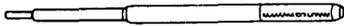
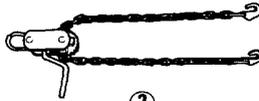


Special Tools

Ref. No.	Tool Number	Description	Q'ty	Remarks
①	07944-6110200	Pin Driver 8 mm	1	for shift rod
②	07KAK-SJ40100	Engine Tilt Hanger Set	1	



①



②

Engine Removal/Installation



⚠ WARNING

- Make sure jacks and safety stands are placed properly and hoist brackets are attached to correct positions on the engine. (See Section 1).
- Apply parking brake and block rear wheels, so car will not roll off stands and fall on you while working under it.

CAUTION:

- Use fender covers to avoid damaging painted surfaces.
- Unspecified items are common for the carburetor cars, PGM-FI cars, M/T cars, A/T cars, and the A/C equipped cars.
- Remove the wiring slowly while holding the coupler and the connector portion to avoid disconnecting.
- Mount the wiring or tubes to avoid mis-connection. Also, be sure that they do not get contact with other cords or tubes, or do not interfere with other parts.

1. Do not remove the hood but hang it using ropes, etc. to secure it fully open.
2. Disconnect the battery negative terminal first, then the positive terminal. Remove the battery.

CAUTION: Clean battery posts and cable terminals with sandpaper, assemble, then apply grease to prevent corrosion.

3. Drain the engine oil. Remove the oil filler cap to speed draining. Reinstall the drain plug with a new washer.

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.

4. Drain the coolant from the radiator into a clean pan so it may be re-used. Remove the radiator cap to speed draining.

⚠ WARNING

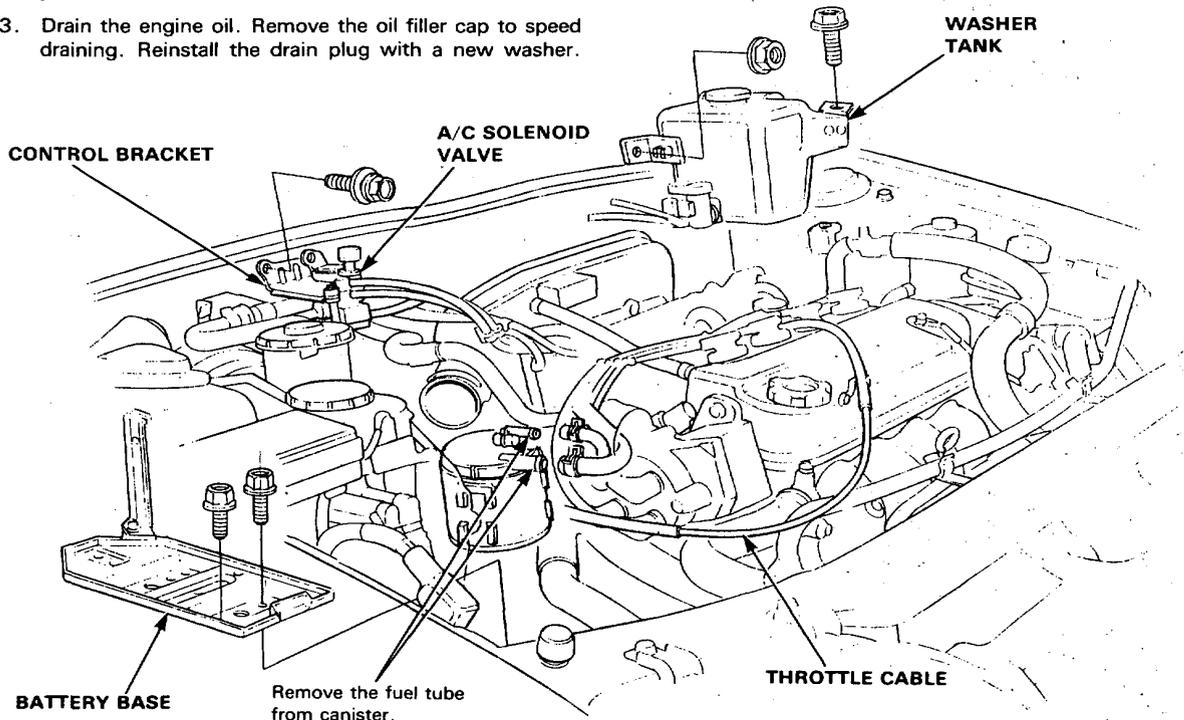
Use care when removing expansion tank cap to avoid scalding by hot coolant or steam.

5. Drain transmission oil/fluid. Use a 3/8" drive ratchet wrench to remove the drain plug. Remove the oil filler plug to speed draining. Reinstall the drain plug with a new washer.
6. Remove the air intake duct and front air intake duct.
7. Remove the battery base.

Carbureted engine: Go to steps 8 through 15.
PGM-FI engine: Go to steps 16 through 23.

8. Disconnect the coupler connection to remove the bolts, and put the emission control box on the engine.

- Don't remove the tubes.



(cont'd)

Engine Removal/Installation (cont'd)

UNDER-HOOD
RELAY BOX

BATTERY
WIRES

9. Disconnect the engine compartment harness connectors, battery wires and transmission ground cable.

TRANSMISSION
GROUND CABLE

BRAKE BOOSTER
VACUUM HOSE

ENGINE GROUND
CABLE

ENGINE HARNESS
CONNECTORS

FUEL HOSE FUEL PUMP

10. Disconnect the engine ground cable.
11. Disconnect the fuel hoses at the fuel pump.

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

CAUTION :

- Place a shop towel over the fuel filter to prevent fuel from spraying over the engine.
- Plug the fuel hose.

12. Disconnect the engine wire connectors and spark plug wires.
13. Remove the bolts, then remove the distributor from the cylinder head.

NOTE : Check the ignition timing after installation.

DISTRIBUTOR

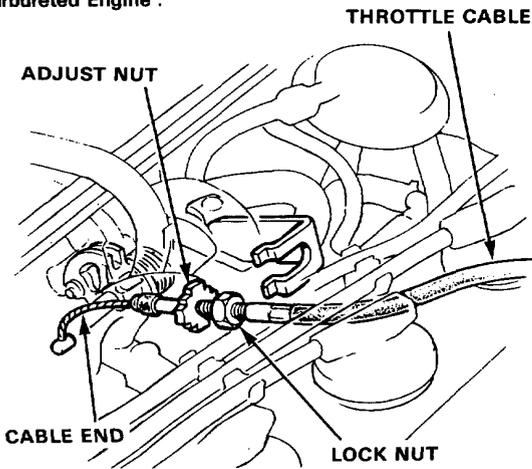
VACUUM TUBES

O-RING
Peplace

8x1.25mm
24 N·m (2.4kg-m, 17 lb-ft)



Carbureted Engine :



- Remove the throttle cable by loosening the lock nut, then slip the cable end out of the throttle bracket and accelerator linkage.

