

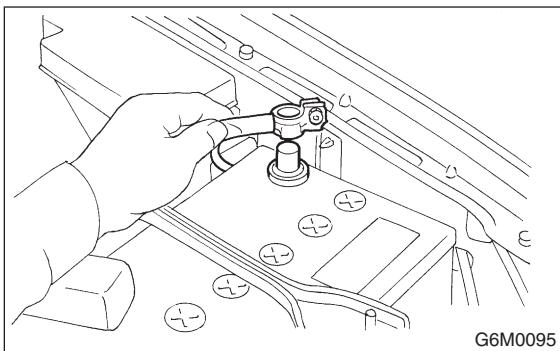
3. Water Pump S106061

A: REMOVAL S106061A18

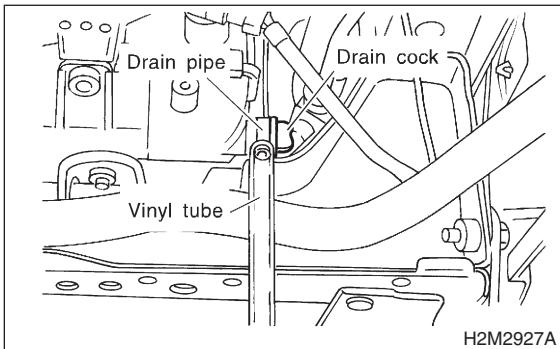
WARNING:

The radiator is pressurized. Wait until engine cools down before working on the radiator.

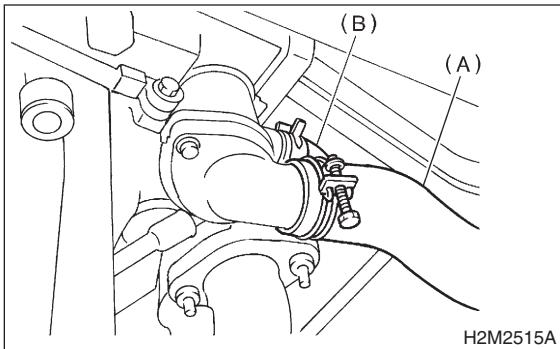
- 1) Disconnect ground cable from battery.



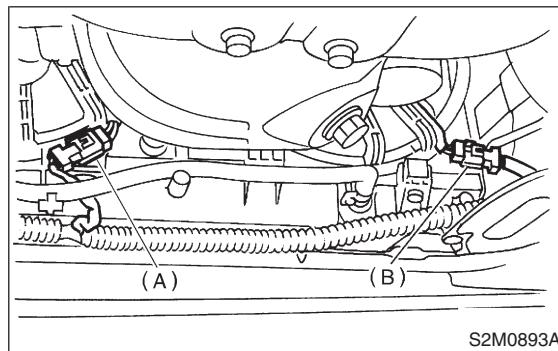
- 2) Lift-up the vehicle.
- 3) Remove under cover.
- 4) Drain engine coolant completely. <Ref. to CO-6 REPLACEMENT, Engine Coolant.>



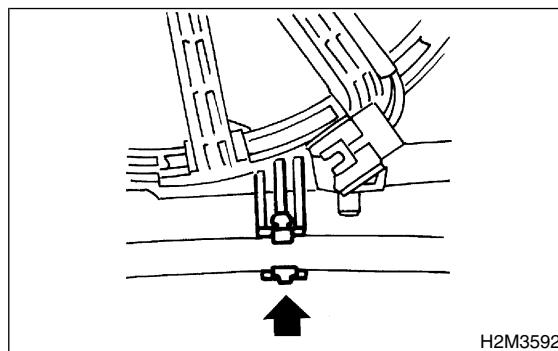
- 5) Disconnect radiator outlet hose (A) and heater by-pass hose (B) from water pump.



