

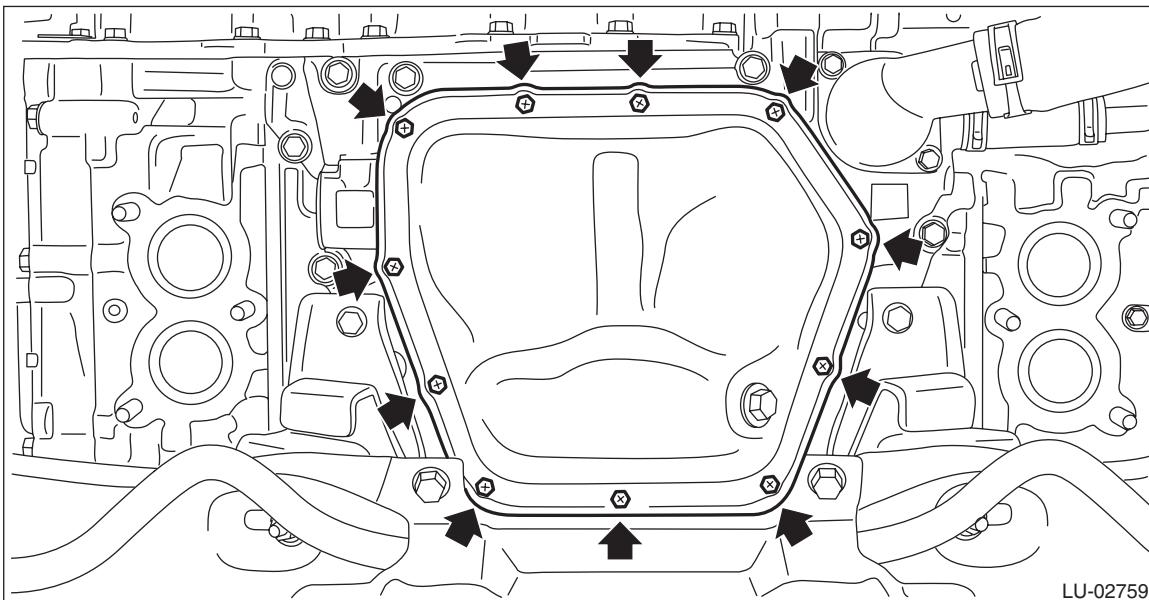
5. Oil Pan and Strainer

A: REMOVAL

1. OIL PAN

• Non-turbo model

- 1) Disconnect the ground cable from battery.
- 2) Lift up the vehicle.
- 3) Remove the under cover.<Ref. to EI-23, REMOVAL, Front Under Cover.>
- 4) Drain the engine oil.<Ref. to LU(H4DO)-13, REPLACEMENT, Engine Oil.>
- 5) Remove the front exhaust pipe.<Ref. to EX(H4DO)-6, REMOVAL, Front Exhaust Pipe.>
- 6) Remove the bolts which secure oil pan to oil pan upper.



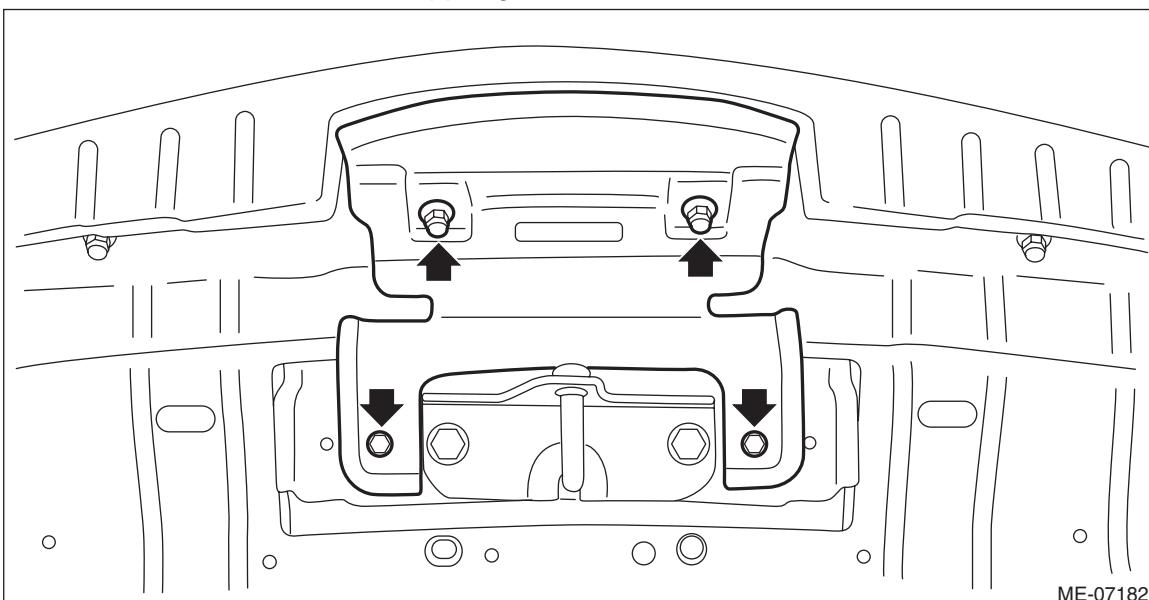
- 7) Insert an oil pan cutter blade into the gap between oil pan upper and oil pan, and remove the oil pan.

CAUTION:

Do not use a screwdriver or similar tool in place of oil pan cutter.

• Turbo model

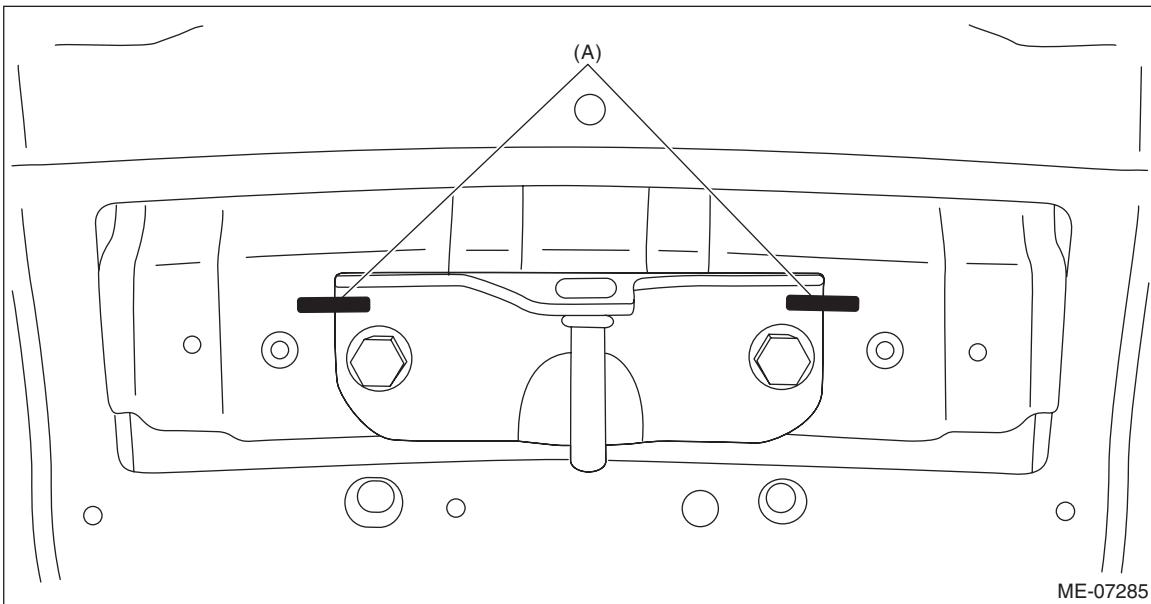
- 1) Open the front hood, and remove the upper grille bracket from the front hood.



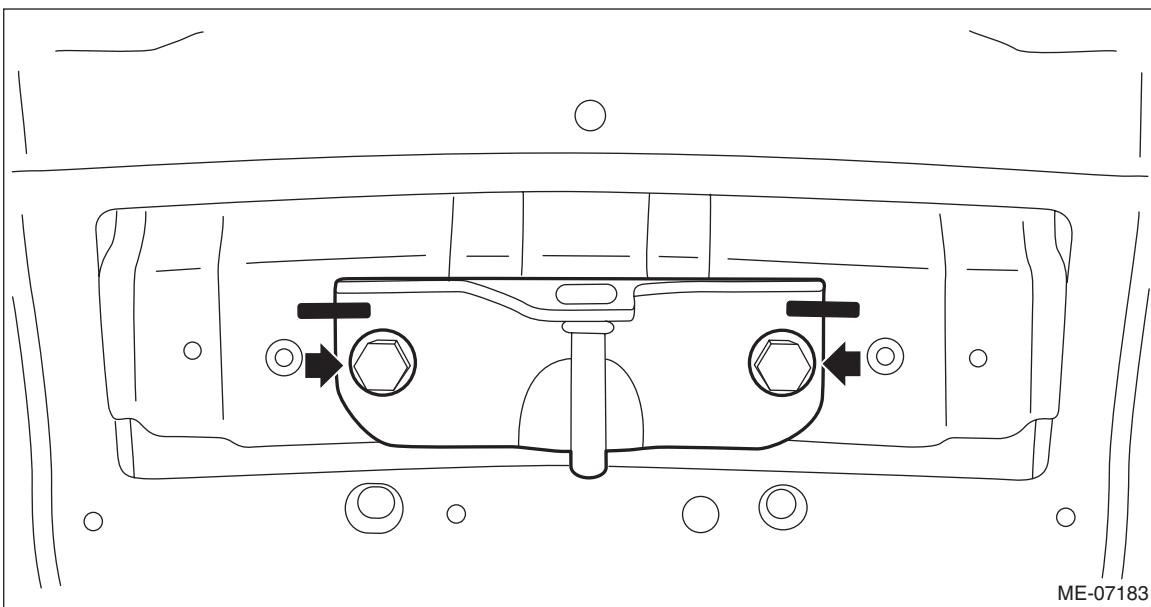
Oil Pan and Strainer

LUBRICATION

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



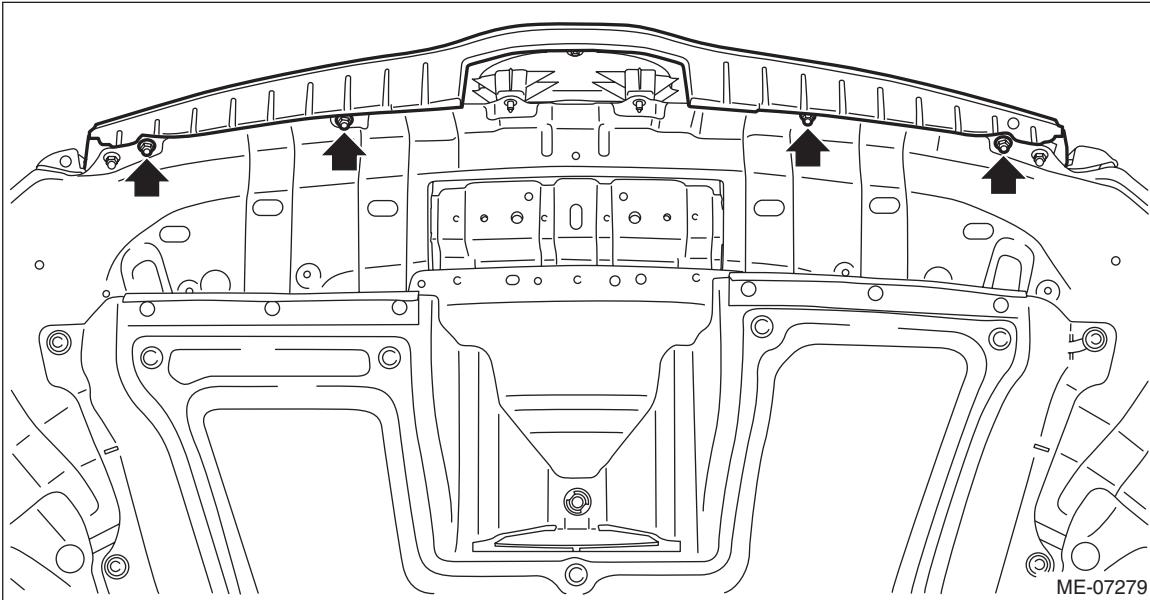
3) Remove the front hood striker from the front hood.



