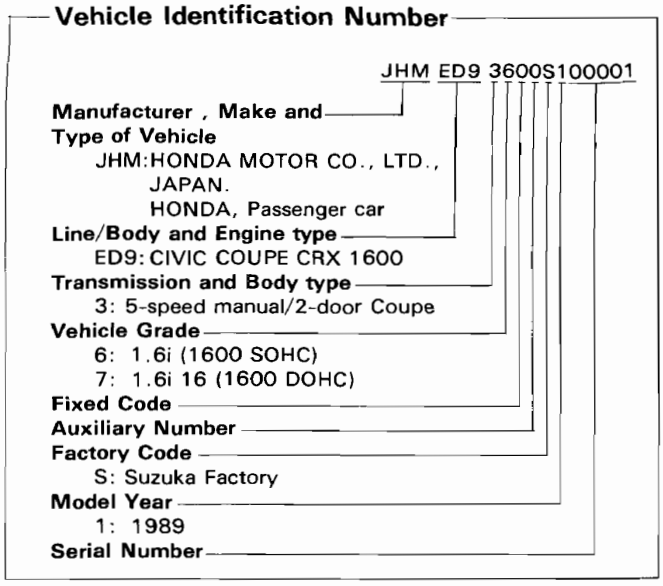
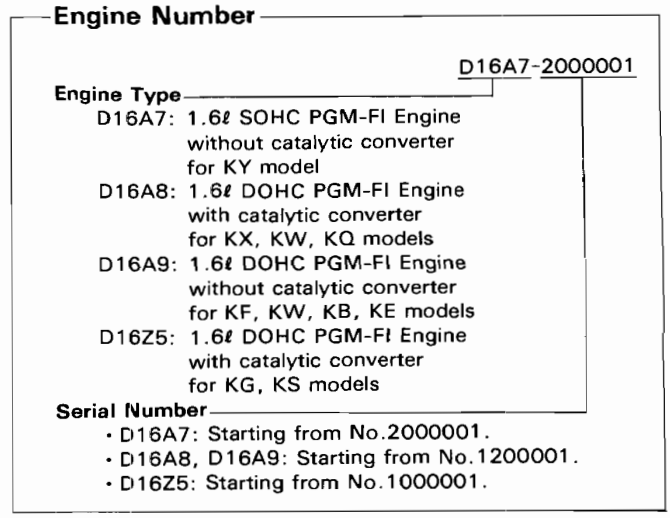
Chassis and Engine Numbers

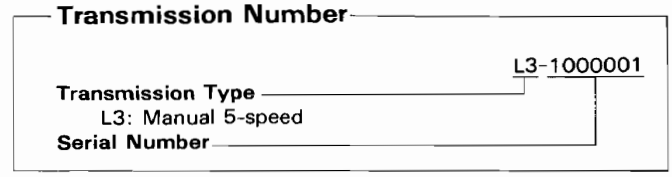
Vehicle Identification Number



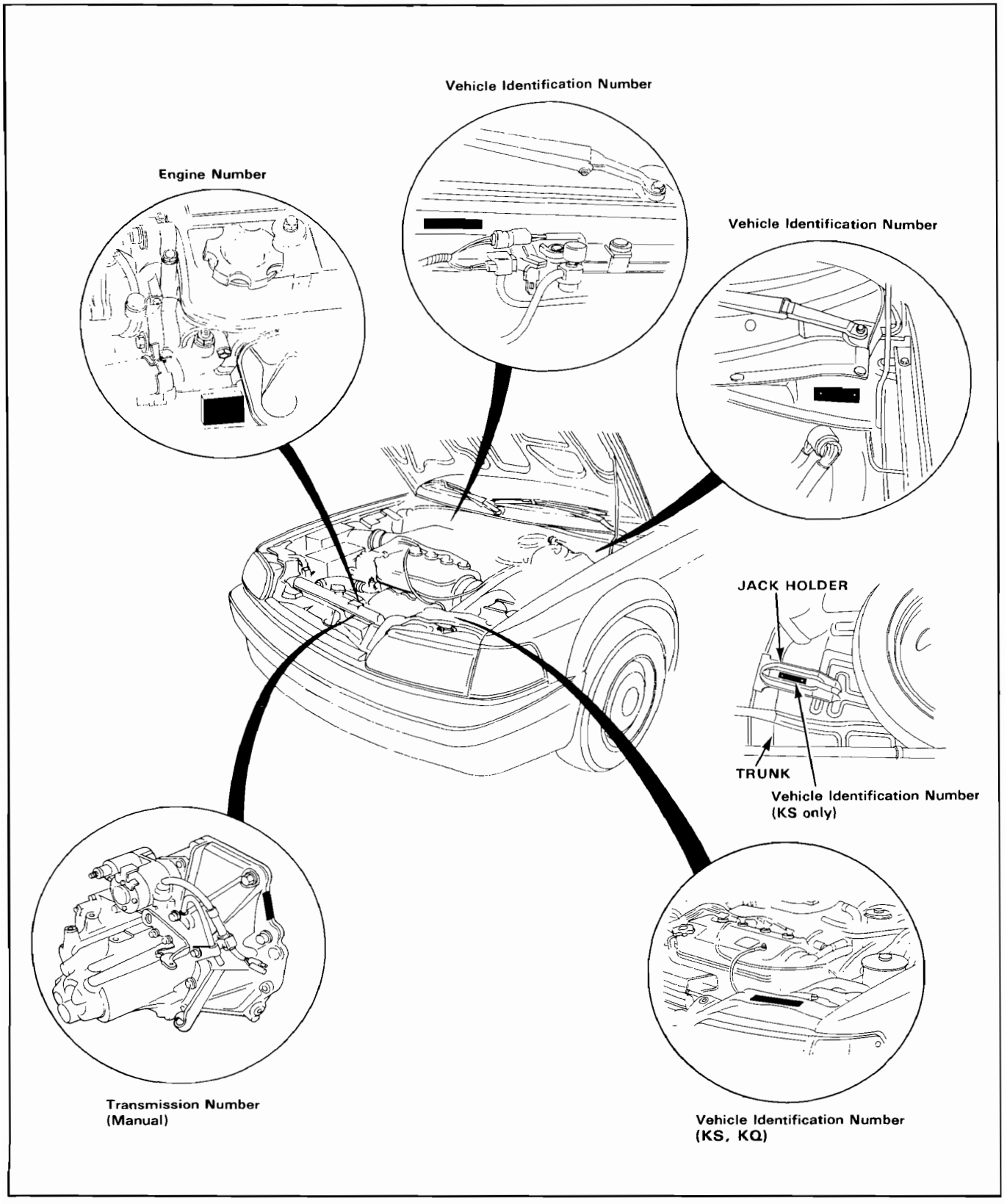
Engine Number



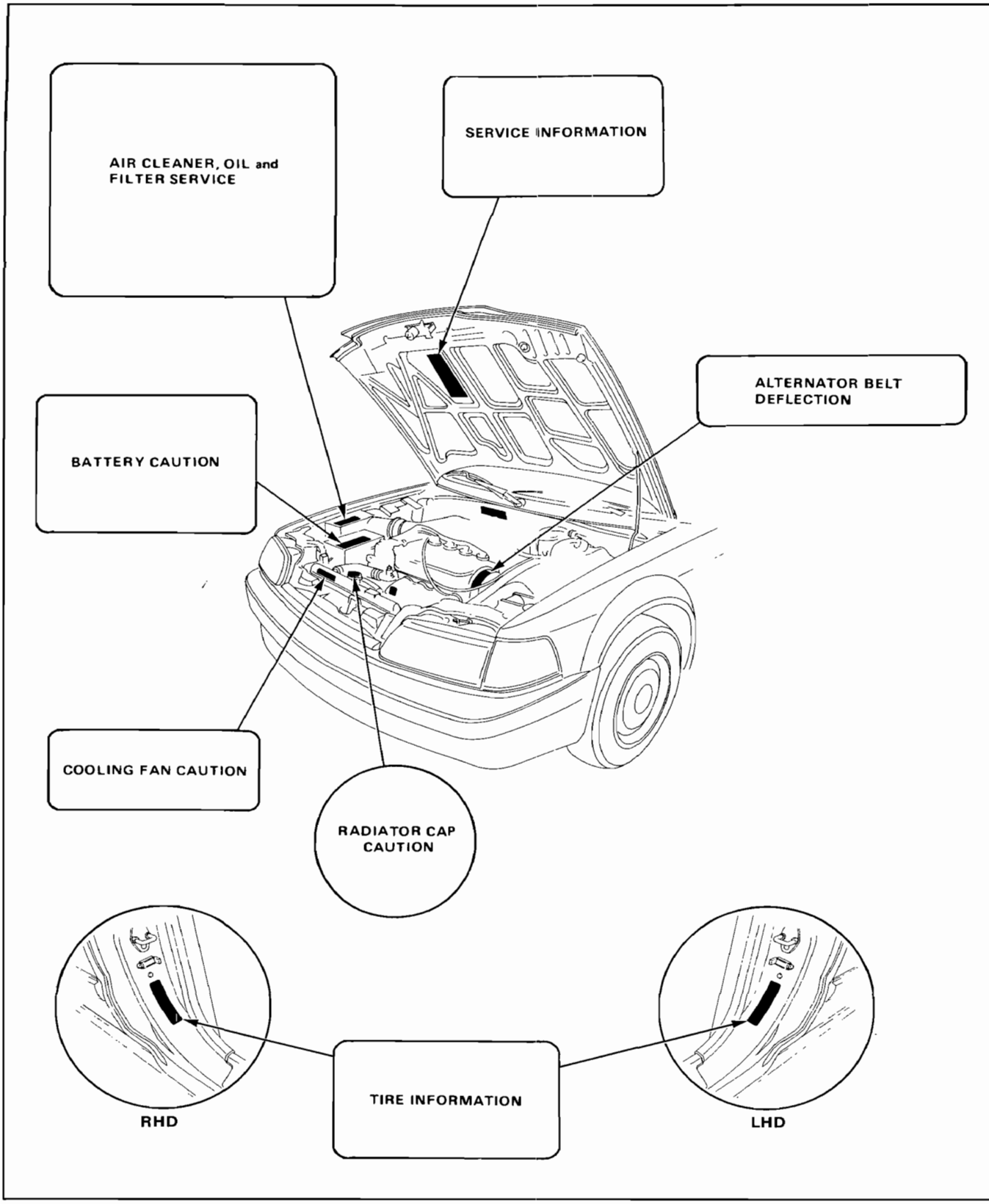
Transmission Number



Identification Number Locations



Label Locations



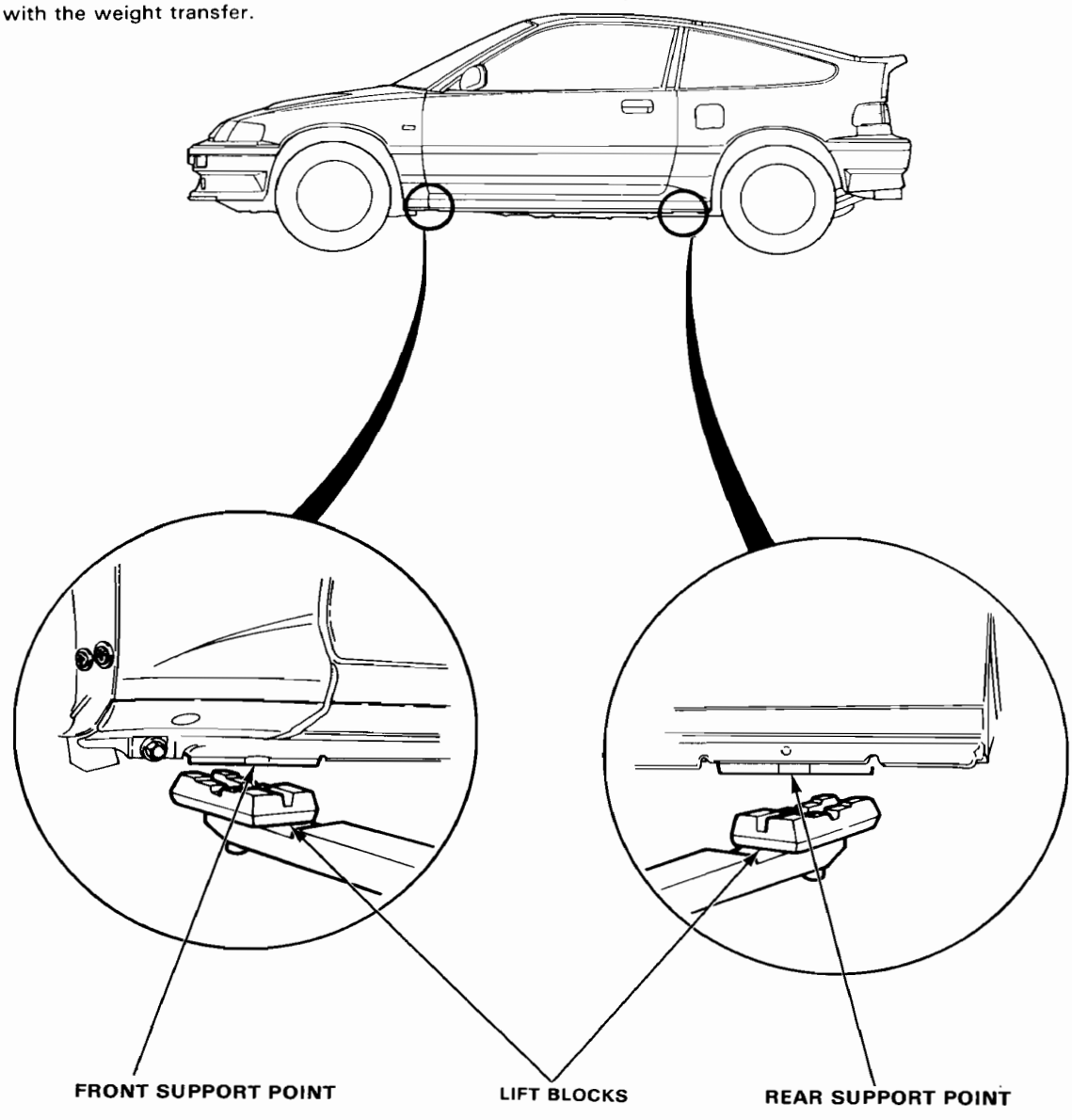
Lift and Support Points

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 trunk lid/hatch 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.



(cont'd)

Lift and Support Points (cont'd)

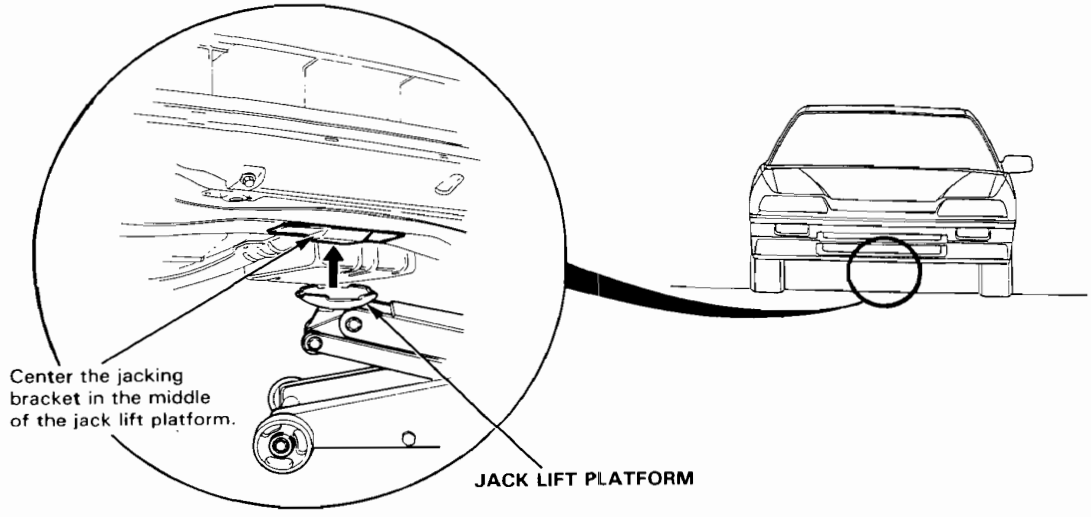
Floor Jack

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.
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.

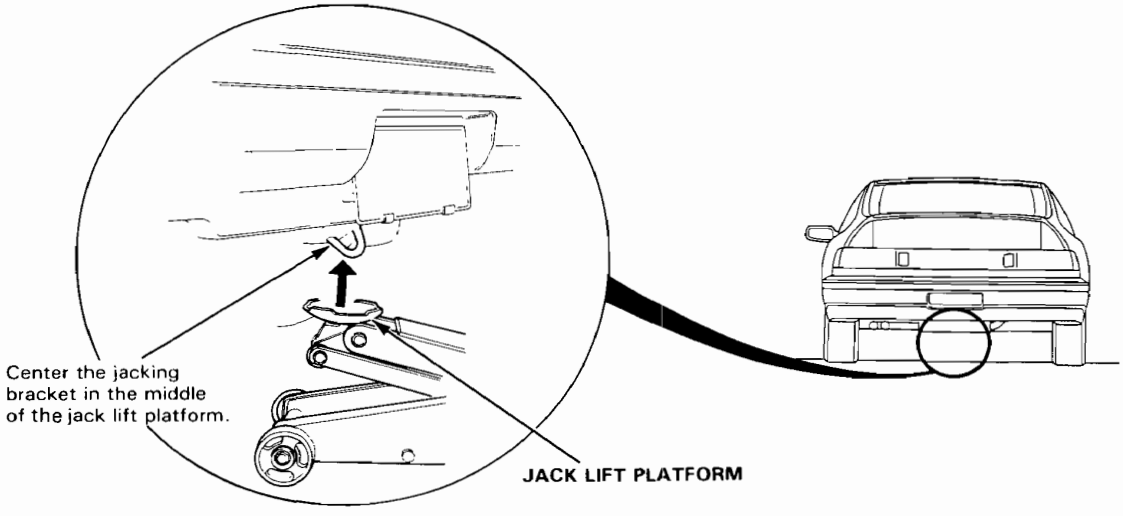
WARNING

- **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.**

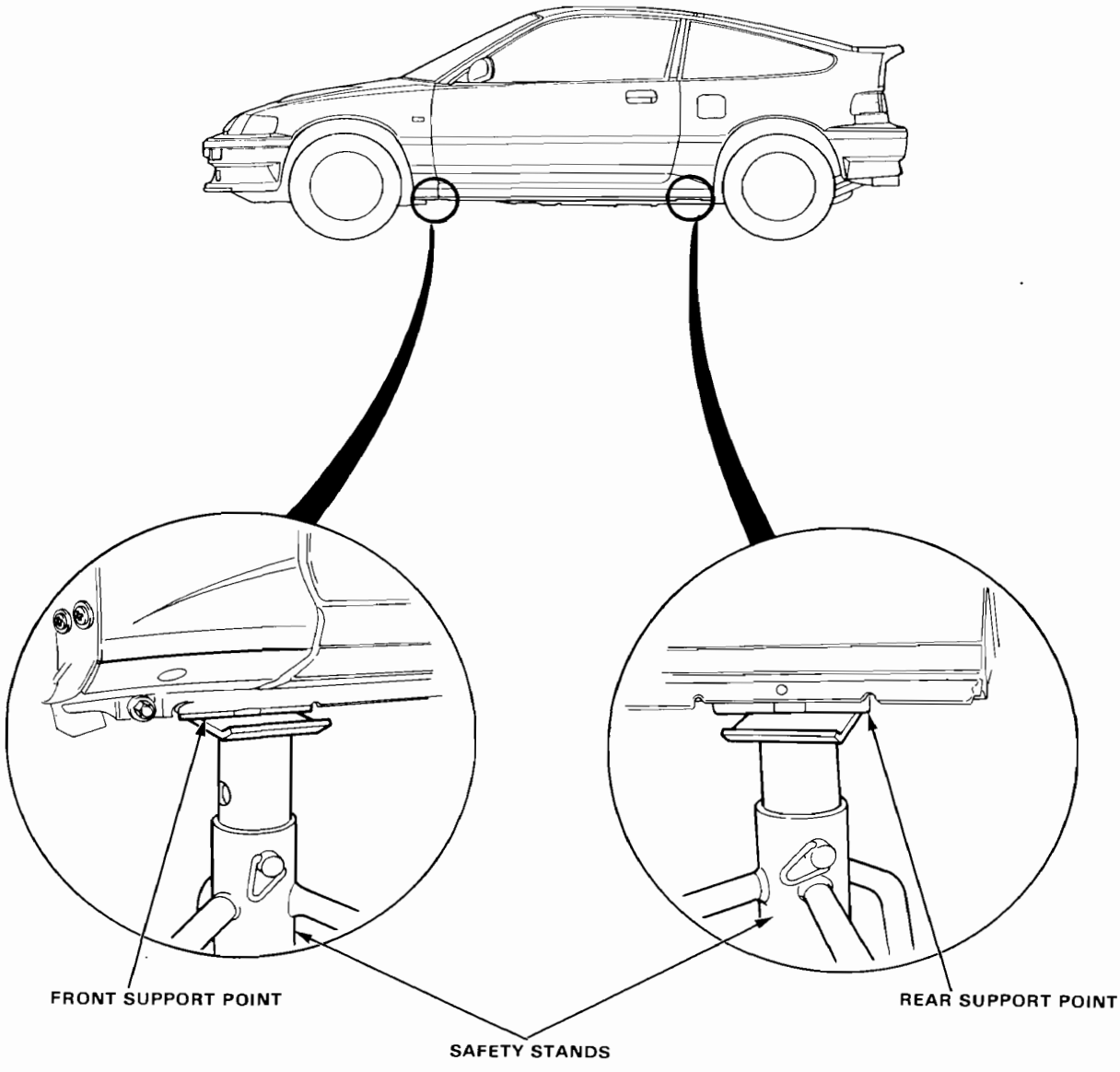
Front



Rear



Safety Stands

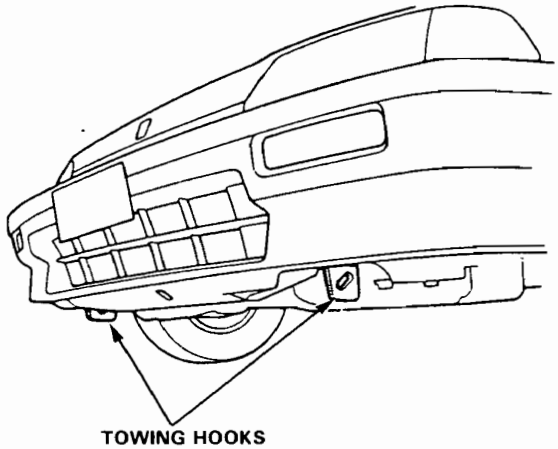


Towing

If towing is necessary, we recommended the following:
Flat Bed Equipment: Entire car is winched on a flat bed vehicle. This is the best way of towing the car.

Wheel Lift Type: Front or rear of the car is lifted at the wheels and is suitable for the car.

CAUTION: If a sling type tow is used, the tow truck driver should position wood spacer blocks between the car's frame and the chains and lift straps to avoid damaging the bumper and the body. Do not use the bumpers to lift the car or to support the car's weight while towing. Check local regulations for towing.



TOWING HOOKS

Emergency towing with all four wheels on the ground: Under certain emergency conditions, the car may need to be towed with all four wheels on the ground. If the car is towed with all four wheels on the ground, check local regulations and observe the following precautions:

- Shift the transmission to neutral.
- Release the parking brake.
- Turn the ignition to the "I" position to unlock the steering.
- Do not exceed 55 kph (35 mph) or tow for distances of more than 80 km (50 miles).

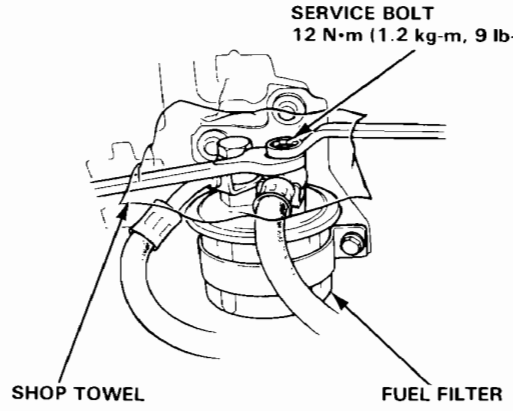
If a frame mount tow bar is used with a four wheel tow:

- Do not attach it to the bumper.
- Follow the tow bar manufacturer's instructions.

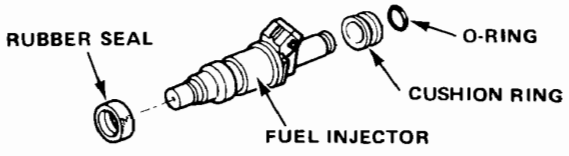
WARNING Never use tow chains or rope to tow a car; your ability to safely control the car may be adversely affected.

Special Caution Items For This Car

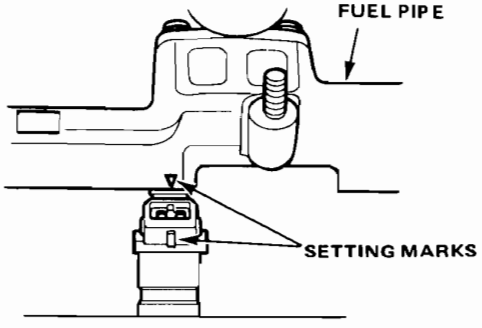
1. Fuel Line Servicing
   - Relieve fuel pressure by loosening the service bolt provided on the top of the fuel filter before disconnecting a fuel hose or a fuel pipe.



   - 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.



2. 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.

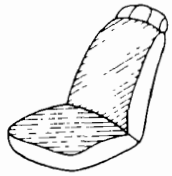
3. Installation of an amateur radio.
   Care has been taken for the PGM-FI ECU (control unit) and its wiring to prevent erroneous operation from external interference, but erroneous operation of the control unit may be caused by extremely strong radio waves. Attention must be paid to the following items to prevent errouеous operation of the control unit.
   - The antenna and the body of the radio must be at least 200 mm (7.9 in.) away from the computer.

   The control unit location:
   - PGM-FI ECU: Passenger's side front lower panel
   - Do not lead the antenna feeder and the coaxial cable over a long distance parallel to the car's wiring. When crossing with the wiring is required, execute crossing at a right angle.
   - Do not install a radio with a large output (max. 10 W).

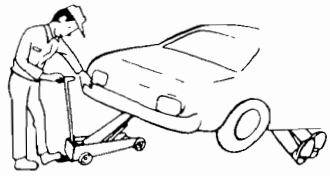
4. Apply liquid gasket to the transmission, oil pump cover, right side cover and water outlet. Use Honda genuine liquid gasket, PART NO. 0Y740—99986.
   - Check that the mating surfaces are clean and dry before applying liquid gasket. Degrease the mating surfaces if necessary.
   - Apply liquid gasket 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 of more have passed after applying liquid gasket. In that case, reapply liquid gasked after removing old one.
   - After assembly, wait at least 30 minutes before filling the appropriate liquid (engine oil, coolant and other similar fluid).

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.

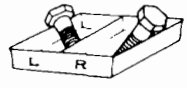


2. Work safely and give your work your undivided attention. When either the front or rear wheels are to be raised, block the remaining wheels securely. Communicate as frequently as possible when work involves two or more warkers. Do not run the engine unless the shop or working area is well ventilated.

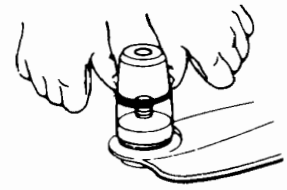


3. Prior to removing or disassembling parts, they must be inspected carefully to isolate the cause for which service is necessary. Observe all safety notes and precautions and follow the proper procedures as described in this manual.

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

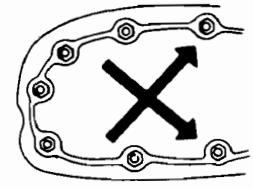


5. Use the special tools when use of such is specified.

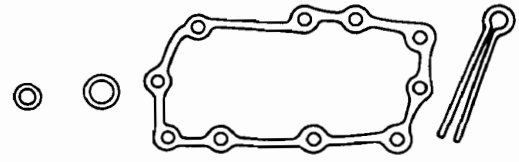


6. Parts must be assembled with the proper torque according to the maintenance standards established.

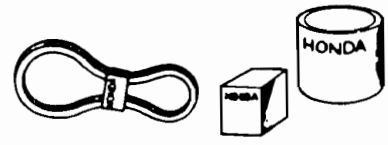
7. When tightening a series bolts or nuts, begin with the center or large diameter bolts and tighten them in crisscross pattern in two or more steps.



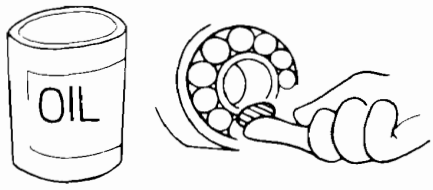
8. Use new packings, gaskets, O-rings and cotter pins whenever reassembling.



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.



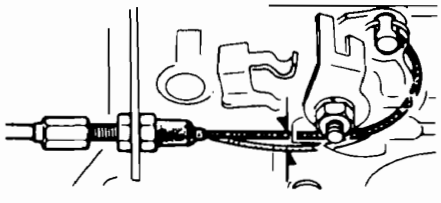
10. Coat or fill parts with specified grease as specified (Page 4-2). Clean all removed parts with solvent upon disassembly.



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.
    - Brake fluid can cause damage to painted surfaces. Wipe up spilled fluid at once.
    - 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.

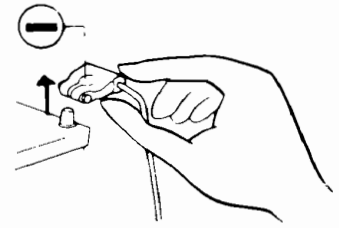
    - Keep disassembled parts from air-borne dust and abrasives.
    - Check that parts are clean before assembly.

12. Avoid oil or grease getting on rubber parts and tubes, unless specified.
13. Upon assembling, check every part for proper installation and operation.

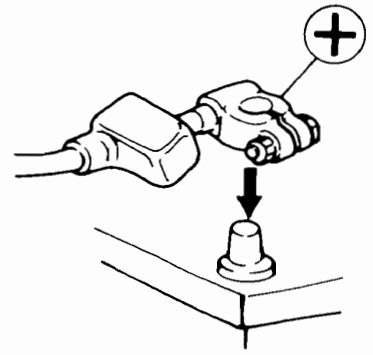


Electrical

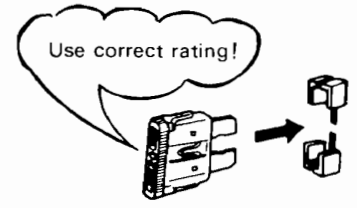
- Before making any repairs on electric wires or parts, disconnect the battery cables from the battery starting with the negative (−) terminal.



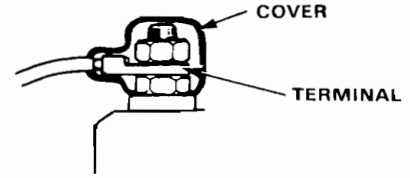
- After making repairs, check each wire or part for proper routing and installation. Also check to see that they are connected properly.
- Always connect the battery positive (+) cable first, then connect the negative (−) cable.



- 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.

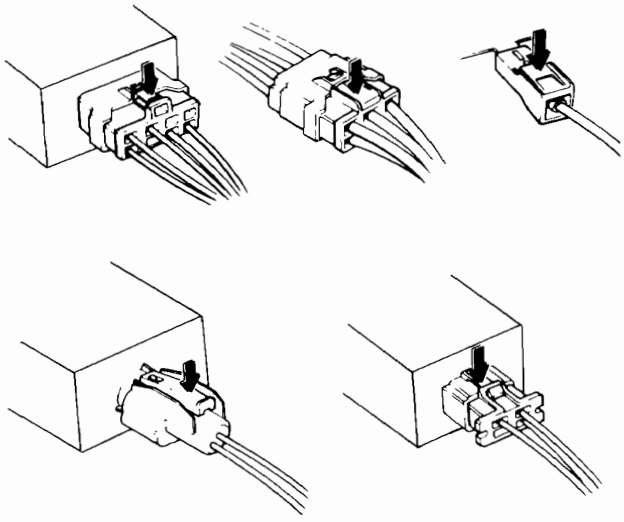


(cont'd)

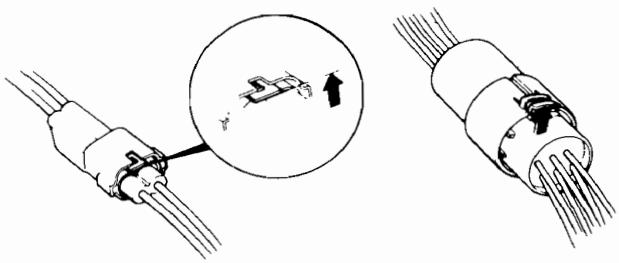
Electrical (cont'd)

- When removing locking couplers, be sure to disengage the lock before disconnecting.
- Couplers 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 couplers.

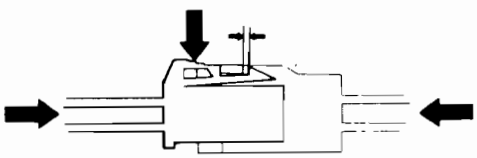
Press to disengage:



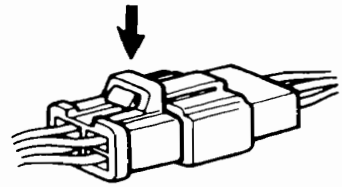
Pull up to disengage:



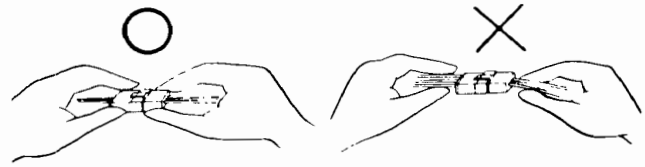
- When disconnecting locks, first press in the coupler tightly (to provide clearance to the locking device), then operate the tab fully and remove the coupler in the designated manner.



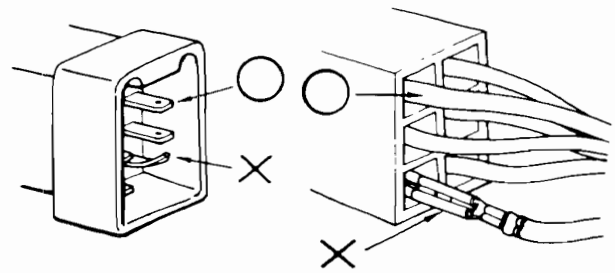
- All plastic plugs have locking tabs that must be released before disconnecting, and must be aligned when reconnecting.



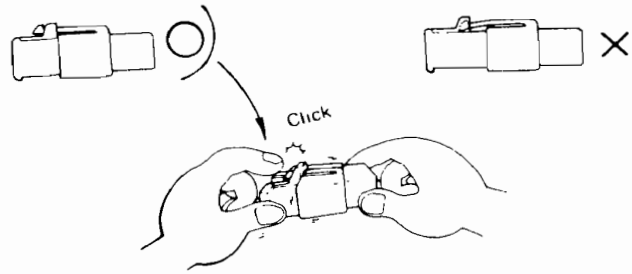
- When disconnecting a coupler, pull it off from the mating coupler by holding on both couplers.
- Never try to disconnect couplers by pulling on their wires.



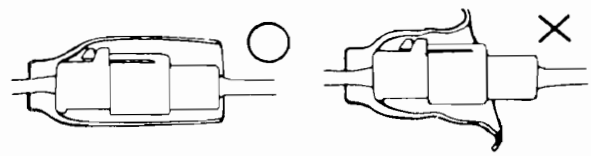
- Before connecting couplers, check to see that the terminals are in place and are not bent or distorted.



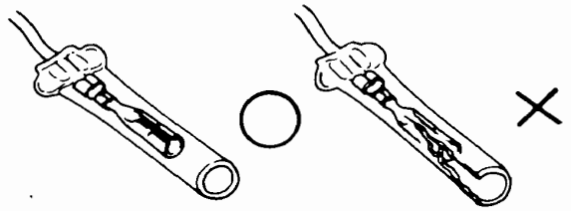
- Insert couplers fully until they will no longer go.
- Some couplers have locking tabs that must be aligned and engaged securely.
- Don't use wire harnesses with a loose wire or coupler.



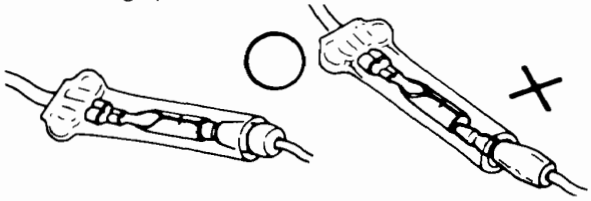
- Place the plastic cover over the mating coupler after reconnecting. Also check that the cover is not distorted.



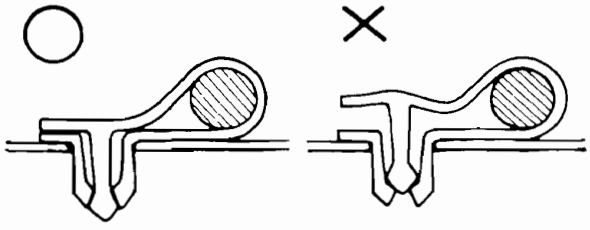
- Before clamping, check each connector cover for damage. Also make sure that the female connector is tight and not loosened from the previous use.



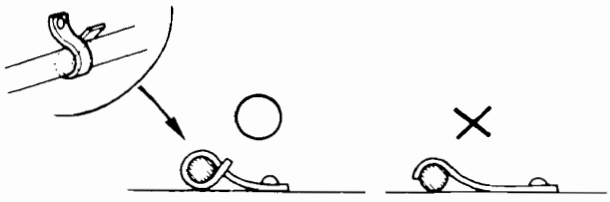
- Insert male connectors into the female connectors fully until they will no longer go.
- Be sure that plastic cover is placed over the connection.
- Position the wires so that the open end of the cover is not facing upward.



- 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.

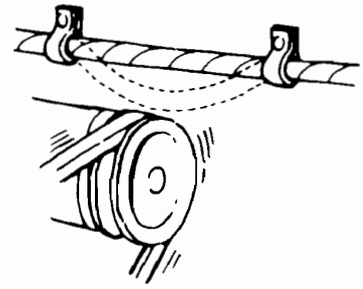


- A loose wire harness or cable can be a hazard to safety. After clamping, check each wire for security in its clamp.

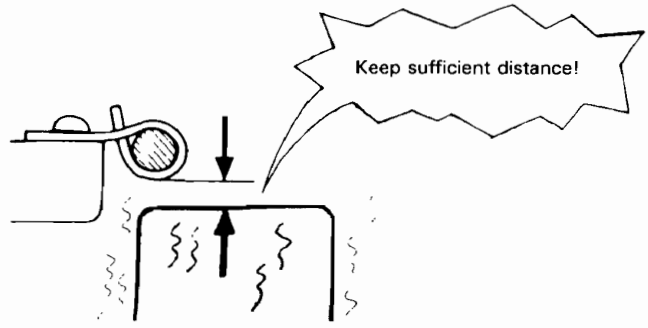


- Do not squeeze wires against the weld when a weld-on clamp is used.

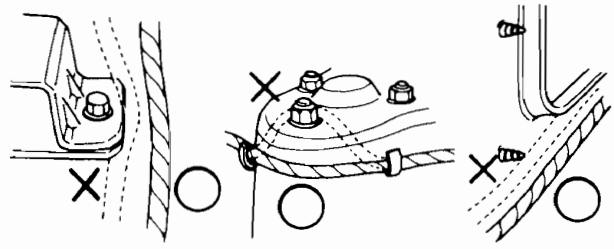
- After clamping, check each harness to be certain that it is not interferring with any moving or sliding parts of the vehicle.
- Keep wire harnesses away from the exhaust pipes and other hot parts.



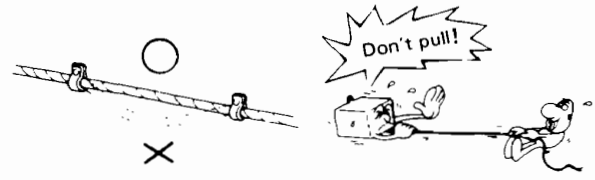
- Always keep a safe distance between wire harnesses and any heated parts.



- 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.



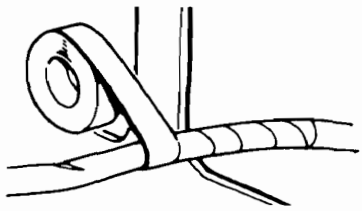
- Route harnesses so they are not pulled taut or slackened excessively.



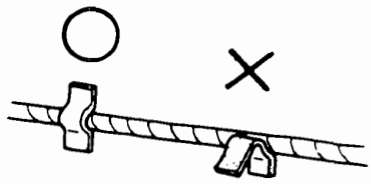
(cont'd)

Electrical (cont'd)

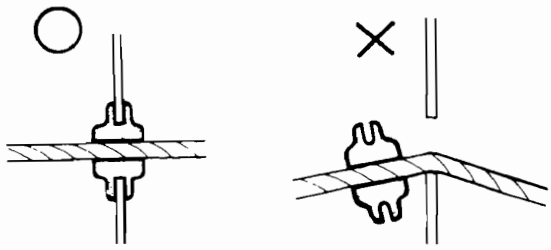
- Protect wires and harnesses with tape or a tube if they are in contact with a sharp edge or corner.



