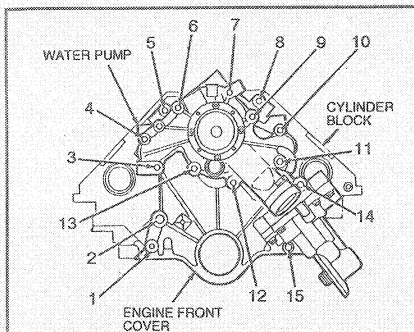


Fig. 89 Water pump and gasket mounting—3.8L engine



Reference Number	Part Number	Size	Part Name
1	N805112	M8 x 1.25 x 98.0	Stud
2	N805112	M8 x 1.25 x 98.0	Stud
3	N805757	M8 x 1.25 x 131.0	Stud
4	N805757	M8 x 1.25 x 131.0	Stud
5	N805787	M8 x 1.25 x 25.0	Bolt
6	N805908	M8 x 1.25 x 35.0	Bolt
7	N805908	M8 x 1.25 x 35.0	Bolt
8	N805787	M8 x 1.25 x 25.0	Bolt
9	N804756	M8 x 1.25 x 61.5	Stud Bolt
10	N805275	M8 x 1.25 x 141.0	Stud
11	N804757	M8 x 1.25 x 131.0	Stud
12	N805908	M8 x 1.25 x 35.0	Bolt
13	N805908	M8 x 1.25 x 35.0	Bolt
14	N804839	M8 x 1.25 x 105.0	Bolt
15	N804841	M8 x 1.25 x 20.0	Cap Screw

86873131

Fig. 90 3.8L engine water pump retaining bolt locations. Since two bolt lengths are used, install the bolts as shown to prevent possible damage to the engine

6. Remove the four water pump pulley bolts. The pulley will remain loose on the hub because there is insufficient room between the inner fender and the water pump, restricting removal from the vehicle.

7. Remove the water pump-to-engine retaining bolts, then lift the water pump and pulley assembly out of the vehicle.

### To install:

8. Lightly oil all bolt and stud threads before installation except those that require sealant. Thoroughly clean, the water pump and front cover gasket contact surfaces.

9. Position the new water pump gasket on the pump-sealing surface using Gasket Adhesive.

10. With the water pump pulley positioned on the water pump hub, position the water pump on the engine front cover, then install the retaining bolts. Tighten the retaining bolts to 15–22 ft. lbs. (20–30 Nm).

→ There are two different lengths of bolts used to retain the water pump. Install the bolts as shown in the accompanying figure or damage to the engine may occur.

11. Install the water pump pulley bolts, then tighten the bolts to 16 ft. lbs. (21 Nm).

12. Connect the heater water hose to the water pump.

13. Install the drive belt tensioner to the engine front cover, then install the drive belt.

14. Connect the negative battery cable, then fill the cooling system with a 50/50 mixture of approved coolant and water. Start and run the engine until it reaches normal operating temperatures, then check for leaks and check the coolant level.

### 4.6L Engine

→ See Figure 91

1. Disconnect the negative battery cable.  
2. Drain the cooling system, remove the cooling fan and the 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,

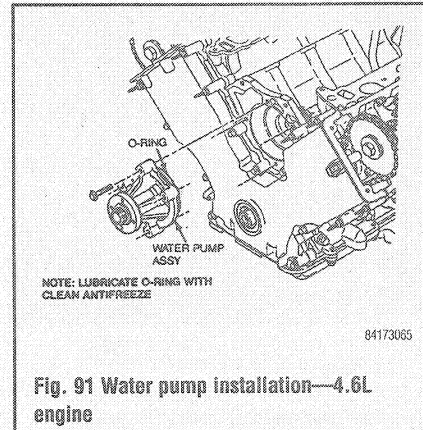


Fig. 91 Water pump installation—4.6L engine

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. Release the belt tensioner and remove the accessory drive belt.

4. Remove the 4 bolts retaining the water pump pulley to the water pump and remove the pulley.

5. Remove the 4 bolts retaining the water pump to the engine assembly and remove the water pump.

### To install:

6. Clean the sealing surfaces of the water pump and engine block.

7. Lubricate a new O-ring seal with clean antifreeze and install on the water pump.

8. Install the water pump and tighten the retaining bolts to 15–22 ft. lbs. (20–30 Nm).

9. Install the water pump pulley and tighten the retaining bolts to 15–22 ft. lbs. (20–30 Nm).

10. Install the accessory drive belt; refer to Section 1.

11. Install the cooling fan and shroud. Connect the negative battery cable and fill the cooling system as explained in Section 1.

12. Run the engine and check for leaks.

### 5.0L Engines

1. Disconnect the negative battery cable.

2. Drain the cooling system. Remove the air inlet tube.

### \*\*\* 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.