



Engine Removal/Installation

Removal

⚠ WARNING

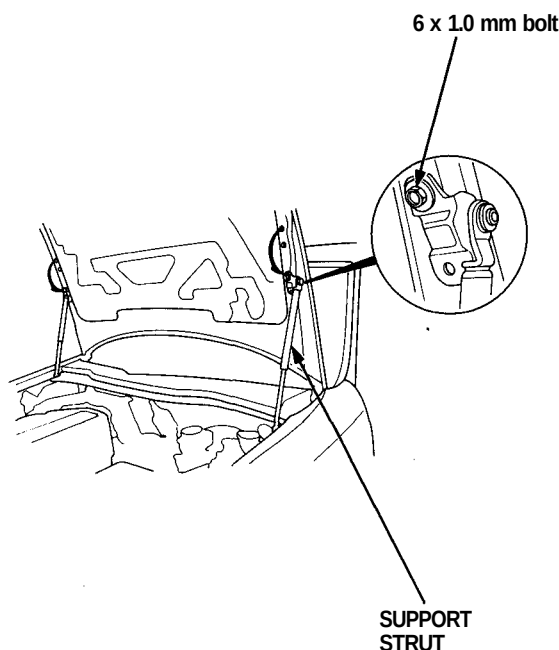
- Make sure jacks and safety stands are placed properly and hoist brackets are attached to the correct positions on the engine.
- Make sure the vehicle will not roll off stands and fall while you are working under it.

CAUTION:

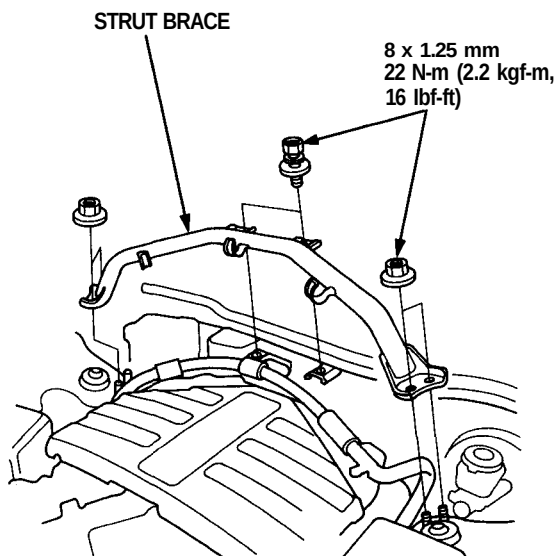
- Use fender covers to avoid damaging painted surfaces.
- Unplug the wiring connectors carefully while holding the connector portion to avoid damage.
- Mark all wiring and hoses to avoid misconnection. Also, be sure that they do not contact other wiring or hoses or interfere with other parts.

NOTE: Do the PCM Memory Setting after reconnecting the battery (see [section 11](#)).

1. Move the front passenger's seat forward.
2. '96 - 98 models: Remove the support struts from the hood. Fix the hood in a vertical position, then reinstall the support struts by using 6 x 1.0 mm bolts.
'99 - 01 models: Remove the hood (see page [20-73](#)).

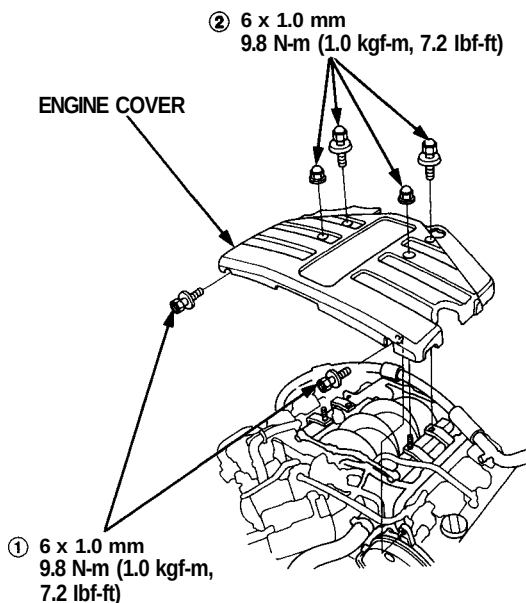


3. Make sure you have the anti-theft code for the radio, then write down the frequencies for the radio's pre-set buttons.
4. Disconnect the battery negative terminal first, then the positive terminal.
5. Remove the strut brace.



6. Remove the engine cover.

NOTE: Tighten the bolts/nuts on the engine cover in the numbered sequence shown (① - ②).

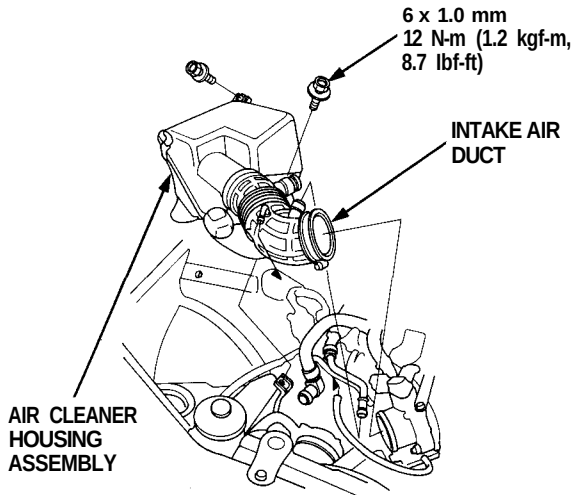


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Removal (cont'd)

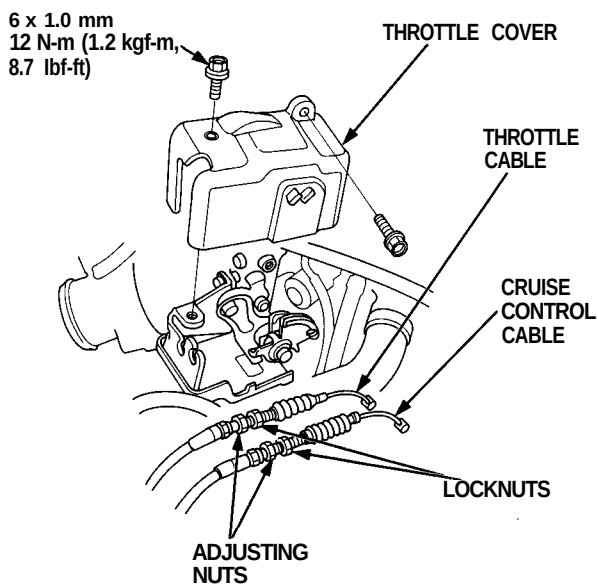
7. Remove the intake air duct and air cleaner housing assembly.



