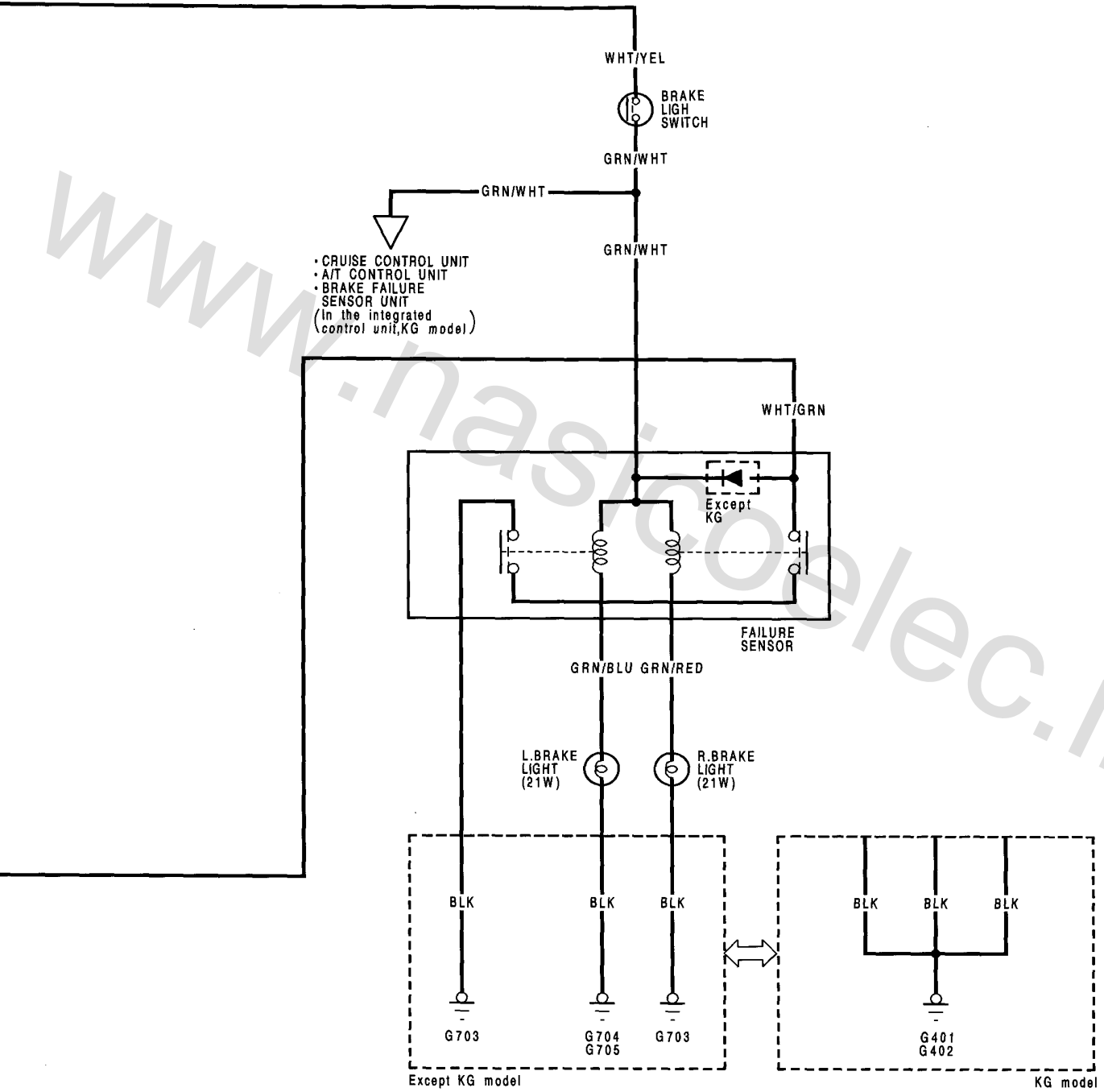




# Safety Indicator

## Circuit Diagram (With SRS: Aero deck)





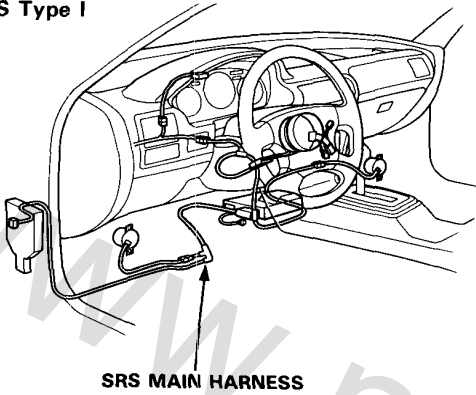
# Safety Indicator

## Indicator Input Test (With SRS)

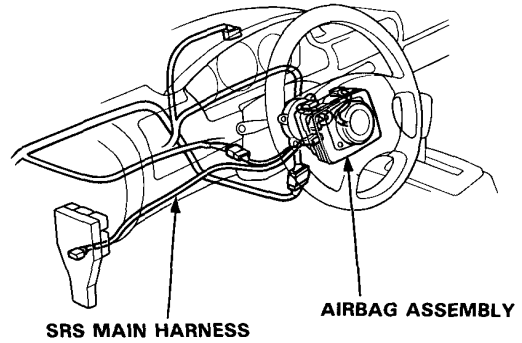
**CAUTION:**

- All SRS electrical wiring harness are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- SRS Type I only: Before disconnecting the SRS wire harness, install the short connector on the airbag (see page 16-105).
- SRS Type II only: Before disconnecting the SRS wiring harness, turn the ignition switch off, disconnect the negative and positive battery cables, and wait at least three minutes.

SRS Type I

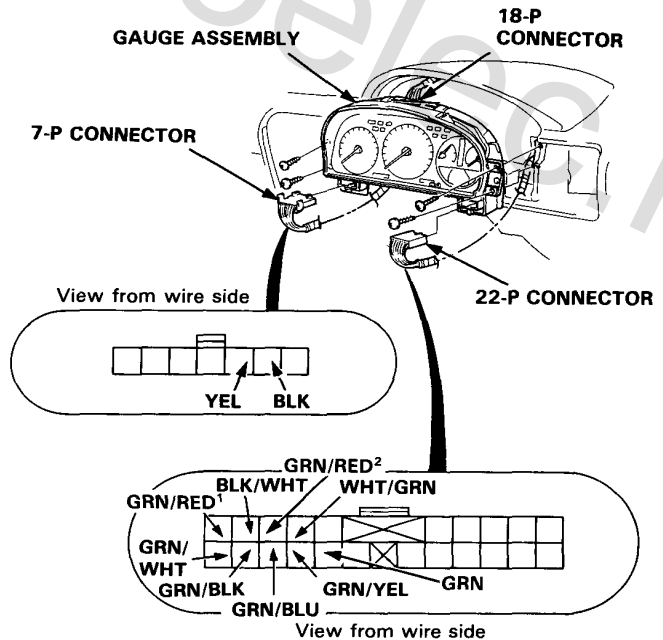


SRS Type II



Remove the gauge assembly from the dashboard and disconnect the 7-P, 18-P and 22-P connectors from it. Make the following input tests at the connector terminals. If all tests prove OK, yet the indicator still fails to work, replace the main print panel, speedometer, tachometer and odo/trip meter.

NOTE: Several different wires have the same color. They have been given a number suffix to distinguish them (for example GRN/RED<sup>1</sup> and GRN/RED<sup>2</sup> are not the same).







No.	Wire	Test condition	Test: desired result	Possible cause (if result is not obtained)
1	BLK	Under all conditions.	Check for continuity to ground: there should be continuity.	<ul style="list-style-type: none"> <li>Poor ground (G401, G402)</li> <li>An open in the wire.</li> </ul>
2	YEL	Ignition switch ON.	Check for voltage to ground: there should be battery voltage.	<ul style="list-style-type: none"> <li>Blown No. 1 (10 A) fuse.</li> <li>An open in the wire.</li> </ul>
3	WHT/GRN	Brake pedal pushed.	Check for continuity to ground: there should be continuity with the pedal pushed.	<ul style="list-style-type: none"> <li>Blown No. 25 (20 A) fuse.</li> <li>Faulty brake light switch.</li> <li>Blown brake light bulbs.</li> <li>Faulty brake light failure sensors.</li> <li>Poor ground (G701: Sedan), (G401, G402: Aero deck KG model) (G703, G704, G705: Aero deck KE model).</li> <li>An open in the WHT/GRN or GRN/WHT wire.</li> </ul>
4	GRN/BLK	Trunk lid (Sedan) or tailgate (Aero deck) opened.	Check for continuity to ground: there should be continuity. NOTE: Before testing, remove No. 22 (15 A) fuse.	<ul style="list-style-type: none"> <li>Faulty trunk latch switch.</li> <li>An open in the wire.</li> <li>Poor ground (G701: Sedan), (G706: Aero deck).</li> </ul>
5	GRN/RED <sup>1</sup>	Right front door opened.	Check for continuity to ground: there should be continuity. NOTE: Before testing, remove the No. 22 (15 A) fuse.	<ul style="list-style-type: none"> <li>An open in the wire.</li> <li>Faulty door switch.</li> <li>Poor installation of the switch.</li> </ul>
	GRN/BLU	Left front door opened.		
	GRN/WHT	Right rear door opened.		
	GRN/YEL	Left rear door opened.		
6	BLK/WHT	Dome light switch in MIDDLE position.	Attach to ground: Dome light should come on.	<ul style="list-style-type: none"> <li>Blown No. 22 (15 A) fuse.</li> <li>Faulty dome light.</li> <li>An open in the WHT/BLU or BLK/WHT wire.</li> </ul>
7	GRN/RED <sup>2</sup>	Ignition switch ON.	Attach to ground: Brake light warning in the safety indicator should come on.	<ul style="list-style-type: none"> <li>Faulty safety indicator circuit.</li> <li>Blown bulb.</li> <li>An open in the wire.</li> </ul>

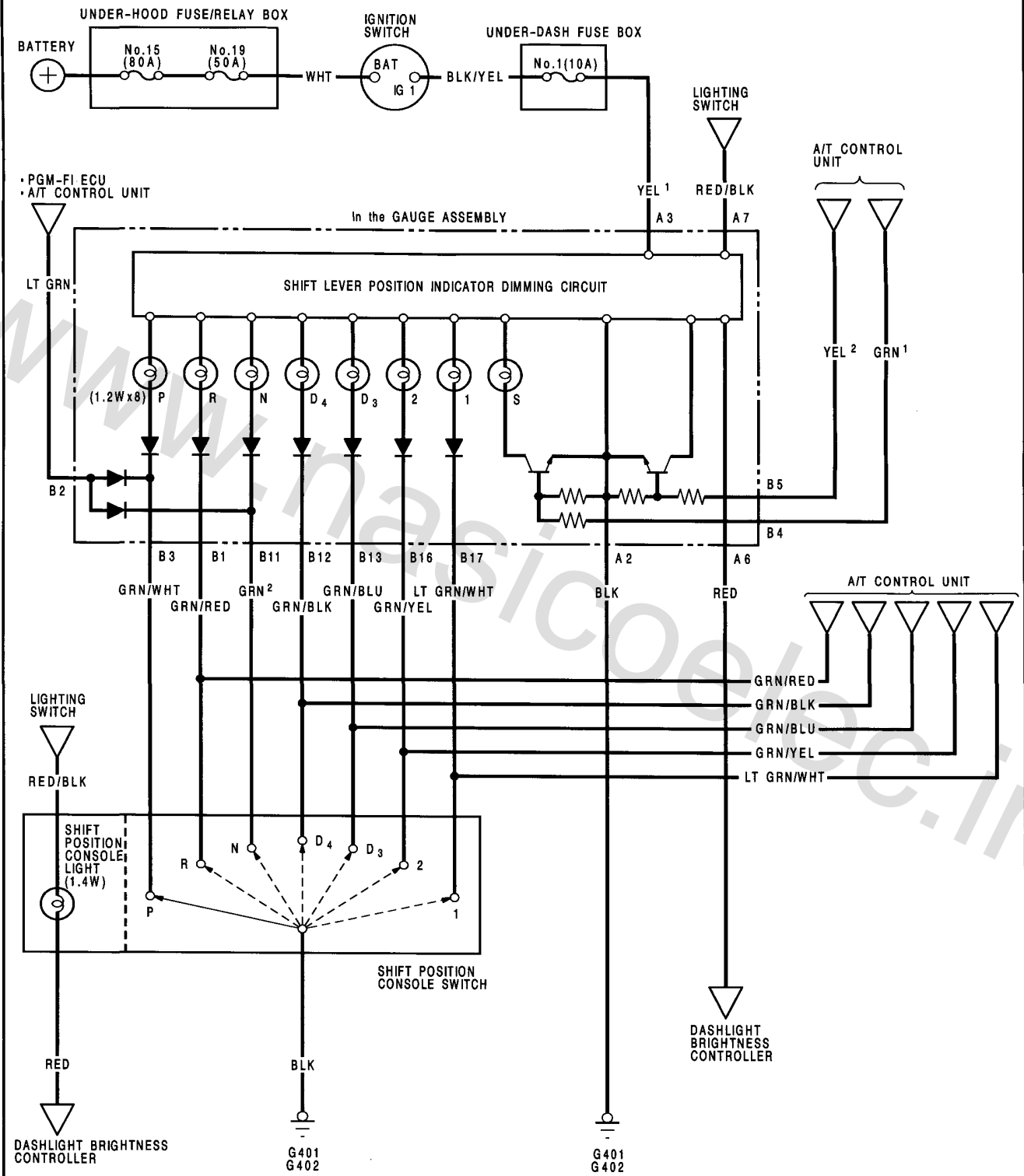
**KG model only:**

8	GRN	With brake pedal released, ignition switch OFF to ON.	Check for continuity in both directions between the GRN and BLK terminals: there should be continuity in only one direction as the ignition switch is turned ON, then no continuity in both directions with brake pedal pushed.	<ul style="list-style-type: none"> <li>Faulty brake light circuit failure sensor.</li> </ul>
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# Shift Lever Position Indicator

## Circuit Diagram (With SRS)



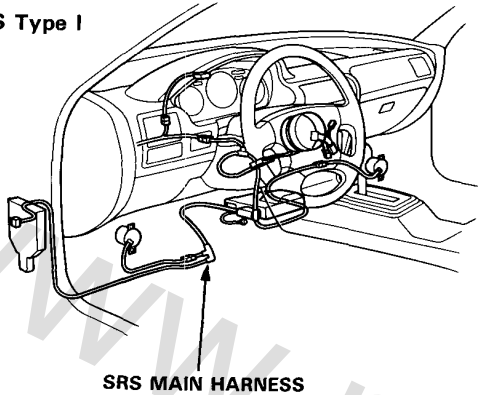
# Shift Lever Position Indicator

## Indicator Input Test (With SRS)

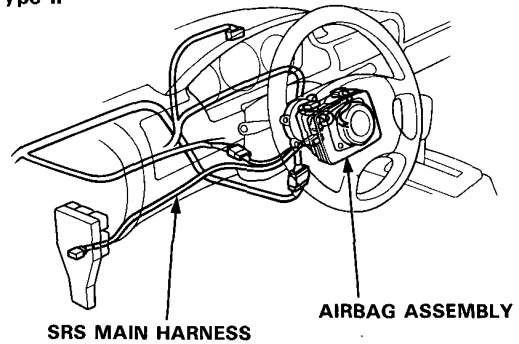
### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- SRS Type I only: Before disconnecting the SRS wire harness, install the short connector on the airbag (see page 16-105).
- SRS Type II only: Before disconnecting the SRS wiring harness, turn the ignition switch off, disconnect the negative and positive battery cables, and wait at least three minutes.

SRS Type I

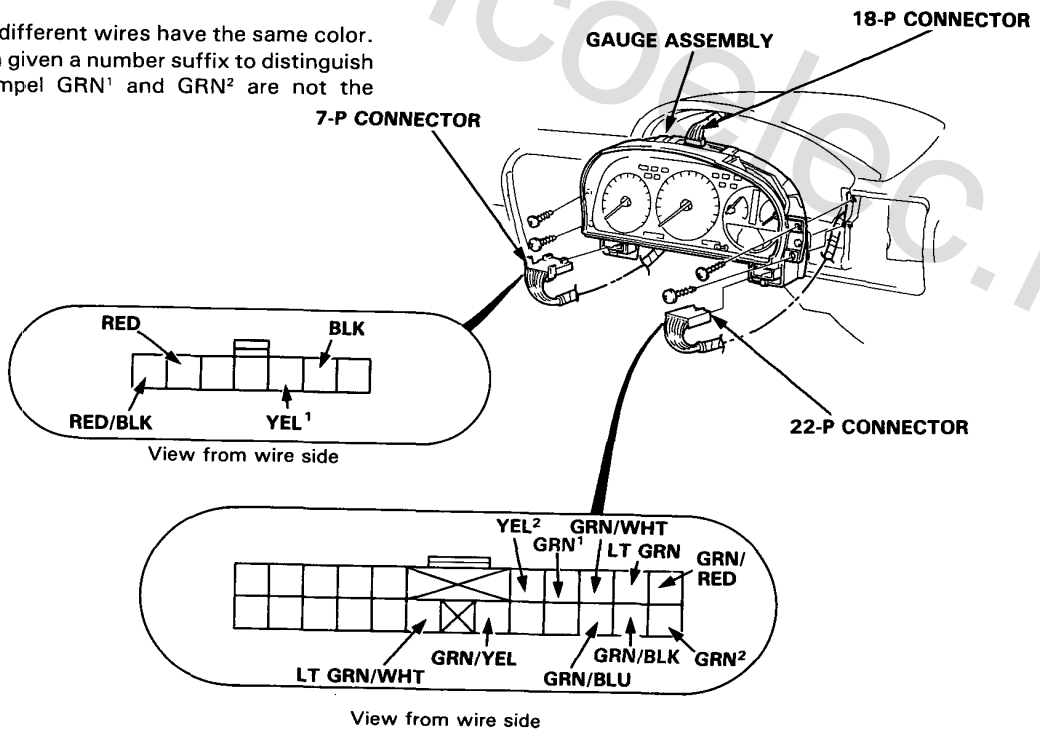


SRS Type II



Remove the gauge assembly from the dashboard and disconnect the 7-P, 18-P and 22-P connectors from the gauge assembly. Make the following input tests at the connector terminals. If all tests prove OK, yet the indicator still fails to work, replace the main print panel, speedometer, tachmeter and odo/trip meter.

NOTE: Several different wires have the same color. They have been given a number suffix to distinguish them (for example GRN<sup>1</sup> and GRN<sup>2</sup> are not the same).

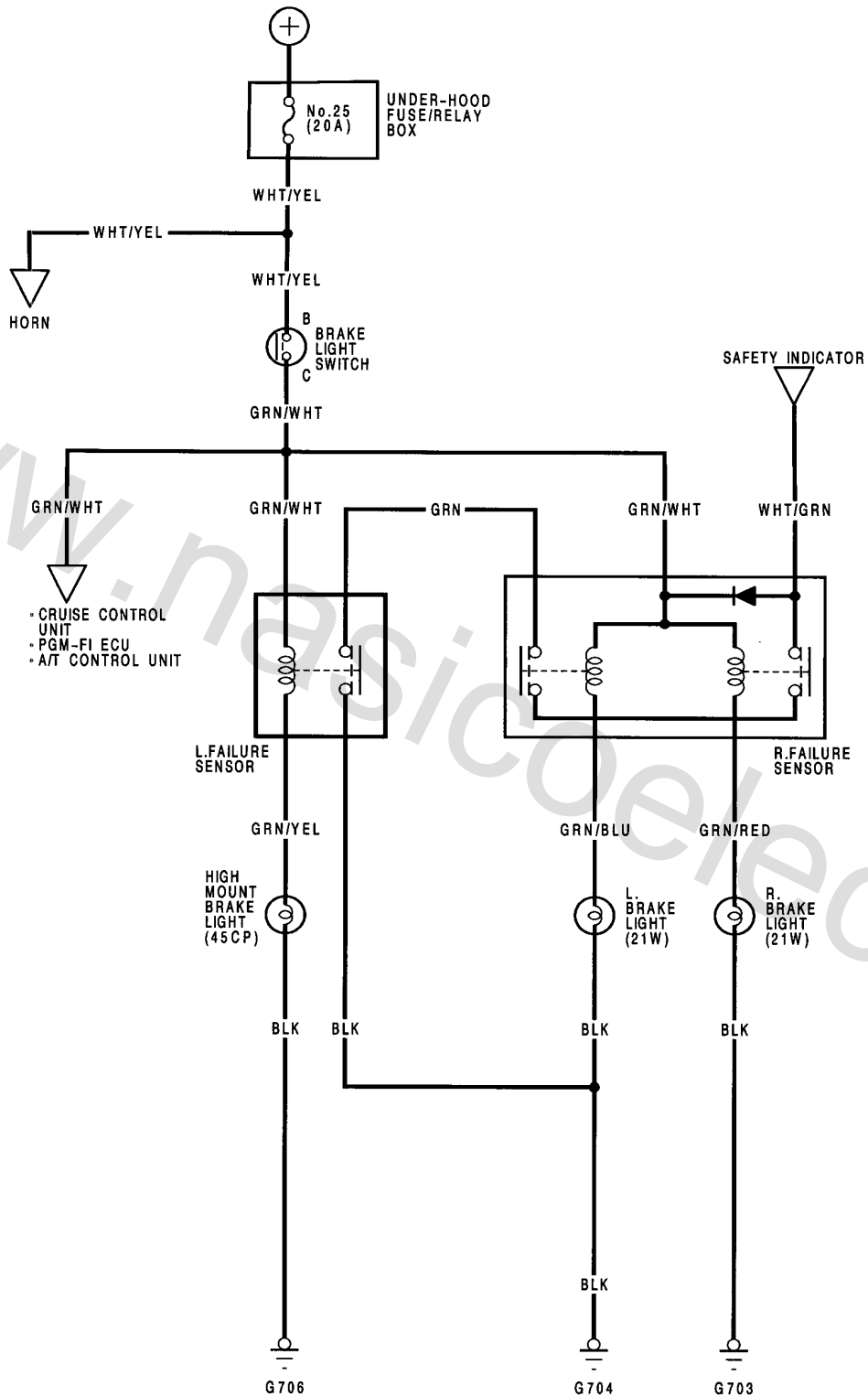




No.	Wire	Test condition	Test: desired result	Possible cause (if result is not obtained)
1	BLK	Under all conditions.	Check for continuity to ground: there should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G401, G402)</li> <li>• An open in the wire.</li> </ul>
2	YEL <sup>1</sup>	Ignition switch ON.	Check for voltage to ground: there should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown NO. 1 (10 A) fuse.</li> <li>• An open in the wire.</li> </ul>
3	GRN/WHT	Shift lever in position P.	Check for continuity to ground: there should be continuity.	<ul style="list-style-type: none"> <li>• Faulty shift position console switch.</li> <li>• Poor ground (G401, G402)</li> <li>• An open in the wire.</li> </ul>
	GRN/RED	Shift lever in position R.		
	GRN <sup>2</sup>	Shift lever in position N.		
	GRN/BLK	Shift lever in position D <sub>4</sub>		
	GRN/BLU	Shift lever in position D <sub>3</sub>		
	GRN/YEL	Shift lever in position 2.		
	LT GRN/WHT	Shift lever in position 1.		
4	RED/BLK and RED	Lighting switch ON and dashlight brightness control dial on full bright.	Check for voltage between RED/BLK and RED terminals: there should be battery voltage.	<ul style="list-style-type: none"> <li>• Faulty dashlight brightness control system.</li> <li>• An open in the wire.</li> </ul>
5	GRN <sup>1</sup>	Ignition switch ON, shift lever position in D <sub>3</sub> or D <sub>4</sub> and S switch ON.	Check for voltage to ground: there should be about 5 V.	<ul style="list-style-type: none"> <li>• Faulty S switch.</li> <li>• Faulty shift position console switch.</li> <li>• Faulty A/T control system.</li> <li>• An open in the wire.</li> </ul>
6	YEL <sup>2</sup>	Ignition switch ON, shift lever position in D <sub>3</sub> or D <sub>4</sub> and S switch ON.	Check for voltage to ground: there should be battery voltage.	<ul style="list-style-type: none"> <li>• Faulty S switch.</li> <li>• Faulty shift position console switch.</li> <li>• Faulty A/T control system.</li> <li>• An open in the wire.</li> </ul>
7	LT GRN	Ignition switch ON.	Check for voltage to ground: there should be about 5 V.	<ul style="list-style-type: none"> <li>• Faulty PGM-FI ECU.</li> <li>• Faulty PGM-CARB. control unit.</li> <li>• An open in the wire.</li> </ul>

# Brake/High Mount Brake Light

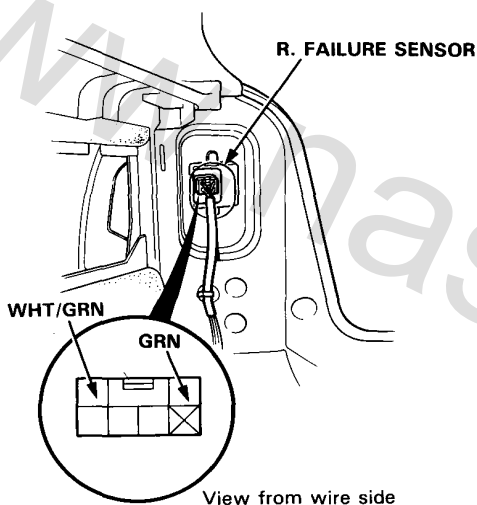
Circuit Diagram (Wagon: KQ model)





## Brake Light Failure Sensor Test (Wagon: KQ model)

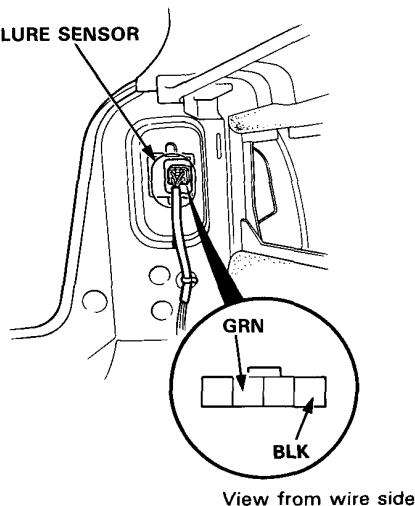
1. First make sure the brake lights come on when the brake pedal is pressed.
  - If none of the brake lights come on, check the brake light circuit.
  - If one of the brake lights does not come on, check whether the bulb is blown. If the bulb is OK, go to step 2.
  - If all the brake lights come on, go to step 2.
2. Open the tailgate and remove the right rear quarter trim panel. Make sure the **BRAKE LAMP** of the safety indicator does not come on when the WHT/GRN terminal of the 6-P connector is grounded and the ignition switch is turned OFF to ON.



- If the **BRAKE LAMP** comes on, check for an open in the WHT/GRN wire between the safety indicator and the right failure sensor, and whether the safety indicator circuit (main print panel) has a problem.
  - If the **BRAKE LAMP** does not come on, go to step 3.
3. Make sure the **BRAKE LAMP** does not come on when the ignition switch is turned OFF to ON with the GRN terminal of the 6-P connector grounded and the brake pedal pressed.
    - If the **BRAKE LAMP** comes on, replace the right failure sensor.
    - If the **BRAKE LAMP** does not come on, go to step 4.

4. Remove the left rear quarter trim panel. Make sure the **BRAKE LAMP** does not come on when the ignition switch is turned OFF to ON with the GRN terminal of the 4-P connector grounded and the brake pedal pressed.

### L. FAILURE SENSOR

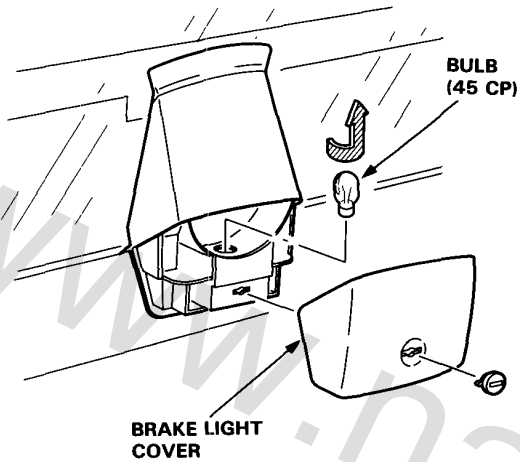


- If the **BRAKE LAMP** comes on, there is an open in the GRN wire between the left failure sensor and the right failure sensor.
  - If the **BRAKE LAMP** does not come on, go to step 5.
5. Make sure the **BRAKE LAMP** does not come on when the ignition switch is turned OFF to ON with the BLK terminal of the 4-P connector grounded and the brake pedal pressed.
    - If the **BRAKE LAMP** comes on, replace the left failure sensor.
    - If the **BRAKE LAMP** does not come on, check for an open in the BLK wire between the left failure sensor and ground, and check whether the G704 terminal is loose.

## Brake/High Mount Brake Light

### High Mount Brake Light Bulb Replacement (Wagon: KQ model)

1. Open the tailgate.
2. Remove the high mount brake light cover.
3. Remove the bulb from the socket.



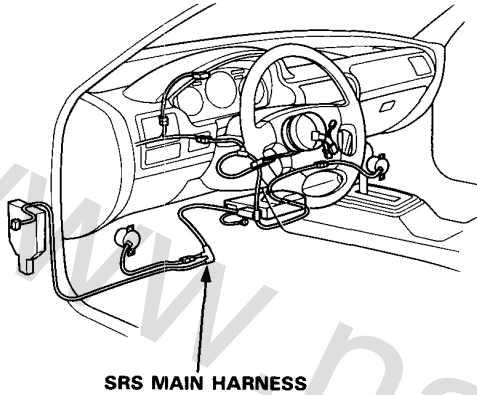
# Horns

## Component Location Index (With SRS)

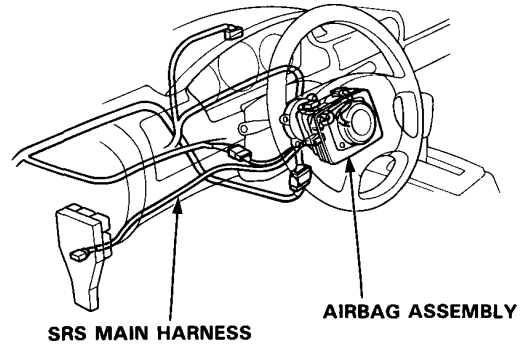
### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- SRS Type I only: Before disconnecting the SRS wire harness, install the short connector on the airbag (see page 16-105).
- SRS Type II only: Before disconnecting the SRS wiring harness, turn the ignition switch off, disconnect the negative and positive battery cables, and wait at least three minutes.

SRS Type I



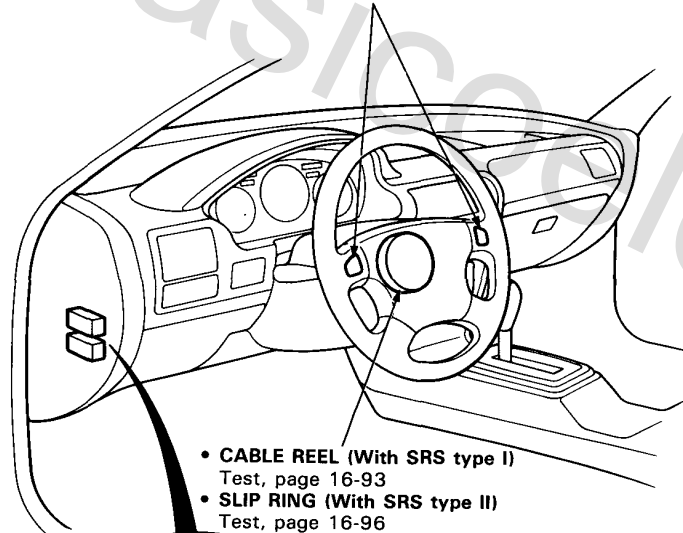
SRS Type II



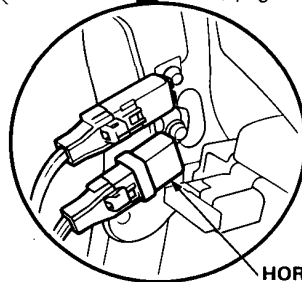
NOTE: RHD type is symmetrical to LHD type.

### HORN SWITCHES

Test, page 16-84 and 86



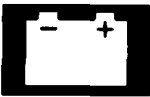
- CABLE REEL (With SRS type I)  
Test, page 16-93
- SLIP RING (With SRS type II)  
Test, page 16-96



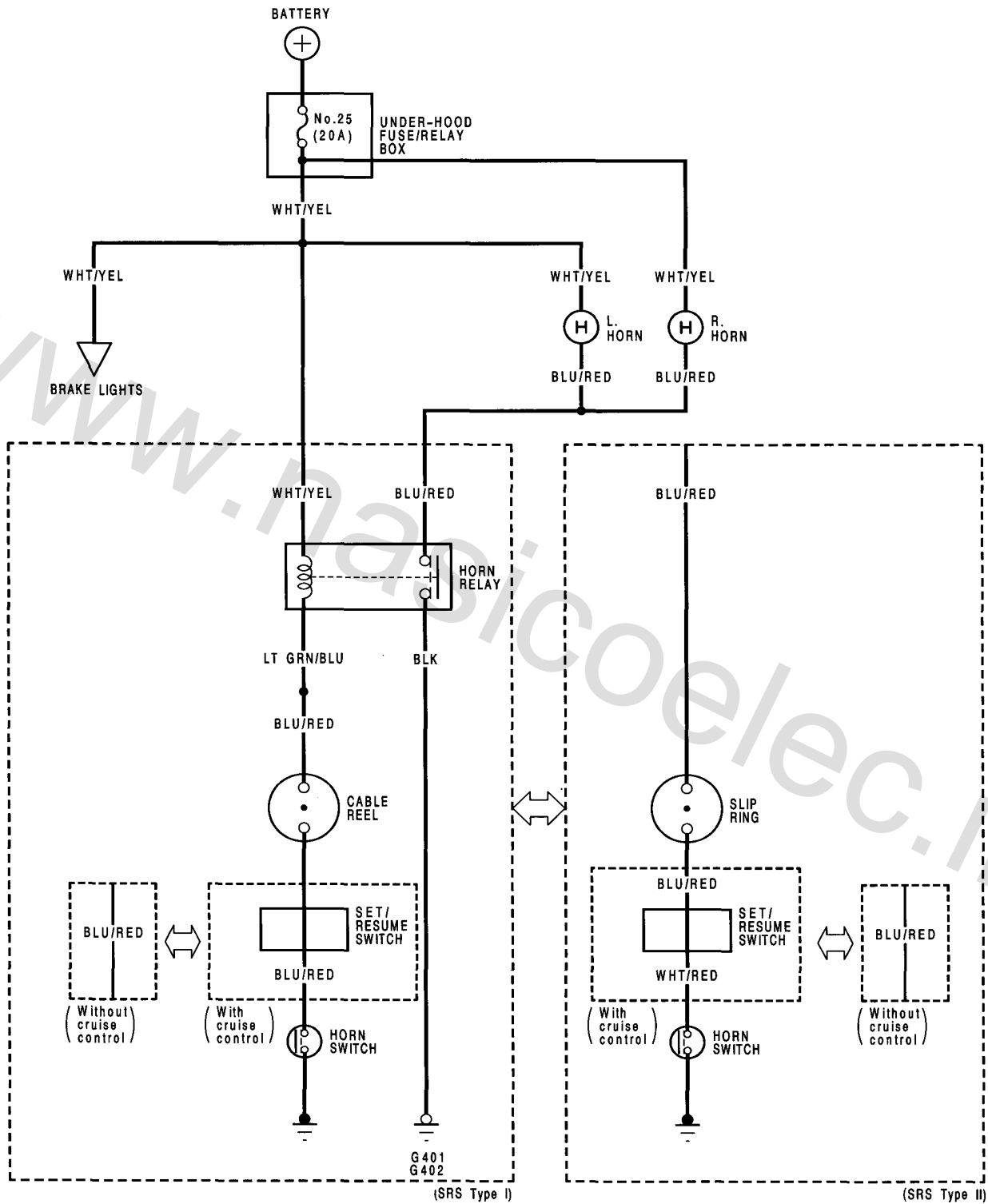
HORN RELAY (With SRS type I)

Test, page 16-88





# Circuit Diagram (With SRS)

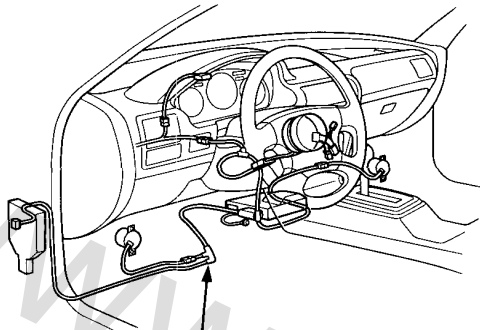


# Horns

## Switch Test (With SRS Type I)

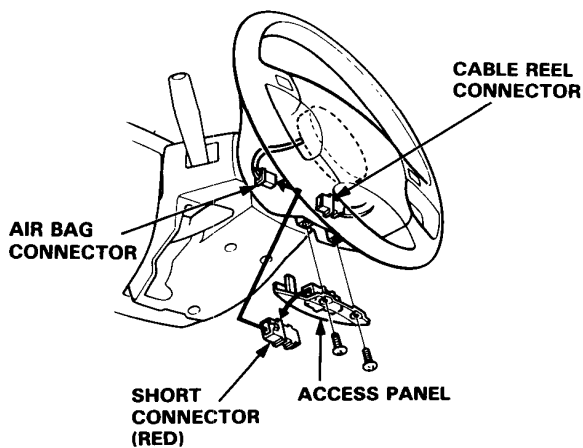
### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- Before disconnecting the SRS wire harness, install the short connector on the airbag (see page 16-105).



SRS MAIN HARNESS

1. Disconnect the battery negative cable, then disconnect the positive cable.
2. Make sure the wheels are straight ahead.
3. Remove the dashboard lower cover.
4. Install the short connector on the airbag.



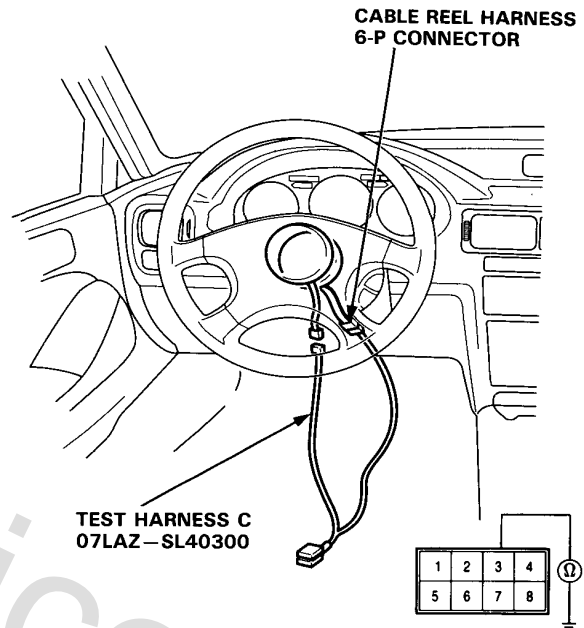
AIR BAG CONNECTOR

SHORT CONNECTOR (RED)

ACCESS PANEL CONNECTOR

CABLE REEL CONNECTOR

5. Disconnect the cable reel harness 6-P connector from the SRS main harness, then connect Test Harness C only to the cable reel harness.



CABLE REEL HARNESS 6-P CONNECTOR

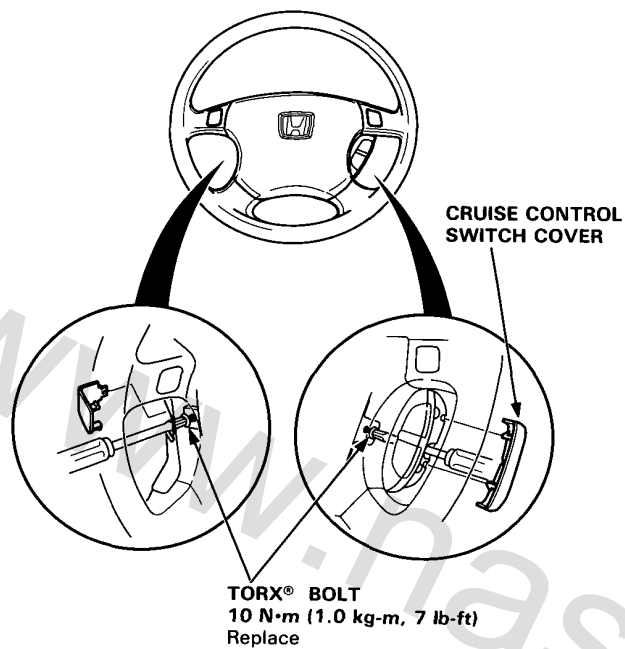
TEST HARNESS C 07LAZ-SL40300

6. Check for continuity between the No. 3 terminal and body ground with the horn switch pressed. There should be continuity.

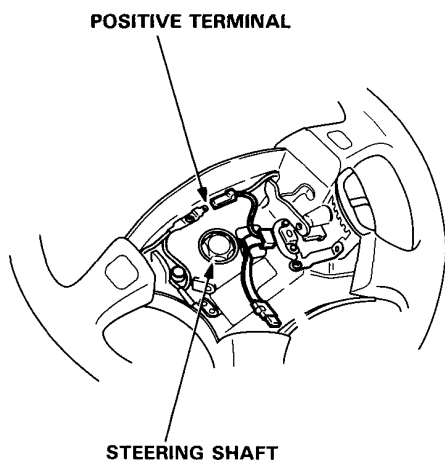
- If there is continuity, the horn switch is OK.
- If there is no continuity, go to step 7.



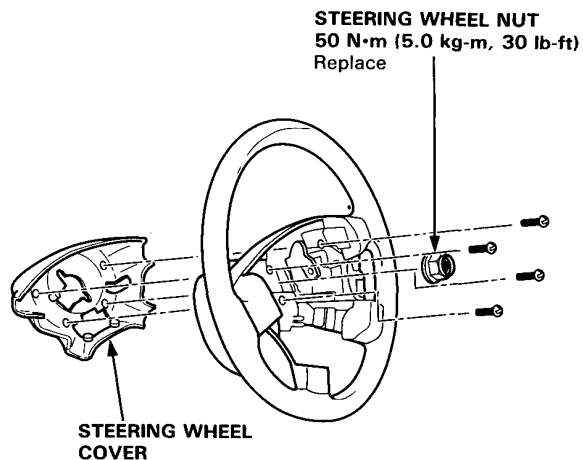
7. Remove the 2 TORX® bolts using TORX® T30 bit, then remove the airbag assembly.



8. Check for continuity between the horn positive terminal and the steering shaft with the horn switch pressed. There should be no continuity.



- If there is continuity, replace the cable reel.
- If there is no continuity, remove the nut and the steering wheel. Remove the 4 screws, then remove the steering wheel cover. Replace the horn switch.



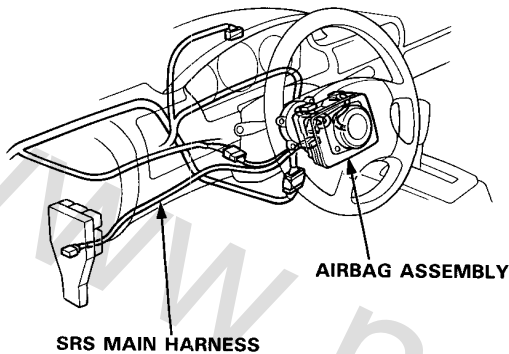
9. Install the steering wheel.

# Horns

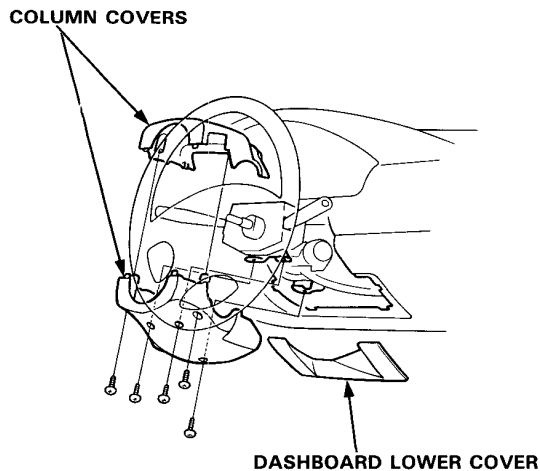
## Switch Test (With SRS Type II)

### CAUTION:

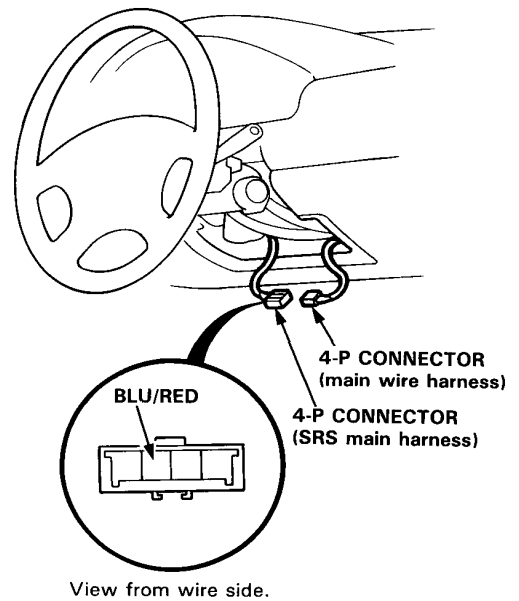
- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- Before disconnecting the SRS wiring harness, turn the ignition switch off, disconnect the negative and positive battery cables, and wait at least three minutes.



1. Remove the dashboard lower cover and steering column covers.



2. Disconnect the SRS main harness 4-P connector from the main wire harness.

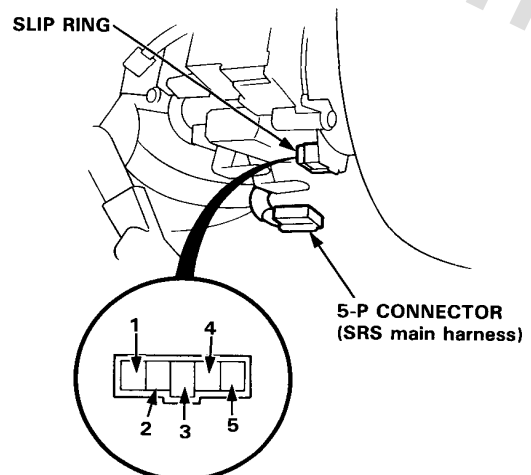


3. Check for continuity between the BLU/RED (SRS main harness side) terminal and body ground with the horn button pushed.

- If there is continuity, the horn switch is OK.
- If there is no continuity, go to step 4.

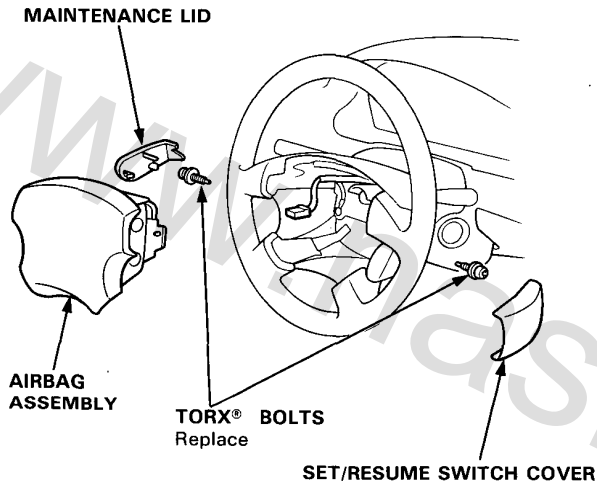
4. Disconnect the 5-P connector from the slip ring.

NOTE: See page 16-140 before removing the connector for locked with the connector lock pin.

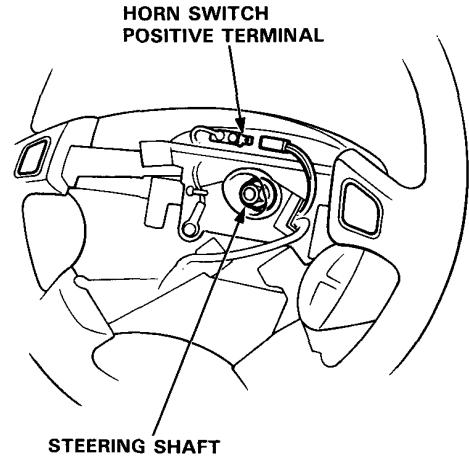




5. Check for continuity between No. 3 terminal and body ground with the horn button pushed.
  - If there is continuity, check for bent, loose or corroded terminal, or open the BLU/RED wire between the SRS main harness.
  - If there is no continuity, go to step 6.
6. Remove the maintenance lid and the SET/RESUME switch from the steering wheel.
7. Remove the 2 TORX® bolts using a TORX® T30 bit, then remove the airbag assembly.



8. Check for continuity between the horn switch positive terminal and the steering shaft with the horn button pushed.

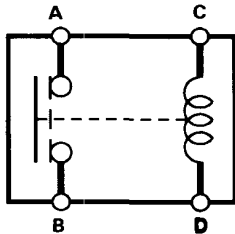
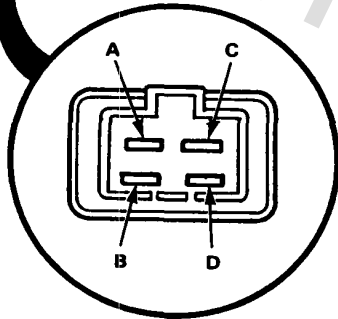
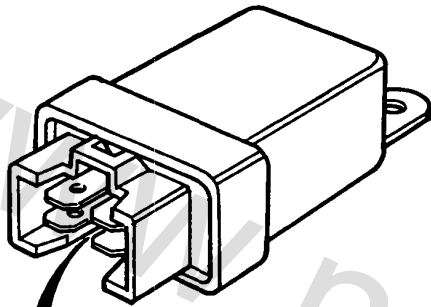


- If there is continuity, check for:
    - Faulty slip ring (see page 16-96).
    - Faulty SET/RESUME switch (see page 16-94).
    - A bent, loose or corroded terminal, or an open in the BLU/RED or WHT/RED wire (between the SRS sub harness).
  - If there is no continuity, repair or replace the horn switch.
9. Install the steering wheel.
  10. After installing, make sure the correct working of the:
    - Horn switch
    - SRS system (see section Supplemental Restraint System).

# Horns

## Horn Relay Test

1. There should be continuity between the A and B terminals when the battery is connected to the C and D terminals.  
There should be no continuity when the battery is disconnected.





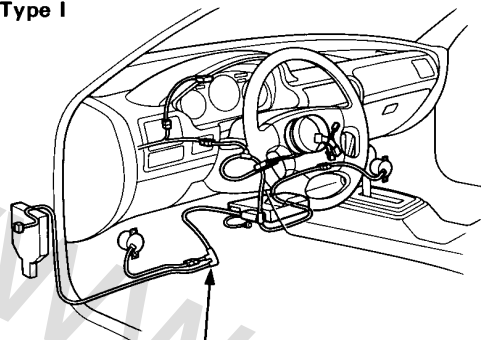
# Cruise Control

## Component Location Index (With SRS)

### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- SRS Type I only: Before disconnecting the SRS wire harness, install the short connector on the airbag (see page 16-105).
- SRS Type II only: Before disconnecting the SRS wiring harness, turn the ignition switch off, disconnect the negative and positive battery cables, and wait at least three minutes.

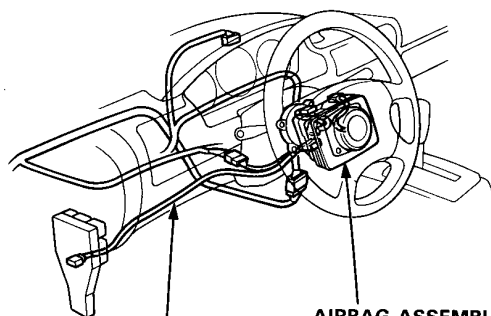
SRS Type I



SRS MAIN HARNESS

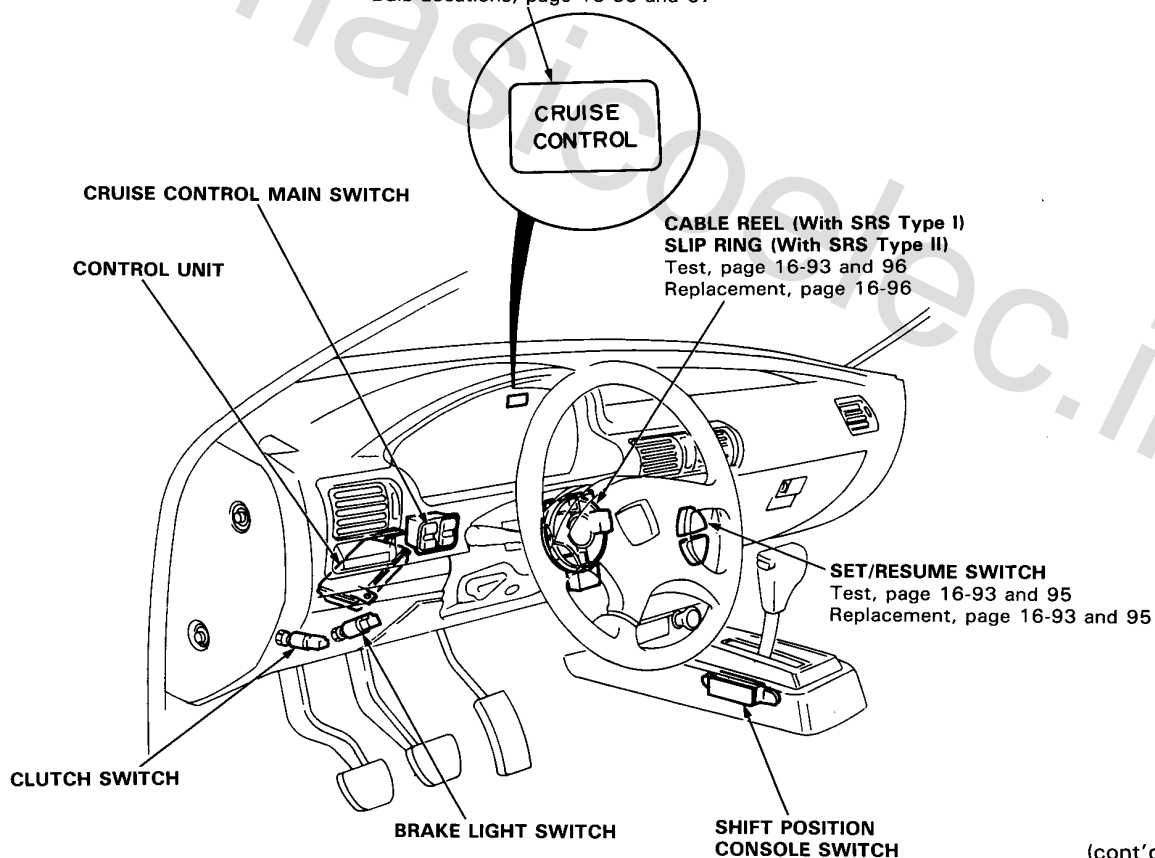
INDICATOR LIGHT and DIMMING CIRCUIT  
(in the gauge assembly)  
Bulb Locations, page 16-66 and 67

SRS Type II



SRS MAIN HARNESS

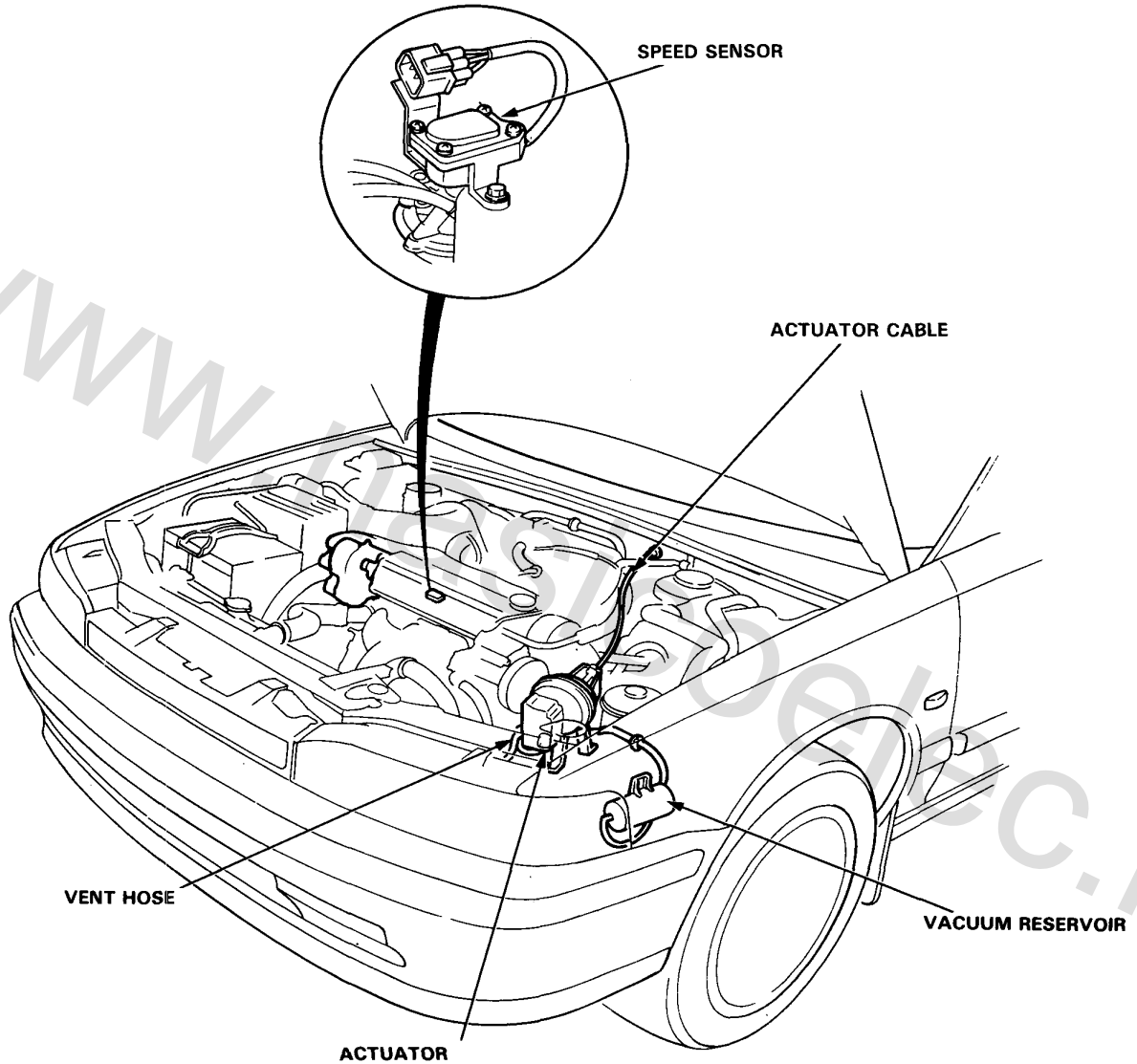
AIRBAG ASSEMBLY



(cont'd)

# Cruise Control

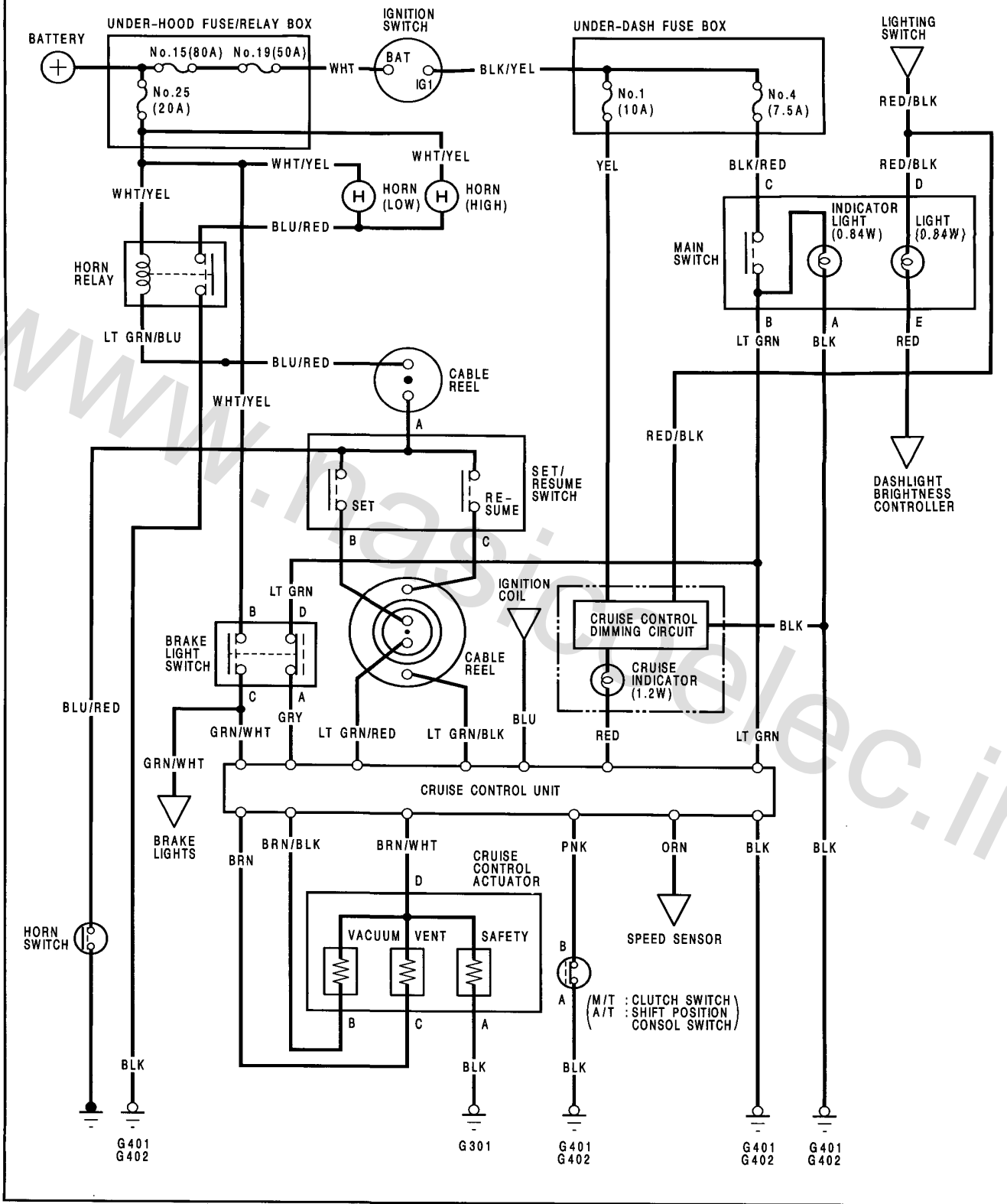
## Component Location Index (With SRS) (cont'd)





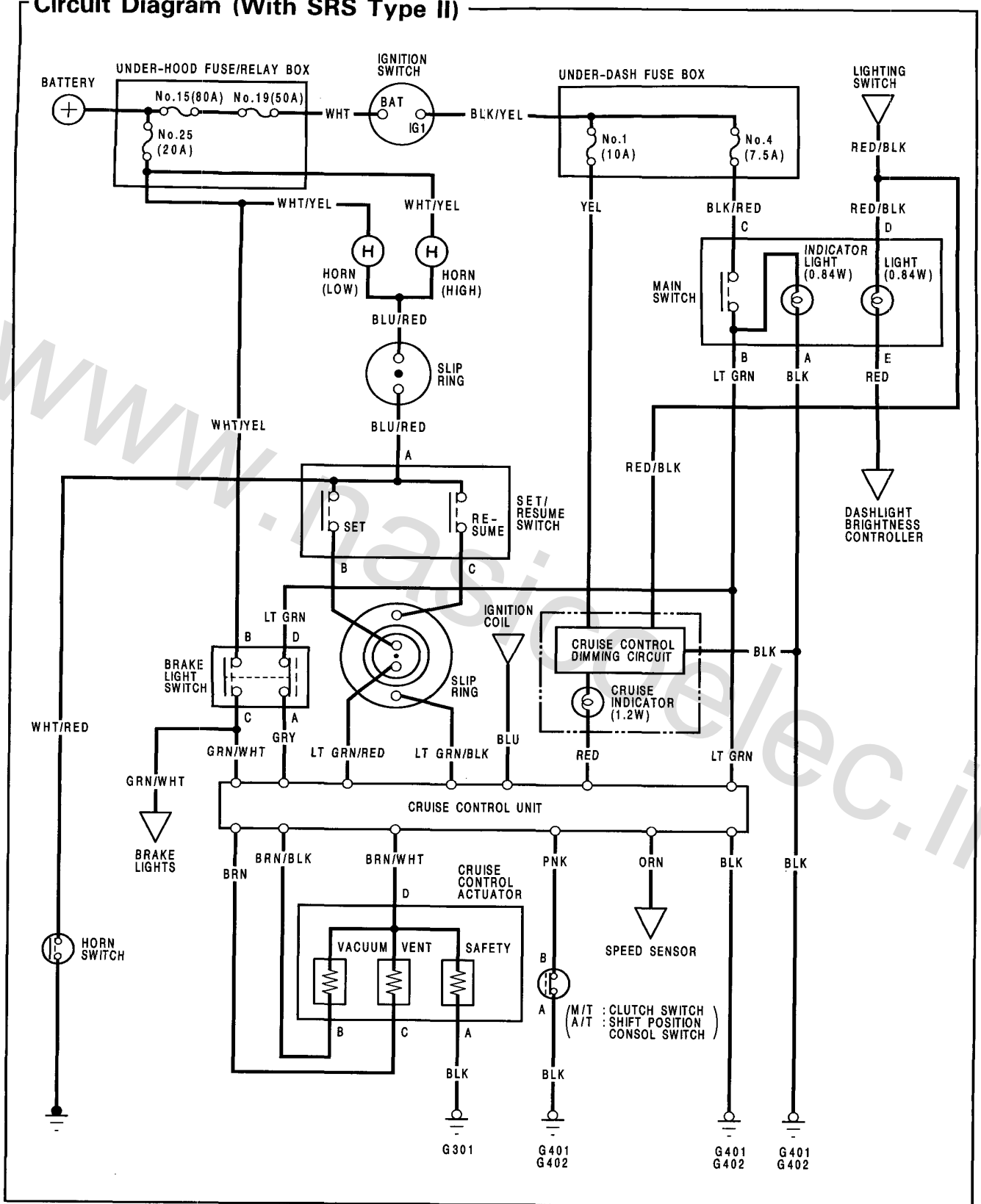


# Circuit Diagram (With SRS Type I)



# Cruise Control

## Circuit Diagram (With SRS Type II)

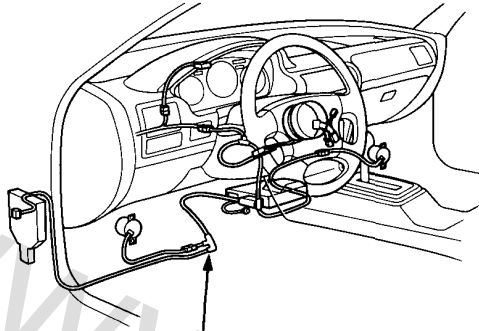




## SET/RESUME Switch Test (With SRS Type I)

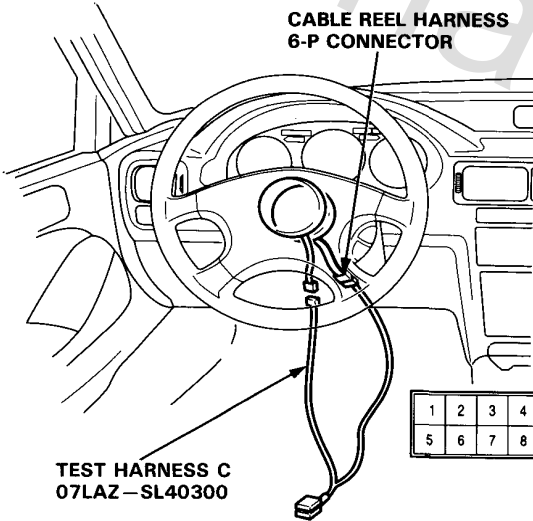
### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- Before disconnecting the SRS wire harness, install the short connector on the airbag (see page 16-105).



SRS MAIN HARNESS

1. Disconnect the cable reel harness 6-P connector from the SRS main harness, then connect Test Harness C only to the cable reel harness.



CABLE REEL HARNESS 6-P CONNECTOR

TEST HARNESS C  
07LAZ-SL40300

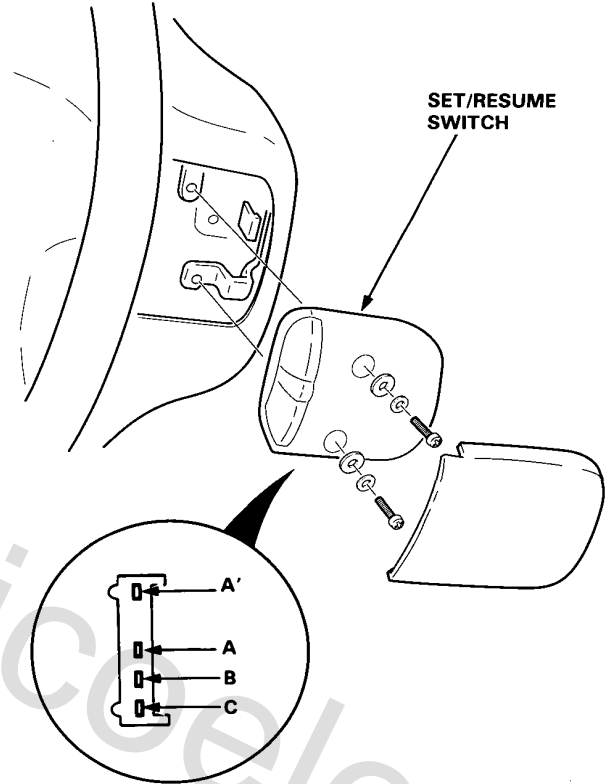
1	2	3	4
5	6	7	8

2. Check for continuity between the terminals in each switch position according to the table.

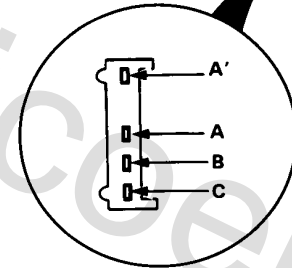
Terminal Position	3 (BLU/RED)	2 (LT GRN/RED)	1 (LT GRN/BLK)
SET (ON)	○	○	
RESUME (ON)	○		○

- If there is continuity, the SET/RESUME switch is OK.
- If there is no continuity, go to step 3.

3. Remove the switch cover from the SET/RESUME switch, then separate the SET/RESUME switch by removing the 2 screws.



SET/RESUME SWITCH



4. Check for continuity between the terminals in each switch position according to the table.

Terminal Position	A or A'	B	C
SET (ON)	○		○
RESUME (ON)	○	○	

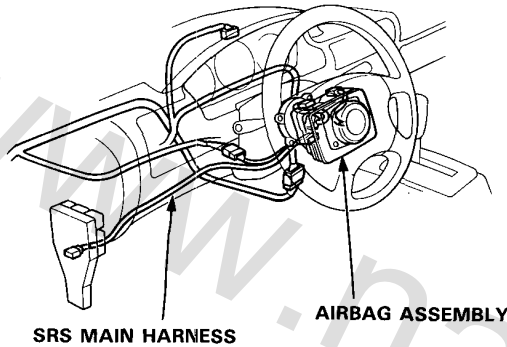
- If there is continuity, replace the cable reel.
- If there is no continuity, replace the switch.

# Cruise Control

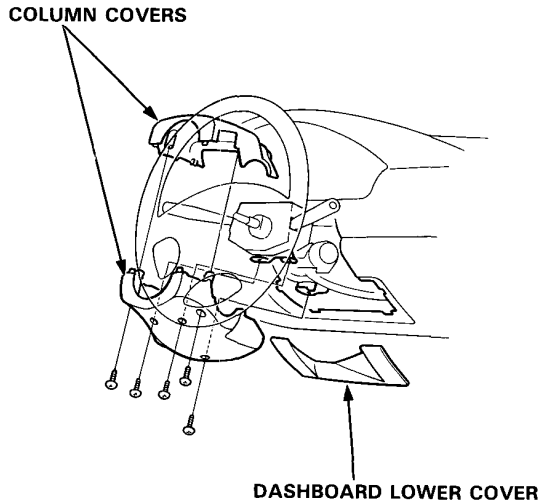
## SET/RESUME Switch Test (With SRS Type II)

### CAUTION:

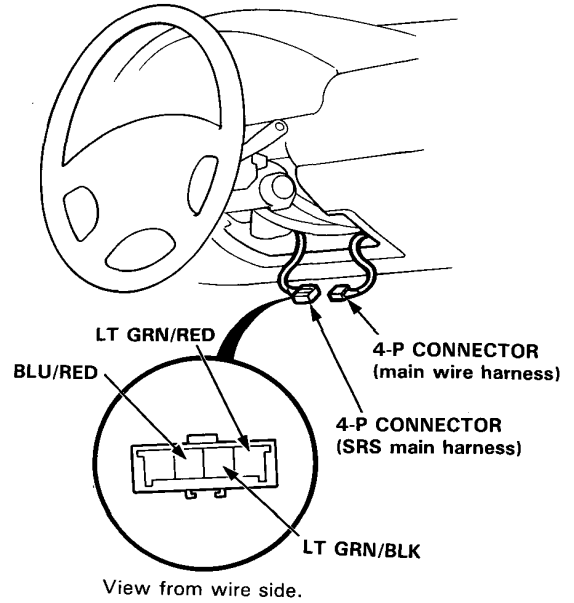
- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- Before disconnecting the SRS wiring harness, turn the ignition switch off, disconnect the negative and positive battery cables, and wait at least three minutes.



1. Remove the dashboard lower cover and steering column covers.



2. Disconnect the SRS main harness 4-P connector from the main wire harness.



3. Check for continuity between the terminals in each switch position according to the table.

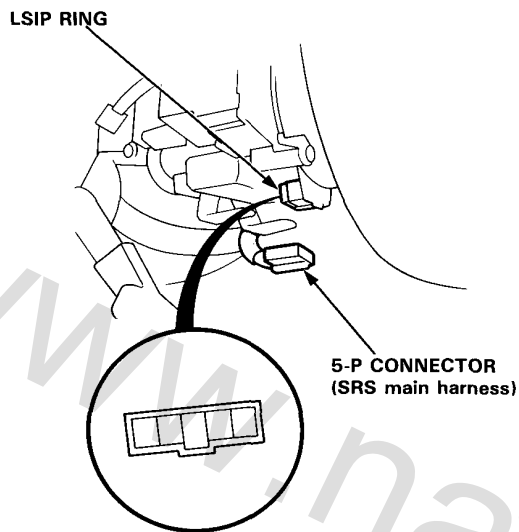
Terminal	BLU/RED	LT GRN/RED	LT GRN/BLK
Position			
SET(ON)	○	○	
RESUME(ON)	○		○

- If there is continuity, the SET/RESUME switch is OK.
- If there is no continuity, go to step 4.



4. Disconnect the 5-P connector from the slip ring.

NOTE: See page 16-140 before removing the connector for locked with the connector lock pin.

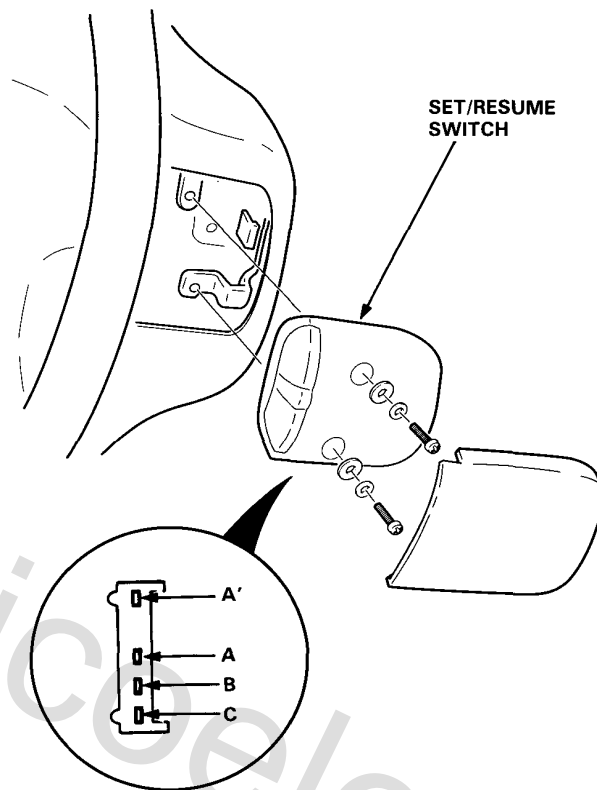


5. Check for continuity between the terminals in each switch position at the slip ring side according to the table.

Terminal	1	2	3	4	5
Position					
SET(ON)			○	○	
RESUME(ON)			○	○	○

- If there is continuity, an open in the SRS main harness.
- If there is no continuity, go to step 6.

6. Remove the switch cover from the SET/RESUME switch, then separate the SET/RESUME switch by removing the 2 screws.



7. Check for continuity between the terminals in each switch position according to the table.

Terminal	A or A'	B	C
Position			
SET (ON)	○	○	○
RESUME (ON)	○	○	

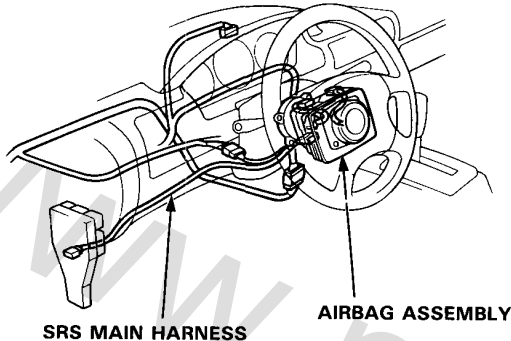
- If there is continuity, check for:
  - Faulty slip ring (see page 16-96).
  - A bent, loose or corroded terminal, or an open in the SRS sub harness.
- If there is no continuity, replace the switch.

# Cruise Control

## Slip Ring Replacement/Test (With SRS Type II)

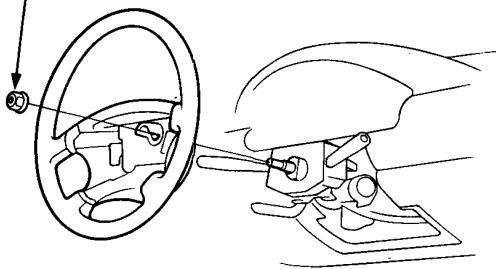
### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- Before disconnecting the SRS wiring harness, turn the ignition switch off, disconnect the negative and positive battery cables, and wait at least three minutes.

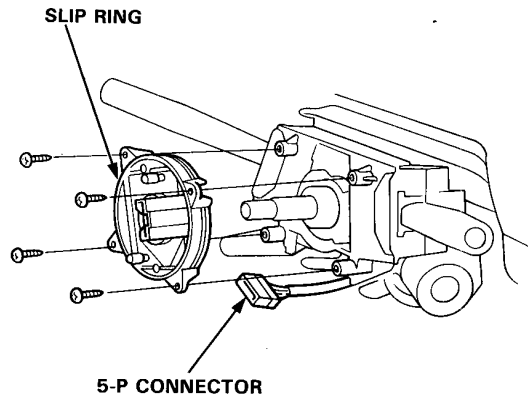


1. Remove the steering column covers.
2. Remove the airbag assembly (see page 16-87).
3. Disconnect the SRS unit sub harness 5-P connector from the slip ring, then remove the steering wheel.

**STEERING WHEEL NUT**  
50 N·m (5.0 kg-m, 30 lb-ft)  
Replace

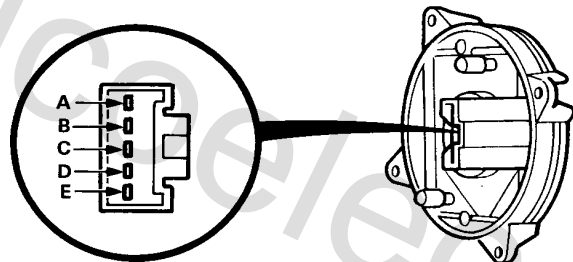


4. Disconnect the SRS main harness 5-P connector from the slip ring.
5. Remove the 4 screws and the slip ring.

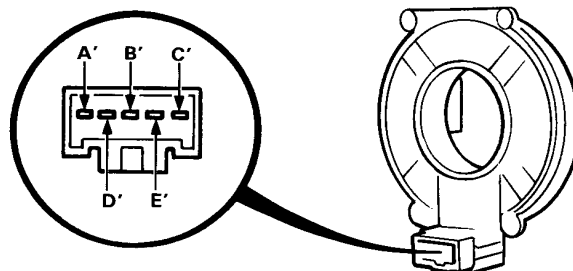


6. Check for continuity between the A and A', B and B', C and C', D and D', E and E' terminals with turning the slip ring.

### UPPER SIDE:



### LOWER SIDE:



If even a terminal do not continue, replace the slip ring assembly.

**Supplement Restraint System - Type 1**

**( AERO DECK )**

**Component Location Index**

**Description**

**Circuit Diagram**

**Wiring Locations**

**Precautions/Procedures**

**Troubleshooting**

**Airbag Assembly**

**Removal**

**Installation**

**Disposal**

**Cable Reel**

**Removal**

**Installation**

**Dash Sensor**

**Removal**

**Installation**

**SRS Unit**

**Removal**

**Installation**

**Supplement Restraint System - Type 2**

**( SEDAN )**

**Component Location Index**

**Description**

**Circuit Diagram**

**Wiring Locations**

**Precautions/Procedures**

**Troubleshooting**

**Self - diagnosis system**

**Failure code table**

**Airbag Assembly**

**Removal**

**Installation**

**Disposal**

**Slip Ring**

**Removal**

**Installation**

[www.nasicoelec.ir](http://www.nasicoelec.ir)

# Supplemental Restraint System (Type I)

## Component Location Index

NOTE: RHD type is symmetrical to LHD type.

### SRS INDICATOR LIGHT

(In the gauge assembly)

Troubleshooting, page 16-106

Gauge assembly, page 16-62

### CABLE REEL

Removal, page 16-126

Installation, page 16-128

TO HORN

TO CRUISE CONTROL  
SET/RESUME SWITCH

TO AIRBAG  
ASSEMBLY

### AIRBAG ASSEMBLY

Removal/Installation,

page 16-122

Disposal, page 16-124

### RIGHT DASH SENSOR

Removal/Installation,

page 16-130

### SRS UNIT

(Including cowl sensor)

Removal/installation,

page 16-132

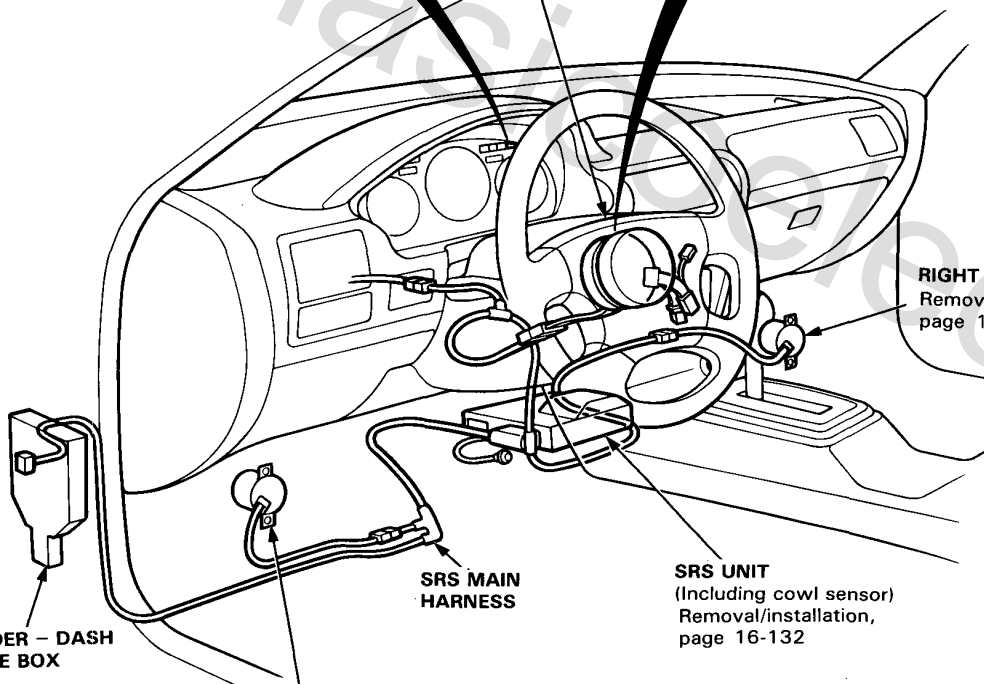
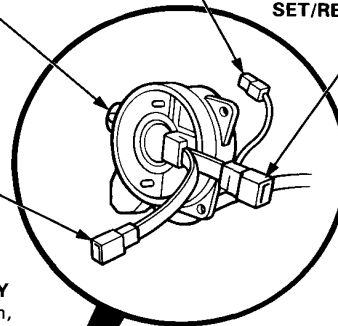
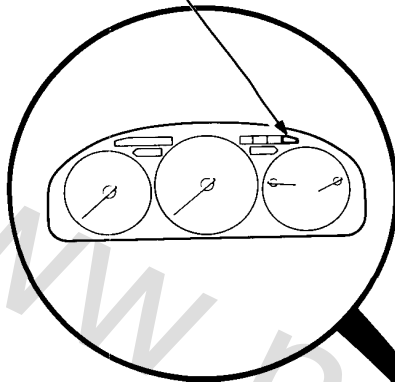
SRS MAIN  
HARNESS

### LEFT DASH SENSOR

Removal/Installation,

page 16-130

UNDER - DASH  
FUSE BOX

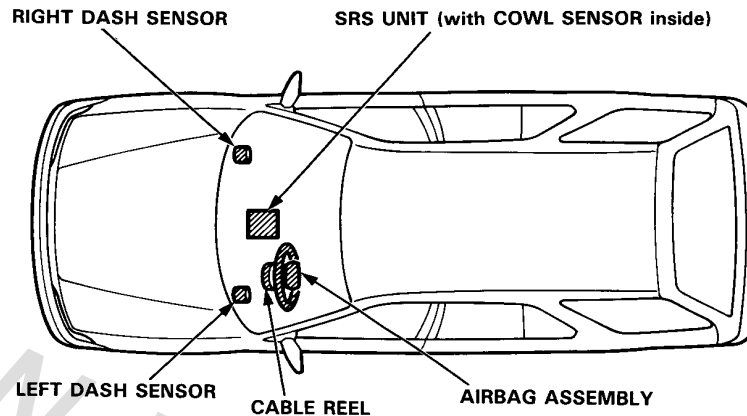




## Description

The SRS is a safety device which, when used in conjunction with the seat belt, is designed to protect the driver by operating only when the car receives a frontal impact exceeding a certain set limit.

The system is composed of left and right dash sensors, the SRS unit (includes cowl sensor), the cable reel and airbag assembly.



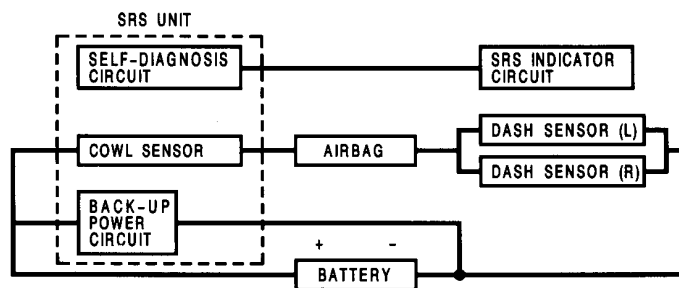
### Operation

As shown in the diagram below, the left and right dash sensors are connected in parallel. This parallel set of sensors are connected in series with the airbag inflator circuit and the car battery. In addition, a back-up power circuit is connected in parallel with the car battery. The back-up power circuit and the cowl sensor are located inside the SRS unit.

For the SRS to operate:

- (1) The cowl sensor and one or both dash sensors must activate.
- (2) Electrical energy is supplied to the airbag inflator by the battery, or the back-up power circuit if the battery voltage is too low.
- (3) The airbag deploys.

It takes about 0.1 seconds from the beginning of the airbag deployment until it is completely deflated (frontal collision against a fixed wall at a speed of 50 km/h [30 mph])

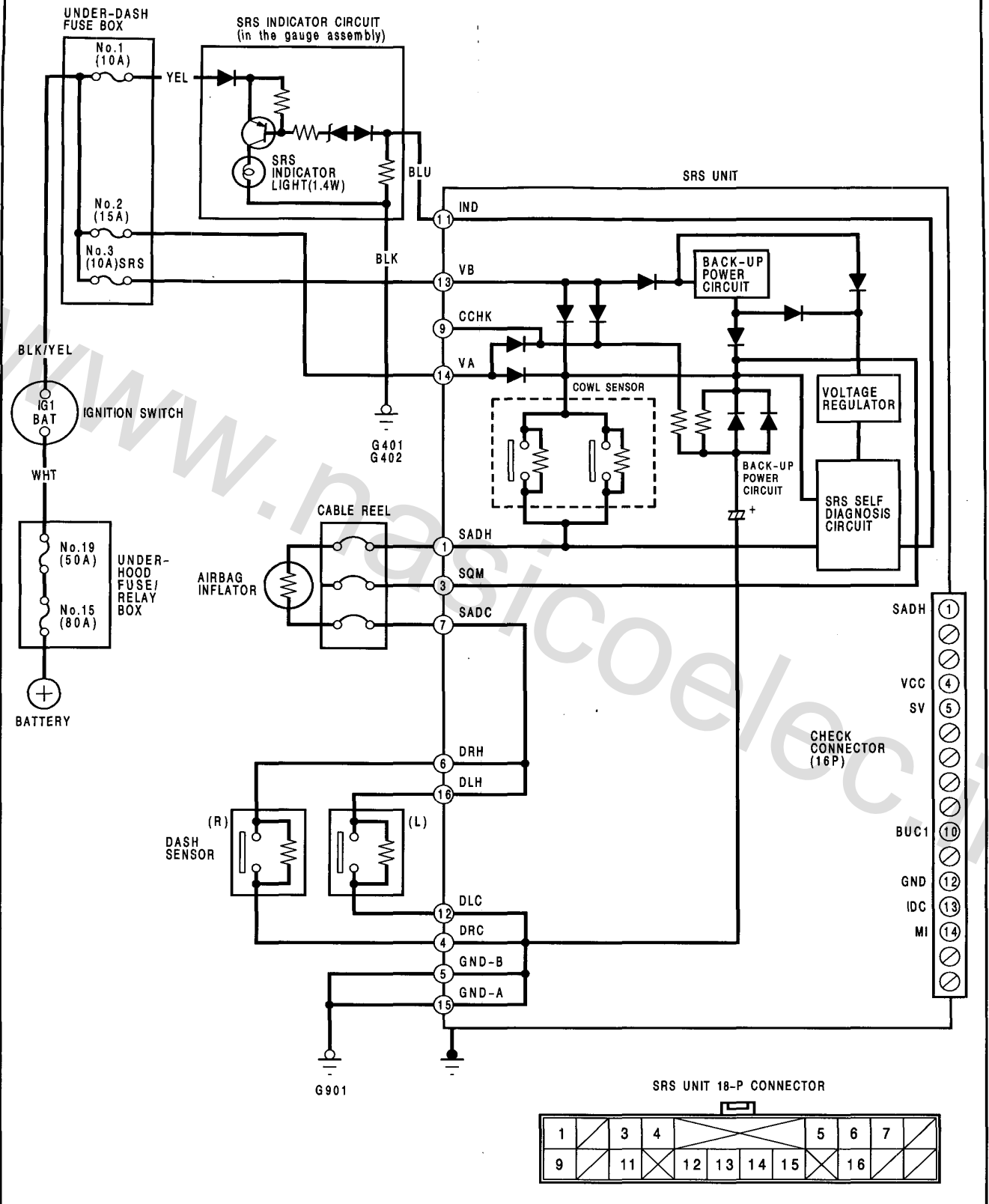


### Self-diagnosis system

A self-diagnosis circuit is built into the SRS unit; when the ignition switch is turned ON, the SRS indicator light comes on and goes off after about 6 seconds if the system is operating normally. If the light does not come on, or does not go off after 6 seconds, or if it comes on while driving, this indicates an abnormality in the system. It must be inspected and repaired as soon as possible.

# Supplemental Restraint System (TYPE I)

## Circuit Diagram



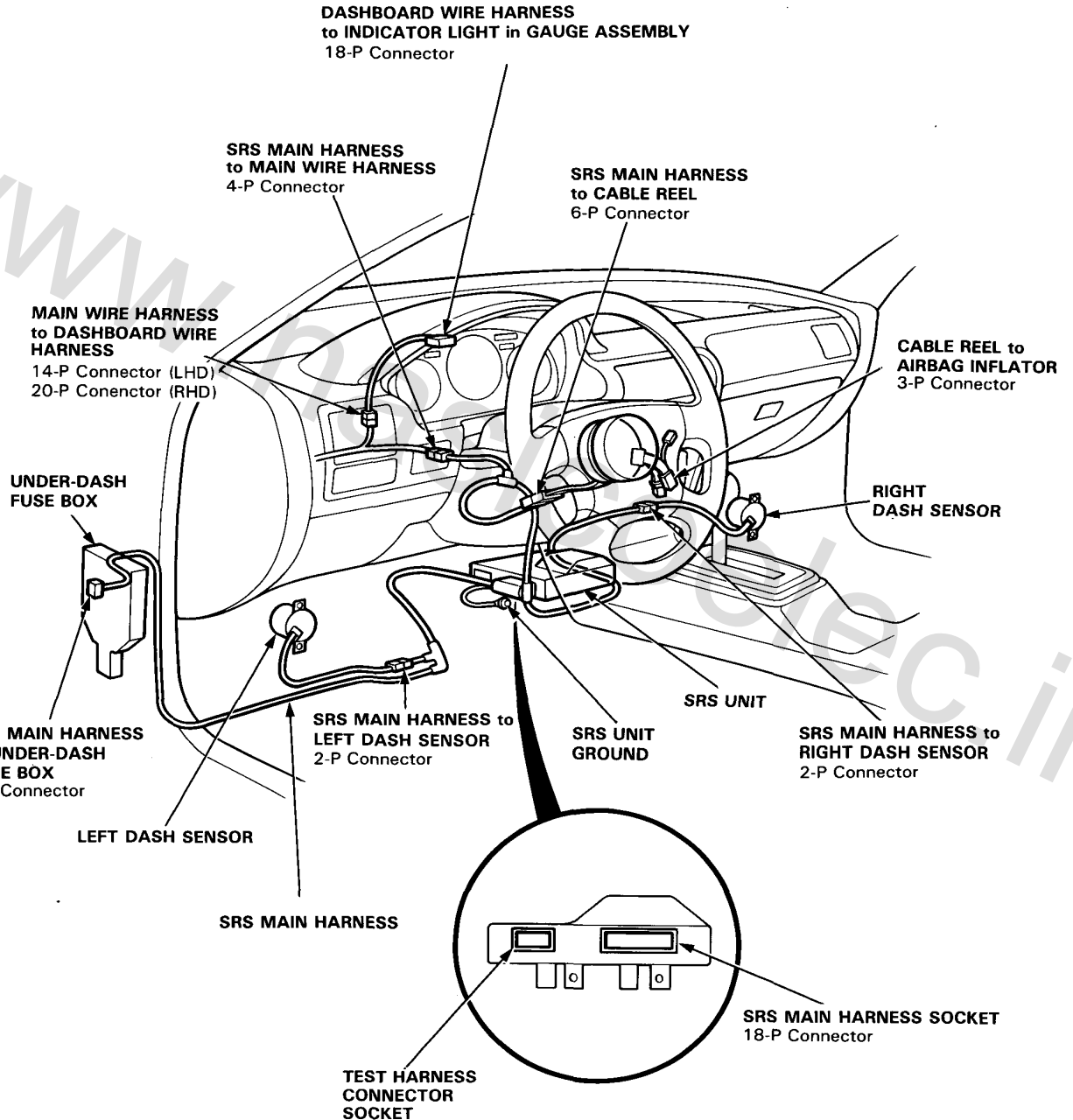


## Wiring Locations

**CAUTION:** Make sure all SRS ground locations are clean and grounds are securely attached.

**NOTE:**

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- RHD type is symmetrical to LHD type.

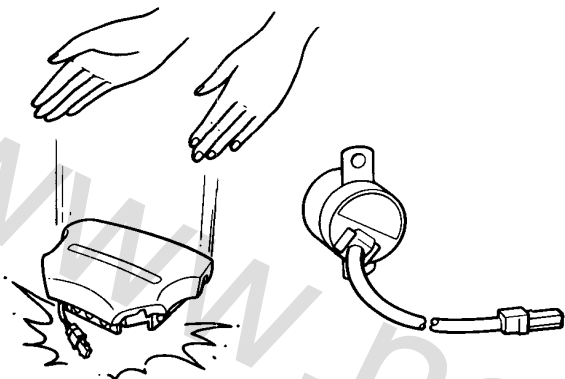


# Supplemental Restraint System (Type I)

## General Precautions

- Carefully inspect any SRS part before you install it. Do not install any part that shows signs of being dropped or improperly handled, such as dents, cracks or deformation:

- Airbag assembly.
- Dash sensors.
- Cable reel.
- SRS unit.



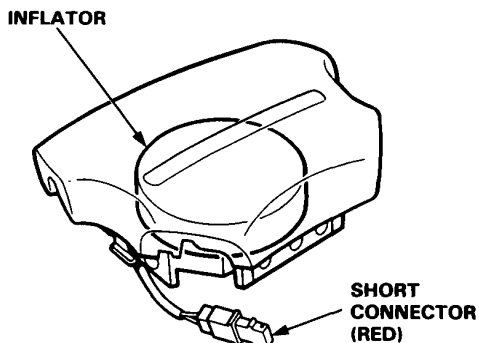
- Use only a digital circuit tester to check the system. Using an analog circuit tester may cause an accidental deployment and possible injury.
- Do not install used SRS parts from another car. When making SRS repairs, use only new parts.
- Except when performing electrical inspections, always disconnect both the negative cable and positive cable at the battery before beginning work.
- Replacement of the combination light and wiper/washer switches and cruise control switch can be done without removing the steering wheel:
  - Combination light and wiper/washer switch replacement.
  - Cruise control switch replacement.

**CAUTION:** Take extra care when painting or doing body work on any part of the dashboard lower panel.

Avoid direct exposure of the sensors or wiring to heat guns, welding, or spraying equipment.

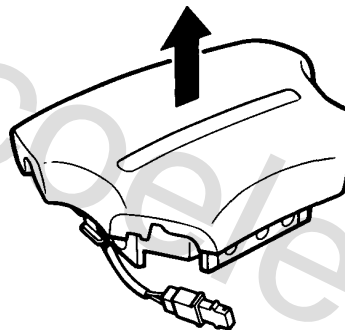
## Airbag Handling and Storage

Do not try to disassemble the airbag assembly. If it has no serviceable parts. Once an airbag has been operated (deployed), it cannot be repaired or reused.



For temporary storage of the airbag assembly during service, please observe the following precautions:

- Store the removed airbag assembly with the pad surface up.



**WARNING** If the airbag is improperly stored face down, accidental deployment could propel the unit with enough force to cause serious injury.

- Store the removed airbag assembly on a secure flat surface away from any high heat source (exceeding 100°C/212°F) and free of any oil, grease, detergent or water.

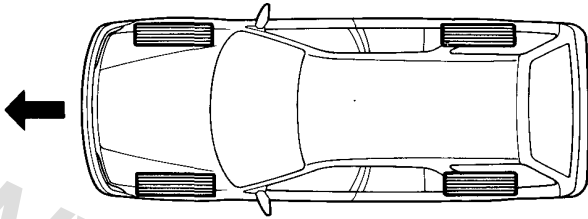
**CAUTION:** Improper handling or storage can internally damage the airbag assembly, making it inoperative.

If you suspect the airbag assembly has been damaged, install a new unit and refer to the Deployment/Disposal Procedures for disposing of the damaged airbag.

## Steering-related Precautions

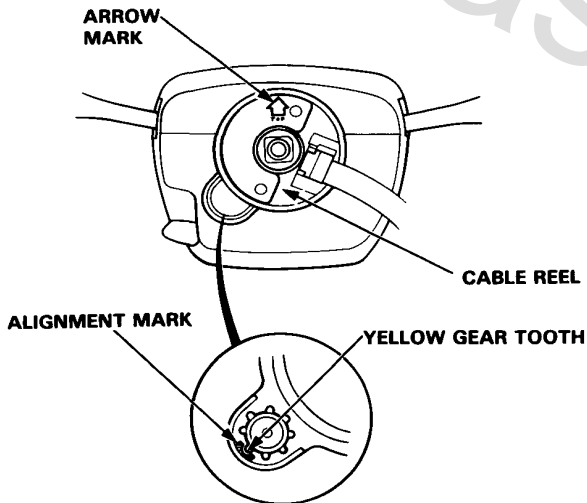
### ● Steering Wheel and Cable Reel Alignment:

NOTE: To avoid misalignment of the steering wheel or airbag on reassembly, make sure the wheels are turned straight ahead before removing the steering wheel.



Rotate the cable reel clockwise until it stops. Then rotate it counterclockwise (approximately two turns) until:

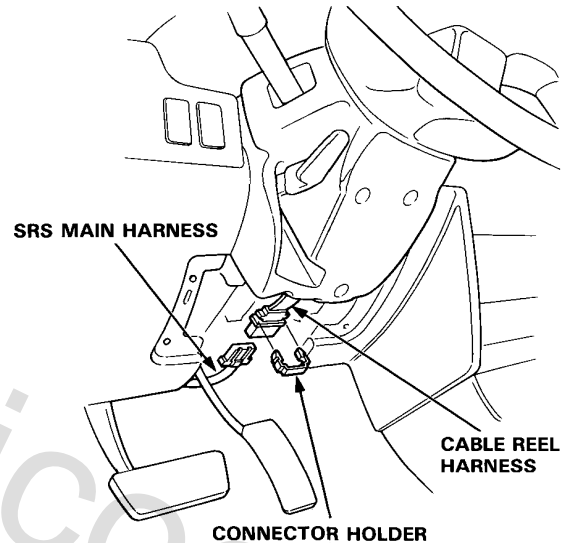
- The yellow gear tooth lines up with the mark on the cover.
- The arrow on the cable reel label points straight up.



### ● Steering Column Removal:

#### CAUTION:

- Before removing the steering column, first disconnect the connector between the cable reel and the SRS main harness.
- If the steering column is going to be removed without dismounting the steering wheel, lock the steering by turning the ignition key to 0-LOCK position or remove the key from the ignition.



### ● Steering Wheel:

Do not replace the original steering wheel with any other design, since it will make it impossible to properly install the airbag (only use genuine HONDA replacement parts).

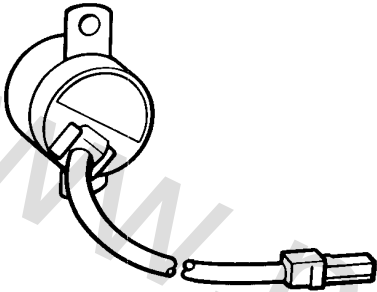
After reassembly confirm that the wheels are still turned straight ahead, and that the steering wheel spoke angle is correct. If minor spoke angle adjustment is necessary, do so only by adjustment of the tie-rods, not by removing and repositioning the steering wheel.

# Supplemental Restraint System (Type I)

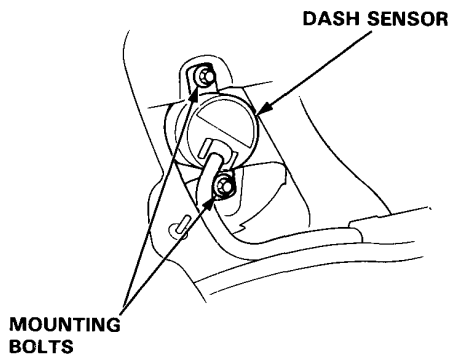
## Sensor Inspection

### ⚠ WARNING

- Disconnect both the negative and positive battery cables.
- Install the short connector before working around the dashboard lower panel or the SRS sensors.
- After any degree of frontal body damage, inspect both dash sensors. Replace a sensor if it is dented, cracked, or deformed.



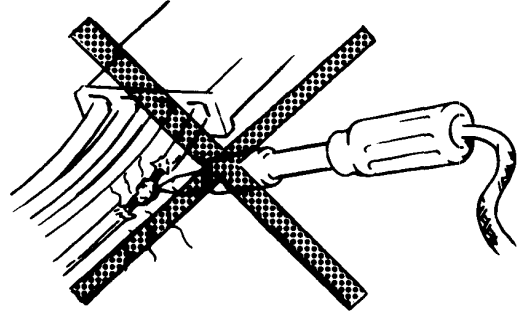
- Be sure the sensors are installed securely.



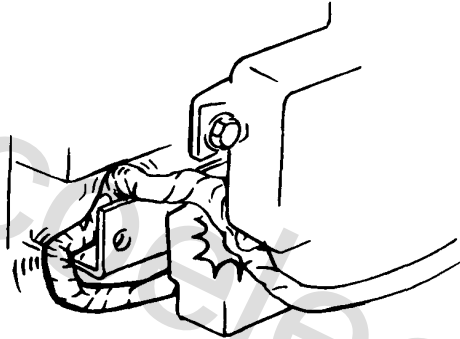
## Wiring related Precautions

- Never attempt to modify, splice or repair SRS wiring.

NOTE: SRS wiring can be identified by special yellow outer protective covering.



- Be sure to install the harness wires so that they are not pinched or interfering with other car parts.

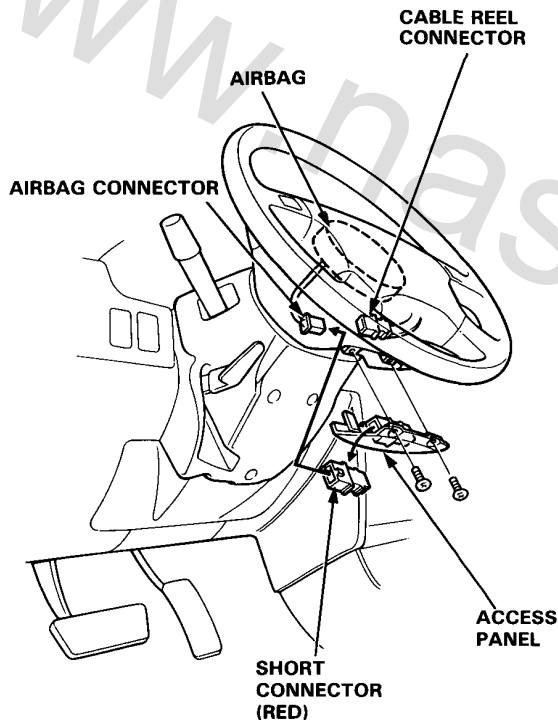


- Make sure all SRS ground locations are clean and grounds are securely fastened for optimum metal-to-metal contact. Poor grounding can cause intermittent problems that are difficult to diagnose.

- Install short connectors as follows whenever you are working near SRS wiring or components.

**⚠ WARNING** To avoid accidental deployment and possible injury, always install the protective short connector on the airbag connector before working near any SRS wiring.

1. Disconnect the battery negative cable, then disconnect the positive cable.
2. Remove the access panel from the steering wheel, then remove the red short connector from the panel.

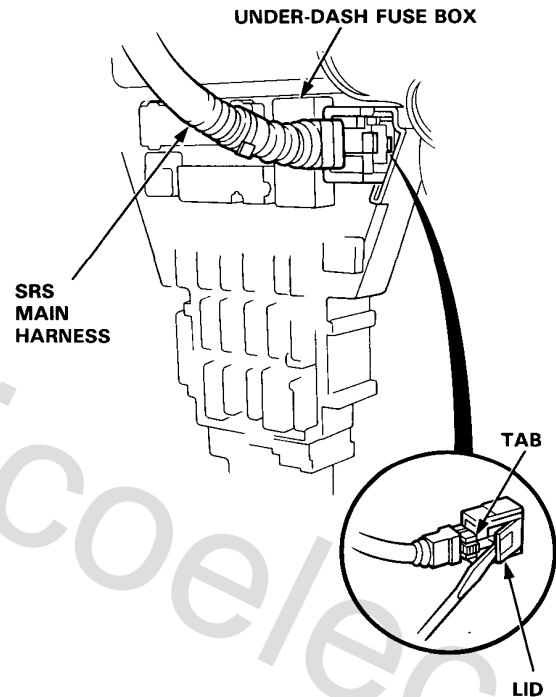


3. Disconnect the connector between the airbag and cable reel, then install the short connector on the airbag side of the connector.

- If you ever remove the under-dash fuse box or the SRS main harness, disconnect the SRS connector from the fuse box.

**CAUTION:** Avoid breaking the connector; it's double-locked.

1. First lift the connector lid with a thin screwdriver, then press the connector tab down and pull the connector out.



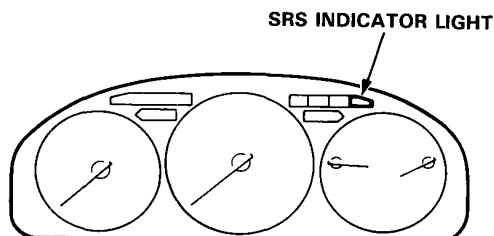
2. To reinstall the connector, push it into position until it clicks, then close its lid.

# Supplemental Restraint System (Type I)

## Troubleshooting

### Self-diagnosis Function

The SRS unit includes a self-diagnosis function. If there is a failure in the sensors, SRS unit, inflator, or their circuits, the SRS light in the instrument panel goes ON.



As a system check, the SRS light also comes on when the ignition is first turned to the II position. If the light goes off after approximately 6 seconds, the system is OK.

If the SRS light remains on (or fails to come on in the system check mode), one of the SRS components (or the wiring/connectors in-between) is faulty.

### Troubleshooting Precautions

- Always use the test harness. Do not use test probes directly on component connector terminals or wires; you may damage them or the control unit.
- When connecting any of the test harnesses to the system, push the connectors straight-in; do not bend the connector terminals.
- Before disconnecting any part of the SRS wire harness, install the short connector (RED) on the airbag.

### SRS Indicator Light Troubleshooting

#### Possible conditions:

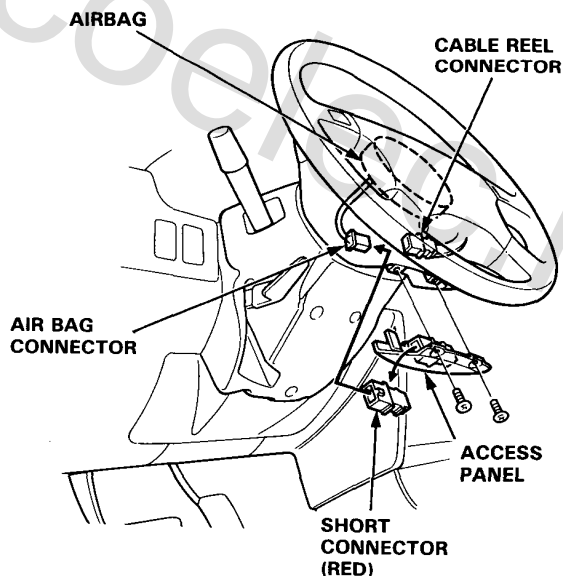
1. SRS light does not come on at all — see page 16-108.
2. SRS light stays on constantly — see page 16-112.
3. SRS light comes on in combination with a failure of another electrical system (brake system, check engine light etc.). Check for damage/corrosion at the under-dash fuse box connector.

#### NOTE:

- Before starting the applicable troubleshooting, check the condition of all SRS connectors and ground points.
- If the fault is not found after completing the applicable troubleshooting, substitute a known-good SRS unit and check whether the light indication goes away. If it does, the original SRS unit must be faulty; replace it.

