

Fig. 120 Position of wood blocks under the engine mounts—4.6L engine

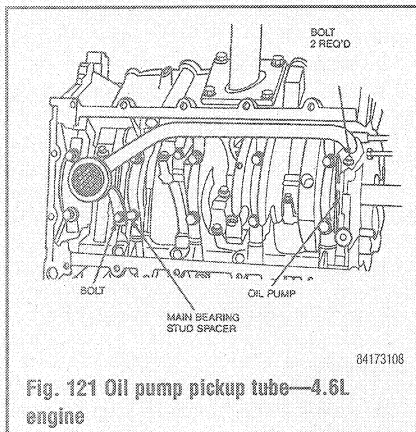


Fig. 121 Oil pump pickup tube—4.6L engine

cooling system and remove the cooling fan and shroud.

*** CAUTION

Never open, service, or drain the radiator or cooling system when hot; serious burns can occur from the steam and hot coolant. In addition, when draining engine coolant, keep in mind that cats and dogs are attracted to ethylene glycol antifreeze and could drink any that is left in an uncovered container or in puddles on the ground. This will prove fatal in sufficient quantities. Always drain coolant into a sealable container. Coolant should be reused unless it is contaminated or is several years old.

3. Remove the upper radiator hose. Remove the wiper module and support bracket.
4. Discharge the air conditioning system. Disconnect and plug the compressor outlet hose at the compressor and remove the bolt retaining the hose assembly to the right coil bracket. Cap the compressor outlet.
5. Remove the 42-pin engine harness connector from the retaining bracket on the brake vacuum booster and disconnect the connector and transmission harness connector.
6. Disconnect the throttle valve cable from the throttle body and disconnect the heater outlet hose.
7. Remove the nut retaining the ground strap to the right cylinder head. Remove the upper stud and loosen the lower bolt retaining the heater outlet hose to the right cylinder head and position out of the way.

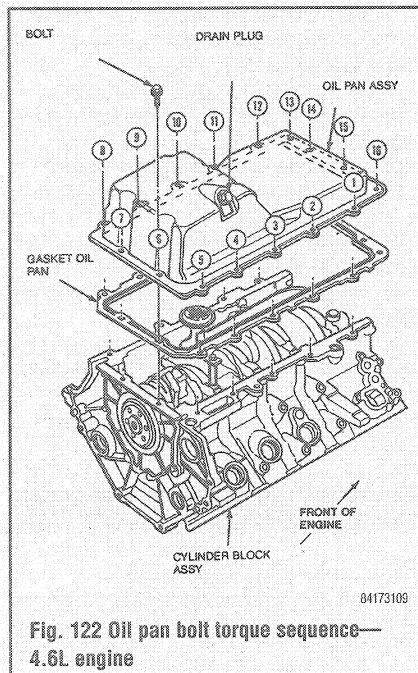


Fig. 122 Oil pan bolt torque sequence—4.6L engine

8. Remove the blower motor resistor. Remove the bolt retaining the right engine mount to the lower engine bracket.
9. Disconnect the vacuum hoses from the EGR valve and tube. Remove the 2 bolts retaining the EGR valve to the intake manifold.
10. Raise and safely support the vehicle. Drain the crankcase and remove the engine mount through bolts.
11. Remove the EGR tube line nut from the right exhaust manifold and remove the EGR valve and tube assembly.
12. Disconnect the exhaust from the exhaust manifolds. Lower the exhaust system and support it with wire from the crossmember.
13. Position a jack and a block of wood under the oil pan, rearward of the oil drain hole. Raise the engine approximately 4 in. and insert 2 wood blocks approximately 2½ in. thick under each engine mount. Lower the engine onto the wood blocks and remove the jack.
14. Remove the 16 bolts retaining the oil pan to the engine block and remove the oil pan.

It may be necessary to loosen, but not remove, the 2 nuts on the rear transmission mount and with a jack, raise the transmission extension housing slightly to remove the pan.

15. If necessary, remove the 2 bolts retaining the oil pickup tube to the oil pump and remove the bolt retaining the pickup tube to the main bearing stud spacer. Remove the pickup tube.

To install:

16. Clean the oil pan and inspect for damage. Clean the sealing surfaces of the front cover and engine block. Clean and inspect the oil pickup tube and replace the O-ring.
17. If removed, position the oil pickup tube on the oil pump and hand start the 2 bolts. Install the bolt retaining the pickup tube to the main bearing stud spacer hand tight.
18. Tighten the pickup tube-to-oil pump bolts to 6.0–8.8 ft. lbs. (8–12 Nm), then tighten the pickup tube-to-main bearing stud spacer bolt to 15–22 ft. lbs. (20–30 Nm).

19. Position a new gasket on the oil pan. Apply silicone sealer to where the front cover meets the cylinder block and rear seal retainer meets the cylinder block. Position the oil pan on the engine and install the bolts. Tighten the bolts, in sequence, to 15–22 ft. lbs. (20–30 Nm).
20. Position the jack and wood block under the oil pan, rearward of the oil drain hole, and raise the engine enough to remove the wood blocks. Lower the engine and remove the jack.
21. Install the engine mount through bolts and tighten to 15–22 ft. lbs. (20–30 Nm).
22. Position the EGR valve and tube assembly in the vehicle and connect to the exhaust manifold. Tighten the line nut to 26–33 ft. lbs. (35–45 Nm).

Loosen the line nut at the EGR valve prior to installing the assembly into the vehicle. This will allow enough movement to align the EGR valve retaining bolts.

23. Cut the wire and position the exhaust system to the manifolds. Install the 4 nuts and tighten to 20–30 ft. lbs. (27–41 Nm). Make sure the exhaust system clears the crossmember. Adjust as necessary.
24. Install a new oil filter and lower the vehicle.
25. Install the bolt retaining the right engine mount to the lower engine bracket. Tighten to 15–22 ft. lbs. (20–30 Nm).
26. Install a new gasket on the EGR valve and position on the intake manifold. Install the 2 bolts retaining the EGR valve to the intake manifold and tighten to 15–22 ft. lbs. (20–30 Nm). Tighten the EGR tube line nut at the EGR valve to 26–33 ft. lbs. (35–45 Nm). Connect the vacuum hoses to the EGR valve and tube.
27. Install the blower motor resistor. Position the heater outlet hose, install the upper stud and tighten the upper and lower bolts to 15–22 ft. lbs. (20–30 Nm). Install the ground strap on the stud and tighten to 15–22 ft. lbs. (20–30 Nm).
28. Connect the heater outlet hose and the throttle valve cable. If necessary, adjust the throttle valve cable.

29. Connect the 42-pin connector and transmission harness connector. Install the harness connector on the brake vacuum booster.
30. Connect the air conditioning compressor outlet hose to the compressor and install the bolt retaining the hose to the right coil bracket.
31. Install the upper radiator hose and connect the fuel lines. Install the wiper module and retaining bracket.
32. Install the cooling fan and shroud and fill the cooling system. Fill the crankcase with the proper type and quantity of engine oil.
33. Connect the negative battery cable and install the air inlet tube. Start the engine and check for leaks.
34. Have a MVAC certified evacuate and recharge the air conditioning system.

5.0L Engines

See Figure 123

1. Disconnect the negative battery cable. Relieve the fuel system pressure; refer to Section 5.
2. Disconnect the accelerator and throttle valve cables at the throttle body or carburetor.
3. Remove the fan shroud attaching bolts, positioning the fan shroud back over the fan. Remove the dipstick and tube assembly.