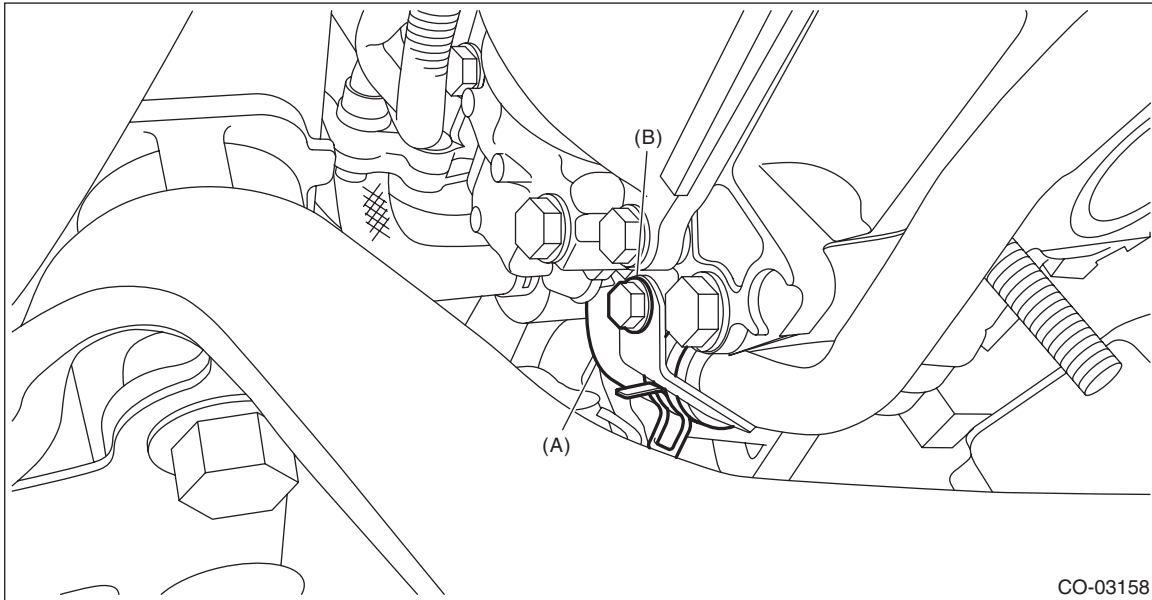


5. Water Pipe Assembly

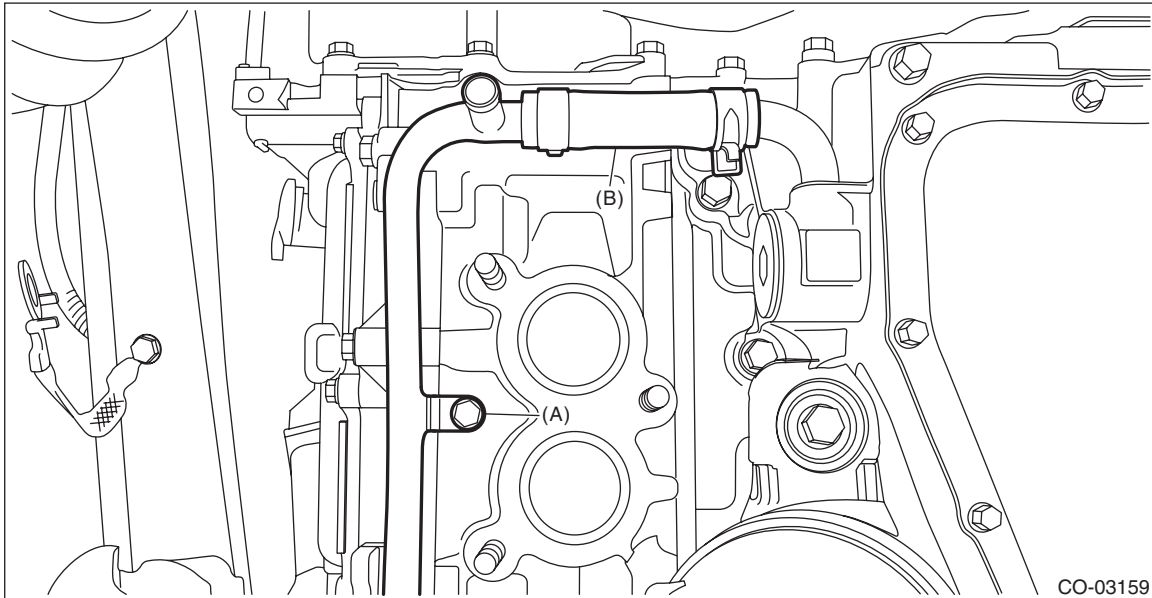
A: REMOVAL

1. WATER PIPE ASSEMBLY RH

- 1) Disconnect the ground cable from battery.
- 2) Remove the oil pipe assembly. <Ref. to LU(H4DO)-56, OIL PIPE ASSEMBLY, REMOVAL, Oil Pipe.>
- 3) Remove the front exhaust pipe. <Ref. to EX(H4DOTC)-7, REMOVAL, Front Exhaust Pipe.>
- 4) Disconnect the water hose (A) from the water pipe assembly RH, and remove the bolt (B) securing the water pipe assembly RH to the cam carrier RH.



- 5) Remove the bolt (A) which secures the water pipe assembly RH to the cylinder head RH.
- 6) Disconnect the water pipe hose RH (B) from oil pan upper, and remove the water pipe assembly RH.