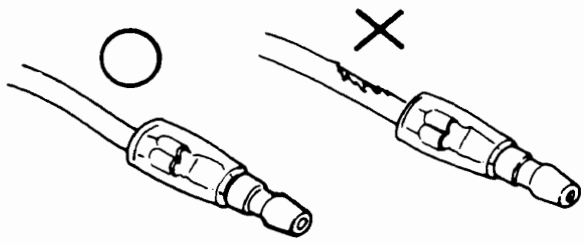
- Clean the attaching surface thoroughly if an adhesive is used. First, wipe with solvent or alcohol if necessary.



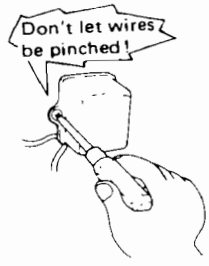
- Seat grommets in their grooves properly.



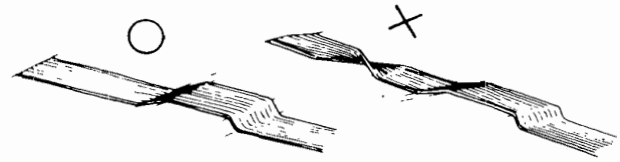
- Do not damage the insulation when connecting a wire.
- Do not use wires or harnesses with a broken insulation. Repair by wrapping with protective tape or replace with new ones if necessary.



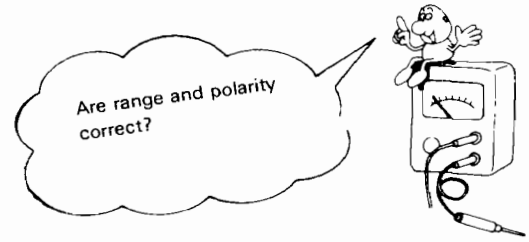
- After installing parts, make sure that wire harnesses are not pinched.



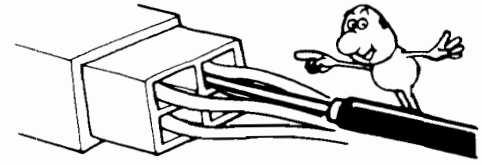
- After routing, check that the wire harnesses are not twisted or kinked.



- 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.



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



- Do not drop parts.

- Rust is the enemy of all finished surfaces. Before connecting connectors and couplers, check the terminals and remove, if any, rust using a fine sand paper or emery cloth.

Symbol Marks

The following symbols stand for:

:Apply engine oil.

:Apply brake fluid.

:Apply grease.

: Apply Power Steering Fluid.


:Apply or check vacuum.

①, ②, ③, ·····
❶, ❷, ❸, ····· : Sequence for removal or installation

Abbreviation

A/C	Air Conditioner
Assy	Assembly
ATT	Attachment
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

Special Tools

5. Engine

Number	Tool Number	Description	Q'ty	Remarks
①	07GAD-PH70100	Valve Guide Seal Installer	1	For DOHC engine
②	07HAD-PJ70100	Driver	1	For crankshaft seal (Pulley side)
③	07HAD-PJ70200	Valve Guide Seal Installer	1	For SOHC engine
④	07HAH-PJ70100	Valve Guide Reamer, 5.5 mm	1	For SOHC engine
⑤	07JAB-0010000	Crank Pulley Holder Set	1	
⑤-1	07JAA-0010100	Socket Wrench 17 mm	(1)	┐
⑤-2	07JAB-0010100	Pulley Holder Attachment	(1)	├ Component tools
⑤-3	07JAB-0010200	Handle	(1)	┘
⑥	07JAZ-SH20100	R.P.M. Connecting Gauge	1	
⑦	07KAK-SJ40100	Engine Tilt Hanger Set	1	
⑧	07406-0030000	Oil Pressure Gauge Adaptor	1	For pressure measurement
⑨	07742-0010100	Valve Guide Driver, 5.5 mm	1	For SOHC engine
⑩	07742-0010200	Valve Guide Driver, 6.6 mm	1	For DOHC engine
⑪	07743-0020000	Adjustable Valve Guide Driver	1	
⑫	07749-0010000	Driver	1	
⑬	07757-0010001	Valve Spring Compressor	1	07957-3290001 may also be used.
⑭	07912-6110001	Oil Filter Socket Wrench	1	Used for Japan-made oil filter
⑮	———	Oil Filter Wrench (Apply from LABINAL S.A.)	1	Used for France-made oil filter
⑯	07924-PD20003	Ring Gear Holder	1	07924-PD20002 may also be used.
⑰	07944-6110100	Pin Driver, 5 mm	2	Used to set the camshafts at TDC (DOHC engine).
⑱	07944-6110200	Pin Driver 8 mm	1	
⑲	07947-SB00100	Oil Seal Driver	1	For camshaft seal
⑳	07948-SB00800	Driver Seal Attachment	1	For crankshaft seal (Clutch side)
㉑	07973-PE00200	Pilot Collar	1	┐
㉒	07973-PE00302	Adjustable Piston Pin Driver	1	㉑, ㉒, ㉓, ㉔, are used with
㉓	07973-PE00400	Piston Pin Base Insert	1	├ 07973-6570002.
㉔	07973-SB00100	Piston Base Head	1	┘
㉕	07973-6570002	Piston Pin Dis/Assembly Tool Set	1	
㉕-1	07973-6570500	Piston Base	(1)	┐
㉕-2	07973-6570600	Piston Spring	(1)	├ Component tools
㉖	07984-6570101	Valve Guide Remover, 6.6 mm	1	For DOHC engine

6. Fuel and Emissions

Number	Tool Number	Description	Q'ty	Remarks
①	07GMJ-ML80100	Test Harness	1	
②	07JAZ-SH20100	R.P.M. Connecting Adaptor	1	
③	07406-0040001	Fuel Pressure Gauge	1	
③-1	07406-0040100	Pressure Gauge	(1)	┐
③-2	07406-0040201	Hose Assy	(1)	├ Component tools
④	07411-0020000	Digital Circuit Tester	1	
⑤	07999-PD6000A	PGM-FI Test Harness	1	

7. Clutch

Number	Tool Number	Description	Q'ty	Remarks
①	07JAF-PM70100	Clutch Disc Alignment Tool	1	
②	07746-0010100	Attachment, 32 x 35 mm	1	
③	07749-0010000	Driver	1	
④	07924-PD20003	Ring Gear Holder	1	07924-PD20002 may also be used.

8. Manual Transmission

Number	Tool Number	Description	Q'ty	Remarks
①	07GAJ-PG20101	Mainshaft Clearance Inspection Tool	1	
②	07744-0010400	Pin Driver, 5 mm	1	07944-6110100 may also be used.
③	07746-0010300	Attachment, 42 x 47 mm	1	07944-6110100 may also be used.
④	07746-0010401	Attachment, 52 x 55 mm	1	07947-6340200 may also be used.
⑤	07746-0030100	Driver	1	
⑥	07746-0030400	Driver, 35 mm	1	
⑦	07749-0010000	Driver	1	07949-6110000 may also be used.
⑧	07936-6340000	Bearing Remover Set	1	
⑨	07944-SA00000	Pin Driver, 4 mm	1	
⑩	07947-6110500	Oil Seal Driver	1	
⑪	07947-6340500	Oil Seal Driver Attachment E	1	
⑫	07948-SC20200	Oil Seal Driver	1	
⑬	07979-PJ40000	Magnet Stand Base	1	

10. Driveshafts

Number	Tool Number	Description	Q'ty	Remarks
①	07JAD-SH30100	Oil Seal Driver Attachment	1	
②	07JAF-SH20400	Support Base Attachment	1	
③	07746-0010300	Attachment, 42 x 47 mm	1	
④	07746-0010400	Driver, 52 x 55 mm	1	
⑤	07746-0010500	Driver, 62 x 68 mm	1	
⑥	07746-0030100	Inner Handle C	1	
⑦	07746-0040800	35 mm Pilot	1	
⑧	07746-0040900	40 mm Pilot	1	
⑨	07749-0010000	Driver	1	
⑩	07947-SD90100	Oil Seal Driver Attachment	1	
⑪	07947-6340201	Driver Attachment B	1	
⑫	07965-SD90100	Support Base	1	
⑬	07965-SD90200	Support Collar	1	

(cont'd)

Special Tools

11. Manual Steering

Number	Tool Number	Description	Q'ty	Remarks
①	07916-SA50001	Steering Gearbox Lock Nut Wrench	1	07916-6920100 may also be used.
②	07941-6920003	Ball Joint Remover	1	
③	07974-SA50800	Ball Joint Boot Clip Guide B	1	

11. Power Steering

Number	Tool Number	Description	Q'ty	Remarks
①	07GAG-SD40000	P/S Tool Kit	1	
①-1	07GAG-SD40100	Piston Seal Ring Guide	(1)	┐
①-2	07GAG-SD40200	Piston Seal Ring Sizing Tool	(1)	│
①-3	07GAG-SD40300	Cylinder End Seal Slider	(1)	├Component tools
①-4	07GAG-SD40400	Cylinder End Seal Guide	(1)	│
①-5	07GAG-SD40600	Tool Box	(1)	┘
②	07GAK-SE00100	P/S Pressure Gauge Adaptor Set	1	
②-1	07GAK-SE00110	P/S Joint Adaptor (Pump)	(1)	07406-0011100 may also be used.
②-2	07GAK-SE00120	P/S Joint Adaptor (Hose)	(1)	07406-0011200 may also be used.
③	07406-0010101	Bypass Tube Joint	1	
④	07406-0010200	P/S Pressure Gauge Set	1	
④-1	07406-0010300	Pressure Control Valve	(1)	┐
④-2	07406-0010400	Pressure Gauge	(1)	├Component tools
⑤	07725-0030000	Universal Holder	1	07725-0010101 may also be used.
⑥	07746-0010300	Attachment, 42 x 47 mm	1	
⑦	07749-0010000	Driver	1	07949-6110000 may also be used.
⑧	07916-SA50001	Steering Gearbox Lock Nut Wrench	1	
⑨	07941-6920003	Ball Joint Remover	1	
⑩	07947-6340300	Driver Attachment	1	
⑪	07974-SA50600	Pinion Seal Guide	1	

②-1 and ②-2: Component tools

12. Suspension

Number	Tool Number	Description	Q'ty	Remarks
①	07GAE-SE00100	Spring Compressor	1	
②	07GAF-SE00200	Hub Assembly Guide Attachment	1	
③	07GAF-SE00401	Hub Dis/Assembly Base	1	
④	07HGK-0010100	Wheel Alignment Gauge Attachment	1	
⑤	07JAF-SH20110	Hub Dis/Assembly Pilot, 38 mm	1	
⑥	07JAF-SH20120	Hub Dis/Assembly Shaft, 22.4 x 25.4 mm	1	
⑦	07JAF-SH20200	Ball Joint Remover Base	1	
⑧	07746-0010400	Attachment, 52 x 55 mm	1	
⑨	07746-0010600	Attachment, 72 x 75 mm	1	
⑩	07749-0010000	Driver	1	
⑪	07941-6920003	Ball Joint Remover	1	
⑫	07965-SB00100	Ball Joint Remover/Installer	1	
⑬	07965-SB00200	Ball Joint Installer Base	1	
⑭	07965-6340301	Hub Dis/Assembly Base	1	
⑮	07965-6920201	Hub Dis/Assembly Base	1	
⑯	07974-SA50700	Ball Joint Boot Clip Guide A	1	
⑰	07974-SA50800	Ball Joint Boot Clip Guide B	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	07404-5790300	Vacuum Gauge	1	
④	07406-5790200	Oil Pressure Gauge	2	
⑤	07410-5790100	Pressure Gauge Attachment C	2	
⑥	07410-5790500	Tube Joint Adaptor	1	
⑦	07510-6340101	Pressure Gauge Joint Pipe	2	
⑧	07510-6340300	Vacuum Joint Tube A	1	
⑨	07749-0010000	Driver	1	
⑩	07914-SA50001	Snap Ring Pliers	1	07949-6110000 may also be used.
⑪	07921-0010001	Flare Nut Wrench	1	
⑫	07947-6890300	Driver Attachment C	1	

15. Heater and Air Conditioner

Number	Tool Number	Description	Q'ty	Remarks
①	07HAF-SF10300	Seal Seat Remover	1	Cover plate removal
②	07HAF-SF10400	Seal Remover/Installer	1	Shaft seal removal/installation
③	07746-0030100	Driver C	1	Pulley installation

16. Electrical

Number	Tool Number	Description	Q'ty	Remarks
①	07920-SB20000	Fuel Sender Wrench	1	

Standards and Service Limits

5. Engine/Cylinder Head, Valve Train (SOHC Engine)

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Compression	250 min^{-1} (rpm) and wide-open throttle		Normal Minimum Maximum variation	1,275 kPa (13.0 kg/cm², 185 psi) 932 kPa (9.5 kg/cm², 135 psi) 196 kPa (2 kg/cm², 28 psi)
Cylinder head	Warpage Height		— 94.95—95.05	0.05 (0.002) —
Camshaft	End play Oil clearance Runout Cam lobe height	 IN EX	0.05—0.15 (0.002—0.006) 0.050—0.089 (0.002—0.004) 0—0.03 (0—0.001) max. 36.957 (1.4515) 36.996 (1.4565)	0.5 (0.02) 0.15 (0.006) 0.06 (0.002) — —
Valve	Valve clearance Valve stem O.D. Stem-to-guide clearance Stem installed height	IN EX IN EX IN EX IN EX	0.17—0.22 (0.007—0.009) 0.22—0.27 (0.009—0.011) 5.48—5.49 (0.2157—0.2161) 5.45—5.46 (0.2147—0.2150) 0.02—0.05 (0.001—0.002) 0.05—0.08 (0.002—0.003) 46.985—47.455 (1.8498—1.8683) 48.965—49.435 (1.9278—1.9263)	— — 5.45 (0.2147) 5.42 (0.2134) 0.08 (0.003) 0.11 (0.004) 47.705 (1.8781) 49.685 (1.9561)
Valve seat	Width	IN EX	0.85—1.15 (0.033—0.045) 1.25—1.55 (0.049—0.061)	1.6 (0.06) 2.0 (0.08)
Valve spring	Free length Squareness	IN EX. IN/EX	48.58 (1.9126) 49.19 (1.9366) —	47.64 (1.8756) 48.32 (1.9024) 1.70/1.72 (0.0669/0.0677)
Valve guide	I.D.	IN and EX	5.51—5.53 (0.2169—0.2177)	5.55 (0.2185)
Rocker arm	Arm-to-shaft clearance	IN EX	0.017—0.050 (0.0007—0.0020) 0.018—0.054 (0.0007—0.0021)	0.08 (0.003) 0.08 (0.003)

5. Engine/Cylinder Head, Valve Train (DOHC Engine)

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Compression	250 min^{-1} (rpm) and wide-open throttle		Nominal Minimum Maximum variation	1,324 kPa (13.5 kg/cm², 192 psi) 932 kPa (9.5 kg/cm², 135 psi) 196 kPa (2 kg/cm², 28 psi)
Cylinder head	Warpage Height		— 131.95—132.05	0.05 (0.002) —
Camshaft	End play Oil clearance Runout Cam lobe height	 IN EX	0.05—0.15 (0.002—0.006) 0.050—0.089 (0.002—0.004) 0—0.03 (0—0.001) max. 33.021 (1.3000) 32.382 (1.2749)	0.5 (0.02) 0.15 (0.006) 0.06 (0.002) — —
Valve	Valve clearance Valve stem O.D. Stem-to-guide clearance Stem installed height	IN EX IN EX IN EX IN EX	0.12—0.17 (0.005—0.007) 0.14—0.19 (0.006—0.008) 6.58—6.59 (0.2591—0.2595) 6.55—6.56 (0.2579—0.2583) 0.02—0.05 (0.001—0.002) 0.05—0.08 (0.002—0.003) 45.545—46.015 (1.7931—1.8116) 44.735—45.205 (1.7612—1.7797)	— — 6.55 (0.2579) 6.52 (0.2567) 0.08 (0.003) 0.11 (0.004) 46.265 (1.8215) 45.455 (1.7896)
Valve seat	Width	IN and EX	1.25—1.55 (0.049—0.061)	2.0 (0.08)
Valve spring	Free length Squareness	IN EX IN/EX	47.49 (1.8697) 46.89 (1.8461) —	46.46 (1.8291) 45.93 (1.8083) 1.66/1.64 (0.065/0.065)
Valve guide	I.D.	IN and EX	6.61—6.63 (0.2602—0.2610)	6.55 (0.2579)

Unit: mm (in.)

5. Engine/Engine Block

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Warpage of deck surface		0.07 (0.0028) max.	0.10 (0.004)
	Bore diameter		75.00—75.02 (2.9526—2.9535)	75.07 (2.9555)
	Bore taper		—	0.05 (0.002)
	Reboring limit		—	0.5 (0.02)
Piston	Skirt O.D. At 16 mm (0.63 in) from bottom of skirt		74.98—74.99 (2.9520—2.9524)	74.97 (2.9517)
	Clearance in cylinder		0.01—0.04 (0.0004—0.0016)	0.05 (0.002)
	Piston-to-ring clearance	Top	0.03—0.06 (0.0012—0.0024)	0.13 (0.005)
		2nd	0.030—0.055 (0.0012—0.0022)	0.13 (0.005)
Piston ring	Ring end gap	Top	0.15—0.30 (0.006—0.012)	0.6 (0.02)
		2nd	0.30—0.45 (0.012—0.018)	0.6 (0.02)
		Oil	0.20—0.80 (0.008—0.031)	0.9 (0.04)
Connecting rod	Pin-to-rod interference		0.014—0.040 (0.0006—0.0016)	—
	Large end bore diameter		Nominal 48.0 (1.89)	—
	End play installed on crankshaft		0.15—0.30 (0.006—0.012)	0.40 (0.016)
Crankshaft	Main journal diameter		54.976—55.000 (2.1644—2.1654)	—
	Taper/out-of-round, main journal		0.0025 (0.0001) max.	0.010 (0.004)
	Rod journal diameter		44.976—45.000 (1.7707—1.7765)	—
	Taper/out-of-round, rod journal		0.0025 (0.0001) max.	0.010 (0.004)
	End play		0.10—0.35 (0.004—0.014)	0.45 (0.018)
	Runout		0.015 (0.0006) max.	0.03 (0.002)
Bearings	Main bearing-to-journal oil clearance			
	No.1 and 5 journals		0.018—0.036 (0.0007—0.0014)	
	No. 2 and 4 jornals		0.024—0.042 (0.0010—0.0017)	0.05 (0.002)
	No.3 journal		0.030—0.048 (0.0012—0.0019)	0.05 (0.002)
	Rod bearing-to-journal oil clearance		0.020—0.038 (0.0008—0.0015)	0.05 (0.002)

5. Engine/Engine Lubrication

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Engine oil	Capacity ℓ (U.S.qt., Imp. qt)	SOHC	4.0 (4.2, 3.5) After engine disassembly 3.5 (3.7, 3.1) After oil change, including oil filter	
		DOHC	4.3 (4.5, 3.8) After engine disassembly 3.8 (4.0, 3.3) After oil change, including oil filter	
Oil pump	Displacement	SOHC	44 ℓ (11.6 U.S. gal., 9.7 Imp. gal.) 6,250 min^{-1} (rpm)	
		DOHC	62 ℓ (16.4 U.S. gal., 13.7 Imp. gal.) 6,750 min^{-1} (rpm)	
	Inner-to-outer rotor radial clearance		0.14 (0.006)	0.2 (0.008)
	Pump body-to-rotor radial clearance		0.10—0.175 (0.004—0.007)	0.2 (0.008)
	Pump body-to rotor side clearance		0.03—0.08 (0.001—0.003)	0.15 (0.006)
Relief valve	Pressure setting 80°C (176°F)	Idle	157 kPa (1.6 kg/cm^2, 23 psi) min.	
		3,000 min^{-1} (rpm)	510 kPa (5.2 kg/cm^2, 74 psi) min.	

5. Engine/Cooling

	MEASUREMENT	STANDARD (NEW)
Radiator	Capacity (Includes heater) ℓ (U.S.qt.,Imp.qt.) (Includes reservoir tank 0.4 (0.42, 0.35))	DOHC 5.5 (5.8, 4.8) SOHC 5.4 (5.7, 4.8)
Radiator cap	Pressure cap opening pressure	74—103 kPa (0.75—1.05 kg/cm^2,11—15 psi)
Thermostat	Starts to open Full open Valve lift at full open	76°C—80°C (169—176°F) 90°C (194°F) 8 (0.31) min.
Water pump	Pulley ratio (crankshaft) Capacity: ℓ per min/at min^{-1} (rpm)	1 : 1 SOHC 85 (22.4 U.S. gal., 18.7 Imp. gal.)/4,000 min^{-1} (rpm) DOHC 76 (20.0 U.S. gal., 16.7 Imp. gal.)/4,000 min^{-1} (rpm)
Cooling fan	Fan-to-core clearance Thermoswitch "ON" temperature Thermoswitch "OFF" temperature	28.0 (1.10) 88.5—91.5°C (191—197°F) Subtract 5±1.5°C (9±2.7°F) from actual "ON" temperature.

(cont'd)

Standards and Service Limits (cont'd)

6. Fuel and Emission

	MEASUREMENT	STANDARD (NEW)
Fuel pump	Delivery pressure Displacement Relief valve opening pressure	250 kPa (2.55 kg/cm², 36psi) 230 cm³ (7.8 oz) in 10 seconds at 12V. 441—588 kPa (4.5—6.0 kg/cm², 64—85 psi)
Pressure regulator	Pressure	245—255 kPa (2.5—2.6 kg/cm², 36—37 psi)
Fuel tank	Capacity	45 ℓ (11.9 U.S. gal., 9.9 Imp. gal.)
Fast idle		1,000—2,000 min⁻¹ (rpm)
Idle speed	with headlights and cooling fan off SOHC KY DOHC KQ except KQ	780 ± 50 min⁻¹ (rpm) 750 ± 50 min⁻¹ (rpm) 800 ± 50 min⁻¹ (rpm)
Idle CO	With Catalytic Converter Without Catalytic Converter	0.1% max. 1.0 ±1.0%

7. Clutch

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Clutch pedal	Pedal height LHD RHD Stroke LHD RHD Pedal free play Disengagement height LHD RHD	213 (8.39) to floor 208 (8.19) to floor 140—150 (5.5—5.9) 135—145 (5.31—5.71) 15—20 (0.59—0.79) 70 (2.76) min.to floor 65 (2.56) min. to floor	— — — — — — —
Clutch release arm	Free play at arm	3.0—4.0 (0.12—0.16)	
Flywheel	Clutch surface runout	0.05 (0.002) max.	0.15 (0.006)
Clutch disc	Rivet head depth Surface runout Radial play in spline at circumference (200ϕ) Thickness	1.3 (0.05) min. 0.8 (0.03) max. 0.1—0.5 (0.004—0.020) 8.1—8.8 (0.32—0.35)	0.2 (0.008) 1.0 (0.04) 3.4 (0.134) 5.7 (0.224)
Clutch release bearing holder	I.D. Holder-to-guide sleeve clearance	31.00—31.15 (1.220—1.226) 0.050—0.239 (0.002—0.009)	31.2 (1.228) 0.28 (0.011)
Clutch cover	Uneveness of diaphragm spring	0.8 (0.03) max.	1.0 (0.04)

8. Manual Transmission

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (US.qt.,Imp.qt.)	1.8 (1.9, 1.6) at oil change 1.9 (2.0, 1.7) at assembly	
Mainshaft	End play Diameter of ball bearing contact area Diameter of third gear contact area Diameter of 4th, 5th gear contact area Diameter of ball bearing contact area Runout	0.11—0.18 (0.004—0.007) 25.977—25.990 (1.0227—1.0232) 33.984—34.000 (1.3380—1.2713) 26.980—26.993 (1.0622—1.0627) 21.987—22.000 (0.8656—0.8661) 0.02 (0.0008) max.	Adjust with a shim 25.92 (1.020) 33.93 (1.336) 26.93 (1.060) 21.93 (0.863) 0.05 (0.002)
Mainshaft third and fourth gears	I.D. End play 3rd 4th Thickness 3rd 4th	39.009—39.025 (1.5358—1.5364) 0.06—0.21 (0.0024—0.008) 0.06—0.19 (0.0024—0.0075) 30.22—30.27 (1.1898—1.1917) 30.12—30.17 (1.1858—1.1878)	39.07 (1.538) 0.33 (0.013) 0.31 (0.012) 30.15 (1.187) 30.05 (1.183)
Mainshaft fifth gears	I.D. End play Thickness	37.009—37.025 (1.4570—1.4577) 0.06—0.19 (0.0024—0.0075) 28.42—28.47 (1.1189—1.1209)	37.07 (1.459) 0.31 (0.012) 28.35 (1.116)
Countershaft	End play Diameter of needle bearing contact area Diameter of ball bearing contact area Diameter of low gear contact area Runout	0.17—0.38 (0.0067—0.0150) 30.000—30.015 (1.1811—1.817) 24.980—24.993 (0.9835—0.9840) 35.984—36.000 (1.4167—1.4173) 0.02 (0.0008) max.	0.53 (0.021) 29.95 (1.179) 24.93 (0.981) 35.93 (1.415) 0.05 (0.002)
Countershaft low gear	I.D. End play (when torqued properly) Thickness	41.009—41.025 (1.6145—1.6152) 0.03—0.10 (0.0012—0.0039) 29.41—29.44 (1.1579—1.1591)	41.07 (1.617) 0.22 (0.009) 29.36 (1.156)
Countershaft Second gear	I.D. End play (when torqued properly) Thickness	44.009—44.025 (1.7326—1.7333) 0.03—0.11 (0.0012—0.0043) 29.92—29.97, (1.1780—1.1799)	44.07 (1.735) 0.23 (0.009) 29.85 (1.175)

Unit: mm (in.)

8. Manual Transmission

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Spacer collar (Countershaft second gear)	I.D. O.D. Length	32.975—32.985 (1.2982—1.2986) 38.989—39.000 (1.5350—1.5354) 30.03—30.06 (1.1823—1.1835)	33.03 (1.300) 38.93 (1.533) 30.01 (1.181)
Spacer collar (Mainshaft fourth and fifth gears)	I.D. O.D. 4th 5th Length 4th 5th	27.002—27.012 (1.0631—1.0635) 33.989—34.000 (1.3381—1.3386) 31.989—32.000 (1.2594—1.2598) 27.43—27.46 (1.0799—1.0811) 23.53—23.56 (0.9264—0.9276)	27.06 (1.065) 33.93 (1.336) 31.93 (1.257) 27.41 (1.079) 23.51 (0.926)
Reverse Idler gear	I.D. Gear-to-reverse gear shaft clearance	15.016—15.043 (0.5911—0.5922) 0.032—0.077 (0.0013—0.0030)	15.08 (0.594) 0.14 (0.006)
Synchro ring	Ring-to-gear clearance (ring pushed against gear)	0.73—1.18 (0.029—0.046)	0.4 (0.016)
Shift fork	Shift fork finger thickness Fork-to-synchro sleeve clearance	6.4—6.5 (0.252—0.255) 0.25—0.45 (0.0098—0.0177)	— 0.8 (0.03)
Reverse shift fork	Shift fork paul groove width Fork-to-reverse idler gear clearance Groove width Fork-to-fifth/reverse shift piece pin clearance	12.7—13.0 (0.500—0.512) 0.5—1.1 (0.020—0.043) 7.05—7.25 (0.278—0.285) 0.05—0.35 (0.002—0.014)	— 1.8 (0.071) — 0.5 (0.02)
Shift arm A	Diameter of shift rod contact area Shift arm A-to-shift rod clearance	13.005—13.130 (0.5120—0.5169) 0.005—0.230 (0.0002—0.0091)	— 0.35 (0.0138)
Shift arm B	Diameter of shift arm shaft contact area Shift arm B-to-shift arm shaft clearance Shift arm B-to-shift piece clearance Shift piece diameter of shift fork shaft contact area	13.973—14.000 (0.5501—0.5512) 0.013—0.070 (0.0005—0.0028) 0.2—0.5 (0.0079—0.0197) 12.9—13.0 (0.5079—0.5118)	— 0.16 (0.0063) 0.62 (0.0244) 12.78 (0.5031)
Ring gear	Backlash	0.072—0.130 (0.0028—0.0051)	0.18 (0.007)
Differential carrier	Pinion shaft bore diamater Carrier-to-pinion shaft clearance Driveshaft bore diameter Carrier-to-driveshaft clearance Carrier-to-intermediate shaft clearance Side clearance	18.000—18.018 (0.7087—0.7094) 0.017—0.047 (0.0007—0.0019) 26.025—26.045 (1.0246—1.0254) 0.045—0.086 (0.0017—0.0034) 0.075—0.111 (0.0030—0.0044) 0.15 max.	— 0.095 (0.004) — 0.14 (0.006) 0.16 (0.006)
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)	Adjust with a washer. — 0.15 (0.006)

10. Driveshaft

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Driveshaft	Right boot as installed with intermediate shaft without intermediate shaft Left boot as installed with intermediate shaft without intermediate shaft	 485—490 (19.01—19.29) 481.5—486.5 (18.96—19.15) 485—490 (19.09—19.29) 774.5—779.5 (30.49—30.69)	 — — — —

11. Steering

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Steering wheel	Play	10 (0.39) max.	—
Gear box	Pinion starting torque N·m (kg-m, lb-ft) with P/S Angle of rack-guide-screw loosened from locked position with P/S	0.39—1.37 (0.04—0.14, 0.29—1.01) 0.98 (0.1, 0.72) max. 10° — 15° 20°—25°	
Pump	Pump pressure with valve closed (Oil temp./speed: 40°C (104°F) min/idle. Do not run for more than 5 seconds) kPa (kg/cm², psi)	7,845—8,826 (80—90, 1,138—1,280)	
Power steering fluid	Fluid capacity Reservoir At change	0.4 ℓ (0.42 U.S.qt., 0.35 Imp. qt.) approx 1.2 ℓ (1.3 U.S. qt., 1.1 Imp.qt.)	
Power steering belt	Deflection midway between pulleys/load	9—12 (0.35—0.47)/98N (10 kg, 22 lb) for used belt 7—10 (0.28—0.39)/98N (10 kg, 22 lb) after replacement of belt	
Rack end	Pivoting resistance N·m (kg-m, lb-ft)	0.49—1.96 (0.05—0.20, 0.36—1.45)	

(cont'd)

Standard and Service Limits (cont'd)

12. Suspension

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Wheel alignment	Toe-in		Front: 0 ±2 (0±0.08) / Rear: 2 $^{+3}_{-1}$ (0.08 $^{+0.08}_{-0.04}$)	
	Camber		0°00′ ± 1°	−0°30′ ±1°
	Caster		3°00′ ± 1°	
	Side slip		0 ±3 (0 ± 0.12)	
	Turning angle (MAX.)	Inward wheel	41°30′ ± 2°	
		Outward wheel	33°30′ ± 2°	
Wheel	Rim runout	Steel	0—1.0 (0—0.039)	2.0 (0.08)
		Aluminum	0—0.7 (0—0.028)	1.5 (0.06)
Wheel bearing	End play	Front	0	0.05
		Rear	0	0.05

13. Brake

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Parking brake lever	Play in stroke 200N (20 kg, 44 lbs)		To be locked when pulled 6—10 notches	
Foot brake pedal	Pedal height	RHD	161 (6.3) from floor	—
		LHD	153 (6.0) from floor	—
	Free play		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	19.0 (0.75)	17.0 (0.67)
		Rear	10.0 (0.39)	8.0 (0.32)
	Disc runout	Front	—	0.1 (0.004)
		Rear	—	0.15 (0.006)
	Disc parallelism		—	0.015 (0.0006)
	Pad thickness	Front	9.0 (0.35)	3.0 (0.12)
		Rear	8.0 (0.32)	1.6 (0.06)

Brake booster	Characteristics	Vacuum (mm Hg)	Pedal Pressure kg (lbs)	Line Pressure kPa (kg/cm², psi)
		0	20 (44)	1.362 (13.9, 198)
		300	20 (44)	4.508 (46.0, 654)
		500	20 (44)	6.605 (67.4, 960)

Unit: mm (in.)

16. Electrical

	MEASUREMENT	STANDARD (NEW)			
Ignition coil	Rated voltage	12 Volts			
	Primary winding resistance	0.3—0.5 ohms			
	Secondary winding resistance	9,440—14,160 ohms			
Ignition wire	Resistance	25,000 ohms max.			
Spark plug	Type		Makes	Standard	Option
		With Catalytic converter	NGK	BCPR6E-11	BCPR7E-11
			ND	Q20PR-UL11	Q20PR-U11 Q22PR-U11 Q22PR-UL11
		Without catalytic converter * : DOHC only	NGK	BCPR6E-11	BCPR7E-11* BCPR6EY-N11* BCPR7EY-N11*
			ND	Q20PR-U11	Q22PR-U11
	Gap	1.0—1.1 (0.039—0.043)			
Ignition timing	At idling SOHC DOHC	18° ± 2° (Red) BTDC 16° ± 2° (Red) BTDC			
Battery	Lighting capacity (20-hour ratio) Starting capacity (5-second ratio)	40, 45, 47 Ampere Hours 8.6 V min. at 300 Ampere draw			
Alternator	Output	13.5V / 60A			
	MEASUREMENT	STANDARD (NEW)		SERVICE LIMIT	
	Coil resistance (rotor)	2.8—3.0 ohm		±0.1 ohm	
	Slip ring O.D.	32.5 (1.28)		32.1 (1.26)	
	Brush length	13.5 (0.53)		4.5 (0.18)	
	Brush Spring tension	300—500g (10.6—17.6 oz)		—	

Starting motor		ND 1.0 kW, 1.2 kW		MITSUBA 1.0 kW, 1.4 kW	
	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT	STANDARD (NEW)	SERVICE LIMIT
	Mica depth	0.5—0.8 (0.020—0.031)	0.2 (0.008)	0.4—0.5 (0.016—0.020)	0.15 (0.006)
	Commutator	0—0.02 (0.0008)	0.05 (0.002)	0—0.02 (0.0008)	0.05 (0.002)
	Commutator O.D.	29.9—30.0 (1.18)	29.0 (1.14)	28.0—28.1 (1.10—1.11)	27.5 (1.08)
	Brush length	12.5—13.5 (0.49—0.53)	8.5 (0.33)	14.3—14.7 (0.56—0.58)	9.3 (0.37)
	Spring Pressure (new)	18.1—23.5 N (1.85—2.4 kg, 4.1—5.3 lb)	—	20.1—26.5 N (2.05—2.7 kg, 4.5—6.0 lb)	—

Design Specifications

	ITEMS	METRIC	ENGLISH	NOTES
DIMENSIONS	Overall Length	3,755 mm	147.8 in.	
	With bumper guard	3,795 mm	149.4 in.	
	Overall Width	1,675 mm	65.9 in.	KQ, KY
		1,670 mm	65.7 in.	except KQ, KY
	Overall Height	1,270 mm	50.0 in.	
		1,280 mm	50.4 in.	KY
	Wheel Base	2,300 mm	90.6 in.	
	Track, Front/Rear	1,450/1,455 mm	57.1/57.3 in.	except KQ, KY
		1,445/1,455 mm	56.9/57.3 in.	KY
		1,450/1,455 mm	57.1/57.3 in.	KQ
	Ground Clearance	160 mm	6.3 in.	Without Catalytic Converter
		150 mm	5.9 in.	With Catalytic Converter
	Overhang, Front/Rear	765/695 mm	30.1/27.2 in.	} Including bumper
	With bumper guard	805/690 mm	31.7/27.2 in.	} Including bumper SF
WEIGHTS	Engine Weight (Wet)			
	SOHC	107 kg	236 lb.	
	DOHC	113 kg	249 lb.	
	Curb Weight DOHC without CATA	925 kg	2,040 lb.	KX
		910 kg	2,062 lb.	KY
		905 kg	2,007 lb.	KB
		900 kg	1,985 lb.	KW (E, DK)
	DOHC with CATA	925 kg	2,039 lb.	KG, KX
		920 kg	2,028 lb.	KS
		915 kg	2,017 lb.	KW (A)
		909 kg	2,004 lb.	KQ
	SOHC	935 kg	2,062 lb.	KY
	Weight Distribution (Front/Rear)			
	DOHC without CATA	570/355 kg	1,257/783 lb.	KX
		560/350 kg	1,235/772 lb.	KB
		560/355 kg	1,235/782 lb.	KF, KE
		560/340 kg	1,235/750 lb.	KW (E, DK)
	DOHC with CATA	570/355 kg	1,257/783 lb.	KG, KX
		565/355 kg	1,246/783 lb.	KS
		560/355 kg	1,235/783 lb.	KW (A)
		556/353 kg	1,226/778 lb.	KQ
	SOHC	570/365 kg	1,257/805 lb.	KY
	Max. Permissible Weight (EC)	1,290 kg	2,844 lb.	except KS
		1,140 kg	2,513 lb.	KS
	Max. Loaded Vehicle Weight	1,190 kg	2,623 lb.	KY
ENGINE	Type	Water cooled 4-cycle S.O.H.C. Water cooled 4-cycle D.O.H.C.		
	Cylinder arrangement	4-cylinder in-line, transverse		
	Bore and Stroke	75×90 mm	2.95×3.54 in.	
	Displacement	1,590 cm³ (cc)	97 cu. in.	
	Compression Ratio			
	Without Catalytic Converter	9.1		
	With catalytic Converter	9.5		
	Valve Train	4 valves per cylinder, single or double overhead camshafts		
	Lubrication System	Pressure feed		
	Fuel Required			
	DOHC with Catalytic Converter	Unleaded gasoline with 95 research octane number or higher		
	SOHC with Catalytic Converter	Unleaded gasoline with 91 research octane number or higher		
	Without Catalytic Converter	Leaded gasoline with 97 research octane number or higher		

	ITEMS	METRIC	ENGLISH	NOTES
STARTER	Type	Gear reduction		
	Normal Output	1.2 kW, 1.4 kW		
	Normal Voltage	12V		
	Hour Rating	30 seconds		
	Direction of Rotation	Clockwise as viewed from gear end		
	Weight			
	1.2 kW ND	3.85 kg	8.5 lb.	
	1.4 kW MITSUBA	3.7 kg	8.2 lb.	
TRANSMISSION	Clutch	Single plate dry, diaphragm spring		
	Transmission Type	5 speed forward, synchromesh, 1 speed reverse, constant mesh		
	Primary Reduction	1.000		
	Gear Ratio	SOHC	DOHC	
	1st	3.250	3.250	
	2nd	1.894	1.944	
	3rd	1.259	1.346	
	4th	0.937	1.033	
	5th	0.771	0.878	
	Reverse	3.153	3.153	
	Final Reduction SOHC	Single helical gear, 4.250		
	Final Reduction DOHC	Single helical gear, 3.888		
	Clutch Facing Area	160 cm^2	24.8 sq. in.	
AIR CONDITIONER	Cooling Capacity	3,850 Kcal/h		
	Conditions:			
	Compressor Revolution Speed	1,800 min^{-1} (rpm)		
	Outside Air Temperature	27.0°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^3/h	15,118 cu. ft/h	
	Compressor (MATSUSHITA) Type	Vane rotary type		
	Compressor (MATSUSHITA) Number of Vane	3		
	Compressor (MATSUSHITA) Displacement	130cc/rev.	7.93 cu. in. /rev	
	Compressor (MATSUSHITA) Max. speed	7,500 min^{-1} (rpm)		
	Compressor (MATSUSHITA) Lubricant Capacity	130 cc	7.93 cu. in.	
	Receiver Dryer With Desiccant	Includes fusible safety plug.		
	Condenser	Corrugated fin type		
	Evaporator	Corrugated fin type		
	Blower Type	Sirocco fan		
	Blower Motor Input	170 W (12 V)		
	Blower Speed Control	4 speed		
	Blower Max. Capacity	390 m^3/h	13,773 cu. ft/h	
	Temp. Control	Air-mix type		

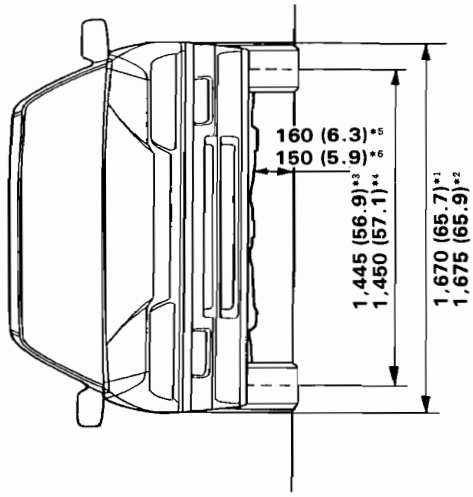
(cont'd)

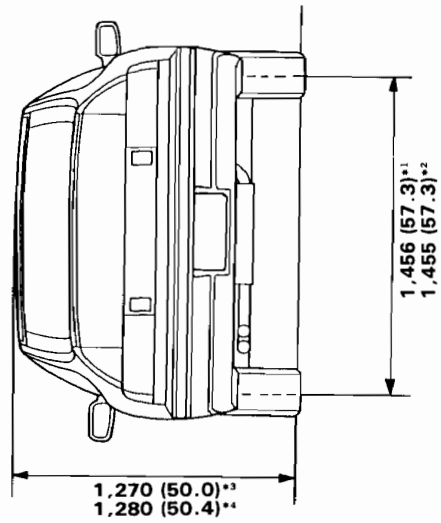
Design Specifications

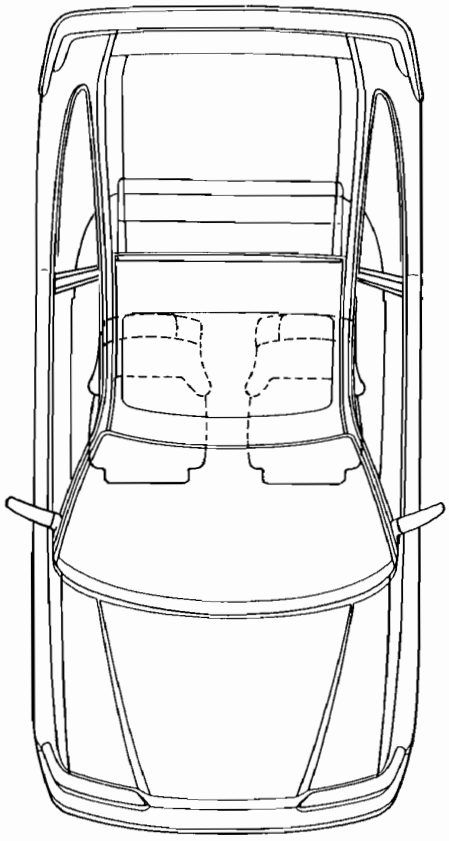
	ITEMS		METRIC	ENGLISH	NOTES
AIR CONDITIONER (cont'd)	Comp. Clutch	Type	Dry, single plate, V-belt		
		Power Consumption	32 W max. 12 V		
	Refrigerant	Type	R-12		
		Quantity	0.9±0.05 kg	1.98±0.11 lb	
STEERING SYSTEM	Type		Rack and pinion		
	Overall Ratio	Manual	19.8 (18—20.4): 1		
		Power	17.7: 1		
	Turns, Lock-to-lock	Manual	4.1		
		Power	3.65		
	Steering Wheel Diameter		370 mm	14.6 in.	
SUSPENSION SYSTEM	Type	Front/Rear	Independent by double wishbones, coil springs		
	Shock Absorber	Front	Telescopic, nitrogen gas-filled		
		Rear	Telescopic, nitrogen gas-filled		
WHEEL ALIGNMENT	Wheel Alignment				
	Camber	Front	0°00′±1°		
		Rear	−0°30′±1°		
	Caster	Front	3°00′±1°		
	Toe-in	Front	0±2 mm	0±0.08 in.	
		Rear	2^{+1}_{-3} mm	$0.08^{+0.08}_{-0.04}$ in.	
BRAKE SYSTEM	Type	Front	Power assisted self-adjusting disc		
		Rear	Power assisted self-adjusting disc		
	Lining Surface Area	Front	44.1 mm²	6.84 sq. in.	
		Rear	21.0 mm²	3.25 sq. in.	
	Effective Disc Diameter	Front	194 mm	7.64 in.	
		Rear	208 mm	8.19 in.	
	Parking Brake Kind and Type		Mechanically actuating, rear two wheel brakes		
TIRES	Front/Rear	SOHC (KY)	185/60 R14 82H		
		DOHC	185/60 VR14		
	Spare (EC)		T105/80D 13		
ELECTRICAL	Battery		12V-47AH		
			12V-45AH		KE, KF
	Starter		12V-1.2 kW, 1.4 kW		
	Alternator		12V-60 amps		
	Fuses	In the dash fuse box	10A, 15A, 20A*, 30A		20A*: Finland, Norway only
		In the main fuse box	10A, 15A, 20A, 50A, 60A		
	Headlights High/Low		12V-60/55W		
	Front Turn Signal Lights		12V-21W		
	Rear Turn Signal Lights		12V-21W		
	Side Turn Signal Lights		12V-5W		
	Stop/Taillights		12V-21/5W		
	Back-up Lights		12V-21W		
	License Plate Lights		12V-5W		
	Gauge Lights		12V-3.4W, 3.0W, 1.4W		
	Indicator Lights		12V-1.4W		
	Warning Lights		12V-5W		
	Dome Light		12V-5W		
	Trunk Light		12V-3.4W		
	Illumination and Pilot Lights		12V-1.4W		
			0.91W, 0.84W, LED		
	Heater Illumination Lights		12V-1.4W		

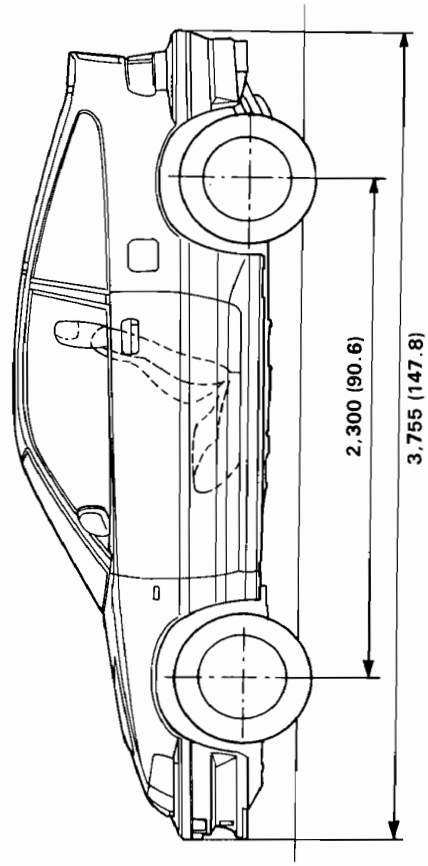
Body Specifications

Unit: mm (in.)