CAUTION: Be careful not to damage the throttle cable during engine removal. On installation, check the cable is not kinked or binding.

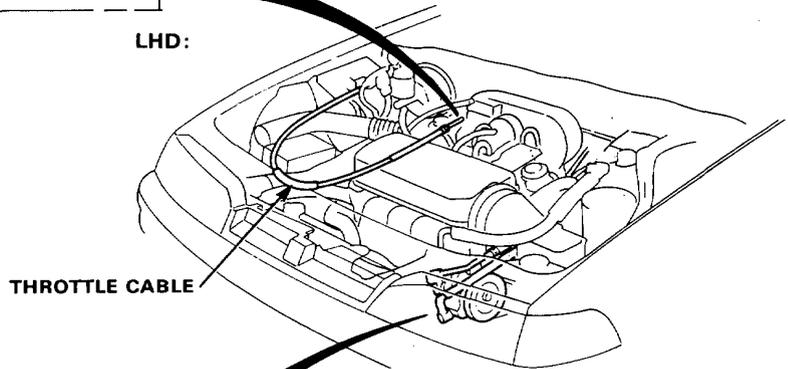
NOTE :

- Take care not to bend the cable when removing it. Do not use pliers to remove the cable from the linkage. Always replace a kinked cable with a new one.
- Adjust the throttle cable tension after installation.

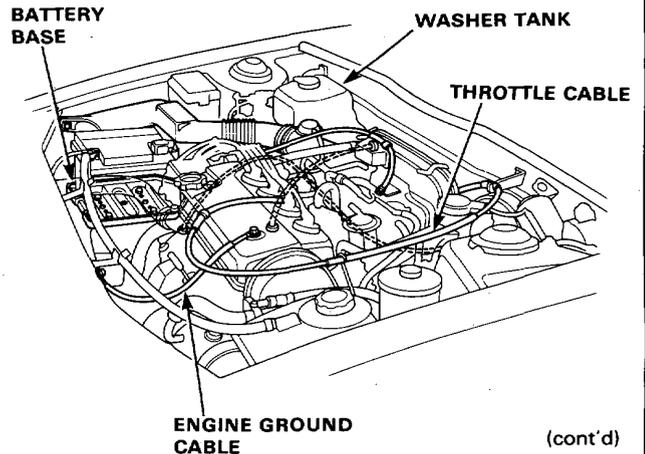
- Remove the mounting bolts and V-belt for the power steering pump, then without disconnecting the hose, pull the pump away from its mounting bracket.

CAUTION: Put the removed power steering pump in a location where removal or installation of the engine is not disturbed.

LHD:

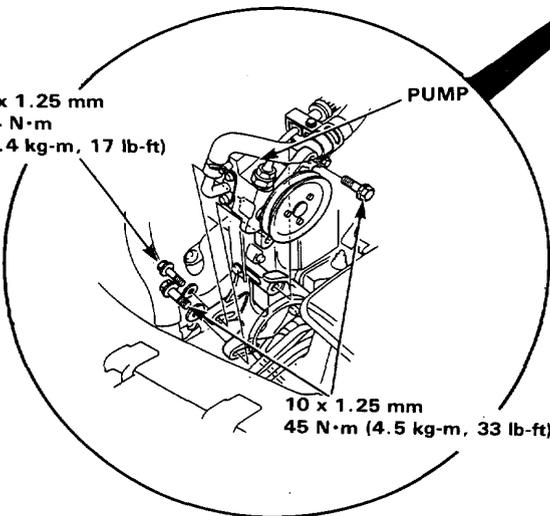


RHD:



(cont'd)

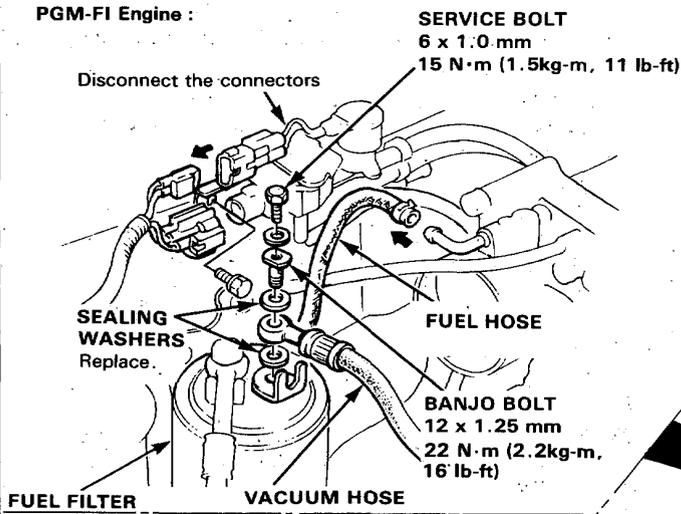
8 x 1.25 mm
24 N·m
(2.4 kg·m, 17 lb-ft)



10 x 1.25 mm
45 N·m (4.5 kg·m, 33 lb-ft)

Engine Removal/Installation (cont'd)

PGM-FI Engine :

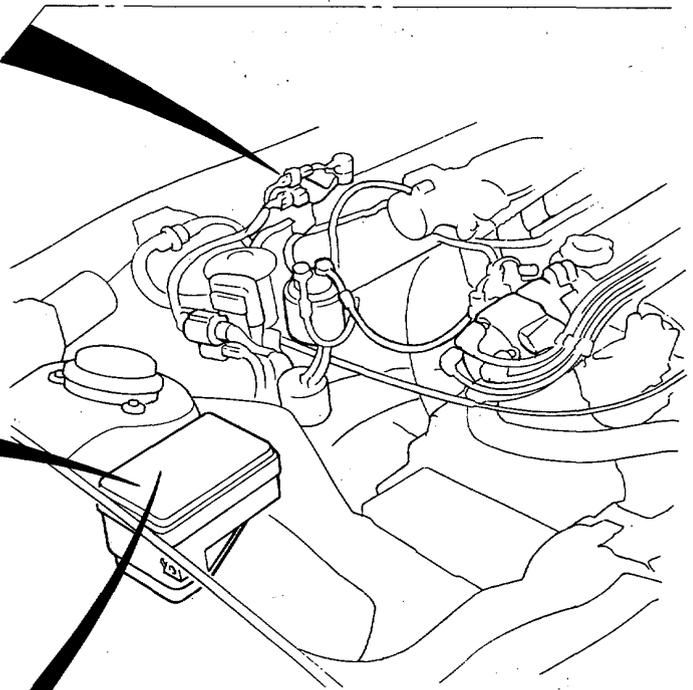
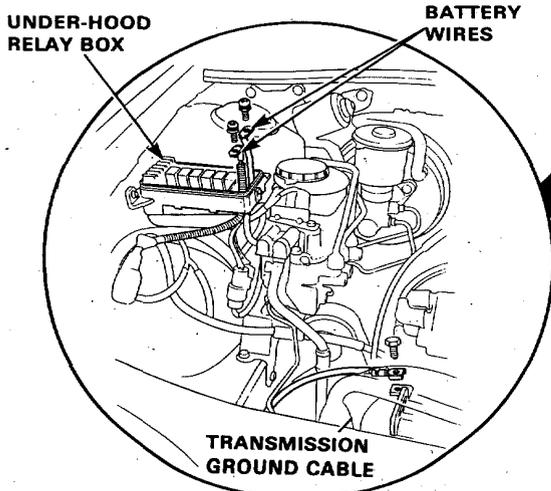
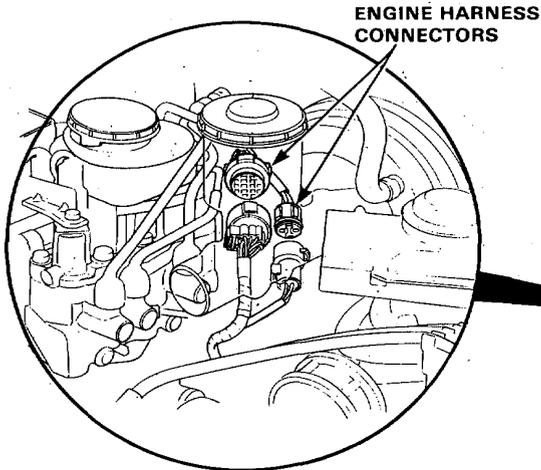