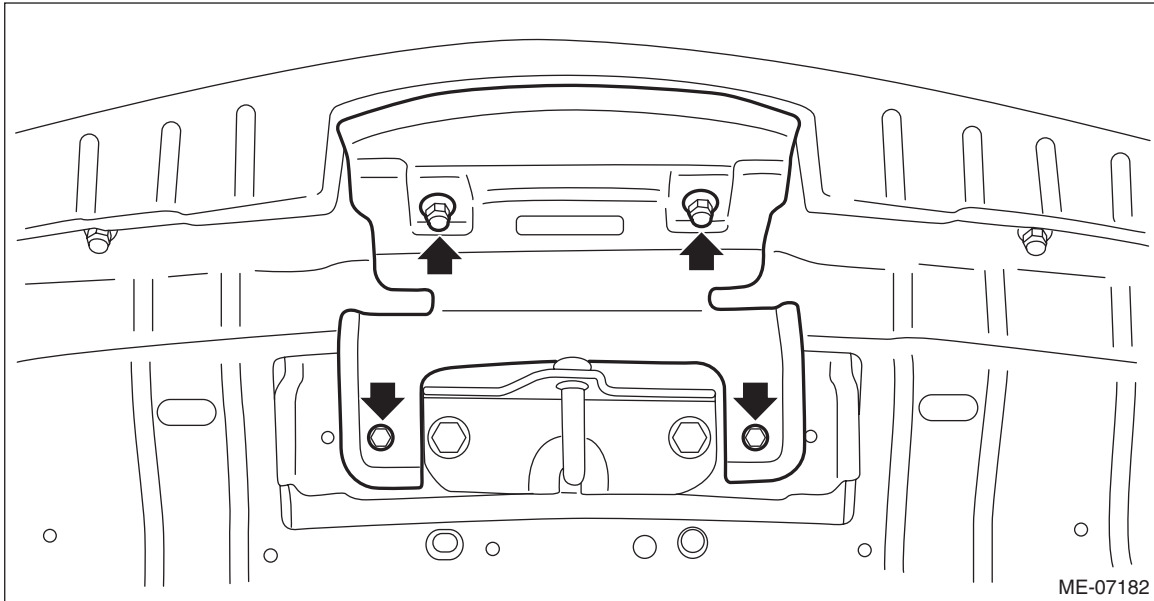


Water Pipe Assembly

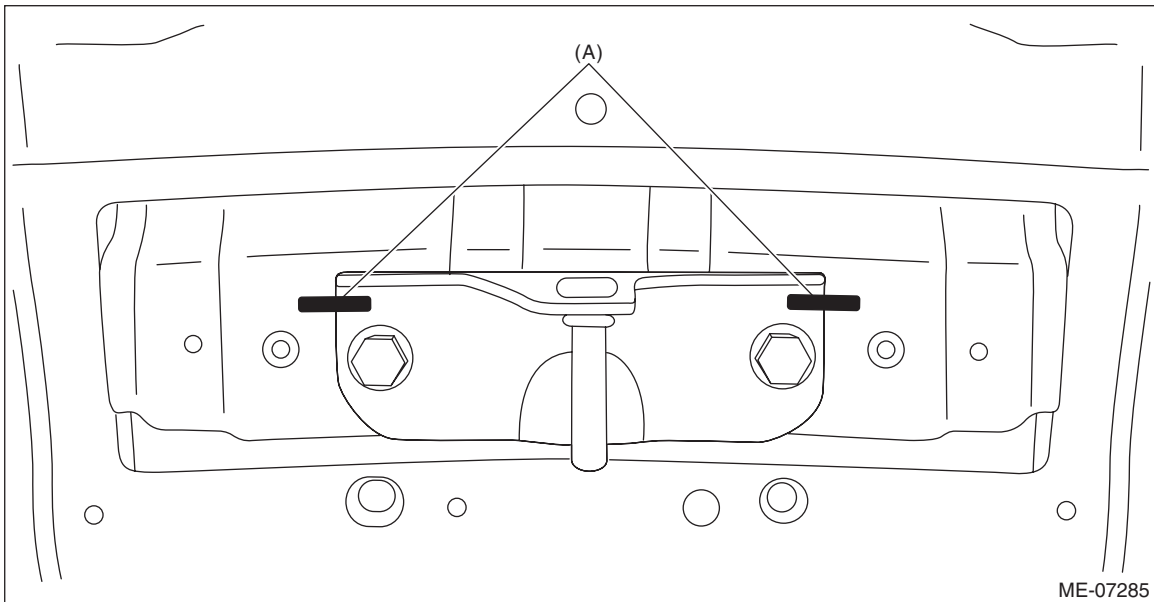
COOLING

2. WATER PIPE ASSEMBLY LH

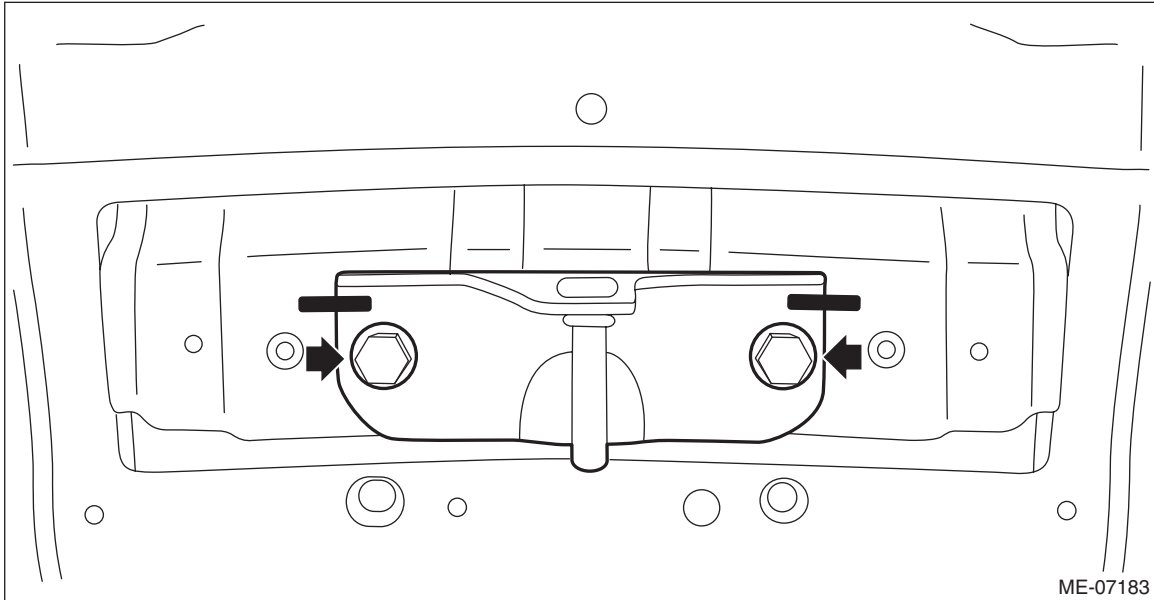
1) Open the front hood, and remove the upper grille bracket from the front hood.



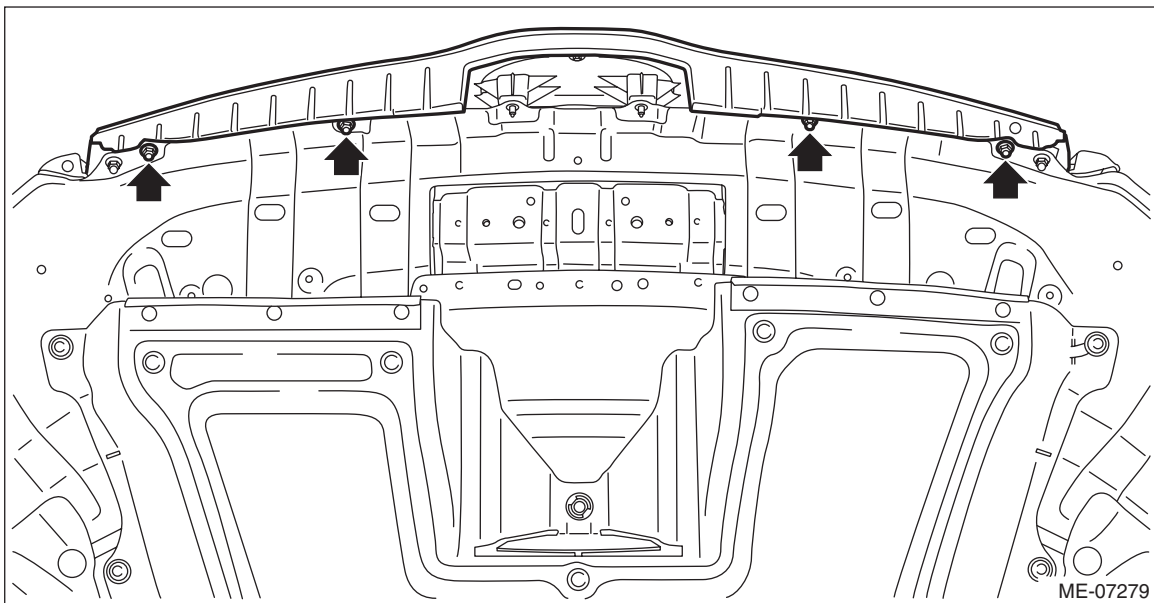
2) Using a marker pen, make alignment marks (A) on both the front hood and the front hood striker.



- 3) Remove the front hood striker from the front hood.



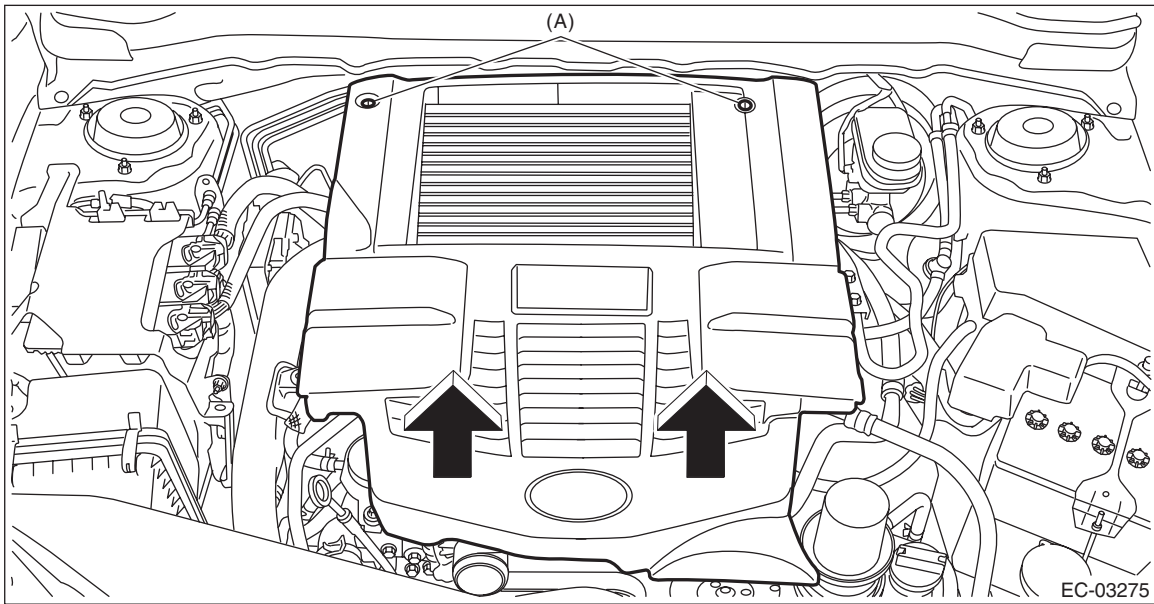
- 4) Remove the front center grille assembly from the front hood.



Water Pipe Assembly

COOLING

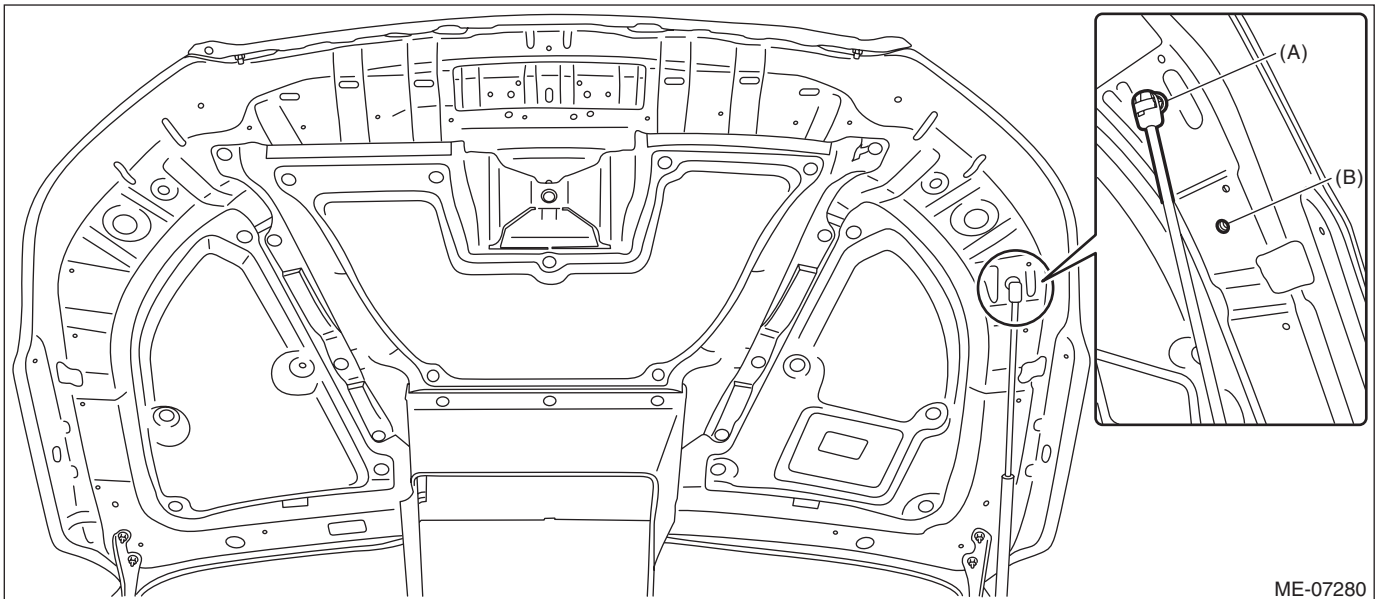
5) Remove the clip (A), lift the front of the collector cover in the direction of arrow, and then remove the collector cover.



6) Change the front hood damper mounting position from (A) to (B), and completely open the front hood.