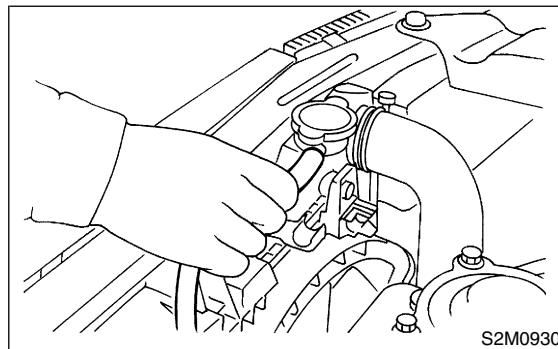
- 6) Disconnect connectors from radiator main fan (A) and sub fan (B) motors.



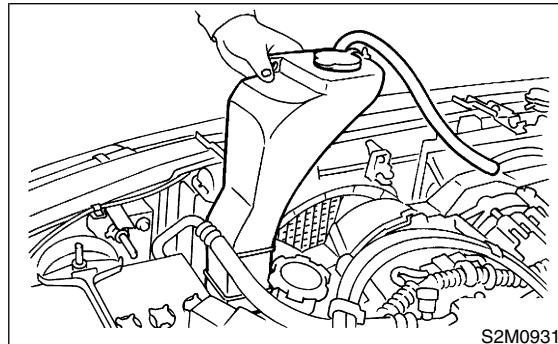
- 7) Detach ATF cooler hose attached to a clip under the radiator main fan shroud.



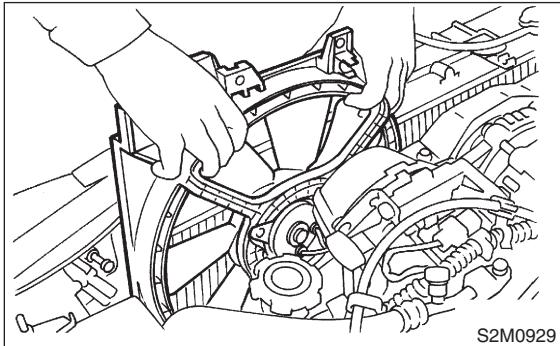
- 8) Lower the vehicles.
- 9) Disconnect over flow hose.



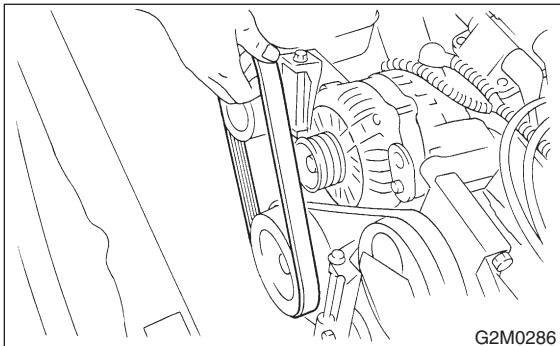
- 10) Remove reservoir tank.



11) Remove radiator main fan assembly <Ref. to CO-20 REMOVAL, Radiator Main Fan and Fan Motor.> and sub fan motor assembly. <Ref. to CO-23 REMOVAL, Radiator Sub Fan and Fan Motor.>

