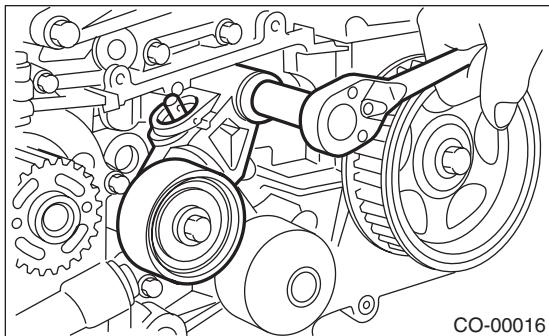


4. Water Pump

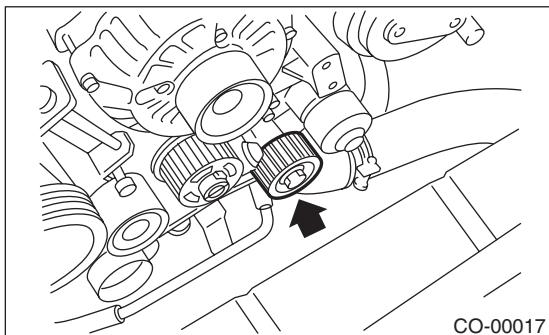
A: REMOVAL

1. NON-TURBO MODEL

- 1) Remove the radiator. <Ref. to CO(H4SO)-25, REMOVAL, Radiator.>
- 2) Remove the V-belts. <Ref. to ME(H4SO)-41, REMOVAL, V-belt.>
- 3) Remove the crank pulley. <Ref. to ME(H4SO)-43, REMOVAL, Crank Pulley.>
- 4) Remove the timing belt. <Ref. to ME(H4SO)-45, TIMING BELT, REMOVAL, Timing Belt.>
- 5) Remove the automatic belt tension adjuster.



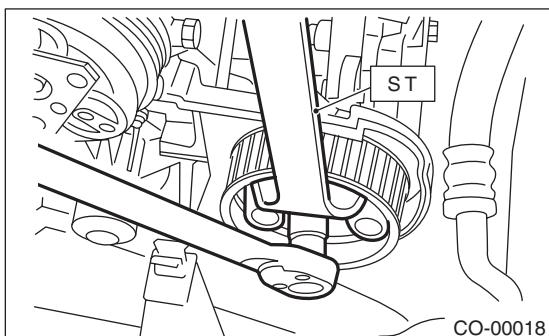
6) Remove the belt idler No. 2.



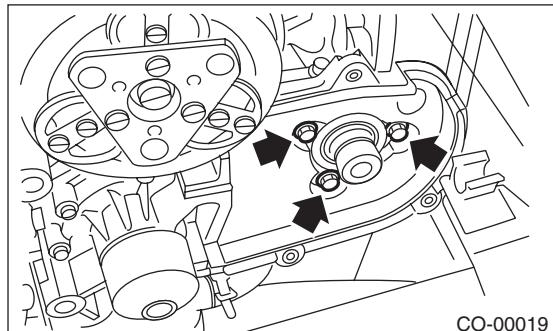
7) Remove the cam sprocket (LH) using ST.
ST 18231AA010 CAM SPROCKET WRENCH

NOTE:

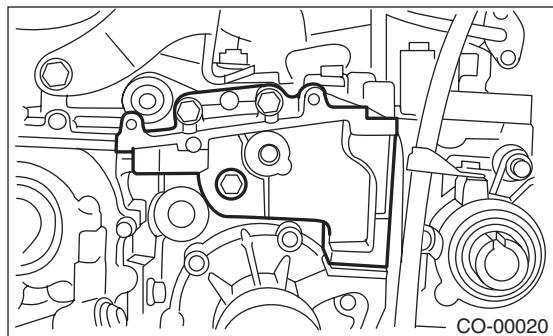
CAM SPROCKET WRENCH (499207100) can also be used.



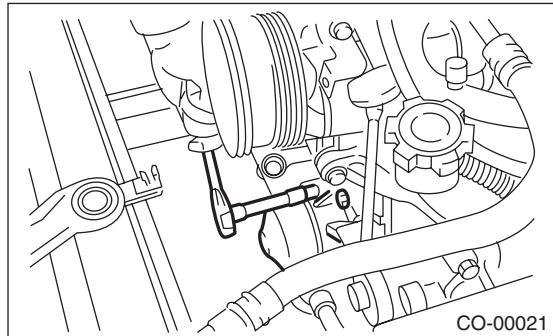
8) Remove the belt cover No. 2 (LH).