Tightening torque:

20 N·m (2.0 kgf-m, 14.8 ft-lb)

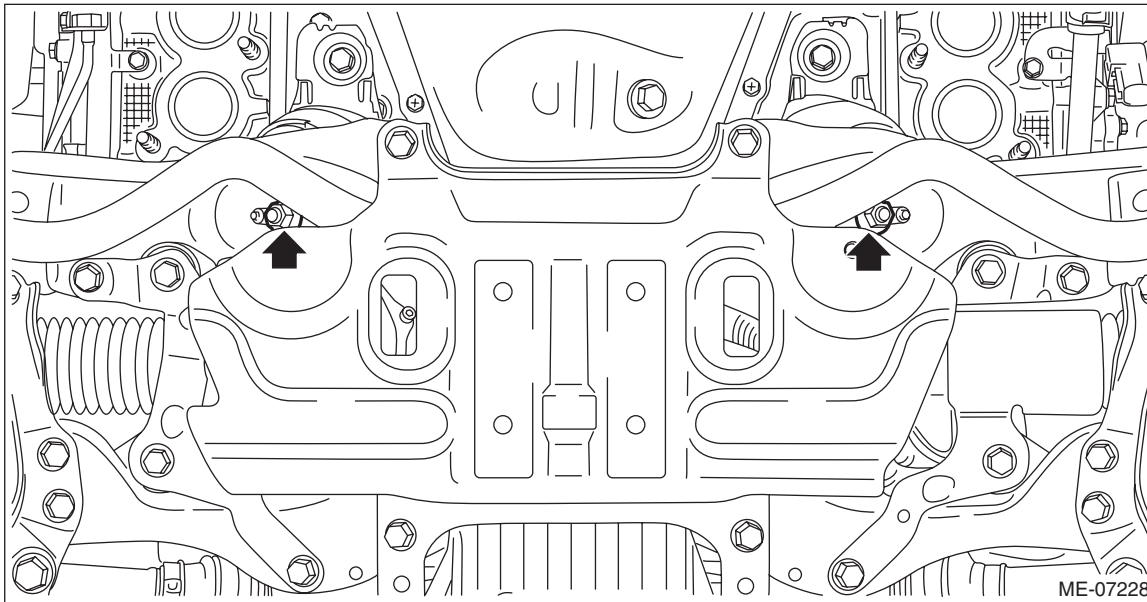


7) Disconnect the ground cable from battery.

8) Remove the air intake duct (rear). <Ref. to IN(H4DOTC)-19, REMOVAL, Air Intake Duct.>

9) Remove the front exhaust pipe. <Ref. to EX(H4DOTC)-7, REMOVAL, Front Exhaust Pipe.>

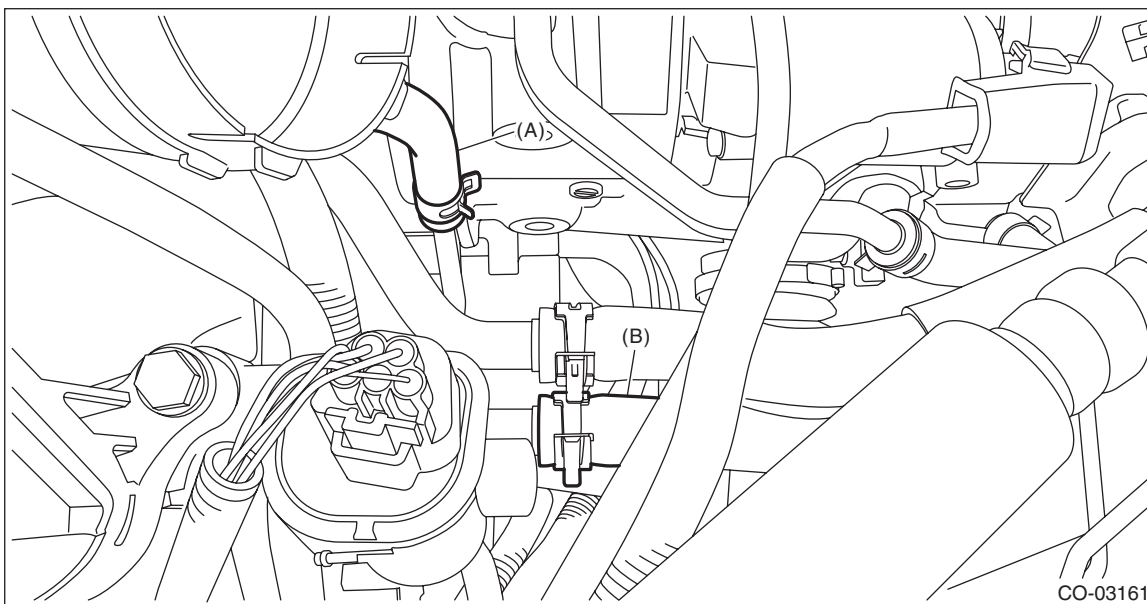
10) Remove the nuts which secure the engine mounting to the front crossmember.



11) Lower the vehicle.

12) Remove the intercooler. <Ref. to IN(H4DOTC)-35, REMOVAL, Intercooler.>

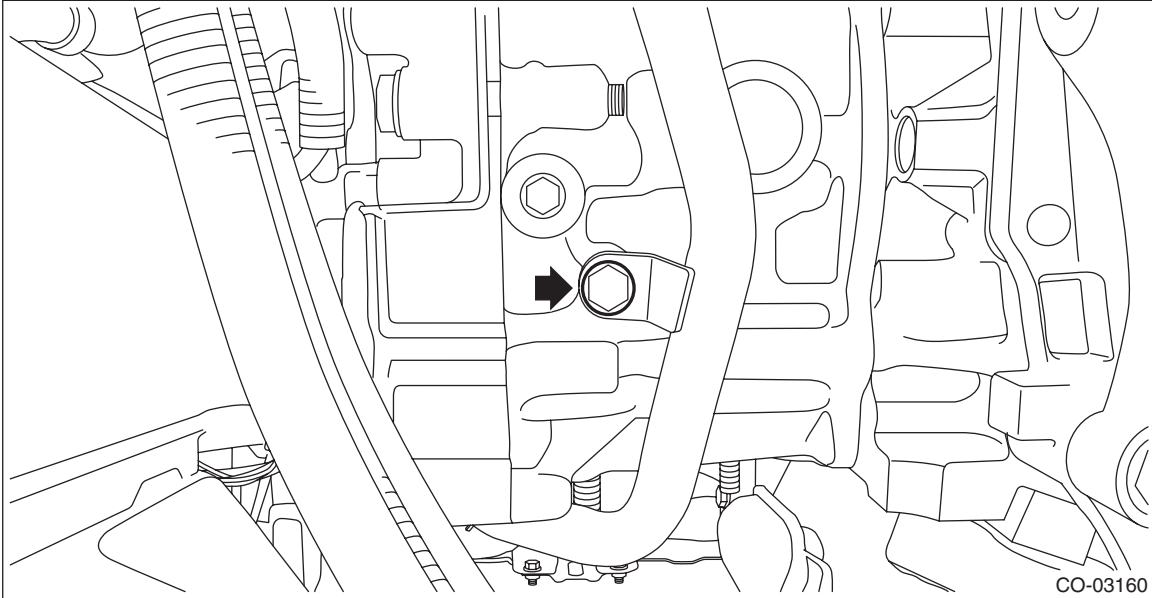
13) Disconnect the preheater hose (A) and the heater outlet hose (B) from the water pipe assembly LH.



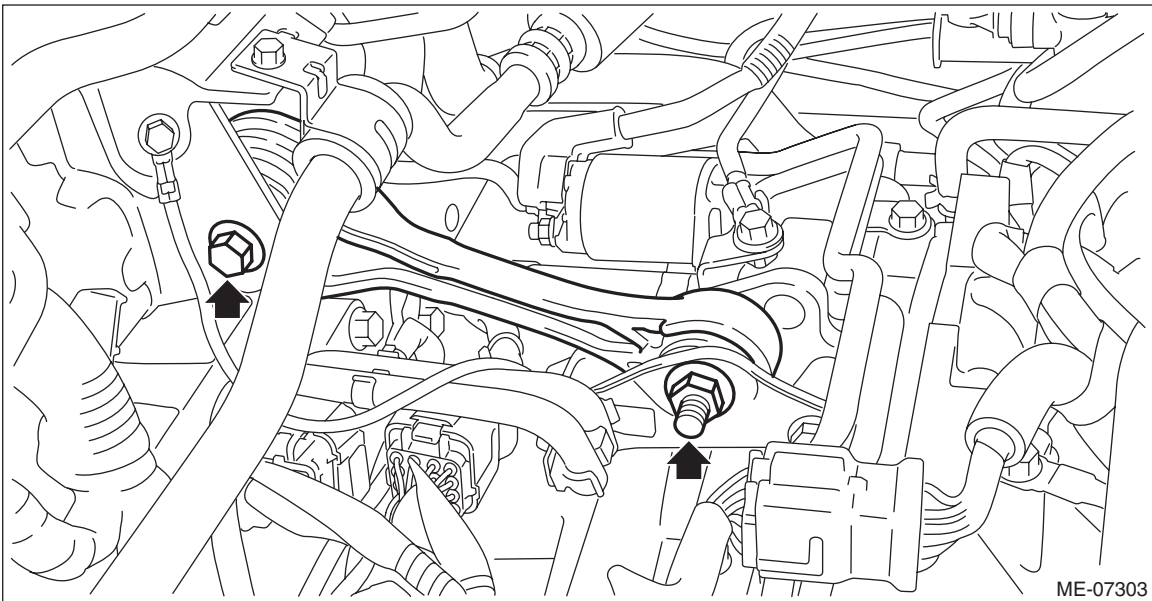
Water Pipe Assembly

COOLING

- 14) Remove the bolt which holds the water pipe assembly LH from the cylinder head LH.



