

## ENGINE COOLING SYSTEM (CONT'D)

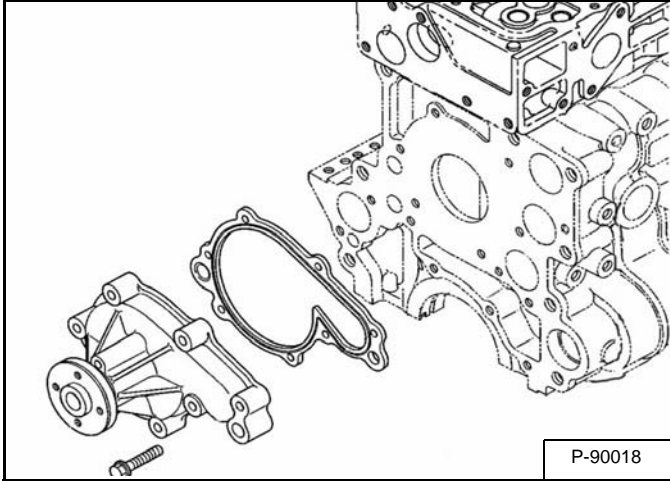
### Water Pump Removal And Installation

Drain the cooling system.

Remove the alternator belt.

Remove the water pump bolts.

**Figure 70-50-32**

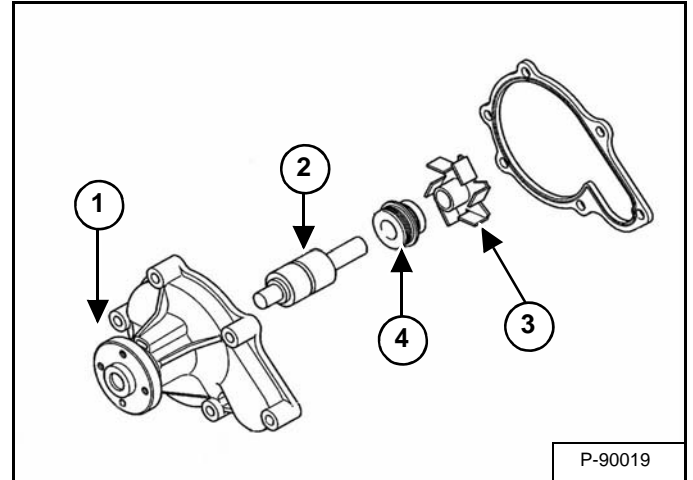


Remove the water pump [Figure 70-50-32].

**Installation:** Always use a new gasket when installing the water pump.

### Water Pump Disassembly And Assembly

**Figure 70-50-33**



Remove the flange (Item 1) [Figure 70-50-33].

Press the shaft (Item 2) and impeller (Item 3) [Figure 70-50-33] out the impeller side of the water pump.

Remove the impeller (Item 3) [Figure 70-50-33] from the shaft.

