

1992 Dodge D250 PICKUP

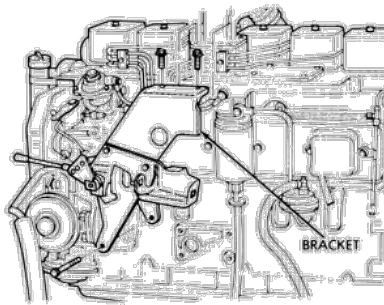
Submodel: | Engine Type: L6 | Liters: 5.9

Fuel Delivery: FI | Fuel: DIESEL

NOTE: The Bosch VE lever is indexed to the shaft during pump calibration. Do not remove it from the pump during removal.

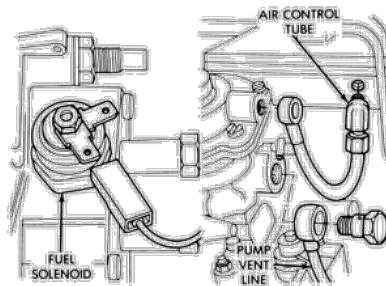
1. Disconnect the negative battery cable.
2. Remove the throttle linkage and bracket.
3. Disconnect the fuel drain manifold.
4. Remove the injection pump supply line.
5. Remove the high pressure lines.
6. Disconnect the electrical wire to the fuel shut off valve.
7. Remove the fuel air control tube.
8. Remove the pump support bracket.

Fig. 1: Remove the throttle linkage and bracket from the engine



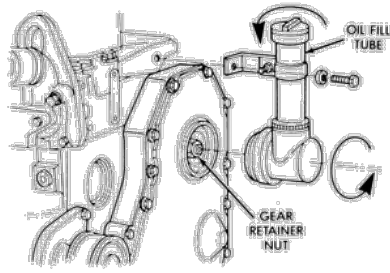
9. Remove the oil fill tube bracket and adapter from the front gear cover.
10. Place a shop towel in the gear cover opening in a position that will prevent the nut and washer from falling into the gear housing. Remove the gear retaining nut and washer.
11. Install the turning tool into the flywheel housing opening on the exhaust side of the engine. Place a $\frac{1}{2}$ in. drive universal joint in the turning tool and attach enough extensions to the joint to make it convenient to turn the tool.

Fig. 2: Detach the connector and lines shown when removing the injection pump



12. Using a ratchet to turn the barring tool, turn the engine until the keyway on the fuel pump shaft is pointing approximately in the six o'clock position.
13. Locate TDC for cylinder No. 1 by turning the engine slowly while pushing in on the TDC pin. Stop turning the engine as soon as the pin engages with the gear timing hole. Disengage the pin after locating TDC and remove the turning equipment.
14. Loosen the lockscrew, remove the special washer from the injection pump and wire it to the line above it so it will not get misplaced. Retighten the lockscrew to 22 ft. lbs. (30 Nm) to lock the driveshaft.
15. Using a suitable puller, pull the pump drive gear from the driveshaft.

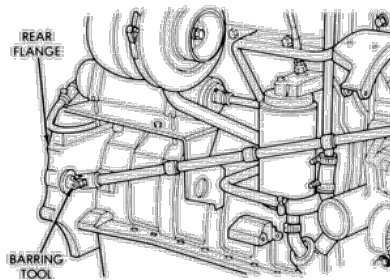
Fig. 3: Exploded view of the oil fill tube and bracket



NOTE: Be careful not to drop the drive gear key into the front cover when removing or installing the pump. If it does drop in, it must be removed before proceeding.

16. Remove the 3 mounting nuts and remove the injection pump from the vehicle.
17. Remove the gasket and clean the mounting surface.

