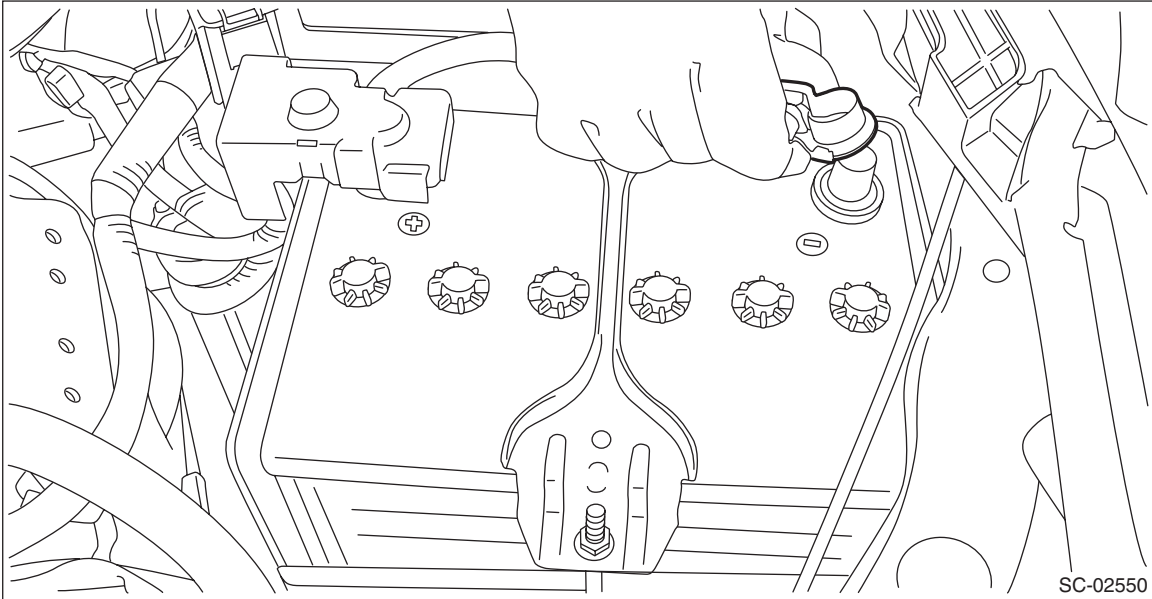


## 5. Thermostat

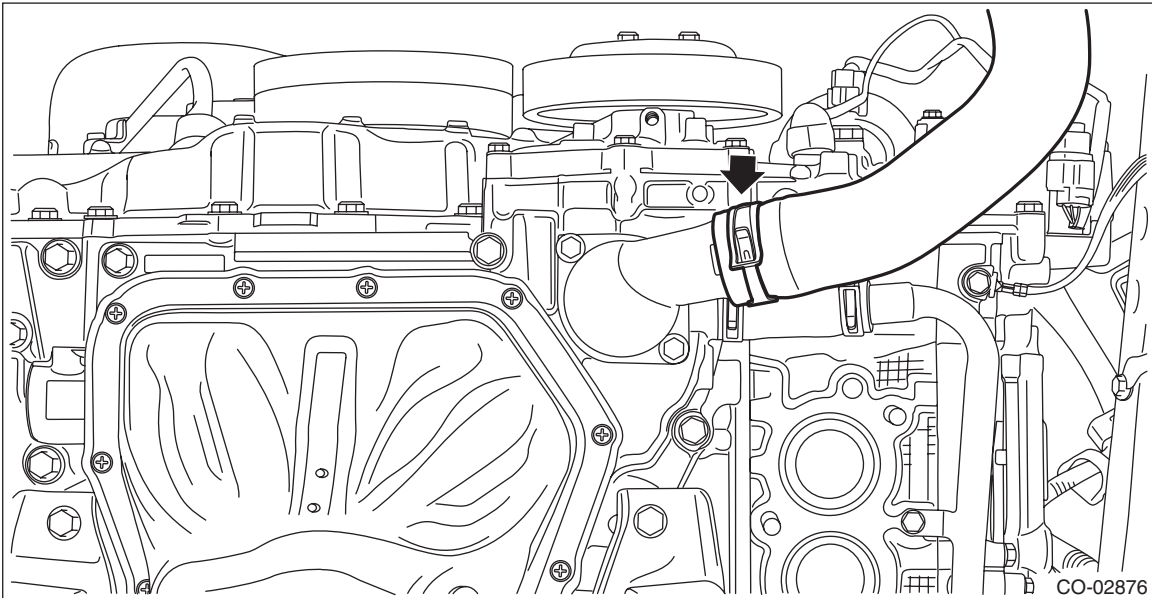
### A: REMOVAL

#### 1. ENGINE SIDE

- 1) Disconnect the ground cable from battery.



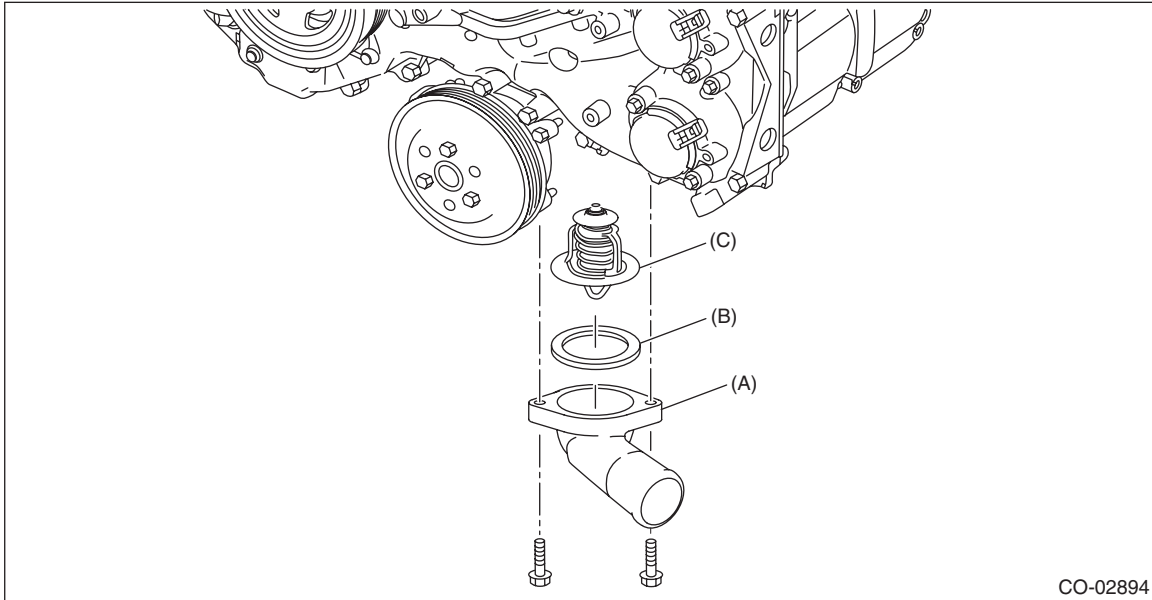
- 2) Lift up the vehicle.
- 3) Remove the under cover. <Ref. to EI-25, REMOVAL, Front Under Cover.>
- 4) Drain engine coolant. <Ref. to CO(H4DO)-13, DRAINING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>
- 5) Remove the front exhaust pipe. <Ref. to EX(H4DO)-6, REMOVAL, Front Exhaust Pipe.>
- 6) Disconnect the radiator outlet hose from thermostat cover.