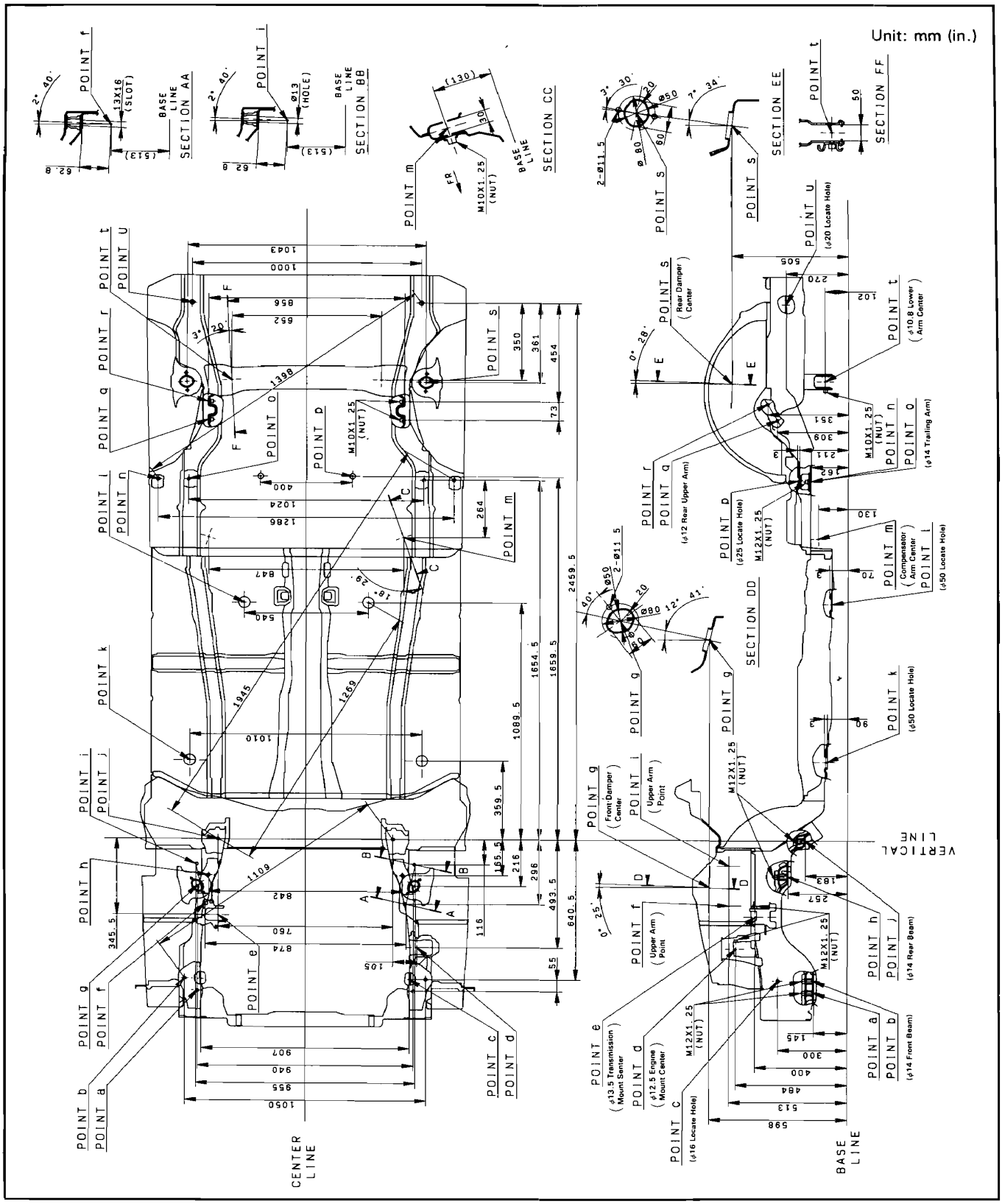






*1: except KQ, KY *2: KQ, KY *3: except KY *4: KY *5: without CATA *6: with CATA

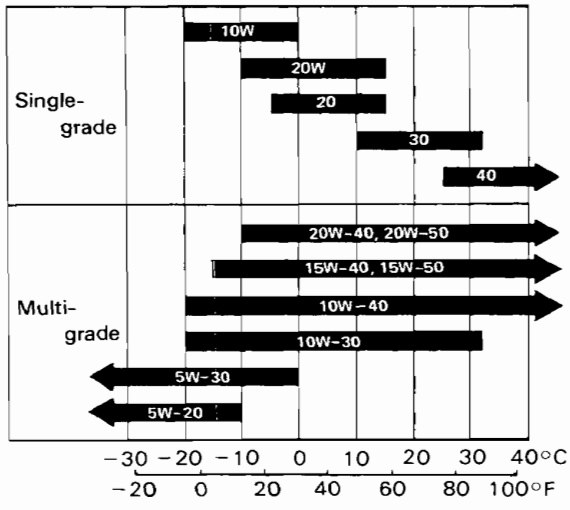
Frame Repair Chart



Lubrication Points

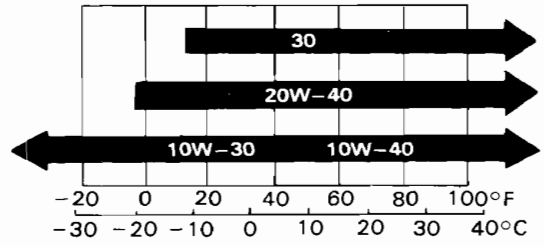
No.	LUBRICATION POINTS		LUBRICANT
1	Engine		API Service Grade: SE or SF SAE Viscosity: See chart below
2	Transmission	Manual	API Service Grade: SE or SF SAE Viscosity: See chart below
3	Brake reservoir		Brake fluid DOT 3
4	Power steering reservoir		Honda power steering fluid P/N 08208—99961
5	Steering gearbox (Power steering)		Honda steering grease P/N 08733—B070E
6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	Steering gearbox(Manual steering) Tilt steering Steering ball joints Suspension ball joints Steering boots Shift lever pivot Steering column bushings Pedal linkage Brake master cylinder push rod Tailgate hinges Door hinges upper and lower Door opening detents Fuel filler lid Engine hood hinges Engine hood latch		Multi-purpose Grease
21	Caliper	Piston seal Dust seal Caliper pin Piston	Silicone Grease

Recommended Engine Oil
(SE or SF Grade oil)



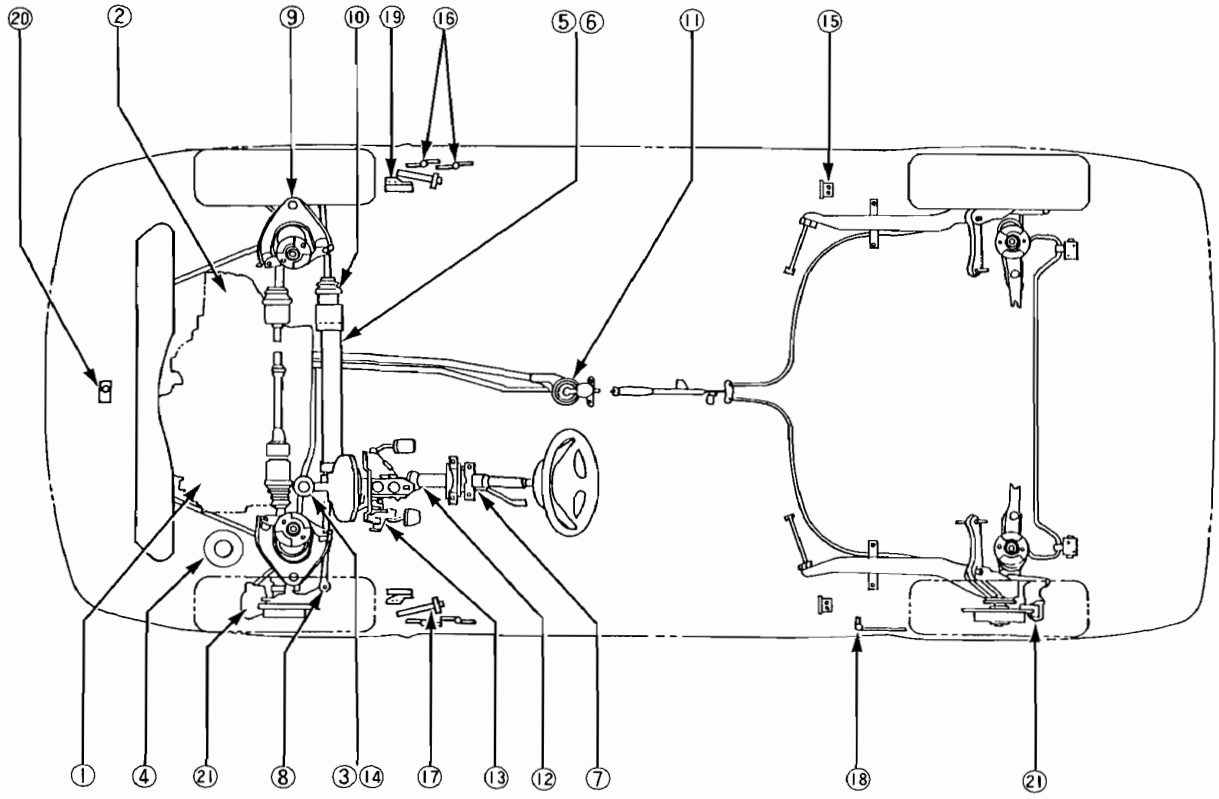
Engine oil viscosity for
ambient temperature ranges

Recommended Manual Transmission Oil



Transmission oil viscosity for
ambient temperature ranges

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.


⑳
②
⑨
⑩
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⑤⑥
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⑮
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③⑭
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Maintenance Schedule

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.					
ITEM	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	
■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	
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			R		R	
Tank, fuel line and connections			I		I	
Evaporative emission control system (For cars using unleaded gasoline and KY model)						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

■REMARK: 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

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.					
ITEM	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		I	I	I	I	I
Brake fluid			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			I		I	
Parking brake		I	I		I	
Clutch release arm travel		I	I	I	I	I
Exhaust pipe and muffler		I	I	I	I	I
Suspension mounting bolts		I	I	I	I	I
Front wheel alignment		I	I	I	I	I
Steering operation, tie rod ends, steering gear box and boots		I	I		I	
Power steering system (Standard for some types)		I	I	I	I	I
Power steering pump belt (Standard for some types)			I		I	
Catalytic converter heat shield (Standard for some sypes)					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:

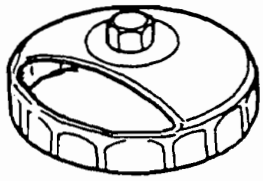
A : Repeated short distance driving
B : Driving in dusty conditions
C : Driving in severe, cold weather
D : Driving in areas using road salt or other corrosive materials
E : Driving on rough and/or muddy roads
F : Towing a trailer
R—Replace.
I— Inspect. After inspection, clean, adjust, repair or replace 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 brakes discs, calipers and pads	I	Every 20,000 km (12,000 miles) or 12 months
A B C • E F	Clutch release arm travel	I	Every 10,000 km (6,000 miles) or 6 months
• B C • E •	Power steering system	I	Every 10,000 km (6,000 miles) or 6 months

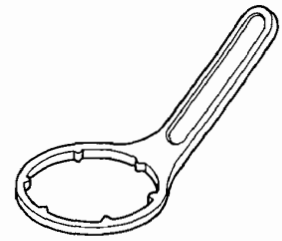
CAUTION: Used engine oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

Special Tools

No.	Tool Number	Description	Q'ty	Remarks
①	07912—6110001	Oil Filter Socket	1	Used for JAPAN-MADE oil filter
②		Oil Filter Wrench (Apply from LABINAL S.A.)	1	Used for FRANCE-MADE oil filter



①



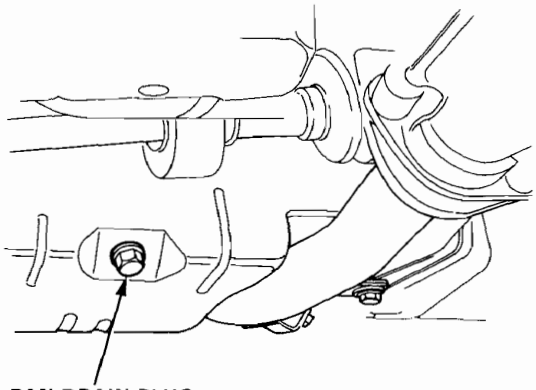
②

Engine Oil Replacement

1. Warm up the engine.
2. Drain the engine 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.

NOTE: Remove the filler cap to speed draining.

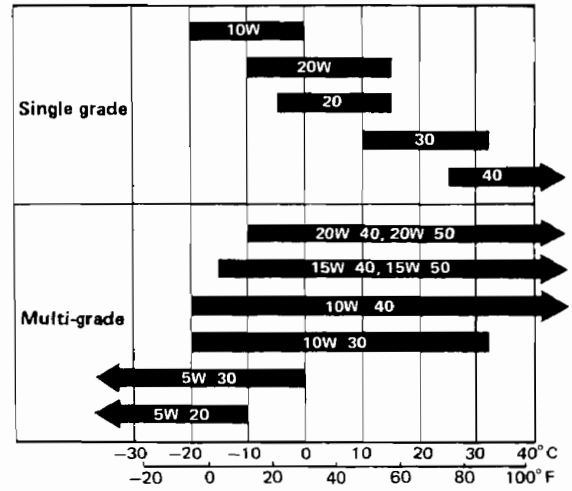


OIL PAN DRAIN PLUG
45 N·m (4.5 kg-m, 33 lb-ft)

3. Reinstall the drain plug with a new washer, and refill with the recommended oil.

Capacity	SOHC: 3.0 lit (3.2 US qt, 2.7 Imp. qt) DOHC 3.3 lit (3.5 US qt, 2.9 Imp. qt) excluding oil filter SOHC: 3.5 lit (3.7 US qt, 3.1 Imp. qt) DOHC 3.8 lit (4.0 US qt, 3.4 Imp. qt) at change, including filter SOHC: 4.0 lit (4.2 US qt, 3.5 Imp. qt) DOHC 4.3 lit (4.6 US qt, 3.8 Imp. qt)
Change	Every 10,000 km (6,000 miles) or 6 months

Recommended Engine Oil (SE or SF Grade only)



Expected Ambient Temperature before next oil change

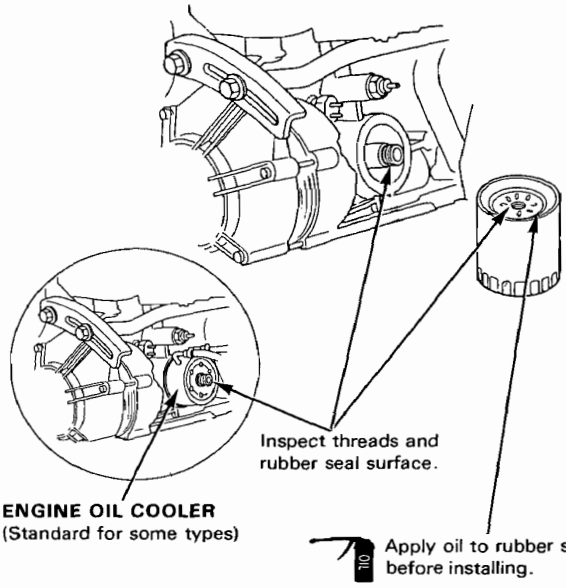
NOTE: Oil filter should be replaced at each oil change.

Oil Filter Replacement

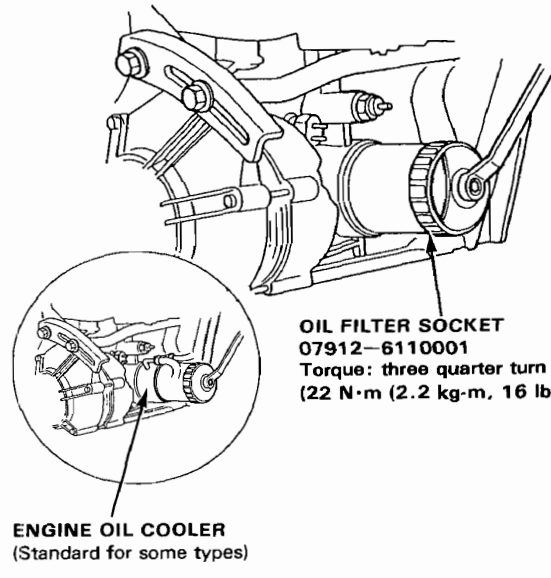
WARNING :**After the engine has been run, the exhaust pipes will be hot, be careful when working around the exhaust manifold.**

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.

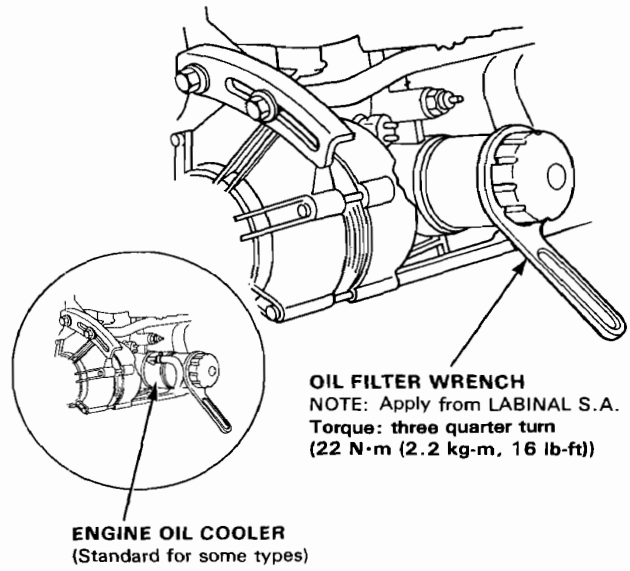
1. Remove the oil filter with the special oil filter socket or wrench.
2. Inspect the threads and rubber seal on the new filter. Wipe off seat on engine block, then apply a light coat of oil to the rubber seal, and install filter.
3. After the rubber seal is seated, tighten the filter by turning approximately three quarter turn.



JAPAN-MADE TYPE (filter size 80.0 mm)



FRANCE-MADE TYPE (filter size 76.2 mm)

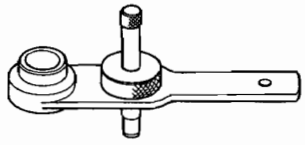


4. Start the engine and check the filter for oil leakage.

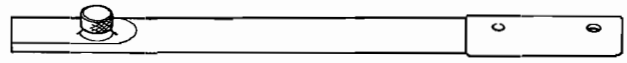
Special Tools

No.	Tool Number	Description	Q'ty	Remarks
①	07JAB—0010000	Crank Pulley Holder Set	1	for crankshaft pulley bolt
①-1	07JAA—0010100	Socket Wrench, 17 mm	(1)	┐
①-2	07JAB—0010100	Pulley Holder Attachment	(1)	├ Component tools
①-3	07JAB—0010200	Handle	(1)	┘

①-1



①-2

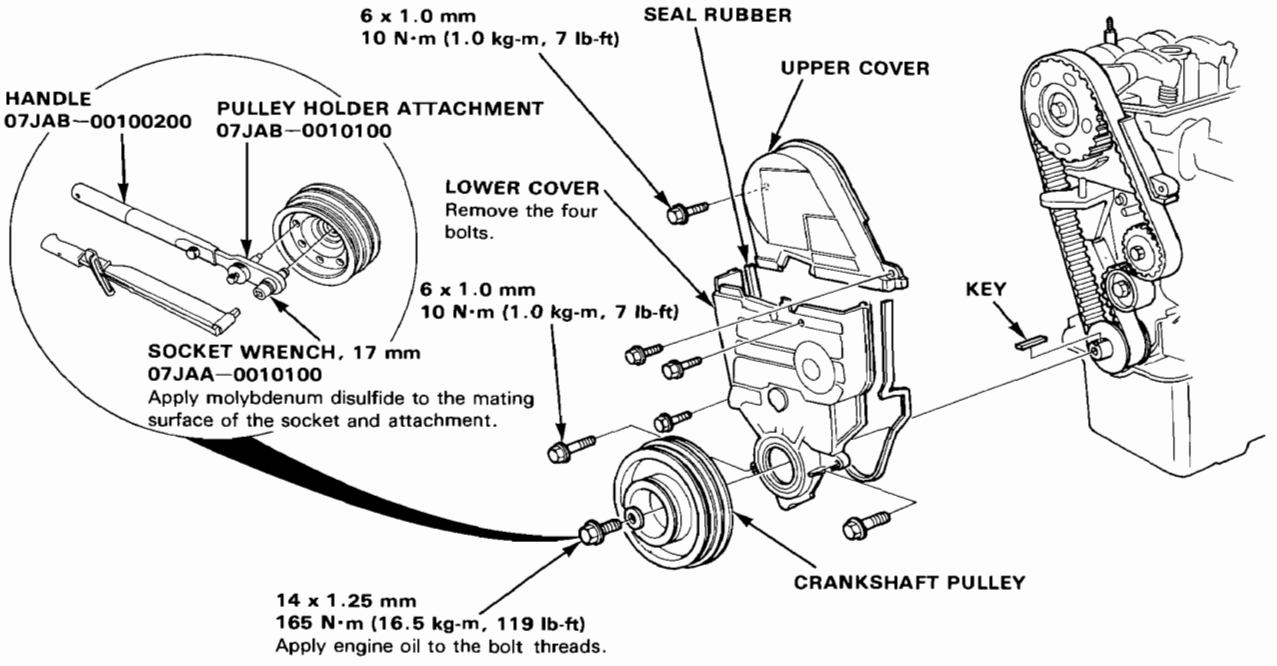


①-3

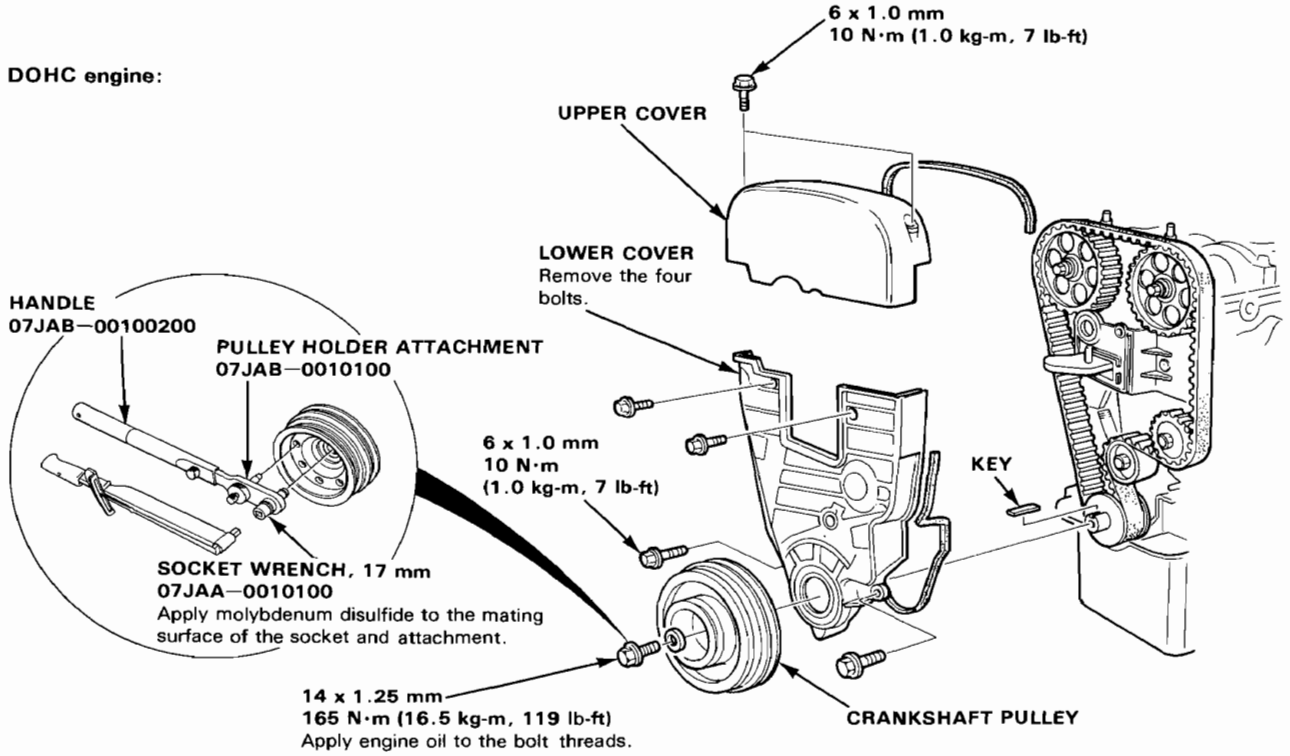
Crankshaft Pulley Bolt

Replacement

SOHC engine:

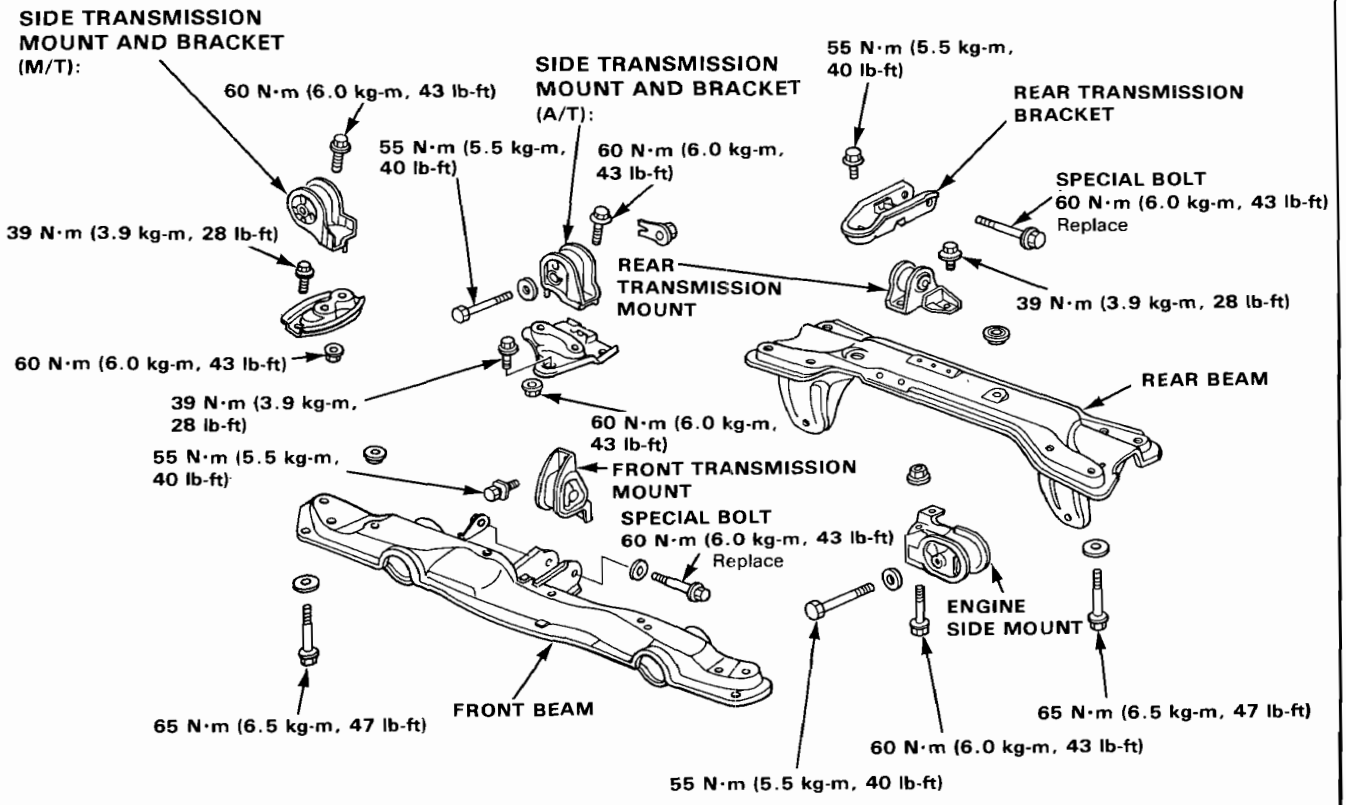


DOHC engine:



Engine Removal/Installations

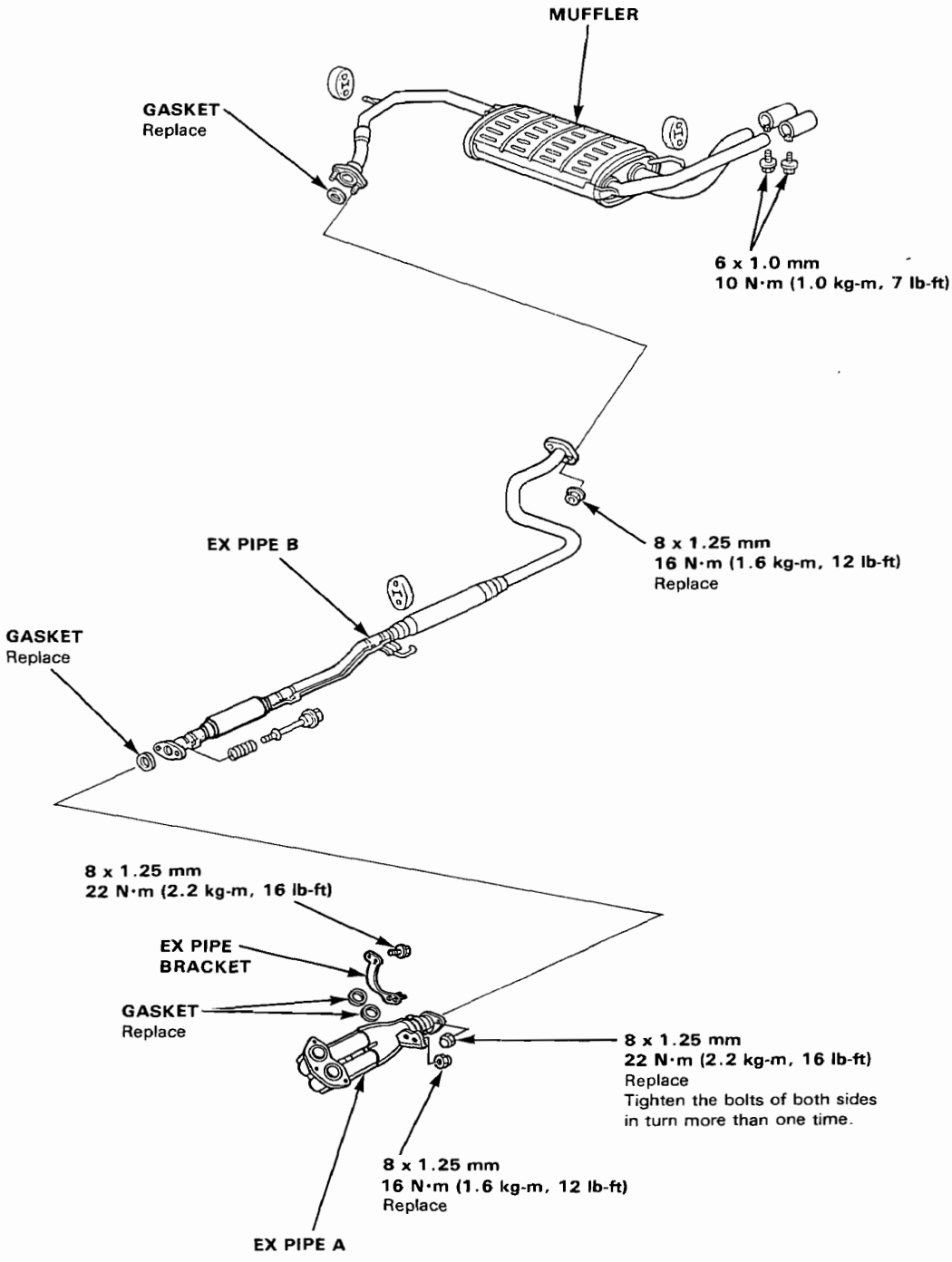
Additional Torque Specifications



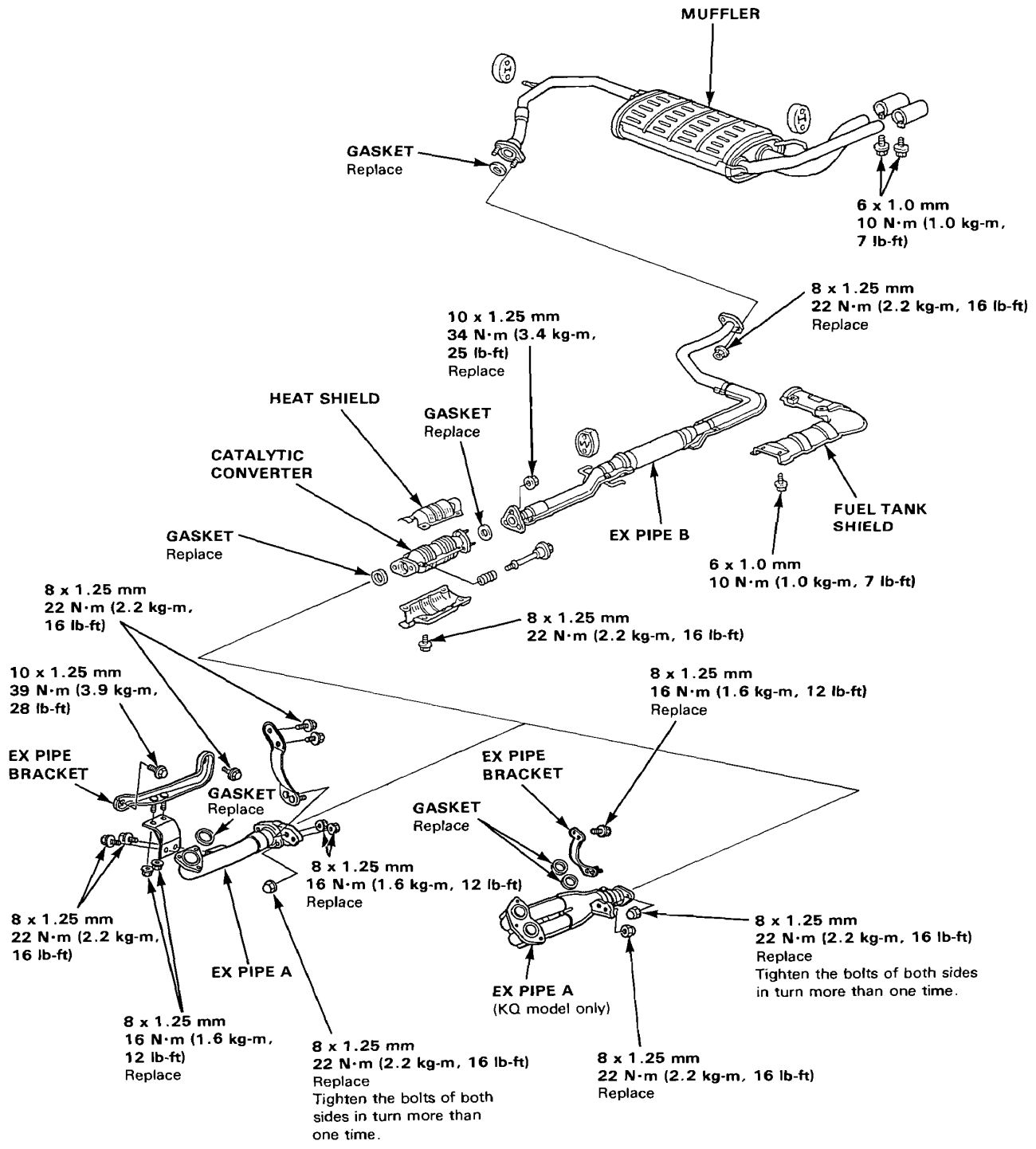
Exhaust Pipe and Muffler

Replacement

without CATA:



With CATA:


