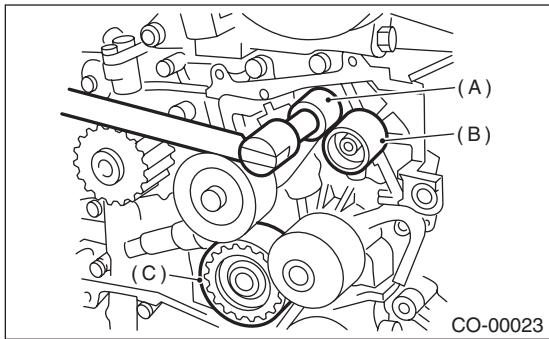


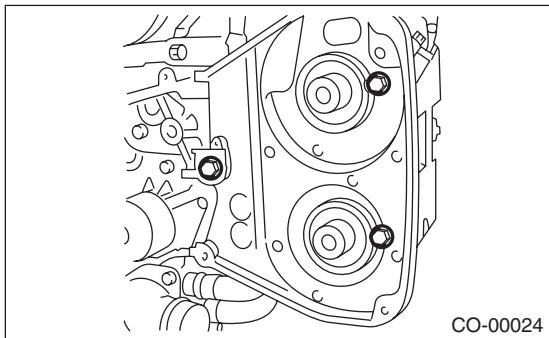
### 4. Water Pump

#### A: REMOVAL

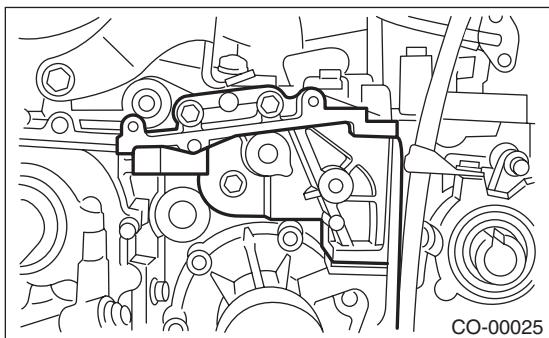
- 1) Remove the radiator. <Ref. to CO(H4DOTC)-20, REMOVAL, Radiator.>
- 2) Remove the V-belts. <Ref. to ME(H4DOTC)-40, REMOVAL, V-belt.>
- 3) Remove the crank pulley. <Ref. to ME(H4DOTC)-47, REMOVAL, Crank Pulley.>
- 4) Remove the timing belt cover. <Ref. to ME(H4DOTC)-49, REMOVAL, Timing Belt Cover.>
- 5) Remove the timing belt. <Ref. to ME(H4DOTC)-50, REMOVAL, Timing Belt.>
- 6) Remove the automatic belt tension adjuster (A).
- 7) Remove the belt idler (B).
- 8) Remove the belt idler No. 2 (C).



- 9) Remove the cam sprocket LH. <Ref. to ME(H4DOTC)-59, REMOVAL, Cam Sprocket.>
- 10) Remove the belt cover No. 2 LH.

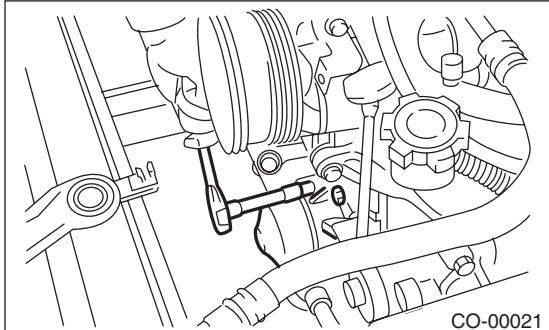


- 11) Remove the tensioner bracket.



- 12) Disconnect the hose from water pump.

- 13) 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.