# Thermostat

## COOLING

7) Remove the thermostat cover, and then remove the gasket and thermostat.



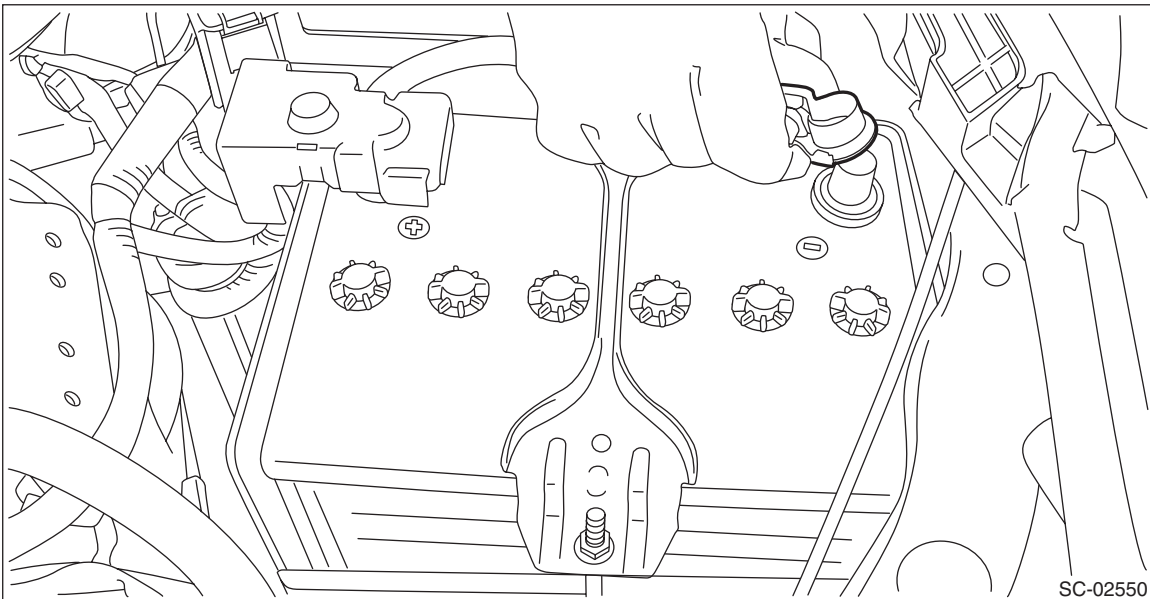
(A) Thermostat cover

(B) Gasket

(C) Thermostat

## 2. ATF COOLER (WITH WARMER FEATURE) SIDE

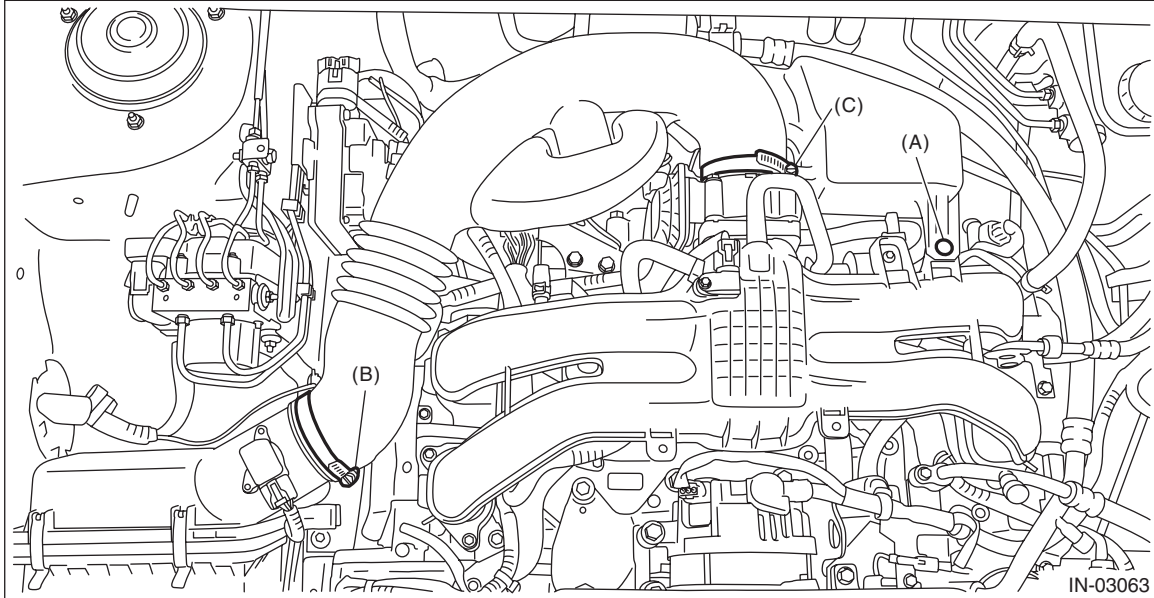
- 1) Lift up the vehicle.
- 2) Remove the under cover. <Ref. to EI-25, REMOVAL, Front Under Cover.>
- 3) Drain engine coolant. <Ref. to CO(H4DO)-13, DRAINING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>
- 4) Lower the vehicle.
- 5) Disconnect the ground cable from battery.



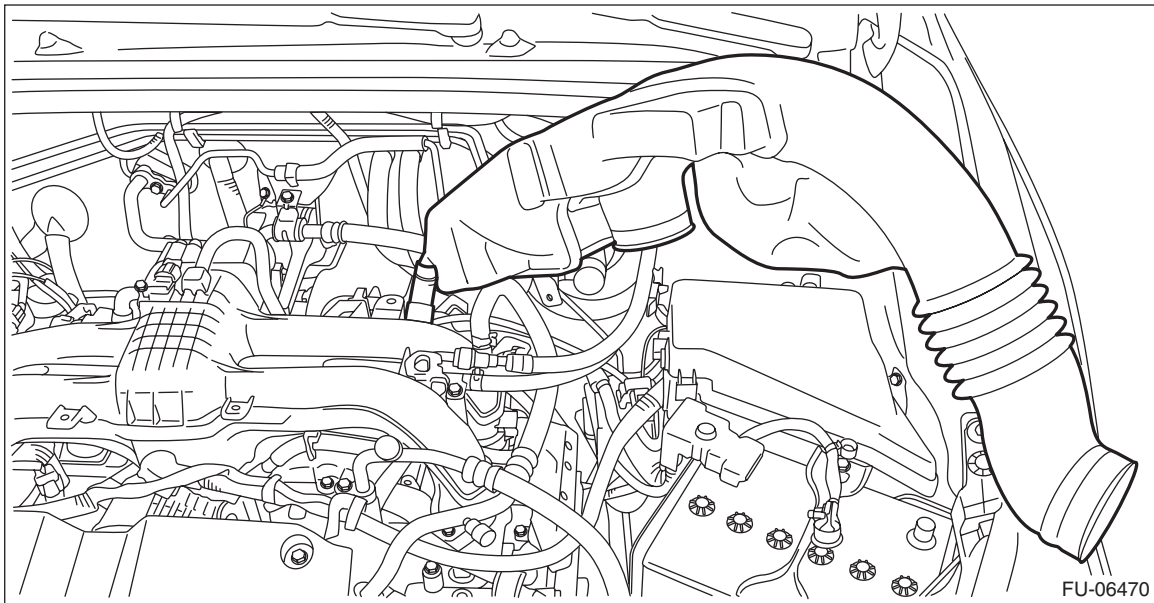
6) Remove the clip (A) from the air intake boot.