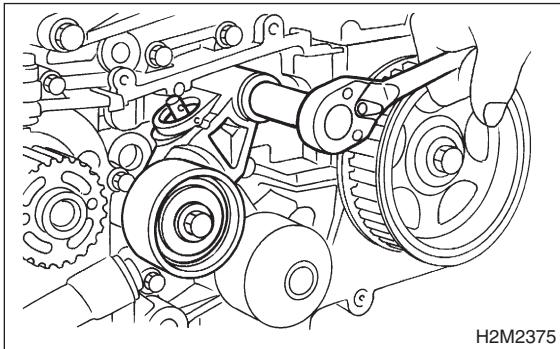


12) Remove V-belts.
<Ref. to ME-48 REMOVAL, V-belt.>

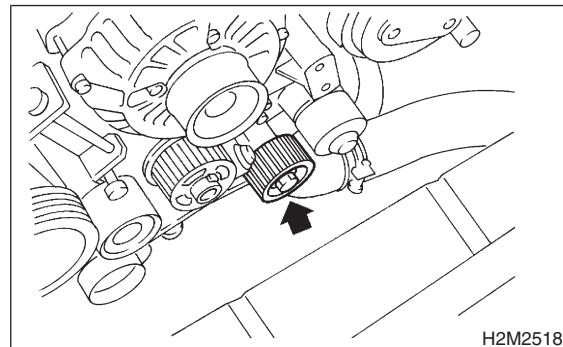


13) Remove timing belt.
<Ref. to ME-53 REMOVAL, Timing Belt Assembly.>

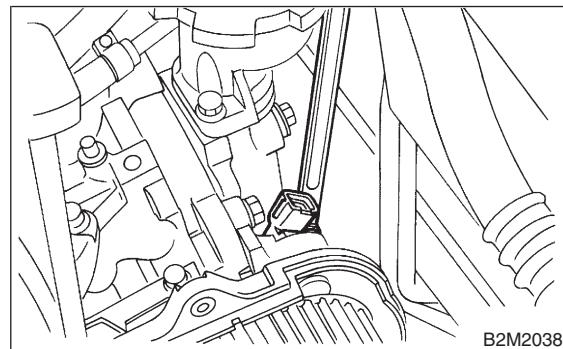
14) Remove automatic belt tension adjuster.



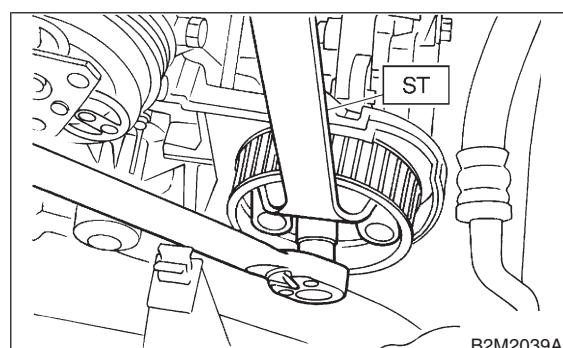
15) Remove belt idler No. 2.



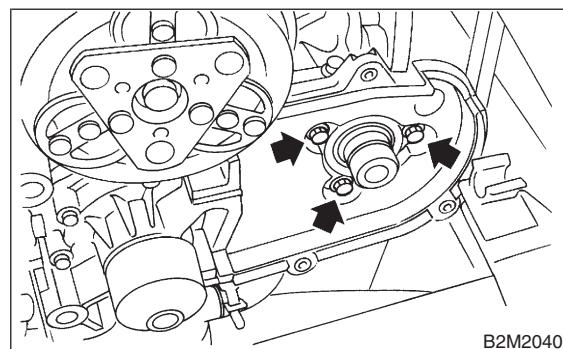
16) Remove camshaft position sensor.
<Ref. to FU-40 REMOVAL, Camshaft Position Sensor.>



17) Remove left-hand camshaft sprocket by using ST.
ST 499207100 CAMSHAFT SPROCKET WRENCH



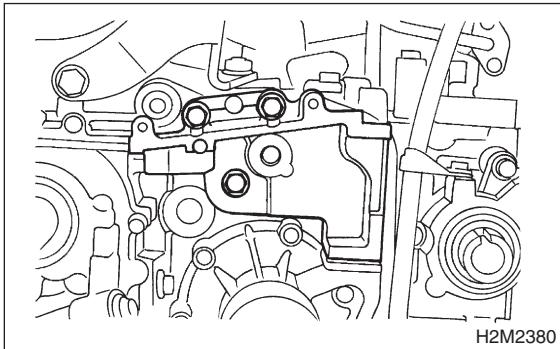
18) Remove left-hand belt cover No. 2.