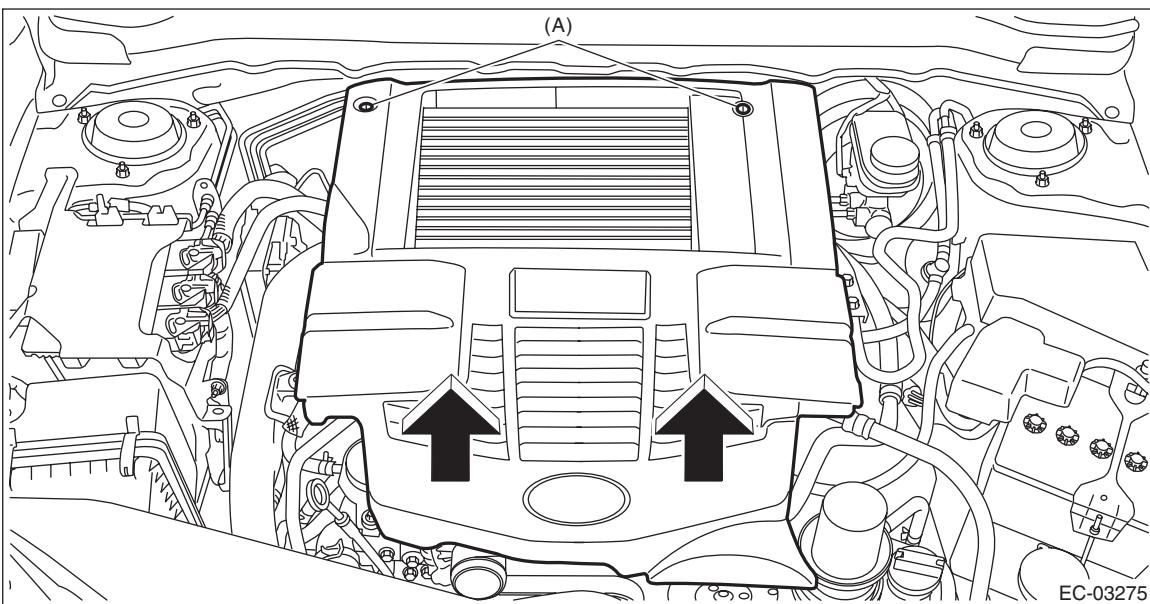
Oil Pan and Strainer

LUBRICATION

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



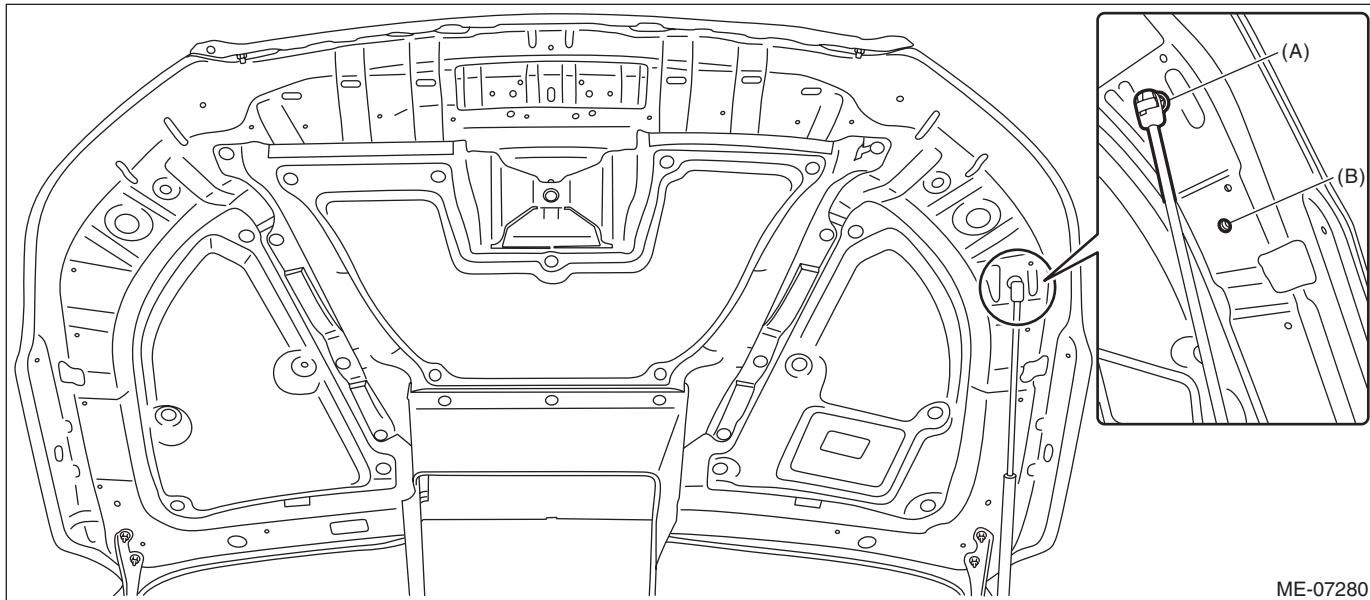
- 5) Remove the clip (A), lift the front of the collector cover in the direction of arrow, and then remove the collector cover.



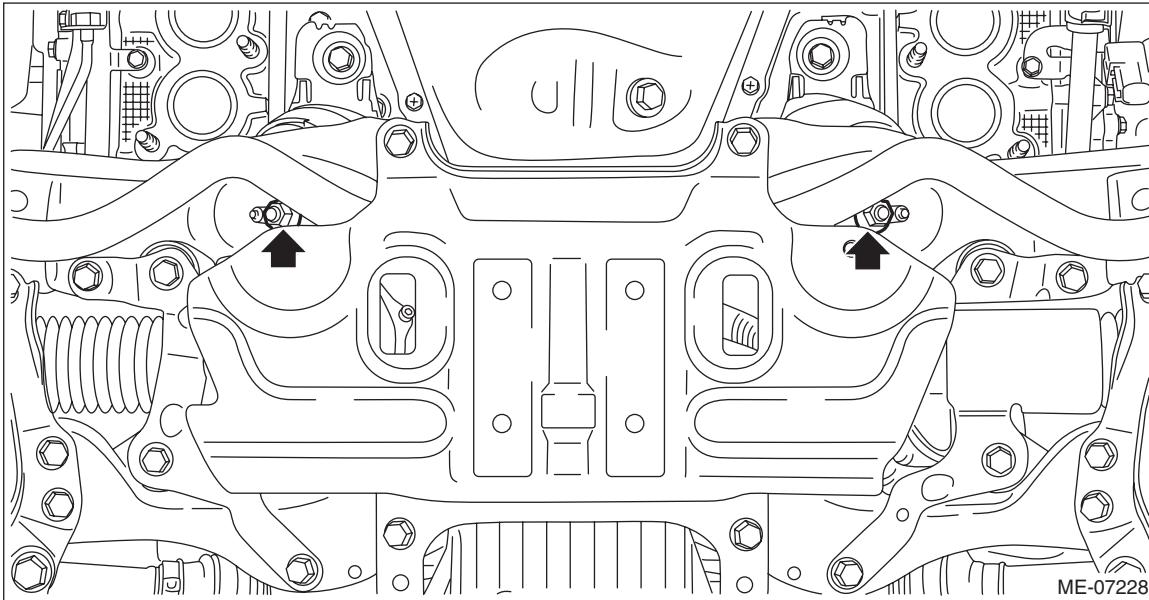
- 6) Change the front hood damper mounting position from (A) to (B), and completely open the front hood.

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 under cover.<Ref. to EI-23, REMOVAL, Front Under Cover.>
- 10) Drain the engine oil.<Ref. to LU(H4DO)-13, REPLACEMENT, Engine Oil.>
- 11) Remove the front exhaust pipe.<Ref. to EX(H4DOTC)-7, REMOVAL, Front Exhaust Pipe.>
- 12) Remove the nuts which secure the engine mounting to the front crossmember.

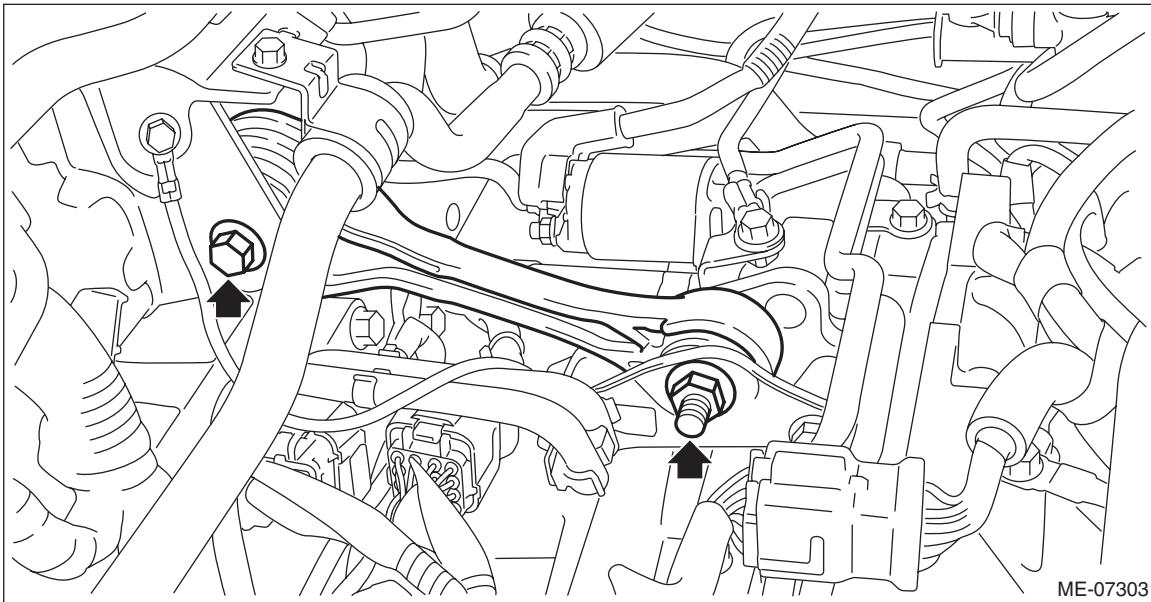


- 13) Lower the vehicle.
- 14) Remove the intercooler.<Ref. to IN(H4DOTC)-35, REMOVAL, Intercooler.>

Oil Pan and Strainer

LUBRICATION

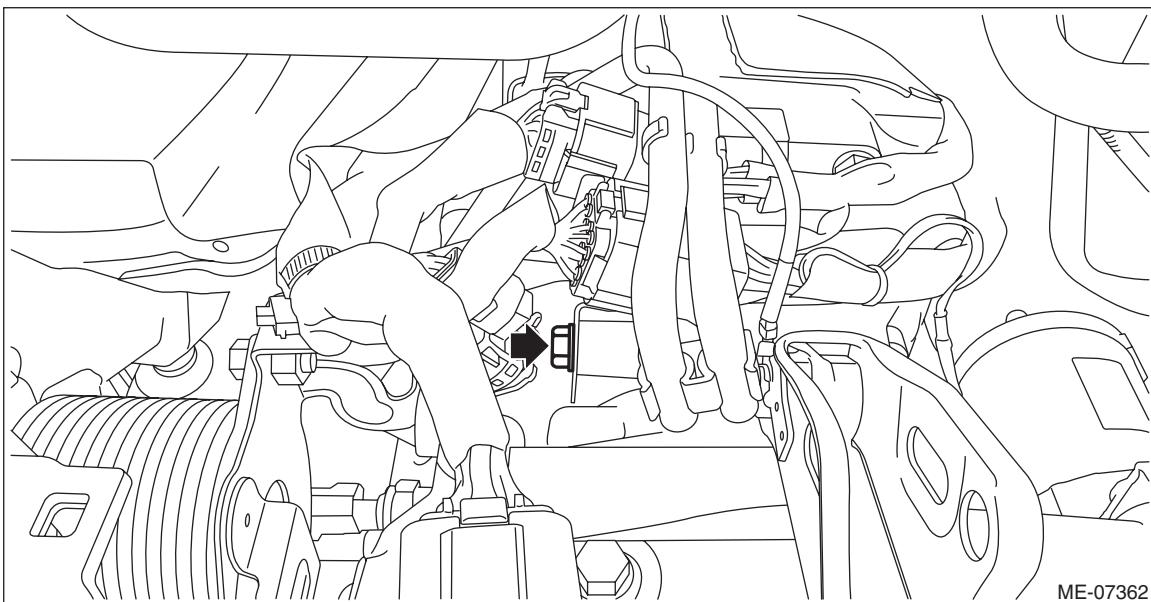
- 15) Remove the pitching stopper.



