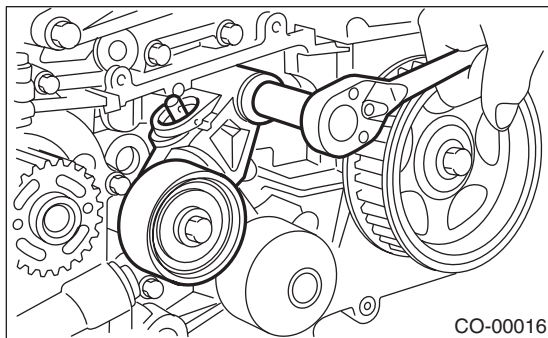


4. Water Pump

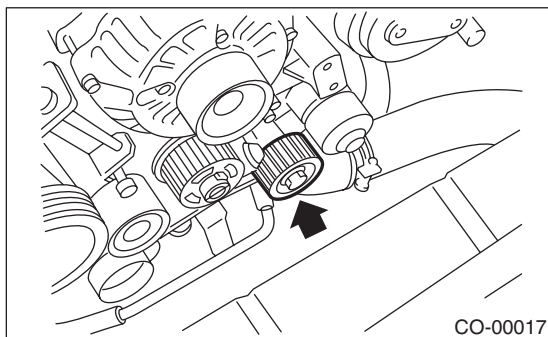
A: REMOVAL

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.



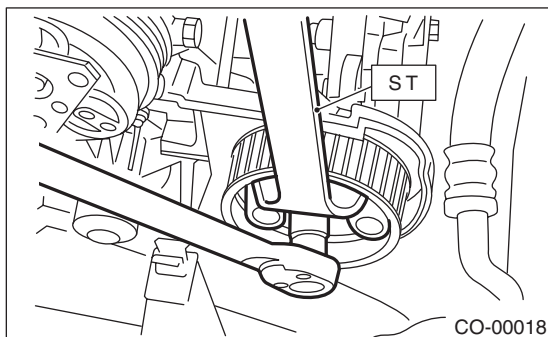
- 6) Remove the belt idler No. 2.



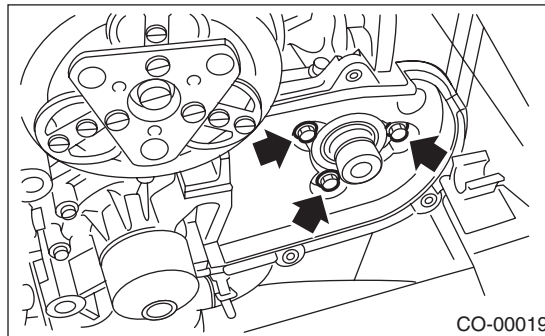
- 7) Remove the cam sprocket (LH) using ST.
ST 18231AA010 CAM SPROCKET WRENCH

NOTE:

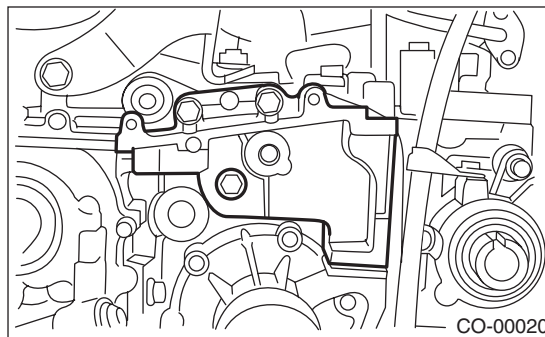
CAM SPROCKET WRENCH (499207100) can also be used.



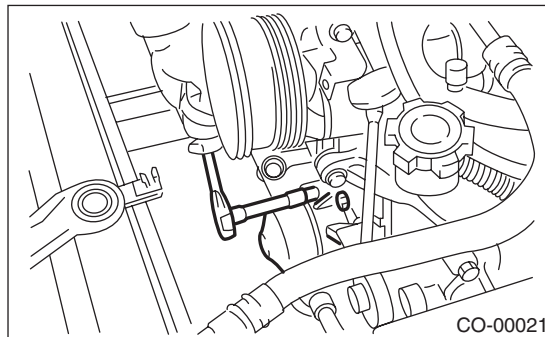
- 8) Remove the belt cover No. 2 (LH).



- 9) Remove the tensioner bracket.