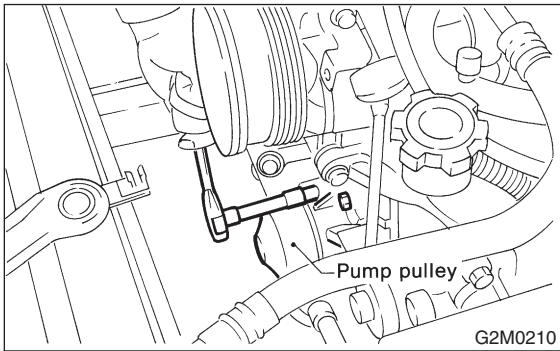
WATER PUMP

Cooling

19) Remove tensioner bracket.



20) Remove tensioner bracket.
21) Disconnect heater hose from water pump.
22) Remove water pump.



B: INSTALLATION

S106061A11

1) Install water pump onto left-hand cylinder head.

CAUTION:

- Replace gasket with a new one.
- When installing water pump, tighten bolts in two stages in alphabetical sequence as shown in figure.

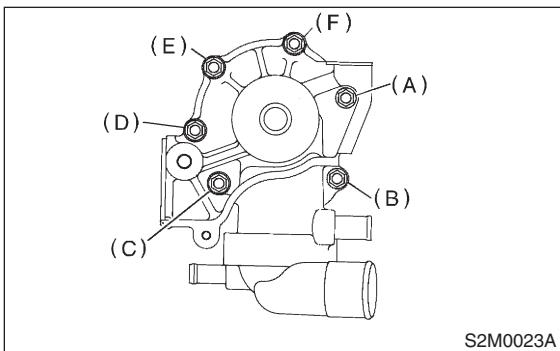
Tightening torque:

First:

12 N·m (1.2 kgf·m, 8.7 ft·lb)

Second:

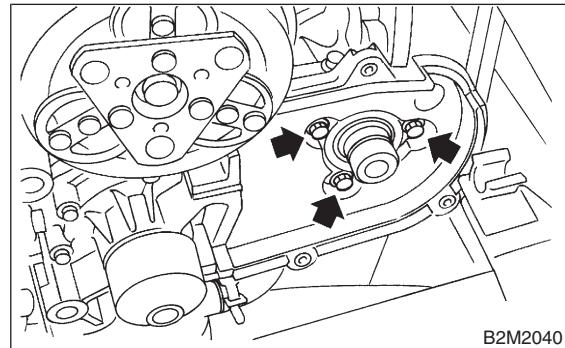
12 N·m (1.2 kgf·m, 8.7 ft·lb)



2) Install left-hand belt cover No. 2.

Tightening torque:

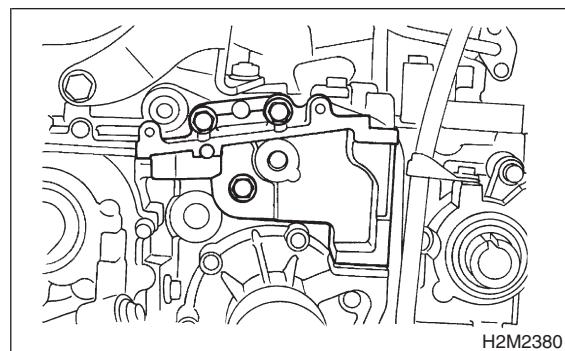
5 N·m (0.5 kgf·m, 3.6 ft·lb)



3) Install tensioner bracket.

Tightening torque:

25 N·m (2.5 kgf·m, 18.1 ft·lb)

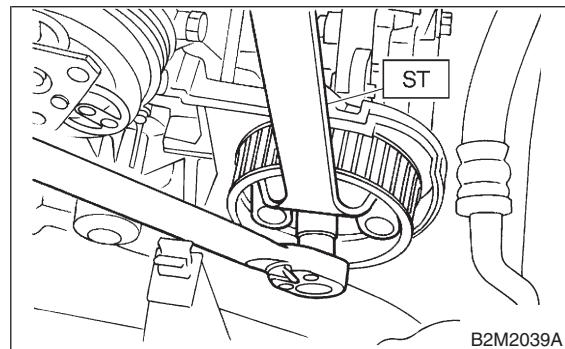


4) Install left-hand camshaft sprockets by using ST.

