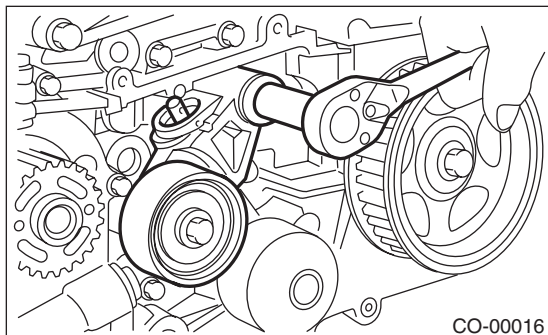


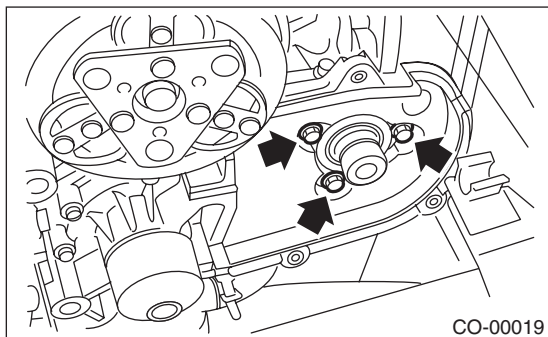
## 4. Water Pump

### A: REMOVAL

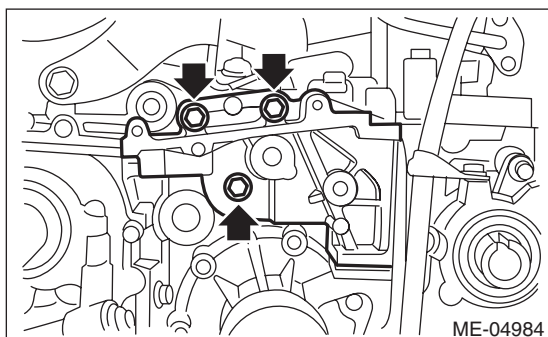
- 1) Remove the radiator. <Ref. to CO(H4SO)-19, REMOVAL, Radiator.>
- 2) Remove the V-belts. <Ref. to ME(H4SO)-42, REMOVAL, V-belt.>
- 3) Remove the crank pulley. <Ref. to ME(H4SO)-44, REMOVAL, Crank Pulley.>
- 4) Remove the timing belt cover. <Ref. to ME(H4SO)-46, REMOVAL, Timing Belt Cover.>
- 5) Remove the timing belt. <Ref. to ME(H4SO)-47, TIMING BELT, REMOVAL, Timing Belt.>
- 6) Remove the automatic belt tension adjuster.



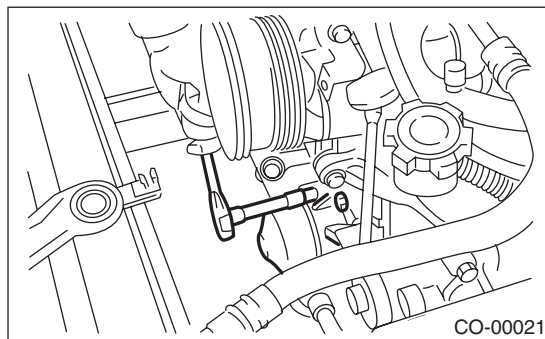
- 7) Remove the camshaft position sensor. <Ref. to FU(H4SO)-26, REMOVAL, Camshaft Position Sensor.>
- 8) Remove the cam sprocket LH. <Ref. to ME(H4SO)-52, REMOVAL, Cam Sprocket.>
- 9) Remove the belt cover No. 2 LH.



- 10) Remove the tensioner bracket.



- 11) Disconnect the hose from water pump.
- 12) Remove the water pump.



### B: INSTALLATION

- 1) Install the water pump onto cylinder block LH.