7) Loosen the clamp (B) connecting the air intake boot and air cleaner case (rear).

- 8) Loosen the clamp (C) which connects the air intake boot and throttle body.



- 9) Remove the air intake boot from the throttle body, and move the air intake boot to the left side wheel apron.

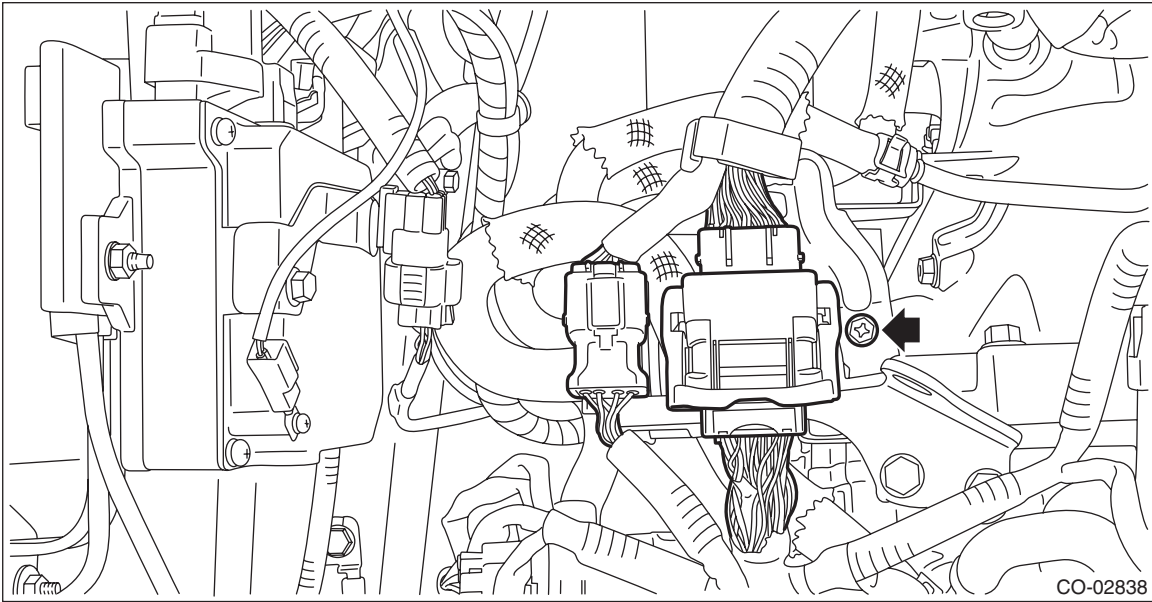


# Thermostat

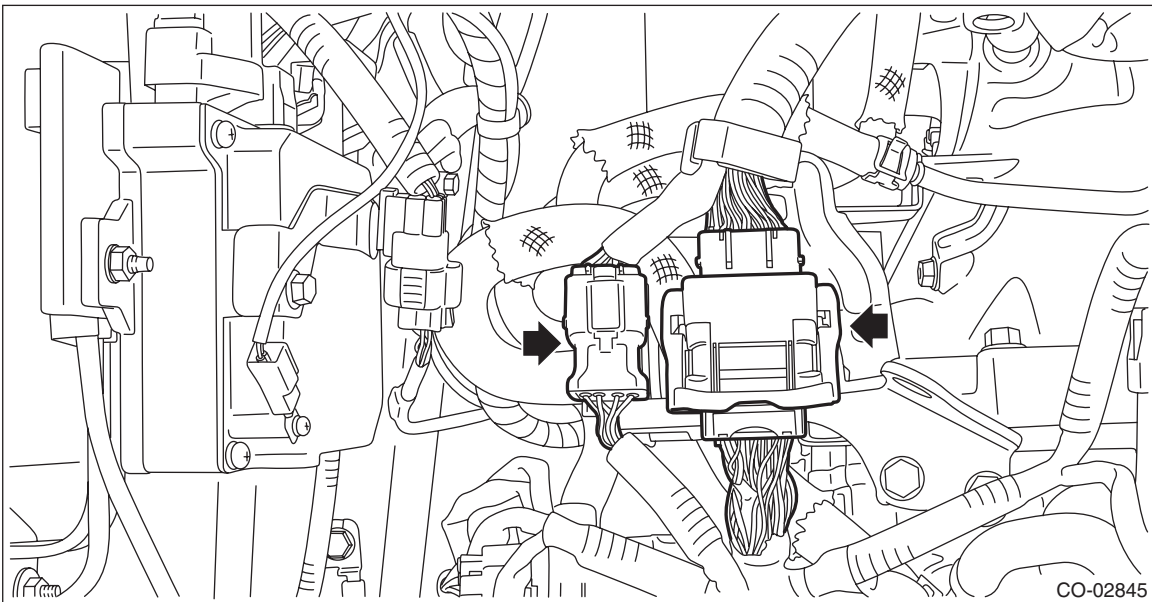
## COOLING

10) Disconnect the engine harness connector.

(1) Remove the bolt securing the bulkhead harness connector bracket.



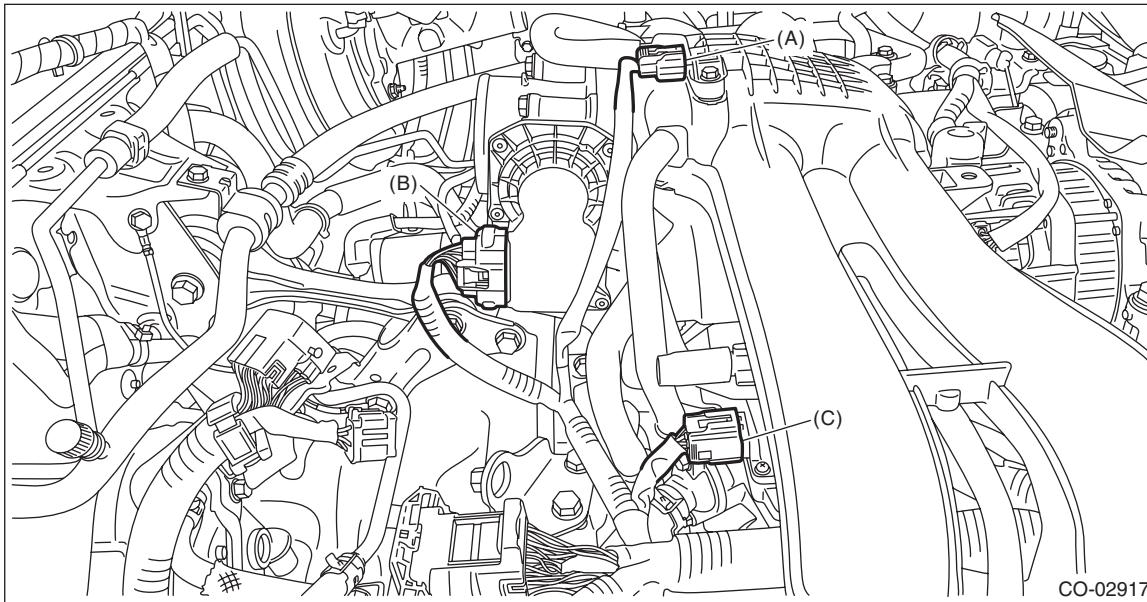
(2) Disconnect the bulkhead harness connector from the engine harness connector (black) and engine harness connector (brown).