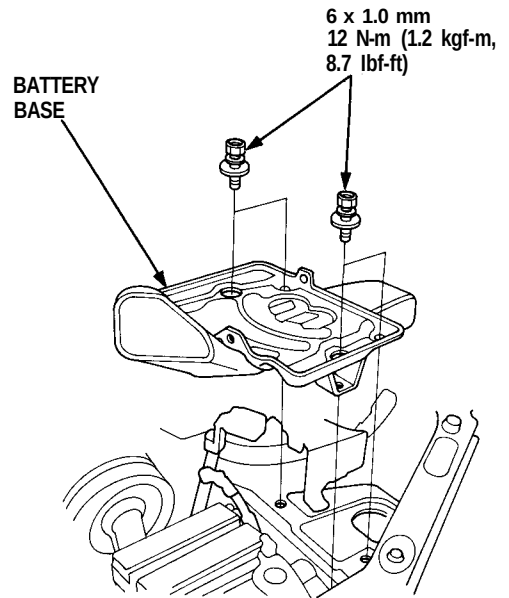
8. Remove the throttle cover.
9. Remove the throttle cable and cruise control cable by loosening the locknuts, then slip the cable ends out of the accelerator linkage.

NOTE:

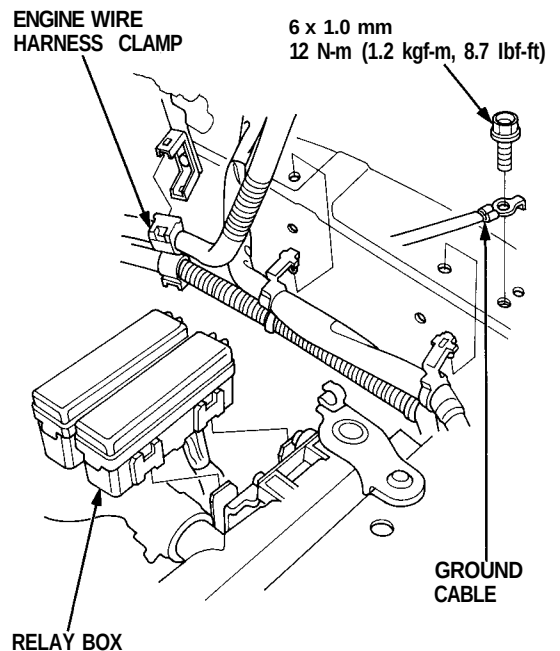
- Take care not to bend the cables when removing them. Always replace any kinked cable with a new one.
- Adjust the throttle cable when installing (see [section 11](#)).
- Adjust the cruise control cable when installing (see [section 4](#)).



10. Raise the coolant reservoir, then remove the battery and battery base.

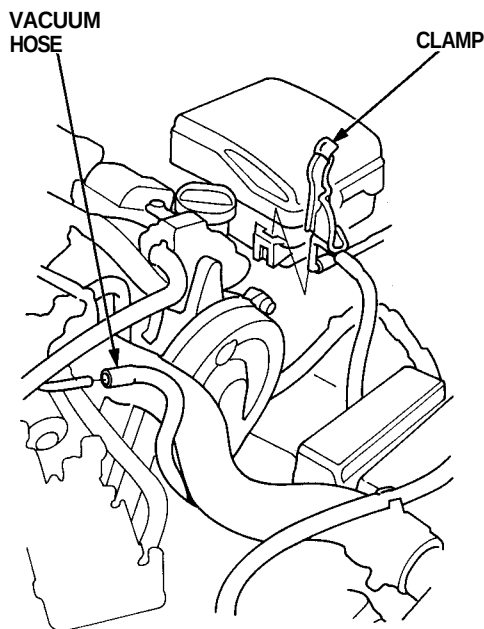


11. Remove the relay box, ground cable and engine wire harness clamps.

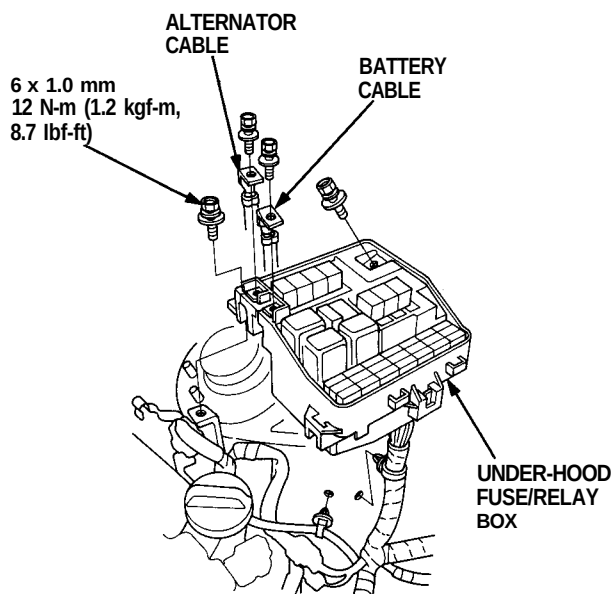




12. Remove the vacuum hose, then remove the clamp from the under-hood fuse/relay box.

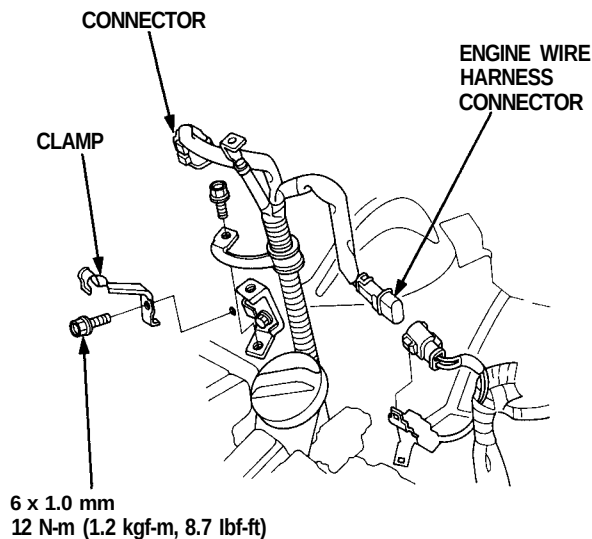


13. Remove the alternator and battery cables from the under-hood fuse/relay box, then remove the under-hood fuse/relay box.



