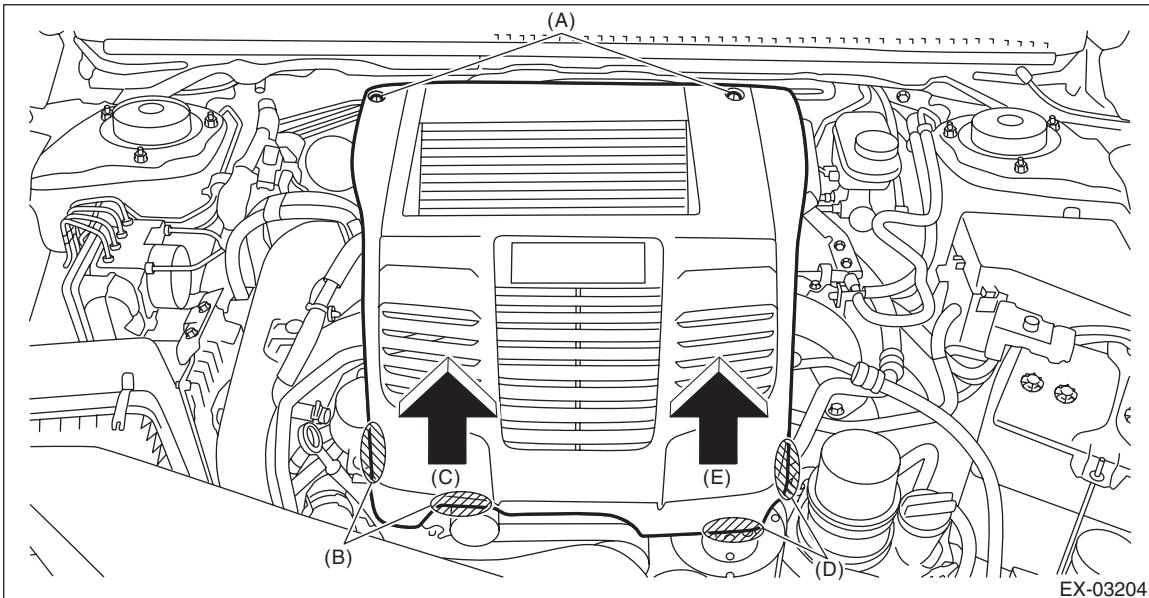


## 5. Oil Pan and Strainer

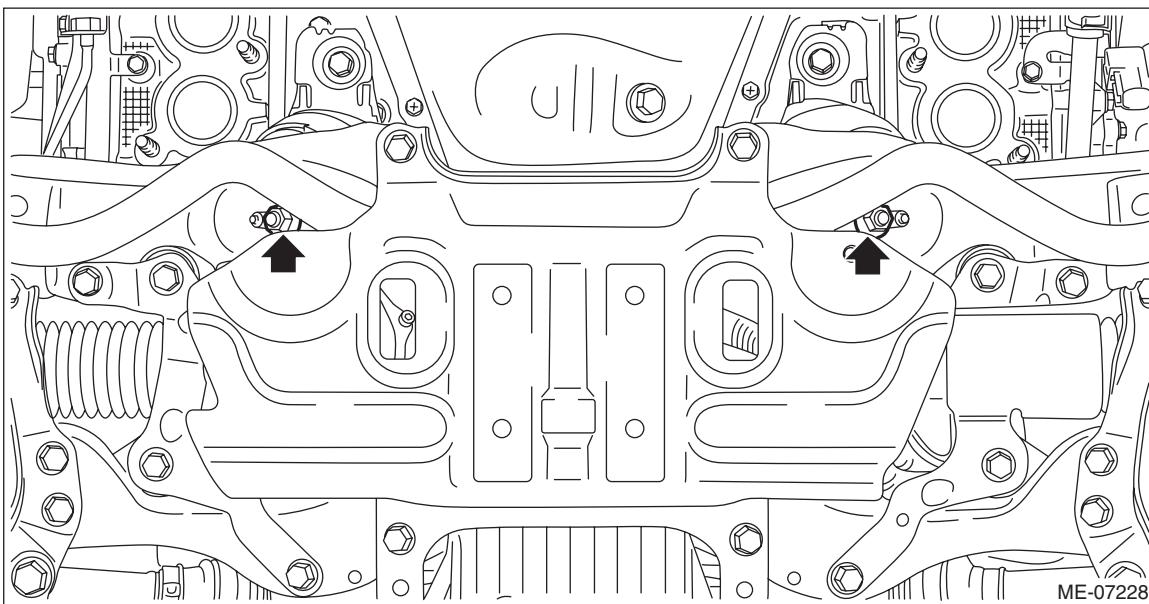
### A: REMOVAL

#### 1. OIL PAN AND STRAINER

- 1) Remove the striker - front hood. <Ref. to EB-11, DISASSEMBLY, Front Hood.>
- 2) Fully open the front hood. <Ref. to NT-20, FRONT HOOD DAMPER STAY, NOTE, Note.>
- 3) Remove the collector cover.
  - (1) Remove the clips (A).
  - (2) Hold the shaded area (B) by hand and carefully pull the RH side (C) upward.
  - (3) Hold the shaded area (D) by hand and carefully pull the LH side (E) upward.



- 4) Disconnect the ground terminal from battery sensor. <Ref. to NT-5, BATTERY, NOTE, Note.>
- 5) Remove the air intake duct. <Ref. to IN(w/o STI)-22, REMOVAL, Air Intake Duct.>
- 6) Remove the under cover. <Ref. to EI-21, REMOVAL, Front Under Cover.>
- 7) Drain the engine oil. <Ref. to LU(w/o STI)-11, REPLACEMENT, Engine Oil.>
- 8) Remove the front exhaust pipe. <Ref. to EX(w/o STI)-9, REMOVAL, Front Exhaust Pipe.>
- 9) Remove the nuts which secure the engine mounting to the front crossmember.

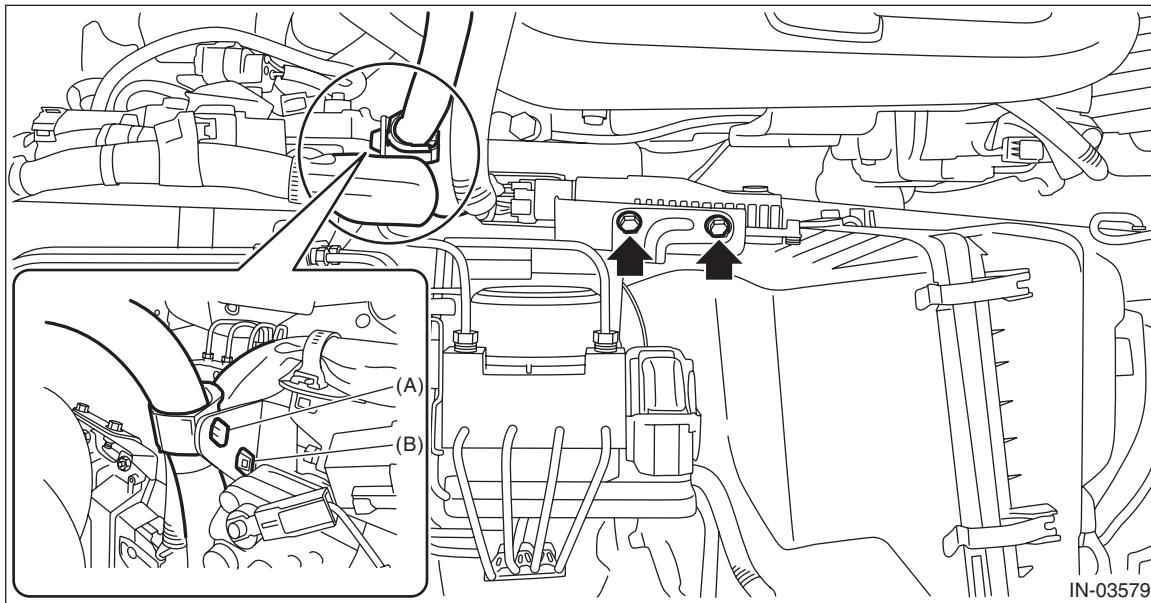


- 10) Lower the vehicle.