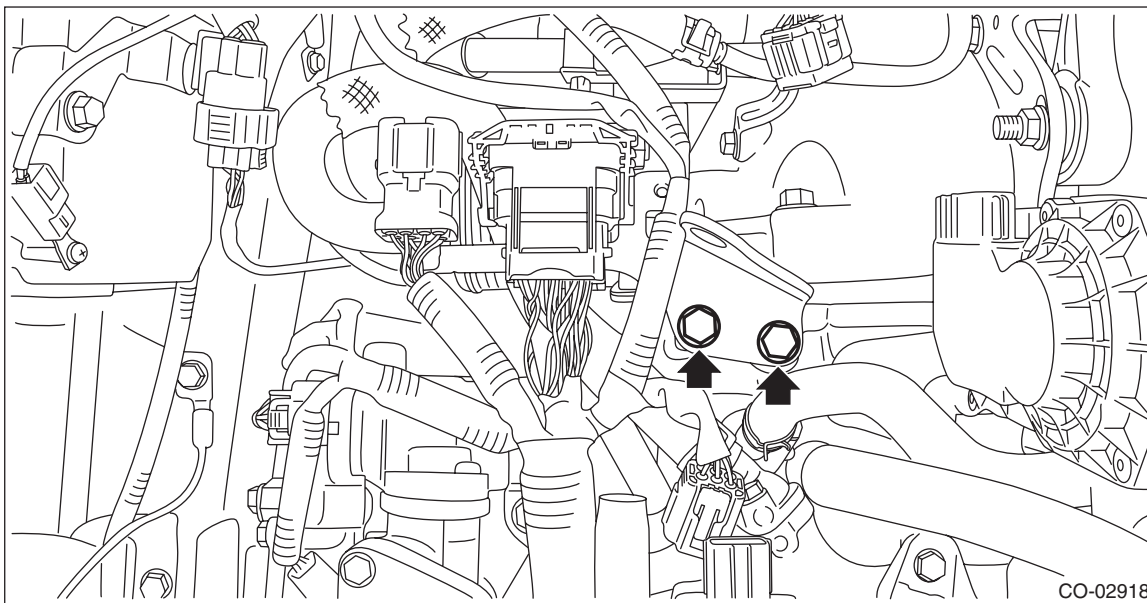
11) Disconnect the connector (A) from manifold absolute pressure sensor.

12) Disconnect the connector (B) from the throttle position sensor.

13) Disconnect the connector (C) from the EGR control valve.



14) Remove the bolt securing the engine hanger from the cylinder block RH, and move the hanger to the right side wheel apron.

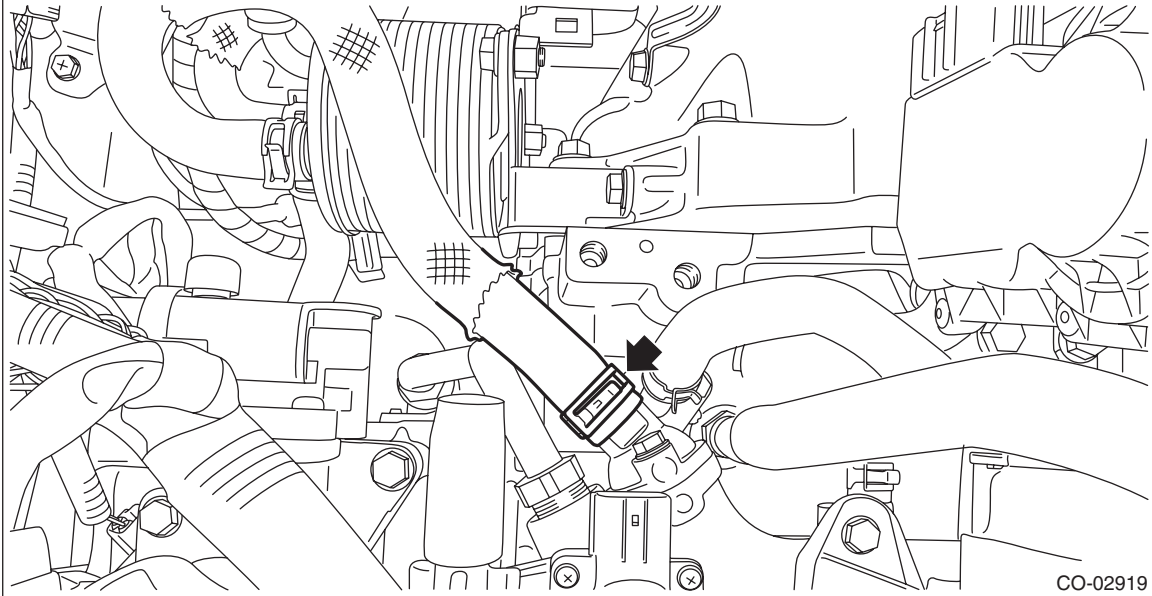




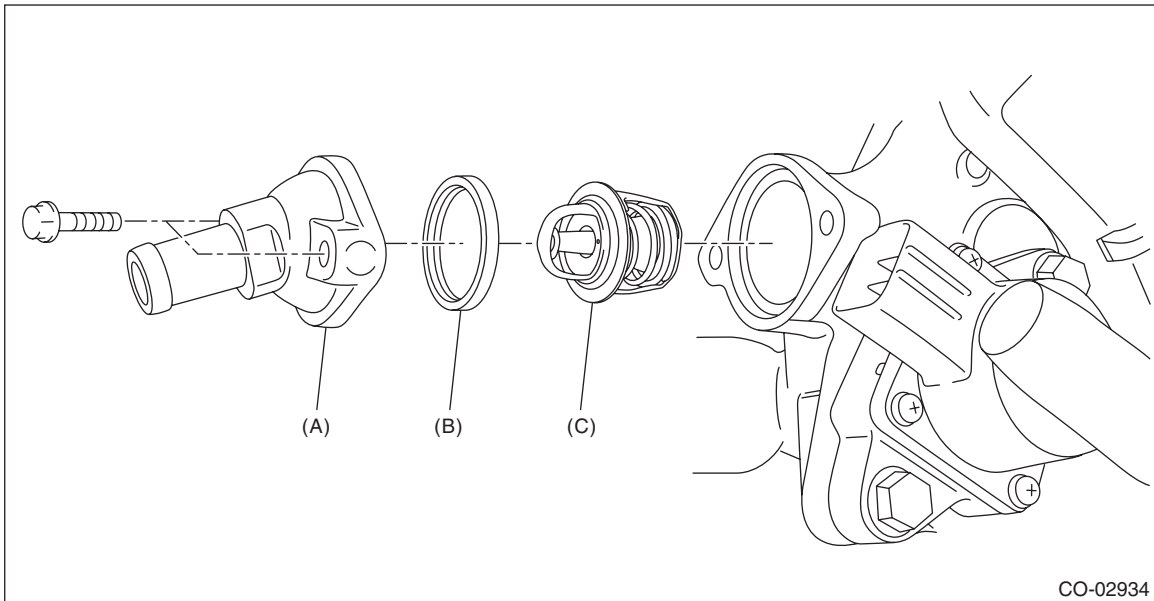
# Thermostat

## COOLING

15) Disconnect the hose from the thermostat cover.