MUFFLER
GASKET
Replace
6 x 1.0 mm
10 N·m (1.0 kg-m,
7 lb-ft)
8 x 1.25 mm
22 N·m (2.2 kg-m, 16 lb-ft)
Replace
10 x 1.25 mm
34 N·m (3.4 kg-m,
25 lb-ft)
Replace
HEAT SHIELD
GASKET
Replace
CATALYTIC
CONVERTER
GASKET
Replace
EX PIPE B
FUEL TANK
SHIELD
6 x 1.0 mm
10 N·m (1.0 kg-m, 7 lb-ft)
8 x 1.25 mm
22 N·m (2.2 kg-m,
16 lb-ft)
8 x 1.25 mm
22 N·m (2.2 kg-m, 16 lb-ft)
10 x 1.25 mm
39 N·m (3.9 kg-m,
28 lb-ft)
8 x 1.25 mm
16 N·m (1.6 kg-m, 12 lb-ft)
Replace
EX PIPE
BRACKET
GASKET
Replace
EX PIPE
BRACKET
GASKET
Replace
8 x 1.25 mm
16 N·m (1.6 kg-m, 12 lb-ft)
Replace
8 x 1.25 mm
22 N·m (2.2 kg-m,
16 lb-ft)
EX PIPE A
8 x 1.25 mm
22 N·m (2.2 kg-m, 16 lb-ft)
Replace
Tighten the bolts of both sides in turn more than one time.
EX PIPE A
(KQ model only)
8 x 1.25 mm
22 N·m (2.2 kg-m, 16 lb-ft)
Replace
Tighten the bolts of both sides in turn more than one time.
8 x 1.25 mm
16 N·m (1.6 kg-m,
12 lb-ft)
Replace
8 x 1.25 mm
22 N·m (2.2 kg-m, 16 lb-ft)
Replace

Component Locations

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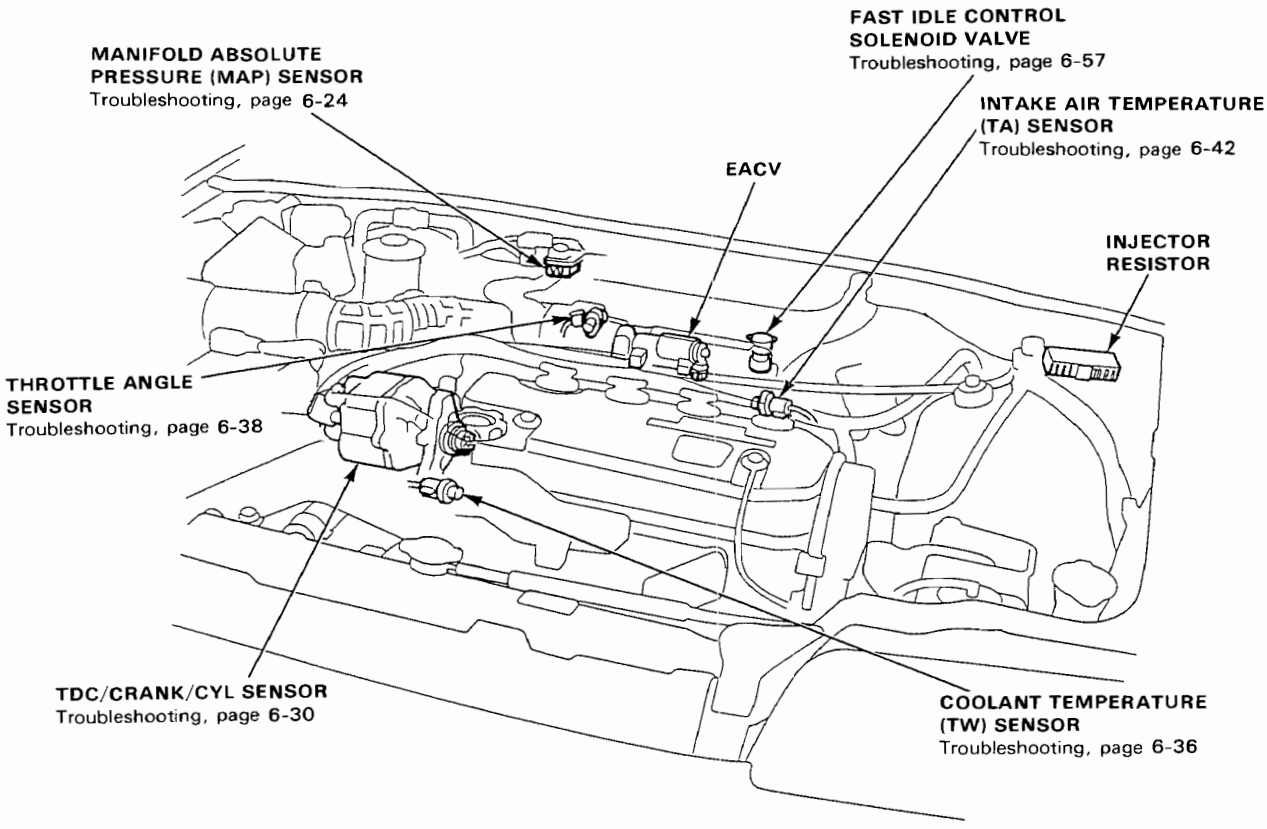
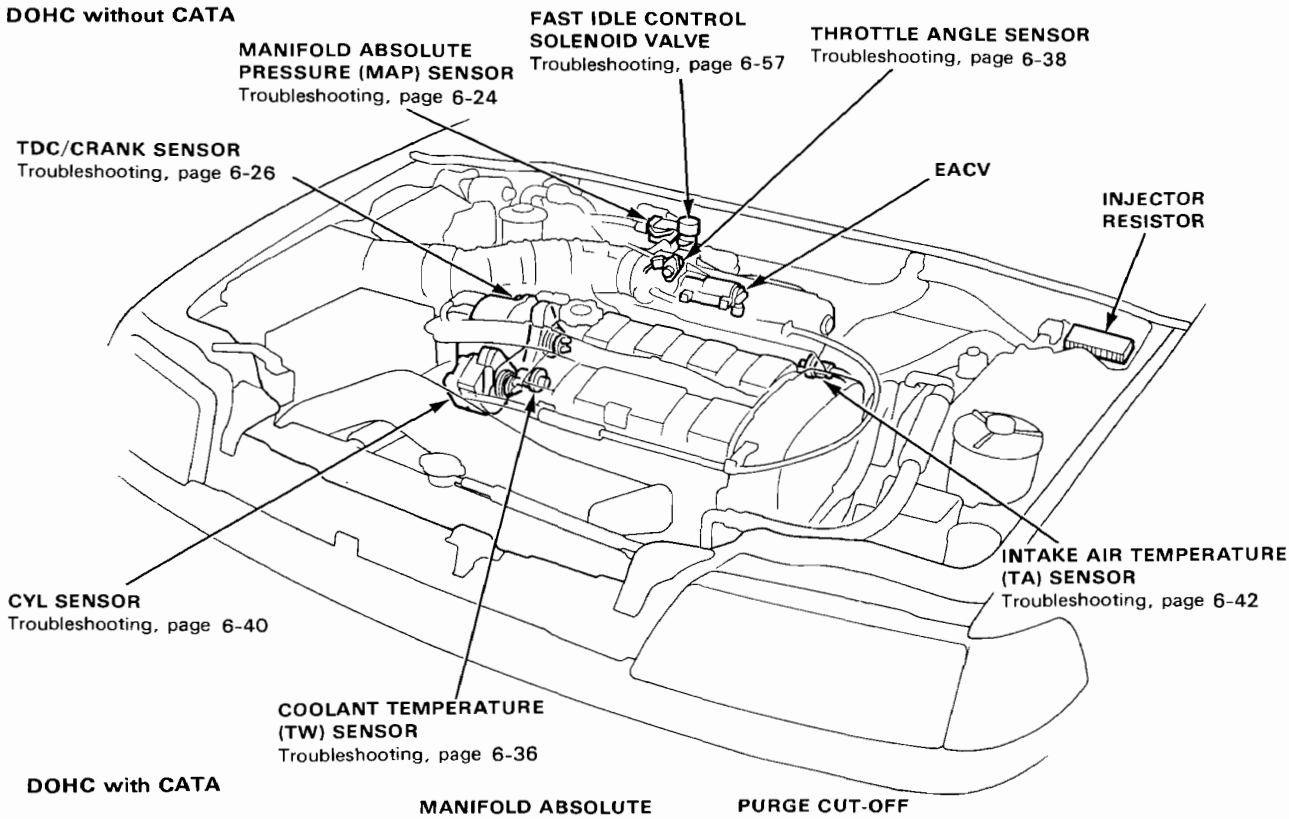
SOHC Without CATA




DOHC without CATA
MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR
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FAST IDLE CONTROL SOLENOID VALVE
Troubleshooting, page 6-57
THROTTLE ANGLE SENSOR
Troubleshooting, page 6-38
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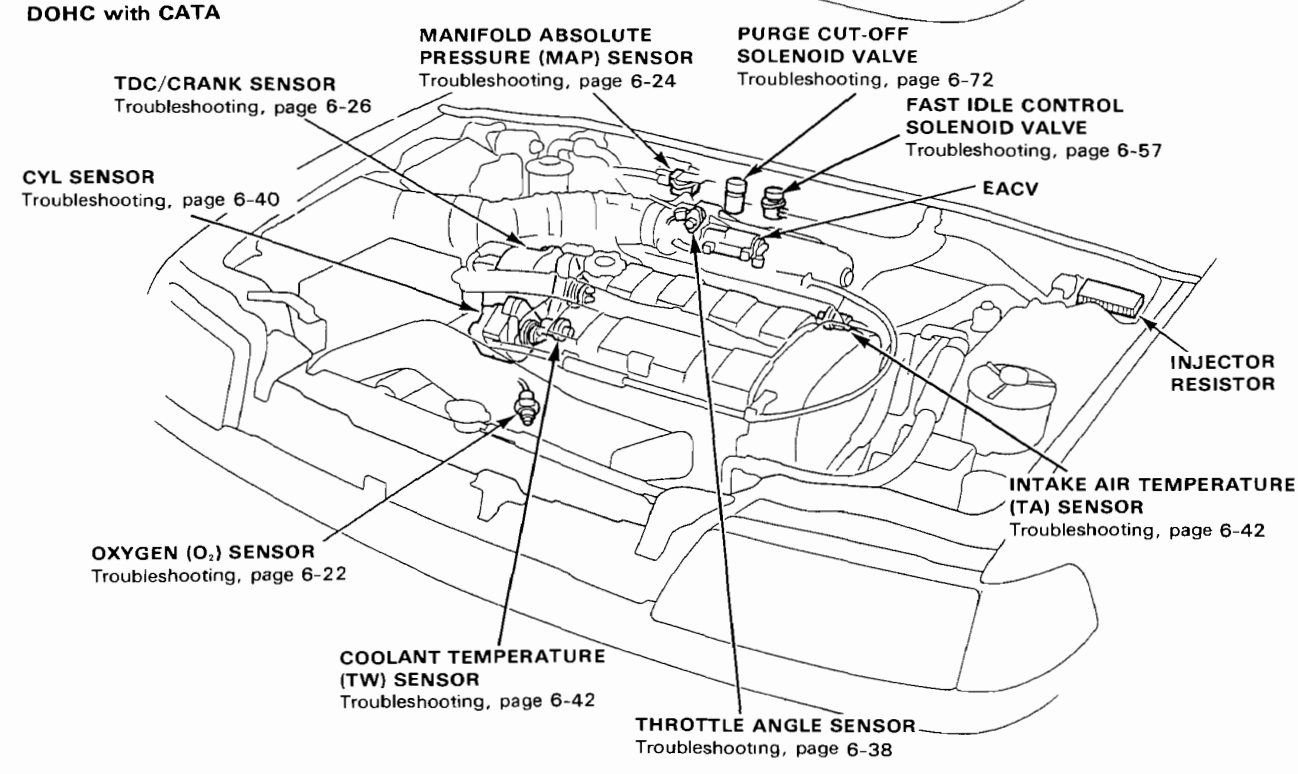
Troubleshooting, page 6-26
EACV
INJECTOR RESISTOR
INTAKE AIR TEMPERATURE (TA) SENSOR
Troubleshooting, page 6-42
CYL SENSOR
Troubleshooting, page 6-40
COOLANT TEMPERATURE (TW) SENSOR
Troubleshooting, page 6-36


DOHC with CATA
MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR
Troubleshooting, page 6-24
PURGE CUT-OFF SOLENOID VALVE
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Troubleshooting, page 6-42
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Component Locations

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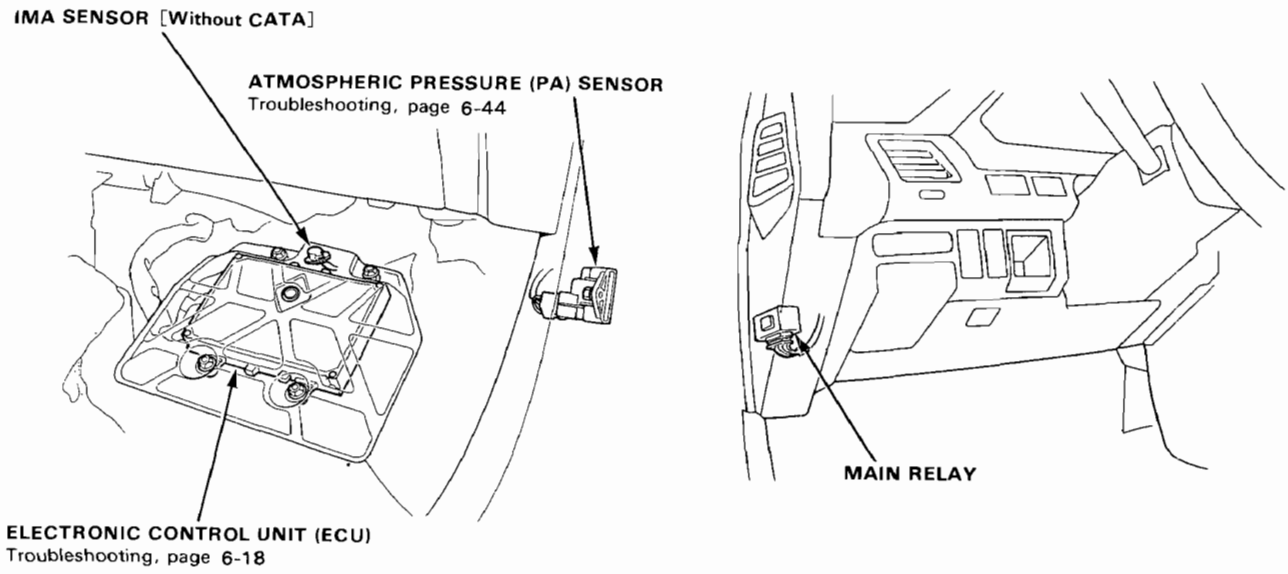
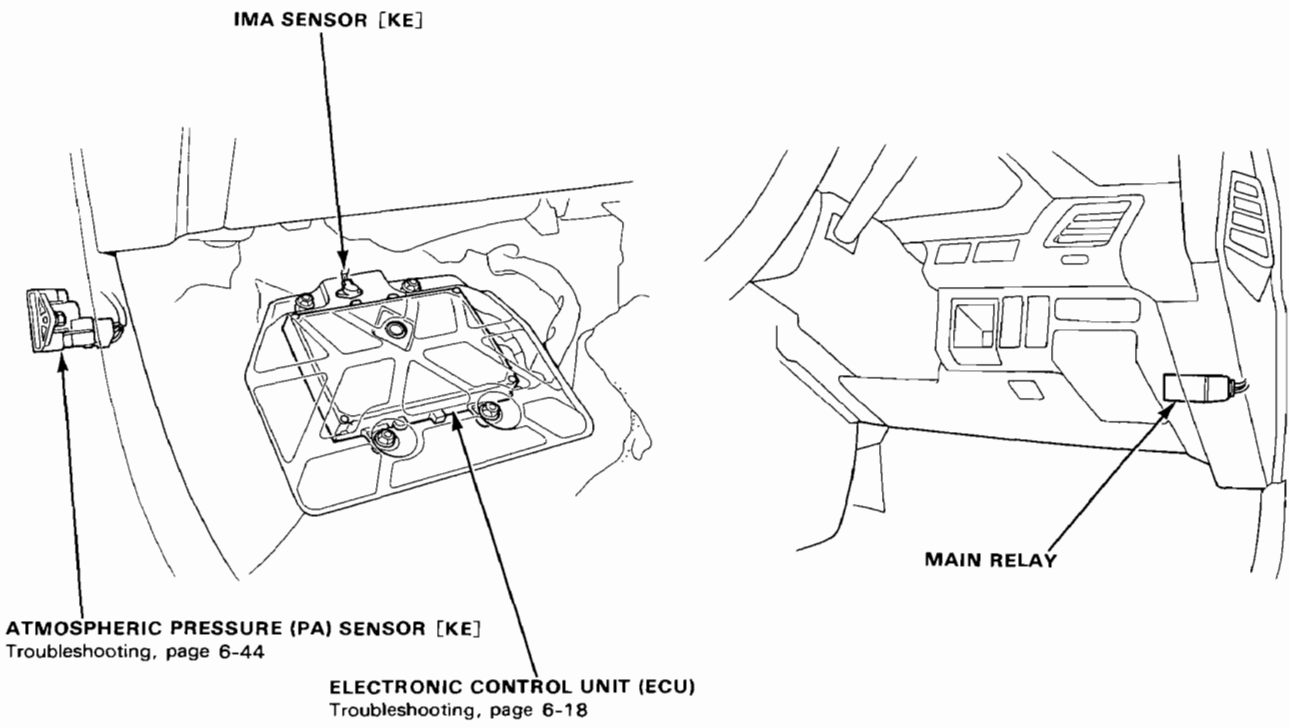
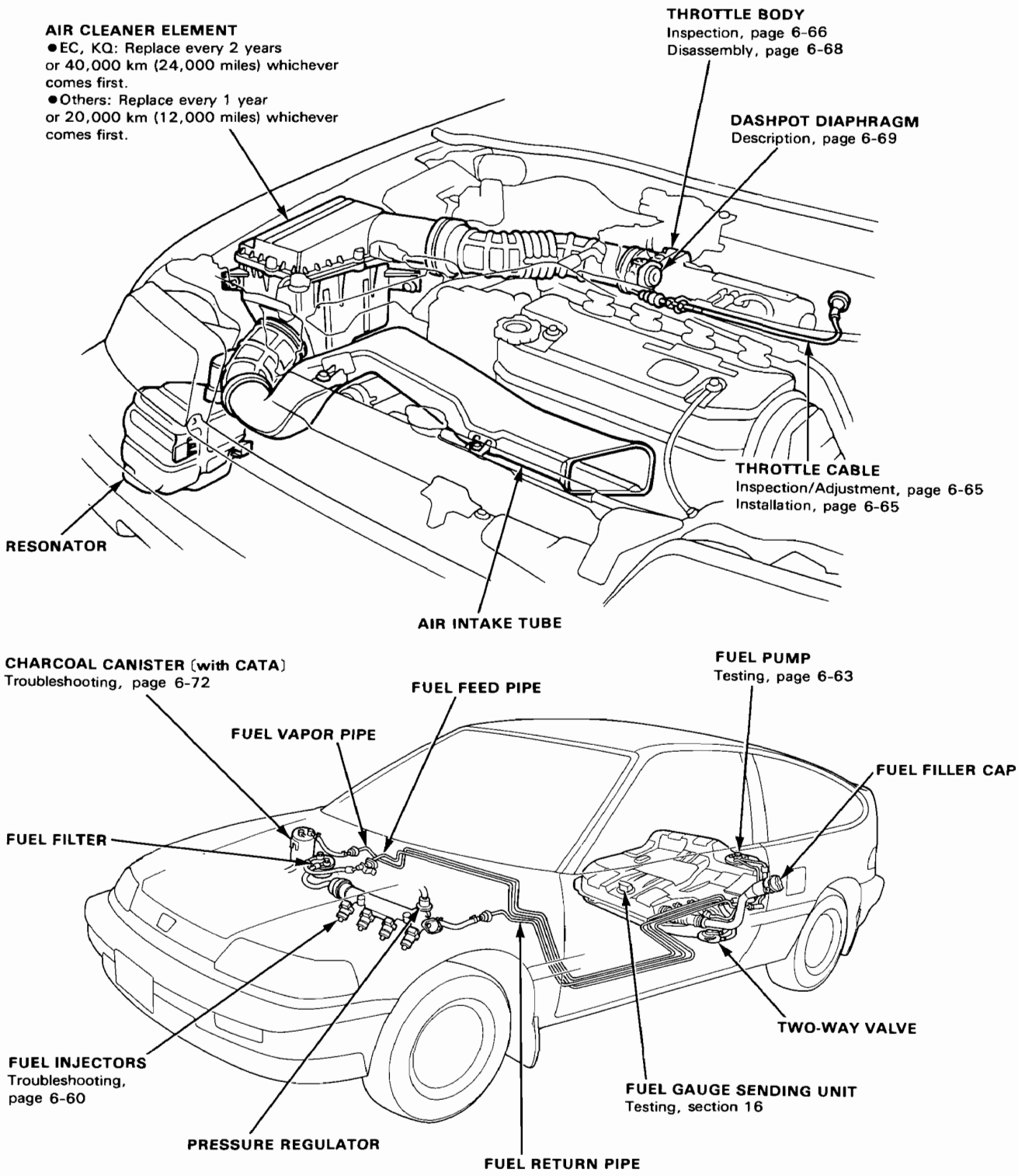
LHD



RHD




AIR CLEANER ELEMENT
●EC, KQ: Replace every 2 years or 40,000 km (24,000 miles) whichever comes first.
●Others: Replace every 1 year or 20,000 km (12,000 miles) whichever comes first.
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FUEL FILTER
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FUEL INJECTORS
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FUEL GAUGE SENDING UNIT
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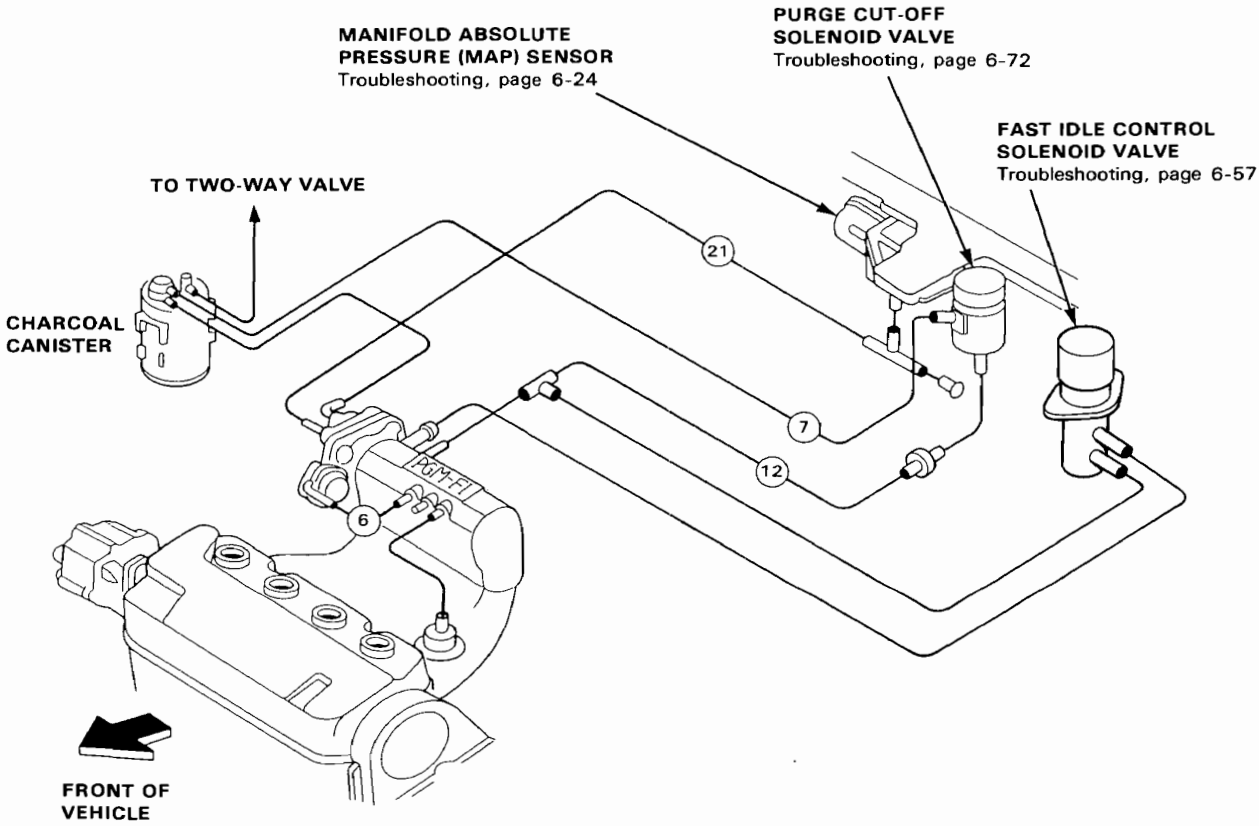
FUEL RETURN PIPE

System Description

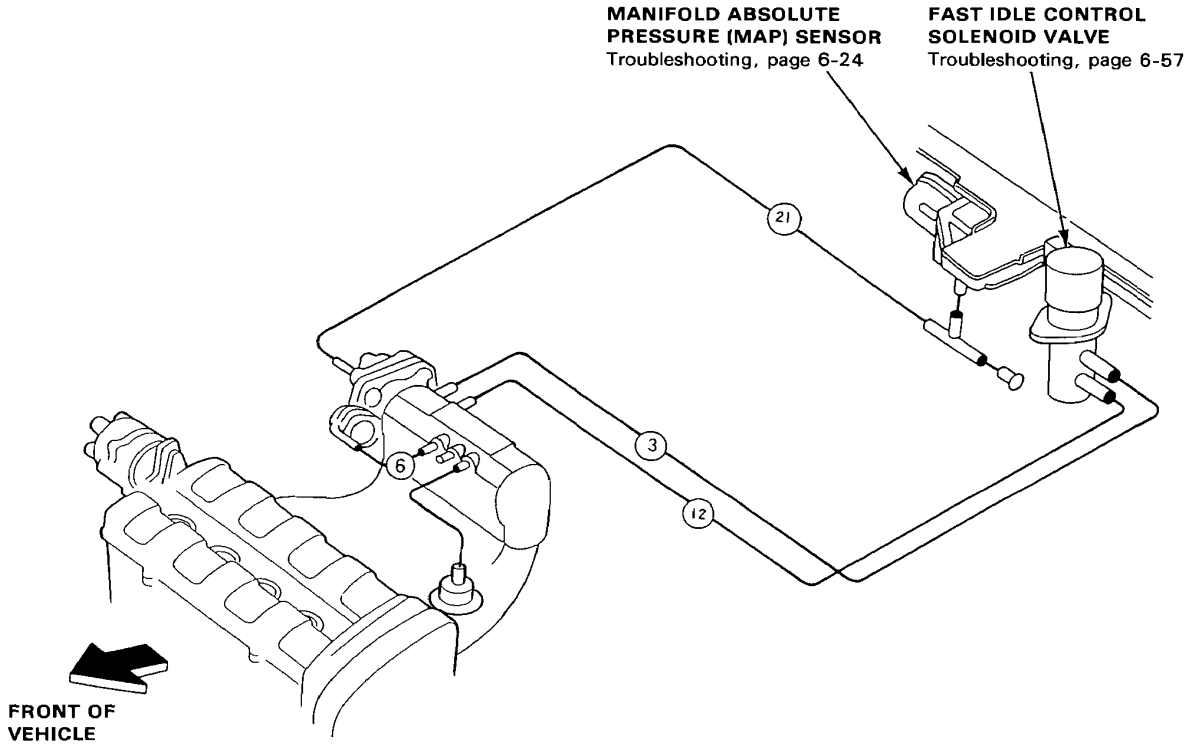
Vacuum Connections

With CATA

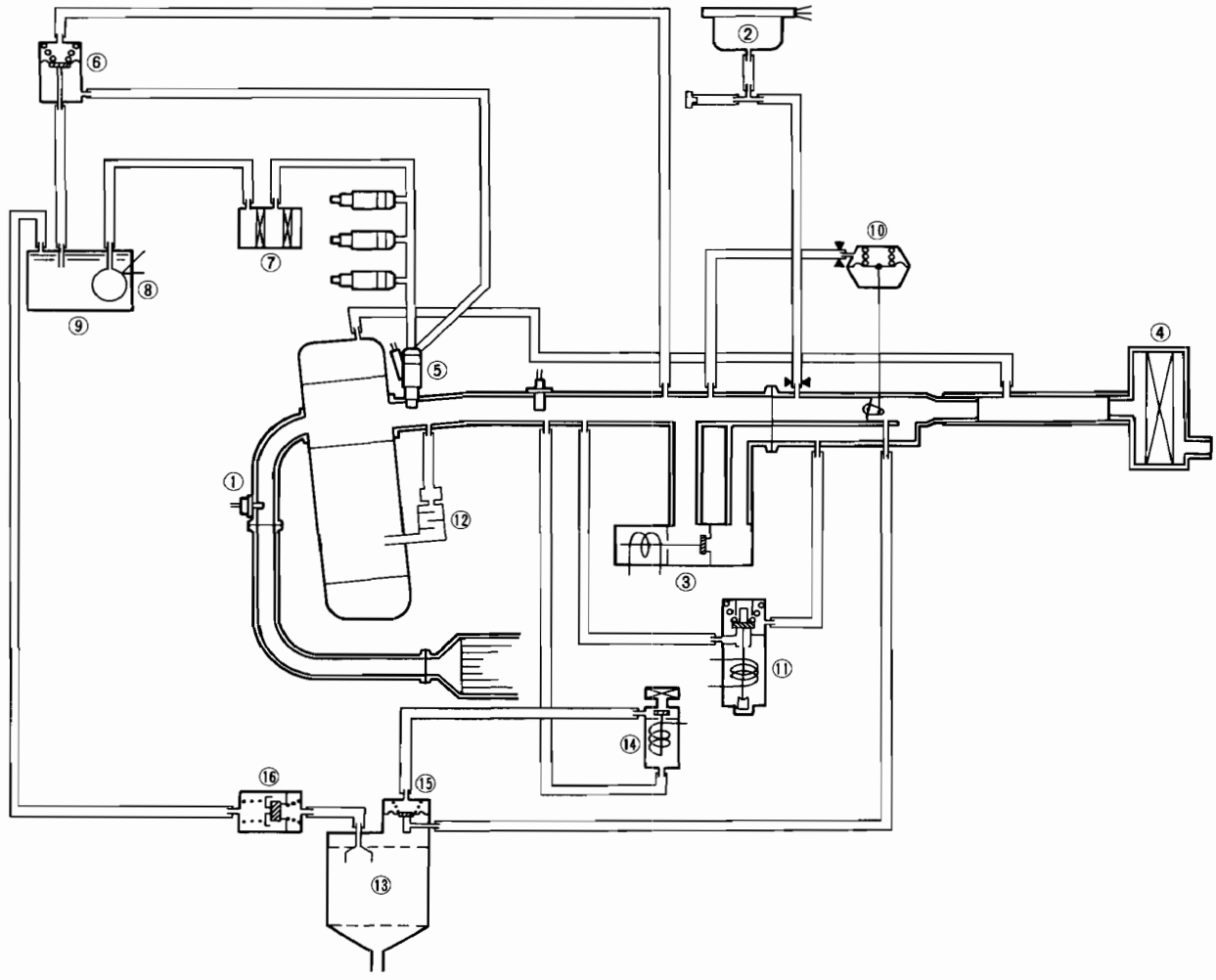
NOTE: The illustration is SOHC type. DOHC type is the same as of SOHC type, except for the cylinder head.



Without CATA

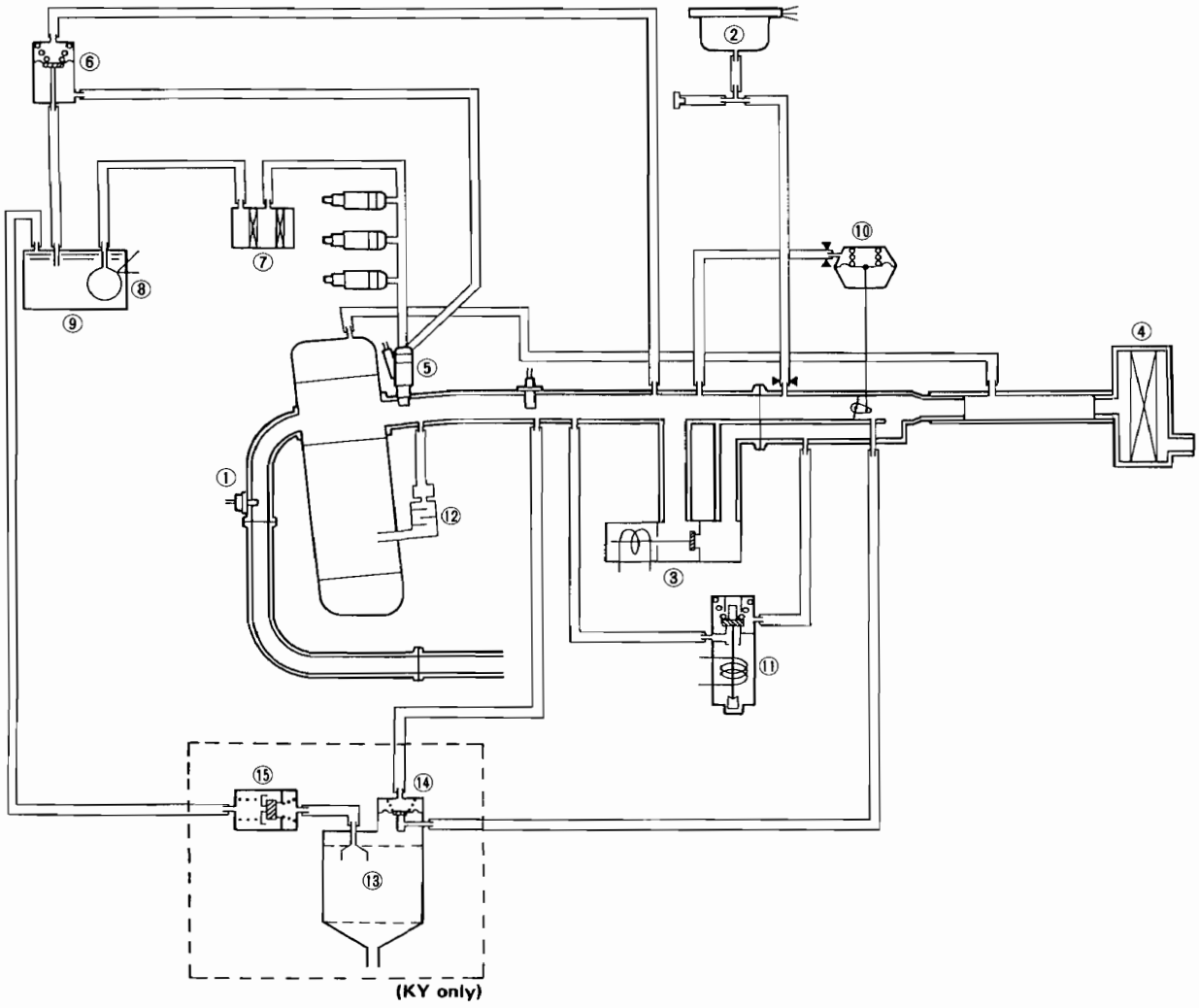


Vacuum Connections [With CATA]



① OXYGEN (O_2) SENSOR
② MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR
③ ELECTRONIC AIR CONTROL VALVE (EACV)
④ AIR CLEANER
⑤ FUEL INJECTOR
⑥ PRESSURE REGULATOR
⑦ FUEL FILTER
⑧ FUEL PUMP
⑨ FUEL TANK
⑩ DASHPOT DIAPHRAGM
⑪ FAST IDLE CONTROL SOLENOID VALVE
⑫ PCV VALVE
⑬ CHARCOAL CANISTER
⑭ PURGE CUT-OFF SOLENOID VALVE
⑮ PURGE CONTROL DIAPHRAGM VALVE
⑯ TWO-WAY VALVE

Vacuum Connections [Without CATA]



① OXYGEN (O_2) SENSOR
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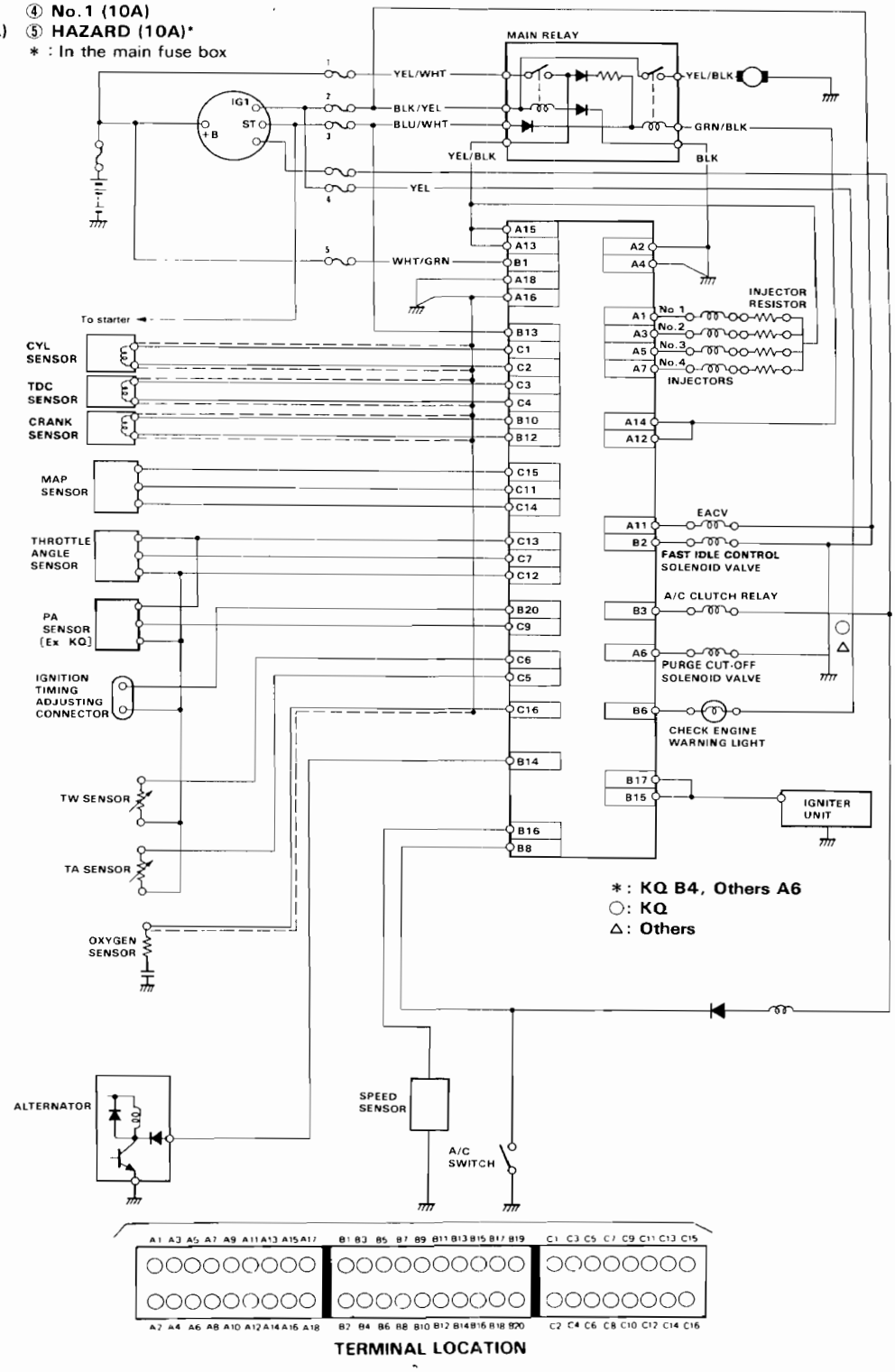
⑥ PRESSURE REGULATOR
⑦ FUEL FILTER
⑧ FUEL PUMP
⑨ FUEL TANK
⑩ DASHPOT DIAPHRAGM
⑪ FAST IDLE CONTROL SOLENOID VALVE
⑫ PCV VALVE
⑬ CHARCOAL CANISTER
⑭ PURGE CONTROL DIAPHRAGM VALVE
⑮ TWO-WAY VALVE