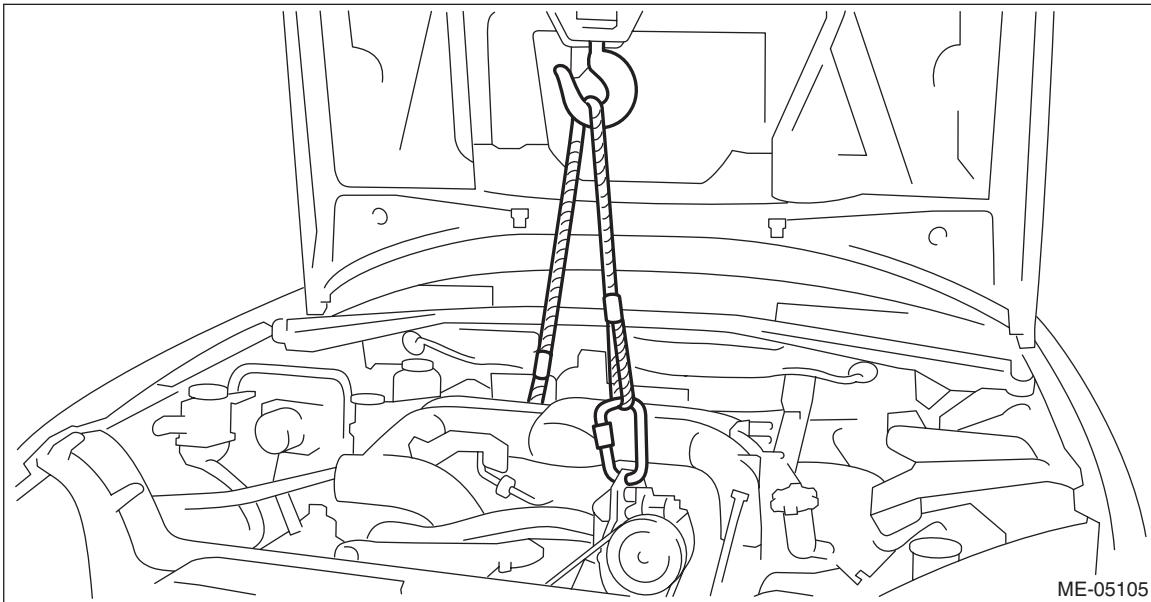
- 16) Remove the bolt securing the transmission harness stay to the CVT.

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:

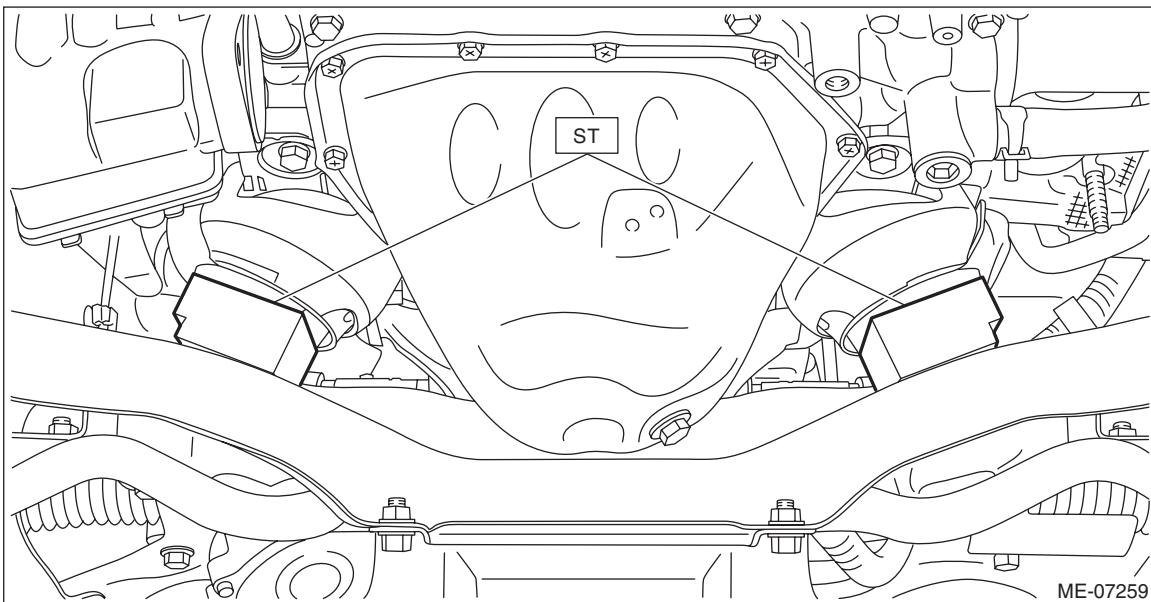
When lifting up the engine, pay attention to the clearance of each part and be careful not to lift the engine too much, in order to prevent damaging the vehicle.

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

CAUTION:

After lowering the engine, check that the ST does not come off even if the engine is bounced.

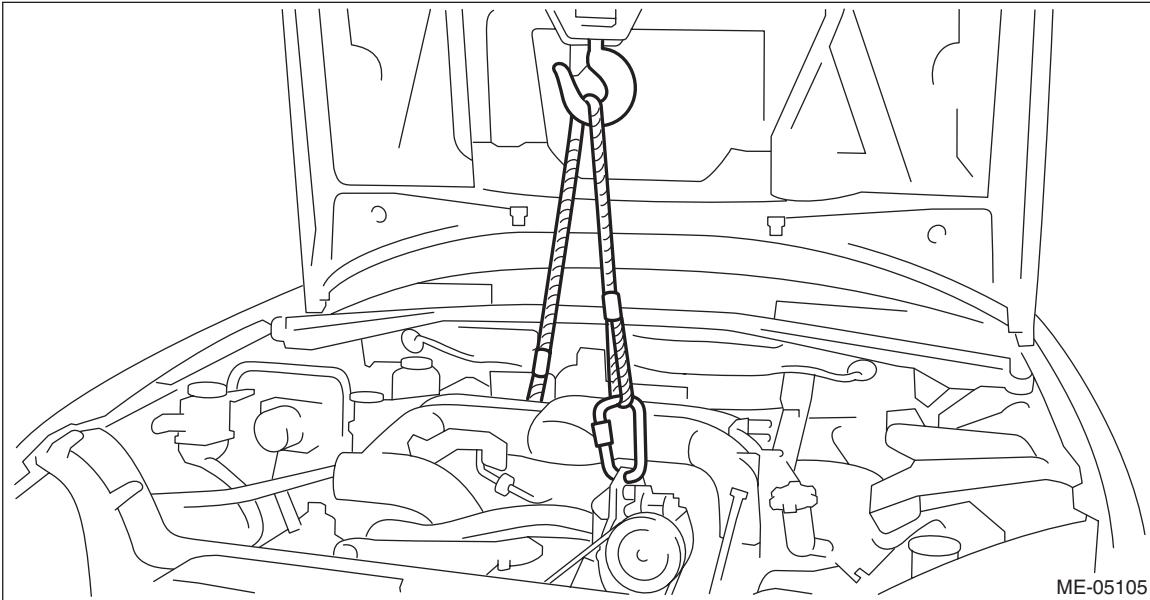
ST 18632AA020 STAND ASSY



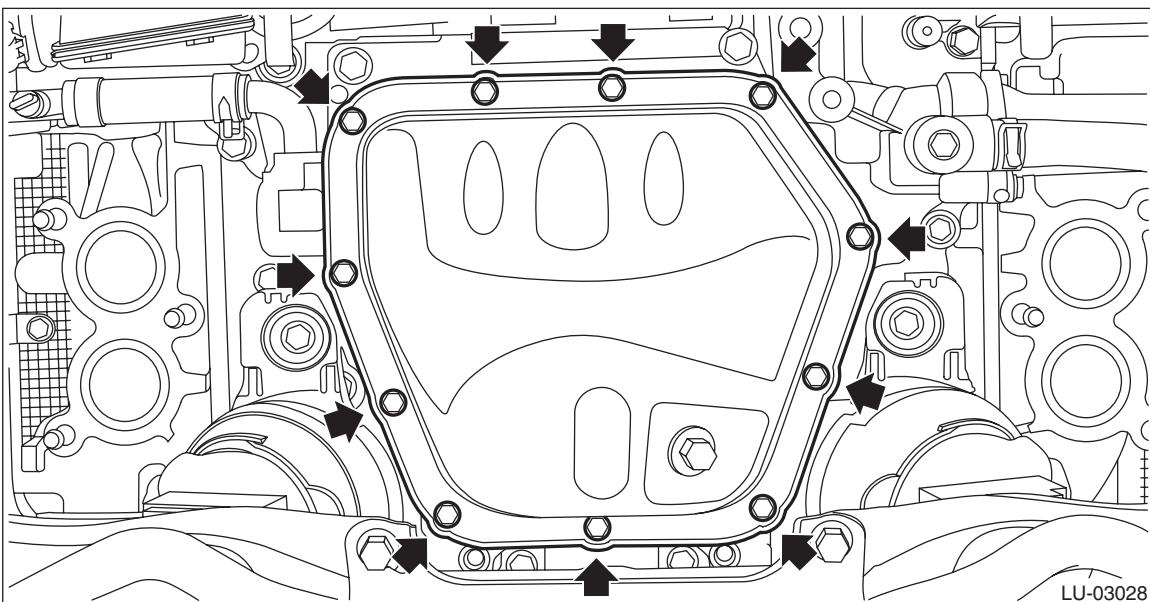
Oil Pan and Strainer

LUBRICATION

- 20) Remove the lifting device and wire ropes.



- 21) Lift up the vehicle.
- 22) Remove the bolts which secure oil pan to oil pan upper.



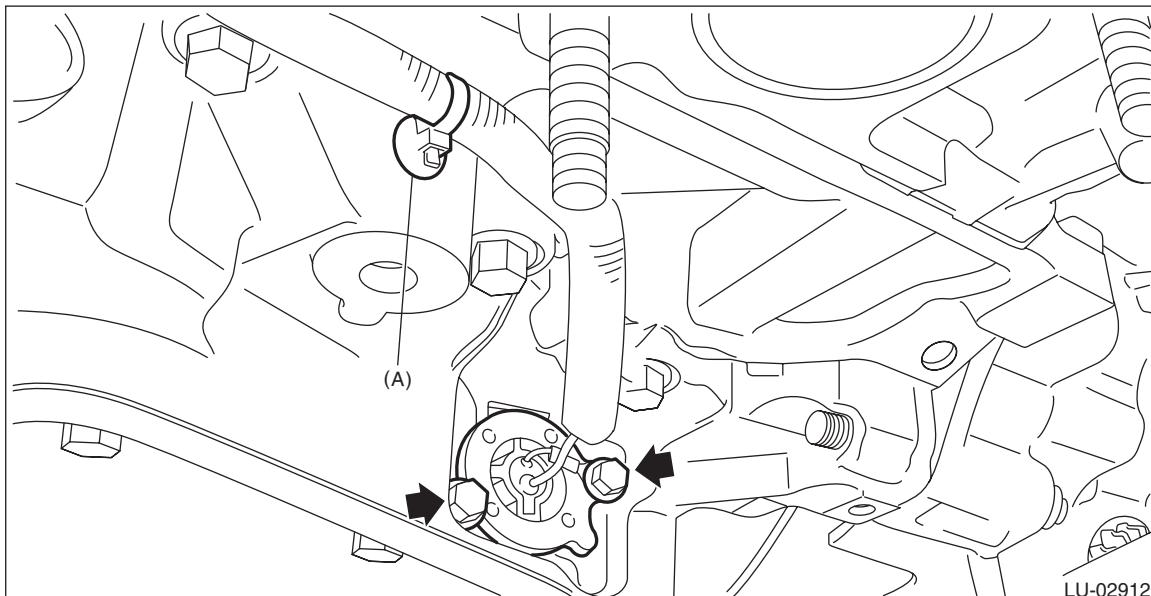
- 23) Insert an oil pan cutter blade into the gap between oil pan upper and oil pan, and remove the oil pan.