### Short Connector Installation

1. Disconnect the battery negative cable, then the positive cable.
2. Remove the access panel from the steering wheel, then remove the short connector (RED).



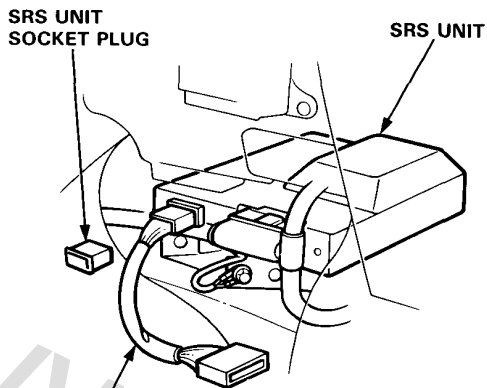
3. Disconnect the connector between the airbag and cable reel, then connect the short connector (RED) to the airbag.





# Test Harnesses and Attachment Points

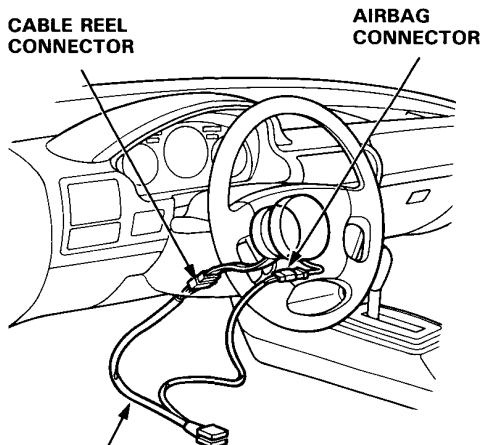
## Test Harness A



TEST HARNESS A  
07MAZ-SL00500

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

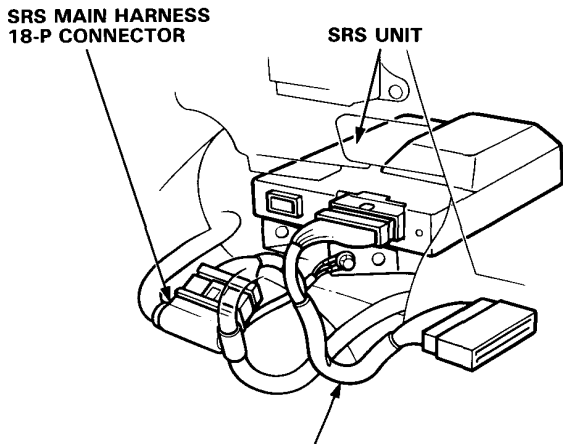
## Test Harness C



TEST HARNESS C  
07LAZ-SL40300

1	2	3	4
5	6	7	8

## Test Harness B



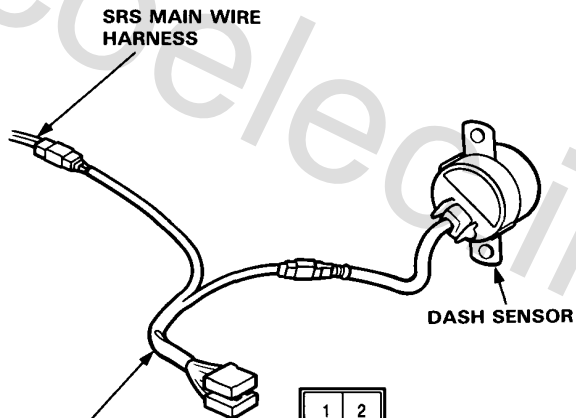
TEST HARNESS B  
07MAZ-SP00500

A-SIDE (SRS UNIT SIDE)

A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

B-SIDE (WIRE HARNESS SIDE)

## Test Harness D



TEST HARNESS D  
07LAZ-SL40400

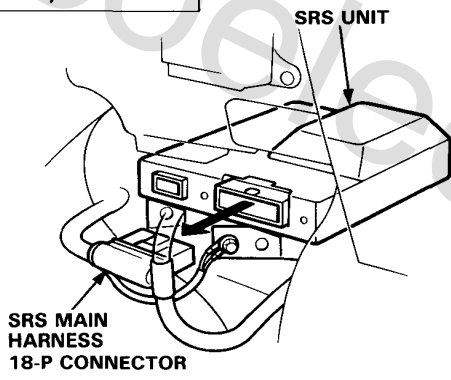
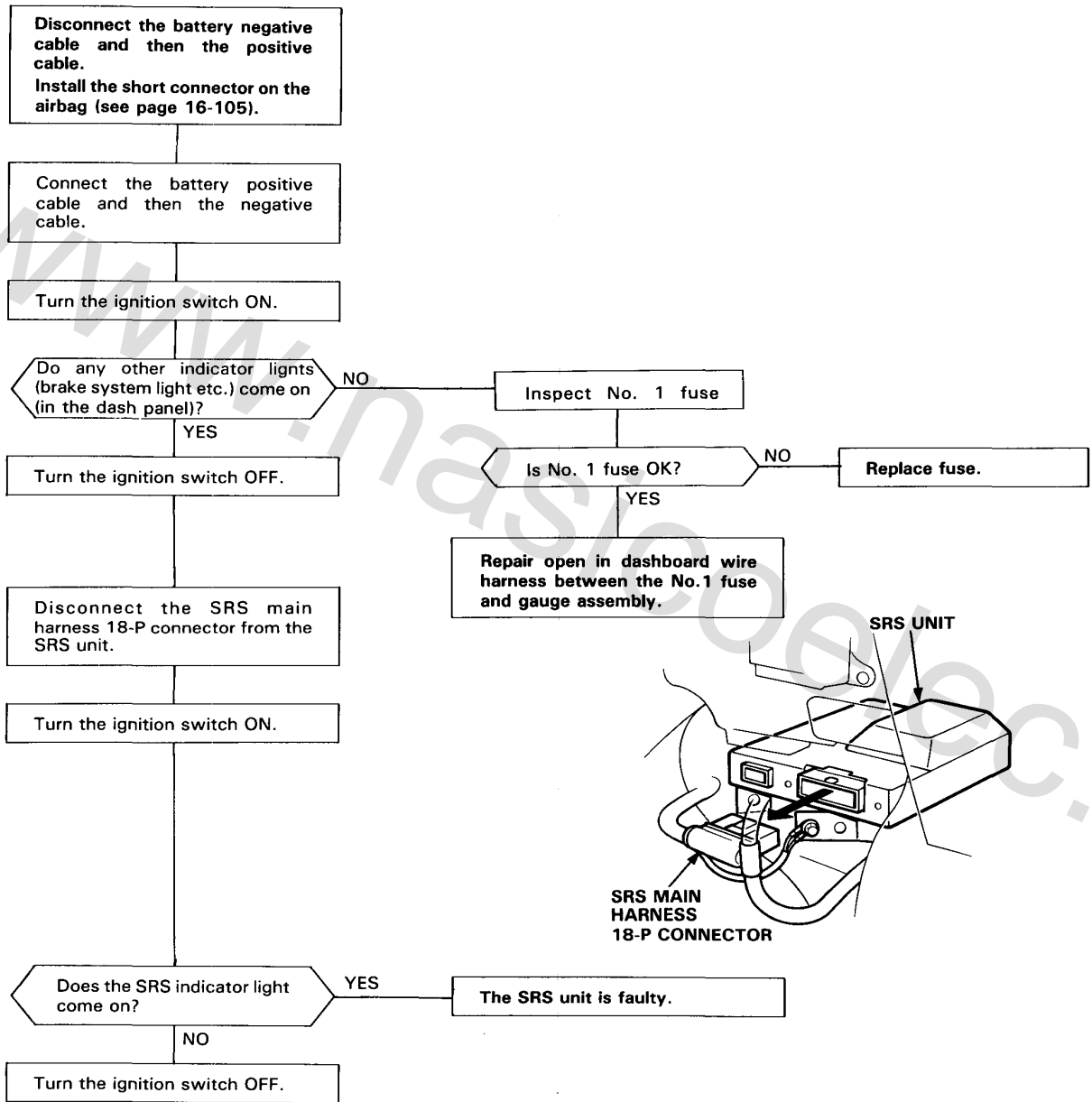
1	2
3	4

# Supplemental Restraint System (Type I)

## Troubleshooting

### The SRS Indicator Light Does Not Go On

**CAUTION:** Use only a digital circuit tester to check the system.

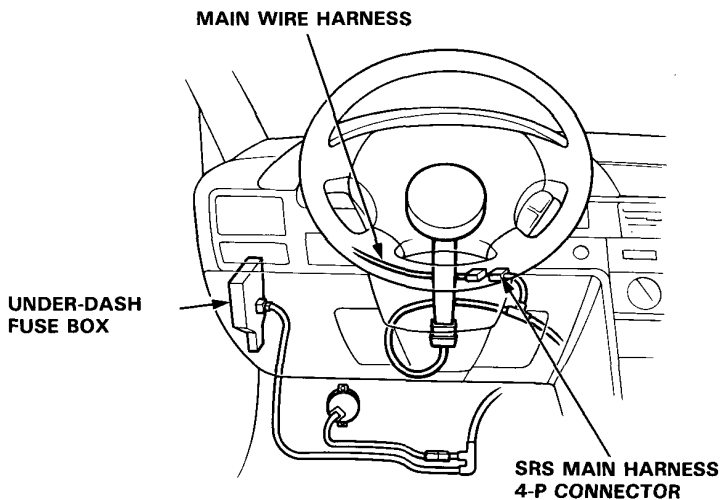


(To page 16-109)

(From page 16-108)

Disconnect the SRS main harness 4-P connector from the main wire harness.

Turn the ignition switch ON.



Is SRS indicator light ON?

YES  
The SRS main harness is faulty.

NO

Turn the ignition switch OFF.

Remove the gauge assembly, then inspect the SRS indicator light bulb.

Is the SRS indicator light bulb OK?

NO  
Replace the indicator light bulb.

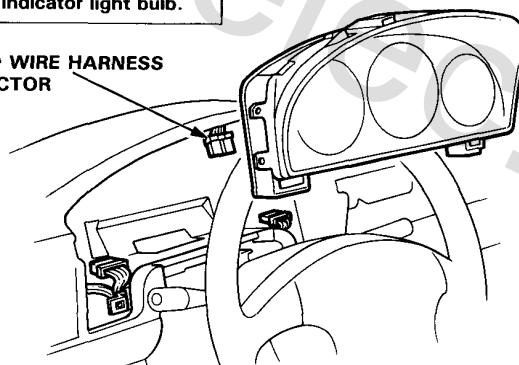
YES

Connect a voltmeter between the No. 15 terminal of the 18-P connector and body ground.

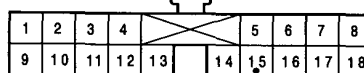
Turn the ignition switch ON.

Measure the voltage between the No. 15 terminal and body ground.

DASHBOARD WIRE HARNESS 18-P CONNECTOR



View from terminal side



(To page 16-110)

(cont'd)

# Supplemental Restraint System (Type I)

## Troubleshooting (cont'd)

(From page 16-109)

Is there less than 8.5 V with ignition switch ON?

NO

Short in the BLU wire of the dashboard wire harness. Replace the dashboard wire harness.

DASHBOARD WIRE HARNESS 18-P CONNECTOR

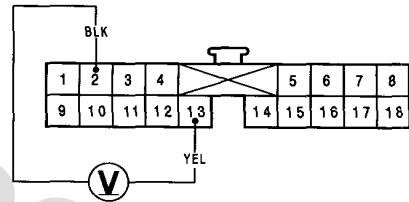
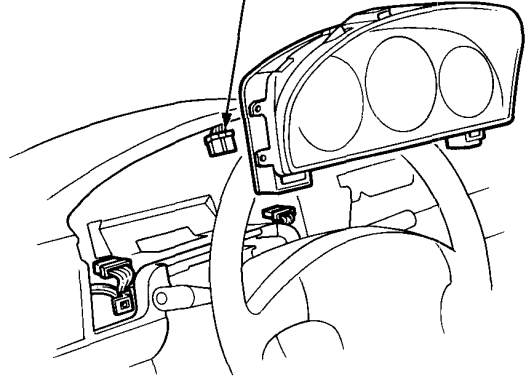
YES

Turn the ignition switch OFF.

Connect the voltmeter between the No. 13 terminal (+) and the No. 2 terminal (-) of the dashboard wire harness 18-P connector.

Turn the ignition switch ON.

Measure the voltage between the No. 13 and No. 2 terminals.



View from terminal side

Is there battery voltage?

NO

Check for continuity between the No. 2 terminal and body ground.

YES

Turn the ignition switch OFF.

Does continuity exist?

NO

Repair open in the BLK wire (No. 2 terminal) between the gauge assembly and body ground or look for a poor ground (G401, 402).

YES

Repair open in the YEL wire (No. 13 terminal) of the dashboard wire harness between the gauge assembly and the No. 1 fuse.

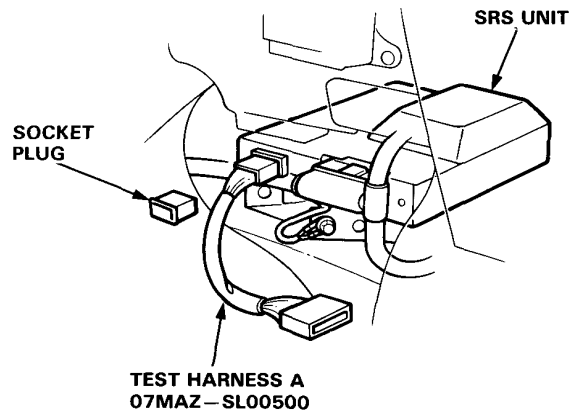
(To page 16-111)

(From page 16-110)

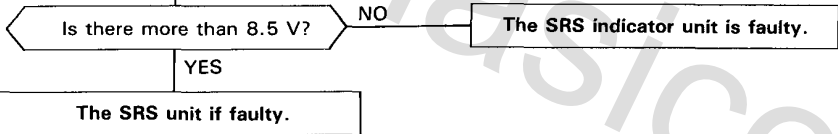
Reconnect each connector to the gauge assembly and SRS unit then connect Test Harness A to the SRS unit.

Measure the voltage between the No. 13 terminal and body ground for 6 seconds after ignition is first turned on.

NOTE: Make sure you reinstall the plug in the SRS unit socket after testing (DE only).



1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16



(cont'd)

# Supplemental Restraint System (Type I)

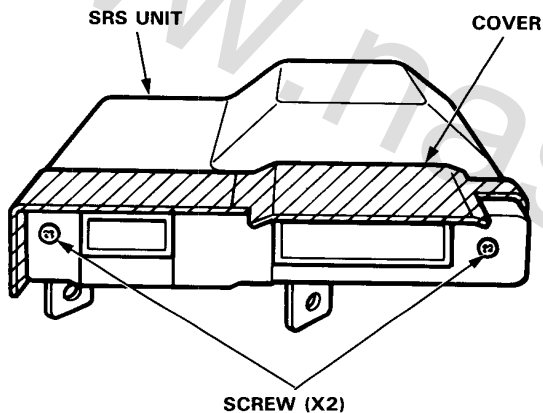
## Troubleshooting (cont'd)

### SRS Indicator Light Stays on Continuously

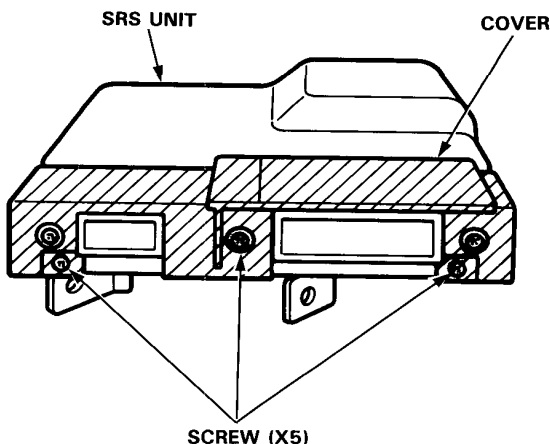
1. Make a photocopy of next page.
2. Connect test harness A to the SRS unit as shown.
3. Turn the ignition switch ON.
  - Voltages in the charts assume the car's "battery voltage" is about 12 volts. Less than 12 volts will result in different or possibly false readings.
  - Do not disconnect the airbag from the circuit when checking SRS unit voltages.

NOTE: There are two kinds of SRS units which do not differ in their functions and may be replaced with each other. However, as they don't have the same voltages, be sure to refer to the right chart.

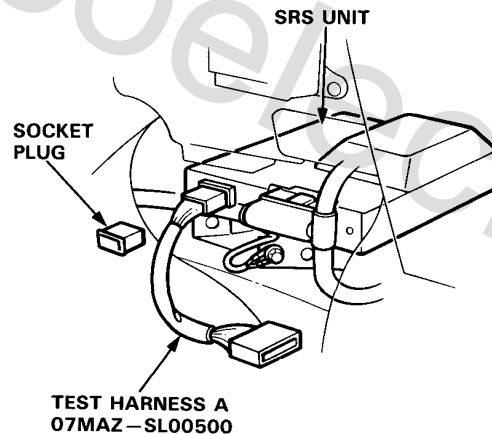
NEC: (77940-SM4-N81-M1, 77940-SM4-A81)



DE: (77940-SM5-A81)



4. First, check for voltage between Test Connector Terminal No. 12 and ground.
  - If voltage is indicated, there is a poor ground (see page 16-121).
  - Continue with checking all the other terminals if no voltage is indicated.
5. Record your voltage readings, for each terminal, in the row of blank boxes near the top of the chart.
6. Compare each reading with the voltage ranges listed in the column below it. If the reading is within a range, circle that range.
  - If you circled all the Failure Mode ranges across any row, check the car for the Probable Failure Mode listed at the end of the row. (Refer to the letter for that Mode on the following pages).
  - If you did not circle all the ranges across any row, replace the SRS unit with a known-good unit, and retest.
    - If all your voltage readings are now Normal, replace the SRS unit.
    - If your voltage readings are still not Normal but they don't fit within a complete row of Failure Mode ranges, check the condition of the terminals in each of the SRS connectors shown in the system diagram on page 16-101.



1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16



**NEC: (77940-SM4-N81, 77940-SM4-A81)**

Test Connector Terminal	1 SADH	-	-	4 VCC	5 SV	-	-	-	-	10 BUC1	-	12 GND	13 IDC	14 M1	-	-	Probable Failure Mode	
Normal Voltage	3.5 -5.2	-	-	4.5 -5.5	12.0 -14.0	-	-	-	-	10.5 -14.5	-	0	8.5 -13.0	7.5 -11	-	-		
Your Voltage Reading		-	-			-	-	-	-		-				-	-		
Failure Mode Voltage	0	-	-	4.5 -5.5	12.0 -14.0	-	-	-	-	10.5 -14.5	-	0	2.0 -8.5	7.5 -11	-	-	Open in cowl sensor or short in dash sensor.	
	7.5 -11	-	-	4.5 -5.5	12.0 -14.0	-	-	-	-	10.5 -14.5	-	0	2.0 -8.5	7.5 -11	-	-	Short in cowl sensor or open in both dash sensors.	
	5.3 -7.2	-	-	4.5 -5.5	12.0 -14.0	-	-	-	-	10.5 -14.5	-	0	2.0 -8.5	7.5 -11	-	-	C Open in one dash sensor.	
	7.5 -11	-	-	4.5 -5.5	12.0 -14.0	-	-	-	-	10.5 -14.5	-	0	2.0 -8.5	7.5 -11	-	-	D Open in airbag inflator or cable reel.	
	3.5 -5.2	-	-	0	0	-	-	-	-	8.5 -14.5	-	0	2.0 -8.5	6 -11	-	-	E Blown SRS fuse (No. 3) or open in the wire.	
	3.5 -7.2	-	-	4.5 -5.5	12.0 -14.0	-	-	-	-	10.5 -14.5	-	0	0 (8.5-13.0)	7.5 -11	-	-	F Short (or open) in SRS indicator wire harness.	

**DE: (77940-SM5-A81)**

Test Connector Terminal	1 SADH	-	-	4 VCC	5 SV	-	-	-	-	10 BUC1	-	12 GND	13 IDC	14 M1	-	-	Probable Failure Mode	
Normal Voltage	5.1 -7.0	-	-	4.5 -5.5	12.0 -14.0	-	-	-	-	10.5 -14.5	-	0	8.5 -13.0	10.5 -14.5	-	-		
Your Voltage Reading		-	-			-	-	-	-		-				-	-		
Failure Mode Voltage	0	-	-	4.5 -5.5	12.0 -14.0	-	-	-	-	10.5 -14.5	-	0	2.0 -8.5	10.5 -14.5	-	-	Open in cowl sensor or short in dash sensor.	
	10.5 -14.5	-	-	4.5 -5.5	12.0 -14.0	-	-	-	-	10.5 -14.5	-	0	2.0 -8.5	10.5 -14.5	-	-	Short in cowl sensor or open in both dash sensors.	
	7.1 -9.5	-	-	4.5 -5.5	12.0 -14.0	-	-	-	-	10.5 -14.5	-	0	2.0 -8.5	10.5 -14.5	-	-	C Open in one dash sensor.	
	10.5 -14.5	-	-	4.5 -5.5	12.0 -14.0	-	-	-	-	10.5 -14.5	-	0	2.0 -8.5	10.5 -14.5	-	-	D Open in airbag inflator or cable reel.	
	4.0 -7.0	-	-	0	0	-	-	-	-	8.5 -14.5	-	0	2.0 -8.5	8.5 -14.5	-	-	E Blown SRS fuse (No. 3) or open in the wire.	
	5.1 -7.0	-	-	4.5 -5.5	12.0 -14.0	-	-	-	-	10.5 -14.5	-	0	0 (8.5-13.0)	10.5 -14.5	-	-	F Short (or open) in SRS indicator wire harness.	

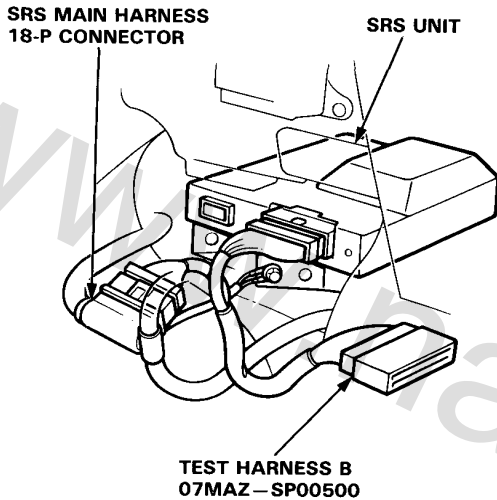
(cont'd)

# Supplemental Restraint System (Type I)

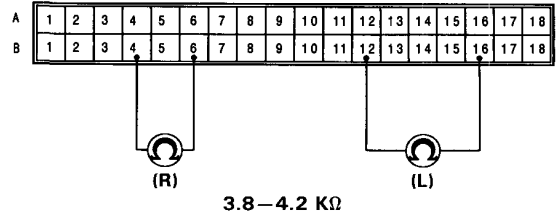
## Troubleshooting (cont'd)

**Mode A: Open in cowl sensor, or short in dash sensor.**

1. Disconnect the battery negative cable and then the positive cable. Install the short connector (RED) on the airbag (see page 16-105).
2. Connect Test Harness B between the SRS unit and SRS main harness 18-P connector.

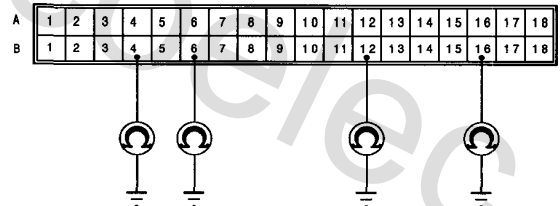


3. Reconnect the battery cables, then check the resistance between the left dash sensor terminals B12 and B16, and between the right dash sensor terminals B4 and B6.



- If resistance is 3.8–4.2 KΩ for either sensor, go to step 4.
- If resistance is less than 3.8–4.2 KΩ for either sensor, go to step 5.

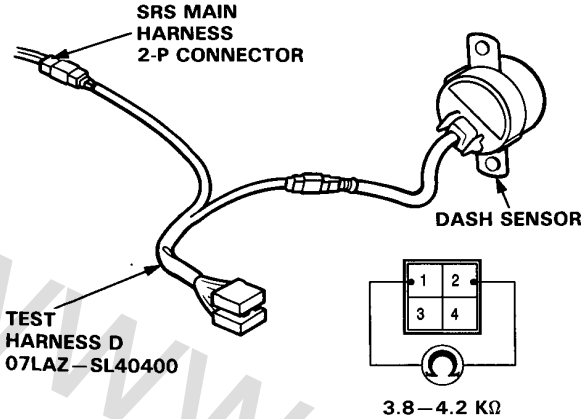
4. Check continuity between body ground and each terminal of both dash sensors.



- If there is no continuity, the SRS unit is faulty. Substitute a known-good SRS unit and recheck the voltages according to the chart on page 16-113.
- If there is continuity at any of the terminals, go to step 6.

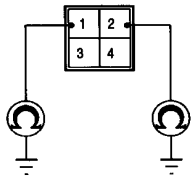


5. Connect Test Harness D between the dash sensor and the SRS main harness 2-P connector. Check the resistance between the No. 1 terminal and No. 2 terminal.



NOTE: The left and right sensors cannot be checked at the same time.

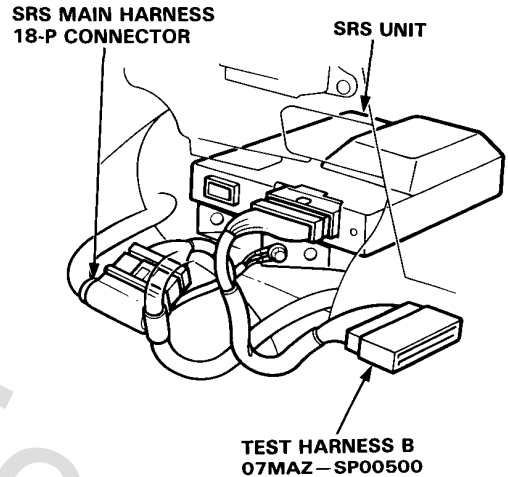
- If resistance is 3.8-4.2 KΩ, replace the SRS main harness and recheck the voltages according to the chart on page 16-113.
  - If resistance is less than 3.8 - 4.2 KΩ, the respective dash sensor is faulty. Replace the dash sensor and recheck the voltages according to the chart on page 16-113.
6. Connect Test Harness D between the dash sensor and SRS main harness 2-P connector. Check continuity between the No. 1 terminal and body ground, and between the No. 2 terminal and body ground.



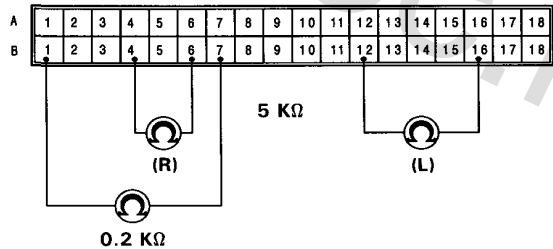
- If there is continuity, the dash sensor is faulty. Replace it and recheck the voltages according to the chart on page 16-113.
- If there is no continuity, replace the SRS main harness and recheck the voltages according to the chart on page 16-113.

**Mode B: Short cowl sensor, or open in dash sensor.**  
**Mode C: Open in one dash sensor.**

1. Disconnect the battery negative cable and then the positive cable. Install the short connector (RED) on the airbag (see page 16-105).
2. Connect Test Harness B between the SRS unit and SRS main harness 18-P connector.



3. Check the resistance between terminals B1 and B7.
  - If the resistance is more than 0.2 KΩ, go to mode D troubleshooting.
  - If the resistance is less than 0,2 KΩ, check the resistance between the left dash sensor terminals B12 and B16, and between the right dash sensor terminals B4 and B6.



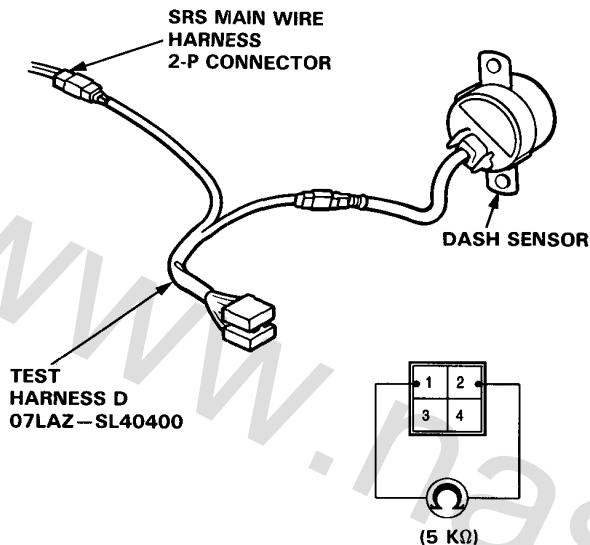
- If resistance is more than 5 KΩ, go to step 4.
- If resistance is less than 5 KΩ, the SRS unit is faulty. Substitute a known-good SRS unit and recheck the voltages according to the chart on page 16-113.

(cont'd)

# Supplemental Restraint System (Type I)

## Troubleshooting (cont'd)

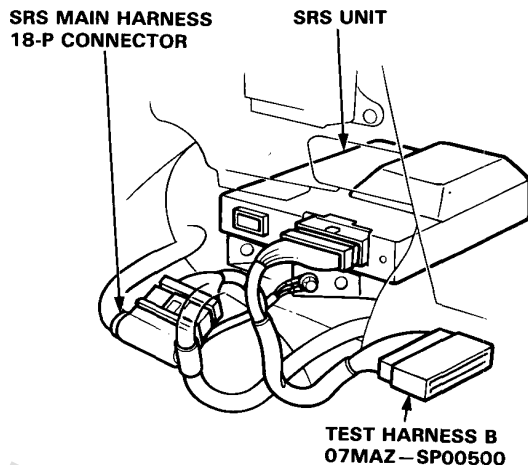
- Connect Test Harness D between the dash sensor and the SRS main harness 2-P connector. Check the resistance between the No. 1 terminal and No. 2 terminal.



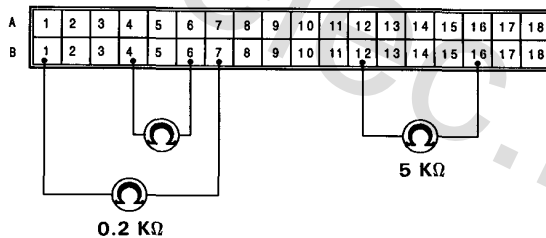
- If resistance is more than 5 KΩ, the dash sensor is faulty. Replace it and recheck the voltages according to the chart on page 16-113.
- If resistance is less than 5 KΩ, the SRS main harness is faulty. Replace the SRS main harness and recheck the voltages according to the chart on page 16-113.

### Mode D: Open in airbag inflator or cable reel.

- Disconnect the battery negative cable and then the positive cable.
- Connect Test Harness B between the SRS unit and SRS main harness 18-P connector.

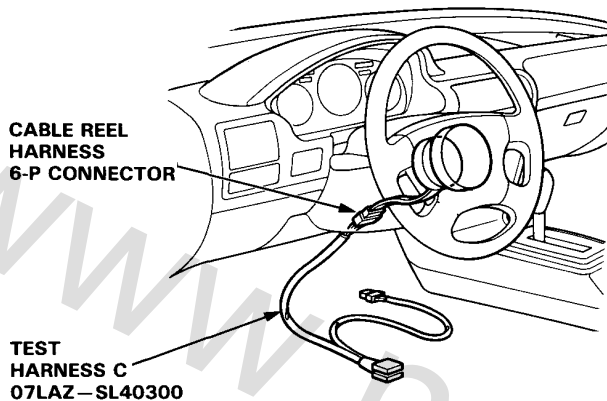


- Check the resistance between terminals B4 and B6, and between terminals B12 and B16.
  - If the resistance is more than 5 KΩ, go to mode B troubleshooting.
  - If the resistance is less than 5 KΩ, measure the resistance between the B1 and the B7 terminals.

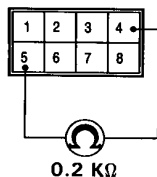


- If resistance is more than 0.2 KΩ, go to step 4.
- If resistance is less than 0.2 KΩ, the SRS unit is faulty. Substitute a known-good SRS unit and recheck the voltages according to the chart on page 16-113.

- Disconnect the cable reel harness 6-P connector from the SRS main harness, then connect Test Harness C only to the cable reel harness side of the 6-P connector.

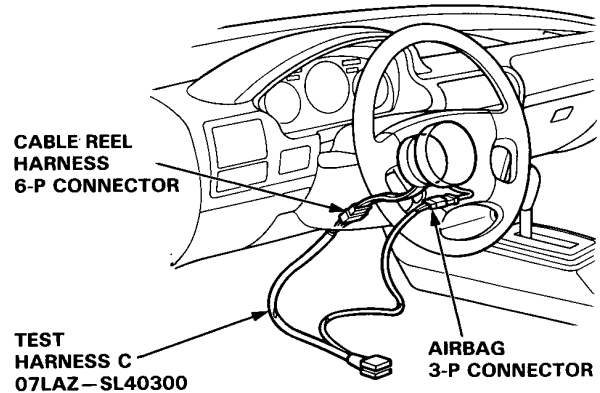


- Measure the resistance between the No. 4 terminal and the No. 5 terminal.

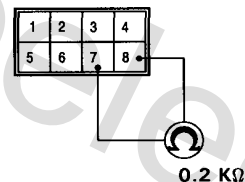


- If resistance is more than 0.2 KΩ, go to step 5.
- If resistance is less than 0.2 KΩ, the SRS main harness is faulty. Replace the SRS main harness and recheck the voltages according to the chart on page 23-305.

- Disconnect the airbag 3-P connector from the cable reel harness, then connect Test Harness C to the airbag 3-P connector.



- Measure the resistance between the No. 7 terminal and the No. 8 terminal.



- If resistance is more than 0.2 KΩ, the inflator is faulty. Replace the airbag assembly and recheck the voltages according to the chart on page 16-113.
- If resistance is less than 0.2 KΩ, the cable reel is faulty. Replace the cable reel and recheck the voltages according to the chart on page 16-113.

(cont'd)

# Supplemental Restraint System (Type I)

## Troubleshooting (cont'd)

### Mode E: Blown SRS No. 3 fuse, or open in the wire.

1. Check the SRS No.3 (10 A) fuse in the under-dash fuse box. If it's OK, go on to step 2.

If it's blown, replace it with a new 10 A fuse, then turn the ignition switch ON:

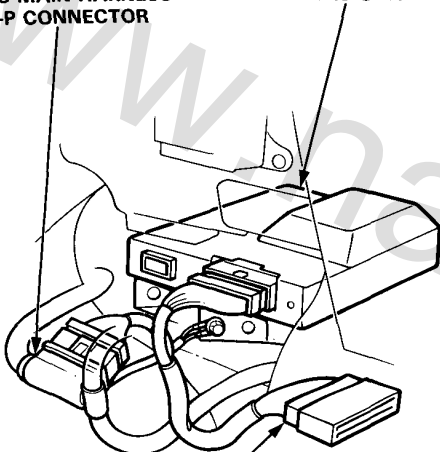
- If fuse doesn't blow, go on to step 2.
- If the fuse blows, troubleshoot as necessary to find the short.

2. Disconnect battery negative cable, then the positive cable. Install the short connector (RED) on the airbag (see page 16-105).

3. Connect Test Harness B between the SRS unit and SRS main harness 18-P connector.

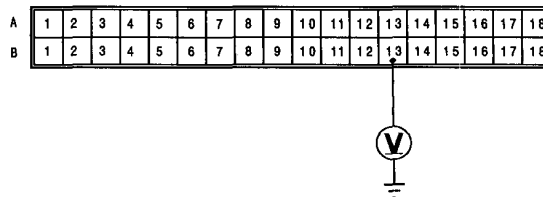
SRS MAIN HARNESS  
18-P CONNECTOR

SRS UNIT



TEST HARNESS B  
07MAZ-SP00500

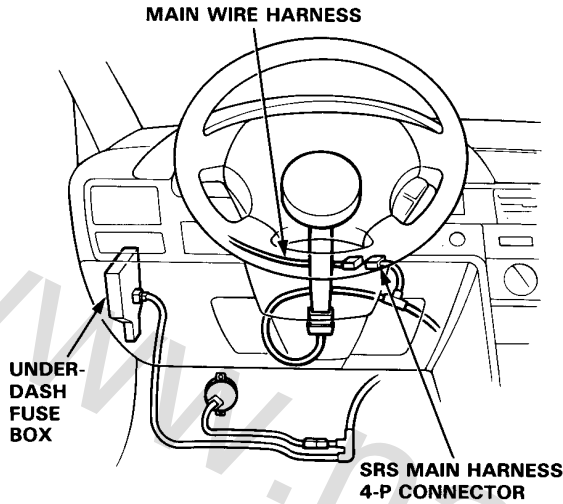
4. Reconnect the positive and negative cables to the battery.
5. Measure the voltage between the B13 terminal and body ground with the ignition switch ON.



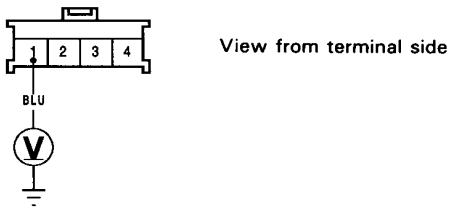
- If there is battery voltage, the SRS unit is faulty. Replace it and recheck the voltages according to the chart on page 16-113.
- If less than battery voltage, the SRS main harness is faulty. Replace it and recheck the voltages according to the chart on page 16-113.

**Mode F: Short or open in SRS indicator wire harness.**

1. Disconnect the SRS main harness 4-P connector from the main wire harness.



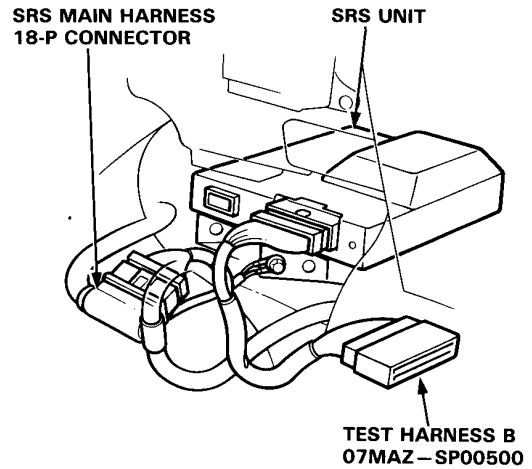
2. Measure the voltage between the No. 1 terminal and body ground on the SRS main harness 4-P connector side, with the ignition switch ON.



- If voltage is more than 8.5 V, go to step 8.
- If voltage is less than 8.5 V, go to step 3.

3. Disconnect the battery negative cable, then the positive cable. Install the short connector (RED) on the airbag (see page 16-105).
4. Reconnect the battery positive cable and negative cable.

5. Connect Test Harness B between the SRS unit and SRS main harness 18-P connector.



6. Check for continuity between the B11 terminal and body ground.

A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18



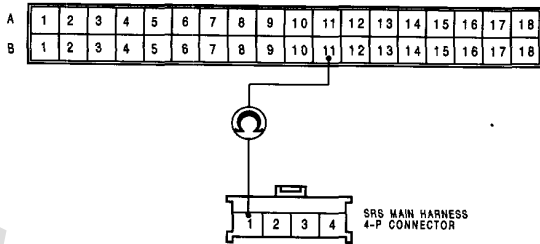
- If there is continuity, the SRS main harness is shorted. Replace the SRS main wire harness and recheck the voltages according to the chart on page 16-113.
- If there is no continuity, go to step 7.

(cont'd)

# Supplemental Restraint System (Type I)

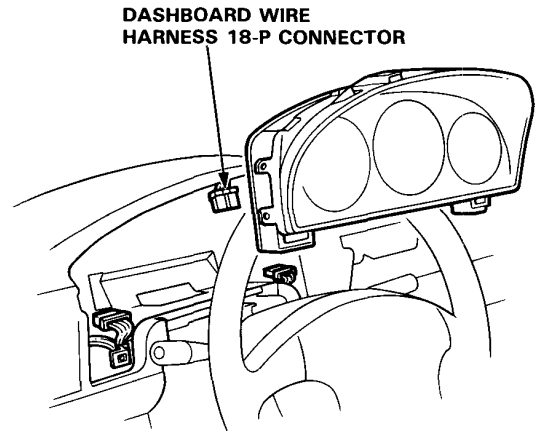
## Troubleshooting (cont'd)

7. Check for continuity between the B11 terminal of Test Harness B and the No. 1 terminal of the SRS main harness 4-P connector.

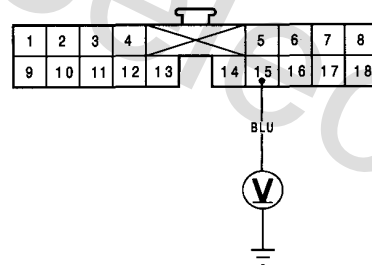


- If there is continuity, the SRS unit is faulty; Replace it and recheck the voltages according to the chart on page 16-113.
- If there is no continuity, there is an open in the SRS main harness. Replace the SRS main wire harness and recheck the voltages according to the chart on page 16-113.

8. Connect the SRS main harness 4-P connector to the main wire harness. Disconnect the dashboard wire harness 18-P connector from the gauge assembly.



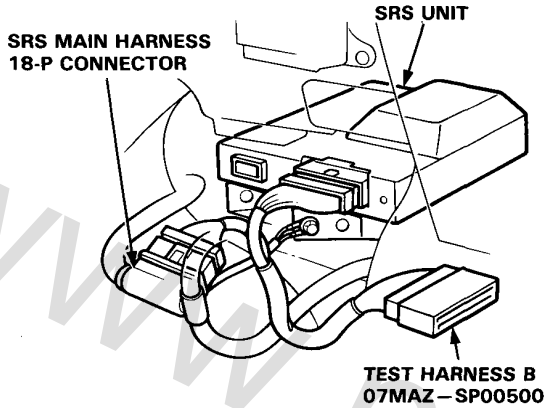
9. Measure the voltage between the No. 15 terminal and body ground with the ignition switch ON.



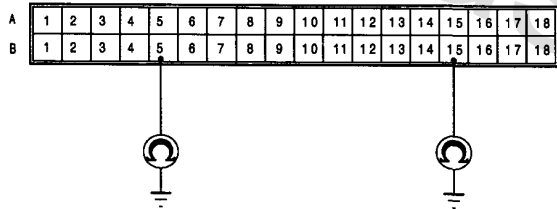
- If voltage is more than 8.5 V, the SRS indicator circuit is faulty (in the gauge assembly.) Replace the gauge assembly and recheck the voltages according to the chart on page 16-113.
- If voltage is less than 8.5 V, the dashboard wire harness (or the main wire harness) is faulty. Replace it and recheck the voltages according to the chart on page 16-113.

**Poor ground at SRS unit or unit mounting bolts.**

1. Disconnect the battery negative cable and then the positive cable. Install the short connector (RED) on the airbag. (see page 16-105).
2. Connect Test Harness B between the SRS unit and SRS main harness 18-P connector.



3. Check for continuity between the B5, B15 terminals and body ground.



- If there is continuity, the SRS unit is faulty. Replace it and recheck the voltages according to the chart on page 16-113.
- If there is no continuity, there is an open in the SRS unit ground, the SRS unit component grounds, or the SRS main harness is faulty. Check the grounds (check the SRS unit ground wire and mounting bolts) and, if necessary, replace the SRS main harness. Recheck the voltages according to the chart on page 16-113.

# Supplemental Restraint System (Type I)

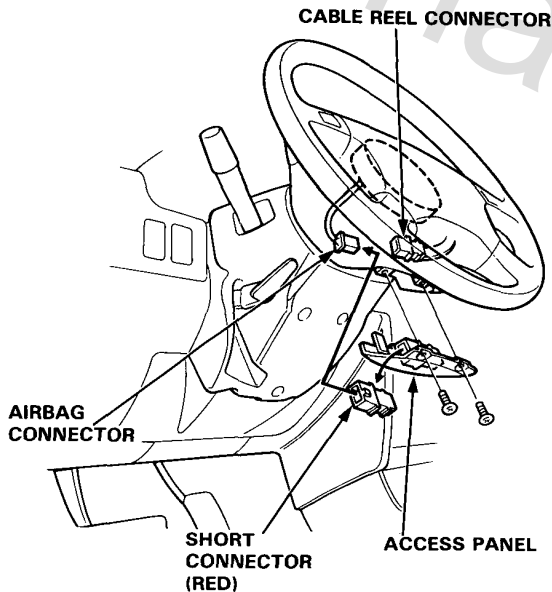
## Airbag Assembly Removal

**⚠ WARNING** Store a removed airbag assembly with the pad surface up, if the airbag is improperly stored face down, accidental deployment could propel the unit with enough force to cause serious injury.

### CAUTION:

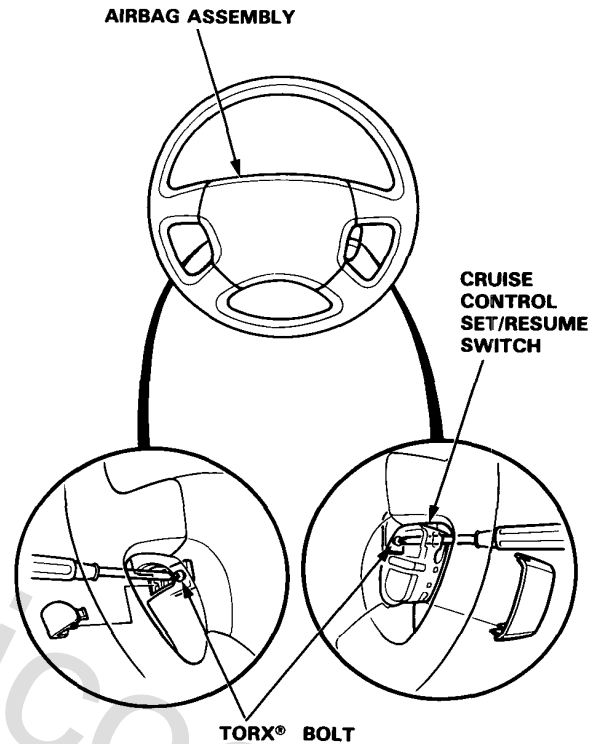
- Do not install used SRS parts from another car. When repairing an SRS, use only new parts.
- Carefully inspect the airbag assembly before installing it. Do not install an airbag assembly that shows signs of being dropped or improperly handled, such as dents, cracks or deformation.
- Always keep the short connector on the airbag connector when the harness is disconnected.
- Do not disassemble or tamper with the airbag assembly.

1. Disconnect the battery negative cable, and then the positive cable.
2. Remove the access panel from the steering wheel, then remove the short connector from the panel.



3. Disconnect the connector between the airbag and cable reel.
4. Install the short connector (RED) on the airbag.

5. Remove the 2 TORX® bolts using a TORX® T30 bit, then remove the airbag assembly.





# Supplemental Restraint System (Type I)

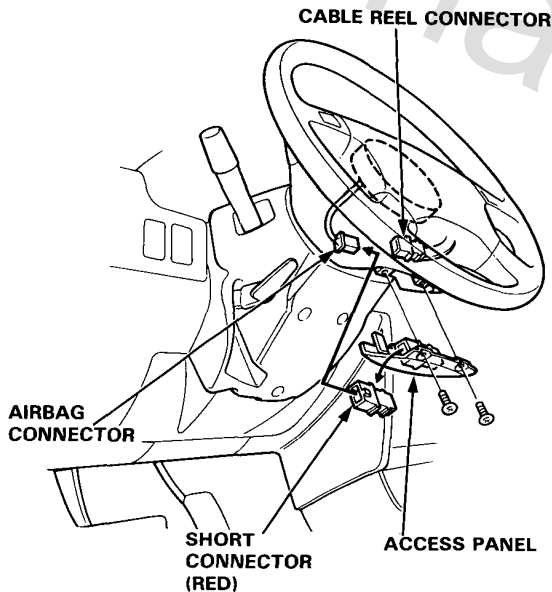
## Airbag Assembly Removal

**⚠ WARNING** Store a removed airbag assembly with the pad surface up, if the airbag is improperly stored face down, accidental deployment could propel the unit with enough force to cause serious injury.

### CAUTION:

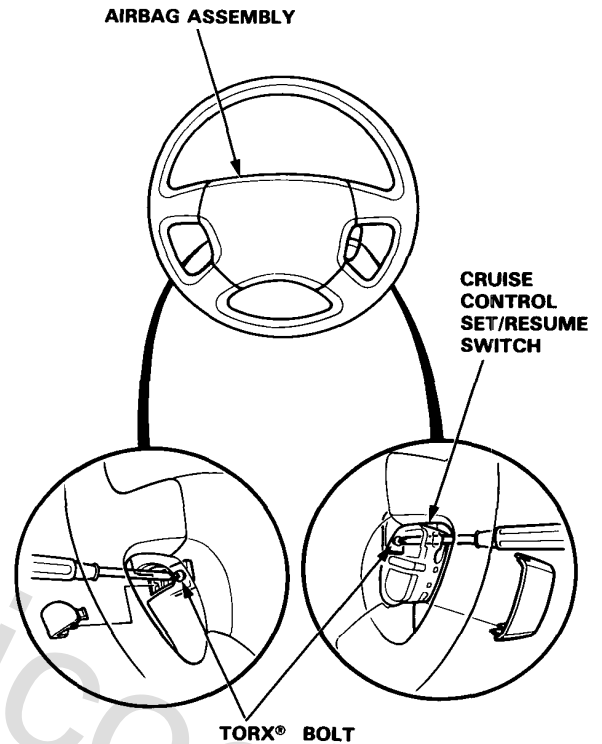
- Do not install used SRS parts from another car. When repairing an SRS, use only new parts.
- Carefully inspect the airbag assembly before installing it. Do not install an airbag assembly that shows signs of being dropped or improperly handled, such as dents, cracks or deformation.
- Always keep the short connector on the airbag connector when the harness is disconnected.
- Do not disassemble or tamper with the airbag assembly.

1. Disconnect the battery negative cable, and then the positive cable.
2. Remove the access panel from the steering wheel, then remove the short connector from the panel.



3. Disconnect the connector between the airbag and cable reel.
4. Install the short connector (RED) on the airbag.

5. Remove the 2 TORX® bolts using a TORX® T30 bit, then remove the airbag assembly.



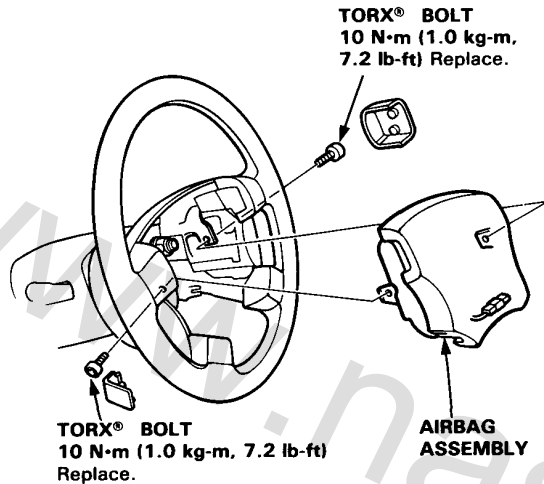


## Airbag Assembly Installation

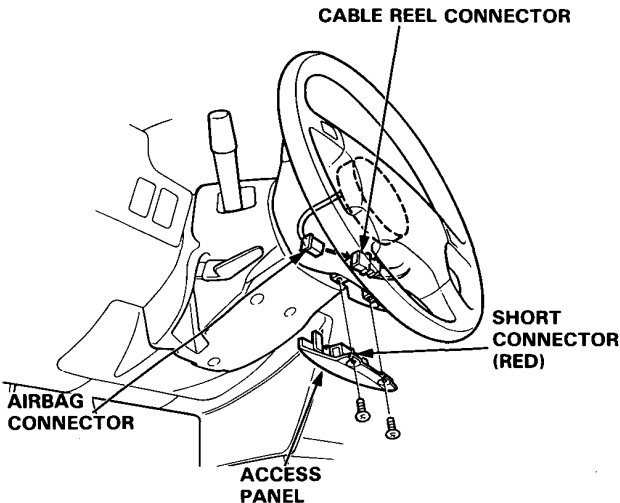
### CAUTION:

- Be sure to install the SRS wiring so that it is not pinched or interfering with other car parts.
- Be sure the battery cables are disconnected.

1. Place the airbag assembly in the steering wheel, and secure it with new TORX® bolts.



2. Remove the short connector from the airbag connector.



3. Reconnect the airbag connector to the cable reel connector. Attach the short connector to the access panel, then reinstall the panel on the steering wheel.

4. Reconnect the battery positive cable, then the negative cable.

5. After installing the airbag assembly, confirm proper system operation:

- Turn the ignition to II: the instrument panel SRS indicator light should go on for about 6 seconds and then go off.
- Make sure both horn buttons work.
- Take a test drive and make sure the cruise control set/resume switch works (with cruise control).

# Supplemental Restraint System (Type I)

## Airbag Disposal

Before scrapping any airbag (including one in a whole car to be scrapped) the airbag must be deployed. If the car is still within the warranty period, before deploying the airbag, the HONDA District Service Manager must give approval and/or special instructions.

Only after an airbag is already deployed (as the result of vehicle collision, for example), it can be scrapped.

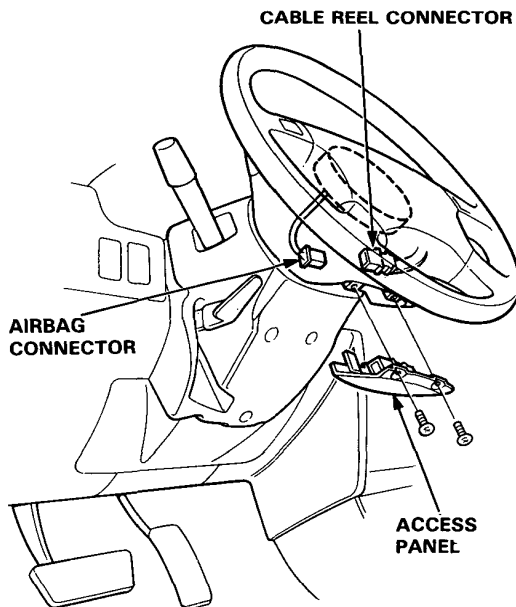
If the airbag appears intact (not deployed), it should be treated with extreme caution.

### Developing the Airbag: In-car

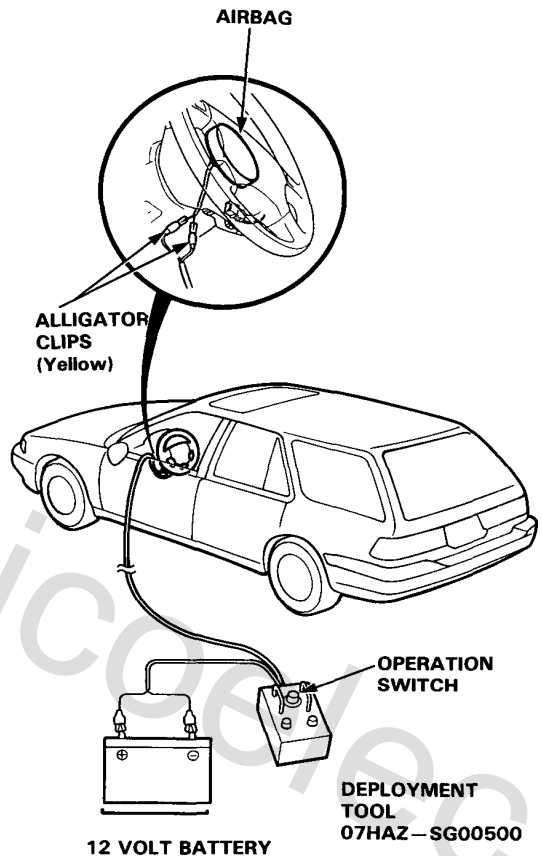
**NOTE:** If an SRS car is to be entirely scrapped, its airbag should be deployed while still in the car. An airbag should not be considered a salvageable part and should never be installed in another car.

**⚠ WARNING** Confirm that the airbag assembly is securely mounted; otherwise, severe personal injury could result during deployment.

1. Disconnect both the negative cable and then the positive cable from the battery.
2. Confirm that the special tool is functioning properly by following the check procedure on the label of the tool set box or on page 16-125.
3. Remove the access panel, then disconnect the connector between the airbag and cable reel.



4. Cut off the airbag connector, then strip the wire ends and connect the special tool alligator clips to them. Place the special tool approximately 10 meters (30 ft) away from the airbag.





## Airbag Disposal (cont'd)

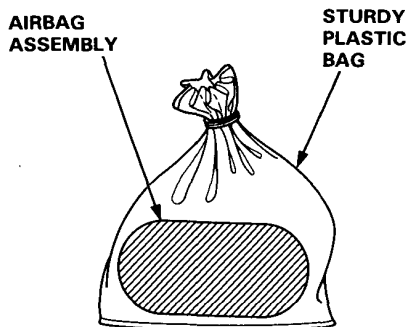
5. Connect a 12 volt battery to the tool:
  - If the green light on the tool goes on, the airbag igniter circuit is defective and cannot deploy the bag. Go to Damaged Airbag Special Procedure.
  - If the red light on the tool goes on, the airbag is ready to be deployed.
6. Push the tool's deployment switch. The airbag should deploy (deployment is both highly audible and visible — a loud noise and rapid inflation of the bag, followed by slow deflation).
  - If audible/visible deployment happens and the green light on the tool goes on, continue with this procedure.
  - If the airbag doesn't deploy, yet the green light goes ON, its igniter is defective. Go to Damaged Airbag Special Procedure.

**▲ WARNING** During deployment, the airbag assembly can become hot enough to burn you. Wait thirty minutes after deployment before touching the assembly.

7. Dispose of the complete airbag assembly. No part of it can be reused. Place it in a sturdy plastic bag and seal it securely.

### CAUTION:

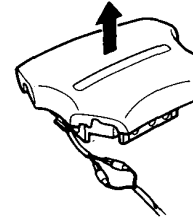
- Wear a face shield and gloves when handling a deployed airbag.
- Wash your hands and rinse them well with water after handling a deployed airbag.



## Deploying the Airbag: Out-of-car.

NOTE: If an intact airbag assembly has been removed from a scrapped car or has been found defective or damaged during transit, storage, or service, it should be deployed as follows:

**▲ WARNING** Position the airbag assembly face up, outdoors on flat ground at least thirty feet from any obstacles or people.



1. Confirm that the special tool is functioning properly by following the check procedure on this page or on the tool box label.
2. Remove the short connector from the airbag connector.
3. Follow steps 4, 5, 6 and 7 of the in-car deployment procedure.

## Damaged Airbag Special Procedure.

**▲ WARNING** If an airbag cannot be deployed, it should not be treated as normal scrap; it should still be considered a potentially explosive device that can cause serious injury.

1. If installed in a car, follow the removal procedure on page 16-122.
2. In all cases, make sure a short connector is properly installed on the airbag connector.
3. Package the airbag in exactly the same packaging that the new replacement part came in.
4. Mark the outside of the box "DAMAGED AIRBAG NOT DEPLOYED" so it does not get confused with your parts stock.
5. Contact your HONDA District Service Manager for how and where to return it for disposal.

## Deployment Tool: Check Procedure.

1. Connect the yellow clips to both switch protector handles on the tool; connect the tool to a battery.
2. Push the operation switch: green means tool is OK; red means tool is faulty.
3. Disconnect the battery and the yellow clips.

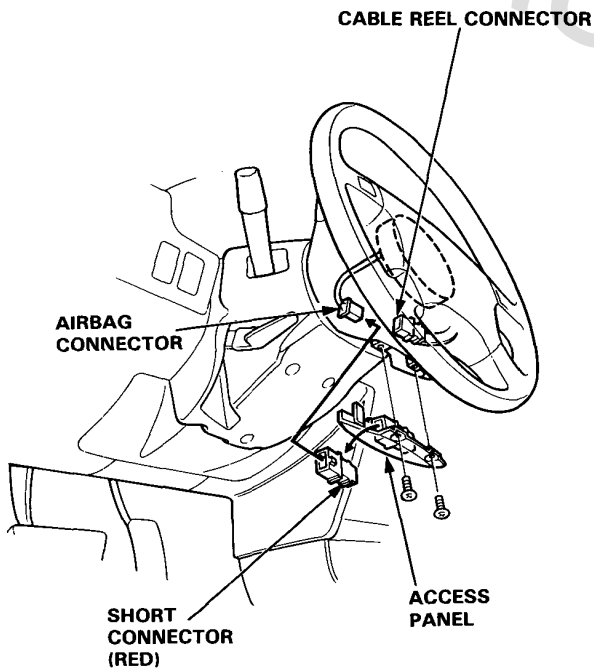
# Supplemental Restraint System (Type I)

## Cable Reel Removal

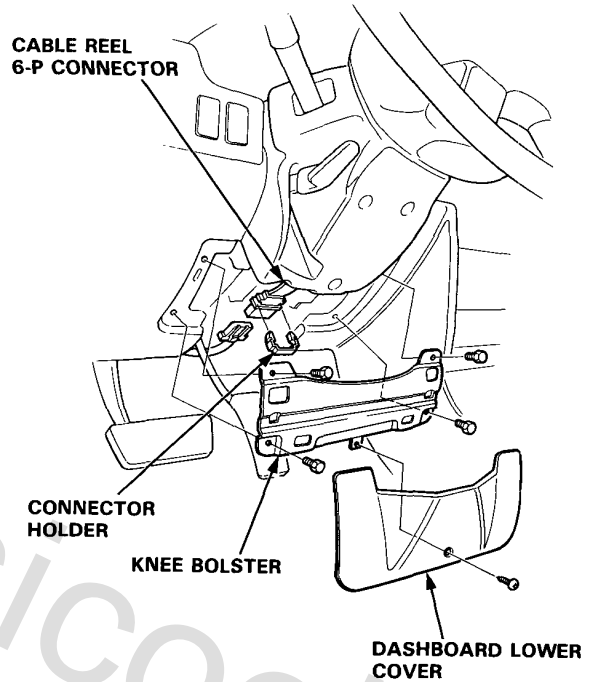
**▲ WARNING** Store a removed airbag assembly with the pad surface up. If the airbag is improperly stored face down, accidental deployment could propel the unit with enough force to cause serious injury.

### CAUTION:

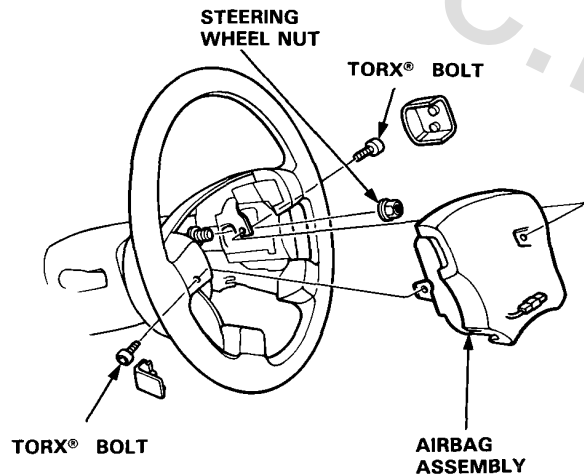
- Carefully inspect the airbag assembly before installing it. Do not install an airbag assembly that shows signs of being dropped or improperly handled, such as dents, cracks or deformation.
  - Always keep the short connector on the airbag connector when the harness is disconnected.
  - Do not disassemble or tamper with the airbag assembly.
1. Disconnect the battery negative cable and then the positive cable.
  2. Make sure the wheels are aligned straight ahead.
  3. Install the short connector (RED) on the airbag.



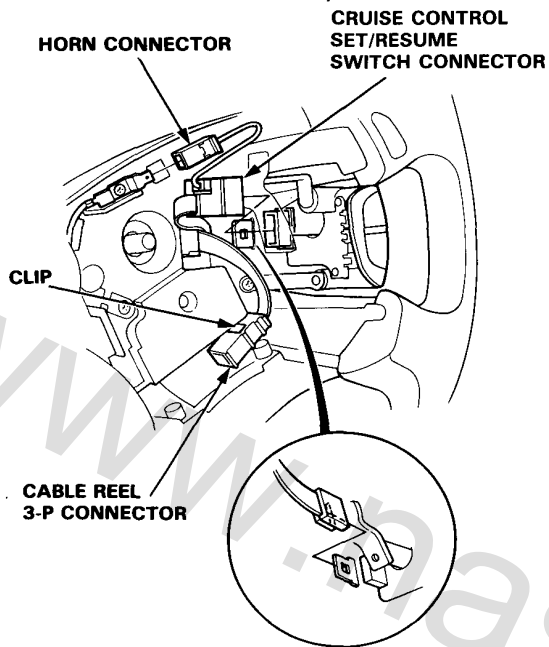
4. Remove the dashboard lower cover and knee bolster. Disconnect the cable reel 6-P connector from the SRS main harness, then remove the connector holder.



5. Remove the airbag assembly from the steering wheel (two T30 TORX® bolts), then remove the steering wheel nut.

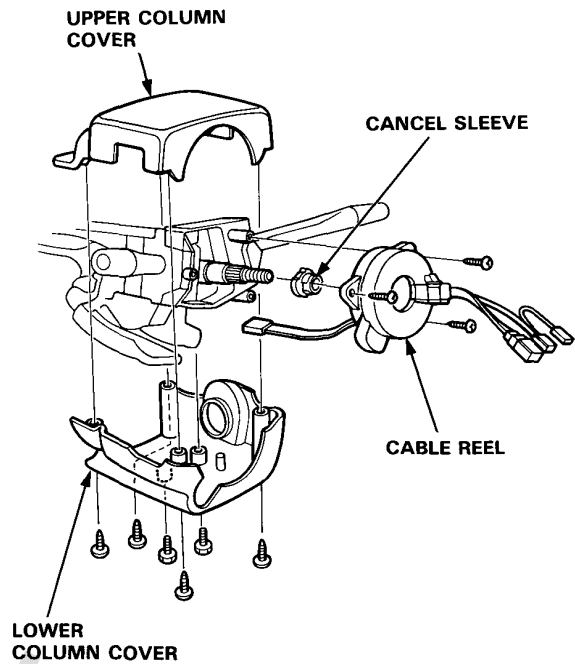


6. Disconnect the connectors from the horn and cruise control set/resume switches, then remove the cable reel 3-P connector from its clip.



7. Remove the steering wheel from the column.

8. Remove the upper and lower column covers.



9. Remove the cable reel and cancel sleeve.

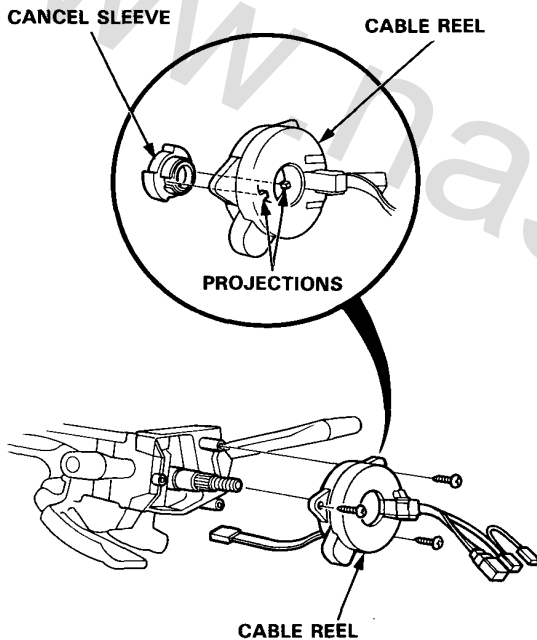
# Supplemental Restraint System (Type I)

## Cable Reel Installation

### CAUTION:

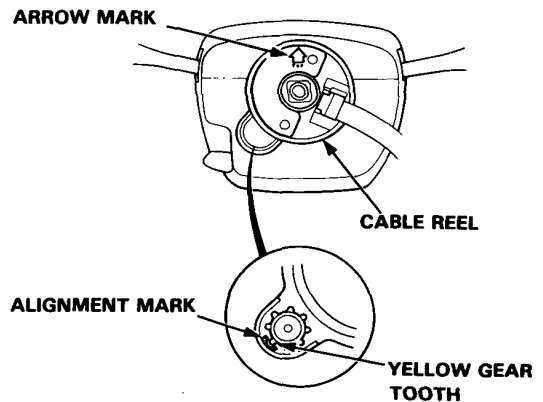
- Before installing the steering wheel, the front wheels should be aligned straight ahead.
- Be sure to install the harness wires so that they are not pinched or interfering with other car parts.
- After reassembly, confirm that the wheels are still turned straight ahead and that the steering wheel spoke angle is correct. If minor spoke angle adjustment is necessary do so only by adjustment of the tie rods, not by removing and repositioning the steering wheel.

1. Align the cancel sleeve grooves with the cable reel projections, then carefully install the cable reel and the cancel sleeve on the steering column shaft.

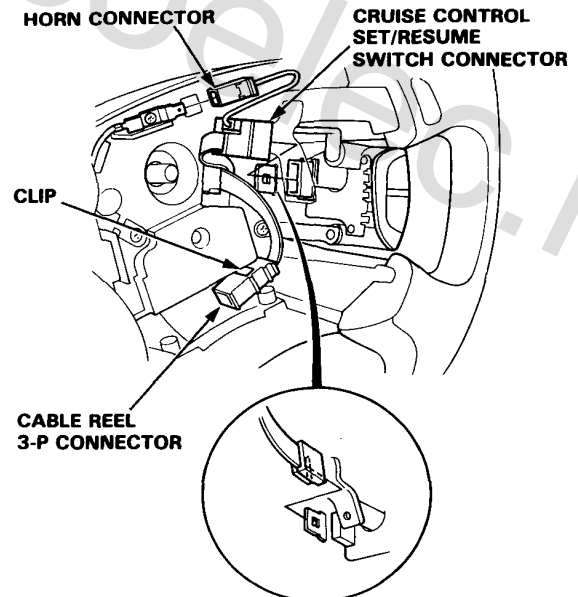


2. Install the steering column upper and lower covers.
3. Center the cable reel.  
Do this by first rotating the cable reel clockwise until it stops. Then rotate it counterclockwise (approximately two turns) until:

- The yellow gear tooth lines up with the mark on the cover.
- The arrow on the cable reel label points straight up.



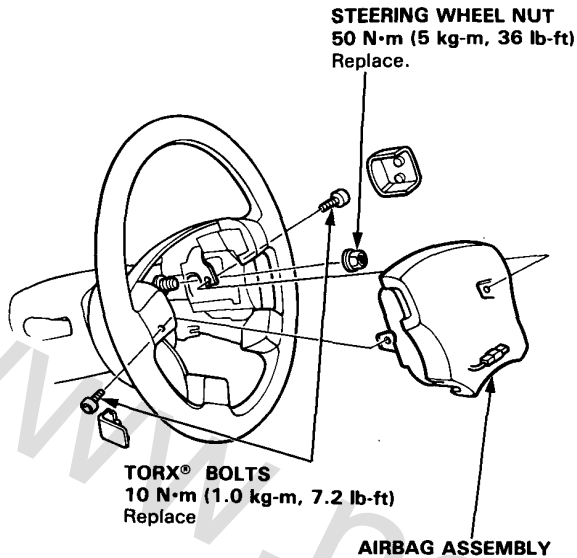
4. Install the steering wheel and attach the cable reel connector to the clip.



5. Connect the horn connector and cruise control connector.

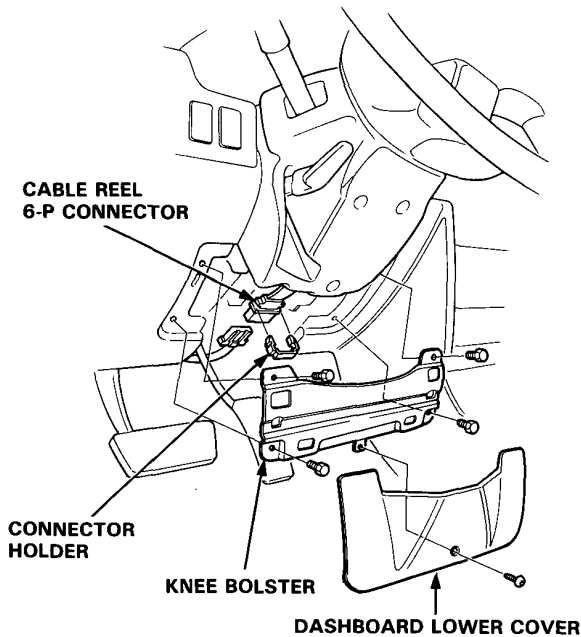


6. Install the steering wheel nut.



7. Install the airbag assembly.

8. Connect the cable reel harness to the SRS main harness, then attach the connector to the steering column with the connector holder.



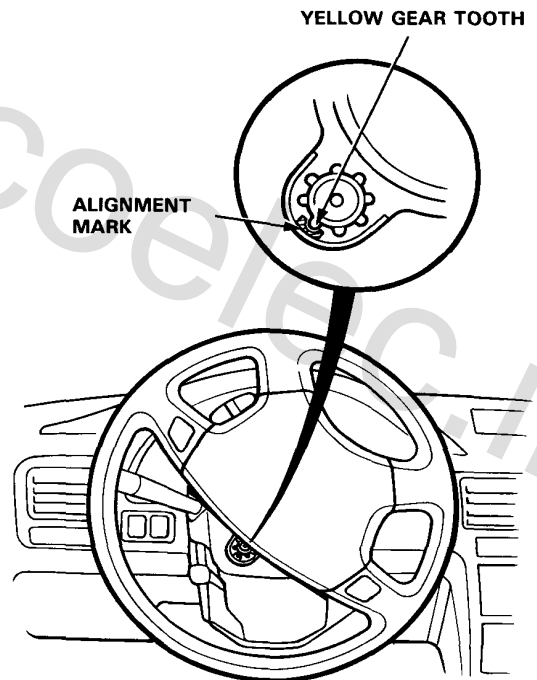
9. Reinstall the knee bolster and dashboard lower cover.

10. Remove the short connector from the airbag, then connect the cable reel connector to the airbag connector. Attach the short connector to the access panel, then reinstall the panel.

11. Reconnect the battery positive cable, then the negative cable.

12. After installing the cable reel, confirm proper system operation:

- Turn the ignition to II; the instrument panel SRS light should go on for about 6 seconds and then go off.
- Make sure both horn buttons work.
- Make sure the headlight and wiper switches work.
- Go for a test drive and make sure the cruise control set/resume switch works.
- Rotate the steering wheel counterclockwise to make sure the yellow gear tooth lines up with the slot on the cover.





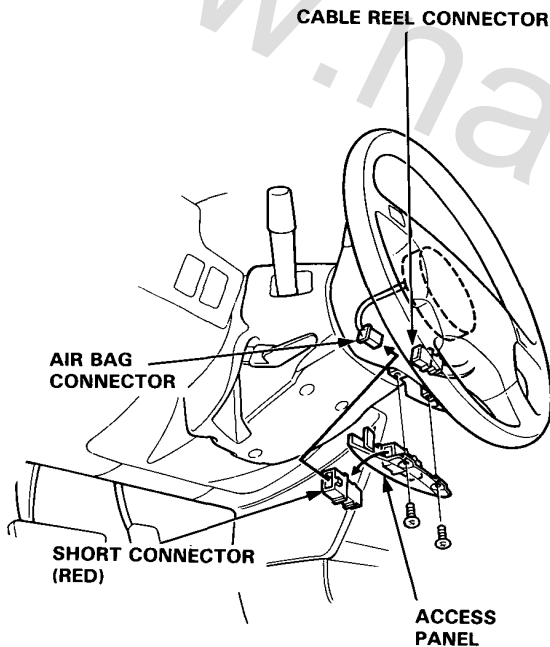
# Supplemental Restraint System (Type I)

## Dash Sensor Removal

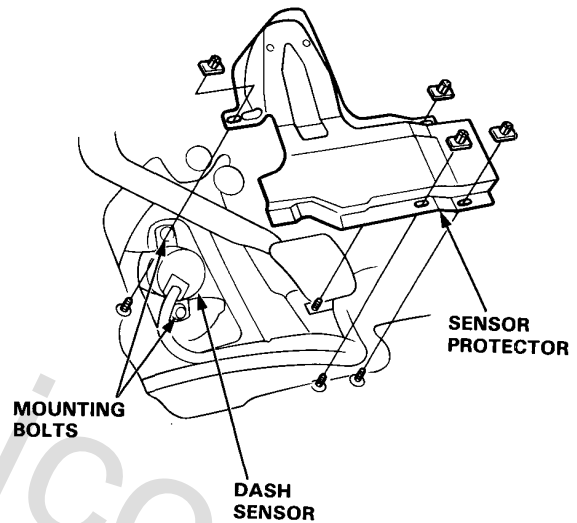
### CAUTION:

- Do not damage the sensor wiring.
- Do not install used SRS parts from another car. When repairing an SRS: use only new parts.
- Carefully inspect the dash sensors for signs of being dropped or improperly handled, such as dents, cracks or deformation.

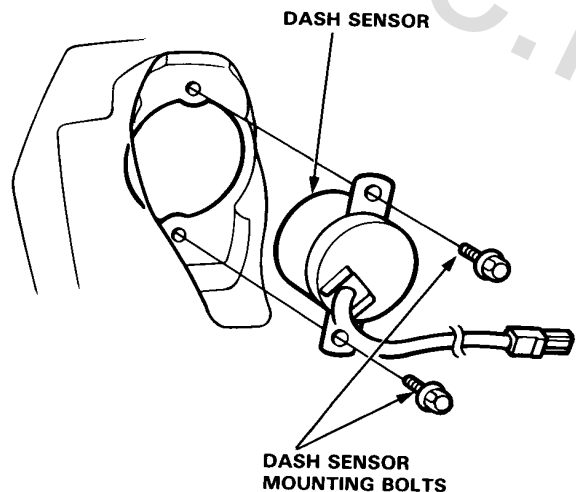
1. Disconnect the battery negative cable, then the positive cable.
2. Install the short connector (RED) on the airbag (see page 16-105).



3. Driver's side: Pull back the carpeting, then remove the steering joint cover. Pull the rubber floor pad up, then remove the sensor protector.
4. Passenger's side: Pull back the carpeting, then unbolt the ECU bracket. On A/T models, disconnect the A/T control unit connector. Pull the rubber floor pad down.



5. Remove the 2 mounting bolts, then remove the dash sensor.



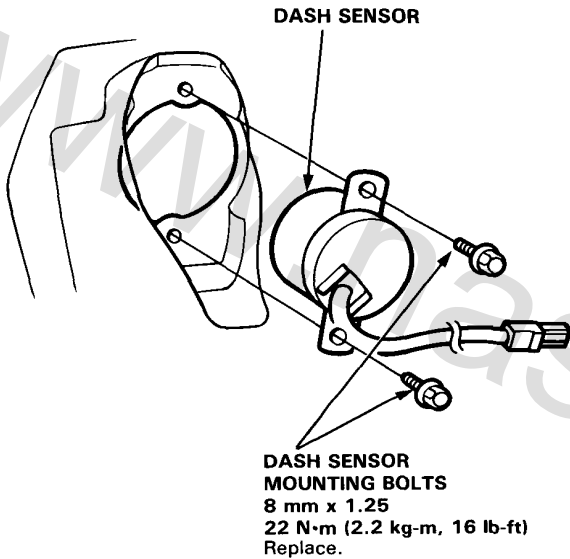


## Dash Sensor Installation

### CAUTION:

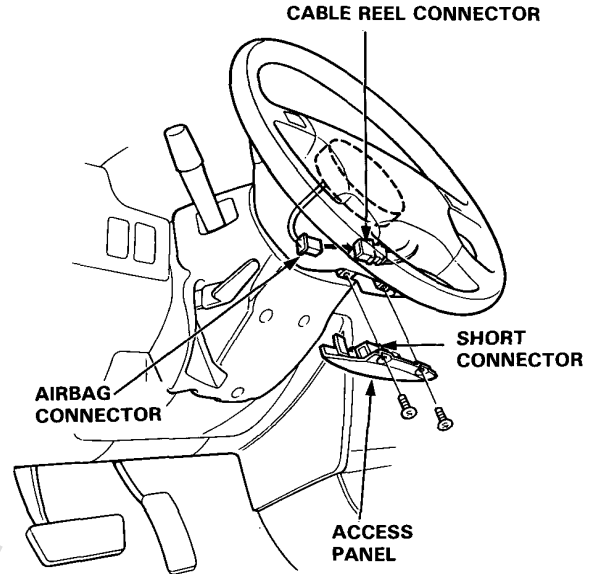
- Be sure to install the harness wires so they are not pinched or interfering with other car parts.
- Replace a sensor if it is dented, cracked, or deformed.
- For the SRS to function properly, the right and left sensors must be installed on the proper sides.

1. Be sure the battery cables are disconnected.
2. Install the sensor securely.



3. Reinstall all other removed parts.

4. Remove the short connector from the airbag. Reconnect the airbag connector to the cable reel connector. Attach the short connector to the access panel, then reinstall the panel.



5. Reconnect the battery positive cable, then the negative cable.
6. After installing the dash sensor, confirm proper system operation:
  - Turn the ignition to II: the instrument panel SRS light should go on for about 6 seconds and then go off.

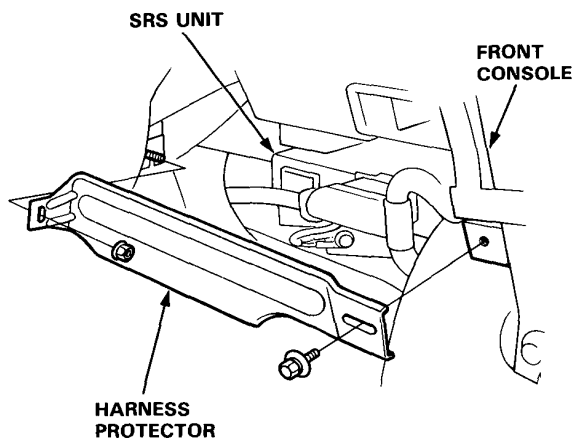
# Supplemental Restraint System (Type I)

## SRS Unit Removal

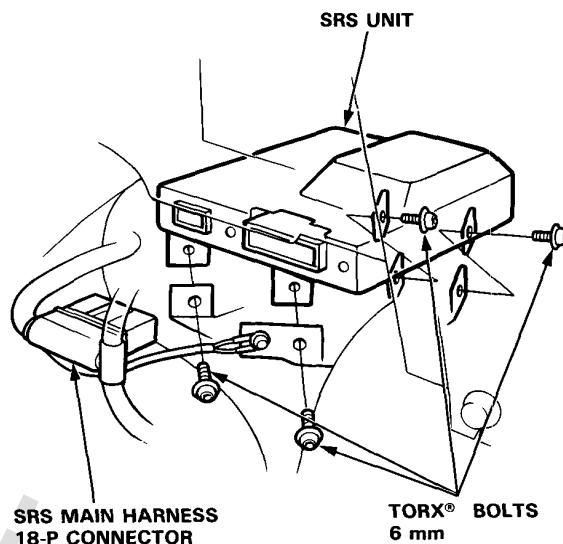
### CAUTION:

- Before disconnecting any part of the SRS wire harness, install the short connector on the airbag.
- Do not damage the SRS unit terminals or connectors.
- Do not disassemble the SRS unit; it has no serviceable parts.
- Store the SRS unit in a clean, dry area.
- Do not use any SRS unit which has been subjected to water damage or shows signs of being dropped or improperly handled, such as dents, cracks or deformation.

1. Disconnect the battery negative cable, then the positive cable.
2. Install the short connector on the airbag (see page 16-105).
3. Pull down the carpeting from both sides of the front console.
4. Remove the harness protector.



5. Disconnect the SRS main harness 18-P connector from the SRS unit.
6. Remove the 4 TORX® bolts from the SRS unit, then pull out the SRS unit from the passenger's side.

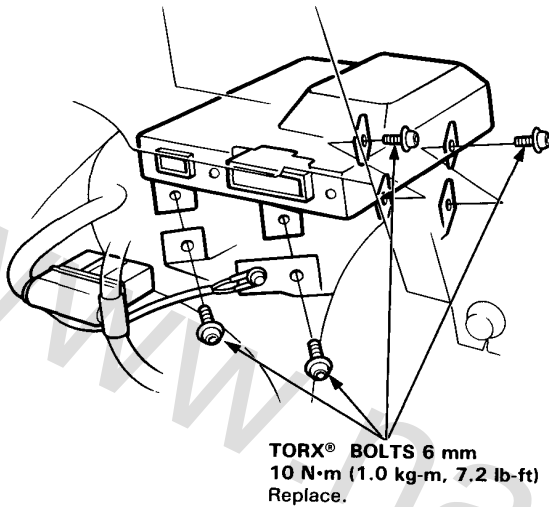




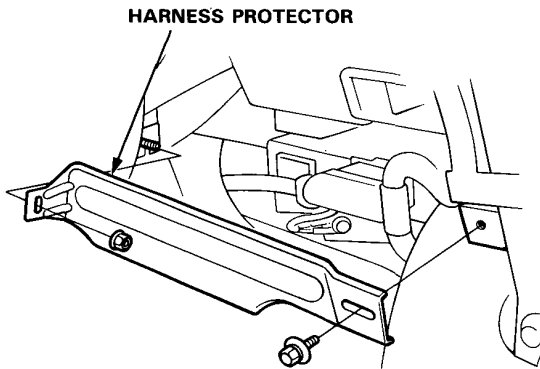
## SRS Unit Installation

**CAUTION:** Be sure to install the SRS wiring so that it is not pinched or interfering with other car parts.

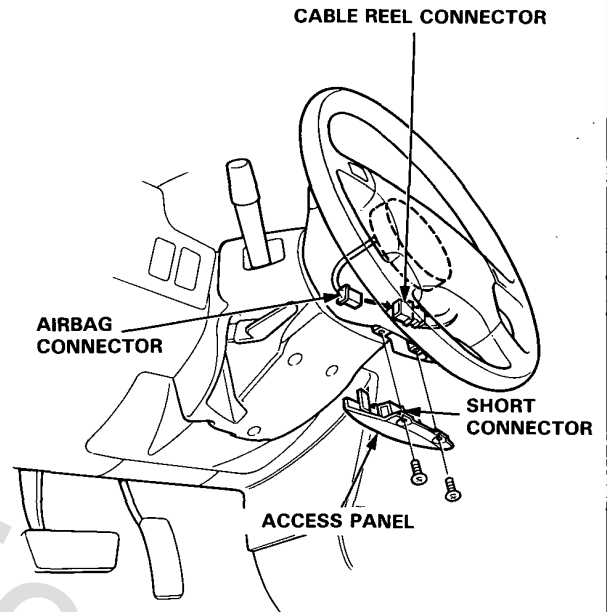
1. Install the SRS unit.



2. Connect the SRS main harness 18-P connector to the SRS unit; push it into position until it clicks.
3. Install the harness protector, then put the carpet back in place.



4. Remove the short connector from the airbag.
5. Reconnect the airbag connector to the cable reel connector. Attach the short connector to the access panel, then reinstall the panel.



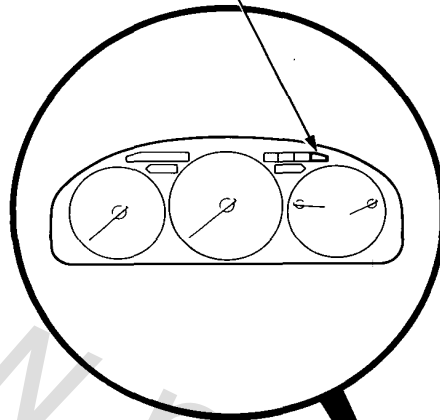
6. Reconnect the battery positive cable, then the negative cable.
7. After installing the SRS unit, confirm proper system operation:
  - Turn the ignition to II: the instrument panel SRS light should go on for about 6 seconds and then go off.

# Supplemental Restraint System (Type II)

## Component Location Index

NOTE: RHD type is symmetrical to LHD type.

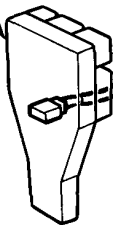
**SRS INDICATOR LIGHT**  
(In the gauge assembly)  
Troubleshooting, page 16-142  
Gauge assembly, page 16-62



**SRS UNIT SUB HARNESS**

**SRS MAIN HARNESS**

**UNDER-DASH FUSE BOX**



**SLIP RING**  
Removal, page 16-58  
Installation, page 16-159

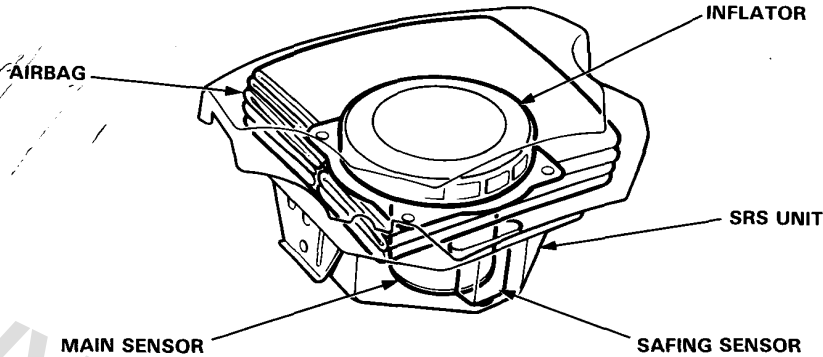
**SRS AIRBAG ASSEMBLY**  
Removal, page 16-154  
Installation, page 16-155  
Disposal, page 16-156



## Description

The SRS is a safety device which, as a supplement to the seat belt, is designed to protect the driver by operating when the car receives a frontal impact exceeding a certain set limit.

The system is comprised of the airbag assembly (which in turn consists of the SRS unit, inflator, and airbag) and the slip ring.



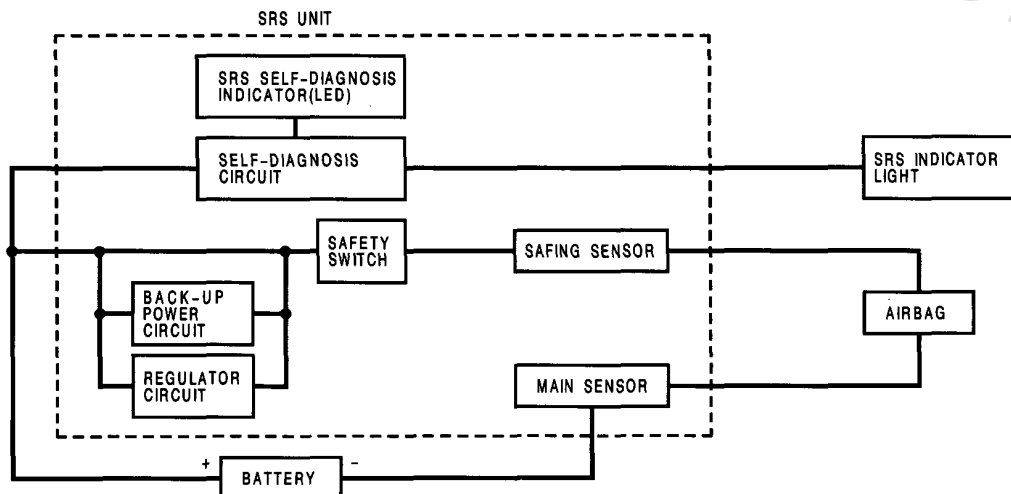
## Operation

As shown in the diagram below, the main and safing sensors, and the safety switch are connected in series to the airbag inflator and the battery. A regulator circuit (increasing the reliability of the SRS system by raising the voltage when battery voltage drops) and a back-up power circuit are connected in parallel with the battery. The sensors, the safety switch, regulator and back-up circuits, and a self-diagnosis circuit (see description on next page) are all built into the SRS unit.

## Sequence of operation:

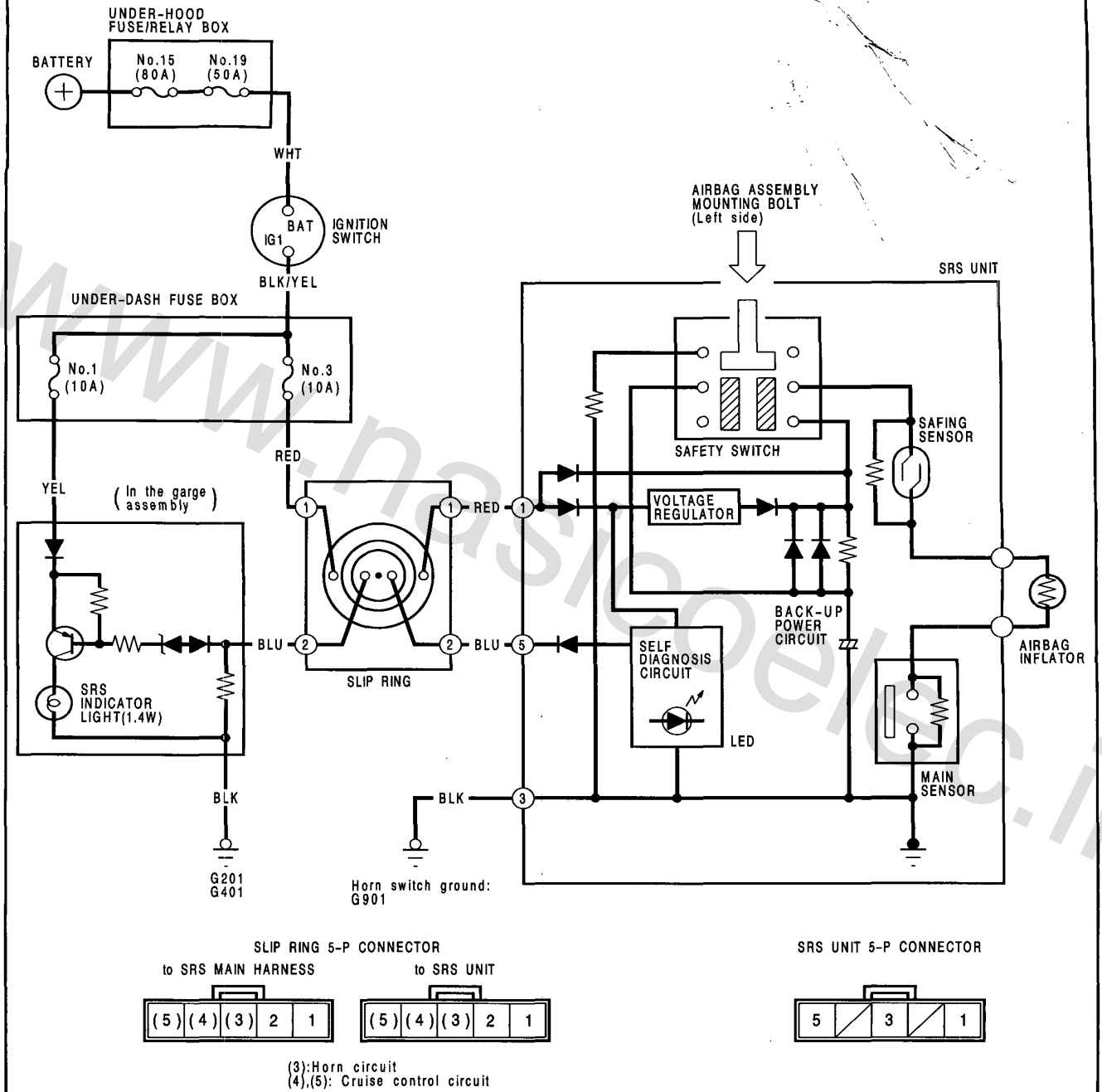
- (1) The main sensor and the safing-sensor activate.
- (2) Power is supplied to the airbag inflator by the battery or the back-up power circuit if the battery is disconnected due to the impact.
- (3) The airbag deploys.

It takes about 0.1 seconds from the beginning of the airbag deployment until it is completely deflated (frontal collision against a fixed wall at a speed of 50 km/h [30 mph])



# Supplemental Restraint System (Type II)

## Circuit Diagram



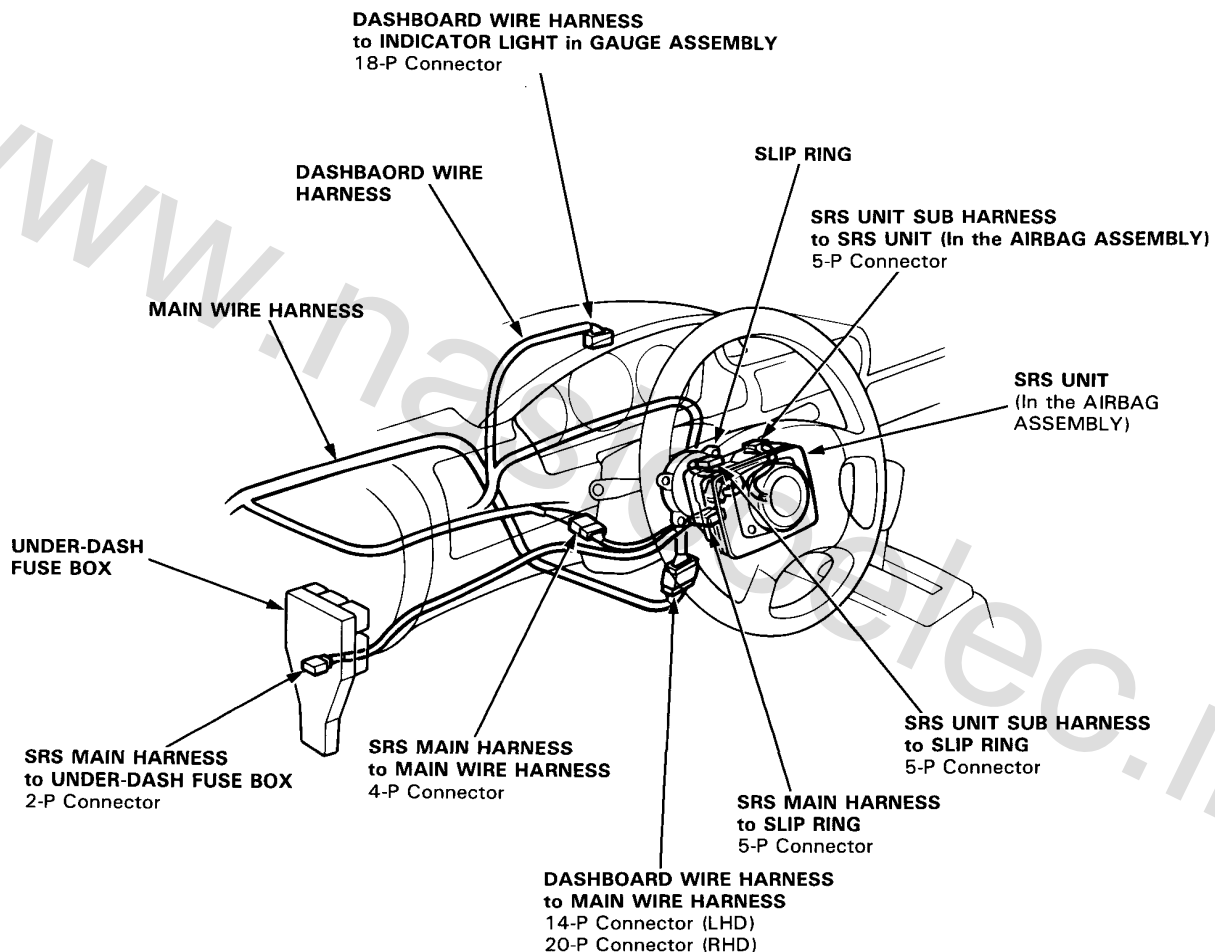


## Wiring Locations

**CAUTION:** Make sure all SRS ground locations are clean and grounds are securely attached.

**NOTE:**

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- RHD type is symmetrical to LHD type.



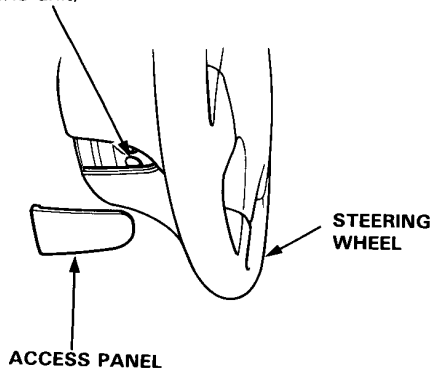


# Supplemental Restraint System (Type II)

## General Precautions

- Carefully inspect any SRS part before you install it. Do not install any part that shows signs of being dropped or improperly handled, such as dents, cracks or deformation:
  - Airbag assembly.
  - Slip ring.
  - Steering wheel.
- Use only a digital circuit tester to check the system. Using an analog circuit tester may cause an accidental deployment and possible injury.
- Do not install used SRS parts from another car. When repairing an SRS, use only new parts.
- Before beginning work related to the SRS system, turn the ignition switch off, disconnect the negative and positive battery cables, and wait three minutes.
- Replacement of the combination light and wiper/washer switches and cruise control switch can be done without removing the steering wheel:
  - Combination light and wiper/washer switch replacement.
  - Cruise control switch replacement.
- After completed work, check that the connectors are installed tightly:
  - the SRS indicator light should go off 6 sec after the ignition switch has been turned on.
  - with the ignition switch turned on, the LED of the SRS unit should blink one time.

LED  
(in the SRS unit)

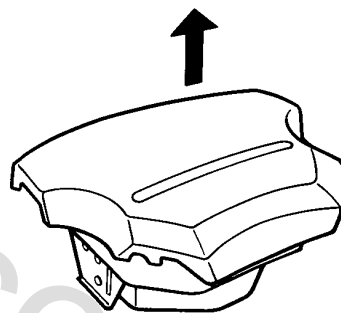


## Airbag Handling and Storage

- Do not try to disassemble the airbag assembly. It has no serviceable parts. Once an airbag has been deployed, it cannot be repaired or reused.
- Be careful that the airbag assembly receives no strong shocks; it could deploy.
- Special bolts are necessary for installing the airbag assembly. Do not use other bolts.

For temporary storage of the airbag assembly during service, observe the following precautions:

- Store the removed airbag assembly with the pad surface up.



**▲ WARNING** If the airbag is improperly stored face down, accidental deployment could propel the unit with enough force to cause serious injury

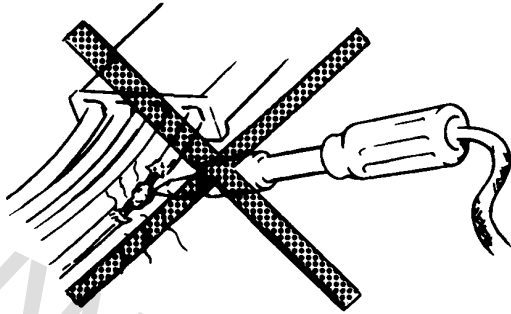
- Store the removed airbag assembly on a secure flat surface away from any high heat source (exceeding 85°C/185°F) and free of any oil, grease, detergent or water.

**CAUTION:** Improper handling or storage can internally damage the airbag assembly, making it inoperative. You suspect the airbag assembly has been damaged, install a new unit and refer to the Deployment/Disposal Procedures for scrapping of the damaged airbag.

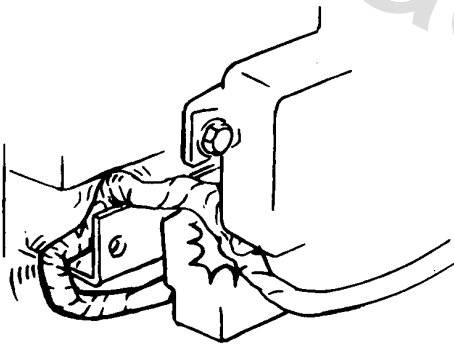
## Wiring related Precautions

- Never attempt to modify, splice or repair SRS wiring.

NOTE: SRS wiring can be identified by special yellow outer protective covering.



- Be sure to install the harness wires so that they are not pinched or interfering with other car parts.

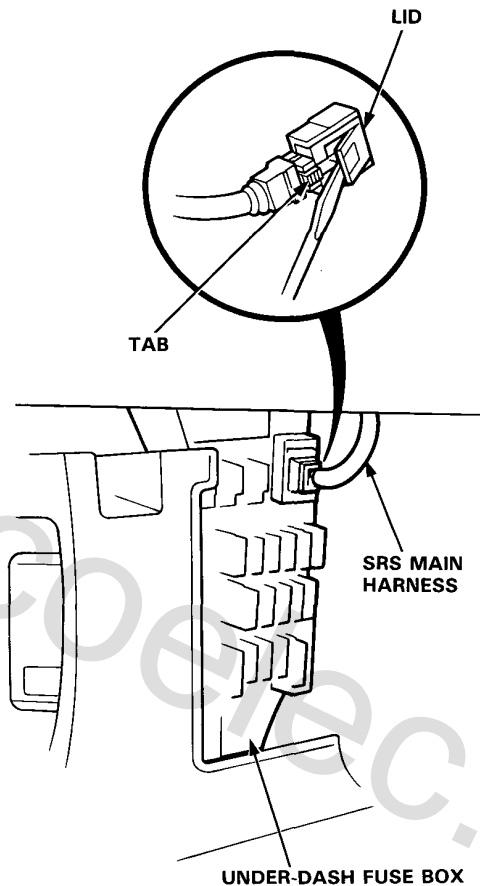


- Make sure all SRS ground locations are clean and grounds are securely fastened for optimum metal-to-metal contact. Poor grounding can cause intermittent problems that are difficult to diagnose.

- Disconnecting the SRS Connector at the Fuse Box:

**CAUTION: Avoid breaking the connector; it's double-locked.**

First lift the connector lid with a thin screwdriver, then press the connector tab down and pull the connector out.



To reinstall the connector, push it into position until it clicks, then close its lid.

(cont'd)

# Supplemental Restraint System (Type II)

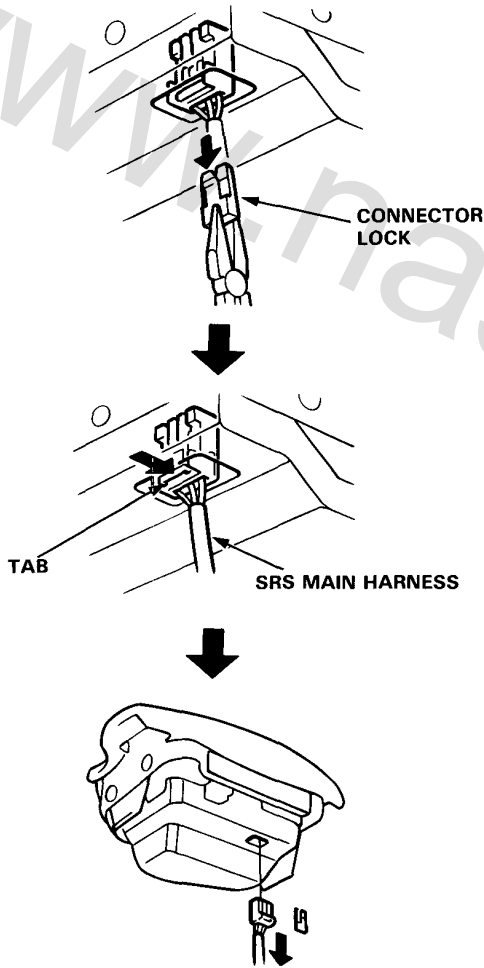
## Wiring related Precautions (cont'd)

- Disconnecting the SRS Connector at the SRS Unit and Slip ring:

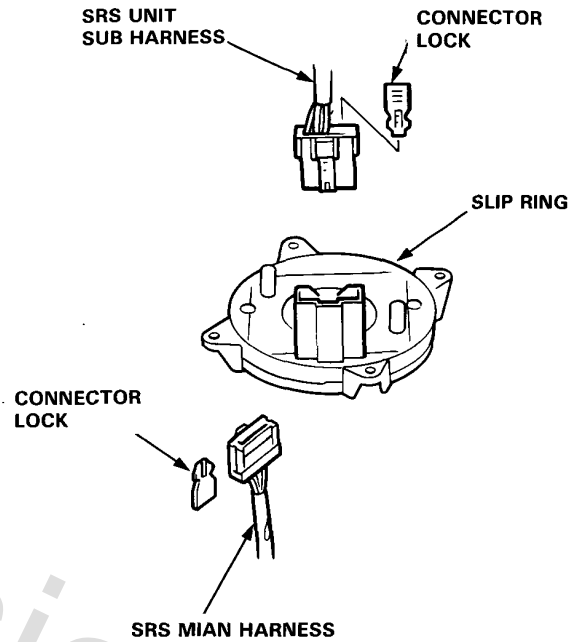
NOTE: Dispose of the connector lock; not reuse it.

1. Pull the connector lock out with pliers.
2. Depress the connector tab and pull the connector out.

### SRS UNIT:



### SLIP RING:

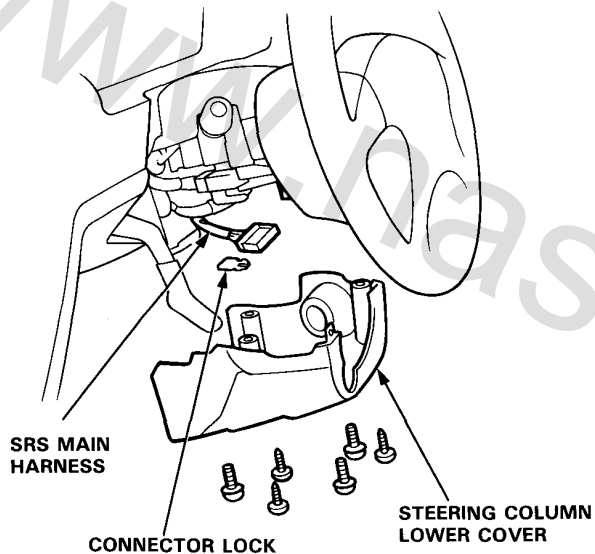


## Steering-related Precautions

- Steering Column Removal:

**CAUTION:**

- Turn the ignition switch off, disconnect the negative and positive battery cables, and wait three minutes.
- Be careful that the steering wheel receives no strong shocks.
- Before removing the steering column, first disconnect the connector between the slip ring and the SRS main harness.
- If the steering column is going to be removed without dismounting the steering wheel, lock the steering by turning the ignition key to 0-LOCK position or remove the key from the ignition so that the steering wheel will not turn.



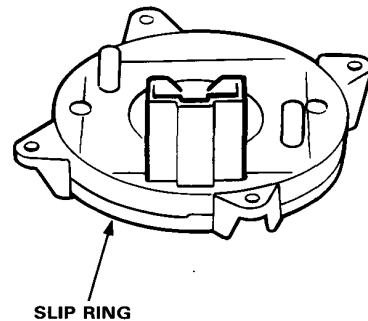
- Steering Wheel:

Do not replace the original steering wheel with any other design, since it will make it impossible to properly install the airbag (only use genuine HONDA replacement parts).

- Slip Ring

**CAUTION:**

- Do not grease the slip ring.
- Do not disassemble the slip ring. It has no serviceable parts and has to be replaced as a whole.
- The slip ring is a special part of models equipped with SRS. When replacing, be sure to use only a genuine HONDA spare part.