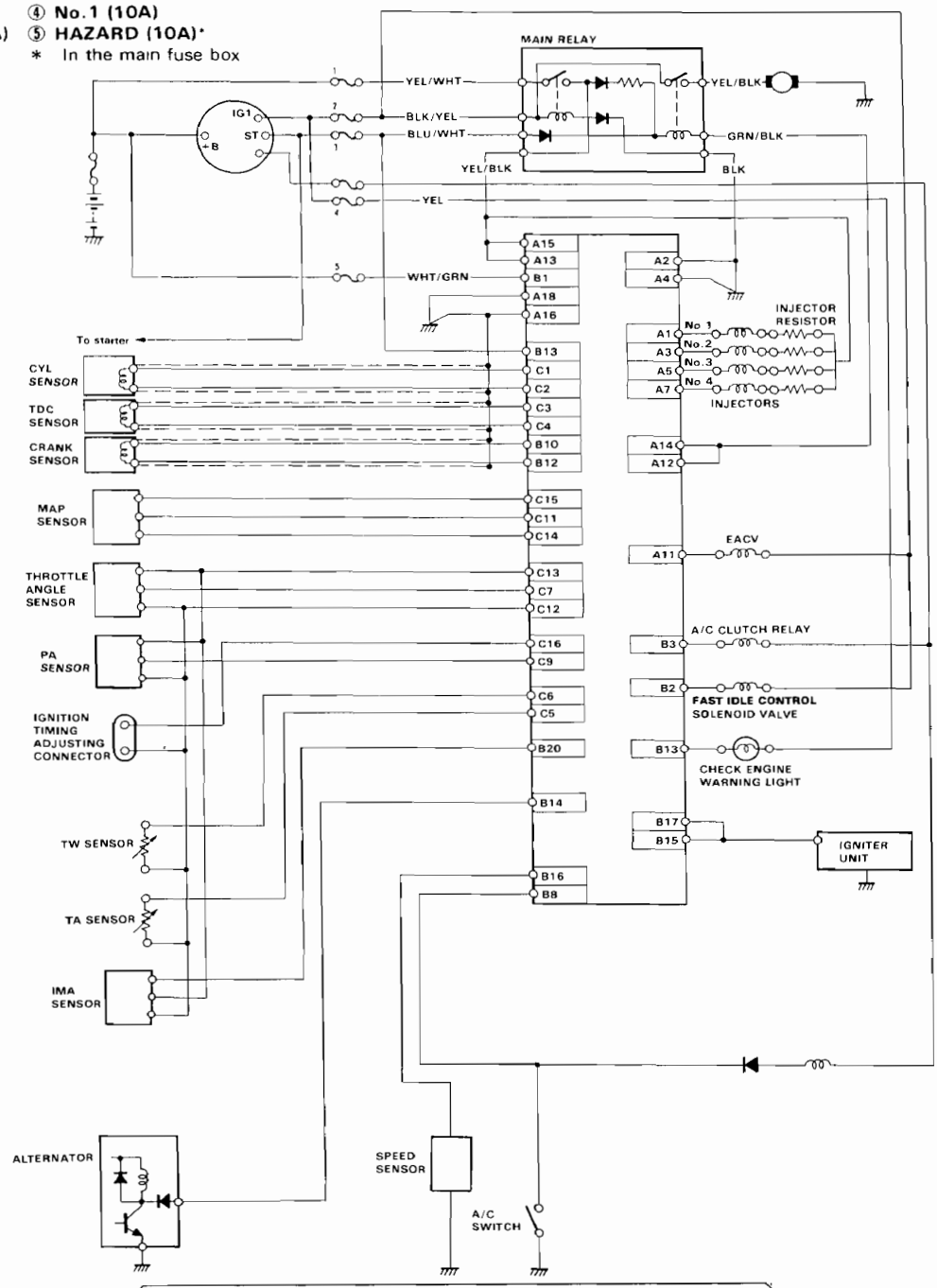
Electrical Connections [With CATA]

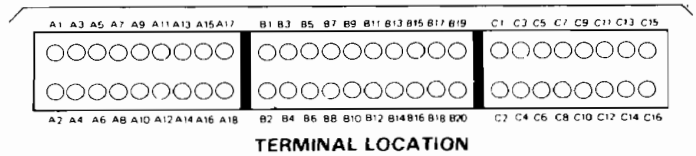
FUSES
① ECU (15A)* ④ No.1 (10A)
② No.14 (10A) ⑤ HAZARD (10A)*
③ No.2 (10A) * : In the main fuse box



TERMINAL LOCATION

FUSES
① ECU (15A)* ④ No.1 (10A)
② No.14 (10A) ⑤ HAZARD (10A)*
③ No.2 (10A) * In the main fuse box





TERMINAL LOCATION

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 / SYMPTOM		PGM-FI							
		ECU	OXYGEN SENSOR	MANIFOLD ABSOLUTE PRESSURE SENSOR	TDC/ CRANK SENSOR	CYL SENSOR	COOLANT TEMPERATURE SENSOR	THROTTLE ANGLE SENSOR	INTAKE AIR TEMPERATURE SENSOR
		18	22	24	26	40	36	38	42
CHECK ENGINE WARNING LIGHT TURNS ON		□ or ☼							
SELF-DIAGNOSIS INDICATOR (LED) BLINKS		⓪ or ✱	①	③ or ⑤	④ or ⑧	⑨	⑥	⑦	⑩
ENGINE WON'T START		③							
DIFFICULT TO START ENGINE WHEN COLD		(BU)		③			①		
IRREGULAR IDLING	WHEN COLD FAST IDLE OUT OF SPEC	(BU)					②		
	ROUGH IDLE	(BU)		③					
	WHEN WARM IDLE SPEED TOO HIGH	(BU)							
	WHEN WARM IDLE SPEED TOO LOW	(BU)							
FREQUENT STALLING	WHILE WARMING UP	(BU)							
	AFTER WARMING UP	(BU)							
POOR PERFORM-ANCE	MISFIRE OR ROUGH RUNNING	(BU)							
	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			
ATMO-SPHERIC PRESSURE SENSOR	IGNITION OUTPUT SIGNAL	VEHICLE SPEED SENSOR	ELEC-TRONIC AIR CONTROL VALVE	OTHER IDLE CONTROLS	FUEL INJECTOR	OTHER FUEL SUPPLY	AIR INTAKE	EMISSION CONTROL
44	46	48	—	50	60	59	64	71
								
⑬	⑮	⑰	⑭		⑯			
					②	①		
				②				
			①	②				
			①		②			
			②	①				
			①		②			
			①	②		③		
			①	②		③		
			②		①			
					①			
						①		

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 / SYMPTOM		PGM-FI							
		ECU	MANIFOLD ABSOLUTE PRESSURE SENSOR	TDC/ CRANK SENSOR **	CYL SENSOR **	TDC/CRANK/CYL SENSOR *	COOLANT TEMPERATURE SENSOR	THROTTLE ANGLE SENSOR	INTAKE AIR TEMPERATURE SENSOR
		18	22	26	40	30	36	38	42
CHECK ENGINE WARNING LIGHT TURNS ON		□ or ☼	☼	☼	☼	☼	☼	☼	☼
SELF-DIAGNOSIS INDICATOR (LED) BLINKS		⓪ or ✻	③ or ⑤	④ or ⑧	⑨	④ or ⑧ or ⑨	⑥	⑦	⑩
ENGINE WON'T START		②							
DIFFICULT TO START ENGINE WHEN COLD		(BU)	③				①		
IRREGULAR IDLING	WHEN COLD FAST IDLE OUT OF SPEC	(BU)					②		
	ROUGH IDLE	(BU)	③						
	WHEN WARM IDLE SPEED TOO HIGH	(BU)							
	WHEN WARM IDLE SPEED TOO LOW	(BU)							
FREQUENT STALLING	WHILE WARMING UP	(BU)							
	AFTER WARMING UP	(BU)							
POOR PERFORM-ANCE	MISFIRE OR ROUGH RUNNING	(BU)							
	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.

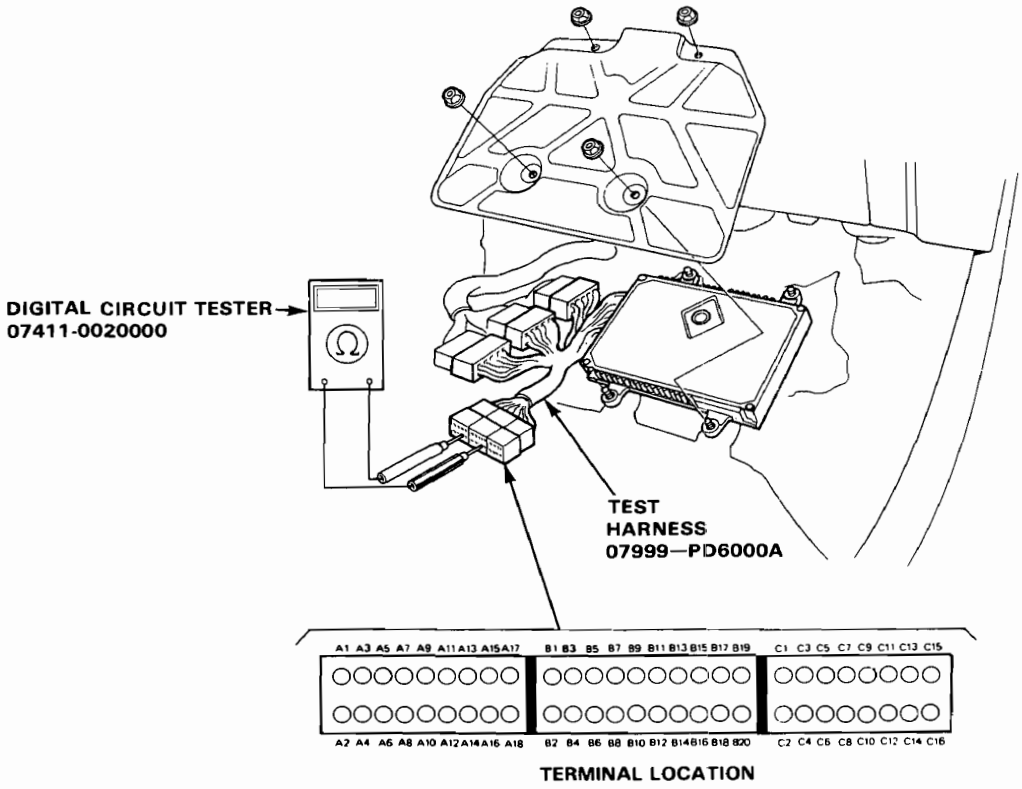
(BU): When the Check Engine warning light and the self-diagnosis indicator are on, the back-up system is in operation. Substitute a known-good ECU and recheck. If the indication goes away, replace the original ECU.

* : SOHC, ** : DOHC

PGM-FI				IDLE CONTROL				
IMA SENSOR	ATMO-SPHERIC PRESSURE SENSOR	IGNITION OUTPUT SIGNAL	VEHICLE SPEED SENSOR	ELEC-TRONIC AIR CONTROL VALVE	OTHER IDLE CONTROLS	FUEL SUPPLY	AIR INTAKE	EMISSION CONTROL
—	44	46	48	—	50	59	64	—
								
⑪	⑬	⑮	⑰	⑭				
						①		
					②			
				①	②			
				①		②		
				②	①			
				①		②		
				①	②	③		
				①	②	③		
				②		①		
						①		
						①		

Self-diagnostic Procedure

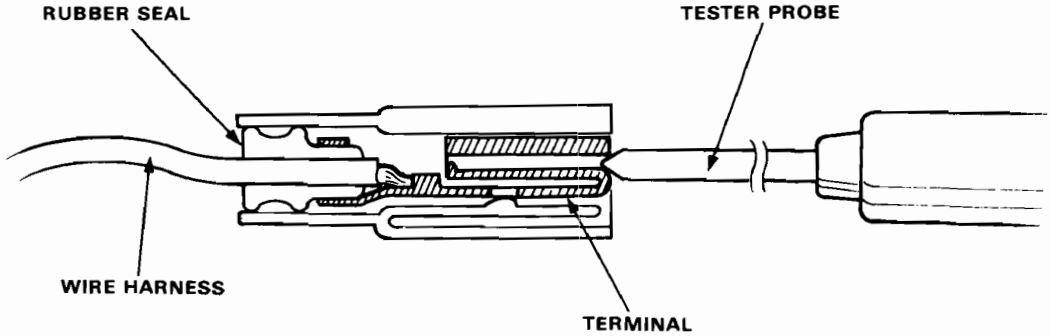
If the inspection for a particular failure code requires the PGM-FI test harness, remove the right door sill molding, the small cover on the right kick panel, and pull the carpet back to expose the ECU. Unbolt the ECU bracket. Connect the PGM-FI test harness. Then check the system according to the procedure 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 PGM-FI 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.**



How to Read Flowcharts

A flowchart 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 flowchart.
ACTION	Asks you to do something; perform a test, set up a condition, etc.
DECISION	Asks you about the result of an action, then sends you in the appropriate troubleshooting direction.
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. In any event, if the warning light on the dash does not come on, check for poor connections or loose wires at all connectors related to the circuit that you are troubleshooting.
- ''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 ECUs), 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 PGM-FI test harness, check the test harness connections before proceeding.

Troubleshooting Flowchart — ECU

Check Engine warning light *isn't on for two seconds after* ignition is first turned on.

Is oil pressure warning light on ?

NO → Inspect No. 1 fuse.

Is No. 1 fuse OK ?

NO → **Replace fuse.**

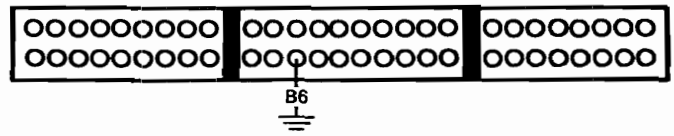
YES → **Repair open in YEL wire between No. 1 fuse and combination meter.**

YES

Turn the ignition switch OFF.

Connect the PGM-FI test harness between the ECU and connector (page 6-16).

Connect B6 terminal to body ground.



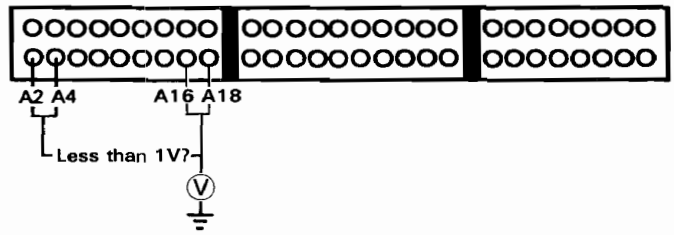
Turn the ignition switch ON.

Is Check Engine warning light on ?

NO → **– Replace warning light bulb.**
– Repair open in GRN/ORN wire between ECU (B6) and combination meter.

YES

Measure voltage between body ground and the following terminals individually to B6: ●A2, ●A4, ●A16 ●A18

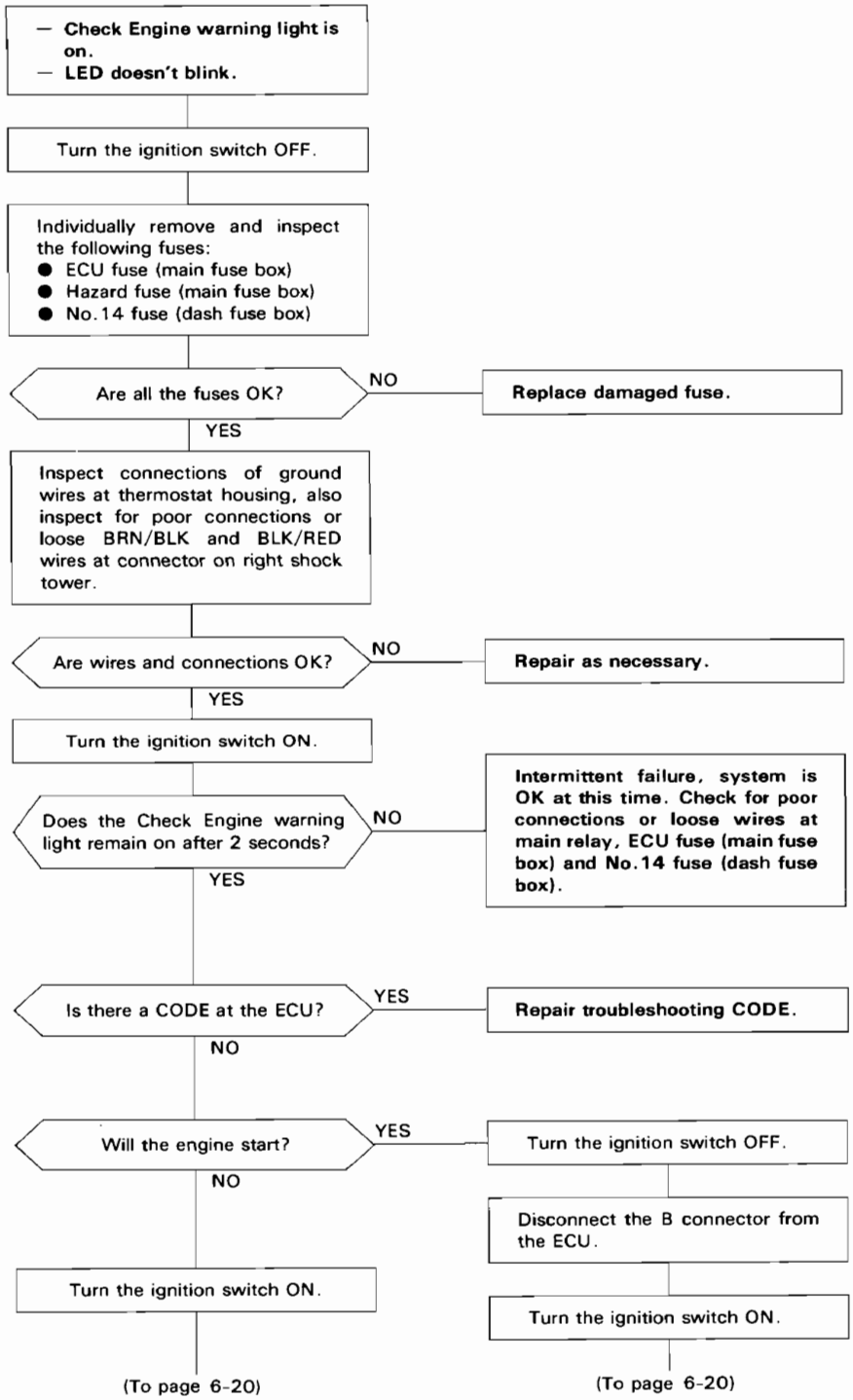


Is there less than 1V?

NO → **Repair open in wire between ECU and thermostat housing (G101) that had more than 1V.**

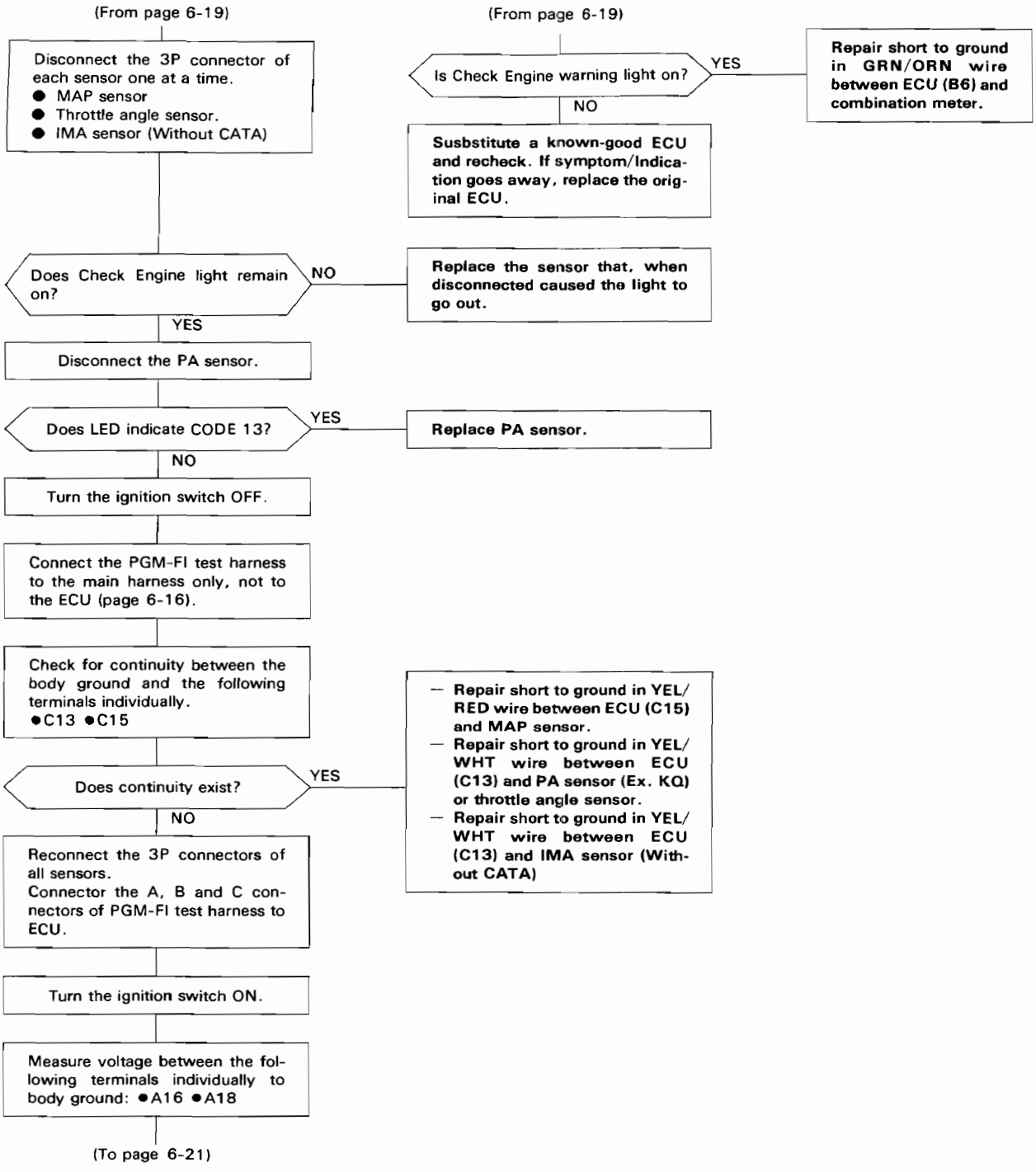
YES

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


— Check Engine warning light is on.
— LED doesn't blink.
Turn the ignition switch OFF.
Individually remove and inspect the following fuses:
● ECU fuse (main fuse box)
● Hazard fuse (main fuse box)
● No.14 fuse (dash fuse box)
Are all the fuses OK?
NO
Replace damaged fuse.
YES
Inspect connections of ground wires at thermostat housing, also inspect for poor connections or loose BRN/BLK and BLK/RED wires at connector on right shock tower.
Are wires and connections OK?
NO
Repair as necessary.
YES
Turn the ignition switch ON.
Does the Check Engine warning light remain on after 2 seconds?
NO
Intermittent failure, system is OK at this time. Check for poor connections or loose wires at main relay, ECU fuse (main fuse box) and No.14 fuse (dash fuse box).
YES
Is there a CODE at the ECU?
YES
Repair troubleshooting CODE.
NO
Will the engine start?
YES
Turn the ignition switch OFF.
NO
Disconnect the B connector from the ECU.
Turn the ignition switch ON.
Turn the ignition switch ON.
(To page 6-20)
(To page 6-20)

(cont'd)

Troubleshooting Flow Chart — ECU (cont'd)



(From page 6-20)

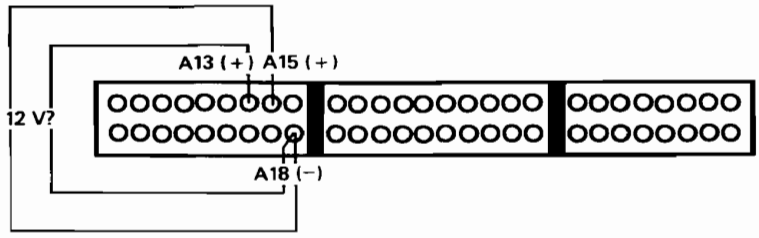
Is there less than 1V?

NO

Repair open in wire that between ECU (A16, A18) and thermostat housing (G101) that had more than 1V.

YES

Measure voltage between A13 (+), A15 (+) terminals and A18 (−) terminal.



Is there battery voltage?

NO

- Repair open in YEL/BLK wire between ECU (A13, A15) and main relay
- Check main relay and wiring connectors at main relay.

YES

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

Troubleshooting Flowchart —— Oxygen Sensor [With CATA]



Self-diagnosis LED blinks once: A problem in the Oxygen (O_2) Sensor circuit.


– Check Engine warning light has been reported on.
– LED indicates CODE 1.

Turn the ignition switch OFF.

Remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.

Inspect pressure regulator.

Is it normal ?

NO → **Replace the pressure regulator.**

YES

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

Hold engine at 1500 min^{-1} (rpm) for 15 minutes.
NOTE. Do not close throttle completely during this time.

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

NO → **Intermittent failure, system is OK at this time (test drive may be necessary).**
Check for poor connections or loose wires at the thermostat housing, O_2 sensor and C210 (round connector located at the right shock tower).

YES

Inspect for poor connections or loose ground wires at thermostat housing.

Are connections and wires OK?

NO → **Repair as necessary.**

YES

(To page 6-23)

(From page 6-22)

Disconnect engine wire harness from O_2 sensor.

Warm up engine to normal operating temperature again, then hold engine speed at 4,000 min^{-1} (rpm) for 10 seconds then release throttle completely.

Measure voltage between the connector terminal and body ground.

Was voltage above 0.6V at 4,000 min^{-1} (rpm)? Was voltage below 0.4V during closed throttle deceleration from 4,000 min^{-1} (rpm)?

NO → **Replace O_2 sensor.**

YES

Stop engine.

Reconnect O_2 sensor.

Connect the PGM-FI test harness between the ECU and connector (page 6-16).

Restart and warm up engine to normal operating temperature, then hold engine speed at 4,000 min^{-1} (rpm) for 10 seconds then release throttle completely.

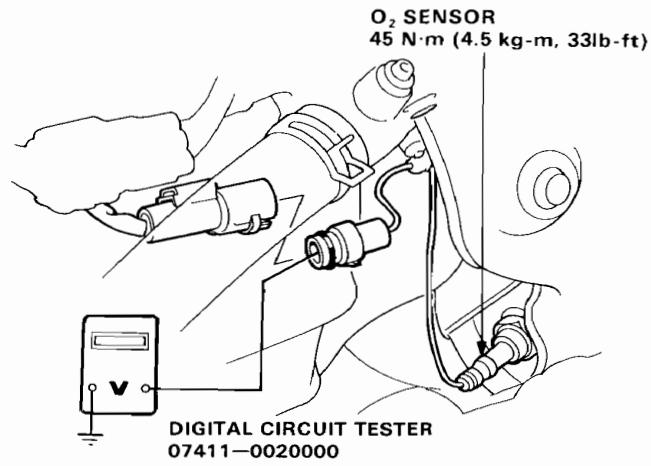
Measure voltage between C16 (+) and A18 (–) terminals.

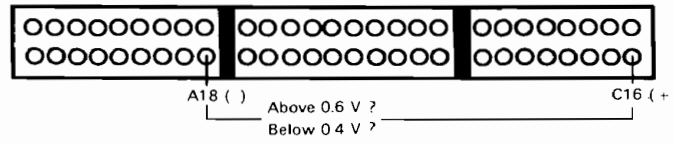
Was voltage above 0.6V at 4,000 min^{-1} (rpm)? Was voltage below 0.4V during closed throttle deceleration from 4,000 min^{-1} (rpm)?

NO → **Repair short or open in WHT wire between ECU (C16) and O_2 sensor.**

YES

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





Troubleshooting Flowchart — MAP Sensor

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

– Check Engine warning light has been reported on.
– LED indicates CODE 5.

Turn the ignition switch OFF.

Remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.

Start the engine.

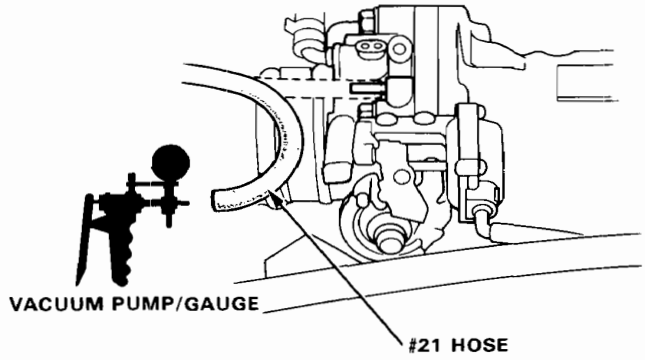
Is Check Engine warning light on and does LED indicate *CODE 5*?

NO → **–Intermittent failure, system is OK at this time (test drive may be necessary).**
–Check vacuum hoses, pipes, and connections.
–Make sure all connectors are secure.

YES

Stop engine.

Connect vacuum pump to #21 hose and apply vacuum.



Does it hold vacuum?

NO → Connect a vacuum pump to the MAP sensor and apply vacuum.

YES

Disconnect #21 hose from the throttle body and connect a T-fitting from a vacuum gauge between the throttle body and MAP sensor.

Start engine.

(To page 6-25)

Does it hold vacuum?

NO → **Replace MAP sensor.**

YES

Replace #21 hose.

(From page 6-24)

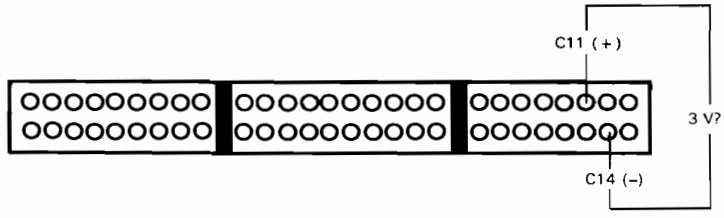
Is there manifold vacuum? NO → -Remove restriction from throttle body. -Replace throttle body.

YES

Stop engine.

Connect the PGM-FI test harness between the ECU and connector (page 6-16).

Turn the ignition switch ON.



Measure voltage between C11 (+) terminal and C14 (-) terminal.

Is there approx. 3 V ? NO → Inspect for an open in WHT wire between the MAP sensor and ECU. If wire is OK, replace the MAP sensor.

YES

Start the engine and allow the it idle.

Is there approx. 1V? NO → Replace MAP sensor.

YES

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

Troubleshooting Flowchart —— TDC/CRANK Sensor [DOHC]

Self-diagnosis LED indicator blinks four times: A problem in the CRANK circuit of the TDC/CRANK Sensor.

Self-diagnosis LED indicator blinks eight times: A problem in the TDC circuit of the TDC/CRANK Sensor.

– Check Engine warning light has been reported on.
– LED indicates CODE 4.

Turn the ignition switch OFF.

Remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.

Start engine.

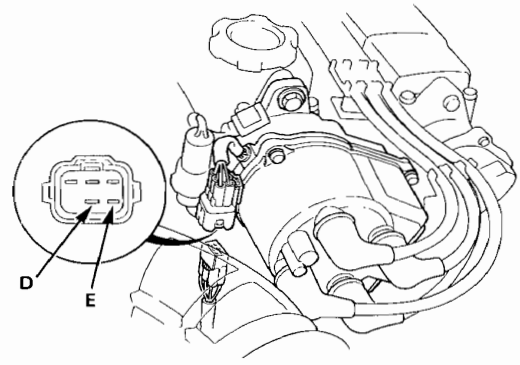
Is Check Engine warning light on and does LED indicate CODE 4?

NO → **Intermittent failure, system is OK at this time (test drive may be necessary). Check for poor connections or loose wires at the distributor connector and C210 (round connector located at the right shock tower).**

YES

Stop engine.

Disconnect 6P connector from the TDC/CRANK sensor.



Measure resistance between D terminal and E terminal.

Is there 350–550 Ω ?

NO → **Replace the distributor assembly (section 16).**

YES

Check for continuity to body ground on D terminal and E terminal individually.

(To page 6-27)

(From page 6-26)

Does continuity exist ?

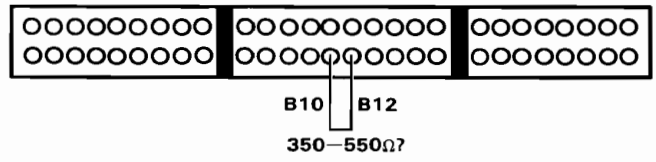
YES → **Replace the distributor assembly (section 16).**

NO

Reconnect the connector.

Connect the PGM-FI test harness only to the main wire harness, not to the ECU (page 6-16).

Measure resistance between B10 terminal and B12 terminal.



Is there 350–550 Ω ?

NO → **Repair open in ORN and/or WHT wires.**

YES

Check for continuity to body ground on B10 terminal.

Does continuity exist?

YES → **Repair short in ORN wire between ECU (B10) and distributor connector.**

NO

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

(cont'd)

Troubleshooting Flowchart —— TDC/CRANK sensor [DOHC] (cont'd)

- **Check Engine warning light has been reported on.**
- **LED indicates CODE 8.**

Turn the ignition switch OFF.

Remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.

Start engine.

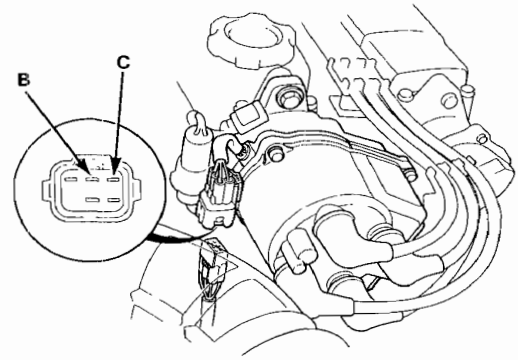
Is Check Engine warning light on and does LED indicate CODE 8?

NO → **Intermittent failure, system is OK at this time (test drive may be necessary). Check for poor connections or loose wires at distributor connector and C210 (round connector located at the right shock tower).**

YES

Stop engine.

Disconnect the 6P connector from the TDC/CRANK sensor.



Measure resistance between B terminal and C terminal.

Is there 350—550 Ω ?

NO → **Replace the distributor assembly (section 16).**

YES

Check for continuity to body ground on B terminal and C terminal individually.

Does continuity exist ?

YES → **Replace the distributor assembly (section 16).**

NO

Reconnect the connector.

(To page 6-29)

(From page 6-28)

Connect the PGM-FI test harness only to the main wire harness, not to the ECU (page 6-16).

Measure resistance between C3 terminal and C4 terminal.

Is there 350 — 550 Ω ?

NO

Repair open in ORN/BLU and/or WHT/BLU wires.

YES

Check for continuity to body ground on C3 terminal.

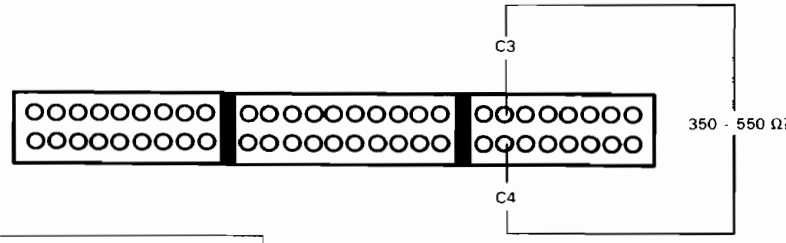
Does continuity exist?

YES

Repair short in ORN/BLU wire between ECU (C3) and distributor connector.

NO

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



Troubleshooting Flowchart — TDC/CRANK/CYL Sensor [SOHC]

Self-diagnosis LED indicator blinks four times: A problem in the CRANK circuit of the TDC/CRANK/CYL Sensor.

Self-diagnosis LED indicator blinks eight times. A problem in the TDC circuit of the TDC/CRANK/CYL Sensor.

Self-diagnosis LED indicator blinks nine times: A problem in the CYL circuit of the TDC/CRANK/CYL Sensor.

– Check Engine warning light has been reported on.
– LED indicates CODE 4.

Turn the ignition switch OFF.

Remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.

Start engine.

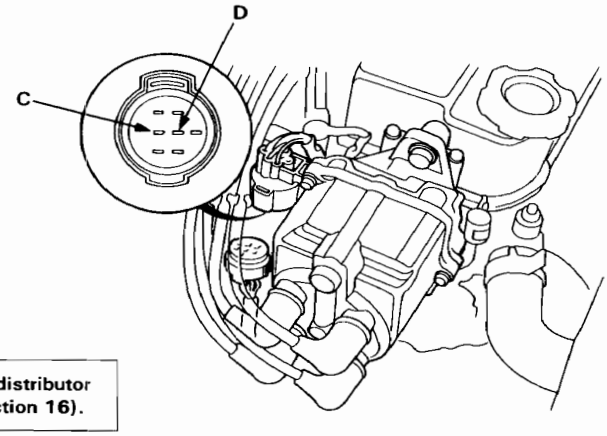
Is Check Engine warning light on and does LED indicate CODE 4?

NO → **Intermittent failure, system is OK at this time (test drive may be necessary). Check for poor connections or loose wires at the distributor connector and C210 (round connector located at the right shock tower).**

YES

Stop engine.

Disconnect the 8P connector from the TDC/CRANK/CYL sensor.



Measure resistance between C terminal and D terminal.

Is there 350–550 Ω ?

NO → **Replace the distributor assembly (section 16).**

YES

(To page 6-31)

(From page 6-30)

Check for continuity to body ground on C terminal and D terminal individually.

Does continuity exist ?

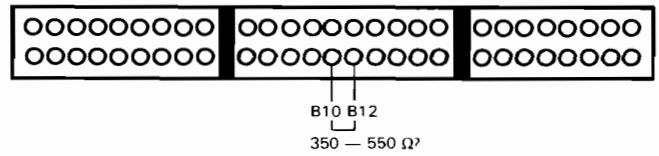
YES → **Replace the distributor assembly (section 16).**

NO

Reconnect the connector.

Connect the PGM-FI test harness only to the main wire harness, not to the ECU (page 6-16).

Measure resistance between B10 terminal and B12 terminal.



Is there 350–550 Ω ?

NO → **Repair open in ORN and/or WHT wires.**

YES

Check for continuity to body ground on B10 terminal.

Does continuity exist?

YES → **Repair short in ORN wire between ECU (B10) and distributor connector.**

NO

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

(cont'd)

Troubleshooting Flowchart —— TDC/CRANK/CYL sensor [SOHC] (cont'd)

- Check Engine warning light has been reported on.
- LED indicates CODE 8.

Turn the ignition switch OFF.

Remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.

Start engine.

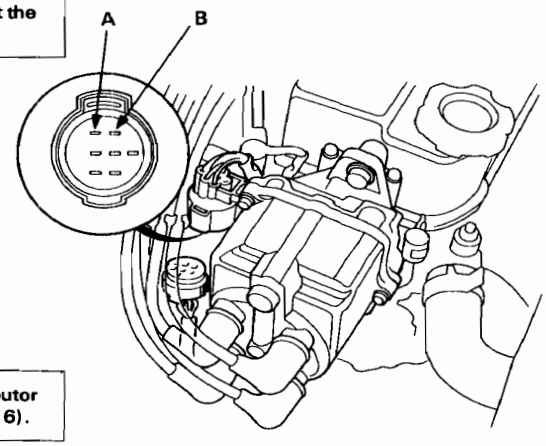
Is Check Engine warning light on and does LED indicate CODE 8?

NO → **Intermittent failure, system is OK at this time (test drive may be necessary). Check for poor connections or loose wires at the distributor connector and C210 (round connector located at the right shock tower).**

YES

Stop engine.

Disconnect the 8P connector from the TDC/CRANK/CYL sensor.



Measure resistance between A terminal and B terminal.

Is there 350—550 Ω ?

NO → **Replace the distributor assembly (section 16).**

YES

Check for continuity to body ground on A terminal and B terminal individually.

Does continuity exist ?

YES → **Replace the distributor assembly (section 16).**

NO

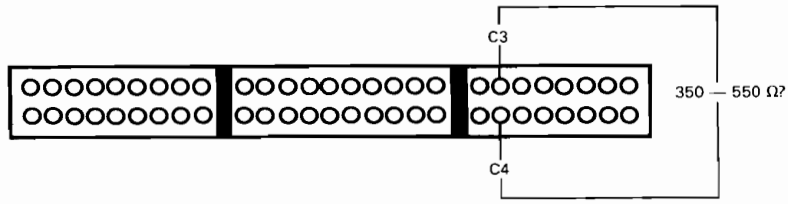
Reconnect the connector.

(To page 6-33)

(From page 6-32)

Connect the PGM-FI test harness only to the main wire harness, not to the ECU (page 6-16).

Measure resistance between C3 terminal and C4 terminal.



Is there 350 — 550 Ω ?

NO → **Repair open in ORN/BLU and/or WHT/BLU wires.**

YES

Check for continuity to body ground on C3 terminal.

Does continuity exist?

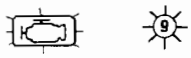
YES → **Repair short in ORN/BLU wire between ECU (C3) and distributor connector.**

NO

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

(cont'd)

Troubleshooting Flowchart —— TDC/CRANK/CYL Sensor [SOHC] (cont'd)



- Check Engine warning light has been reported on.
- LED indicates CODE 9.

Turn the ignition switch OFF.

Remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.

Start engine.

Is Check Engine warning light on and does LED 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 and C210 (round connector located at the right shock tower).**

YES

Stop engine.

Disconnect the 8P connector from the TDC/CRANK/CYL sensor.

Measure resistance between F terminal and G terminal.

Is there 350—550 Ω ?

NO → **Replace the distributor assembly (section 16).**

YES

Check for continuity to body ground on F terminal and G terminal individually.

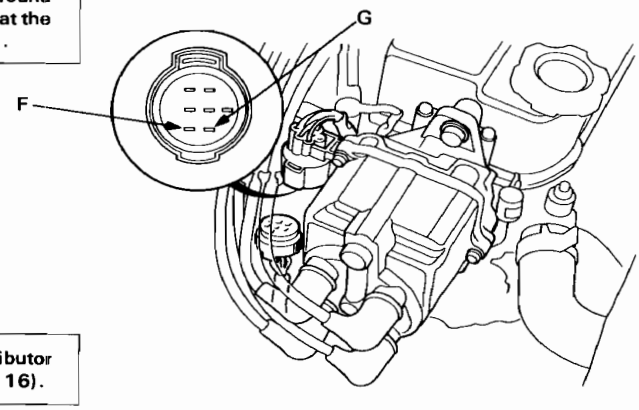
Does continuity exist ?