14. Disconnect the engine wire harness connector on the left side of the engine compartment.

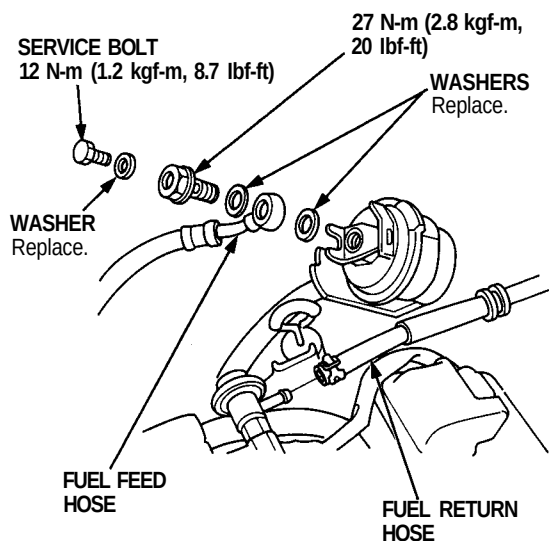
15. Remove the connector and engine wire harness clamp.



16. Relieve fuel pressure by loosening the service bolt on the fuel filter about one turn (see [section 11](#)).

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

17. Remove the fuel feed hose and fuel return hose.

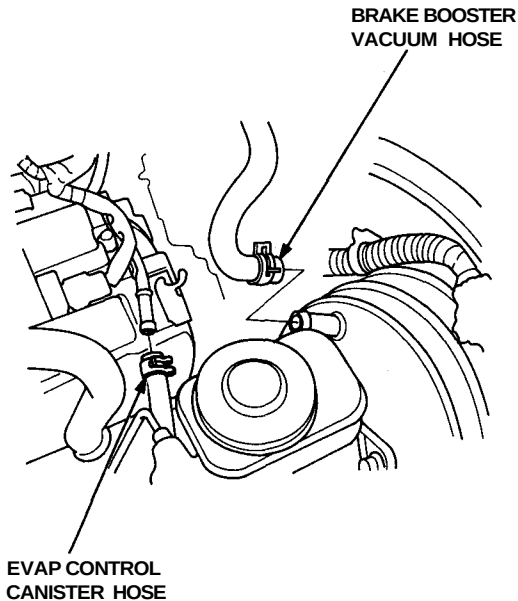


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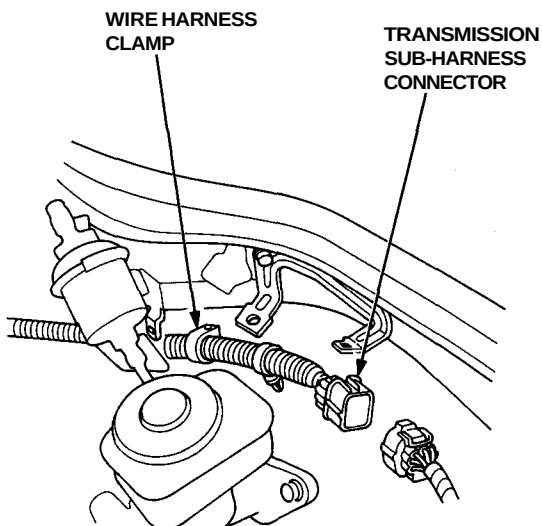
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Removal (cont'd)

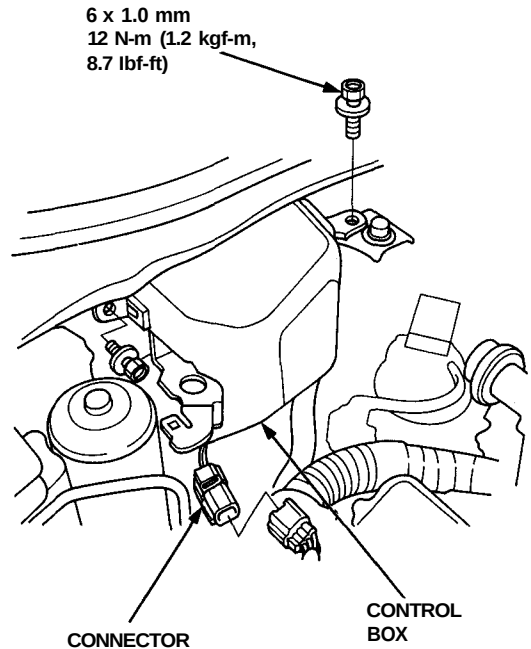
18. Remove the evaporative emission (EVAP) canister hose and brake booster vacuum hose.



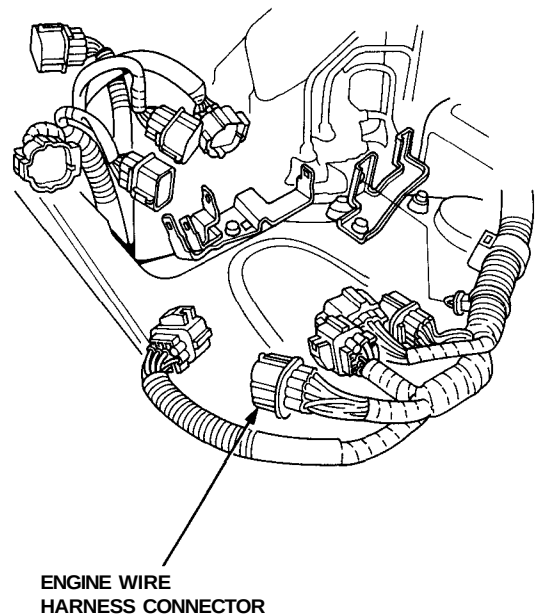
19. Disconnect the transmission sub-harness connector, and remove the wire harness clamp.