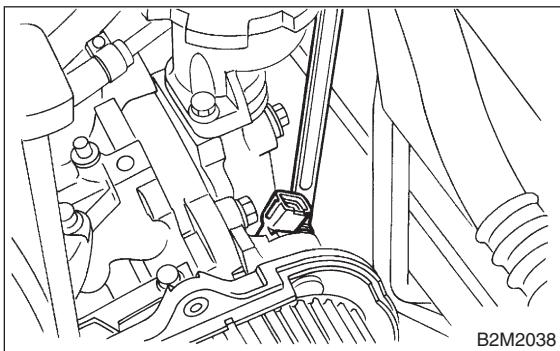
ST 4992707100 CAMSHAFT SPROCKET WRENCH

Tightening torque:

78 N·m (8.0 kgf·m, 57.9 ft·lb)



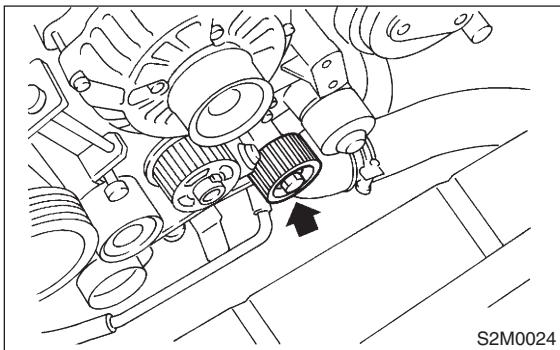
5) Install camshaft position sensor. <Ref. to FU-40 INSTALLATION, Camshaft Position Sensor.>



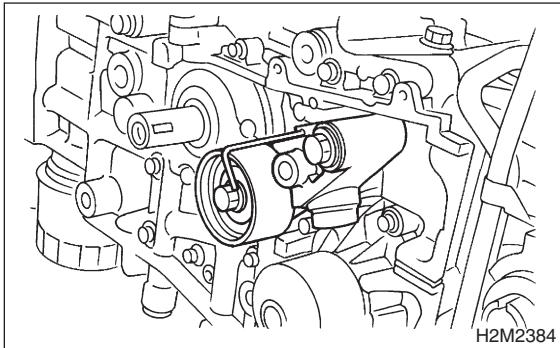
6) Install belt idler No. 2.

Tightening torque:

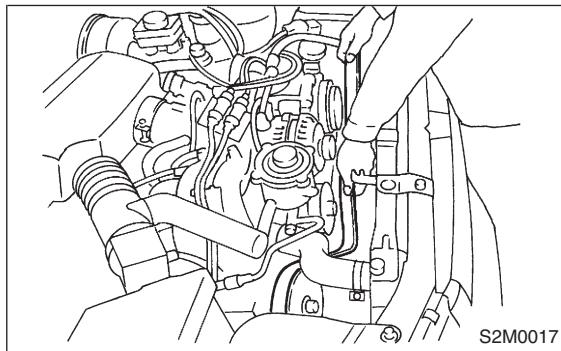
39 N·m (4.0 kgf·m, 28.9 ft-lb)