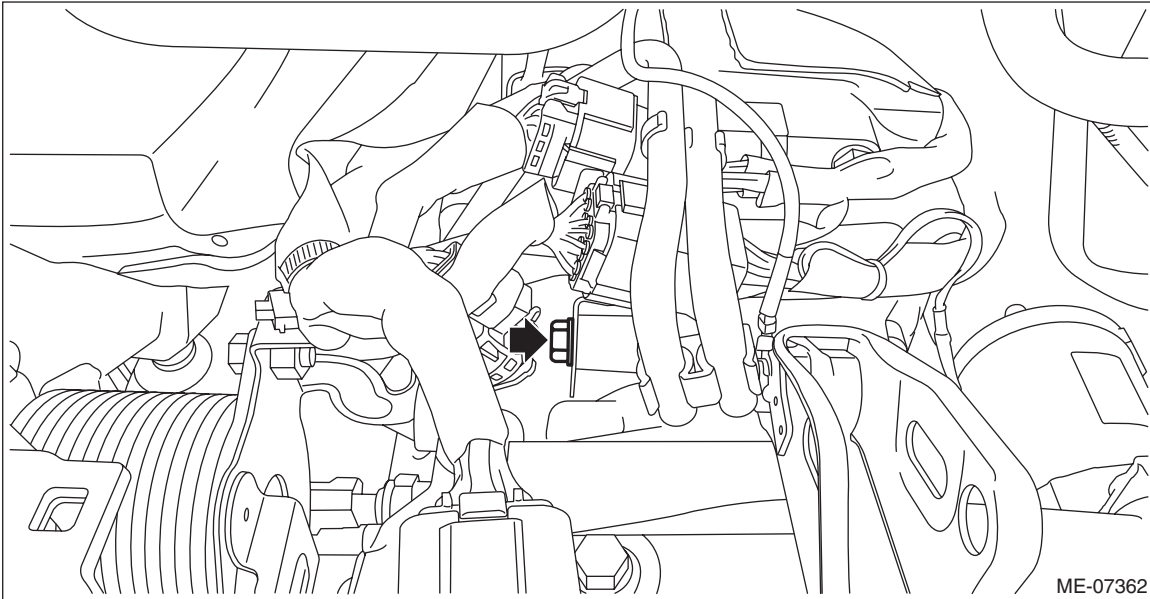
- 15) Remove the pitching stopper.



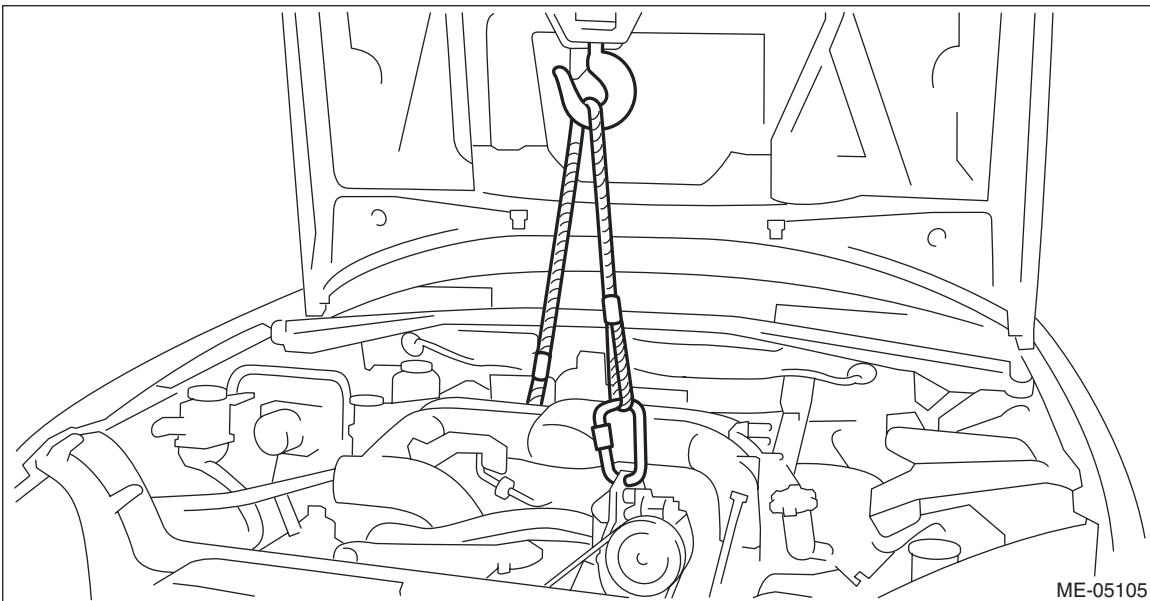
16) Remove the bolt securing the transmission harness stay to the CVT.

NOTE:

This procedure is required to prevent the transmission connector from touching the A/C pressure hose during engine removal/installation.



17) Support the engine with a lifting device and wire ropes.



18) Lift the engine high enough until the stud bolt of the engine mount is drawn out of the crossmember.

CAUTION:

When lifting up the engine, pay attention to the clearance of each part and be careful not to lift the engine too much, in order to prevent damaging the vehicle.

Water Pipe Assembly

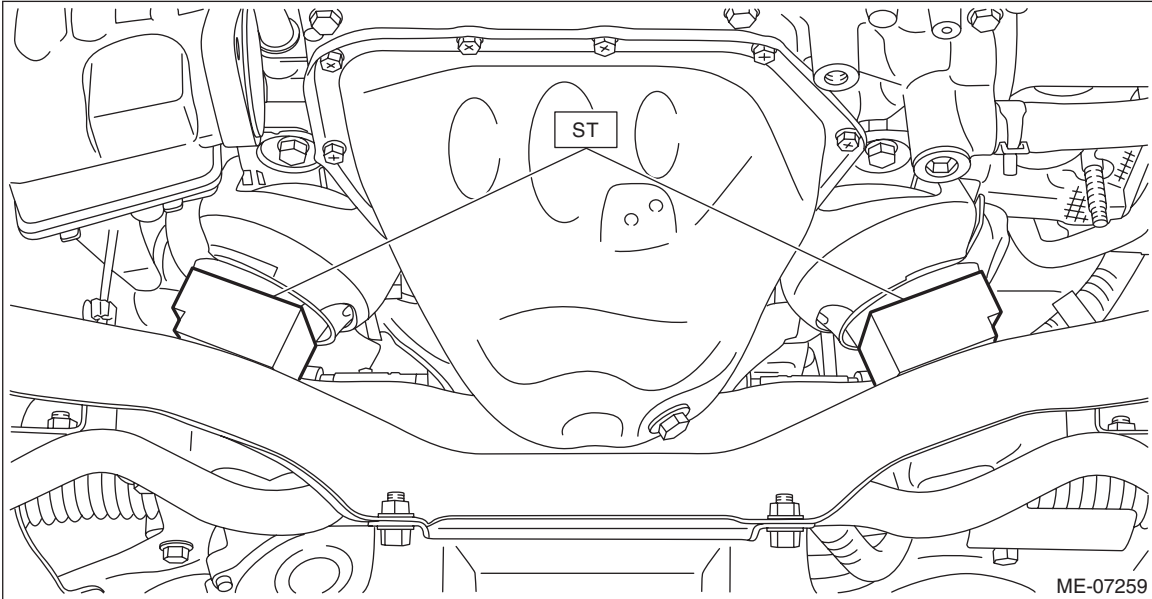
COOLING

19) Set the ST between the engine mount and crossmember, and slowly lower the engine.

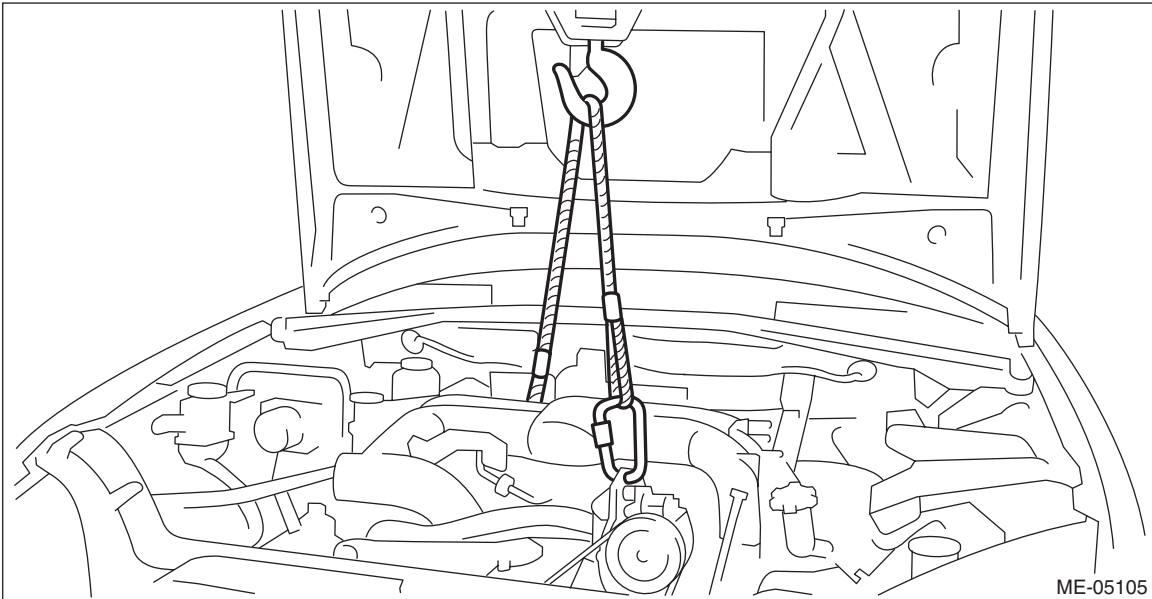
CAUTION:

After the engine is lowered, rock the engine to make sure that the ST is securely installed.

ST 18632AA020 STAND ASSY



20) Remove the lifting device and wire ropes.