20. Disconnect the connector, then remove the control box.

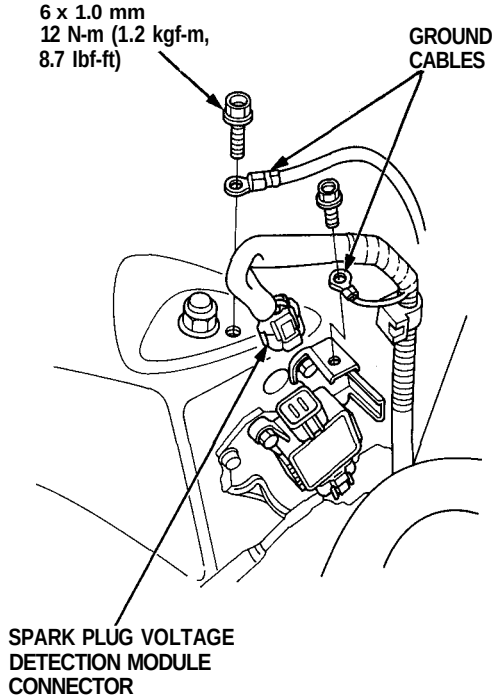


21. Disconnect the engine wire harness connectors on the right side of the engine compartment.

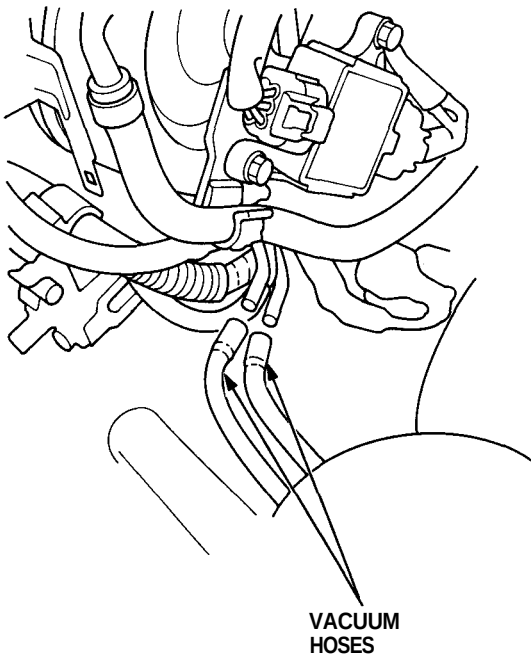




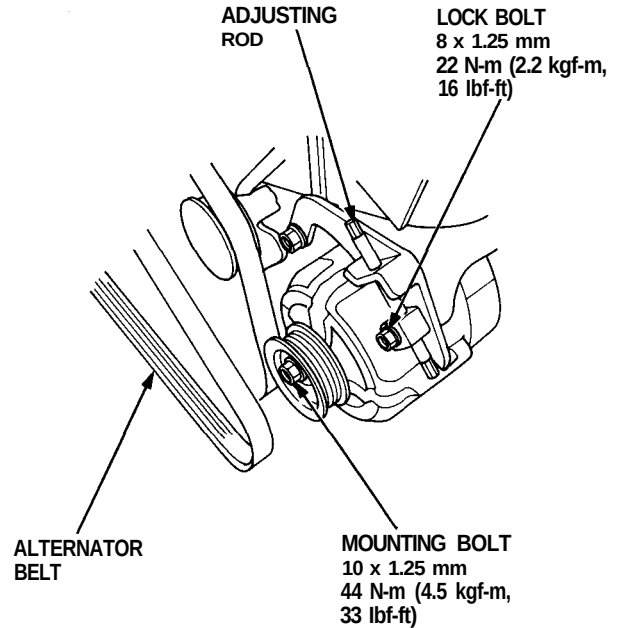
22. Disconnect the spark plug voltage detection module connector, and remove the engine ground cables.



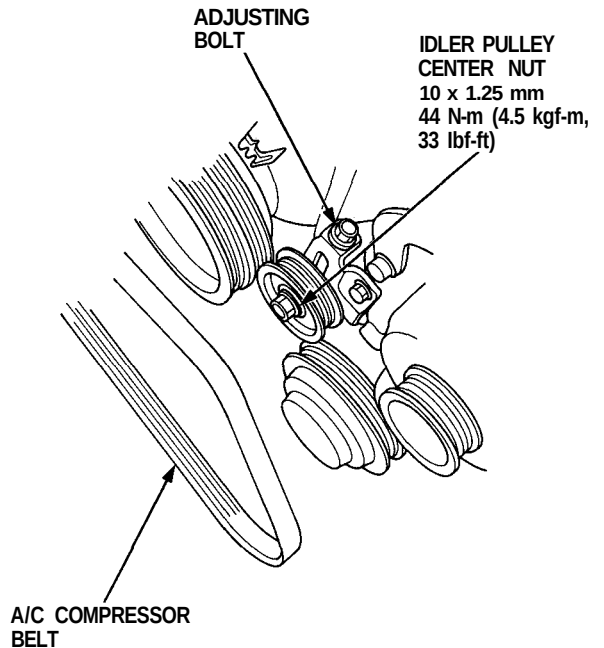
23. Remove the vacuum hoses.



24. Loosen the mounting bolt, lock bolt and adjusting rod, then remove the alternator belt.



25. Loosen the idler pulley center nut and adjusting bolt, then remove the air conditioning (A/C) compressor belt.

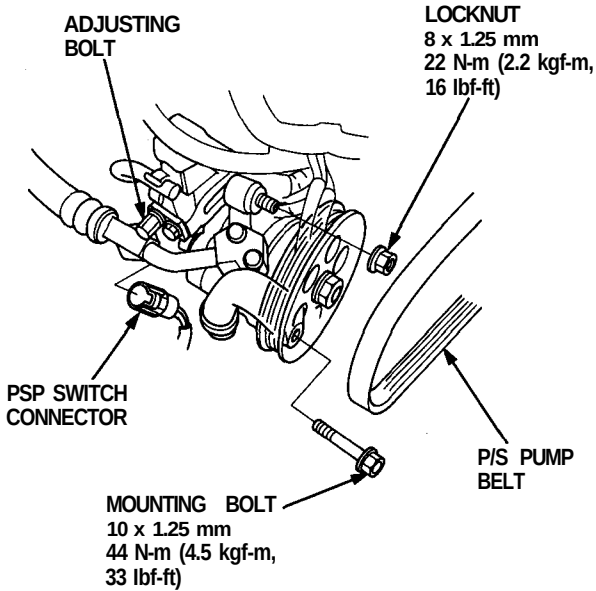


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Removal (cont'd)