## Oil Pan and Strainer

### LUBRICATION

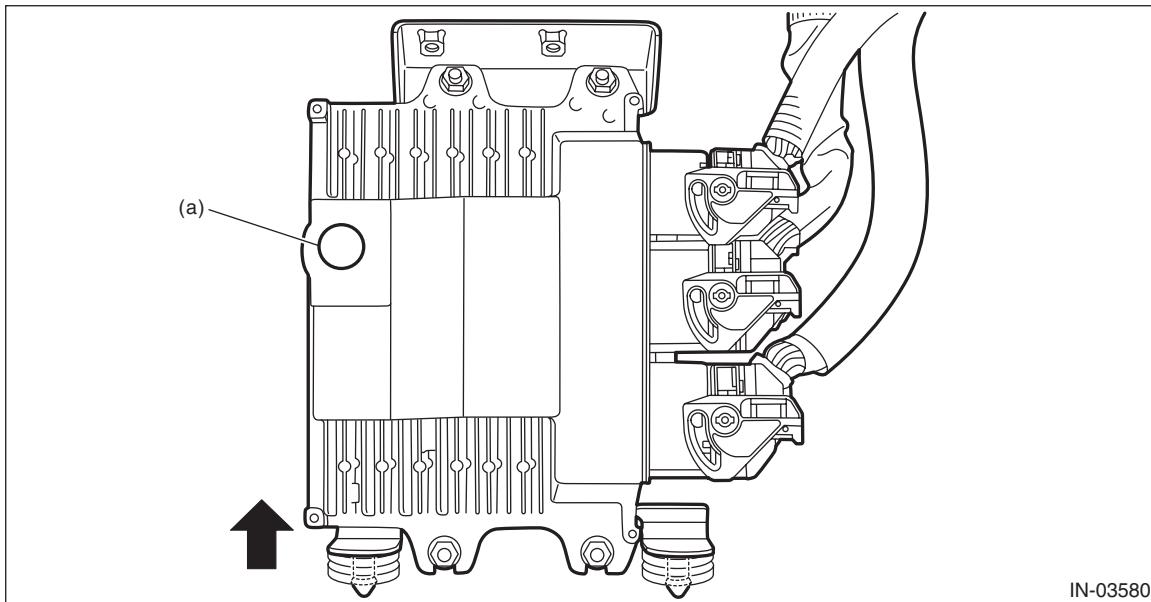
11) Remove the clips (A) and (B) which secure the engine harness and bulkhead harness to the bracket, and remove the bolt which secures the engine control module (ECM) to the bracket.



12) Pull out the engine control module (ECM) from the bracket, and move it to a location that does not interfere operation.

**NOTE:**

When performing the pulling out operation, pay attention not to apply excessive load to the breather filter portion (a) in order to avoid the damage.

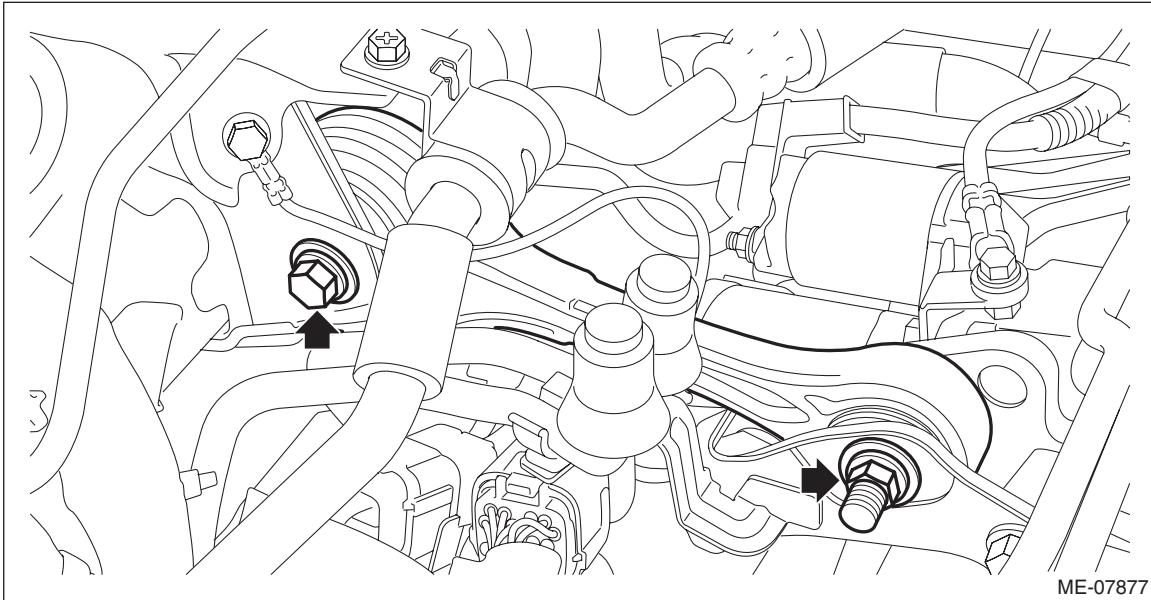


13) Remove the intercooler. <Ref. to IN(w/o STI)-38, REMOVAL, Intercooler.>

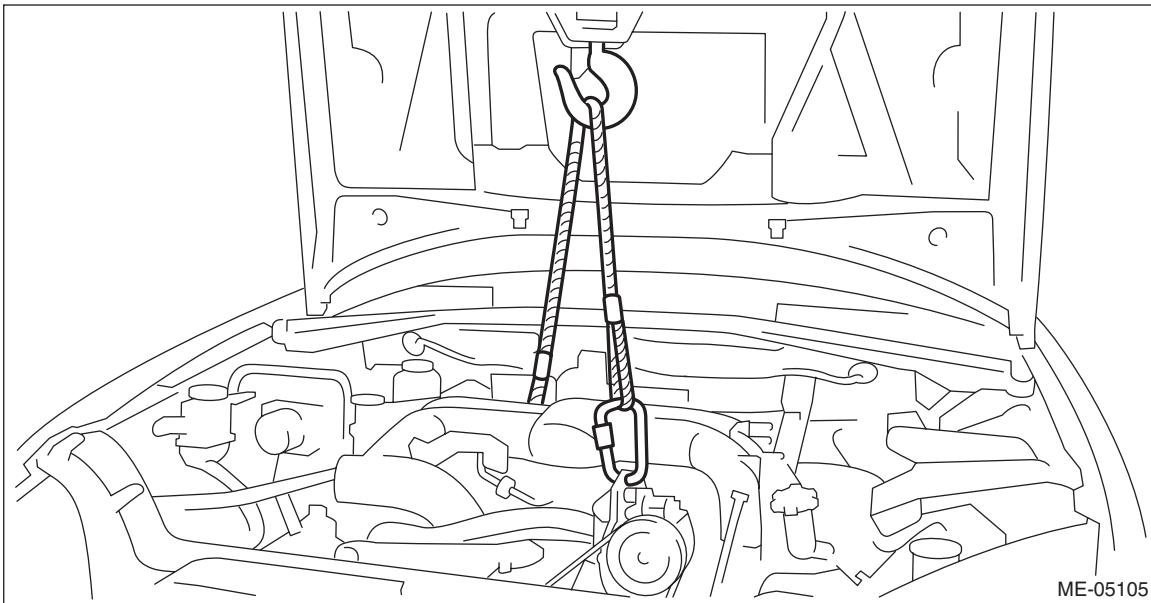
## Oil Pan and Strainer

### LUBRICATION

14) Remove the pitching stopper.



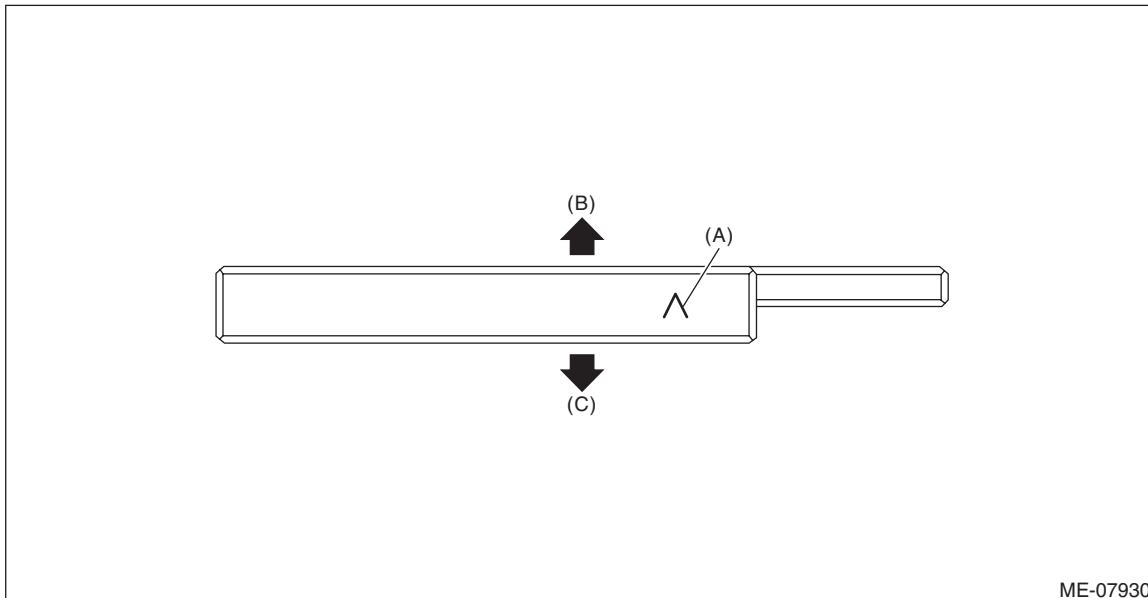
15) Support the engine with a lifting device and wire ropes.