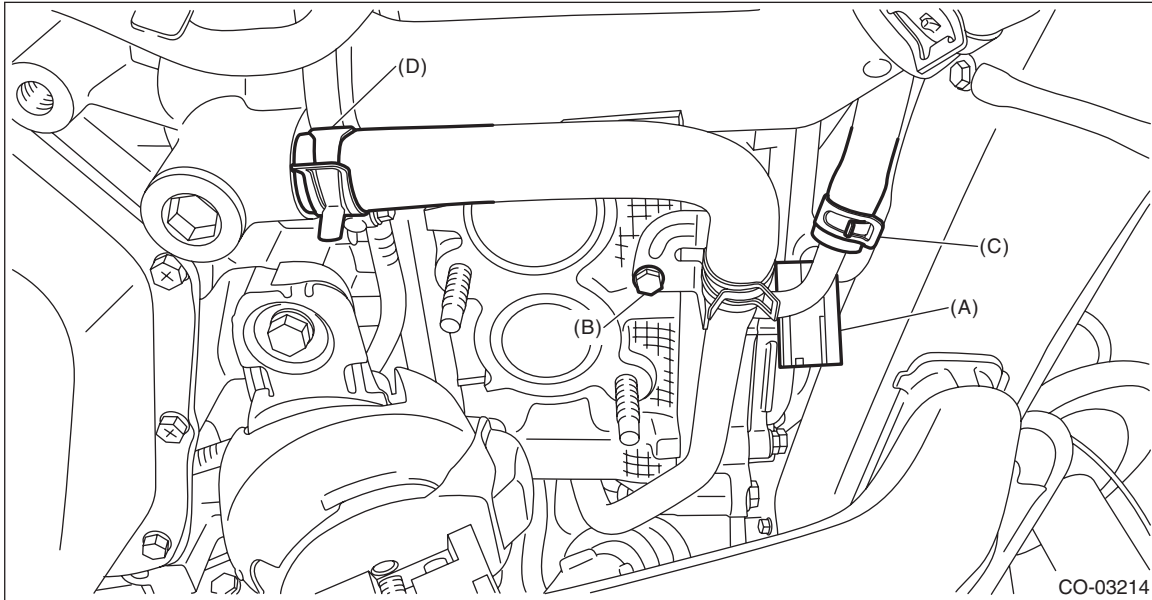
21) Lift up the vehicle.

22) Remove the rear oxygen sensor connector (A) from the water pipe assembly LH.

23) Remove the bolt (B) which secures the water pipe assembly LH to the cylinder head LH.

24) Disconnect the side engine oil cooler hose B (C) from the water pipe assembly LH.

- 25) Disconnect the water pipe hose LH (D) from oil pan upper, and remove the water pipe assembly LH.



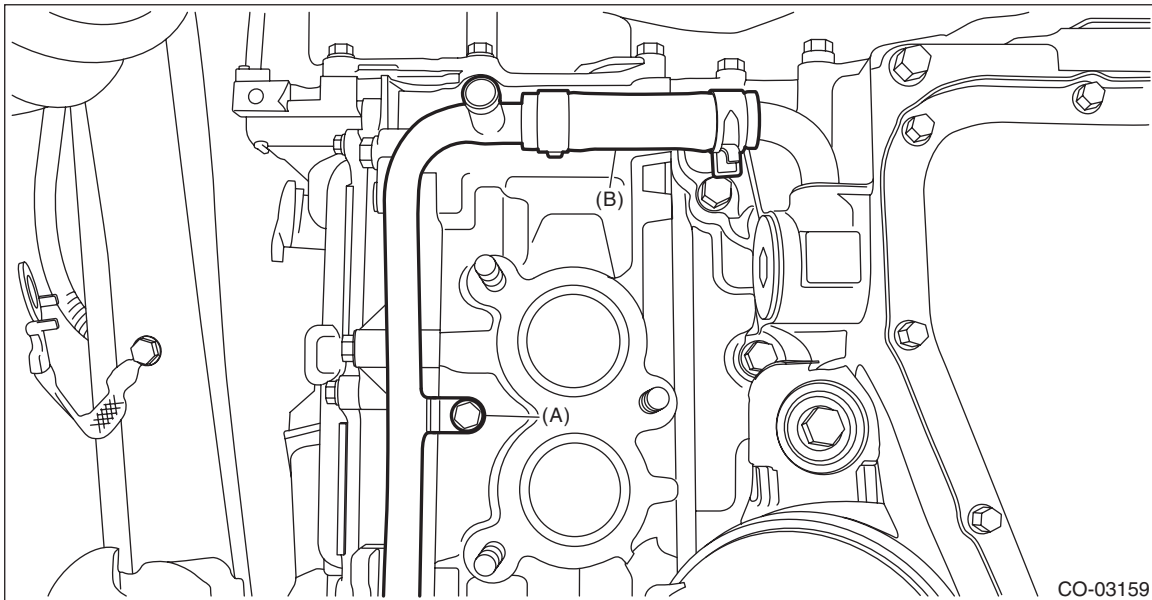
B: INSTALLATION

1. WATER PIPE ASSEMBLY RH

- 1) Set the water pipe assembly RH on the engine, and connect the water pipe hose RH (B) to the oil pan upper.
- 2) Install the bolt (A) which secures the water pipe assembly RH to the cylinder head RH.

Tightening torque:

6.4 N·m (0.7 kgf-m, 4.7 ft-lb)



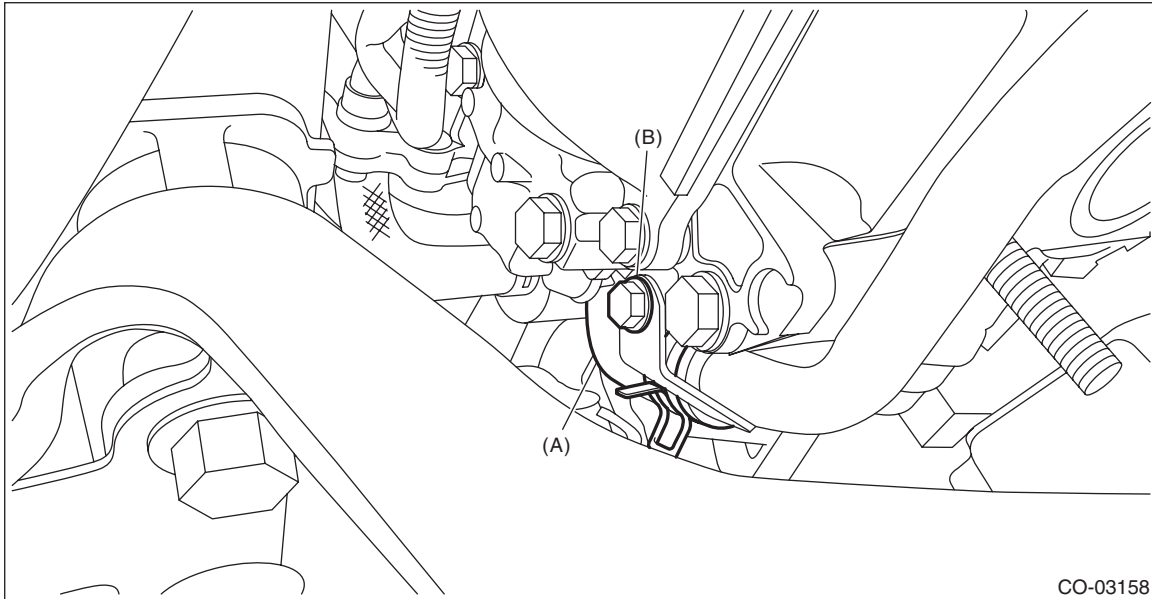
Water Pipe Assembly

COOLING

3) Connect the water hose (A) to the water pipe assembly RH, and install the bolt (B) which secures the water pipe assembly RH to the cam carrier RH.

Tightening torque:

6.4 N·m (0.7 kgf-m, 4.7 ft-lb)



CO-03158

4) Install the front exhaust pipe. <Ref. to EX(H4DOTC)-15, INSTALLATION, Front Exhaust Pipe.>

5) Install the oil pipe assembly. <Ref. to LU(H4DO)-59, OIL PIPE ASSEMBLY, INSTALLATION, Oil Pipe.>

6) Connect the battery ground terminal.

7) Fill engine coolant. <Ref. to CO(H4DOTC)-14, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

2. WATER PIPE ASSEMBLY LH

1) Set the water pipe assembly LH on the engine, and connect the water pipe hose LH (D) to the oil pan upper.

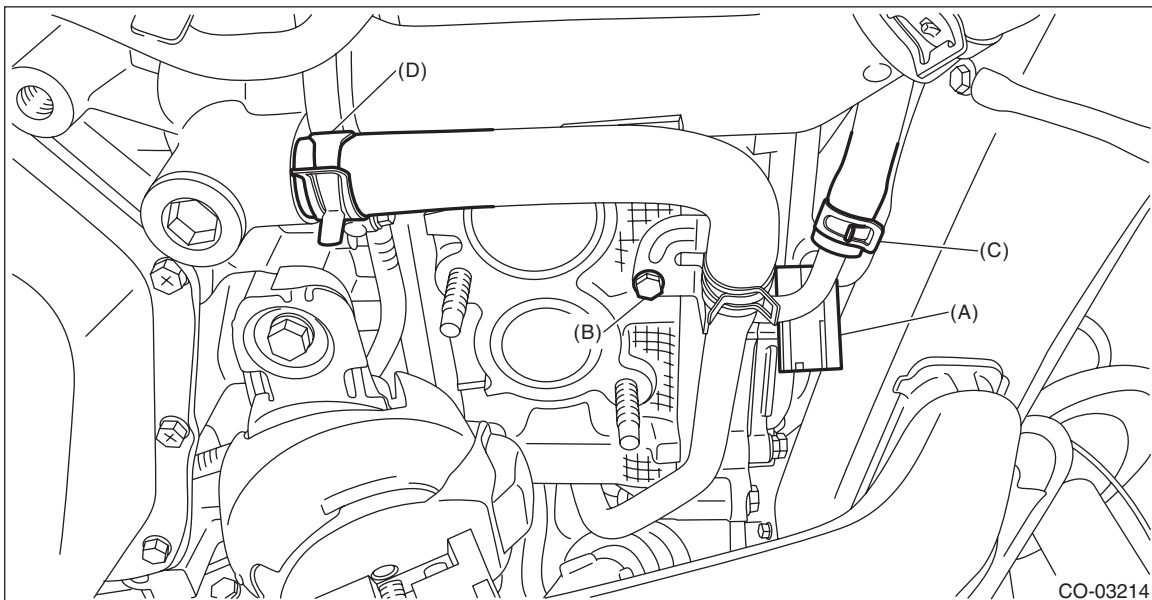
2) Connect the side engine oil cooler hose B (C) to the water pipe assembly LH.

3) Install the bolt (B) which secures the water pipe assembly LH to the cylinder head LH.