9) Remove the tensioner bracket.



10) Disconnect the hose from water pump.
11) Remove the water pump.

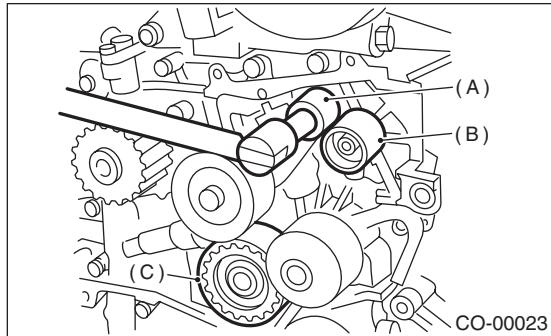


Water Pump

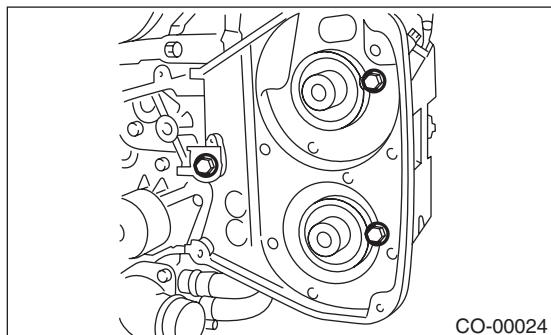
COOLING

2. TURBO MODEL

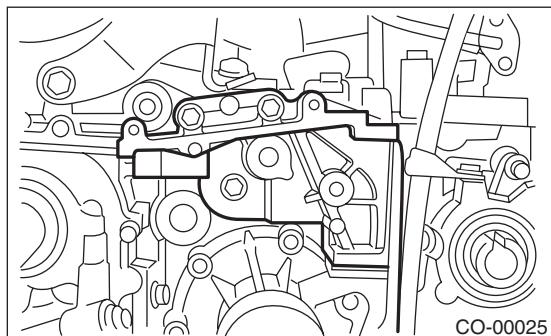
- 1) Remove the radiator. <Ref. to CO(H4SO)-25, REMOVAL, Radiator.>
- 2) Remove the V-belts. <Ref. to ME(H4DOTC)-39, REMOVAL, V-belt.>
- 3) Remove the crank pulley. <Ref. to ME(H4DOTC)-41, REMOVAL, Crank Pulley.>
- 4) Remove the timing belt. <Ref. to ME(H4DOTC)-43, REMOVAL, Timing Belt.>
- 5) Remove the automatic belt tension adjuster (A).
- 6) Remove the belt idler (B).
- 7) Remove the belt idler No. 2 (C).



- 8) Remove the cam sprocket (LH) using ST. <Ref. to ME(H4DOTC)-52, REMOVAL, Cam Sprocket.>
- 9) Remove the belt cover No. 2 (LH).

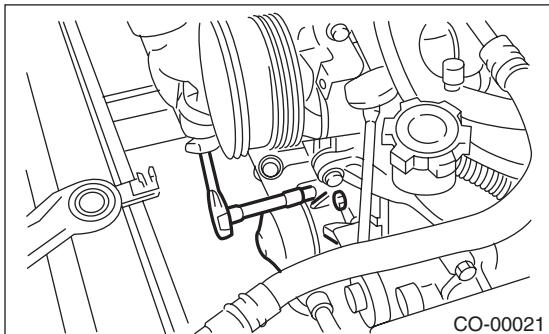


- 10) Remove the tensioner bracket.



- 11) Disconnect the hose from water pump.

- 12) Remove the water pump.



B: INSTALLATION

1. NON-TURBO MODEL

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

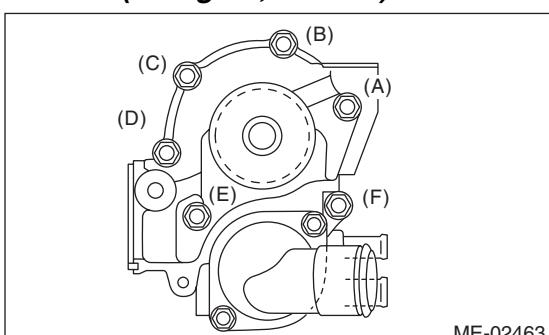
NOTE:

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

Tightening torque:

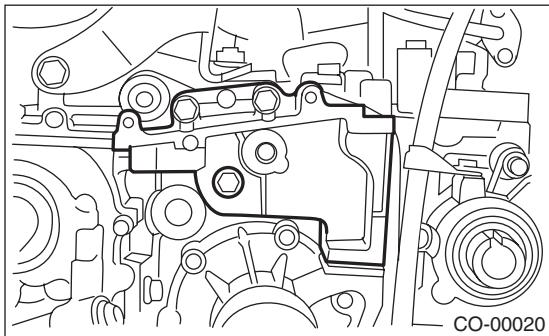
First:
 $12 \text{ N}\cdot\text{m} (1.2 \text{ kgf}\cdot\text{m}, 8.9 \text{ ft-lb})$

Second:
 $12 \text{ N}\cdot\text{m} (1.2 \text{ kgf}\cdot\text{m}, 8.9 \text{ ft-lb})$



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

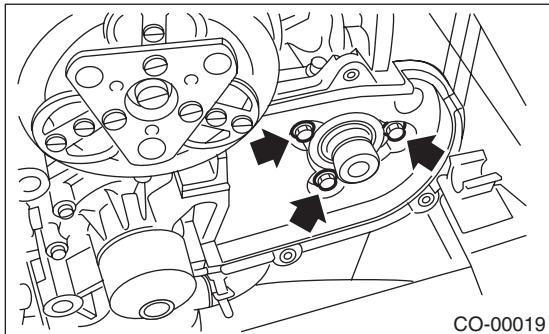
Tightening torque:
 $24.5 \text{ N}\cdot\text{m} (2.5 \text{ kgf}\cdot\text{m}, 18.1 \text{ ft-lb})$



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) using ST.

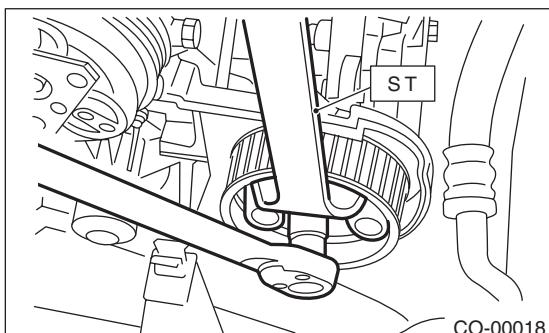
ST 18231AA010 CAM SPROCKET WRENCH

NOTE:

CAM SPROCKET WRENCH (499207100) can also be used.

Tightening torque:

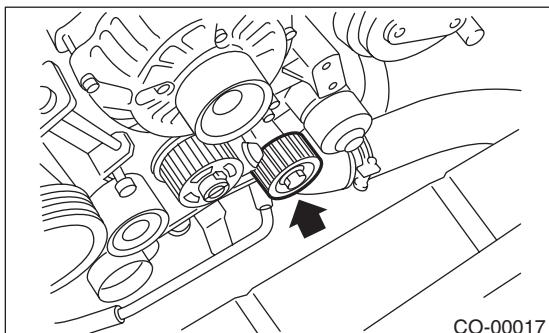
78 N·m (8.0 kgf-m, 57.5 ft-lb)



6) Install the belt idler No. 2.

Tightening torque:

39 N·m (4.0 kgf-m, 28.8 ft-lb)



7) Install an automatic belt tension adjuster with the tension rod held by a pin. <Ref. to ME(H4SO)-46, AUTOMATIC BELT TENSION ADJUSTER ASSEMBLY AND BELT IDLER, INSTALLATION, Timing Belt.>

8) Install the timing belt. <Ref. to ME(H4SO)-47, TIMING BELT, INSTALLATION, Timing Belt.>

9) Install the crank pulley. <Ref. to ME(H4SO)-43, INSTALLATION, Crank Pulley.>

10) Install the V-belts. <Ref. to ME(H4SO)-41, INSTALLATION, V-belt.>

11) Install the radiator. <Ref. to CO(H4SO)-27, INSTALLATION, Radiator.>

2. TURBO MODEL

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

NOTE:

- Replace with a new gasket.