CAUTION:

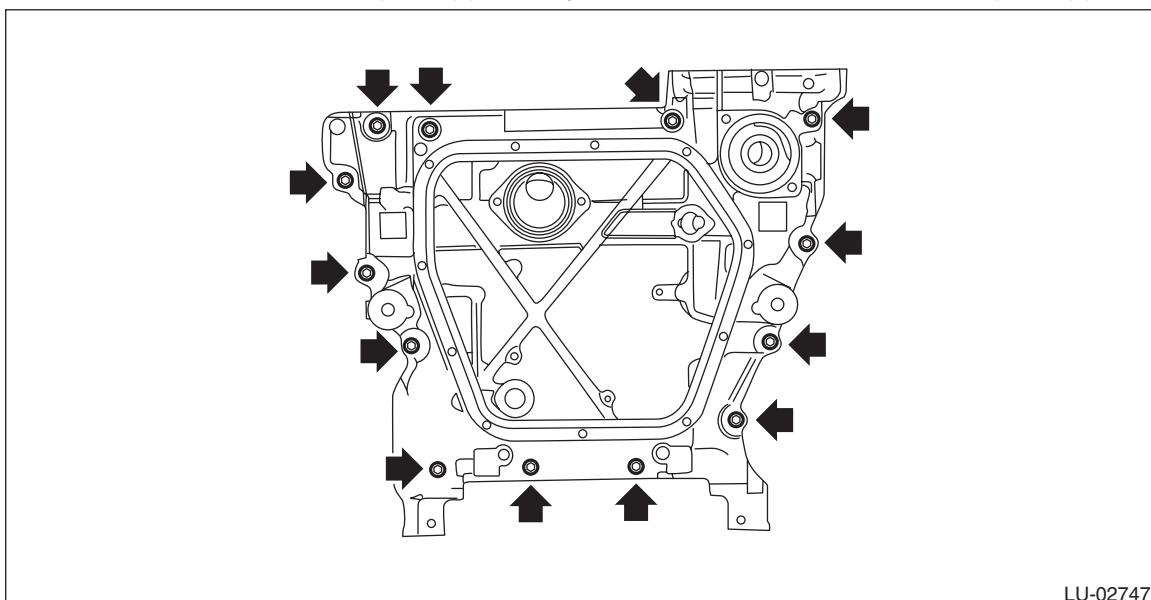
Do not use a screwdriver or similar tool in place of oil pan cutter.

2. OIL PAN UPPER

- 1) Remove the engine from the vehicle.<Ref. to ME(H4DO)-51, REMOVAL, Engine Assembly.> <Ref. to ME(H4DOTC)-46, REMOVAL, Engine Assembly.>
- 2) Remove the water pump.<Ref. to CO(H4DO)-17, REMOVAL, Water Pump.> <Ref. to CO(H4DOTC)-16, REMOVAL, Water Pump.>
- 3) Remove the thermostat cover.<Ref. to CO(H4DO)-40, REMOVAL, Thermostat.> <Ref. to CO(H4DOTC)-35, REMOVAL, Thermostat.>
- 4) Remove the water pipe assembly.<Ref. to CO(H4DO)-20, REMOVAL, Water Pipe Assembly.> <Ref. to CO(H4DOTC)-19, REMOVAL, Water Pipe Assembly.>
- 5) Remove the chain cover.<Ref. to ME(H4DO)-106, REMOVAL, Chain Cover.> <Ref. to ME(H4DOTC)-92, REMOVAL, Chain Cover.>
- 6) Remove the oil pan.<Ref. to LU(H4DO)-18, OIL PAN, REMOVAL, Oil Pan and Strainer.>
- 7) Remove clip (A) from the oil pan upper, and remove the oil level switch.



- 8) Remove the bolts which secure oil pan upper to cylinder block, and remove the oil pan upper.



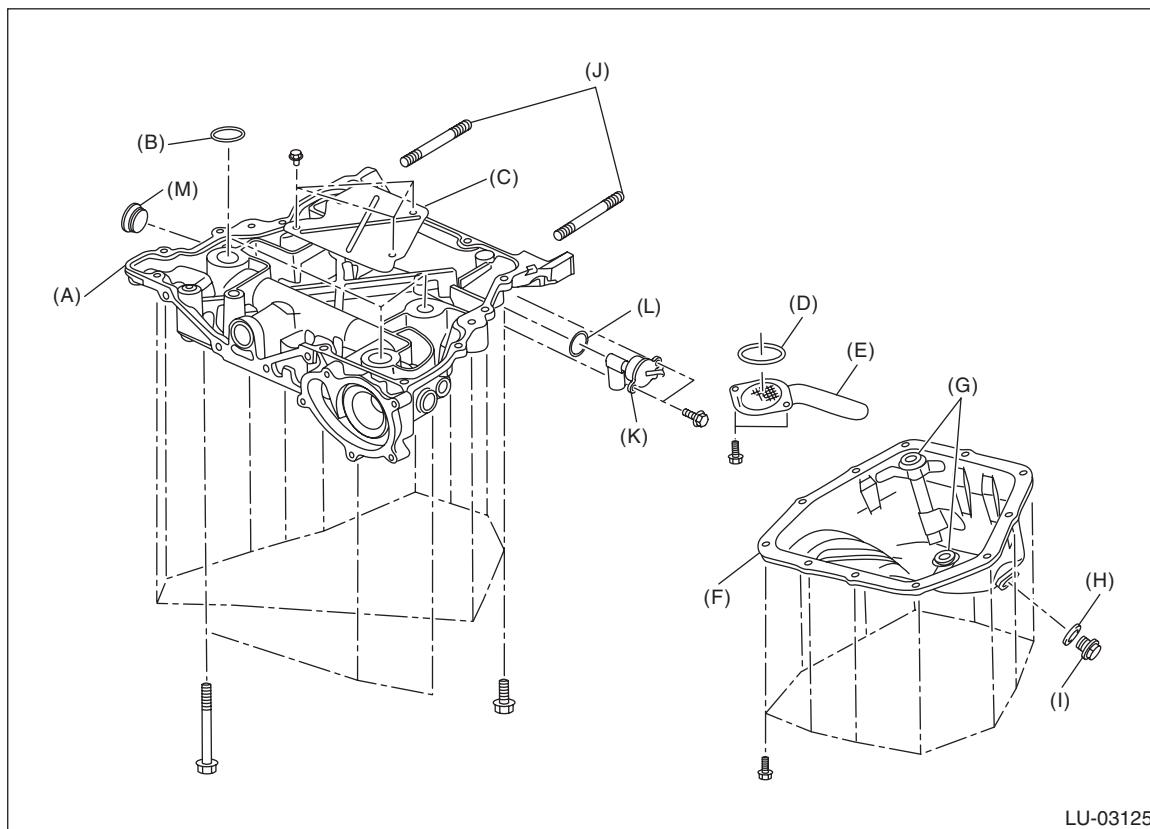
- 9) Remove the baffle plate from the oil pan upper.
- 10) Remove the oil strainer from the oil pan upper.
- 11) Remove stud bolts from the oil pan upper.

Oil Pan and Strainer

LUBRICATION

12) Remove the plug from the oil pan upper.

- Non-turbo model

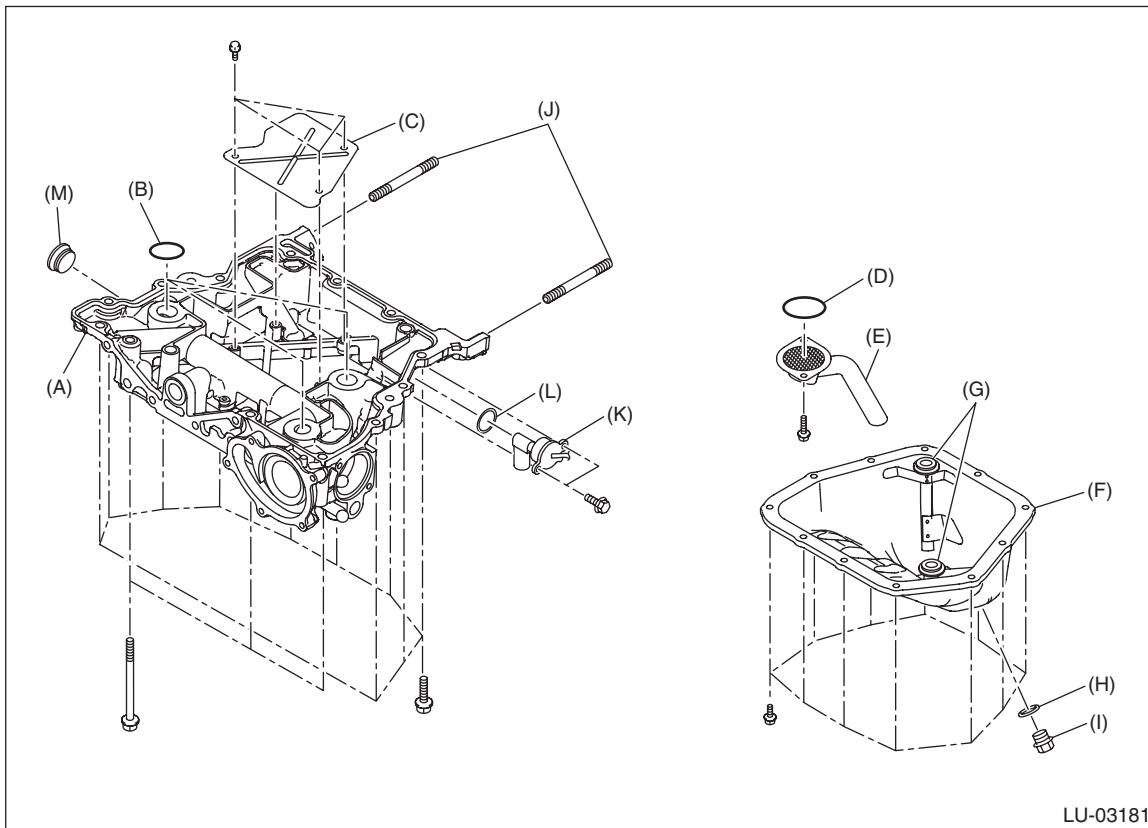


- | | | |
|-----------------------|-----------------------|------------------|
| (A) Oil pan upper | (B) O-ring | (C) Baffle plate |
| (D) O-ring | (E) Oil strainer | (F) Oil pan |
| (G) Oil pan seal ring | (H) Drain plug gasket | (I) Drain plug |
| (J) Stud bolt | (K) Oil level switch | (L) O-ring |
| (M) Plug | | |

Oil Pan and Strainer

LUBRICATION

- Turbo model



- | | | |
|-----------------------|-----------------------|------------------|
| (A) Oil pan upper | (B) O-ring | (C) Baffle plate |
| (D) O-ring | (E) Oil strainer | (F) Oil pan |
| (G) Oil pan seal ring | (H) Drain plug gasket | (I) Drain plug |
| (J) Stud bolt | (K) Oil level switch | (L) O-ring |
| (M) Plug | | |

B: INSTALLATION

1. OIL PAN

- Non-turbo model

NOTE:

- Before installing the oil pan, wipe and clean the mating surface of oil pan and oil pan upper.
- Use a new oil pan seal ring.

1) Apply liquid gasket to the mating surfaces of oil pan upper, and install the oil pan.

NOTE:

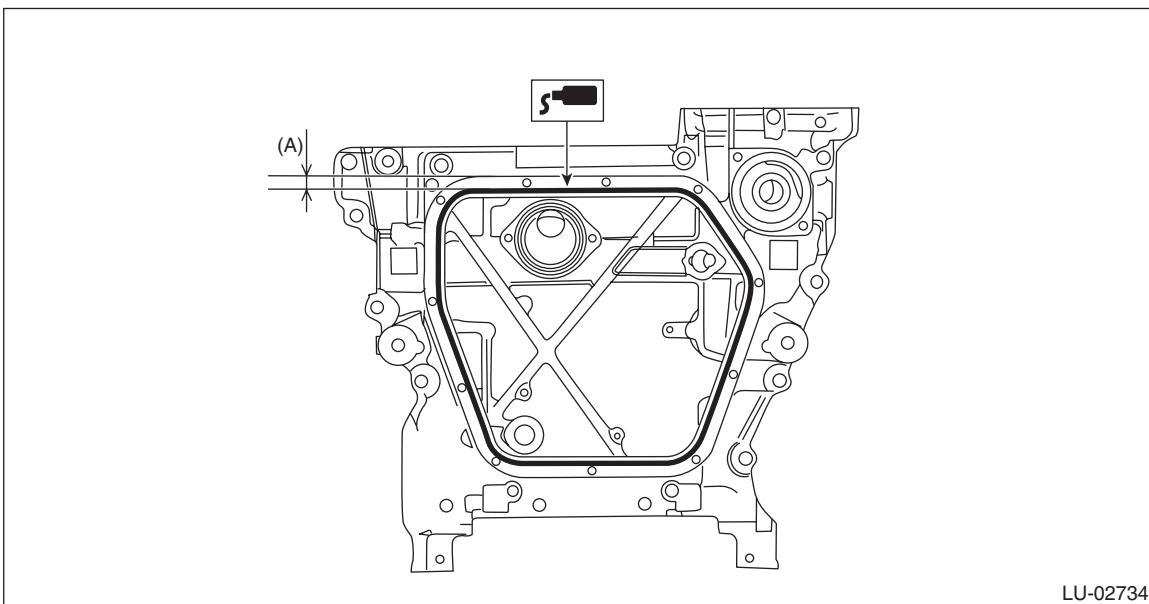
Install within 5 min. after applying liquid gasket.

