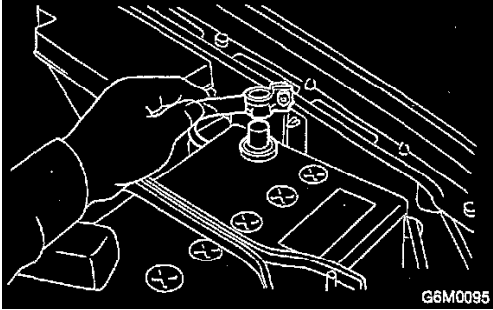


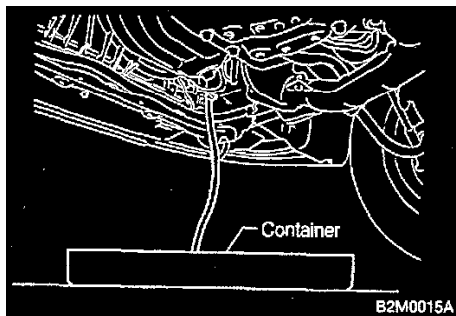
Water Pump: Service and Repair

A: REMOVAL

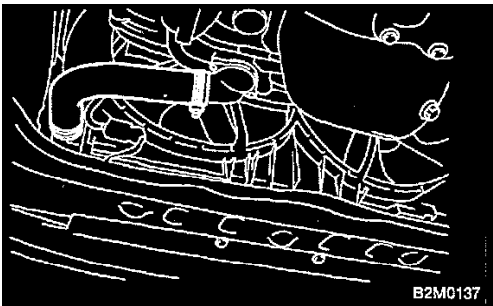
- 1) Open engine hood.



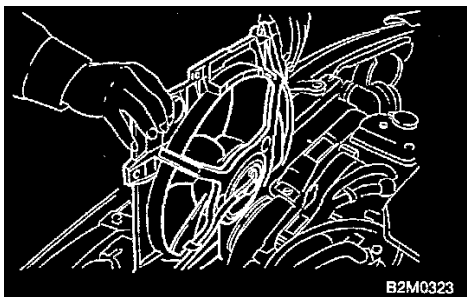
- 2) Disconnect ground cable from the battery.



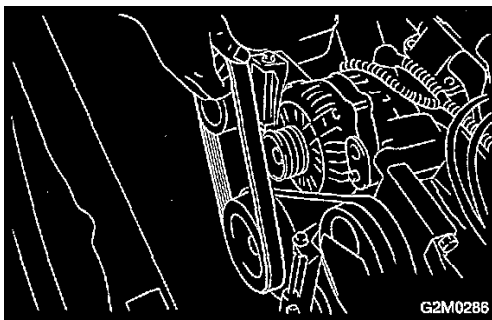
- 3) Drain engine coolant completely.



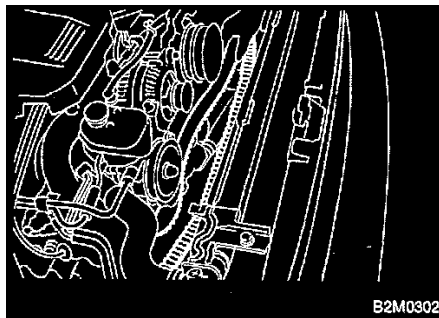
- 4) Disconnect radiator outlet hose from engine coolant pump.



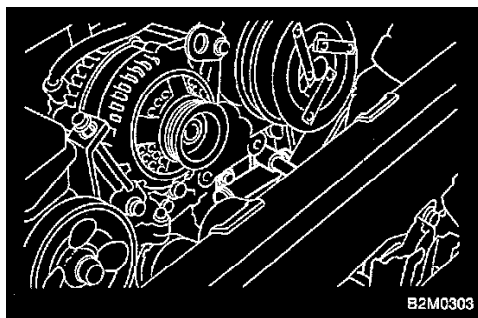
- 5) Remove radiator fan motor assembly.



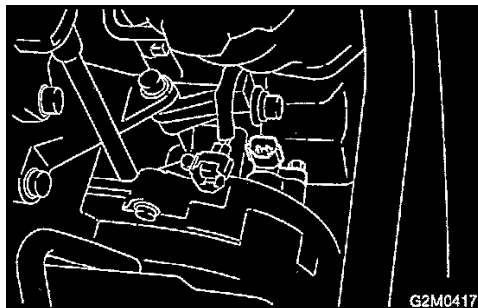
6) Remove V-belt(s).



