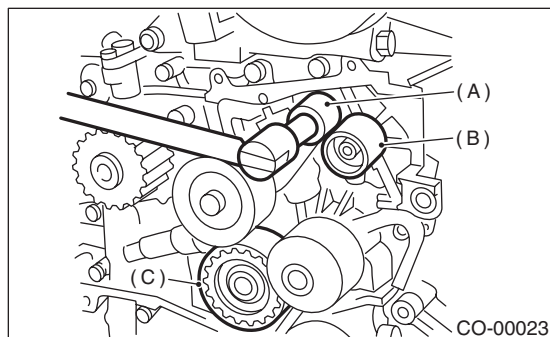


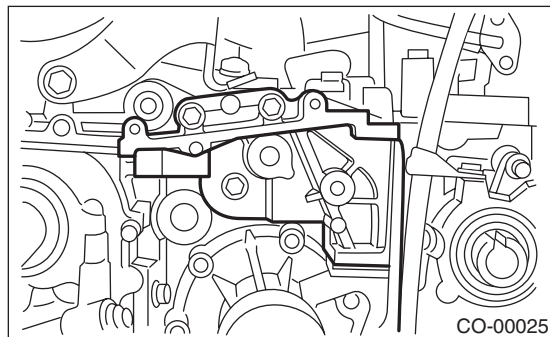
## 4. Water Pump

### A: REMOVAL

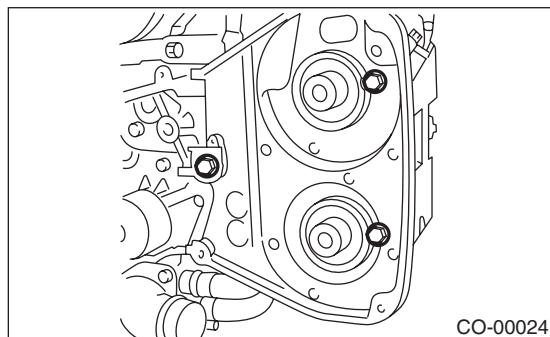
- 1) Remove the collector cover.
- 2) Remove the radiator. <Ref. to CO(H4DOTC)-19, REMOVAL, Radiator.>
- 3) Remove the V-belts. <Ref. to ME(H4DOTC)-36, REMOVAL, V-belt.>
- 4) Remove the timing belt. <Ref. to ME(H4DOTC)-42, REMOVAL, Timing Belt.>
- 5) Remove the automatic belt tension adjuster (A).
- 6) Remove the belt idler (B).
- 7) Remove the belt idler No. 2 (C).



- 8) Remove the camshaft position sensor. <Ref. to FU(H4DOTC)-23, REMOVAL, Camshaft Position Sensor.>
- 9) Remove the cam sprocket (LH) using ST. <Ref. to ME(H4DOTC)-50, REMOVAL, Cam Sprocket.>
- 10) Remove the tensioner bracket.

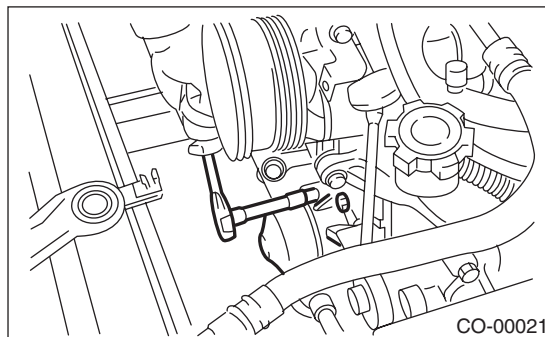


- 11) Remove the belt cover (LH) No. 2.



- 12) Disconnect the hose from water pump.

- 13) Remove the water pump.



### B: INSTALLATION

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

#### NOTE:

- Always use new gaskets.
- When installing the water pump, tighten the bolts in two stages in alphabetical sequence as shown in figure.