#### NOTE:

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

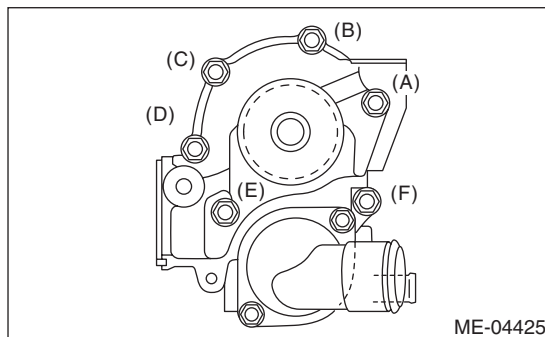
#### Tightening torque:

##### First

**12 N·m (1.2 kgf-m, 8.9 ft-lb)**

##### Second

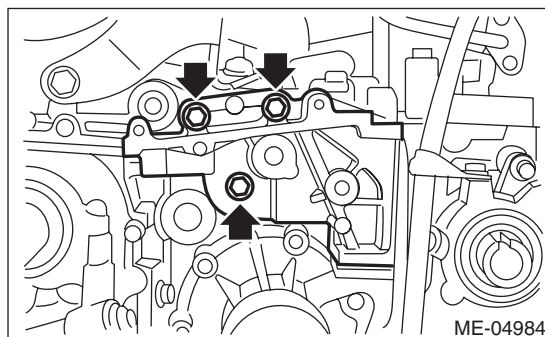
**12 N·m (1.2 kgf-m, 8.9 ft-lb)**



- 2) Install the hose to water pump.
- 3) Install the tensioner bracket.

#### Tightening torque:

**24.5 N·m (2.5 kgf-m, 18.1 ft-lb)**



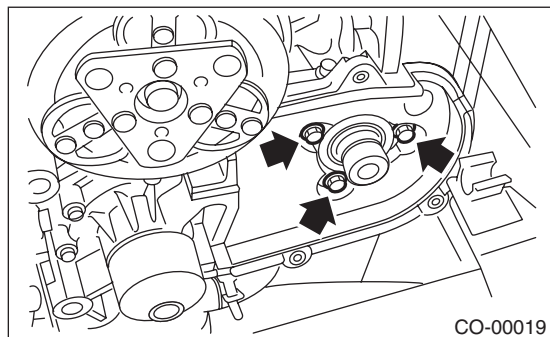
# Water Pump

## COOLING

4) Install the belt cover No. 2 LH.

### **Tightening torque:**

**5 N·m (0.5 kgf-m, 3.7 ft-lb)**



5) Install the cam sprocket LH. <Ref. to ME(H4SO)-52, INSTALLATION, Cam Sprocket.>

6) Install the camshaft position sensor. <Ref. to FU(H4SO)-26, INSTALLATION, Camshaft Position Sensor.>

7) Install an automatic belt tension adjuster with the tension rod held by a pin. <Ref. to ME(H4SO)-48, AUTOMATIC BELT TENSION ADJUSTER ASSEMBLY AND BELT IDLER, INSTALLATION, Timing Belt.>

8) Install the timing belt. <Ref. to ME(H4SO)-49, TIMING BELT, INSTALLATION, Timing Belt.>

9) Install the timing belt cover. <Ref. to ME(H4SO)-46, INSTALLATION, Timing Belt Cover.>

10) Install the crank pulley. <Ref. to ME(H4SO)-44, INSTALLATION, Crank Pulley.>

11) Install the V-belts. <Ref. to ME(H4SO)-42, INSTALLATION, V-belt.>

12) Install the radiator. <Ref. to CO(H4SO)-20, INSTALLATION, Radiator.>

## C: INSPECTION

1) Check the water pump bearing for smooth rotation.

2) Check the water pump pulley for abnormalities.

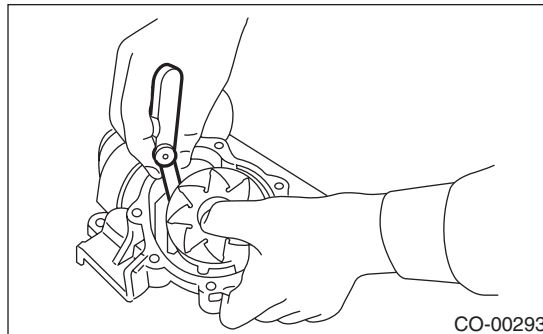
3) Make sure the impeller is not abnormally deformed or damaged.

4) Inspect the clearance between impeller and pump case.

### **Clearance between impeller and pump case:**

#### **Standard**

**0.5 — 1.5 mm (0.020 — 0.060 in)**



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