Liquid gasket:

THREE BOND 1217G (Part No. K0877Y0100) or equivalent

Liquid gasket applying diameter:

5 ± 1 mm (0.1969 \pm 0.0394 in)



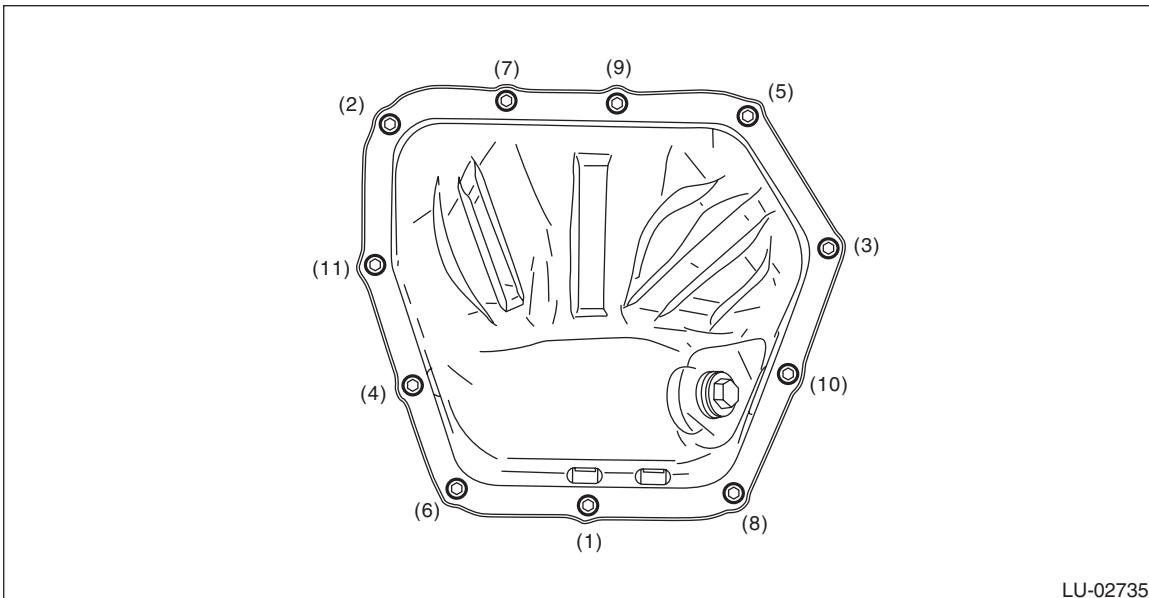
LU-02734

(A) 7.5 mm (0.295 in)

- 2) Tighten the bolts to install the oil pan to the oil pan upper in the numerical order.

Tightening torque:

6.4 N·m (0.7 kgf·m, 4.7 ft-lb)



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- 3) Install the front exhaust pipe.<Ref. to EX(H4DO)-8, INSTALLATION, Front Exhaust Pipe.>

- 4) Install the under cover.<Ref. to EI-23, INSTALLATION, Front Under Cover.>

- 5) Lower the vehicle.

- 6) Connect the battery ground terminal.

- 7) Refill the engine oil.<Ref. to LU(H4DO)-13, REPLACEMENT, Engine Oil.>

Oil Pan and Strainer

LUBRICATION

• Turbo model

NOTE:

- Before installing the oil pan, wipe and clean the mating surface of oil pan and oil pan upper.
- Use a new oil pan seal ring.

1) Apply liquid gasket to the mating surfaces of oil pan upper, and install the oil pan.

NOTE:

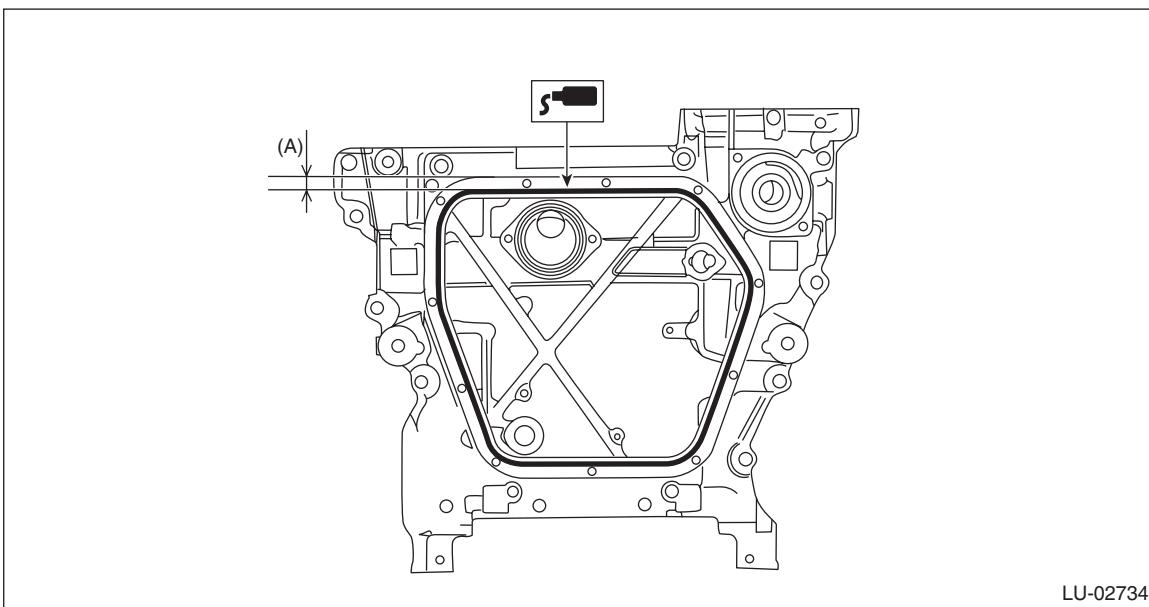
Install within 5 min. after applying liquid gasket.

Liquid gasket:

THREE BOND 1217G (Part No. K0877Y0100) or equivalent

Liquid gasket applying diameter:

$5 \pm 1 \text{ mm (0.1969} \pm 0.0394 \text{ in)}$

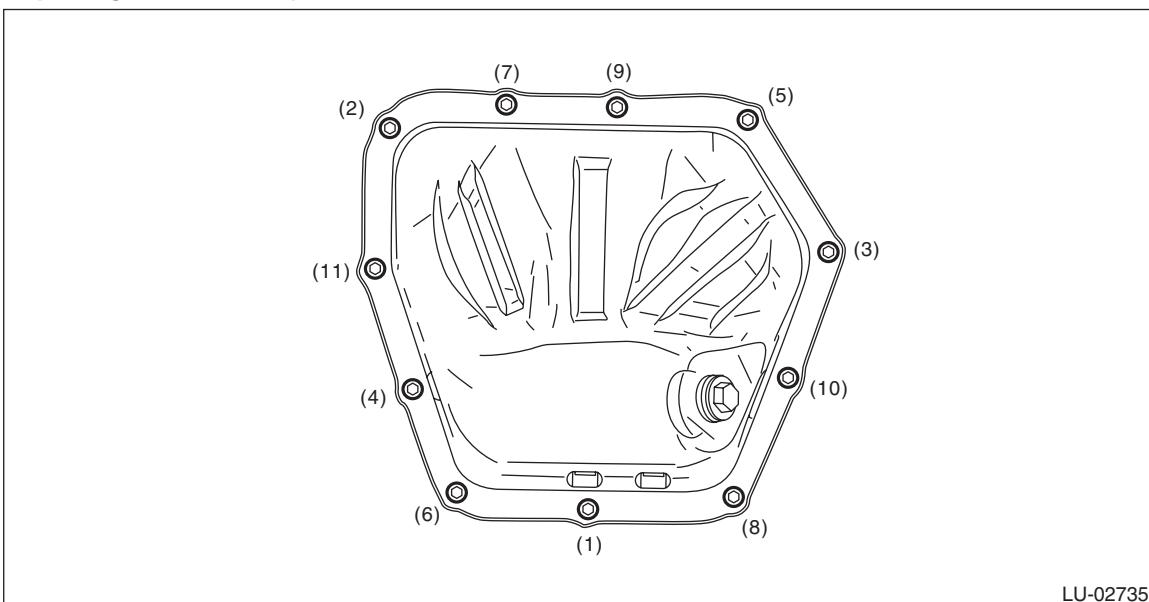


(A) 9.5 mm (0.374 in)

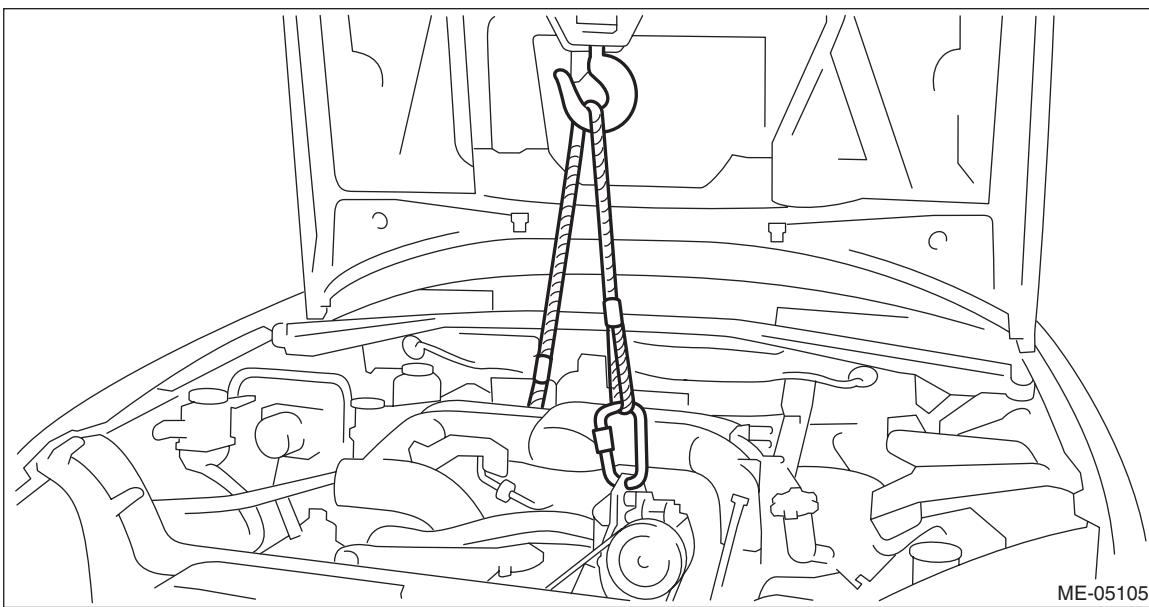
2) Tighten the bolts to install the oil pan to the oil pan upper in the numerical order.

Tightening torque:

6.4 N·m (0.7 kgf·m, 4.7 ft-lb)



- 3) Lower the vehicle.
- 4) Support the engine with a lifting device and wire ropes.

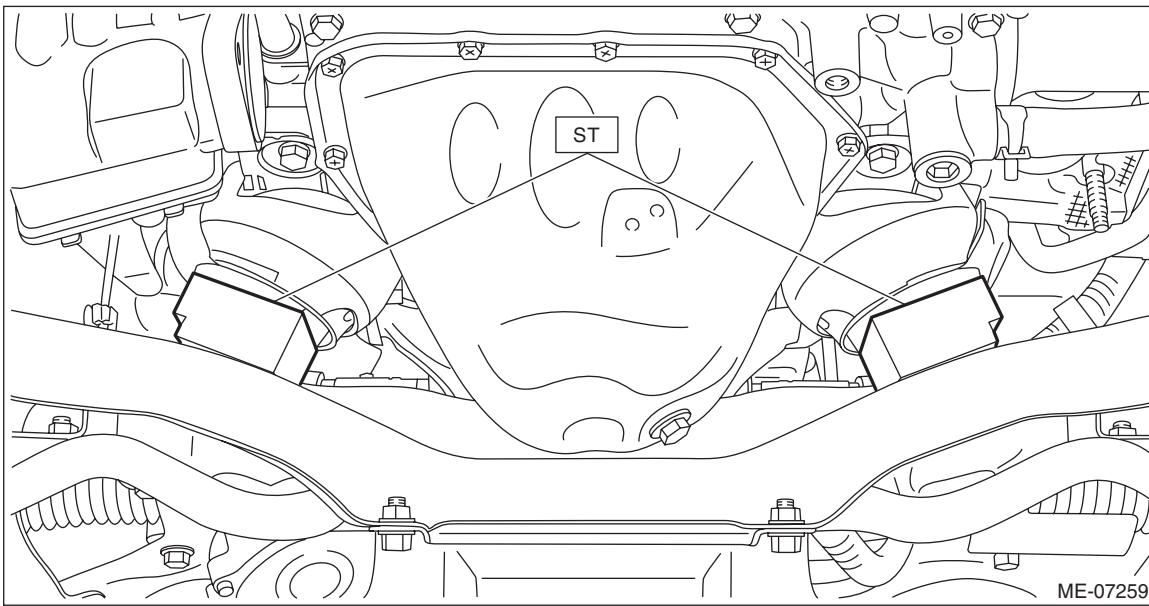


- 5) Lift the engine, and remove the ST.