YES → **Replace the distributor assembly (section 16).**

NO

Reconnect the connector.

(To page 6-35)



(From page 6-34)

Connect the PGM-FI test harness only to the main wire harness, not to the ECU (page 6-16).

Measure resistance between C1 terminal and C2 terminal.

Is there 350 — 550 Ω ?

NO → **Repair open in BLU/GRN and/or BLU/YEL wires.**

YES

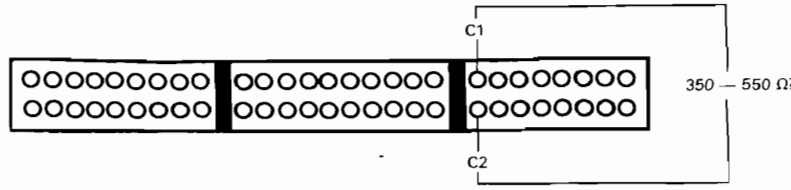
Check for continuity to body ground on C1 terminal.

Does continuity exist?

YES → **Repair short in BLU/GRN wire between ECU (C1) and distributor connector.**

NO

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



Troubleshooting Flowchart — TW Sensor

Self-diagnosis LED indicator blinks six times: Most likely a problem in the Coolant Temperature (TW) Sensor circuit.

- **Check Engine warning light is on.**
- **LED indicates CODE 6.**

Turn the ignition switch OFF

Remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU

Turn the ignition switch ON.

Is Check Engine warning light on and does LED indicate CODE 6?

NO — **Intermittent failure, system is OK at this time (test drive may be necessary).**
Check for poor connections or loose wires at TW sensor, C210 and C212 (round connector and square connector located at the right shock tower).

YES

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

Turn the ignition switch OFF.

Disconnect the 2P connector from the TW sensor.

Measure resistance between the 2 terminals on the TW sensor.

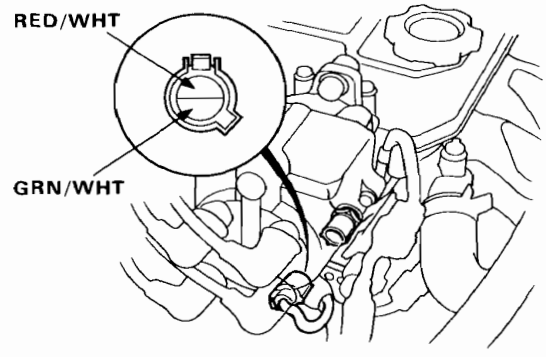
Is there 200—400 Ω ?

NO — **Replace the TW sensor.**

YES

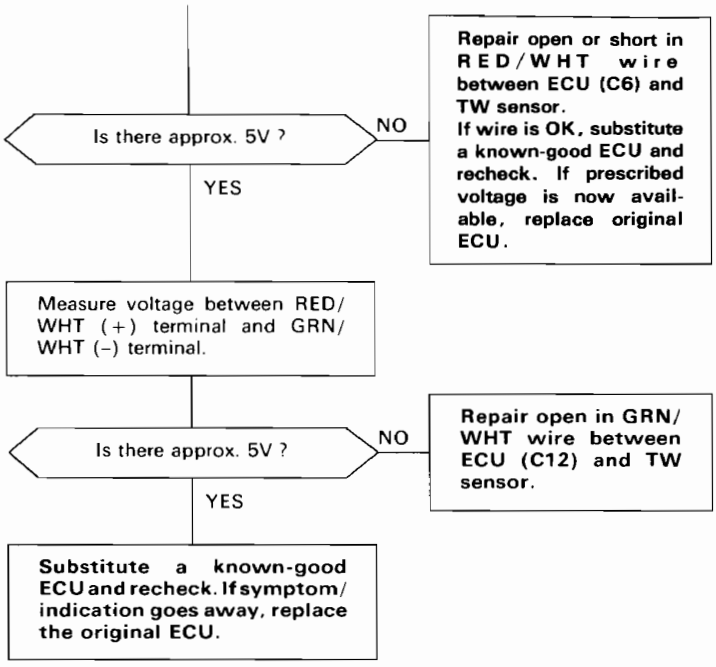
Turn the ignition switch ON.

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



(To page 6-37)

(From page 6-36)



Troubleshooting Flowchart —— Throttle Angle Sensor

Self-diagnosis LED indicator blinks seven times: Most likely a problem in the Throttle Angle Sensor circuit.

- **Engine is running**
- **Check Engine warning light is on**
- **LED indicates CODE 7**

Turn the ignition switch OFF

Remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.

Start engine.

Is Check Engine warning light on and does LED indicate CODE 7?

NO → **Intermittent failure, system is OK at this time (test drive may be necessary).**
Check for poor connections or loose wires at throttle angle sensor and C210 (round connector located at the right shock tower).

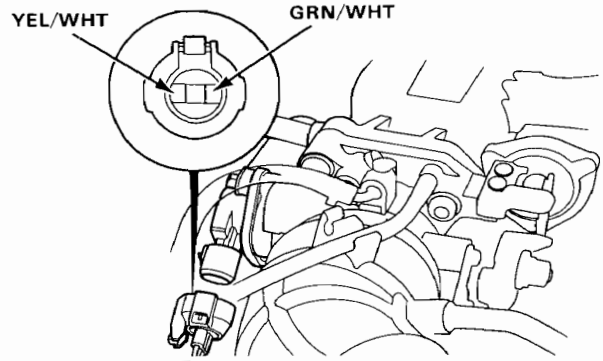
YES

Turn the ignition switch OFF.

Disconnect the 3P connector from the throttle angle sensor.

Turn the ignition switch ON.

Measure voltage between YEL/WHT (+) terminal and GRN/WHT (–) terminal.



Is there approx 5V ?

NO → Measure voltage between YEL/WHT (+) terminal and body ground.

YES

Turn the ignition switch OFF.

Reconnect the 3P connector.

(To page 6-39)

Is there approx. 5V ?

YES → **Repair open in GRN/WHT wire between ECU (C12) and throttle angle sensor.**

NO

Turn the ignition switch OFF.

(To page 6-39)

(From page 6-38)

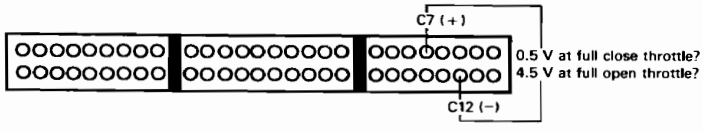
Connect the PGM-FI test harness between the ECU and connector (page 6-16).

Turn the ignition switch ON.

Disconnect #6 hose from the dashpot diaphragm and connect a vacuum pump to the diaphragm.

Apply 500 mm in. Hg to the diaphragm.

Measure voltage between C7(+) terminal and C12(–) terminal.



Is voltage approx. 0.5 V at full close throttle (applying vacuum to the dashpot diaphragm), and approx. 4.5 V at full open throttle?
NOTE: There should be a smooth transition from 0.5 V to 4.5 V as the throttle is depressed.

NO

- **Replace throttle angle sensor.**
- **Repair open or short in RED/BLU wire between ECU (C7) and throttle angle sensor.**

YES

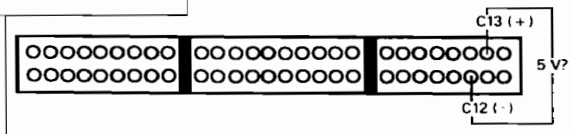
Substitute a known-good ECU and recheck. If symptom/indication goes away, replace the original ECU.

(From page 6-38)

Connect the PGM-FI test harness between the ECU and connector (page 6-16).

Turn the ignition switch ON.

Measure voltage between C13 (+) terminal and C12 (–) terminal.



Is there approx. 5V ?

YES

Repair open in YEL/WHT wire between ECU(C13) and throttle angle sensor.

NO

Substitute a known-good ECU and recheck. If prescribed voltage is now available, replace the original ECU.

Troubleshooting Flow Chart —— CYL Sensor [DOHC]

Self-diagnosis LED indicator blinks nine times: A problem in the CYL sensor.

–Check Engine warning light has been reported on.
–LED indicates CODE 9.

Turn the ignition switch OFF.

Remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.

Start engine.

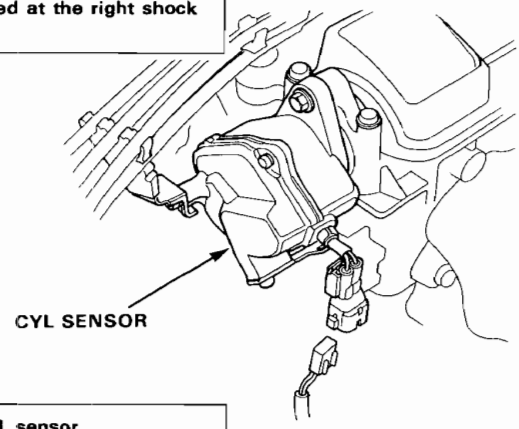
Is Check Engine warning light on? Does LED indicate CODE 9?

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 and C210 (round connector located at the right shock tower).

YES

Stop engine.

Disconnect the 2P connector from the CYL sensor.



Measure resistance between 2 terminals on the CYL sensor.

Is there 700—1,000 Ω?

NO → **Replace CYL sensor.**

YES

Check for continuity to body ground on the 2 terminals individually.

Does continuity exist?

YES → **Replace CYL sensor.**

NO

(To page 6-41)

(From page 6-40)

Reconnect the connector.

Connect the PGM-FI test harness only to the main wire harness, not to the ECU (page 6-16).

Measure resistance between C1 terminal and C2 terminal.

Is there 700—1,000 Ω?

NO → **Repair open in BLU/GRN and/or BLU/YEL wires.**

YES

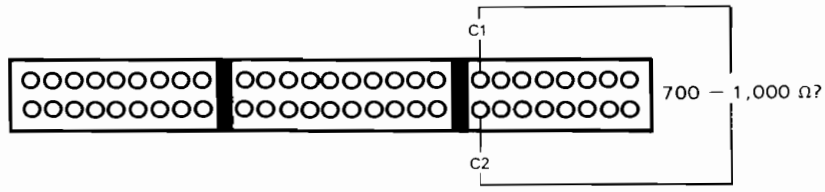
Check for continuity to body ground on C1 terminal.

Does continuity exist?

YES → **Repair short in BLU/GRN wire between ECU (C1) and distributor connector.**

NO

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



Troubleshooting Flowchart —— TA Sensor

Self-diagnosis LED indicator blinks ten times: Most likely a problem in the Intake Air Temperature (TA) Sensor circuit.

– Check Engine warning light is on.
– LED indicates CODE 10

Turn the ignition switch OFF.

Remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.

Turn the ignition switch ON.

Is Check Engine warning light on and does LED indicate CODE 10?

NO → **Intermittent failure, system is OK at this time (test drive may be necessary).**
Check for poor connections or loose wires at TA sensor, C210 and C212 (round connector and square connector located at the right shock tower).

YES

Turn the ignition switch OFF.

Disconnect the 2P connector from the TA sensor.

Measure resistance between the 2 terminals on the TA sensor.

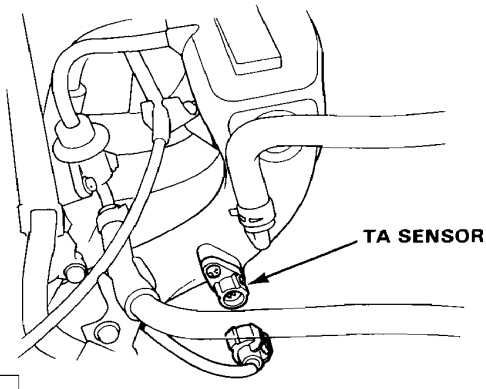
Is there 1–4 kΩ ?

NO → **Replace TA sensor.**

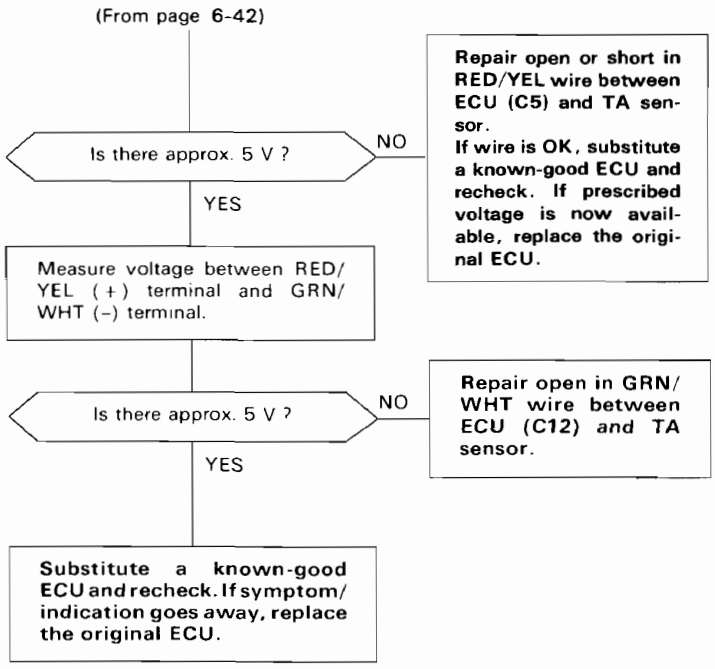
YES

Turn the ignition switch ON.

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



(To page 6-43)


(From page 6-42)
Is there approx. 5 V ?
NO
Repair open or short in RED/YEL wire between ECU (C5) and TA sensor.
If wire is OK, substitute a known-good ECU and recheck. If prescribed voltage is now available, replace the original ECU.
YES
Measure voltage between RED/YEL (+) terminal and GRN/WHT (–) terminal.
Is there approx. 5 V ?
NO
Repair open in GRN/WHT wire between ECU (C12) and TA sensor.
YES
Substitute a known-good ECU and recheck. If symptom/indication goes away, replace the original ECU.

Troubleshooting Flowchart —— PA Sensor

Self-diagnosis LED indicator blinks thirteen times: A problem in the Atmospheric Pressure (PA) Sensor circuit.

– Check Engine warning light is on.
– LED indicates CODE 13.

Turn the ignition switch OFF.

Remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.

Turn the ignition switch ON.

Is Check Engine warning light on and does LED indicate CODE 13?

NO → **Intermittent failure, system is OK at this time (test drive may be necessary). Check for poor connections or loose wires at the PA sensor.**

YES

Turn the ignition switch OFF.

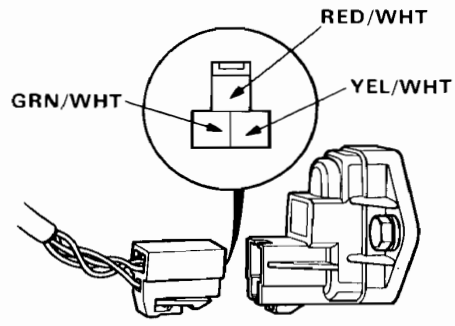
Disconnect the main wire harness from PA sensor.

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

Is there approx. 5V?

YES → Measure voltage between YEL/WHT (+) terminal and GRN/WHT (−) terminal.

NO → **Repair open in YEL/WHT wire between ECU (C13) and the sensor. If wire is OK, substitute a known-good ECU and recheck. If prescribed voltage is now available replace the original ECU.**



Is there approx. 5V?

NO → **Repair open or short in GRN/WHT wire between ECU (C12) and the sensor. If wire is OK, substitute a known-good ECU and recheck. If prescribed voltage is now available, replace the original ECU.**

YES

Measure voltage between RED/WHT (+) terminal and GRN/WHT (−) terminal.

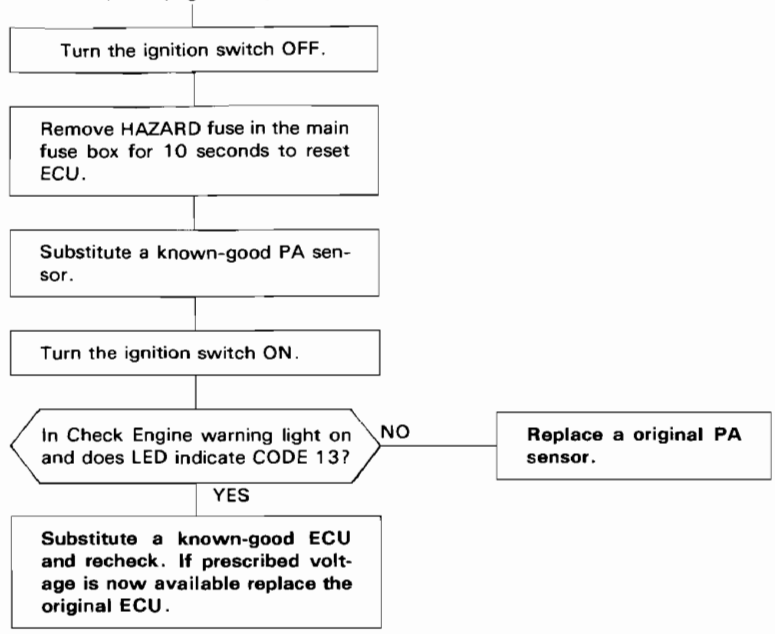
Is there approx. 5V?

NO → **Repair open or short in RED/WHT wire between ECU (C9) and PA sensor. If wire is OK, substitute a known-good ECU and recheck. If prescribed voltage is now available, replace the original ECU.**

YES

(To page 6-45)

(From page 6-44)



Troubleshooting Flowchart — Ignition Output Signal

Self-diagnosis LED indicator blinks fifteen times; A problem in the Ignition Output Signal circuit.

- **Check Engine warning light is on.**
- **LED indicates CODE 15.**

Turn the ignition switch OFF.

Remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.

Start engine.

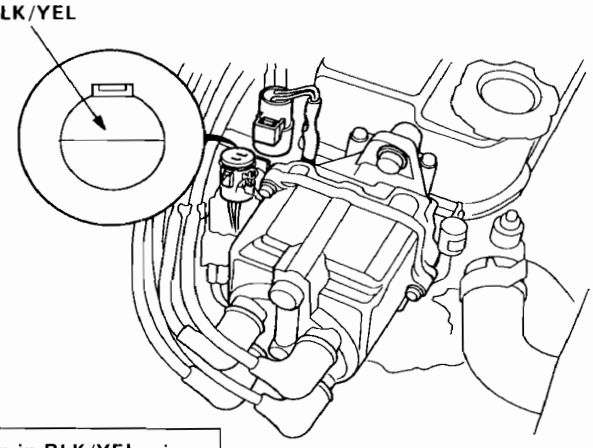
Is Check Engine warning light on and does LED indicate CODE 15?

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 and C211 (squaire connector located at the right shock tower).

YES

Turn the ignition switch OFF.

Disconnect the 2P connector from the distributor



Turn the ignition switch ON.

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

Is there battery voltage ?

NO — **Repair open in BLK/YEL wire between the 2P connector and ignition switch.**

YES

Turn the ignition switch OFF.

Reconnect the 2P connector.

(To page 6-47)

(From page 6-46)

Connect the PGM-FI test harness between the ECU and connector (page 6-16).

Turn the ignition switch ON.

Measure voltage individually between B15 (+), B17 (+) terminals and A18 (–) terminal.

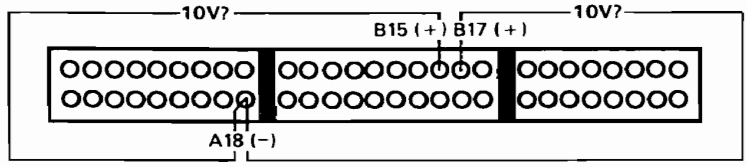
Is there approx. 10 V?

NO

- **Replace the igniter unit.**
- **Repair open or short in WHT wires between distributor and ECU (B15 or B17).**

YES

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



Troubleshooting Flowchart — Vehicle Speed Sensor

Self-diagnosis LED indicator blinks seventeen times: A problem in the Vehicle Speed Sensor circuit.

- **Check Engine warning light is on.**
- **LED indicates CODE 17.**

Turn the ignition switch OFF.

Remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.

Road test necessary:
In 2nd gear accelerate to 3,500 min^{-1} (rpm) and decelerate to 1,500 min^{-1} (rpm) with throttle fully closed.

Is Check Engine warning light and does LED indicate CODE 17?

NO → **Intermittent failure, system is OK at this time. Check for poor connections or loose wires at C405 and C710.**

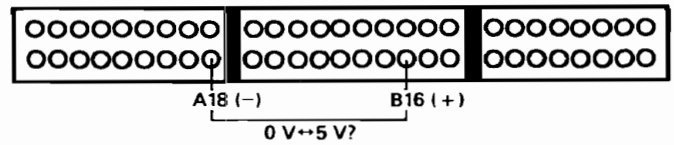
YES

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.**

Connect the PGM-FI test harness between the ECU and connector (page 6-16).

Turn the ignition switch ON.



Slowly rotate left front wheel and measure voltage between B16 (+) terminal and A18 (–) terminal.

Does voltage pulse 0V and 5V ?

NO →
- **Repair open or short in YEL/RED wire between ECU (B16) and the speed sensor.**
- **Faulty speed sensor.**
- **Substitute a known-good ECU and recheck. If symptom/indication goes away, replace the original ECU.**

YES

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

Idle Control 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.
- If the idle speed is out of specification and LED does not blink CODE 14, go to inspection described on page 6-51.

PAGE / SUB SYSTEM / SYMPTOM		IDLE ADJUSTING SCREW	EACV	AIR CONDITIONING SIGNAL	ALTERNATOR FR SIGNAL	STARTER SWITCH SIGNAL	FAST IDLE CONTROL	HOSES AND CONNECTIONS
		58	—	52	54	—	57	*
ENGINE WON'T START			②					①
DIFFICULT TO START ENGINE WHEN COLD		②	①					
WHEN COLD FAST IDLE OUT OF SPEC (1,000—2,000 min^{-1} rpm)		②	①					③
ROUGH IDLE		③	②					①
WHEN WARM ENGINE SPEED TOO HIGH		③	②					①
WHEN WARM ENGINE SPEED TOO LOW	Idle speed is below specified rpm (no load)	②	①		③			
	Idle speed does not increase after initial start up.		①			②		
	Idle speed drops when blipping throttle with electrcal load		②		①			
	Idle speeds drops when air conditioner in ON	③	②	①				
FREQUENT STALLING	WHILE WARMING UP	②	①					
	AFTER WARMING UP	②	①					
FAILS EMISSION TEST								①

1. When the idle speed is out of specification and LED does not blink CODE 14, check the following items:
   - Adjust the idle speed (page 6-58)
   - Air conditioning signal (page 6-52)
   - Alternator FR signal (page 6-54)
   - Starter switch signal
   - Fast idle control (page 6-57)
   - Hoses and connections
   - EACV and its mounting O-rings.

2. If the above items are normal, substitute a known-good EACV and readjust the idle speed (page 6-58)

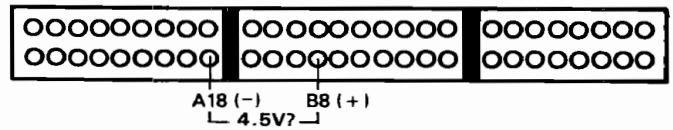
   ● If the idle speed still cannot be adjusted to specification (and LED does not blink CODE 14) after EACV replacement, substitute a known-good ECU and recheck. If symptom goes away, replace the original ECU.

Troubleshooting Flowchart — Air Conditioning Signal

Inspection of Air Conditioning Signal.

Connect the PGM-FI test harness between the ECU and connector (page 6-16) Disconnect "B" connector from the main wire harness only, not the ECU.

Turn the ignition switch ON.



Measure voltage between B8 (+) terminal and A18 (–) terminal.

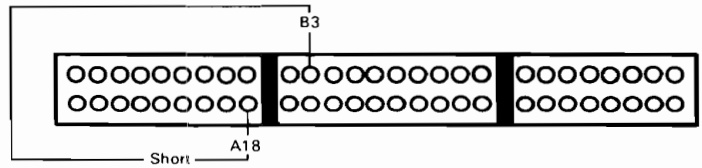
Is there approx. 4.5 V?

NO → **Substitute a known-good ECU and recheck. If prescribed voltage is now available, replace the original ECU.**

YES

Reconnect "B" connector to the main wire harness.

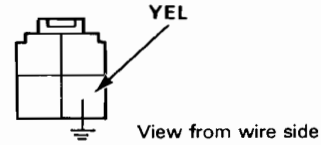
Momentarily connect B3 terminal to A18 terminal several times.



Is there a clicking noise from the A/C compressor clutch?

NO → Connect the YEL terminal of the 4P connector on the A/C clutch relay to body ground.

YES



Start engine.

Blower switch ON.

(To page 6-53)

Is there a clicking noise from the A/C compressor clutch?

NO → **See Air conditioner inspection (section 16).**

YES

Repair open in YEL wire between ECU (B3) and A/C clutch relay.

(From page 6-52)

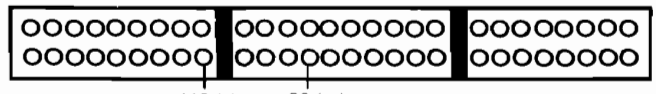
A/C switch ON.

Does A/C operate ?

NO

YES

Air conditioning signal is OK.



Less than 1 V?

Measure voltage between B8 (+) terminal and A18 (–) terminal.

Is voltage less than 1 V?

NO

Repair open in BLU/RED wire between ECU (B8) and A/C switch.

YES

Substitute a known-good ECU and recheck. If prescribed voltage is now available, replace the original ECU.

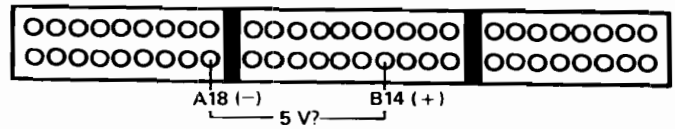
Troubleshooting Flowchart — Alternator FR Signal

Inspection of Alternator FR signal.

Connect the PGM-FI test harness between the ECU and connector (page 6-16). Disconnect "B" connector from the main wire harness only, not the ECU.

Turn the ignition switch ON.

Measure voltage between B14 (+) terminal and A18 (–) terminal.



Is there approx. 5V ?

NO → **Substitute a known-good ECU and recheck. If prescribed voltage is now available, replace the original ECU.**

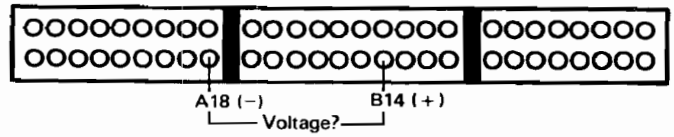
YES

Turn the ignition switch OFF.

Reconnect "B" connector to the main wire harness.

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

Measure voltage between B14 (+) terminal and A18 (–) terminal.



Does the voltage decrease when headlight and rear defogger are turned on ?

NO → Stop engine.

YES

Alternator FR signal is OK.

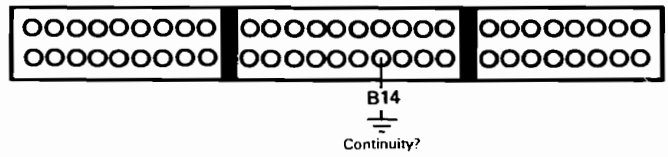
(To page 6-55)

(From page 6-54)

Disconnect "B" connector from ECU only, not the main wire harness.

Disconnect the negative battery cable from the battery.

Check for continuity between B14 terminal and body ground.



Does continuity exist ?

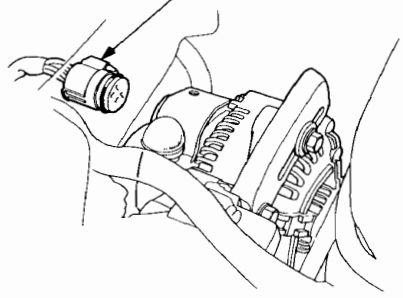
YES

Disconnect GRN connector from the alternator

NO

Disconnect GRN connector from the alternator

GRN CONNECTOR



Connect BLU wire to body ground.

Check for continuity between B14 terminal and body ground.

Does continuity exist ?

YES

See Alternator Inspection (section 16).

NO

Repair open in BLU wire between ECU (B14) and alternator.

Check for continuity between B14 terminal and body ground.

Does continuity exist ?

NO

See Alternator Inspection (section 16).

YES

Repair short in BLU wire between ECU (B14) and alternator.

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.

SYMPTOM \ SUB SYSTEM		FUEL INJECTOR	INJECTOR RESISTOR	PRESSURE REGULATOR	FUEL FILTER	FUEL PUMP	MAIN RELAY	CONTAMINATED FUEL
PAGE		60	—	—	—	63	—	*
ENGINE WON'T START			③			①	②	
DIFFICULT TO START ENGINE WHEN COLD		③			②	①		
ROUGH IDLE		①		②				③
FREQUENT STALLING	WHILE WARMING UP	①			②	③		
	AFTER WARMING UP	①			③	②		
POOR PERFORMANCE	MISFIRE OR ROUGH RUNNING	①		②				③
	FAILS EMISSION TEST	①		②				
	LOSS OF POWER				①	③		②

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

Fuel Injectors

Troubleshooting Flowchart

With CATA Self-diagnosis LED indicator blinks sixteen times: A problem in the fuel injector circuit.

With CATA

- **Check Engine warning light is on.**
- **LED indicates CODE 16.**

NOTE: On With CATA models. Start the troubleshooting from this procedure.

Turn the ignition switch OFF.

Remove HAZARD fuse in the main fuse box for 10 seconds to reset ECU.

Turn the ignition switch to START position.

NOTE: On Without CATA models. Start the troubleshooting from this procedure.

Does the engine start ?

NO

YES

With CATA only

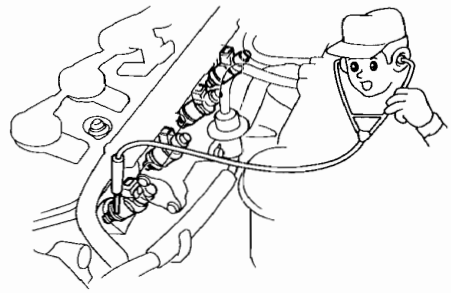
Intermittent failure, system is OK at this time (test drive may be necessary). Check for poor connections or loose wires at injectors, injector resister and C313 (round connector on left shock tower).

Is Check Engine warning light and does LED indicate CODE 16?

NO

YES

Check the clicking sound of each injector by means of a stethoscope when the engine is idling.



Do the injectors click ?

YES

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

NO

(To page 6-61)

(To page 6-61)

(From page 6-60)

Turn the ignition switch OFF.

Disconnect the 2P connector from the injector that does not click.

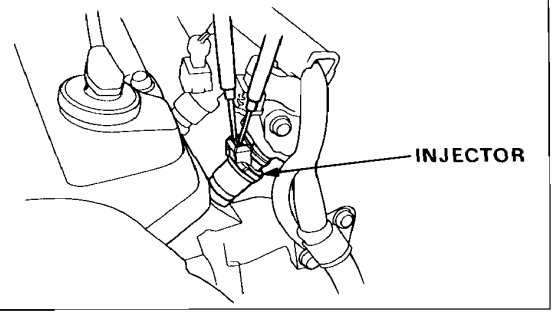
Measure resistance between the 2 terminals of the injector.

(From page 6-60)

Turn the ignition switch OFF.

Disconnect the 2P connector from each injector.

Measure resistance between the 2 terminals of the injector.



Is there 1.5—2.5Ω ?

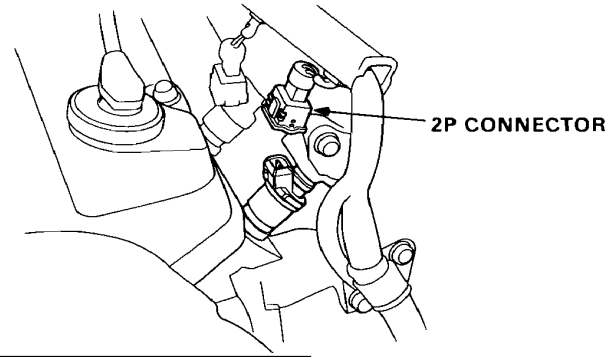
NO

Replace the injector.

YES

Turn the ignition switch ON.

Measure voltage between RED/BLK (+) terminal on the 2P connector and body ground.



Is there battery voltage ?

NO

YES

Turn the ignition switch OFF.

Disconnect 6P connector on the injector resistor.

Turn the ignition switch ON.

Measure voltage between the following terminals,

- No. 1 injector: RED/BLK (+) terminal and BRN (–) terminal.
- No. 2 injector: RED/BLK (+) terminal and RED (–) terminal.
- No. 3 injector: RED/BLK (+) terminal and LT BLU (–) terminal
- No. 4 injector: RED/BLK (+) terminal and YEL (–) terminal

(To page 6-62)

(To page 6-62)

(cont'd)

Fuel Injectors (cont'd)

(From page 6-61)

Is there battery voltage ?

YES

NO

Reconnect the 2P connector to the injector.

Turn the ignition switch OFF.

Connect the PGM-FI test harness between the ECU and connector (page 6-16).

Turn the ignition switch ON.

Measure voltage between A2 (–) terminal and following terminals,
- No.1 injector: A1 (+) terminal.
- No.2 injector: A3 (+) terminal.
- No.3 injector: A5 (+) terminal.
- No.4 injector: A7 (+) terminal.

Is there battery voltage ?

NO

YES

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

(From page 6-61)

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

Is there battery voltage ?

NO

Repair open in the YEL/BLK wire between the injector resistor and the main relay.

YES

- **Replace the injector resistor.**
- **Repair open in RED/BLK wire between 2P connector and resistor.**

Disconnect C451 (17P) connector from the ECU.

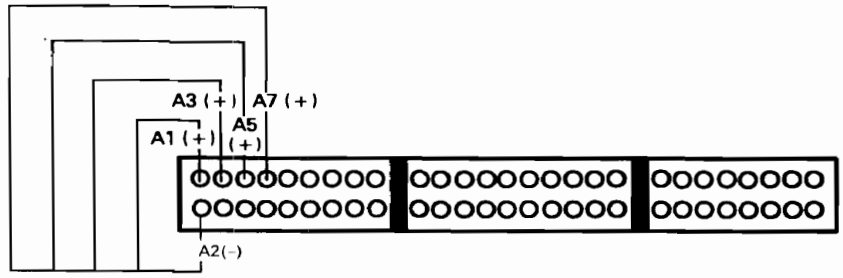
Is there battery voltage ?

YES

Repair short in the wire between the ECU (A1, A3, A5 or A7) and the injector.

NO

Substitute a known-good ECU and recheck. If prescribed voltage is now available, replace the original ECU.



Repair open in the wire between the ECU (A1, A3, A5 or A7) and the injector.

Fuel Pump

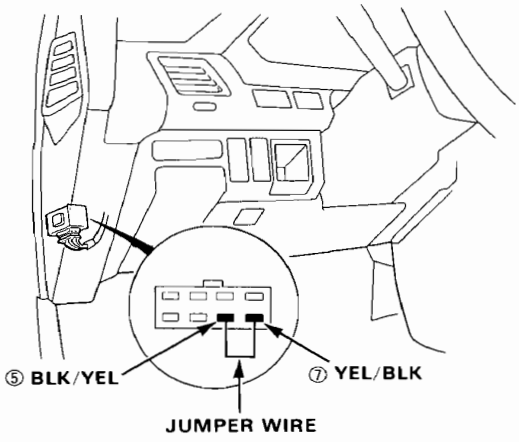
Testing

WARNING Do not smoke during the test. Keep open flame away from your work area.

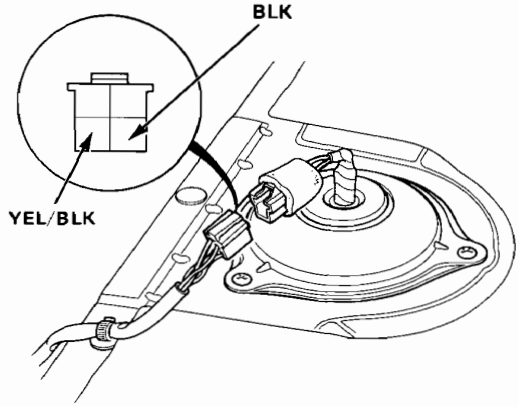
If you suspect a problem with the fuel pump, check that the fuel pump actually runs; when it is ON, you will hear some noise if you hold your ear to the fuel filler port with the fuel filler cap removed. If the pump does not make noise, check as follows:

1. Remove the rear seat.
2. Disconnect the 4P connector.

   CAUTION: Be sure to turn the ignition switch OFF before disconnecting the wires.
3. Connect the BLK/YEL⑤ wire and YEL/BLK⑦ wire with a jumper wire.



4. Check that battery voltage is available at the fuel pump connector when the ignition switch is turned ON (positive probe to the YEL/BLK wire, negative probe to the BLK wire).



- If battery voltage is available, replace the fuel pump.
- If there is no voltage, check the main relay and wire harness.

Air Intake System

System Troubleshooting Guide

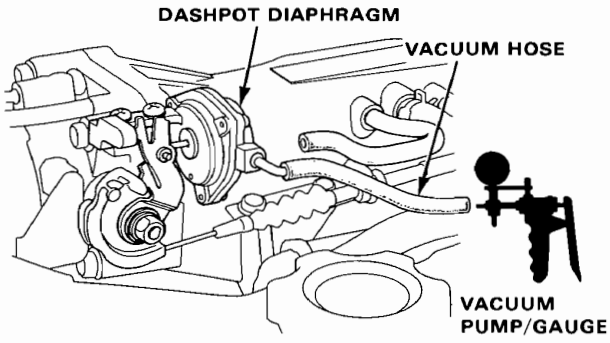
NOTE: Across each row in the chart, the sub systems that could be sources of a symptom are ranked in the order they should be inspected starting with ①. Find the symptom in the left column, read across to the most likely source, then refer to the page listed at the top of that column. If inspection shows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

PAGE / SUB SYSTEM / SYMPTOM	THROTTLE CABLE	THROTTLE BODY	THROTTLE CONTROL SYSTEM
	65	66	69
DIFFICULT TO START ENGINE WHEN COLD			①
WHEN COLD FAST IDLE OUT OF SPEC	③	②	①
WHEN WARM IDLE SPEED TOO HIGH	③	②	①
WHEN WARM IDLE SPEED TOO LOW		①	
FREQUENT STALLING WHILE WARMING UP	①	②	②
LOSS OF POWER	①	①	

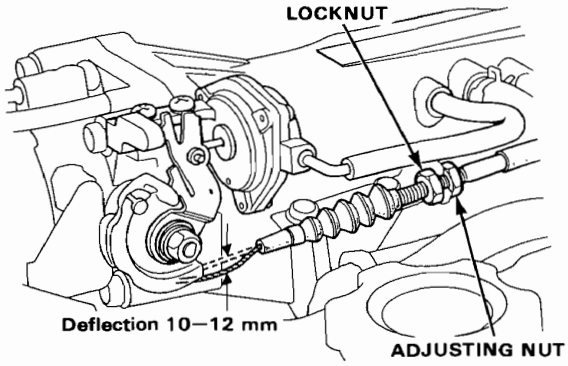
Throttle Cable

Inspection/Adjustment

1. Warm up the engine to normal operating temperature (cooling fan comes on).
2. Check that the throttle cable operates smoothly with no binding or sticking. Repair as necessary.
3. Disconnect #6 hose from the dashpot diaphragm and connect a vacuum pump to the diaphragm. Apply vacuum.



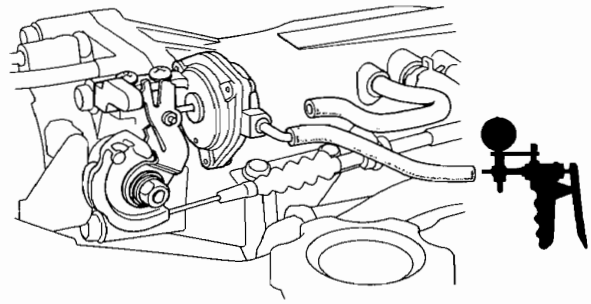
4. Check cable free play at the throttle linkage. Cable deflection should be 10—12 mm (0.39—0.47 in.)



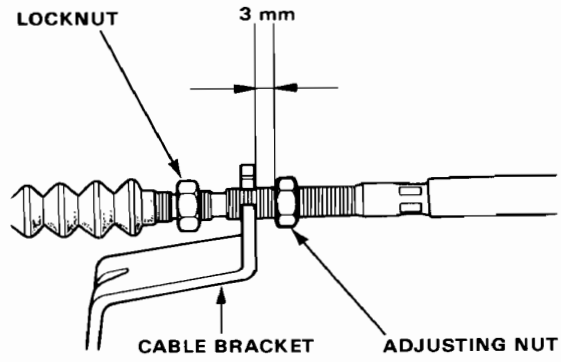
5. If deflection is not within specs, loosen the locknut and turn the adjusting nut until the deflection is as specified.
6. With the cable properly adjusted, check the throttle valve to be sure it opens fully when you push the accelerator pedal to the floor. Also check the throttle valve to be sure it returns to the idle position whenever you release the accelerator.

Installation

1. Fully open the throttle valve, then install the throttle cable in the throttle linkage and install the cable housing in the cable bracket.
2. Warm up the engine to normal operating temperature (the cooling fan comes on).
3. Disconnect #6 hose from the dashpot diaphragm and connect a vacuum pump to the diaphragm. Apply vacuum.