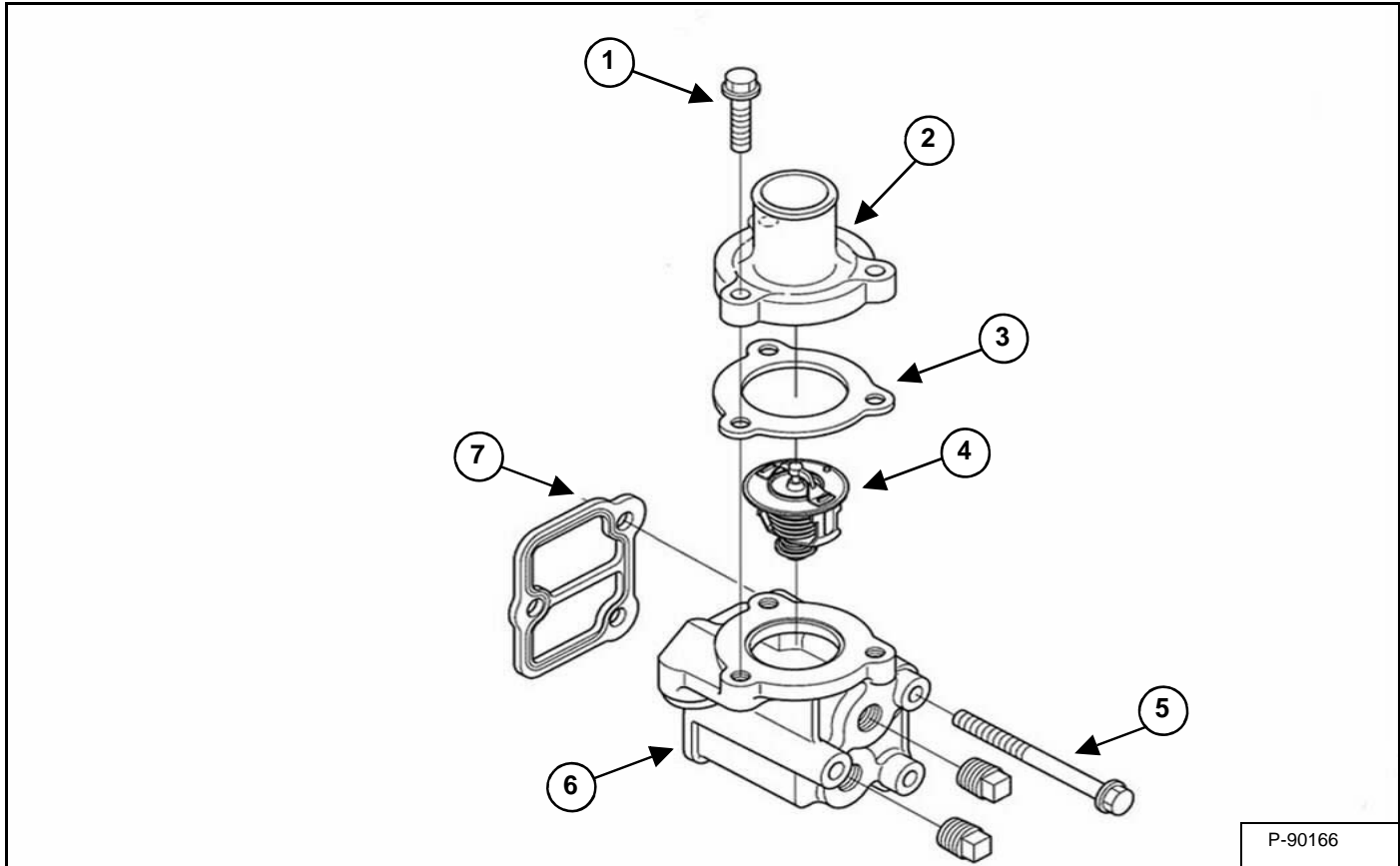
Remove the seal (Item 4) [Figure 70-50-33].

Install a new seal (Item 4) [Figure 70-50-33] when assembling the water pump.

## ENGINE COOLING SYSTEM (CONT'D)

### Thermostat Housing Removal And Installation

Figure 70-50-34



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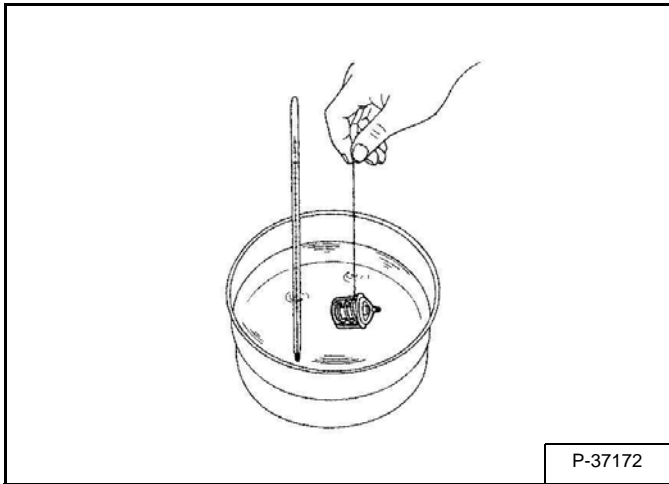
Remove the bolts (Item 1), housing (Item 2), gasket (Item 3) and thermostat (Item 4) [Figure 70-50-34].

Remove bolts (Item 5), housing (Item 6), and gasket (Item 7) from the cylinder head [Figure 70-50-34].

## ENGINE COOLING SYSTEM (CONT'D)

### Thermostat - Checking

Figure 70-50-35



Push down the thermostat valve and insert a string between the valve and the valve seat.

Place the thermostat and a thermometer in a container with water and gradually heat the water **[Figure 70-50-35]**.

Hold the string to suspend the thermostat in the water. When the water temperature rises, the thermostat valve will open, allowing it to fall down from the string.

Continue heating the water and read the temperature when the valve has risen by about 8 mm (0.315 in).

If the measurement is not acceptable, replace the thermostat.