16) Remove the thermostat cover, and then remove the thermostat and gasket.



(A) Thermostat cover

(B) Gasket

(C) Thermostat

## B: INSTALLATION

### 1. ENGINE SIDE

1) Install a gasket to thermostat.

NOTE:

Use a new gasket.

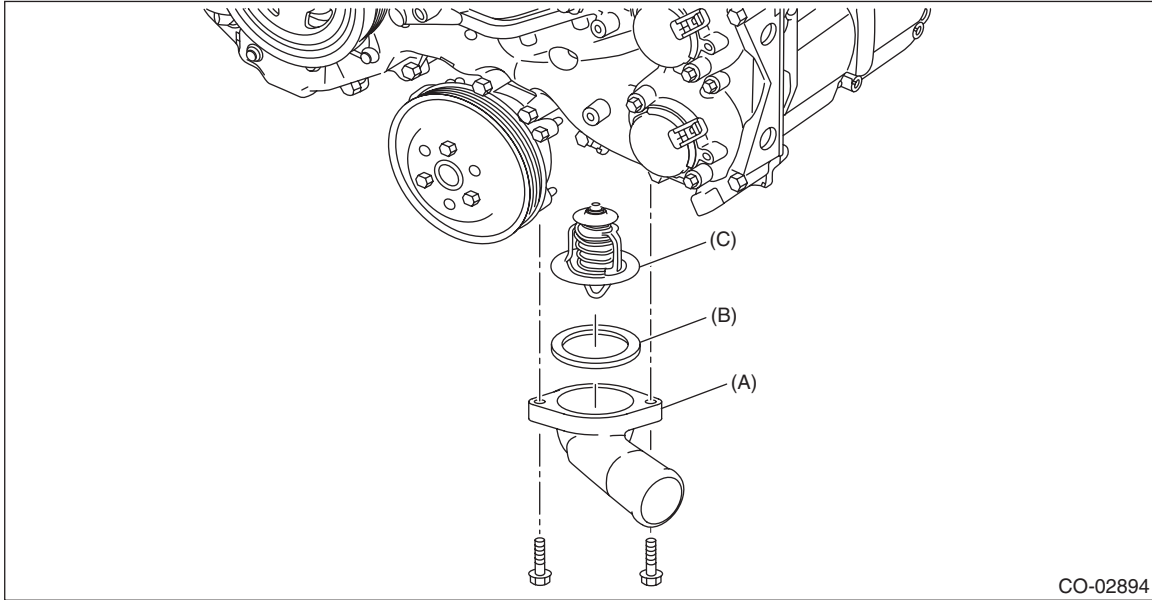
2) Install the thermostat and thermostat cover.

NOTE:

Use a new gasket.

**Tightening torque:**

**6.4 N·m (0.7 kgf-m, 4.7 ft-lb)**

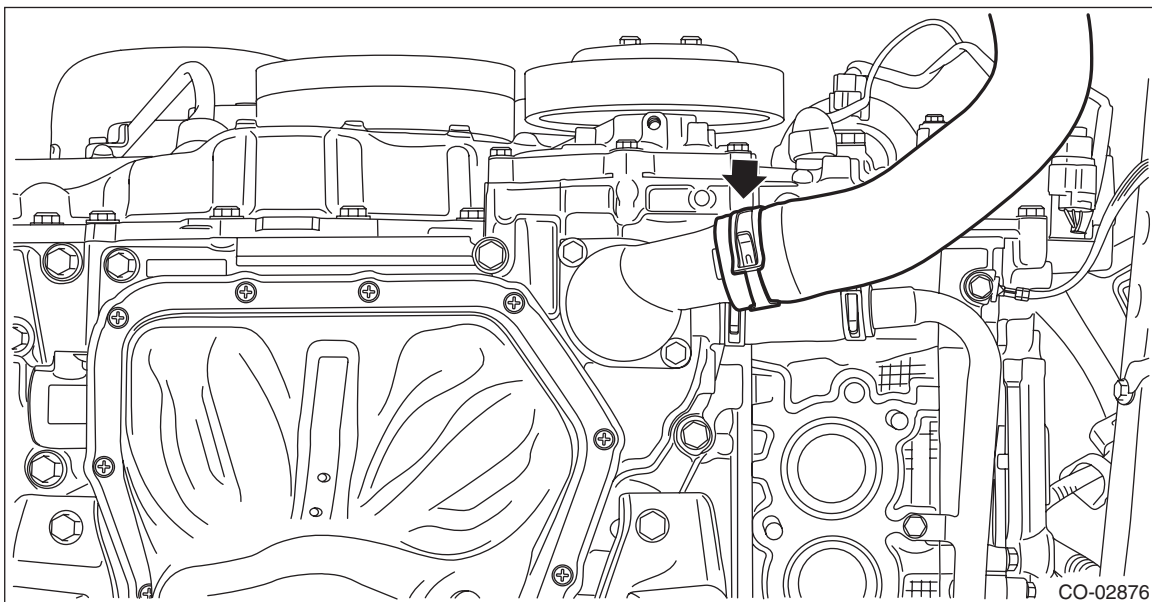


(A) Thermostat cover

(B) Gasket

(C) Thermostat

3) Connect the radiator outlet hose to thermostat cover.



4) Install the front exhaust pipe. <Ref. to EX(H4DO)-9, INSTALLATION, Front Exhaust Pipe.>

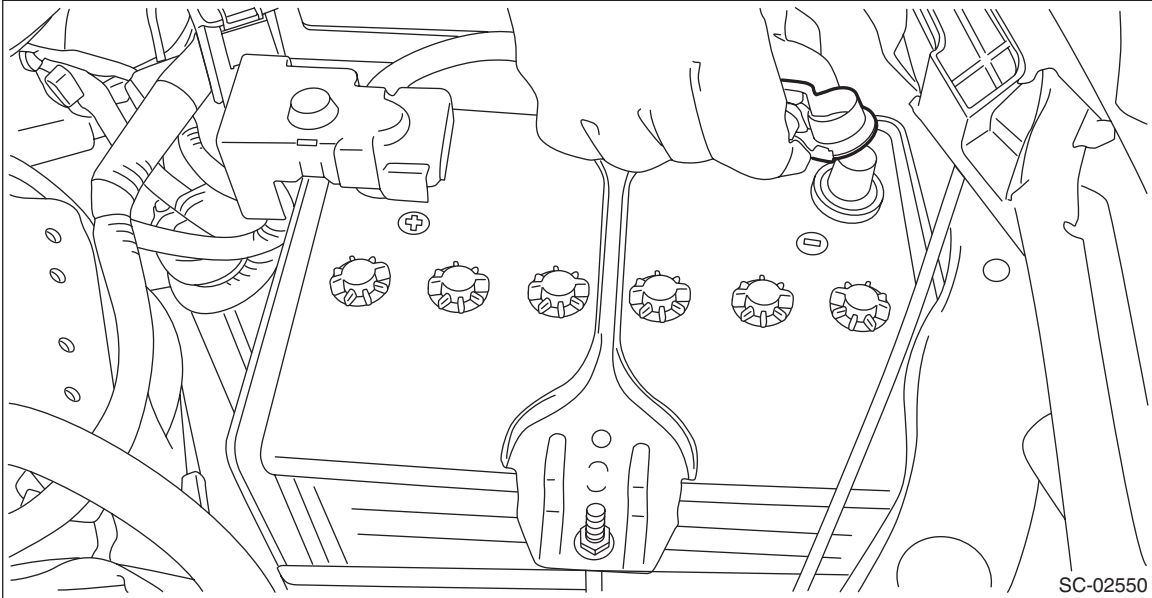
5) Install the under cover. <Ref. to EI-25, INSTALLATION, Front Under Cover.>

6) Lower the vehicle.