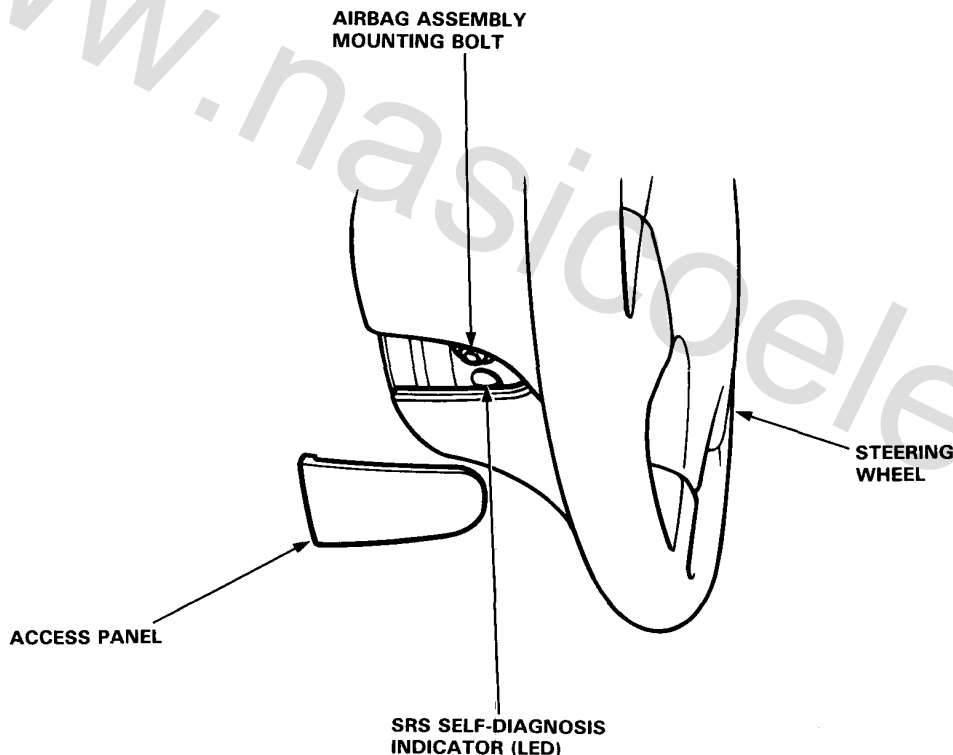
# Supplemental Restraint System (Type II)

## Troubleshooting

### Self-diagnosis system

When the ignition switch is turned ON, the SRS indicator light comes on and goes off after about 6 seconds, and the self-diagnosis indicator (LED) blinks one time, if the system is operating normally. If there is an abnormality in the SRS, the SRS indicator light will stay on while the LED in the SRS unit will indicate the system problem by blinking a failure code (see the table on next page).

- If the SRS indicator light does not come on, or does not go off after 6 seconds, or if it comes on while driving, the system must be inspected and repaired as soon as possible.
- To see the indicated failure code, remove the access panel at the left side of the steering wheel.
- If there is a failure in the system, the LED will first blink one time (OK signal), then it will indicate the failure code.
- If simultaneous system problems occur, the LED will indicate only the problem with the higher priority. The problem with the highest priority is that on top of the failure code table, the problem with the lowest priority is that at the bottom of the table (see page 16-143).





## Failure Code Table

Self-diagnosis indicator (LED) blinks	SRS indicator light	Cause
1	doesn't come on (with the ignition switch turn ON)	<ul style="list-style-type: none"><li>● Blown No. 1 (10 A) fuse.</li><li>● Blown SRS indicator light bulb.</li><li>● Poor ground.</li></ul>
0	doesn't go off	<ul style="list-style-type: none"><li>● Faulty SRS unit.</li><li>● Poor ground.</li></ul>
1		<ul style="list-style-type: none"><li>● Short (or open) in SRS indicator wire harness.</li></ul>
stay on continuously		<ul style="list-style-type: none"><li>● Faulty SRS self-diagnosis circuit.</li></ul>
2		<ul style="list-style-type: none"><li>● Faulty safety switch.</li></ul>
3		<ul style="list-style-type: none"><li>● Faulty back-up power circuit.</li></ul>
4		<ul style="list-style-type: none"><li>● Faulty safety switch.</li></ul>
5		<ul style="list-style-type: none"><li>● Open in airbag inflator.</li></ul>
6		<ul style="list-style-type: none"><li>● Open in main sensor.</li><li>● Short in safing sensor.</li></ul>
7		<ul style="list-style-type: none"><li>● Short in main sensor.</li><li>● Open in safing sensor.</li></ul>

(cont'd)

# Supplemental Restraint System (Type II)

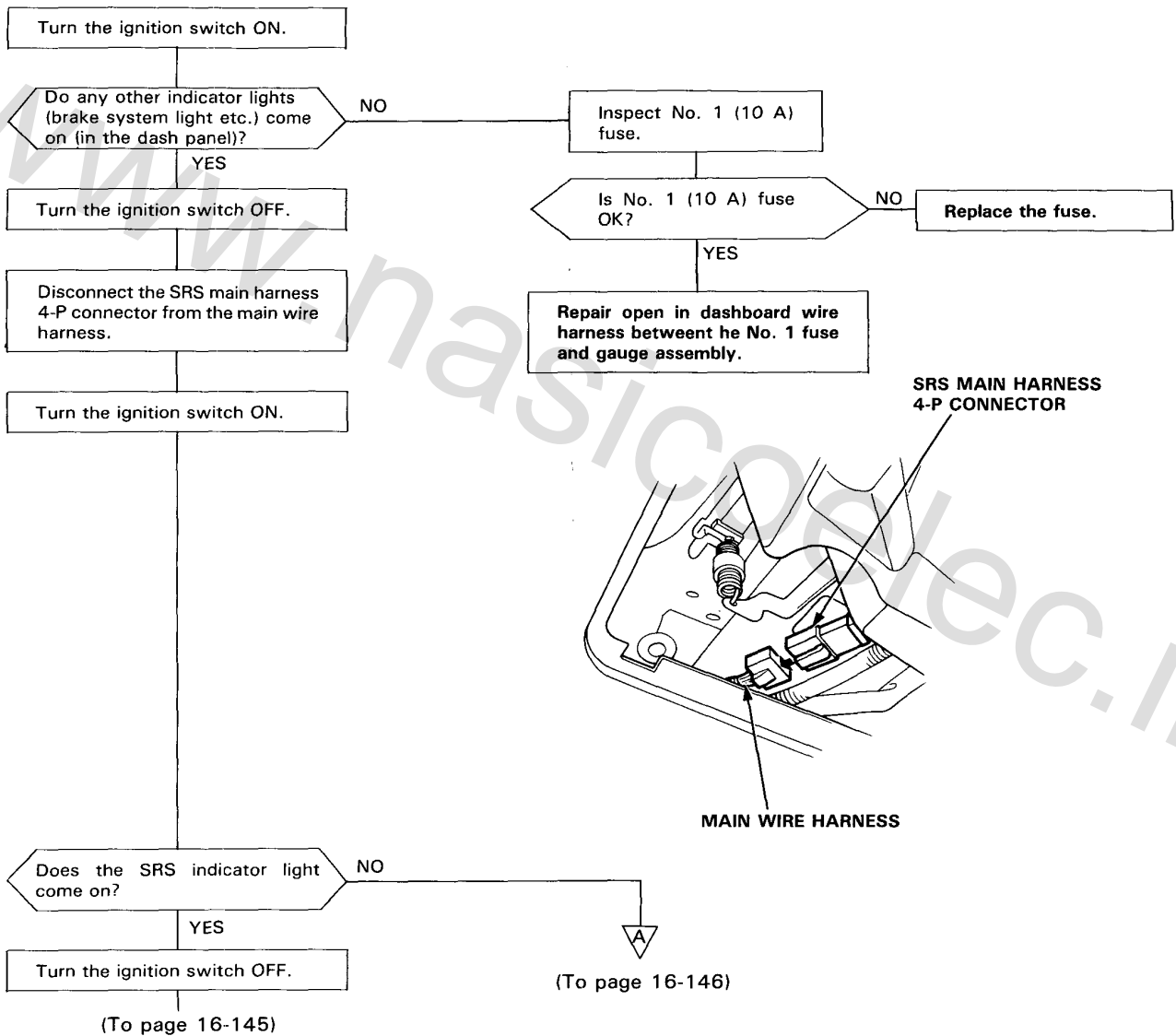
## Troubleshooting (cont'd)

### The SRS Indicator Does Not Light

- The SRS indicator light will not come on until 6 seconds after the ignition switch has been turned on.
- The LED of the SRS unit should blink one time.

#### CAUTION:

- Use only a digital circuit tester to check the system.



(From page 16-144)

Reconnect the SRS main harness 4-P connector to the main wire harness.

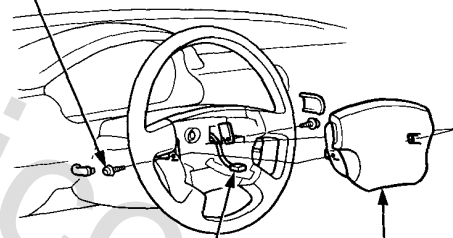
Disconnect the negative and positive battery cables, and wait three minutes.

Remove the airbag assembly from the steering wheel (see page 16-154).

**CAUTION:** Make sure the wheels are aligned straight ahead. Remove the left airbag assembly mounting special bolt first (the safety switch will automatically turn off).

Disconnect the SRS unit sub harness 5-P connector from the SRS unit (in the airbag assembly).

SPECIAL BOLT  
(LEFT SIDE)



SRS UNIT SUB HARNESS 5-P CONNECTOR

AIRBAG ASSEMBLY

Reconnect the positive and negative battery cables, then turn the ignition switch ON.

Does the SRS indicator light come on?

NO

Short in the BLU wire of SRS unit sub harness, SRS main harness or the slip ring. Replace faulty component.

YES

SRS unit is faulty. Replace the airbag assembly.

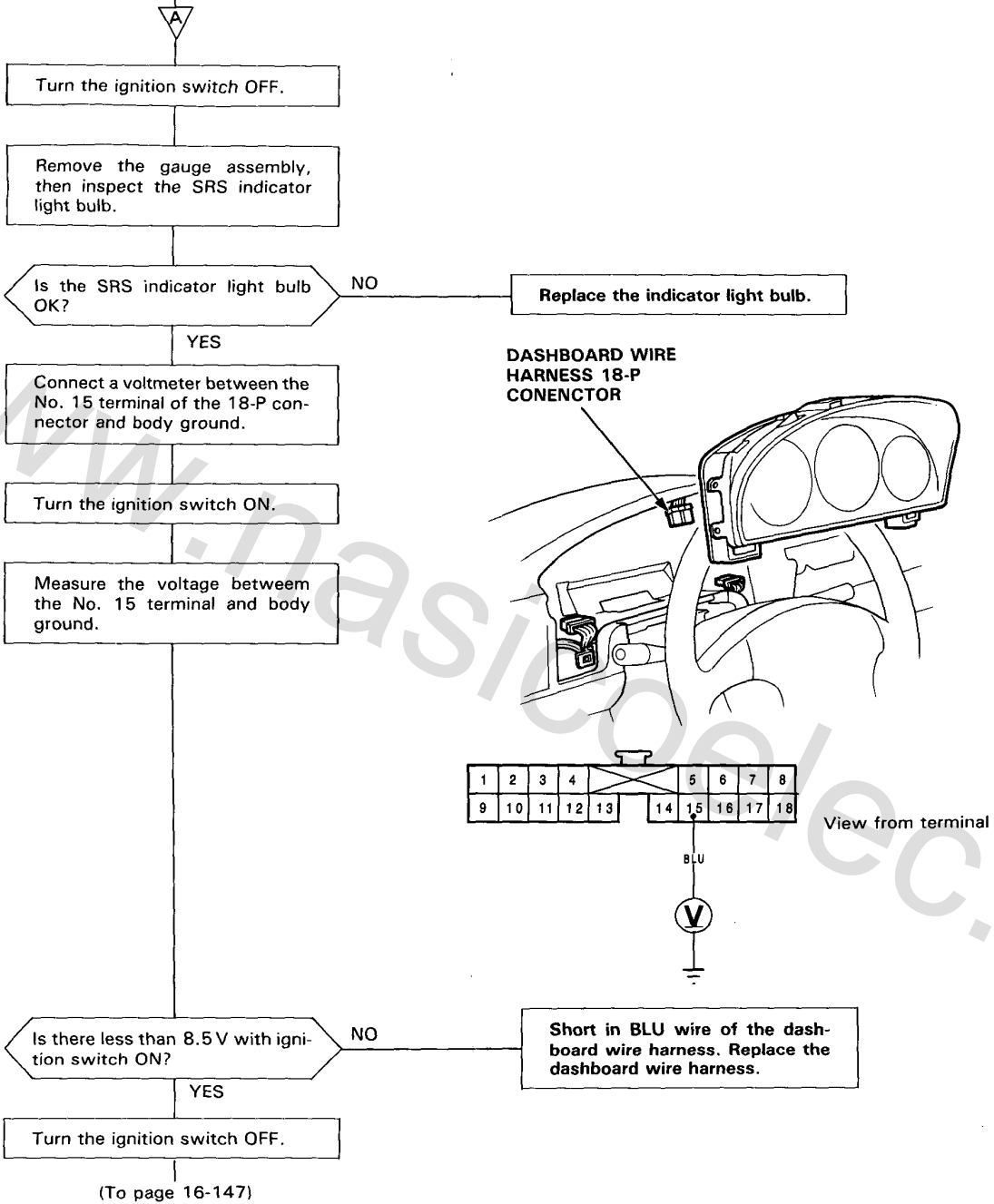
(cont'd)



# Supplemental Restraint System (Type II)

## Troubleshooting (cont'd)

(From page 16-144)





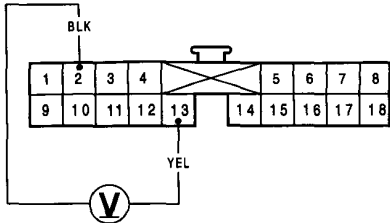
(From page 16-146)

Connect the voltmeter between the No. 13 terminal (+) and the No. 2 terminal (-) of the dashboard wire harness 18-P connector.

Turn the ignition switch ON.

Measure the voltage between the No. 13 terminal and the No. 2 terminal.

**DASHBAORD WIRE HARNESS  
18-P CONNECTOR**



View from terminal side

Is there battery voltage?

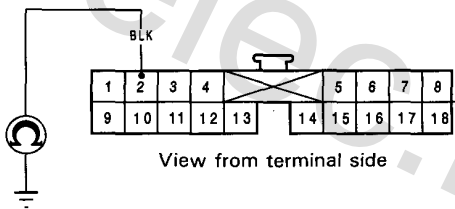
YES

The SRS indicator circuit in the gauge assembly is faulty.

NO

Check for continuity between the No. 2 terminal and body ground.

**DASHBOARD WIRE HARNESS  
18-P CONECTOR**



View from terminal side

Does continuity exist?

YES

Repair open in the YEL wire (No. 13 terminal) of the dashboard wire harness between the gauge assembly and the No. 1 fuse.

NO

Repair open in the BLK wire (No. 2 terminal) between the gauge assembly and body ground or look for a poor ground (G201, 401).

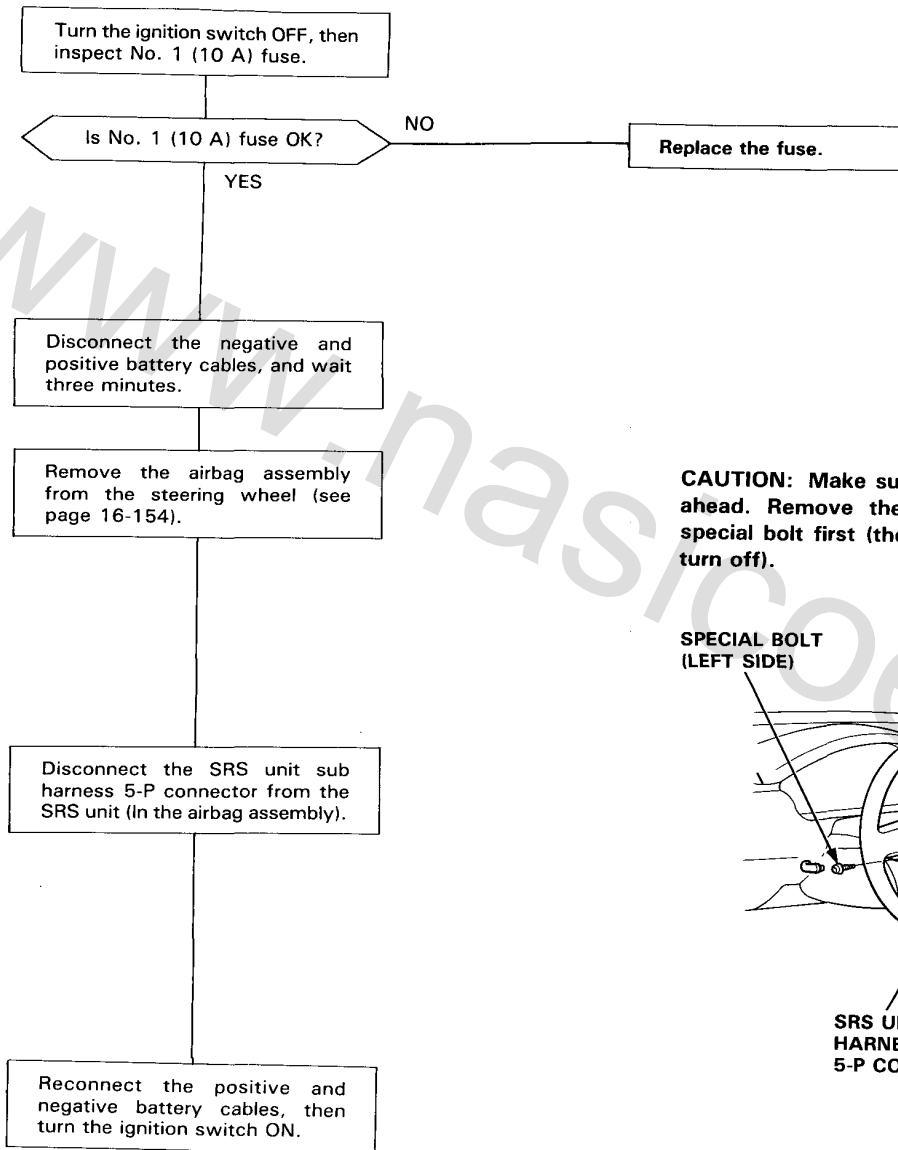
(cont'd)

# Supplemental Restraint System (Type II)

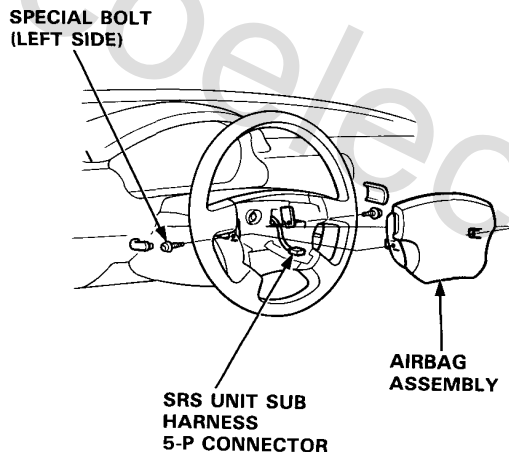
## Troubleshooting (cont'd)

### The SRS Indicator Light Stays on Continuously

- The LED of the SRS unit does not light.



**CAUTION:** Make sure the wheels are aligned straight ahead. Remove the left airbag assembly mounting special bolt first (the safety switch will automatically turn off).

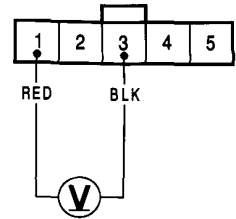
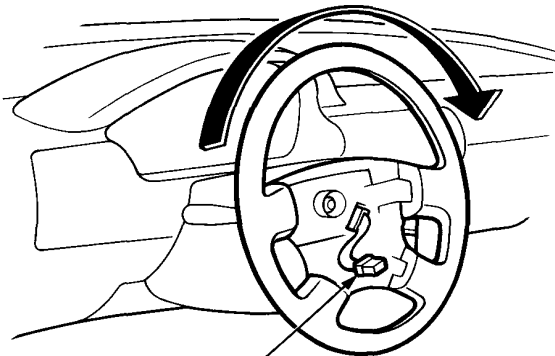


(To page 16-149)

(From page 16-148)

**NOTE:** Rotate the steering wheel slowly to check that there is good contact to the slip ring.

Measure the voltage between the No. 1 terminal and the No. 3 terminal of the SRS unit sub harness 5-P connector.



View from terminal side

**SRS UNIT SUB HARNESS 5-P CONNECTOR**

Is there battery voltage? **YES** → **SRS unit is faulty. Replace the airbag assembly.**

**NO**

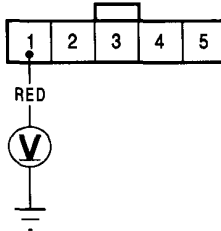
Check for continuity between the No. 3 terminal and body ground.

Does continuity exist? **NO** → **Open in the BLK wire (No. 3 terminal) of the SRS unit sub harness between the SRS unit and body ground or look for a poor ground (G901).**

**YES**

Disconnect the SRS main harness 5-P connector from the slip ring.

View from terminal side



**SRS MAIN HARNESS 5-P CONNECTOR**

Measure the voltage between the No. 1 terminal of the SRS main harness 5-P connector and body ground.

Is there battery voltage? **NO** → **Open in the RED wire of the SRS main harness between the fuse box and the slip ring. Replace the harness.**

**YES**

**Open in the RED wire of the SRS unit sub harness or the slipping. Replace the faulty component.**

(cont'd)

# Supplemental Restraint System (Type II)

## Troubleshooting (cont'd)

### The SRS Indicator Light Stays on Continuously.

- The LED of the SRS unit blinks one time.

Turn the ignition switch OFF, then disconnect the SRS main harness 4-P connector from the main wire harness.

Measure the voltage between the No. 1 terminal of the SRS main harness 4-P connector and body ground.

Is there more than 8.5 V until 6 seconds after the ignition switch has been turned on.

NO

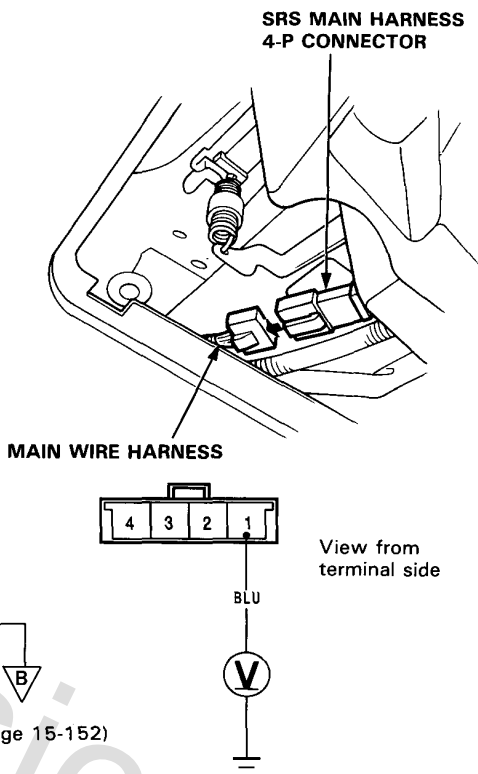
Turn the ignition switch OFF.

Disconnect the negative and positive battery cables, and wait three minutes.

Remove the airbag assembly from the steering wheel (see page 16-154).

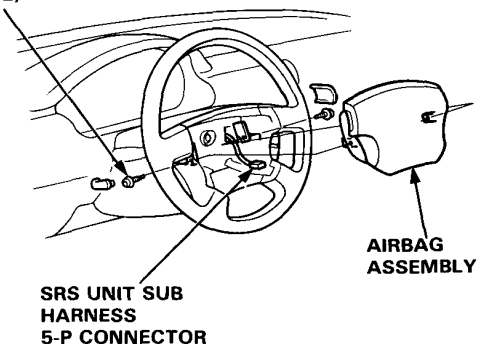
Disconnect the SRS unit sub harness 5-P connector from the SRS unit (In the airbag assembly).

(To page 16-151)



**CAUTION:** Make sure the wheels are aligned straight ahead. Remove the left airbag assembly mounting special bolt first (the safety switch will automatically turn off).

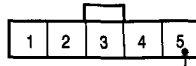
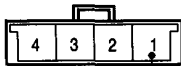
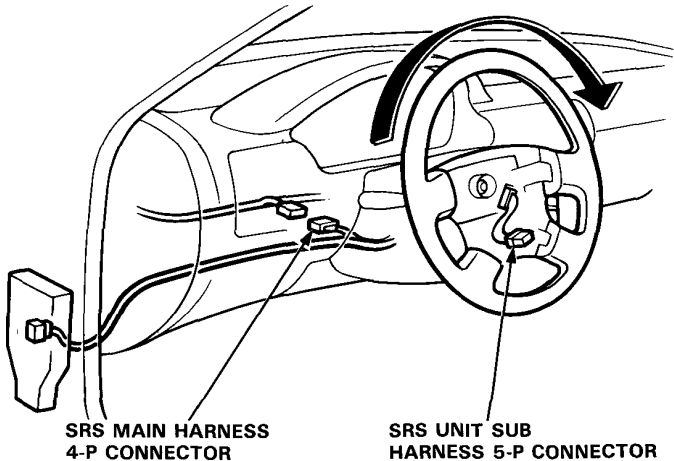
SPECIAL BOLT (LEFT SIDE)



(From page 16-150)

Check for continuity between the No. 1 terminal of the SRS main harness 4-P connector and No. 5 terminal of the SRS unit sub harness 5-P connector.

**NOTE:** Rotate the steering wheel slowly to check that there is good contact to the slip ring.



View from terminal side

Does continuity exist?

NO

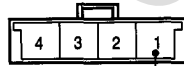
YES

Open in the BLU wire of the SRS main harness, SRS unit sub harness or the slip ring. Replace the faulty component.

Check for continuity between the No. 1 terminal of the SRS main harness 4-P connector and body ground.

**NOTE:** Rotate the steering wheel slowly to check that there is good contact to the slip ring.

SRS MAIN HARNESS 4-P CONNECTOR



BLU

View from terminal side

Does continuity exist?

YES

NO

Short in the BLU wire of the SRS main harness, SRS unit sub harness or the slip ring. Replace the faulty component.

SRS unit is faulty. Replace the airbag assembly.

(cont'd)

# Supplemental Restraint System (Type II)

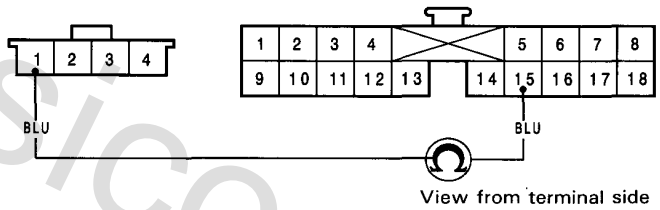
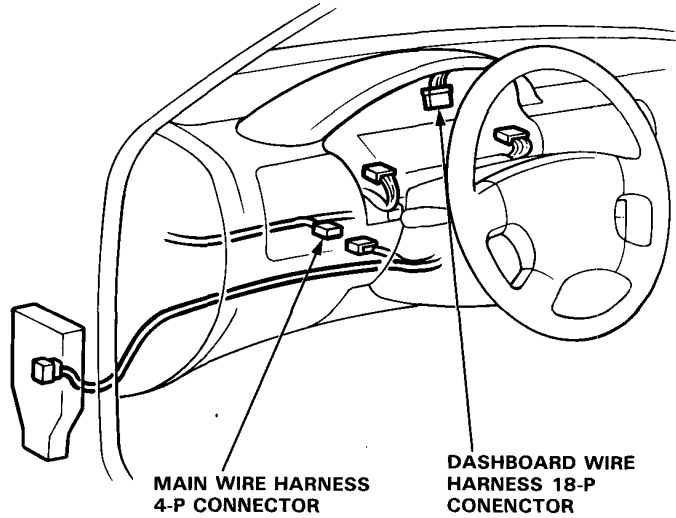
## Troubleshooting (cont'd)

(From page 16-150)



Turn the ignition switch OFF, then remove the gauge assembly.

Check for continuity between the No. 1 terminal of the main wire harness and the No. 15 terminal of the dashboard wire harness.



Does continuity exist?

NO

Open in the BLU wire of the dashboard wire harness or the main wire harness. Replace the faulty component.

YES

The SRS indicator circuit in the gauge assembly is faulty. Replace it.



**The SRS Indicator Light Stays on Continuously.**

- The LED of the SRS unit doesn't go off or blinks 2, 3, 4, 5, 6 or 7 times.

Replace the SRS airbag assembly.

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## Airbag Assembly Installation

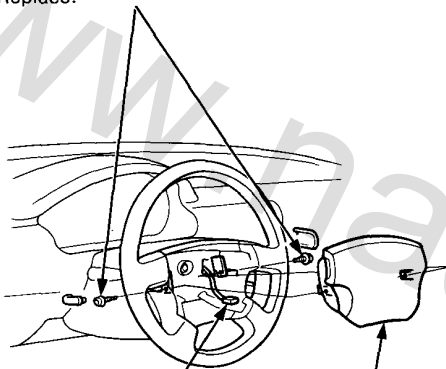
### CAUTION:

- Be sure to install the SRS wiring so that it is not pinched or interfering with other car parts.
- Be sure the battery cables are disconnected.

1. Reconnect the SRS unit sub harness 5-P connector to the SRS unit.
2. Place the airbag assembly in the steering wheel, and secure it with new special bolts.

NOTE: Be sure to torque the bolts as specified.

**SPECIAL BOLT**  
10 N·m (1.0 kg-m, 7.2 lb-ft)  
Replace.



**SRS UNIT SUB  
HARNESS  
5-P CONNECTOR**

**AIRBAG  
ASSEMBLY**

3. Reconnect the battery positive and negative cables.
4. After installing the airbag assembly, confirm proper system operation:
  - Turn the ignition to ON: the instrument panel SRS indicator light should go on for about 6 seconds and then go off.
  - The SRS self diagnosis indicator (LED) should blink one time with the ignition switch ON.

# Supplemental Restraint System (Type II)

## Airbag Disposal

Before scrapping any airbag (including one in a whole car to be scrapped) the airbag must be deployed. If the car is still within the warranty period, before deploying the airbag, the HONDA District Service Manager must give approval and/or special instruction.

Only after an airbag is already deployed (as the result of vehicle collision, for example), can the normal scrapping procedure be done.

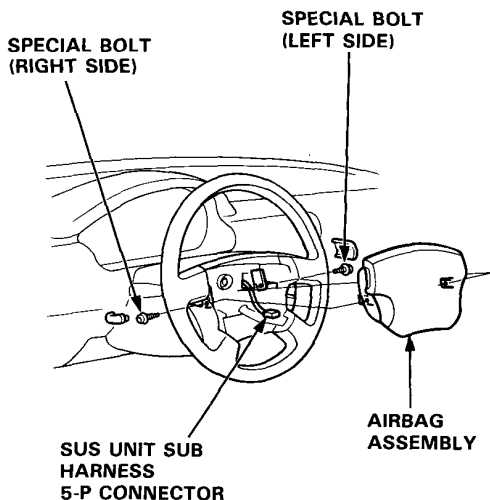
If the airbag appears, intact (not deployed), it should be treated with extreme caution.

Follow the procedure, described below.

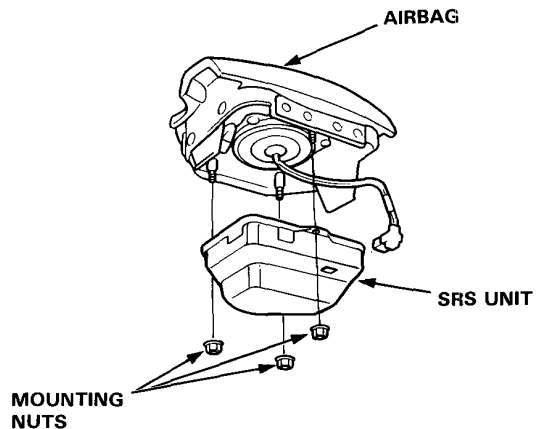
1. Turn the ignition switch off, then disconnect the negative and positive battery cables, and wait three minutes.
2. Remove the special bolts using a TORX T30 bit, then remove the airbag assembly (see page 16-154).

**CAUTION:** Make sure the wheels are aligned straight ahead. Remove the left airbag assembly mounting special bolt first (the safety switch will automatically turn off).

3. Disconnect the SRS unit sub harness 5-P connector from the SRS unit, then remove the airbag assembly from the steering wheel.



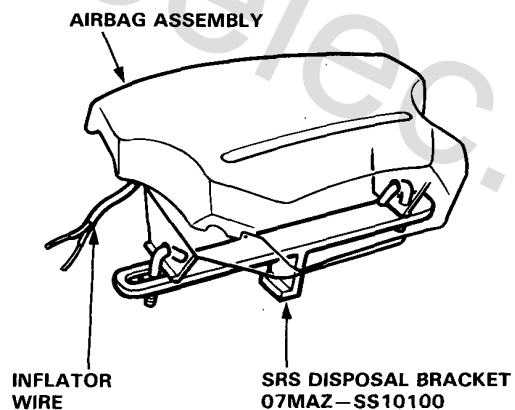
4. Remove the 3 SRS unit mounting nuts from the airbag assembly, then remove the SRS unit.



5. Install the SRS Disposal Bracket on the airbag assembly, and clamp it firmly into a vice.

**WARNING** Confirm that the airbag assembly is securely clamped or mounted; otherwise, severe personal injury could be caused by the deployment.

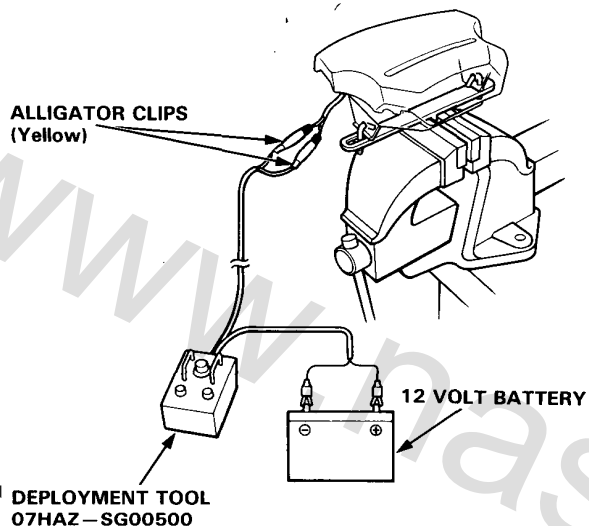
**NOTE:** Instead of using the SRS Disposal Bracket, the airbag assembly may be reinstalled to the steering wheel.



6. Cut off the airbag connector, then strip the wire ends.

7. Confirm that the Deployment Tool is functioning properly (see check procedure on this page).
8. Connect the alligator clips to the inflator wire ends.

**⚠ WARNING** The distance between deployment tool and airbag assembly has to be at least 10 meters (30 ft).



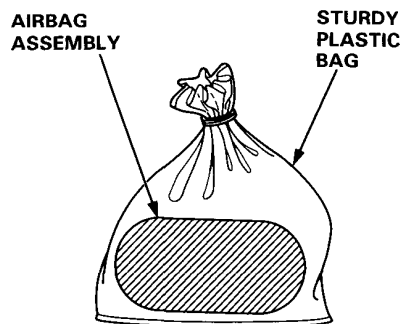
9. Connect a 12 volt battery to the tool:
  - If the green light on the tool goes on, the airbag igniter circuit is defective and cannot deploy the bag. Go to Damaged Airbag Special Procedure.
  - If the red light on the tool goes on, the airbag is ready to be deployed.
10. Push the tool's deployment switch. The airbag should deploy (deployment is both highly audible and visible—a loud noise and rapid inflation of the bag, followed by slow deflation).
  - If audible / visible deployment happens and the green light on the tool goes on, continue with this procedure.
  - If the airbag doesn't deploy, yet the green light goes on, it's igniter is defective. Go to Damaged Airbag Special Procedure.

**⚠ WARNING** During deployment, the airbag assembly can become hot enough to burn you. Wait thirty minutes after deployment before touching the assembly.

11. Dispose of the complete airbag assembly. No part of it can be reused. Place it in a sturdy plastic bag and seal it securely.

**CAUTION:**

- Wear a face shield and gloves when handling a deployed airbag.
- Wash your hands and rinse them well with water after handling a deployed airbag.



**Damaged Airbag Special Procedure.**

**⚠ WARNING** If an airbag cannot be deployed, it should not be treated as normal scrap; it should still be considered a potentially explosive device that can cause serious injury.

1. If installed in a car, follow the removal procedure on page 16-154.
2. Package the airbag in exactly the same packaging that the new replacement part came in.
3. Mark the outside of the box "DAMAGED AIRBAG NOT DEPLOYED" so it does not get confused with your parts stock.
4. Contact your HONDA District Service Manager for how and where to return it for disposal.

**Deployment Tool: Check Procedure.**

1. Connect the yellow clips to both switch protector handles on the tool; connect the tool to a battery.
2. Push the operation switch: green means tool is OK; red means tool is faulty.
3. Disconnect the battery and the yellow clips.

# Supplemental Restraint System (Type II)

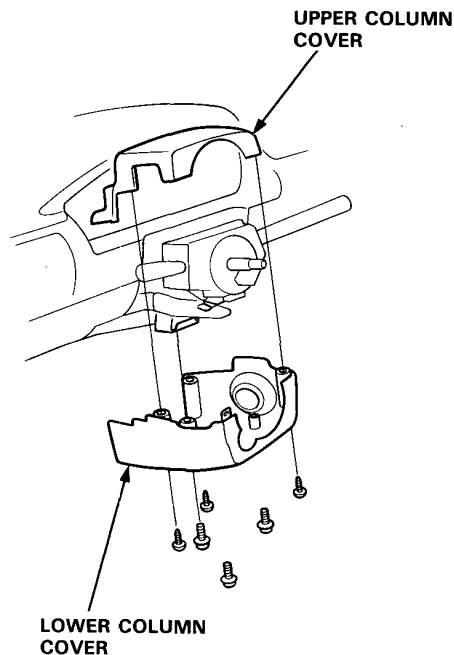
## Slip Ring Removal

**WARNING** Store a removed airbag assembly with the pad surface up, if the airbag is improperly stored face down, accidental deployment could propel the unit with enough force to cause serious injury.

### CAUTION:

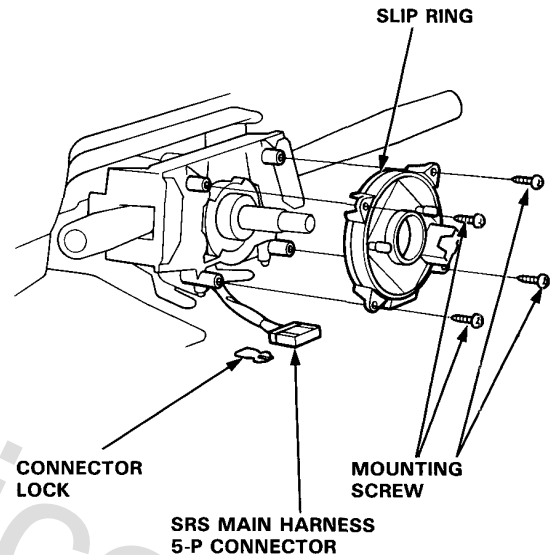
- Before beginning work related to the SRS system, turn the ignition switch off, disconnect the negative and positive battery cables, and wait three minutes.
- Do not install used SRS parts from another car. When repairing an SRS, use only new parts.
- Do not disassemble the slip ring. It has no serviceable parts and has to be replaced as a whole.
- The slip ring is a special part of models equipped with SRS. When replacing, be sure to use only a genuine HONDA spare part.
- Make sure the wheels are aligned straight ahead. Remove the left airbag assembly mounting special bolt first (the safety switch will automatically turn off).

1. Turn the ignition switch off, then disconnect the negative and positive battery cables, and wait three minutes.
2. Remove the airbag assembly (see page 16-154).
3. Remove the steering wheel, then remove the upper and lower steering column covers.



4. Pull out the connector lock, then disconnect the SRS main harness 5-P connector from the slip ring.

NOTE: Dispose of the connector lock, it is not to be reused.

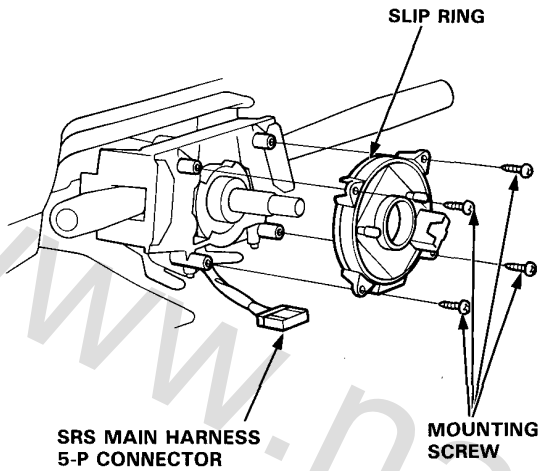


5. Remove the 4 mounting screws, then remove the slip ring.

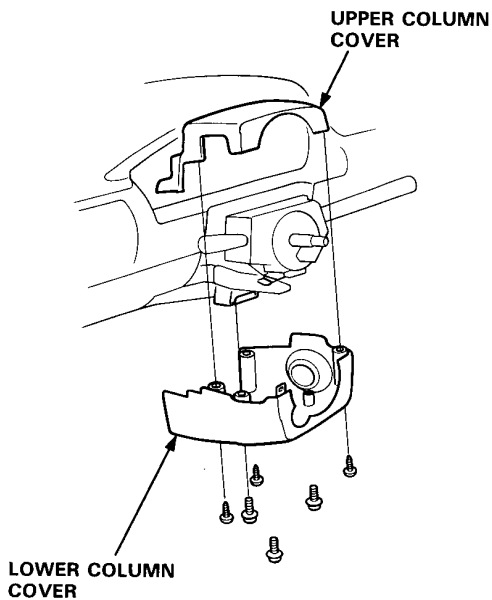


# Slip Ring Installation

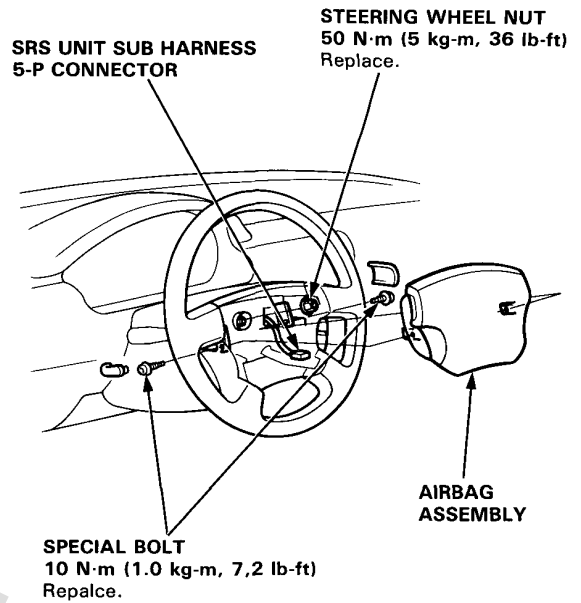
1. Install the slip ring on the steering column, then connect the SRS main harness 5-P connector to the slip ring.



2. Install the steering column upper and lower covers.



3. Install the steering wheel.



4. Connect the SRS unit sub harness 5-P connector to the SRS unit.
5. Place the airbag assembly into the steering wheel, and secure it with new special bolts.

NOTE: Be sure to torque the bolts as specified.

6. Reconnect the battery positive and negative cables.
7. After installing the slip ring, confirm proper system operation:

- Turn the ignition to ON: the instrument panel SRS indicator light should go on for about 6 seconds and then go off.
- The SRS self diagnosis indicator (LED) should blink one time with the ignition switch ON.

# INTRODUCTION

## How to Use This Manual

This supplement contains information for the 1992 ACCORD COUPE. Refer to following shop manuals for service procedures and data not included in this supplement.

Description	Code No.
ACCORD CHASSIS Maintenance and Repair 90	62SM400
ACCORD SUPPLEMENT 91	62SM420
ACCORD AERO DECK SUPPLEMENT 91	61SM421
ACCORD SUPPLEMENT 92 F18A/F20A/F22A ENGINE Maintenance and Repair	62SM422 62PT400
H2 MANUAL TRANSMISSION Maintenance and Repair	62PX500
PX4B AUTOMATIC TRANSMISSION Maintenance and Repair	62PX400

The first page of each section is marked with a black tab that lines up with one of the thumb index tabs on this page. You can quickly find the first page of each section without looking through a full table of contents. The symbols printed at the top corner of each page can also be used as a quick reference system.

## Special Information


**⚠ WARNING** Indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.

**CAUTION:** Indicates a possibility of personal injury or equipment damage if instructions are not followed.

**NOTE:** Gives helpful information.

**CAUTION:** Detailed descriptions of *standard* workshop procedures, safety principles and service operations are not included. Please note that this manual does contain warnings and cautions against some specific service methods which could cause **PERSONAL INJURY**, or could damage a vehicle or make it unsafe. Please understand that these warnings cannot cover all conceivable ways in which service, whether or not recommended by Honda, might be done, or of the possible hazardous consequences of each conceivable way, nor could Honda investigate all such ways. Anyone using service procedures or tools, whether or not recommended by Honda, *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized.

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 marked sections are not included in this manual.

First Edition 2/92 260 pages  
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HONDA MOTOR CO., LTD.  
Service Publication Office

General Info 

Special Tools 

Specifications **specs**

Maintenance 

Engine 

Cooling 

Fuel and Emissions 

\* Transaxle 

\* Steering 

Suspension 

\* Brakes  
(Including **ABS** ) 

\* Body 

\* Heater and  
Air Conditioner 

\* Electrical  
(Including **SRS** ) 

As sections with \* include SRS components, special precautions are required, when servicing.

**Chassis and Engine Numbers**  
**Identification Number Locations**  
**Label Locations**  
**Lift and Support Points**  
**Towing**  
**Preparation of Work**  
**Symbol Marks**  
**Abbreviations**

[www.nasicoelec.ir](http://www.nasicoelec.ir)

# Chassis and Engine Numbers

## Vehicle Identification Number

1HGCC11400A000001

### Manufacturer, Make and Type of Vehicle

1HG: HONDA OF AMERICA  
MFG., INC., U.S.A.  
HONDA Passenger car

### Body Type

CC1: ACCORD 2.0 ℓ

### Body and Transmission Type

1: 2-door Coupe 5-speed Manual  
2: 2-door Coupe 4-speed Automatic

### Vehicle Grade

4: Without air conditioner  
5: With air conditioner

### Fixed Code

### Auxiliary Number

### Factory Code

A: Ohio Factory in U.S.A. (Marysvill)

### Model Year

0: 1992

### Serial Number

## Engine Number

F20A7-1000001

### Engine Type

F20A7: 2.0 ℓ Fuel-injected engine  
Unleaded gasoline with CATA  
(KF/KG/KE)

### Transmission Type

10: Manual  
15: Automatic

### Serial Number

## Transmission Number

H2C4-7000001

### Transmission Type

H2C4: Manual  
APXA: Automatic

### Serial Number

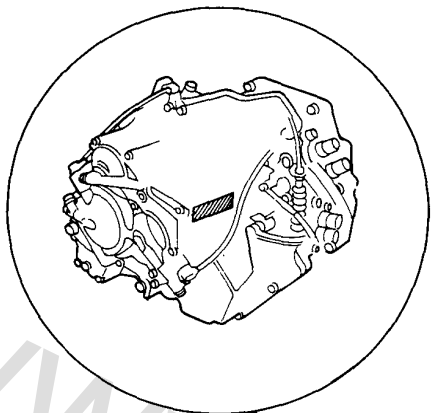
Manual: 7000001 ~  
Automatic: 6000001 ~



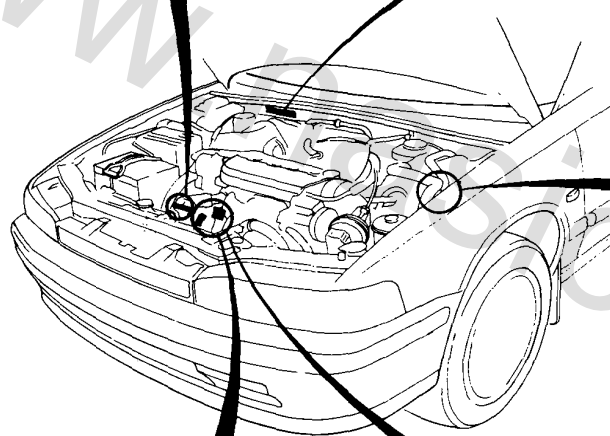
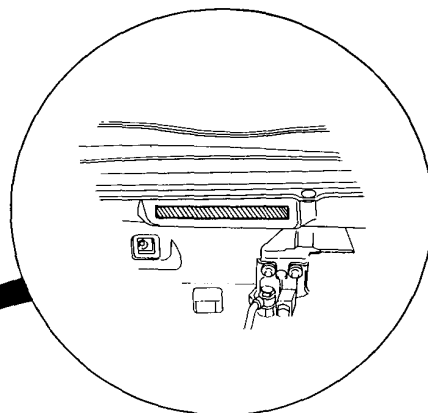
# Identification Number Locations



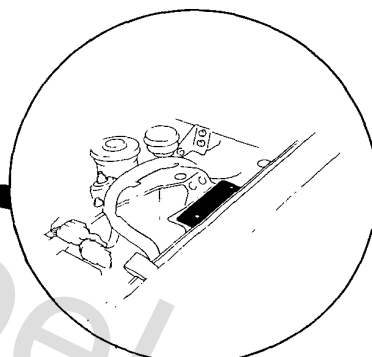
**Transmission Number  
(Automatic)**



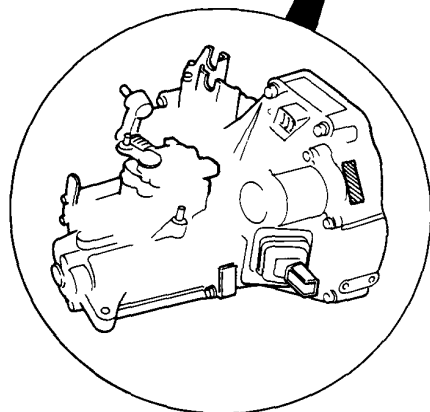
**Vehicle Identification Number**



**Vehicle Identification Number  
and Engine Number**



**Transmission Number  
(Manual)**

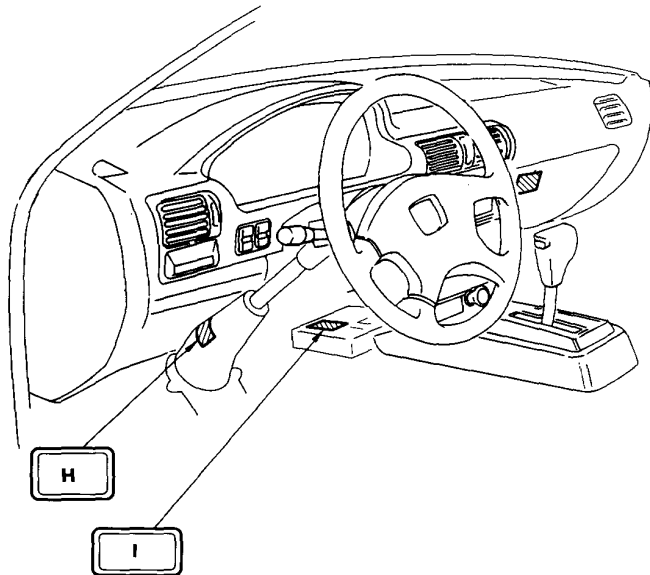
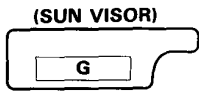
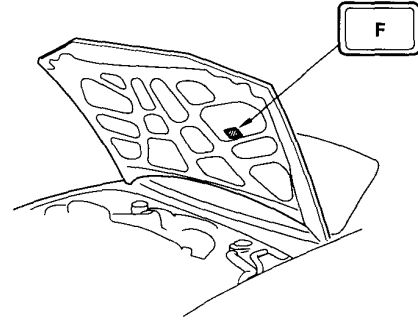
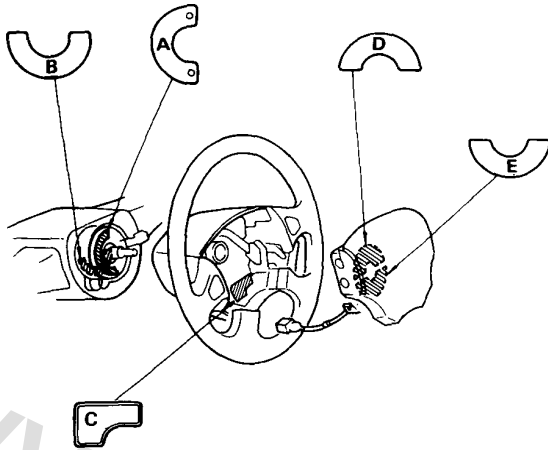


**Engine Number**



# Label Locations

## Warning/Caution Labels (SRS)



### A: CABLE REEL CAUTION A

#### SRS

#### CAUTION

- REFER TO THE SHOP MANUAL.

#### ATTENTION

- SE REPORTER AU MANUAL D'ATELIER.

#### ACHTUNG

- WERKSTATTHANDBUCH LESEN.

#### WAARSCHUWING

- LEES HET WERKPLAATSHANOBEOEK.

### B: CABLE REEL CAUTION B

#### SRS

#### CAUTION

- REFER TO THE SHOP MANUAL.

#### ATTENTION

- SE REPORTER AU MANUEL D'ATELIER.

#### ACHTUNG

- WERKSTATTHANDBUCH LESEN.

#### WAARSCHUWING

- LES HET WERKPLAATSHANOBEOEK.

### C: STEERING WHEEL WARNING

#### WARNING **SRS**

- REFER TO THE SHOP MANUAL.

- SE REPORTER AU MANUEL D'ATELIER.

- WERKSTATTHANDBUCH LESEN.

- LEES HET WERKPLAATSHANOBEOEK.



#### D: INFLATOR COVER LABEL

- DANGER  
EXPLOSIVE/FLAMMABLE  
POISON  
REFER TO THE SHOP MANUAL.
- DANGER  
EXPLOSIF ET INFLAMMABLE  
POISON  
SE REPORTER AU MANNEL D'ATELIER
- GEFAHR  
EXPLOSIV/ENTZÜNDBAR  
GIFT  
WERKSTATTHANDBUCH LESEN.
- GEVAAR  
EXPLOSIEGEVAAR/BPANDBAAR  
GIFTIG  
LEES HET WERKPLAATSHANDBOEK.

#### E: MODULE WARNING

- WARNING** **SRS**
- REFER TO THE SHOP MANUAL.
  - SE REPORTER AU MANUEL D'ATELIER.
  - WERKSTATTHANDBUCH LESEN.
  - LEES HET WERKPLAATSHANDBOEK.

#### F: ENGINE HOOD WARNING

**WARNING** **SRS**  
THIS VEHICLE IS EQUIPPED WITH A AIRBAG SYSTEM AS A SUPPLEMENTAL RESTRAINT SYSTEM. (SRS)  
ALL S.R.S. ELECTRICAL WIRING AND CONNECTORS ARE COLORED YELLOW.  
DO NOT USE ELECTRICAL TEST EQUIPMENT ON THESE CIRCUITS.  
TAMPERING WITH OR DISCONNECTING THE S.R.S. WIRING COULD RESULT IN ACCIDENTAL FIRING OF THE INFLATOR OR MAKE THE SYSTEM INOPERATIVE WHICH MAY RESULT IN SERIOUS INJURY.

**ATTENTION** **SRS**  
CE VEHICULE EST EQUIPE D'UN COUSSIN D'AIR DU COTE CONDUCTEUR QUI CONSTITUE UN SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.).  
TOUS LES FILS ET CONNECTEURS ELECTRIQUES DU SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.) SONT DE COULEUR JAUNE. N'UTILISEZ PAS UN EQUIPMENT D'ESSAIS ELECTRIQUES SUR CES CIRCUITS. NE TOUCHEZ PAS ET NE DEBRANCHEZ PAS LES FILS DU SYSTEME S.R.S. CAR CECI POURRAIT DE TRADUIRE PAR LE DECLENCHEMENT ACCIDENTEL DU GONFLEUR OU RENDRE LE SYSTEME INOPERANT ET VOUS EXPOSER AINSI A DE GRAVES BLESSURES.

**WARNING** **SRS**  
DIESES FAHRZEUG IST MIT EINEM FAHRER-AIRBAG (SRS) ALS ZUSÄTZLICHEM RÜCKHALTESYSTEM AUSGERÜSTET.  
ALLE ELEKTRISCHEN KABEL, SOWIE DIE ZUGEHÖRIGEN STECKVERBINDER DES S.R.S.-SYSTEMS SIND IN GELBER FARBE AUSGEFÜHRT.  
KEINE ELEKTRISCHEN PRÜFGERÄTE AN DIE S.R.S.-VERKABELUNG ANSCHLIEBEN.  
VERÄNDERN ODER UNTERBRECHEN DER S.R.S.-VERKABELUNG KANN UNKONTROLLIERTES ZÜNDEN DES GASGENERATORS AUSLÖSEN, ODER DAS SYSTEM AUßER FUNKTION SETZEN WAS ZU ERNSTHAFTEN VERLETZUNGEN FÜHREN KANN.

**WAARSCHUWING** **SRS**  
DIT VOERTUIG IS UITGERUST MET EEN LUCHTKUSSEN AAN DE BESTUURDERSKANT ALS EXTRA BESCHERMING (S.R.S.).  
ALLE ELEKTRISCHE LEIDINGEN EN AANSLUITINGEN VAN DE S.R.S. ZIJN GEEL GEKLEURD. GEBRUIK GEEN ELEKTRISCHE TESTAPPARATUUR VOOR DEZE CIRCUITS. KNOEIEN MET OF LOSKOPPELEN VAN DE S.R.S. LEIDINGEN KAN LEIDEN TOT BRAND IN DE VULINRICHTING OF TOT UITSCHAKELEN VAN HET SYSTEEM DIT KAN TOT ERNSTIGE ONGELUKKEN LEIDEN.

(cont'd)

# Label Locations

## Warning/Caution Labels (SRS) (cont'd)

### G: DRIVER INFORMATION

#### **SRS** ALWAYS WEAR YOUR SEAT BELT

- THIS CAR IS EQUIPPED WITH A DRIVER AIRBAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (SRS)
- IT IS DESIGNED TO SUPPLEMENT THE SEAT BELT.
- IF YOUR SRS INDICATOR LIGHTS WHILE DRIVING SEE YOUR AUTHORIZED HONDA DEALER.

#### **SRS** ATTACHEZ TOUJOURS VOTRE CEINTURE

- CE VEHICULE EST EQUIPE D'UN COUSSIN D'AIR DU COTE CONDUCTEUR QUI CONSTITUE UN SYSTEME DE RETENUECOMPLEMENTAIRE (S.R.S.).
- CE COUSSIN D'AIR COMPLETE LA FONCTION DE LA CEINTURE DE SECURITE.
- SI LE TEMOIN SRS S'ALLUME PENDANT LA CONDUITE.  
ADRESSEZ VOUS A VOTRE CONCESSIONNAIRE HONDA OFFICIEL.

#### **SRS** SICHERHEITSGURTE BEI JEDER FAHRT ANLEGEN

- DIESES FAHRZEUG BESITZT EINEN FAHRER AIRBAG ALS ZUSATZLICHES RUCKHALE-SYSTEM (S.R.S.).
- ES IST EINE EPGANZUNG ZUM SICHERHEITSGURT.
- WENN DIE SRS KONTROLLEUCHE WAHREND DER FAHRT AUFLEUCHTET UMGEHEND FINEN HONDA HANDLER AUFsuchen.

#### **SRS** DRAAG ALTIJD UW VEILIGHEIDSGORDEL

- DIT VOERTUIG IS UITGERUST MET EEN LUCHTKUSSEN AAN DE BESTUURDESKANT ALS EXTRA BESCHERMING (S.R.S.).
- DIT IS ONTWERPEN ALS EXTRA BESCHERMING BIJ DE VEILIGHEIDSGORDEL.
- ALS HEL SRS-WAARSCHUWINGSLAMPJE GAAT BRANDEN ONDER HET RIJDEN, NEEM DAN KONTAKT OP MET EEN HONDA DEALER.

### H: STEERING COLUMN CAUTION (KE)

#### CAUTION **SRS**

TO AVOID DAMAGING THE S.R.S. CABLE OR REEL, WHICH COULD MAKE THE SYSTEM INOPERATIVE. REMOVE THE STEERING WHEEL BEFORE REMOVING THE STEERING SHAFT CONNECTOR BOLT.

#### ATTENTION **SRS**

POUR NE PAS RISQUER D'ENDOMMAGER LE CABLE OU L'ENROULEUR DU S.R.S. ET DE RENDRE AINST LE SYSTEME INOPERANT RETIREZ LE VOLANT AVANT DE DEVINSSER LE BOULON D'ACCOUPEMENT D'ARBRE DE DIRECTION.

### H: STEERING COLUMN CAUTION (KG)

#### ACHTUNG **SRS**

UM EINE BESCHÄDIGUNG DER SRS-VERKABELUNG, DIE ZUM AUSTALL DES SYSTEMS FÜHREN KANN ZU VERHINDERN, IMMER DAS LENKRAD VOR DEM LENKSELLENVERBINDUNGSBOLZEN AUSBAUEN.

#### WAARSCHUWING **SRS**

OM TE VOORKOMEN DAT DE S.R.S. -KABEL OF -HASPEL BESCHADIGD WORDEN, HETGEEN ERTOE ZOU LEIDEN DAT HET SYSTEEM UITVALT, DIENT U HET STUUR TE VERWIJDEREN VOORDAT U DE STUURSCHACHTCONNECTORBOUT VERWIJDERT.

### I: SRS UNIT CAUTION

#### CAUTION **SRS**

- NO SERVICEABLE PARTS INSIDE.
- DO NOT DISASSEMBLE OR TAMPER.
- DO NOT DROP.
- STORE IN A CLEAN, DRY AREA.

#### ATTENTION

- AUCUN POINT D'INTERVENTION A L'INTERIEUR.
- NO PAS DEMONTER OU TOUCHER.
- NO PAS FAIRE TOMBER.
- RANGER DANS UN ENDROIT PROPRE ET SEC.

#### WAARSCHUWING

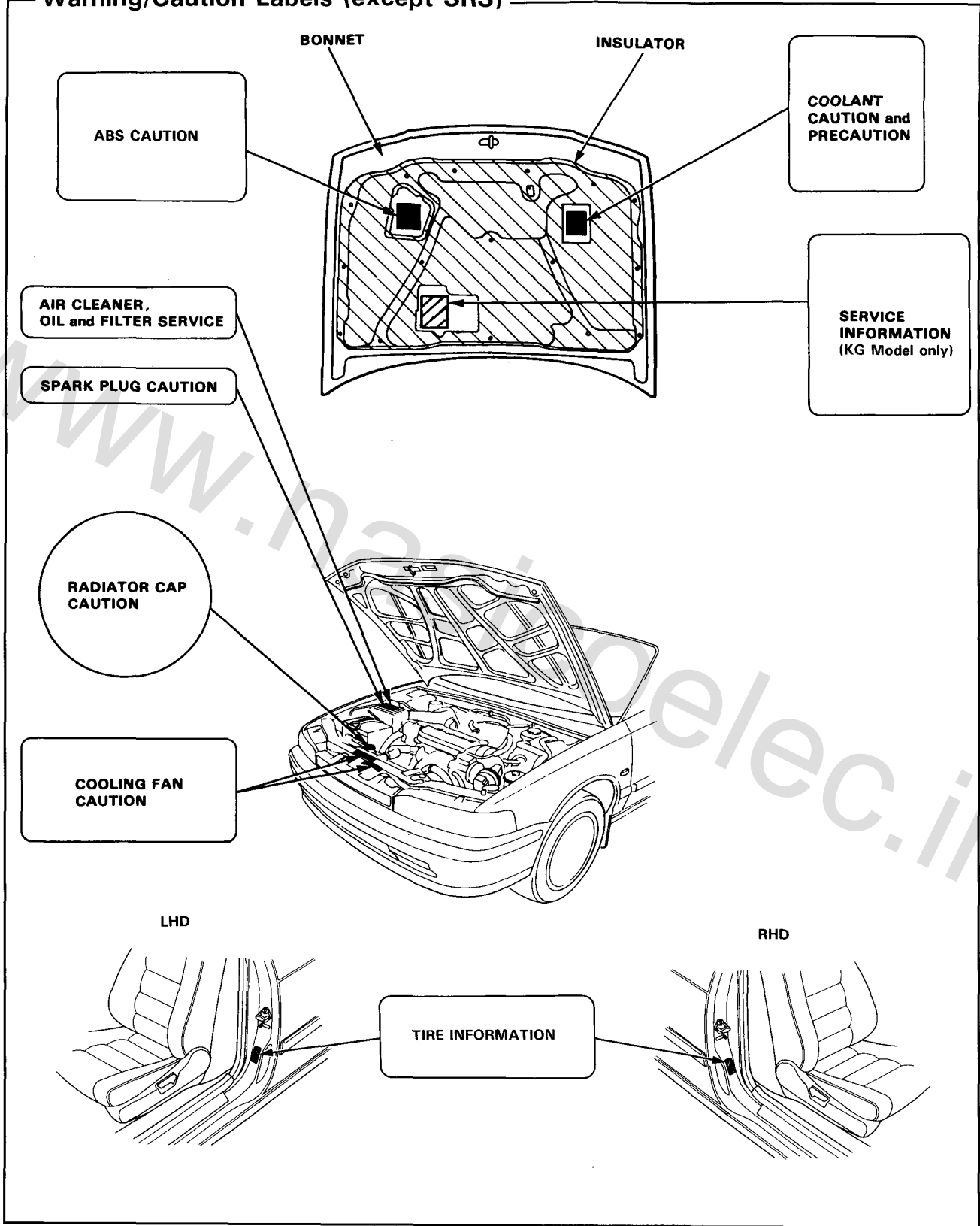
- BINNENIN BEVINDEN ZICH GEEN OHDER DELEN DIE AAN ONDERHOUD ONDERHEVIG ZIJN.
- DEMONTEER NIETS EN KNCI NIET AAN DE S.R.S.
- LAAT DE S.R.S. NIET VALLEN.

#### ACHTUNG

- WARTUNGSFREIES BAUTEIL: NICHT ÖFFNEN, ZERLEGEN, ODER VERÄNDERN!
- NICHT WERFEN!
- TROCKEN UND GESCHOTZT LAGERN!



# Warning/Caution Labels (except SRS)



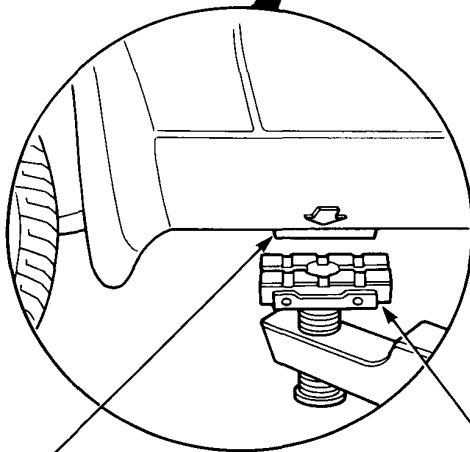
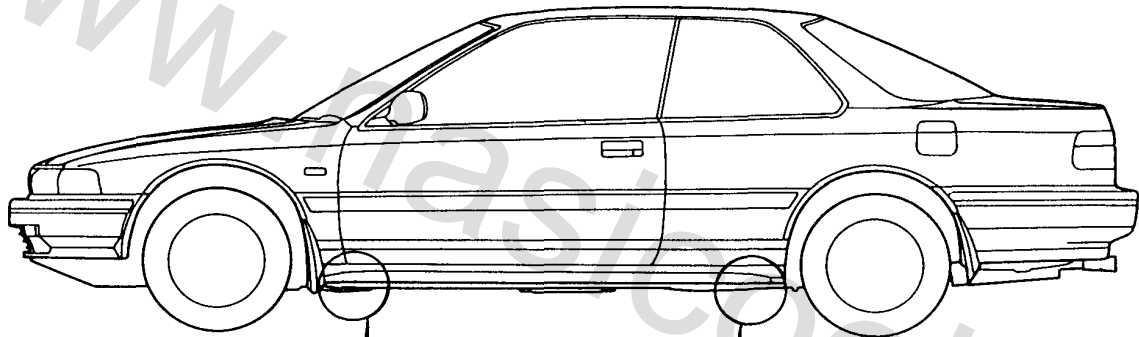
# Lift and Support Points

## Hoist

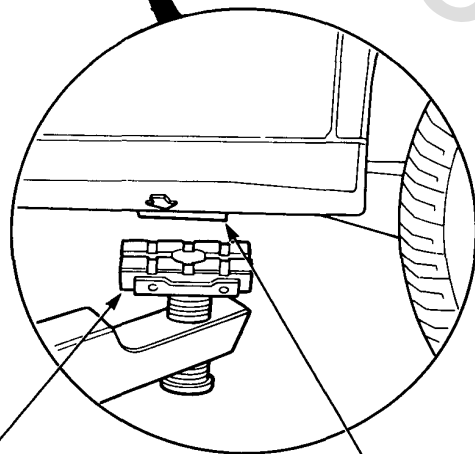
1. Place the lift blocks as shown.
2. Raise the hoist a few centimeters (inches) and rock the car to be sure it is firmly supported.
3. Raise the hoist to full height and inspect lift points for solid support.

**▲ WARNING** When heavy rear components such as suspension, fuel tank, spare tire and tailgate are to be removed, place additional weight in the trunk before hoisting. When substantial weight is removed from the rear of the car, the center of gravity may change and can cause the car to tip forward on the hoist.

NOTE: Since each tire/wheel assembly weighs approximately 14 kg (30 lbs), placing the front wheels in the trunk will assist with the weight transfer.



FRONT SUPPORT POINT



REAR SUPPORT POINT

LIFT BLOCKS



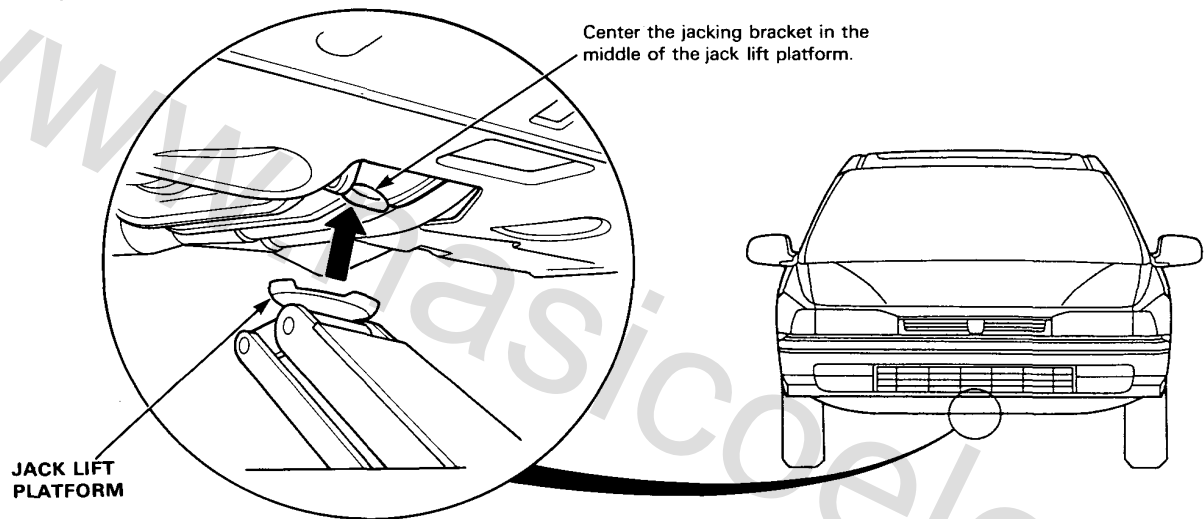
## Floor Jack

1. Set the parking brake and block the wheels that are not being lifted.
2. When lifting the rear of the car, put the gearshift lever in reverse (Automatic in PARK).
3. Raise the car high enough to insert the safety stands.
4. Adjust and place the safety stands as shown on page 1-7 so the car will be approximately level, then lower the car onto the stands.

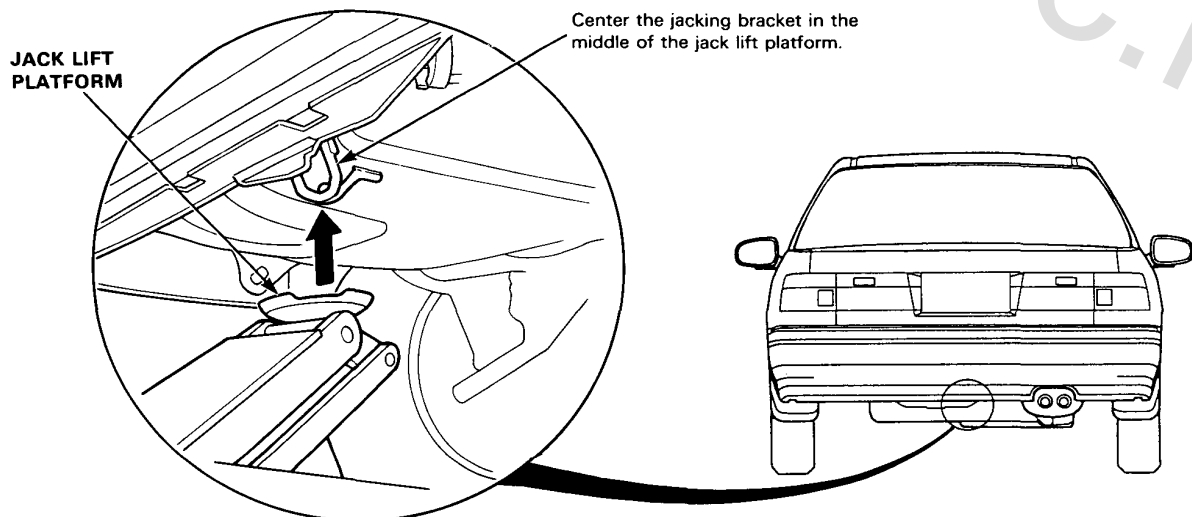
### ⚠ WARNING

- Always use safety stands when working on or under any vehicle that is supported by only a jack.
- Never attempt to use a bumper jack for lifting or supporting the car.

### Front

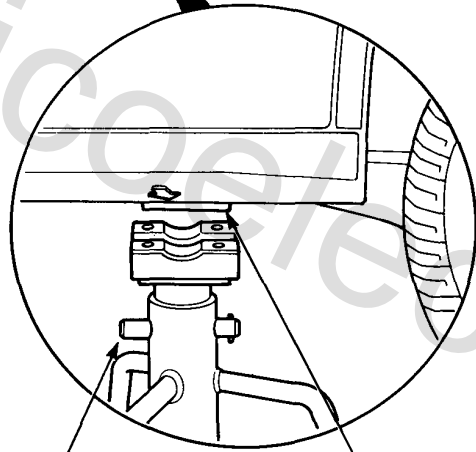
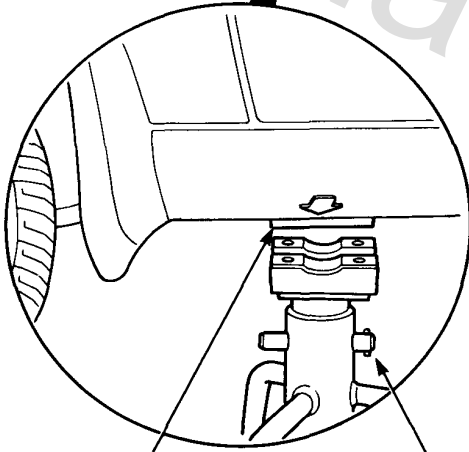
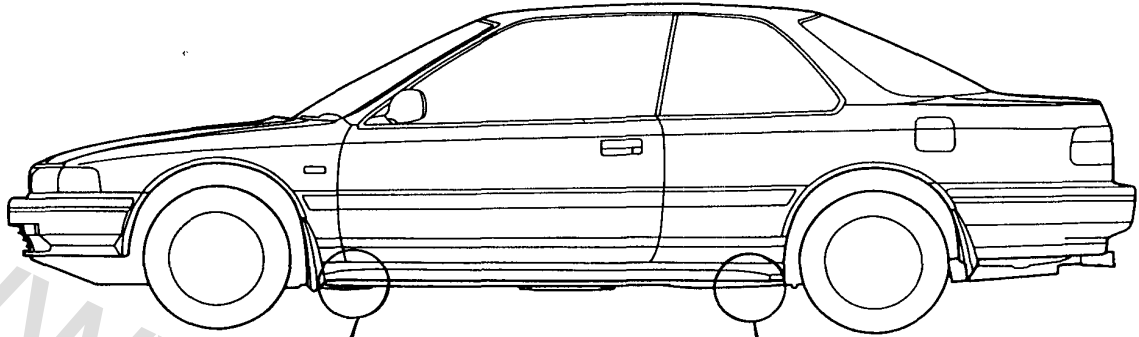


### Rear



# Lift and Support Points (cont'd)

## Safety Stands



FRONT SUPPORT POINT

SAFETY STANDS

REAR SUPPORT POINT





# Towing

If possible, always tow the car with the front wheels off the ground. The tow truck driver should position wood spacer blocks between the car's frame and his chains and lift straps, to avoid damaging the bumper and the body under it.

Do not use the bumpers to lift the car or to support the car's weight while towing. Check local regulations for towing. A chain may be attached to the hook shown in the picture. Do not attach a tow bar to either bumper.

**▲ WARNING**

**DO NOT** push or tow a car to start it. The forward surge when the engine starts could cause a collision. Also, under some conditions, the catalytic converter could be damaged. A car equipped with an automatic transmission cannot be started by pushing or towing.

If the car is to be towed with the front wheels on the ground, observe the following precautions:

**Manual Transmission**

Shift the transmission to Neutral and turn the ignition key to the "I" position.

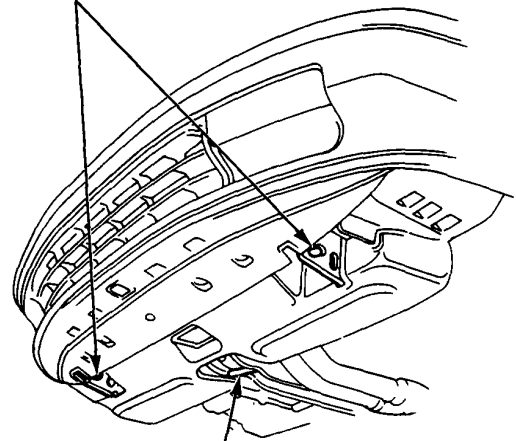
**Automatic Transmission**

First, check the automatic transmission fluid level. Start the engine and shift to D<sub>4</sub>, then to N. Return the ignition key to the "I" position.

**CAUTION:**

- Do not tow with front wheels on the ground when the automatic transmission fluid level is low or the transmission cannot be shifted with the engine running.
- Do not exceed 55 km/h (35 mph) or tow for distances of more than 80 km (50 miles).

**TIE DOWN BRACKETS**



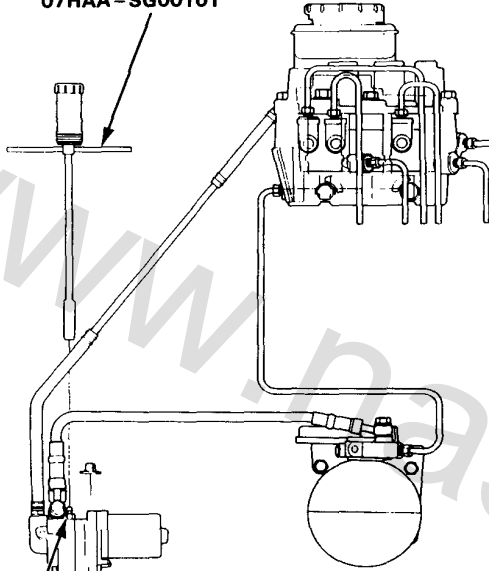
**TOWING HOOK**

# Preparation of Work

## Special Caution Items For This Car

- Anti-lock brake system piping system servicing
  - Disassemble the anti-lock brake system piping system after relieve the high-pressured brake fluid.
  - Otherwise, the high-pressured brake fluid will burst out and it is very dangerous.
  - See section 13 of base manual (62SM400) how to relieve the high-pressured brake fluid.

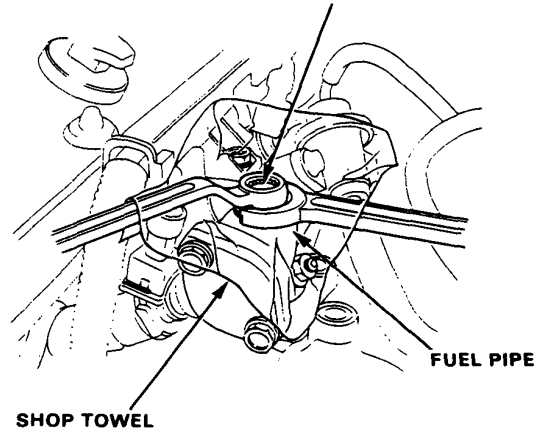
**Bleeder T WRENCH**  
07HAA-SG00101



**SERVICE BOLT**  
6 N·m (0.6 kg-m, 4 lb-ft)

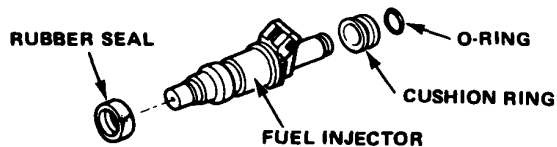
- Fuel Line Servicing
  - Relieve fuel pressure by loosening the service bolt provided on the top of the fuel filter before disconnecting a fuel hose or a fuel pipe.

**SERVICE BOLT**  
12 N·m (1.2 kg-m, 9 lb-ft)

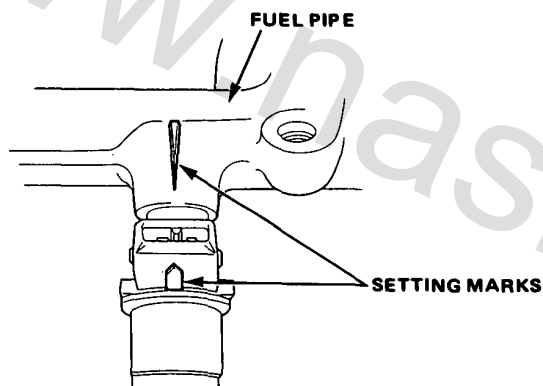




- Be sure to replace washers, O-rings, and rubber seals with new ones when servicing fuel line parts.
- Always apply oil to the surfaces of O-rings and seal rings before installation. Never use brake fluid, radiator fluid, vegetable oils or alcohol-based oils.



- When assembling the flare joint of the high-pressure fuel line, clean the joint and coat with new engine oil.
- When installing an injector, check the angle of the coupler. The center line of the coupler should align with the setting mark on the injector holder.



- **Inspection for fuel leakage**
  - After assembling fuel line parts, turn ON the ignition switch (do not operate the starter) so that the fuel pump is operated for approximately two seconds and the fuel is pressurized. Repeat this operation two or three times and check whether any fuel leakage has occurred in any of the various points in the fuel line.

- Installation of an amateur radio for cars equipped with PGM-FI.

Care has been taken for the Fuel-Injection, A/T, Cruise control and anti-lock brake system control units and its wiring to prevent erroneous operation from external interference, but erroneous operation of the control units may be caused by entry of extremely strong radio waves. Attention must be paid to the following items to prevent erroneous operation of the control units.

- The antenna and the body of the radio must be at least 200 mm (7.9 in.) away from the control units.

The control unit locations:

- Fuel-Injection, A/T: Passenger's side front floor panel.
- Cruise control: Under dash panel of driver's side.
- Anti-lock brake system: Right side panel of trunk room.
- Do not lead the antenna feeder and the coaxial cable over a long distance parallel to the car's wiring. When crossing the wiring is required, execute crossing at a right angle.
- Do not install a radio with a large output (max. 10 W).

- Apply liquid gasket to the transmission, oil pump cover, right side cover and water outlet. Use HONDA genuine liquid gasket part No. 0Y740-99986.
  - Check that the mating surfaces are clean and dry before applying liquid gasket. Degrease the mating surfaces if necessary.
  - Apply liquid gasket evenly, being careful to cover all the mating surface.
  - To prevent leakage of oil, apply liquid gasket to the inner threads of the bolt holes.
  - Do not install the parts if 20 minutes or more have elapsed since applying liquid gasket. Instead, reapply liquid gasket after removing the old residue.
  - Wait at least 30 minutes before filling with appropriate liquid (engine oil, coolant and similar fluids).

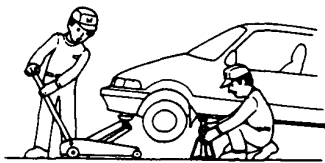
# Preparation of Work

**CAUTION:** Observe all safety precautions and notes while working.

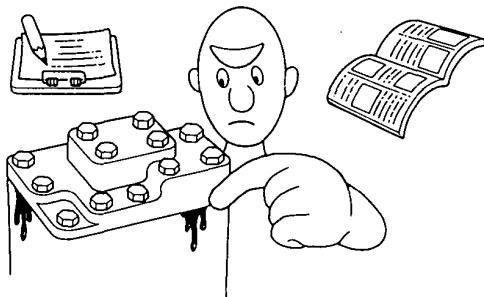
- Protect all painted surfaces and seats against dirt and scratches with a clean cloth or vinyl cover.



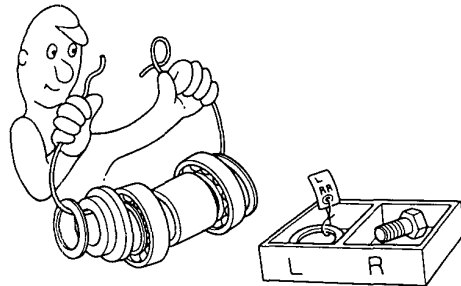
- Work safely and give your work your undivided attention. When either the front or rear wheels are to be raised, block the remaining wheels securely. Communicate at frequently as possible when work involves two or more workers. Do not run the engine unless the shop or working area is well ventilated.



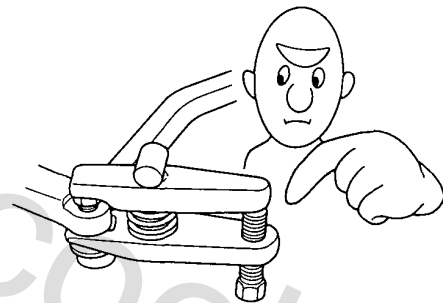
- Prior to removing or disassembling parts, they must be inspected carefully to isolate the cause for which service is necessary. Observe all safety notes and precautions and follow the proper procedures as described in this manual.



- Mark or place all removed parts in order in a parts rack so they can be reassembled in their original places.

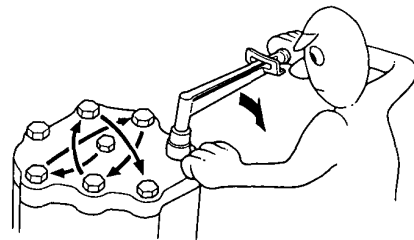


- Use the special tool when use of such a tool is specified.



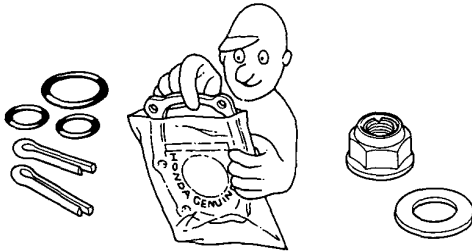
- Parts must be assembled with the proper torque according to the maintenance standards established.

- When tightening a series of bolts or nuts, begin with the center or large diameter bolts and tighten them in crisscross pattern in two or more steps.

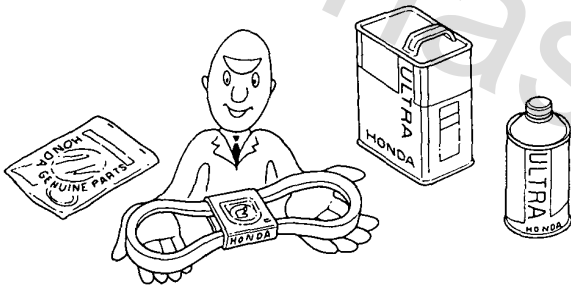




- Use new packings, gaskets, O-rings and cotter pins whenever reassembling.



- Use genuine HONDA parts and lubricants or those equivalent. When parts are to be reused, they must be inspected carefully to make sure they are not damaged or deteriorated and are in good usable condition.

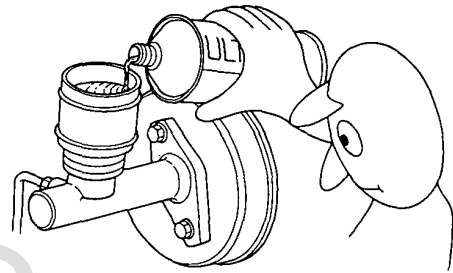


- Coat or fill parts with specified grease as specified (page 4-2). Clean all removed parts with solvent upon disassembly.



- Brake fluid and hydraulic components

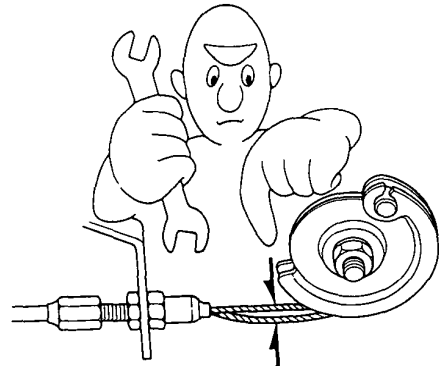
- When replenishing the system, use extreme care to prevent dust and dirt from entering the system.
- Do not mix different brands of fluid as they may not be compatible.
- Do not reuse drained brake fluid.
- Because brake fluid can cause damage to painted and resin surfaces, care should be taken not to spill it on such materials. If spilled accidentally, quickly rinse it with water or warm water from painted or resin surfaces.
- After disconnecting brake hoses or pipes, be sure to plug the openings to prevent loss of brake fluid.
- Clean all disassembled parts only in clean BRAKE FLUID. Blow open all holes and passages with compressed air.



- Keep disassembled parts from air-borne dust and abrasives.
- Check that parts are clean before assembly.

- Avoid oil or grease getting on rubber parts and tubes, unless specified.

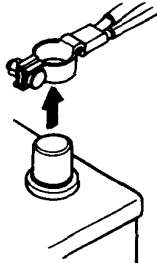
- Upon assembling, check every part for proper installation and operation.



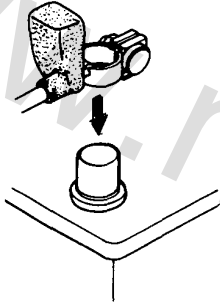
# Preparation of Work

## Electrical

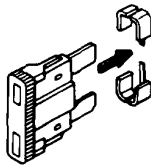
- Before making any repairs on electric wires or parts, disconnect the battery cables from the battery starting with the negative (-) terminal.



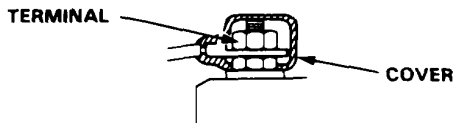
- After making repairs, check each wire or part for proper routing and installation. Also check to see that they are connected properly.
- Always connect the battery positive (+) cable first, then connect the negative (-) cable.



- Coat the terminals with clean grease after connecting the battery cables.
- Don't forget to install the terminal cover over the positive battery terminal after connecting.
- Before installing a new fuse, isolate the cause and take corrective measures, particularly when frequent fuse failure occurs.

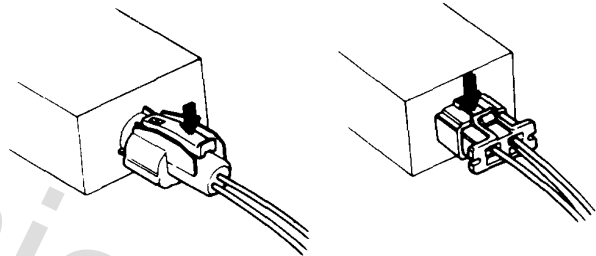
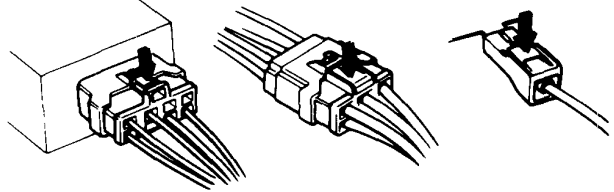


- Be sure to install the terminal cover over the connections after a wire or wire harness has been connected.

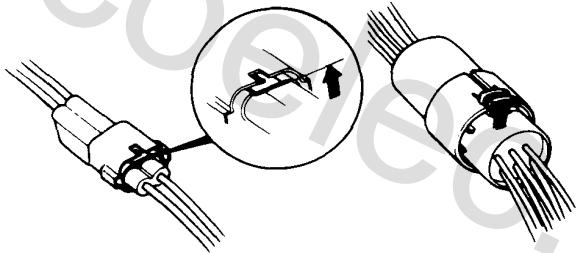


- As to locking connectors, be sure to disengage the lock before disconnecting.
- Conventional connectors may be of two types, those in which the lock is pressed to remove, and those in which the lock is pulled up to remove. Be sure to ascertain the type of locking device before beginning work. The following is a depiction of the means of disconnecting various typical connectors.

### Press to disengage:



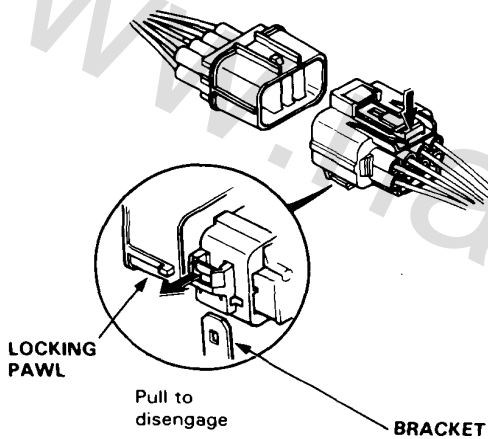
### Pull up to disengage:



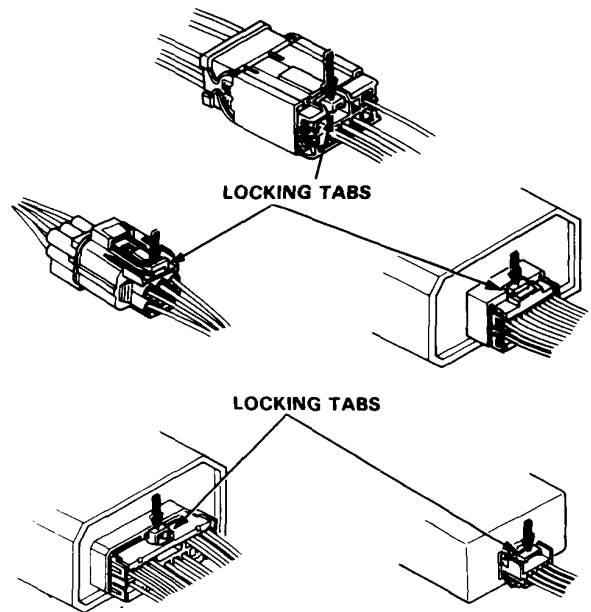


Connection and disconnection of them should be done paying attention to the following precautions.

- Because all the connectors except terminal of 1-P are equipped with push-down type locks, unlock them first before disconnecting the connectors.
- On the connectors installed on the bracket a pull type lock is equipped between the bracket and the connector.  
Some connectors of this type can not be disconnected unless they are removed from their brackets. When disconnecting, check their shapes.
- On the bracket mounted connector with dual locks, remove the connector from the bracket before disconnecting.



- Push the locking tab to disconnect.

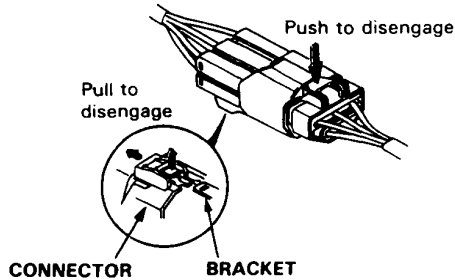


(cont'd)

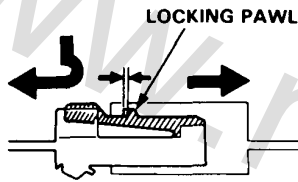
# Preparation of Work

## Electrical (cont'd)

- Pull the locking tab to remove the connector from the bracket.

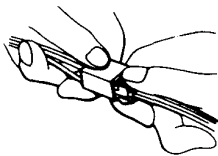


- When disconnecting locks, first press in the connector tightly (to provide clearance to the locking device), then operate the tab fully and remove the connector in the designated manner.

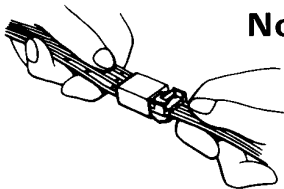


- When disconnecting a connector, pull it off from the mating connector by holding on both connectors.
- Never try to disconnect connectors by pulling on their wires.

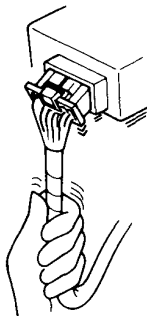
**Good**



**No Good**

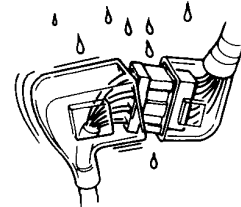


**No Good**



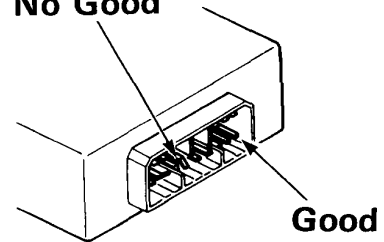
- Place the plastic cover over the mating connector after reconnecting. Also check that the cover is not distorted.

**No Good**

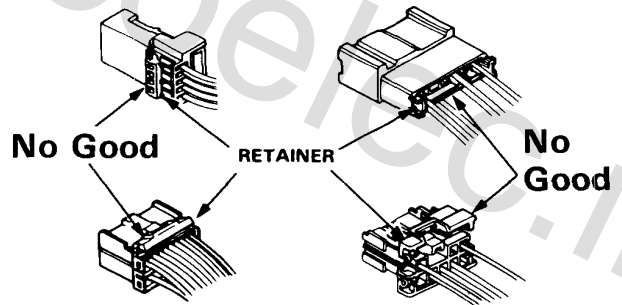


- Before connecting connectors, check to see that the terminals are in place and not bent or distorted.

**No Good**

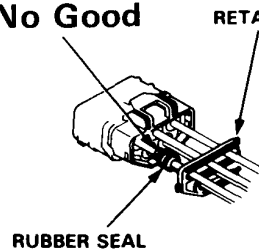


- Check for loose retainers and rubber seals. The illustration shows examples of terminal and seal abnormality.



- Example of waterproof connector:

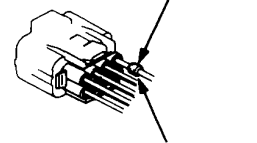
**No Good**



**RUBBER SEAL**

**RETAINER**

**RUBBER SEAL**

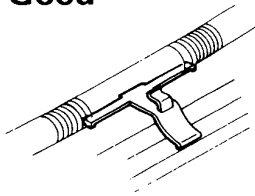


**No Good**

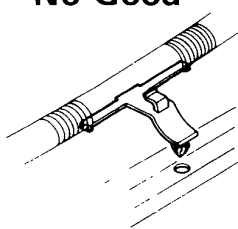




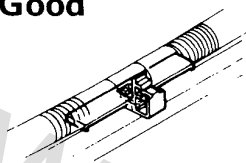
**Good**



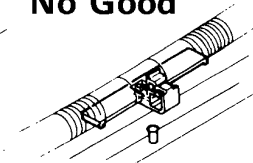
**No Good**



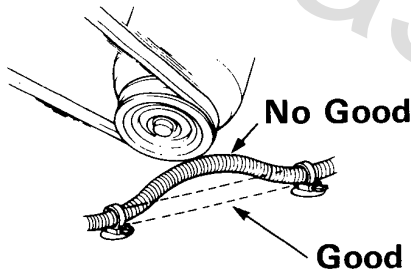
**Good**



**No Good**

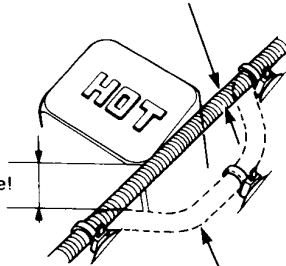


- After clamping, check each harness to be certain that it is not interfering with any moving or sliding parts of the vehicle.
- Keep wire harnesses away from the exhaust pipes and other hot parts.



- Always keep a safe distance between wire harnesses and any heated parts.

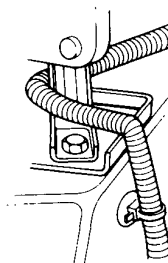
**No Good**



Keep sufficient distance!

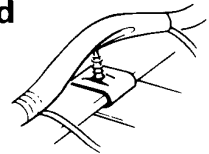
**Good**

- Do not bring wire harnesses in direct contact with sharp edges or corners.
- Also avoid contact with the projected ends of bolts, screws and other fasteners.



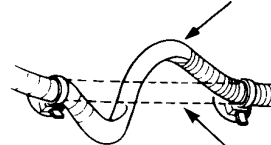
**No Good**

**No Good**



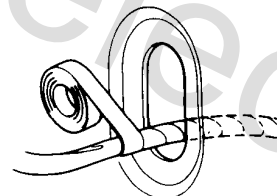
- Route harnesses so they are not pulled taut or slackened excessively.

**No Good**



**Good**

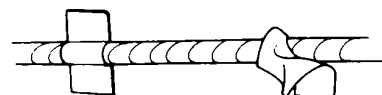
- Protect wires and harnesses with a tape or a tube if they are in contact with a sharp edge or corner.



- Clean the attaching surface thoroughly if an adhesive is used. First, wipe with solvent or alcohol if necessary.

**Good**

**No Good**

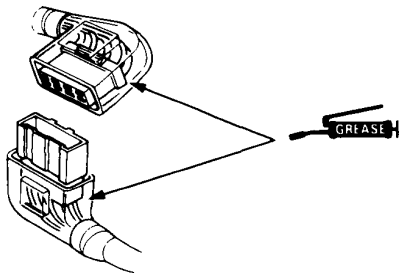


(cont'd)

# Preparation of Work

## Electrical (cont'd)

- For the connector which uses insulation grease, clean the connector then apply grease if the grease is insufficient or contaminated.



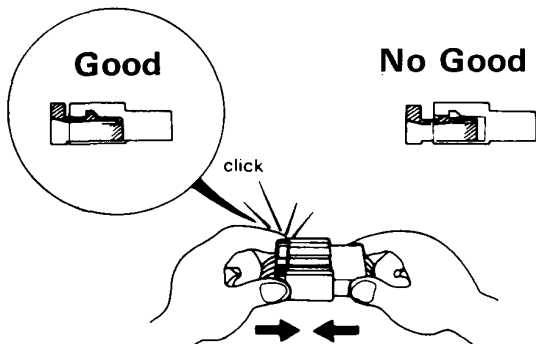
- Insert the connector tightly and make sure it is securely locked.
- Check all the wire harnesses are connected.
- There are two types of locking tab: one that you have to push and the other you should not touch when connecting the connector. Check the shape of the locking tab before connecting.
- The locking tab having a taper end should not be touched when connecting.



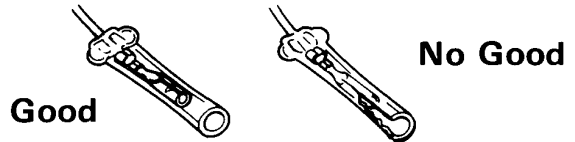
- The locking tab with an angle end should be pushed when connecting.



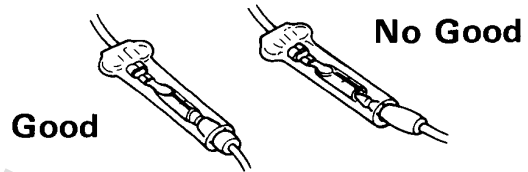
- Insert connectors fully until they will no longer go.
- The connectors must be aligned and engaged securely.
- Do not use wire harnesses with a loose wire or connector.



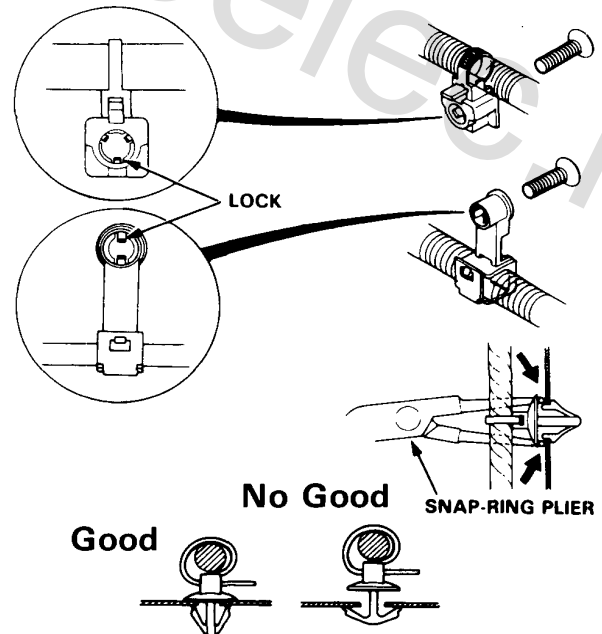
- Before connecting, check each connector cover for damage. Also make sure that the female connector is tight and not loosened from the previous use.



- Insert male connectors into the female connectors fully until they will no longer go.
- Be sure that plastic cover is placed over the connection.
- Position the wires so that the open end of the cover faces down.

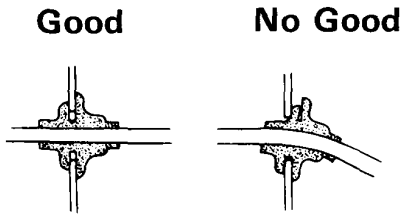


- Secure wires and wire harness to the frame with their respective wire bands at the designated locations. Position the wiring in the bands so that only the insulated surfaces contact the wires or harnesses.
- Remove with care not to damage the lock.

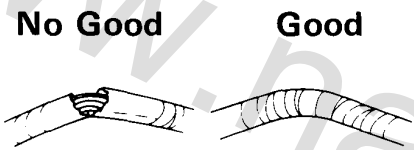




- Seat grommets in their grooves properly.



- Do not damage the insulation when connecting a wire.
- Do not use wires or harnesses with a broken insulation. Repair by wrapping with protective tape or replace with new ones if necessary.

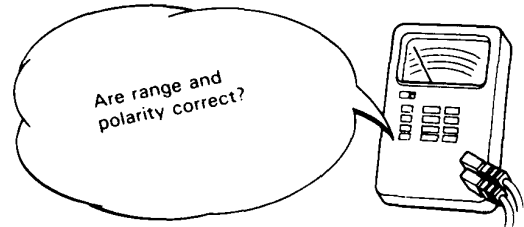


- After installing parts, make sure that wire harnesses are not pinched.

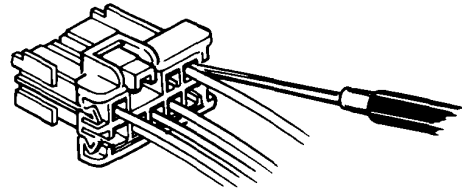


- After routing, check that the wire harnesses are not twisted or kinked.
- Wire harnesses should be routed so that they are not pulled taut, slacked excessively, pinched, or interfering with adjacent or surrounding parts in all steering positions.

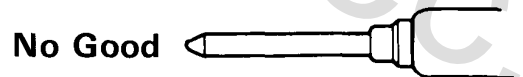
- When using the Service Tester, follow the manufacturer's instructions and those described in the Shop Manual.



- Always insert the probe of the tester from the wire harness side (except waterproof connector).



- Make sure to use the probe with a tapered tip.



- Do not drop parts.



## Symbol Marks

The following symbols stand for:



:Apply engine oil.



:Apply brake fluid.



:Apply grease.



:Apply Automatic Transmission Fluid.



: Apply Power Steering Fluid.



:Apply or check vacuum.

①, ②, ③, ..... :

①, ②, ③, ..... :

:Sequence for removal or installation.