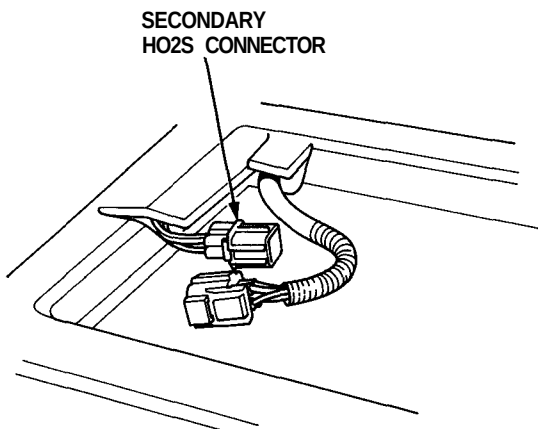
26. Disconnect the power steering pressure (PSP) switch connector.



27. Remove the adjusting bolt, locknut and mounting bolt, then remove the power steering (P/S) pump belt and pump.

NOTE: Do not disconnect the P/S hoses.

28. Pull the carpet back underneath the front passenger's seat to expose the secondary heated oxygen sensor (secondary HO2S) connector, then disconnect the secondary HO2S connector.

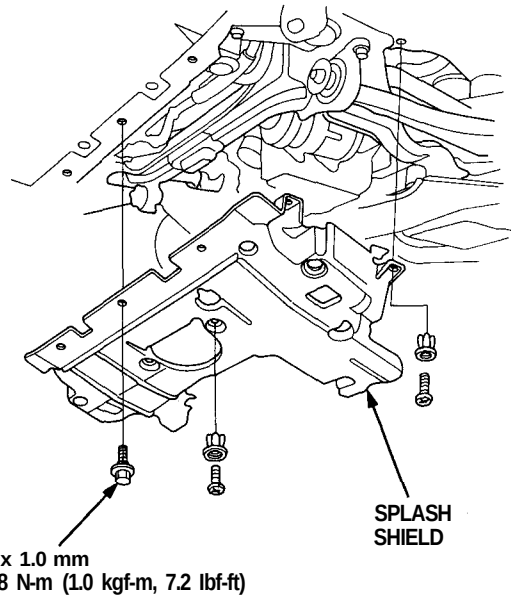


29. Remove the radiator cap.

⚠ WARNING Use care when removing the radiator cap to avoid scalding by hot coolant or steam.

30. Raise the hoist to full height.

31. Remove the front tires/wheels and splash shield.

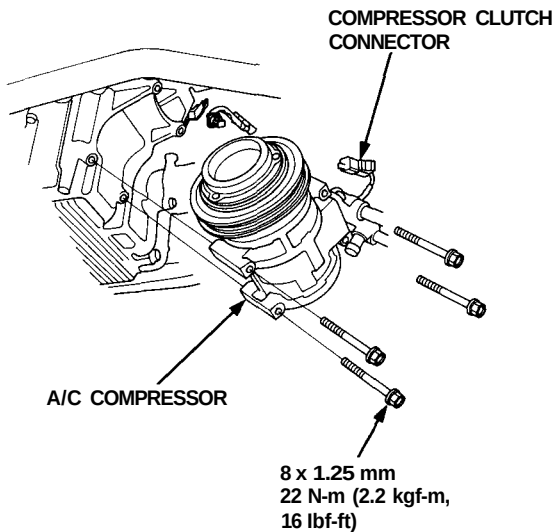


32. Drain the engine coolant (see page 10-5). Loosen the drain plug in the radiator.
33. Drain the automatic transmission fluid (ATF). Reinstall the drain plug using a new washer (see section 14).
34. Drain the differential oil. Reinstall the drain plug using a new washer (see section 15).
35. Drain the engine oil. Reinstall the drain bolt using a new washer (see page 8-4).
36. Remove the damper forks (see section 18).
37. Disconnect the suspension lower arm ball joints (see section 18).
38. Remove the driveshafts (see section 16).

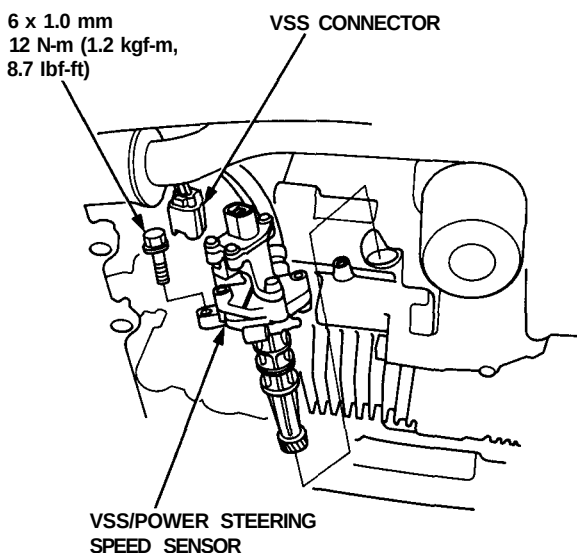
NOTE: Coat all precision finished surfaces with clean engine oil. Tie plastic bags over the driveshaft ends.