Tightening torque:

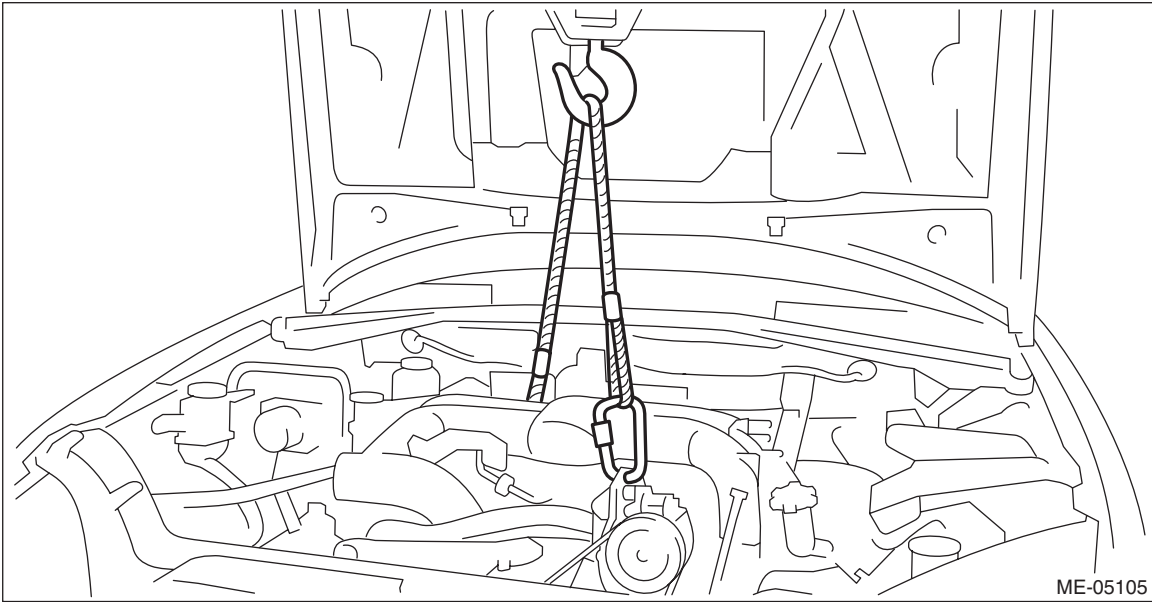
6.4 N·m (0.7 kgf-m, 4.7 ft-lb)

4) Install the rear oxygen sensor connector (A) to the water pipe assembly LH.



CO-03214

- 5) Lower the vehicle.
- 6) Support the engine with a lifting device and wire ropes.

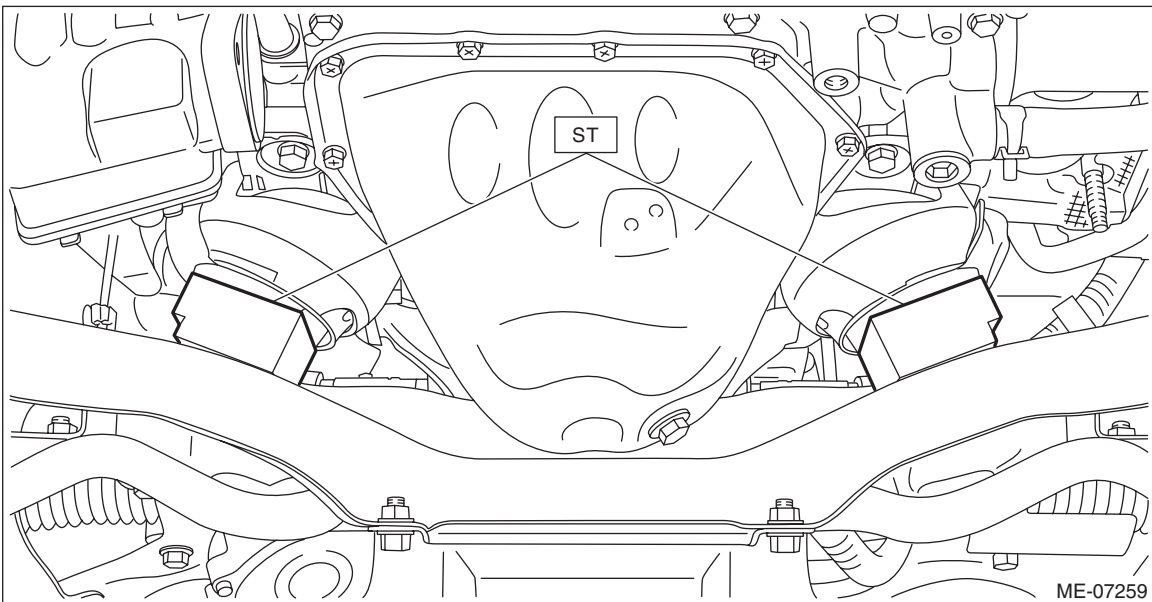


- 7) Lift the engine, and remove the ST.

CAUTION:

When lifting up the engine, pay attention to the clearance of each part and be careful not to lift the engine too much, in order to prevent damaging the vehicle.

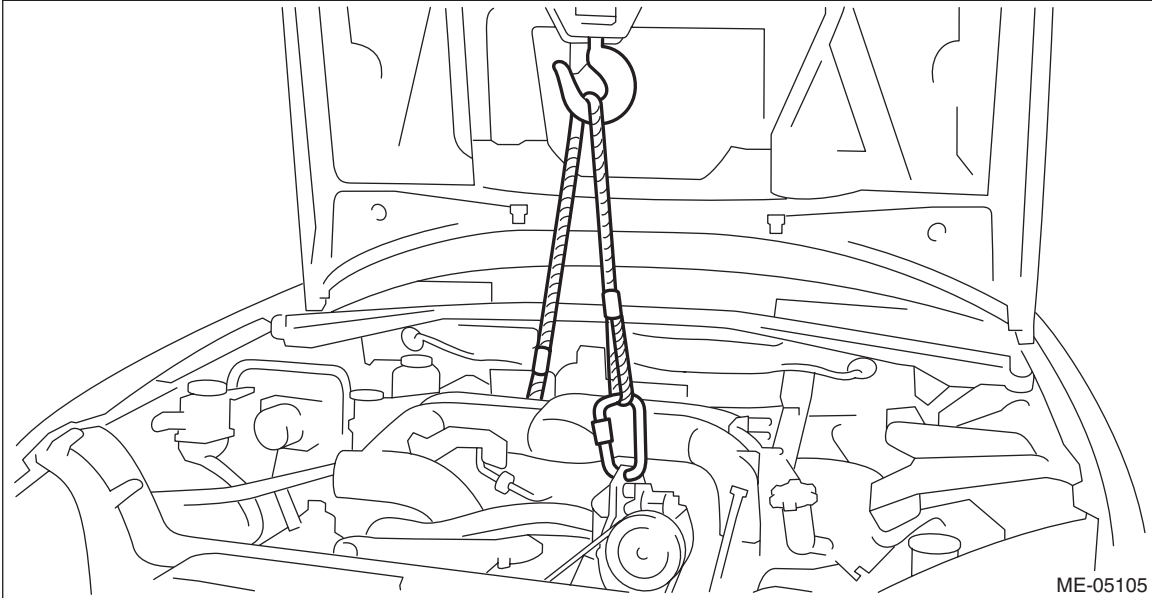
ST 18632AA020 STAND ASSY



Water Pipe Assembly

COOLING

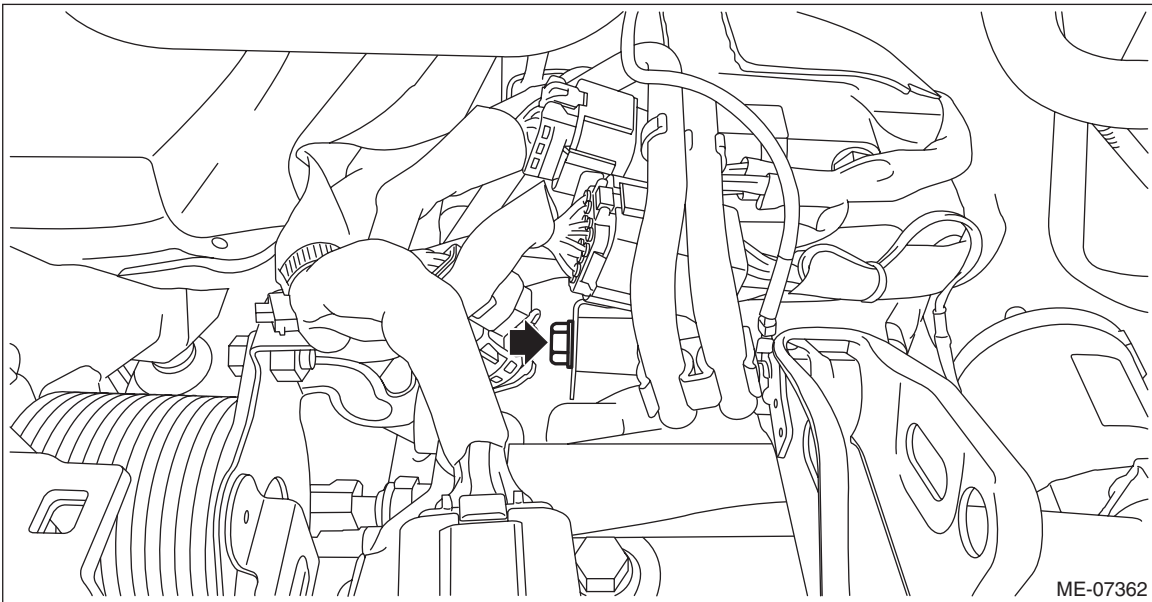
- 8) Lower the engine and remove the lifting device and wire ropes.



- 9) Install the bolt which secures the transmission harness stay to the CVT.