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.

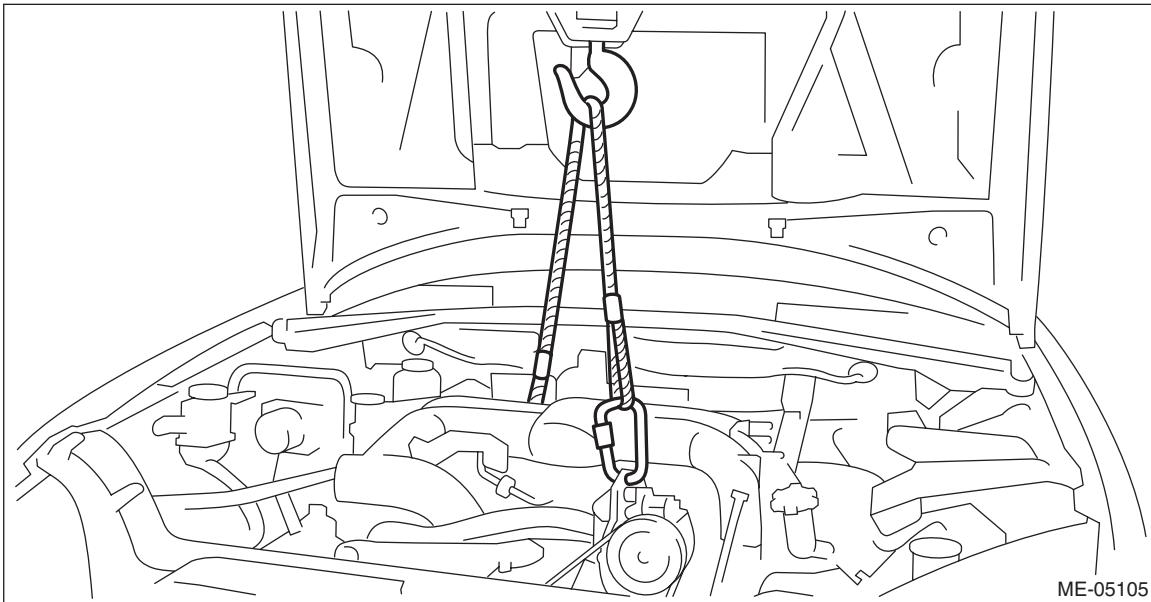
ST 18632AA020 STAND ASSY



Oil Pan and Strainer

LUBRICATION

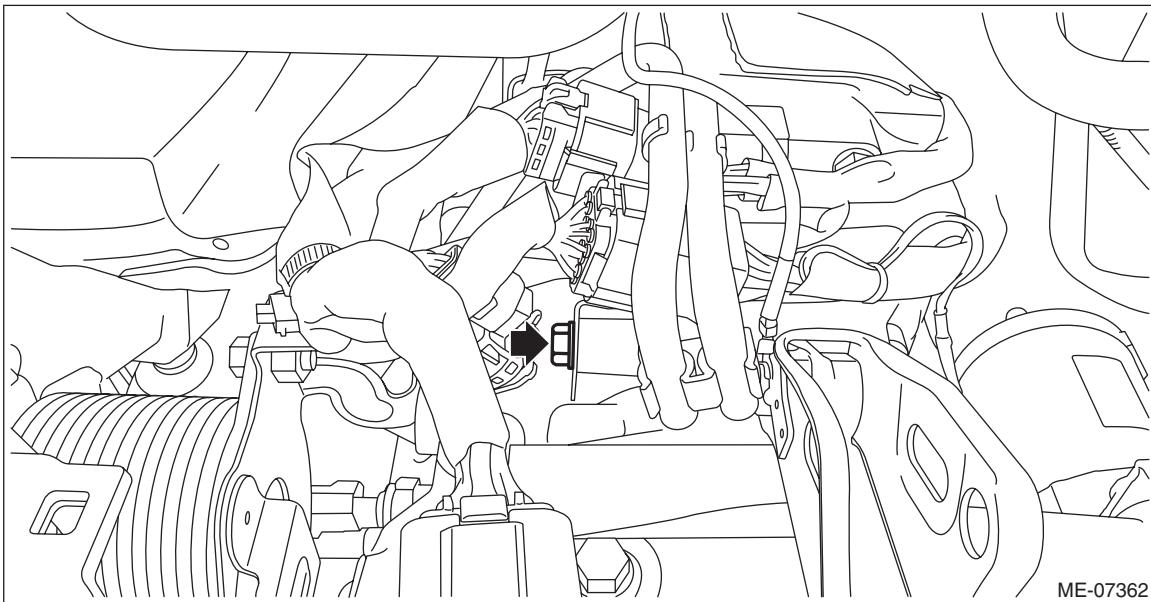
- 6) Lower the engine and remove the lifting device and wire ropes.



- 7) 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)

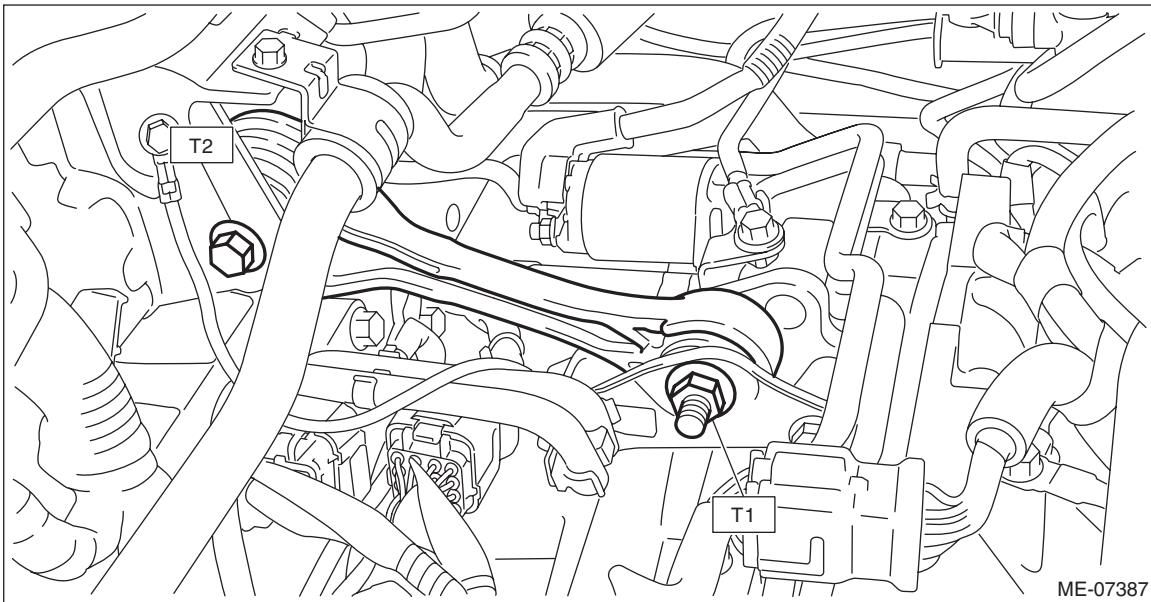


- 8) Install the pitching stopper.

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)



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

- 10) Lift up the vehicle.

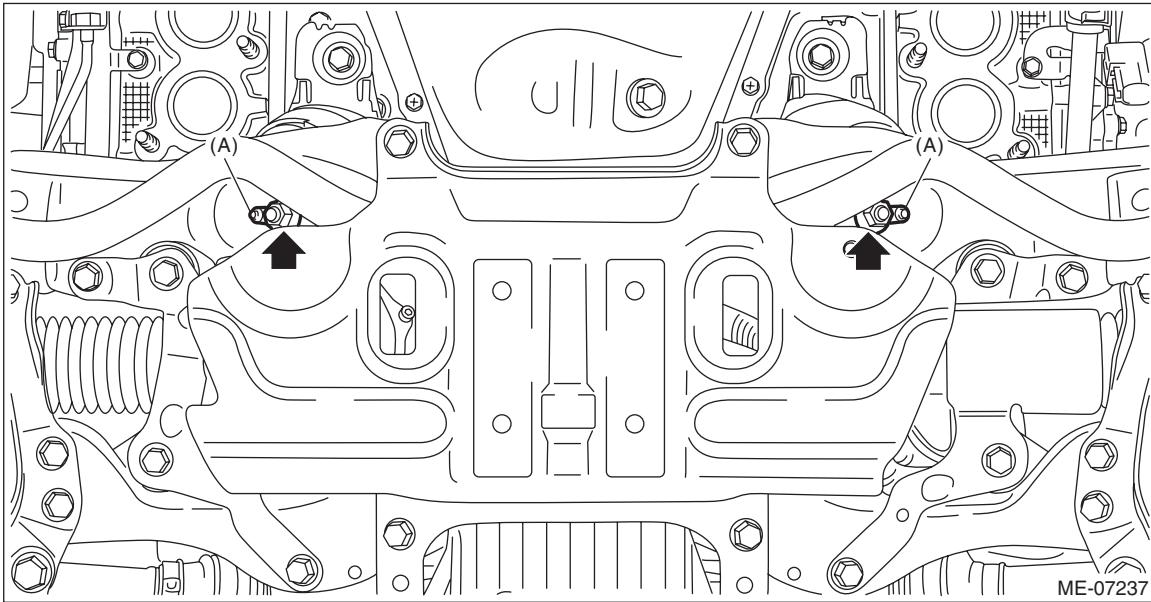
- 11) Install the nuts which hold the engine mounting to the crossmember.

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)



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

- 13) Install the under cover.<Ref. to EI-23, INSTALLATION, Front Under Cover.>

- 14) Lower the vehicle.

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

- 16) Connect the battery ground terminal.

- 17) Refill the engine oil.<Ref. to LU(H4DO)-13, REPLACEMENT, Engine Oil.>

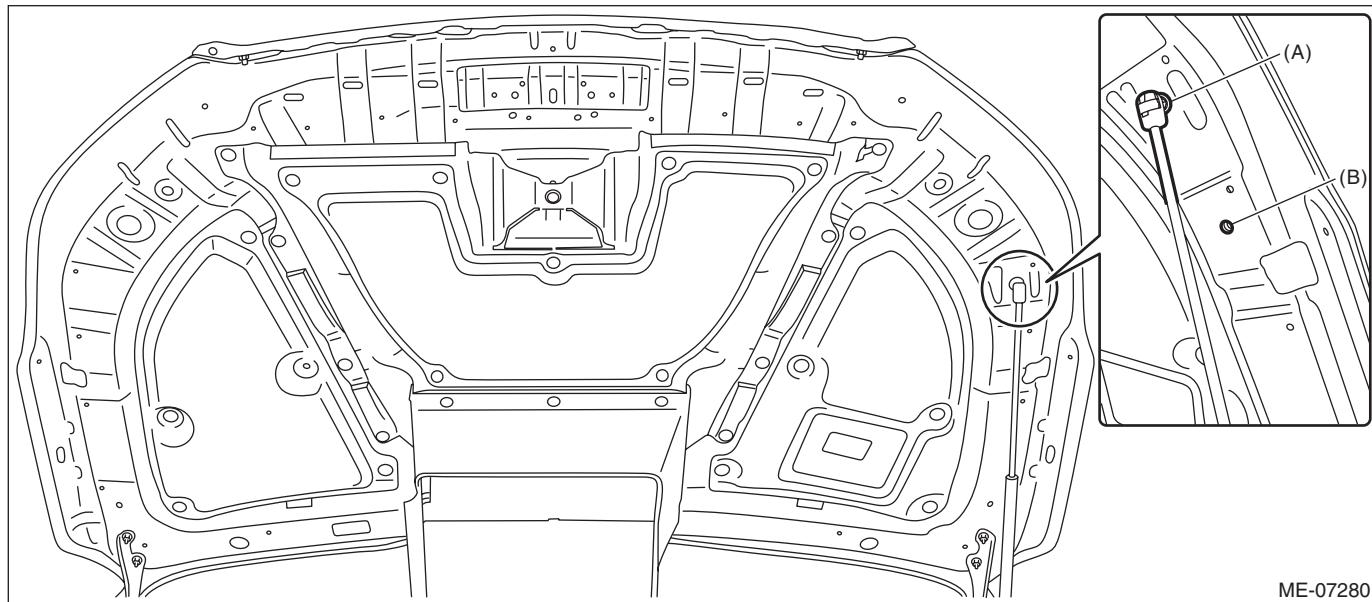
Oil Pan and Strainer

LUBRICATION

- 18) Install the collector cover.
- 19) Change the installation position of the front hood damper from (B) to (A).