16) While gradually lifting up the engine, set the ST between the engine mount LH and crossmember, and then slowly lower the engine.

**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.
- To avoid the damage, be sure to set the ST as shown in the figure.



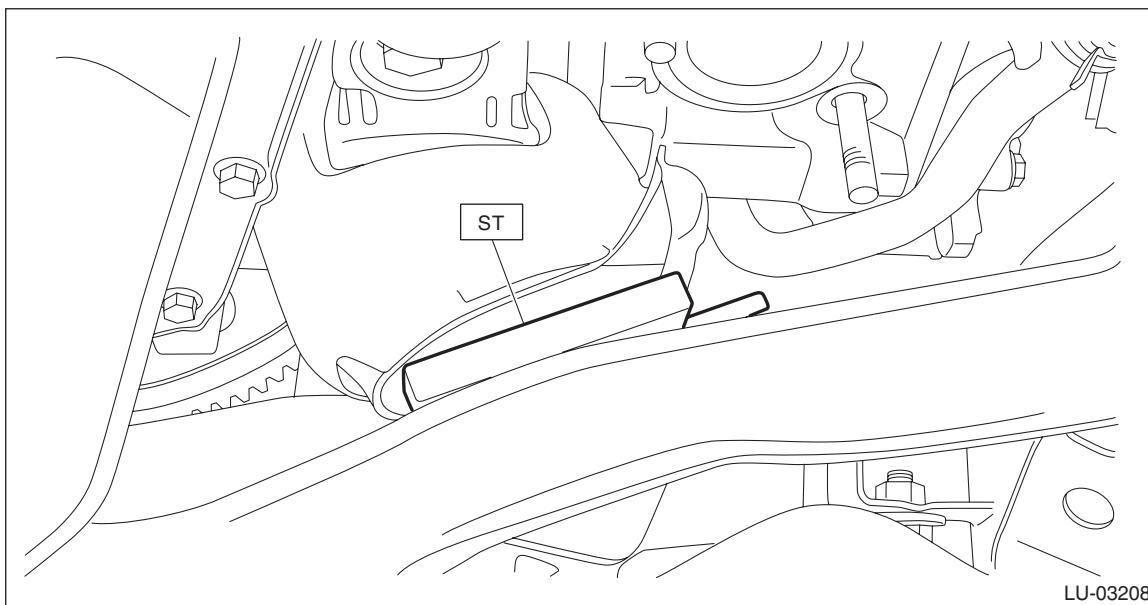
(A) Direction mark

(B) Engine mounting side

(C) Crossmember side

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

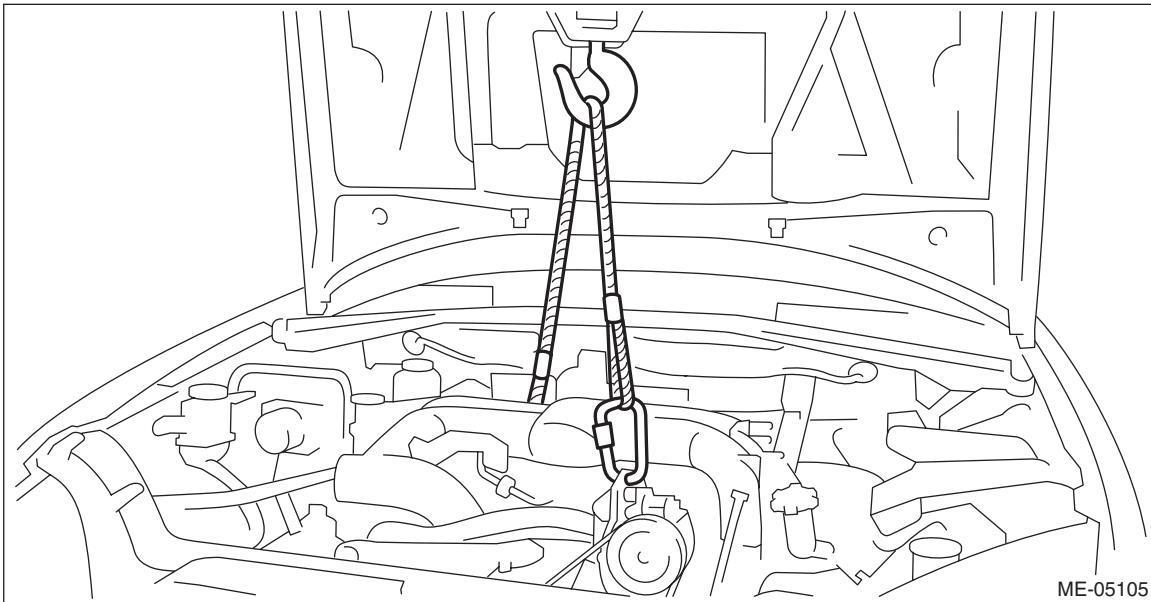
ST 18632AA030 STAND ASSY



# Oil Pan and Strainer

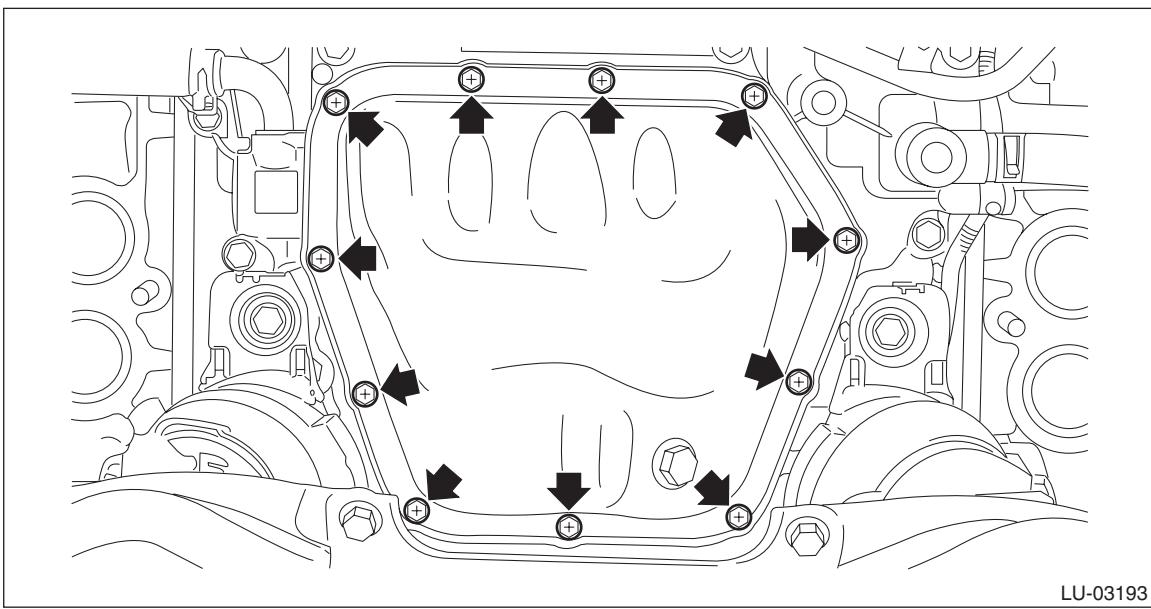
## LUBRICATION

- 17) Remove the lifting device and wire ropes.



- 18) Lift up the vehicle.

- 19) Remove the bolts which secure oil pan to oil pan upper.