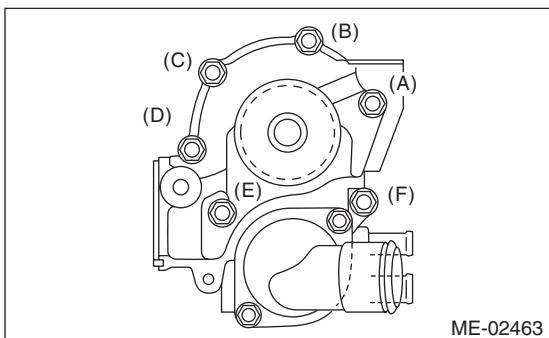
**Tightening torque:**

**First:**

**12 N·m (1.2 kgf-m, 8.9 ft-lb)**

**Second:**

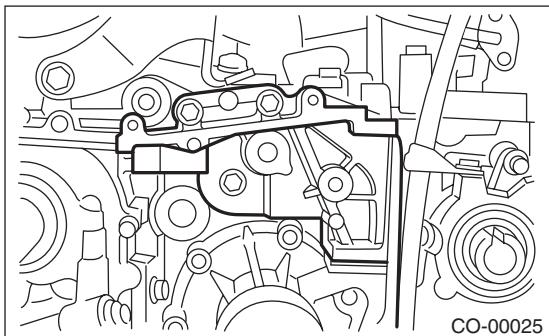
**12 N·m (1.2 kgf-m, 8.9 ft-lb)**



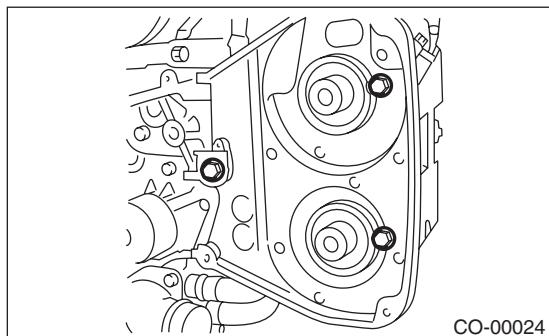
- 2) Install the hose to water pump.
- 3) Install the tensioner bracket.

**Tightening torque:**

**24.5 N·m (2.5 kgf-m, 18.1 ft-lb)**



- 4) Install the belt cover No. 2 LH.

**Tightening torque:****5 N·m (0.5 kgf·m, 3.7 ft-lb)**

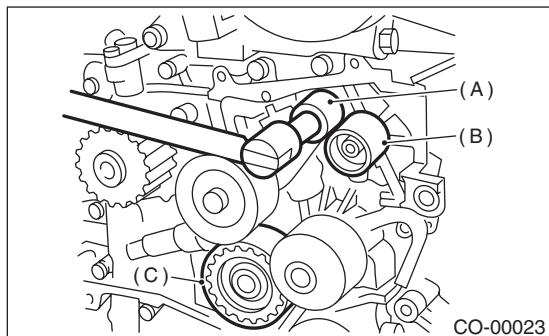
5) Install the cam sprocket LH. <Ref. to ME(H4DOTC)-59, INSTALLATION, Cam Sprocket.>  
 6) Install the belt idler No. 2 (C).

**Tightening torque:****39 N·m (4.0 kgf·m, 28.8 ft-lb)**

7) Install the belt idler (B).

**Tightening torque:****25 N·m (2.5 kgf·m, 18.4 ft-lb)**

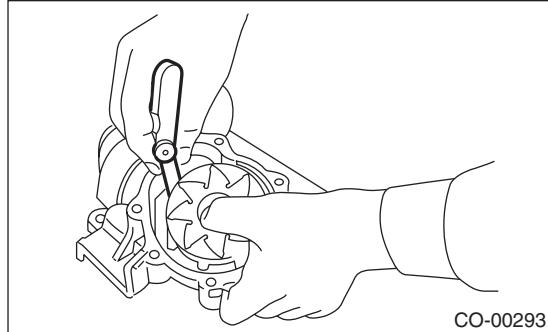
8) Install the automatic belt tension adjuster (A) with the tension rod held by a pin. <Ref. to ME(H4DOTC)-52, AUTOMATIC BELT TENSION ADJUSTER ASSEMBLY AND BELT IDLER, INSTALLATION, Timing Belt.>



9) Install the timing belt. <Ref. to ME(H4DOTC)-53, TIMING BELT, INSTALLATION, Timing Belt.>  
 10) Install the timing belt cover. <Ref. to ME(H4DOTC)-49, INSTALLATION, Timing Belt Cover.>  
 11) Install the crank pulley. <Ref. to ME(H4DOTC)-47, INSTALLATION, Crank Pulley.>  
 12) Install the V-belts. <Ref. to ME(H4DOTC)-40, INSTALLATION, V-belt.>  
 13) Install the radiator. <Ref. to CO(H4DOTC)-21, 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:**  
**Specification****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.