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

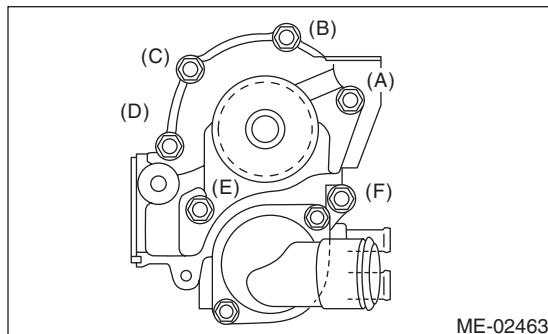
Tightening torque:

First:

12 N·m (1.2 kgf-m, 8.9 ft-lb)

Second:

12 N·m (1.2 kgf-m, 8.9 ft-lb)

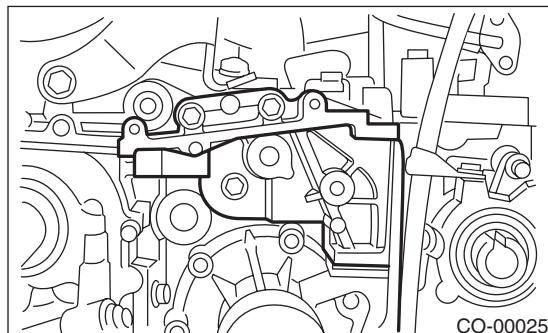


2) Install the hose to water pump.

3) Install the tensioner bracket.

Tightening torque:

24.5 N·m (2.5 kgf-m, 18.1 ft-lb)



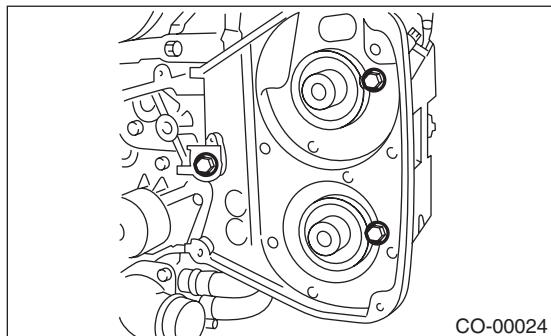
Water Pump

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) using ST. <Ref. to ME(H4DOTC)-52, INSTALLATION, Cam Sprocket.>

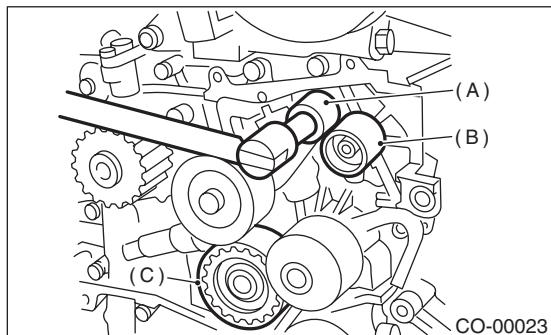
- 6) Install the belt idler No. 2 (C).

- 7) Install the belt idler (B).

- 8) Install the automatic belt tension adjuster (A) with the tension rod held by a pin. <Ref. to ME(H4DOTC)-45, AUTOMATIC BELT TENSION ADJUSTER ASSEMBLY AND BELT IDLER, INSTALLATION, Timing Belt.>

Tightening torque:

39 N·m (4.0 kgf-m, 28.8 ft-lb)



- 9) Install the timing belt. <Ref. to ME(H4DOTC)-46, TIMING BELT, INSTALLATION, Timing Belt.>

- 10) Install the crank pulley. <Ref. to ME(H4DOTC)-41, INSTALLATION, Crank Pulley.>

- 11) Install the V-belts. <Ref. to ME(H4DOTC)-39, INSTALLATION, V-belt.>

- 12) Install the radiator. <Ref. to CO(H4SO)-27, INSTALLATION, Radiator.>

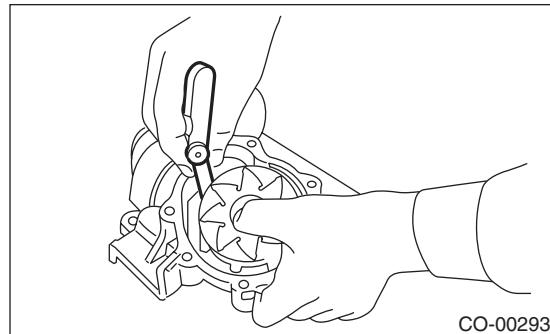
C: INSPECTION

- 1) Check the water pump bearing for smooth rotation.
- 2) Check the water pump pulley for abnormalities.
- 3) Make sure the impeller is not 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 — 0.060 in)



- 5) After water pump installation, check pulley shaft for engine coolant leaks and noise. If a leak or noise is noted, replace the water pump assembly.