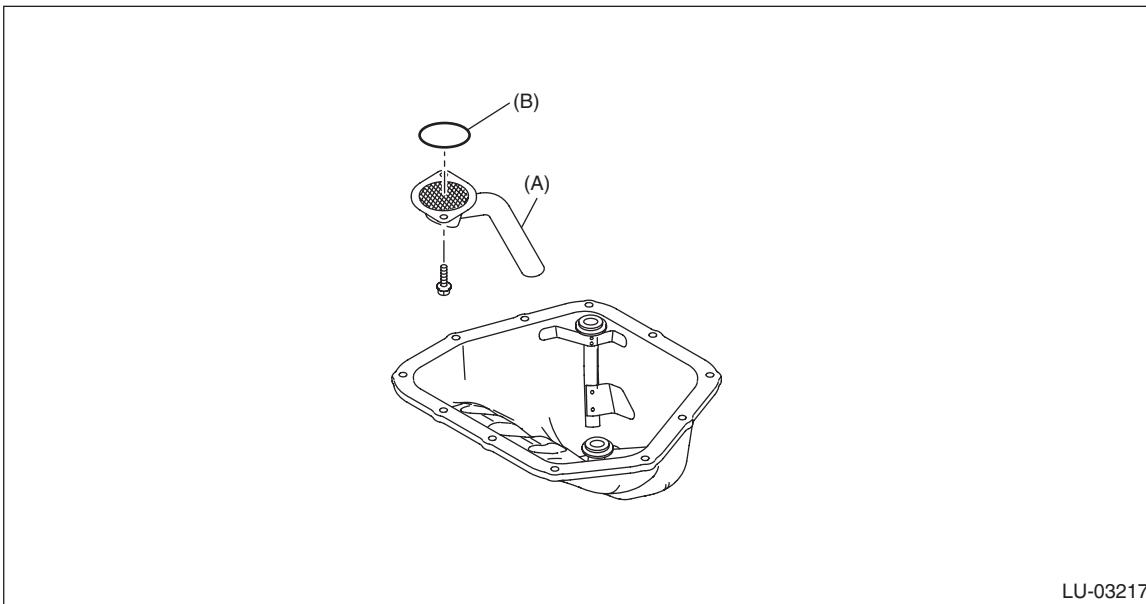


- 20) Insert an oil pan cutter blade into the gap between oil pan upper and oil pan, and remove the oil pan.

**CAUTION:**

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

21) Remove the oil strainer from the oil pan upper.



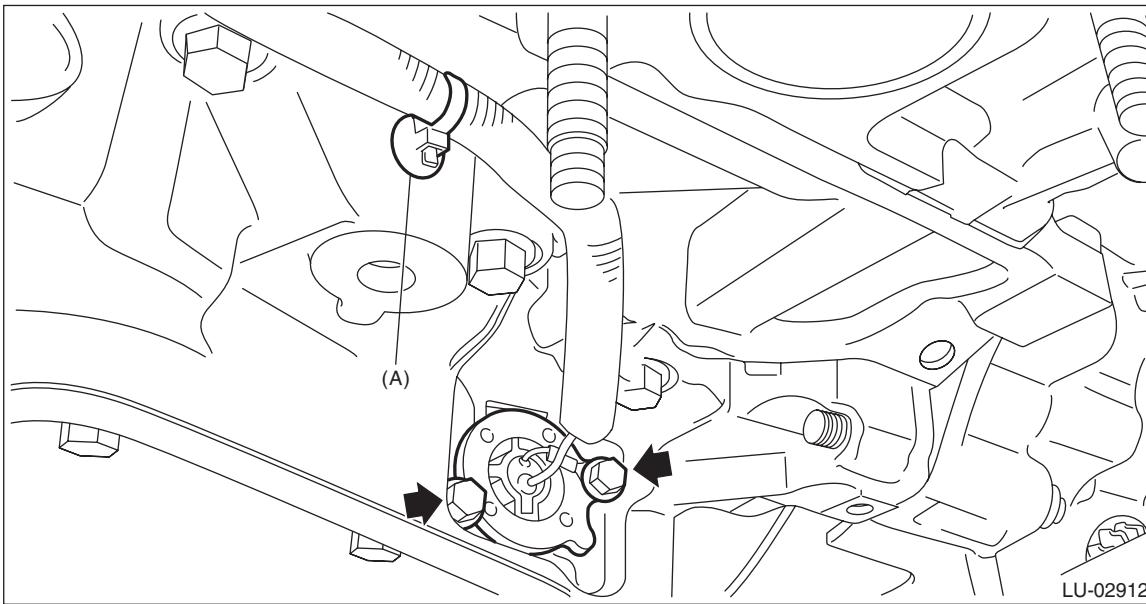
(A) Oil strainer

(B) O-ring

LU-03217

## 2. OIL PAN UPPER

- 1) Remove the engine from the vehicle. <Ref. to ME(w/o STI)-48, REMOVAL, Engine Assembly.>
- 2) Remove the water pump. <Ref. to CO(w/o STI)-16, REMOVAL, Water Pump.>
- 3) Remove the thermostat cover. <Ref. to CO(w/o STI)-33, REMOVAL, Thermostat.>
- 4) Remove the water pipe assembly. <Ref. to CO(w/o STI)-19, REMOVAL, Water Pipe Assembly.>
- 5) Remove the chain cover. <Ref. to ME(w/o STI)-93, REMOVAL, Chain Cover.>
- 6) Remove the oil pan and strainer. <Ref. to LU(w/o STI)-14, OIL PAN AND STRAINER, REMOVAL, Oil Pan and Strainer.>
- 7) Remove clip (A) from the oil pan upper, and remove the oil level switch.

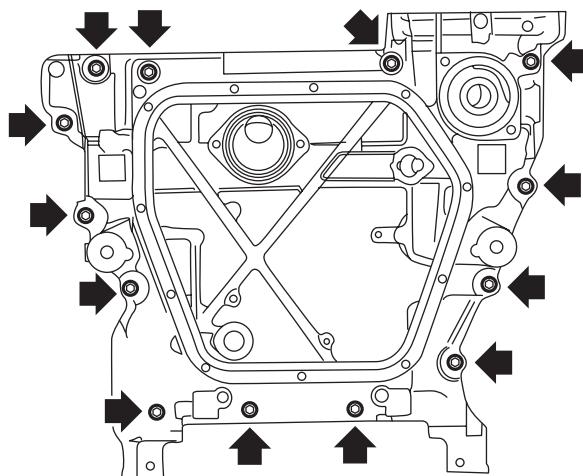


LU-02912

# Oil Pan and Strainer

## LUBRICATION

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

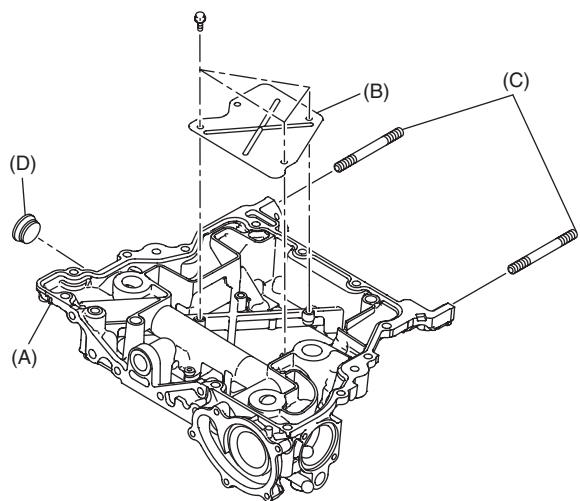


LU-02747

9) Remove the baffle plate from the oil pan upper.

10) Remove stud bolts from the oil pan upper.

11) Remove the plug from the oil pan upper.



LU-03210

(A) Oil pan upper

(B) Baffle plate

(C) Stud bolt

(D) Plug

### B: INSTALLATION

#### 1. OIL PAN AND STRAINER

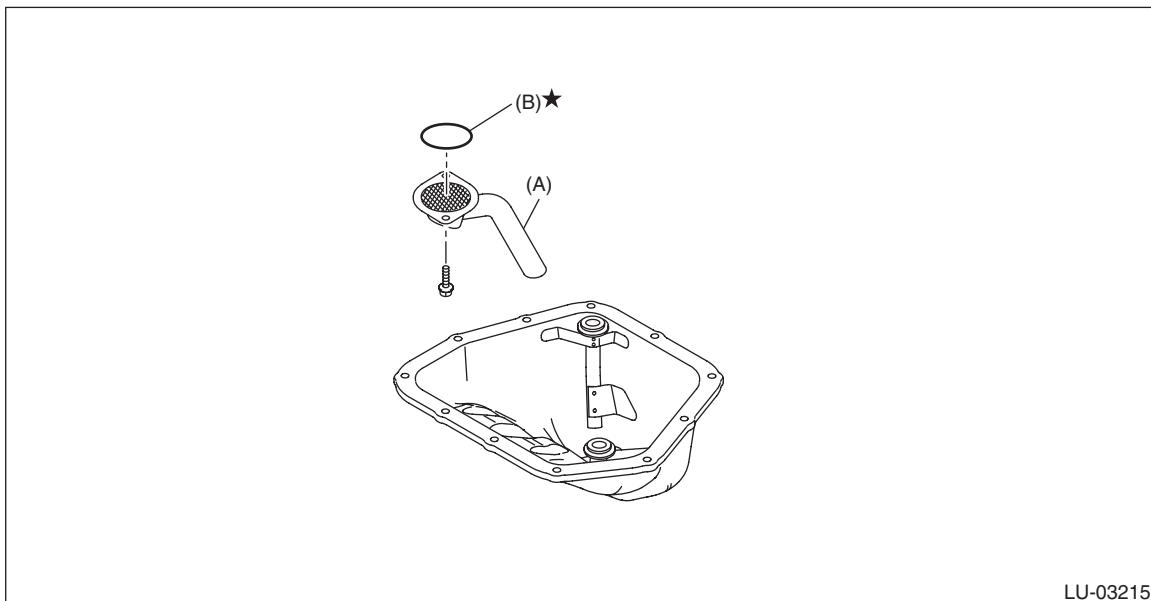
- 1) Attach the oil strainer to the oil pan upper.