## Abbreviation

A/C	Air Conditioner
A/T	Automatic Transmission
ATF	Automatic Transmission Fluid
B or BAT	Battery
CATA	Catalytic Converter
EACV	Electronic Air Control Valve
ECU	PGM-FI Electronic Control Unit
EGR	Exhaust Gas Recirculation
EX	Exhaust
GND	Ground
IG	Ignition
IN	Intake
INT	Intermittent
L	Left
LHD	Left Hand Drive
M/T	Manual Transmission
PCV	Positive Crankcase Ventilation
PGM-FI	Programmed Fuel-Injection
P/S	Power Steering
R	Right
RHD	Right Hand Drive
SW	Switch
SOL. V	Solenoid Valve
TDC	Top Dead Center

P	Parking
R	Reverse
N	Neutral
D <sub>4</sub>	Drive Position (1st-4th)
D <sub>3</sub>	Drive Position (1st-3rd)
2	Fixed 2nd speed
1	Fixed 1st speed
S	S Mode (D <sub>4</sub> or D <sub>3</sub> )

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# Special Tools

## 5. Engine

Number	Tool Number	Description	Qty	Remarks
①	07GAF—PH60300	Piston Pin Base Insert	1	07973-PE00400 may also be used
②	07GAF—PH70100	Pilot Collar	1	
③	07HAD—PJ70200	Valve Guide Seal Installer	1	
④	07HAF—PL20102	Piston Base Head	1	
⑤	07HAH—PJ70100	Valve Guide Reamer 5.5 mm	1	
⑥	07JAB—0010000	Crank Pulley Holder Set	(1)	
⑥-1	07JAA—0010200	Socket Wrench 19 mm	1	
⑥-2	07JAB—0010200	Handle	1	
⑦	07JAB—0010400	Pulley Holder Attachment HEX 50 mm	1	
⑧	07JAZ—SH20100	R.P.M. Connecting Adaptor	1	
⑨	07JGG—0010100	Belt Tension Gauge	1	
⑩	07KAK—SJ40101 or 07KAK—SJ40100	Engine Tilt Hanger Set	1	
⑪	07LAB—PV00100 or 07924—PD20003 or 07924—PD20002	Ring Gear Holder	1	
⑫	07LAF—PT20100	Bearing Replacement Tool Set	1	
⑬	07LAG—PT20100	Balancer Shaft Lock Pin	1	
⑭	07LAZ—PT30100	R.P.M. Connecting Adaptor	1	
⑮	07LAZ—PT30110	R.P.M. Connecting Adaptor (A)	1	Component Tools
⑯	07LAZ—PT30120	R.P.M. Connecting Adaptor (B)	1	
⑰	07406—0030000	Oil Pressure Gauge Adaptor	1	
⑱	07742—0010100	Valve Guide Remover 5.5 mm	1	
⑲	07746—0010300	Driver Attachment 42 x 47 mm	1	for Crankshaft
⑳	07746—0010400	Driver Attachment 52 x 55 mm	1	for Balancer Shaft
㉑	07749—0010000	Driver	1	
㉒	07757—0010000	Valve Spring Compressor	1	
㉓	07912—6110001	Oil Filter Socket	1	
㉔	07942—8920000	Valve Guide Driver 5.5 mm	1	
㉕	07948—SB00101	Driver Attachment	1	
㉖	07973—PE00310	Piston Pin Driver Shaft	1	Set No. 07973—PE00302
㉗	07973—PE00320	Piston Pin Driver Head	1	
㉘	07973—6570500	Piston Base	1	
㉙	07973—6570600	Piston Base Spring	1	

## 6. Fuel and Emissions

Number	Tool Number	Description	Qty	Remarks
①	07JAZ—SH20100	R.P.M. Connecting Adaptor	1	
②	07LAA—PT50101 or 07LAA—PT50100	O <sub>2</sub> Sensor Socket Wrench	1	
③	07LAJ—PT30100 or 07LAJ—PT3010A	ECU Test Harness	1	
④	07LAJ—PT30200	Test Harness	1	
⑤	07LAZ—PT30100	R.P.M. Connecting Adaptor	1	
⑤-1	07LAZ—PT30110	R.P.M. Connecting Adaptor (A)	(1)	Component Tools
⑤-2	07LAZ—PT30120	R.P.M. Connecting Adaptor (B)	(1)	
⑥	07406—0040001	Fuel Pressure Gauge Set	1	
⑥-1	07406—0040100	Pressure Gauge	(1)	Component Tools
⑥-2	07406—0040201	Hose Assembly	(1)	
⑦	07411—0020000	Digital Circuit Tester	1	
⑧	07614—0050100	Fuel Line Clamp	1	

## 7. Clutch

Number	Tool Number	Description	Qty	Remarks
①	07LAB—PV00100 or 07924—PD20003 or 07924—PD20002	Ring Gear Holder	1	
②	07JAF—PM7011A	Clutch Alignment Disc	1	
③	07LAF—PT00110	Clutch Alignment Shaft	1	
④	07936—3710100	Handle	1	



## 8. Manual Transmission

Number	Tool Number	Description	Qty	Remarks
①	07GAJ—PG20102	Mainshaft Inspection Tool Set	1	
①-1	07GAJ—PG20110	Mainshaft Holder	(1)	— Component Tools
①-2	07GAJ—PG20130	Mainshaft Base	(1)	
②	07HAJ—PK40201	Preload Inspection Tool	1	
③	07JAC—PH80000	Adjusting Bearing Remover Set	1	
③-1	07JAC—PH80100	Bearing Remover Attachment	(1)	— Component Tools
③-2	07JAC—PH80200	Bearing Remover Handle	(1)	
③-3	07741—0010201	Bearing Remover Weight	(1)	
④	07JAD—PH80400	Pilot Driver 28 mm	1	
⑤	07JAD—SH30100	Oil Seal Driver	1	
⑥	07744—0010400	Pin Driver 5.0 mm	1	07944—6110100 may also be used
⑦	07746—0010300	Attachment 42 x 47 mm	1	
⑧	07746—0010400	Attachment 52 x 55 mm	1	
⑨	07746—0010500	Attachment 62 x 68 mm	1	
⑩	07746—0010600	Attachment 72 x 75 mm	1	
⑪	07746—0030100	Driver	1	
⑫	07746—0030200	Inner Driver 25 mm	1	
⑬	07749—0010000	Driver	1	
⑭	07944—SA00000	Pin Driver 4.0 mm	1	
⑮	07947—6110501	Oil Seal Driver	1	
⑯	07979—PJ40001	Magnet Stand Base	1	

## 9. Automatic Transmission

Number	Tool Number	Description	Qty	Remarks
①	07GAB—PF50101 or 07GAB—PF50100	Mainshaft Holder	1	
②	07GAD—PG20100	Pin Driver 5.0 mm	1	
③	07GAE—PG40002	Clutch Spring Compressor Set	1	
③-1	07HAE—PL50100	Clutch Spring Compressor Attachment	(1)	— Component Tools
③-2	07GAE—PG40200	Clutch Spring Compressor Bolt Assembly	(1)	
③-3	07960—6120101	Clutch Spring Compressor Attachment	(1)	
④	07HAC—PK40101	Housing Puller	1	
④-1	07HAC—PK40110	Puller Base, Replacement	(1)	May also be used when combined with 07HAC—PK40101 or 07HAC—PK40100
⑤	07HAF—PK40100	Gear Installer	1	
⑥	07HAJ—PK40201 or 07GAJ—PG20200	Preload Inspection Tool	1	
⑦	07JAC—PH80000	Adjusting Bearing Remover Set	1	
⑦-1	07JAC—PH80100	Bearing Remover Attachment	(1)	— Component Tools
⑦-2	07JAC—PH80200	Bearing Handle Assembly	(1)	
⑦-3	07741—0010201	Remover Weight	(1)	
⑧	07JAD—PH80101	Driver Attachment	1	
⑨	07JAD—PH80400	Pilot Driver 28 x 30 mm	1	
⑩	07JAD—PN00100	Driver Attachment	1	
⑪	07LAE—PX40100	Clutch Spring Compressor Attachment	1	
⑫	07LAJ—PT30100 or 07LAJ—PT3010A	ECU Test Harness	1	
⑬	07NAD—PX40100	Attachment, 78 x 80 mm	1	
⑭	07406—0020003	Oil Pressure Gauge	1	
⑮	07406—0020201	Oil Pressure Gauge Hose	1	
⑯	07406—0070000	Low Pressure Gauge	1	
⑰	07746—0010400	Attachment 52 x 55 mm	1	
⑱	07746—0010500	Attachment 62 x 68 mm	1	
⑲	07746—0010600	Attachment 72 x 75 mm	1	
⑳	07746—0030100	Driver 40 mm I.D.	1	
㉑	07749—0010000	Driver	1	
㉒	07947—6340500	Driver Attachment E	1	

# Special Tools

## 10. Driveshafts

Number	Tool Number	Description	Qty	Remarks
①	07GAD—PG40100	Seal Driver Attachment	1	
②	07GAF—SD40700	Hub Dis/Assembly Base	2	
③	07LAD—SM40100	Seal Driver Attachment	1	
④	07LAF—SM40300	Support Base Attachment	1	
⑤	07746—0010200	Attachment, 37 x 40 mm	1	
⑥	07746—0010300	Attachment, 42 x 47 mm	1	
⑦	07746—0030100	Driver, 40 mm I.D.	1	
⑧	07749—0010000	Driver	1	
⑨	07947—SD90101	Seal Driver Attachment	1	
⑩	07965—SD90100	Support Base	1	

## 11. Steering

Number	Tool Number	Description	Qty	Remarks
①	07GAG—SD40300	Cylinder End Seal Slider	1	
②	07HAG—SF10100	Piston Seal Ring Guide	1	
③	07HAG—SF10200	Piston Seal Ring Sizing Tool	1	
④	07GAG—SD40400	Piston Seal Ring Guide	1	
⑤	07JGG—0010100	Belt Tension Gauge	1	
⑥-1	07LAK—SM40110	P/S Joint Adaptor (Pump)	1	□ Set No. 07LAK—SM40100
⑥-2	07LAK—SM40120	P/S Joint Adaptor (Hose)	1	
⑦	07MAC—SL00200	Ball Joint Remover, 28 mm	1	
⑧	07406—0010001	P/S Pressure Gauge Set	1	
⑧-1	07406—0010300	Pressure Control Valve	1	
⑧-2	07406—0010400	Pressure Gauge	1	
⑨	07406—0010101	Bypass Tube Joint (included with 07406—0010001)	1	
⑩	07725—0030000	Universal Holder	1	
⑪	07746—0010300	Attachment 42 x 47 mm	1	
⑫	07749—0010000	Driver	1	
⑬	07MAA—SL00100 or 07916—SA50001	Locknut Wrench 40 mm	1	
⑭	07947—6340300	Driver Attachment	1	
⑮	07974—SA50600	Pinion Seal Guide	1	

## 12. Suspension

Number	Tool Number	Description	Qty	Remarks
①	07GAE—SE00101	Spring Compressor	1	
②	07GAF—SD40100	Hub Assembly Pin	1	
③	07GAG—SD40700	Ball Joint Clip Installation Guide	1	
④	07HAF—SF10100	Ball Joint Dis/Assembly Tool Set	1	
④-1	07HAF—SF10110	Ball Joint Remover Base	1	
④-2	07HAF—SF10120	Ball Joint Installer Base	1	
④-3	07HAF—SF10130	Ball Joint Remover/Installer	1	
⑤	07MAC—SL00200	Ball Joint Remover, 28 mm	1	
⑥	07MGK—0010100 or 07HGK—0010200	Wheel Alignment Gauge Attachment	1	
⑦	07749—0010000	Driver	1	
⑧	07965—6340301	Hub Dis/Assembly Base	2	
⑨	07965—6920201	Hub Dis/Assembly Base	1	





### 13. Brakes

Number	Tool Number	Description	Qty	Remarks
①	07JAG—SD40100 or 07GAG—SE00100	Pushrod Adjustment Gauge	1	
②	07HAA—SG00101 or 07HAA—SG00100	Bleeder T-Wrench	1	
③	07HAE—SG00100	Brake Spring Compressor	1	
④	07HAJ—SG00602 or 07HAJ—SG00601 or 07508—SB00000 and 07HAJ—SG00400	ALB Checker ALB Checker ALB Checker Adaptor	1 1 1 1	
⑤	07HAK—SG00110	Pressure Gauge Joint Pipe	1	
⑥	07LAF—SM40200	Brake Spring Installer	1	
⑦	07404—5790300	Pressure Gauge Attachment	1	
⑧	07406—5790200	Pressure Gauges	2	
⑨	07410—5790100	Pressure Gauge Attachment	2	
⑩	07410—5790500	Tube Joint Adaptor	1	
⑪	07510—6340101	Pressure Gauge Joint Pipe	1	
⑫	07510—6340300	Vacuum Joint Tube A	1	
⑬	07914—SA50000	Snap Ring Pliers	1	
⑭	07921—0010001	Flare Nut Wrench	1	
⑮	07973—SA50000	Rear Caliper Guide	1	

### 14. Body

Number	Tool Number	Description	Qty	Remarks
①	07GAZ—SE30100	Torsion Bar Assembly Tool	1	

### 15. Heater and Air Conditioner

Number	Tool Number	Description	Qty	Remarks
①	07JGG—0010100	Belt Tension Gauge	1	
②	07LAJ—PT30100	ECU Test Harness	1	
③	07NAB—HAC0100 or 07LAB—SK70100	A/C Clutch Holder	1	

### 16. Electrical

Number	Tool Number	Description	Qty	Remarks
①	07GAC—SE00200	Fuel Sender Wrench	1	
②	07JGG—0010100	Belt Tension Gauge	1	
③	07HAZ—SG00500	Deployment Tool	1	
④	07LAZ—SL40300	SRS Test Harness C	1	
⑤	07LAZ—SL40400	SRS Test Harness D	1	
⑥	07MAZ—SL00500	SRS Test Harness A	1	
⑦	07MAZ—SP00500	SRS Test Harness B	1	

**Standards and Services Limits**  
**Design Specifications**  
**Body Specifications**

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# Standards and Service Limits

## 5. Engine/Cylinder Head, Valve Train

		MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT	
Compression		250 min <sup>-1</sup> (rpm) and wide-open throttle	Nominal Minimum Maximum variation	1226 kPa (12.5 kg/cm <sup>2</sup> , 178 psi) 931 kPa (9.5 kg/cm <sup>2</sup> , 135 psi) 196 kPa (2 kg/cm <sup>2</sup> , 28 psi)	
Cylinder head		Warpage Height	99.95-100.05 (3.935-3.938)	0.05 (0.002)	
Camshaft		End play	0.05-0.15 (0.002-0.006)	0.50 (0.020)	
		Oil clearance	0.05-0.089 (0.002-0.0035)	0.150 (0.006)	
		Runout	0.015 (0.0006)	0.030 (0.001)	
		Cam lobe height	IN 38.741 (1.5252) EX 38.972 (1.5343)	— —	
Valve		Valve clearance	IN 0.23-0.28(0.0094-0.0110) EX 0.27-0.32(0.0110-0.1259)	— —	
		Valve stem O. D.	IN 5.485-5.495 (0.2159-0.2163) EX 5.450-5.460 (0.2145-0.2149)	5.455 (0.2148) 5.420 (0.2133)	
		Stem-to-guide clearance	IN 0.020-0.045 (0.0007-0.0017) EX 0.055-0.080 (0.0021-0.0031)	0.075 (0.0029) 0.12 (0.0047)	
		Valve seat	Width Valve stem installed height	IN and EX 1.25-1.55 (0.049-0.061) IN 48.245-48.715 (1.8994-1.9179) EX 50.315-50.785 (1.9809-1.994)	2.00 (0.0787) — —
Valve spring		Free length	IN (NH) 53.15 (2.0925) (CH) 53.16 (2.0929) EX (NH) 55.78 (2.196) (CH) 55.80 (2.1968)	— — — —	
		Valve guide	I. D. Valve guide installed height	IN and EX 5.515-5.530 (0.2171-0.2177) IN 23.75-24.25 (0.9148-0.9547) EX 15.05-15.55 (0.5925-0.6122)	5.53 (0.2177) — —
		Rocker arm	Arm-to-shaft clearance	IN 0.017-0.050 (0.0007-0.0020) EX 0.018-0.054 (0.0007-0.0021)	0.080 (0.0031) 0.080 (0.0031)

NH: NIHON HATSUJO manufacture  
CH: CHUO HATSUJO manufacture

## 5. Engine/Engine Block

		MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Cylinder block		Warpage of deck surface Bore diameter Bore taper Reboring limit	0.07 (0.003) max. 85.00-85.02 (3.3464-3.3472) — —	0.10 (0.004) 85.07 (3.3492) 0.05 (0.002) 0.5 (0.02)
Piston		Skirt O. D. (At 21 mm (0.83 in) from bottom of skirt) Clearance in cylinder	No Mark B 84.98-84.99 (3.3456-3.4605) 84.97-84.98 (3.3452-3.3456) 0.02-0.04 (0.0008-0.0016)	84.97 (3.3452) 84.96 (3.3448) 0.05 (0.0020)
Piston ring		Piston-to-ring clearance	Top 0.035-0.060 (0.0014-0.0024) Second 0.030-0.055 (0.0011-0.0022)	0.130 (0.0051) 0.130 (0.0051)
		Ring end gap	Top 0.20-0.35 (0.0079-0.0138) Second 0.40-0.55 (0.0157-0.0217) Oil 0.20-0.70 (0.0079-0.0276)	0.60 (0.0236) 0.70 (0.0276) 0.80 (0.0315)
		Connecting rod	Pin-to rod interference Small end bore diameter Large end bore diameter End play installed on crankshaft	0.013-0.032 (0.0005-0.0013) 21.968-21.981 (0.8649-0.8654) Nominal 48 (1.890) 0.15-0.30 (0.006-0.012)
Crankshaft		Main journal diameter	No. 1, 2 Journals 49.976-50.000 (1.9676-1.9685) No. 3 Journal 49.972-49.996 (1.9674-1.9683) No. 4 Journal 49.984-50.008 (1.9679-1.9688) No. 5 Journal 49.988-50.012 (1.9680-1.9690)	— — — —
		Taper/out-of-round, main journal	0.005 (0.0002) max.	0.010 (0.0004)
		Rod journal diameter	44.976-45.000 (1.7710-1.7717)	—
		Taper/out-of-round, rod journal	0.005 (0.0002) max.	0.010 (0.0004)
		End play Runout	0.10-0.35 (0.004-0.014) 0.015 max (0.0006)	0.45 (0.018) 0.020 (0.0008)
Bearings		Main bearing-to journal oil clearance	No. 1, 2 Journals 0.021-0.045 (0.0009-0.0018) No. 3 Journal 0.025-0.049 (0.0001-0.0019) No. 4 Journal 0.013-0.037 (0.0005-0.0015) No. 5 Journal 0.009-0.033 (0.0004-0.0013)	0.05 (0.002) 0.054 (0.0021) 0.05 (0.002) 0.05 (0.002)
		Rod bearing-to journal oil clearance	0.015-0.043 (0.0008-0.0019)	0.05 (0.002)

### 5. Engine/Engine Block (cont'd)

		MEASUREMENT		STANDARD (NEW)		SERVICE LIMIT		
Balancer Shaft	Journal diameter	No. 1 journal (Front)	(Rear)	42.722-42.734 (1.6820-1.6824)		---		
		No. 2 journal		20.938-20.950 (0.8243-0.8248)		---		
		No. 3 journal		38.712-38.724 (1.5241-1.5246)		---		
	Journal taper				34.722-34.734 (1.3670-1.3674)		---	
		End play	(Front)	(Rear)	0.005 (0.0002)		---	
	Runout				0.100-0.350 (0.0040-0.0138)		---	
		Oil Clearance			0.060-0.180 (0.0024-0.0070)		---	
Balancer Shaft Bearing	I.D	No. 1 journal (Front)	(Rear)	0.020 (0.0008)		---		
		No. 1 journal (Rear)		0.050-0.075 (0.0020-0.0030)		---		
		No. 1(Front), 3 journal		0.066-0.118 (0.0026-0.0046)		---		
		No. 2, journal		0.076-0.128 (0.0030-0.0050)		---		
		No. 3 journal		42.800-42.820 (1.6850-1.6858)		---		
				21.000-21.013 (0.8268-0.8273)		---		
				38.800-38.820 (1.5276-1.5283)		---		
				34.800-34.820 (1.3701-1.3710)		---		

### 5. Engine/Engine Lubrication

		MEASUREMENT		STANDARD (NEW)		SERVICE LIMIT	
Engine oil	Capacity (US. qt., Imp. qt.)			4.9 (5.2, 4.3) After engine disassembly 3.8 (4.0, 3.3) After oil change, including oil filter 3.5 (3.7, 3.1) After oil change, without oil filter			
Oil pump	Displacement			43.9 l (11.6 US. gal., 9.7 Imp. gal.)/6,000 min <sup>-1</sup> (rpm)			
	Inner-to-outer rotor radial clearance			0.02-0.16 (0.0008-0.0063)		0.2 (0.008)	
	Pump body-to-rotor radial clearance			0.10-0.19 (0.0040-0.0075)		0.21 (0.0083)	
	Pump body-to-rotor side clearance			0.02-0.07 (0.001-0.003)		0.12 (0.005)	
Relief valve	Pressure setting 80°C (176°F)	Idle		69 kPa (0.7 kg/cm <sup>2</sup> , 10 psi) min.			
		3,000 min <sup>-1</sup> (rpm)		3431 kPa (3.5 kg/cm <sup>2</sup> , 50 psi)			

### 5. Engine/Cooling

		MEASUREMENT		STANDARD (NEW)		SERVICE LIMIT	
Thermostat	Starts to open Full open Valve lift at full open			78°C ± 2 (172°F ± 3) 90°C (194°F) 8 (0.31) max.		86-90°C (187-194°F)	
Water pump	Displacement			160 l (42.2 US gal, 35.2 Imp gal)/6,000 min <sup>-1</sup> (rpm)			
Radiator	Capacity (incl. heater) l (US. qt., Imp. qt) (Includes reservoir tank 0.6 (0.63, 0.53) after overhaul at change pressure cap opening pressure			MT: 6.6 (6.97, 5.81) AT: 7.1 (7.50, 6.23) MT: 3.0 (3.17, 2.64) AT: 3.5 (3.70, 3.08) 93-123 kpa (0.95-1.25 kg/cm <sup>2</sup> , 13.5-17.8 psi)			
Cooling fan	"ON" temperature			87°-93°C (189°-199°F)			
	"OFF" temperature			80°-91°C (176°-196°F)			
	"ON" temperature (Fan timer)			105°-111°C (221°-231°F)			
	"OF" temperature (Fan timer)			98°-109°C (208°-228°F)			

# Standards and Service Limits

## 6. Fuel and Emissions

	MEASUREMENT	STANDARD (NEW)
Fuel Pump	Displacement (minimum in 10 seconds) Relief valve opening pressure	230 cc (7.8 US oz., 8.1 Imp oz.) 441–588 kPa (4.5–6.0 kg/cm <sup>2</sup> , 64–85 psi)
Pressure Regulator (PGM-FI)	Pressure with regulator vacuum hose disconnected	275–324 kPa (2.80–3.30 kg/cm <sup>2</sup> , 40–47 psi)
Fuel Tank	Capacity	65 ℓ (17.2 US gal., 14.3 Imp gal.)
Engine	Fast idle	1,400 ± 400 min <sup>-1</sup> (rpm)
	Idle speed (with headlights and cooling fan OFF)	MT 770 ± 50 min <sup>-1</sup> (rpm)
		AT 770 ± 50 min <sup>-1</sup> (rpm) in [P] or [N] positions
	Idle CO	0.1% maximum

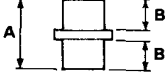
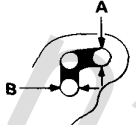
## 7. Clutch

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Clutch pedal	Pedal height	RHD	210 (8.3) to floor	—
		LHD	184 (7.2) to floor	—
	Stroke		142 (5.6)	—
	Pedal play		9–15 (0.4–0.6)	—
	Disengagement height		90 (3.5) min. to floor 80 (3.1) min. to carpet	—
Flywheel	Clutch surface runout		0.05 (0.002) max.	0.15 (0.006)
Clutch disc	Rivet head depth		1.3 (0.05) min.	0.2 (0.008)
	Surface runout		0.8 (0.03) max.	1.0 (0.04)
	Thickness		8.5–9.2 (0.33–0.36)	6.1 (0.24)
Clutch cover	Unevenness of diaphragm spring		0.6 (0.02) max.	0.8 (0.03)

## 8. Manual Transmission

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (U.S. qt., Imp. qt.)	1.9 (2.0, 1.7) at assembly 2.0 (2.1, 1.8) at oil change	
Mainshaft	End play	0.10–0.16 (0.0039–0.0063)	Adjust with a shim.
	Diameter of ball bearing contact area	27.977–27.990 (1.1015–1.1020)	27.940 (1.1000)
	Diameter of third gear contact area	37.984–38.000 (1.4954–1.4961)	37.930 (1.4933)
	Diameter of ball bearing contact area Runout	27.987–28.000 (1.1018–1.1024) 0.02 (0.0008) max.	27.940 (1.1000) 0.05 (0.002)
Mainshaft third and fourth gears	I.D.	43.009–43.025 (1.6933–1.6939)	43.080 (1.6961)
	End play	0.06–0.21 (0.0024–0.0083)	0.30 (0.012)
	Thickness 3rd gear 4th gear	32.42–32.47 (1.276–1.278) 30.92–30.97 (1.217–1.219)	32.3 (1.27) 30.8 (1.21)
Mainshaft fifth gear	I.D.	43.009–43.025 (1.6933–1.6939)	43.080 (1.6961)
	End play	0.06–0.21 (0.0024–0.0083)	0.30 (0.012)
	Thickness	30.92–30.97 (1.217–1.219)	3.08 (0.12)
Countershaft	End play	0.05–0.40 (0.0019–0.0157)	0.50 (0.02)
	Diameter of needle bearing contact area	38.000–38.015 (1.4961–1.4967)	37.95 (1.4941)
	Diameter of ball bearing needle bearing contact area	24.987–25.000 (0.9837–0.9845)	24.94 (0.982)
	Diameter of low gear contact area Runout	39.984–40.000 (1.5742–1.5748) 0.02 (0.0008) max.	39.93 (1.572) 0.05 (0002)

## 8. Manual Transmission (cont'd)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Countershaft low gear	I.D. End play	46.009–46.025 (1.8114–1.8120) 0.04–0.10 (0.002–0.004)	46.08 (1.814) Adjust with a washer.
Countershaft second gear	I.D. End play Thickness	47.009–47.025 (1.8507–1.8514) 0.04–0.10 (0.002–0.004) 34.62–34.67 (1.3630–1.3650)	47.08 (1.8535) Adjust with a collar. 33.5 (1.3186)
Spacer collar (Countershaft second gear)	I.D. O.D. Length	36.48–36.49 (1.4362–1.4366) 41.989–42.000 (1.6531–1.6535) 29.02–29.04 (1.1425–1.1433) 29.07–29.09 (1.1445–1.1453)	36.50 (1.437) 41.94 (1.651) — —
Spacer collar (Mainshaft fourth and fifth gears)	I.D. O.D. Length	31.002–31.012 (1.2205–1.2209) 37.989–38.000 (1.4956–1.4961) 56.45–56.55 (2.222–2.226) 26.03–26.08 (1.0248–1.0268)	31.06 (1.223) 37.94 (1.494) — 26.01 (1.024)
			
Reverse idler gear	I.D. Gear-to-reverse gear shaft clearance	20.016–20.043 (0.7880–0.7891) 0.036–0.084 (0.0014–0.0033)	20.09 (0.7909) 0.160 (0.0006)
Synchronizer ring	Ring-to-gear clearance (ring pushed against gear)	0.85–1.10 (0.0335–0.0433)	0.40 (0.016)
Shift fork	Synchronizer sleeve groove width Fork-to-synchronizer sleeve clearance	6.75–6.85 (0.266–0.270) 0.35–0.65 (0.014–0.026)	— 1.0 (0.039)
Reverse shift fork	Pawl groove width Fork-to-reverse idle gear clearance Groove width Fork-to-fifth/reverse shift Shaft clearance	13.0–13.3 (0.51–0.52) 0.5–1.1 (0.02–0.43) 7.05–7.25 (0.278–0.2854) 7.4–7.7 (0.29–0.30) 0.05–0.35 (0.002–0.014) 0.4–0.8 (0.02–0.03)	— 1.8 (0.07) — — 0.5 (0.02) 1.0 (0.04)
			
Shift arm	I.D. Shift arm-to-shaft clearance Shift fork diameter at contact area Shift-arm-to-shift fork shaft clearance	15.973–16.000 (0.6289–0.6299) 0.005–0.059 (0.0002–0.0023) 12.9–13.0 (0.508–0.512) 0.2–0.5 (0.01–0.02)	— — — 0.6 (0.02)
Select lever	Pin size of contact area Shaft outer diameter Shift arm cover clearance	7.9–8.0 (0.311–0.315) 15.41–15.68 (0.607–0.617) 0.032–0.102 (0.0013–0.0040)	— — —
Shift arm lever	O.D. Transmission housing clearance	15.941–15.968 (0.6276–0.6287) 0.027–0.139 (0.0011–0.0055)	— —
Inter lock	Bore diameter Shift arm lever clearance	16.00–16.05 (0.630–0.632) 0.032–0.109 (0.0013–0.0043)	— —
Ring gear	Backlash	0.085–0.142 (0.0033–0.0056)	0.200 (0.0079)
Differential carrier	Pinion shaft bore diameter Carrier-to-pinion shaft clearance Driveshaft bore diameter Carrier-to-driveshaft clearance	18.000–18.018 (0.7087–0.7094) 0.017–0.047 (0.0007–0.0019) 28.005–28.025 (1.1026–1.1033) 0.025–0.066 (0.0009–0.0026) 0.055–0.091 (0.0022–0.0036)	— 0.100 (0.0039) — 0.120 0.150
		R L	
Differential pinion gear	Backlash Pinion gear bore diameter Pinion gear-to-pinion shaft clearance	0.05–0.15 (0.002–0.006) 18.042–18.066 (0.7103–0.7113) 0.059–0.095 (0.0023–0.0037)	Selection with 7 types of washers. — 0.150 (0.0059)
Differential taper roller bearing	Preload	1.4–2.6 N·m (14–26 kg·cm, 1.0–1.9 lb·ft)	Selection with 20 types of shims.

# Standards and Service Limits

## 9. Automatic Transmission

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT	
Transmission oil	Capacity ℓ (U.S. qt., Imp. qt.)	2.4 (2.5, 2.1) at oil change 6.0 (6.4, 5.2) at assembly		
Hydraulic pressure	Line pressure at 2,000 min <sup>-1</sup> (rpm)	784 kPa (8.0 kg/cm <sup>2</sup> , 113 psi) Throttle valve full-closed  833 kPa (8.5 kg/cm <sup>2</sup> , 120 psi) Throttle valve more than 2/8 open	735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi) Throttle valve more than 2/8 open	
	4th clutch pressure at 2,000 min <sup>-1</sup> (rpm)	520 kPa (5.3 kg/cm <sup>2</sup> , 75 psi) Throttle valve full-closed  833 kPa (8.5 kg/cm <sup>2</sup> , 120 psi) Throttle valve more than 2/8 open	460 kPa (4.7 kg/cm <sup>2</sup> , 66 psi) Throttle valve full-closed  735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi) Throttle valve more than 2/8 open	
	3rd clutch pressure at 2,000 min <sup>-1</sup> (rpm)	490 kPa (5.0 kg/cm <sup>2</sup> , 71 psi) Throttle valve full-closed  833 kPa (8.5 kg/cm <sup>2</sup> , 71 psi) Throttle valve more than 2/8 open	441 kPa (4.5 kg/cm <sup>2</sup> , 64 psi) Throttle valve full-closed  735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi) Throttle valve more than 2/8 open	
	2nd clutch pressure at 2,000 min <sup>-1</sup> (rpm)	490 kPa (5.0 kg/cm <sup>2</sup> , 71 psi) Throttle valve full-closed  833 kPa (8.5 kg/cm <sup>2</sup> , 120 psi) Throttle valve more than 2/8 open	441 kPa (4.5 kg/cm <sup>2</sup> , 64 psi) Throttle valve full-closed  735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi) Throttle valve more than 2/8 open	
	1st clutch pressure at 2,000 min <sup>-1</sup> (rpm)	784–833 kPa (8.0–8.5 kg/cm <sup>2</sup> , 113–120 psi)	735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi)	
	Throttle pressure B		closed 0	—
			open 784–833 kPa (8.0–8.5 kg/cm <sup>2</sup> , 113–120 psi)	735 kPa (7.5 kg/cm <sup>2</sup> , 106 psi)
Stall speed	Check with car on level ground	2,350–2,650 min <sup>-1</sup> (rpm)		
Clutch	Clutch initial clearance	1st hold 0.8–1.0 (0.031–0.039)	—	
		1st, 2nd 0.65–0.85 (0.026–0.033)	—	
		3rd, 4th 0.4–0.6 (0.016–0.024)	—	
	Clutch return spring free length	1st, 2nd, 3rd, 4th, 33.5 (1.318)	31.5 (1.240)	
	Clutch disc thickness	1.88–2.0 (0.074–0.079)	Until grooves worn out	
	Clutch plate thickness	1st, 1.95–2.05 (0.0767–0.0807)	Discoloration	
		2nd, 2.55–2.65 (0.1003–0.1043)		
3rd, 4th, 2.25–2.35 (0.0885–0.0925)				
Clutch end plate thickness	Mark 1 2.05–2.10 (0.081–0.083)	Discoloration		
	Mark 2 2.15–2.20 (0.085–0.087)			
	Mark 3 2.25–2.30 (0.089–0.091)			
	Mark 4 2.35–2.40 (0.093–0.094)			
	Mark 5 2.45–2.50 (0.096–0.098)			
	Mark 6 2.55–2.60 (0.100–0.102)			
	Mark 7 2.65–2.70 (0.104–0.106)			
	Mark 8 2.75–2.80 (0.108–0.110)			
	Mark 9 2.85–2.90 (0.112–0.114)			

### 9. Automatic Transmission (cont'd)

		MEASUREMENT	STANDARD (NEW)		SERVICE LIMIT				
Valve body		Stator camshaft needle bearing contact area I.D. (torque converter side) Stator camshaft needle bearing contact area I.D. (oil pump side) Oil pump driven gear I.D. Oil pump gear shaft O.D. Oil pump gear side clearance Oil pump gear-to-body clearance	27.000—27.021 (1.0630—1.0638)		Wear or damage				
			Drive	29.000—29.013 (1.1417—1.1422)		—			
			14.016—14.034 (0.5518—0.5525)		Wear or damage				
			13.980—13.990 (0.5504—0.5508)		Wear or damage				
			0.03—0.05 (0.0012—0.0020)		0.07 (0.0028)				
		Drive	0.21—0.265 (0.0083—0.0104)		—				
		Driven	0.07—0.125 (0.0027—0.0049)		—				
Regulator valve body		Sealing ring contact area diameter	35.000—35.025 (1.3780—1.3789)		35.050 (1.3799)				
Accumulator body		Sealing ring contact area diameter	32.000—32.025 (1.2598—1.2608)		32.05 (1.2618)				
Stator camshaft		Sealing ring contact area diameter	29.000—29.013 (1.1417—1.1422)		29.05 (1.1436)				
Shifting device and parking brake control		Reverse shift fork thickness	5.90—6.00 (0.232—0.236)		5.40 (0.213)				
		Parking brake ratchet pawl	—		Wear or other defect				
		Parking gear Throttle cam stopper	17.0—17.1 (0.6692—0.6732)		Wear or other defect				
Servo body		Shift fork Shaft I.D.	A	14.000—14.005 (0.5512—0.5514)		—			
			B	14.006—14.010 (0.5514—0.5516)		—			
			C	14.011—14.015 (0.5516—0.5518)		—			
		Shift fork shaft valve bore I.D.	37.000—37.039 (1.4567—1.4582)		37.045 (1.4585)				
Transmission		Diameter of needle bearing contact area	22.984—23.000 (0.9047—0.9055)		Wear or damage				
		On mainshaft and stator shaft	31.984—32.000 (1.2592—1.2598)		↑				
		On mainshaft 4th gear collar	45.984—46.000 (1.8103—1.8110)		↑				
		On countershaft 1st gear collar	40.984—41.000 (1.6135—1.6142)		↑				
		On countershaft 4th gear	31.975—31.991 (1.2589—1.2595)		↑				
		On countershaft reverse gear	35.979—36.000 (1.4165—1.4173)		↑				
		On countershaft parking gear	39.984—40.000 (1.5741—1.5748)		↑				
		On secondary shaft 1st gear	31.975—31.991 (1.2588—1.2594)		↑				
		On secondary shaft 2nd gear	31.975—31.991 (1.2588—1.2594)		↑				
		Reverse idle shaft holder I.D.	14.416—14.434 (0.5675—0.5682)		↑				
		Mainshaft 3rd gear I.D.	52.000—52.019 (2.0472—2.0479)		↑				
		4th gear I.D.	38.005—38.021 (1.4963—1.4969)		↑				
		Countershaft 1st gear I.D.	47.000—47.016 (1.8504—1.8510)		↑				
		4th gear I.D.	38.000—38.016 (1.4961—1.4967)		↑				
		reverse gear I.D.	42.000—42.016 (1.6535—1.6541)		↑				
		idle gear I.D.	48.000—48.016 (1.8897—1.8903)		↑				
		Secondary shaft 1st gear I.D.	37.000—37.016 (1.4566—1.4573)		↑				
		2nd gear I.D.	37.000—37.016 (1.4566—1.4573)		↑				
		Mainshaft 3rd gear collar length	37.000—37.016 (1.4566—1.4573)		↑				
		4th gear collar length	47.500—47.550 (1.8700—1.8720)		↑				
		Countershaft 1st gear collar length	27.500—27.550 (1.0826—1.0846)		↑				
		Secondary shaft 2nd gear thrust washer thickness	4.35—4.45 (0.1713—0.1752)		↑				
		Countershaft 1st gear thrust washer thickness	1.45—1.50 (0.0570—0.0590)		↑				
		Countershaft idler gear thrust washer thickness	3.45—3.55 (0.1358—0.1398)		↑				
		Countershaft parking gear length	25.030—25.048 (0.9854—0.9861)		Wear or damage				
		Spring			<b>WIRE DIA.</b>		<b>FREE LENGTH</b>		
					Regulator valve spring	A	1.8 (0.0709)	14.7 (0.5887)	86.5 (3.4055)
B	1.8 (0.0709)					9.6 (0.3779)	44.0 (1.7323)	12.7	
Stator reaction spring					4.5 (0.1772)	35.4 (1.3937)	30.3 (1.1929)	1.92	
Torque converter check valve spring					1.1 (0.0433)	8.4 (0.3307)	36.4 (1.4331)	12.0	
Relief valve spring					1.0 (0.0394)	8.4 (0.3307)	39.1 (1.5393)	15.1	
Cooler check valve spring					1.1 (0.0433)	8.4 (0.3307)	46.8 (1.8425)	17.0	
2nd orifice spring					0.6 (0.0236)	6.6 (0.2598)	55.8 (2.1968)	15.8	
Servo orifice spring					0.8 (0.0315)	6.6 (0.2598)	52.5 (2.0669)	33.0	
4th exhaust spring					0.9 (0.0354)	7.1 (0.2795)	60.8 (2.3936)	28.9	
1-2 shift spring					1.0 (0.0393)	8.6 (0.3386)	41.3 (1.6259)	16.9	
2-3 shift spring					0.9 (0.0354)	7.6 (0.2992)	57.0 (2.2440)	26.8	
1st accumulator spring					1.8 (0.0709)	16.3 (0.6417)	115.4 (4.5433)	18.6	
4th accumulator spring					2.9 (0.1142)	22.0 (0.8661)	90.1 (3.5472)	10.9	
2nd accumulator spring					3.5 (0.1378)	22.0 (0.8661)	77.1 (3.0354)	10.0	
3rd accumulator spring					2.8 (0.1102)	17.5 (0.6889)	94.2 (3.7086)	16.1	
L/C shift spring					0.9 (0.0354)	7.6 (0.2992)	73.7 (2.9016)	32.0	
L/C timing spring					0.8 (0.0314)	6.6 (0.2598)	51.1 (2.0118)	14.7	
Servo control spring					1.0 (0.0394)	8.1 (0.3188)	52.6 (2.0708)	22.4	
3rd kick-down spring					1.1 (0.0433)	7.6 (0.2992)	48.3 (1.9015)	23.3	
2nd kick-down spring					1.2 (0.0472)	7.1 (0.2795)	46.9 (1.8464)	20.6	
Throttle adjust spring					0.8 (0.0314)	6.2 (0.2440)	30.0 (1.1811)	8.0	
Throttle B spring					1.4 (0.0551)	8.5 (0.3346)	41.5 (1.6339)	10.5	
					1.4 (0.0551)	8.5 (0.3346)	41.5 (1.6339)	11.2	
					1.4 (0.0551)	8.5 (0.3346)	41.6 (1.6378)	12.4	
1st-hold accumulator spring					4.0 (0.1574)	25.0 (0.9842)	64.7 (2.5472)	7.3	
CPC valve spring					1.4 (0.0551)	9.4 (0.3700)	33.0 (1.2992)	10.5	
L/C control spring					0.7 (0.0276)	6.6 (0.2598)	38.0 (1.4961)	14.1	
						<b>O.D.</b>		<b>No. of COILS</b>	



# Standards and Service Limits

## 9. Automatic Transmission (cont'd)

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Rign gear	Backlash		0.085–0.142 (0.003–0.006)	0.200 (0.008)
Differential carrier	Pinion shaft bore diameter		18.000–18.018 (0.7087–0.7094)	—
	Carrier-to-pinion shaft clearance		0.017–0.047 (0.001–0.002)	0.100 (0.004)
	Driveshaft bore diameter		28.005–28.025 (1.1026–1.1033)	—
	Carrier-to driveshaft clearance		0.025–0.066 (0.001–0.003)	0.120 (0.005)
Differential pinion gear	Backlash		0.05–0.15 (0.02–0.006)	Adjust with a washer
	Pinion gear bore diameter		18.042–18.066 (0.710–0.711)	—
	Pinion gear-to pinion shaft clearance		0.059–0.095 (0.002–0.004)	0.120 (0.005)
Differential tapered roller bearing preload	For used bearing		2.5–3.7 N·m (25–37 kg-cm, 1.8–2.7 lb-ft)	Adjust with a washer
	After replacement of bearing		2.8–4.0 N·m (28–48 kg-cm, 2.0–2.9 lb-ft)	Adjust with a washer

## 11. Steering

	MEASUREMENT		STANDARD (NEW)
Steering wheel	Play		10 (0.39) maximum
Gearbox	Pinion starting torque		Below 1.0N-m (10 kg-cm, 0.72 lb-ft)
	Angle of rack guide screw loosend from locked position		20° ± 5° – 0
Pump	Pump pressure with valve closed (oil temperature: 40°C/104°F minimum) Do not run for more than 5 seconds		7,845–8,826 kPa (80–90 kg/cm², 1,138–1,280 psi) at idle
Power steering fluid	Capacity		0.5 l (0.53 US qt, 0.44 imp qt)
	Reservoir At change (approx.)		1.8 l (1.90 US qt, 1.58 imp qt)
Power steering belt	Deflection between pulleys with 98 N (10 kg, 22 lbs) force		13.0–16.0 (0.51–0.62)* 9.5–11.5 (0.37–0.45)
	Belt tension between pulleys (measured with belt tension gauge)		343–490 N (35–50 kg, 77–110 lb)* 686–882 N (70–90 kg, 154–198 lb)

\*When using a new belt, first adjust the deflection or tension to these values, then readjust the deflection or tension to the values for the used belts after running engine for five minutes.

## 12. Suspension

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Wheel alignment	Total toe		0±2 (0±0.08) IN 2±2 (0.08±0.08)	— —
	Camber		0° 00' ± 1° –0° 30' ± 1°	— —
	Caster		3° 00' ± 1°	—
	Front Wheel turning angle		39°05' ± 2° 29°30'	— —
			Inward wheel Outward wheel (reference)	— —
Wheel	Rim runout		Below 1.0 (0.04)	2.0 (0.08)
	Steel wheel	Axial	Below 1.0 (0.04)	1.5 (0.06)
		Radial	Below 0.7 (0.03)	2.0 (0.08)
	Aluminum wheel	Axial	Below 0.7 (0.03)	2.0 (0.08)
Radial		Below 0.7 (0.03)	1.5 (0.06)	
Wheel bearing	End play		0–0.05 (0–0.002)	—
			Front Rear	— —

### 13. Brakes

MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Parking brake lever	Play in stroke 200 N (20 kg, 44 lbs)	To be locked when pulled 4–8 notches	—
Foot brake pedal	Pedal height (from floor)	LHD: MT AT RHD: MT AT	— — — —
	Free play	165±0.5 (6.5±0.02) 170±0.5 (6.7±0.02) 190 (7.5) minimum 195 (7.7) minimum 1–5 (0.04–0.20)	5 (0.20)
Master cylinder	Piston-to-push rod clearance	0–0.4 (0–0.016)	—
Disc brake	Disc thickness	Front Rear	21.0 (0.83) 8.0 (0.32)
	Disc runout	Front Rear	0.10 (0.004) 0.15 (0.006)
	Disc parallelism	Front and rear	0.015 (0.0006)
	Pad thickness	Front Rear	1.6 (0.06) 1.6 (0.06)
Brake booster	Characteristics at 20 kg (44 lbs) pedal pressure		
	Vacuum		Line pressure Unit: kPa (kg/cm <sup>2</sup> /psi)
	0 mm (0 in) Hg 300 mm (11.8 in) Hg 500 mm (19.7 in) Hg		813 (8.3/118) minimum 6,076 (62/882) minimum 8,134 (83/1,180) minimum

### 15. Air Conditioner

MEASUREMENT		STANDARD (NEW)
Air conditioner system	Lubricant capacity	10 cc (0.3 US oz, 0.4 Imp oz) 25 cc (0.8 US oz, 0.9 Imp oz) 10 cc (0.3 US oz, 0.4 Imp oz) 10 cc (0.3 US oz, 0.4 Imp oz)
Compressor	Lubricant capacity Stator coil resistance at 20°C (68°F) Pulley-to pressure plate clearance	90–120 cc (3.0–4.0 US oz, 3.2–4.2 Imp oz) 3.4–3.8 Ω 0.35–0.65 (0.014–0.026)
Compressor belt	Deflection between pulleys with 98 N (10 kg, 22 lbs) force	For used belt For new belt
	Belt tension between pulleys (measured with belt tension gauge)	For used belt For new belt

\*When using a new belt, first adjust the deflection or tension to these values, then readjust the deflection or tension to the values for the used belts after running engine for five minutes.

# Standards and Service Limits

Unit of length: mm (in.)

## 16. Electrical

MEASUREMENT		STANDARD (NEW)		SERVICE LIMIT	
Ignition coil	Rated voltage		12 Volts		
	Winding resistance		0.6–0.8 Ω 12.8–19.2 kΩ		
Ignition wire	Resistance		25 kΩ maximum		
	Spark plug ( ): Manufacturer	Standard	ZFR6F-11 (NGK) or KJ20CR-L11 (ND)		
Option		ZFR5F-11 (NGK) or KJ16CR-L11 (ND) ZFR7F-11 (NGK) or KJ22CR-L11 (ND)			
Gap		1.0–1.1 (0.039–0.043)			
Ignition timing	At idling		15° ± 2° BTDC		
Battery	Lighting capacity (20-hours ratio)		65Ah		
	Starting capacity (voltage after 5 sec.)		8.4 V minimum/300 ampere draw at –15°C (59°F)		
Alternator	Output		80A		
	Rotor coil resistance		2.8–3.0 Ω		
	Slip ring O.D.		14.4 (0.57)		
	Brush length		10.5 (0.41)		
Brush spring tension		300–360 g (10.6–12.7 oz)			
Alternator belt	Deflection at midway between pulleys with 98 N (10 kg, 22 lb) force		Model without A/C	Used belt*	10–12 (0.39–0.47)
				New belt	8.5–11 (0.33–0.43)
			Model with A/C	Used belt*	10–12 (0.39–0.47)
				New belt	4.5–7.0 (0.18–0.28)
	Belt tension between pulleys (measured with tension gauge)		Model without A/C	Used belt*	294–441 N (30–45 kg, 66–99 lb)
				New belt	441–637 N (45–65 kg, 99–143 lb)
			Model with A/C	Used belt*	441–637 N (45–65 kg, 99–143 lb)
				New belt	931–1,128 N (95–115 kg, 209–154 lb)
Starting motor	Output		KE Except KE	MT: 1.4 kW AT: 1.4 kW	
	Manufacturer: Mitsuba		Mica depth Commutator runout Commutator O.D. Brush length Brush spring tension	0.4–0.5 (0.016–0.02) 0–0.02 (0–0.001) 28.0–28.1 (1.10–1.11) 15.8–16.2 (0.62–0.64) 16–18 N (1.6–1.8 kg, 3.5–4.0 lbs)	
				0.15 (0.006) 0.05 (0.002) 27.5 (1.08) 10.0 (0.39)	

\*When using a new belt, first adjust the deflection or tension to these values, then readjust the deflection or tension to the values for the used belts after running engine for five minutes.

# Design Specifications

	ITEMS	METRIC	ENGLISH	NOTES	
<b>DIMENSIONS</b>	Overall length	4,700 mm	185.0 in		
	Overall width	1,695 mm	66.7 in		
	Overall height	1,375 mm	54.1 in		
	Wheel base	2,720 mm	107.1 in		
	Track	1,475 mm	58.1 in		
		1,480 mm	58.3 in		
	Ground clearance	160 mm	6.3 in		
	Seating capacity		Five		
	Turning radius (at body end)	5.8 m	19.0 ft		
<b>WEIGHT</b>	Curb weight	MT KG	1,315 kg	2,899 lb	Air Conditioner: added 22 (24/- 2) kg
		KF, KE	1,310 kg	2,888 lb	
		AT KG	1,340 kg	2,954 lb	
	Weight distribution	KF, KE	1,335 kg	2,943 lb	
		MT KG	785/530 kg	1,731/1,168 lb	
		KF, KE	785/525 kg	1,731/1,157 lb	
		AT KG	810/530 kg	1,786/1,168 lb	
		KF, KE	810/525 kg	1,786/1,157 lb	
		Max. permissible weight (EC)	1,760 kg	3,880 lb	
		Max. towing weight (trailer with brake)	1,200 kg	2,646 lb	
	Max. towing hitch downward load	70 kg	154 lb		
<b>ENGINE</b>	Type	Water-cooled, 4-stroke OHC			
	Cylinder arrangement	In-line, transverse, 4-cylinders			
	Bore and stroke	85 x 88 mm	3.35 x 3.46 in		
	Displacement	1,997 cm <sup>3</sup>	121.8 cu-in		
	Compression ratio	9.0 : 1			
	Valve train	Belt driven, Single overhead camshaft			
	Lubrication system	Forced and wet sump, trochoid pump			
Fuel required	Premium unleaded gasoline with 95 Research Octane Number or higher				
<b>STARTER</b>	Type	Gear reduction			
	Normal output	1.6 kW (KG, KF AT), 1.4 kW (Except KG, KF AT)			
	Nominal voltage	12 V			
	Hour rating	30 seconds			
	Direction of rotation	Clockwise as viewed from gear end			
Weight	Mitsuba 1.6 kW	3.7 kg	8.2 lb		
	Mitsuba 1.4 kW	3.5 kg	7.7 lb		
<b>TRANSMISSION</b>	Clutch	MT	Single plate dry, diaphragm spring Torque converter with lock-up clutch 203 cm <sup>2</sup>   31.5 sq. in		
		AT			
	Clutch lining area	MT	Synchronized 5-speed forward, 1 reverse Electronically controlled dual range 4-speed forward automatic, 1 reverse 1 : 1 (Direct)		
		AT			
	Transmission				
	Primary reduction ratio				
	Gear ratio		Gear	MT	AT
			1st	3.307	2.705
			2nd	1.809	1.366
			3rd	1.230	1.028
		4th	0.933	0.731	
		5th	0.757	—	
		Reverse	3.000	2.047	
		Final	4.266	4.285	

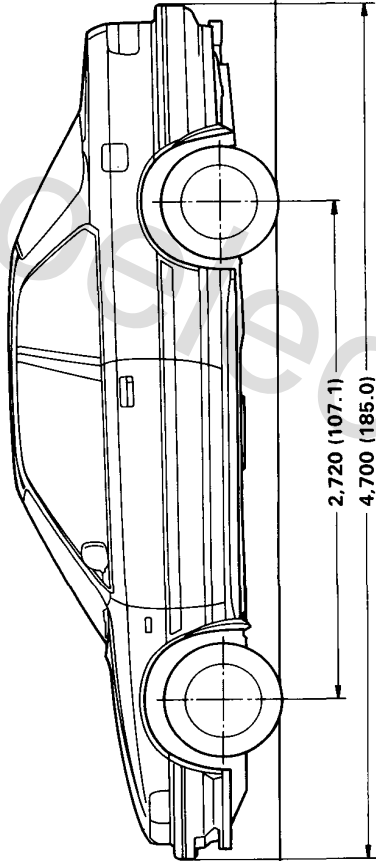
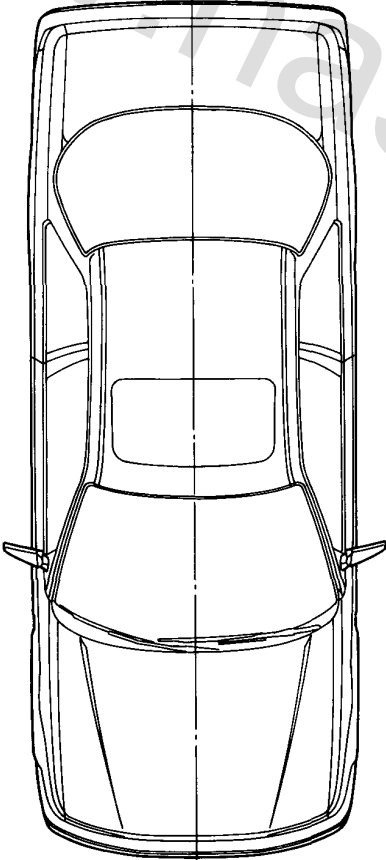
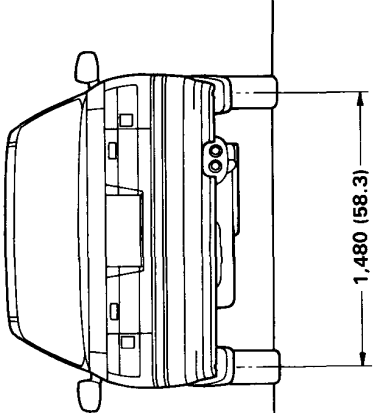
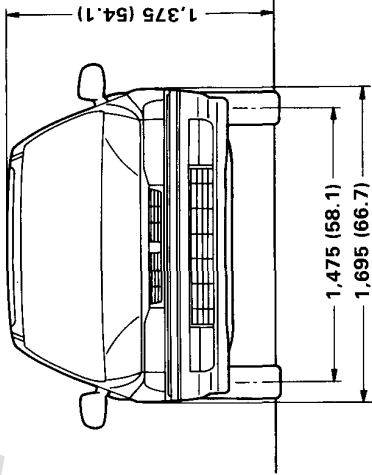
# Design Specifications

(cont'd)

	ITEMS		METRIC	ENGLISH	NOTES	
AIR CONDITIONER	Cooling capacity		4,650 kcal/h	18,451 BTU/h		
	— Condition:					
	Compressor speed		1,900 min <sup>-1</sup> (rpm)	81 °F		
	Outside air temperature		27°	50 %		
	Outside air humidity		35°C	95°F		
Condenser air temperature		4.5 m/sec.	14.8 ft/sec.			
Condenser air velocity		440 m <sup>3</sup>	15,542 cu-ft/h			
Blower capacity						
Compressor	Type		Swash-plate			
	No. of cylinders		10			
	Capacity		178 cc/rev.	10.9 cu-in/rev.		
	Maximum speed		8,800 min <sup>-1</sup> (rpm)	3.0–4.0 US oz.		
Lubricant capacity		90–120 cc	3.2–4.2 Imp oz.			
Condenser Evaporator			Corrugated fin type			
Blower			Sirocco fan			
Type			210 W (12 V)			
Motor input			5-speed			
Speed control			17,662 cu-ft/h			
Maximum capacity						
Temperature control			Air-mix type			
Clutch	Type		Dry single-plate			
Power consumption			40 W (12 V) maximum			
Refrigerant	Type		R-12			
Quantity		0.80–0.85 kg	1.8–1.9 lb			
STEERING SYSTEM	Type		Rack and pinion			
	Overall ratio		16.1 : 1			
	Turns, lock-to-lock		3.13			
	Steering wheel diameter		375 mm	14.8 in		
Power steering fluid capacity		1.8 ℓ	1.9 US qt.			
Power steering fluid			1.6 Imp qt.			
			Power Steering Fluid-V P/N: 08280–99954			
SUSPENSION	Type		Independent double wishbone, coil spring			
	Shock absorber	Front Rear Front and rear	Independent double wishbone, coil spring Telescopic, hydraulic (nitrogen gas-filled)			
WHEEL ALIGNMENT	Total toe		0	0		
	Camber	Front Rear Front Rear Front	IN 2.0 mm	0.08 in		
	Caster	Front Rear Front	0°00' –0°30' 3°00'			
BRAKE SYSTEM	Type	Front Rear	Ventilated disc Solid disc			
	Pad and lining swept area (total)	Front Rear	415 cm <sup>2</sup> 281 cm <sup>2</sup>	64 sq. in 44 sq. in		
TIRES	Size/Pressure	See the tyre label attached to the driver's door jamb.				
ELECTRICAL	Fuses					
	In the anti-lock brake system fuse box		7.5A, 15A, 50A			
	In the fuse box		7.5A, 10A, 15A, 30A			
	In the relay box		7.5A, 10A, 15A, 20A, 30A, 40A, 50A, 80A			
	Headlights		Inside	12V–55W		
	Turn signal lights		Outside	12V–65/55W		
			Front	12V–21W		
			Rear	12V–21W		
			Side	12V–5W		
	Position lights			12V–5W		
	License plate lights			12V–5W		
	Back-up lights			12V–21W		
	Stop Taillights			12V–21/5W		
	Rear fog light			12V–21W		
	Interior light			12V–8W		
	Door courtesy lights			12V–3.4W		
	Vanity mirror light			12V–1.8W		
	Boot light			12V–3.4W		
	Gauge lights			12V–3.4/1.4W		
	Indicator lights			12V–0.84/0.91/1.12/1.2/1.4W		
Warning lights			12V–1.4W			
Glove box light			12V–1.8W			
Illumination and pilot lights			12V–1.4/1.2W/1.12W LED: 0.91W, 0.84W			
Heater illumination lights			12V–1.2W			

# Body Specifications

Unit: mm (in)



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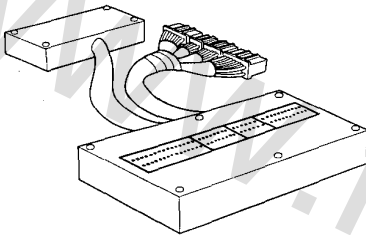
**Special Tools**  
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**Electrical Connections**  
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**Pressure Regulator**  
**Emission Control System**  
**Exhaust Gas Recirculation System**

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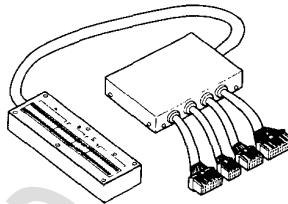
# Special Tools

## Special Tools

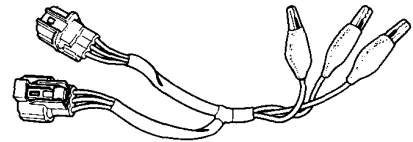
Ref. No.	Tool Number	Description	Q'ty	Remarks
①	07LAJ-PT30100 or 07LAJ-PT3010A	ECU Test Harness	1	
②	07LAJ-PT3020A	Test Harness	1	
③	07JAZ-SH20100	R.P.M. Connecting Adaptor	1	
④	07LAZ-PT30100	R.P.M. Connecting Adaptor	1	
④-1	07LAZ-PT30110	R.P.M. Connecting Adaptor (A)	(1)	Component Tools
④-2	07LAZ-PT30120	R.P.M. Connecting Adaptor (B)	(1)	
⑤	07406-0040001	Fuel Pressure Gauge Set	1	
⑤-1	07406-0040100	Pressure Gauge	(1)	Component Tools
⑤-2	07406-0040201	Hose Assembly	(1)	
⑥	07411-0020000	Digital Circuit Tester	1	



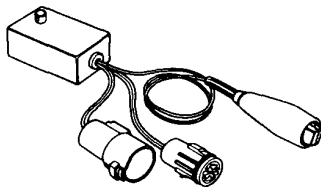
①



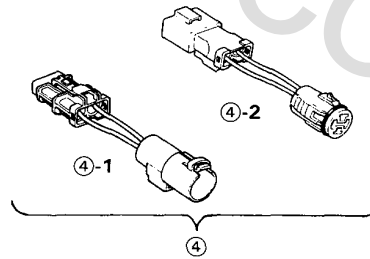
②



③



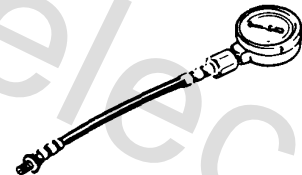
④



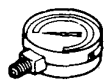
④-1

④-2

④



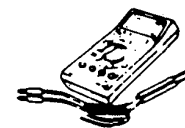
⑤



⑤-1



⑤-2



⑥

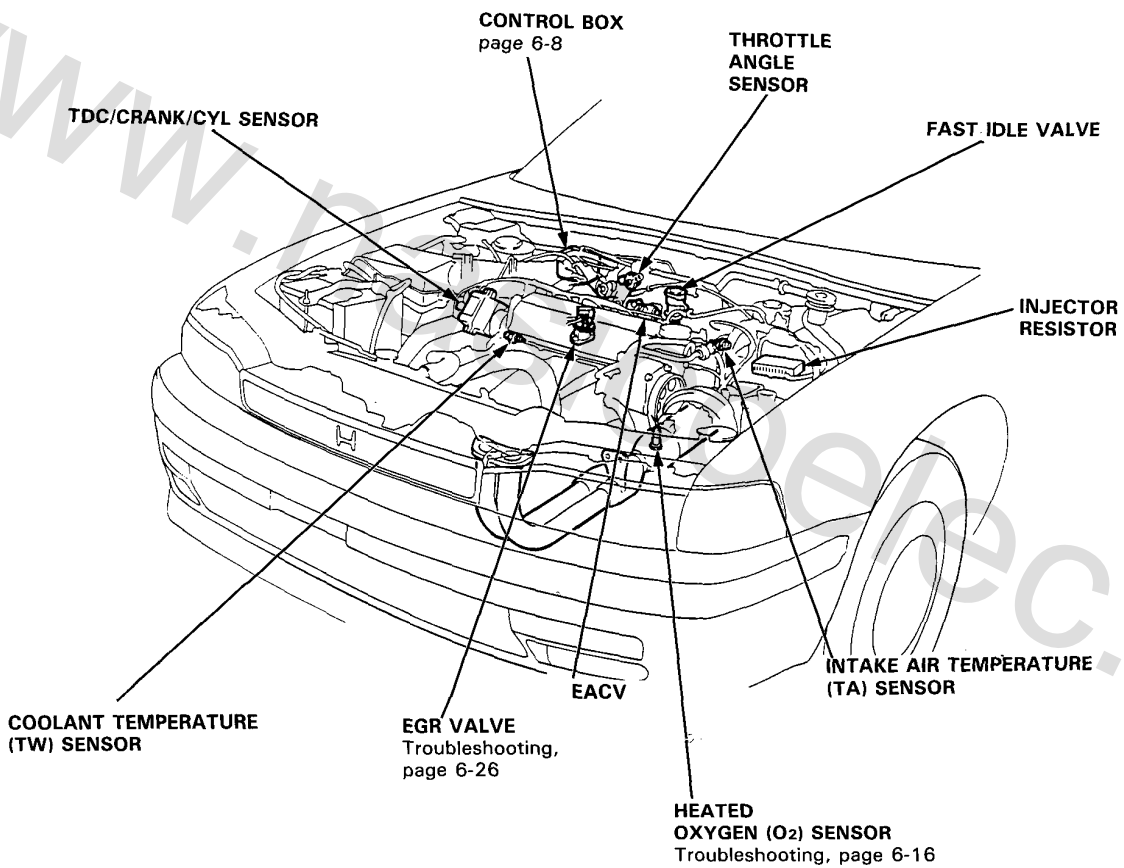


# Component Locations

## Index



LHD:

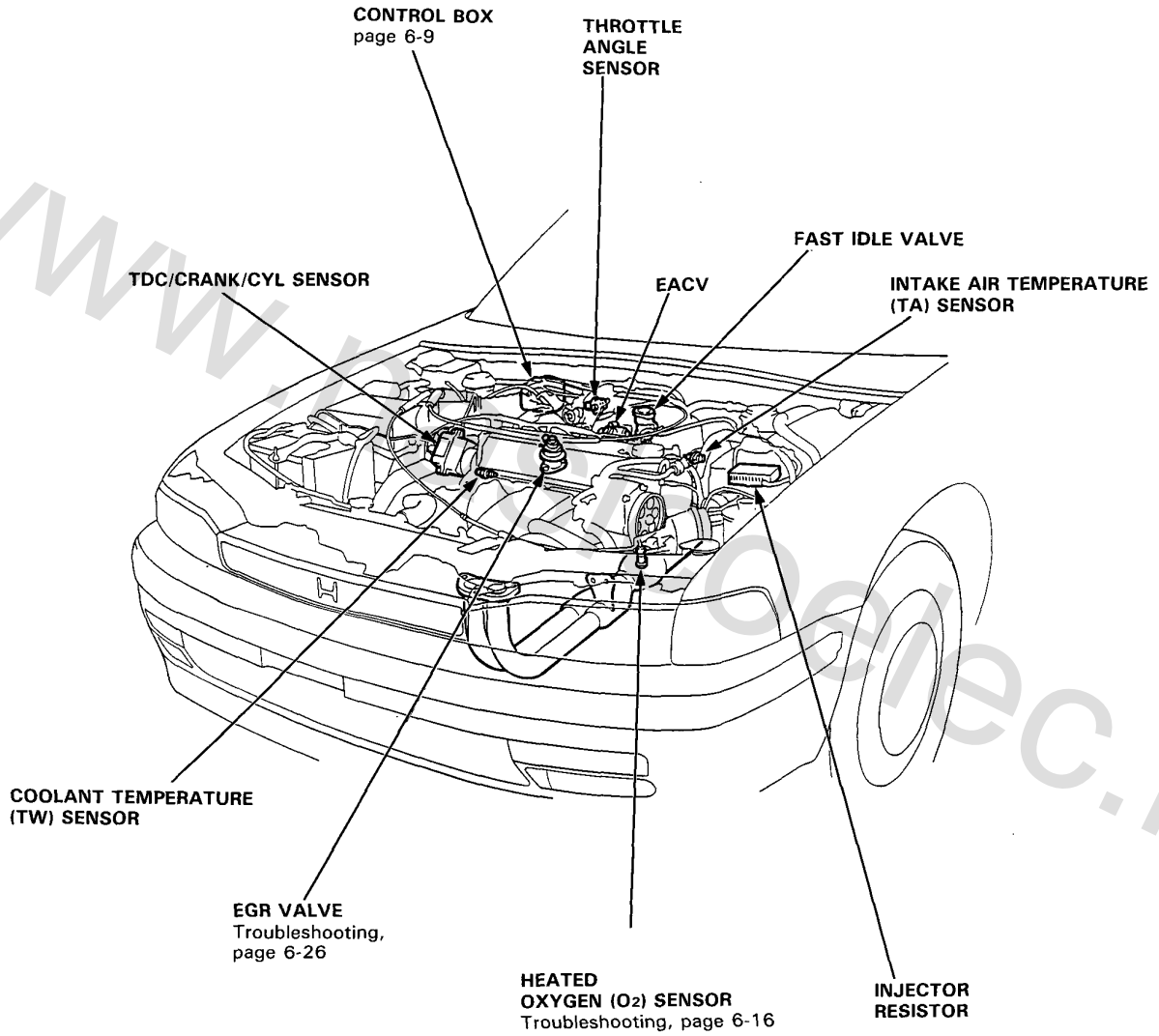


# Component Locations

## Index

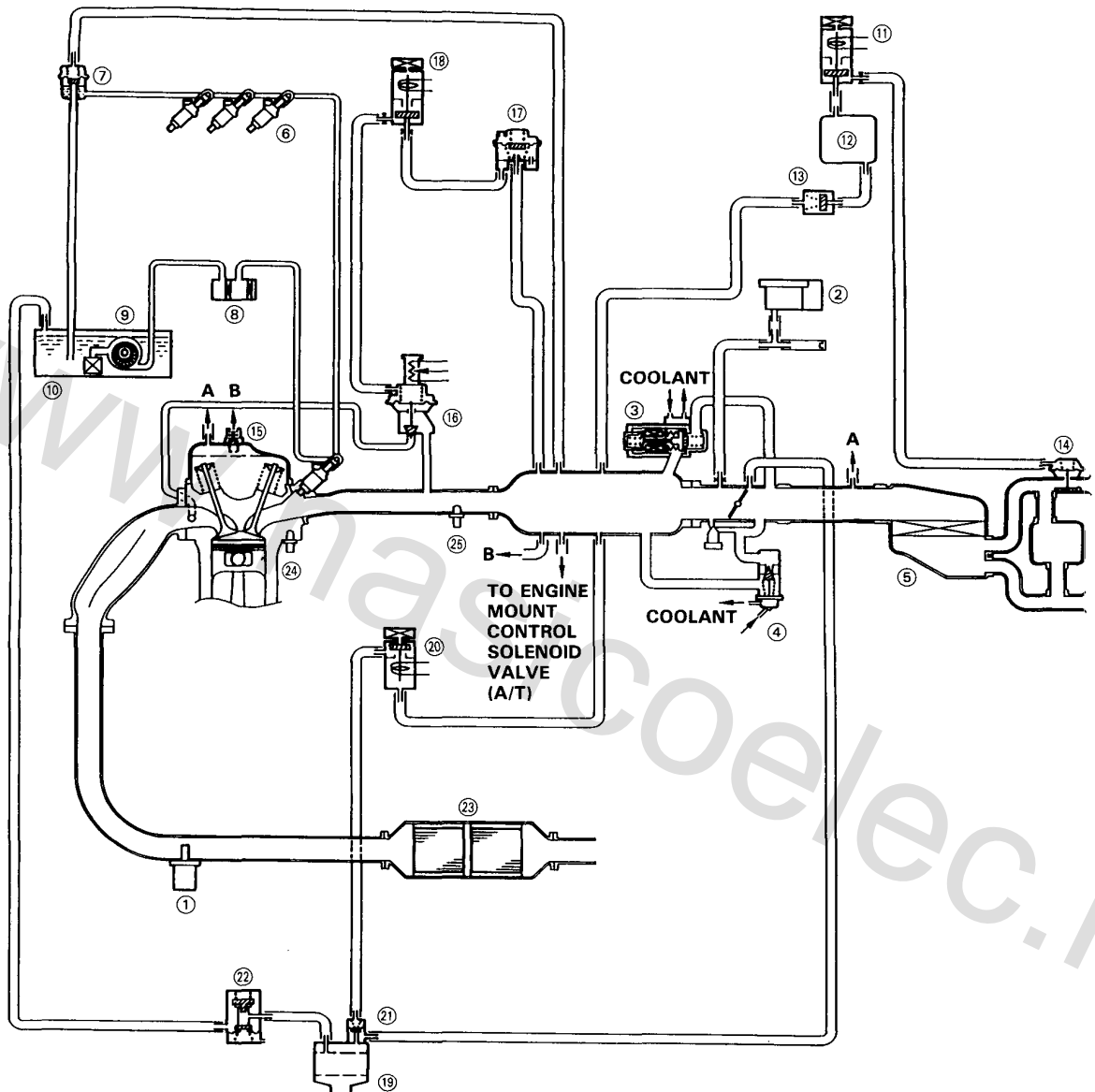
---

RHD:



# System Description

## Vacuum Connections



- |   |                                       |
|---|---------------------------------------|
| ① HEATED O <sub>2</sub> SENSOR            | ⑬ CHECK VALVE                         |
| ② MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR | ⑭ INTAKE CONTROL DIAPHRAGM            |
| ③ ELECTRONIC AIR CONTROL VALVE (EACV)     | ⑮ PCV VALVE                           |
| ④ FAST IDLE VALVE                         | ⑯ EGR VALVE                           |
| ⑤ AIR CLEANER                             | ⑰ CONSTANT VACUUM CONTROL (CVC) VALVE |
| ⑥ FUEL INJECTOR                           | ⑱ EGR CONTROL SOLENOID VALVE          |
| ⑦ PRESSURE REGULATOR                      | ⑲ CHARCOAL CANISTER                   |
| ⑧ FUEL FILTER                             | ⑳ PURGE CUT-OFF SOLENOID VALVE        |
| ⑨ FUEL PUMP                               | ㉑ PURGE CONTROL DIAPHRAGM VALVE       |
| ⑩ FUEL TANK                               | ㉒ TWO-WAY VALVE                       |
| ⑪ INTAKE CONTROL SOLENOID VALVE           | ㉓ CATALYTIC CONVERTER                 |
| ⑫ AIR CHAMBER                             | ㉔ COOLANT TEMPERATURE (TW) SENSOR     |
|   | ㉕ INTAKE AIR TEMPERATURE (TA) SENSOR  |



# System Description

## Vacuum Connections

Control Box (LHD):

PURGE CUT-OFF  
SOLENOID VALVE

24

20

21

MANIFOLD ABSOLUTE  
PRESSURE (MAP) SENSOR

EGR CONTROL  
SOLENOID VALVE  
Troubleshooting,  
page 6-26

16

3

CONSTANT VACUUM CONTROL (CVC)  
VALVE  
Troubleshooting, page 6-26



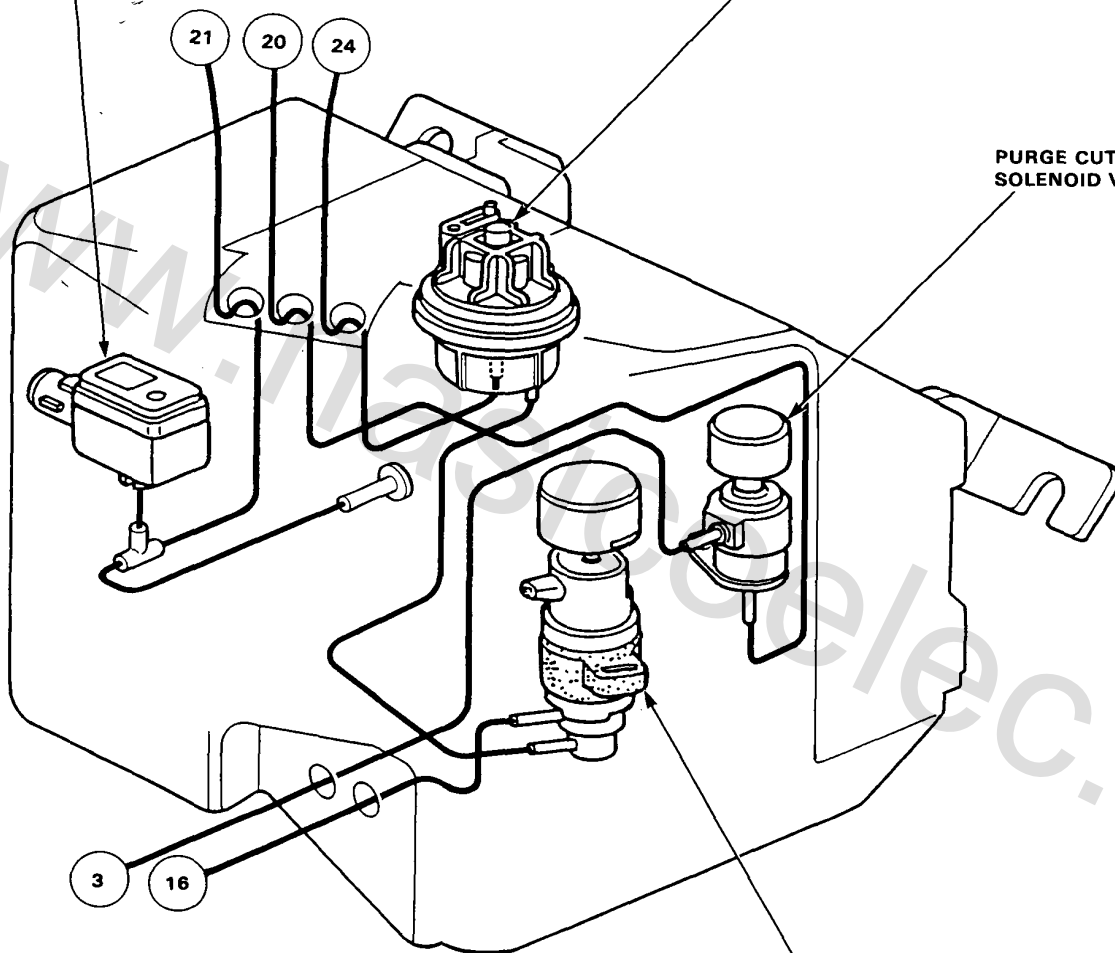
Control Box (RHD):

MANIFOLD ABSOLUTE  
PRESSURE (MAP)  
SENSOR

CONSTANT VACUUM CONTROL (CVC)  
VALVE

Troubleshooting,  
page 6-26

PURGE CUT-OFF  
SOLENOID VALVE



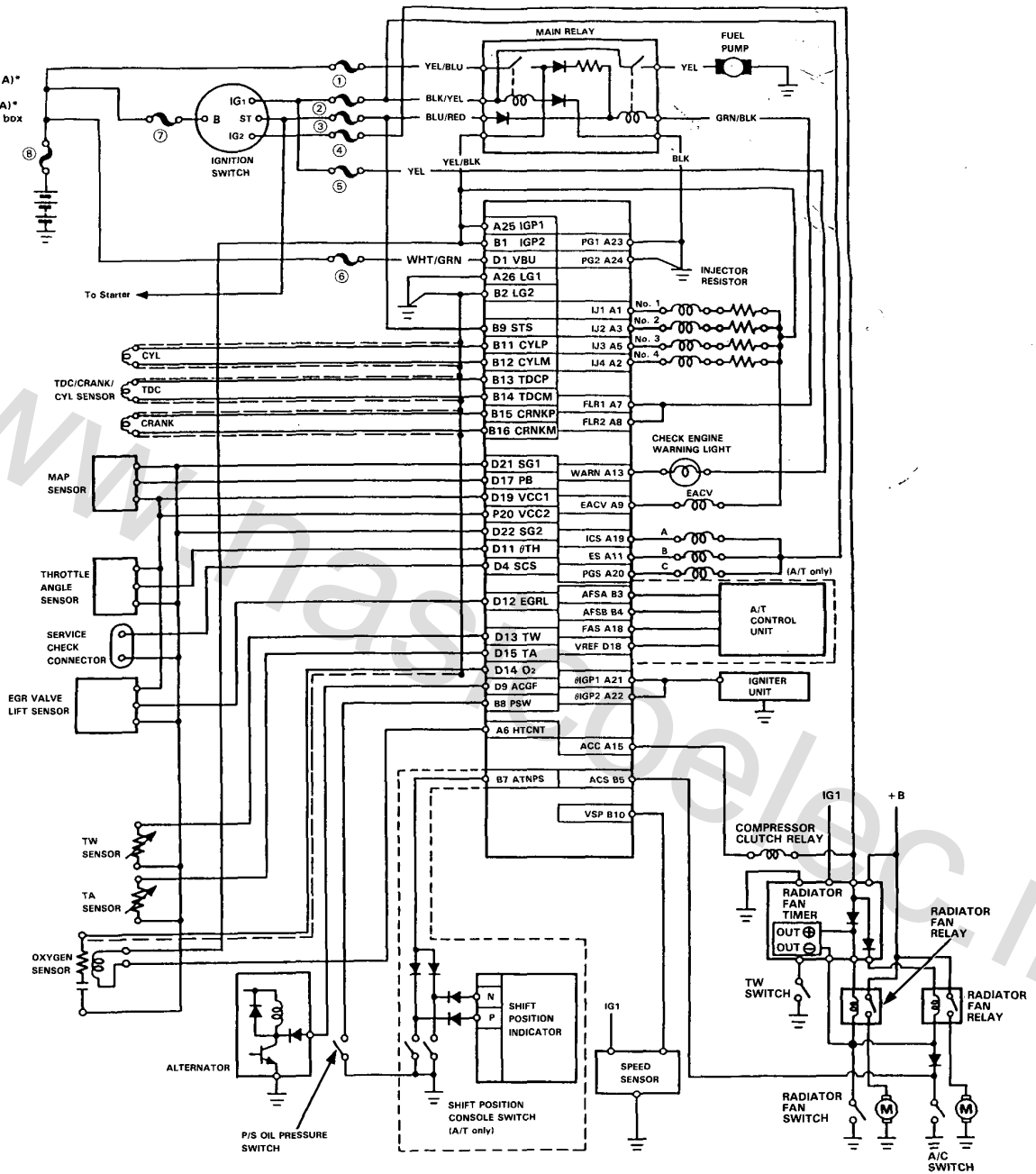
EGR CONTROL  
SOLENOID  
VALVE

Troubleshooting,  
page 6-26

# System Description

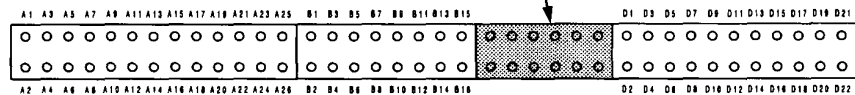
## Electrical Connections

- FUSES**
- ① ECU (10 A)\*
  - ② No. 2 (15 A)
  - ③ No. 9 (7.5 A)
  - ④ No. 7 (7.5 A)
  - ⑤ No. 1 (10 A)
  - ⑥ BACK UP (7.5 A)\*
  - ⑦ IG (50 A)\*
  - ⑧ BATTERY (80 A)\*
- \*In the main fuse box



A: INTAKE CONTROL SOLENOID VALVE  
 B: EGR CONTROL SOLENOID VALVE  
 C: PURGE CUT-OFF SOLENOID VALVE

NOT USED

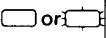










TERMINAL LOCATION

# Troubleshooting

## Troubleshooting Guide

NOTE: Across each row in the chart, the systems that could be sources of a symptom are ranked in the order they should be inspected starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows the system is OK, try the next most likely system ②, etc.

PAGE	SYSTEM	PGM-FI							
		ECU	OXYGEN SENSOR	MANIFOLD ABSOLUTE PRESSURE SENSOR	TDC/CRANK/CYL SENSOR	COOLANT TEMPERATURE SENSOR	THROTTLE ANGLE SENSOR	INTAKE AIR TEMPERATURE SENSOR	ATMO-SPHERIC PRESSURE SENSOR
	SYMPTOM	—	16, 20	—	—	—	—	—	—
	CHECK ENGINE WARNING LIGHT TURNS ON	 or 							
	CHECK ENGINE WARNING LIGHT BLINKS	⑥ or ⑧	① or ④	③ or ⑤	④ or ① or ⑧	①	⑦	⑩	⑬
	ENGINE WON'T START	③			③				
	DIFFICULT TO START ENGINE WHEN COLD	BU		③	③	①			③
IRREGULAR IDLING	WHEN COLD FAST IDLE OUT OF SPEC	BU				③			
	ROUGH IDLE	BU		③					
	WHEN WARM IDLE SPEED TOO HIGH	BU							
	WHEN WARM IDLE SPEED TOO LOW	BU							
FREQUENT STALLING	WHILE WARMING UP	BU				③			
	AFTER WARMING UP	BU							③
POOR PERFORMANCE	MISFIRE OR ROUGH RUNNING	BU			③				
	FAILS EMISSION TEST	BU	③	②					
	LOSS OF POWER	BU		③			②		

- if codes other than those listed above are indicated, count the number of blinks again. If the indicator is in fact blinking these codes, substitute a known-good ECU and recheck. If the indication goes away, replace the original ECU.  
 (BU): When the Check Engine warning light and the self-diagnosis indicator are on, the back-up system is in operation. Substitute a known-good ECU and recheck. If the indication goes away, replace the original ECU.





PGM-FI				IDLE CONTROL		FUEL SUPPLY	AIR INTAKE	EMISSION CONTROL	
IGNITION OUTPUT SIGNAL	VEHICLE SPEED SENSOR	A/T FI Signal A	A/T FI Signal B	ELECTRONIC AIR CONTROL VALVE	OTHER IDLE CONTROLS			EGR CONTROL SYSTEM	OTHER EMISSION CONTROLS
—	—	—	—	—	—	—	—	26	—
①						②			
					②				
				①	②				
				①		②		③	
				①	②				
				①		②			
				①	②	③			
				③	①	②		③	
				③		①		③	
						②			①
						①	③		③

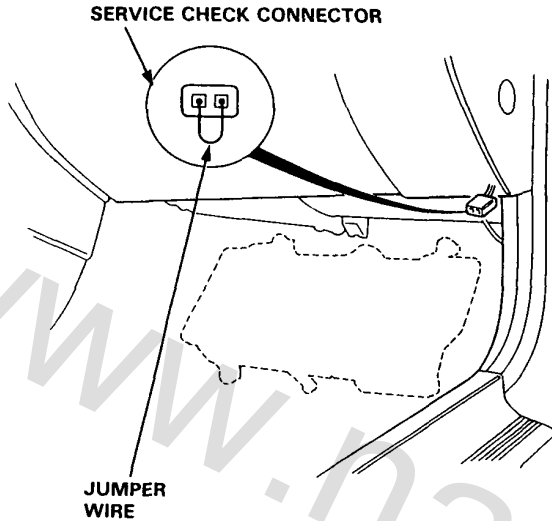
# Troubleshooting

## Self-diagnostic Procedures

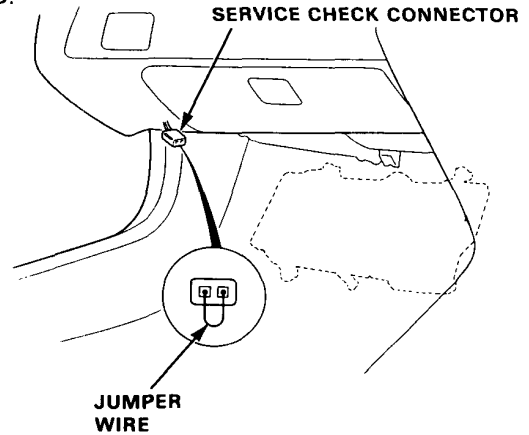
I. When the Check Engine warning light has been reported on, do the following:

1. Connect the Service Check Connector terminals with a jumper wire as shown (the Service Check Connector is located under the dash on the passenger side of the car).

LHD:

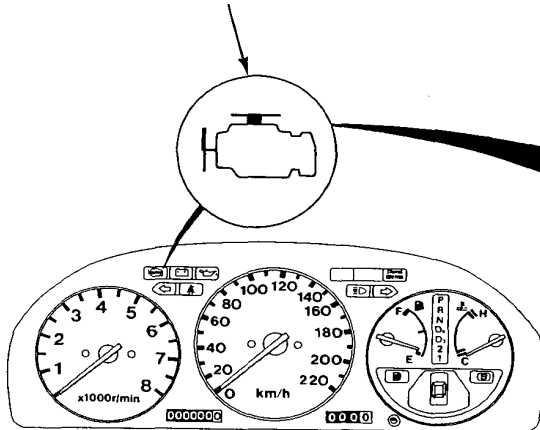


RHD:



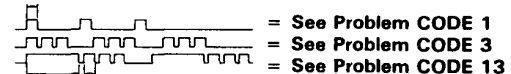
2. Note the CODE: the Check Engine warning light indicates a failure code by blinking frequency. The Check Engine warning light can indicate any number of simultaneous component problems by blinking separate codes, one after another. Problem codes 1 through 9 are indicated by a individual short blinks. Problem codes 10 through 41 are indicated by a series of long and short blinks. The number of long blinks equals the first digit, the number of short blinks equals the second digit.

CHECK ENGINE WARNING LIGHT



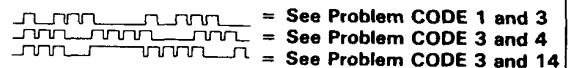
Separate Problems:

Short



Long short

Simultaneous Problems:

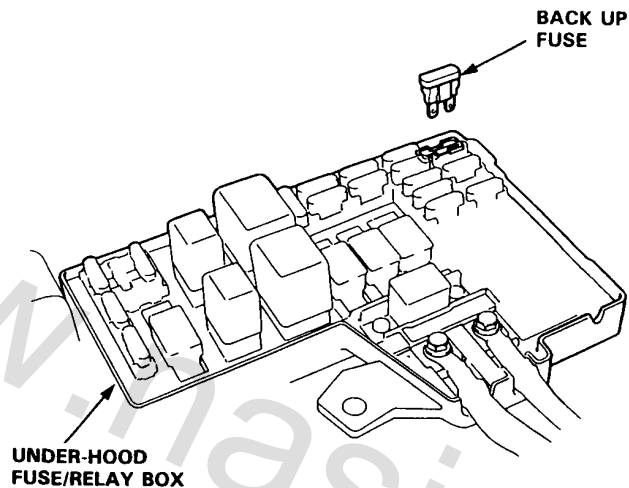




## II. ECU Reset Procedure

1. Turn the ignition switch off.
2. Remove the Back Up fuse (7.5 A) from the under-hood fuse/relay box for 10 seconds to reset ECU.

**NOTE:** Disconnecting the Back Up fuse also cancels the radio preset stations and the clock setting. Make note of the radio presets before removing the fuse so you reset them.



## III. Final Procedure (this procedure must be done after any troubleshooting)

1. Remove the Jumper Wire.

**NOTE:** If the Service Check Connector is jumped the Check Engine warning light will stay on.

2. Do the ECU Reset Procedure.
3. Set the radio preset stations and the clock setting.

# PGM-FI Control System

## Troubleshooting Flowchart — Oxygen Sensor



Self-diagnosis Check Engine warning light indicates code 1: A problem in the Heated Oxygen (O<sub>2</sub>) Sensor circuit.



— Check Engine warning light has been reported on, with service check connector jumped (page 6-14) CODE 1 is indicated.

Turn the ignition switch OFF.

Remove BACK UP fuse in the under-hood relay box for 10 seconds to reset ECU.

Inspect fuel pressure.

Is it normal ?

NO

Go to Fuel Supply System.

YES

Warm up engine to normal operating temperature (cooling fan comes on).

Run engine for 10 seconds.

Road test with the Transmission in 2nd gear, accelerate using wide open throttle for at least 5 seconds. Then decelerate for at least 5 seconds with the throttle completely closed.

Is Check Engine warning light on and does it indicate CODE 1 ?

NO

Intermittent failure, system is OK at this time. Check for poor connections or loose wires.

YES

(To page 6-17)



(From page 6-16)

Turn the ignition switch OFF.

Disconnect the O<sub>2</sub> sensor connector and connect A (-) terminal to B (+) terminal with a battery.

After two minutes, measure voltage between C (-) terminal and D (+) terminal.

Start the engine.

Is the voltage above 0.6 V at wide open throttle to 4,500 min<sup>-1</sup>(rpm) and below 0.4 V when the throttle is quickly released from 4,500 min<sup>-1</sup>(rpm) ?

NO

Replace O<sub>2</sub> sensor.

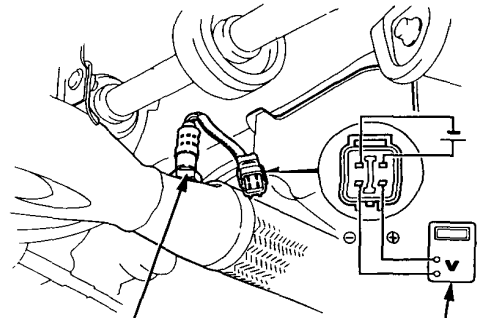
YES

Stop engine.

Connect the O<sub>2</sub> sensor connector to engine wire harness.

Connect the test harness between the ECU and connector.

(To page 6-18)



O<sub>2</sub> SENSOR  
45 N·m (4.5 kg·m, 33 lb-ft)

DIGITAL MULTIMETER  
07411-0020000

www.nasicoelec.ir

(cont'd)

# PGM-FI Control System

## Troubleshooting Flowchart — Oxygen Sensor (cont'd)

(From page 6-17)

Restart and warm up engine to normal operating temperature (cooling fan comes on).

Measure voltage between D14 (+) and A26 (-) terminal.

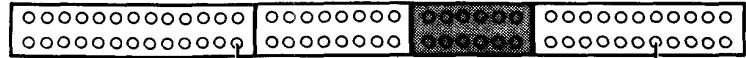
Is the voltage above 0.6 V at wide open throttle to 4,500 min<sup>-1</sup>(rpm) and 0.4 V when the throttle is quickly released from 4,500 min<sup>-1</sup>(rpm) ?

NO

Repair short or open in WHT wire between ECU (D14) and O<sub>2</sub> sensor.

YES

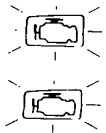
Substitute a known-good ECU and recheck. If symptom/indication goes away, replace the original ECU.



Above 0.6 V at wide open throttle to 4,500 min<sup>-1</sup>(rpm).  
Below 0.4 V when the throttle is quickly released from 4,500 min<sup>-1</sup>(rpm).

# PGM-FI Control System

## Troubleshooting Flowchart — Oxygen Sensor Heater



**Self-diagnosis** Check Engine warning light indicates code 41: A problem in the Oxygen (O<sub>2</sub>) Sensor Heater circuit.

- Engine is running.
- Check Engine warning light has been reported on, with service check connector jumped (page 6-14), CODE 41 is indicated.

Turn the ignition switch OFF.

Remove BACK UP fuse in the under-hood relay box for 10 seconds to reset ECU.

Start engine.

Is Check Engine warning light on and does it indicate CODE 41 ?

NO

Intermittent failure, system is OK at this time (test driving may be necessary). Check for poor connections or loose wires at O<sub>2</sub> sensor connector.

YES

Stop engine.

Disconnect the 4P connector from the O<sub>2</sub> sensor.

Measure resistance between terminals A and B on the O<sub>2</sub> sensor.

Is there 10–40 Ω ?

NO

Replace O<sub>2</sub> sensor.

YES

Check for continuity to body ground on each terminal on the O<sub>2</sub> sensor.

Does continuity exist ?

YES

Replace O<sub>2</sub> sensor.

NO

Check for continuity between terminal A and terminals C and D individually.

Does continuity exist ?

YES

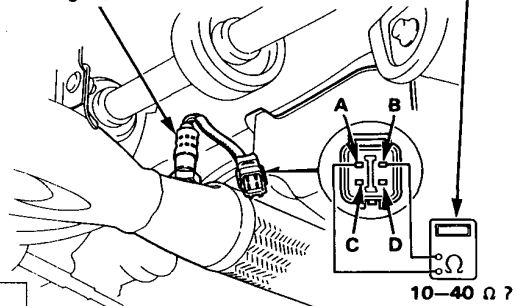
Replace O<sub>2</sub> sensor.

NO

(To page 6-21)

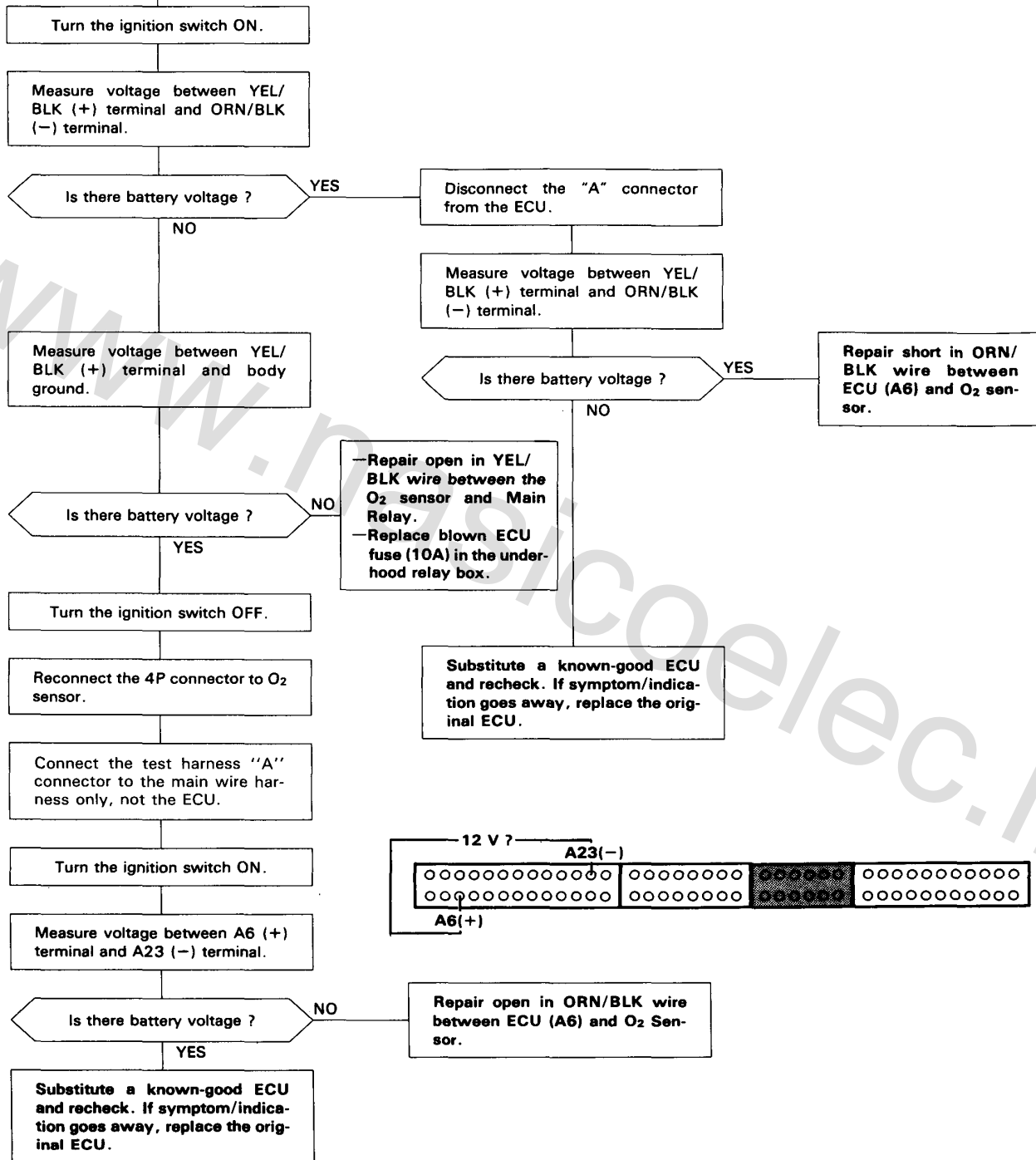
**O<sub>2</sub> SENSOR**  
45 N·m (45 kg·m, 33 lb·ft)

**DIGITAL MULTIMETER**  
07411-0020000





(From page 6-20)



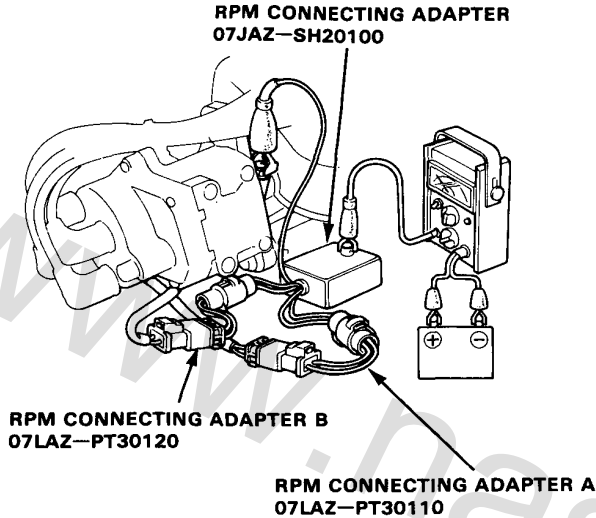


# Idle Control System

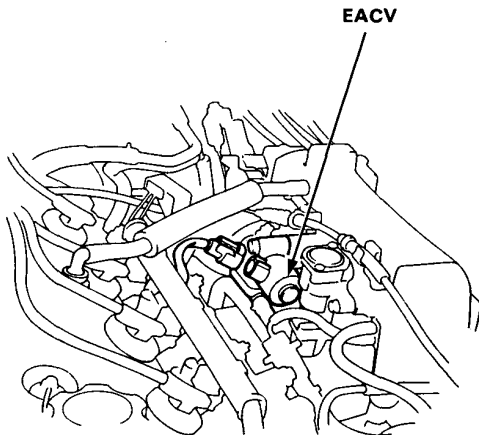
## Idle Speed Setting

### Inspection/Adjustment

1. Start the engine and warm it up to normal operating temperature (the cooling fan comes on).
2. Connect a tachometer.



3. Disconnect the 2P connector from the EACV.

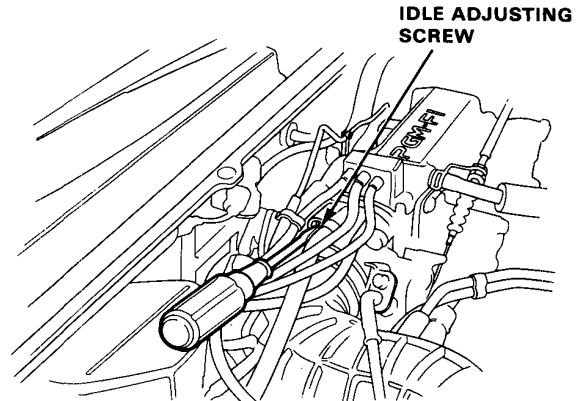


4. Check idling in no-load conditions in which the headlights, blower fan, rear defogger, cooling fan, and air conditioner are not operating.

### Idle speed should be:

Manual	$620 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$620 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (N or P)

Adjust the idle speed, if necessary, by turning the idle adjusting screw.



5. Turn the ignition switch OFF.
6. Reconnect the 2P connector on the EACV, then remove BACK UP fuse in the under-hood relay box for 10 seconds to reset ECU.
7. Restart an idle the engine with no-load conditions in which the headlights, blower fan, rear defogger, cooling fan, and air conditioner are not operating for one minute, then check the idle speed.

### Idle speed should be:

Manual	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (N or P)

8. Idle the engine for one minute with headlights (Hi) and rear defogger ON and check the idle speed.

### Idle speed should be:

Manual	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (N or P)

9. Idle the engine for one minute with heater fan switch at HI and air conditioner on, then check the idle speed.

### Idle speed should be:

Manual	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$
Automatic	$770 \pm 50 \text{ min}^{-1} \text{ (rpm)}$ (N or P)

NOTE: If the idle speed is not within specifications, see System Troubleshooting Guide (page 6-12).

# Fuel Supply System

## Fuel Pressure

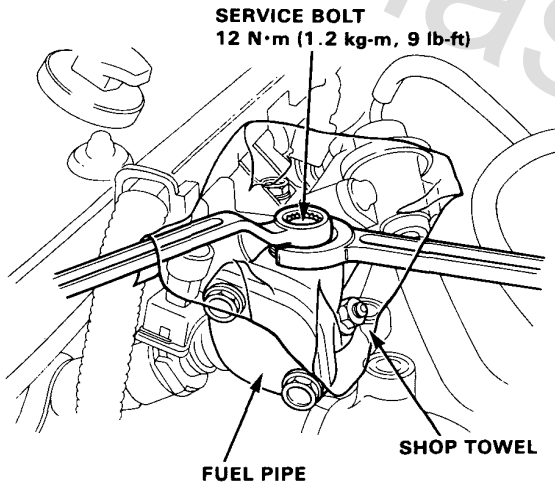
### Relieving

#### ⚠ WARNING

- Do not smoke while working on the fuel system. Keep open flames or sparks away from the work area.
- Be sure to relieve fuel pressure while the engine is off.

NOTE: Before disconnecting fuel pipes or hoses, release pressure from the system by loosening the 6 mm service bolt at the fuel pipe.

1. Remove fuel filter cap.
2. Disconnect the battery negative cable from the battery negative terminal.
3. Use a box end wrench on the 6 mm service bolt at the fuel pipe, while holding the special banjo bolt with another wrench.
4. Place a rag or shop towel over the 6 mm service bolt.
5. Slowly loosen the 6 mm service bolt one complete turn.



#### NOTE:

- A fuel pressure gauge can be attached at the 6 mm service bolt hole.
- Always replace the washer between the service bolt and the special banjo bolt, whenever the service bolt is loosened to relieve fuel pressure.
- Replace all washers whenever the bolts are removed to disassemble parts.

### Inspection

1. Relieve fuel pressure.
2. Remove the service bolt on the fuel pipe while holding the banjo bolt with another wrench and attach the fuel pressure gauge.
3. Start the engine. Measure the fuel pressure with the engine idling and vacuum hose of the pressure regulator disconnected.

#### Pressure should be:

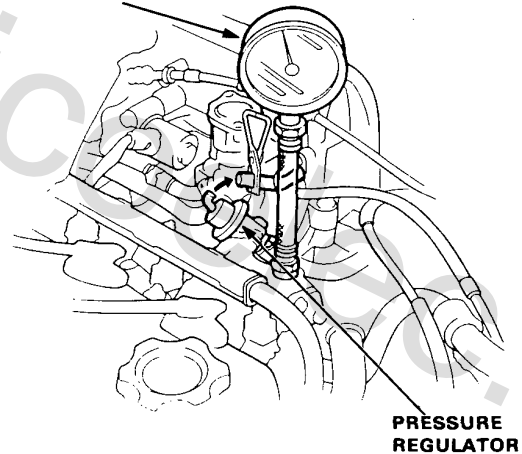
275–324 kPa (2.8–3.3 kg/cm<sup>2</sup>, 40–47 psi)

4. Reconnect vacuum hose to the pressure regulator.

#### Pressure should be:

216–265 kPa (2.2–2.7 kg/cm<sup>2</sup>, 31–38 psi)

#### FUEL PRESSURE GAUGE 07406–0040001



- If the fuel pressure is not as specified, first check the fuel pump. If the pump is OK, check the following:
  - If the pressure is higher than specified, inspect for:
    - Pinched or clogged fuel return hose or piping.
    - Faulty pressure regulator (page 6-25).
  - If the pressure is lower than specified, inspect for:
    - Clogged fuel filter.
    - Pressure regulator failure (page 6-25).
    - Leakage in the fuel line.



## Pressure Regulator

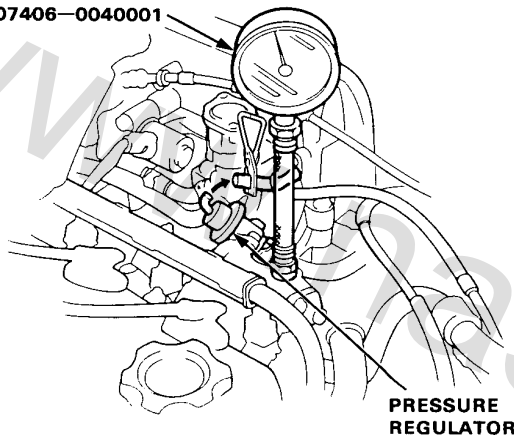
### Testing

**⚠ WARNING** Do not smoke during the test. Keep open flames away from your work area.

1. Attach a pressure gauge to the service port of the fuel pipe (page 6-24).

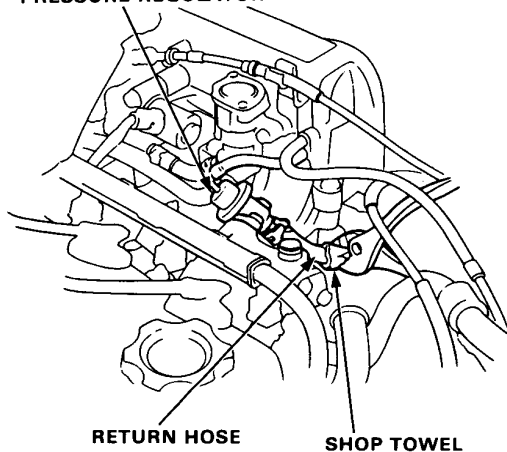
Pressure should be:  
275–324 kPa (2.8–3.3 kg/cm<sup>2</sup>, 40–47 psi)  
(with the regulator vacuum hose disconnected)

FUEL PRESSURE GAUGE  
07406-0040001



2. Reconnect the vacuum hose to the pressure regulator.
3. Check that the fuel pressure rises when the vacuum hose from the regulator is disconnected again.
  - If the fuel pressure did not rise, check to see if it rise with the fuel return hose lightly pinched.
  - If the fuel pressure still does not rise, replace the pressure regulator.

PRESSURE REGULATOR

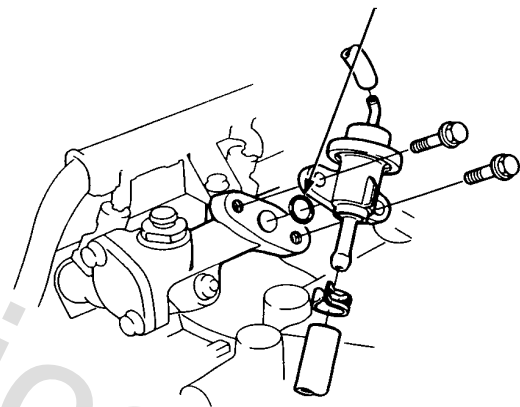


### Replacement

**⚠ WARNING** Do not smoke while working on fuel system. Keep open flame way from work area.

1. Place a shop towel under pressure regulator, then relieve fuel pressure (page 6-24).
2. Disconnect the vacuum hose and fuel return hose.
3. Remove the two 6 mm retainer bolts.

O-RING  
Replace.



#### NOTE:

- Replace the O-ring.
- When assembling the regulator, apply clean engine oil to the O-ring and assemble it into its proper position, taking care not to damage the O-ring.

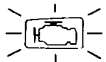
# Emission Control System

## Exhaust Gas Recirculation System

### Troubleshooting Flowchart



Self-diagnosis Check Engine warning light indicates code 12: Most likely a problem in the Exhaust Gas Recirculation (EGR) system.



— Check Engine warning light has been reported on, with service check connector jumped (page 6-14), CODE 12 is indicated.

Turn the ignition switch OFF.

Remove the BACK UP fuse in the under-hood relay box for 10 seconds to reset ECU.

Road test necessary: Warm up the engine to normal operating temperature (cooling fan comes on). Drive the car on the road for approx. 10 minutes. Try to keep the engine speed in the 1700—2500 range.

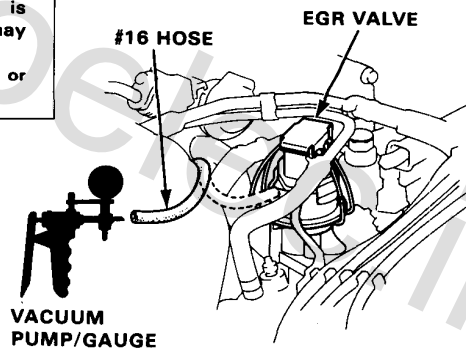
Is Check Engine warning light on and does it indicated CODE 12 ?

NO

Intermittent failure, system is OK at this time (test drive may be necessary). Check for poor connections or loose wires at EGR and ECU.

YES

With the engine at idle, disconnect the #16 hose from the EGR valve and connect a vacuum pump/gauge to the hose.



(To page 6-27)

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## Automatic Transmission

### Road Test ..... 9-2

NOTE: Refer to following shop manuals for service procedures.

On-car service of the automatic transmission	.....	ACCORD CHASSIS Maintenance and Repair (62SM400) Automatic Transmission PX4B (Fuel-Injected Engine) ACCORD SUPPLEMENT 92 (62SM422) Automatic Transmission (Fuel-Injected Engine)
Automatic transmission service	.....	PX4B AUTOMATIC TRANSMISSION Maintenance and Repair (62PX400) • PX4B Automatic Transmission B type • Differential ACCORD SUPPLEMENT 92 (62SM422) Automatic Transmission (Fuel-Injected Engine)



### SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

The ACCORD COUPE includes a driver's side airbag, located in the steering wheel hub, as part of a Supplemental Restraint System (SRS Type I). Information necessary to safely service the SRS is included in 92 ACCORD shop manual (P/N 62SM422). Servicing, disassembling or replacing these items will require special precautions and tools, and should therefore be done only by an authorized HONDA dealer.

#### Outline of Model Change

The ACCORD COUPE has been added.

# Road Test

NOTE: Warm up the engine to operating temperature.

1. Apply parking brake and block the wheels. Start the engine, then move the selector lever to **D<sub>4</sub>** while depressing the brake pedal. Depress the accelerator pedal, and release it suddenly. Engine should not stall.
2. Repeat same test in **D<sub>3</sub>** position.
3. Shift the selector lever to **D<sub>4</sub>** position and check that the shift points occur at approximate speeds shown. Also check for abnormal noise and clutch slippage.

**D<sub>4</sub>** Position: Normal Mode (S switch OFF)

● Upshift

		1st–2nd	2nd–3rd	3rd–4th	Lock-up Clutch ON
0.7/8 throttle Coasting down-hill from a stop	km/h	21–24	42–45	58–64	23–27
	mph	13–15	26–28	36–40	14–17
3.5/8 throttle Acceleration from a stop	km/h	27–34	56–63	87–97	97–105
	mph	17–21	35–39	54–60	60–65
Full-throttle Acceleration from a stop	km/h	48–56	108–114	151–164	130–138
	mph	30–35	67–71	94–102	81–86

● Downshift

		Lock-up Clutch OFF	4th–3rd	3rd–2nd	2nd–1st
0.7/8 throttle Coasting or braking to a stop	km/h	21–26	29–35	—	(3rd–1st) 10–16
	mph	13–16	18–22	—	(3rd–1st) 6–10
3.5/8 throttle When car is slowed by increased grade, wind, etc.	km/h	77–85	—	—	—
	mph	48–53	—	—	—
Full-throttle When car is slowed by increased grade, wind, etc.	km/h	127–135	126–135	85–94	40–48
	mph	79–84	78–84	53–59	25–30

**D<sub>4</sub>** Position: S Mode (S switch ON)

● Upshift

		1st–2nd	2nd–3rd	3rd–4th	Lock-up Clutch ON
0.7/8 throttle Coasting down-hill from a stop	km/h	18–21	42–45	77–84	40–45
	mph	11–13	26–28	48–52	25–28
3.5/8 throttle Acceleration from a stop	km/h	27–34	77–84	113–122	121–129
	mph	17–21	48–52	70–76	75–80
Full-throttle Acceleration from a stop	km/h	48–56	108–114	154–164	138–146
	mph	30–35	67–71	96–102	86–91

● Downshift

		Lock-up Clutch OFF	4th–3rd	3rd–2nd	2nd–1st
0.7/8 throttle Coasting or braking to a stop	km/h	40–45	29–35	—	(3rd–1st) 10–16
	mph	25–28	18–22	—	(3rd–1st) 6–10
3.5/8 throttle When car is slowed by increased grade, wind, etc.	km/h	95–103	—	—	—
	mph	59–64	—	—	—
Full-throttle When car is slowed by increased grade, wind, etc.	km/h	127–135	126–135	86–98	40–48
	mph	79–84	78–84	55–61	25–30



4. Accelerate to about 35 mph (57 km/h) so the transmission is in 4th, then shift **D<sub>4</sub>** to **2**. The car should immediately begin slowing down from engine braking.

**CAUTION:** Do not shift from **D<sub>4</sub>** or **D<sub>3</sub>** to **2** or **1** at speeds over 62.5 mph (100 km/h); you may damage the transmission.

**1 (1st Gear)**

1. Accelerate from a stop at full throttle. Check that there is no abnormal noise or clutch slippage.
2. Upshifts and downshifts should not occur with the selector in this position.

**2 (2nd Gear)**

1. Accelerate from a stop at full throttle. Check that there is no abnormal noise or clutch slippage.
2. Upshifts and downshifts should not occur with the selector in this position.

**R (Reverse)**

Accelerate from a stop at full throttle, and check for abnormal noise and clutch slippage.

**P (Park)**

Park car on slope (approx. 16°), apply the parking brake, and shift into Park. Release the brake; the car should not move.