16. Relieve fuel pressure by slowly loosening the service bolt on the fuel filter about one turn. (Section 6).

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

CAUTION:

- Before disconnecting any fuel line, the fuel pressure should be relieved as described above.
- Place a shop towel over the fuel filter to prevent pressurized fuel from spraying over the engine.



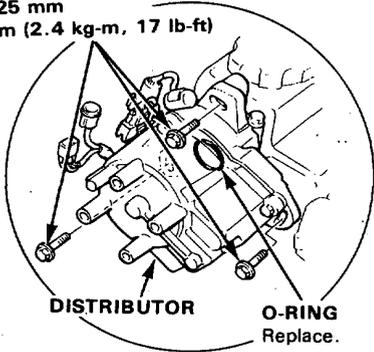
17. Disconnect the engine compartment harness connectors, battery wires and transmission ground cable.
18. Disconnect the engine wire connectors and spark plug wires.



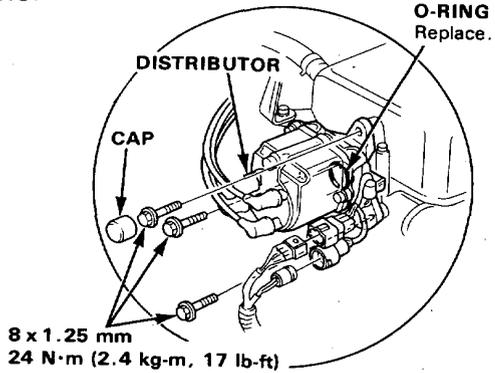
19. Remove the cap and bolts, then remove the distributor from the cylinder head.

DOHC:

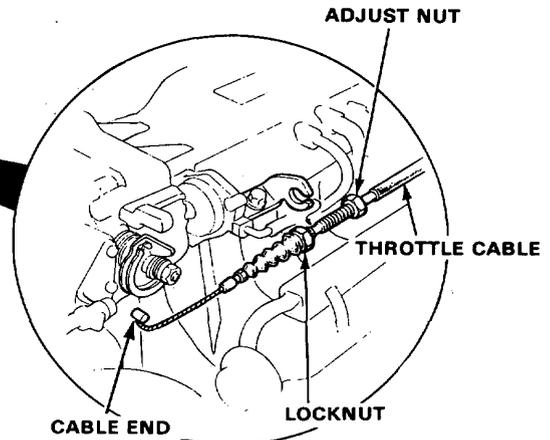
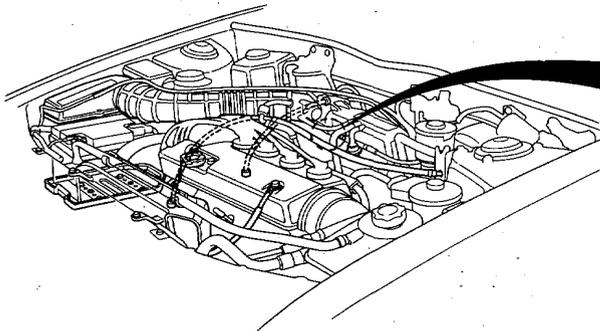
8 x 1.25 mm
24 N·m (2.4 kg-m, 17 lb-ft)



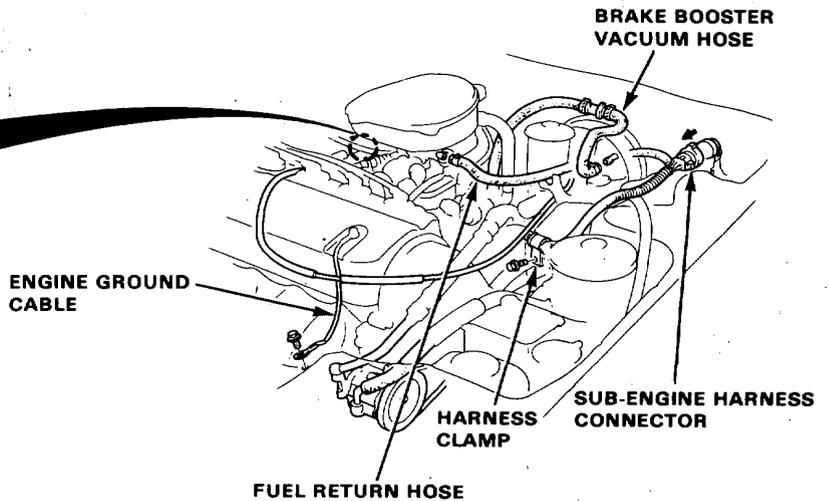
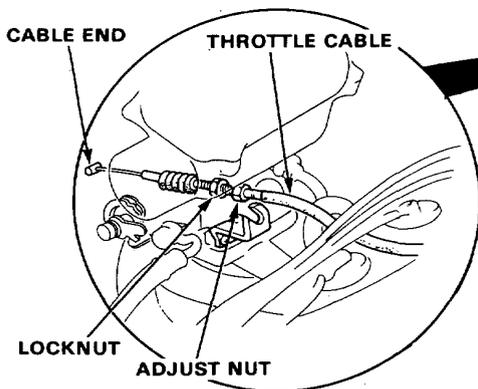
SOHC:



1.6L PGM-FI SOHC Engine:



1.5L PGM-FI Engine:

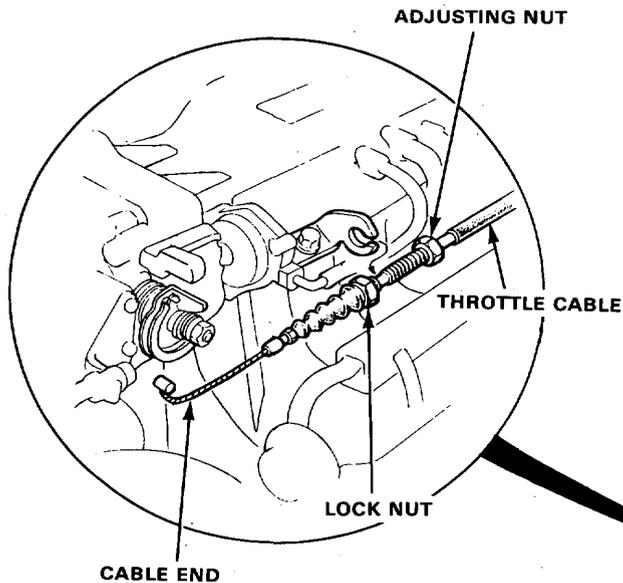


⚠ WARNING Do not smoke while working on fuel system. Keep open flame away from work area. Drain fuel only into an approved container.

(cont'd)

Engine Removal/Installation (cont'd)

PGM-FI DOHC Engine:



20. Remove the throttle cable by loosening the lock nut, then slip the cable end out of the throttle bracket and accelerator linkage.

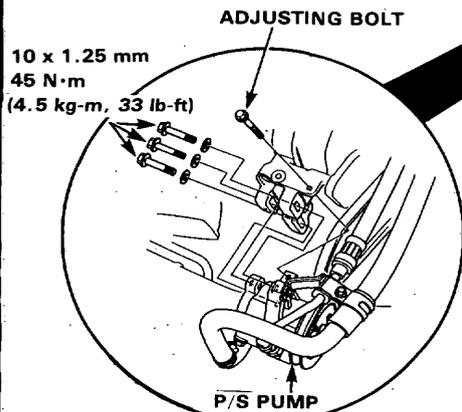
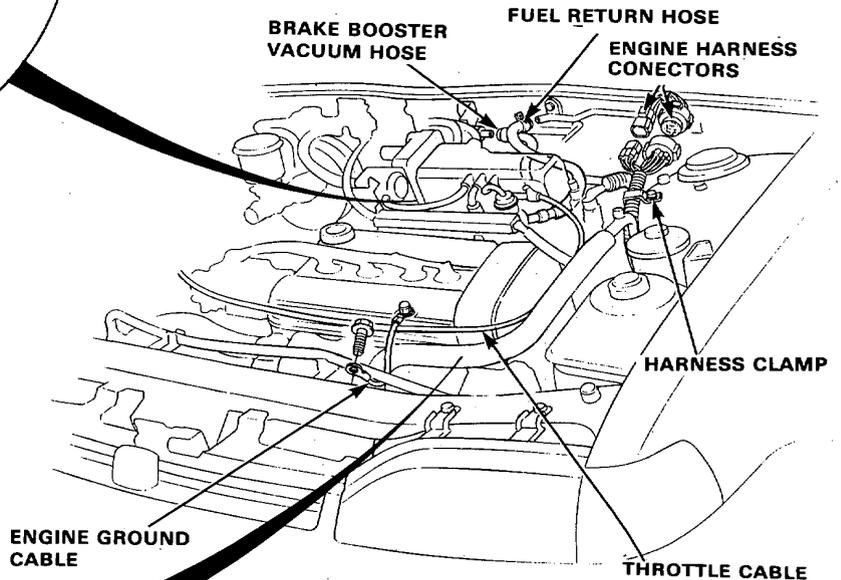
CAUTION: Be careful not to damage the throttle cable during engine removal. On installation, check the cable is not kinked or binding.

NOTE:

- Take care not to bend the cable when removing it. Do not use pliers to remove the cable from the linkage. Always replace a kinked cable with a new one.
- Adjust the throttle cable tension after installation.

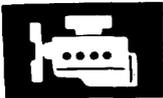
21. Disconnect the engine ground cable.
22. Disconnect the fuel return hose.

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



23. Remove the mounting bolts and V-belt for the power steering pump, then without disconnecting the hose, pull the pump away from its mounting bracket.

CAUTION: Put the removed power steering pump in a location where removal or installation of the engine is not disturbed.



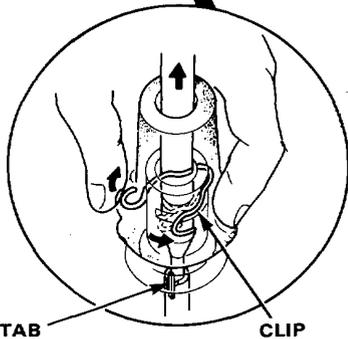
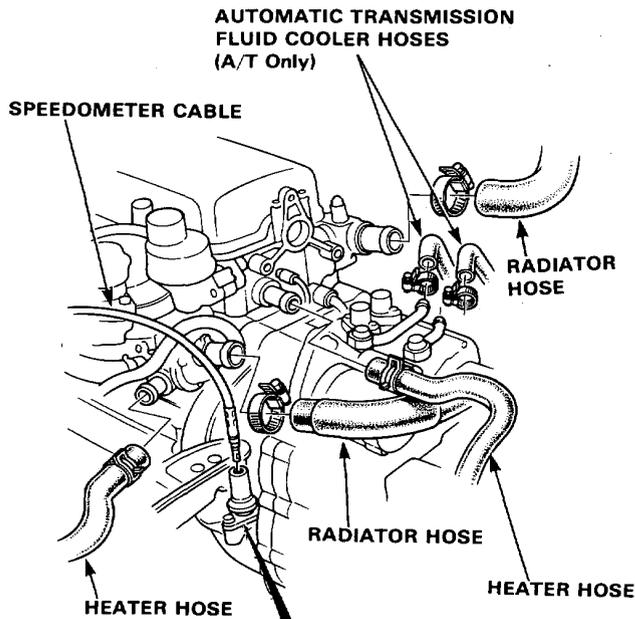
24. Disconnect the radiator hoses and heater hoses.

CAUTION: When the engine is lifted, apply waste, etc. so that the radiator solution in the engine does not leak.

25. Disconnect the transmission fluid cooler hoses. (A/T)

CAUTION: Mount the blank cap on the hose and the hose mounting portion to check that the oil does not leak.