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

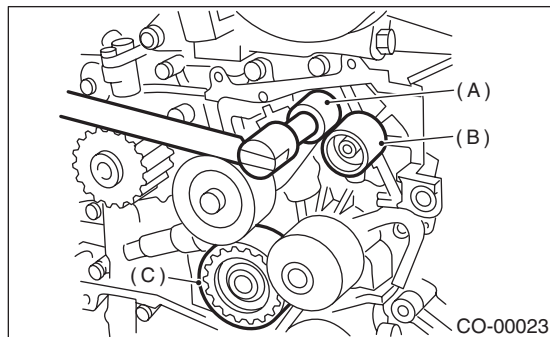


Water Pump

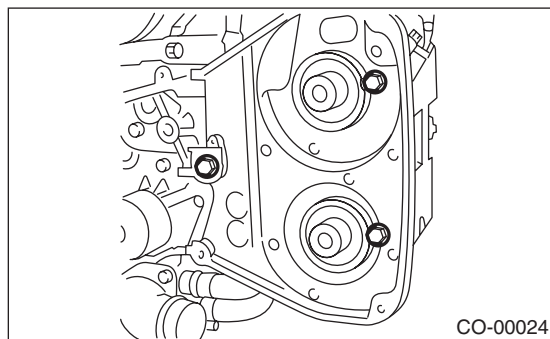
COOLING

2. TURBO MODEL

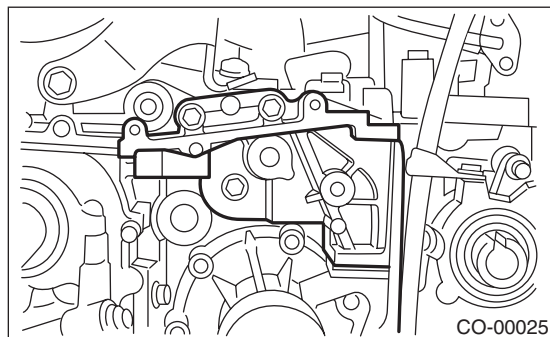
- 1) Remove the radiator. <Ref. to CO(H4SO)-25, REMOVAL, Radiator.>
- 2) Remove the V-belts. <Ref. to ME(H4DOTC)-39, REMOVAL, V-belt.>
- 3) Remove the crank pulley. <Ref. to ME(H4DOTC)-41, REMOVAL, Crank Pulley.>
- 4) Remove the timing belt. <Ref. to ME(H4DOTC)-43, REMOVAL, Timing Belt.>
- 5) Remove 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).

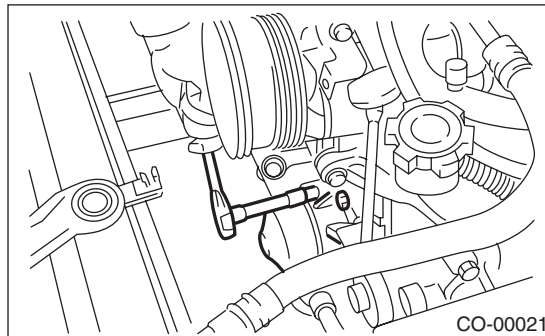


- 10) Remove the tensioner bracket.



- 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.

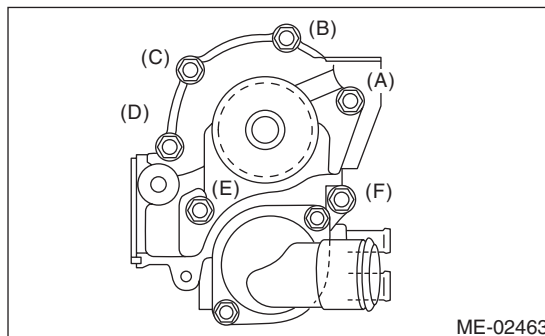
Tightening torque:

First:

12 N·m (1.2 kgf-m, 8.9 ft-lb)

Second:

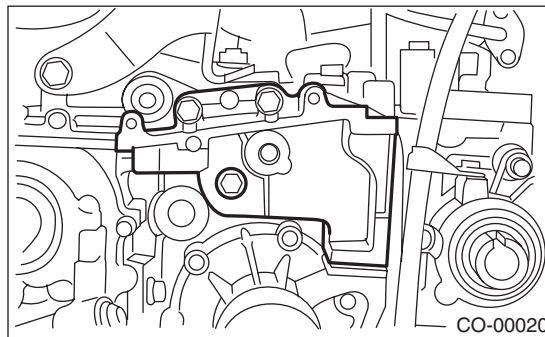
12 N·m (1.2 kgf-m, 8.9 ft-lb)



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

Tightening torque:

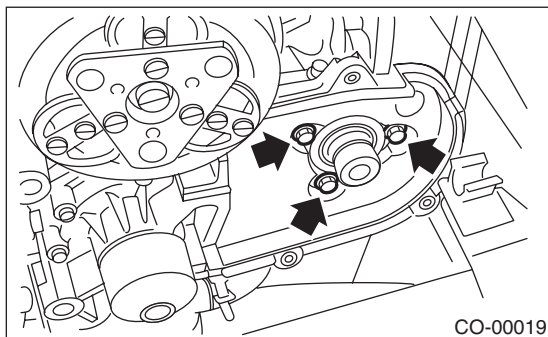
24.5 N·m (2.5 kgf-m, 18.1 ft-lb)



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

Tightening torque:

5 N·m (0.5 kgf-m, 3.7 ft-lb)



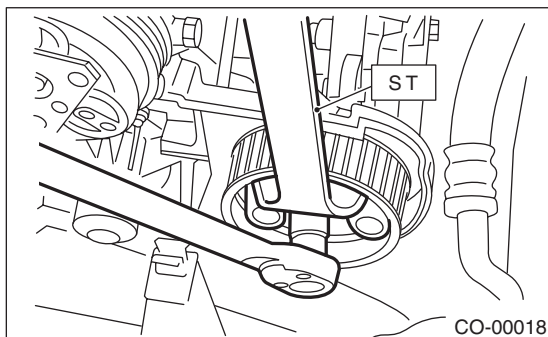
5) Install the cam sprocket (LH) using ST.
ST 18231AA010 CAM SPROCKET WRENCH

NOTE:

CAM SPROCKET WRENCH (499207100) can also be used.