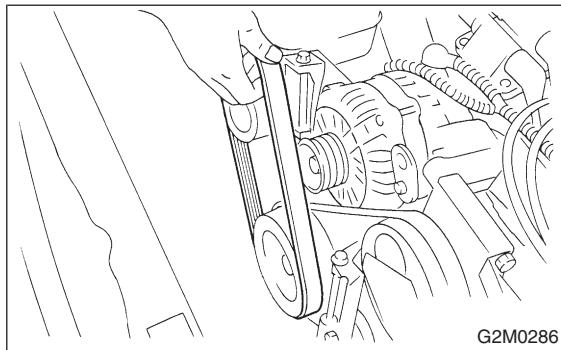
7) Install automatic belt tension adjuster which tension rod is holded with pin. <Ref. to ME-54 INSTALLATION, Timing Belt Assembly.>



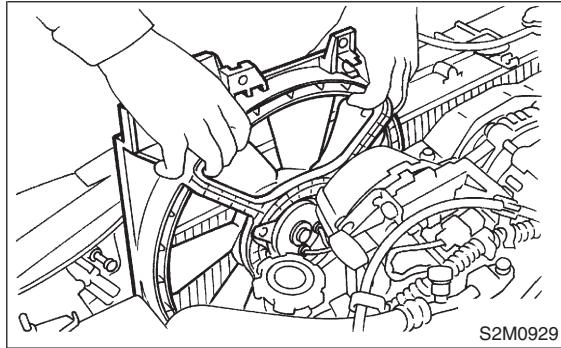
8) Install timing belt. <Ref. to ME-54 INSTALLATION, Timing Belt Assembly.>



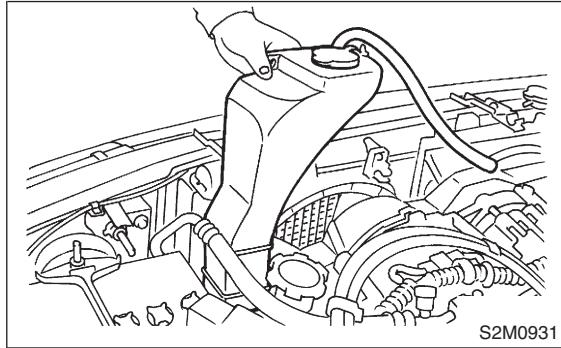
9) Install V-belts. <Ref. to ME-48 INSTALLATION, V-belt.>



10) Install radiator main fan assembly <Ref. to CO-21 INSTALLATION, Radiator Main Fan and Fan Motor.> and sub fan motor assembly. <Ref. to CO-23 INSTALLATION, Radiator Sub Fan and Fan Motor.>



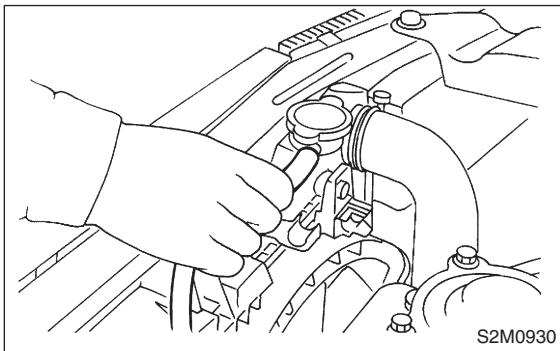
11) Install reservoir tank.



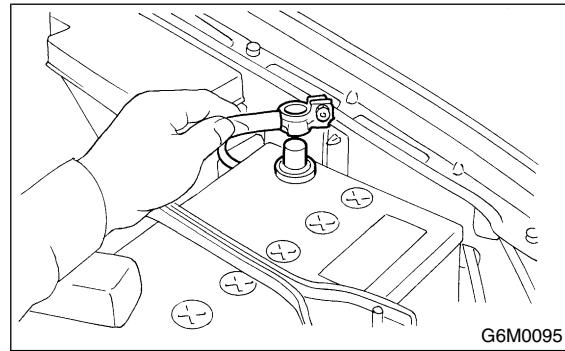
WATER PUMP

Cooling

12) Connect over flow hose.