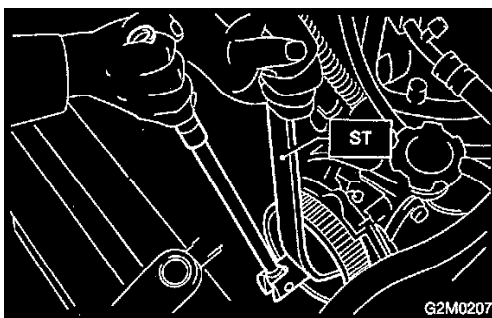
7) Remove timing belt.



8) Remove belt tension adjuster.

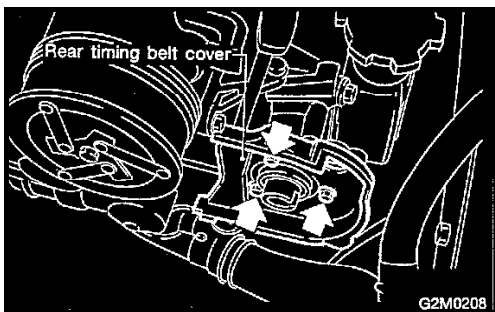


9) Remove camshaft position sensor.

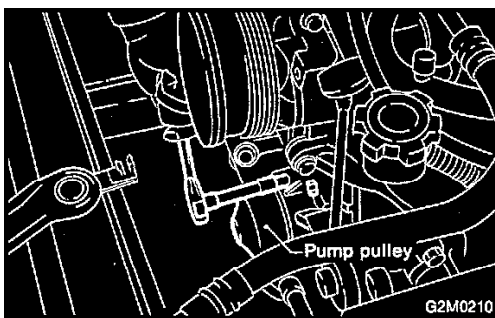


10) Remove left side camshaft pulley by using ST.

ST 499207100 CAMSHAFT SPROCKET WRENCH



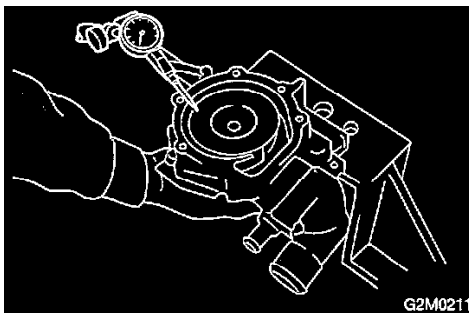
- 11) Remove left side rear timing belt cover.



- 12) Remove tensioner bracket.
 13) Disconnect heater hose from engine coolant pump.
 14) Remove engine coolant pump.

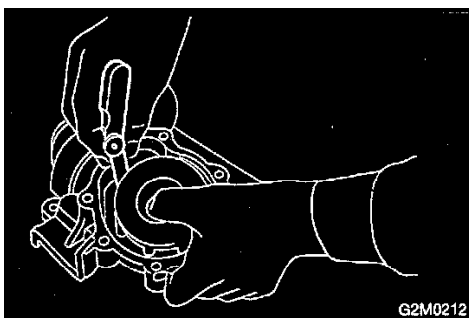
B: INSPECTION

- 1) Check engine coolant pump bearing for smooth rotation.
 2) Check engine coolant pump pulley for abnormalities.



- 3) Using a dial gauge, measure impeller runout in thrust direction while rotating the pulley.

"Thrust" runout limit: 0.5 mm (0.020 inch)



- 4) Check clearance between impeller and pump case.

**Clearance between impeller and pump case:
 Standard: 0.5 - 0.7 mm (0.020 - 0.028 inch)**

Limit: 1.0 mm (0.039 inch)

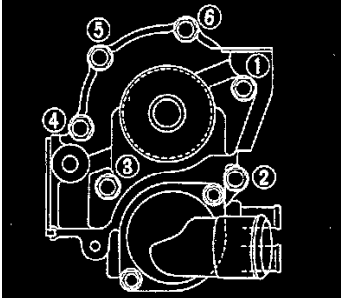
- 5) After engine coolant pump installation, check pulley shaft for engine coolant leaks. If leaks are noted, replace engine coolant pump assembly.

C: INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- Replace gasket with a new one.



- When installing engine coolant pump, tighten bolts in two stages in numerical sequence as shown in figure.

Tightening torque: 10 +4-0 Nm (1.0 +4-0 kg-m, 7.2 +2.9-0 ft. lbs.)