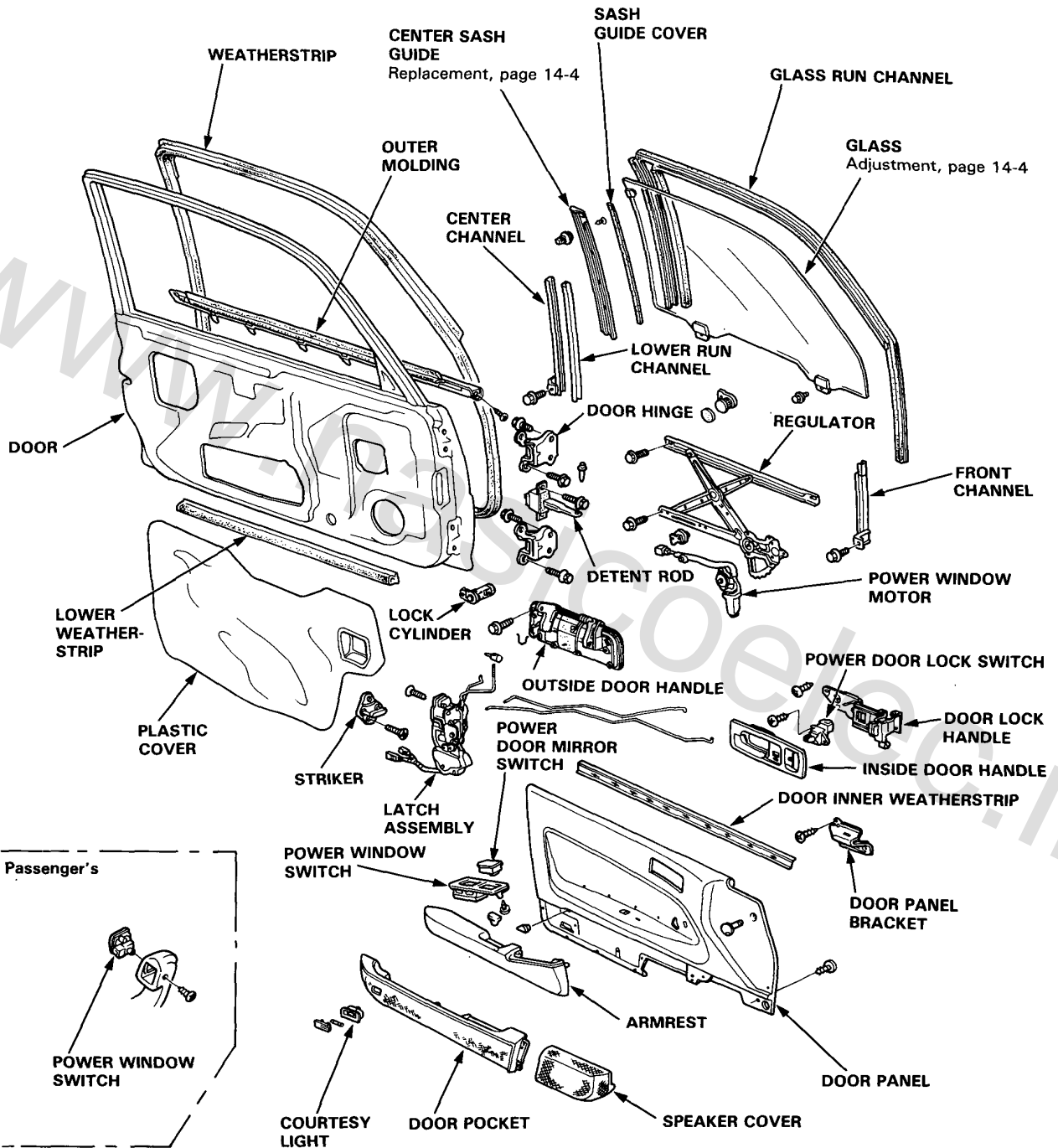


**Door**  
**Quarter Glass**  
**Interior Trim**  
**Front Seat Cables/Rear Seats**  
**Seat Belts**  
**Trunk Lid/Fuel Lid Opener Cables**  
**Side Mouldings**

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# Doors

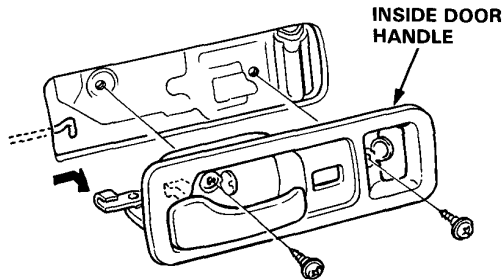
## Index



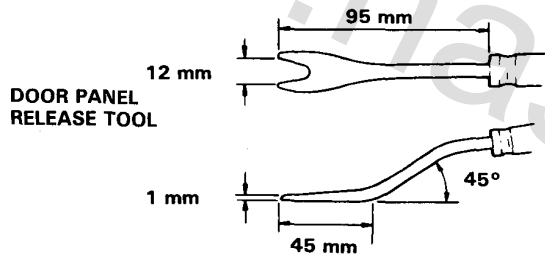


## Inside Door Handle/Lock Handle Replacement

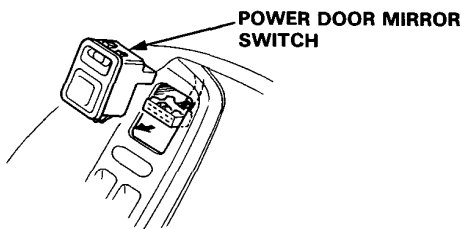
1. Remove the mounting screws, then pull the inside door handle out half-way and disconnect the latch rod.



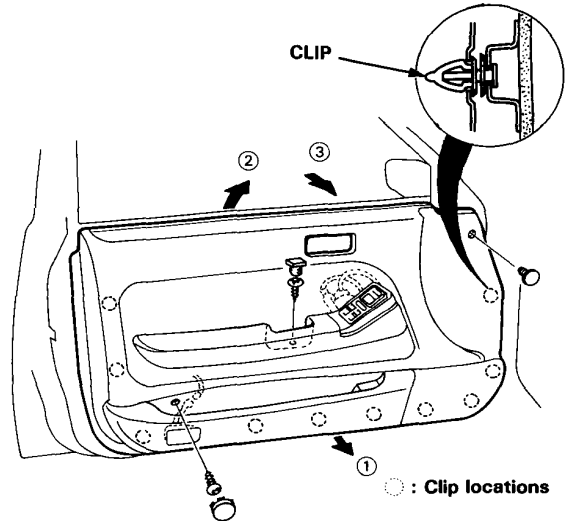
NOTE: Remove the panel with as little bending as possible to avoid creasing or breaking it.



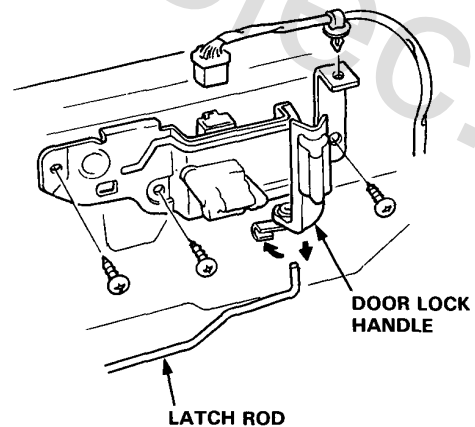
2. Remove the power door mirror switch and disconnect the connector.



3. Remove the screws and clips (see door panel release tool) attaching the door panel. Remove the door panel by pulling it upward and disconnect the power window and courtesy light harnesses.



4. Disconnect the connector and latch rod. Remove the mounting screws, then remove the door lock handle.

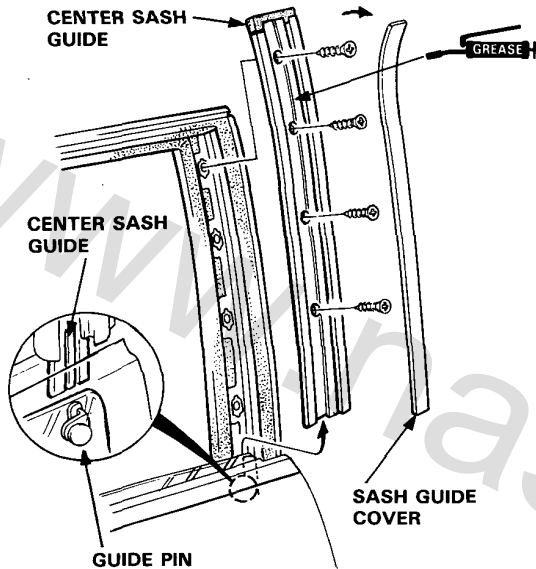


5. Installation is the reverse of the removal procedure.

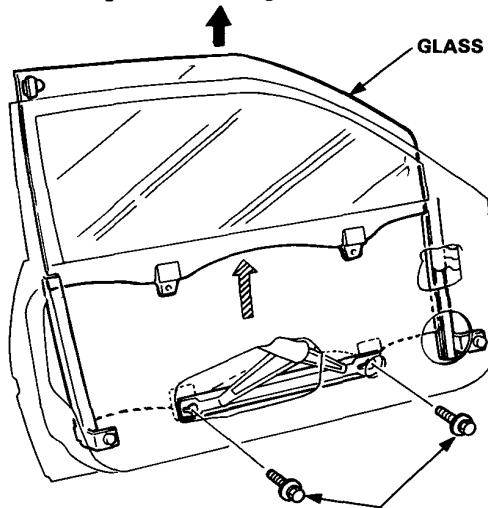
# Doors

## Center Sash Guide/Glass Replacement

1. Remove:
  - Door panel (page 14-3)
  - Plastic cover
2. Lower the window fully.
3. Peel off the sash guide cover and remove the mounting screws, then remove the center sash guide from the door.



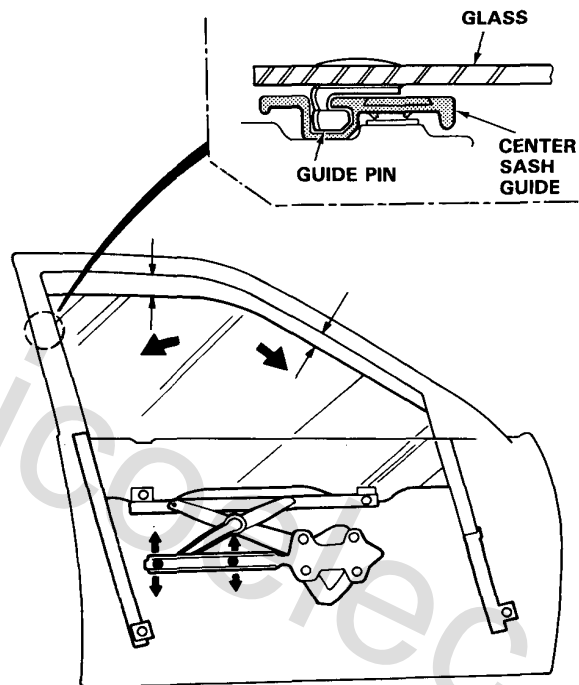
4. Carefully raise the window until you can see its mounting bolts, then remove the bolts.
5. Pull the glass out through the window slot.



**GLASS MOUNTING BOLTS**  
6 x 1.0 mm  
6 N·m (0.6 kg-m, 4.3 lb-ft)

6. Installation is the reverse of the removal procedure.
7. Roll the glass up and down to see if it moves freely without binding. Also make sure that there is no clearance between the glass and glass run channel when the glass is closed.

**NOTE:** If necessary, loosen the roller guide bolt and adjust the window glass so it is parallel with the glass run channel.

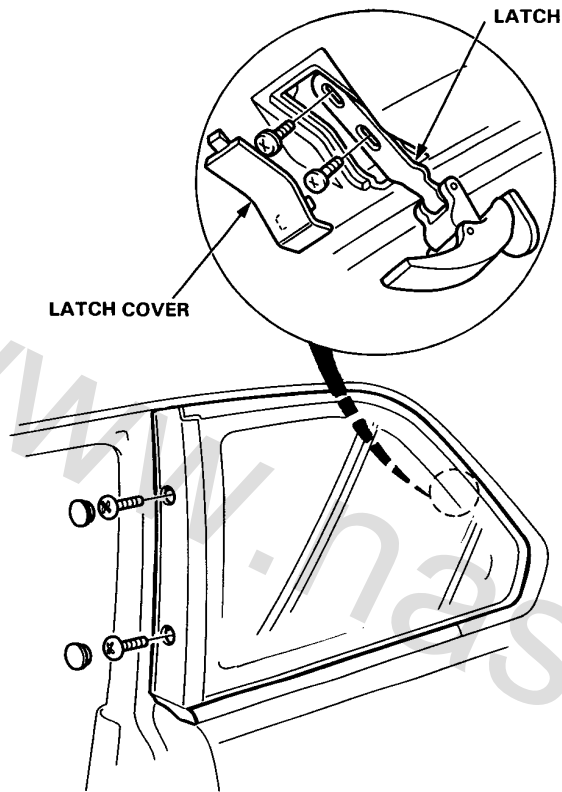




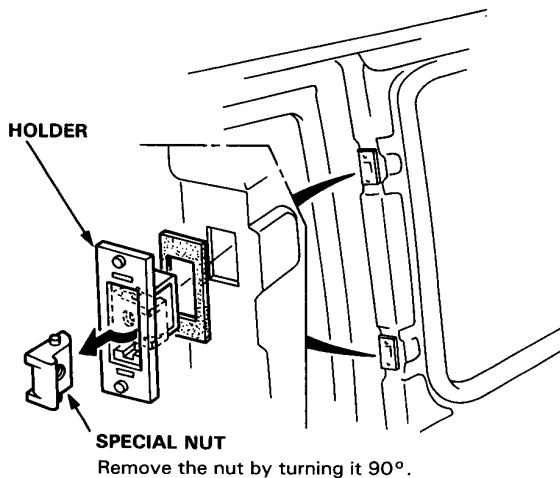
# Quarter Glass

## Replacement

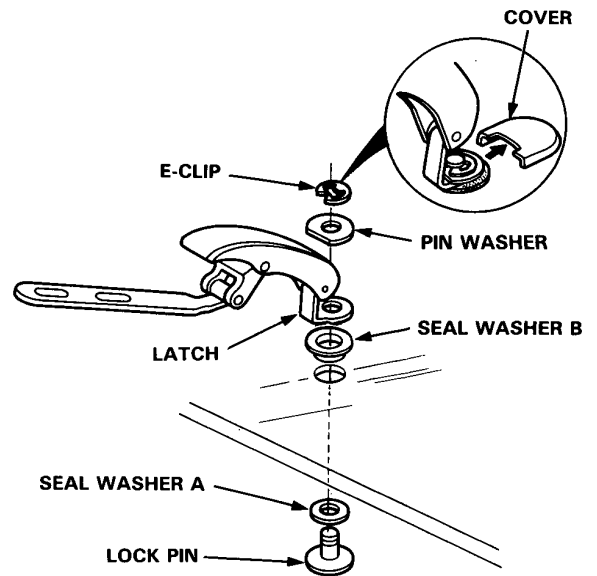
1. Pry the latch cover out and remove the mounting screws.



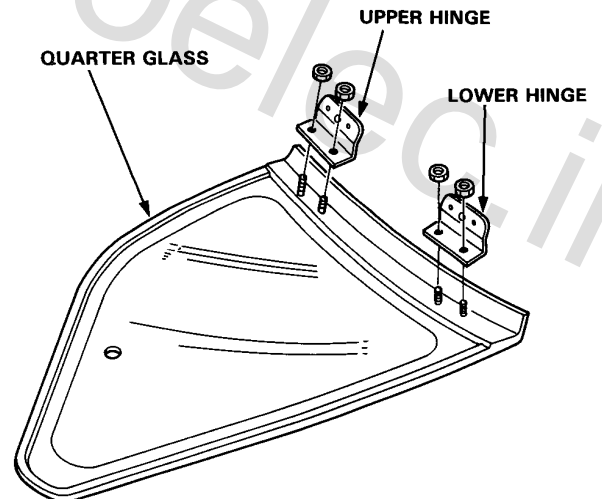
2. Remove the caps and 2 screws, then remove the quarter glass.
3. If necessary, pull out the special nut and holder from the body.



4. Remove the E-clip with a flat tip screwdriver, then remove the latch.



5. Remove the hinge mounting nuts and quarter glass hinges.

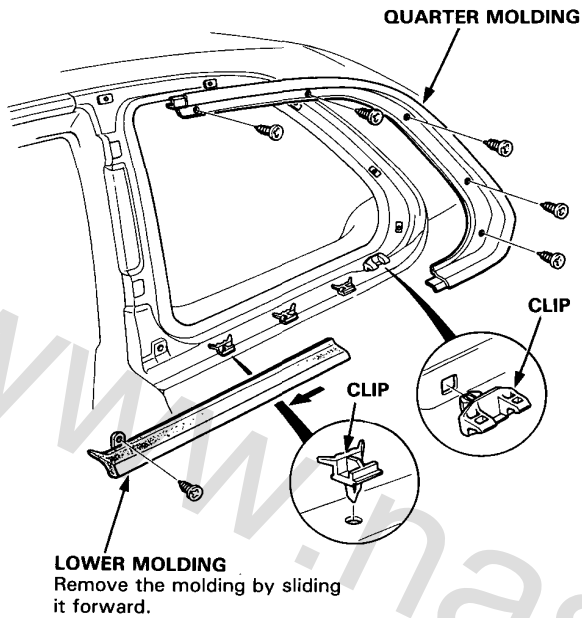


(cont'd)

# Quarter Glass

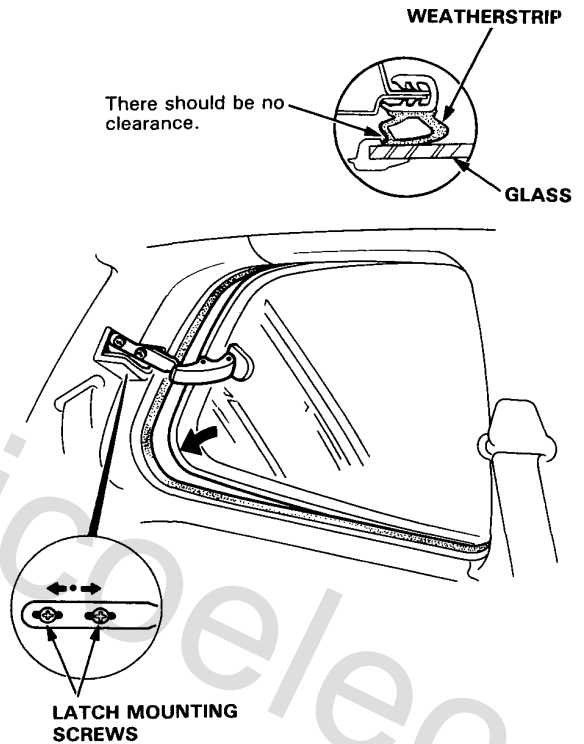
## Replacement (cont'd)

6. Remove the lower molding and the quarter molding.



7. Install the lower molding, set the clips on to the molding.

8. Install in the reverse order of removal. Check for proper glass fit when closed after installation. To adjust, loosen the latch mounting screws and move the latch back and forth. Adjust so that the latch works smoothly, and the glass closes securely. Check for proper contact between the glass and weatherstrip at the rear edge.



9. With the quarter glass closed fully, check for water and air leaks.

**NOTE:** Do not use high pressure water.



# Interior Trim

## Replacement

Disassemble in numbered sequence.

⊙: Clip locations

### ③ FRONT PILLAR TRIM

To remove the trim, first remove the upper anchor bolt from the front seat belt.

Seal with trim adhesive

### ③ REAR PILLAR TRIM PANEL

To remove the panel, first remove the lower anchor bolt from rear seat belt and quarter glass latch.

### ② DOOR TRIM

### ① QUARTER WINDOW TRIM

### ② QUARTER TRIM PANEL

To remove the panel, first remove the rear seat and trunk front side panel.

PLASTIC COVER

### ① DOOR SILL MOLDING

KICK PANEL

### QUARTER TRIM PANEL

### ③ SIDE POCKET ASSEMBLY

DOOR SILL MOLDING

HOOK

### ① JACK COVER

### ④ REAR TRIM PANEL ASSEMBLY

### ⑤ TRUNK SIDE PANEL

To remove the panel, first remove the trunk front side panel.

### ② MAINTENANCE DOORS

### ③ TRUNK FRONT SIDE PANEL

To remove the shelf, first remove the rear speakers and rear seat lock cylinder trim ring.

### ① TRUNK UPPER TRIM

### ② TRUNK FRONT UPPER PANEL

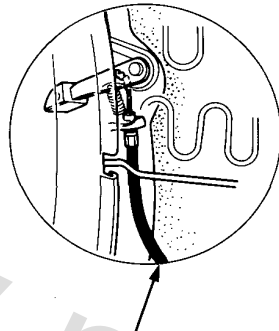
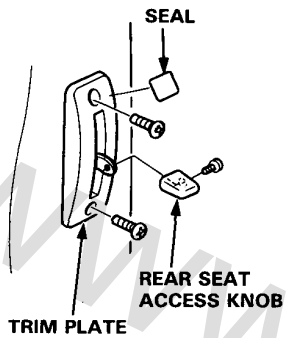
# Front Seat Cables/Rear Seats

## Front Seat Cables Replacement

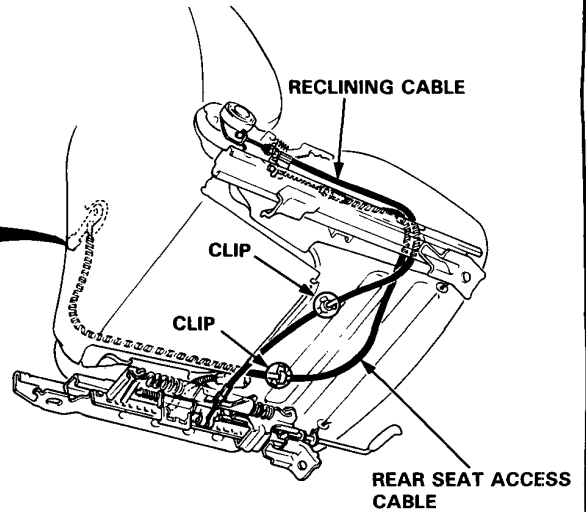
Passenger's:

NOTE:

- Before installing the seat, make sure there are no twisted or pinched wires and cables.
- Apply the grease to the moving surface.



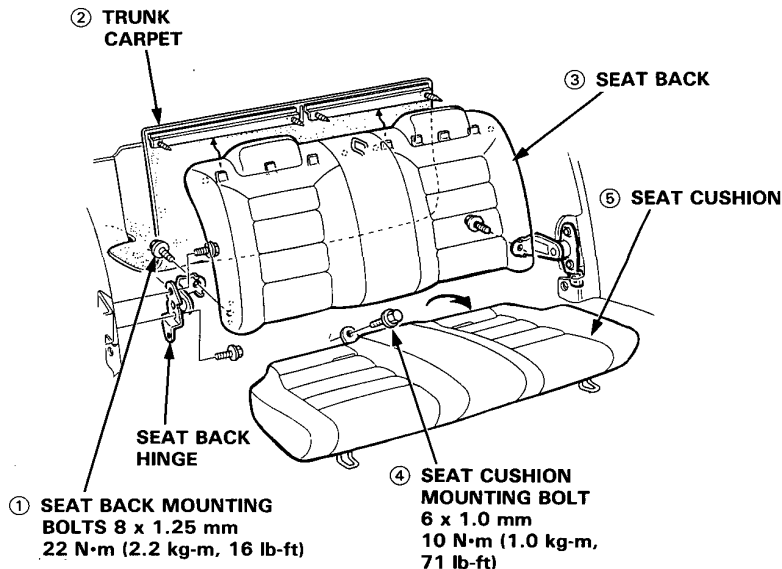
**REAR SEAT ACCESS CABLE**  
To remove the cable, first remove the back cover.



## Rear Seats Replacement

NOTE:

- Before tightening the seat back mounting bolts, adjust the seat back fit and latch.
- Pass the seat belts through the belt guides of the seat cushion.



① SEAT BACK MOUNTING BOLTS 8 x 1.25 mm  
22 N·m (2.2 kg-m, 16 lb-ft)

④ SEAT CUSHION MOUNTING BOLT 6 x 1.0 mm  
10 N·m (1.0 kg-m, 71 lb-ft)





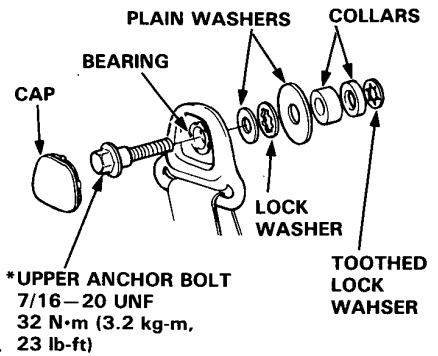
# Seat Belts

## Replacement

**CAUTION:** Check the seat belts for damage and replace them if necessary. Be careful not to damage them during removal and installation.

1. Remove the anchor bolts and retractor mounting bolt with a 17 mm socket or box-end wrench.

Front:



SEAT BELT GUIDE

SEAT BELTS RETRACTOR

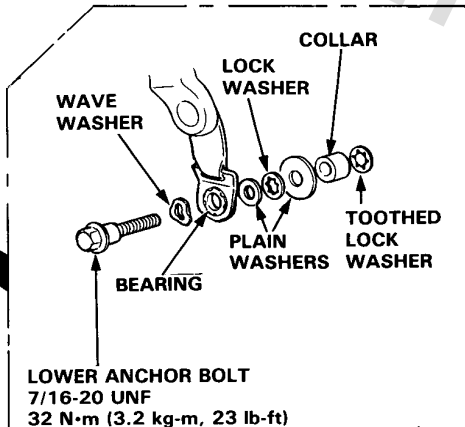
To remove the retractor, first remove the quarter trim panel (page 14-7).

NOTE: Check that the retractor locking mechanism functions as described on page 14-10.

6 x 1.0 mm  
10 N·m (1.0 kg-m,  
7 lb-ft)

RETRACTOR MOUNTING BOLT  
7/16-20 UNF  
32 N·m (3.2 kg-m,  
23 lb-ft)

\*CENTER ANCHOR BOLT  
7/16-20 UNF  
34 N·m (3.4 kg-m,  
25 lb-ft)

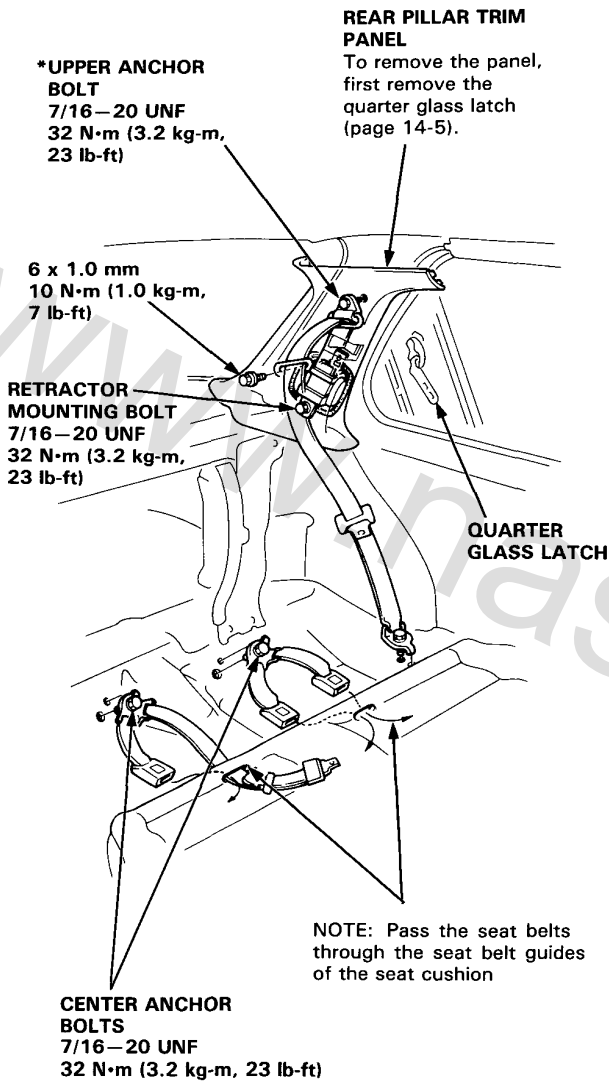


(cont'd)

# Seat Belts

## Replacement (cont'd)

Rear:



2. Installation is the reverse of the removal procedure.

**NOTE:**

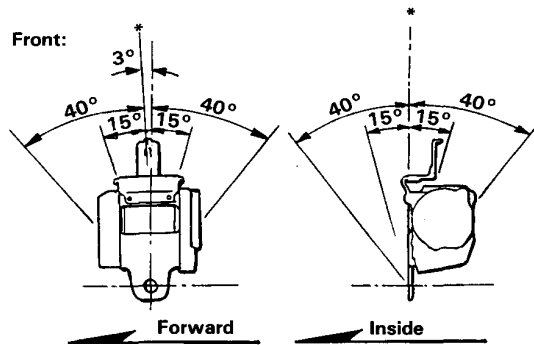
- Make sure you assemble the washers and collars on the upper and lower anchor bolts as shown.
- \* On reassembly, replace the upper anchor and center anchor bolts and use liquid thread lock.

## Inspection

### Retractor Inspection

1. With the retractor installed, check that the belt can be pulled out freely.
2. Make sure that the belt does not lock when the retractor is leaned slowly up to 15° from the mounted position. The belt should lock when the retractor is leaned over 40°.

**CAUTION:** Do not attempt to disassemble the retractor. \*: Mounted Position.



3. Replace the belt with a new one if there is any abnormality.

### On-the-Car Belt inspection

1. Check that the belt is not twisted or caught on anything.
2. After installing the anchors, check for free movement on its retaining bolt. If necessary, remove the bolt and check that the washers and other parts are not damaged or improperly installed.
3. Check the belts for damage or discoloration. Clean with a shop towel if necessary.

**CAUTION:** Use only soap and water to clean.

**NOTE:** Dirt build-up in the metal loops of the seat belt anchors can cause belts to retract slowly. Wipe the inside of the loops with a clean cloth dampened in isopropyl alcohol.

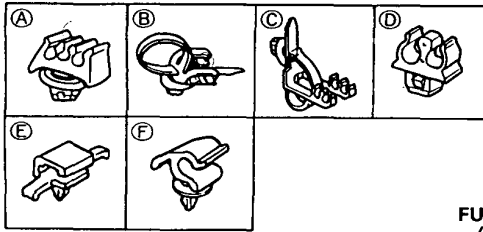
4. Check that the belt does not lock when pulled out slowly. The belt is designed to lock only during a sudden stop or impact.
5. Make sure that the belt will retract automatically when released.
6. Replace the belt with a new one if there is any abnormality.



# Trunk Lid/Fuel Lid Opener Cables

## Replacement

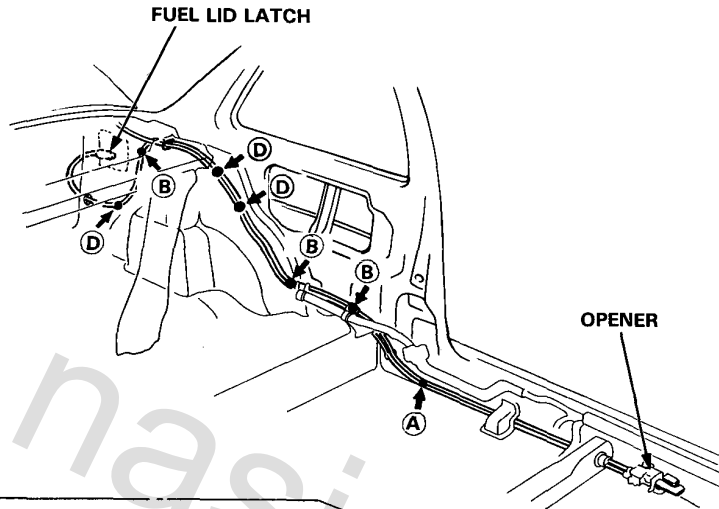
### →: Cliplocations



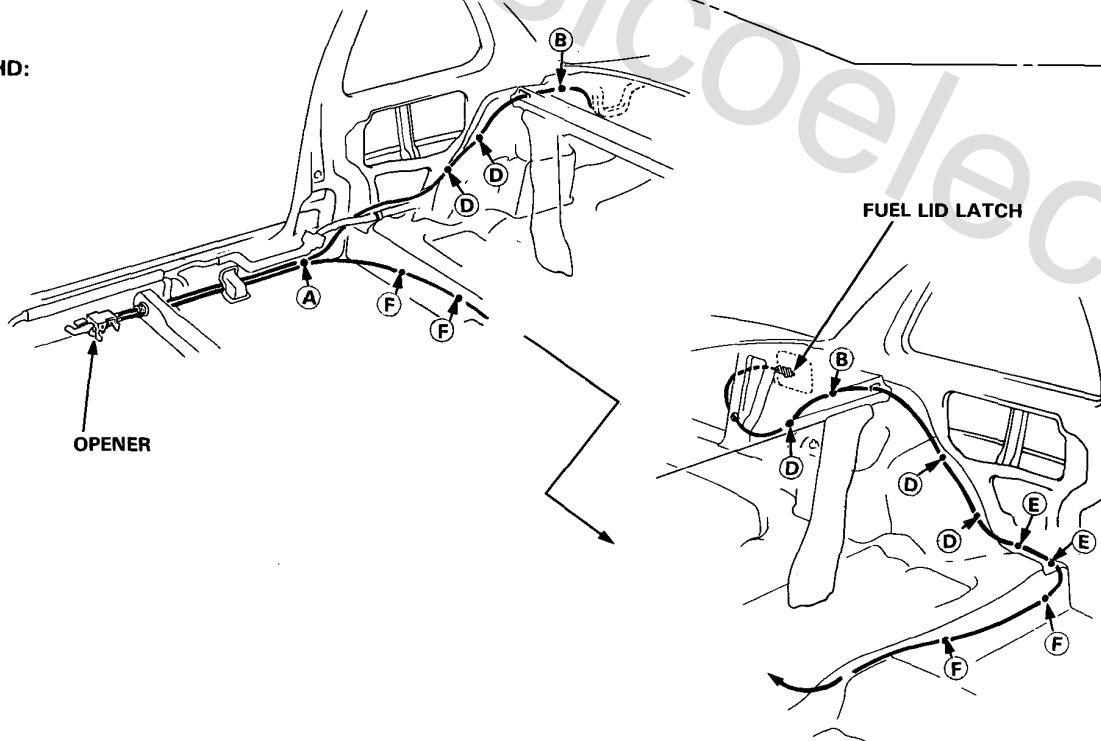
### NOTE:

- Take care not to bend the cable.
- After installing, check that the trunk lid and fuel lid opener cables are routed and connected properly.

LHD:

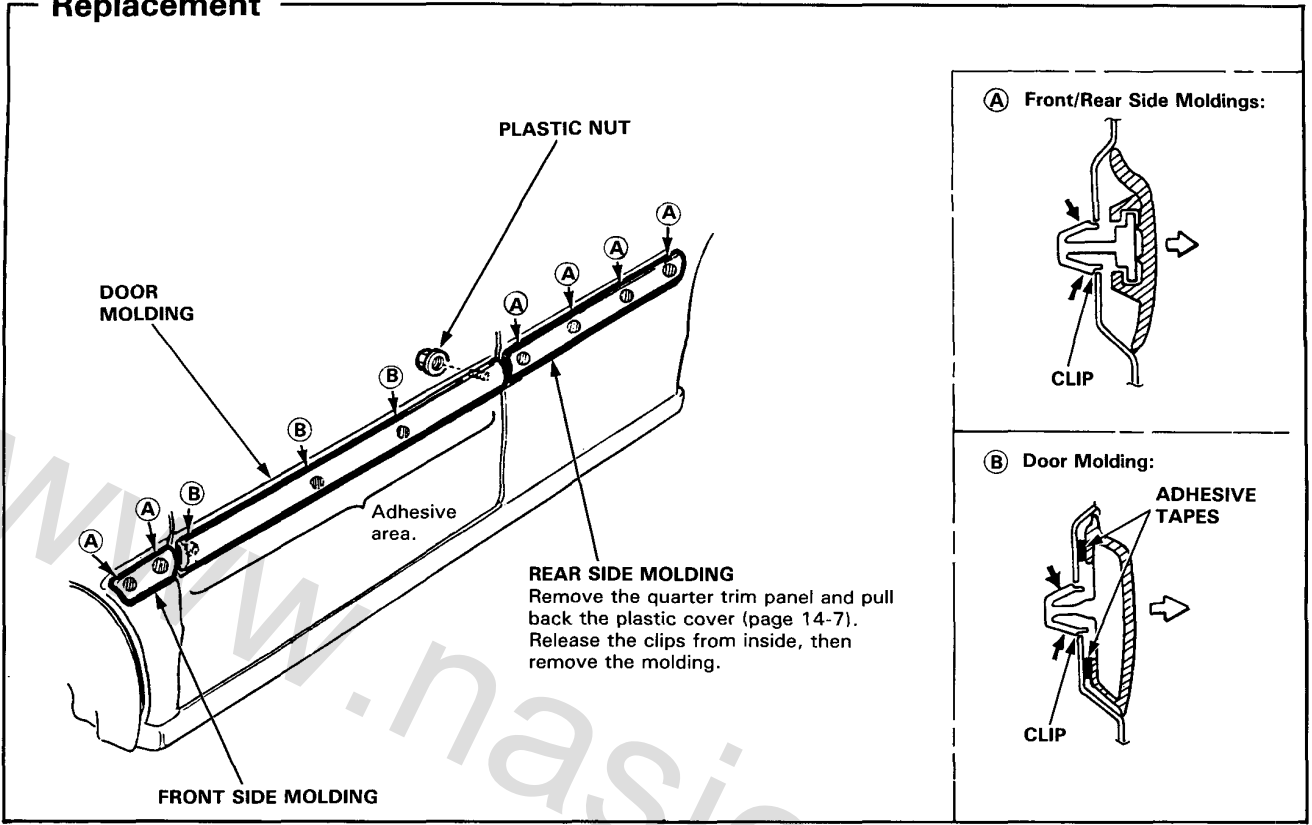


RHD:



# Side Moldings

## Replacement



## **Special Tools**

### **Relay and Control Unit Locations**

Engine Compartment

Dashboard

Door and Floor

### **Wire Harness and Ground Locations**

Engine Compartment

Dashboard

Floor

Trunk

Door

Roof

## **Fuses**

Under - hood Fuse/Relay Box

Under - hood Fuse/Relay Box

Under - hood ABS Fuse/Relay Box

## **Power Distribution**

### **Ground Distribution**

### **Charging System**

Troubleshooting

### **Gauge Assembly**

Circuit Diagram

Terminal Locations

Bulb Locations

### **Safety Indicator**

Circuit Diagram

Indicator Input Test

### **Shift Lever Position Indicator**

Circuit Diagram

Indicator Input Test

### **Lighting System**

Lighting Switch Replacement

## **Horns**

Component Location Index

Circuit Diagram

Switch Test

Horn Relay Test

## **Locks, Power**

Component Location Index

Circuit Diagram

## **Windows, Power**

Component Location Index

Circuit Diagram

Troubleshooting

Master Switch Input Test

Master Switch Test

Passenger's Door Switch Test

## **Wipers/ Washers**

Wipers/ Washer Switch Replacement

## **Cruise Control ( KE model)**

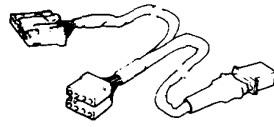
Component Location Index

Circuit Diagram

Set/Resume Switch Test

# Special Tools

Ref. No	Tool Number	Description	Qty	Page Reference
①	07LAZ-SL40300	Test Harness C	1	16-61, 78



①

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# Relay and Control Unit Locations

## Engine Compartment

UNDER-HOOD ABS FUSE/RELAY BOX

ABS MOTOR RELAY

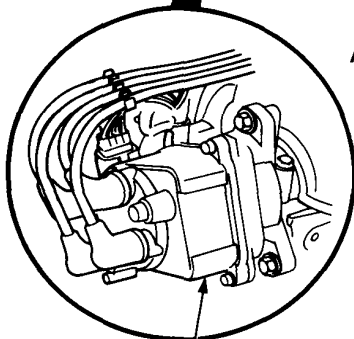
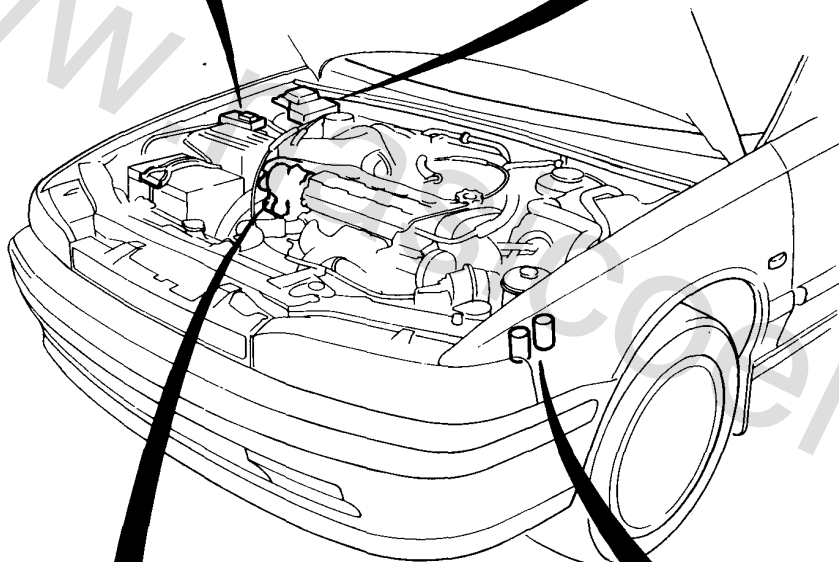
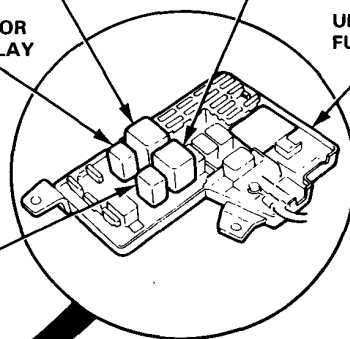
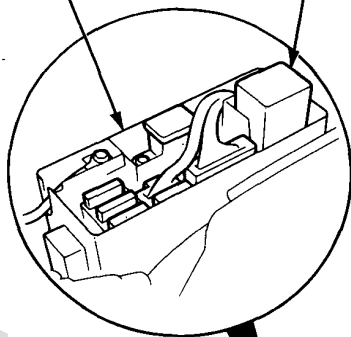
DIMMER RELAY

HEADLIGHT RELAY

RADIATOR FAN RELAY

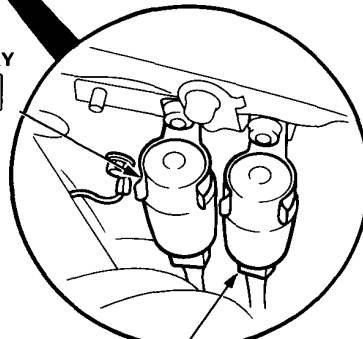
UNDER-HOOD FUSE/RELAY BOX

POWER WINDOW RELAY



DISTRIBUTOR  
(Has built-in igniter unit)

A/C COMPRESSOR CLUTCH RELAY  
[ Wire colors: BLK/YEL, BLK/YEL,  
RED/BLU, and RED ]

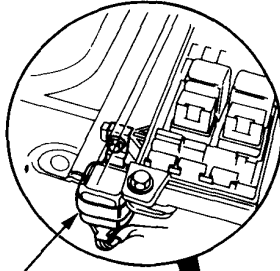


CONDENSER FAN RELAY  
[ Wire colors: YEL/WHT, WHT,  
BLU, and BLU/YEL ]

(cont'd)

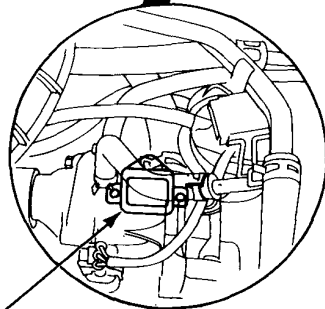
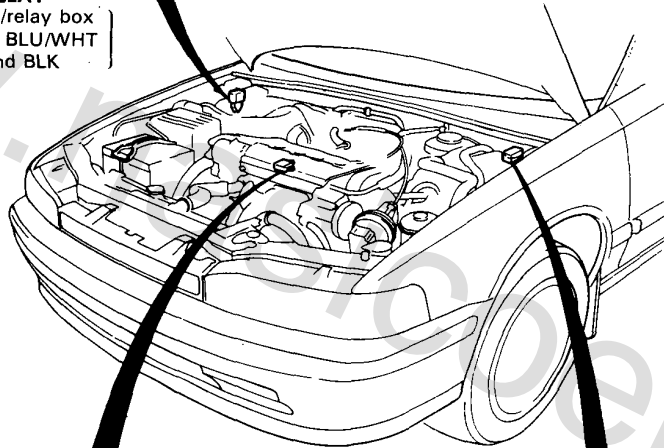
# Relay and Control Unit Locations

## Engine Compartment (cont'd)

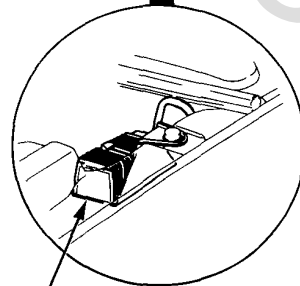


### INTERMITTENT WIPER RELAY

Located under the fuse/relay box  
Wire colors: BLU/WHT, BLU/WHT  
GRN/RED, GRN/BLK, and BLK



### SPEED SENSOR



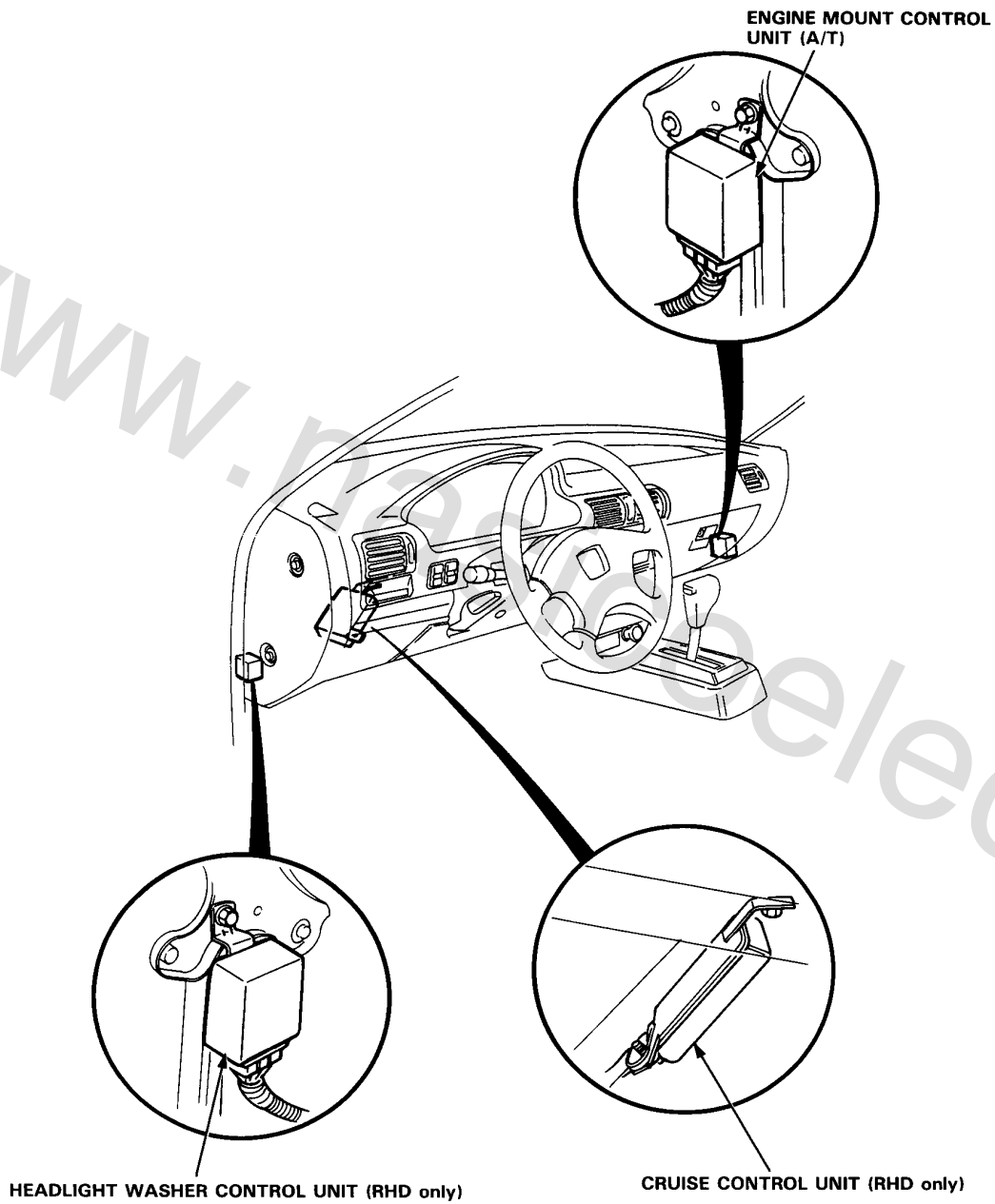
### DIM-DIP RESISTOR (KE model only)





## Dashboard

NOTE: RHD type is symmetrical to LHD type.

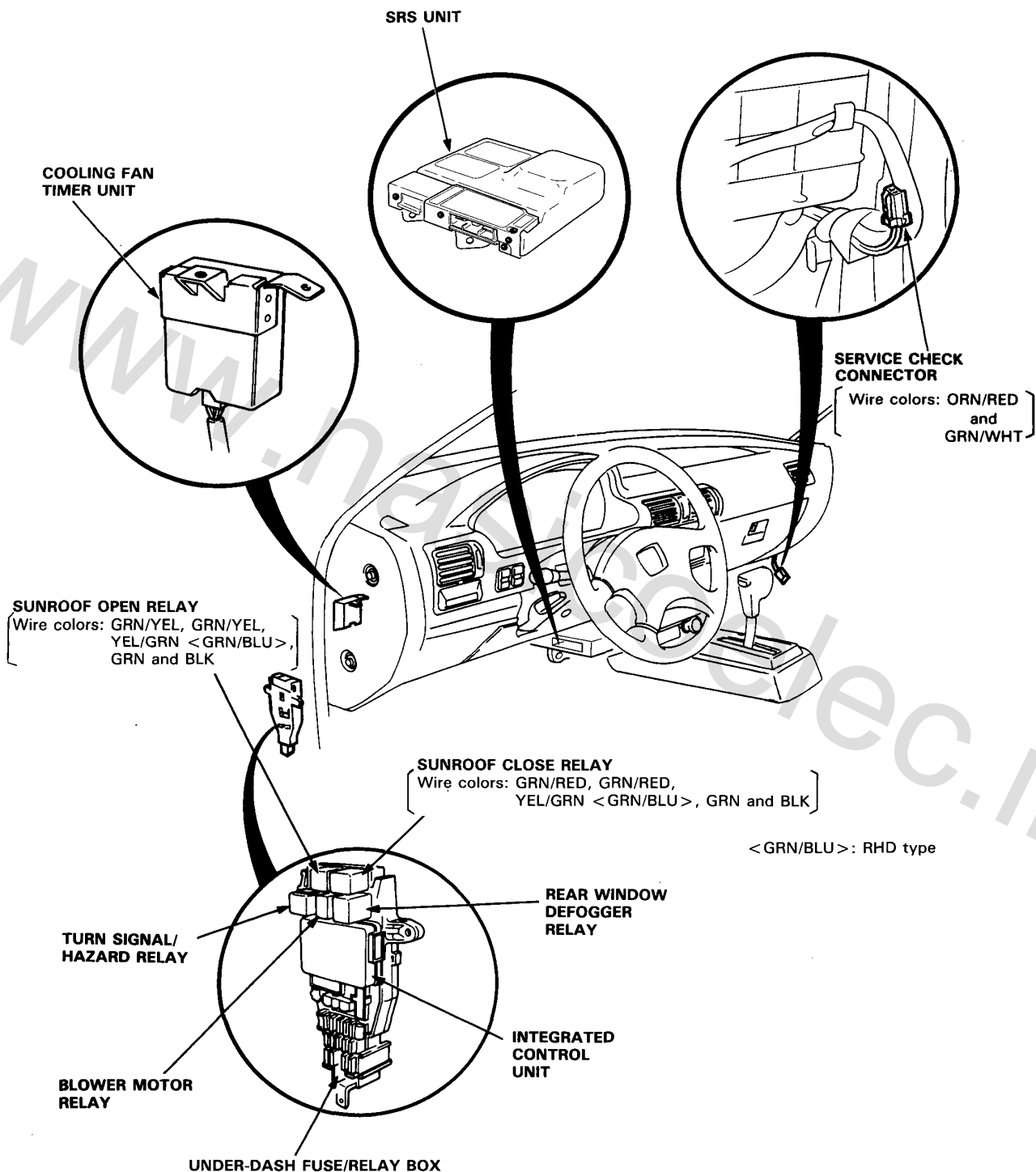


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# Relay and Control Unit Locations

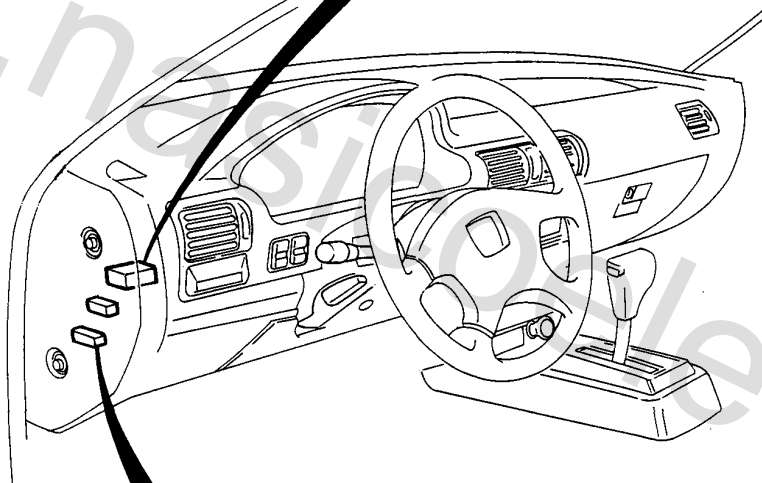
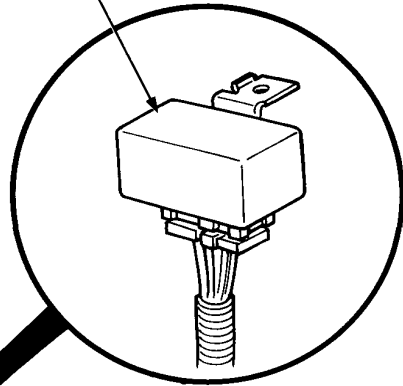
## Dashboard (cont'd)

NOTE: RHD type is symmetrical to LHD type.



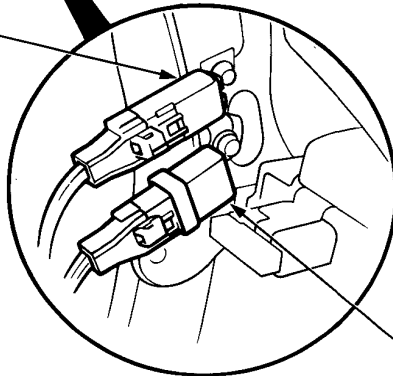


PGM-FI MAIN RELAY



CIGARETTE LIGHTER RELAY

[ Wire colors: WHT/BLU, YEL/RED,  
WHT/RED, and BLK ]



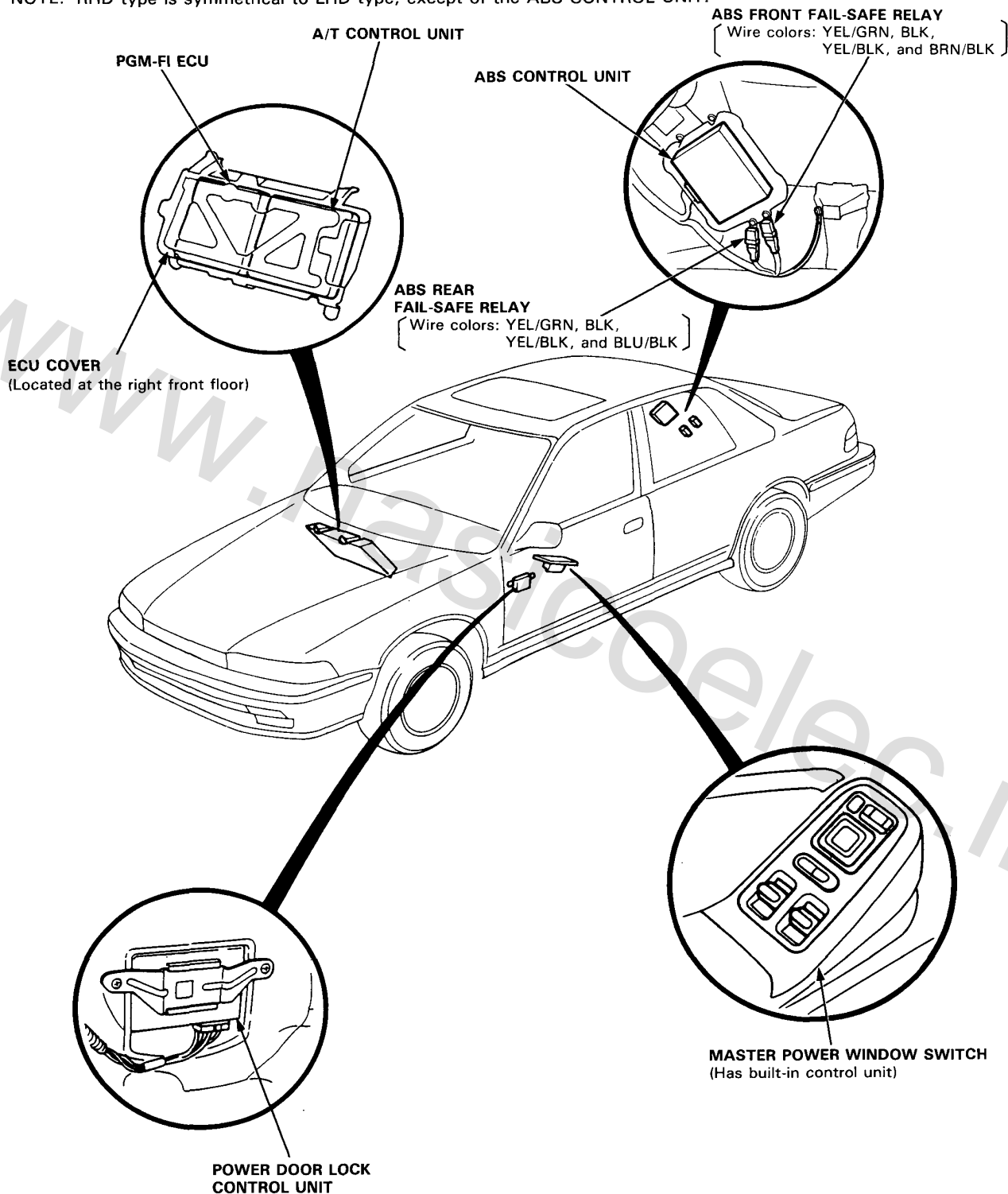
HORN RELAY

[ Wire colors: WHT/YEL, BLU/RED,  
LT GRN/BLU, and BLK ]

# Relay and Control Unit Locations

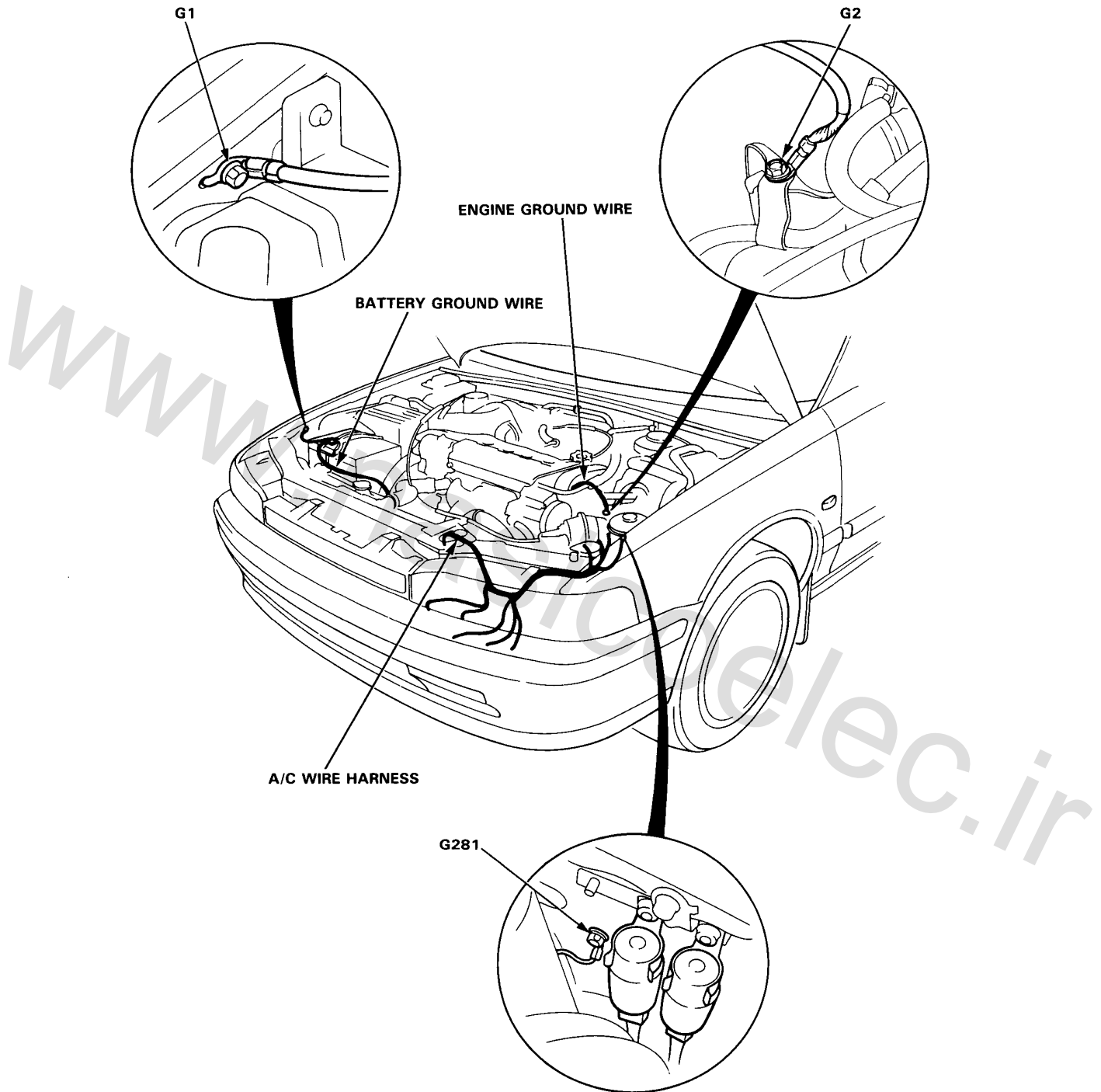
## Door and Floor

NOTE: RHD type is symmetrical to LHD type, except of the ABS CONTROL UNIT.



# Wire Harness and Ground Locations

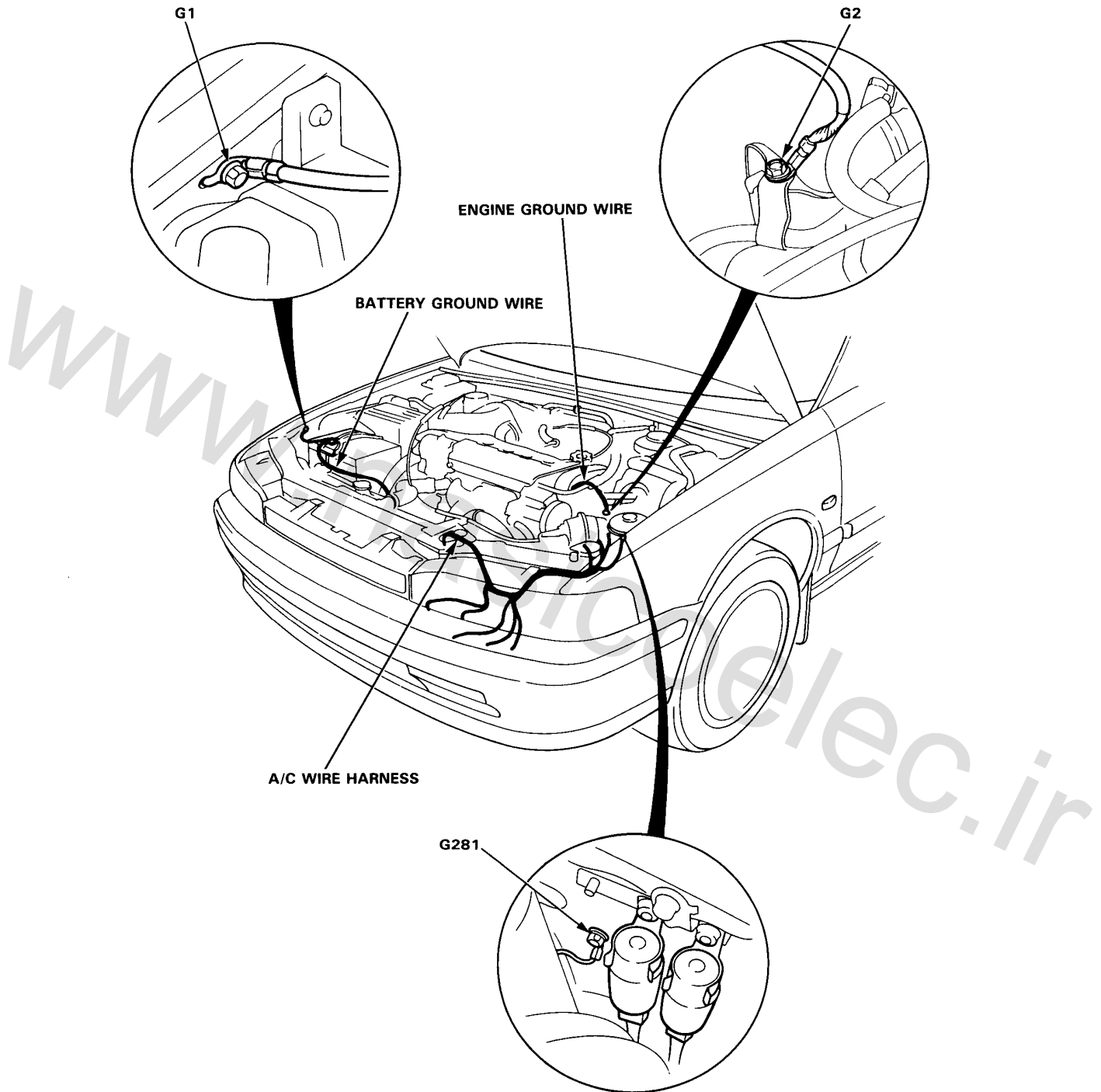
## Engine Compartment



(cont'd)

# Wire Harness and Ground Locations

## Engine Compartment

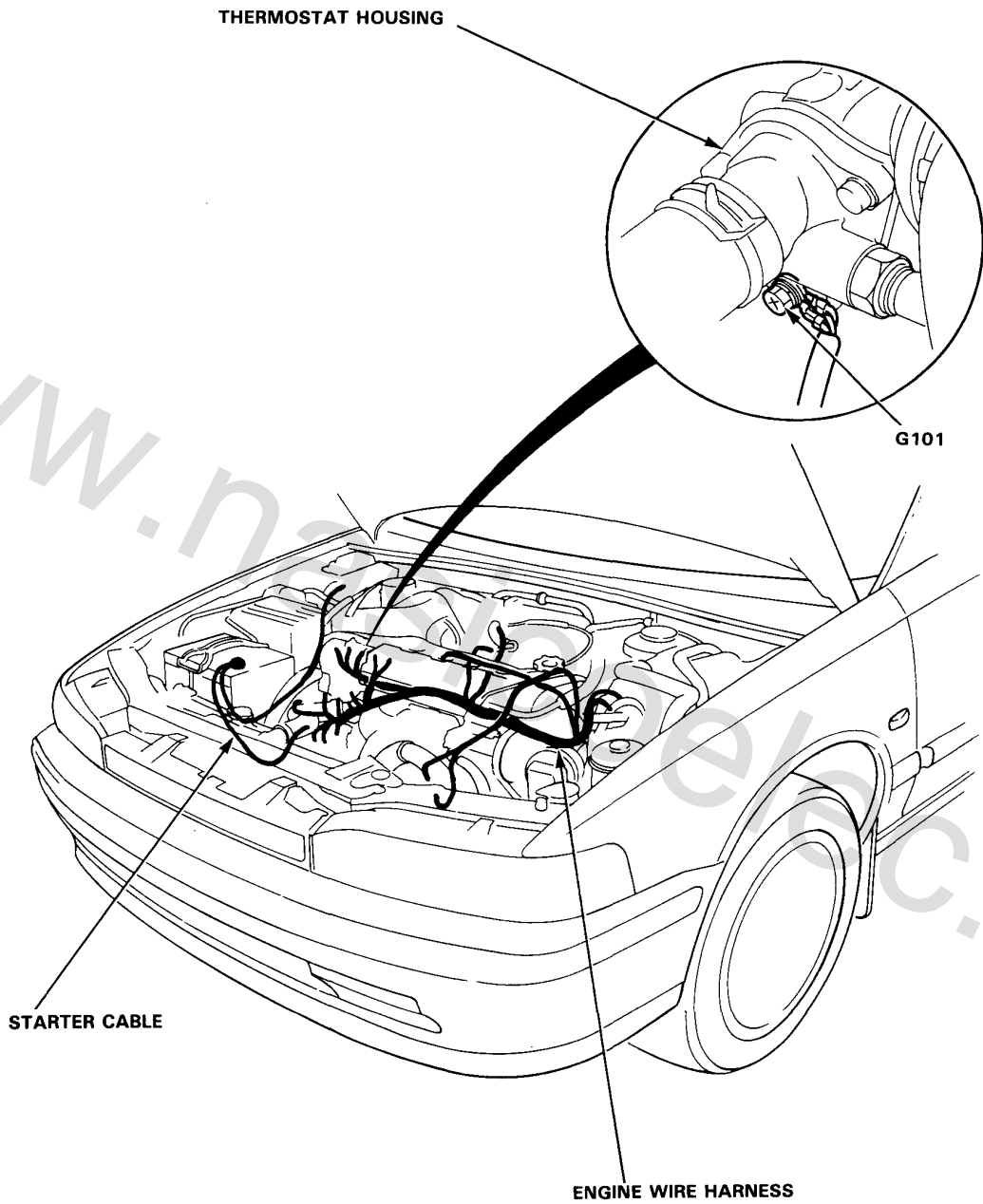


(cont'd)

# Wire Harness and Ground Locations

## Engine Compartment (cont'd)

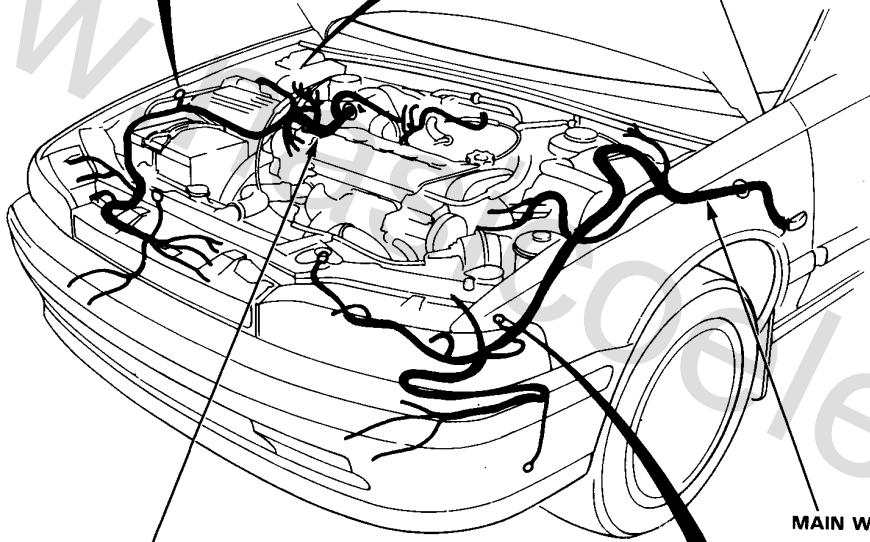
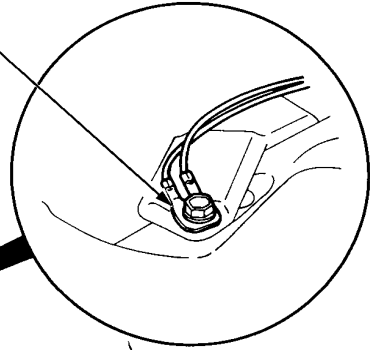
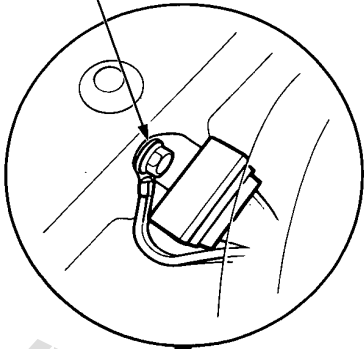
---





G201

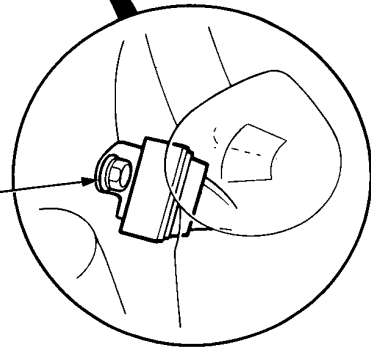
G251  
(Located under the fuse/relay box)



MAIN WIRE HARNESS

MAIN WIRE HARNESS

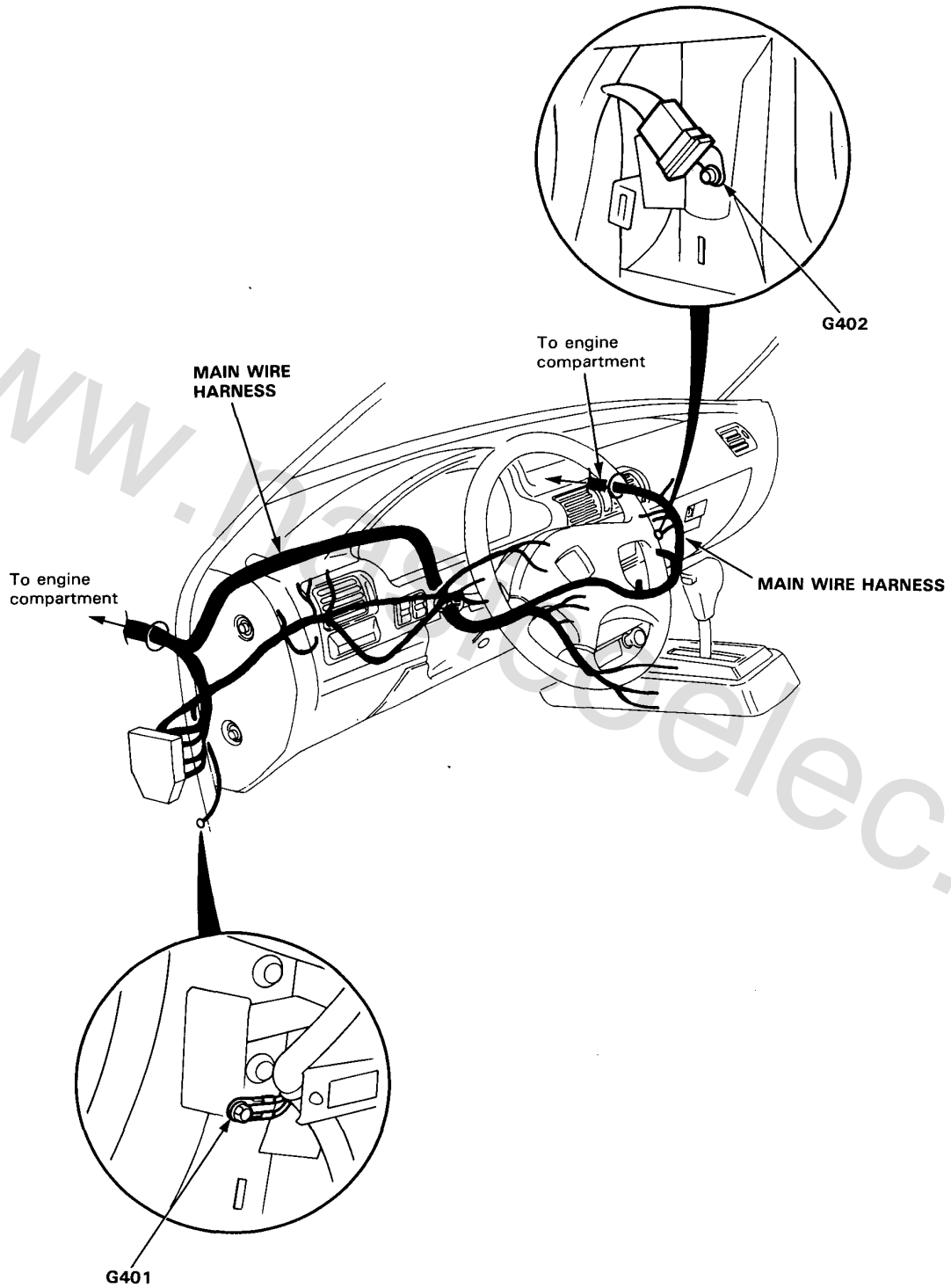
G301





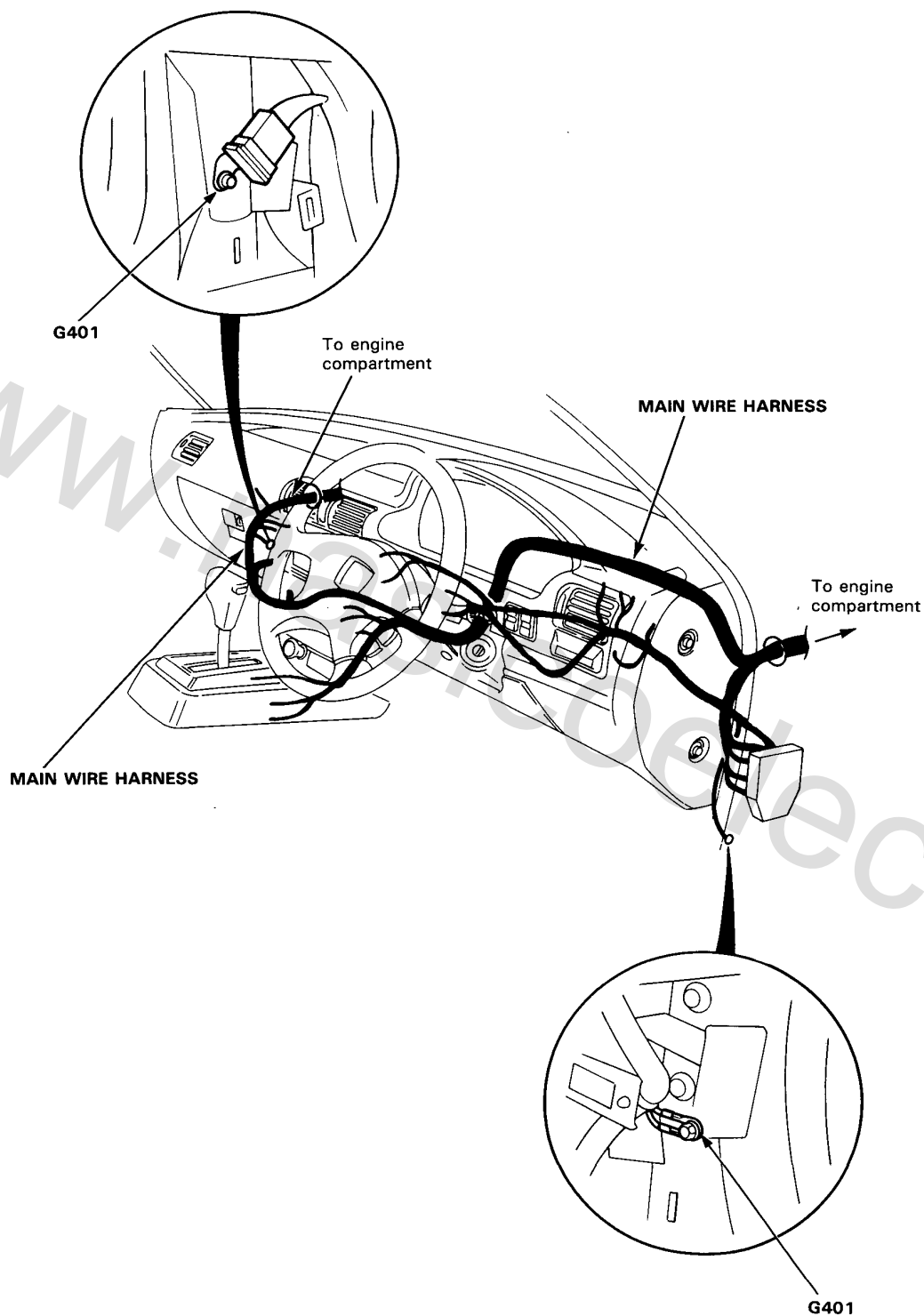
# Wire Harness and Ground Locations

Dashboard (LHD)





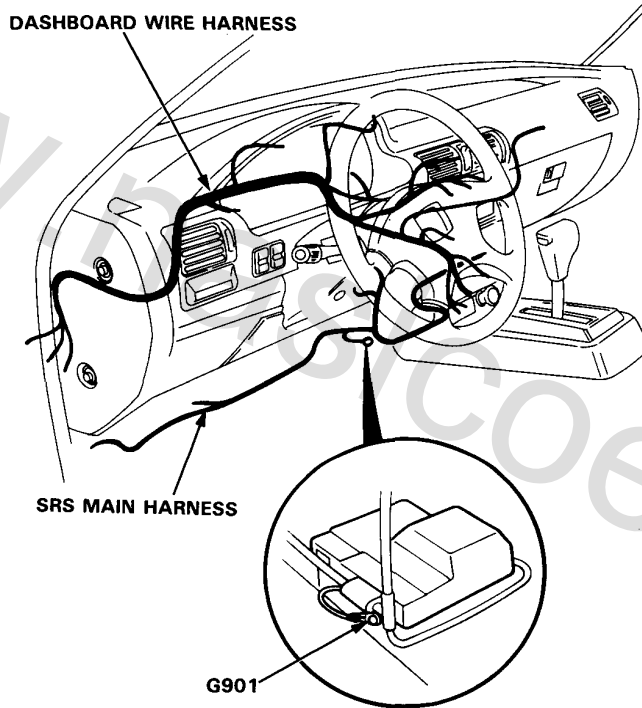
(RHD)



# Wire Harness and Ground Locations

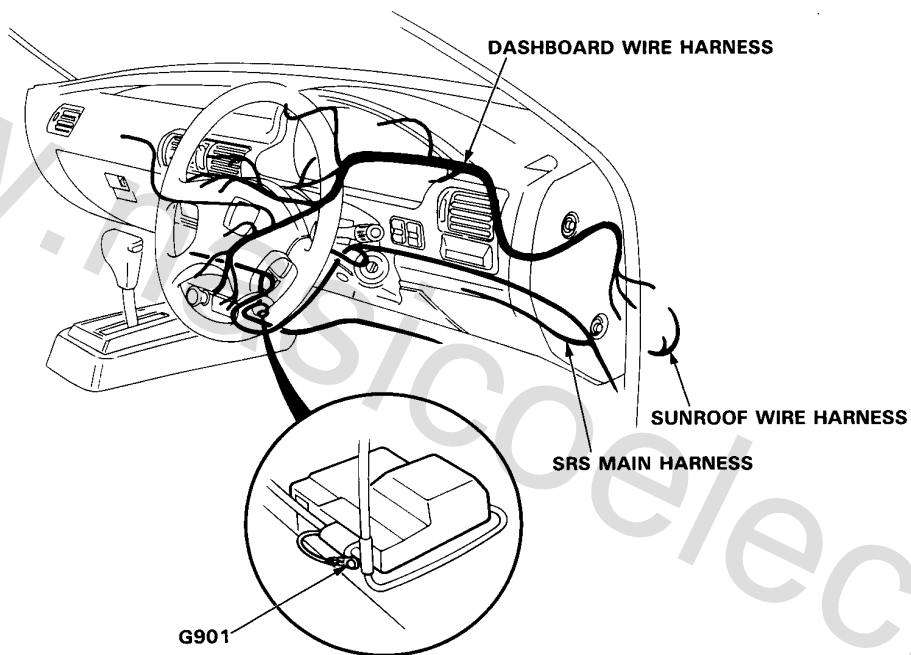
## Dashboard (LHD)

---





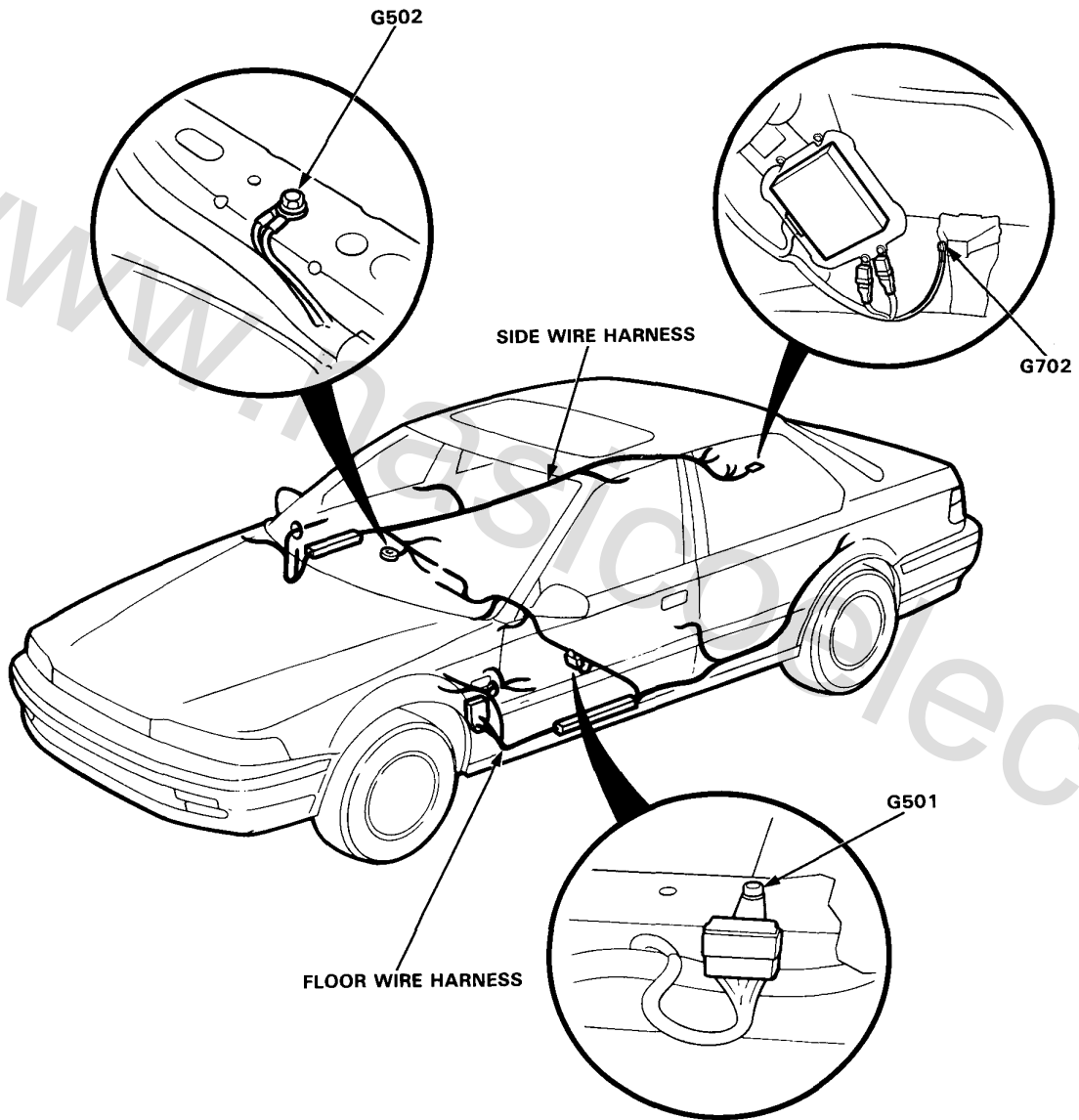
(RHD)



# Wire Harness and Ground Locations

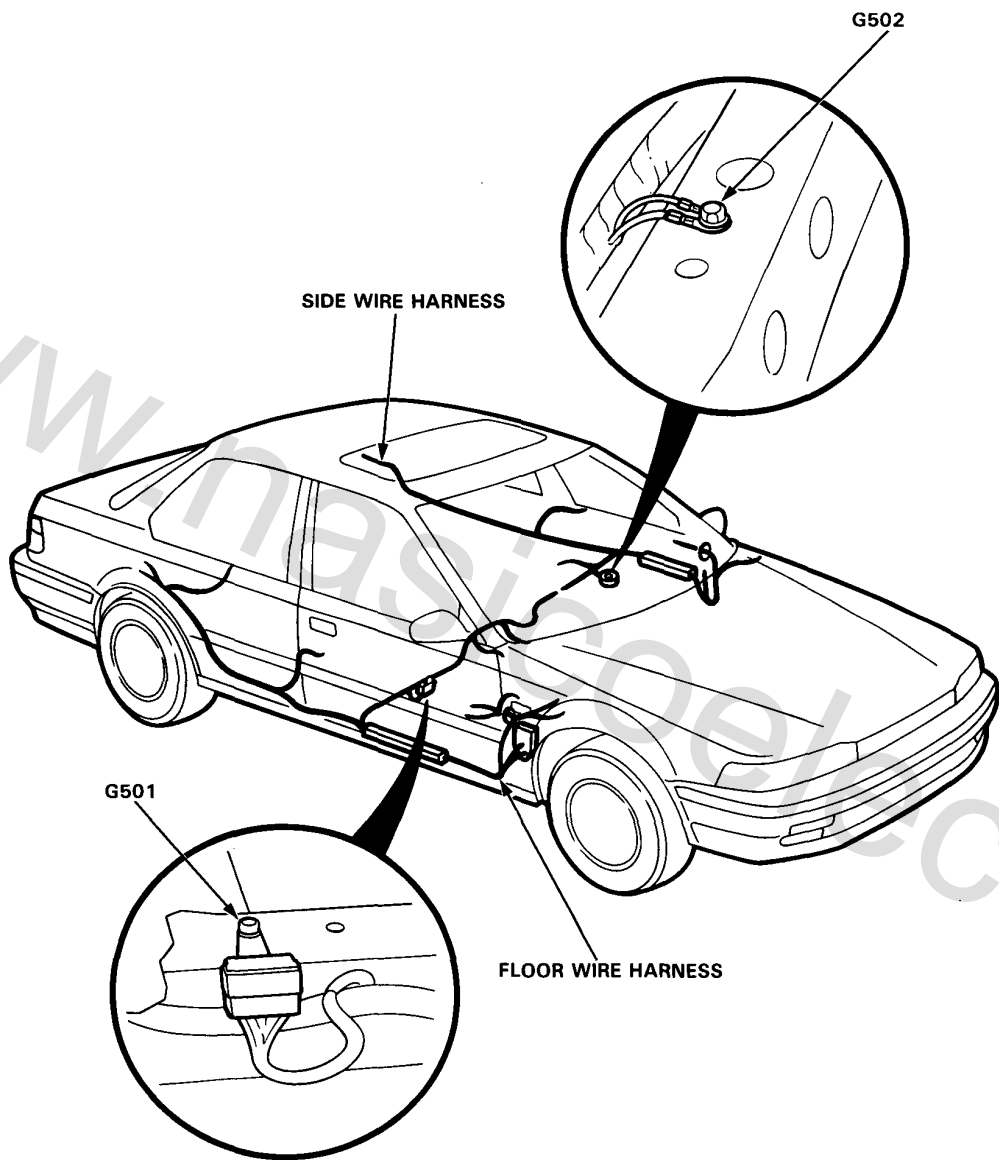
Floor (LHD)

---





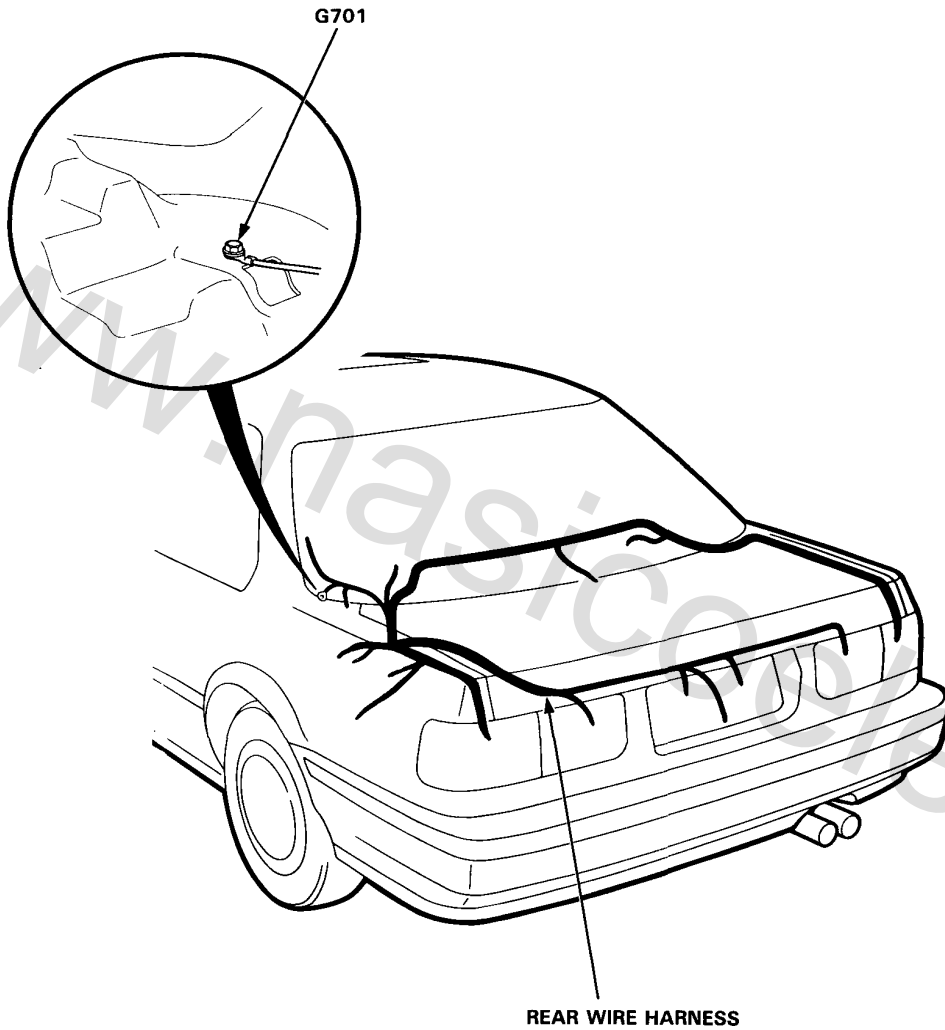
(RHD)



# Wire Harness and Ground Locations

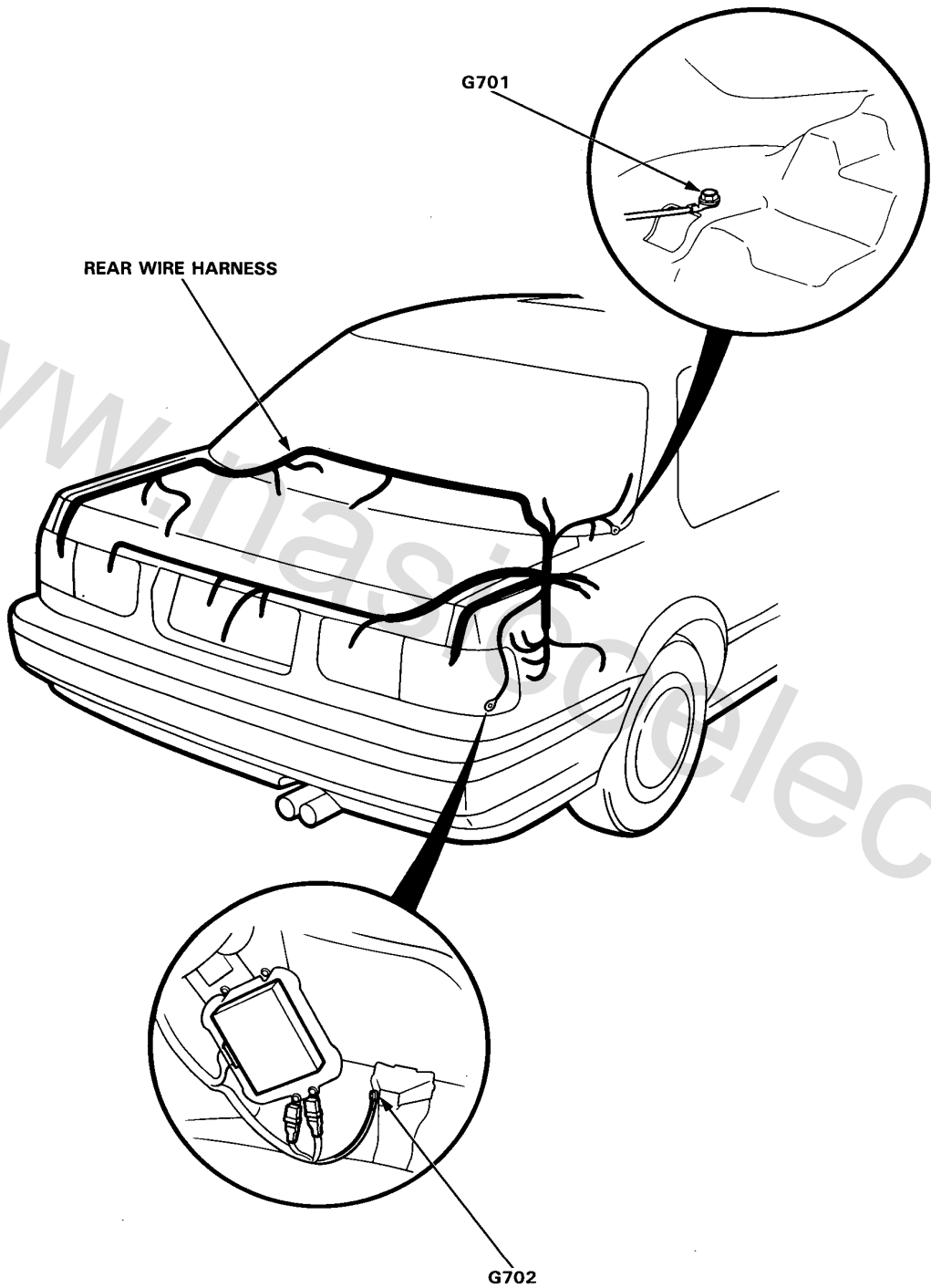
Trunk (LHD)

---





(RHD)



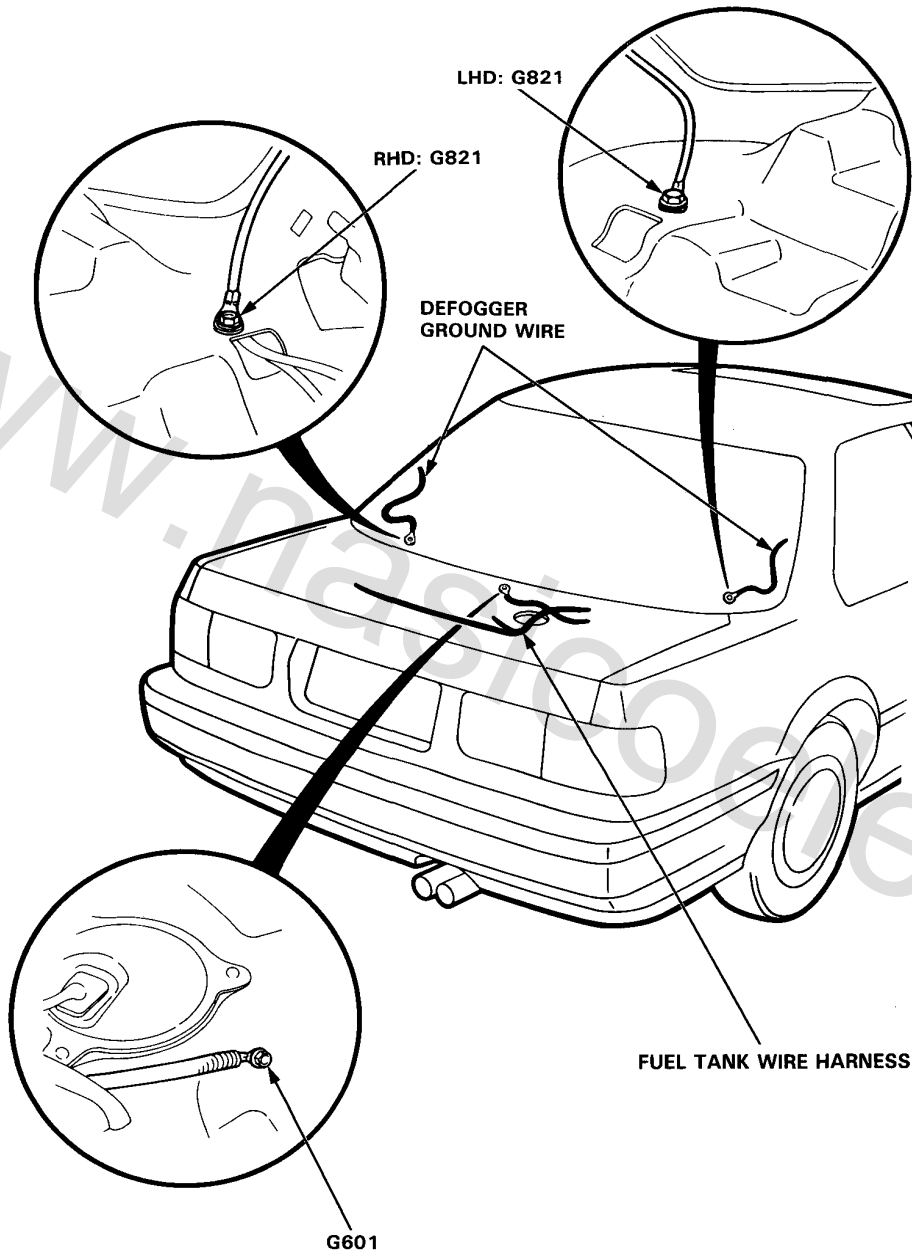
(cont'd)



# Wire Harness and Ground Locations

Trunk (cont'd)

---

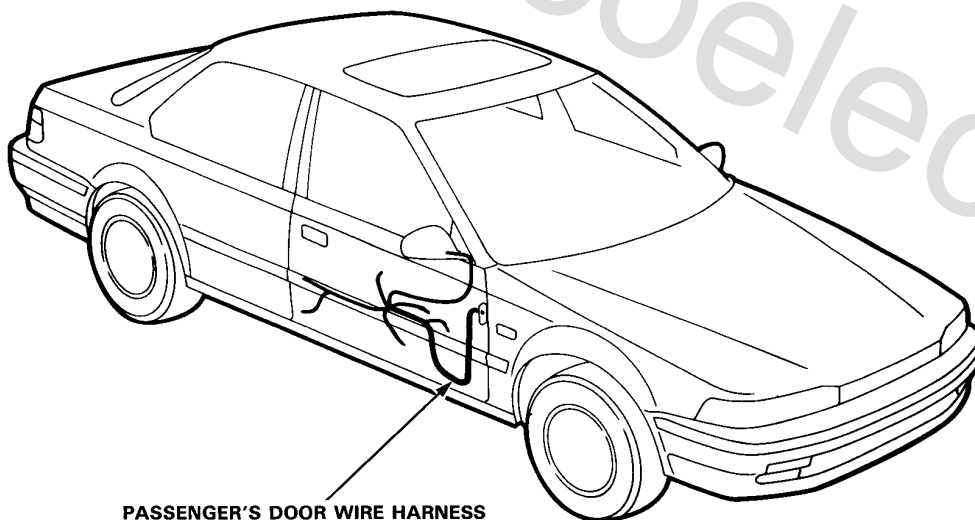
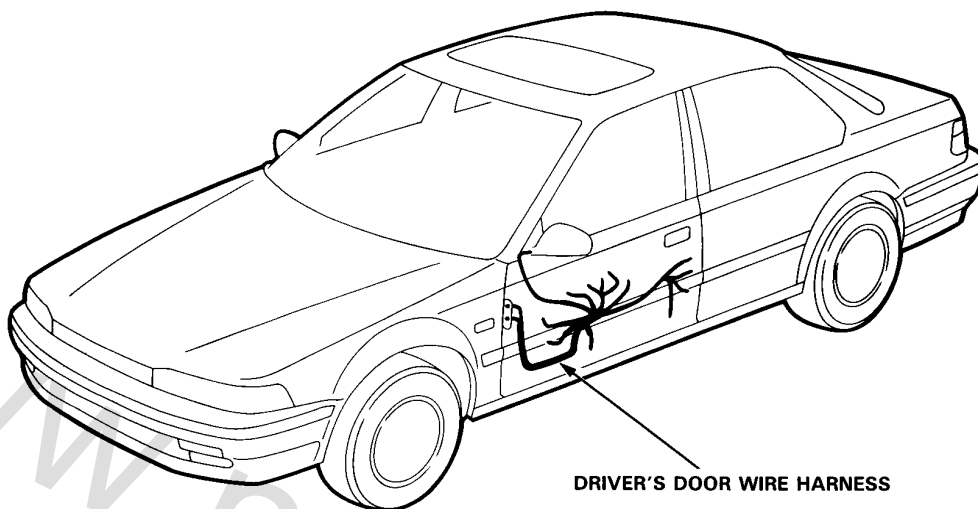




## Door

---

NOTE: RHD type is symmetrical to LHD type.



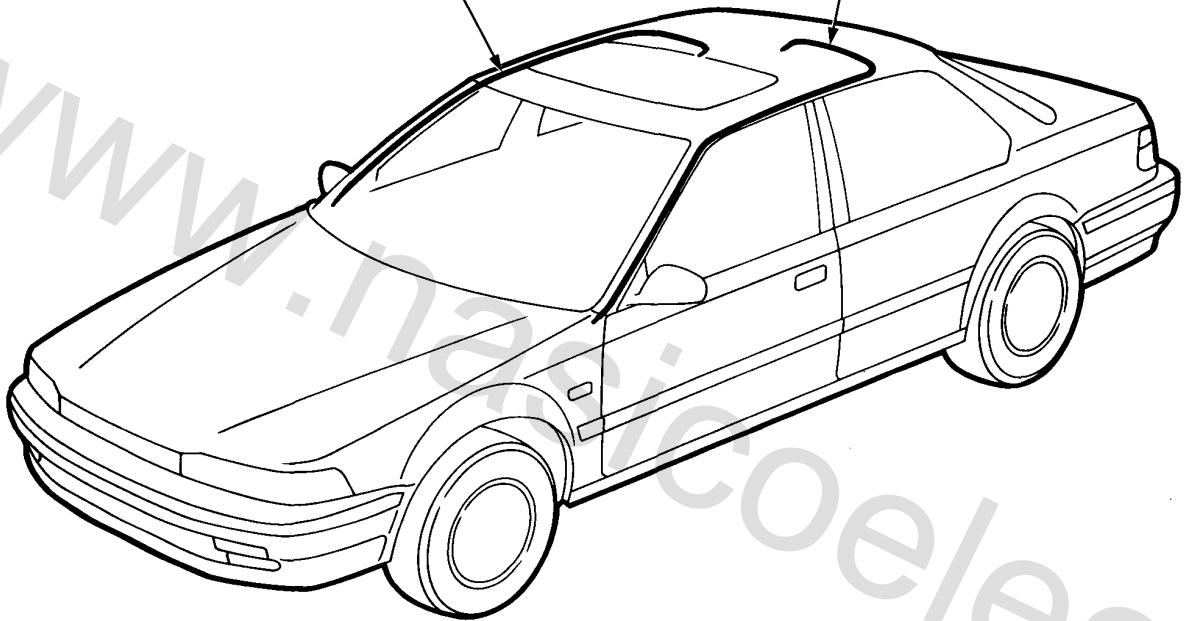
# Wire Harness and Ground Locations

## Roof

---

ROOF WIRE HARNESS

SUNROOF WIRE HARNESS

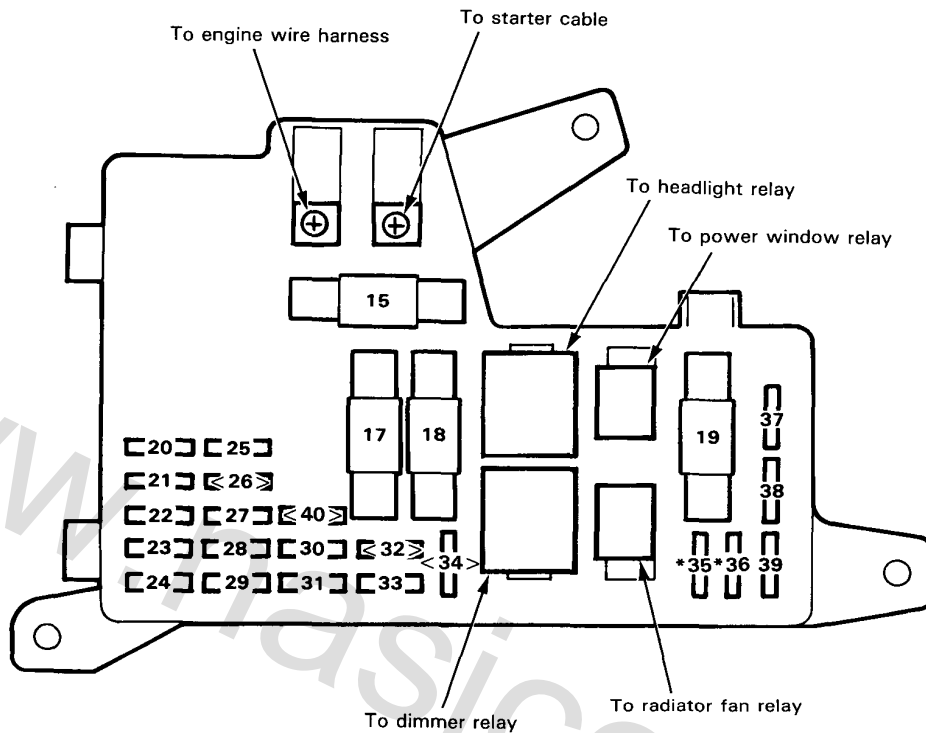




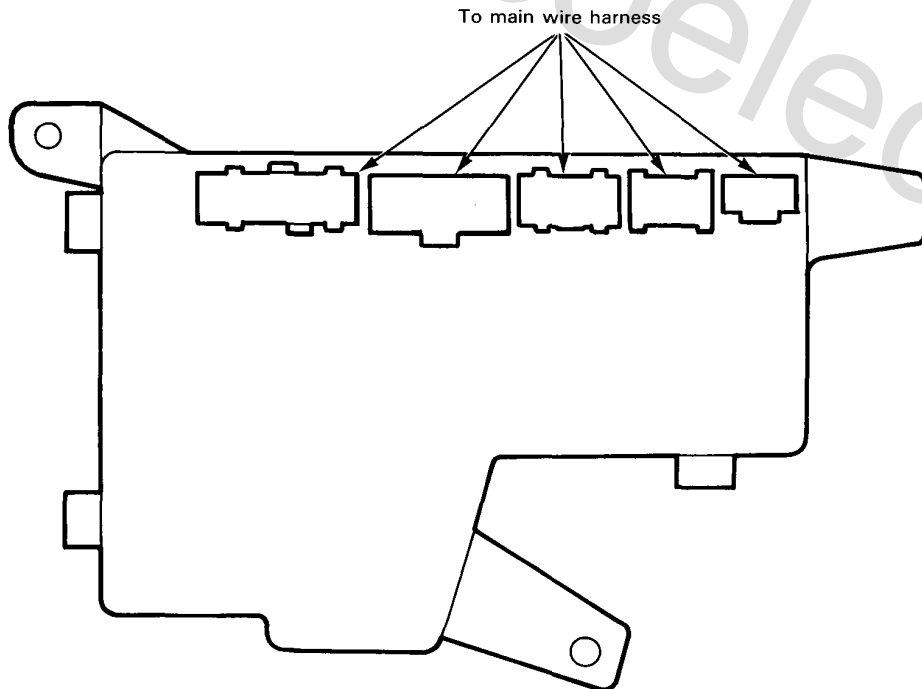
# Fuses

## Under-hood Fuse/Relay Box

NOTE: The under-hood fuse/relay box is located at the right side of the engine compartment.