4. Hold the cable sheath, removing all slack from the cable.
5. Turn the adjusting nut until it is 3 mm away from the cable bracket.
6. Tighten the locknut.

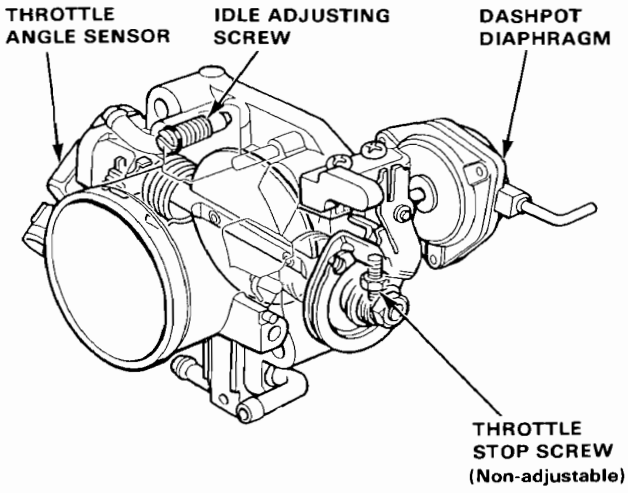


7. Disconnect the vacuum pump and connect the #6 vacuum hose.

Throttle Body

Description

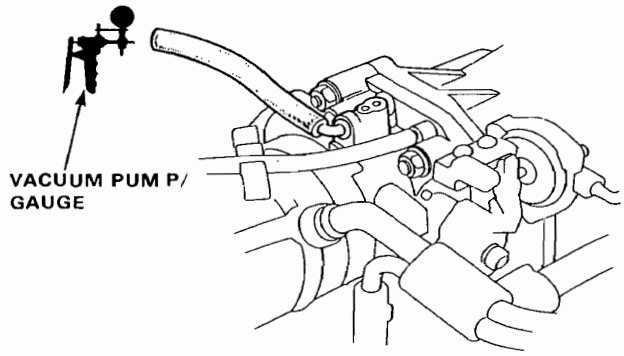
The throttle body is of the single-barrel side-draft type. The lower portion of the throttle valve is heated by engine coolant from the cylinder head. The idle adjusting screw which increases/decreases bypass air and the canister/ purge port are located on the top of the throttle body.



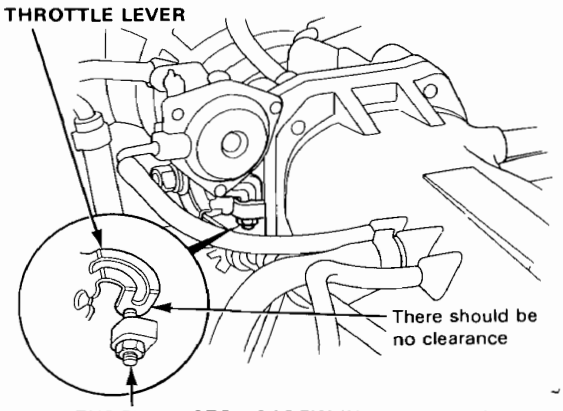
Inspection

CAUTION: Do not adjust the throttle stop screw since it can not be reset except at the factory.

1. Start the engine and allow to reach normal operating temperature (cooling fan comes on).
2. Disconnect the vacuum hose (to the canister) from the top of the throttle body; connect a vacuum gauge to the throttle body.



3. Allow the engine to idle and check that the gauge indicates no vacuum.
   - If there is vacuum, check the throttle control system (page 6-69).
4. Check that vacuum is indicated on the gauge when the throttle is opened slightly from idle.
   - If the gauge indicates no vacuum, check the canister port. If the canister port is clogged, clean it with carburetor cleaner.
5. Stop the engine and check that the throttle cable operates smoothly without binding or sticking.
   - If there are any abnormalities in the above steps, check for:
   - Excessive wear or play in the throttle valve shaft.
   - Sticky or binding throttle lever at full close position.
   - Clearance between throttle stop screw and throttle lever at full close position.

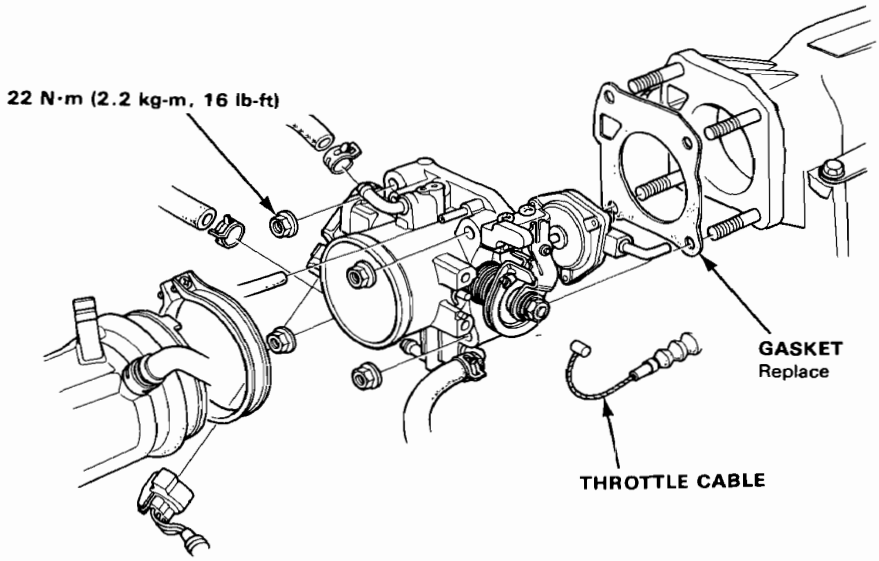


Replace the throttle body if there is excessive play in the throttle valve shaft or if the shaft is binding or sticking.

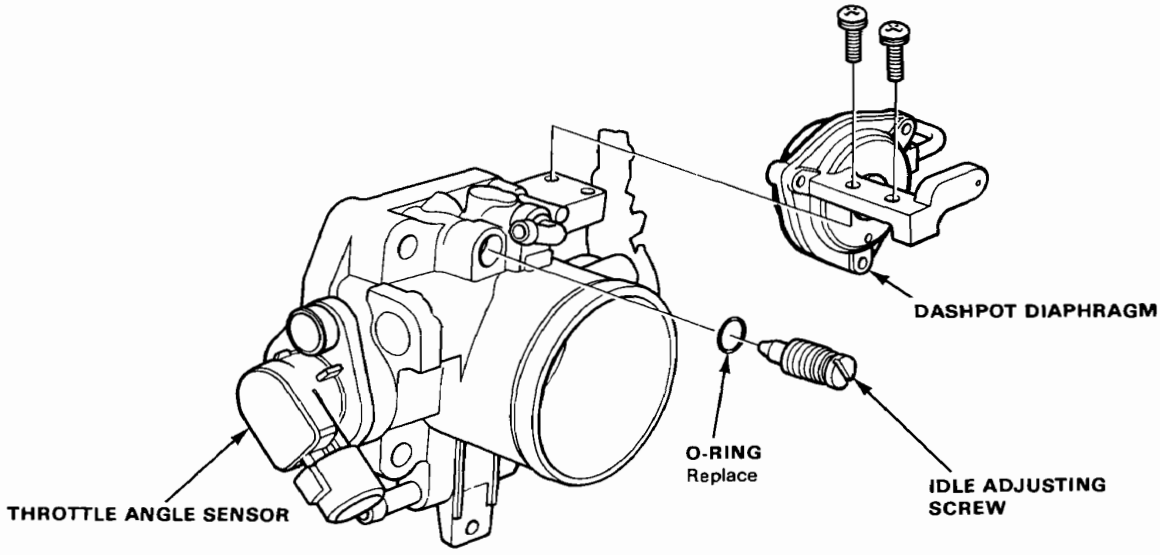
(cont'd)

Throttle Body (cont'd)

Disassembly



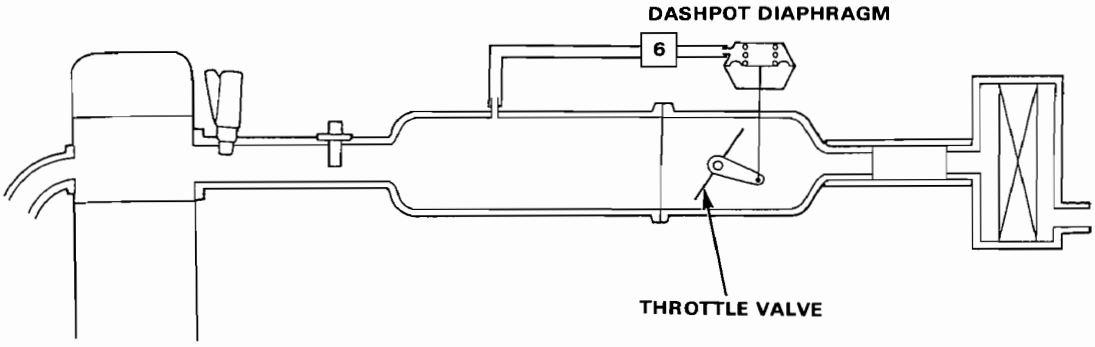
CAUTION:
- **The throttle stop screw in non-adjustable.**
- **After reassembly, adjust the throttle cable (page 6-65).**



Throttle Control System

Description

The dashpot diaphragm functions as a cranking opener.
When the engine is at idle, intake manifold vacuum is applied on the dashpot diaphragm, pulling up the diaphragm rod so that the throttle valve is in the idle position.
During cranking with the starter, the spring in the dashpot diaphragm pushes the throttle valve open a certain amount for assisting engine starting.



(cont'd)

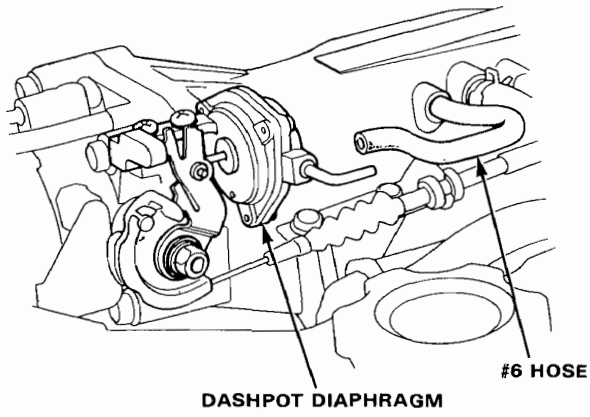
Throttle Control System (cont'd)

Testing

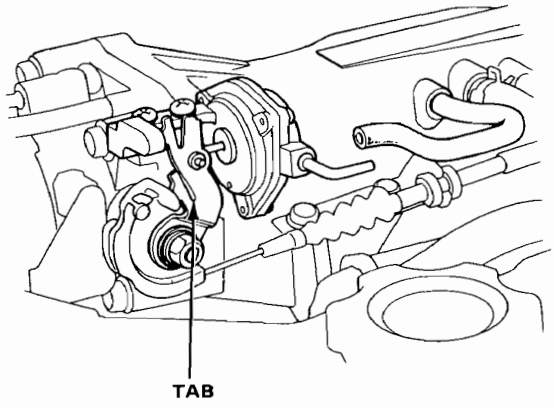
1. Start the engine and warm up to normal operating temperature (the cooling fan comes on).
2. Disconnect the #6 vacuum hose from the dashpot diaphragm and check the engine speed.

Engine speed should be:

Manual	2,500±500 min^{-1} (rpm)
Automatic	2,500±500 min^{-1} (rpm)

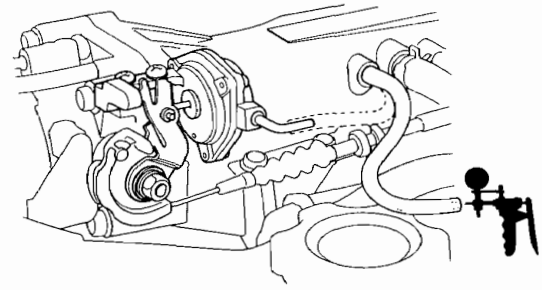


- If the engine speed is excessively high, adjust the engine speed by bending TAB.



- 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, blockage or disconnected hose.

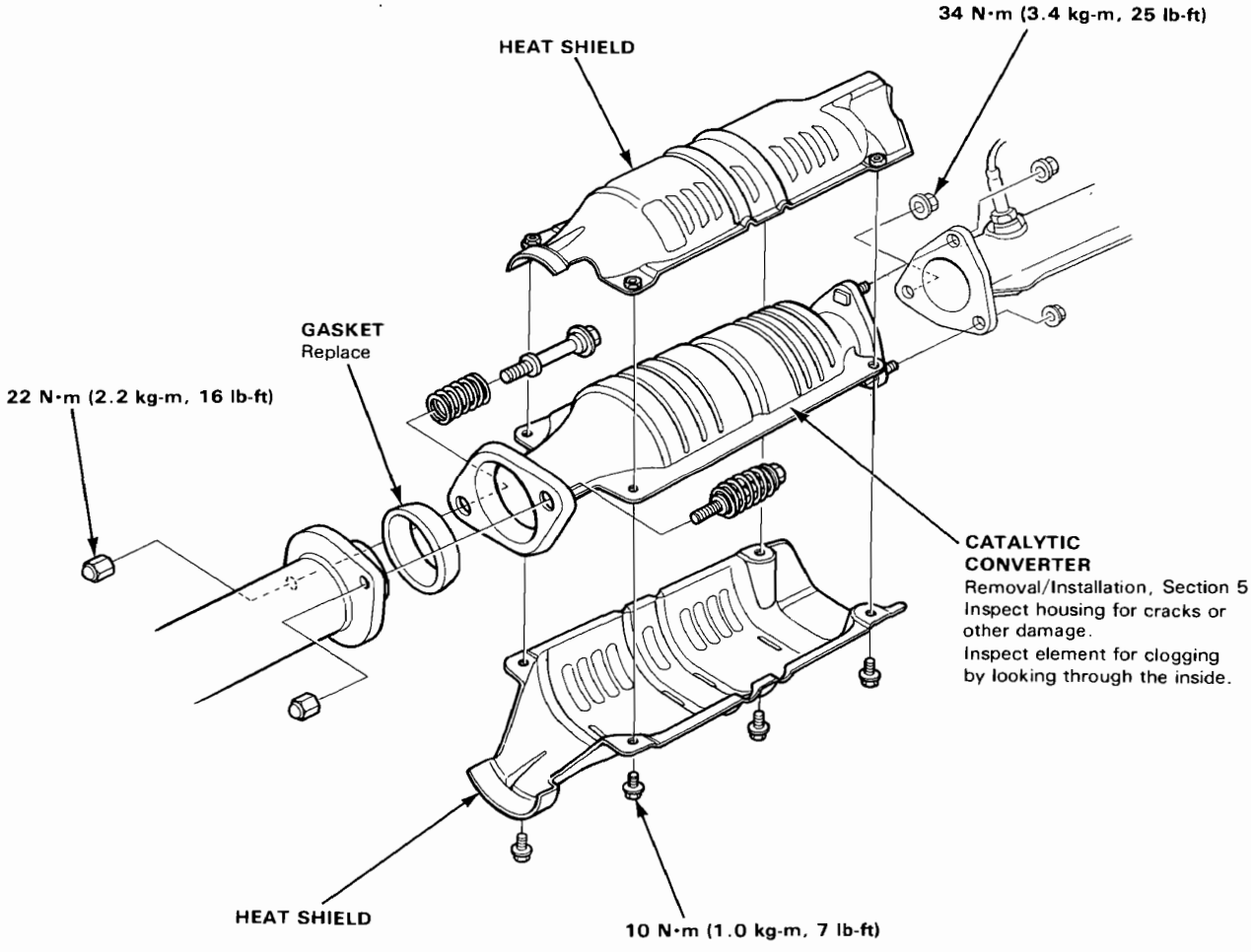
3. Reconnect the #6 vacuum hose and check the idle speed.

   Idle speed should be within specification (page 6-58).

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 more than 50% of the visible area is damaged or plugged.



Evaporative Emission Controls [With CATA Ex. KQ]

Troubleshooting Flowchart

Inspection of Evaporative Emission Controls

Disconnect #7 hose from the purge control diaphragm valve (on the charcoal canister) and connect a vacuum gauge to the hose.

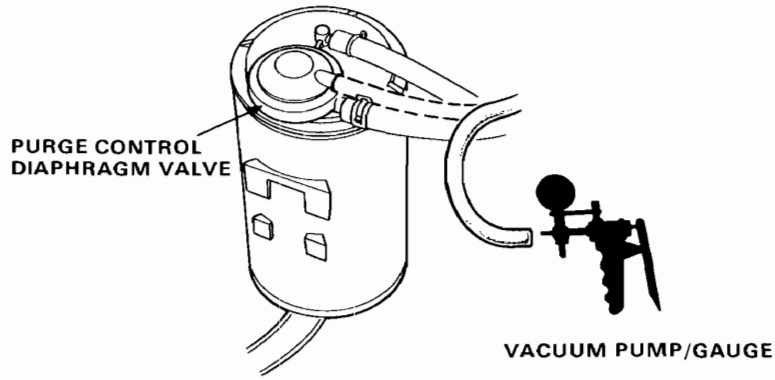
Start the engine and allow to idle. NOTE: Engine coolant temperature must be below 57 °C (135 °F).

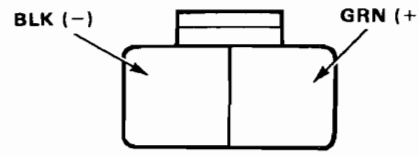
Is there vacuum ?

YES

Disconnect the 2P connector.

NO





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

Is there battery voltage ?

YES

Replace purge cut-off solenoid valve.

NO

Measure voltage between GRN (+) terminal and body ground.

(To page 6-73)

(To page 6-73)

(From page 6-72)

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

Check for vacuum at #7 hose 5 seconds after starting the engine.

(To page 6-74)

(From page 6-72)

Is there battery voltage ?

YES → **Repair open in BLK wire between the 2P connector and G201.**

NO

Turn the ignition switch OFF.

Connect the PGM-FI test harness between the ECU and connector (page 6-16).

Turn the ignition switch ON.

Measure voltage between A6 (+) terminal and A18 (–) terminal.

Is there battery voltage?

YES → **Repair open in GRN wire between ECU (A6) and the 2P connector.**

NO

Inspect for a short on GRN wire between ECU (A6) and 2P connector. If wire is OK, substitute a known-good ECU and recheck. If prescribed voltage is now available, replace the original ECU.

(cont'd)

Evaporative Emission Controls [With CATA Ex. KQ] (cont'd)

(From page 6-73)

Is there vacuum ?

NO

Disconnect the 2P connector.

Is there manifold vacuum?

YES

Replace purge cut-off solenoid valve.

NO

Turn the ignition switch OFF.

Disconnect "A" connector from ECU.

Check for continuity to ground on GRN wire.

Is there continuity to ground ?

YES

Repair short to ground in GRN wire between ECU (A6) and the 2P connector.

NO

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

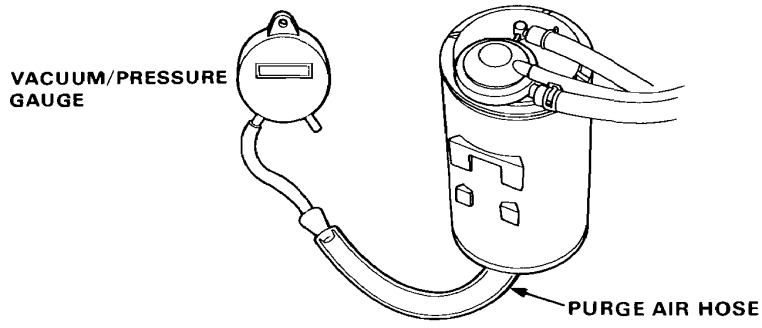
YES

Remove fuel filler cap.

Connect a vacuum gauge to canister purge air hose.

Start the engine and raise speed to 3,500 min^{-1} (rpm).

(To page 6-75)



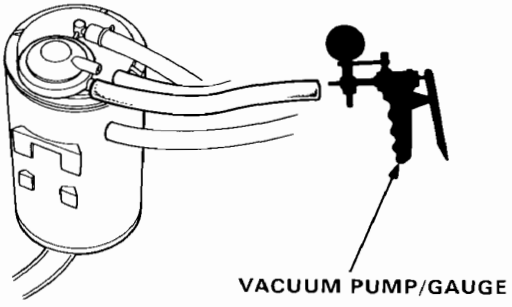
(From page 6-74)

Does vacuum appear on gauge within 1 minute ?

NO → **Replace the canister.**

YES

Evaporative emission controls are OK.



Evaporative Emission Controls [KQ]

Troubleshooting Flowchart

Inspection of Evaporative Emission Controls

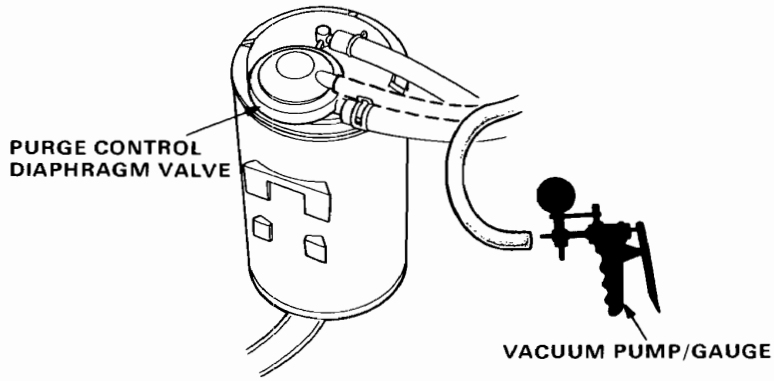
Disconnect #7 hose from the purge control diaphragm valve (on the charcoal canister) and connect a vacuum gauge to the hose.

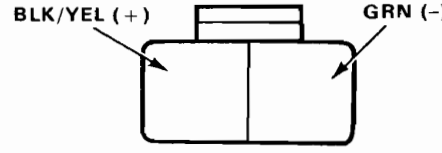
Start the engine and allow to idle. NOTE: Engine coolant temperature must be below 80°C (176°F).

Is there vacuum ?

YES → Disconnect the 2P connector.

NO





Measure voltage between BLK/YEL (+) terminal and GRN (–) terminal.

Is there battery voltage ?

YES → **Inspect #7 hose routing. If OK, replace purge cut-off solenoid valve.**

NO

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

(To page 6-77)

(To page 6-77)

(From page 6-76)

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

Check for vacuum at #7 hose 5 seconds after starting the engine with the throttle valve is slightly opened.

Is there manifold vacuum ?

NO → Disconnect the 2P connector.

YES

Reconnect the hose.

Remove fuel filler cap.

(To page 6-78)

(From page 6-76)

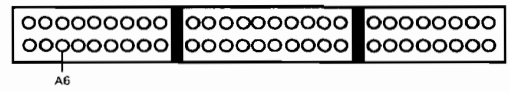
Is there battery voltage ?

NO → **Repair open in BLK/YEL wire between No. 14 fuse and the 2P connector.**

YES

Turn the ignition switch OFF.

Connect the PGM-FI test harness to the main wire harness only, not the ECU (page 6-16).



Check for continuity of GRN wire between ECU (A6) and the 2P connector.

Does continuity exist ?

NO → **Repair open in GRN wire between ECU (A6) and the 2P connector.**

YES

Substitute a known-good ECU and recheck. If prescribed voltage is now available, replace the original ECU.

Is there manifold vacuum ?

NO → **Inspect #7 hose routing. If OK, purge cut-off solenoid valve.**

YES

Turn the ignition switch OFF.

Disconnect "A" connector from ECU.

Check for continuity to ground on GRN wire.

(To page 6-78)

(cont'd)

Evaporative Emission Controls [KQ] (cont'd)

(From page 6-77)

Connect a vacuum gauge to canister purge air hose.

Start the engine and rise speed to 3,500 min^{-1} (rpm).

Does vacuum appear on gauge within 1 minute ?

NO → **Replace the canister.**

YES

See two way valve test to complete.
Evaporative emission controls are OK.

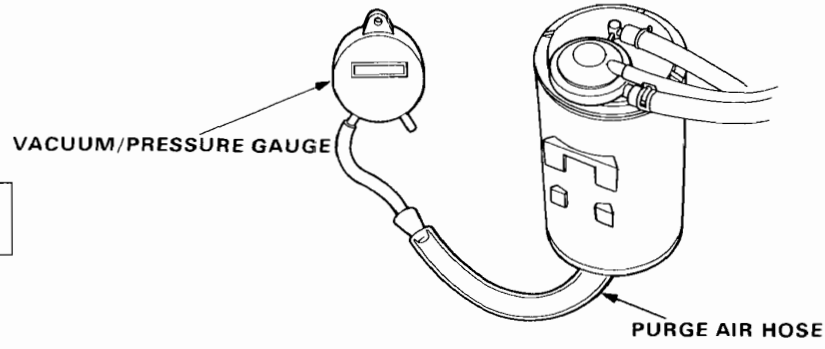
(From page 6-77)

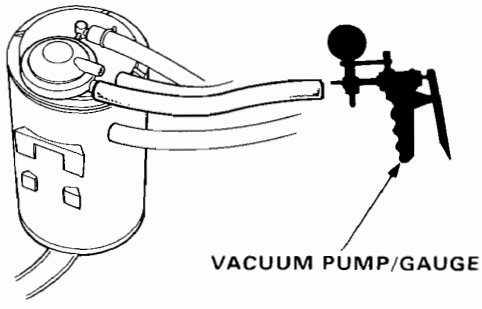
Is there continuity to ground ?

YES → **Repair short to ground in GRN wire between ECU (A6) and the 2P connector.**

NO

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

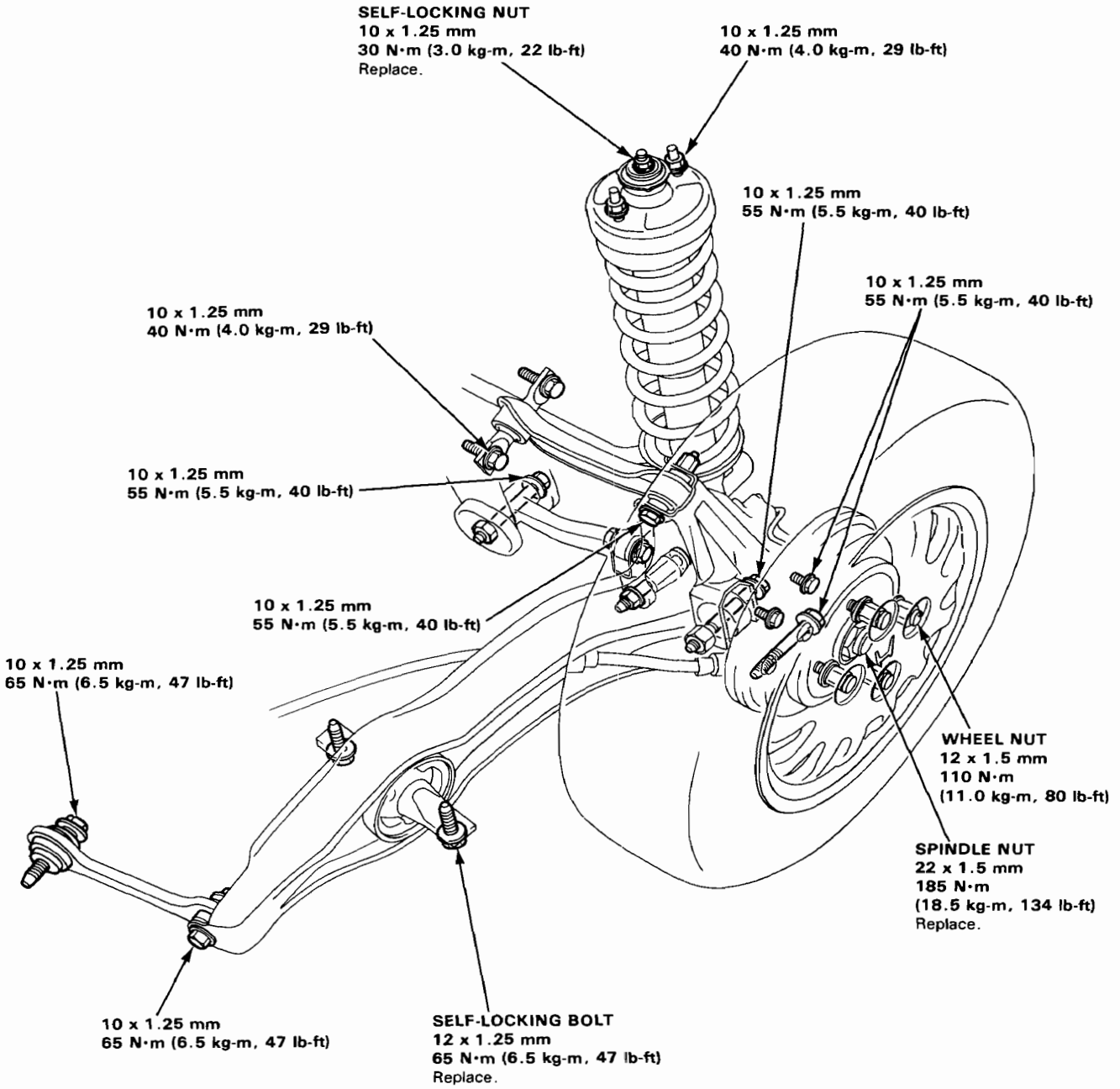




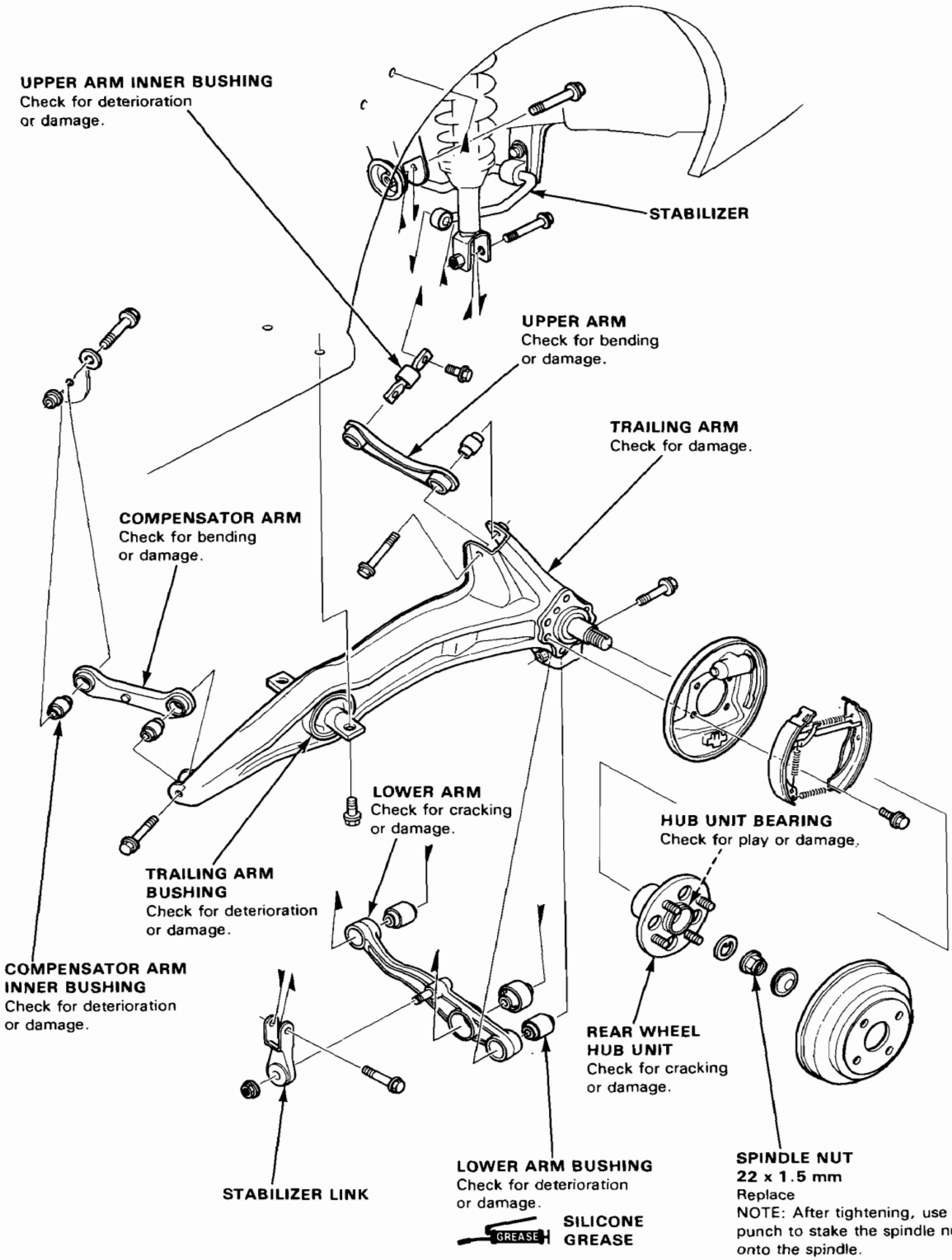
Rear Suspension

Specifications

CAUTION:
- **Replace the self-locking nuts after removal.**
- **Replace the self-locking bolts if you can easily thread a nut past their nylon locking inserts.**
- **The vehicle should be on the ground before any bolts or nuts connected to rubber mounts or bushings are tightened.**



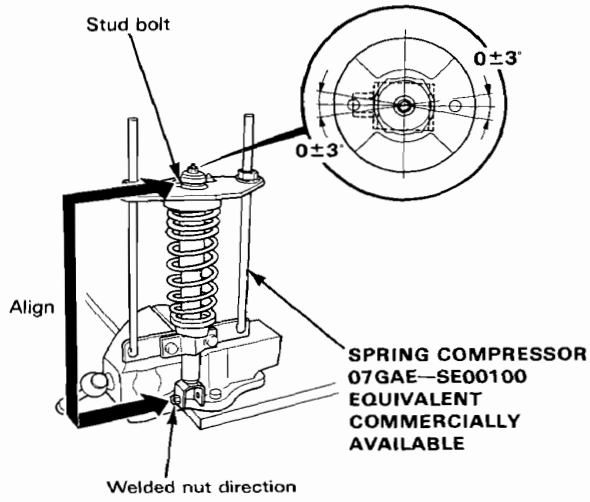
Illustrated Index



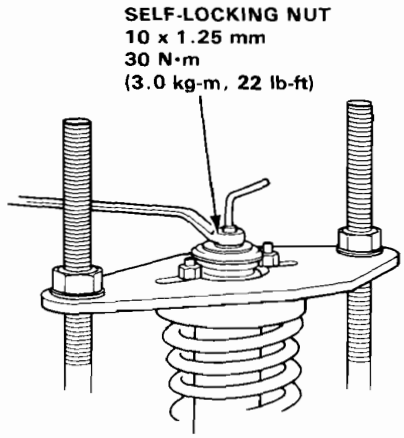
Damper Reassembly

1. Install the damper unit on a spring compressor.
2. Install the damper spring, bump sotp, stop plate, dust cover, dust cover plate, mounting rubber, damper mounting rubber, coller and damper mounting base on the damper unit.

   CAUTION: Install the damper mounting base so that the angle of the stud bolt is as shown.
3. Compress the damper spring.



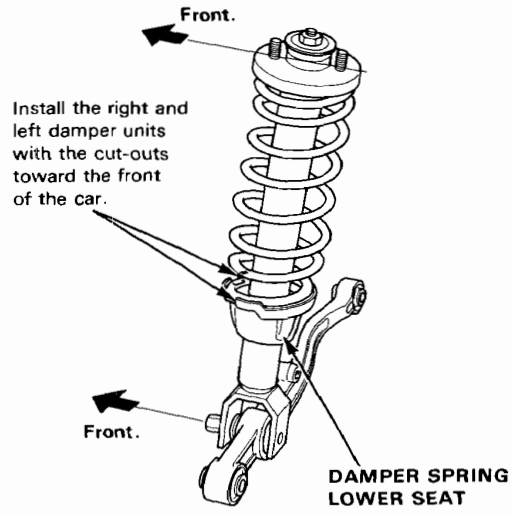
4. Install the damper mounting rubber and damper mounting washer, and loosely install a new 10 mm self-locking nut.
5. Holde the damper shaft and tighten the 10 mm self-locking nut.



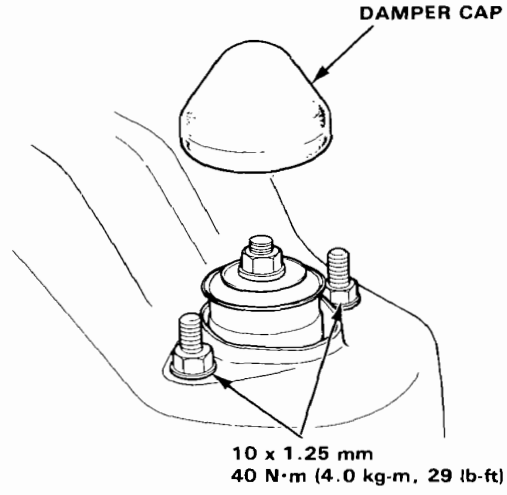
Damper Installation

1. Lower the rear suspension and set the damper assembly.

   CAUTION: Be sure that the two cut-outs in the damper spring lower seat are toward the front of the car as shown below.



2. Loosely install the damper mounting bolt.
3. Install the damper upper base mounting nuts and tighten them.

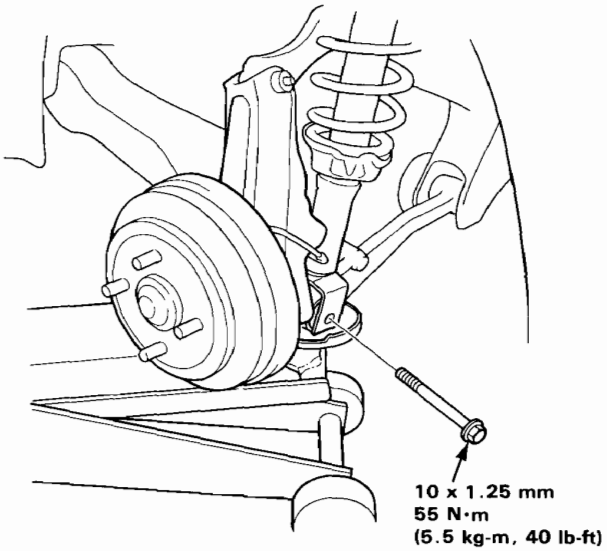


4. Install the damper cap.

5. Raise the rear suspension with a floor jack until the weight of the car is on the damper.

   NOTE: The damper mounting bolts should be tightened with the damper under vehicle load.

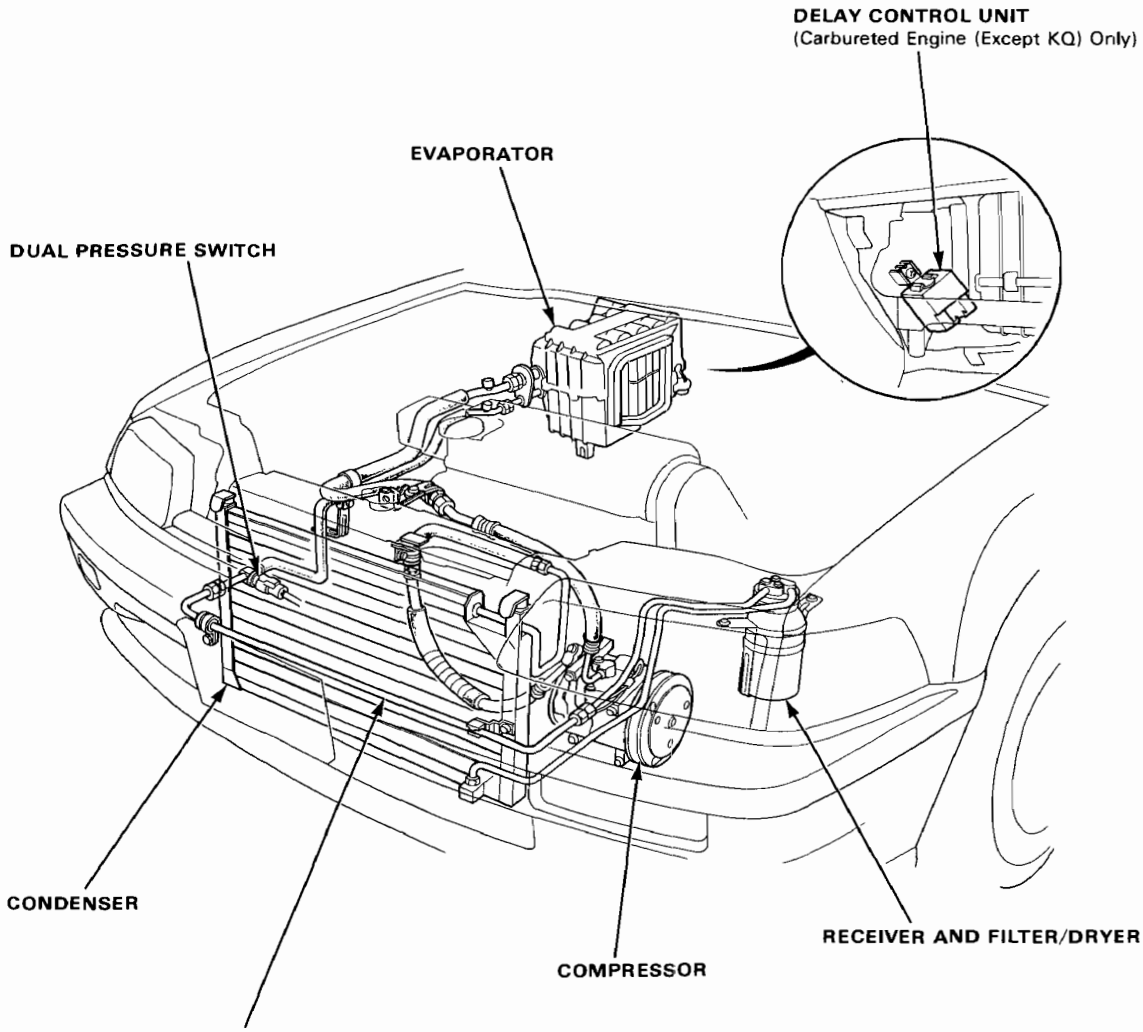
6. Tighten the damper mounting bolt.