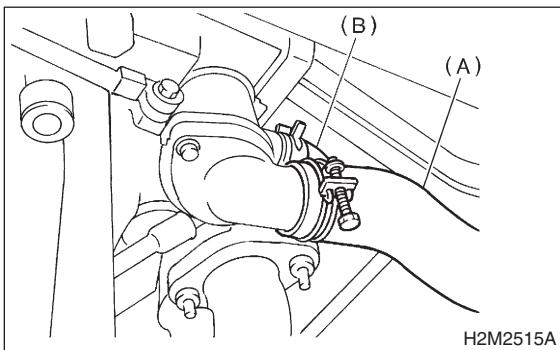


19) Connect battery ground cable.

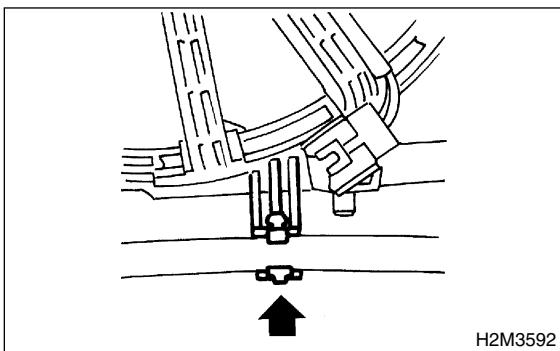


13) Lift-up the vehicle.

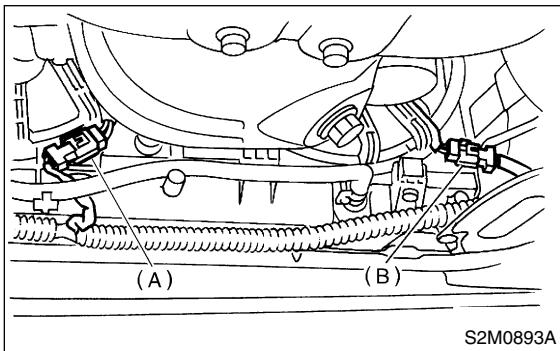
14) Connect radiator outlet hose (A) and heater hose (B) (AT vehicles) to water pump.



15) Attach ATF cooler hose to a clip under the radiator main fan shroud.



16) Connect connectors to radiator main fan (A) and sub fan (B) motors.



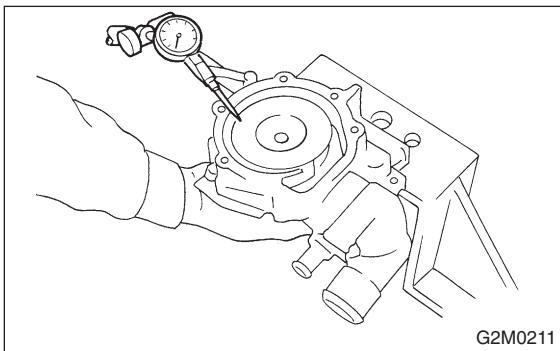
17) Install under cover.

18) Lower the vehicle.

C: INSPECTION

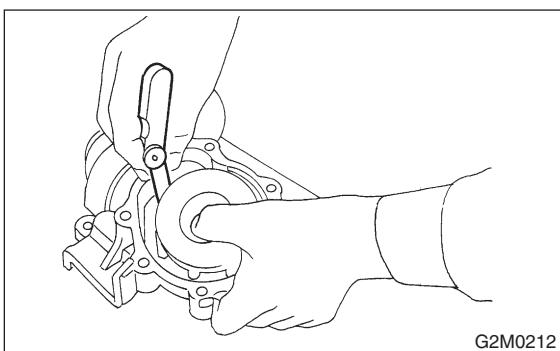
S106061A10

- 1) Check water pump bearing for smooth rotation.
- 2) Check water 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 in)**

G2M0211

- 4) Check clearance between impeller and pump case.

Clearance between impeller and pump case:**Standard****0.5 — 0.7 mm (0.020 — 0.028 in)****Limit****1.0 mm (0.039 in)**

G2M0212

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