# Thermostat

## COOLING

7) Connect the battery ground terminal.



8) Fill engine coolant. <Ref. to CO(H4DO)-13, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

## 2. ATF COOLER (WITH WARMER FEATURE) SIDE

1) Install a gasket to thermostat.

NOTE:

Use a new gasket.

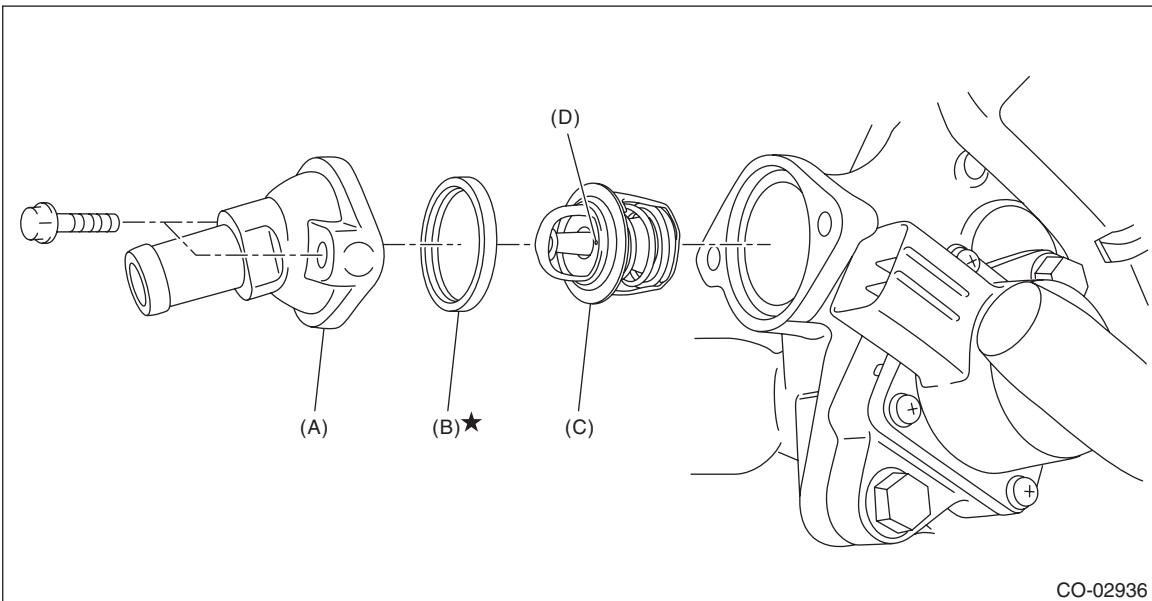
2) Install the thermostat and thermostat cover.

NOTE:

Install the parts with the air vent hole facing upward.

**Tightening torque:**

**6.4 N·m (0.7 kgf-m, 4.7 ft-lb)**



(A) Thermostat cover

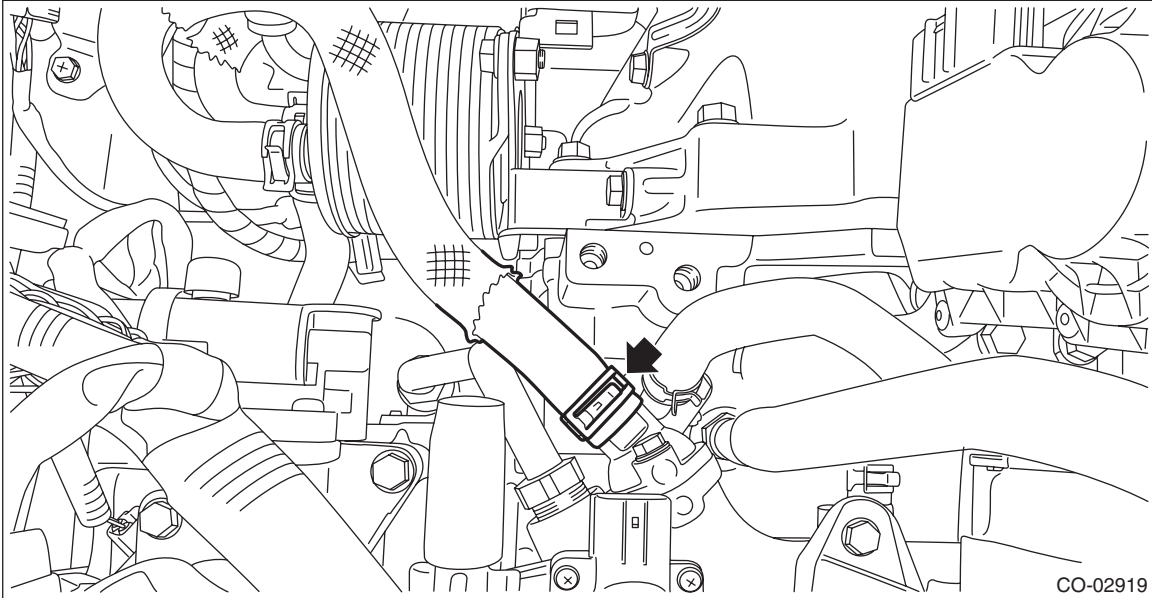
(B) Gasket

(C) Thermostat

(D) Air vent hole



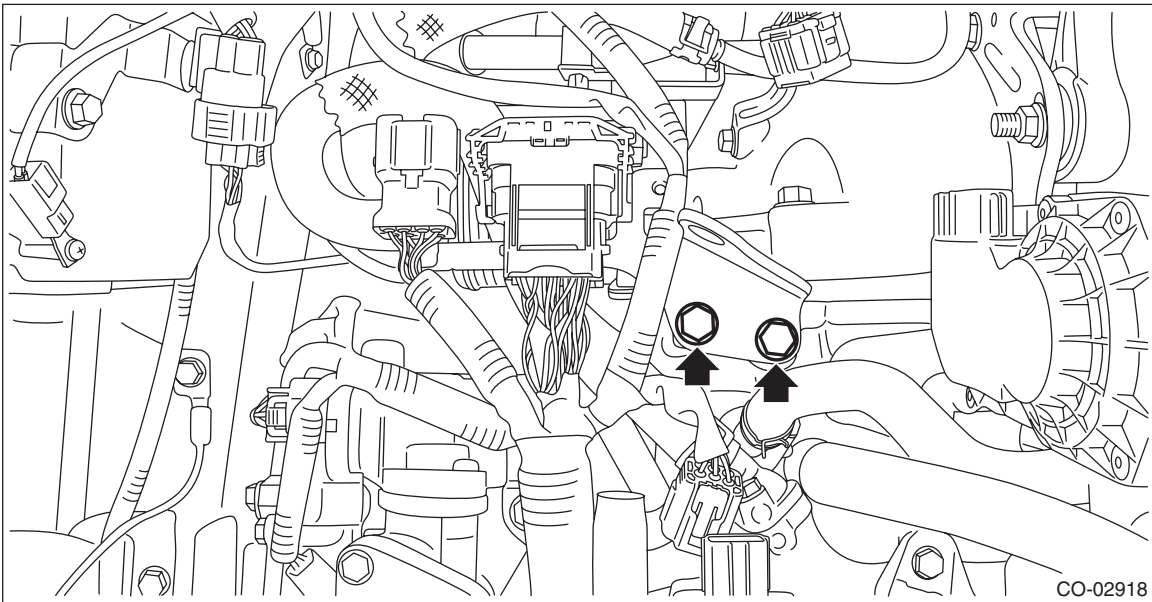
3) Connect the hose to the thermostat cover.