NOTE:

Use new O-rings.

***Tightening torque:***

***6.4 N·m (0.7 kgf·m, 4.7 ft-lb)***



(A) Oil strainer

(B) O-ring

# Oil Pan and Strainer

## LUBRICATION

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

NOTE:

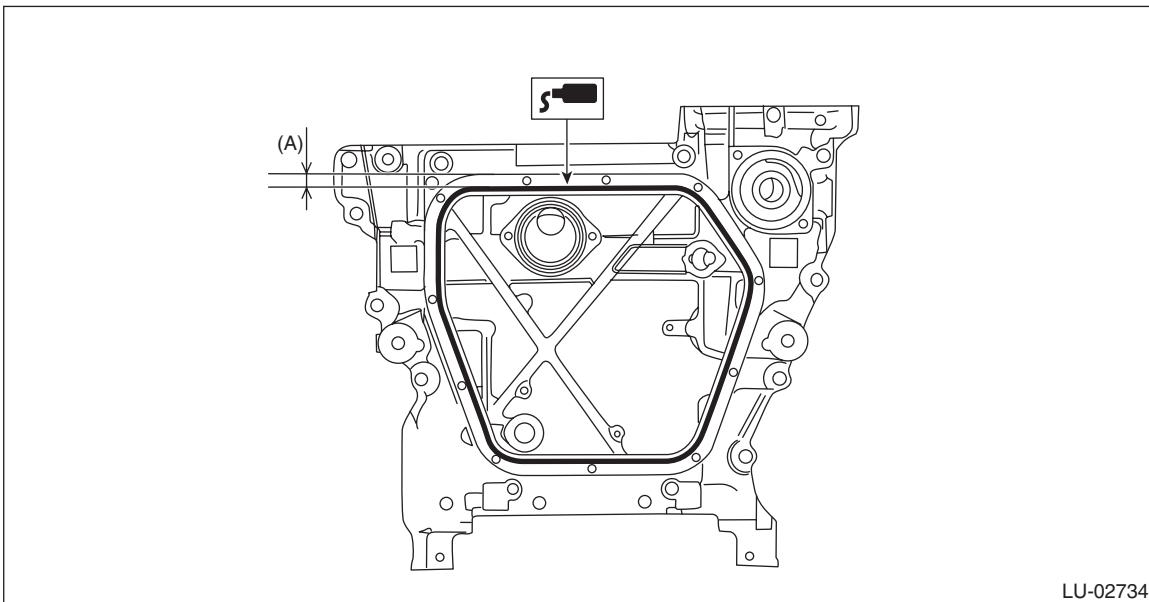
- Before installing the oil pan, wipe and clean the mating surface of oil pan and oil pan upper.
- Use a new oil pan seal ring.
- Install within 5 min. after applying liquid gasket.

**Liquid gasket:**

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

**Liquid gasket applying diameter:**

**$5 \pm 1$  mm (0.1969  $\pm$  0.0394 in)**

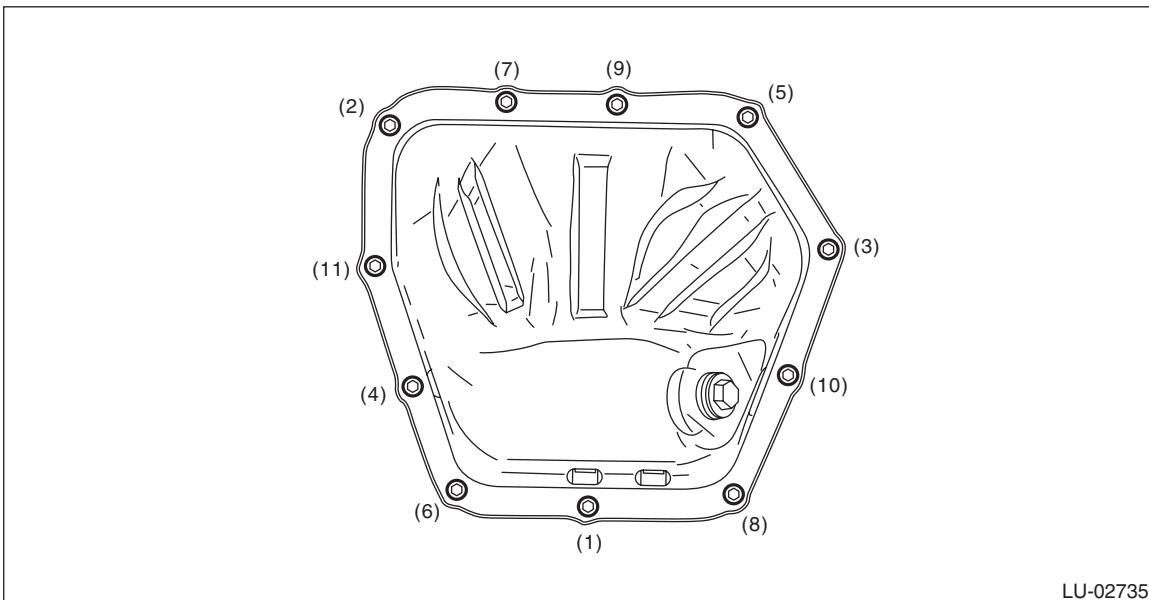


(A) 9.5 mm (0.374 in)

3) Tighten the bolts to secure 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)**

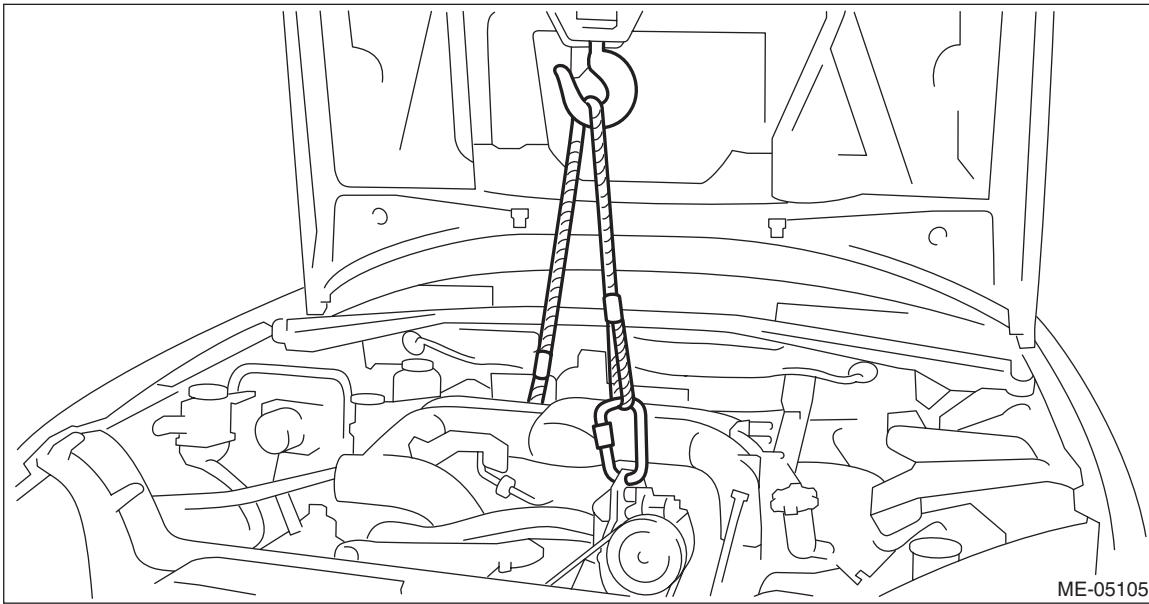


4) Lower the vehicle.