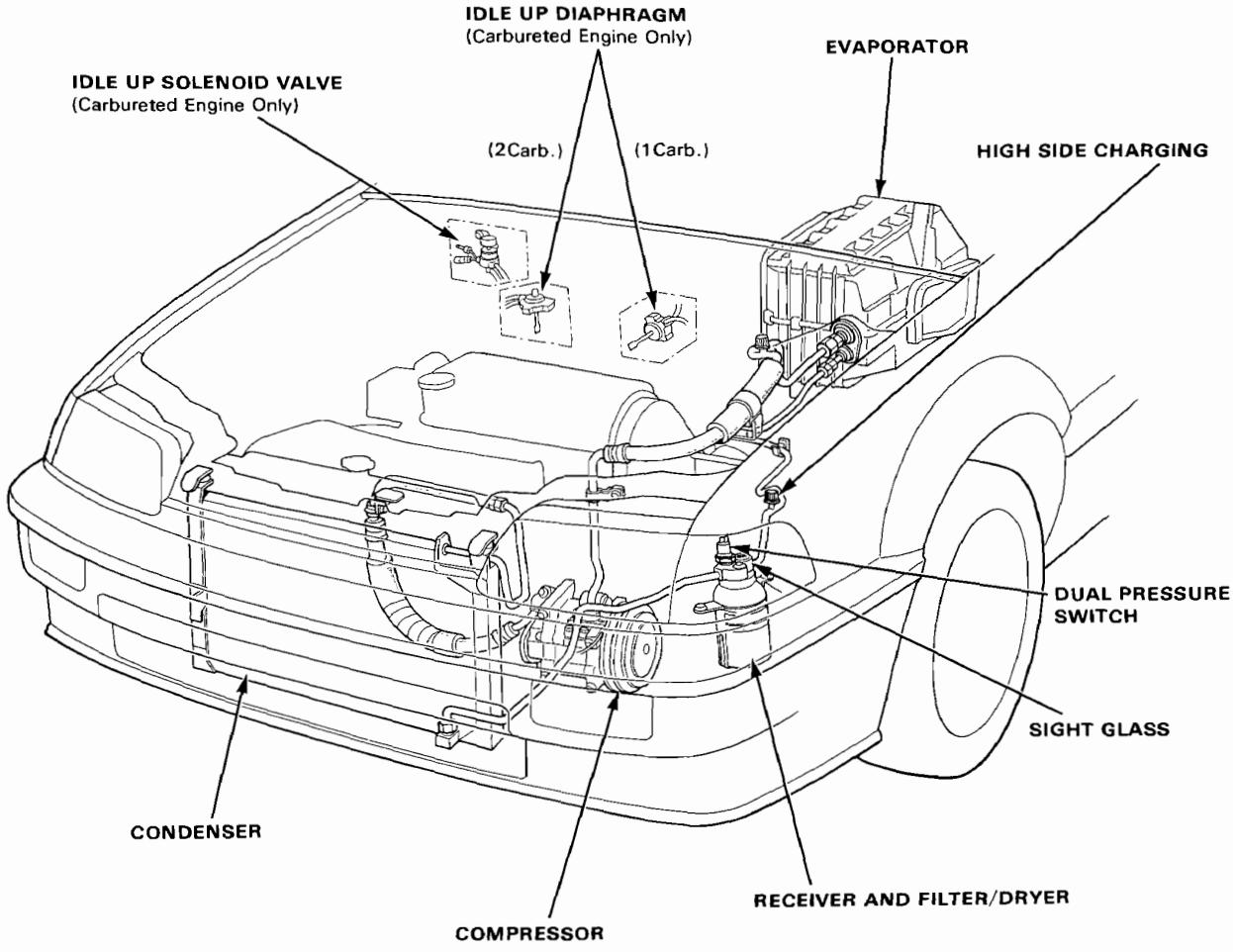
Air Conditioner

Outline

〈LHD〉

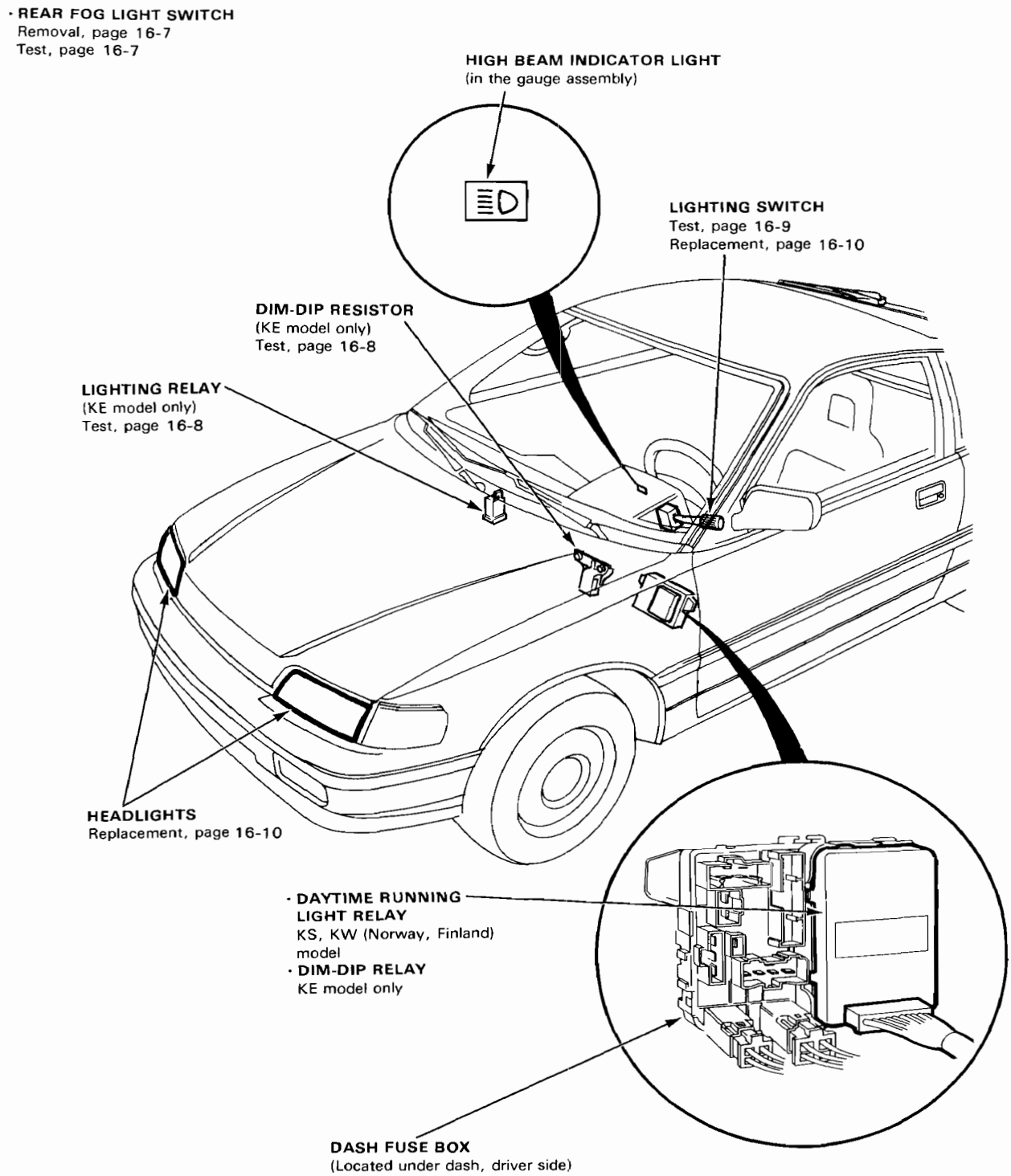


<RHD>

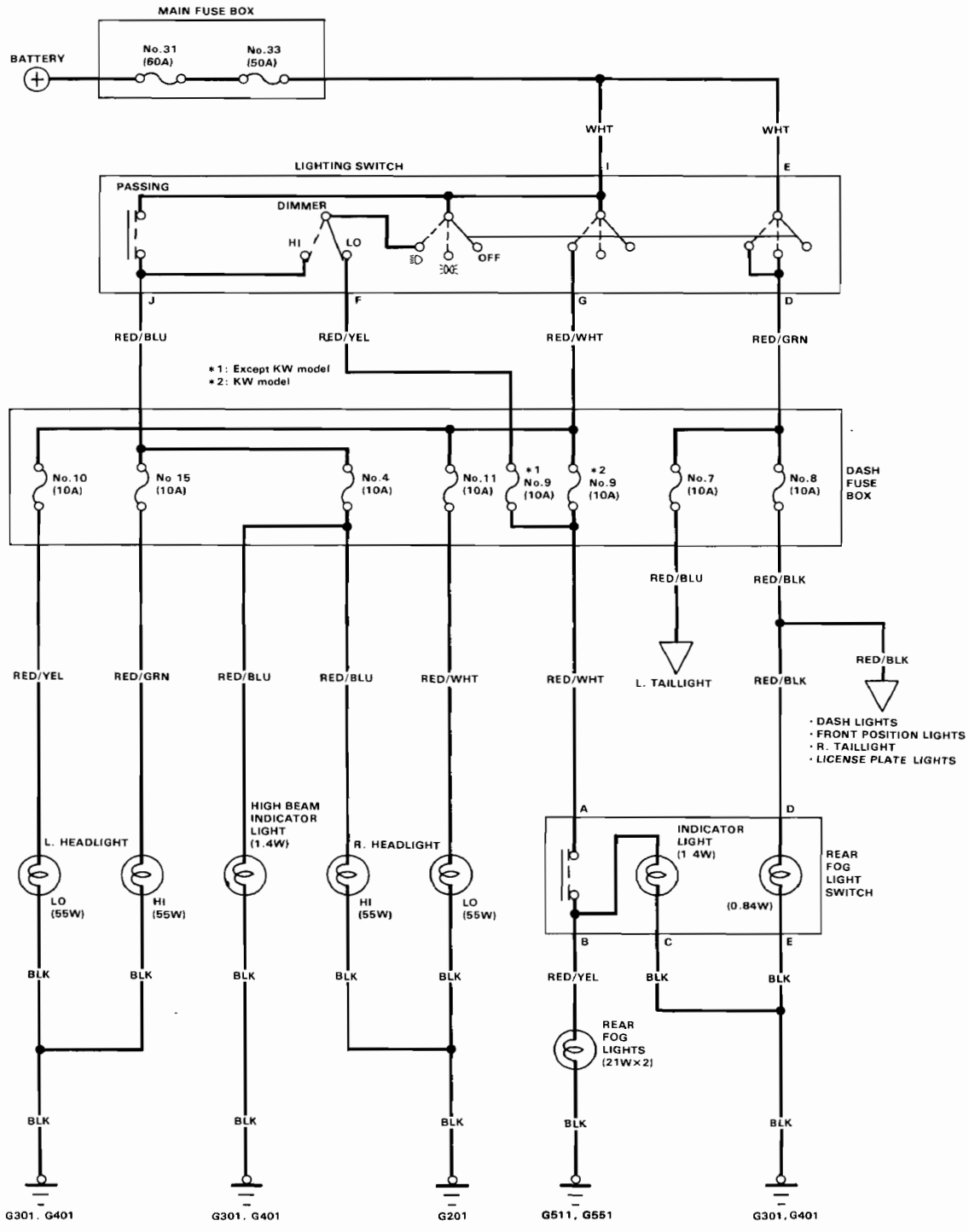

IDLE UP DIAPHRAGM
(Carbureted Engine Only)
EVAPORATOR
IDLE UP SOLENOID VALVE
(Carbureted Engine Only)
(2Carb.)
(1Carb.)
HIGH SIDE CHARGING
DUAL PRESSURE SWITCH
SIGHT GLASS
CONDENSER
RECEIVER AND FILTER/DRYER
COMPRESSOR

Lighting System

Component Location Index

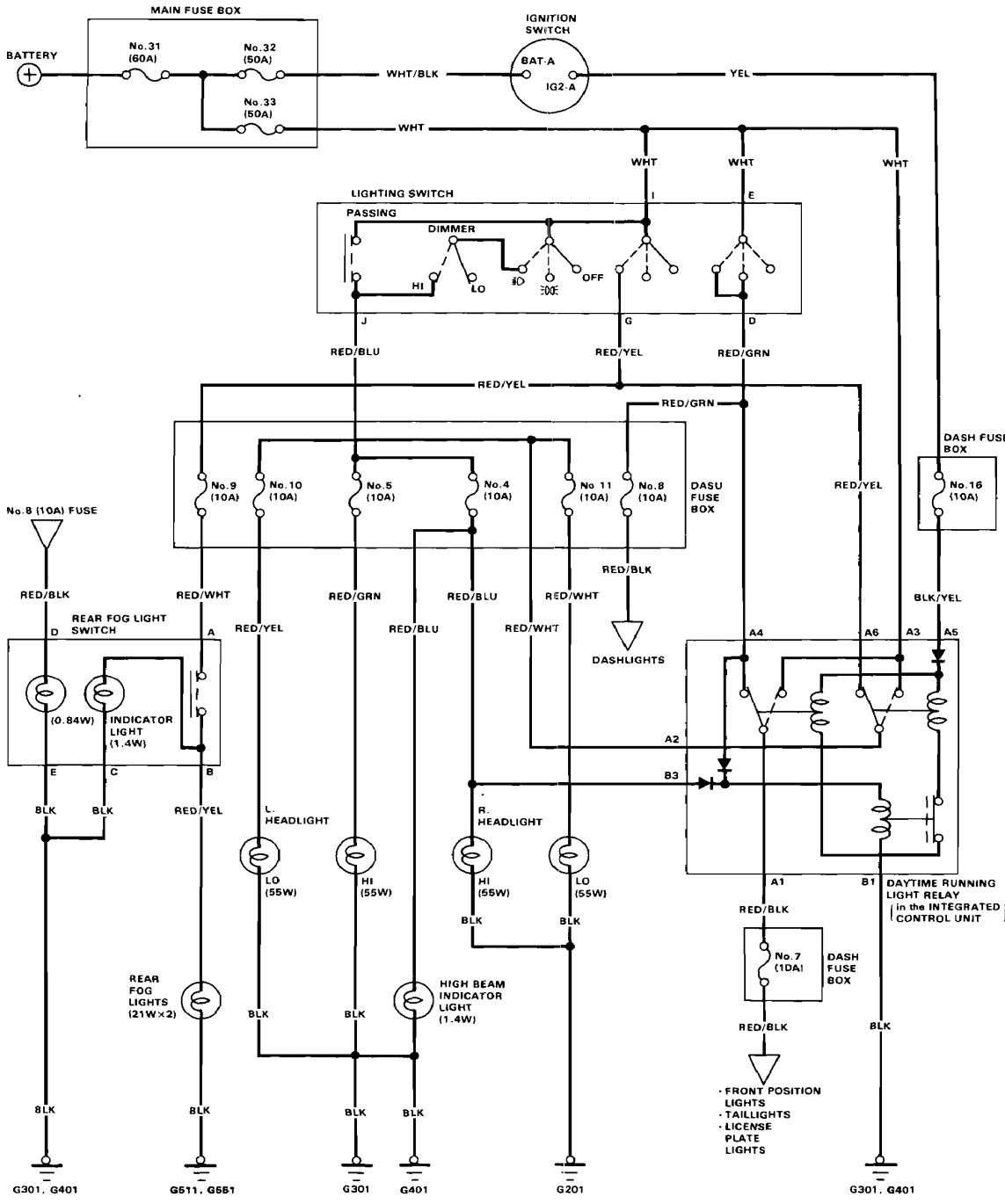


Circuit Diagram (KG, KF, KB, KW and KX models)

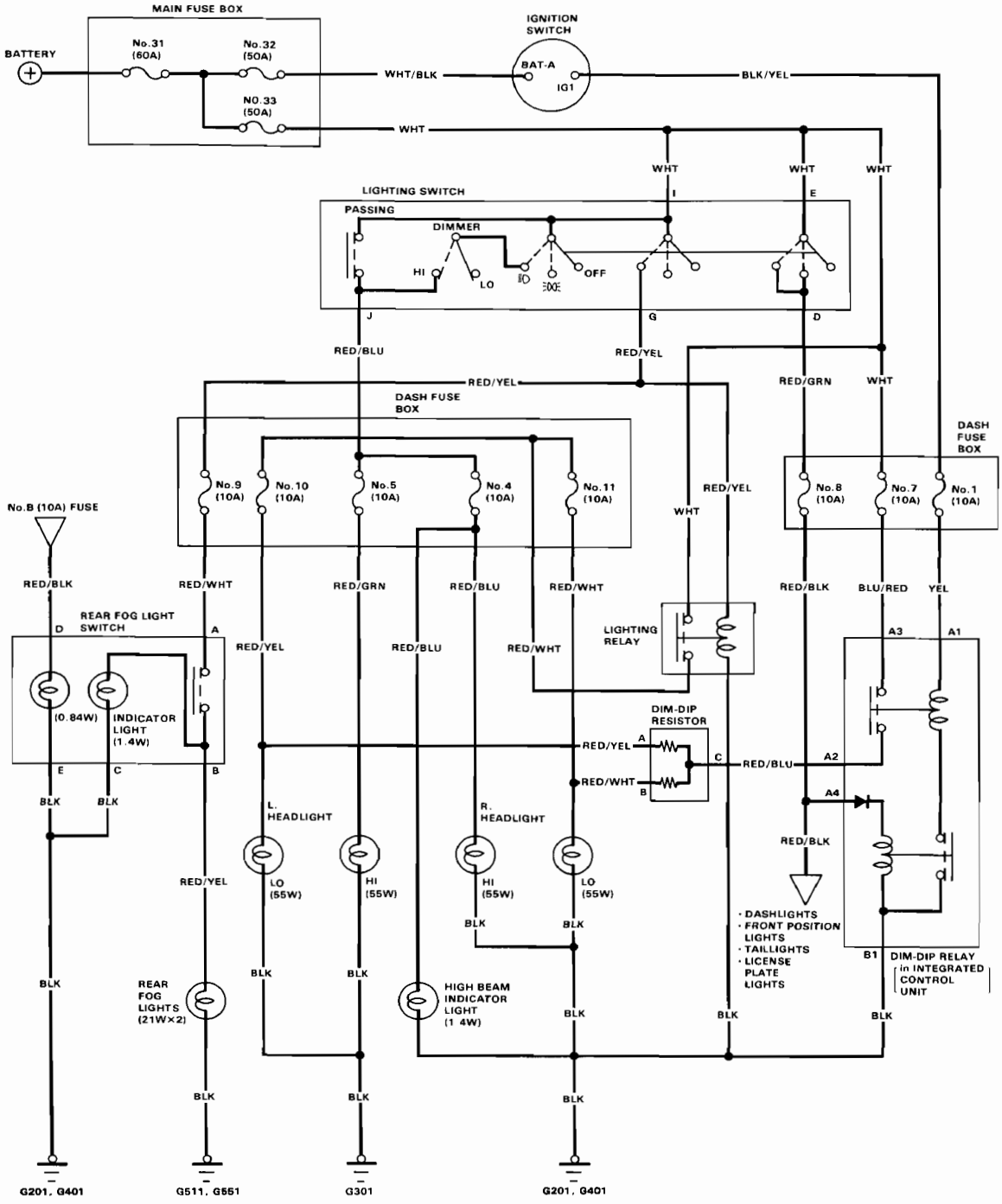


Lighting System

Circuit Diagram (With Daytime Light)

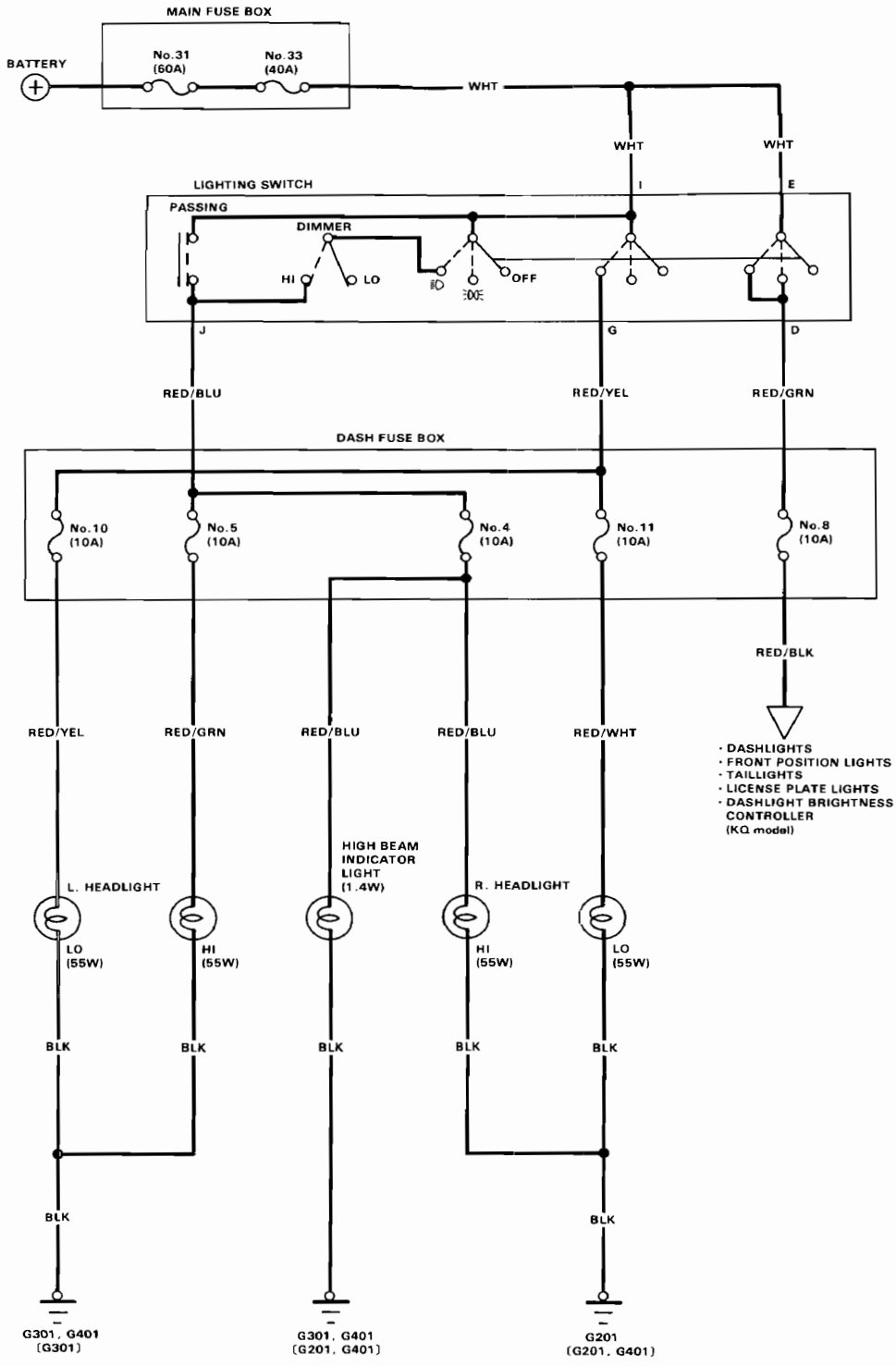


(with Dim-Dip Headlight)



Lighting System

Circuit Diagram (KQ and KY models)

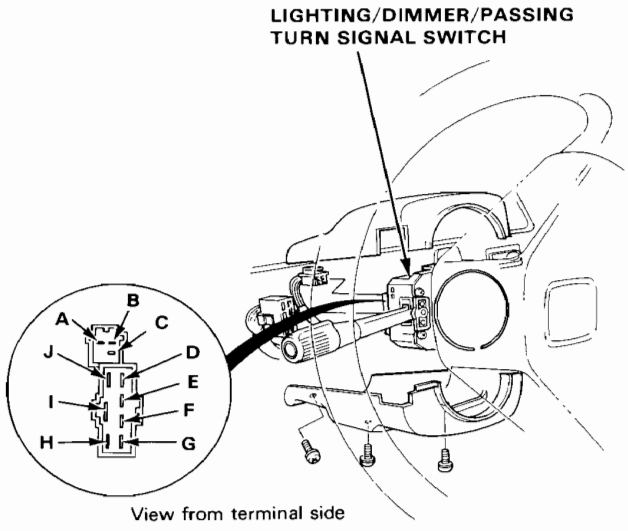


( ): **RHD**

Lighting/Turn Signal Switch Test

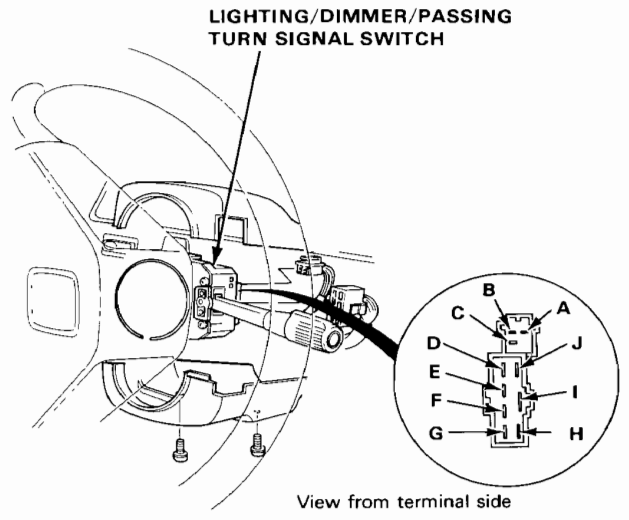
1. Remove the column covers.
2. Disconnect the 7-P and 4-P connectors from the switch.
3. Check for continuity between the terminals in each switch position according to the tables.

LHD:



View from terminal side

RHD:



View from terminal side

Lighting/Dimmer/Passing Switch

Position \ Terminal		D	E	F *1	G	I	J
Lighting switch	OFF						
	≡OO≡	○	○				
	≡D				○	○	
Dimmer switch *2	LOW			○		○	
	HIGH					○	○
Passing switch	OFF						
	ON					○	○

*1: KG, KX, KB and KW (Except Finland, Norway) models
*2: Lighting switch position in (≡D)

Turn Signal Switch

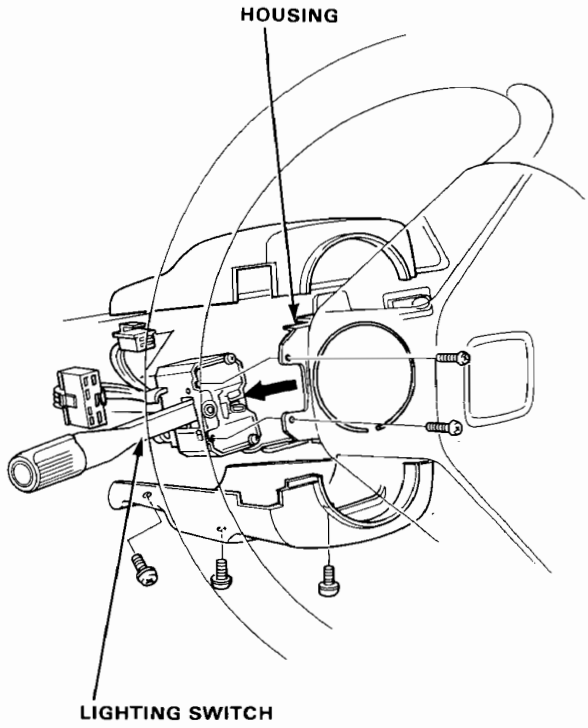
Position \ Terminal		A	B	C
LHD:	R	○		○
	NEUTRAL			
	L	○	○	
RHD:	R	○	○	
	NEUTRAL			
	L	○		○

Lighting System

Lighting Switch Replacement

1. Remove the lower and upper covers from the steering column.
2. Disconnect the 7-P and 4-P connectors.
3. Remove the 2 screws and slide the lighting switch out of the housing as shown.

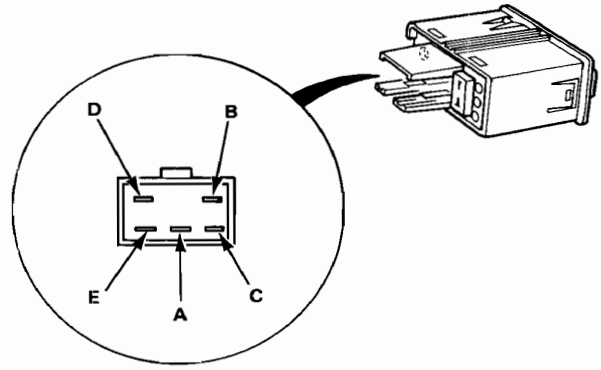
NOTE: Be carefull not to damage the steering wheel cover.

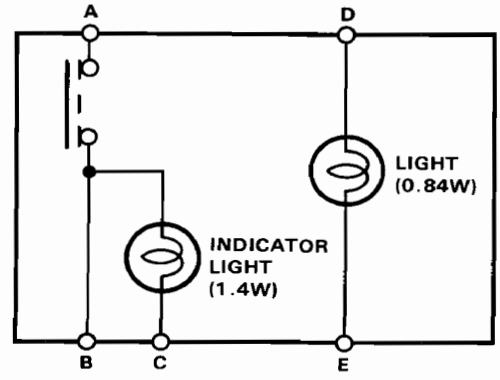


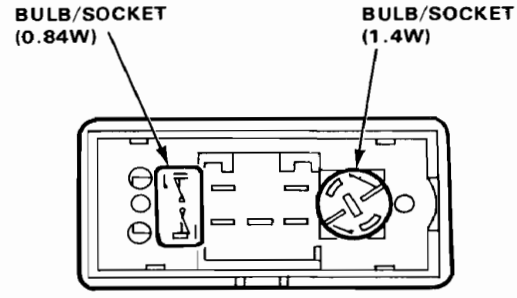
Rear Fog Light Switch Test

1. Remove the switch from the instrument panel.
2. Check for continuity between the terminals according to the table.

Terminal / Position	A		B		C	D		E
ON	○		○	⊖	○	○	⊖	○
OFF								





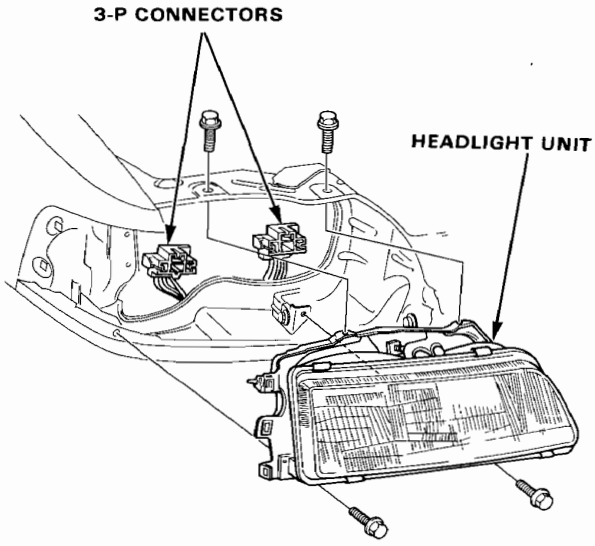


Headlights Replacement

CAUTION:

- **Halogen headlights can become very hot in use; do not touch them or the attaching hardware immediately after they have been turned off.**
- **Do not try to replace or clean the headlights with the lights on.**

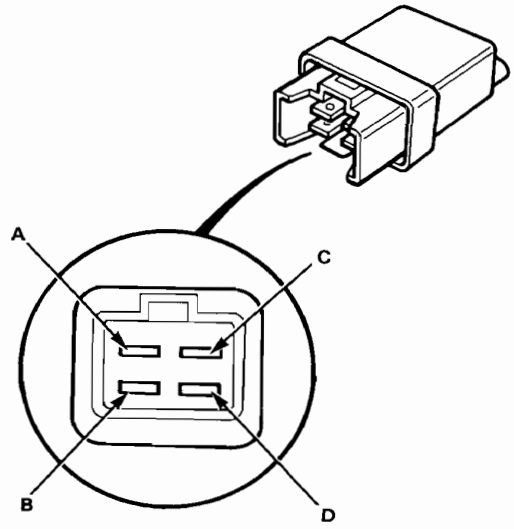
1. Disconnect the 3-P connectors from behind the unit.
2. Remove the front bumper and 4 mount bolts, then remove the unit.

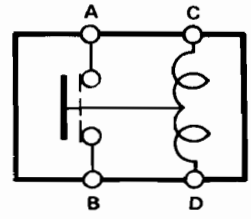


3. After installing the unit, adjust the headlights to local requirements.

Lighting Relay Test

1. Remove the lighting relay.
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.





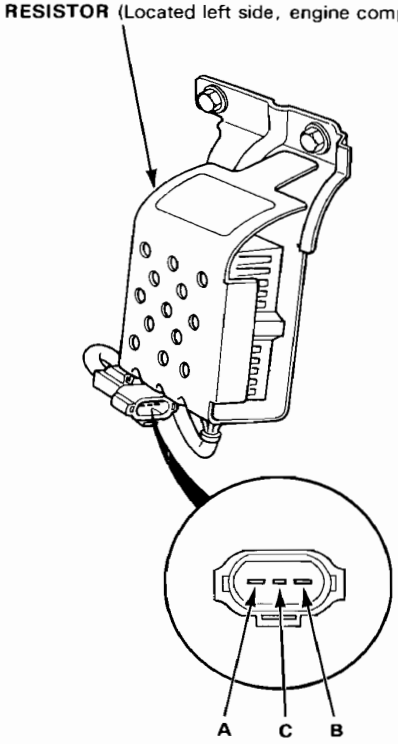
Lighting System

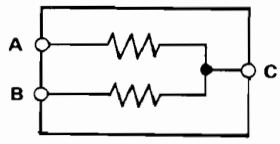
DIM-DIP Resistor Test

CAUTION: Dim-Dip resistor becomes very hot in use of Dim-Dip headlights; do not touch it or the attaching hardware immediately after they have been turned off.

1. Disconnect the 3-P connector from the resistor.
2. There should be continuity between A and C; between B and C terminals.

RESISTOR (Located left side, engine compartment)

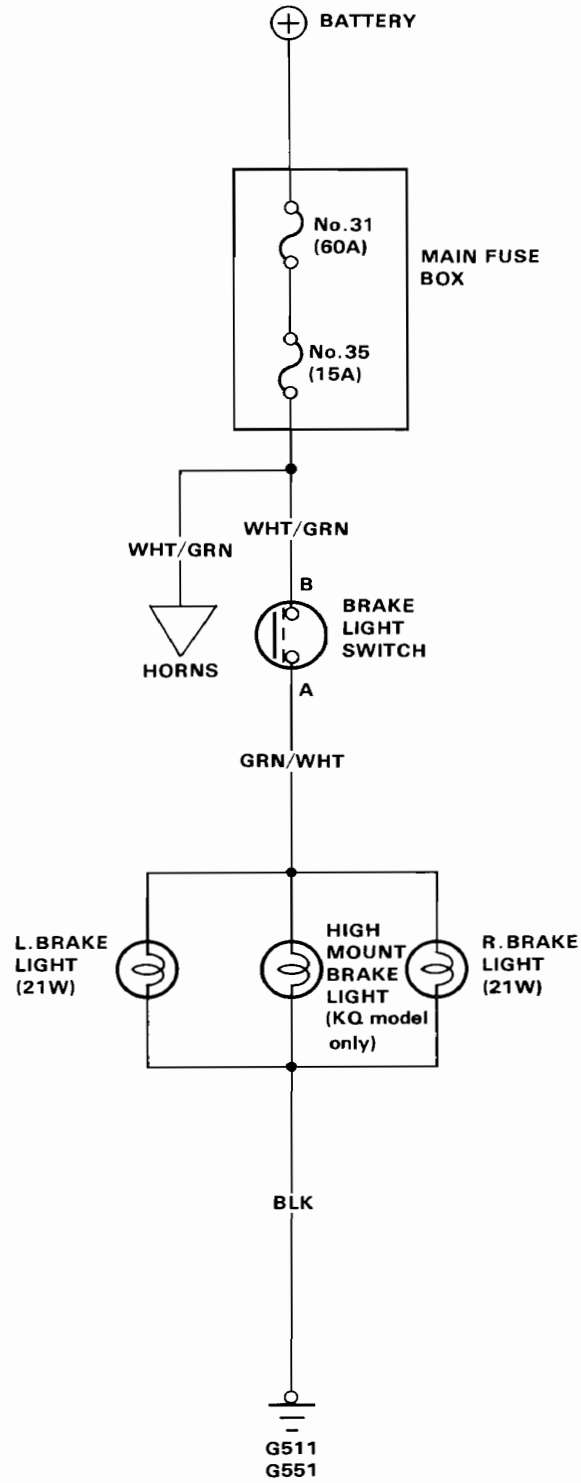




Brake Lights (KQ model)

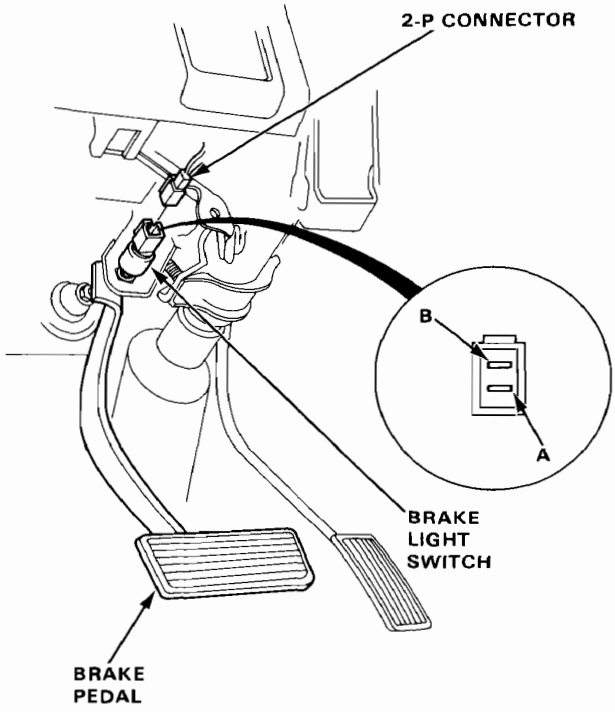
Circuit Diagram

• **HIGH MOUNT BRAKE-LIGHT (KQ model only)**
Replacement, page 16-11



Test

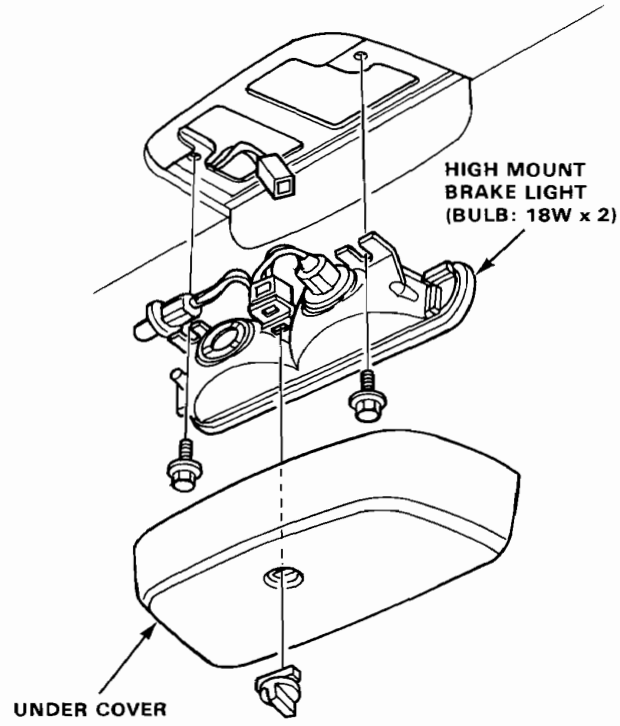
1. If the brake lights do not go on, check the No.35 (15A) fuse in the main fuse box, and the brake light bulbs in the taillight assembly.
2. If the fuse and bulbs are OK, disconnect the 2-P connector from the brake light switch.



3. Check for continuity between the A and B terminals. There should be continuity with the brake pedal pushed.
   - if no continuity, replace the switch or adjust pedal height.
   - If there is continuity, but the brake lights do not go on:
     - Poor ground (G511, G551).
     - An open in the WHT/GRN or GRN/WHT wire.

High Mount Brake Light Replacement

1. Open the hatch.
2. Remove the under cover and 2 mount bolts, then disconnect the 2-P connector from the light assembly.



3. Turn the socket 45° counterclockwise to remove the bulb.
4. Install the high mount brake light in the reverse order of removal, and clean the rear window glass before installing.

CAUTION: When installing high mount brake light, make sure the mount rubber in sealed evenly to the rear window glass.

Wiring Diagrams

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