Thermostat's valve opening temperature	Factory spec.	80 - 84°C 176 - 183°F
Temperature at which thermostat completely opens	Factory spec.	95°C 203°F



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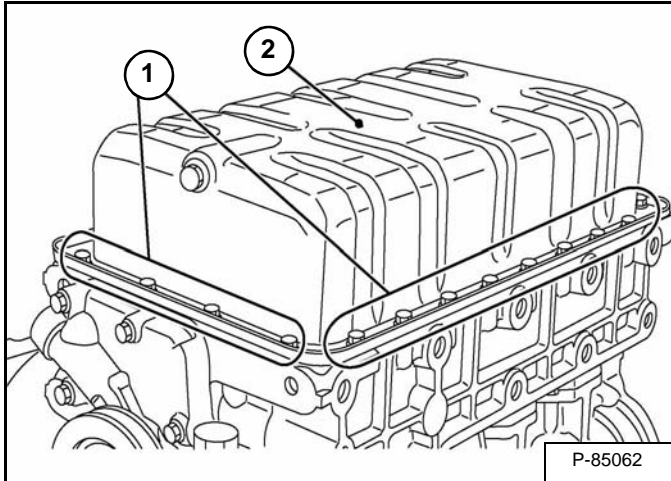
## LUBRICATION SYSTEM

### Oil Pan Removal And Installation

Remove the engine and hydrostatic pump assembly from the loader. (See Engine Removal And Installation on Page 70-10-8.)

The engine will have to be on an engine stand or suspended in the air safely to remove the oil pan.

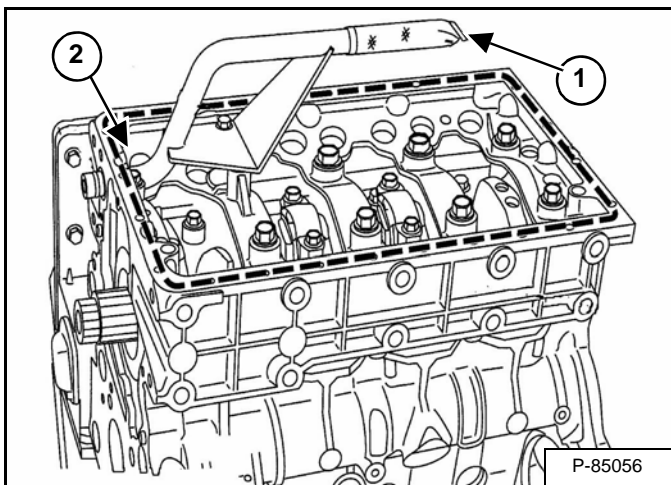
Figure 70-60-1



Remove oil pan bolts (Item 1) securing oil pan (Item 2) [Figure 70-60-2]. Slightly tapping on the oil pan with a soft mallet will break loose the oil pan from the engine block.

**Installation:** Use a liquid gasket adhesive to the oil pan side of the oil pan gasket. Tighten oil pan bolts to 18 - 20 N•m (13 - 15 ft-lb) torque.

Figure 70-60-2

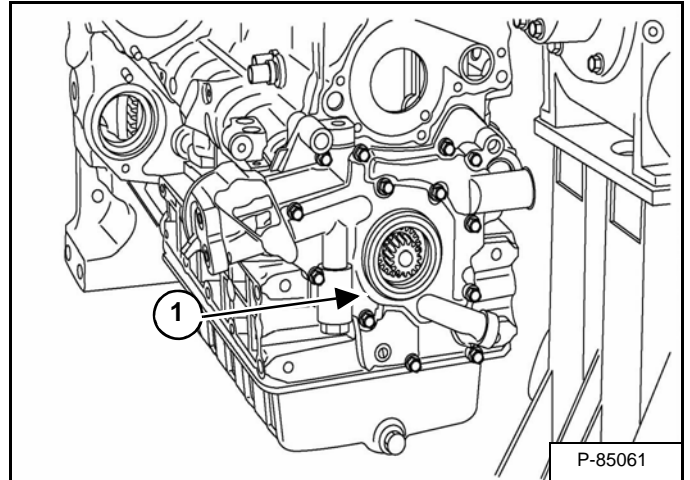


Remove the oil strainer (Item 1) and O-ring (Item 2) [Figure 70-60-2] from the engine block.

**Installation:** Apply oil to O-ring.

### Oil Pump Removal And Installation

Figure 70-60-3



Remove the bolts from the front cover / oil pump (Item 1) [Figure 70-60-3].

**Installation:** Use a liquid gasket adhesive. Tighten the front cover / oil pump mounting bolts to 24 - 27 N•m (18 - 20 ft-lb) torque.