# Oil Pan and Strainer

## LUBRICATION

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

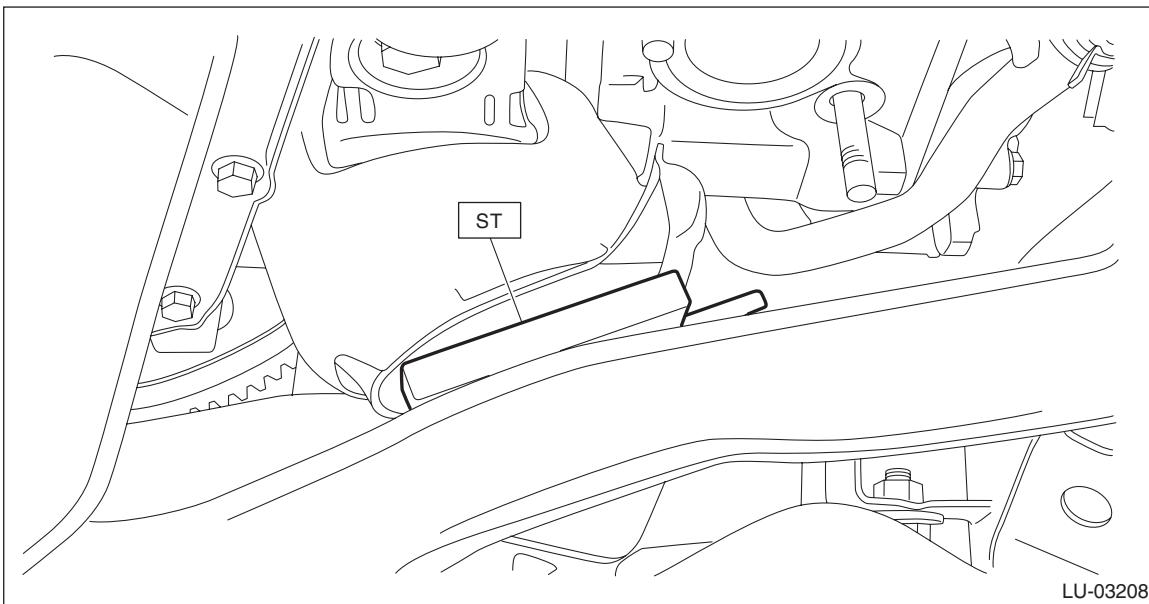


6) Lift the engine a little, and remove the ST.

**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.**

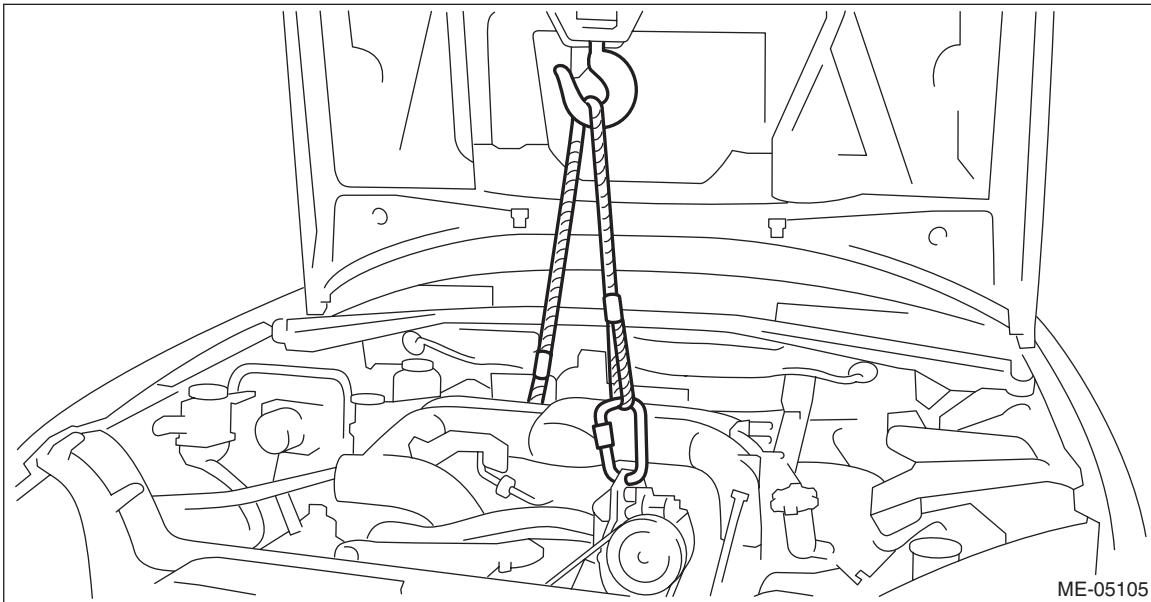
ST 1863AA030 STAND ASSY



# Oil Pan and Strainer

## LUBRICATION

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

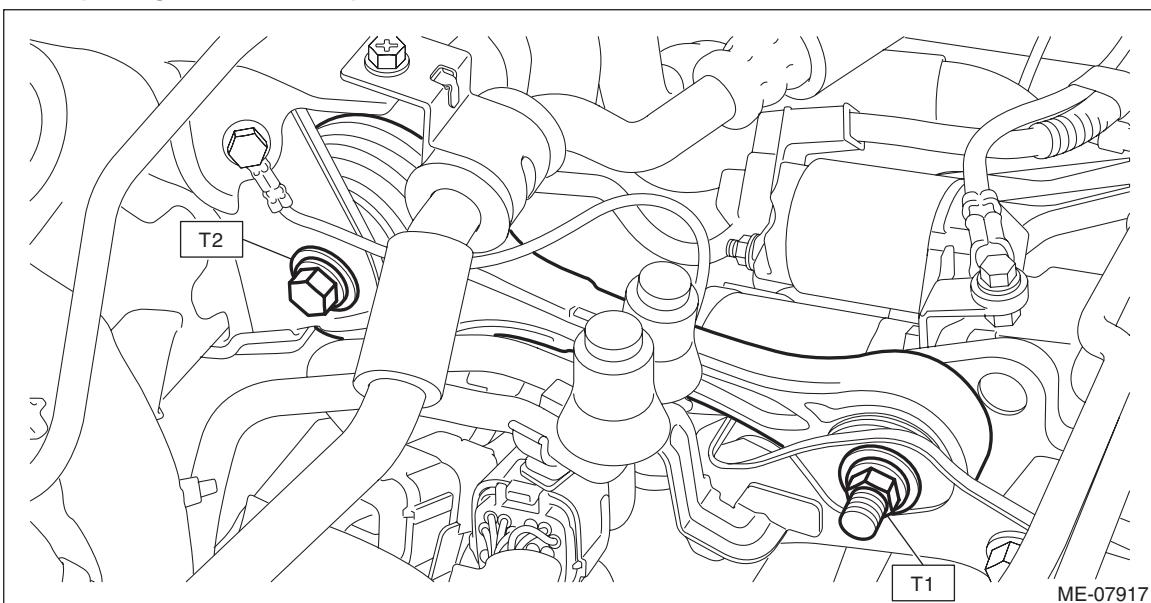


- 8) Install the pitching stopper.

### ***Tightening torque:***

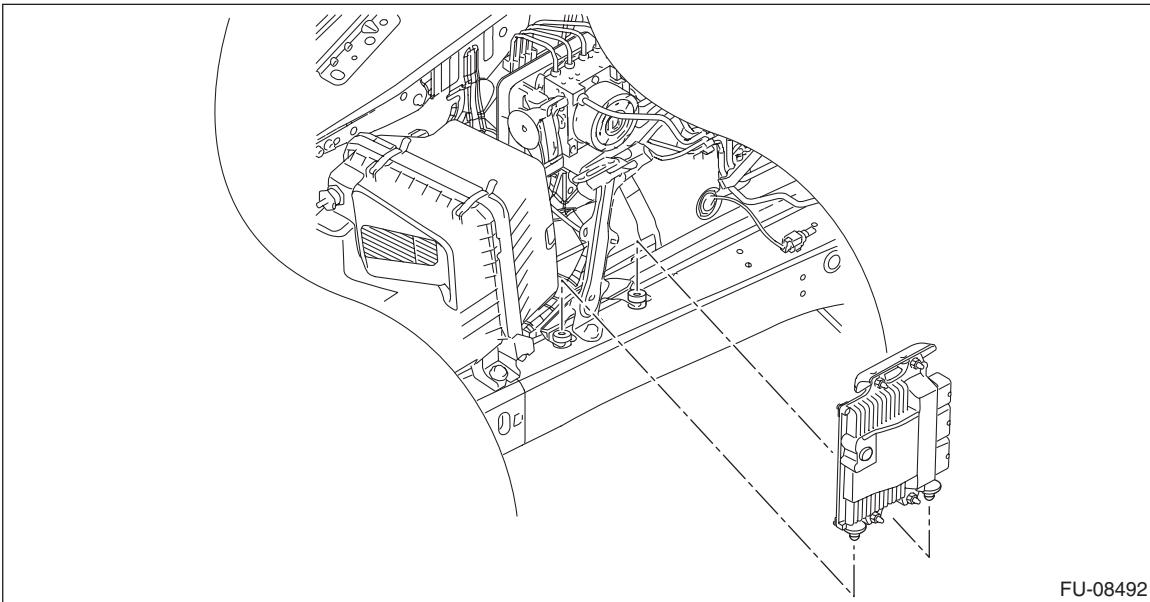
**T1: 50 N·m (5.1 kgf·m, 36.9 ft-lb)**

**T2: 58 N·m (5.9 kgf·m, 42.8 ft-lb)**



- 9) Install the intercooler. <Ref. to IN(w/o STI)-41, INSTALLATION, Intercooler.>