Tightening torque:

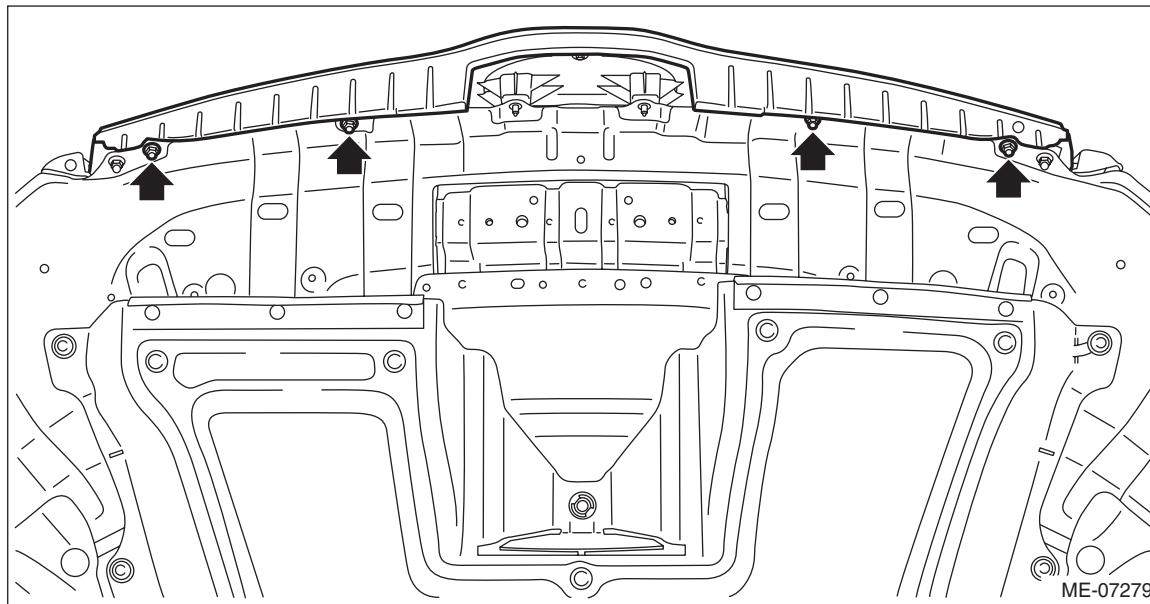
20 N·m (2.0 kgf·m, 14.8 ft-lb)



- 20) Install the front center grille assembly to the front hood.

Tightening torque:

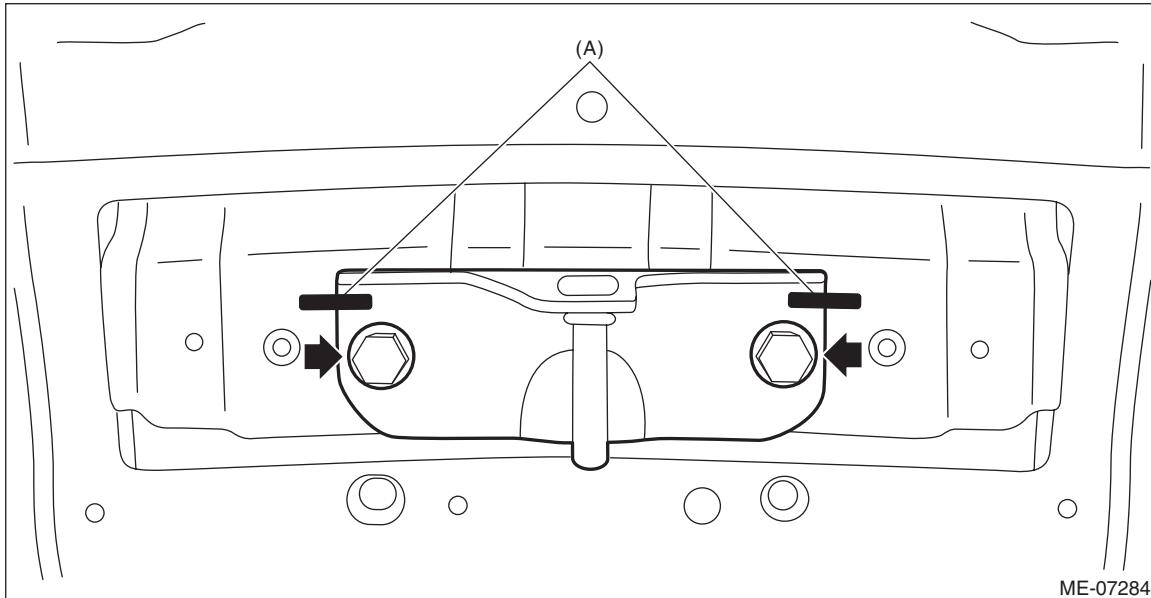
4.5 N·m (0.5 kgf·m, 3.3 ft-lb)



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

Tightening torque:

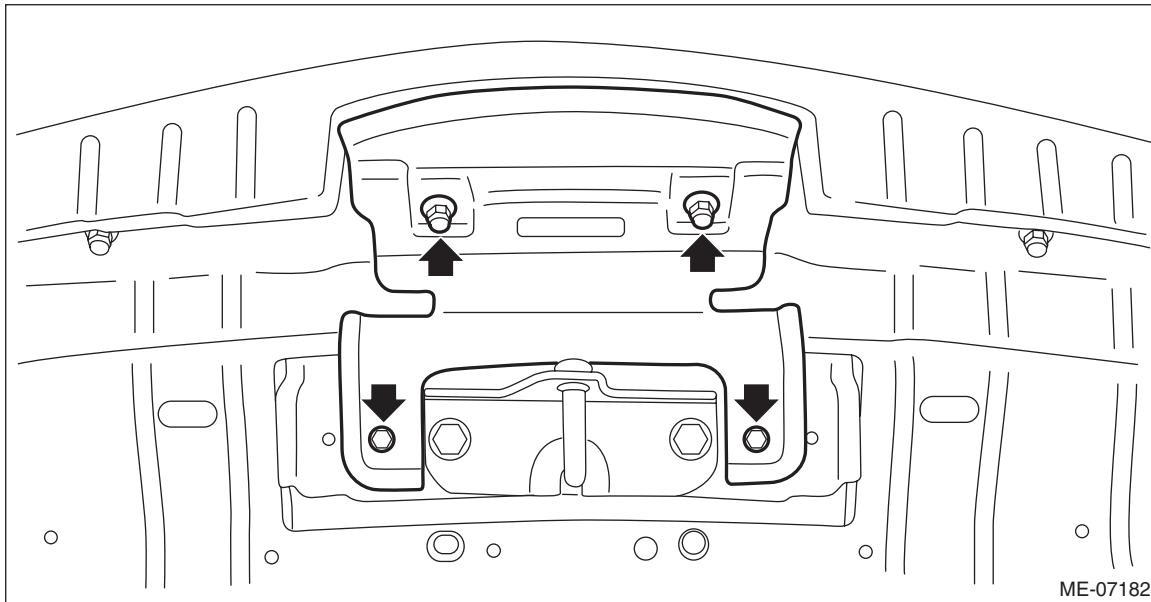
33 N·m (3.4 kgf·m, 24.3 ft-lb)



- 22) 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)



Oil Pan and Strainer

LUBRICATION

2. OIL PAN UPPER

NOTE:

Before installing the oil pan upper, clean the mating surface of oil pan upper and cylinder block.

- 1) Apply liquid gasket to the plug threads.

Liquid gasket:

THREE BOND 2411 or equivalent

- 2) Attach the plug to the oil pan upper.
- 3) Attach the stud bolts to the oil pan upper.
- 4) Attach the oil strainer to the oil pan upper.

NOTE:

Use new O-rings.

- 5) Attach the baffle plate to the oil pan upper.

- Non-turbo model

Tightening torque:

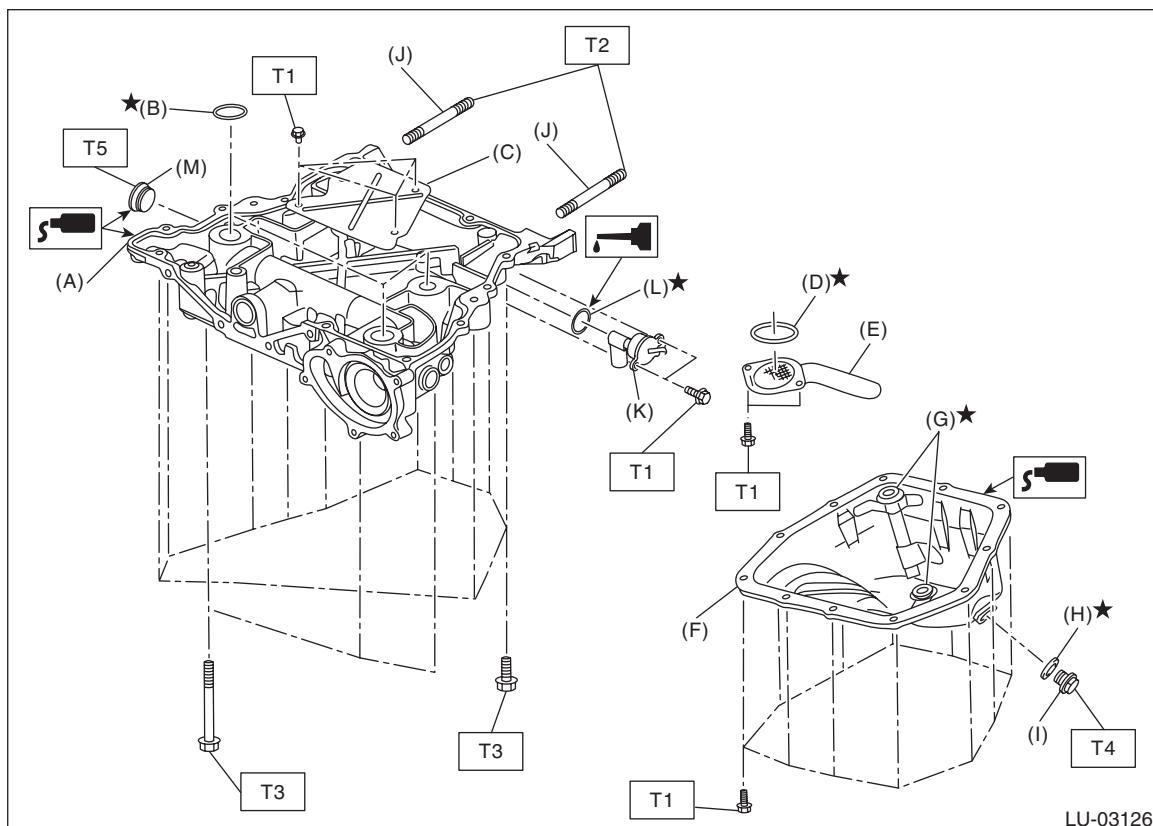
T1: 6.4 N·m (0.7 kgf-m, 4.7 ft-lb)

T2: 10 N·m (1.0 kgf-m, 7.4 ft-lb)

T3: 18 N·m (1.8 kgf-m, 13.3 ft-lb)

T4: 41.7 N·m (4.3 kgf-m, 30.8 ft-lb)

T5: 90 N·m (9.2 kgf-m, 66.4 ft-lb)