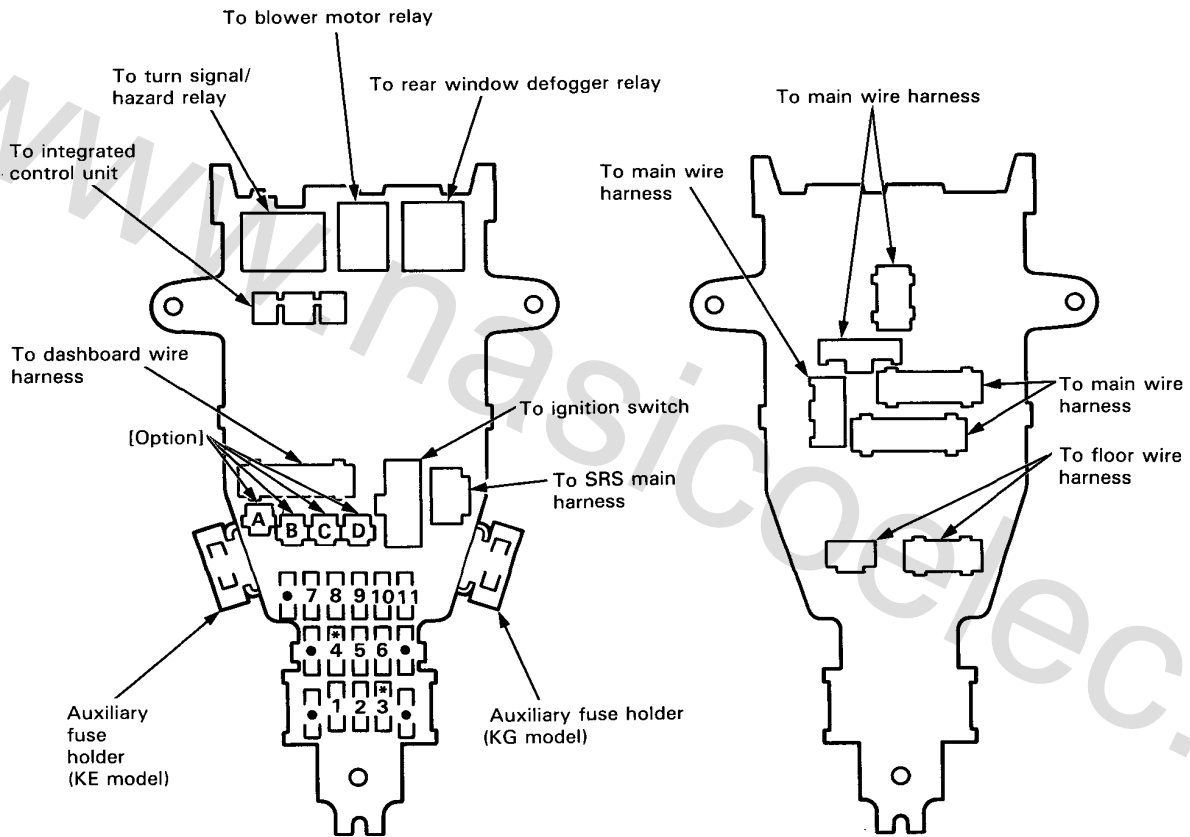
< > : Not used  
 \* : KE model



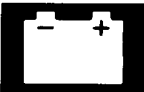
# Fuses

## Under-dash Fuse/Relay Box

NOTE: The under-dash fuse box is located behind the left (LHD) or right kick panel (RHD).

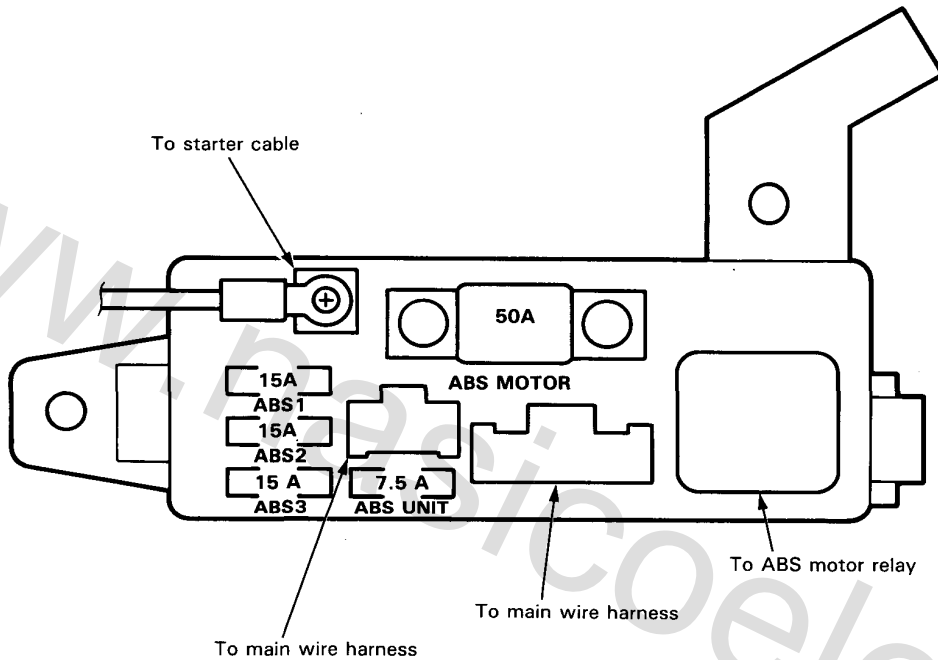


•: Spare fuse  
\*: KE model



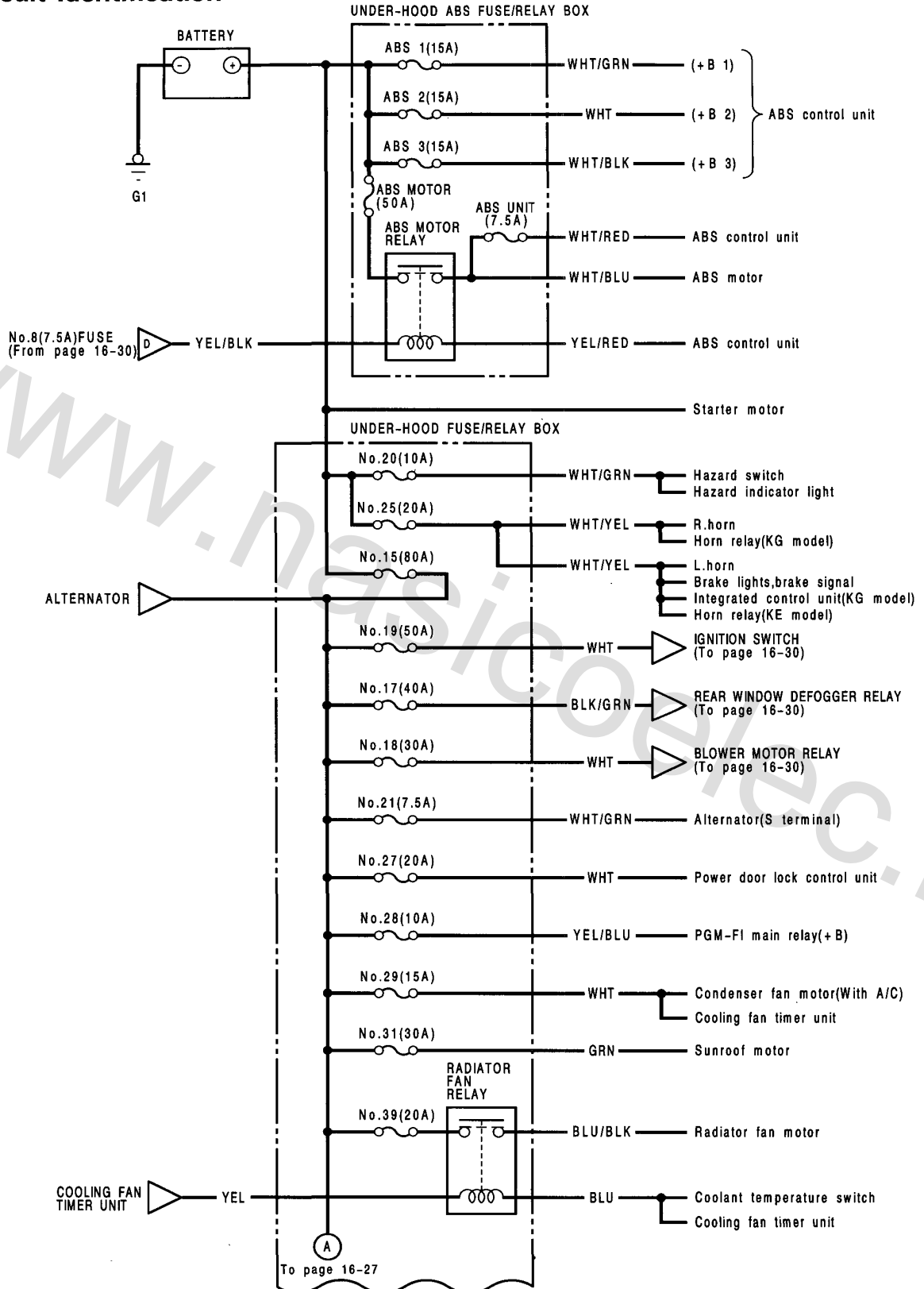
## Under-hood ABS Fuse/Relay Box

NOTE: The ABS Fuse/Relay box is located at the right side of the engine compartment.



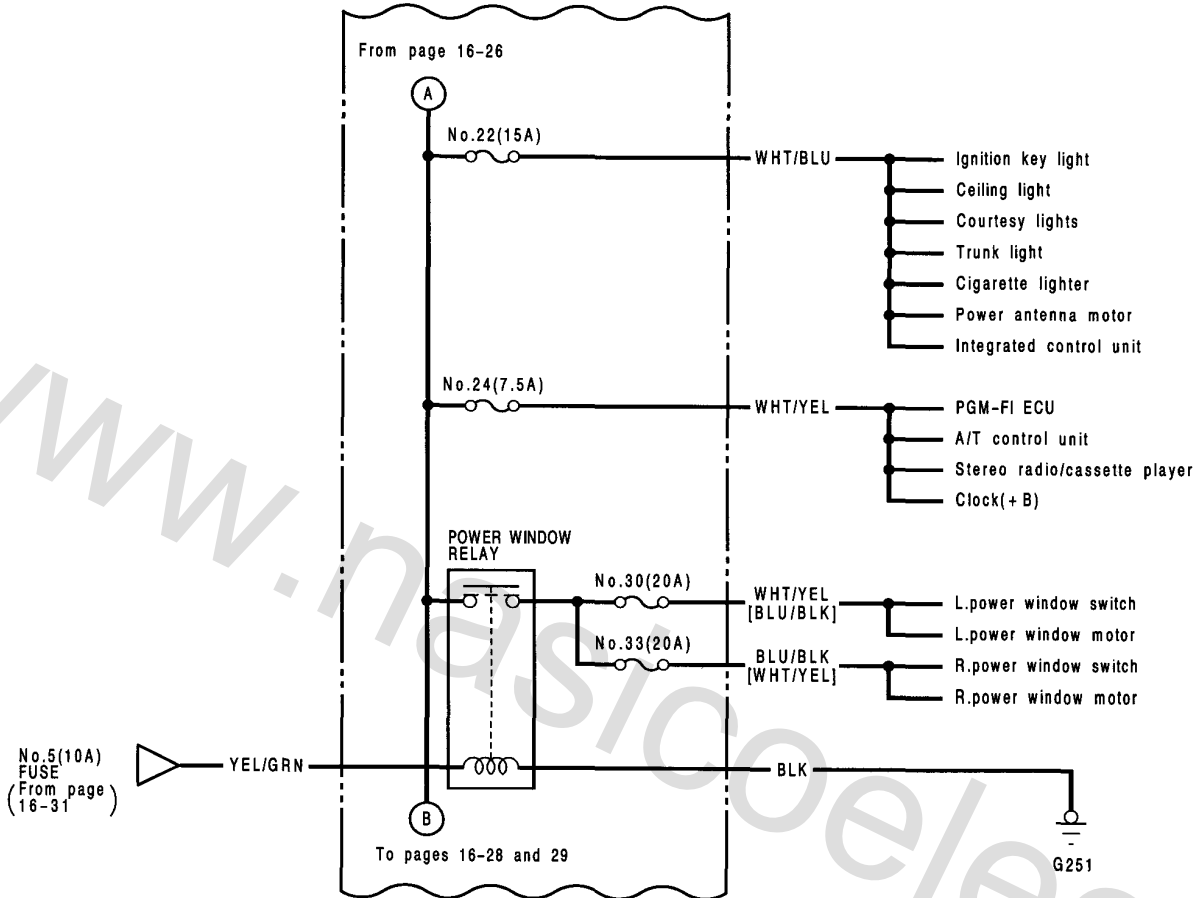
# Power Distribution

## Circuit Identification





### UNDER-HOOD FUSE/RELAY BOX



[ ] : KE model

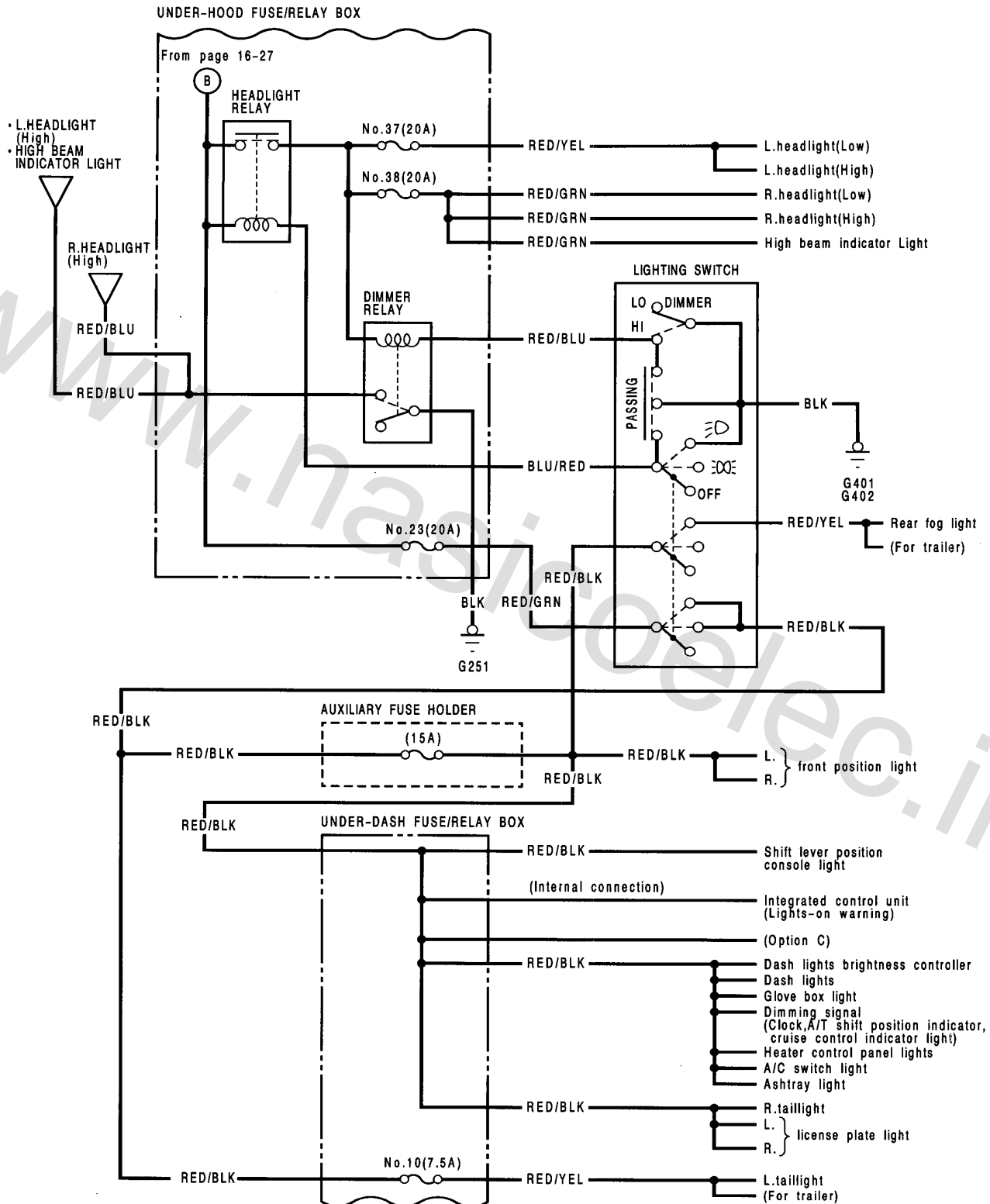
(cont'd)



# Power Distribution

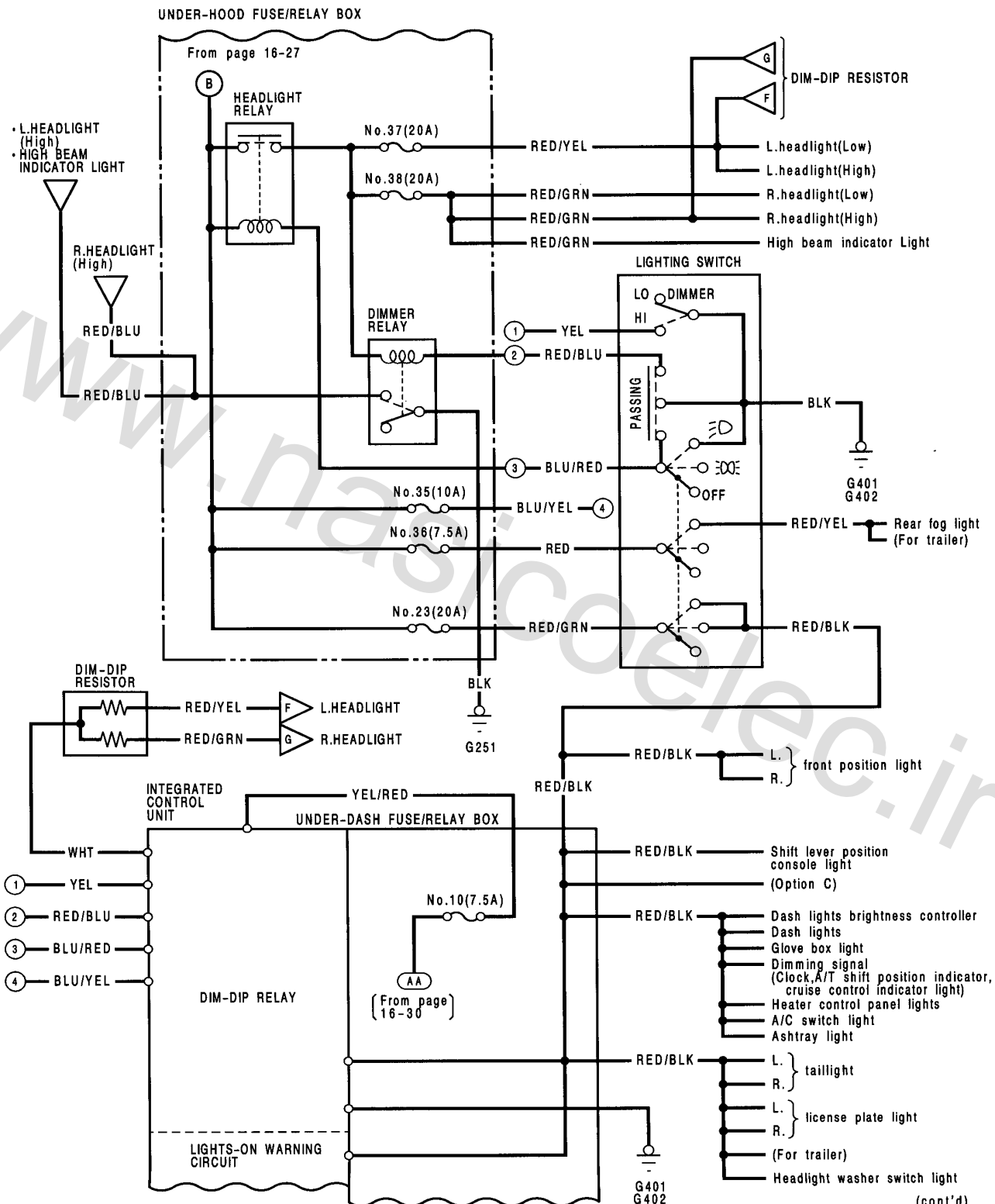
## Circuit Identification (cont'd)

KG model :





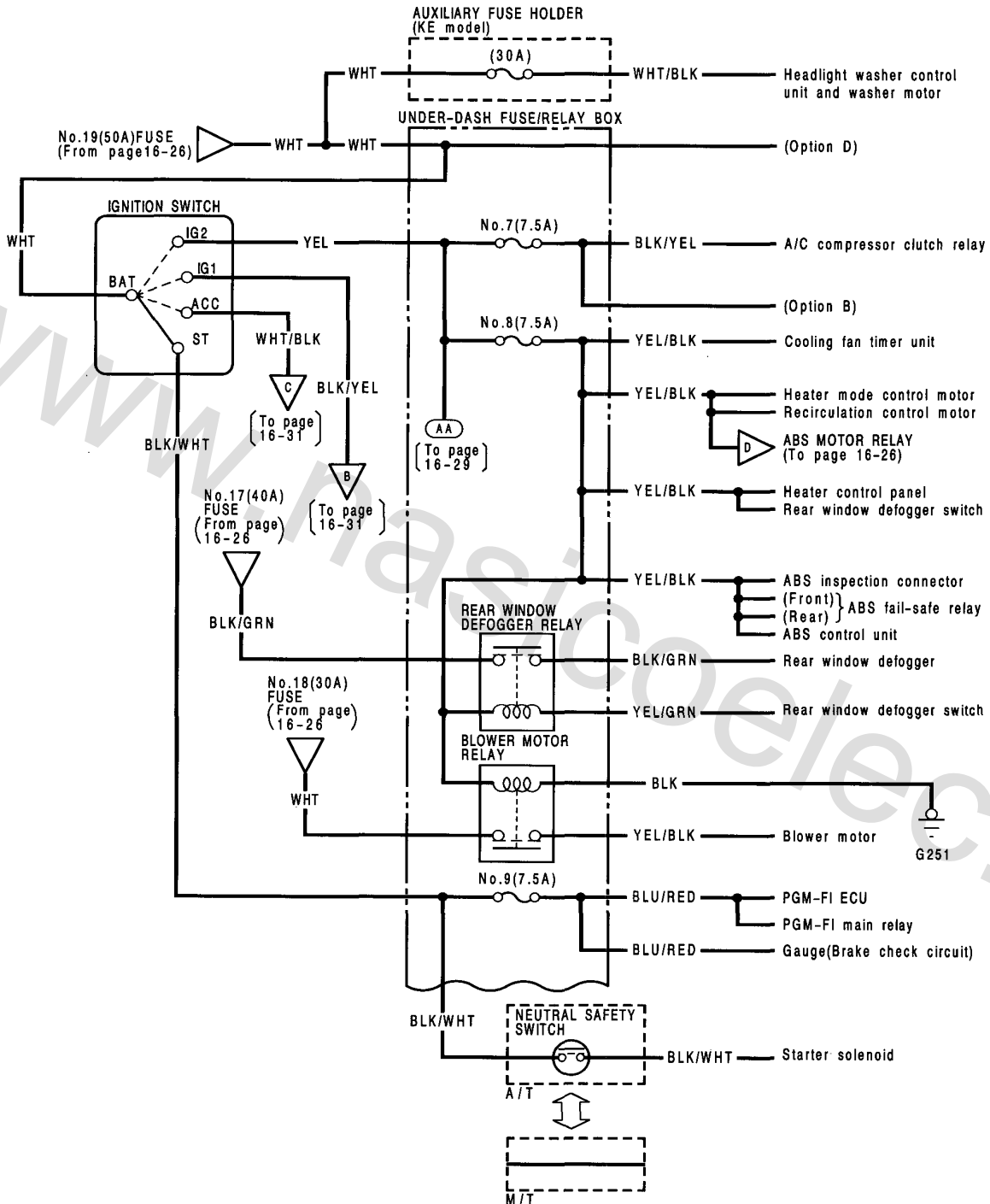
KE model:



(cont'd)

# Power Distribution

## Circuit Identification (cont'd)



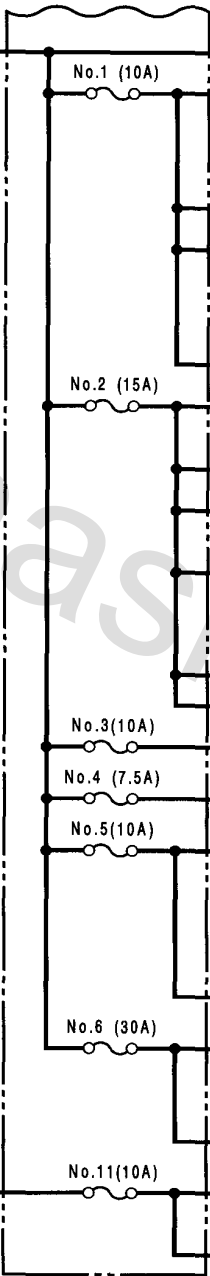


UNDER-DASH FUSE/RELAY BOX

IGNITION SWITCH  
(From page  
16-30)

B

BLK/YEL



BLK/YEL

Ignition coil

No.1 (10A)

YEL

Gauge and warning/indicator lights  
Shift lever position indicator(A/T)  
Safety indicator  
Turn signal/Hazard relay  
Clock

YEL

Shift lever position switch

YEL

Speed sensor  
Back-up lights

(Internal connection)

Integrated control unit(IG1)

No.2 (15A)

BLK/YEL

Cooling fan timer unit

BLK/YEL

A/T control unit

BLK/YEL

PGM-FI main relay  
Emission control solenoid valves

BLK/YEL

Intake air control solenoid valve  
Engine mount control solenoid valve(AT)  
Engine mount control unit(AT)  
Voltage regulator

BLK/YEL

Charging System light

RED

SRS unit

No.3(10A)

PNK

SRS unit

No.4 (7.5A)

BLK/RED

Cruise control main switch and  
cruise control unit(KE model)

No.5(10A)

YEL/GRN

Sunroof relay(Open) } and sunroof  
Sunroof relay(Close) } motor  
Power window relay(To page16-27)  
L. } headlight adjuster unit(KG model)  
R. }

YEL/GRN

Power door mirrors

No.6 (30A)

GRN/BLK

Windshield wiper motor  
Washer motor  
Intermittent wiper relay  
Headlight washer control unit(KE model)

(Internal connection)

Integrated control unit  
(Wiper/washer circuit)

No.11(10A)

YEL/RED

Stereo radio/cassette player  
Cigarette lighter relay

(Option A)

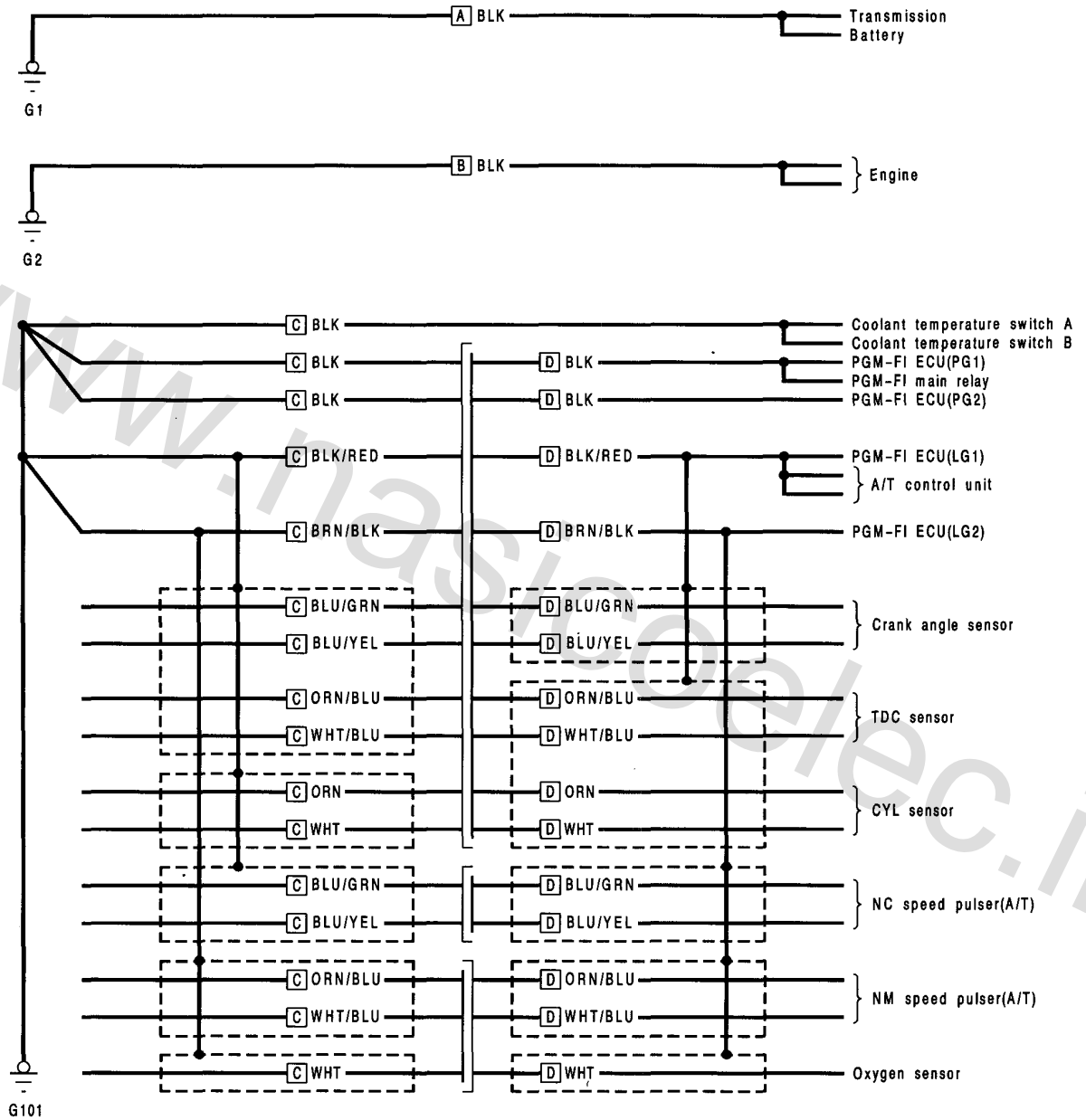
IGNITION SWITCH  
(From page  
16-30)

C

WHT/BLK

# Ground Distribution

## Circuit Identification



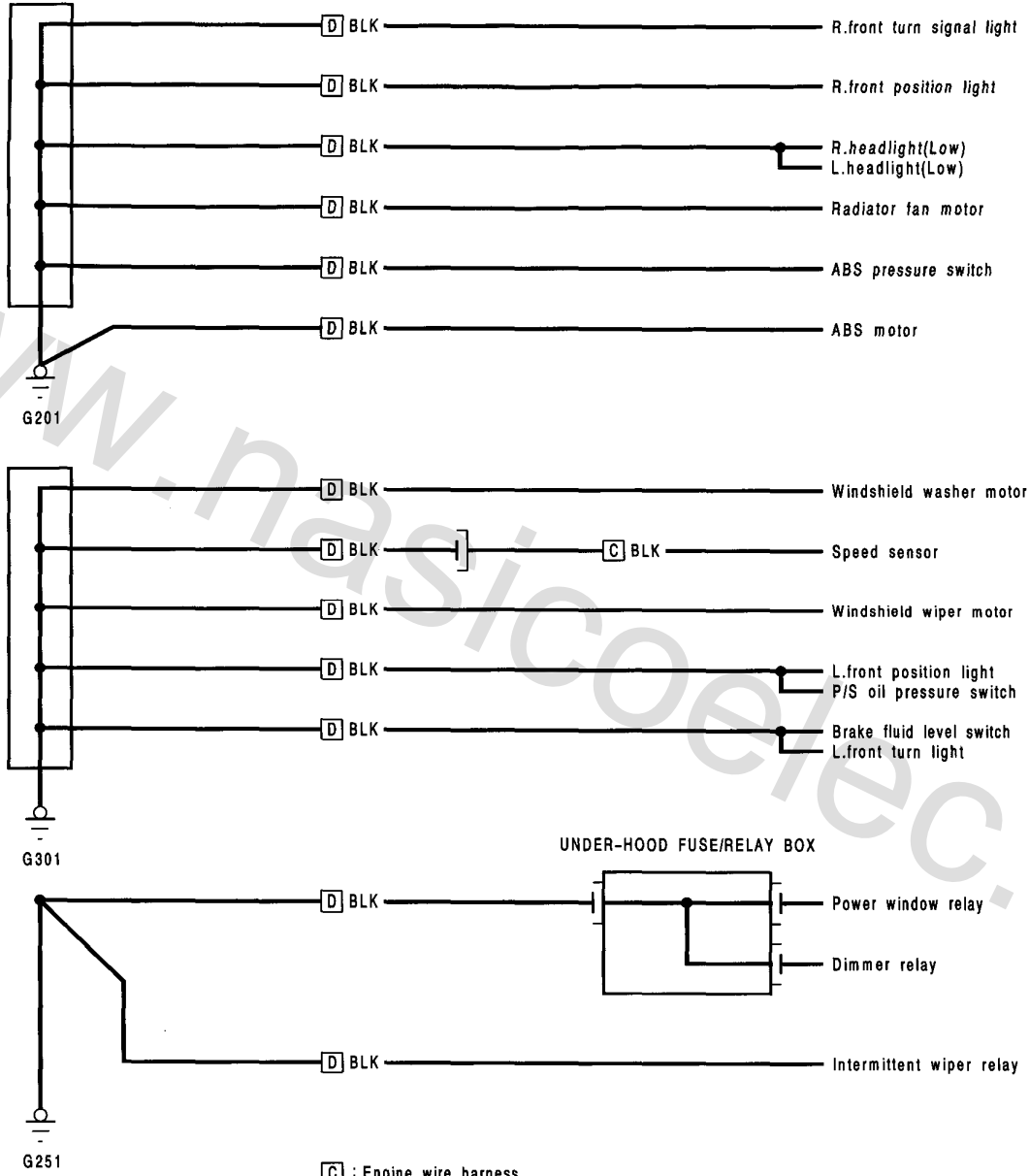
**A** : Battery ground wire  
**B** : Engine ground wire

**C** : Engine wire harness  
**D** : Main wire harness

----- Shield wire

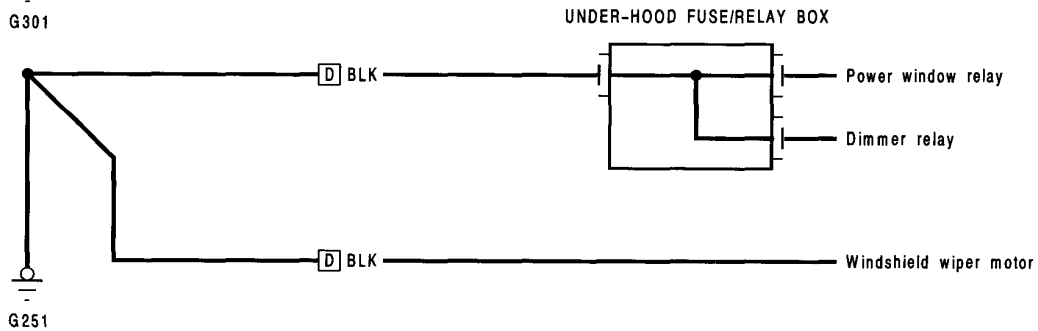
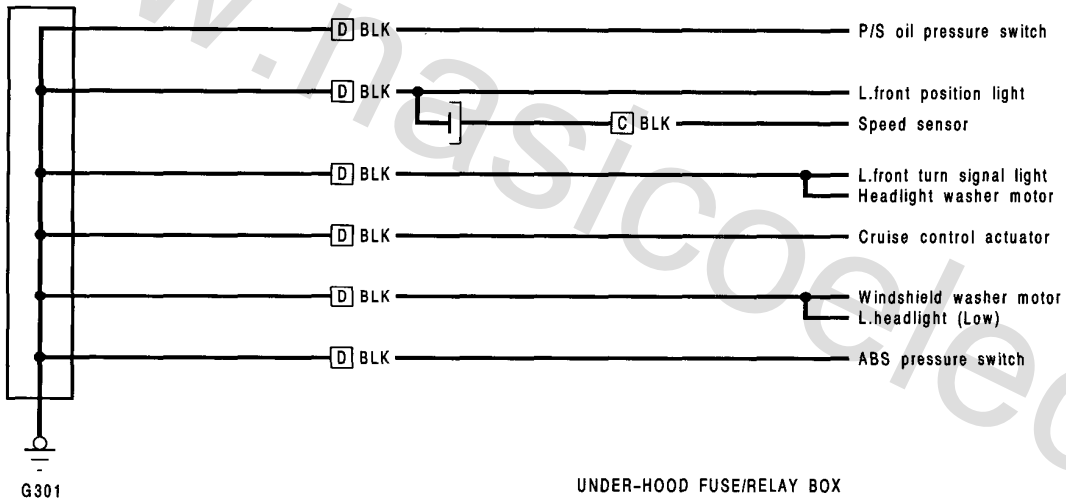
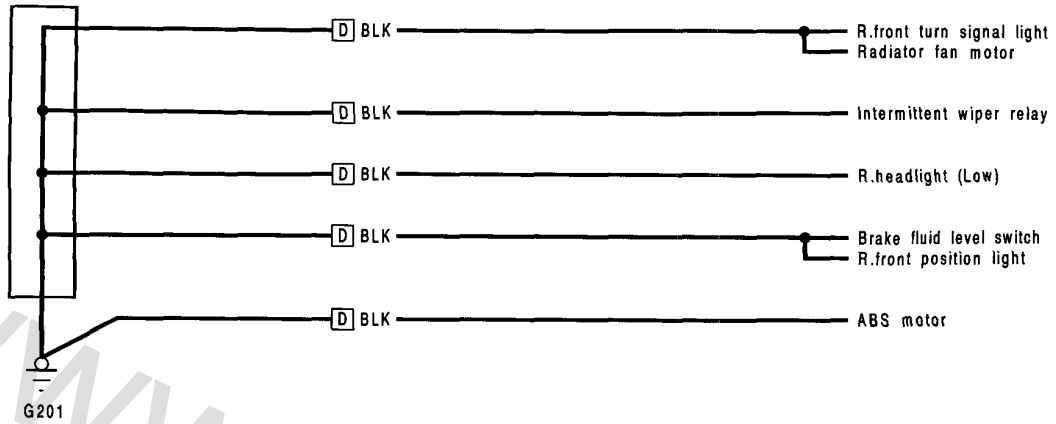


# Circuit Identification (KG model)



# Ground Distribution

## Circuit Identification (KE model)

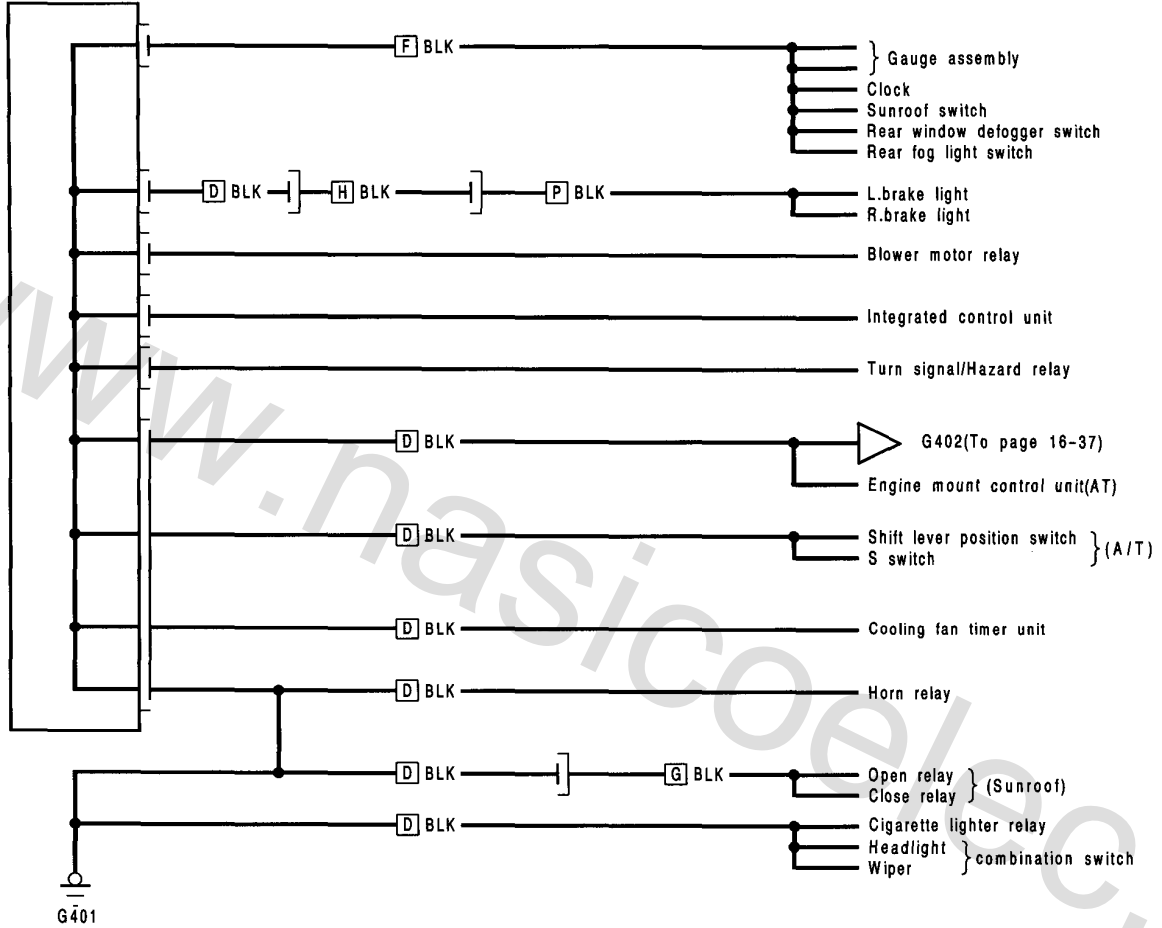


[C] : Engine wire harness  
 [D] : Main wire harness



KG model :

UNDER-DASH  
FUSE/RELAY BOX



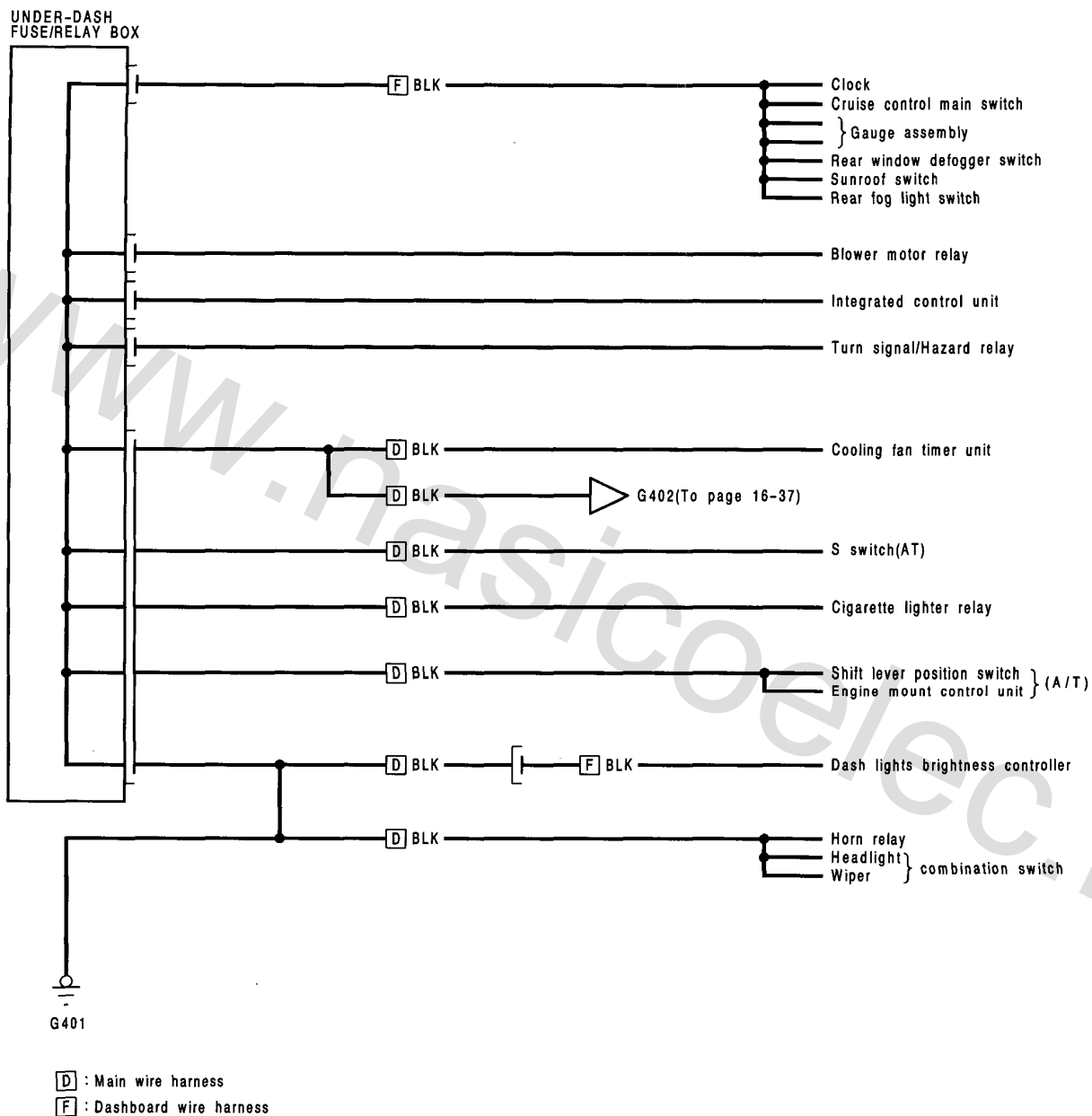
- D** : Main wire harness      **H** : Floor wire harness  
**F** : Dashboard wire harness      **P** : Rear wire harness  
**G** : Sunroof wire harness

(cont'd)



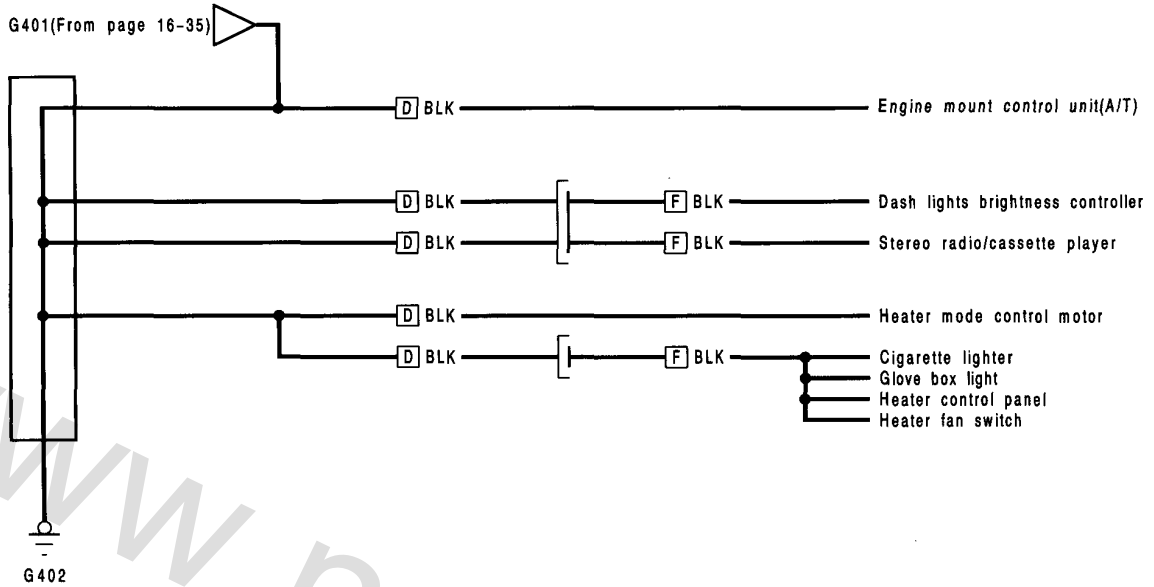
# Ground Distribution

## Circuit Identification (KE model)

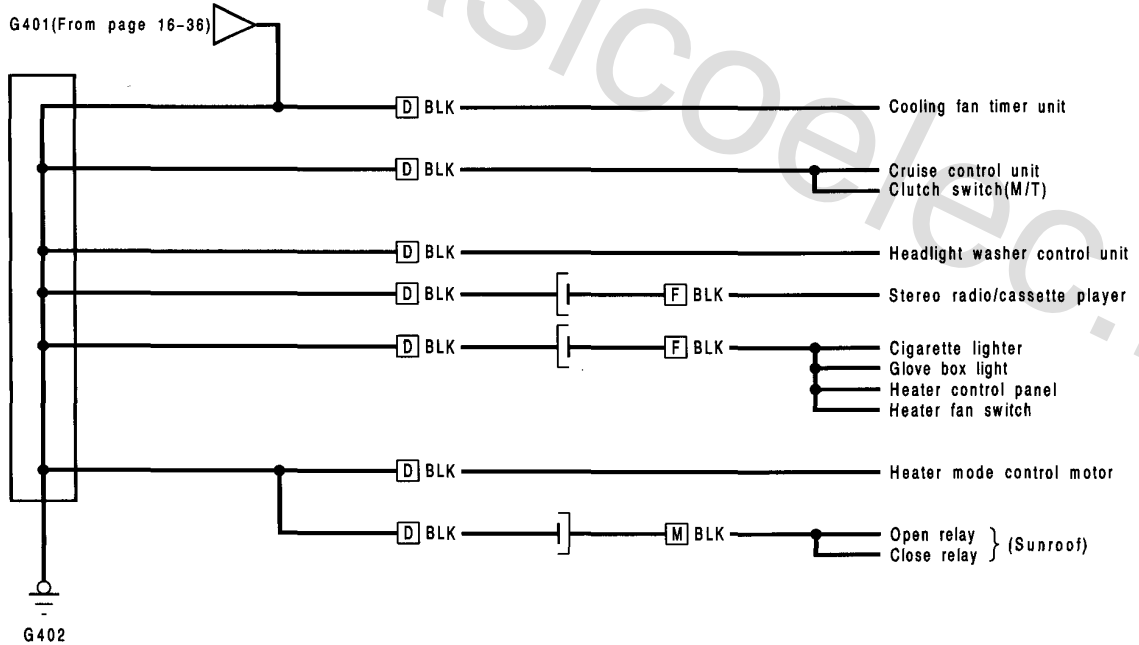




KG model:



KE model:



[D] : Main wire harness

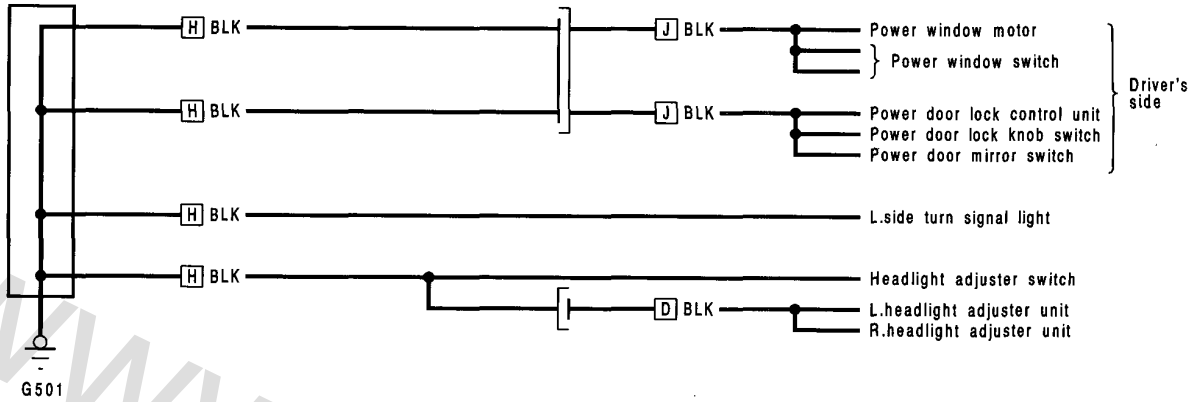
[F] : Dashboard wire harness

[M] : Sunroof wire harness

# Ground Distribution

## Circuit Identification

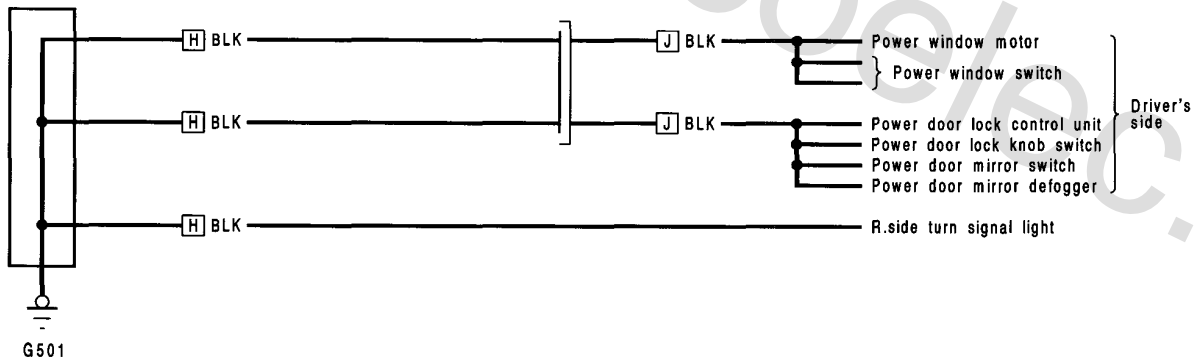
KG model:



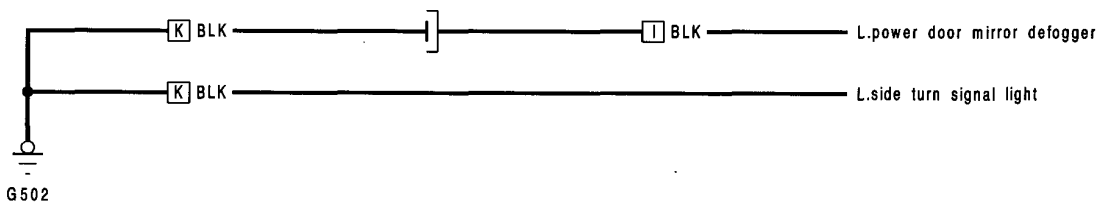
KG model:



KE model:



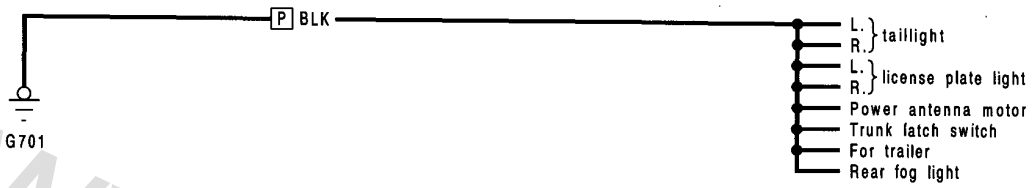
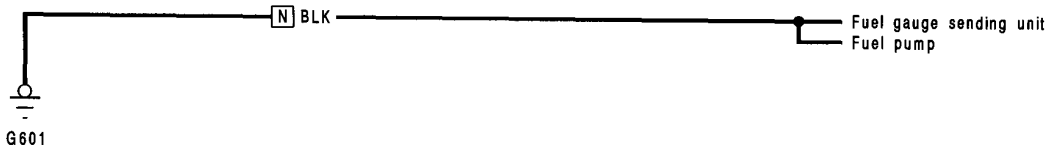
KE model:



D : Main wire harness  
H : Floor wire harness

I : Left door wire harness  
J : Driver's door wire harness

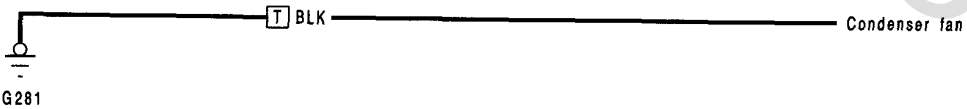
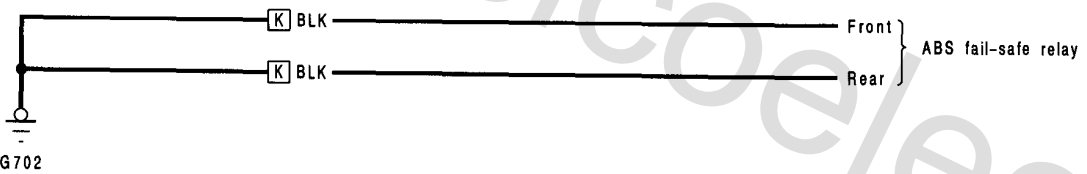
K : Side wire harness



KE model:



KG model:



K : Side wire harness

P : Rear wire harness

T : A/C wire harness

N : Fuel tank wire harness

S : SRS main harness

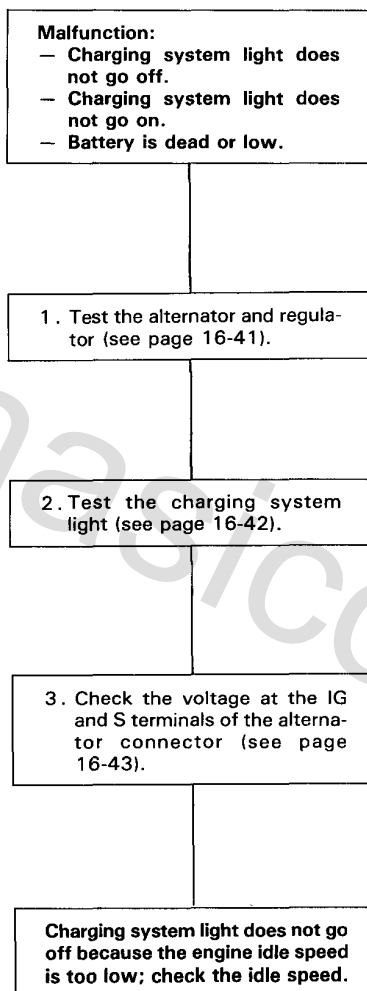
V : Defogger ground wire

# Charging System

## Troubleshooting

### NOTE:

- Before troubleshooting, check the tension of the alternator belt.
- Troubleshoot by performing following tests in the order listed below.



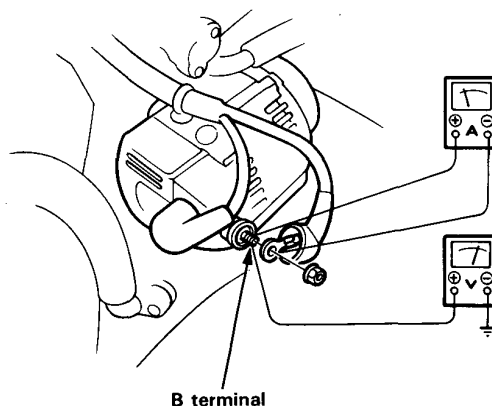


### Alternator/Regulator Test:

**CAUTION:** Be careful during testing as the cooling fan comes on suddenly while the engine is running.

Be sure to use a good battery. Disconnect the B terminal, then connect an ammeter and a voltmeter as shown.

NOTE: Be sure to use an ammeter capable of measuring amperages higher than 120 A.



Start the engine, and let it idle until it reaches normal operating temperature (cooling fan comes on two times).

Raise the engine speed to 2000 rpm and hold it there. Turn the headlights (HI) on, and check the voltage at the battery terminals.

**CAUTION:** As the headlights warm up considerably, do not cover them.

Is the voltage between 13.9 and 15.1 V?

NO

Test the alternator components (see page 16-44).

YES

Turn the blower motor and the rear window defogger on, and check the battery voltage.

Is the battery voltage less than 13.5 V?

NO

Turn also the fog lights, brake lights, etc. on.

YES

Read the amperage.

Are there more than \*A?

NO

Test the alternator components (see page 16-44).

YES

The alternator and regulator are OK. Test the charging system light (see page 16-42).

\*:

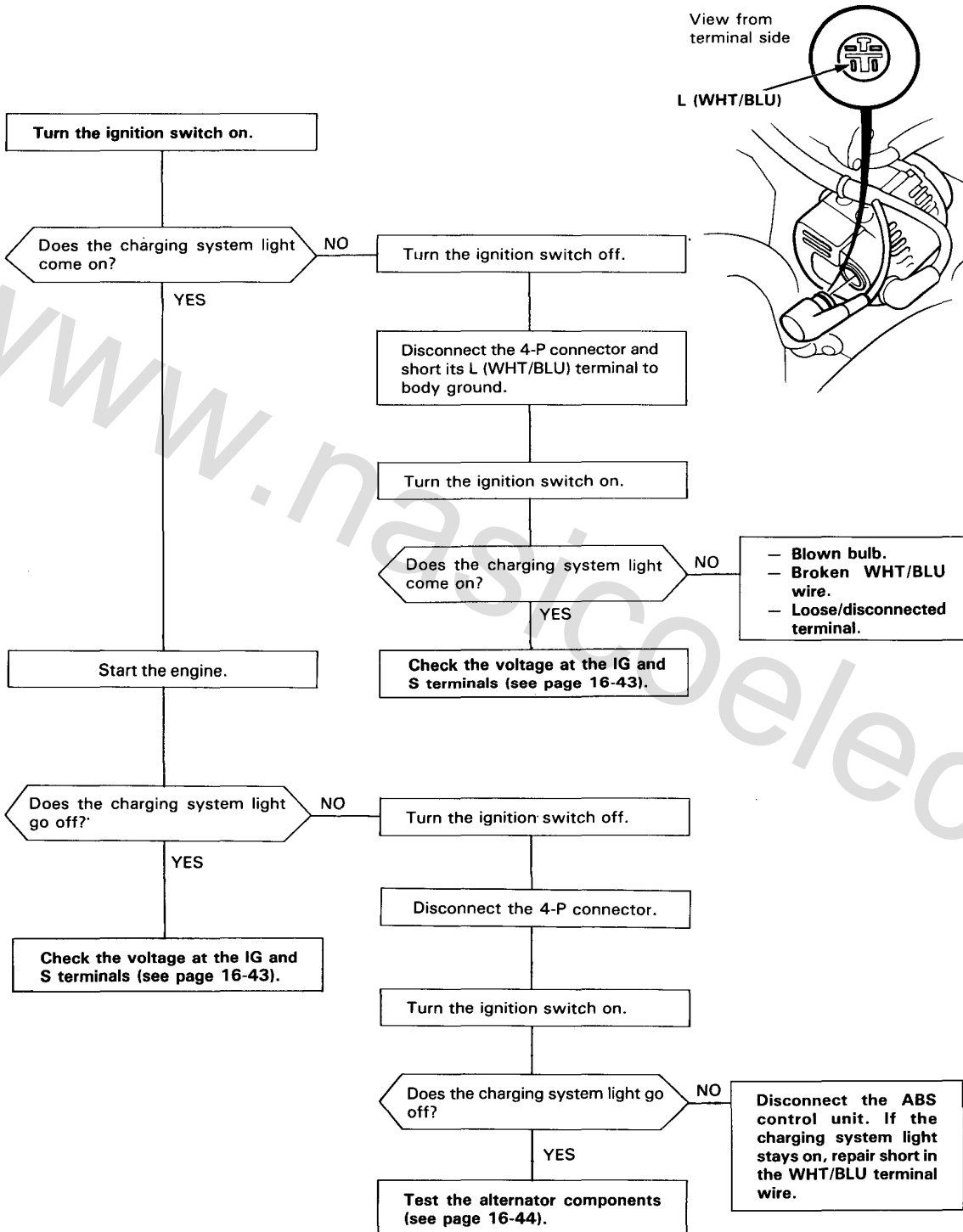
- With A/C: 60 A
- Without A/C: 55 A

(cont'd)

# Charging System

## Troubleshooting (cont'd)

### Charging System Light Test:





### Voltage Checks at IG and S Terminals:

Turn the ignition switch off.

Are the B terminal, the 4-P connector and under-hood fuse/relay box terminals securely tightened?

NO

Tighten or reconnect the terminals securely.

YES

Disconnect the 4-P connector and turn the ignition switch on.

Measure the voltage between body ground and the IG terminal of the 4-P connector.

Is there battery voltage?

NO

– Blown No. 2 (15 A) fuse.  
– An open in the BLK/YEL wire.

YES

Measure the voltage between body ground and the S terminal of the 4-P connector.

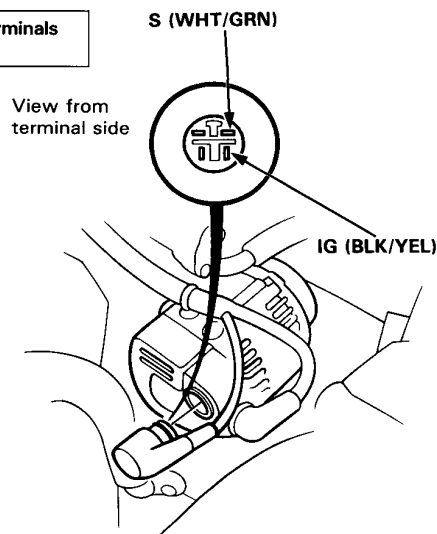
Is there battery voltage?

NO

– Blown No. 21 (7.5 A) fuse.  
– An open in the WHT/GRN wire.

YES

Check the battery.



(cont'd)

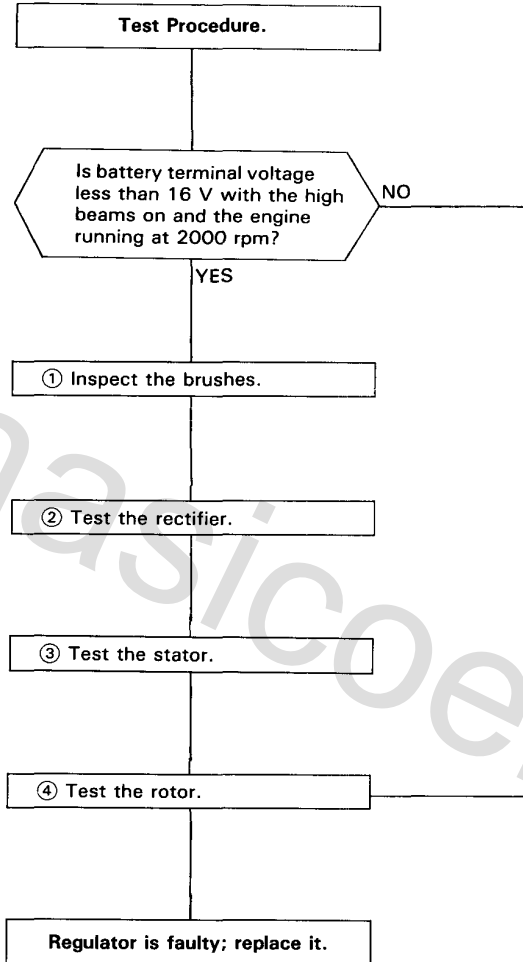


# Charging System

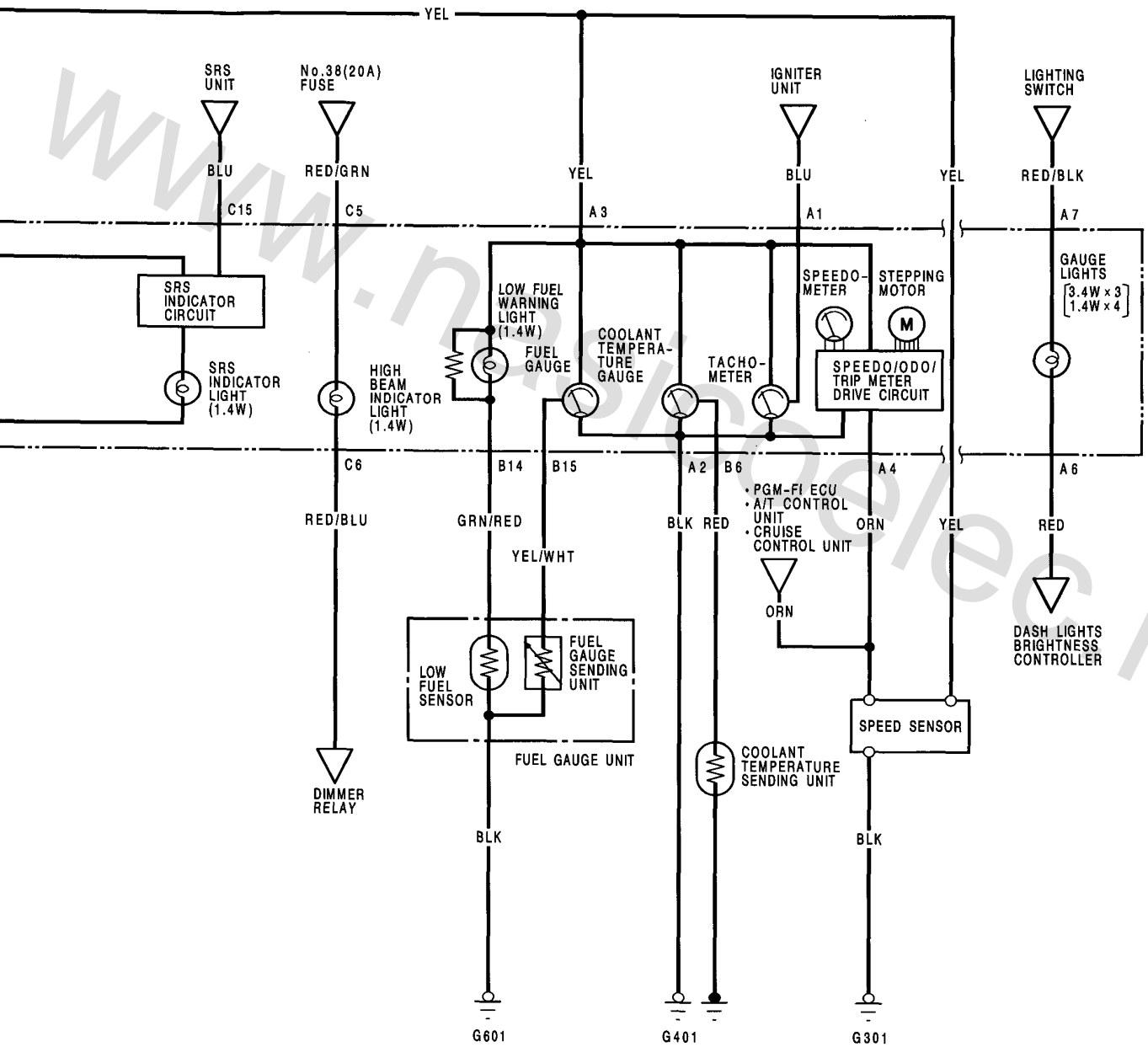
## Troubleshooting (cont'd)

### Alternator Components Test:

NOTE: Test the alternator components in the order described below.





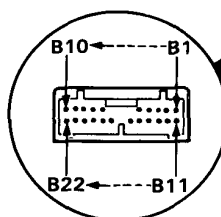
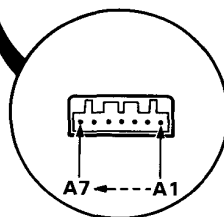
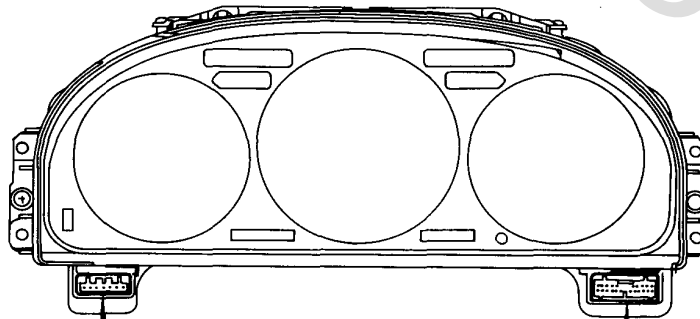
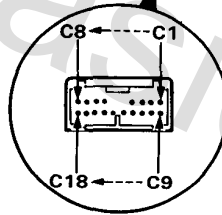
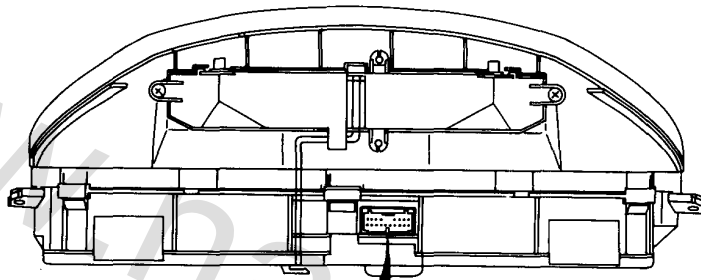
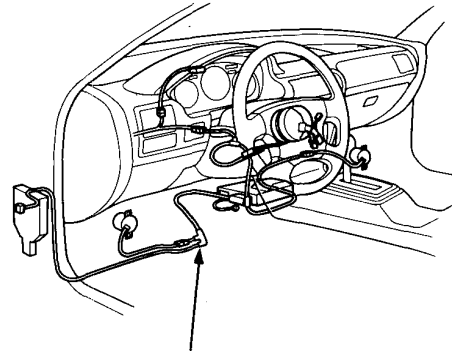


# Gauge Assembly

## Terminal Locations

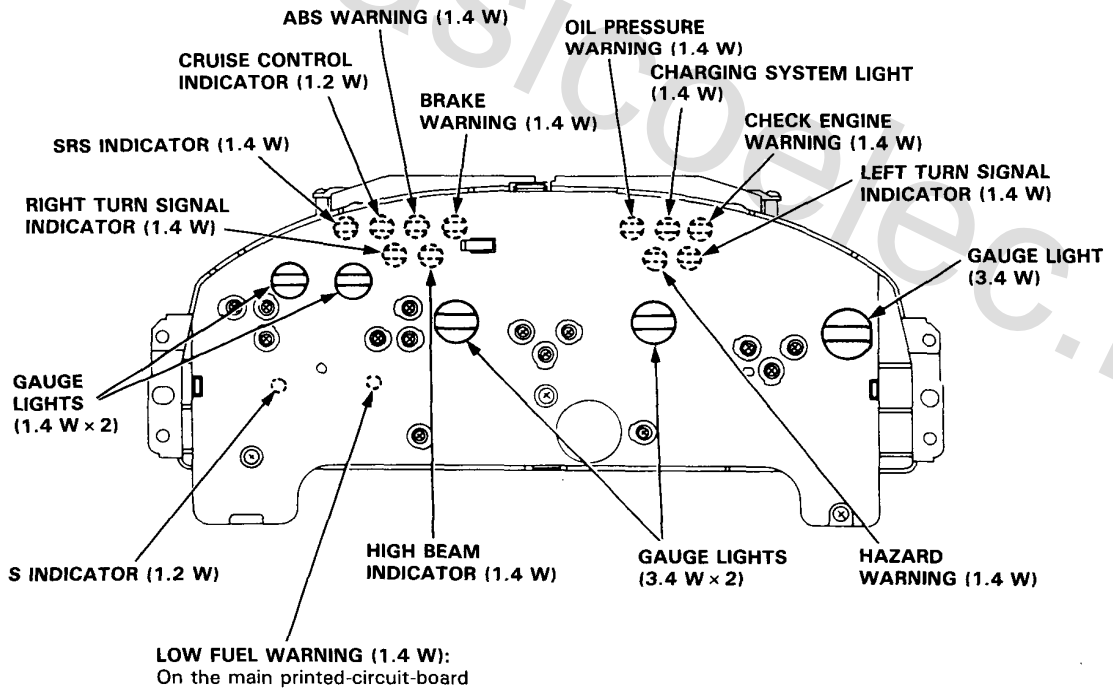
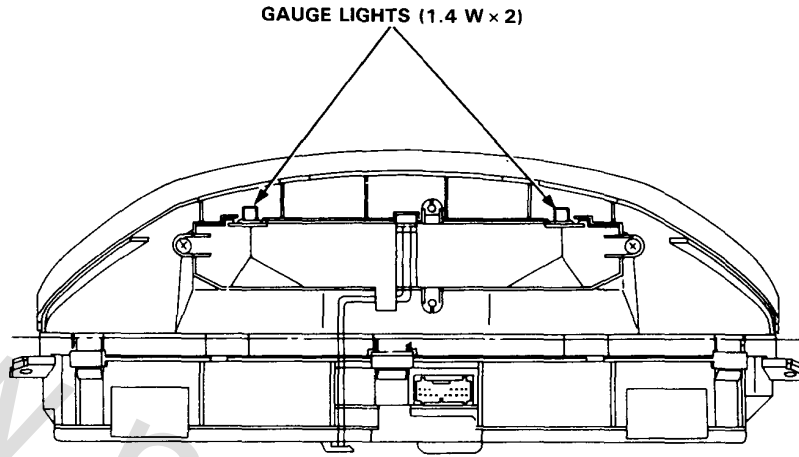
**CAUTION:**

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- Before disconnecting the SRS wire harness, install the short connector on the airbag.

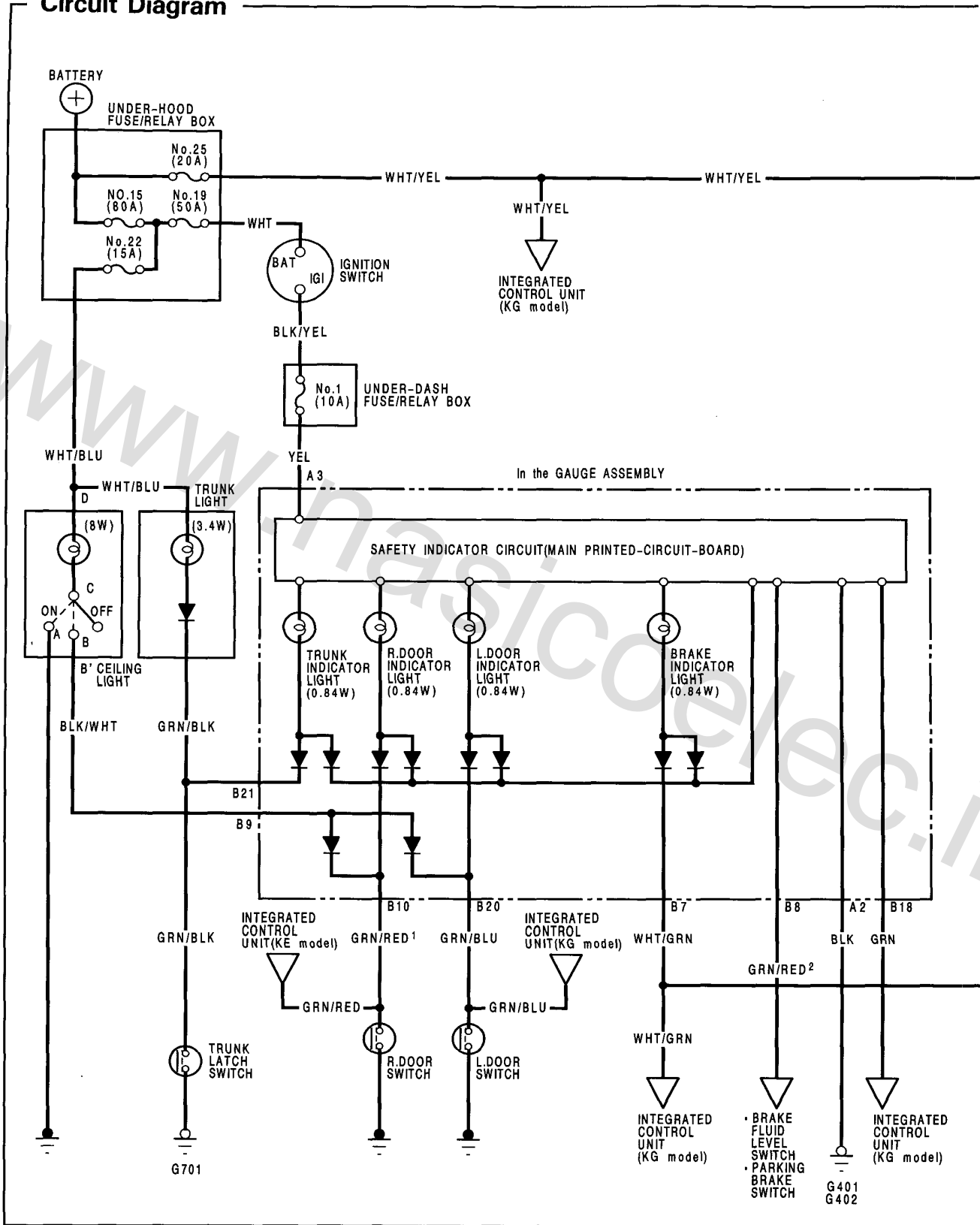


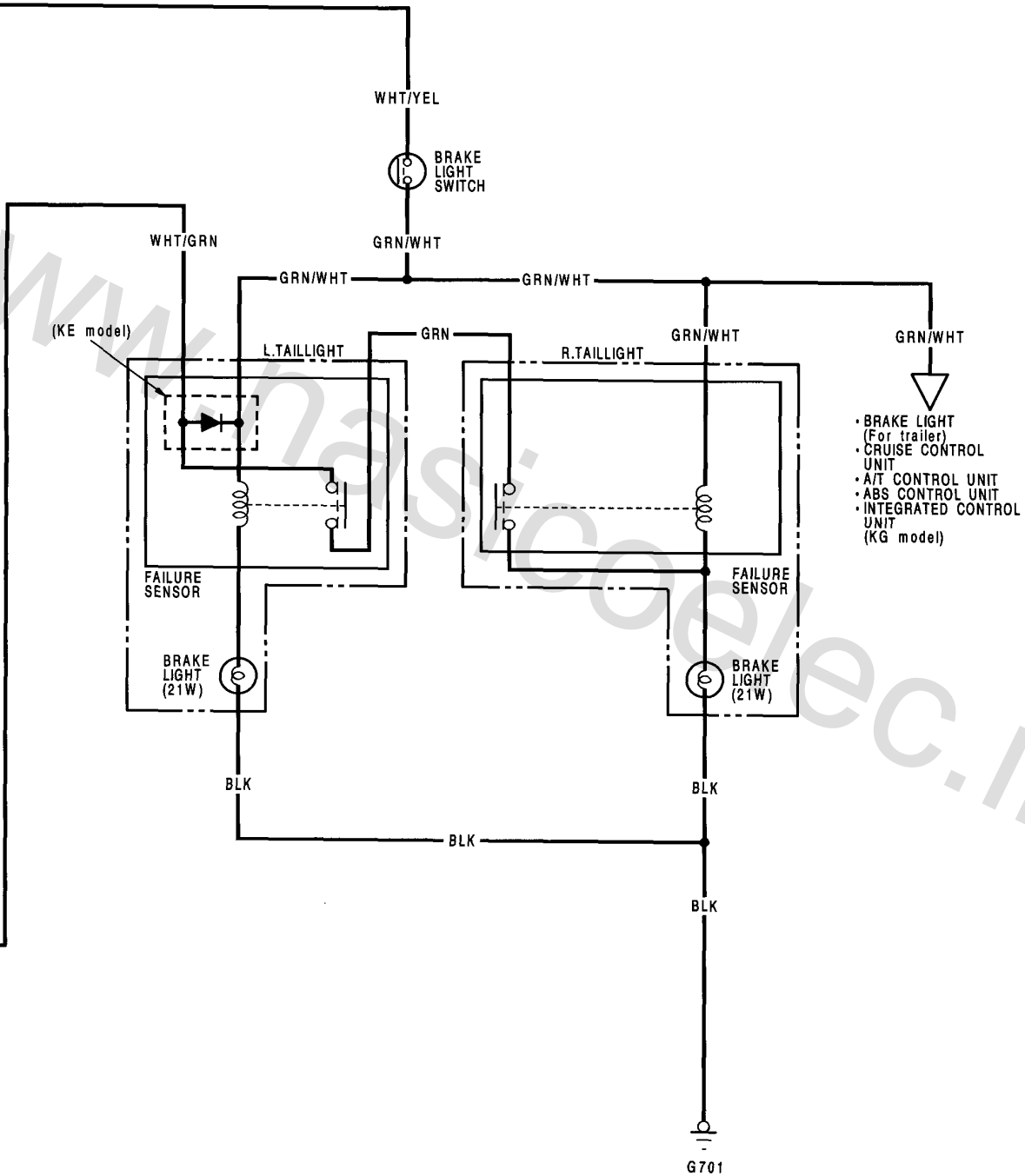


# Bulb Locations



# Safety Indicator Circuit Diagram



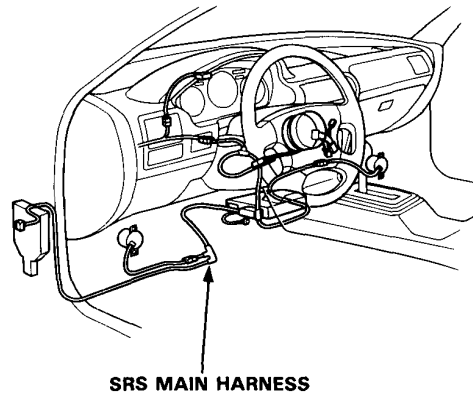


# Safety Indicator

## Indicator Input Test

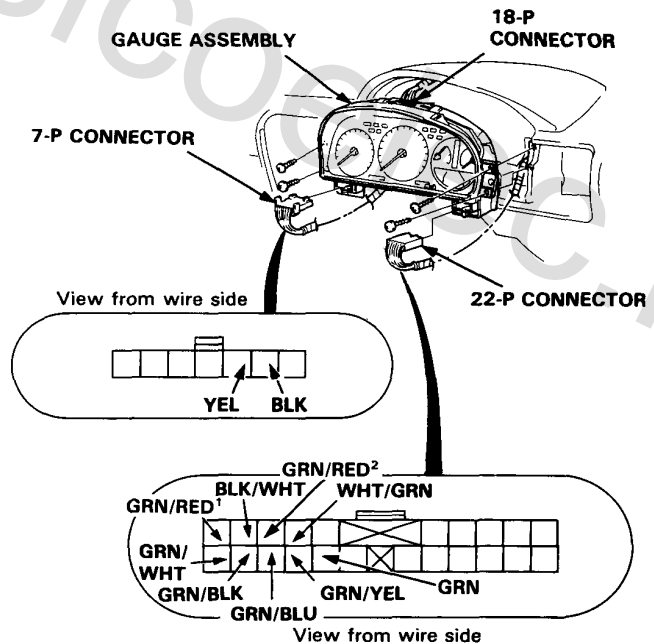
### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- Before disconnecting the SRS wire harness, install the short connector on the airbag.



Remove the gauge assembly from the dashboard and disconnect the 7-P, 18-P, and 22-P connectors from it. Make the following input tests at the connector terminals. If all tests prove OK, yet the indicator still fails to work, replace the main printed-circuit-board, speedometer, tachometer, and odo/trip meter.

NOTE: Different wires with the same color have been given a number suffix to distinguish them (for example, GRN/RED<sup>1</sup> and GRN/RED<sup>2</sup> are not the same).







No.	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
1	BLK	Under all conditions.	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"><li>• Poor ground (G401, G402).</li><li>• An open in the wire.</li></ul>
2	YEL	Ignition switch ON.	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"><li>• Blown No. 1 (10 A) fuse.</li><li>• An open in the wire.</li></ul>
3	WHT/GRN	Brake pedal pushed.	Check for continuity to ground: There should be continuity with the pedal pushed.	<ul style="list-style-type: none"><li>• Blown No. 25 (20 A) fuse.</li><li>• Faulty brake light switch.</li><li>• Blown brake light bulbs.</li><li>• Faulty brake light failure sensors.</li><li>• Poor ground (G701).</li><li>• An open in the WHT/GRN or GRN/WHT wire.</li></ul>
4	GRN/BLK	Trunk lid open.	Check for continuity to ground: There should be continuity. NOTE: Before testing, remove No. 22 (15 A) fuse.	<ul style="list-style-type: none"><li>• Faulty trunk latch switch.</li><li>• An open in the wire.</li><li>• Poor ground (G701).</li></ul>
5	GRN/RED <sup>1</sup>	Right door open.	Check for continuity to ground: There should be continuity. NOTE: Before testing, remove the No. 22 (15 A) fuse.	<ul style="list-style-type: none"><li>• An open in the wire.</li><li>• Faulty door switch.</li><li>• Poor installation of the switch.</li></ul>
	GRN/BLU	Left door open.		
6	BLK/WHT	Ceiling light switch in MIDDLE position.	Attach to ground: Ceiling light should come on.	<ul style="list-style-type: none"><li>• Blown No. 22 (15 A) fuse.</li><li>• Faulty ceiling light.</li><li>• An open in the WHT/BLU or BLK/WHT wire.</li></ul>
7	GRN/RED <sup>2</sup>	Ignition switch ON.	Attach to ground: Brake light warning in the safety indicator should come on.	<ul style="list-style-type: none"><li>• Faulty safety indicator circuit.</li><li>• Blown bulb.</li><li>• An open in the wire.</li></ul>

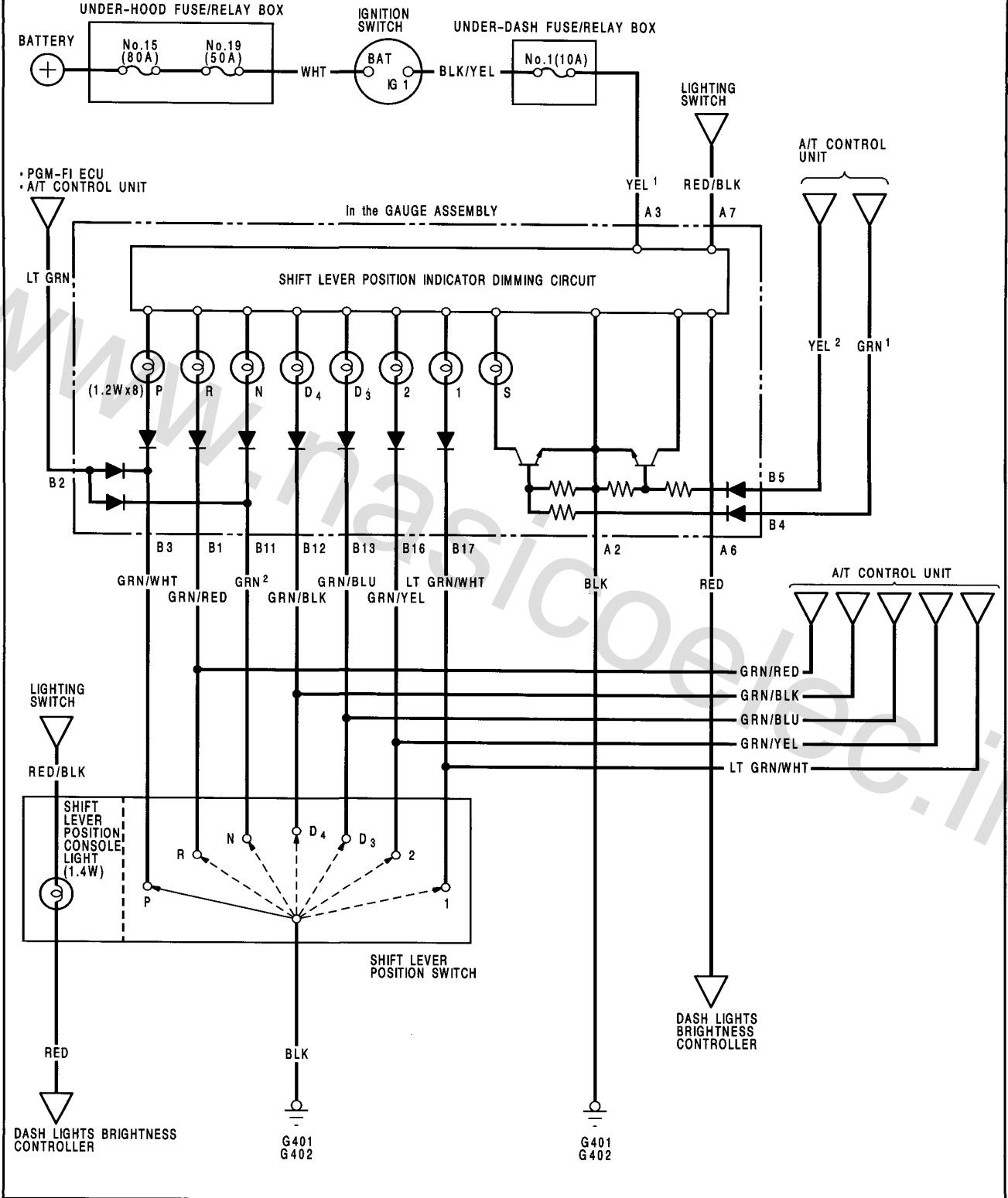
**KG model only:**

8	GRN	Brake pedal released, ignition switch turned from OFF to ON.	Check for continuity in both directions between the GRN and BLK terminals: There should be continuity in only one direction as the ignition switch is turned ON, then no continuity in both directions with the brake pedal pushed.	<ul style="list-style-type: none"><li>• Faulty brake light circuit failure sensor.</li></ul>
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# Shift Lever Position Indicator

## Circuit Diagram

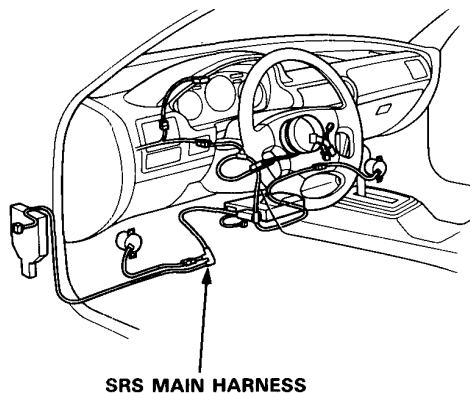


# Shift Lever Position Indicator

## Indicator Input Test

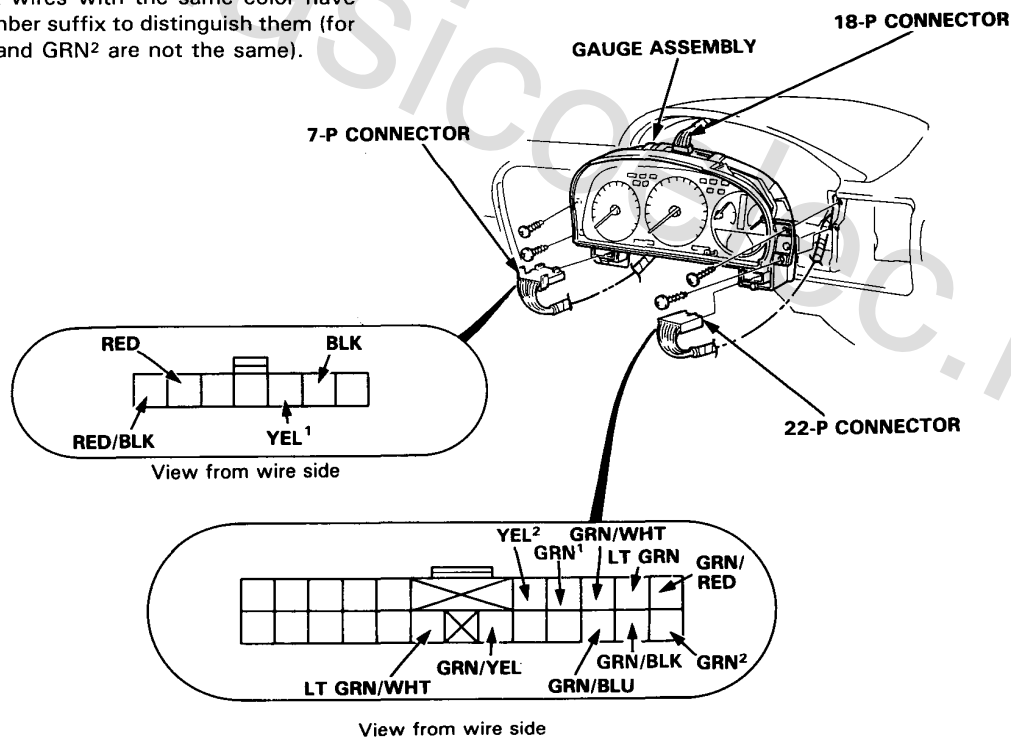
### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- Before disconnecting the SRS wire harness, install the short connector on the airbag.



Remove the gauge assembly from the dashboard and disconnect the 7-P, 18-P, and 22-P connectors from it. Make the following input tests at the connector terminals. If all tests prove OK, yet the indicator still fails to work, replace the main printed-circuit-panel, speedometer, tachometer, and odo/trip meter.

NOTE: Different wires with the same color have been given a number suffix to distinguish them (for example, GRN<sup>1</sup> and GRN<sup>2</sup> are not the same).





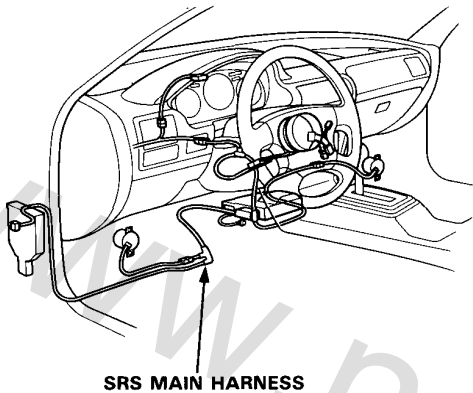
No.	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
1	BLK	Under all conditions.	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G401, G402).</li> <li>• An open in the wire.</li> </ul>
2	YEL <sup>1</sup>	Ignition switch ON.	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 1 (10 A) fuse.</li> <li>• An open in the wire.</li> </ul>
3	GRN/WHT	Shift lever in position P.	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Faulty shift lever position switch.</li> <li>• Poor ground (G401, G402).</li> <li>• An open in the wire.</li> </ul>
	GRN/RED	Shift lever in position R.		
	GRN <sup>2</sup>	Shift lever in position N.		
	GRN/BLK	Shift lever in position D <sub>4</sub>		
	GRN/BLU	Shift lever in position D <sub>3</sub>		
	GRN/YEL	Shift lever in position 2.		
	LT GRN/WHT	Shift lever in position 1.		
4	RED/BLK and RED	Lighting switch ON and dash lights brightness control dial on full bright.	Check for voltage between the RED/BLK and RED terminals: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Faulty dash lights brightness control system.</li> <li>• An open in the wire.</li> </ul>
5	GRN <sup>1</sup>	Ignition switch ON, shift lever in position D <sub>3</sub> or D <sub>4</sub> , and S switch ON.	Check for voltage to ground: There should be about 5 V.	<ul style="list-style-type: none"> <li>• Faulty S switch.</li> <li>• Faulty shift lever position switch.</li> <li>• Faulty A/T control system.</li> <li>• An open in the wire.</li> </ul>
6	YEL <sup>2</sup>	Ignition switch ON, shift lever in position D <sub>3</sub> or D <sub>4</sub> , and S switch ON.	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Faulty S switch.</li> <li>• Faulty shift lever position switch.</li> <li>• Faulty A/T control system.</li> <li>• An open in the wire.</li> </ul>
7	LT GRN	Ignition switch ON.	Check for voltage to ground: There should be about 5 V.	<ul style="list-style-type: none"> <li>• Faulty PGM-FI ECU.</li> <li>• An open in the wire.</li> </ul>

# Lighting System

## Lighting Switch Replacement

### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- Before disconnecting the SRS wire harness, install the short connector on the airbag.

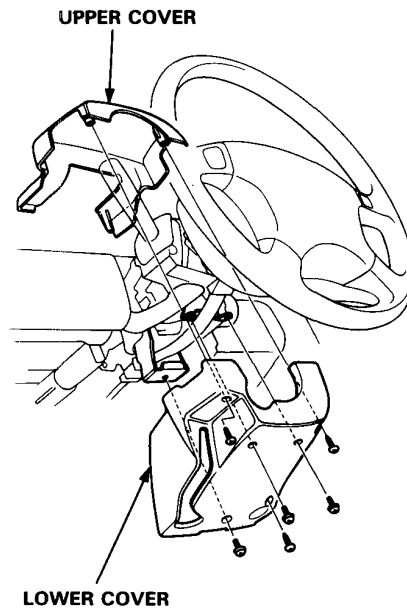


NOTE: LHD type is shown, RHD type is similar.

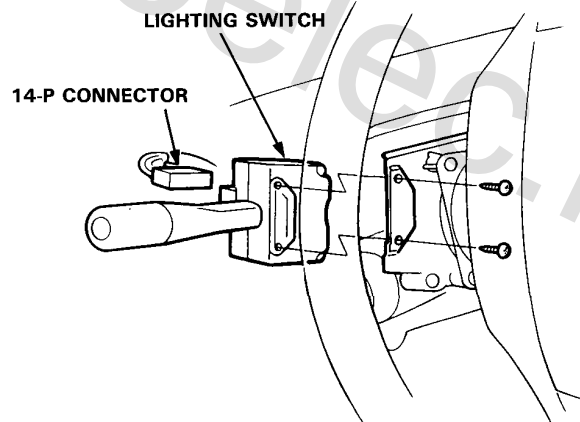
1. Remove the dashboard lower cover.



2. Remove the steering column covers.



3. Disconnect the 14-P connector from the switch, then remove the two screws and the switch.



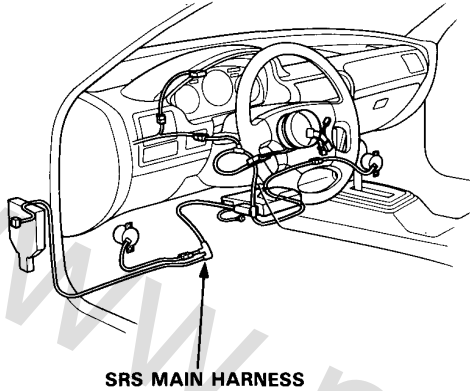


# Horns

## Component Location Index

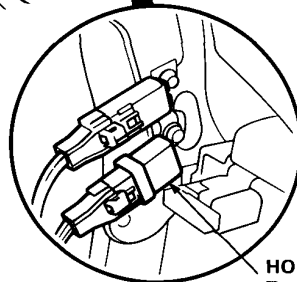
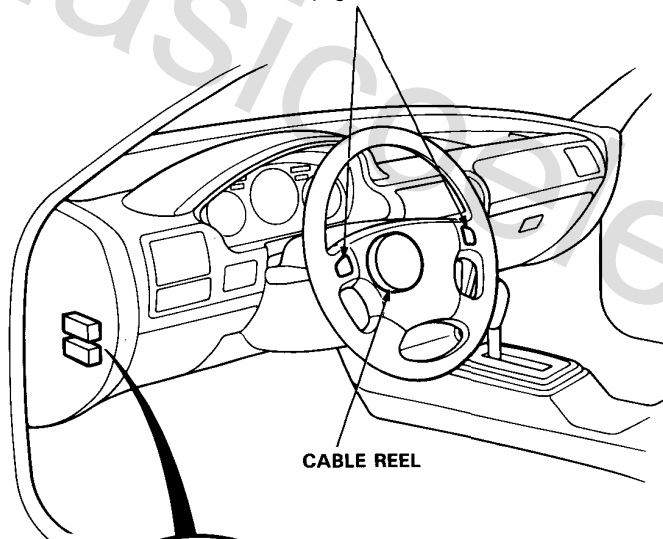
### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- Before disconnecting the SRS wire harness, install the short connector on the airbag.



NOTE: RHD type is symmetrical to LHD type.

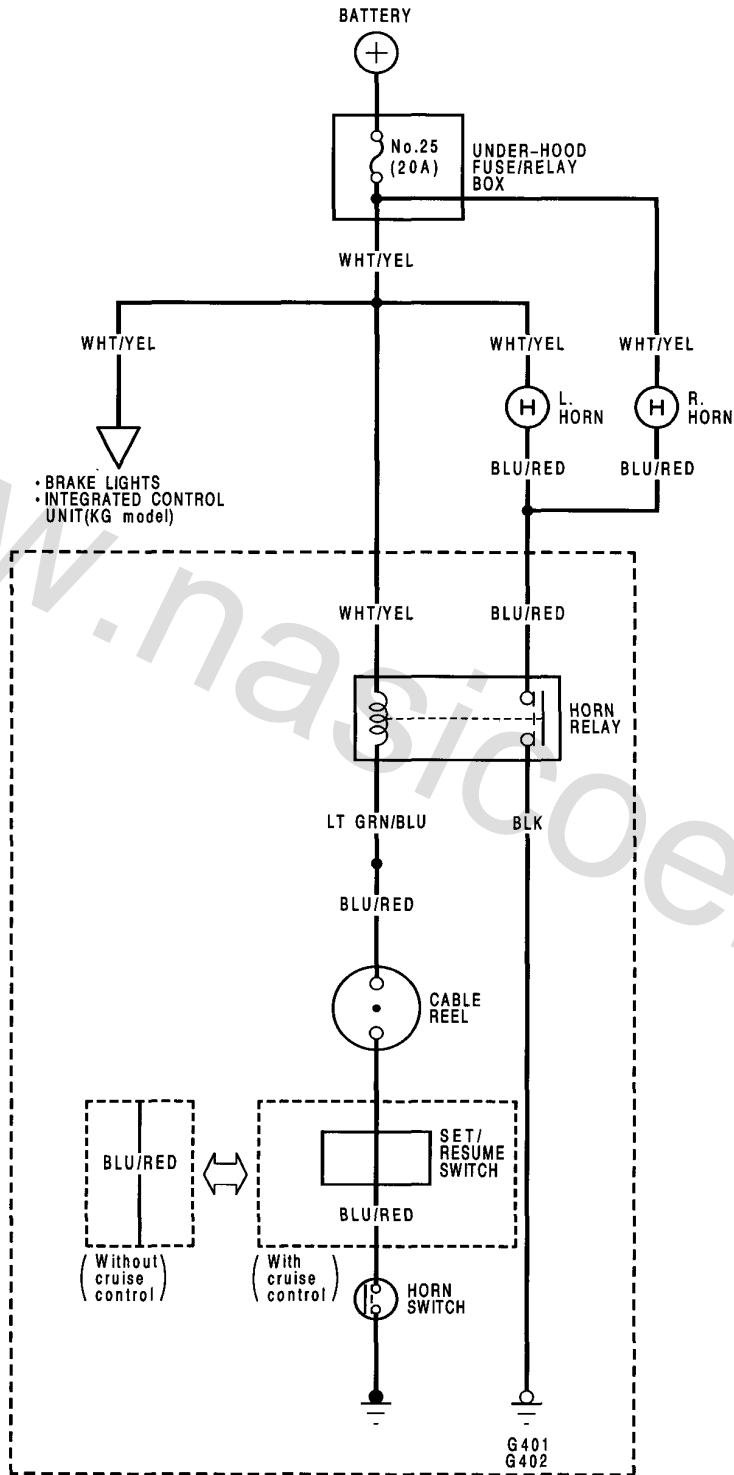
**HORN SWITCHES**  
Test, pages 16-61 and 62.



**HORN RELAY**  
Test, page 16-63

# Horns

## Circuit Diagram

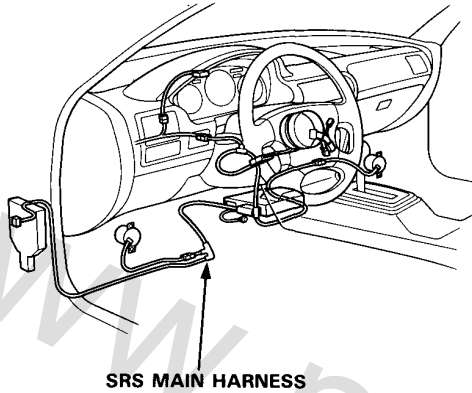




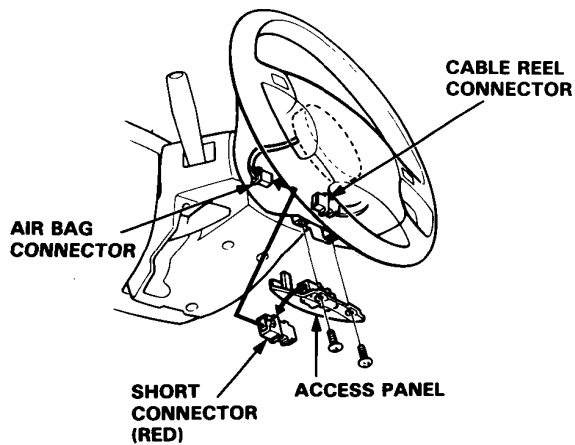
## Switch Test

### CAUTION:

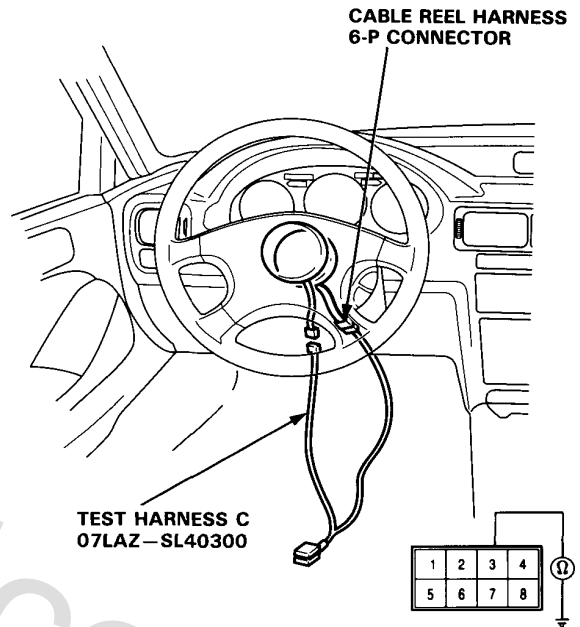
- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- Before disconnecting the SRS wire harness, install the short connector on the airbag.



1. Disconnect the battery negative cable, then disconnect the positive cable.
2. Make sure the wheels are turned straight ahead.
3. Remove the dashboard lower cover.
4. Install the short connector on the airbag.



5. Disconnect the cable reel harness 6-P connector from the SRS main harness, then connect Test Harness C only to the cable reel harness 6-P connector.



6. Check for continuity between the No. 3 terminal and body ground with the horn switch pressed. There should be continuity.

- If there is continuity, the horn switch is OK.
- If there is no continuity, go to step 7.