26. Remove the speedometer cable.



CAUTION:

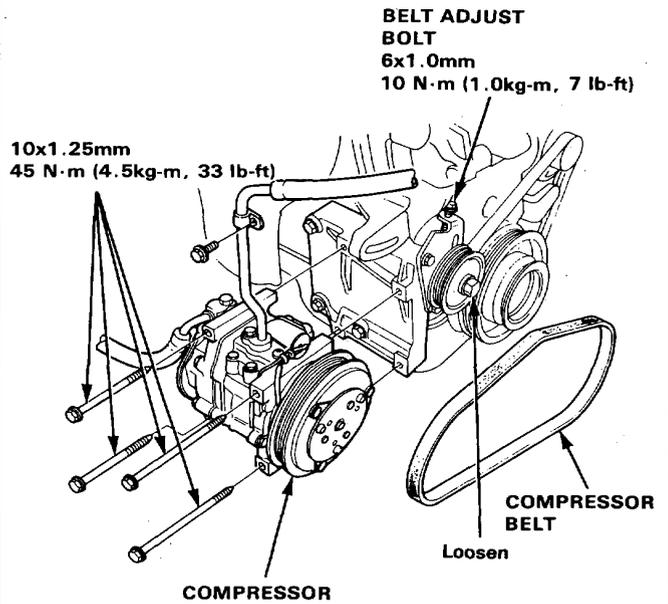
- Do not remove the holder because the speedometer gear may fall into the transmission housing.
- Turn the clip from the top of the boots, and pull out the speedometer cable.

27. On cars with A/C:

- Loosen the belt adjust bolt and idle pulley nut.
- Remove the compressor mount bolts, then lift the compressor out of the bracket with hoses attached, and wire it up to the front beam.

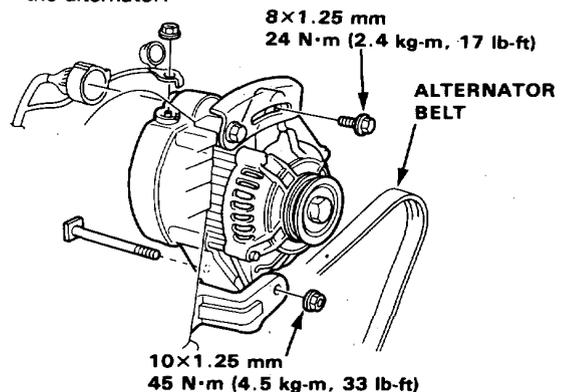
NOTE:

- The compressor can be moved without discharging the air conditioner system.
- Put the removed compressor on the front beam so as not to damage the body, etc.



28. Remove the alternator.

- Disconnect the alternator wire harness connectors.
- Remove the adjust bolt and remove the belt.
- Remove the belt alternator mount bolt and remove the alternator.



(cont'd)

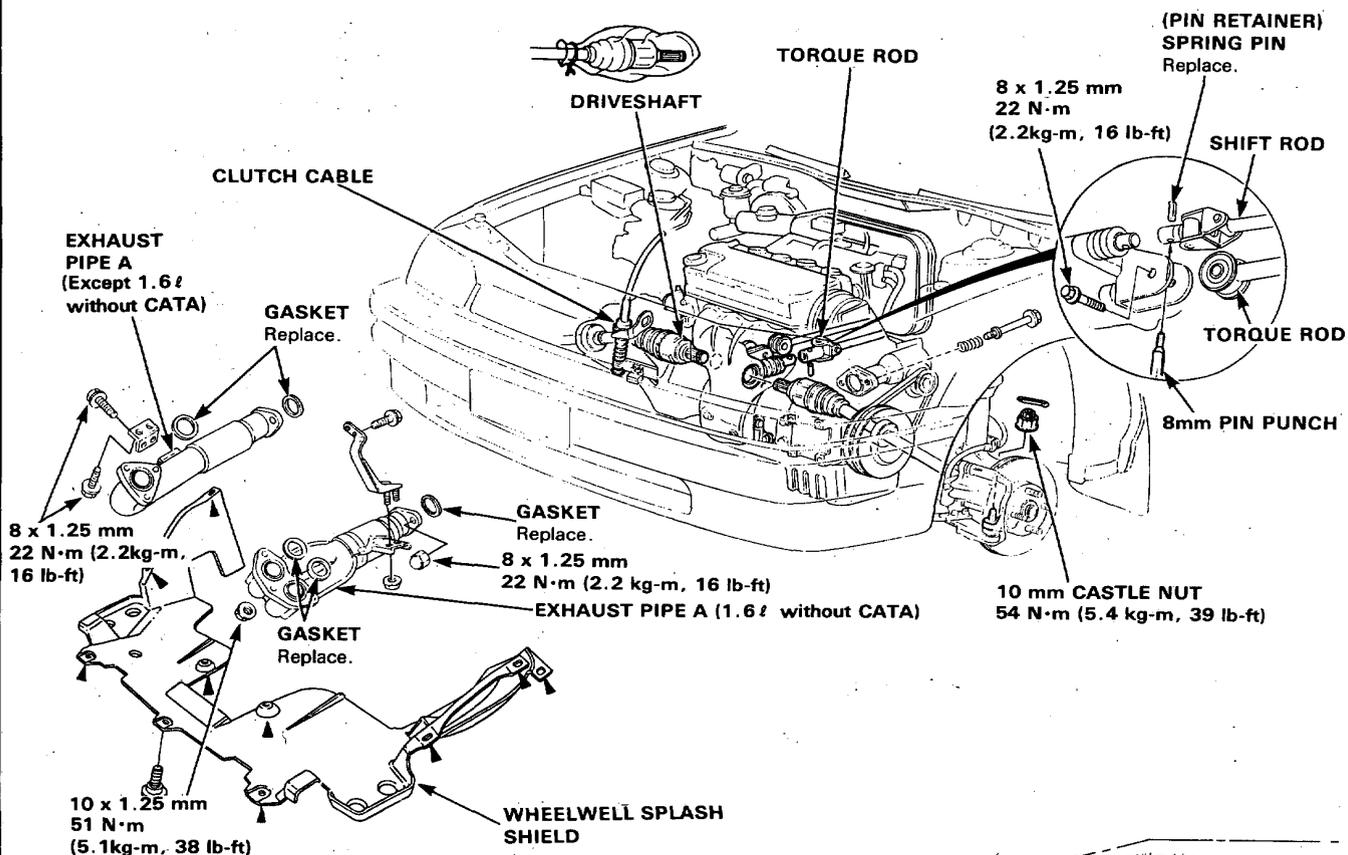
Engine Removal/Installation (cont'd)

29. Remove the exhaust pipe A with bracket from exhaust pipe B and then from engine block. (cabureted engine)
30. Remove the right and left driveshafts. (see section 10)

NOTE: Coat all precision finished surfaces with clean engine oil or grease.
Tie plastic bags over the driveshaft ends.

- (On Manual Transmission Cars:)
31. Remove the shift lever torque rod, shift rod and clutch cable.