(A) Oil pan upper

(B) O-ring

(C) Baffle plate

(D) O-ring

(E) Oil strainer

(F) Oil pan

(G) Oil pan seal ring

(H) Drain plug gasket

(I) Drain plug

(J) Stud bolt

(K) Oil level switch

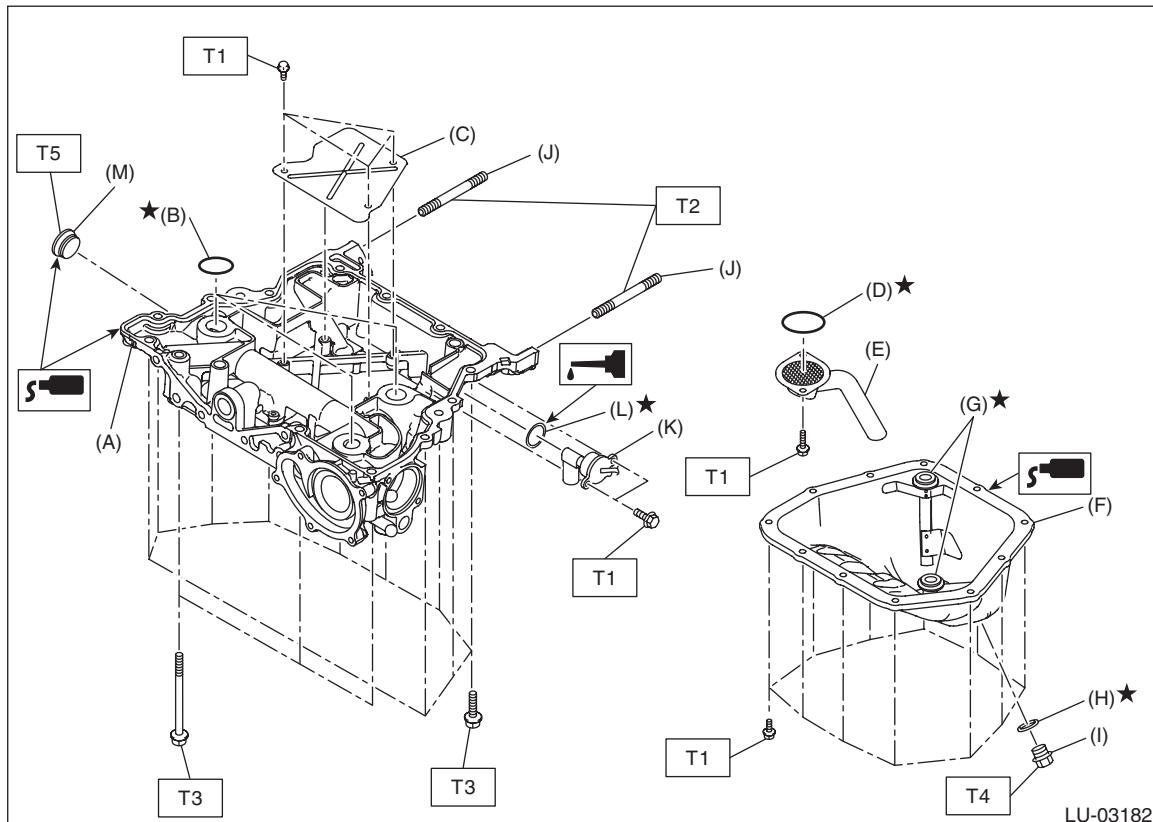
(L) O-ring

(M) Plug

- Turbo model

Tightening torque:

- T1: 6.4 N·m (0.7 kgf-m, 4.7 ft-lb)**
T2: 10 N·m (1.0 kgf-m, 7.4 ft-lb)
T3: 18 N·m (1.8 kgf-m, 13.3 ft-lb)
T4: 41.7 N·m (4.3 kgf-m, 30.8 ft-lb)
T5: 90 N·m (9.2 kgf-m, 66.4 ft-lb)



- | | | |
|-----------------------|-----------------------|------------------|
| (A) Oil pan upper | (B) O-ring | (C) Baffle plate |
| (D) O-ring | (E) Oil strainer | (F) Oil pan |
| (G) Oil pan seal ring | (H) Drain plug gasket | (I) Drain plug |
| (J) Stud bolt | (K) Oil level switch | (L) O-ring |
| (M) Plug | | |

Oil Pan and Strainer

LUBRICATION

6) Apply liquid gasket to the mating surface of the oil pan upper as shown in the figure, and install the oil pan upper to the cylinder block.

CAUTION:

Be careful not to apply any liquid gasket to the O-ring.

NOTE:

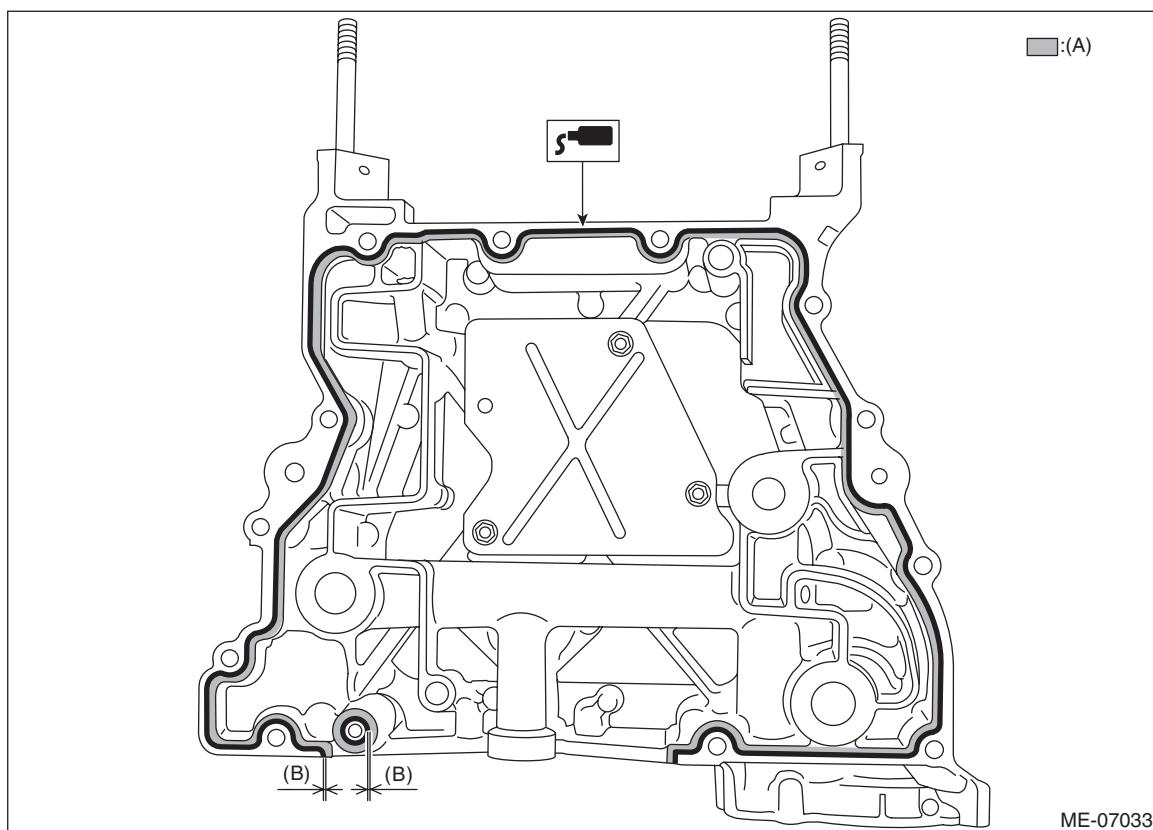
- Use new O-rings.
- Install within 5 min. after applying liquid gasket.
- Apply liquid gasket 1.5 mm (0.0591 in) outside from the chamfer surface. However, application of liquid gasket on the chamfer surface around the bolt hole is allowed.

Liquid gasket:

THREE BOND 1217G (Part No. K0877Y0100) or equivalent

Liquid gasket applying diameter:

5 ± 1 mm (0.1969 \pm 0.0394 in)



(A) Chamfer surface

(B) 1.5 mm (0.0591 in)

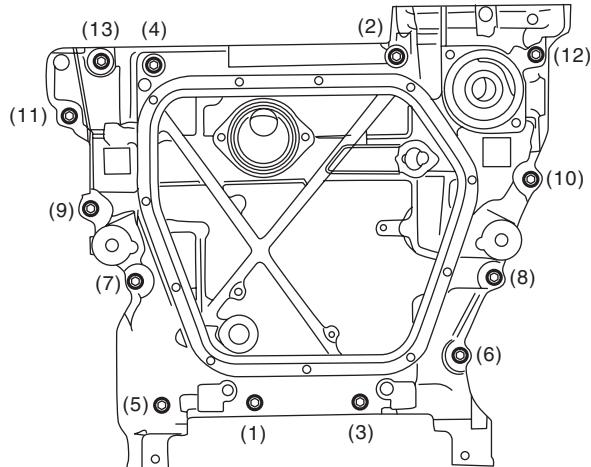
7) Set the oil pan upper to the cylinder block, and tighten the bolts in numerical order as shown in the figure.

NOTE:

After tightening, if the liquid gasket is squeezed out onto the seal surface of the chain cover, completely remove any squeezed-out liquid gasket.

Tightening torque:

18 N·m (1.8 kgf·m, 13.3 ft-lb)



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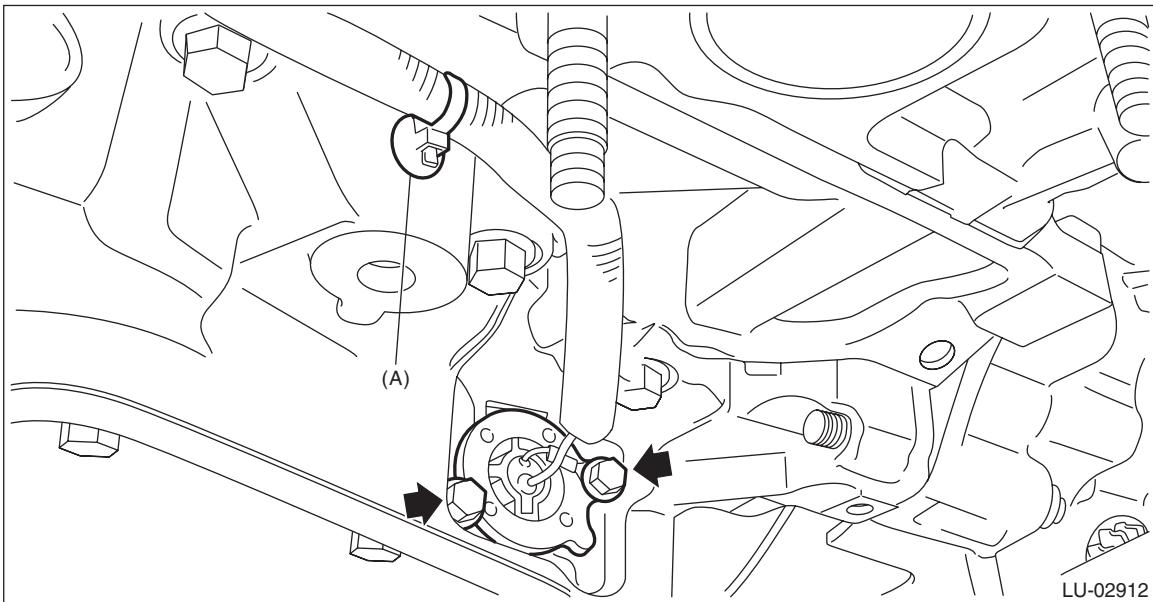
8) Install the oil level switch on the oil pan upper, and secure the harness with clips (A).

NOTE:

- Use new O-rings.
- Apply a coat of engine oil to the O-rings.

Tightening torque:

6.4 N·m (0.7 kgf·m, 4.7 ft-lb)



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Oil Pan and Strainer

LUBRICATION

- 9) Install the oil pan.<Ref. to LU(H4DO)-28, OIL PAN, INSTALLATION, Oil Pan and Strainer.>
- 10) Install the chain cover.<Ref. to ME(H4DO)-111, INSTALLATION, Chain Cover.> <Ref. to ME(H4DOTC)-99, INSTALLATION, Chain Cover.>
- 11) Install the water pipe assembly.<Ref. to CO(H4DO)-30, INSTALLATION, Water Pipe Assembly.> <Ref. to CO(H4DOTC)-27, INSTALLATION, Water Pipe Assembly.>
- 12) Install the thermostat cover.<Ref. to CO(H4DO)-45, INSTALLATION, Thermostat.> <Ref. to CO(H4DOTC)-36, INSTALLATION, Thermostat.>
- 13) Install the water pump.<Ref. to CO(H4DO)-18, INSTALLATION, Water Pump.> <Ref. to CO(H4DOTC)-17, INSTALLATION, Water Pump.>
- 14) Install the engine to the vehicle.<Ref. to ME(H4DO)-69, INSTALLATION, Engine Assembly.> <Ref. to ME(H4DOTC)-61, INSTALLATION, Engine Assembly.>
- 15) Refill the engine oil.<Ref. to LU(H4DO)-13, REPLACEMENT, Engine Oil.>

C: INSPECTION

Check that the oil pan, oil pan upper, oil strainer and baffle plate do not have deformation, cracks or damage.