Tightening torque:

15 N·m (1.6 kgf-m, 11.8 ft-lb)

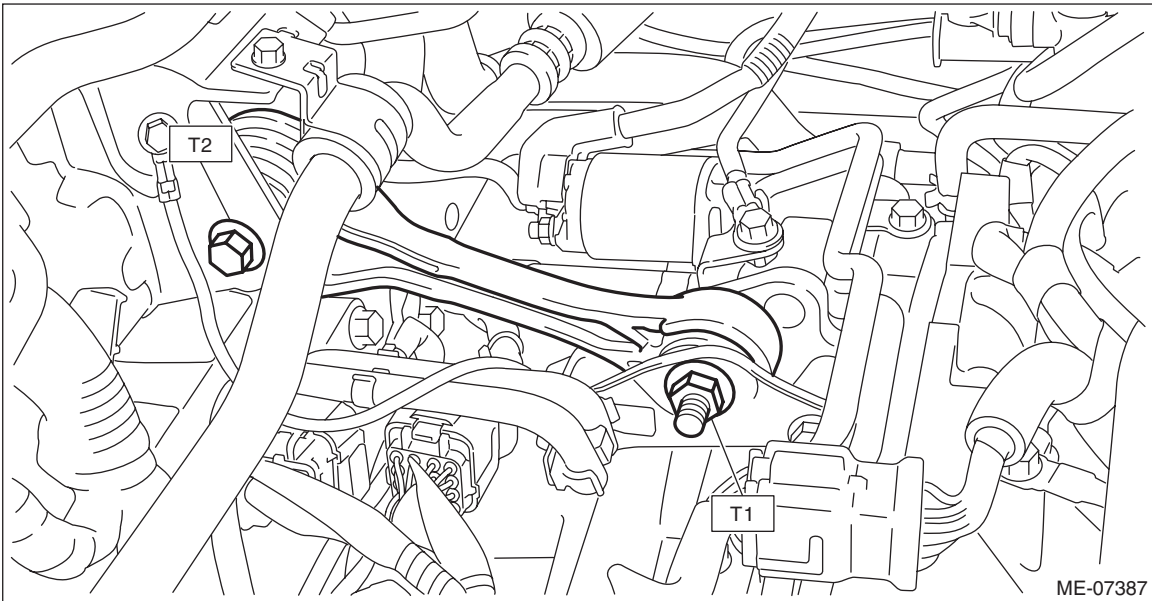


10) Install the pitching stopper.

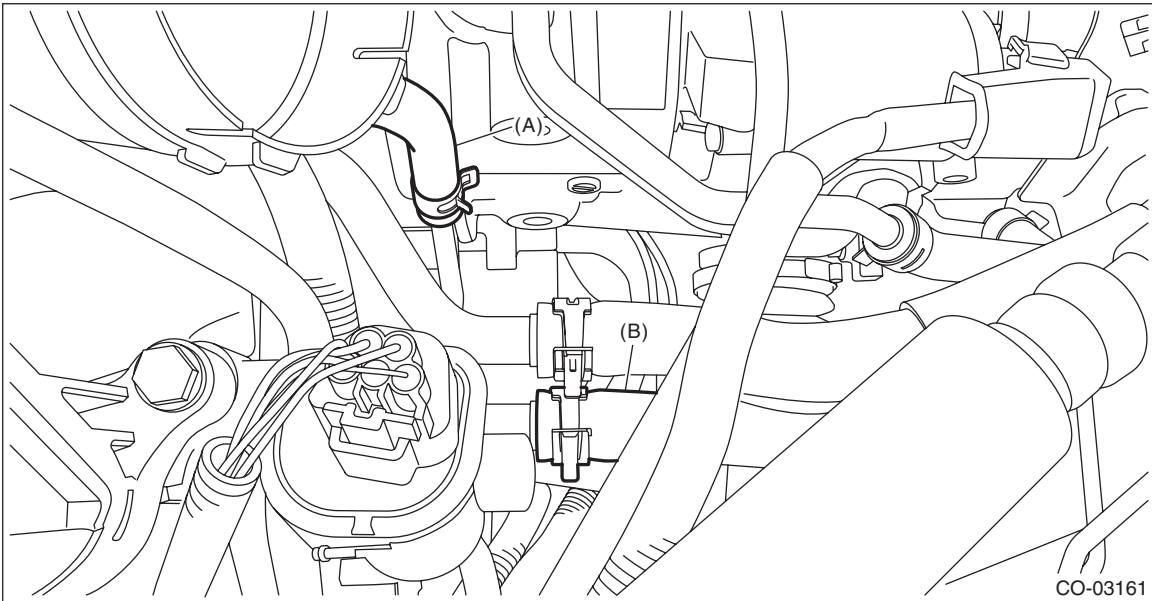
Tightening torque:

T1: 50 N·m (5.1 kgf-m, 36.9 ft-lb)

T2: 58 N·m (5.9 kgf-m, 42.8 ft-lb)



11) Connect the preheater hose (A) and the heater outlet hose (B) to the water pipe assembly LH.



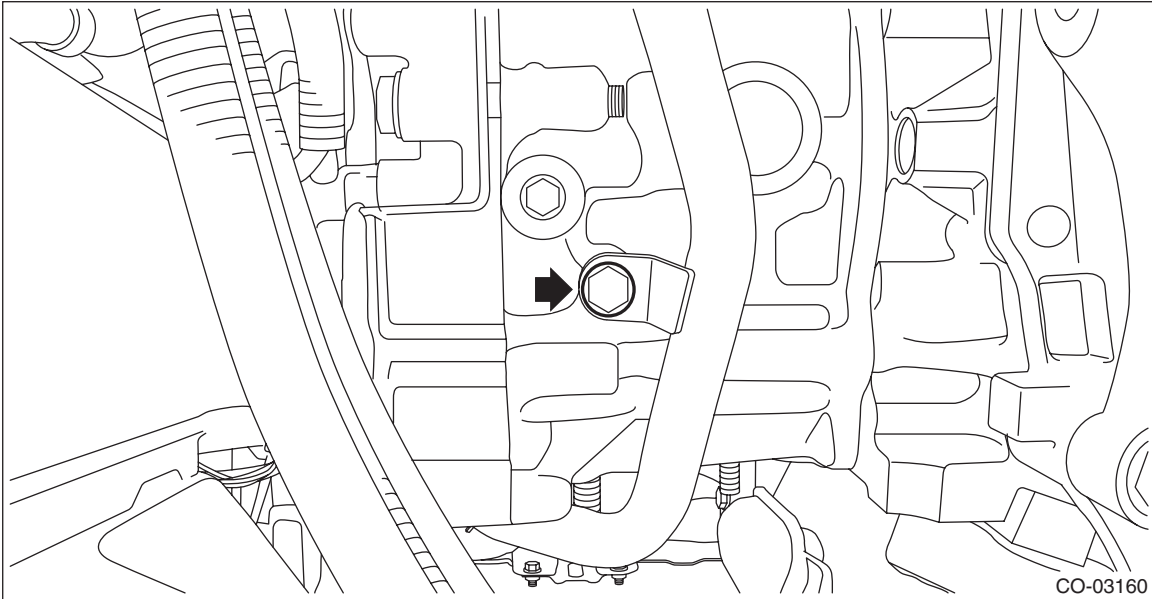
Water Pipe Assembly

COOLING

12) Install the bolt which secures the water pipe assembly LH to the cylinder head LH.

Tightening torque:

6.4 N·m (0.7 kgf-m, 4.7 ft-lb)



13) Install the intercooler. <Ref. to IN(H4DOTC)-37, INSTALLATION, Intercooler.>

14) Lift up the vehicle.

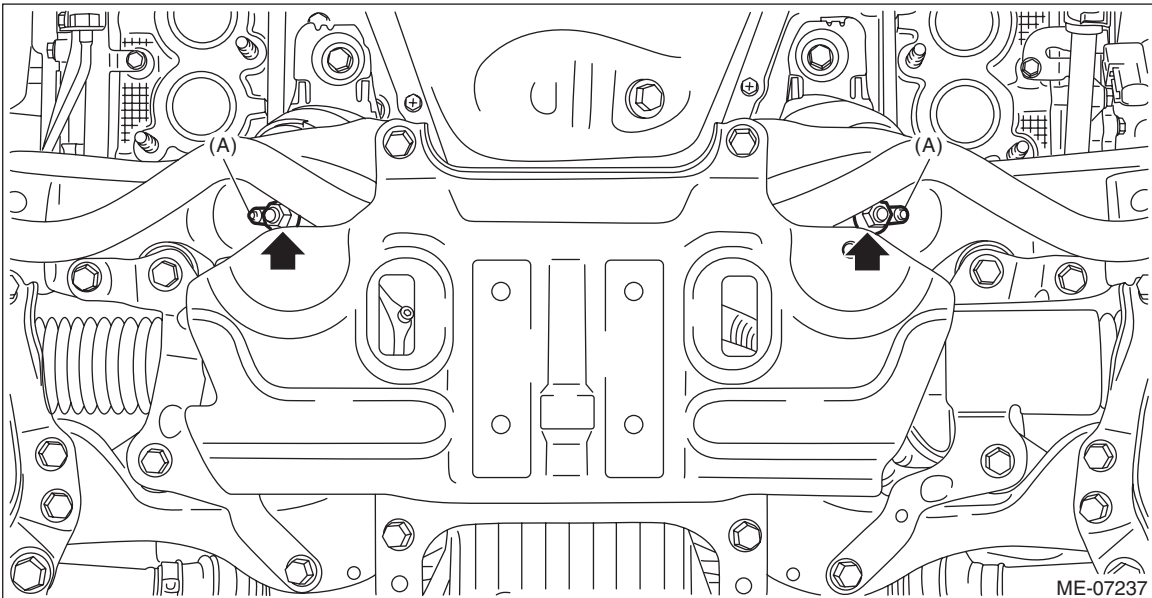
15) Install the nuts which hold the engine mounting to the crossmember.

NOTE:

Make sure that locators (A) of the engine mounting are securely inserted.

Tightening torque:

45 N·m (4.6 kgf-m, 33.2 ft-lb)



16) Install the front exhaust pipe. <Ref. to EX(H4DOTC)-15, INSTALLATION, Front Exhaust Pipe.>

17) Install the air intake duct (rear). <Ref. to IN(H4DOTC)-19, INSTALLATION, Air Intake Duct.>

18) Connect the battery ground terminal.