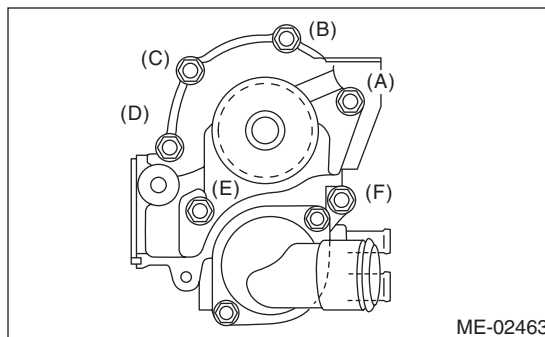
#### Tightening torque:

##### First:

**12 N·m (1.2 kgf-m, 8.9 ft-lb)**

##### Second:

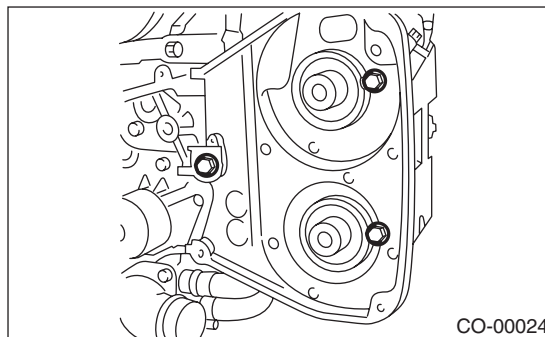
**12 N·m (1.2 kgf-m, 8.9 ft-lb)**



- 2) Install the hose to water pump.
- 3) Install the belt cover No. 2 (LH).

#### Tightening torque:

**5 N·m (0.5 kgf-m, 3.6 ft-lb)**



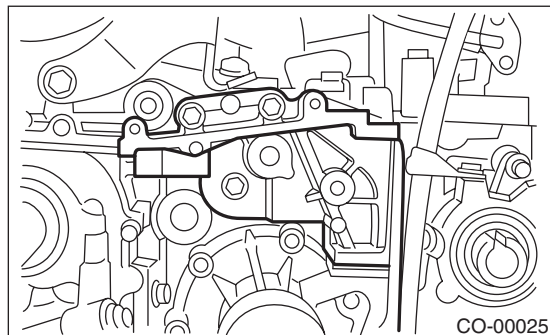
# Water Pump

## COOLING

4) Install the tensioner bracket.

### **Tightening torque:**

**24.5 N·m (2.5 kgf·m, 18.1 ft·lb)**



5) Install the cam sprocket (LH) using ST. <Ref. to ME(H4DOTC)-50, INSTALLATION, Cam Sprocket.>

6) Install the camshaft position sensor. <Ref. to FU(H4DOTC)-23, INSTALLATION, Camshaft Position Sensor.>

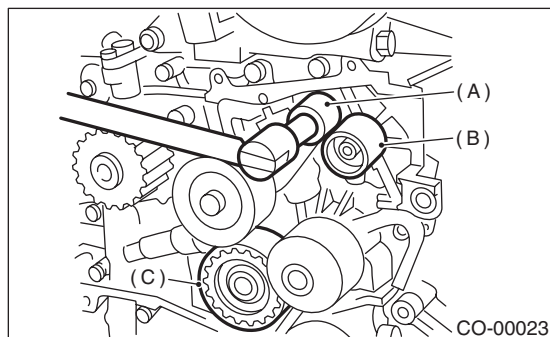
7) Install the belt idler No. 2 (C).

8) Install the belt idler (B).

9) Install the automatic belt tension adjuster (A) which has a tension rod held by a pin. <Ref. to ME(H4DOTC)-44, AUTOMATIC BELT TENSION ADJUSTER ASSEMBLY AND BELT IDLER, INSTALLATION, Timing Belt.>

### **Tightening torque:**

**39 N·m (4.0 kgf·m, 28.9 ft·lb)**



10) Install the timing belt. <Ref. to ME(H4DOTC)-45, TIMING BELT, INSTALLATION, Timing Belt.>

11) Install the V-belts. <Ref. to ME(H4DOTC)-37, INSTALLATION, V-belt.>

12) Install the radiator. <Ref. to CO(H4DOTC)-20, INSTALLATION, Radiator.>

13) Install the collector cover.

## **C: INSPECTION**

1) Check the water pump bearing for smooth rotation.

2) Check the water pump pulley for abnormalities.

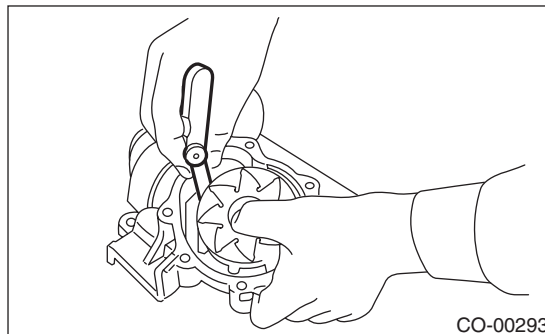
3) Make sure the impeller is not deformed or damaged.

4) Inspect the clearance between impeller and pump case.

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

#### **Standard**

**0.5 — 1.5 mm (0.020 — 0.059 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.