39. Disconnect the compressor clutch connector, then remove the A/C compressor. Do not disconnect the A/C hoses.

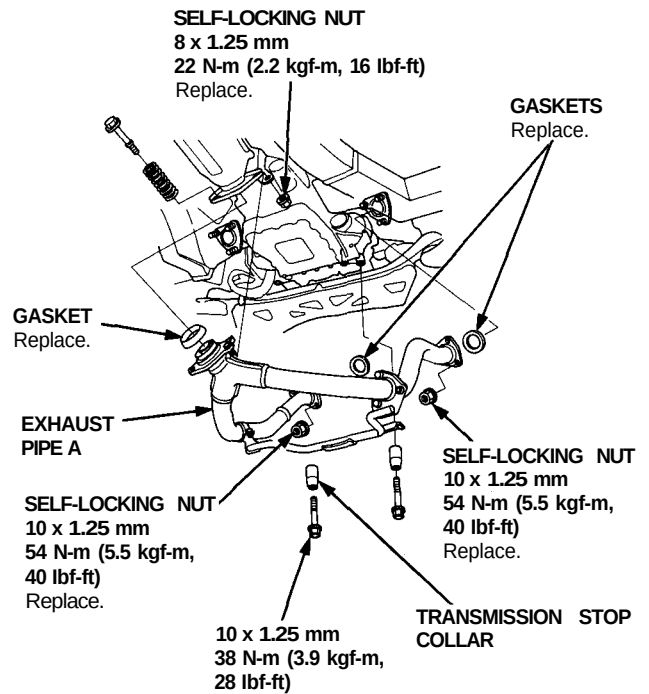


40. Disconnect the vehicle speed sensor (VSS) connector, then remove the VSS/power steering speed sensor. Do not disconnect the fluid hoses.

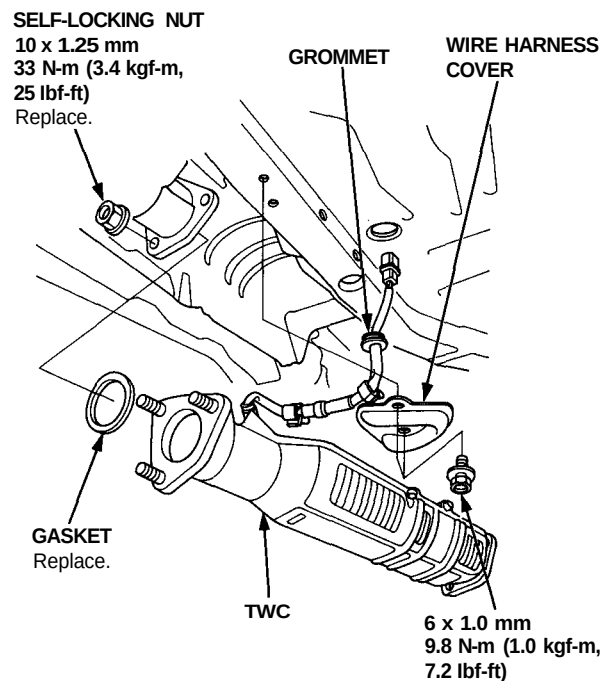


41. Remove the transmission stop collars.

42. Remove exhaust pipe A.



43. Remove the wire harness cover and grommet, then remove the three way catalytic converter (TWC).

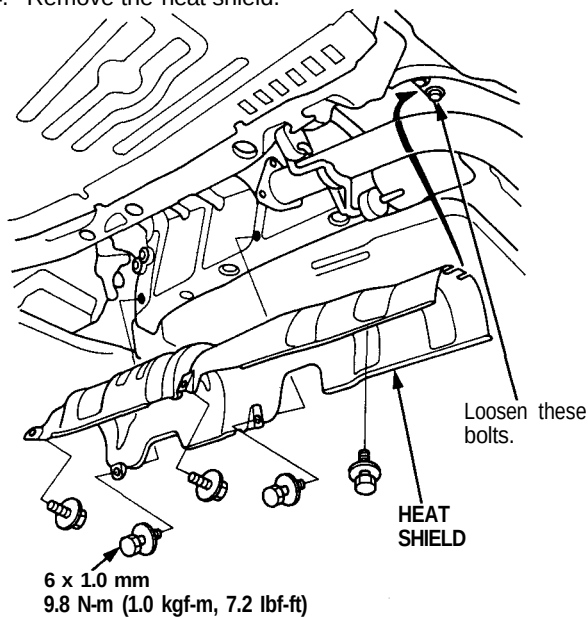


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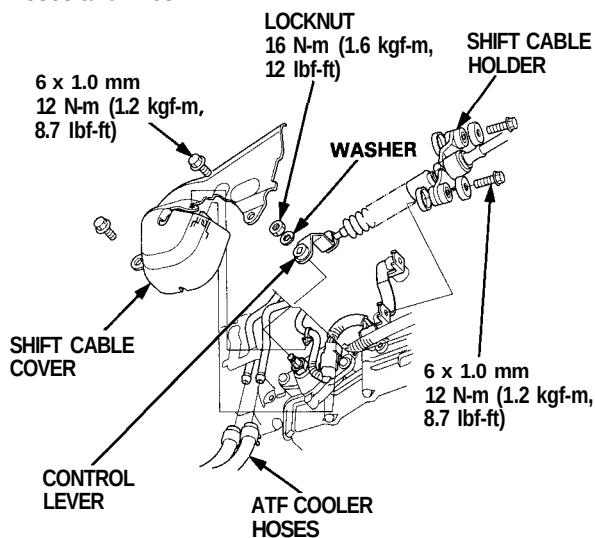
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44. Remove the heat shield.



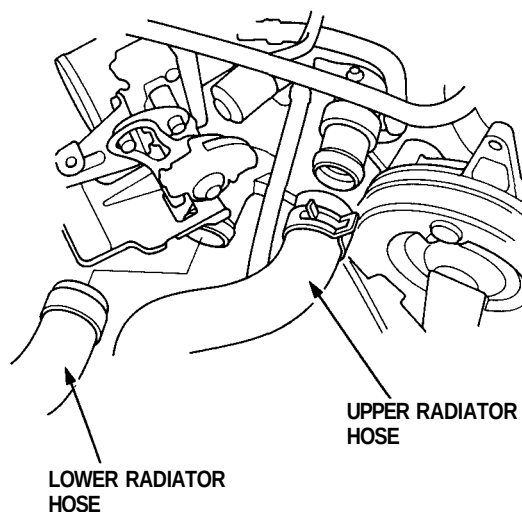
45. Remove the ATF cooler hoses. Plug the ATF cooler hoses and lines.



46. Remove the shift cable cover mounting bolts, then remove the shift control solenoid valve/linear solenoid harness connector from the shift cable cover.
47. Remove the shift cable cover from the transmission housing.
48. Remove the shift cable with shift cable holder from the shift cable holder base.
49. Remove the control lever from the control shaft.