4) Install the engine hanger to the cylinder block RH.

**Tightening torque:**

**21 N·m (2.1 kgf-m, 15.5 ft-lb)**



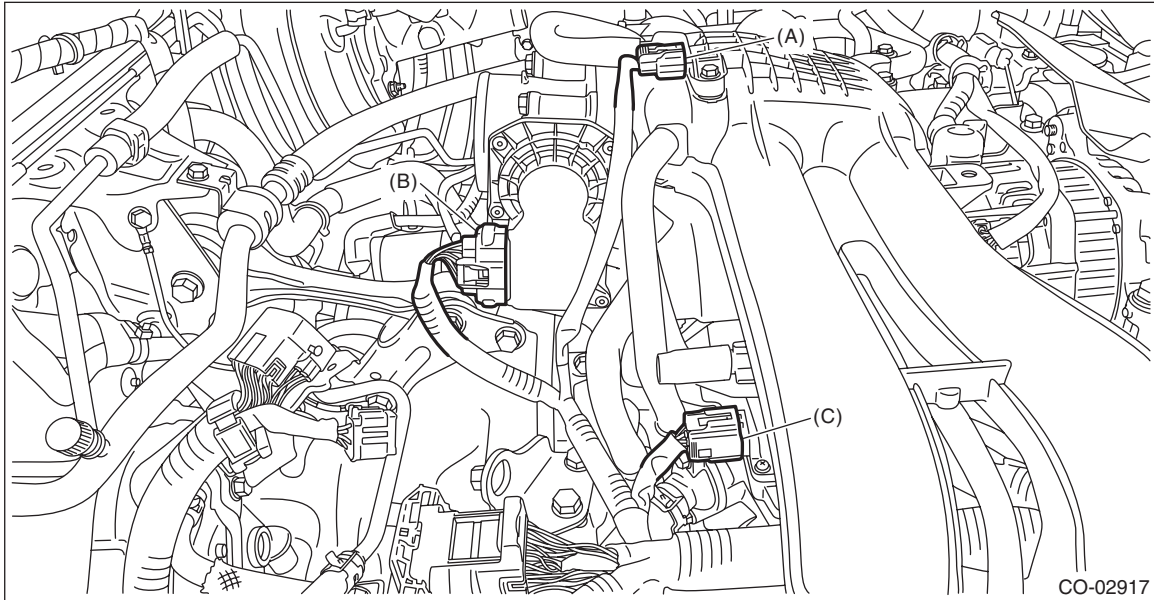
5) Connect the connector (A) to the manifold absolute pressure sensor.

6) Connect the connector (B) to the throttle position sensor.

# Thermostat

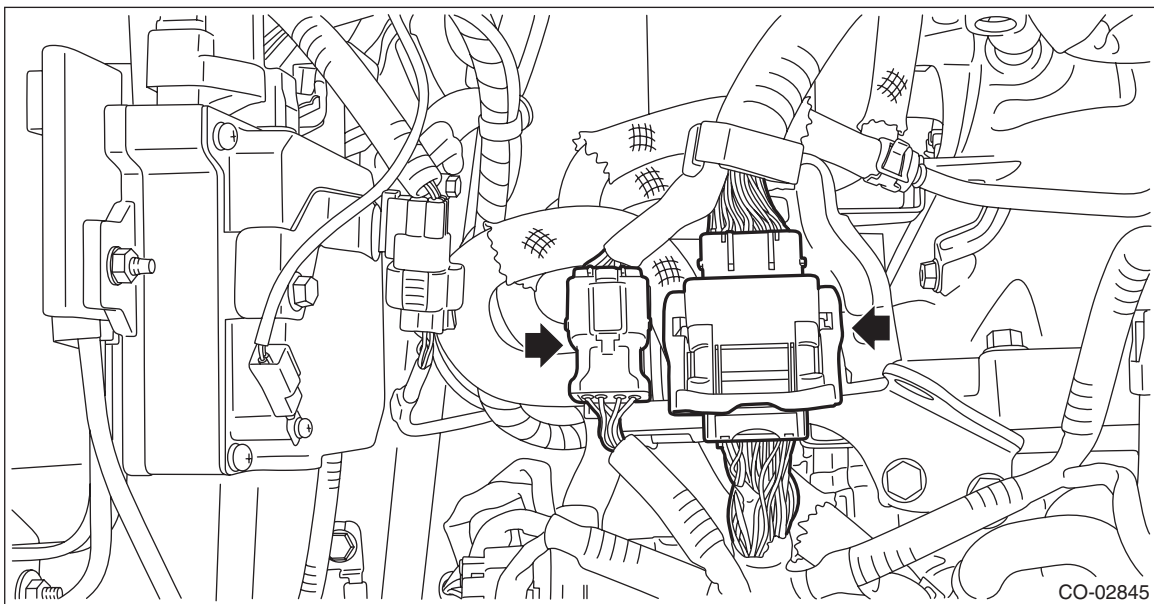
## COOLING

7) Connect the connector (C) to the EGR control valve.



8) Connect the engine harness connector.

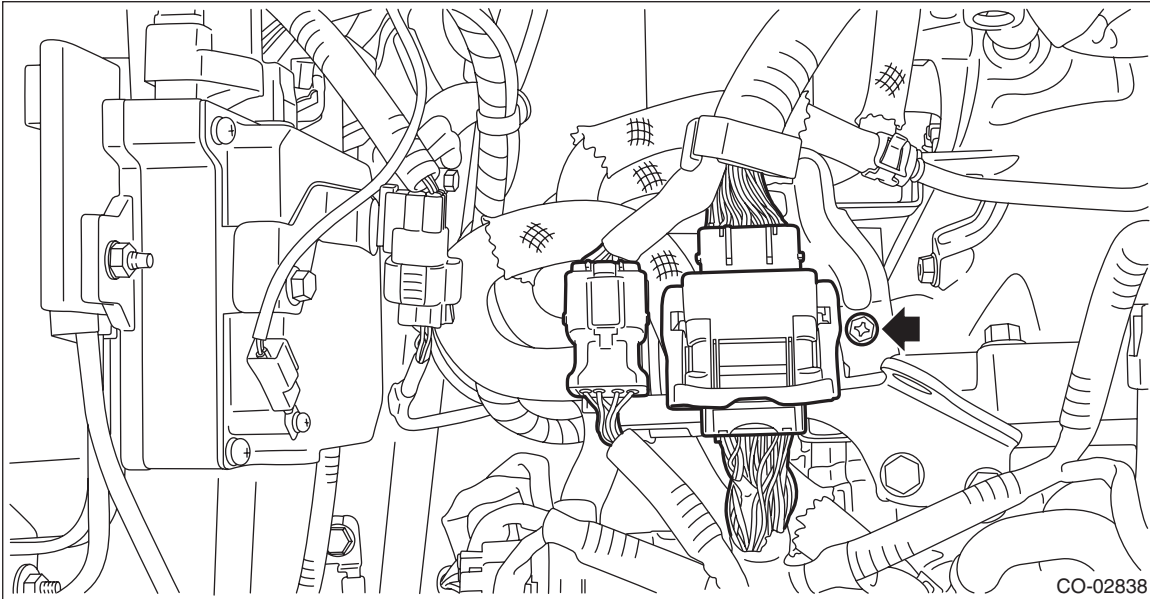
(1) Connect the bulkhead harness connector to the engine harness connector (black) and engine harness connector (brown).