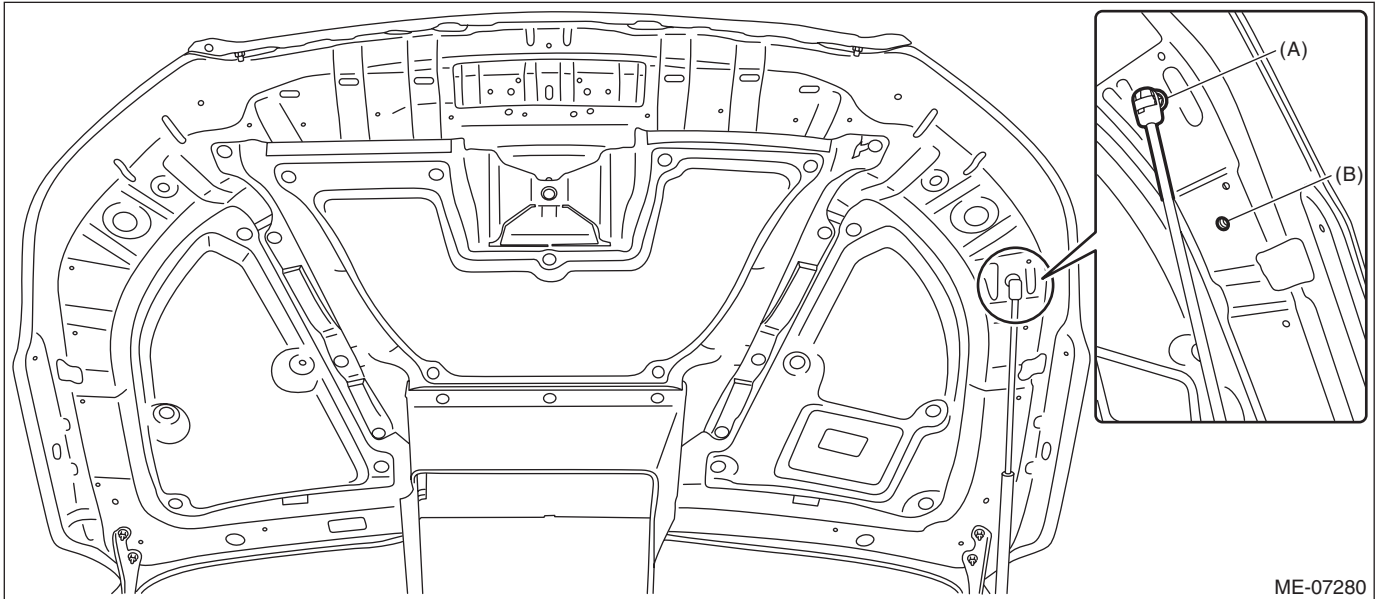
19) Fill engine coolant. <Ref. to CO(H4DOTC)-14, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

20) Install the collector cover.

21) Change the installation position of the front hood damper from (B) to (A).

Tightening torque:

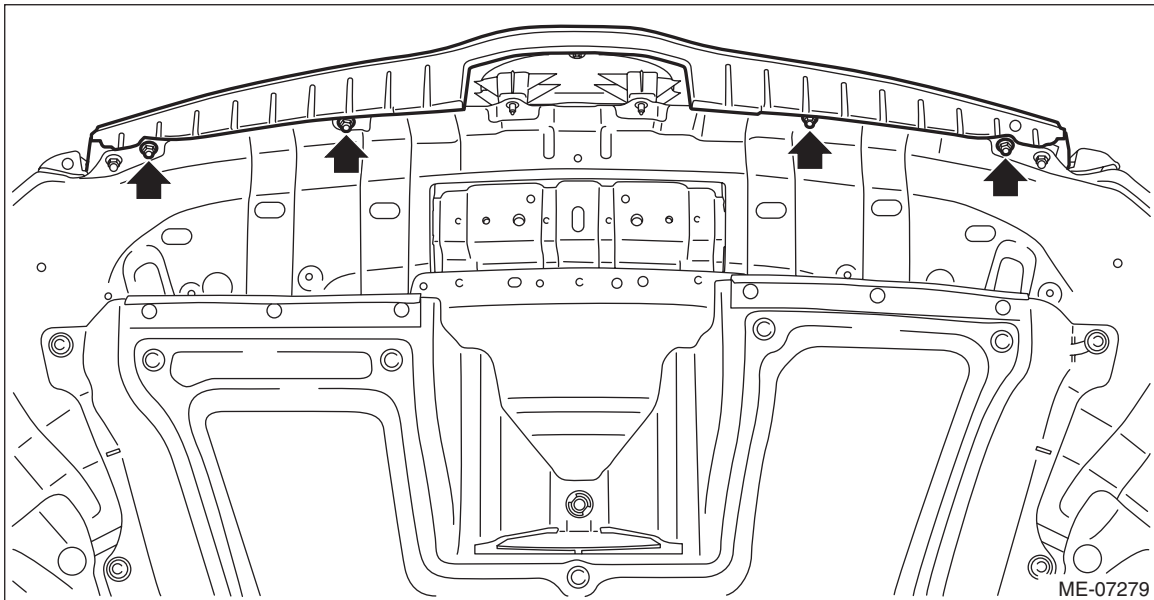
20 N·m (2.0 kgf-m, 14.8 ft-lb)



22) Install the front center grille assembly to the front hood.

Tightening torque:

4.5 N·m (0.5 kgf-m, 3.3 ft-lb)



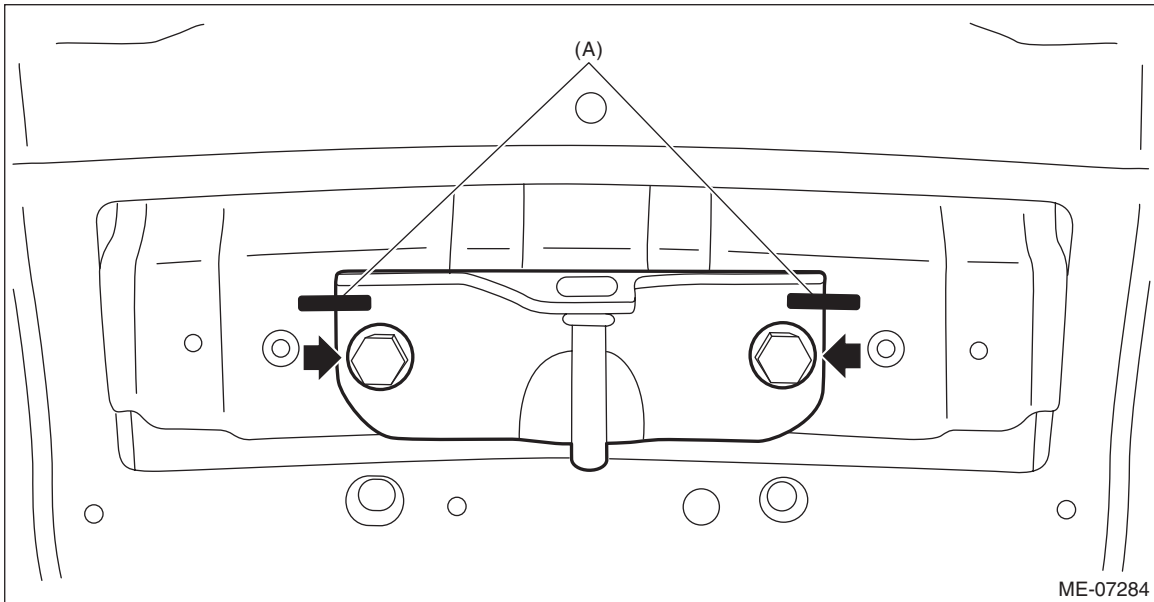
Water Pipe Assembly

COOLING

23) Align the alignment marks (A), and install the front hood striker to the front hood.

Tightening torque:

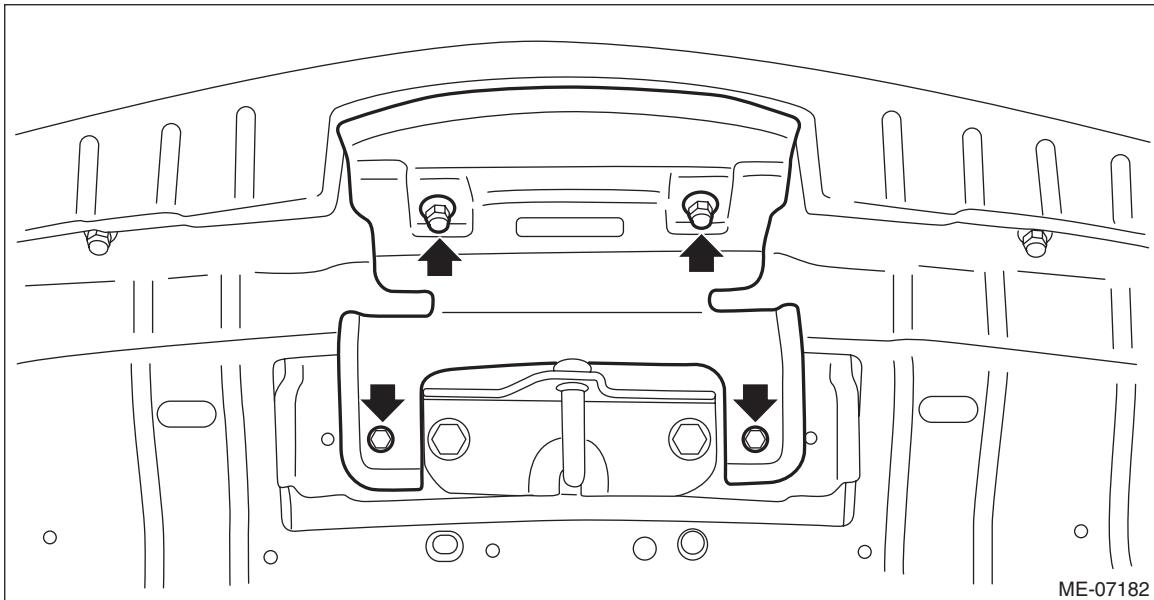
33 N·m (3.4 kgf-m, 24.3 ft-lb)



24) Install the upper grille bracket to the front hood, and close the front hood.

Tightening torque:

4.5 N·m (0.5 kgf-m, 3.3 ft-lb)



C: INSPECTION

- 1) Check that the water pipe assembly has no deformation, cracks or other damages.
- 2) Check that the hose has no cracks, damage or loose part.