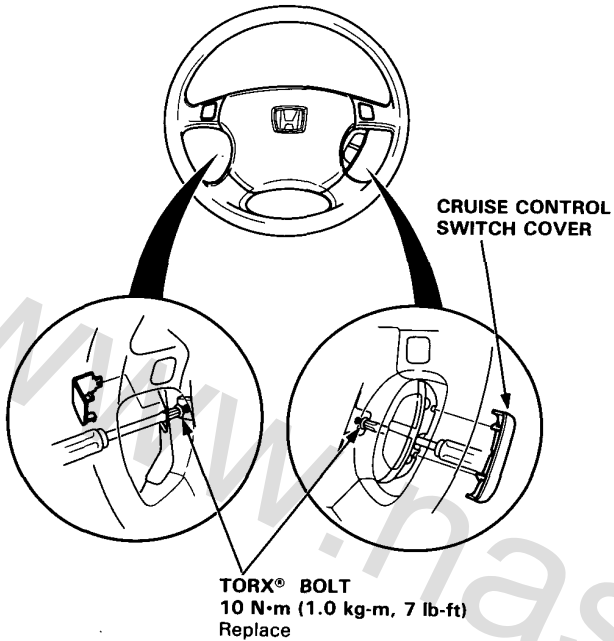
(cont'd)



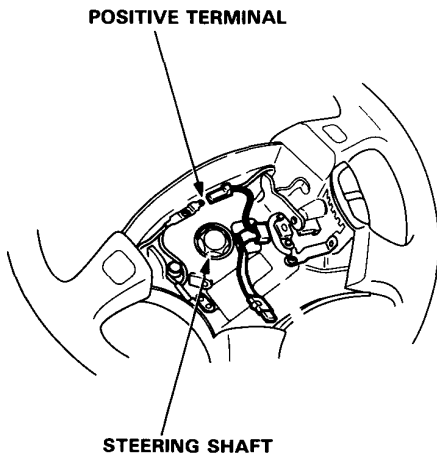
# Horns

## Switch Test (cont'd)

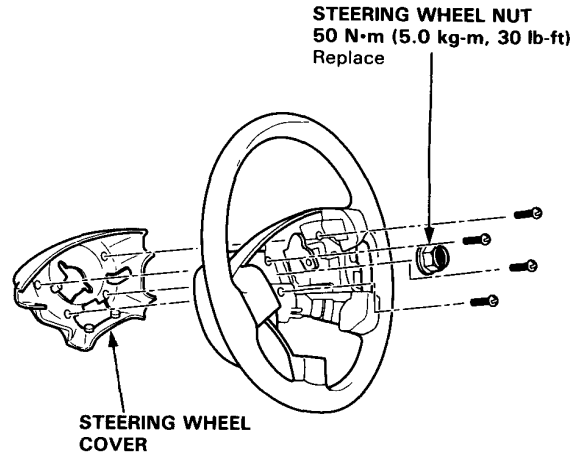
7. Remove the two TORX® bolts using a TORX® T30 bit, then remove the airbag assembly.



8. Check for continuity between the horn positive terminal and the steering shaft with the horn switch pressed. There should be no continuity.



- If there is continuity, replace the cable reel.
- If there is no continuity, remove the nut and the steering wheel. Remove the four screws, then remove the steering wheel cover. Replace the horn switch.

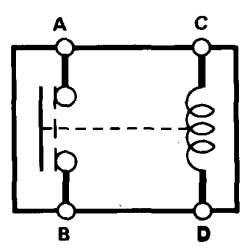
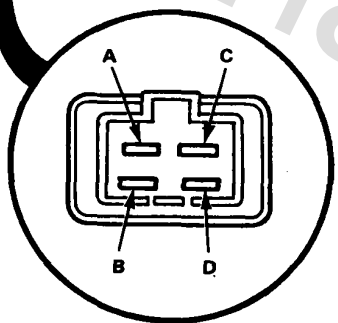
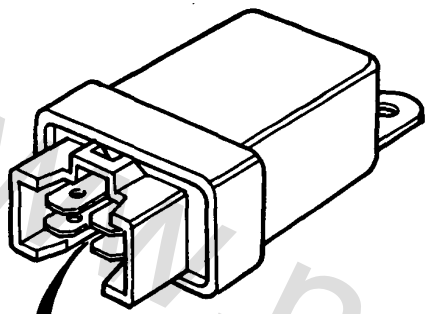


9. Install the steering wheel.



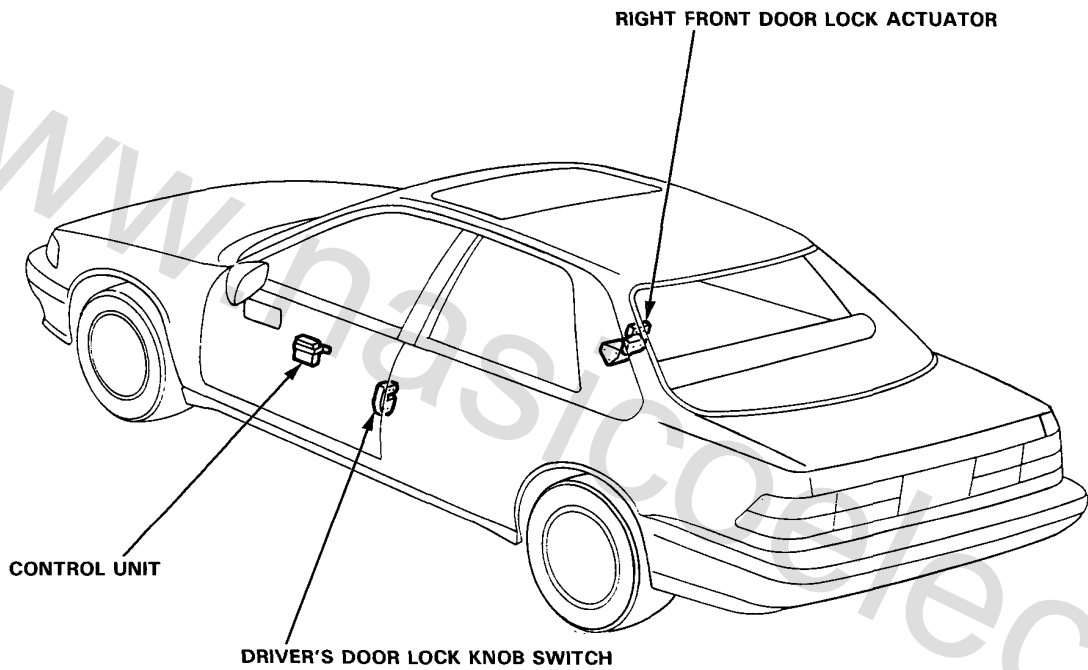
## Horn Relay Test

1. There should be continuity between the A and B terminals when power and ground are connected to the C and D terminals. There should be no continuity when power is disconnected.



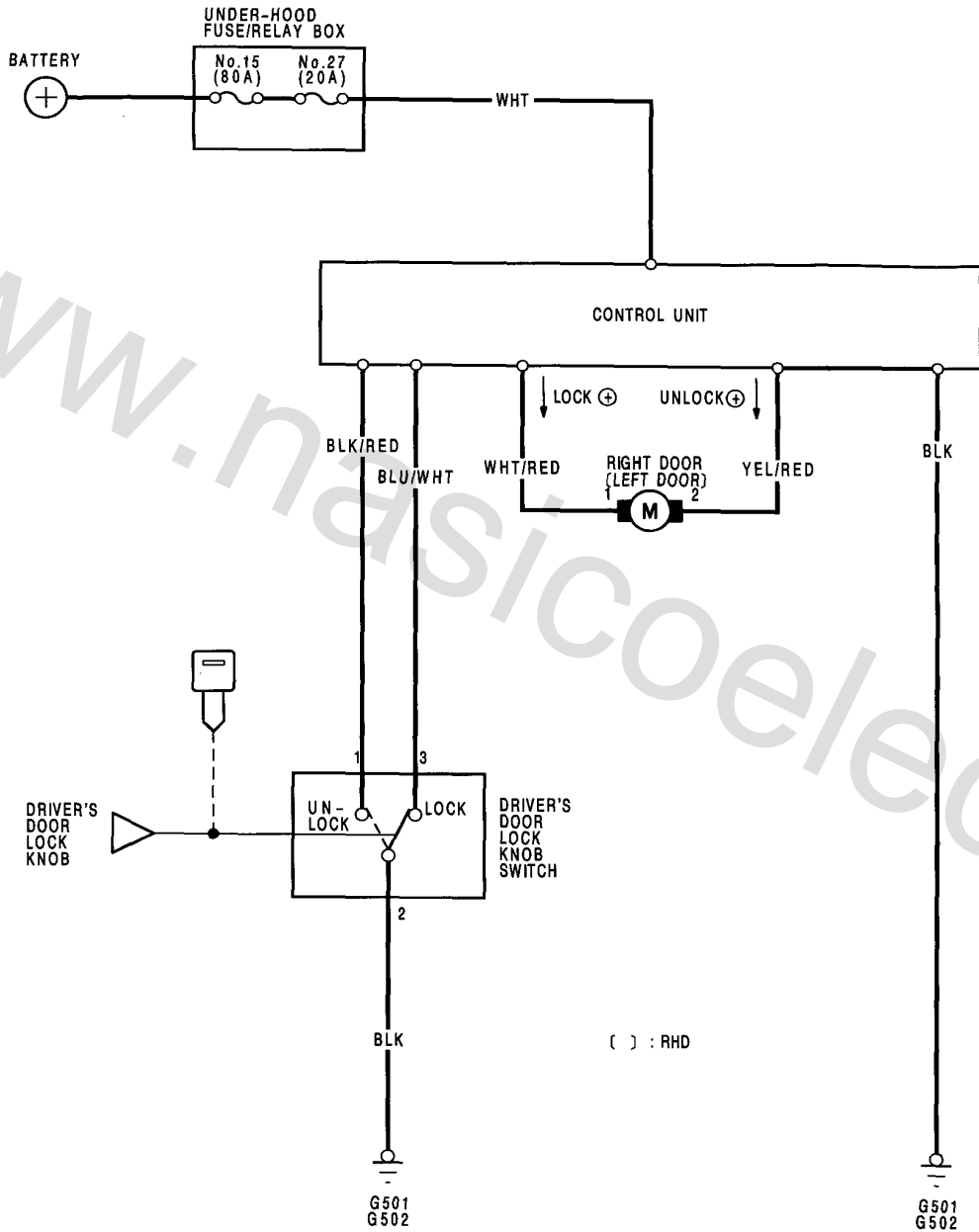
# Power Door Locks

## Component Location Index





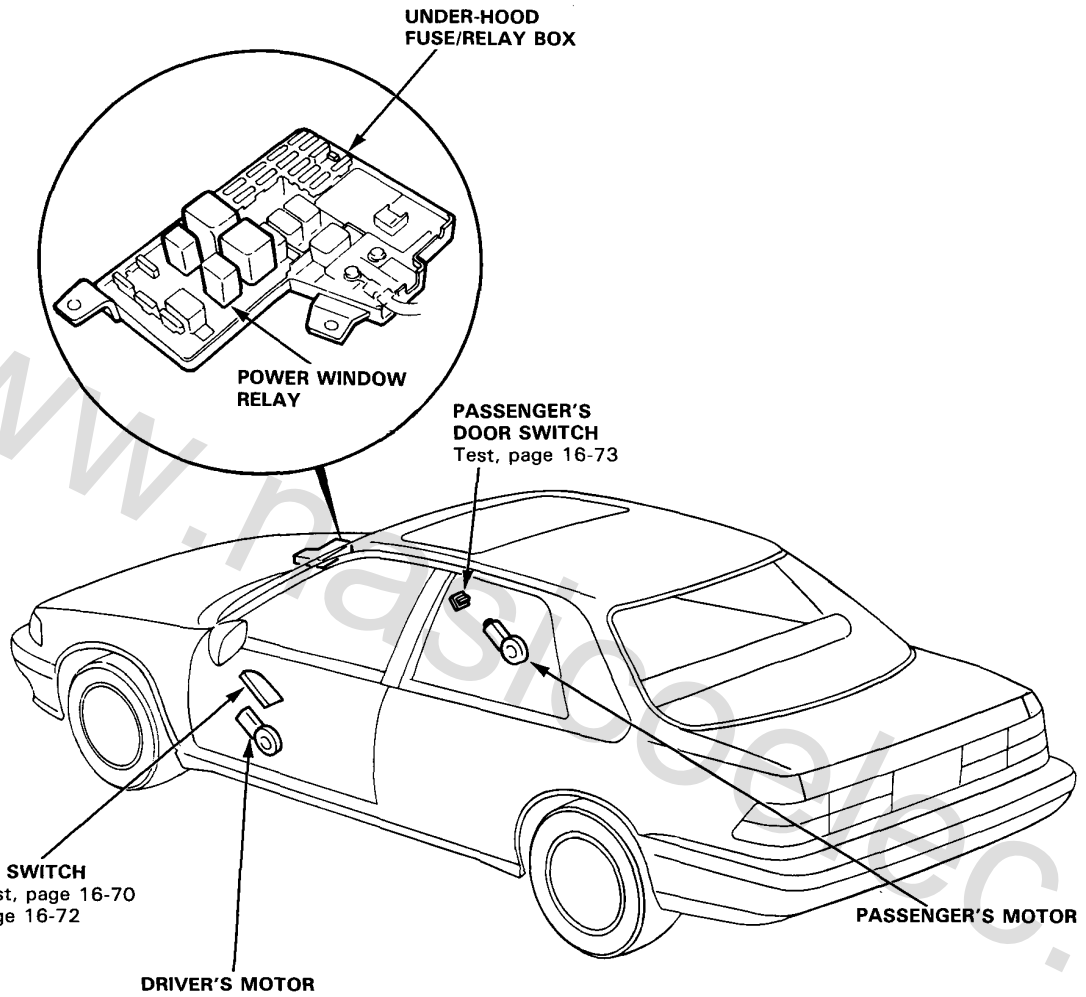
# Circuit Diagram





# Power Window

## Component Location Index

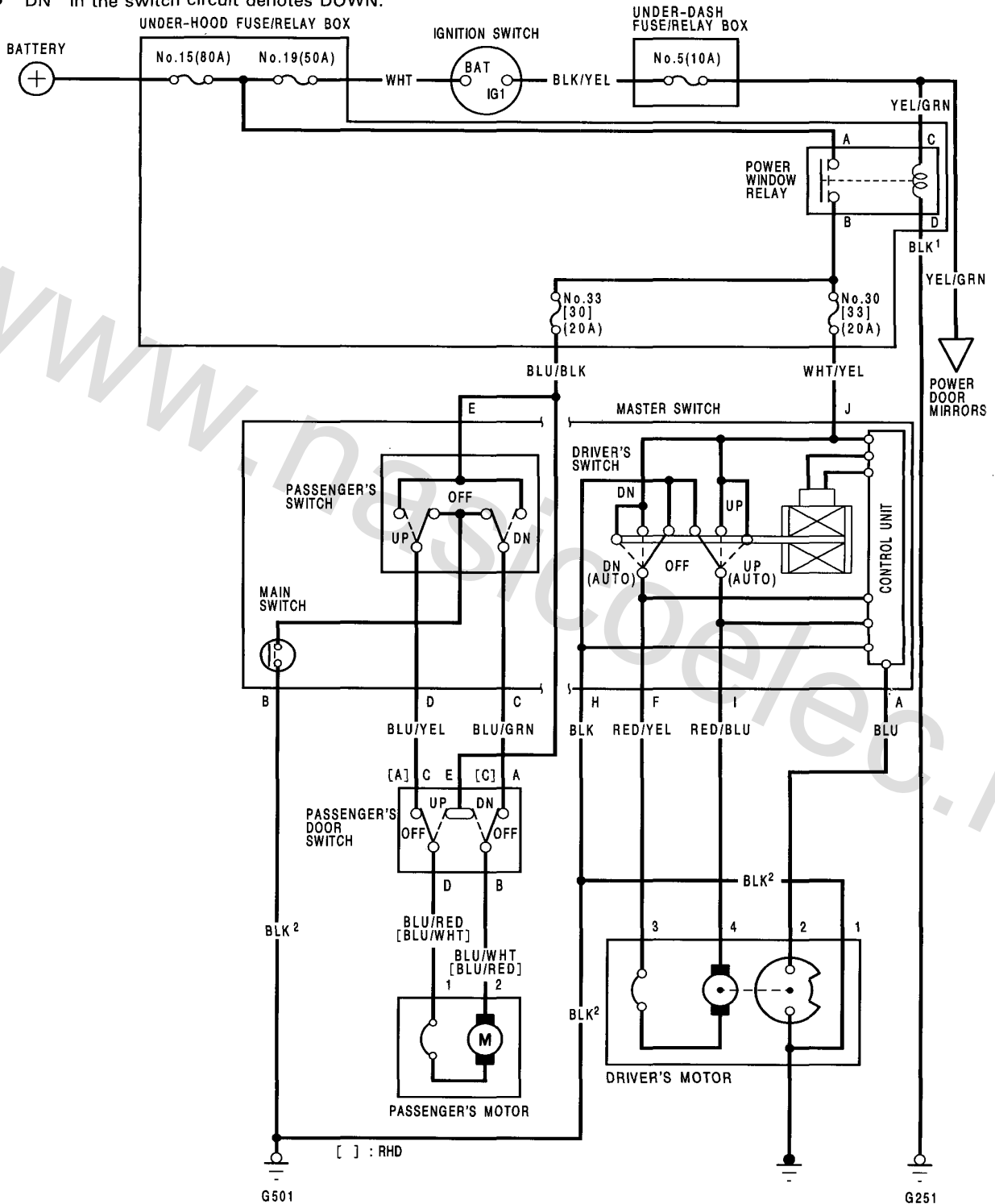


# Power Windows

## Circuit Diagram

**NOTE:**

- Different wires with the same color have been given a number suffix to distinguish them (BLK<sup>1</sup> and BLK<sup>2</sup> are not the same).
- "DN" in the switch circuit denotes DOWN.





## Troubleshooting

NOTE: The numbers in the table show the troubleshooting sequence.

Item to be inspected  Symptom	Blown No. 5 (10 A) fuse (In the under-dash fuse/relay box)		Power window relay		In the under-hood fuse/relay box		Master switch	Passenger's door switch	Driver's motor	Pulser (In driver's motor)	Passenger's motor	Window regulator	Driver's switch input	Poor ground	Open circuit in wires, loose or disconnected terminals.
	Blown No. 30 [33] (20 A) fuse	Blown No. 33 [30] (20 A) fuse													
All windows do not operate.	1		2											G251 G501	BLK/YEL, YEL/GRN
Driver's window does not operate.			1						2			3	4		WHT/YEL
Driver's window does not operate in AUTO.					1					2			3		BLU
Passenger's window does not operate.				1	2	3					4	5			BLU/BLK

[ ]: RHD

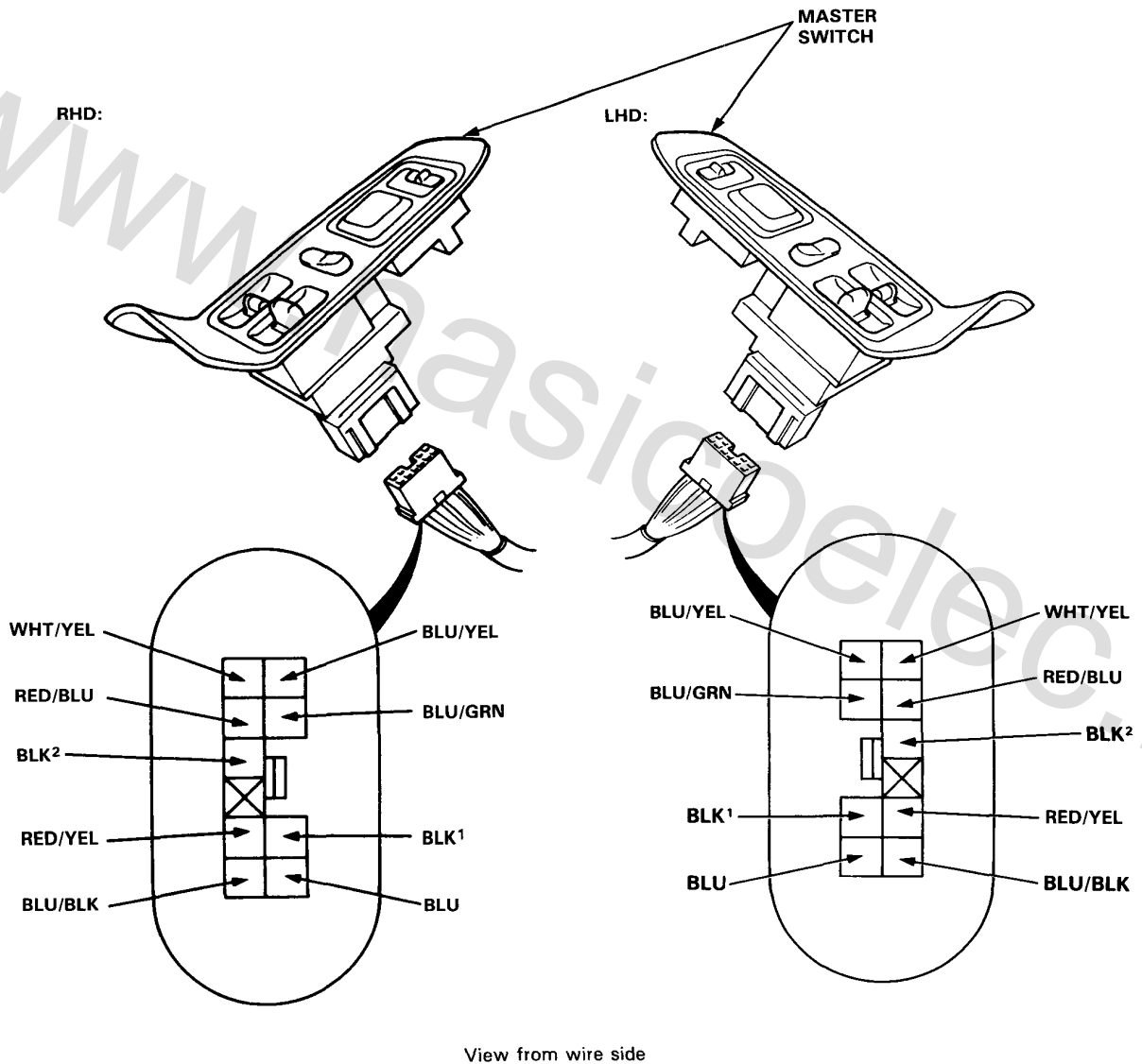
# Power Windows

## Master Switch Input Test

NOTE: The control unit is built into the master switch, and only controls the driver's door window operation.

Remove the driver's door panel and disconnect the 10-P connector from the master switch. Make the following input tests at the connector terminals.

NOTE: Recheck the connections between the 10-P connector and the master switch, then reinstall the master switch if all input tests prove OK.







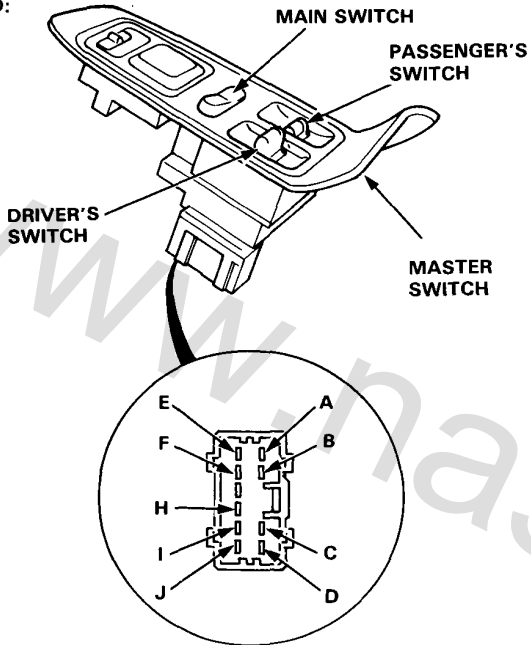
No.	Terminal	Test condition	Test: Desired result	Possible cause if result is not obtained
1	BLK <sup>1</sup>	Under all conditions.	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G501).</li> <li>• An open in the wire.</li> </ul>
2	WHT/YEL	Ignition switch ON.	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 30 or 33 (20 A) fuse.</li> <li>• Faulty power window relay.</li> <li>• An open in the wire.</li> </ul>
	BLU/BLK			
3	RED/BLU and RED/YEL	Connect the WHT/YEL terminal to the RED/BLU terminal, and the RED/YEL terminal to the BLK terminal, then turn the ignition switch ON.	Check the driver's motor operation: It should run.	<ul style="list-style-type: none"> <li>• Faulty driver's motor.</li> <li>• An open in the wire.</li> </ul>
4	BLU/YEL and BLU/GRN	Connect the BLU/BLK terminal to the BLU/YEL terminal, and the BLU/GRN terminal to the BLK terminal, then turn the ignition switch ON.	Check the passengers motor operation: It should run.	<ul style="list-style-type: none"> <li>• Faulty passenger's motor.</li> <li>• Faulty passenger's door switch.</li> <li>• An open in the wire.</li> </ul>
5	BLU and BLK <sup>2</sup>	Connect the WHT/YEL terminal to the RED/YEL terminal, and the BLK terminal to the RED/BLU terminal, then turn the ignition switch ON.	After connecting the BLU and BLK terminals, check for movement of the analog ohmmeter needle: It should move back and forth alternately as the driver's motor runs.	<ul style="list-style-type: none"> <li>• Faulty pulser.</li> <li>• Faulty driver's motor.</li> <li>• An open in the wire.</li> </ul>

# Power Windows

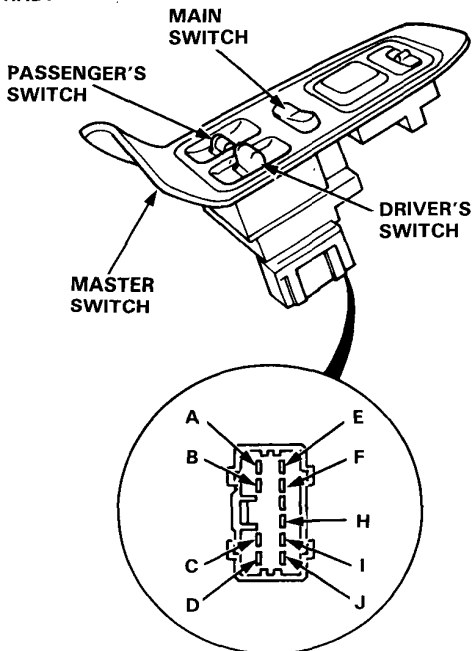
## Master Switch Test

1. Remove the door panel.
2. Remove the master switch from the door panel.
3. Check for continuity between the terminals in each switch position according to the tables.

LHD:



RHD:



### Driver's Switch

Terminal Position	F	H	I	J
OFF	○	○	○	
UP			○	○
UP (AUTO)			○	○
DOWN	○			○
DOWN (AUTO)	○			○

### Passenger's Switch

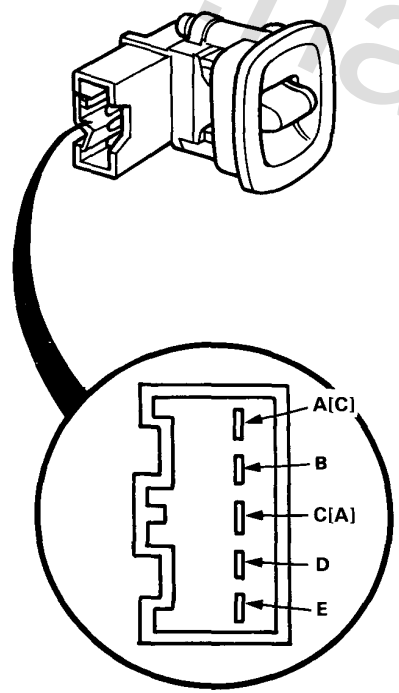
Terminal		B	C	D	E
Position	Main switch				
OFF	ON	○	○	○	
	OFF		○	○	
UP	ON			○	○
	OFF			○	○
DOWN	ON		○		○
	OFF		○		○



## Passenger's Door Switch Test

1. Remove the switch from the arm rest, then disconnect the 5-P connector.
2. Check for continuity between the terminals in each switch position according to the table.

Terminal Position	A [C]	B	C [A]	D	E
UP					
OFF					
DOWN					



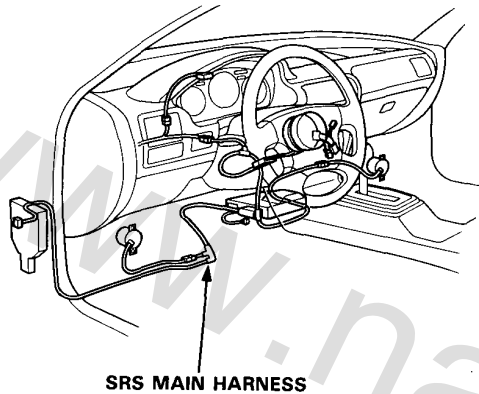
[ ]: RHD

# Wipers/Washer

## Wiper/Washer Switch Replacement

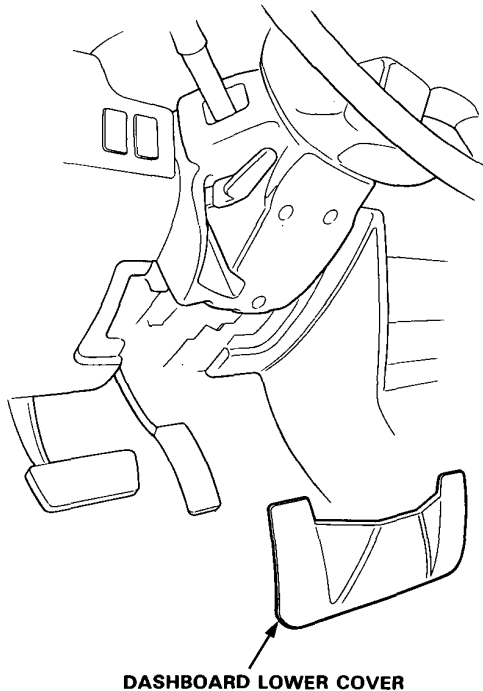
### CAUTION:

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- Before disconnecting the SRS wire harness, install the short connector on the airbag.

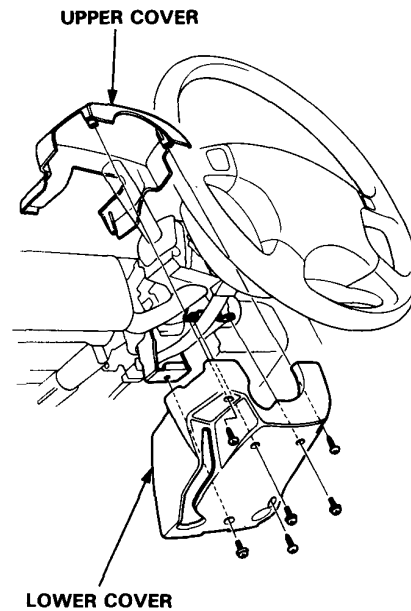


NOTE: LHD type is shown, RHD type is similar.

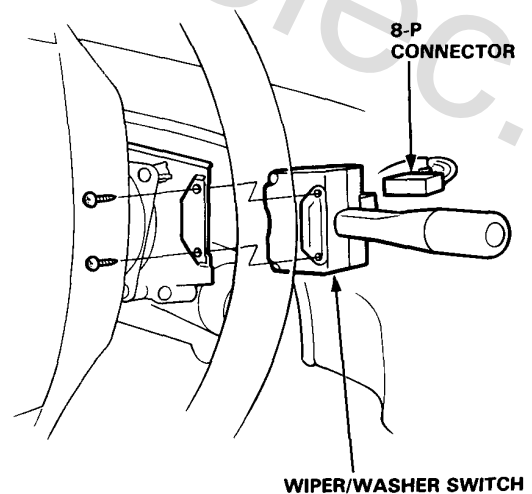
1. Remove the dashboard lower cover.



2. Remove the steering column covers.



3. Disconnect the 8-P connector from the switch, then remove the two screws and the switch.



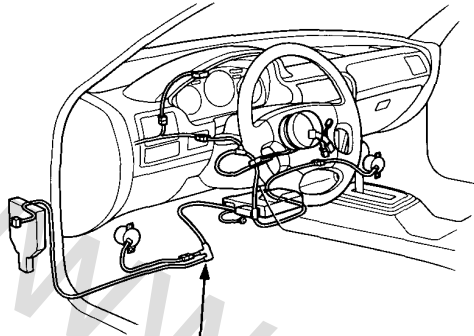


# Cruise Control

## Component Location Index (KE model)

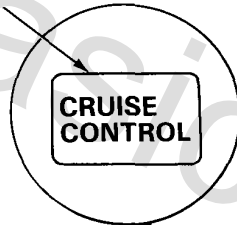
**CAUTION:**

- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- Before disconnecting the SRS wire harness, install the short connector on the airbag.

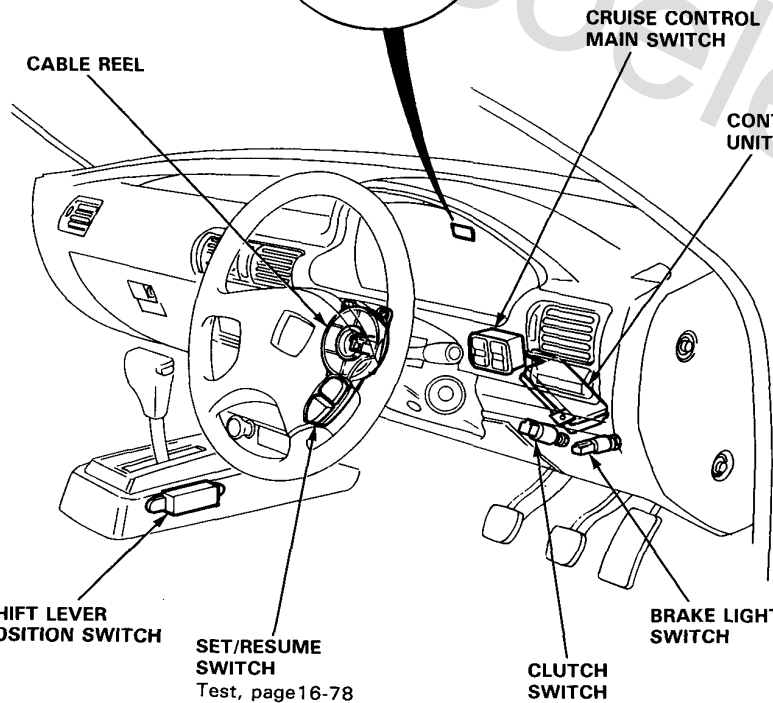


SRS MAIN HARNESS

INDICATOR LIGHT and DIMMING CIRCUIT  
(In the gauge assembly)



CRUISE CONTROL



CABLE REEL

CRUISE CONTROL MAIN SWITCH

CONTROL UNIT

SHIFT LEVER POSITION SWITCH

SET/RESUME SWITCH

Test, page16-78

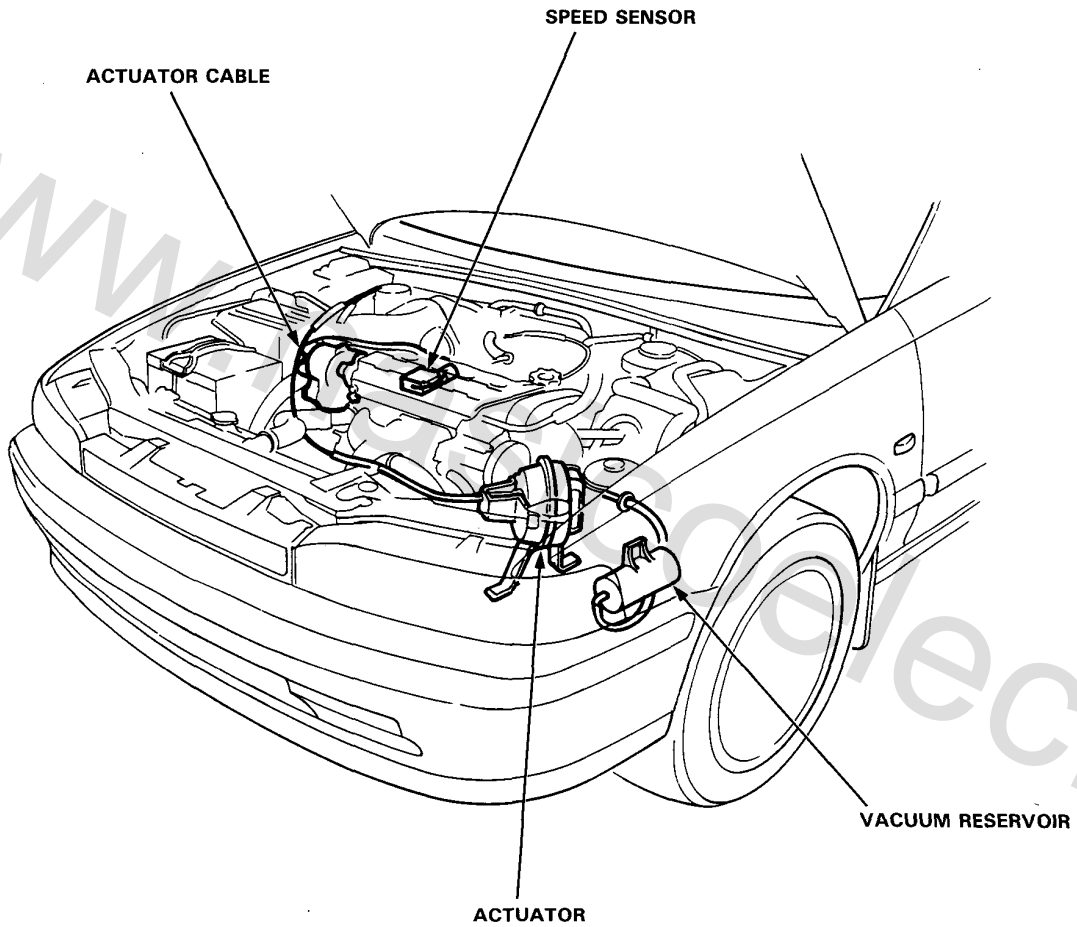
CLUTCH SWITCH

BRAKE LIGHT SWITCH

(cont'd)

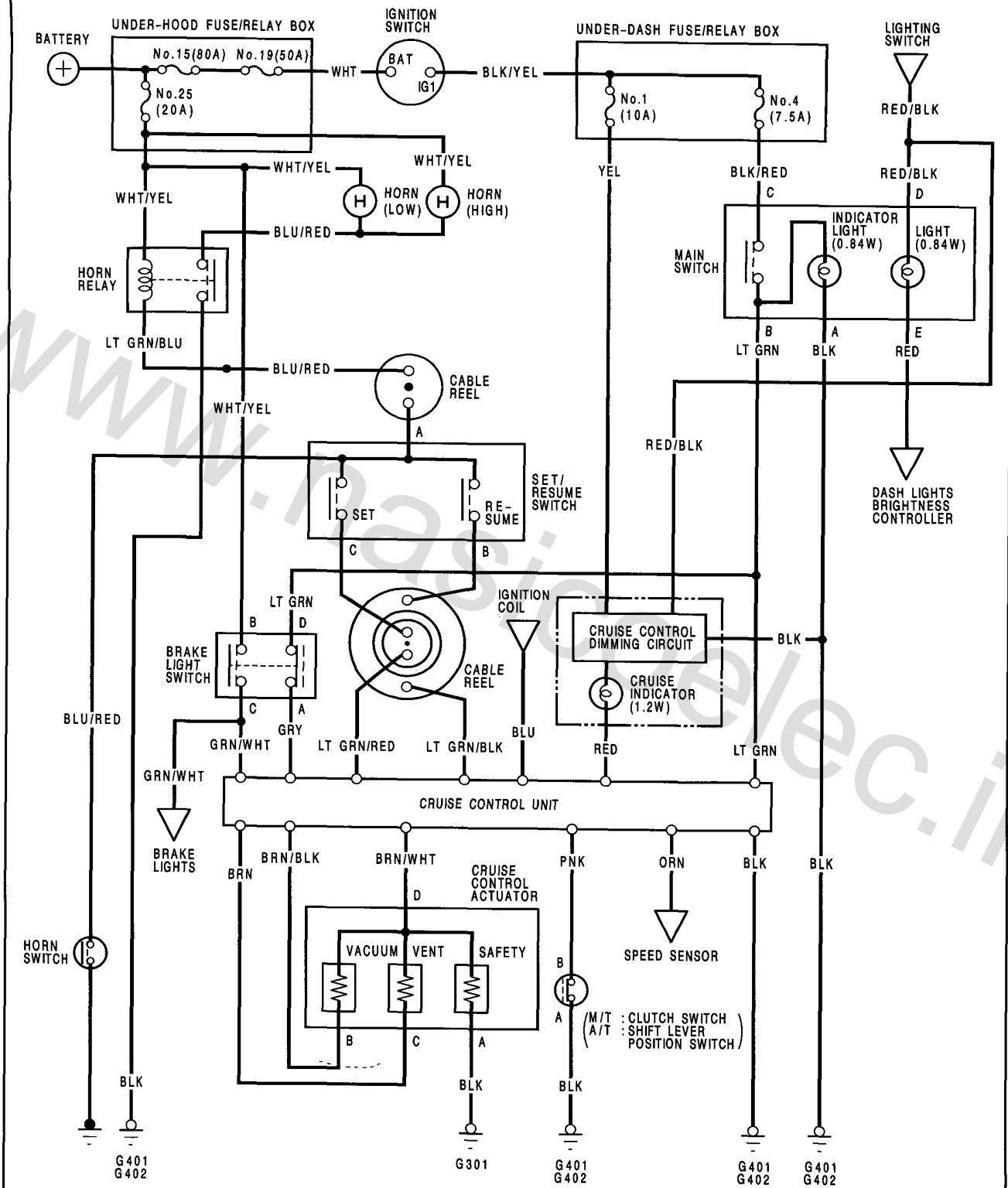
# Cruise Control

## Component Location Index (KE model) (cont'd)





# Circuit Diagram

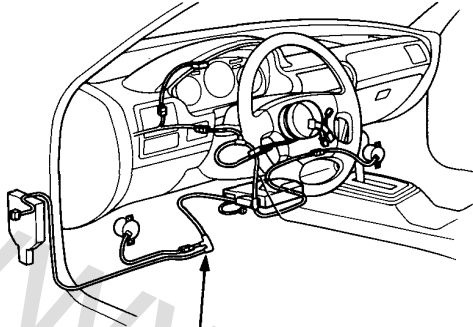


# Cruise Control

## SET/RESUME Switch Test (KE model)

### CAUTION:

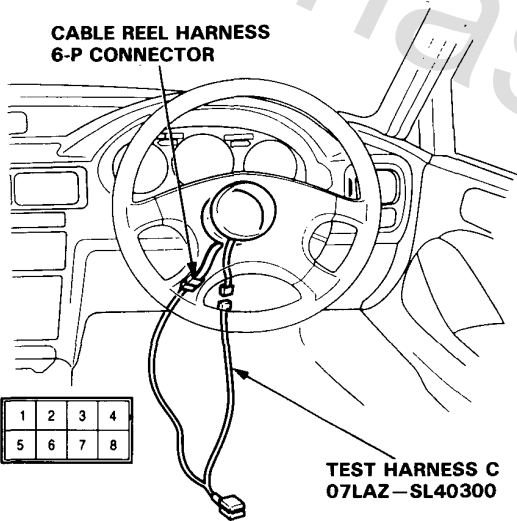
- All SRS electrical wiring harnesses are covered with yellow outer insulation.
- Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.
- Before disconnecting the SRS wire harness, install the short connector on the airbag.



SRS MAIN HARNESS

1. Disconnect the cable reel harness 6-P connector from the SRS main harness, then connect Test Harness C only to the cable reel harness.

CABLE REEL HARNESS  
6-P CONNECTOR



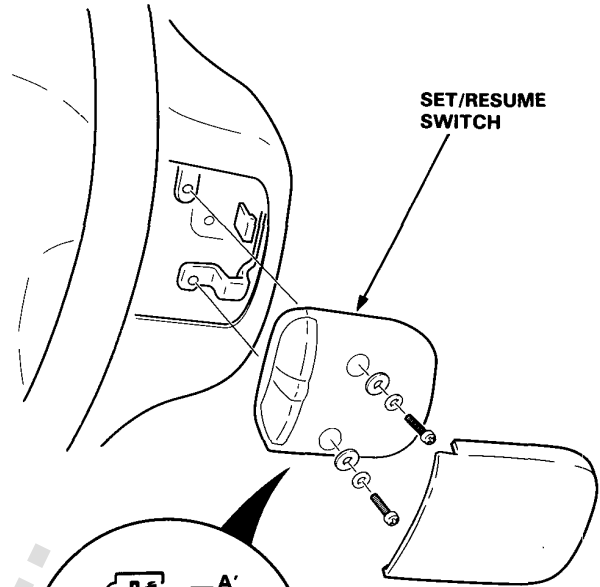
TEST HARNESS C  
07LAZ-SL40300

2. Check for continuity between the terminals in each switch position according to the table.

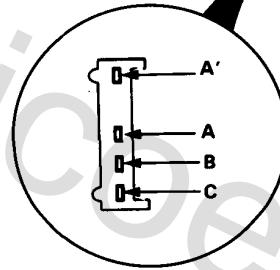
Terminal Position	3 (BLU/RED)	2 (LT GRN/RED)	1 (LT GRN/BLK)
SET (ON)	○	○	
RESUME (ON)	○		○

- If there is continuity, the SET/RESUME switch is OK.
- If there is no continuity, go to step 3.

3. Remove the switch cover from the SET/RESUME switch, then separate the SET/RESUME switch by removing the two screws.



SET/RESUME  
SWITCH



4. Check for continuity between the terminals in each switch position according to the table.

Terminal Position	A or A'	B	C
SET (ON)	○		○
RESUME (ON)	○	○	

- If there is continuity, replace the cable reel.
- If there is no continuity, replace the switch.



# INTRODUCTION

## How to Use This Manual

This supplement contains information for the 1993 ACCORD and ACCORD AERO DECK. Refer to following shop manuals for service procedures and data not included in this supplement.

Description	Code No.
ACCORD CHASSIS Maintenance and Repair 90	62SM400
ACCORD SUPPLEMENT 91	62SM420
ACCORD AERO DECK SUPPLEMENT 91	62SM421
ACCORD SUPPLEMENT 92	62SM422
ACCORD COUPE SUPPLEMENT 92	62SM423
F18A/F20A/F22A ENGINE Maintenance and Repair	62PT400
H2 MANUAL TRANSMISSION Maintenance and Repair	62PX500
PX4B AUTOMATIC TRANSMISSION Maintenance and Repair	62PX400

The first page of each section is marked with a black tab that lines up with one of the thumb index tabs on this page. You can quickly find the first page of each section without looking through a full table of contents. The symbols printed at the top corner of each page can also be used as a quick reference system.

## Special Information

**⚠ WARNING** Indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.

**CAUTION:** Indicates a possibility of personal injury or equipment damage if instructions are not followed.

**NOTE:** Gives helpful information.

**CAUTION:** Detailed descriptions of *standard* workshop procedures, safety principles and service operations are not included. Please note that this manual does contain warnings and cautions against some specific service methods which could cause **PERSONAL INJURY**, or could damage a vehicle or make it unsafe. Please understand that these warnings cannot cover all conceivable ways in which service, whether or not recommended by Honda, might be done, or of the possible hazardous consequences of each conceivable way, nor could Honda investigate all such ways. Anyone using service procedures or tools, whether or not recommended by Honda, *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized.

All information contained in this manual is based on the latest product information available at the time of printing. We reserve the right to make changes at any time without notice. No part of this publication may be reproduced, stored in retrieval system, or transmitted, in any form by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. This includes text, figures and tables.

marked sections are not included in this manual.

General Info



Special Tools



Specifications

specs

Maintenance



Engine



Cooling



Fuel and Emissions



\* Transaxle



\* Steering



Suspension



\* Brakes  
(Including ABS)



\* Body



\* Heater and  
Air Conditioner



\* Electrical  
(Including SRS)



As sections with \* include SRS components, special precautions are required, when servicing.

# Outline of Model Changes

ITEM	DESCRIPTION	91 MODEL	91 AERO DECK	92*1 MODEL	93*1 MODEL	REFERENCE SECTION
General	Accord Aero Deck added		○			—
	Accord Wagon (KQ) added*2			○		—
Engine	Tightening torque changed <ul style="list-style-type: none"> <li>• Engine Mounting bolts and nuts</li> <li>• Main bearing cap nut</li> <li>• Exhaust pipe-to muffler connecting nut</li> </ul> Changed <ul style="list-style-type: none"> <li>• Exhaust manifold (KQ model)</li> <li>• Crank bore marking method</li> </ul>	○				—
	Changed <ul style="list-style-type: none"> <li>• Muffler</li> </ul>		○			—
Carburetor	Adopted <ul style="list-style-type: none"> <li>• KE with CATA model</li> </ul> Modified <ul style="list-style-type: none"> <li>• Vacuum connections</li> </ul>		○			—
	Adapted <ul style="list-style-type: none"> <li>• KF with CATA model</li> </ul> Modified <ul style="list-style-type: none"> <li>• PGM-CARB system diagram and connector</li> </ul>			○		—
PGM-FI	Adopted <ul style="list-style-type: none"> <li>• KE with CATA model</li> </ul> Modified <ul style="list-style-type: none"> <li>• KQ model (2.2 ℓ)</li> <li>• Electronic control unit (ECU)</li> <li>• Vacuum connections</li> <li>• TDC/CRANK/CYL sensors</li> <li>• Fuel pressure</li> <li>• Constant vacuum control (CVC) valve</li> </ul>	○				—
	Modified <ul style="list-style-type: none"> <li>• Fuel tank</li> </ul>		○			—
	Added <ul style="list-style-type: none"> <li>• KF with CATA model</li> </ul> Modified <ul style="list-style-type: none"> <li>• Vacuum connections</li> <li>• O<sub>2</sub> sensor</li> <li>• Fuel-injected system diagram and connections</li> </ul>			○		—
	Added <ul style="list-style-type: none"> <li>• 2.0 ℓ with CATA model of ACCORD AERODECK (KG, KE)</li> </ul>				○	6
Clutch	Changed <ul style="list-style-type: none"> <li>• Torque value of clutch pipe</li> </ul>			○		—

\*1 Includes 4-door (sedan) and 5-door (Aero deck or Wagon)

\*2 Refer to the shop manual ACCORD SUPPLEMENT 91 "ACCORD AERO DECK" (No. 62SM421).

ITEM	DESCRIPTION	91 MODEL	91 AERO DECK	92*1 MODEL	93*1 MODEL	REFERENCE SECTION
Manual Transmission	Modified <ul style="list-style-type: none"> <li>• Changed lever</li> <li>• 3rd/4th synchro sleeve</li> <li>• 5th synchro hub and 5th synchro sleeve</li> <li>• 1st/2nd synchro hub</li> </ul>	○				—
	Changed <ul style="list-style-type: none"> <li>• Shift and select cable</li> <li>• Countershaft bearing</li> <li>• Torque value of countershaft locknut</li> <li>• 2nd gear spacer collar</li> </ul>			○		—
Automatic Transmission	Changed <ul style="list-style-type: none"> <li>• Transmission type, from MPXA to APXA</li> </ul>		○			—
	Changed			○		—
Power Steering	Added <ul style="list-style-type: none"> <li>• High pressure pipe for power steering pump</li> </ul>		○			—
Suspension	Changed <ul style="list-style-type: none"> <li>• Torque value of front suspension</li> </ul>			○		—
Anti-lock Brake System	Changed <ul style="list-style-type: none"> <li>• Brake booster for LHD car with ABS</li> </ul> Modified <ul style="list-style-type: none"> <li>• ABS control unit</li> <li>• ABS modulator unit and power unit</li> </ul>			○		—
Body	Added <ul style="list-style-type: none"> <li>• Aero deck</li> </ul>		○			—
Electrical	Changed <ul style="list-style-type: none"> <li>• Power supply circuit</li> <li>• Taillight</li> </ul> Modified <ul style="list-style-type: none"> <li>• Brake light failure sensor</li> <li>• Power door locks</li> <li>• Stereo sound system</li> </ul> Adopted <ul style="list-style-type: none"> <li>• Pear wiper/washer</li> <li>• Tailgated latch switch</li> </ul>		○			—
	Added <ul style="list-style-type: none"> <li>• SRS type I and SRS type II</li> <li>• High mount brake light (KQ model)</li> </ul>			○		—
	Added <ul style="list-style-type: none"> <li>• Interlock system (KQ model)</li> <li>• Driver's door lock actuator (KQ model)</li> </ul> Changed <ul style="list-style-type: none"> <li>• Idle speed for fuel-injected engine</li> <li>• Ignition timing for carbureted engine (KY model)</li> <li>• Integrated control unit (KY model)</li> </ul>				○	16

**Chassis and Engine Numbers**  
**Identification Number Locations**  
**Lable Locations**  
**Lift and Support Points**  
**Towing**  
**Preparation of Work**  
**Symbol Marks**  
**Abbreviations**

[www.nasicoelec.ir](http://www.nasicoelec.ir)

# Chassis and Engine Numbers

## Vehicle Identification Number (4D with 2.0 l Carbureted engine)

JHMCB35200C300001

### Manufacturer, Make and Type of Vehicle

JHM: HONDA MOTOR CO.,  
LTD. JAPAN  
HONDA Passenger car

### Body Type

CB3: ACCORD 2.0 l

### Body and Transmission Type

5: 4-door 5-speed Manual  
6: 4-door 4-speed Automatic

### Vehicle Grade

2: DX, KG/KS (F20A2)  
LX, KY (F20A3 Leaded gasoline)  
3: EX, KF/KG/KS/KE (F20A2)  
KF/KE (F20A3 Unleaded  
gasoline)  
KB/KW/KP/KT/KU/KY  
(F20A3, Leaded gasoline)  
EX (90ps), KG (F20A6)

### Fixed Code

### Auxiliary Number

### Factory Code

C: Saitama Factory in Japan

### Model Year

3: 1993

### Serial Number

## Vehicle Identification Number (4D with 2.0 l Fuel-injected engine except KB other)

JHMCB35400C300001

### Manufacturer, Make and Type of Vehicle

JHM: HONDA MOTOR CO.,  
LTD. JAPAN  
HONDA Passenger car

### Body Type

CB3: ACCORD 2.0 l

### Body and Transmission Type

5: 4-door 5-speed Manual  
6: 4-door 4-speed Automatic

### Vehicle Grade

4: 2.0i, KF/KE (F20A5 Unleaded gasoline)  
KB/KW (F20A5 Leaded gasoline)  
KF/KG/KS/KE (F20A8)  
2.0i with ABS  
KF/KE (F20A5 Unleaded gasoline)  
KB (F20A5, Leaded gasoline)  
KF/KG/KX/KS/KE (F20A8)  
EXi, KU (F20A5 Leaded gasoline)

### Fixed Code

### Auxiliary Number

### Factory Code

C: Saitama Factory in Japan

### Model Year

3: 1993

### Serial Number

## Vehicle Identification Number (4D with 2.0 l, 2.2 l Fuel-injected engine KB other)

1HGCC155\*PA700001

### Manufacturer, Code and Vehicle Type

1HG: HONDA OF AMERICA  
MFG., INC., U.S.A.  
HONDA Passenger car

### Body Type

CC1: ACCORD 2.0 l  
CD2: ACCORD 2.2 l

### Body and Transmission Type

5: 4-door 5-speed Manual  
6: 4-door 4-speed Automatic

### Vehicle Grade

5: LX (CC1)  
6: EX (CD2)

### Check Digit

### Model Year

P: 1993

### Factory Code

A: Ohio Factory in U.S.A. (Marysvill)

### Serial Number

## Vehicle Identification Number (4D with 2.2 l Fuel-injected engine except KB other)

JHMCB75400C300001

### Manufacturer, Make and Type of Vehicle

JHM: HONDA MOTOR CO.,  
LTD. JAPAN  
HONDA Passenger car

### Body Type

CB7: ACCORD 2.2 l

### Body and Transmission Type

5: 4-door 5-speed Manual  
6: 4-door 4-speed Automatic

### Vehicle Grade

4: LXi, KQ (F22A9)  
5: 2.2i, KF/KG/KX/KS/KE (F22A3)  
EXi, KQ (F22A9)  
KY (F22A2)

### Fixed Code

### Auxiliary Number

### Factory Code

C: Saitama Factory in Japan

### Model Year

3: 1993

### Serial Number



**Vehicle Identification Number**  
(5D with 2.2 l, 2.0 l  
Fuel-injected engine)

1HGCB87400A100001

**Manufacturer, Code and  
Vehicle Type**

1HG: HONDA OF AMERICA  
MFG.,  
INS., U.S.A.  
HONDA Passenger car

**Body Type**

CB8: ACCORD AERO DECK 2.2 l  
(KF/KG/KE)  
CB9: ACCORD AERO DECK 2.2 l  
(KQ)  
CC9: ACCORD AERO DECK 2.0 l  
(KF/KG/KE)

**Body and Transmission Type**

7: 5-door 5-speed Manual  
8: 5-door 4-speed Automatic

**Vehicle Grade**

4: 2.0i, 2.2i (KF/KG/KE)  
LXi (KQ)  
5: 2.0i, 2.2i with A/C (KF/KG/KE)  
LXi with A/C (KQ)

**Fixed Code**

**Auxilliary Number**

**Factory Code**

A: Ohio Factory in U.S.A. (Marysvill)

**Model Year**

1: 1993

**Serial Number**

**Engine Number**  
(2.2 l engine for 4D European model)

F22A3-4000001

**Engine Type**

F22A3: 2.2 l Fuel-injected engine  
Unleaded gasoline with CATA  
(KF/KG/KX/KS/KE)

**Transmission Type**

40: Manual  
45: Automatic

**Serial Number**

**Engine Number**  
(2.2 l engine for 4D except European model)

F22A2-4000001

**Engine Type**

F22A2: 2.2 l Fuel-injected engine  
Leaded gasoline without CATA (KY)  
F22A9: 2.2 l Fuel-injected engine  
Unleaded gasoline with CATA (KQ)

**Serial Number**

F22A2: 4000001 ~  
F22A9: 3000001 ~

**Engine Number**  
(2.2 l engine for 5D model)

F22A6-3960001

**Engine Type**

F22A6: 2.2 l Fuel-injected engine  
Unleaded gasoline with CATA  
for Manual and Automatic (KQ)  
F22A7: 2.2 l Fuel-injected engine  
Unleaded gasoline with CATA  
for Manual (KF/KG/KX/KS/KE)  
F22A8: 2.2 l Fuel-injected engine  
Unleaded gasoline with CATA  
for Automatic (KF/KG/KX/KS/KE)

**Serial Number**

F22A6: 3960001 ~  
F22A7 and F22A8: 3000001 ~

**Engine Number**  
(2.0 l engine)

F20A2-4000001

**Engine Type**

F20A2: 2.0 l Carbureted engine  
Unleaded gasoline with CATA (KF/KG/KS/KE)  
F20A3: 2.0 l Carbureted engine  
Unleaded gasoline without CATA (KF/KE)  
F20A3: 2.0 l Carbureted engine  
Leaded gasoline without CATA  
(KB/KW/KP/KT/KU/KY)  
F20A5: 2.0 l Fuel-injected engine  
Unleaded gasoline without CATA (KF/KE)  
F20A5: 2.0 l Fuel-injected engine  
Leaded gasoline without CATA  
(KB/KW/KU)  
F20A6: 2.0 l Carbureted engine  
Unleaded gasoline with CATA (KG-90ps)  
F20A7: 2.0 l Fuel-injected engine  
Unleaded gasoline with CATA (KB other)  
F20A8: 2.0 l Fuel-injected engine  
Unleaded gasoline with CATA  
(KF/KG/KX/KS/KE)  
F20Z3: 2.0 l Fuel-injected engine  
Unleaded gasoline with CATA (5D-KF/KG/KE)

**Transmission Type**

10: F20Z3 engine  
20: F20A7, F20A8 engine  
40: Except F20Z3, F20A7, F20A8 engine

**Serial Number**

**Transmission Number**

H2C4-4000001

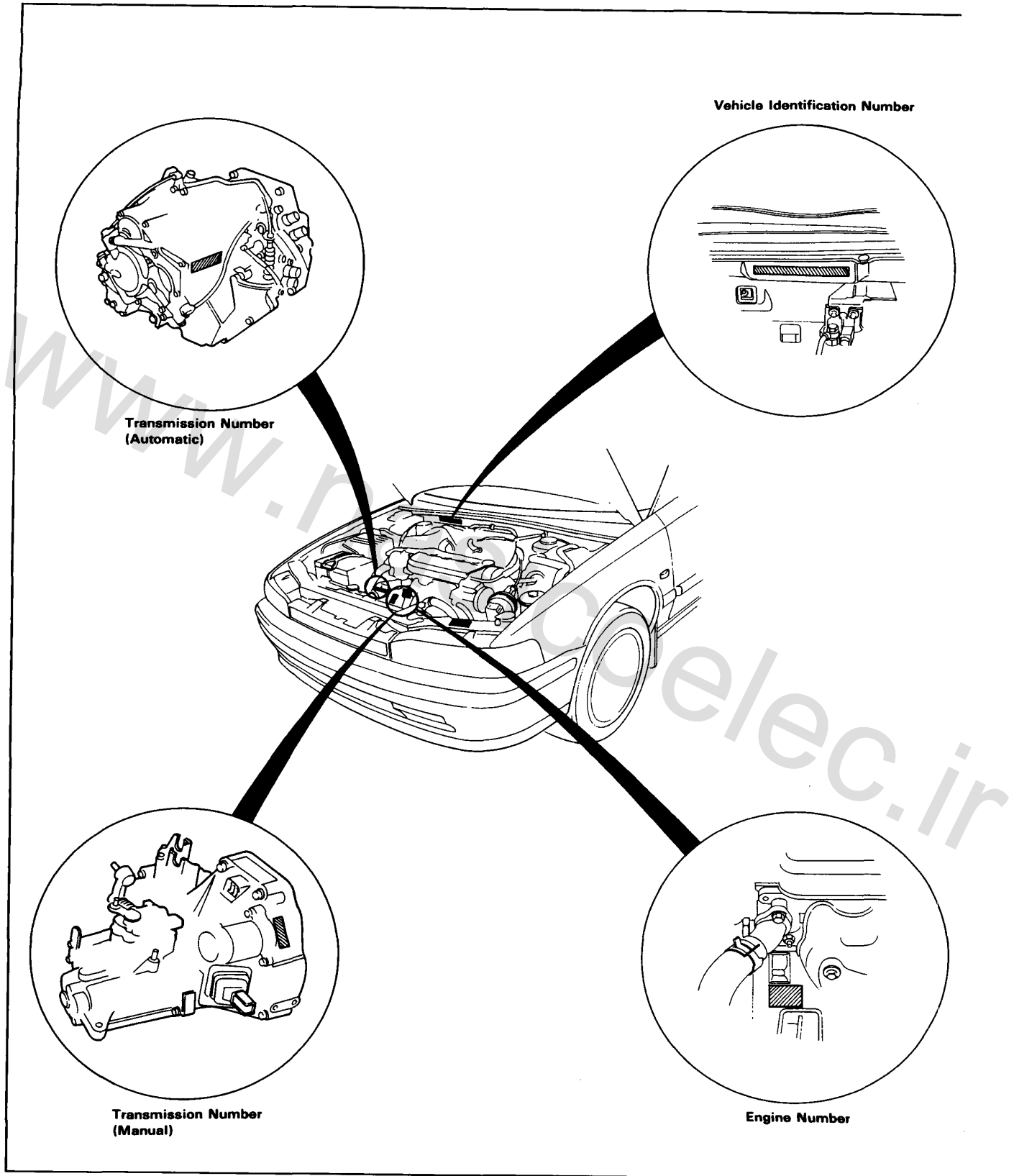
**Transmission Type**

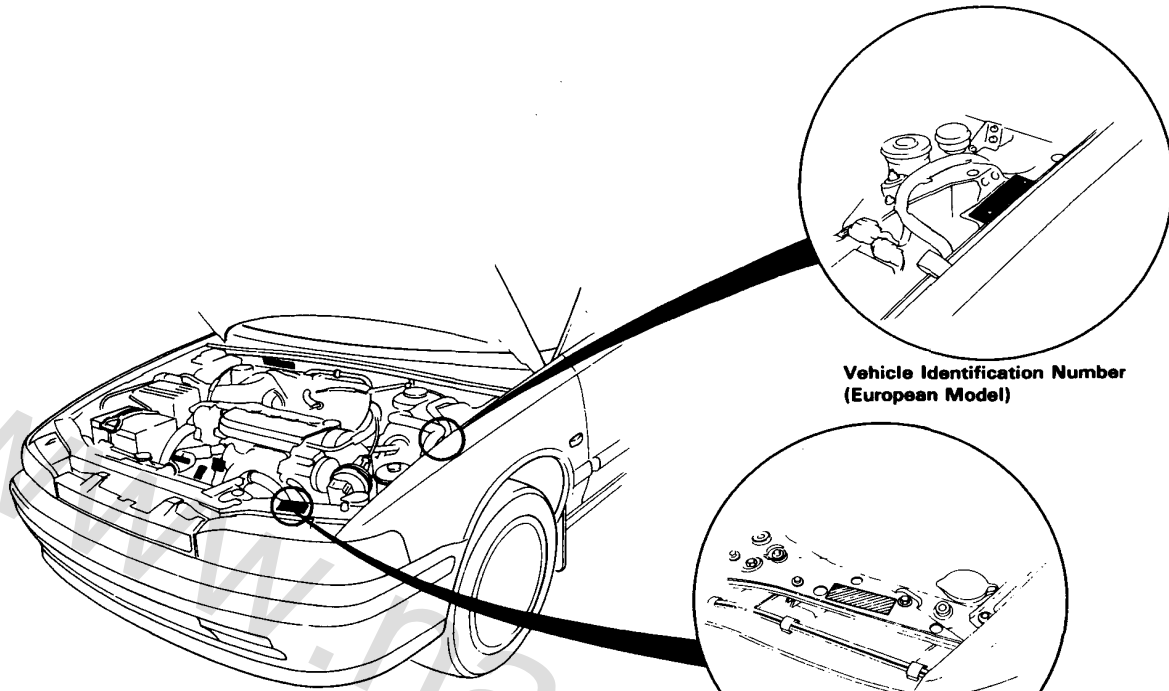
H2C4: Manual with F20A5/F20A8/F22A2/F22A3  
engine (4D), F22A7/F20Z3 engine (5D)  
H2S8: Manual with F20A2/F20A3/F20A6 engine  
H2U5: Manual with F22A6 engine  
(5D)/F22A9 engine (4D)  
MPXA: Automatic

**Serial Number**

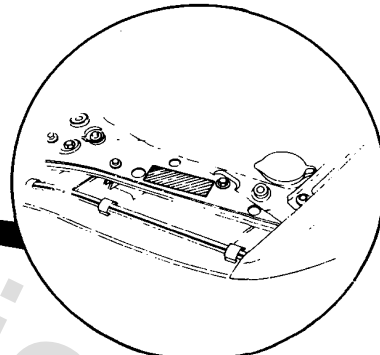
Manual (4D): 4000001 ~  
Manual (5D): 8000001 ~  
Automatic: 4000001 ~

# Identification Number Locations

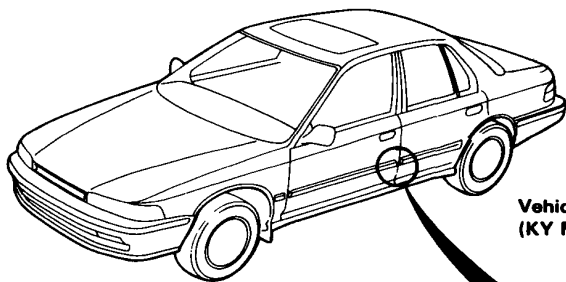




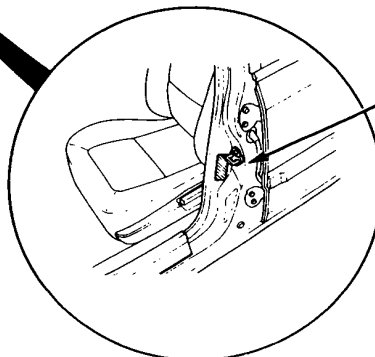
**Vehicle Identification Number  
(European Model)**



**Vehicle Identification Number  
(KQ, KT Model)**



**Vehicle Identification Number  
(KY Model only)**

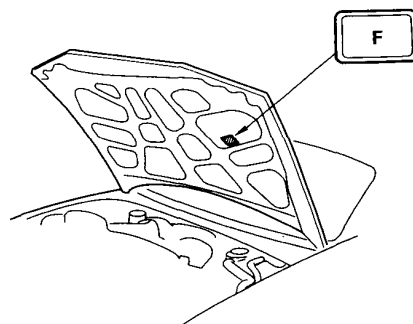
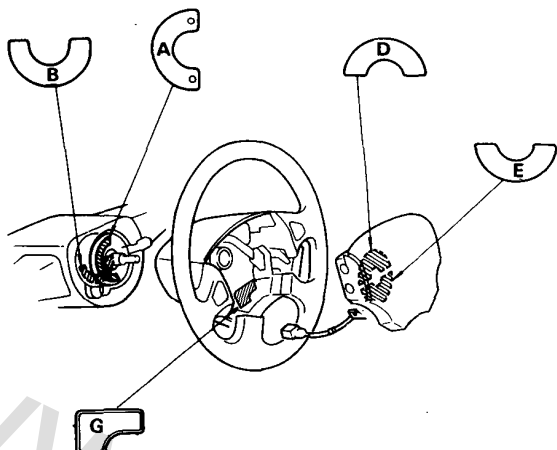


**CENTER  
PILLAR**



# Label Locations

## Warning/Caution Labels (SRS type I)



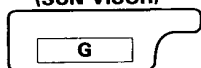
### A: CABLE REEL CAUTION A

**SRS**

**CAUTION**

- REFER TO THE SHOP MANUAL.
- ATTENTION**
- SE REPORTER AU MANUAL D'ATELIER.
- ACHTUNG**
- WERKSTATTHANDBUCH LESEN.
- WAARSCHUWING**
- LEES HET WERKPLAATSHANOBOEK.

(SUN VISOR)



### B: CABLE REEL CAUTION B

**SRS**

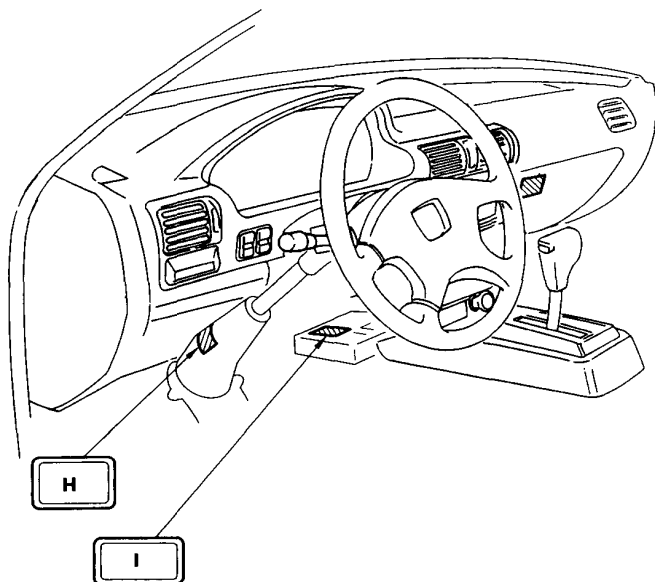
**CAUTION**

- REFER TO THE SHOP MANUAL.
- ATTENTION**
- SE REPORTER AU MANUEL D'ATELIER.
- ACHTUNG**
- WERKSTATTHANDBUCH LESEN.
- WAARSCHUWING**
- LES HET WERKPLAATSHANOBOEK.

### C: STEERING WHEEL WARNING

**WARNING** **SRS**

- REFER TO THE SHOP MANUAL.
- SE REPORTER AU MANUEL D'ATELIER.
- WERKSTATTHANDBUCH LESEN.
- LEES HET WERKPLAATSHANDBOEK.





#### D: INFLATOR COVER LABEL

- DANGER  
EXPLOSIVE/FLAMMABLE  
POISON  
REFER TO THE SHOP MANUAL.
- DANGER  
EXPLOSIF ET INFLAMMABLE  
POISON  
SE REPORTER AU MANNEL D'ATELIER
- GEFAHR  
EXPLOSIV/ENTZÜNDBAR  
GIFT  
WERKSTATTHANDBUCH LESEN.
- GEVAAR  
EXPLOSIEGEVAAR/BPANDBAAR  
GIFTIG  
LEES HET WERKPLAATSHANDBOEK.

#### E: MODULE WARNING

- WARNING** **SRS**
- REFER TO THE SHOP MANUAL.
  - SE REPORTER AU MANUEL D'ATELIER.
  - WERKSTATTHANDBUCH LESEN.
  - LEES HET WERKPLAATSHANDBOEK.

#### F: ENGINE HOOD WARNING

**WARNING** **SRS**  
THIS VEHICLE IS EQUIPPED WITH A AIRBAG SYSTEM AS A SUPPLEMENTAL RESTRAINT SYSTEM. (SRS)  
ALL S.R.S. ELECTRICAL WIRING AND CONNECTORS ARE COLORED YELLOW.  
DO NOT USE ELECTRICAL TEST EQUIPMENT ON THESE CIRCUITS.  
TAMPERING WITH OR DISCONNECTING THE S.R.S. WIRING COULD RESULT IN ACCIDENTAL FIRING OF THE INFLATOR OR MAKE THE SYSTEM INOPERATIVE WHICH MAY RESULT IN SERIOUS INJURY.

**ATTENTION** **SRS**  
CE VEHICULE EST EQUIPE D'UN COUSSIN D'AIR DU COTE CONDUCTEUR QUI CONSTITUE UN SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.).  
TOUS LES FILS ET CONNECTEURS ELECTRIQUES DU SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.) SONT DE COULEUR JAUNE. N'UTILISEZ PAS UN EQUIPMENT D'ESSAIS ELECTRIQUES SUR CES CIRCUITS. NE TOUCHEZ PAS ET NE DEBRANCHEZ PAS LES FILS DU SYSTEME S.R.S. CAR CECI POURRAIT DE TRADUIRE PAR LE DECLENCHEMENT ACCIDENTEL DU GONFLEUR OU RENDRE LE SYSTEME INOPERANT ET VOUS EXPOSER AINSI A DE GRAVES BLESSURES.

**WARNING** **SRS**  
DIESES FAHRZEUG IST MIT EINEM FAHRER-AIRBAG (SRS) ALS ZUSÄTZLICHEM RÜCKHALTESYSTEM AUSGERÜSTET.  
ALLE ELEKTRISCHEN KABEL, SOWIE DIE ZUGEHÖRIGEN STECKVERBINDER DES S.R.S.-SYSTEMS SIND IN GELBER FARBE AUSGEFÜHRT.  
KEINE ELEKTRISCHEN PRÜFGERÄTE AN DIE S.R.S.-VERKABELUNG ANSCHLIEBEN.  
VERÄNDERN ODER UNTERBRECHEN DER S.R.S.-VERKABELUNG KANN UNKONTROLLIERTES ZÜNDEN DES GASGENERATORS AUSLÖSEN, ODER DAS SYSTEM AUßER FUNKTION SETZEN WAS ZU ERNSTHAFTEN VERLETZUNGEN FÜHREN KANN.

**WAARSCHUWING** **SRS**  
DIT VOERTUIG IS UITGERUST MET EEN LUCHTKUSSEN AAN DE BESTUURERSKANT ALS EXTRA BESCHERMING (S.R.S.).  
ALLE ELEKTRISCHE LEIDINGEN EN AANSLUITINGEN VAN DE S.R.S. ZIJN GEEL GEKLEURD. GEBRUIK GEEN ELEKTRISCHE TESTAPPARATUUR VOOR DEZE CIRCUITS. KNOEIEN MET OF LOSKOPPELEN VAN DE S.R.S. LEIDINGEN KAN LEIDEN TOT BRAND IN DE VULINRICHTING OF TOT UITSCHAKELEN VAN HET SYSTEEM DIT KAN TOT ERNSTIGE ONGELUKKEN LEIDEN.

(cont'd)

# Label Locations

## Warning/Caution Labels (SRS type I) (cont'd)

### G: DRIVER INFORMATION

#### **SRS** ALWAYS WEAR YOUR SEAT BELT

- THIS CAR IS EQUIPPED WITH A DRIVER AIRBAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (SRS)
- IT IS DESIGNED TO SUPPLEMENT THE SEAT BELT.
- IF YOUR SRS INDICATOR LIGHTS WHILE DRIVING SEE YOUR AUTHORIZED HONDA DEALER.

#### **SRS** ATTACHEZ TOUJOURS VOTRE CEINTURE

- CE VEHICULE EST EQUIPE D'UN COUSSIN D'AIR DU COTE CONDUCTEUR QUI CONSTITUE UN SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.).
- CE COUSSIN D'AIR COMPLETE LA FONCTION DE LA CEINTURE DE SECURITE.
- SI LE TEMOIN SRS S'ALLUME PENDANT LA CONDUITE. ADRESSEZ VOUS A VOTRE CONCESSIONNAIRE HONDA OFFICIEL.

#### **SRS** SICHERHEITSGURTE BEI JEDER FAHRT ANLEGEN

- DIESES FAHRZEUG BESITZT EINEN FAHRER AIRBAG ALS ZUSATZLICHES RUCKHALE-SYSTEM (S.R.S.).
- ES IST EINE ERGÄNZUNG ZUM SICHERHEITSGURT.
- WENN DIE SRS KONTROLLEUCHE WÄHREND DER FAHRT AUFLEUCHTET UMGEHEND FINEN HONDA HANDLER AUFSUCHEN.

#### **SRS** DRAAG ALTIJD UW VEILIGHEIDSGORDEL

- DIT VOERTUIG IS UITGERUST MET EEN LUCHTKUSSEN AAN DE BESTUURDERSKANT ALS EXTRA BESCHERMING (S.R.S.).
- DIT IS ONTWERPEN ALS EXTRA BESCHERMING BIJ DE VEILIGHEIDSGORDEL.
- ALS HEL SRS-WAARSCHUWINGSLAMPJE GAAT BRANDEN ONDER HET RIJDEN, NEEM DAN KONTAKT OP MET EEN HONDA DEALER.

### H: STEERING COLUMN CAUTION (KE model)

#### CAUTION **SRS**

TO AVOID DAMAGING THE S.R.S. CABLE OR REEL WHICH COULD MAKE THE SYSTEM INOPERATIVE. REMOVE THE STEERING WHEEL BEFORE REMOVING THE STEERING SHAFT CONNECTOR BOLT.

#### ATTENTION **SRS**

POUR NE PAS RISQUER D'ENDOMMAGER LE CABLE OU L'ENROULEUR DU S.R.S. ET DE RENDRE AINST LE SYSTEME INOPERANT RETIREZ LE VOLANT AVANT DE DEVINSSER LE BOULON D'ACCOUPEMENT D'ARBRE DE DIRECTION.

### H: STEERING COLUMN CAUTION (KG model)

#### ACHTUNG **SRS**

UM EINE BESCHÄDIGUNG DER SRS-VERKABELUNG, DIE ZUM AUSTALL DES SYSTEMS FÜHREN KANN ZU VERHINDERN, IMMER DAS LENKRAD VOR DEM LENKWELLENVERBINDUNGSBOLZEN AUSBAUEN.

#### WAARSCHUWING **SRS**

OM TE VOORKOMEN DAT DE S.R.S. -KABEL OF -HASPEL BESCHADIGD WORDEN, HETGEEN ERTOE ZOU LEIDEN DAT HET SYSTEEM UITVALT, DIEN U HET STUUR TE VERWIJDEREN VOORDAT U DE STUURSCHACHTCONNECTORBOUT VERWIJERT.

### I: SRS UNIT CAUTION

#### CAUTION **SRS**

- NO SERVICEABLE PARTS INSIDE.
- DO NOT DISASSEMBLE OR TAMPER.
- DO NOT DROP.
- STORE IN A CLEAN, DRY AREA.

#### ATTENTION

- AUCUN POINT D'INTERVENTION A L'INTERIEUR.
- NO PAS DEMONTER OU TOUCHER.
- NO PAS FAIRE TOMBER.
- RANGER DANS UN ENDROIT PROPRE ET SEC.

#### WAARSCHUWING

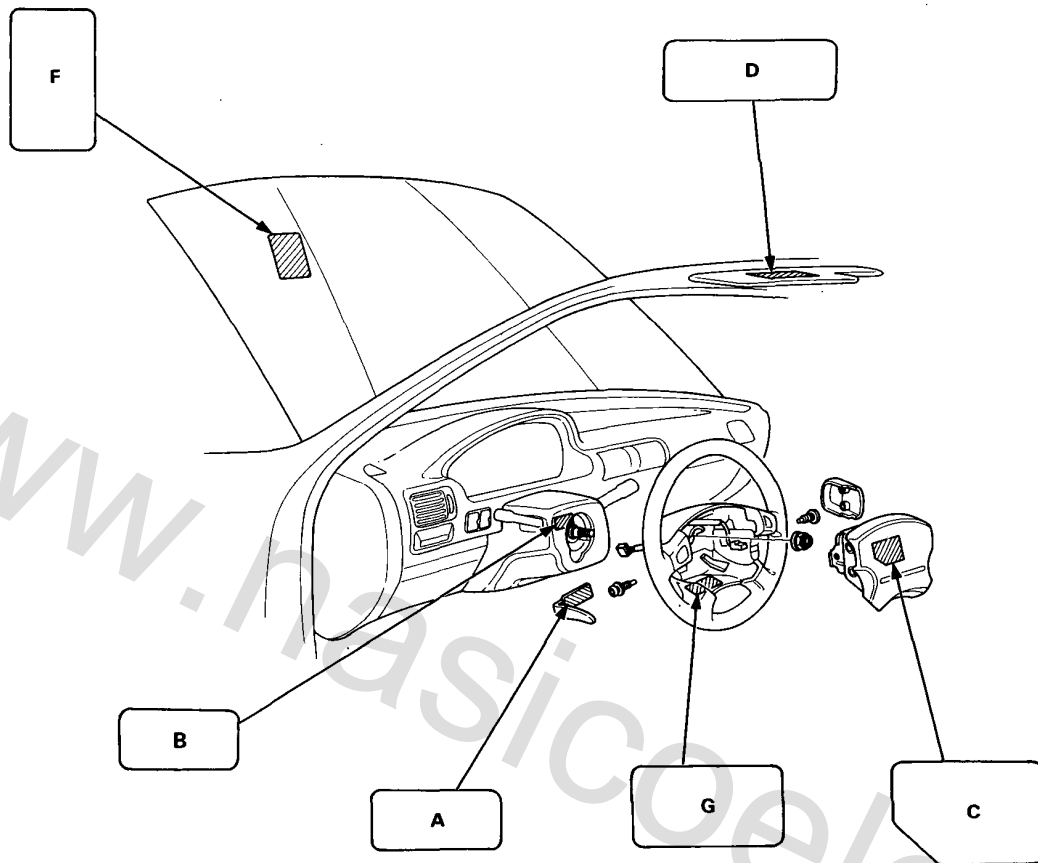
- BINNENIN BEVINDEN ZICH GEEN OHDER DELEN DIE AAN ONDERHOUD ONDERHEVIG ZIJN.
- DEMONTEER NIETS EN KNCEI NIET AAN DE S.R.S.
- LAAT DE S.R.S. NIET VALLEN.

#### ACHTUNG

- WARTUNGSFREIES BAUTEIL: NICHT ÖFFNEN, ZERLEGEN, ODER VERÄNDERN!
- NICHT WERFEN!
- TROCKEN UND GESCHOTZT LAGERN!



## Warning/Caution Labels (SRS type II)



### A: MAINTENANCE LID CAUTION

**CAUTION** **SRS**  
 BEFORE MAINTENANCE, SWITCH OFF THE IGNITION.  
 ATTENTION  
 AVANT TOUT ENTRETIEN, COUPER LE CONTACT.  
 ACHTUNG  
 VOR WARTUNG ZÜNDUNG AUSSCHALTEN.  
 LET OP  
 ZET HET KONTAKTSLOT AF ALVORENS MET HET  
 ONDERHOUD TE BEGINNEN.

### B: SLIP RING CAUTION

**CAUTION** **SRS**  
 ● CAUTION REFER TO SHOP MANUAL  
 ● ACHTUNG WERKSTATT HANDBUCH LESEN  
 ● ATTENTION SE REPORTER AU MANUEL D'ATELIER  
 ● WAARSCHUWING LEES HET WERKPLAATS  
 HANDBOEK

### C: MONITOR CAUTION

**CAUTION** **SRS**  
 REFER TO THE SHOP MANUAL  
 ATTENTION  
 SE REPORTER AU MANUEL D'ATELIER  
 WAARSCHUWING  
 LEES HET WERKPLAATS HANDBOEK  
 ACHTUNG  
 ● WERKSTATT HANDBUCH LESEN  
 ● DER GASGENERATOR IN DIESEM GEHÄUSE  
 DARF NUR FÜR INSASSEN-RÜCKHALTESYSTEME  
 MIT LUFTSACK IN KRAFTFAHRZEUGE  
 MONTIERT WERDEN.  
 DIE MONTAGE UND DEMONTAGE  
 DES GASGENERATORS  
 DARF NUR VON DAFÜR  
 GESCHULTEM PERRSONAL  
 VORGENCHMEN VERDEN.

(cont'd)

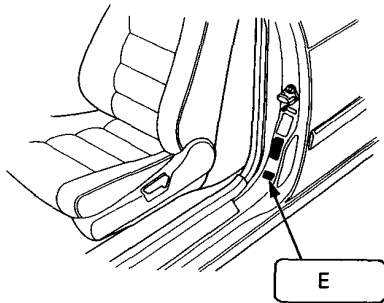
# Label Locations

## Warning/Caution Labels (SRS type II) (cont'd)

### D: DRIVER INFORMATION

- ALWAYS WEAR YOUR SEAT BELT** **SRS**
- THIS CAR IS EQUIPPED WITH A DRIVER AIRBAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (S.R.S.).
  - IT IS DESIGNED TO SUPPLEMENT THE SEAT BELT.
  - IF YOUR SRS INDICATOR LIGHTS WHILE DRIVING, SEE YOUR AUTHORIZED HONDA DEALER.
- ATTACHEZ TOUJOURS VOTRE CEINTURE** **SRS**
- CE VEHICULE EST EQUIPE D'UN COUSSIN D'AIR POUR LE CONDUCTEUR QUI CONSTITUE UN SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.).
  - CE COUSSIN D'AIR COMPLETE LA FONCTION DE LA CEINTURE DE SECURITE.
  - SI LE TEMOIN SRS S'ALLUME PENDANT LA CONDUITE, ADRESSEZ-VOUS A VOTRE CONCESSIONNAIRE HONDA OFFICIEL.
- SICHERHEITSGURTE BEI JEDER FAHRT ANLEGEN** **SRS**
- DIESES FAHRZEUG BESITZT EINEN FAHRER-AIRBAG ALS ZUSÄTZLICHES RÜCKHALTESYSTEM (S.R.S.).
  - ES IST EINE ERGÄNZUNG ZUM SICHERHEITSGURT.
  - WENN DUE SRS-KONTROLLEUCHTE WAHREND DER FAHRT AUFLEUCHTET, UMGEHEND FINEN HONDA HÄNDLER AUFsuchen.
- DRAAG ALTIJD UW VEILIGHEIDSGORDEL** **SRS**
- DIT VOERTUIG IS UITGERUST MET EEN LUCHTKUSSEN AAN DE BESTUURDESKANT ALTS EXTRA BESCHERMING (S.R.S.).
  - DIT IS ONTWERPEN ALS EXTRA BESCHERMING BIJ DE VEILIGHEIDSGORDEL.
  - ALS HEL SRS-WAARSCHUWINGSLAMPJE GAAT BRANDEN ONDER HET RIJDEN. NEEM DAN KONTAKT OP MET EEN HONDA DEALER.

### E: LABEL AIRBAG



### F: ENGINE HOOD WARNING

- WARNING** **SRS**
- THIS VEHICLE IS EQUIPPED WITH A DRIVER AIRBAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (SRS). ALL S.R.S. ELECTRICAL WIRING AND CONNECTORS ARE COLORED YELLOW. DO NOT USE ELECTRICAL TEST EQUIPMENT ON THESE CIRCUITS. TAMPERING WITH OR DISCONNECTING THE S.R.S. WIRING COULD RESULT IN ACCIDENTAL FIRING OF THE INFLATOR OR MAKE THE SYSTEM INOPERATIVE, WHICH MAY RESULT IN SERIOUS INJURY.
- ATTENTION** **SRS**
- CE VEHICULE EST EQUIPE D'UN COUSSIN D'AIR DU COTE CONDUCTEUR QUI CONSTITUE UN SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.)
- TOUS LES FILS ET CONNECTEURS ELECTRIQUES DU SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.) SONT DE COULEUR JAUNE. N'UTILISEZ PAS UN EQUIPEMENT D'ESSAIS ELECTRIQUES SUR CES CIRCUITS. NE TOUCHEZ PAS ET NE DEBRANCHEZ PAS LES FILS DU SYSTEME S.R.S. CAR CECI POURRAIT DE TRADUIRE PAR LE DECLENCHEMENT ACCIDENTEL DU GONFLEUR OU RENDRE LE SYSTEME INOPERANT ET VOUS EXPOSER AINSI A DE GRAVES BLESSURES.
- WARNUNG** **SRS**
- DIESES FAHRZEUG IST MIT EINEM FAHRER-AIRBAG (SRS) ALS ZUSÄTZLICHEM RÜCKHALTESYSTEM AUSGERÜSTET.
- ALLE ELEKTRISCHEN KABEL, SOWIE DIE ZUGEHÖRIGEN STECKVERBINDER DES S.R.S. -SYSTEMS SIND IN GELBER FARBE AUSGEFÜHRT.
- KEINE ELEKTRISCHEN PRÜGERÄTE AN DIE S.R.S. -VERKABELUNG ANSCHLIEßEN. VERÄNDERN ODER UNTERBRECHEN DER S.R.S. -VERKABELUNG KANN UNKONTROLLIERTES ZÜNDEN DES GASGENERATORS AUSLÖSEN. ODER DAS SYSTEM AUßER FUNKTION SETZEN. WAS ZU ERNSTHAFTEN VERLETZUNGEN FÜHREN KANN.
- WAARSCHUWING** **SRS**
- DIT VOERTUIG IS UITGERUST MET EEN LUCHTKUSSEN AAN DE BESTUURDESKANT ALS EXTRA BESCHERMING (S.R.S.).
- ALLE ELEKTRISCHE LEIDINGEN EN AANSLUITINGEN VAN DE S.R.S. ZIJN GEEL GEKLEURD. GEBRUIK GEEN ELEKTRISCHE TESTAPPARATUUR VOOR DEZE CIRCUITS. KNOEIEN MET OF LOSKOPPELEN VAN DE S.R.S. LEIDINGEN KAN LEIDEN TOT BRAND IN DE VULINRICHTING OF TOT UITSCHAKELLEN VAN HET SYSTEEM DIT KAN TOT ERNSTIGE ONGELUKKEN LEIDEN.

### G: COVER CAUTION

- CAUTION** **SRS**
- ACHTUNG**
- REFER TO THE SHOP MANUAL
  - SE REPORTER AU MANUEL D'ATELIER.
  - WERKSTATT HANDBUCH LESEN.
  - LEES HET WERKPLAATSHANDBOEK.



# Warning/Caution Labels (except SRS)

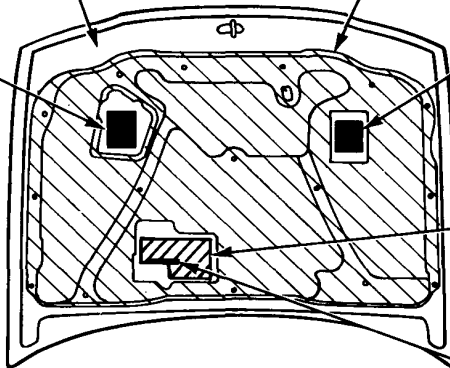
Carbureted Engine:

**ABS CAUTION**  
(Standard for some types)

**BONNET**

**INSULATOR**  
(Standard for some types)

**COOLANT CAUTION and PRECAUTION**



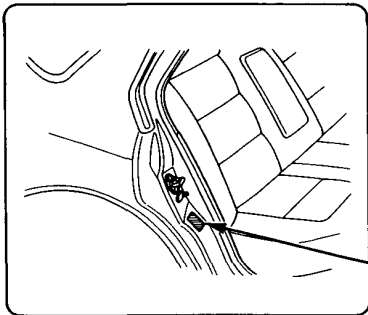
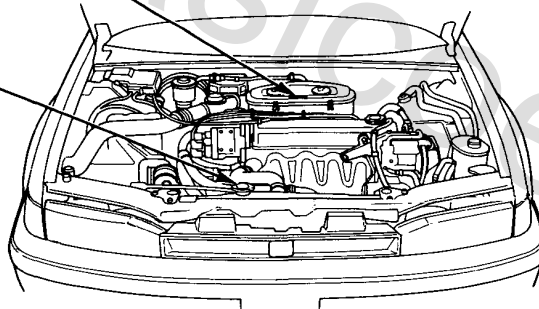
**SERVICE INFORMATION**  
(KS Model only)

**AIR CLEANER, OIL and FILTER SERVICE**

**EMISSION LABEL**

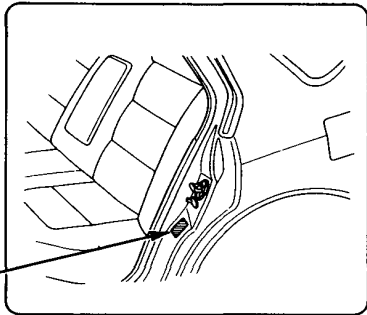
KT Model only

**RADIATOR CAP CAUTION**



**RHD**

**TIRE INFORMATION**



**LHD**

(cont'd)

# Warning/Caution Labels (except SRS) (cont'd)

Fuel-Injected Engine:

BONNET

INSULATOR  
(Standard for  
some types)

ABS CAUTION  
(Standard for  
some types)

COOLANT  
CAUTION and  
PRECAUTION

AIR CLEANER,  
OIL and FILTER SERVICE

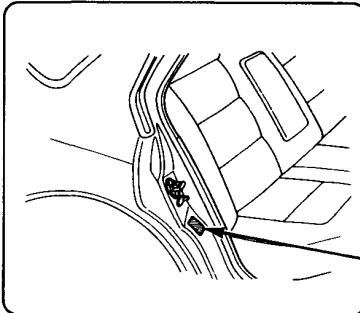
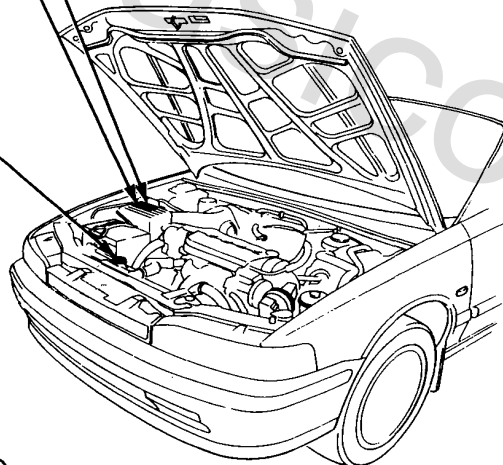
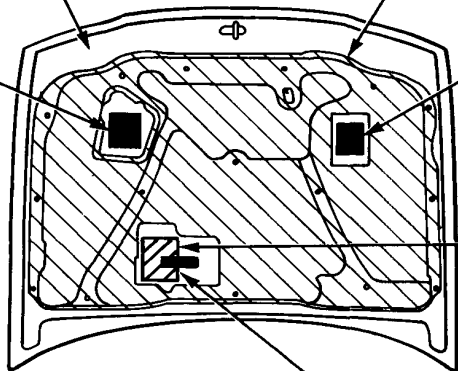
SERVICE  
INFORMATION  
(KS, KQ Models  
only)

SPARK PLUG CAUTION

EMISSION LABEL

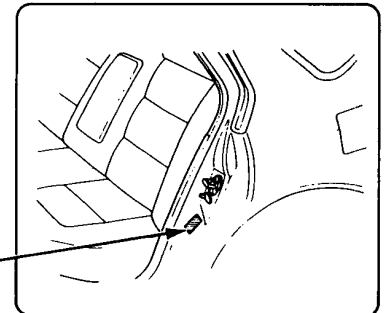
KT Model only

RADIATOR CAP  
CAUTION



RHD

TIRE INFORMATION



LHD



# Lift and Support Points

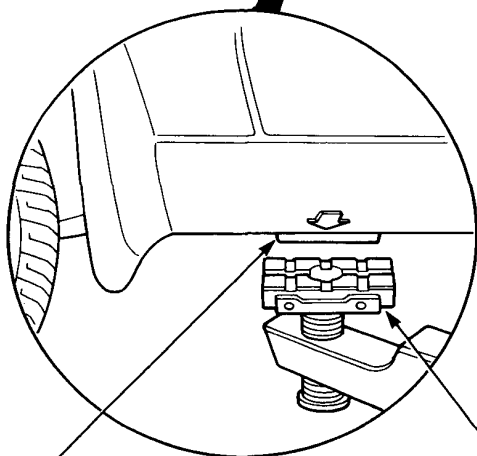
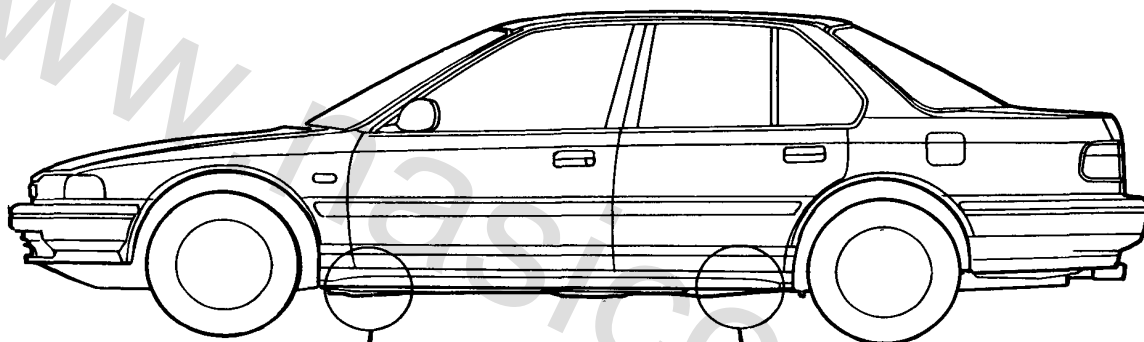
## Lift

**⚠ WARNING** When heavy rear components such as suspension, fuel tank, spare tire and tailgate are to be removed, place additional weight in the trunk before hoisting. When substantial weight is removed from the rear of the car, the center of gravity may change and can cause the car to tip forward on the hoist.

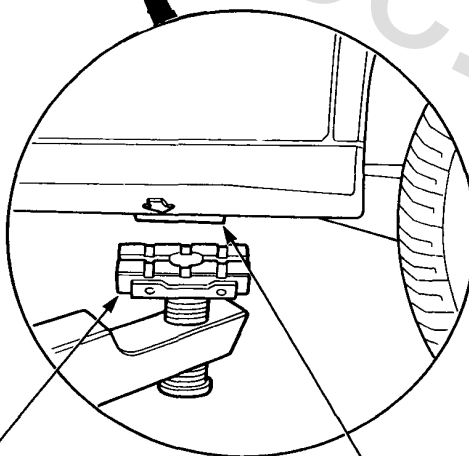
**NOTE:** Since each tire/wheel assembly weighs approximately 14 kg (30 lbs), placing the front wheels in the trunk will assist with the weight distribution.

Lift and support points for the 4-door model are shown in the following illustrations. These points are available for the 5-door model.

1. Place the lift blocks as shown.
2. Raise the hoist until the tyres are slightly off ground and rock the car to be sure it is firmly supported.
3. Raise the hoist to full height and inspect lift points for solid support.



FRONT SUPPORT POINT



REAR SUPPORT POINT

LIFT BLOCKS



# Lift and Support Points (cont'd)

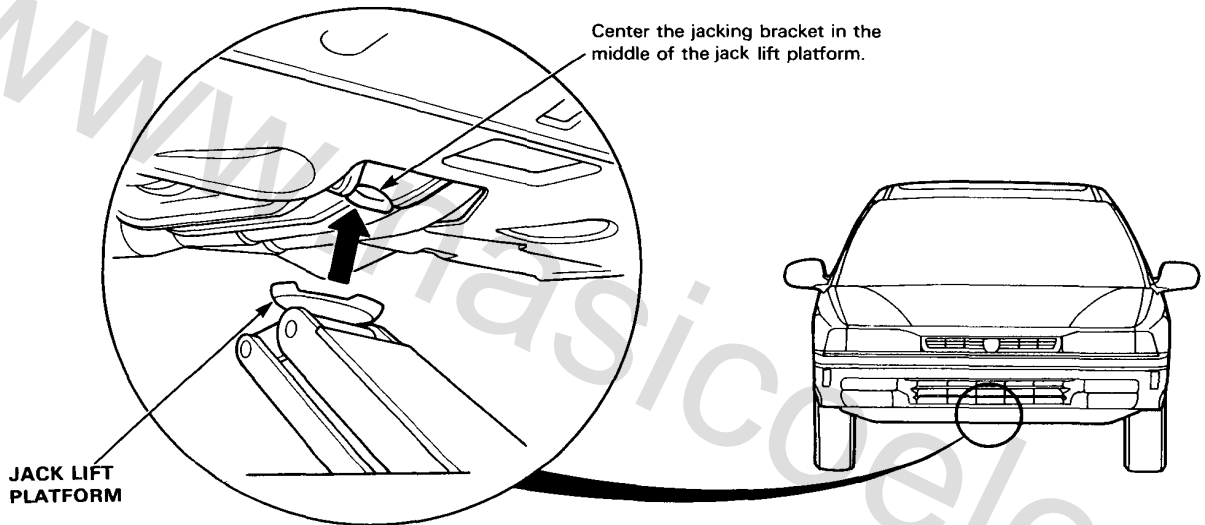
## Floor Jack

1. Set the parking brake and block the wheels that are not being lifted.
2. When lifting the rear of the car, put the gearshift lever in reverse (Automatic transmission in **P** position).
3. Raise the car high enough to insert the safety stands.
4. Adjust and place the safety stands as shown on page 1-15 so the car will be approximately level, then lower the car onto the stands.

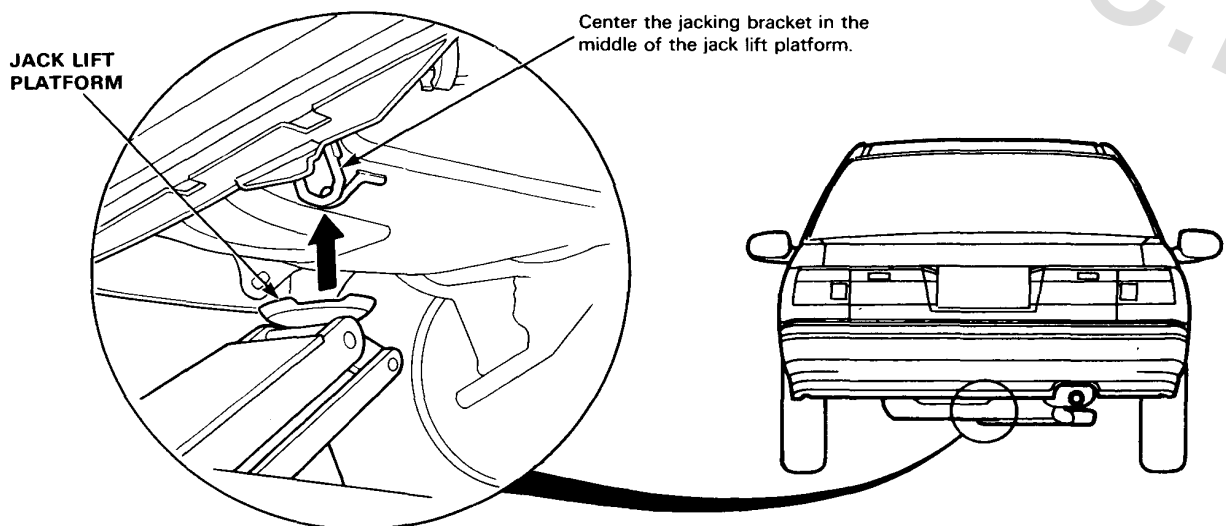
### ⚠ WARNING

- Always use safety stands when working on or under any vehicle that is supported by only a jack.
- Never attempt to use a bumper jack for lifting or supporting the car.

### Front

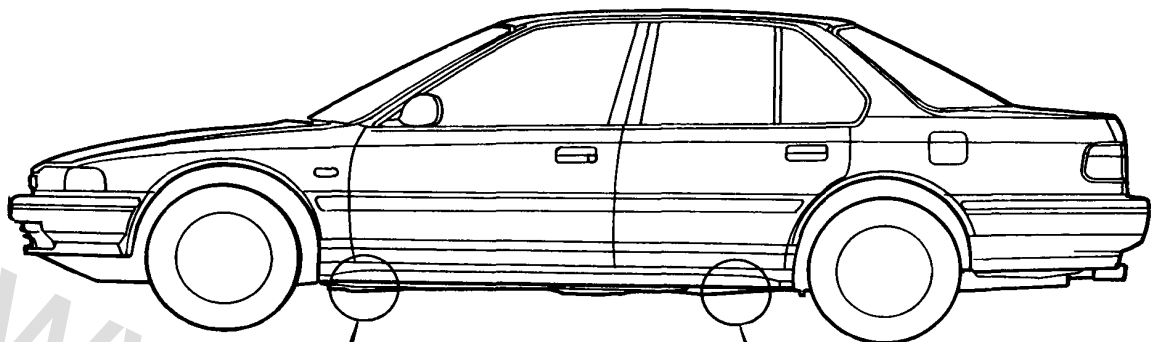


### Rear

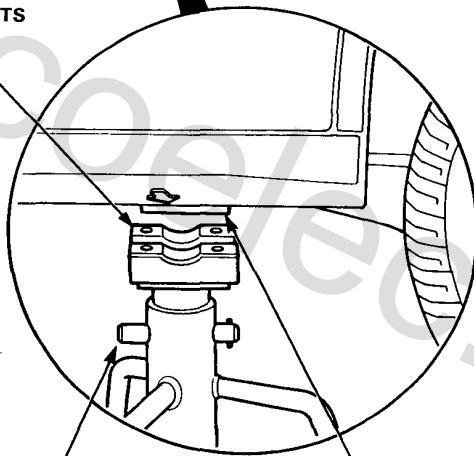
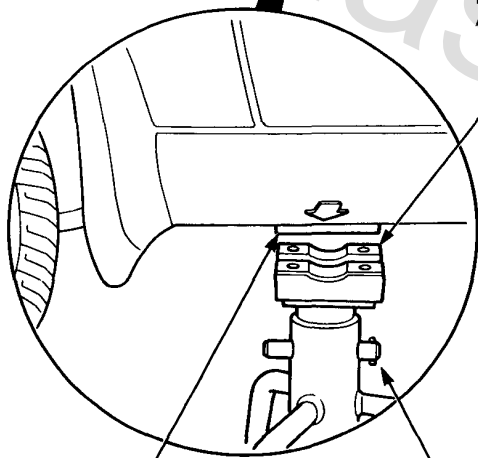




# Safety Stands



RUBBER ATTACHMENTS



FRONT SUPPORT POINT

SAFETY STANDS

REAR SUPPORT POINT

# Towing

If possible, always tow the car with the front wheels off the ground. The tow truck driver should position wood spacer blocks between the car's frame and his chains and lift straps, to avoid damaging the bumper and the body under it.

Do not use the bumpers to lift the car or to support the car's weight while towing. Check local regulations for towing. A chain may be attached to the hook shown in the picture. Do not attach a tow bar to either bumper.

## **⚠ WARNING**

**DO NOT push or tow a car to start it. The forward surge when the engine starts could cause a collision. On some types, also, under some conditions, the catalytic converter could be damaged. A car equipped with an automatic transmission cannot be started by pushing or towing.**

If the car is to be towed with the front wheels on the ground, observe the following precautions:

### Manual Transmission

Shift the transmission to Neutral and turn the ignition key to the "I" position.

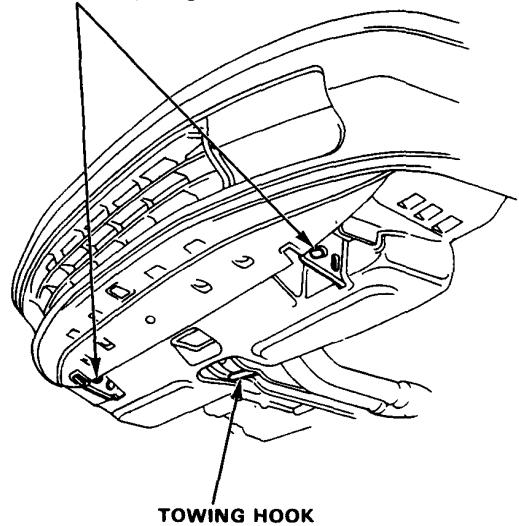
### Automatic Transmission

First, check the automatic transmission fluid level. Start the engine and shift to **D<sub>4</sub>** position, then to **N** position. Return the ignition key to the "I" position.

### CAUTION:

- Do not tow with front wheels on the ground when the automatic transmission fluid level is low or the transmission cannot be shifted with the engine running.
- Do not exceed 35 mph (55 km/h) or tow for distances of more than 50 miles (80 km).
- When towing a car with 4WS even with the front wheels off the ground, turn the wheels straight ahead and tie the steering wheel in place.

**TIE DOWN BRACKETS**



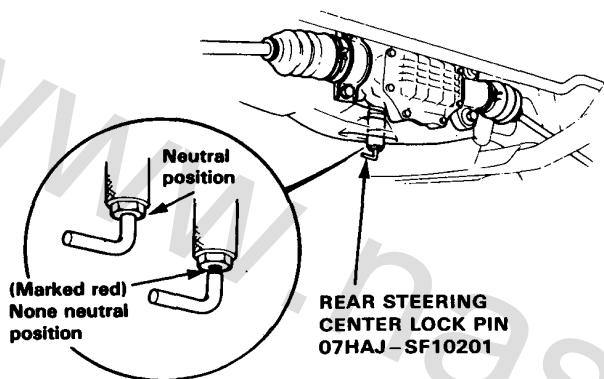
**TOWING HOOK**



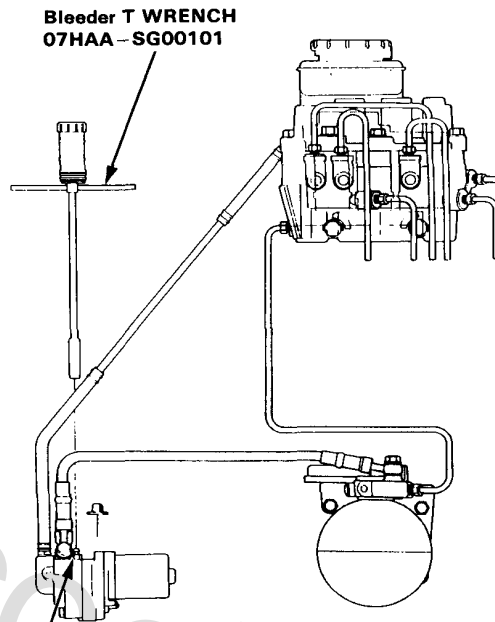
# Preparation of Work

## Special Caution Items For This Car

- 4WS system servicing (with 4WS)
  - Do not disassemble the rear steering gear box.
  - When towing the car even with the front wheels off the ground, center the steering and tie the steering wheel in place.
  - When testing or adjusting the wheel alignment, attach the rear steering center lock pin to the rear steering gear box. Make sure that the rear steering gear box is located at the neutral position.

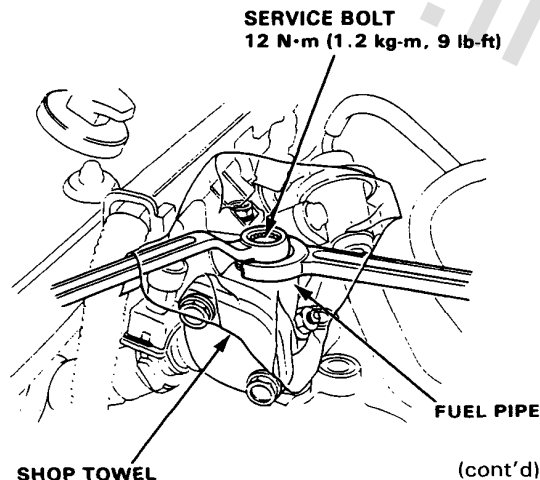


- Anti-lock brake system piping system servicing
  - Disassemble the anti-lock brake system piping system after relieve the high-pressured brake fluid.
  - Otherwise, the high-pressured brake fluid will burst out and it is very dangerous.
  - See section 13 of base manual (62SM400) how to relieve the high-pressured brake fluid.