Tightening torque:

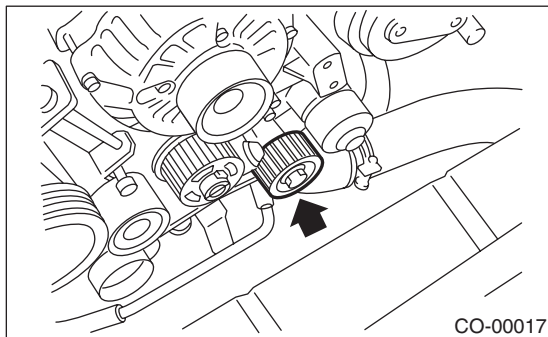
78 N·m (8.0 kgf-m, 57.5 ft-lb)



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.

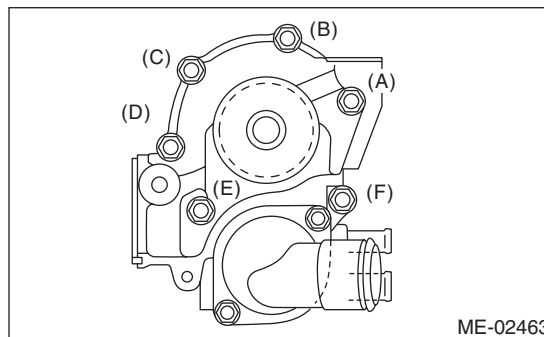
Tightening torque:

First:

12 N·m (1.2 kgf-m, 8.9 ft-lb)

Second:

12 N·m (1.2 kgf-m, 8.9 ft-lb)

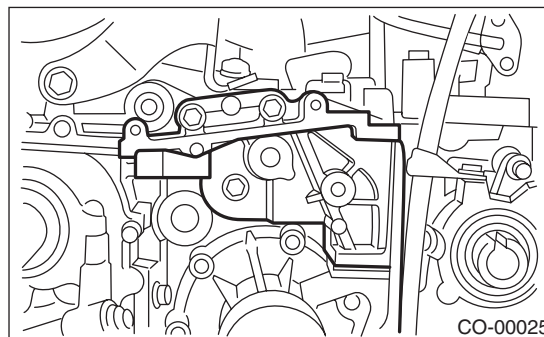


2) Install the hose to water pump.

3) Install the tensioner bracket.

Tightening torque:

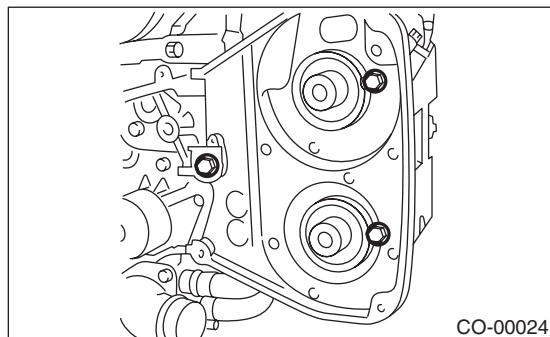
24.5 N·m (2.5 kgf-m, 18.1 ft-lb)



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.>

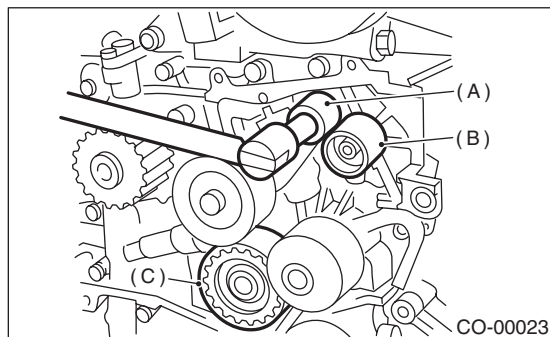
6) Install the belt idler No. 2 (C).

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.

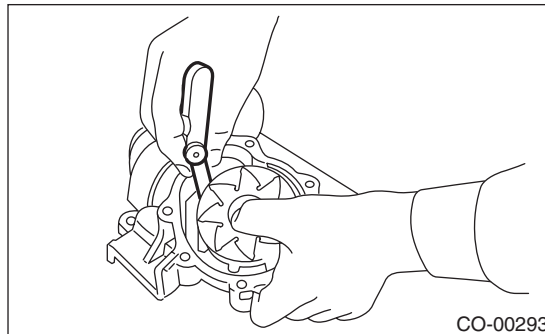
3) Make sure the impeller is not deformed or damaged.

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.