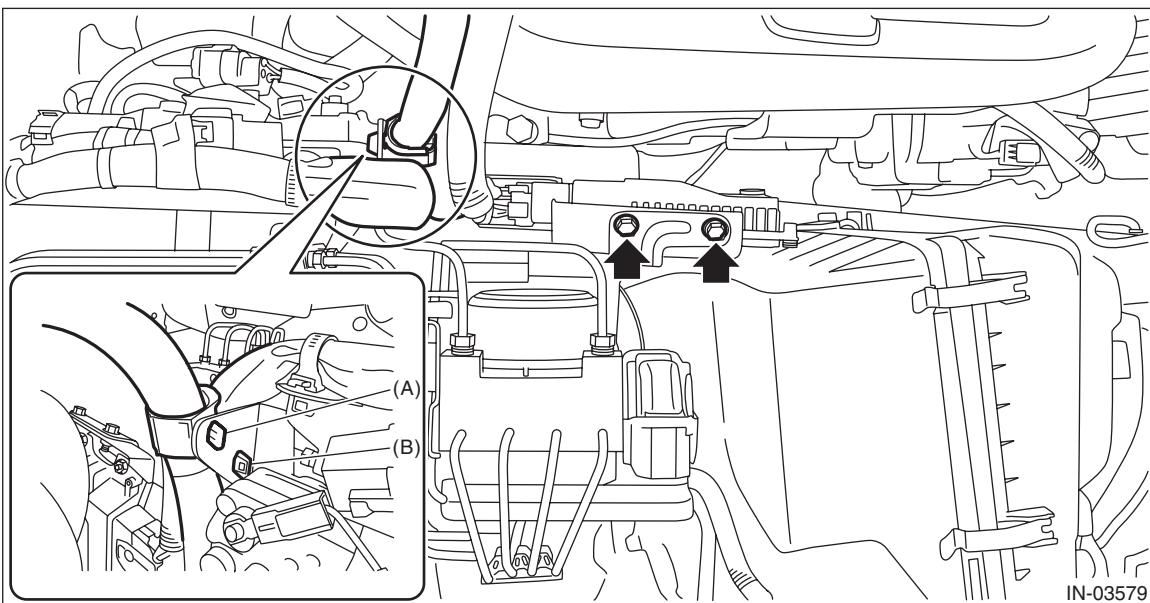
10) Insert the engine control module (ECM) to the bracket.



11) Install the bolt which secures the engine control module (ECM) to the bracket, and then secure the engine harness and bulkhead harness to the bracket with clips (A) and (B).

**Tightening torque:**

7.5 N·m (0.8 kgf·m, 5.5 ft-lb)



12) Lift up the vehicle.

# Oil Pan and Strainer

## LUBRICATION

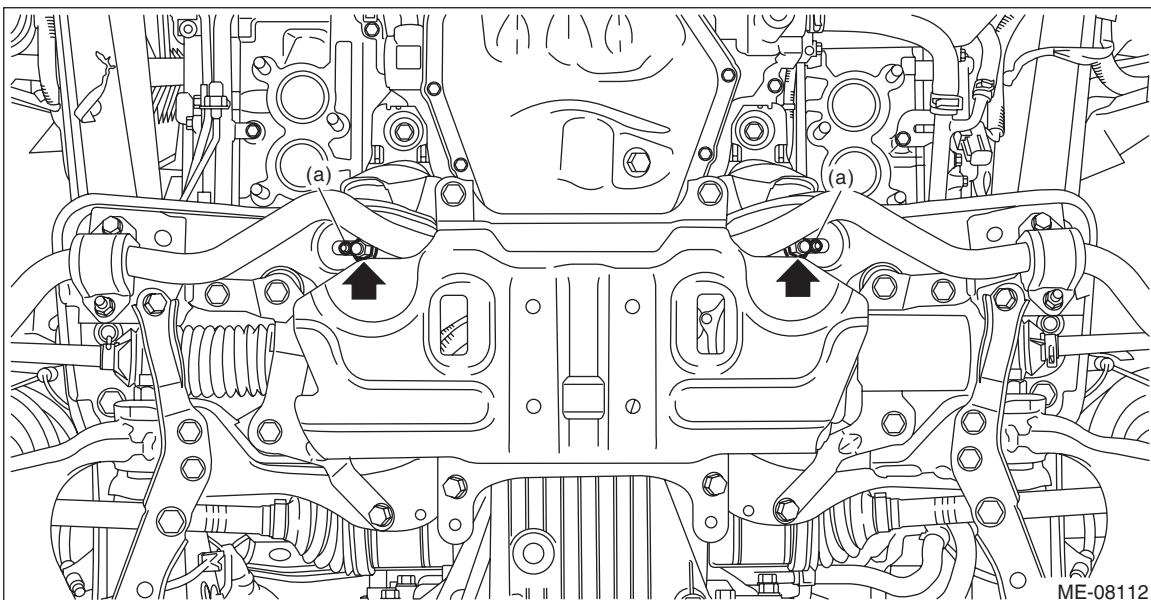
13) Install the nuts which hold the engine mounting to the crossmember.

NOTE:

- Use a new nut.
- Make sure that locators (a) of the engine mounting are securely inserted.

**Tightening torque:**

**60 N·m (6.1 kgf·m, 44.3 ft-lb)**



14) Install the front exhaust pipe. <Ref. to EX(w/o STI)-19, INSTALLATION, Front Exhaust Pipe.>

15) Install the under cover. <Ref. to EI-22, INSTALLATION, Front Under Cover.>

16) Lower the vehicle.

17) Install the air intake duct. <Ref. to IN(w/o STI)-22, INSTALLATION, Air Intake Duct.>

18) Connect the ground terminal to battery sensor. <Ref. to NT-5, BATTERY, NOTE, Note.>

19) Refill the engine oil. <Ref. to LU(w/o STI)-11, REPLACEMENT, Engine Oil.>

20) Fill engine coolant. <Ref. to CO(w/o STI)-14, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

21) Install the collector cover.

22) Set the front hood to the normal position. <Ref. to NT-20, FRONT HOOD DAMPER STAY, NOTE, Note.>

23) Install the striker - front hood. <Ref. to EB-15, ASSEMBLY, Front Hood.>

24) Close the front hood.

### 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**

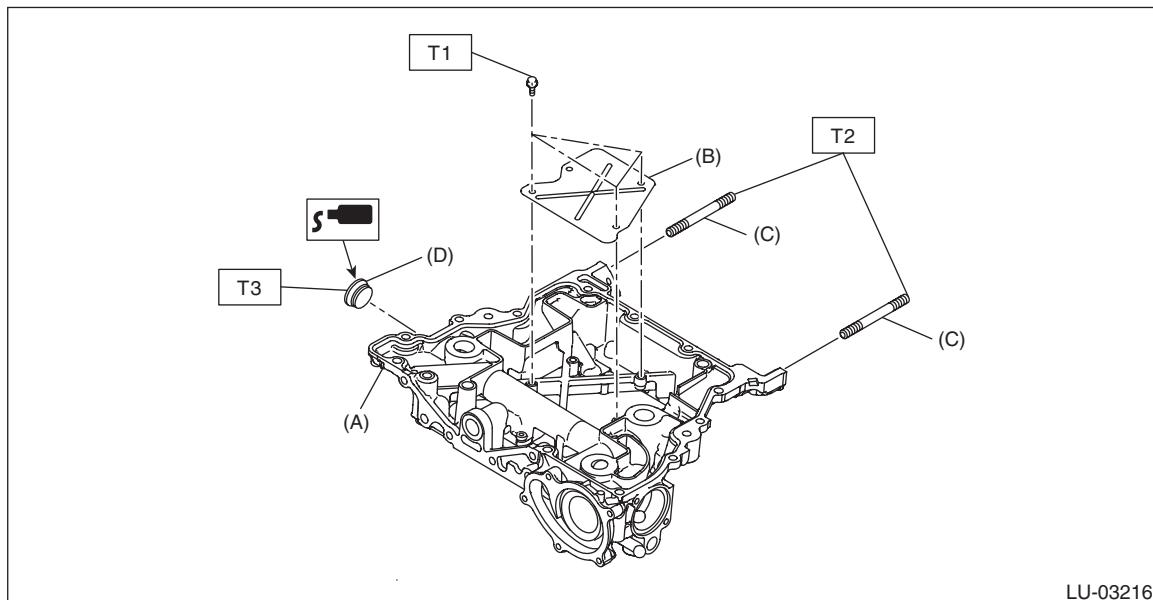
- 2) Attach the plug to the oil pan upper.
- 3) Attach the stud bolts to the oil pan upper.
- 4) Attach the baffle plate to the oil pan upper.