SERVICE BOLT  
6 N·m (0.6 kg-m, 4 lb-ft)

- Fuel Line Servicing
  - Relieve fuel pressure by loosening the service bolt provided on the top of the fuel filter before disconnecting a fuel hose or a fuel pipe.

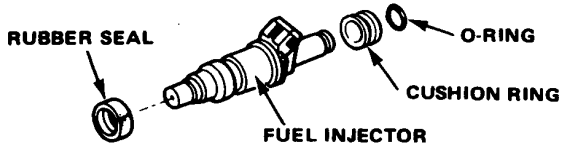


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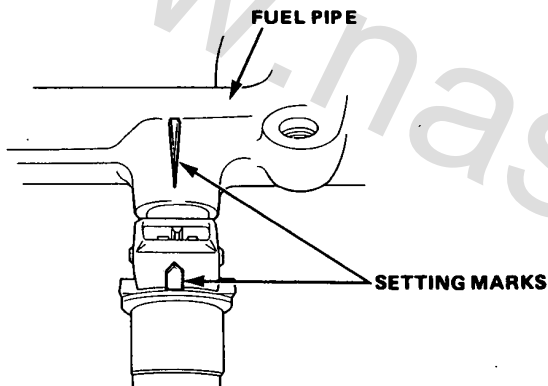
# Preparation of Work

## Special Caution Items For This Car (cont'd)

- Be sure to replace washers, O-rings, and rubber seals with new ones when servicing fuel line parts.
- Always apply oil to the surfaces of O-rings and seal rings before installation. Never use brake fluid, radiator fluid, vegetable oils or alcohol-based oils.



- When assembling the flare joint of the high-pressure fuel line, clean the joint and coat with new engine oil.
- When installing an injector, check the angle of the coupler. The center line of the coupler should align with the setting mark on the injector holder.



- Inspection for fuel leakage
  - After assembling fuel line parts, turn ON the ignition switch (do not operate the starter) so that the fuel pump is operated for approximately two seconds and the fuel is pressurized. Repeat this operation two or three times and check whether any fuel leakage has occurred in any of the various points in the fuel line.

- Installation of an amateur radio for cars equipped with PGM-FI.

Care has been taken for the Fuel-Injection, Carburetor, A/T, Cruise control and anti-lock brake system control units and its wiring to prevent erroneous operation from external interference, but erroneous operation of the control units may be caused by entry of extremely strong radio waves. Attention must be paid to the following items to prevent erroneous operation of the control units.

- The antenna and the body of the radio must be at least 200 mm (7.9 in) away from the control units.

The control unit locations:

- Fuel-Injection, Carburetor, A/T: Passenger's side front floor panel.
  - Cruise control: Under dash panel of driver's side.
  - Anti-lock brake system: Right side panel of trunk room.
  - Do not lead the antenna feeder and the coaxial cable over a long distance parallel to the car's wiring. When crossing the wiring is required, execute crossing at a right angle.
  - Do not install a radio with a large output (max. 10 W).
- Apply liquid gasket to the transmission, oil pump cover, right side cover and water outlet. Use HONDA genuine liquid gasket part No. 0Y740-99986.
    - Check that the mating surfaces are clean and dry before applying liquid gasket. Degrease the mating surfaces if necessary.
    - Apply liquid gasket evenly, being careful to cover all the mating surface.
    - To prevent leakage of oil, apply liquid gasket to the inner threads of the bolt holes.
    - Do not install the parts if 20 minutes or more have elapsed since applying liquid gasket. Instead, reapply liquid gasket after removing the old residue.
    - Wait at least 30 minutes before filling with appropriate liquid (engine oil, coolant and similar fluids).



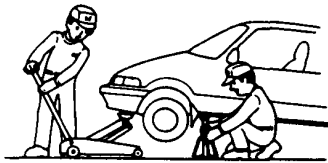
## General Caution

**CAUTION:** Observe all safety precautions and notes while working.

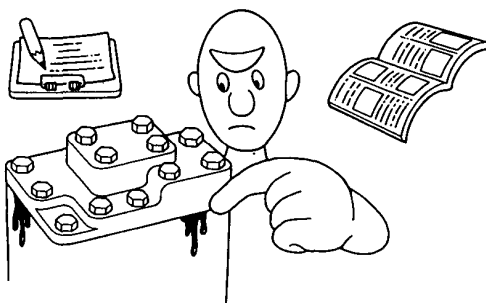
- Protect all painted surfaces and seats against dirt and scratches with a clean cloth or vinyl cover.



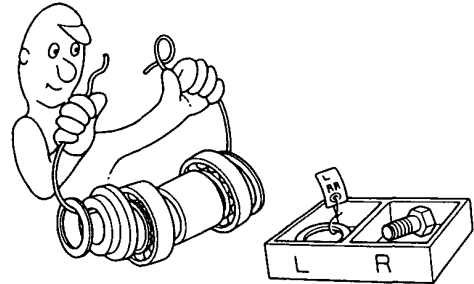
- Work safely and give your work your undivided attention. When either the front or rear wheels are to be raised, block the remaining wheels securely. Communicate as frequently as possible when work involves two or more workers. Do not run the engine unless the shop or working area is well ventilated.



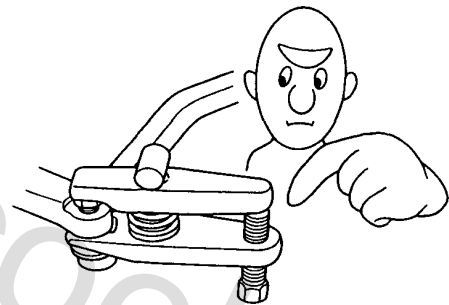
- Prior to removing or disassembling parts, they must be inspected carefully to isolate the cause for which service is necessary. Observe all safety notes and precautions and follow the proper procedures as described in this manual.



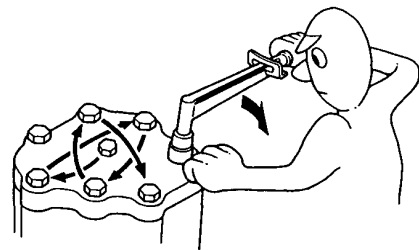
- Mark or place all removed parts in order in a parts rack so they can be reassembled in their original places.



- Use the special tool when use of such a tool is specified.



- Parts must be assembled with the proper torque according to the maintenance standards established.
- When tightening a series of bolts or nuts, begin with the center or large diameter bolts and tighten them in crisscross pattern in two or more steps.

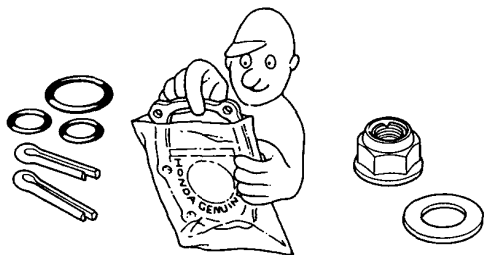


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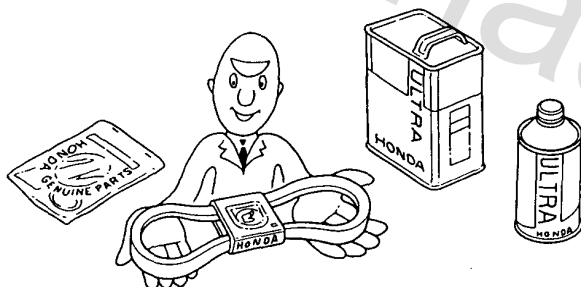
# Preparation of Work

## General Caution (cont'd)

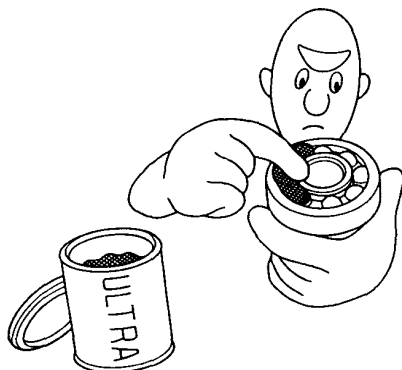
- Use new packings, gaskets, O-rings and cotter pins whenever reassembling.



- Use genuine HONDA parts and lubricants or those equivalent. When parts are to be reused, they must be inspected carefully to make sure they are not damaged or deteriorated and are in good usable condition.

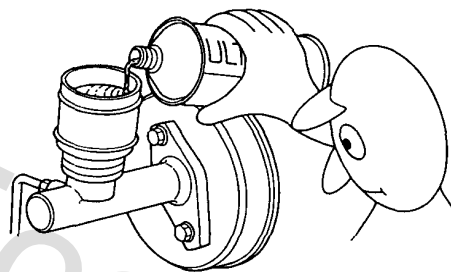


- Coat or fill parts with specified grease as specified (page 4-2). Clean all removed parts with solvent upon disassembly.



### ● Brake fluid and hydraulic components

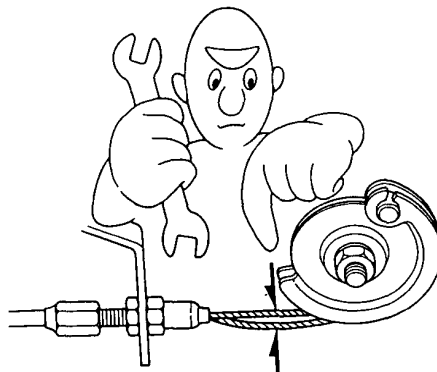
- When replenishing the system, use extreme care to prevent dust and dirt from entering the system.
- Do not mix different brands of fluid as they may not be compatible.
- Do not reuse drained brake fluid.
- Because brake fluid can cause damage to painted and resin surfaces, care should be taken not to spill it on such materials. If spilled accidentally, quickly rinse it with water or warm water from painted or resin surfaces.
- After disconnecting brake hoses or pipes, be sure to plug the openings to prevent loss of brake fluid.
- Clean all disassembled parts only in clean BRAKE FLUID. Blow open all holes and passages with compressed air.



- Keep disassembled parts from air-borne dust and abrasives.
- Check that parts are clean before assembly.

- Avoid oil or grease getting on rubber parts and tubes, unless specified.

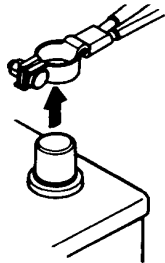
- Upon assembling, check every part for proper installation and operation.



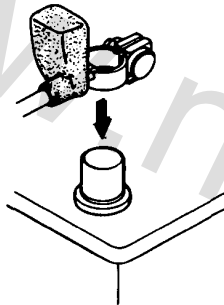


## Electrical

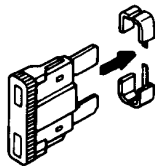
- Before making any repairs on electric wires or parts, disconnect the battery cables from the battery starting with the negative (-) terminal.



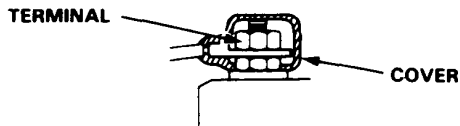
- After making repairs, check each wire or part for proper routing and installation. Also check to see that they are connected properly.
- Always connect the battery positive (+) cable first, then connect the negative (-) cable.



- Coat the terminals with clean grease after connecting the battery cables.
- Don't forget to install the terminal cover over the positive battery terminal after connecting.
- Before installing a new fuse, isolate the cause and take corrective measures, particularly when frequent fuse failure occurs.

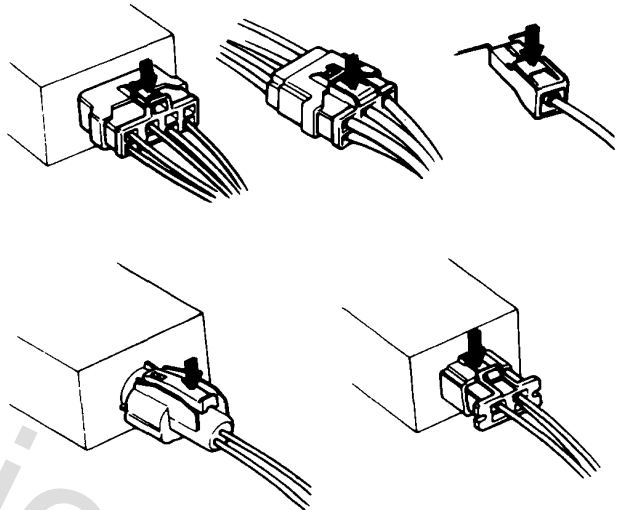


- Be sure to install the terminal cover over the connections after a wire or wire harness has been connected.

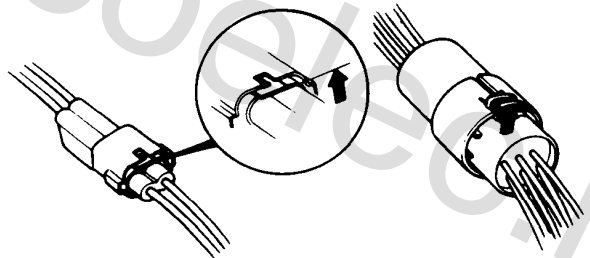


- As to locking connectors, be sure to disengage the lock before disconnecting.
- Conventional connectors may be of two types, those in which the lock is pressed to remove, and those in which the lock is pulled up to remove. Be sure to ascertain the type of locking device before beginning work. The following is a depiction of the means of disconnecting various typical connectors.

### Press to disengage:



### Pull up to disengage:



(cont'd)

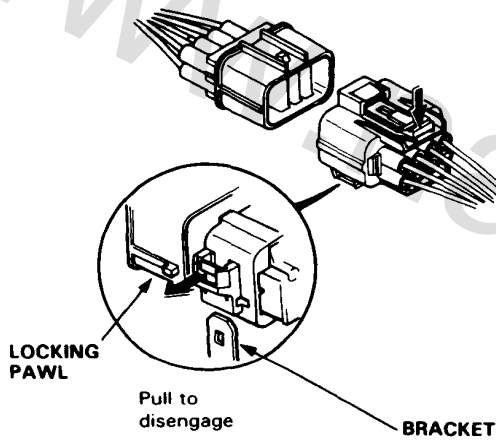


# Preparation of Work

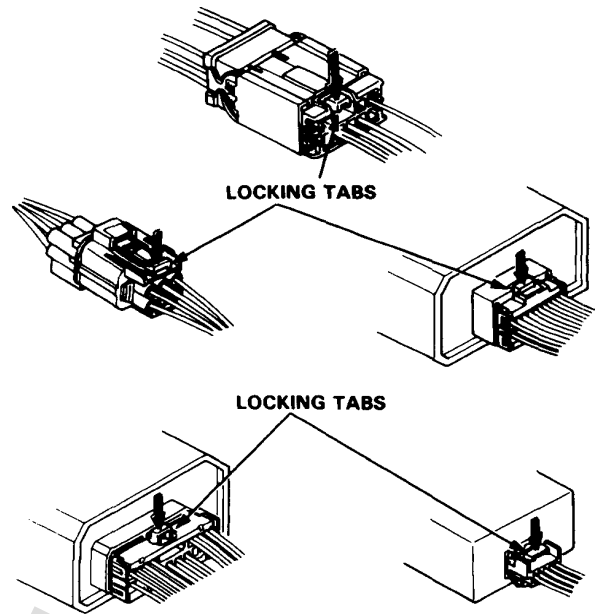
## Electrical (cont'd)

When new type connectors are used, connection and disconnection of them should be done paying attention to the following precautions.

- Because all the connectors except terminal of 1-P are equipped with push-down type locks, unlock them first before disconnecting the connectors.
- On the connectors installed on the bracket a pull type lock is equipped between the bracket and the connector. Some connectors of this type can not be disconnected unless they are removed from their brackets. When disconnecting, check their shapes.
- On the bracket mounted connector with dual locks, remove the connector from the bracket before disconnecting.

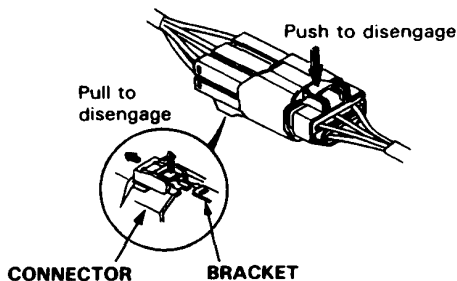


- Push the locking tab to disconnect.

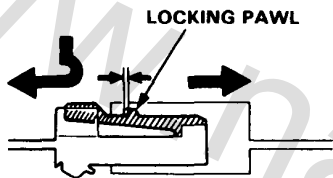




- Pull the locking tab to remove the connector from the bracket.

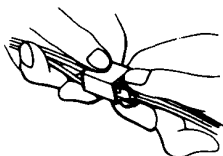


- When disconnecting locks, first press in the connector tightly (to provide clearance to the locking device), then operate the tab fully and remove the connector in the designated manner.

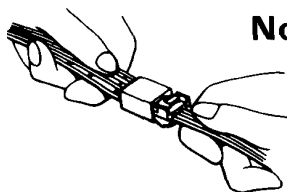


- When disconnecting a connector, pull it off from the mating connector by holding on both connectors.
- Never try to disconnect connectors by pulling on their wires.

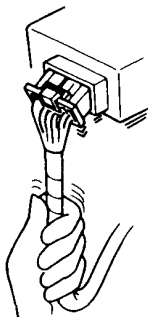
**Good**



**No Good**



**No Good**



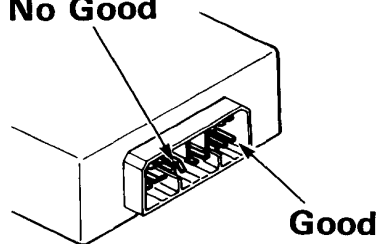
- Place the plastic cover over the mating connector after reconnecting. Also check that the cover is not distorted.

**No Good**

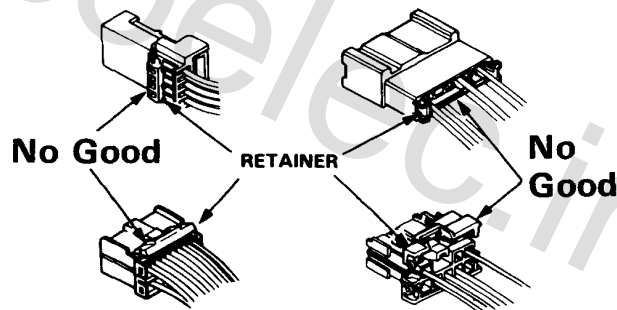


- Before connecting connectors, check to see that the terminals are in place and not bent or distorted.

**No Good**

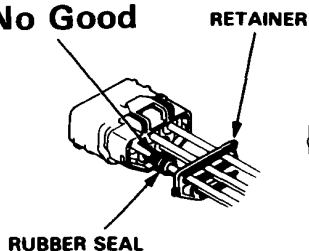


- Check for loose retainers and rubber seals. The illustration shows examples of terminal and seal abnormality.

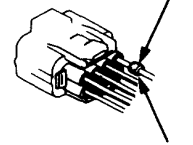


- Example of waterproof connector:

**No Good**



**RUBBER SEAL**



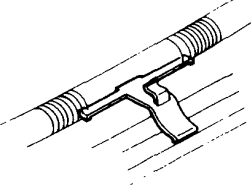
**No Good**

(cont'd)

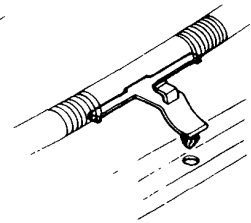
# Preparation of Work

## Electrical (cont'd)

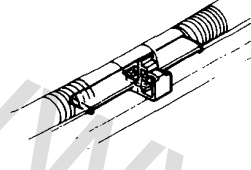
**Good**



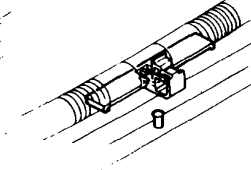
**No Good**



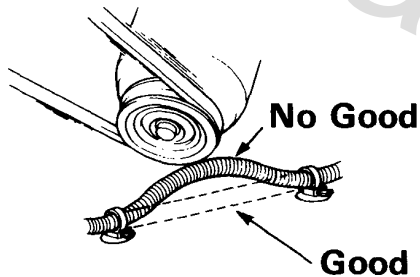
**Good**



**No Good**

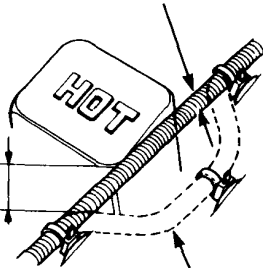


- After clamping, check each harness to be certain that it is not interfering with any moving or sliding parts of the vehicle.
- Keep wire harnesses away from the exhaust pipes and other hot parts.



- Always keep a safe distance between wire harnesses and any heated parts.

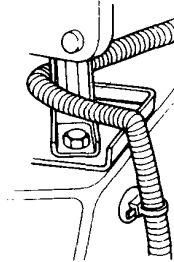
**No Good**



Keep sufficient distance!

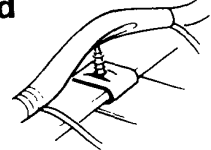
**Good**

- Do not bring wire harnesses in direct contact with sharp edges or corners.
- Also avoid contact with the projected ends of bolts, screws and other fasteners.

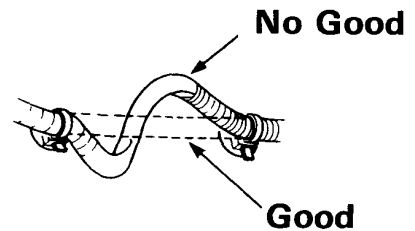


**No Good**

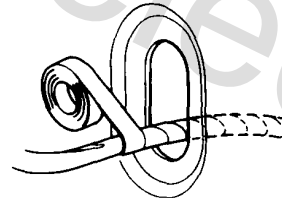
**No Good**



- Route harnesses so they are not pulled taut or slackened excessively.



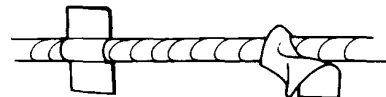
- Protect wires and harnesses with a tape or a tube if they are in contact with a sharp edge or corner.



- Clean the attaching surface thoroughly if an adhesive is used. First, wipe with solvent or alcohol if necessary.

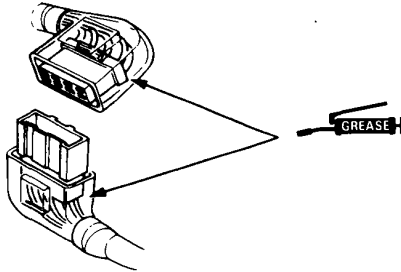
**Good**

**No Good**





- For the connector which uses insulation grease, clean the connector then apply grease if the grease is insufficient or contaminated.



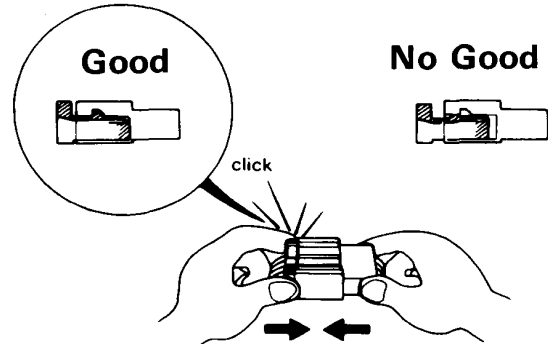
- Insert the connector tightly and make sure it is securely locked.
- Check all the wire harnesses are connected.
- There are two types of locking tab: one that you have to push and the other you should not touch when connecting the connector. Check the shape of the locking tab before connecting.
- The locking tab having a taper end should not be touched when connecting.



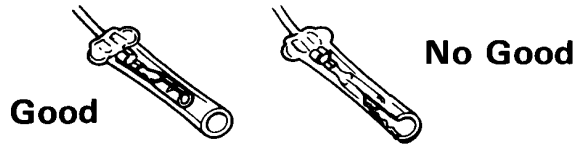
- The locking tab with an angle end should be pushed when connecting.



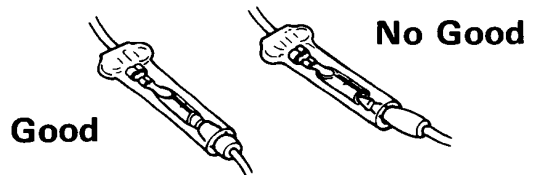
- Insert connectors fully until they will no longer go.
- The connectors must be aligned and engaged securely.
- Do not use wire harnesses with a loose wire or connector.



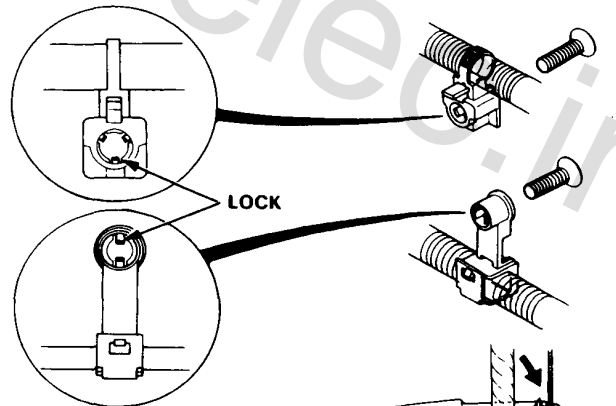
- Before connecting, check each connector cover for damage. Also make sure that the female connector is tight and not loosened from the previous use.



- Insert male connectors into the female connectors fully until they will no longer go.
- Be sure that plastic cover is placed over the connection.
- Position the wires so that the open end of the cover faces down.



- Secure wires and wire harness to the frame with their respective wire bands at the designated locations. Position the wiring in the bands so that only the insulated surfaces contact the wires or harnesses.
- Remove with care not to damage the lock.



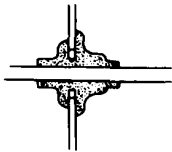
(cont'd)

# Preparation of Work

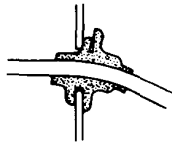
## Electrical (cont'd)

- Seat grommets in their grooves properly.

**Good**



**No Good**



- Do not damage the insulation when connecting a wire.
- Do not use wires or harnesses with a broken insulation. Repair by wrapping with protective tape or replace with new ones if necessary.

**No Good**



**Good**



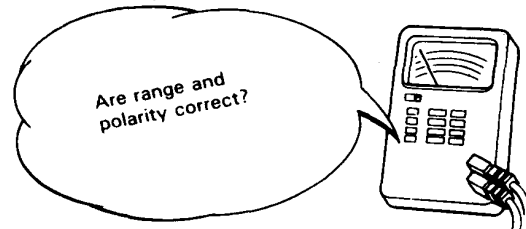
- After installing parts, make sure that wire harnesses are not pinched.

**No Good**

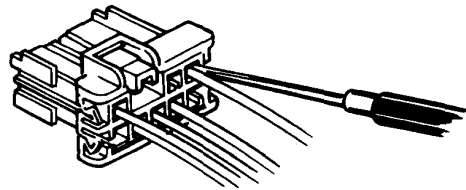


- After routing, check that the wire harnesses are not twisted or kinked.
- Wire harnesses should be routed so that they are not pulled taut, slackened excessively, pinched, or interfering with adjacent or surrounding parts in all steering positions.

- When using the Service Tester, follow the manufacturer's instructions and those described in the Shop Manual.

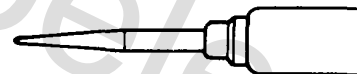


- Always insert the probe of the tester from the wire harness side (except waterproof connector).

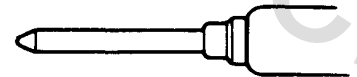


- Make sure to use the probe with a tapered tip.

**Good**

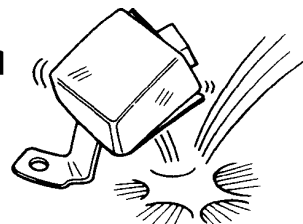


**No Good**



- Do not drop parts.

**No Good**



# Symbol Marks

The following symbols stand for:



:Apply engine oil.



:Apply brake fluid.



:Apply grease.



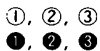
:Apply Automatic Transmission Fluid.



: Apply Power Steering Fluid.



:Apply or check vacuum.



:Sequence for removal or installation.

# Abbreviation



2WS	Two Wheel Steering
4WS	Four Wheel Steering
ABS	Anti-lock Brake System
A/C	Air Conditioner
A/T	Automatic Transmission
ATF	Automatic Transmission Fluid
B or BAT	Battery
CATA	Catalytic Converter
EACV	Electronic Air Control Valve
ECU	Electronic Control Unit
EGR	Exhaust Gas Recirculation
EX	Exhaust
GND	Ground
IG	Ignition
IN	Intake
INT	Intermittent
L	Left
LHD	Left Hand Drive
M/T	Manual Transmission
PCV	Positive Crankcase Ventilation
PGM-FI	Programmed Fuel-Injection
P/S	Power Steering
R.	Right
RHD	Right Hand Drive
SRS	Supplemental Restraint System
SW	Switch
SOL V	Solenoid Valve
TDC	Top Dead Center

P	Parking
R	Reverse
N	Neutral
D <sub>4</sub>	Drive Position (1st~4th)
D <sub>3</sub>	Drive Position (1st~3rd)
2	Fixed 2nd speed
1	Fixed 1st speed
S	S mode (D <sub>4</sub> or D <sub>3</sub> )

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# Special Tools

## 5. Engine

Number	Tool Number	Description	Qty	Remarks
①	07GAF—PH60300	Piston Pin Base Insert	1	07973-PE00400 may also be used
②	07GAF—PH70100	Pilot Collar	1	
③	07HAD—PJ70200	Valve Stem Seal Installer	1	
④	07HAF—PL20102	Piston Base Head	1	
⑤	07HAH—PJ70100	Valve Guide Reamer, 5.5 mm	1	
⑥	07JAB—0010000	Crank Pulley Holder Set	1	
⑥-1	07JAA—0010200	Socket Wrench, 19 mm	(1)	Component Tools
⑥-2	07JAB—0010200	Holder Handle	(1)	
⑦	07JAB—0010400	Pulley Holder Attachment, HEX 50 mm	1	
⑧	07JAZ—SH20100	R.P.M. Connecting Adaptor	1	
⑨	07JGG—0010100	Belt Tension Gauge	1	
⑩	07KAK—SJ40101 or 07KAK—SJ40100	Engine Tilt Hanger Set	1	
⑪	07LAB—PV00100 or 07924—PD20003 or 07924—PD20002	Ring Gear Holder	1	
⑫	07LAF—PT20100	Bearing Replacement Tool Set	1	
⑬	07LAG—PT20100	Balancer Shaft Lock Pin	1	
⑭	07LAZ—PT30100	R.P.M. Connecting Adaptor	1	
⑮	07LAZ—PT30110	R.P.M. Connecting Adaptor (A)	(1)	Component Tools
⑯	07LAZ—PT30120	R.P.M. Connecting Adaptor (B)	(1)	
⑰	07406—0030000	Oil Pressure Gauge Adaptor	1	
⑱	07742—0010100	Valve Guide Remover, 5.5 mm	1	
⑲	07746—0010300	Driver Attachment, 42 x 47 mm	1	for Crankshaft for Balancer Shaft
⑳	07746—0010400	Driver Attachment, 52 x 55 mm	1	
㉑	07749—0010000	Driver	1	
㉒	07757—0010000	Valve Spring Compressor	1	
㉓	07912—6110001	Oil Filter Wrench	1	
㉔	07942—8920000	Valve Guide Driver, 5.5 mm	1	
㉕	07948—SB00101	Driver Attachment	1	
㉖	07973—PE00310	Piston Pin Driver Shaft	1	
㉗	07973—PE00320	Piston Pin Driver Head	1	
㉘	07973—6570500	Piston Base	1	
㉙	07973—6570600	Piston Base Spring	1	

## 6. Fuel and Emissions

Number	Tool Number	Description	Qty	Remarks
①	07JAZ—SH20100	R.P.M. Connecting Adaptor	1	
②	07LAA—PT50101 or 07LAA—PT50100	O <sub>2</sub> Sensor Socket Wrench	1	
③	07LAJ—PT3010A or 07LAJ—PT30100	ECU Test Harness	1	
④	07LAJ—PT3020A or 07LAJ—PT30200	Test Harness	1	
⑤	07LAZ—PT30100	R.P.M. Connecting Adaptor	1	
⑤-1	07LAZ—PT30110	R.P.M. Connecting Adaptor (A)	(1)	Component Tools
⑤-2	07LAZ—PT30120	R.P.M. Connecting Adaptor (B)	(1)	
⑥	07406—0040001	Fuel Pressure Gauge Set	1	
⑥-1	07406—0040100	Pressure Gauge	(1)	Component Tools
⑥-2	07406—0040201	Hose Assembly	(1)	
⑦	07411—0020000	Digital Circuit Tester	1	
⑧	07614—0050100	Fuel Line Clamp	1	

## 7. Clutch

Number	Tool Number	Description	Qty	Remarks
①	07LAB—PV00100 or 07924—PD20003 or 07924—PD20002	Ring Gear Holder	1	
②	07JAF—PM7011A	Clutch Alignment Disc	1	
③	07LAF—PT00110	Clutch Alignment Shaft	1	
④	07936—3710100	Handle	1	





## 8. Manual Transmission

Number	Tool Number	Description	Qty	Remarks
①	07GAJ—PG20102	Mainshaft Inspection Tool Set	1	
①-1	07GAJ—PG20110	Mainshaft Holder	(1)	—Component Tools
①-2	07GAJ—PG20130	Mainshaft Base	(1)	
②	07HAJ—PK40201	Preload Inspection Tool	1	
③	07JAC—PH80000	Adjusting Bearing Remover Set	1	
③-1	07JAC—PH80100	Bearing Remover Attachment	(1)	—Component Tools
③-2	07JAC—PH80200	Bearing Remover Handle	(1)	
③-3	07741—0010201	Bearing Remover Weight	(1)	
④	07JAD—PH80400	Pilot Driver, 28 mm	1	
⑤	07JAD—SH30100	Oil Seal Driver	1	
⑥	07744—0010400	Pin Driver, 5.0 mm	1	07944—6110100 may also be used
⑦	07746—0010300	Attachment, 42 x 47 mm	1	
⑧	07746—0010400	Attachment, 52 x 55 mm	1	
⑨	07746—0010500	Attachment, 62 x 68 mm	1	
⑩	07746—0010600	Attachment, 72 x 75 mm	1	
⑪	07746—0030100	Driver	1	
⑫	07746—0030200	Inner Driver, 25 mm	1	
⑬	07749—0010000	Driver	1	
⑭	07944—SA00000	Pin Driver, 4.0 mm	1	
⑮	07947—6110501	Oil Seal Driver	1	
⑯	07979—PJ40001	Magnet Stand Base	1	

## 9. Automatic Transmission

Number	Tool Number	Description	Qty	Remarks
①	07GAB—PF50101 or 07GAB—PF50100	Mainshaft Holder	1	
②	07GAD—PG20100	Pin Driver, 5.0 mm	1	
③	07GAE—PG40200	Clutch Spring Compressor Set	1	
③-1	07HAE—PL50100	Clutch Spring Compressor Attachment	(1)	—Component Tools
③-2	07GAE—PG40200	Clutch Spring Compressor Bolt Assembly	(1)	
③-3	07960—6120101	Clutch Spring Compressor Attachment	(1)	
④	07HAC—PK40101	Housing Puller	1	
④-1	07HAC—PK40110	Puller Base, Replacement	(1)	May also be used when combined with 07HAC—PK40101 or 07HAC—PK40100
⑤	07HAF—PK40100	Gear Installer	1	
⑥	07HAJ—PK40201 or 07GAJ—PG20200	Preload Inspection Tool	1	
⑦	07JAC—PH80000	Adjusting Bearing Remover Set	1	
⑦-1	07JAC—PH80100	Bearing Remover Attachment	(1)	—Component Tools
⑦-2	07JAC—PH80200	Bearing Handle Assembly	(1)	
⑦-3	07741—0010201	Remover Weight	(1)	
⑧	07JAD—PH80101	Driver Attachment	1	
⑨	07JAD—PH80400	Pilot Driver, 28 x 30 mm	1	
⑩	07JAD—PN00100	Driver Attachment	1	
⑪	07LAE—PX40100	Clutch Spring Compressor Attachment	1	
⑫	07LAJ—PT30100 or 07LAJ—PT3010A	ECU Test Harness	1	
⑬	07LGC—0010100	Snap Ring Pliers	1	
⑭	07NAD—PX40100	Attachment, 78 x 80 mm	1	
⑮	07406—0020003	Oil Pressure Gauge	1	
⑯	07406—0020201	Oil Pressure Gauge Hose	1	
⑰	07406—0070000	Low Pressure Gauge	1	
⑱	07746—0010400	Attachment, 52 x 55 mm	1	
⑳	07746—0010500	Attachment, 62 x 68 mm	1	
㉑	07746—0010600	Attachment, 72 x 75 mm	1	
㉒	07746—0030100	Driver, 40 mm I.D.	1	
㉓	07749—0010000	Driver	1	
㉔	07947—6340500	Driver Attachment E	1	

# Special Tools

## 10. Driveshafts

Number	Tool Number	Description	Qty	Remarks
①	07GAD—PG40100	Seal Driver Attachment	1	
②	07GAF—SD40700	Hub Dis/Assembly Base	2	
③	07LAD—SM40100	Seal Driver Attachment	1	
④	07LAF—SM40300	Support Base Attachment	1	
⑤	07746—0010200	Attachment, 37 x 40 mm	1	
⑥	07746—0010300	Attachment, 42 x 47 mm	1	
⑦	07746—0030100	Driver, 40 mm I.D.	1	
⑧	07749—0010000	Driver	1	
⑨	07947—SD90101	Seal Driver Attachment	1	
⑩	07965—SD90100	Support Base	1	

## 11. Steering

Number	Tool Number	Description	Qty	Remarks
①	07GAG—SD40300	Cylinder End Seal Slider	1	
②	07HAG—SF10100	Piston Seal Ring Guide	1	
③	07HAG—SF10200	Piston Seal Ring Sizing Tool	1	
④	07HAG—SF10300	Piston Seal Ring Guide	1	
⑤	07JGG—0010100	Belt Tension Gauge	1	
⑥-1	07LAK—SM40110	P/S Joint Adaptor (Pump)	1	
⑥-2	07LAK—SM40120	P/S Joint Adaptor (Hose)	1	
⑦	07MAC—SL00200	Ball Joint Remover, 28 mm	1	
⑧	07406—0010001	P/S Pressure Gauge Set	1	
⑧-1	07406—0010300	Pressure Control Valve	(1)	Component Tools
⑧-2	07406—0010400	Pressure Gauge	(1)	
⑨	07406—0010101	Bypass Tube Joint (included with 07406—0010001)	1	
⑩	07725—0030000	Universal Holder	1	
⑪	07746—0010300	Attachment, 42 x 47 mm	1	
⑫	07749—0010000	Driver	1	
⑬	07MAA—SLO0100 or 07916—SA50001	Locknut Wrench, 40 mm	1	
⑭	07947—6340300	Driver Attachment	1	
⑮	07974—SA50600	Pinion Seal Guide	1	

## 11. Steering (4WS only)

Number	Tool Number	Description	Qty	Remarks
①	07HAG—SF10000	4WS Tool Kit	1	
①-1	07HAG—SF10400	Pinion Seal Ring Sizing Tool	1	
①-2	07HAG—SF10500	Driven Seal Ring Guide	1	
②	07HAJ—SF10100	Rack Adjuster Gauge Holder Set	1	
③	07HAJ—SF10201	Rear Steering Center Lock Pin	1	
④	07HAJ—SF10300	Stroke Rod Holder Set	1	
⑤	07HAJ—SF10400	Inspection Adaptor	1	
⑥	07LAA—SM40100	Locknut Wrench, 43 mm	1	
⑦	07LAA—SM40200	Locknut Socket, 36 x 43 mm	1	
⑧	07LAG—SM40000	4WS Tool Kit	1	
⑧-1	07LAG—SM40100	Piston Seal Ring Guide	(1)	Component Tools
⑧-2	07LAG—SM40200	Piston Seal Ring Sizing Tool	(1)	
⑧-3	07LAG—SM40300	Cylinder End Seal Slider	(1)	
⑧-4	07LAG—SM40400	Cylinder End Seal Guider	(1)	
⑧-5	07LAG—SM40500	Tool Box	(1)	
⑨	07703—0010100	TORX® Bit T40	1	



## 12. Suspension

Number	Tool Number	Description	Qty	Remarks
①	07GAE—SE00101	Spring Compressor	1	
②	07GAF—SD40100	Hub Assembly Pin	1	
③	07GAF—SD40330	Ball Joint Remover/Installer	1	for 4WS
④	07GAF—SE00200	Hub Assembly Guide Attachment	1	for 4WS
⑤	07GAG—SD40700	Ball Joint Clip Installation Guide	1	
⑥	07HAF—SF10100	Ball Joint Dis/Assembly Tool Set	1	
⑥-1	07HAF—SF10110	Ball Joint Remover Base	1	
⑥-2	07HAF—SF10120	Ball Joint Installer Base	1	
⑥-3	07HAF—SF10130	Ball Joint Remover/Installer	1	
⑦	07HAJ—SF10201	Rear Steering Center Lock Pin	1	
⑧	07HGJ—0010001 or 07HGJ—0010000	Toe Inspection Gauge Set	1	for 4WS
⑨	07MAC—SL00200	Ball Joint Remover, 28 mm	1	
⑩	07MGK—0010001 or 07HGK—0010200	Wheel Alignment Gauge Attachment	1	
⑪	07703—0010100	TORX® BIT T40	1	for 4WS
⑫	07749—0010000	Driver	1	
⑬	07947—SB00100	Oil Seal Driver	1	for 4WS
⑭	07965—6340301	Hub Dis/Assembly Base	2	
⑮	07965—6920201	Hub Dis/Assembly Base	1	

## 13. Brakes

Number	Tool Number	Description	Qty	Remarks
①	07JAG—SD40100 or 07GAG—SE00100	Pushrod Adjustment Gauge	1	
②	07HAE—SG00100	Brake Spring Compressor	1	
③	07HAK—SG00110	Pressure Gauge Joint Pipe	1	for ABS
④	07LAF—SM40200	Brake Spring Installer	1	
⑤	07404—5790300	Pressure Gauge Attachment	1	
⑥	07406—5790200	Pressure Gauges	2	
⑦	07410—5790100	Pressure Gauge Attachment	2	
⑧	07410—5790500	Tube Joint Adaptor	1	
⑨	07510—6340101	Pressure Gauge Joint Pipe	2(1)	( ): for ABS
⑩	07510—6340300	Vacuum Joint Tube A	1	
⑪	07914—SA50000	Snap Ring Pliers	1	
⑫	07921—0010001	Flare Nut Wrench	1	
⑬	07973—SA50000	Rear Caliper Guide	1	

## 13. Brakes (for ABS)

Number	Tool Number	Description	Qty	Remarks
①	07HAA—SG00101 or 07HAA—SG00100	Bleeder T-Wrench	1	
②	07HAJ—SG00602 or 07HAJ—SG00601 or 07508—SB00000 and 07HAJ—SG00400	ALB Checker ALB Checker ALB Checker Adaptor	1 1 1 1	

## Special Tools

### 14. Body

Number	Tool Number	Description	Qty	Remarks
①	07GAZ—SE30100	Torsion Bar Assembly Tool	1	

### 15. Heater and Air Conditioner

Number	Tool Number	Description	Qty	Remarks
①	07JGG—0010100	Belt Tension Gauge	1	
②	07LAJ—PT3010A or 07LAJ—PT30100	ECU Test Harness	1	
③	07NAB—HAC0100 or 07LAB—SK70100	A/C Clutch Holder	1	

### 16. Electrical

Number	Tool Number	Description	Qty	Remarks
①	07GAC—SE00200	Fuel Sender Wrench	1	
②	07JGG—0010100	Belt Tension Gauge	1	
③	07HAZ—SG00500	Deployment Tool	1	for SRS
④	07LAZ—SL40300	SRS Test Harness C	1	for SRS type I
⑤	07LAZ—SL40400	SRS Test Harness D	1	
⑥	07MAZ—SL00500	SRS Test Harness A	1	
⑦	07MAZ—SP00500	SRS Test Harness B	1	
⑧	07MAZ—SS10100	SRS Disposal Bracket	1	for SRS type II

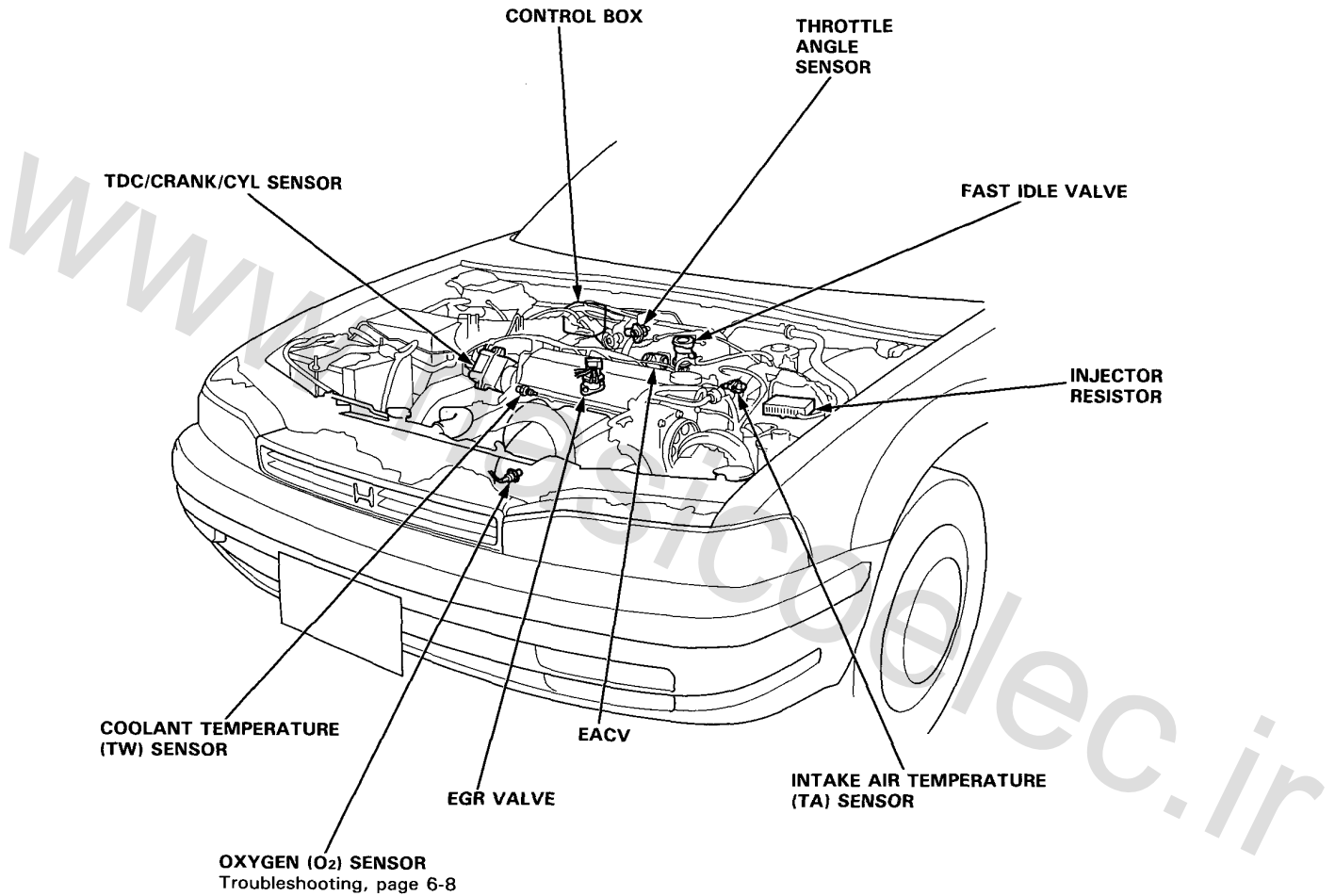
**Component Locations**  
**Index**  
**System Description**  
**Vacuum Connections**  
**PGM - FI Control System**  
**Troubleshooting Flowcharts**  
**Oxygen Sensor**  
**Oxygen Sensor Heater**  
**Fuel Supply System**  
**Fuel Supply System**  
**Fuel Pressurer**  
**Pressure Regulator**

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# Component Locations

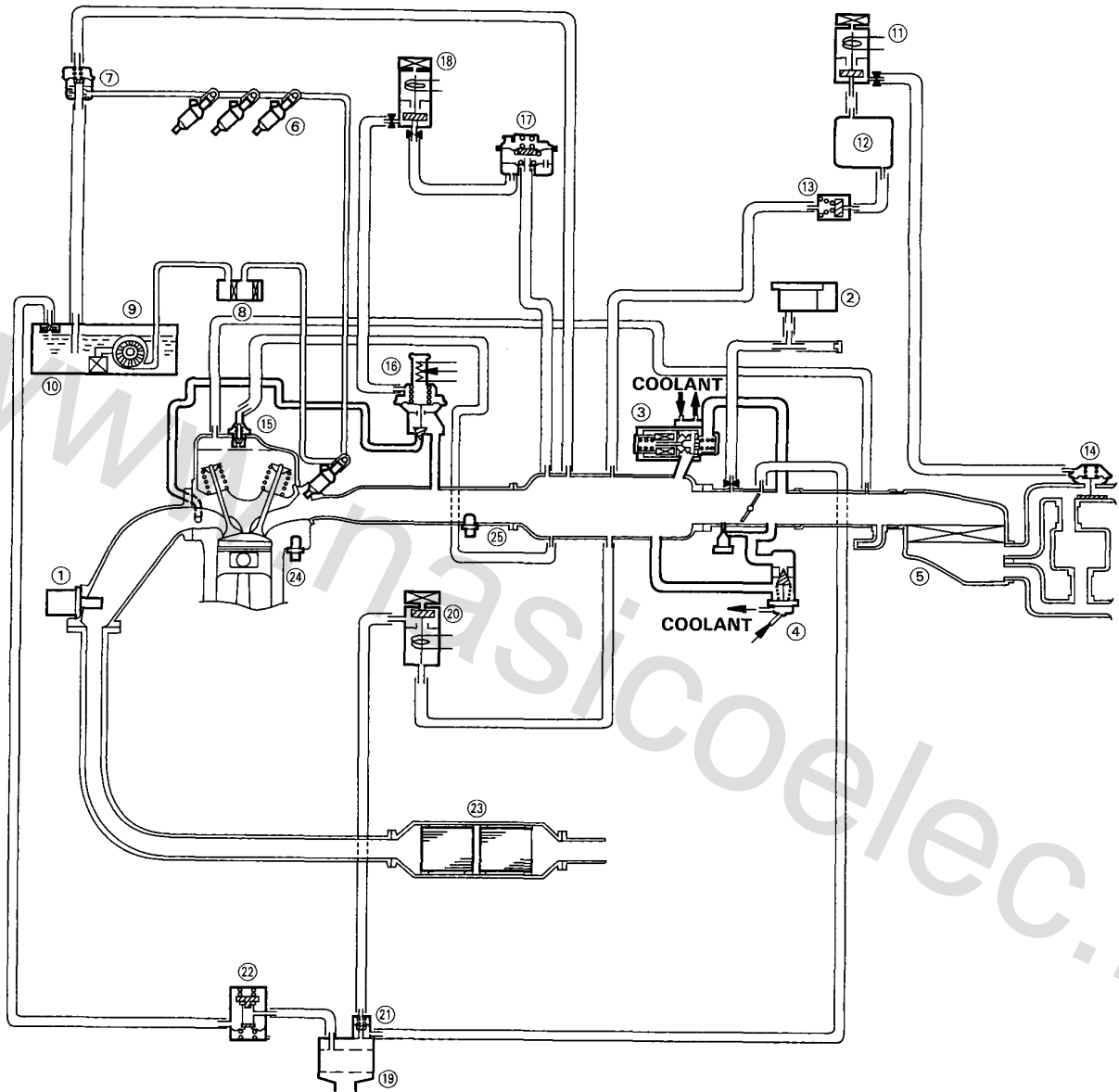
## Index

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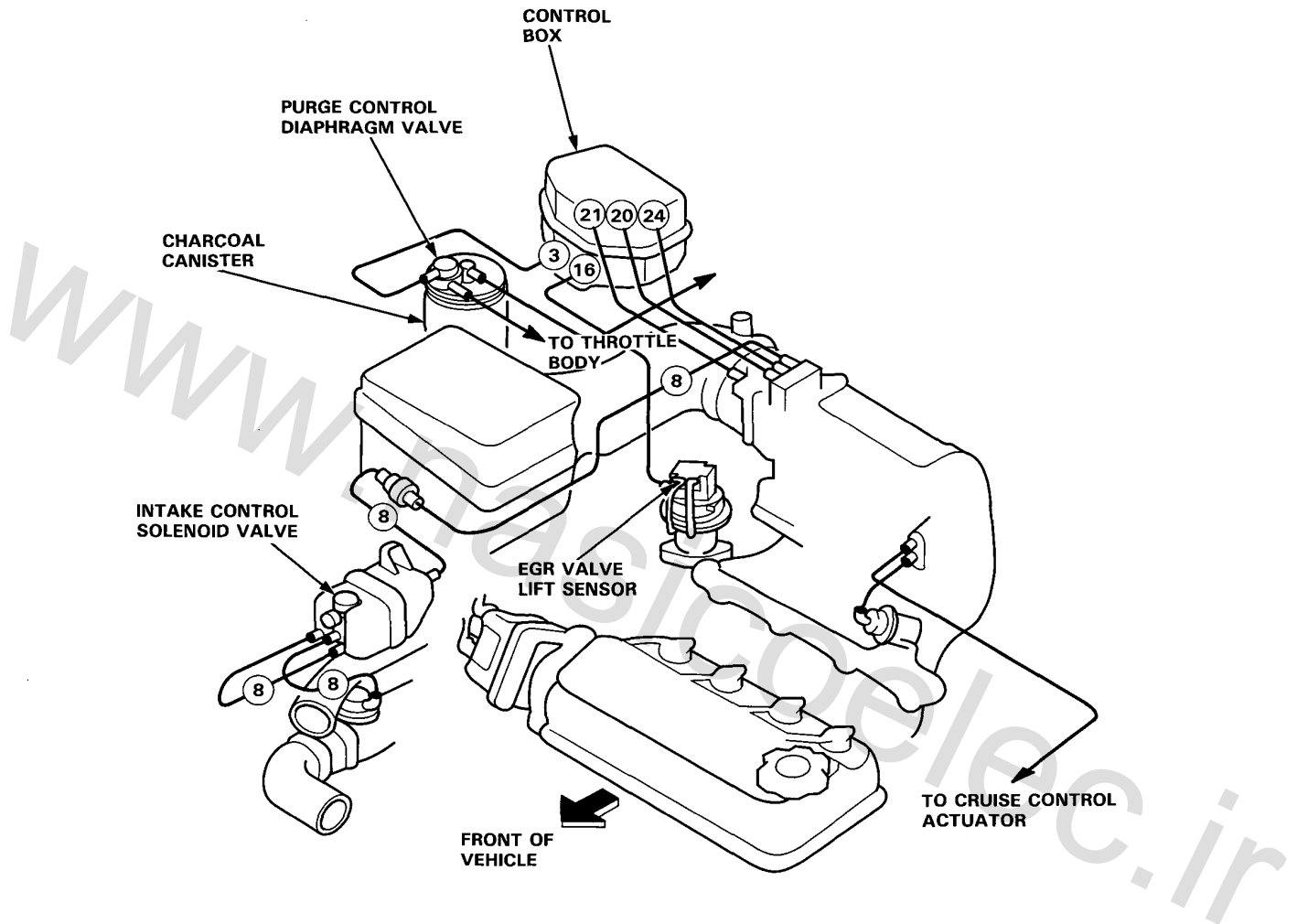
# System Description

## Vacuum Connections



- ① OXYGEN (O<sub>2</sub>) SENSOR
- ② MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR
- ③ ELECTRONIC AIR CONTROL VALVE (EACV)
- ④ FAST IDLE VALVE
- ⑤ AIR CLEANER
- ⑥ FUEL INJECTOR
- ⑦ PRESSURE REGULATOR
- ⑧ FUEL FILTER
- ⑨ FUEL PUMP
- ⑩ FUEL TANK
- ⑪ INTAKE CONTROL SOLENOID VALVE
- ⑫ AIR CHAMBER

- ⑬ CHECK VALVE
- ⑭ INTAKE CONTROL DIAPHRAGM
- ⑮ PCV VALVE
- ⑯ EGR VALVE
- ⑰ CONSTANT VACUUM CONTROL (CVC) VALVE
- ⑱ EGR CONTROL SOLENOID VALVE
- ⑲ CHARCOAL CANISTER
- ⑳ PURGE CUT-OFF SOLENOID VALVE
- ㉑ PURGE CONTROL DIAPHRAGM VALVE
- ㉒ TWO-WAY VALVE
- ㉓ CATALYTIC CONVERTER
- ㉔ COOLANT TEMPERATURE (TW) SENSOR
- ㉕ INTAKE AIR TEMPERATURE (TA) SENSOR



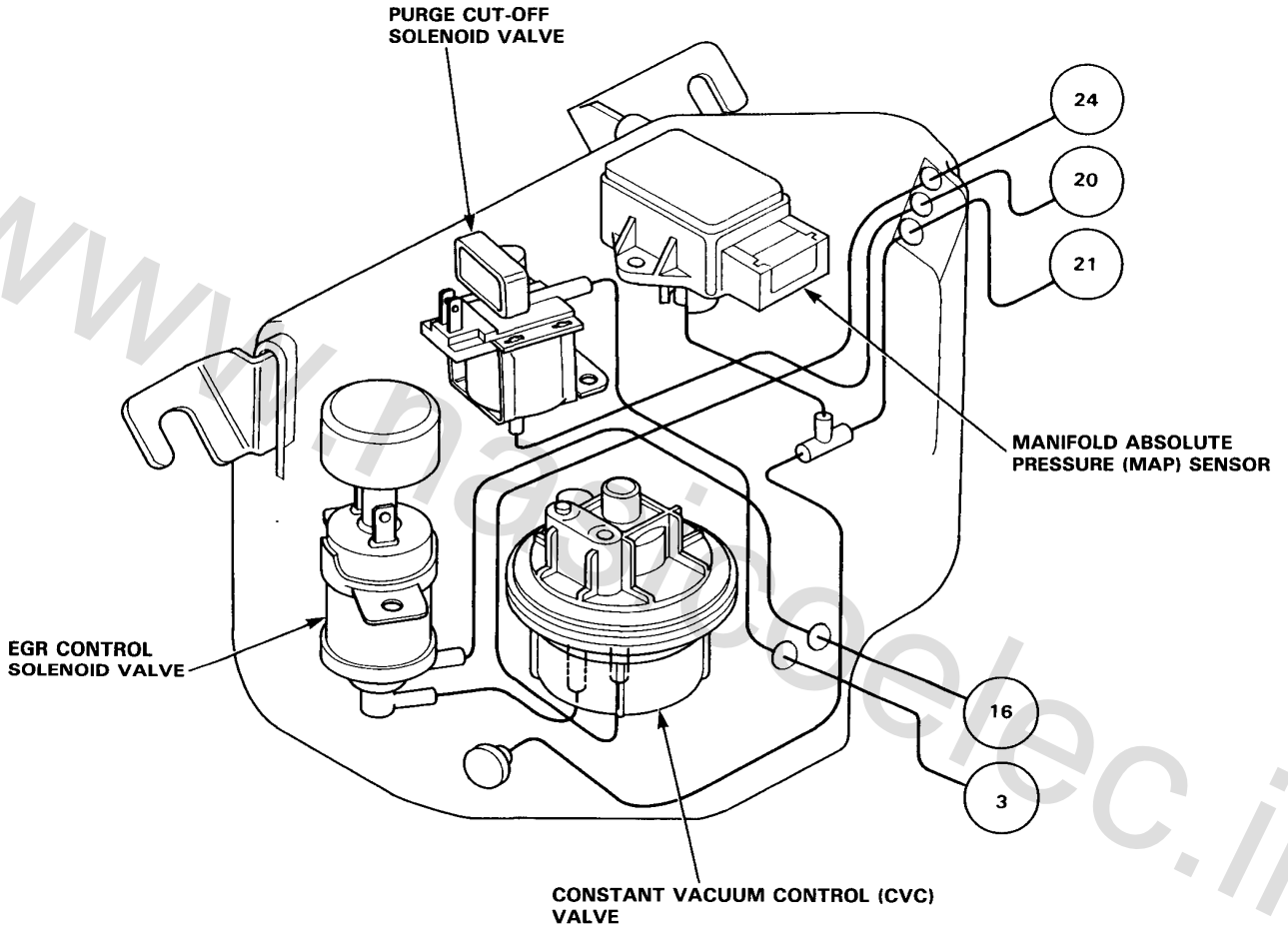


# System Description

## Vacuum Connections

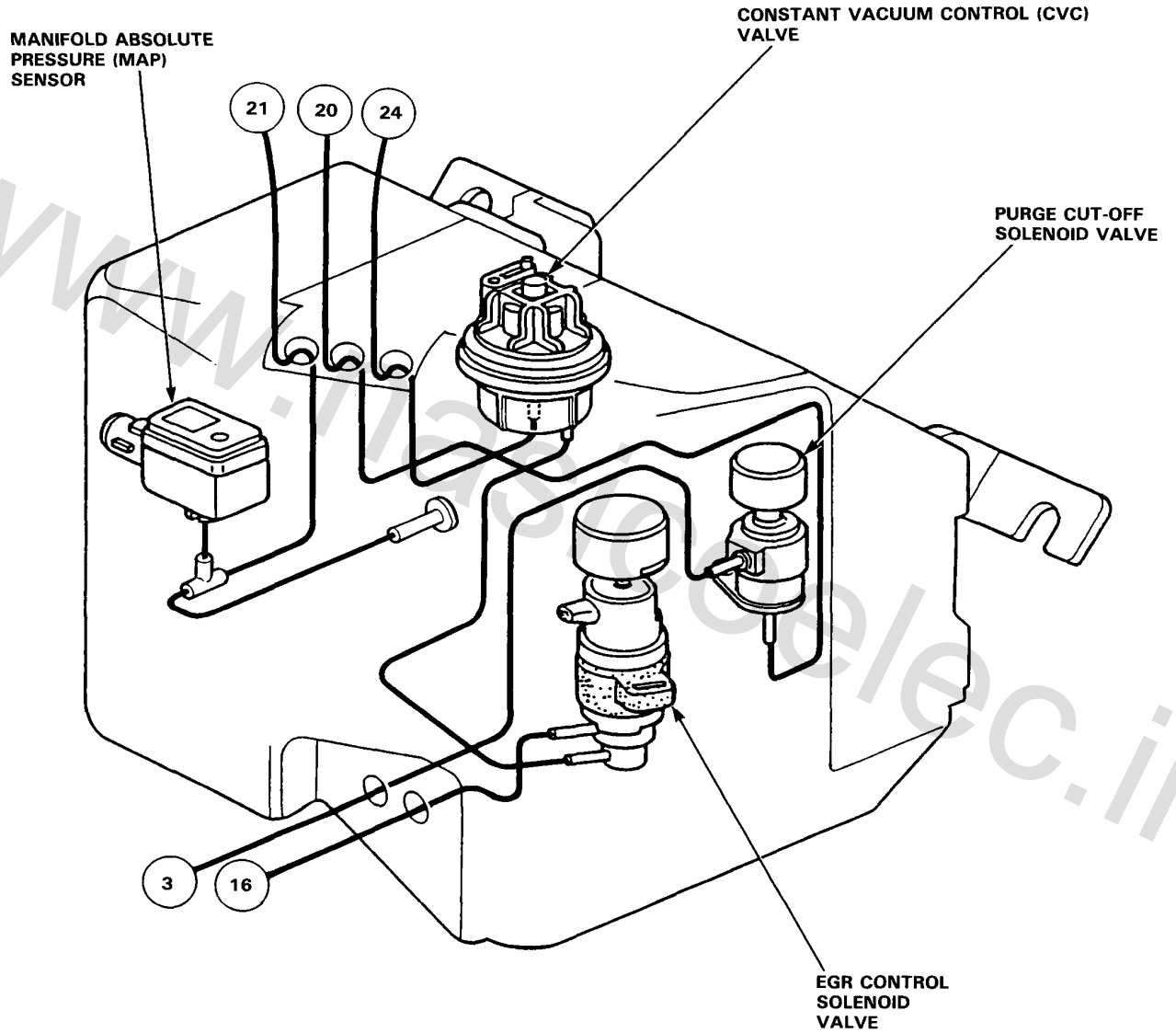
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Control Box (LHD):



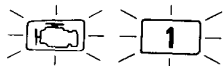


**Control Box (RHD):**

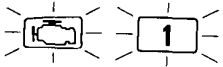


# PGM-FI Control System

## Troubleshooting Flowchart — Oxygen Sensor



Self-diagnosis Check Engine light indicates code 1: A problem in the Oxygen (O<sub>2</sub>) Sensor circuit.



- Check Engine light has been reported on.
- With service check connector jumped, CODE 1 is indicated.

Do the ECU Reset Procedure.

Warm up engine to normal operating temperature (the cooling fan comes on).

Run engine for 60 seconds.

Road test with the manual transmission in 4th gear. Starting at 1600 min<sup>-1</sup> (rpm), accelerate using wide open throttle for at least 5 seconds. Then decelerate for at least 5 seconds with the throttle completely closed.

Is Check Engine light on and does it indicate CODE 1?

NO

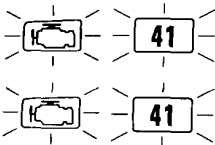
Intermittent failure, system is OK at this time. Check for poor connections or loose wires at the O<sub>2</sub> sensor and ECU.

YES

Go to page 6-12 and perform test for CODE 43.

# PGM-FI Control System

## Troubleshooting Flowchart — Oxygen Sensor Heater



Self-diagnosis Check Engine light indicates code 41: A problem in the Oxygen (O<sub>2</sub>) Sensor Heater circuit.

— Engine is running.  
— Check Engine light has been reported on, with service check connector jumped, CODE 41 is indicated.

Turn the ignition switch OFF.

Remove BACK UP fuse in the under-hood relay box for 10 seconds to reset ECU.

Start engine.

Is Check Engine light on and does it indicate CODE 41?

NO

Intermittent failure, system is OK at this time (test driving may be necessary).  
Check for poor connections or loose wires at O<sub>2</sub> sensor and ECU.

YES

Stop engine.

Disconnect the 4P connector from the O<sub>2</sub> sensor.

Measure resistance between terminals A and B on the O<sub>2</sub> sensor.

Is there 10–40 Ω?

NO

Replace the O<sub>2</sub> sensor.

YES

Check for continuity to body ground on each terminal on the O<sub>2</sub> sensor.

Is there continuity?

YES

Replace the O<sub>2</sub> sensor.

NO

Check for continuity between terminal A and terminals C and D individually.

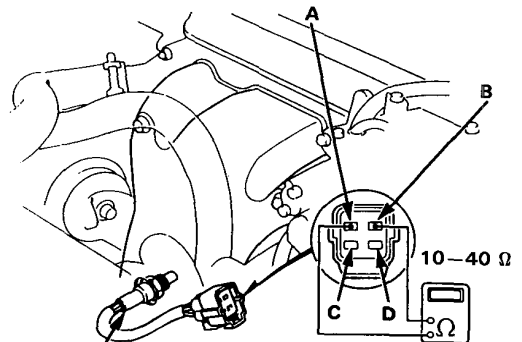
Is there continuity?

YES

Replace the O<sub>2</sub> sensor.

NO

(To page 6-11)

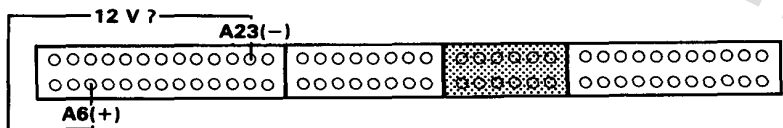
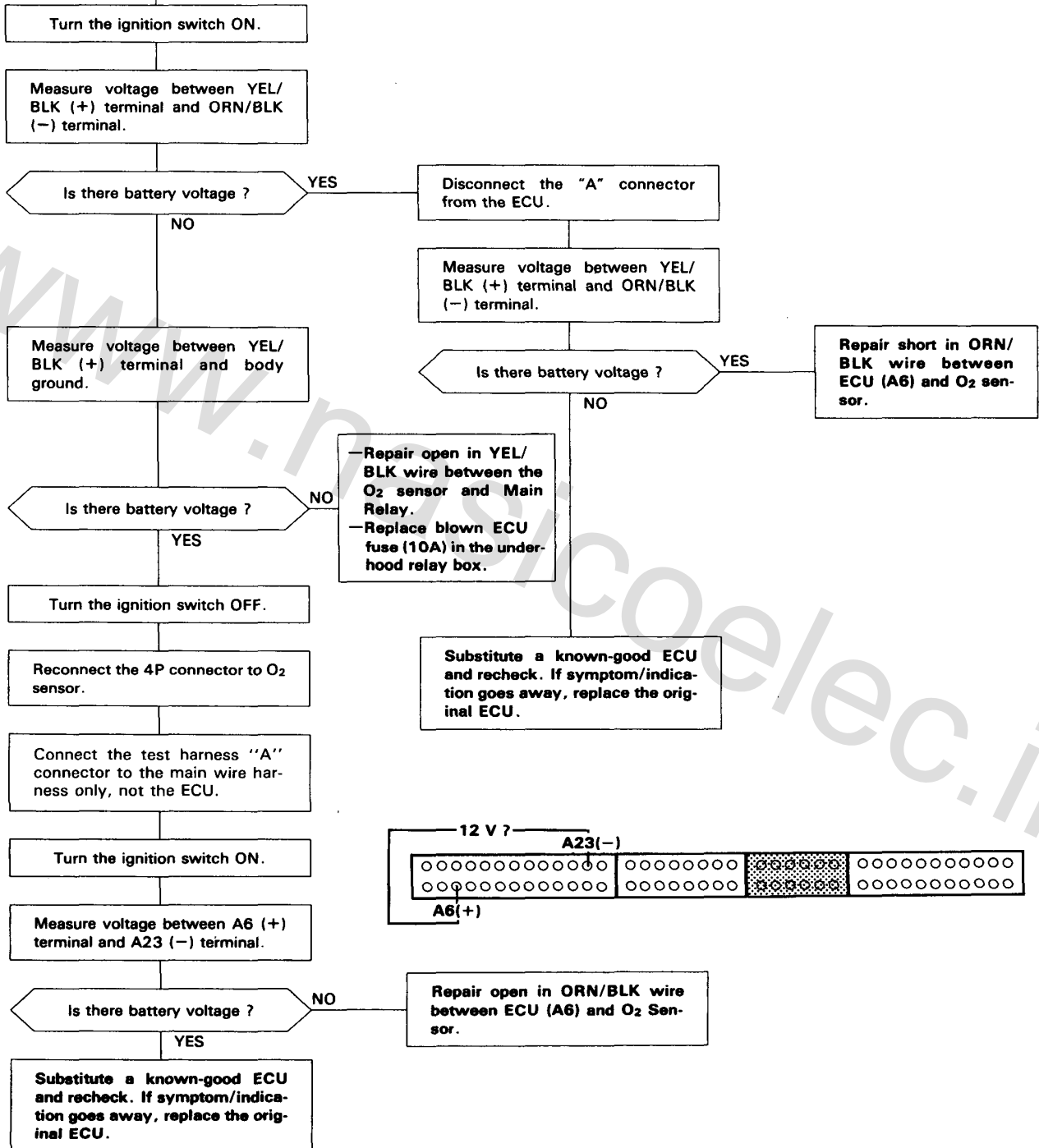


O<sub>2</sub> SENSOR  
45 N·m (45 kg-m, 33 lb-ft)

DIGITAL MULTIMETER  
07411-002000

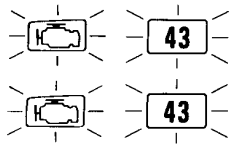


(From page 6-10)



# PGM-FI Control System

## Troubleshooting Flowchart — Fuel Supply System



Self-diagnosis Check Engine light indicates code 43: A problem in the Oxygen (O<sub>2</sub>) Sensor circuit or a problem in the Fuel Supply System.

- Check Engine light has been reported on.
- With service check connector jumped, CODE 43 is indicated.

From code 1 troubleshooting (page 6-8).

Is the 43 code accompanied by the Check Engine light and poor driveability? **YES** → Go to Fuel Supply System.

**NO**  
Do the ECU Reset Procedure.

Warm up engine to normal operating temperature (the cooling fan comes on).

Hold engine at 3,000 min<sup>-1</sup> (rpm) for 2 minutes.

**Intermittent failure, system is OK at this time (test drive may be necessary). Check for poor connections or loose wires at O<sub>2</sub> sensor and ECU.**

Is the Check Engine light on and does it indicate CODE 43? **NO** → Intermittent failure, system is OK at this time (test drive may be necessary). Check for poor connections or loose wires at O<sub>2</sub> sensor and ECU.

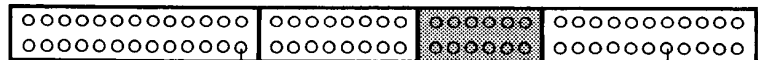
**YES**

Turn the ignition switch OFF.

- NOTE:
- Use DIGITAL CIRCUIT TESTER (07411–0020000)
  - Use 2 Volt range.

Connect the test harness between the ECU and connectors.

With the ignition switch OFF, wait for at least 2 minutes.



Turn the ignition switch ON.

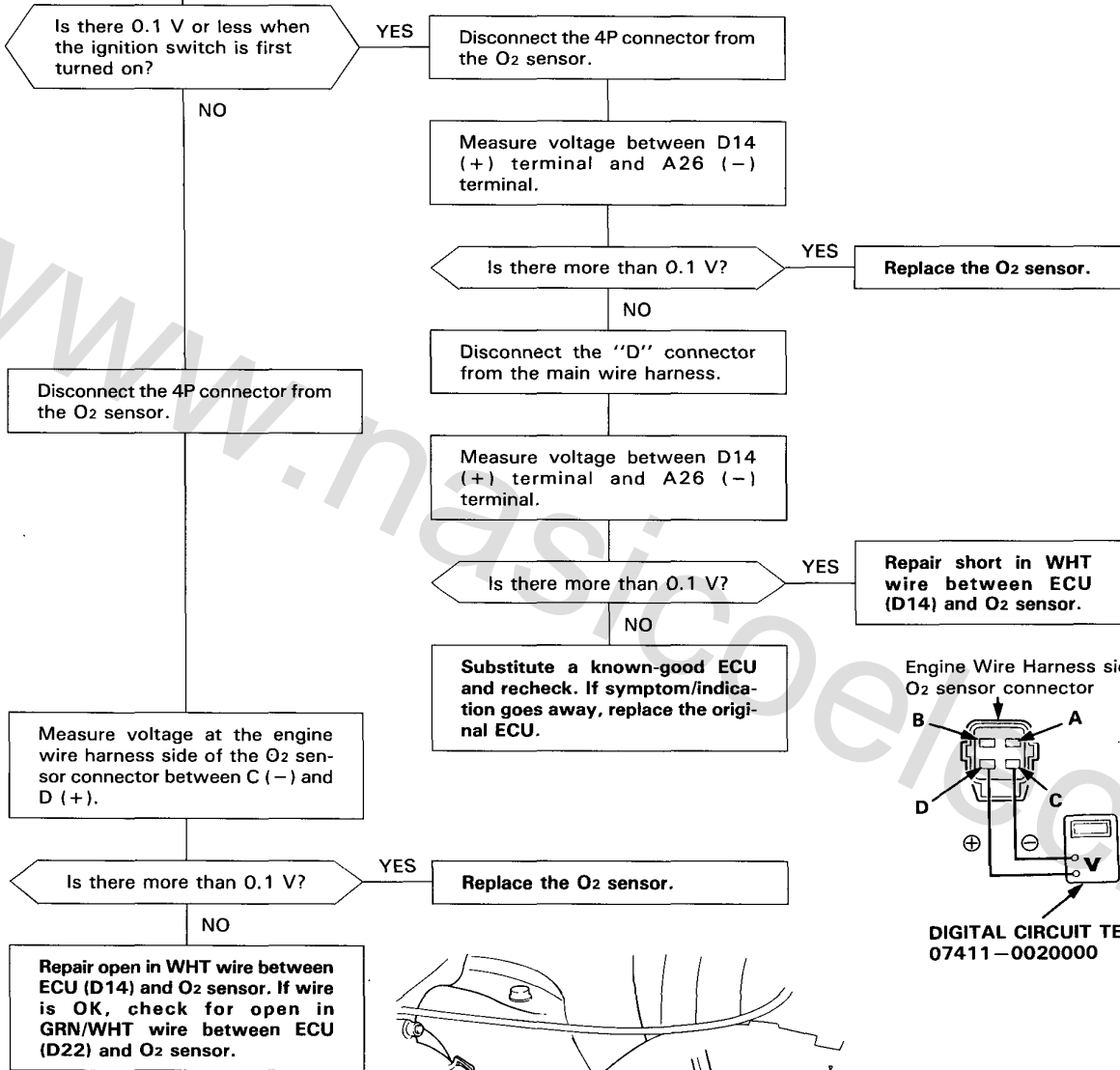
— Voltage should start at 0.4–0.5 V when the ignition switch is first turned on, and decrease to below 0.1 V in less than 2 minutes. —

Measure voltage between D14 (+) terminal and A26 (–) terminal as soon as the ignition switch is turned on.

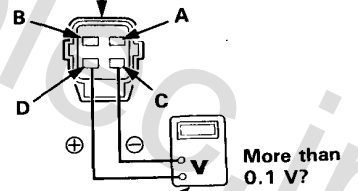
(To page 6-13)



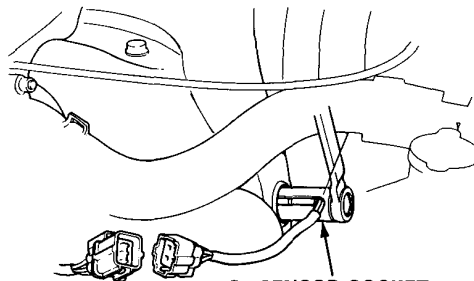
(From page 6-12)



Engine Wire Harness side of the O<sub>2</sub> sensor connector



DIGITAL CIRCUIT TESTER  
07411-0020000



O<sub>2</sub> SENSOR SOCKET  
WRENCH  
07LAA-PT50100  
45 N·m (4.5 kg·m, 33 lb·ft)

# Fuel Supply System

## Fuel Pressure

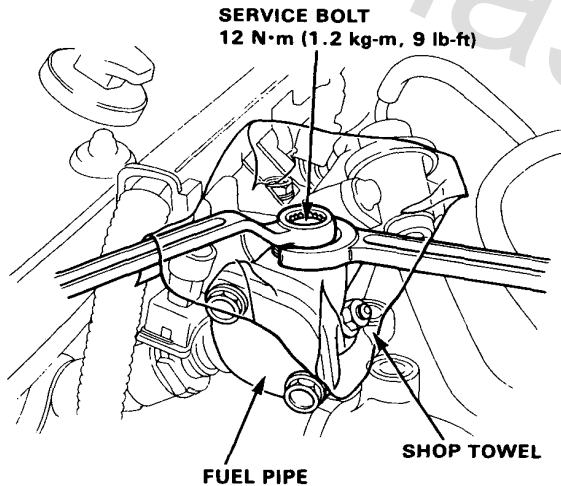
### Relieving

#### ⚠ WARNING

- Do not smoke while working on the fuel system. Keep open flames or sparks away from the work area.
- Be sure to relieve fuel pressure while the engine is off.

NOTE: Before disconnecting fuel pipes or hoses, release pressure from the system by loosening the 6 mm service bolt at the fuel pipe.

1. Remove fuel filler cap.
2. Disconnect the battery negative cable from the battery negative terminal.
3. Use a box end wrench on the 6 mm service bolt at the fuel pipe, while holding the special banjo bolt with another wrench.
4. Place a rag or shop towel over the 6 mm service bolt.
5. Slowly loosen the 6 mm service bolt one complete turn.



#### NOTE:

- A fuel pressure gauge can be attached at the 6 mm service bolt hole.
- Always replace the washer between the service bolt and the special banjo bolt, whenever the service bolt is loosened to relieve fuel pressure.
- Replace all washers whenever the bolts are removed to disassemble parts.

### Inspection

1. Relieve fuel pressure.
2. Remove the service bolt on the fuel pipe while holding the banjo bolt with another wrench and attach the fuel pressure gauge.
3. Start the engine. Measure the fuel pressure with the engine idling and vacuum hose of the pressure regulator disconnected.

Pressure should be:

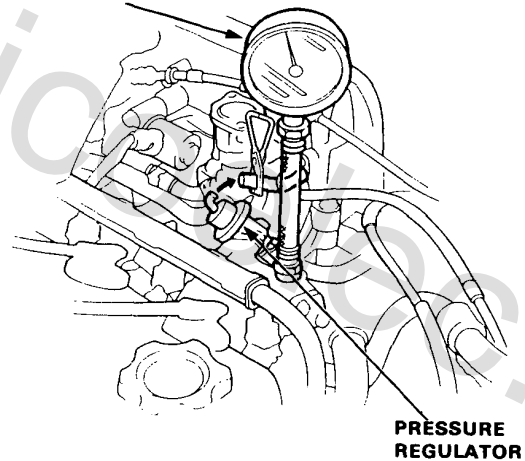
275–324 kPa (2.8–3.3 kg/cm<sup>2</sup>, 40–47 psi)

4. Reconnect vacuum hose to the pressure regulator.

Pressure should be:

216–265 kPa (2.2–2.7 kg/cm<sup>2</sup>, 31–38 psi)

FUEL PRESSURE GAUGE  
07406–004001



- If the fuel pressure is not as specified, first check the fuel pump. If the pump is OK, check the following:
  - If the pressure is higher than specified, inspect for:
    - Pinched or clogged fuel return hose or piping.
    - Faulty pressure regulator (page 6-15).
  - If the pressure is lower than specified, inspect for:
    - Clogged fuel filter.
    - Pressure regulator failure (page 6-15).
    - Leakage in the fuel line.





## Pressure Regulator

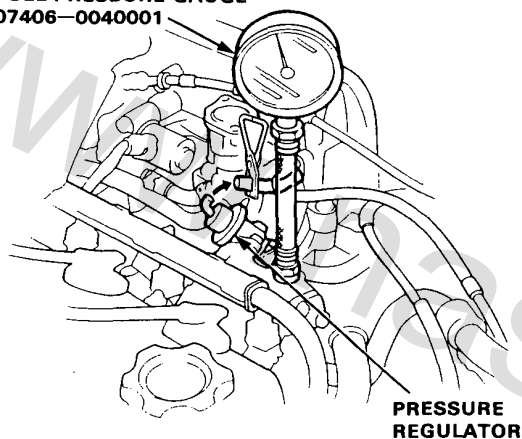
### Testing

**⚠ WARNING** Do not smoke during the test. Keep open flames away from your work area.

1. Attach a pressure gauge to the service port of the fuel pipe (page 6-14).

Pressure should be:  
275–324 kPa (2.8–3.3 kg/cm<sup>2</sup>, 40–47 psi)  
(with the regulator vacuum hose disconnected)

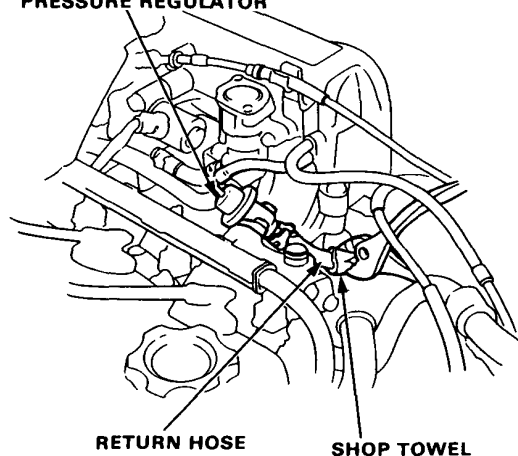
FUEL PRESSURE GAUGE  
07406–0040001



2. Reconnect the vacuum hose to the pressure regulator.
3. Check that the fuel pressure rises when the vacuum hose from the regulator is disconnected again.

- If the fuel pressure did not rise, check to see if it rise with the fuel return hose lightly pinched.
- If the fuel pressure still does not rise, replace the pressure regulator.

PRESSURE REGULATOR

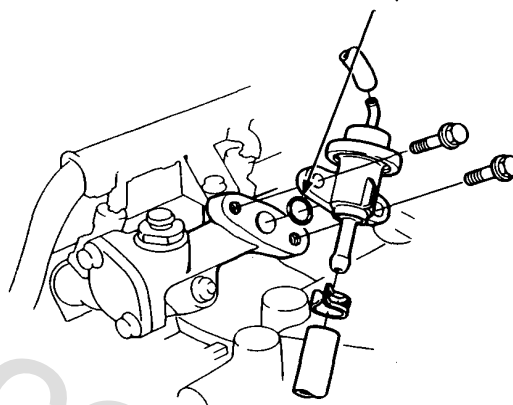


### Replacement

**⚠ WARNING** Do not smoke while working on fuel system. Keep open flame way from work area.

1. Place a shop towel under pressure regulator, then relieve fuel pressure (page 6-14).
2. Disconnect the vacuum hose and fuel return hose.
3. Remove the two 6 mm retainer bolts.

O-RING  
Replace.



#### NOTE:

- Replace the O-ring.
- When assembling the regulator, apply clean engine oil to the O-ring and assemble it into its proper position, taking care not to damage the O-ring.

**Ignition System**  
**Interlock System**  
**Integrated Control Unit**  
**Seat Belt Reminder System**  
**Key - in Reminder System**  
**Power Door Locks**

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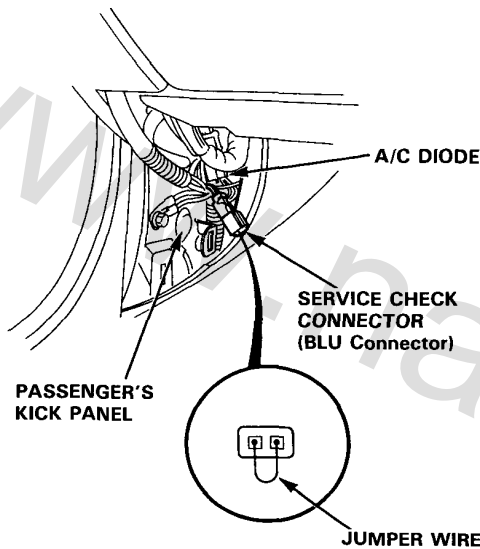
# Ignition System

## Ignition Timing Inspection and Setting (Fuel-Injected Engine)

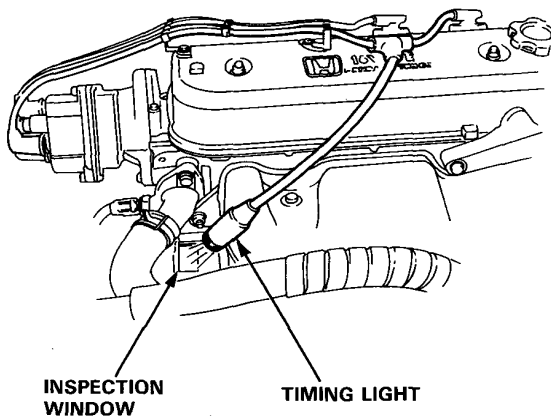
NOTE: To be made at idle with the service check connector shorted, the blue service check connector is located in the front passenger corner under the dashboard.

1. Start the engine and allow it to warm up (radiator fan comes on).
2. Connect the ORN/RED and GRN/WHT terminals of the service check connector (BLU) with jumper wire.

NOTE: The illustration shows RHD.



3. Connect a timing light to the No. 1 ignition wire. Remove the rubber cap from the inspection window in the flywheel/drive plate housing. While the engine idles, point the light toward the pointer on the flywheel (for M/T), or on the drive plate (for A/T).

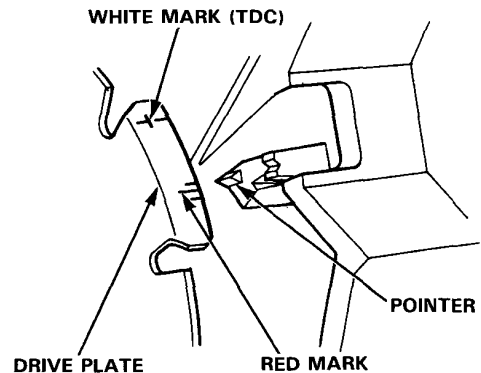


4. Adjust ignition timing, if necessary, to the following specifications:

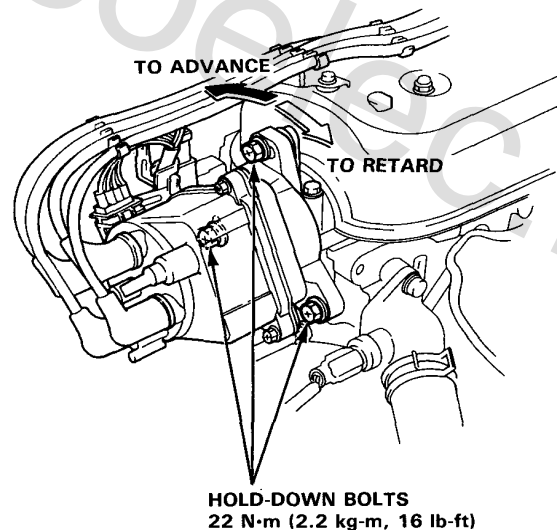
### Ignition Timing

- All models:  $15 \pm 2^\circ$  BTDC (RED) at  $770 \pm 50 \text{ min}^{-1}$  (rpm) in neutral

NOTE: The illustration shows A/T.



5. Adjust as necessary by loosening the distributor adjusting bolts, and turn the distributor housing counterclockwise to advance the timing, or clockwise to retard the timing.



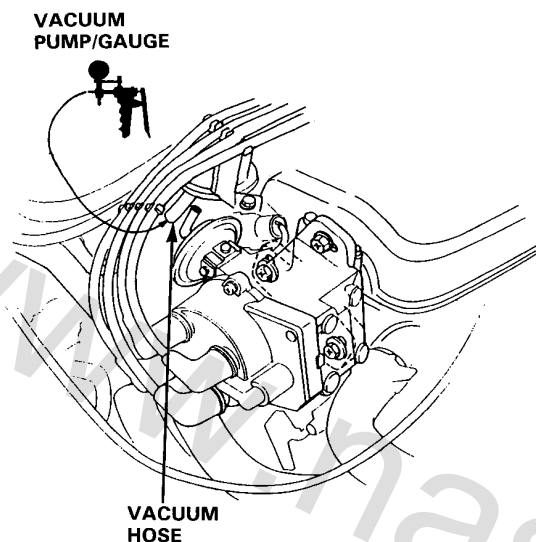
6. Tighten the adjusting bolts and recheck the timing.
7. Remove the jumper wire and install the rubber cap to the inspection window.



## Ignition Timing Inspection and Setting (Carbureted Engine)

< KP, KT, KU and KY models >

1. Disconnect the vacuum hose from the vacuum advance diaphragm, then connect the vacuum pump/gauge to the vacuum hose.



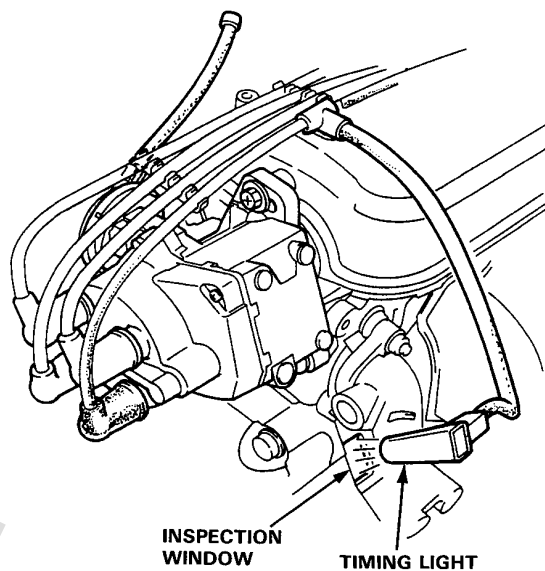
2. Start the engine.

KP, KT, KU and KY (M/T) models: Let it idle.

KY (A/T) model: Hold the engine at  $4,000 \text{ min}^{-1}$  (rpm).

3. Check the vacuum hose for vacuum. The vacuum hose should have vacuum.
  - If the vacuum hose has no vacuum, check the vacuum hose of proper connection, cracks, blockage or disconnected hose.
4. Connect the vacuum hose to the vacuum advance diaphragm and allow the engine to warm up (radiator fan comes on).
5. Disconnect the vacuum hose from the vacuum advance diaphragm and plug them.

6. Connect a timing light to the No. 1 ignition wire. Remove the rubber cap from the inspection window in the flywheel/drive plate housing. While the engine idles, point the light toward the pointer on the flywheel (for M/T), or on the drive plate (for A/T).

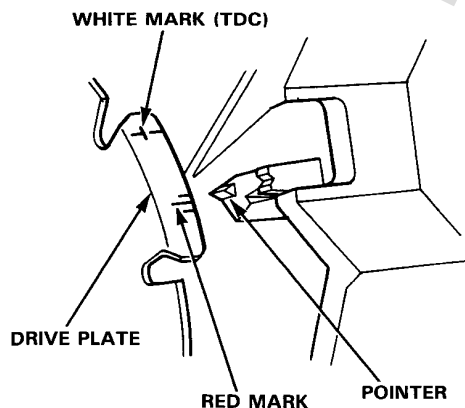


7. Read initial timing when timing mark is aligned to the pointer.

Initial Timing:  $0^\circ$  TDC (Except KY-A/T model)  
 $15^\circ$  ATDC (KY-A/T model)

- Manual Transmission [at  $800 \pm 50 \text{ min}^{-1}$  (rpm) in neutral]
- Automatic Transmission [at  $750 \pm 50 \text{ min}^{-1}$  (rpm) in gear]

NOTE: The illustration shows A/T.

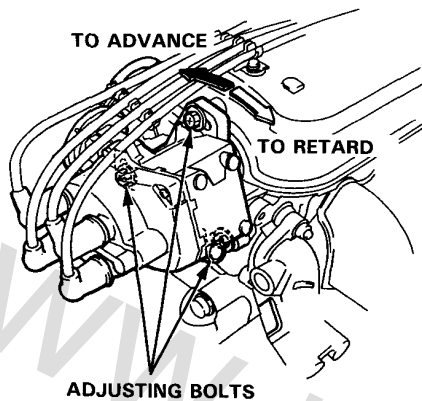


(cont'd)

# Ignition System

## Ignition Timing Inspection and Setting (Carbureted Engine) (cont'd)

8. Adjust as necessary by loosening the distributor adjusting bolts, and turn the distributor housing clockwise to retard the timing, or counterclockwise to advance the timing.



9. Tighten the distributor adjusting bolts, then recheck the timing.
10. Install the rubber cap to the inspection window.

11. Connect the vacuum hose to the vacuum advance diaphragm and inspect ignition timing at idle.

### Ignition Timing

M/T:  $15^\circ \pm 2^\circ$  BTDC (RED)

A/T:  $10^\circ \pm 2^\circ$  BTDC (RED)

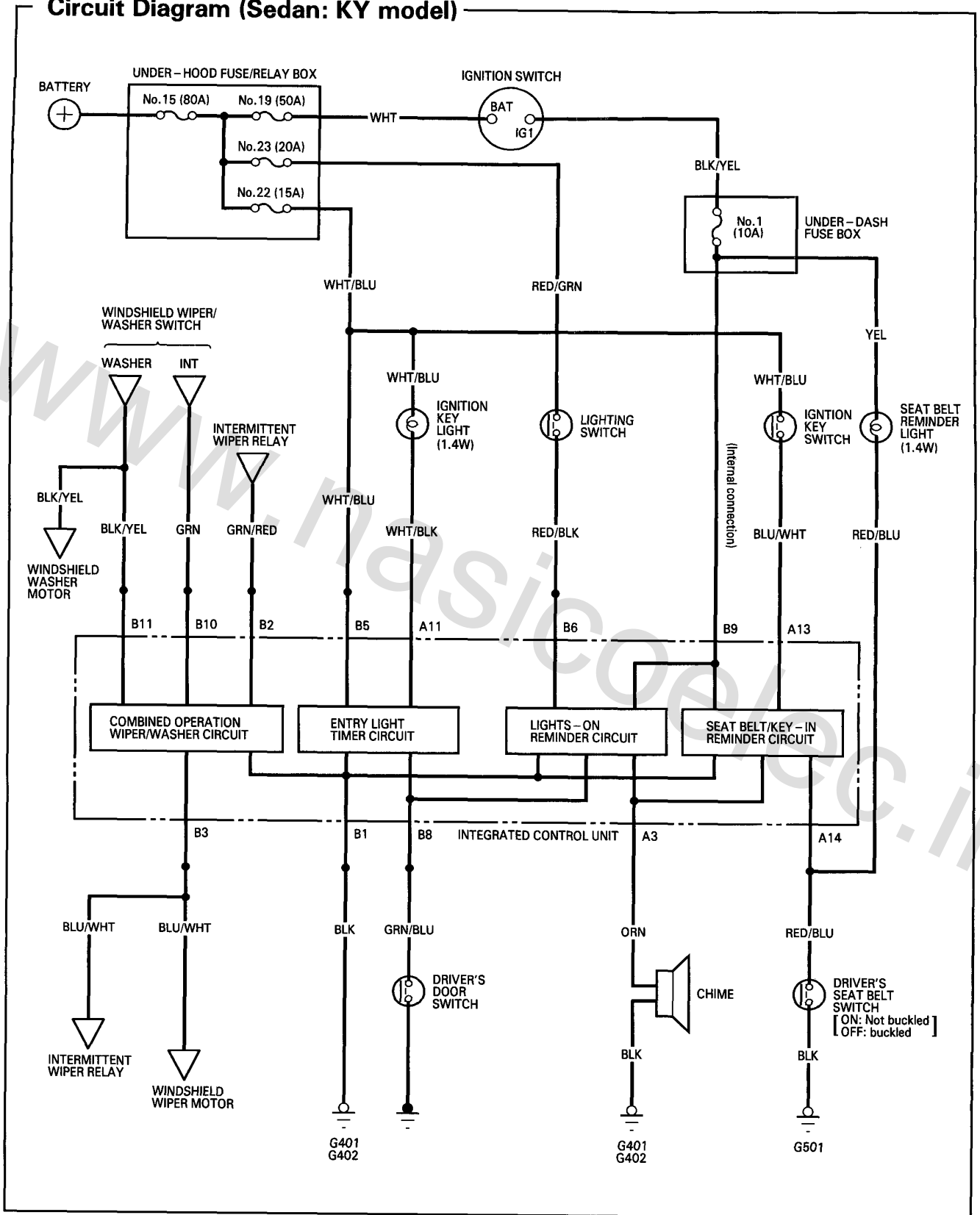
KY-A/T:  $0^\circ \pm 2^\circ$  TDC (WHITE)

- Manual Transmission [at  $800 \pm 50 \text{ min}^{-1}$  (rpm) in neutral]
- Automatic Transmission [at  $750 \pm 50 \text{ min}^{-1}$  (rpm) in gear]

If advance is not as specified, check the vacuum advance diaphragm and distributor advance mechanism.

# Integrated Control Unit

## Circuit Diagram (Sedan: KY model)





## Input Test (Sedan: KY model)

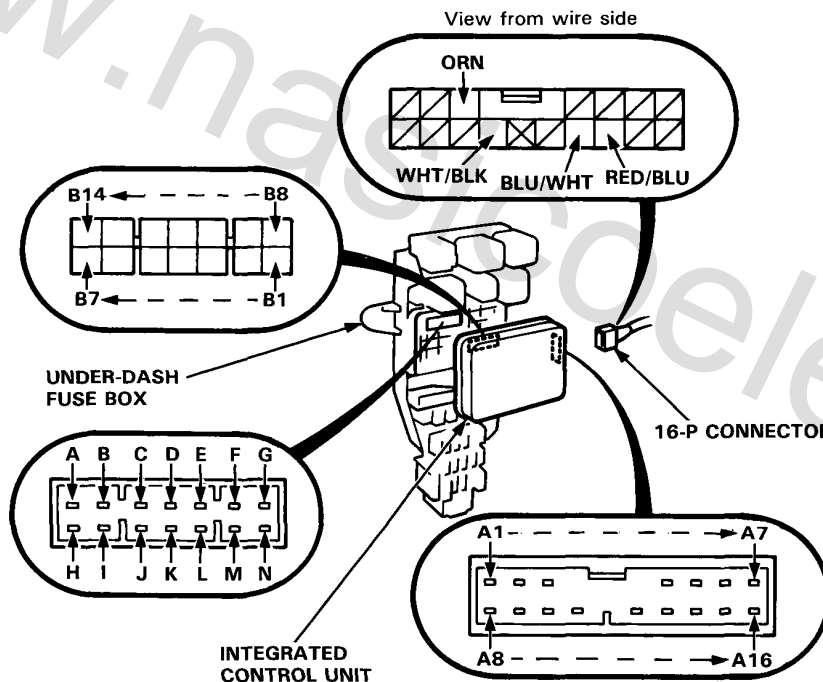
Remove the left kick panel, then disconnect the 16-P connector from the integrated control unit.

Remove the integrated control unit.

Inspect the connector and the socket terminals to be sure they are all making good contact.

- If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
- If the terminals look OK, make the following input tests at the connector and the socket.
  - If a test indicates a problem, find and correct the cause, then recheck the system.
  - If all the input tests prove OK, the control unit must be faulty; replace it.

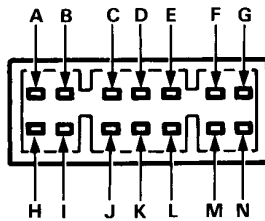
NOTE: Do not disconnect any connectors from the under-dash fuse box except the one on the integrated control unit.



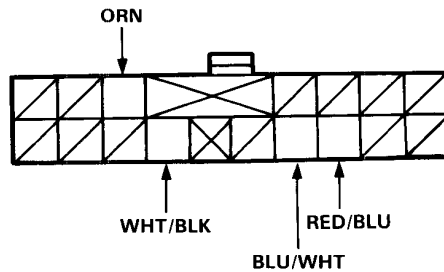
(cont'd)

# Integrated Control Unit

## Input Test (Sedan: KY model) (cont'd)



View from terminal side



View from wire side

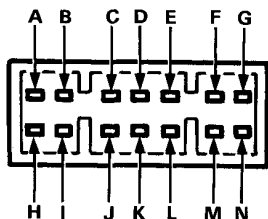
### Entry Light Timer System:

No.	Terminal	Test condition	Test: Desired result	Possible cause if result is not obtained
1	H	Under all conditions.	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>Poor ground (G401, G402).</li> <li>An open in the wire.</li> </ul>
2	L	Under all conditions.	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>Blown No. 22 (15 A) fuse.</li> <li>An open in the wire.</li> </ul>
3	WHT/BLK	Under all conditions.	Attach to ground: Ignition key light should come on.	<ul style="list-style-type: none"> <li>Blown bulb.</li> <li>An open in the wire.</li> </ul>
4	A	Driver's door open.	Check for voltage to ground: It should be 1 V or less.	<ul style="list-style-type: none"> <li>Faulty driver's door switch.</li> <li>An open in the wire.</li> </ul>

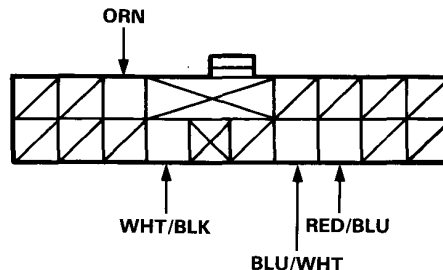
### Lights-on Reminder System:

No.	Terminal	Test condition	Test: Desired result	Possible cause if result is not obtained
1	H	Under all conditions.	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>Poor ground (G401, G402).</li> <li>An open in the wire.</li> </ul>
2	M	Lighting switch ON (Second position).	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>Blown No. 23 (20 A) fuse.</li> <li>Faulty lighting switch.</li> <li>An open in the wire.</li> </ul>
3	B	Ignition switch ON.	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>Blown No. 1 (10 A) fuse.</li> <li>An open in the wire.</li> </ul>
4	A	Driver's door open.	Check for voltage to ground: It should be 1 V or less.	<ul style="list-style-type: none"> <li>Faulty driver's door switch.</li> <li>An open in the wire.</li> </ul>
5	ORN	Ignition switch ON and connect the B terminal to the ORN terminal.	Check chime operation: Chime should activate each time the battery is connected.	<ul style="list-style-type: none"> <li>Faulty chime.</li> <li>An open in the wire.</li> </ul>





View from terminal side



View from wire side

**Wiper System:**

No.	Terminal	Test condition	Test: Desired result	Possible cause if result is not obtained
1	H	Under all conditions.	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G401, G402).</li> <li>• An open in the wire.</li> </ul>
2	I	Ignition switch ON.	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 6 (30 A) fuse.</li> <li>• Faulty intermittent wiper relay.</li> <li>• An open in the wire.</li> </ul>
3	C	Ignition switch ON and wiper switch in INT Position	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 6 (30 A) fuse.</li> <li>• Faulty wiper switch.</li> <li>• An open in the wire.</li> </ul>
4	D	Ignition switch ON and washer switch ON	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 6 (30 A) fuse.</li> <li>• Faulty washer switch.</li> <li>• An open in the wire.</li> </ul>
5	J	Ignition switch ON.	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 6 (30 A) fuse.</li> <li>• Faulty intermittent wiper relay.</li> <li>• Faulty windshield wiper motor.</li> <li>• An open in the wire.</li> </ul>

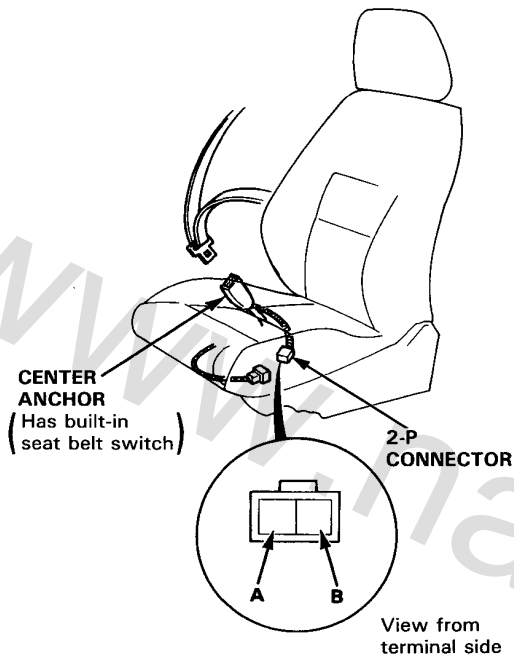
**Seat Belt Reminder System:**

No.	Terminal	Test condition	Test: Desired result	Possible cause if result is not obtained
1	H	Under all conditions.	Check for continuity to ground: There should be continuity.	<ul style="list-style-type: none"> <li>• Poor ground (G401, G402).</li> <li>• An open in the wire.</li> </ul>
2	B	Ignition switch ON.	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Blown No. 1 (10 A) fuse.</li> <li>• An open in the wire.</li> </ul>
3	ORN	Ignition switch ON and connect the B terminal to the ORN terminal.	Check chime operation: Chime should activate each time the bat- tery is connected.	<ul style="list-style-type: none"> <li>• Faulty chime.</li> <li>• An open in the wire.</li> </ul>
4	RED/BLU	Driver's seat belt is not buckled.	Check for voltage to ground: It should be 1 V or less.	<ul style="list-style-type: none"> <li>• Faulty driver's seat belt switch.</li> <li>• An open in the wire.</li> <li>• Poor ground (G501).</li> <li>• Blown bulb.</li> </ul>
		Driver's seat belt is buckled.	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Faulty driver's seat belt switch.</li> <li>• An open in the wire.</li> <li>• Blown bulb.</li> <li>• Blown No. 1 (10 A) fuse.</li> </ul>
5	BLU/WHT	Ignition key is in- serted into the igni- tion switch.	Check for voltage to ground: There should be battery voltage.	<ul style="list-style-type: none"> <li>• Faulty ignition key switch.</li> <li>• An open in the wire.</li> </ul>

# Seat Belt Reminder System (Sedan: KY model)

## Seat Belt Switch Test

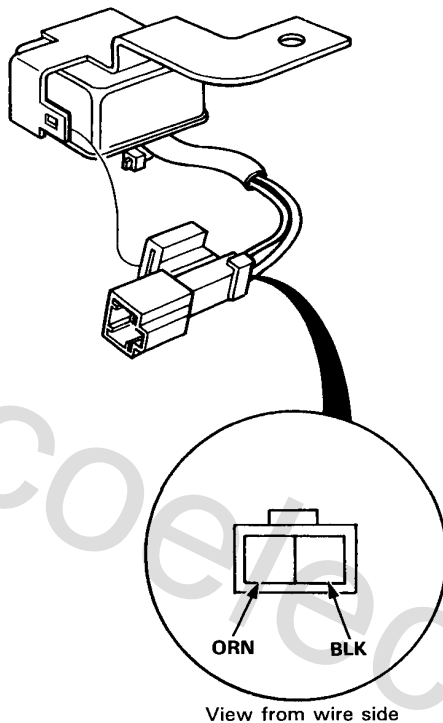
1. Slide the front seat all the way forward then disconnect the 2-P connector from the seat belt switch.

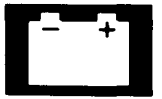


2. There should be continuity between the A and B terminals when the seat belt is not buckled. There should be no continuity when the seat belt is buckled.

## Chime Test

1. Remove the left side kick panel and disconnect the 2-P connector from the main wire harness.
2. Test the chime by connecting battery power to the ORN terminal and ground to the BLK terminal, and cycling the power on-off repeatedly.
3. If the chime fails to sound every time power is cycled, replace it.

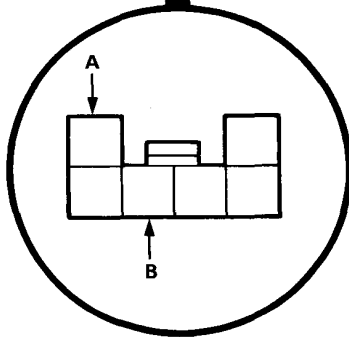
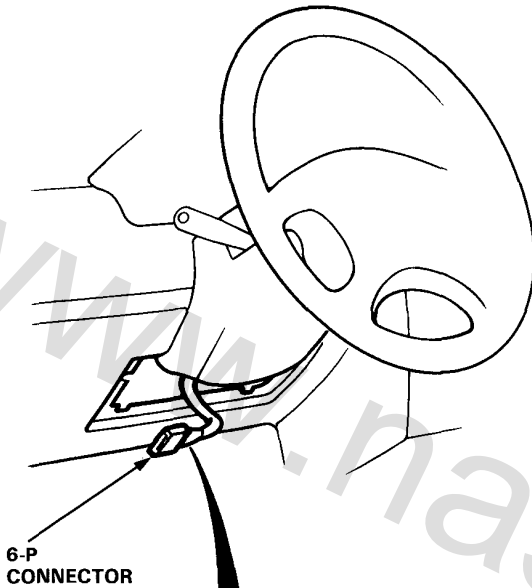




## Key-in Reminder System (Sedan: KY model)

### Ignition Key Switch Test

1. Remove the dashboard lower cover.
2. Disconnect the 6-P connector from the main wire harness.



View from wire side

3. There should be continuity between the A and B terminals when the ignition key is inserted. There should be no continuity with the ignition key removed.

# Power Door Locks (KQ model)

## Component Location Index