- (2) Install the bolt which secures the bulkhead harness connector bracket.

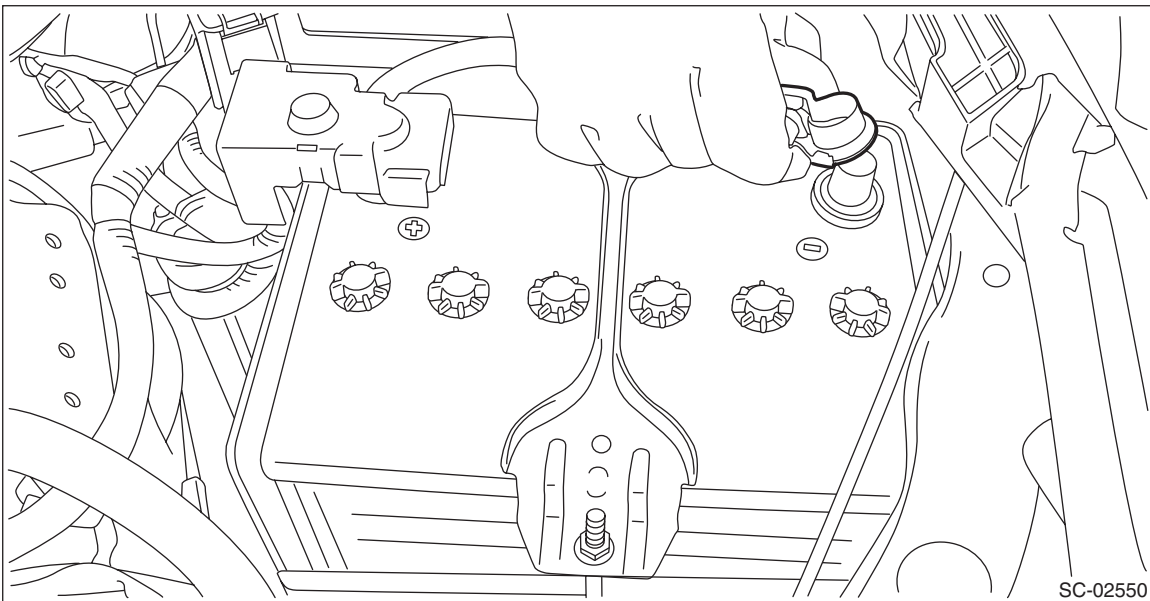
**Tightening torque:**

**7.5 N·m (0.8 kgf-m, 5.5 ft-lb)**



- 9) Install the air intake boot. <Ref. to IN(H4DO)-12, INSTALLATION, Air Intake Boot.>

- 10) Connect the battery ground terminal.



- 11) Lift up the vehicle.

- 12) Install the under cover. <Ref. to EI-25, INSTALLATION, Front Under Cover.>

- 13) Lower the vehicle.

- 14) Fill engine coolant. <Ref. to CO(H4DO)-13, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

# Thermostat

## COOLING

### C: INSPECTION

- 1) Check that the thermostat does not have deformation, cracks or damage.
- 2) Check that the thermostat valve closes completely at an ambient temperature.
- 3) Immerse the thermostat and a thermometer in water. Raise water temperature gradually, and check the temperature and valve lift when the valve begins to open and when the valve is fully opened. Replace the thermostat if faulty.

#### NOTE:

- During the test, agitate the water for even temperature distribution.
- Leave the thermostat in the boiling water for five minutes or more before measuring the valve lift.
- Hold the thermostat with a wire or the like to avoid contacting with container bottom.

#### **Starting temperature to open:**

##### **Engine side**

**87 — 91°C (189 — 196°F)**

##### **ATF cooler (with warmer feature) side**

**48 — 52°C (118 — 126°F)**

#### **Full open temperature:**

##### **Engine side**

**98°C (208°F)**

##### **ATF cooler (with warmer feature) side**

**63°C (145°F)**

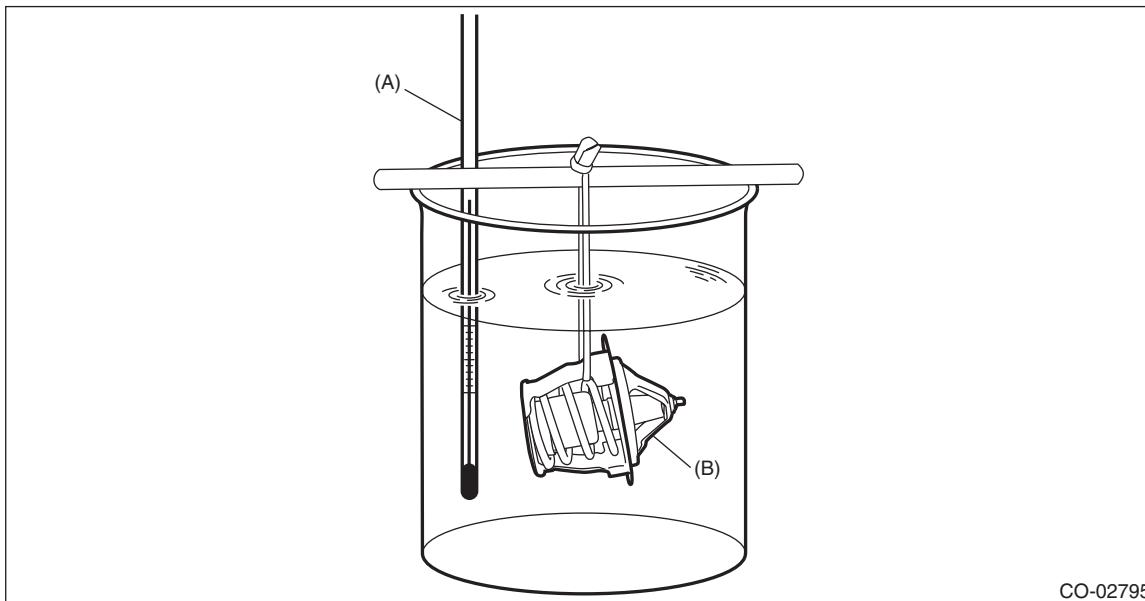
#### **Total valve lift:**

##### **Engine side**

**8.0 mm (0.315 in) or more**

##### **ATF cooler (with warmer feature) side**

**6.0 mm (0.236 in) or more**



CO-02795

(A) Thermometer

(B) Thermostat