NOTE: On reassembly, slide the retainer back into place after driving in the spring pin.

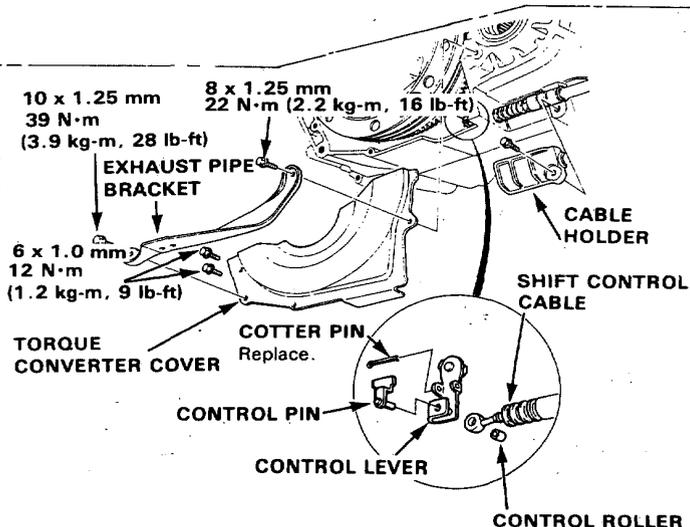


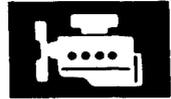
- (On Automatic Transmission Cars:)
32. Remove the torque converter cover and cable holder.
 33. Remove the shift control cable by removing the cotter pin, control pin and control lever roller from the control lever.

CAUTION: Be careful not to damage the shift control cable during engine removal. On installation, check the cable is not kinked or binding.

NOTE:

- Take care not to bend the cable when removing it. Do not use pliers to remove the cable from the linkage. Always replace a kinked cable with a new one.
- On reassembly, check the cable adjustment. (see section 9)





34. Attach a chain hoist to the engine block hoist brackets and raise the hoist just enough to remove slack from the chain.

NOTE: To attach rear engine chain, remove the plastic radiator hose bracket and hook chain to top of clutch cable bracket.

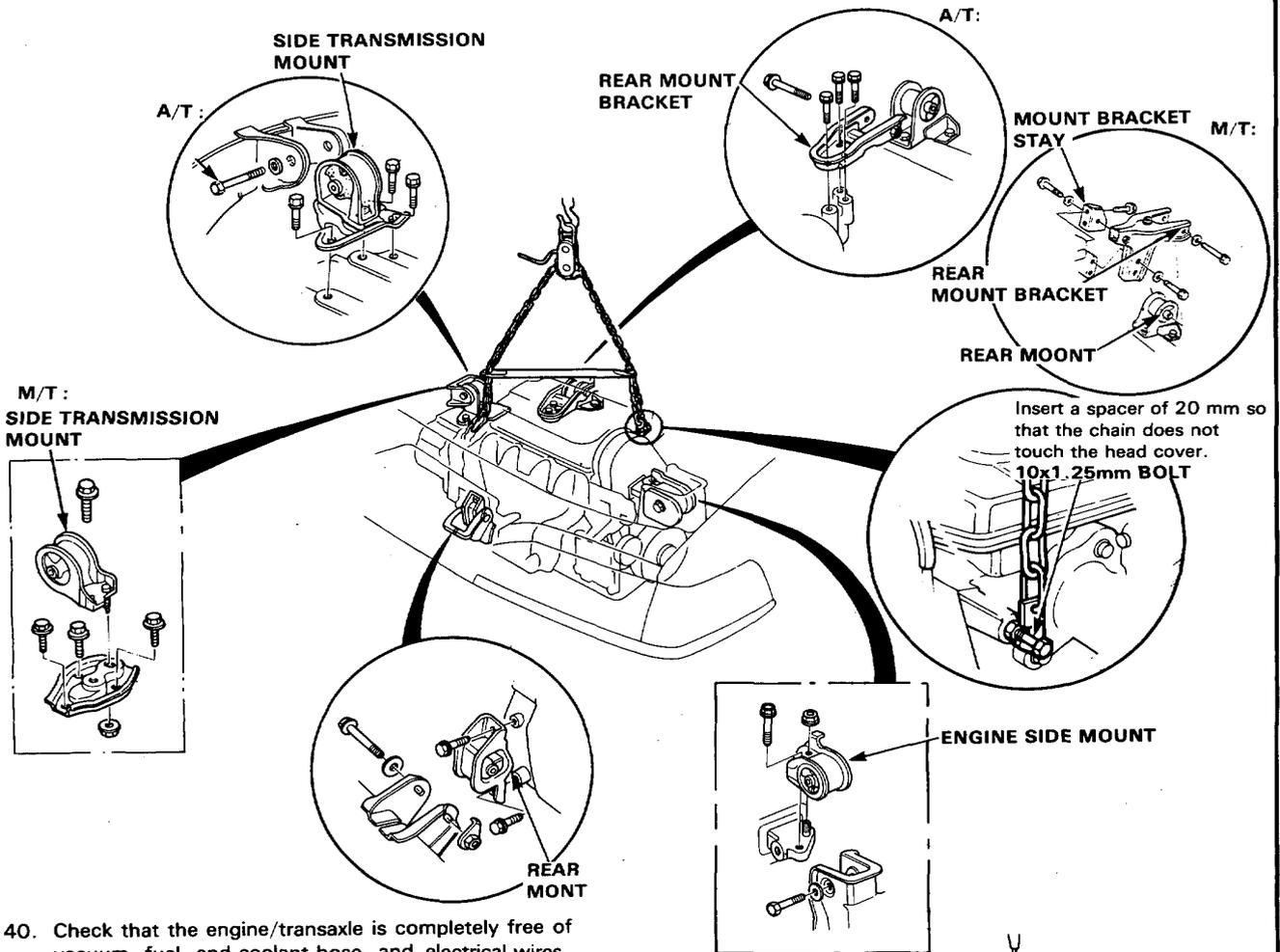
35. Remove the rear transmission mount bracket.

36. Remove the bolts from the front transmission mount.

37. Remove the bolts from the engine side mount.

38. Remove the bolts from the side transmission mount (A/T).

39. First remove the mount nut from under the transmission mount (M/T).

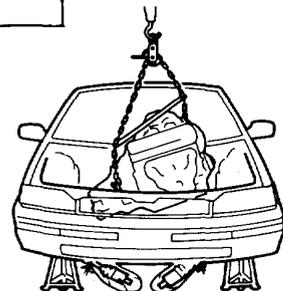


40. Check that the engine/transaxle is completely free of vacuum, fuel, and coolant hose, and electrical wires.

41. Slowly raise the engine approximately 6" and stop. Check once again that all wires and hoses have been disconnected from the engine/transaxle.