#### 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: 90 N·m (9.2 kgf-m, 66.4 ft-lb)**



(A) Oil pan upper

(B) Baffle plate

(C) Stud bolt

(D) Plug

# Oil Pan and Strainer

## LUBRICATION

5) 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:

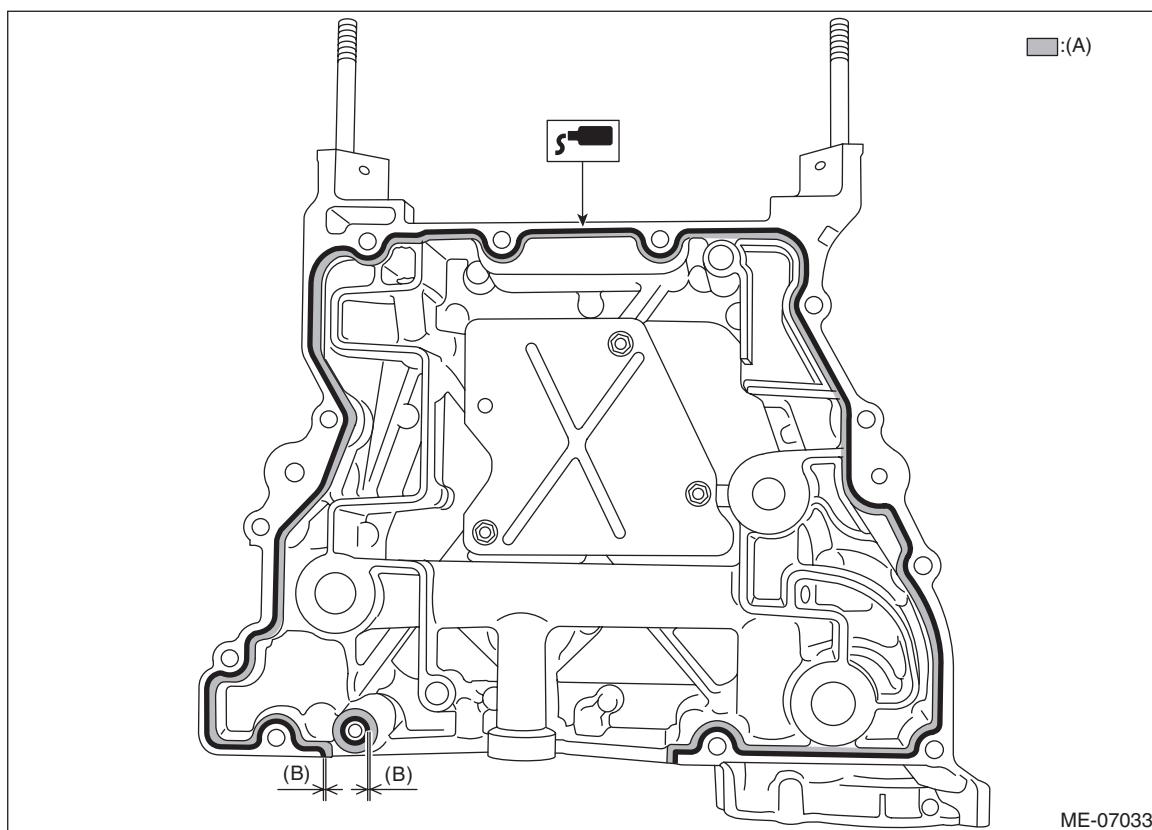
- Use new O-rings.
- Install within 5 min. after applying liquid gasket.
- Apply liquid gasket 1.5 mm (0.0591 in) outside from the chamfer surface. However, application of liquid gasket on the chamfer surface around the bolt hole is allowed.

### Liquid gasket:

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

### Liquid gasket applying diameter:

**$5 \pm 1$  mm (0.1969  $\pm$  0.0394 in)**



(A) Chamfer surface

(B) 1.5 mm (0.0591 in)

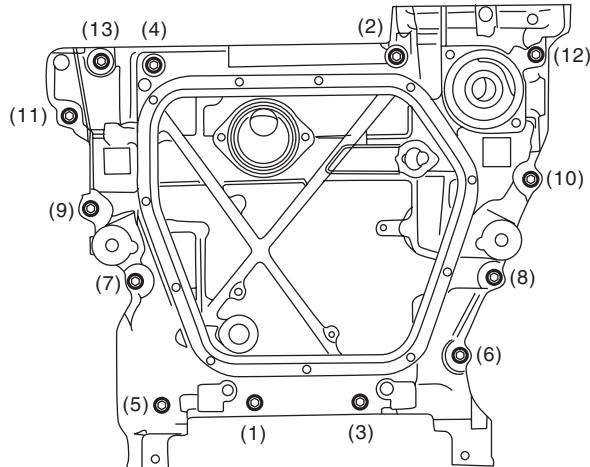
6) Tighten the bolts to secure the oil pan upper to the cylinder block in the numerical order.

**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)**



LU-02736

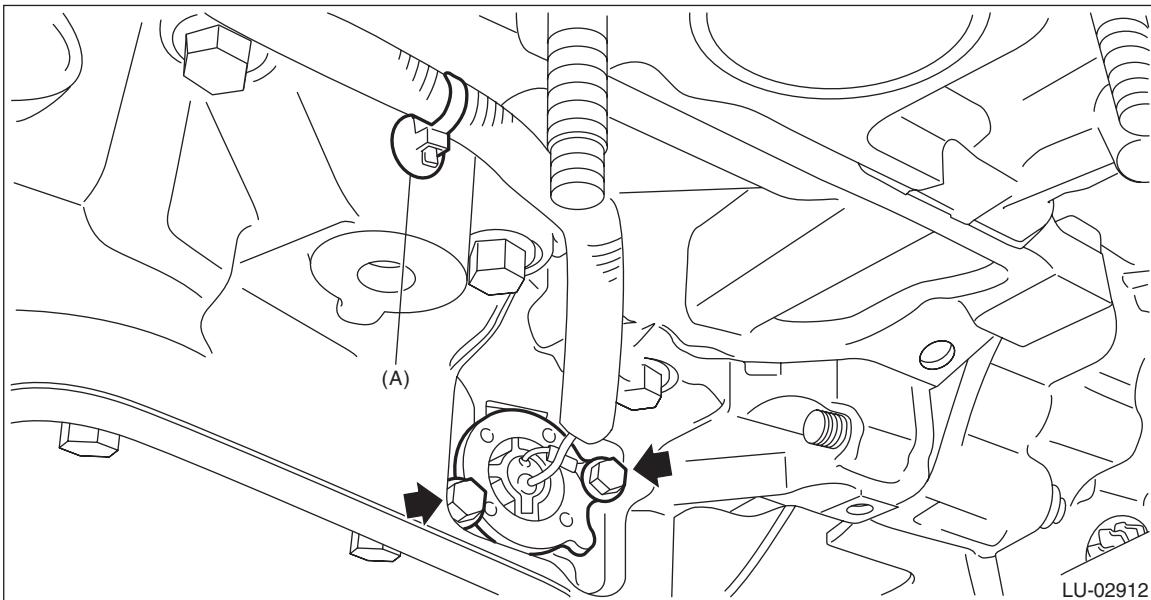
7) Install the oil level switch on the oil pan upper, and secure the harness with clips (A).

**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)**



LU-02912

8) Install the chain cover. <Ref. to ME(w/o STI)-101, INSTALLATION, Chain Cover.>

9) Install the oil pan and strainer. <Ref. to LU(w/o STI)-21, OIL PAN AND STRAINER, INSTALLATION, Oil Pan and Strainer.>

10) Install the water pipe assembly. <Ref. to CO(w/o STI)-26, INSTALLATION, Water Pipe Assembly.>

## **Oil Pan and Strainer**

### **LUBRICATION**

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- 11) Install the thermostat cover. <Ref. to CO(w/o STI)-34, INSTALLATION, Thermostat.>
- 12) Install the water pump. <Ref. to CO(w/o STI)-17, INSTALLATION, Water Pump.>
- 13) Install the engine to the vehicle. <Ref. to ME(w/o STI)-61, INSTALLATION, Engine Assembly.>
- 14) Refill the engine oil. <Ref. to LU(w/o STI)-11, REPLACEMENT, Engine Oil.>
- 15) Fill engine coolant. <Ref. to CO(w/o STI)-14, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

### **C: INSPECTION**

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