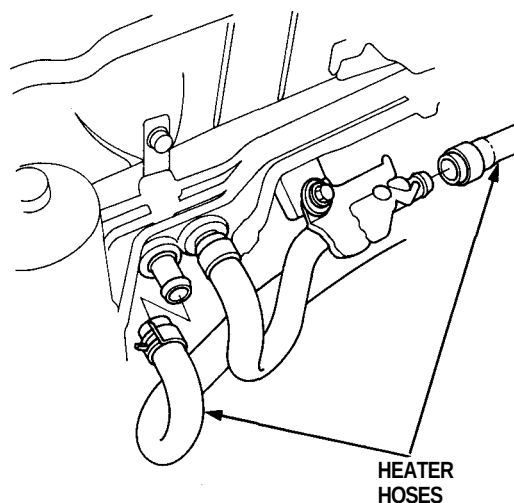
50. Lower the hoist.

51. Remove the upper and lower radiator hoses.



52. Remove the radiator assembly (see page [10-4](#)).

53. Remove the heater hoses.



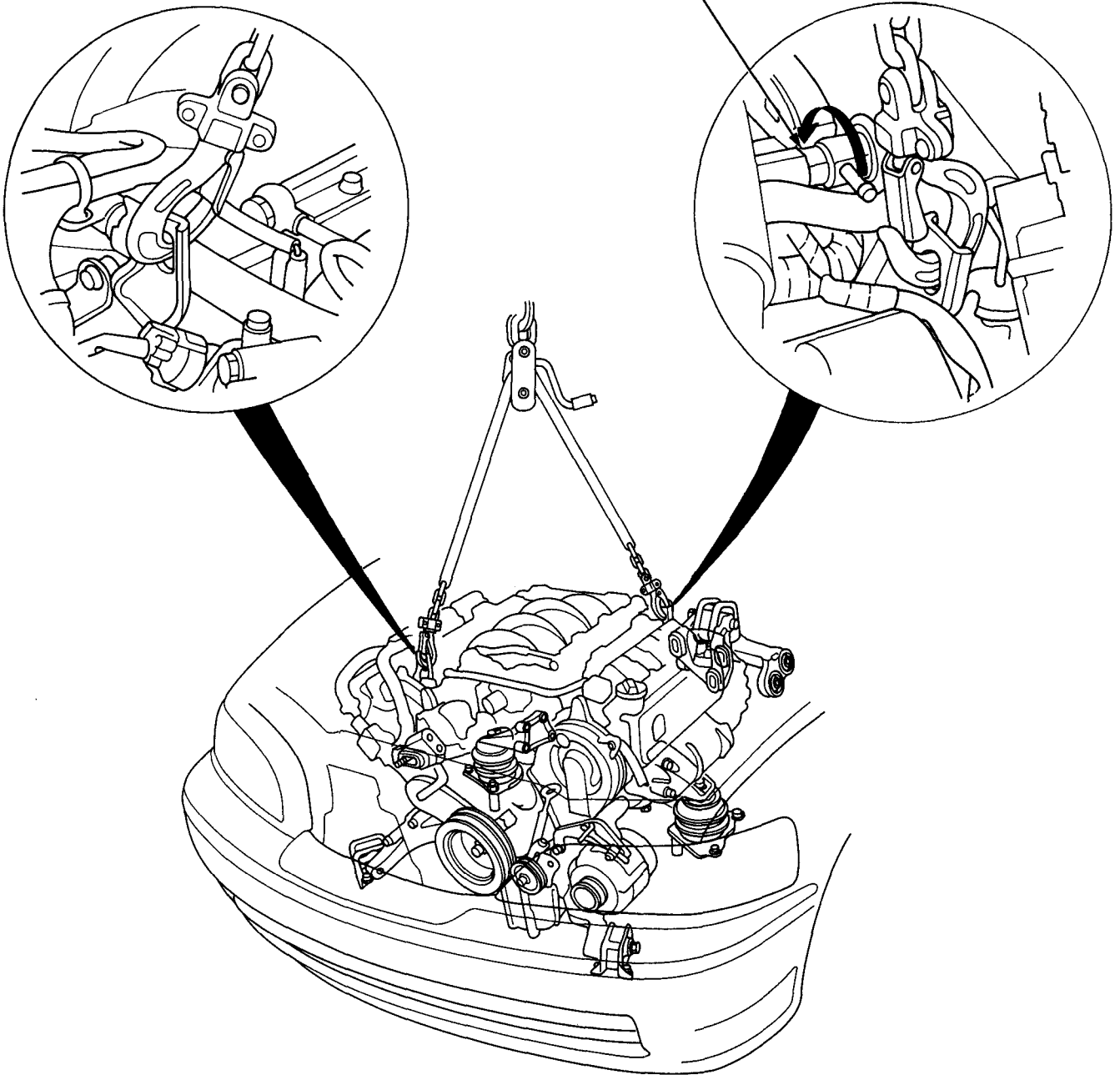


54. Attach the chain hoist to the engine.

FUEL PRESSURE REGULATOR

29 N·m (3.0 kgf-m, 22 lbf-ft)

NOTE: Loosen the locknut on the fuel pressure regulator, then turn the fuel pressure regulator 180°.



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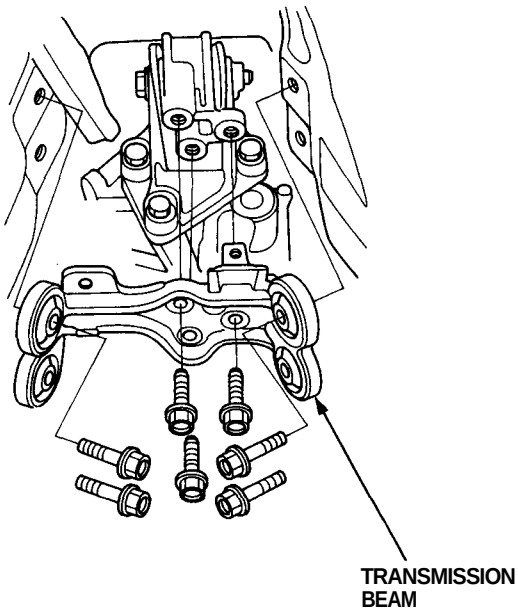
Removal (cont'd)