42. Raise the engine/transaxle all the way and remove it from the car.

CAUTION: When the engine is suspended, do not crawl under the car.



(cont'd)

Engine Removal/ Installation (cont'd)

Install the engine in the reverse order of removal.
After the engine is in place :

- Torque engine mount bolts in sequence shown.

CAUTION : Failure to tighten the bolts in the proper sequence can cause excessive noise and vibration, and reduce bushing life : check that the bushings are not twisted or offset.

- Check that the spring clip on the end of each driveshaft clicks into place.

CAUTION : Use new spring clips on installation.

- 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 at any point in the fuel line.

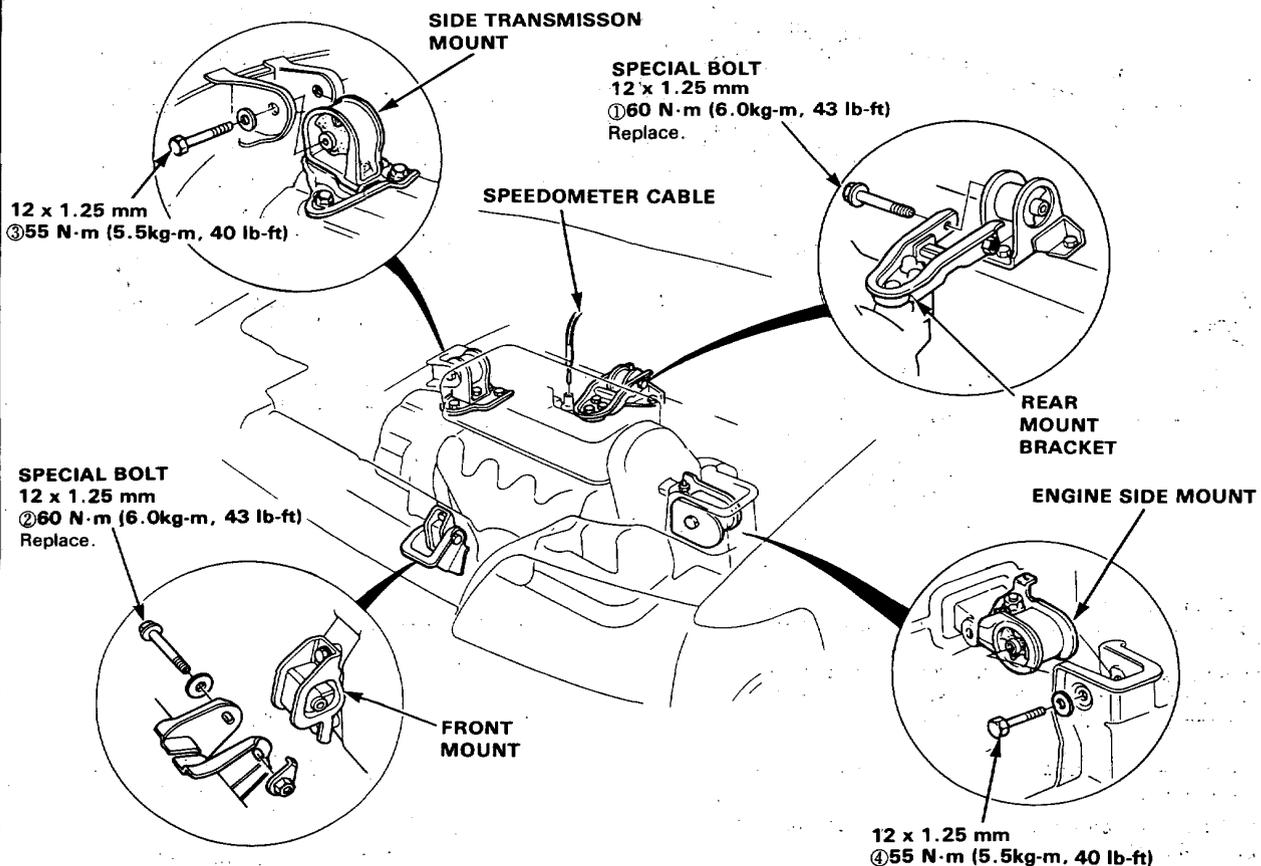
- Bleed air from the cooling system at the bleed bolt with the heater valve open.
- Adjust the throttle cable tension. (See Section 11).
- Adjust the alternator belt tension.
- Check the clutch pedal free play.
- Check that the transmission shifts into gear smoothly.
- Reinstall the A/C compressor and A/C wiring.
- Clean battery posts and cable terminals with sandpaper, assemble, then apply grease to prevent corrosion.
- Check the ignition timing. (See Section 16).
- Charge the system and test performance. (See Section 15).

Speedometer cable Installation:

- Align tab on cable end with slot in holder (page 5-67).
- Install clip so bent leg is on groove side.
After installing, pull speedometer cable to make sure it is secure.

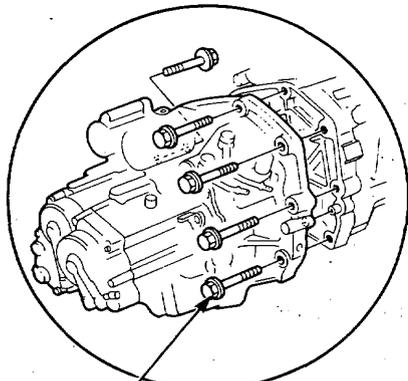
ENGINE MOUNT TORQUE SEQUENCE

NOTE : Check the mount and bracket for damage.

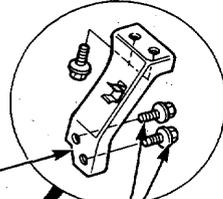




Additional Torque Specifications:



**12 x 1.25 mm
58 N·m (5.8kg-m,
42 lb-ft)**

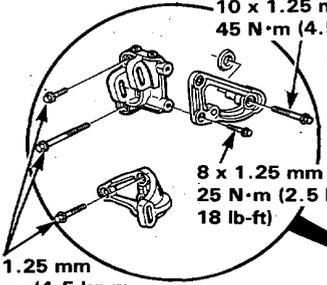


**INTAKE MANIFOLD
BRACKET**

**8 x 1.25 mm
25 N·m (2.5 kg-m,
18 lb-ft)**

**12 x 1.25 mm
55 N·m (5.5kg-m, 40 lb-ft)**

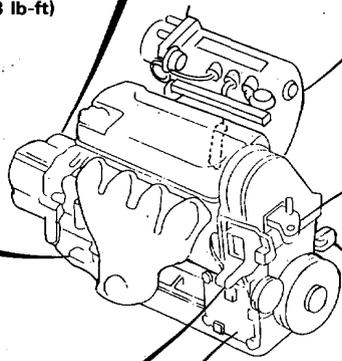
**POWER STEERING PUMP BRACKETS
DOHC:**



**10 x 1.25 mm
45 N·m (4.5 kg-m, 33 lb-ft)**

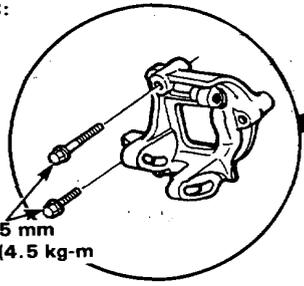
**8 x 1.25 mm
25 N·m (2.5 kg-m,
18 lb-ft)**