Fig. 4: Use the barring tool to rotate the diesel engine

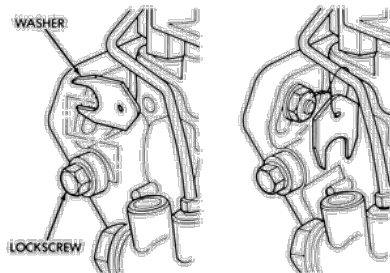


To install:

18. Install a new gasket.

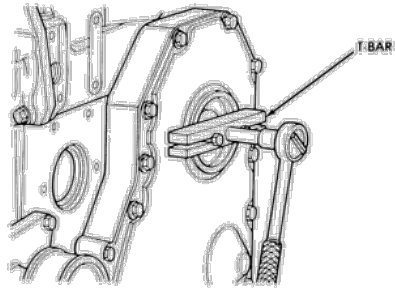
NOTE: The shaft of a new or reconditioned pump is locked so the key aligns with the drive gear keyway with cylinder No. 1 at TDC.

Fig. 5: Loosen the injection pump shaft lockscrew and remove the special washer shown



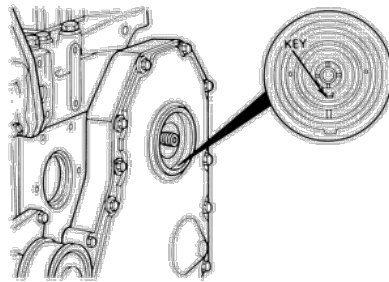
19. Install the pump and finger-tighten the mounting nuts; the pump must be free to move in the slots.
20. Install the pump drive gear, washer and nut to the driveshaft. The pump will rotate slightly because of gear helix and clearance. This is acceptable providing the pump is free to move on the flange slots and the crankshaft does not move. Tighten the nut to 11–15 ft. lbs. (15–20 Nm). This is not the final torque; do not overtighten.
21. If installing the original pump, rotate the pump to align the original timing marks and tighten the mounting nuts to 18 ft. lbs. (24 Nm).

Fig. 6: Use a puller tool as shown to remove the injection pump timing gear



22. If installing a replacement pump, take up gear lash by rotating the pump counterclockwise toward the cylinder head, and tighten the mounting nuts to 18 ft. lbs. (24 Nm). Permanently mark the new injection pump flange to match the mark on the gear housing.
23. Loosen the lockscrew and install the special washer under the lockscrew; tighten to 13 ft. lbs. (18 Nm). Disengage the TDC pin.
24. Install the injection pump support bracket. Finger-tighten the bolts initially, then tighten them to 18 ft. lbs. (24 Nm) in the following sequence:
 - A. Bracket to block bolts.
 - B. Bracket to injection pump bolts.
 - C. Throttle support bracket bolts.
25. Now perform the final tighten of the pump drive gear retaining nut to 48 ft. lbs. (65 Nm).
26. Install the oil filler tube assembly and clamp. Tighten the bolts to 32 ft. lbs. (43 Nm).
27. Install all fuel lines and the electrical connector to the fuel shut off valve. Tighten the high pressure lines to 18 ft. lbs. (24 Nm).

Fig. 7: Be careful not to lose the injection pump key



28. Install the fuel air control tube. Tighten the banjo fitting bolt to 9 ft. lbs. (12 Nm).
29. Install the throttle bracket and linkage. When connecting the cable to the control lever, adjust the length so the lever has stop-to-stop movement.
30. Connect the negative battery cable.

CAUTION
Do not place any part of the hand near the base of the high pressure line. A fuel leak from a high pressure fuel line has sufficient pressure to penetrate the skin and cause serious bodily harm. Do not bleed the lines if the engine is hot. Fuel spilling onto a hot exhaust manifold creates the danger of fire.
31. To bleed air from the system, run or crank the engine and carefully loosen the high pressure fitting from each injector one at a time. Retighten the fitting after the air has expelled before going on to the next injector fitting. The operation is complete when the engine runs smoothly. If the air cannot be removed, check the pump and supply line for suction leaks.
32. Adjust the idle speed if necessary.