55. Raise the hoist.

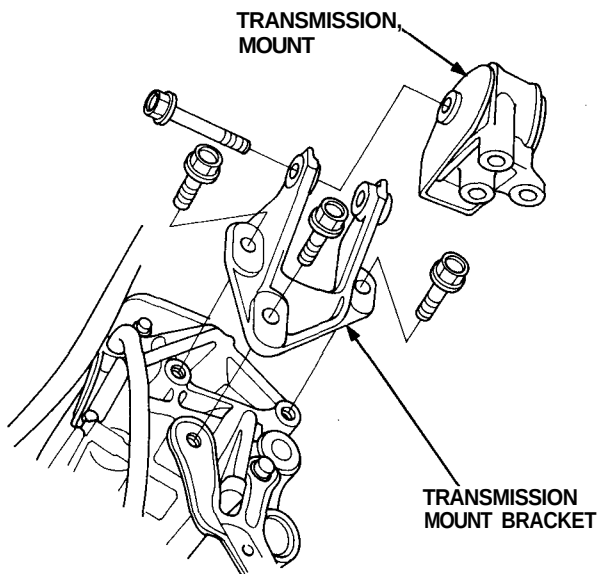
56. Remove the shift cable guide.

CAUTION: Take care not to bend the shift cable (see [section 14](#)).

57. Remove the transmission beam.

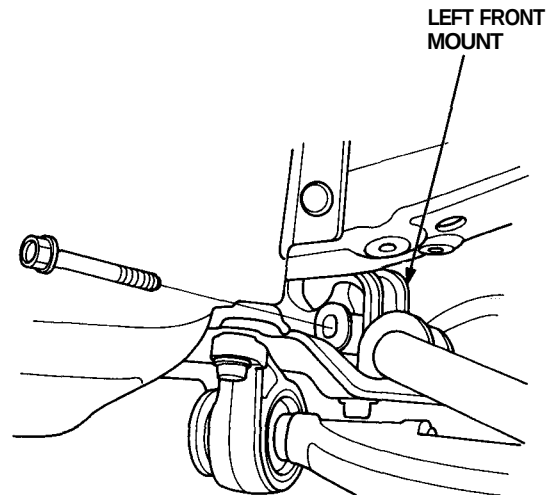


58. Remove the transmission mount and transmission mount bracket.

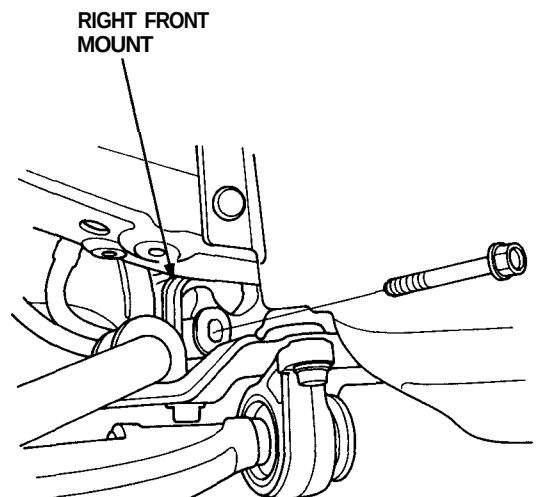


59. Lower the hoist.

60. Separate the left front mount bracket from the left front mount.

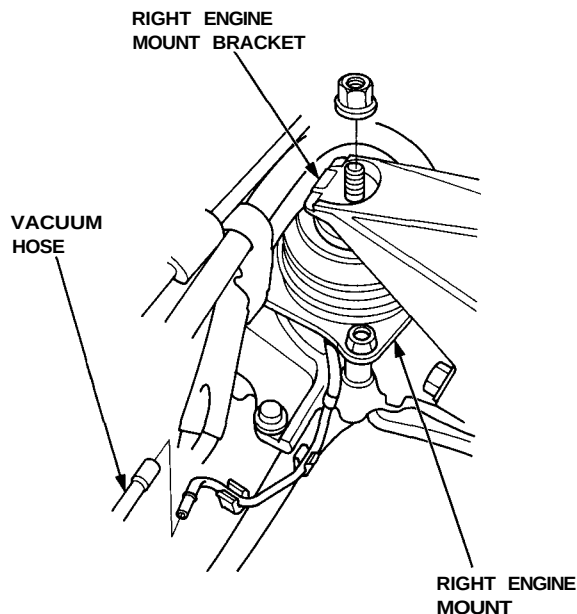


61. Separate the right front mount bracket from the right front mount.

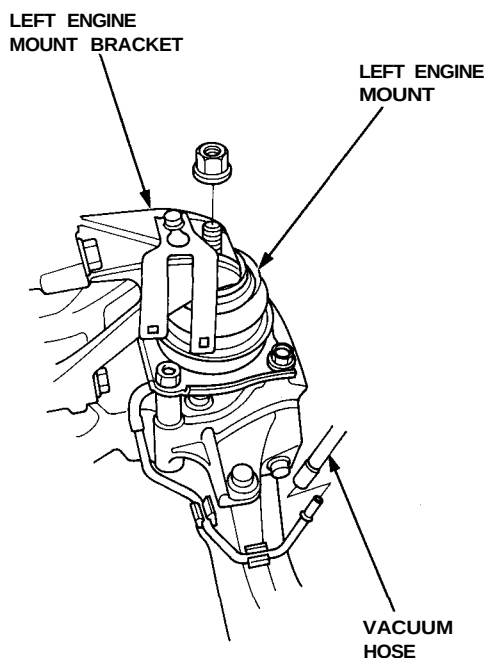




62. Separate the right engine mount bracket from the right engine mount, then remove the vacuum hose.



63. Separate the left engine mount bracket from the left engine mount, then remove the vacuum hose.



64. Raise the chain hoist to remove all slack from the chain.
65. Check that the engine/transmission is completely free of vacuum hoses, fuel and coolant hoses and electrical wiring.
66. Slowly raise the engine approximately 150 mm (6 in). Check once again that all hoses and wires are disconnected from the engine/transmission.
67. Raise the engine all the way, and remove it from the vehicle.