**10 x 1.25 mm
45 N·m (4.5 kg-m,
33 lb-ft)**

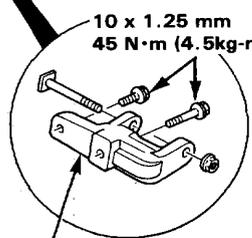


**ENGINE SIDE
MOUNT BRACKET**

SOHC:

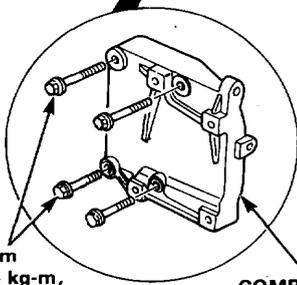


**10 x 1.25 mm
45 N·m (4.5 kg-m
33 lb-ft)**



**10 x 1.25 mm
45 N·m (4.5kg-m, 33 lb-ft)**

ALTERNATOR BRACKET



**10 x 1.25 mm
45 N·m (4.5 kg-m,
33 lb-ft)**

COMPRESSOR BRACKET

(cont'd)

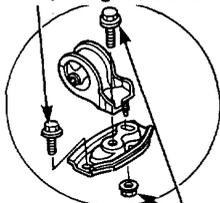
Engine Removal/Installation (cont'd)

Additional Torque Specifications:

SIDE TRANSMISSION MOUNT AND BRACKET

10 x 1.25 mm
39 N·m (3.9kg-m, 28 lb-ft)

M/T:

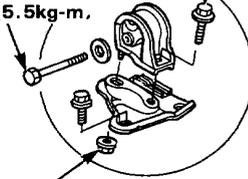


10 x 1.25
55 N·m (5.5kg-m, 40 lb-ft)

12 x 1.25 mm
55 N·m (5.5kg-m, 40 lb-ft)

A/T:

12 x 1.25 mm
55 N·m (5.5kg-m, 40 lb-ft)



10 x 1.25 mm
39 N·m (3.9kg-m, 28 lb-ft)

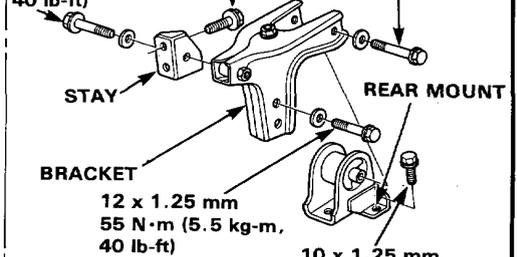
REAR MOUNT AND BRACKET

10 x 1.25 mm
39 N·m (3.9 kg-m,
28 lb-ft)

M/T:

12 x 1.25 mm
55 N·m (5.5 kg-m,
40 lb-ft)

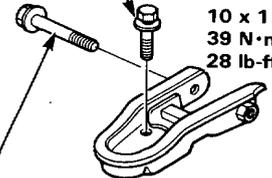
SPECIAL BOLT Replace
12 x 1.25 mm
60 N·m (6.0 kg-m,
43 lb-ft)



A/T:

12 x 1.25 mm
55 N·m (5.5kg-m, 40 lb-ft)

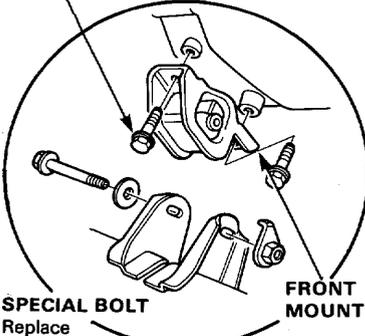
10 x 1.25 mm
39 N·m (3.9 kg-m,
28 lb-ft)



SPECIAL BOLT Replace
12 x 1.25 mm
60 N·m (6.0kg-m, 43 lb-ft)

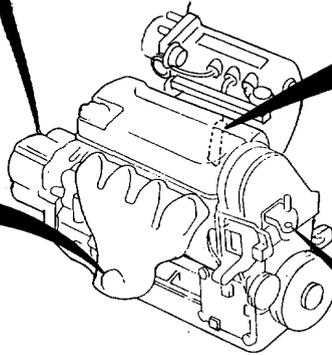
REAR
MOUNT

12 x 1.25 mm
55 N·m (5.5kg-m,
40 lb-ft)

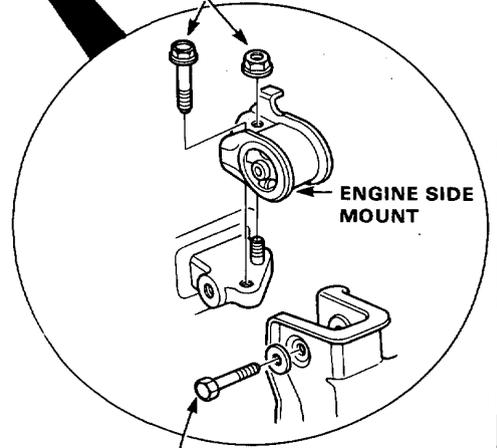


SPECIAL BOLT
Replace
12 x 1.25 mm
60 N·m (6.0kg-m, 43 lb-ft)

FRONT
MOUNT

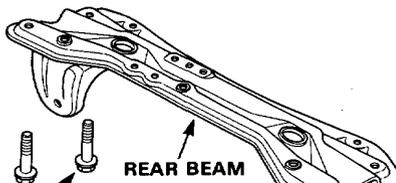


12 x 1.25 mm
74 N·m (7.4kg-m,
54 lb-ft)



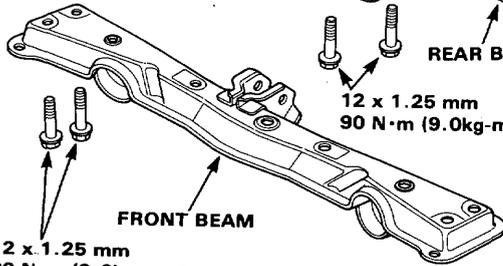
ENGINE SIDE
MOUNT

12 x 1.25 mm
55 N·m (5.5kg-m, 40 lb-ft)



REAR BEAM

12 x 1.25 mm
90 N·m (9.0kg-m, 65 lb-ft)



FRONT BEAM

12 x 1.25 mm
90 N·m (9.0kg-m, 65 lb-ft)