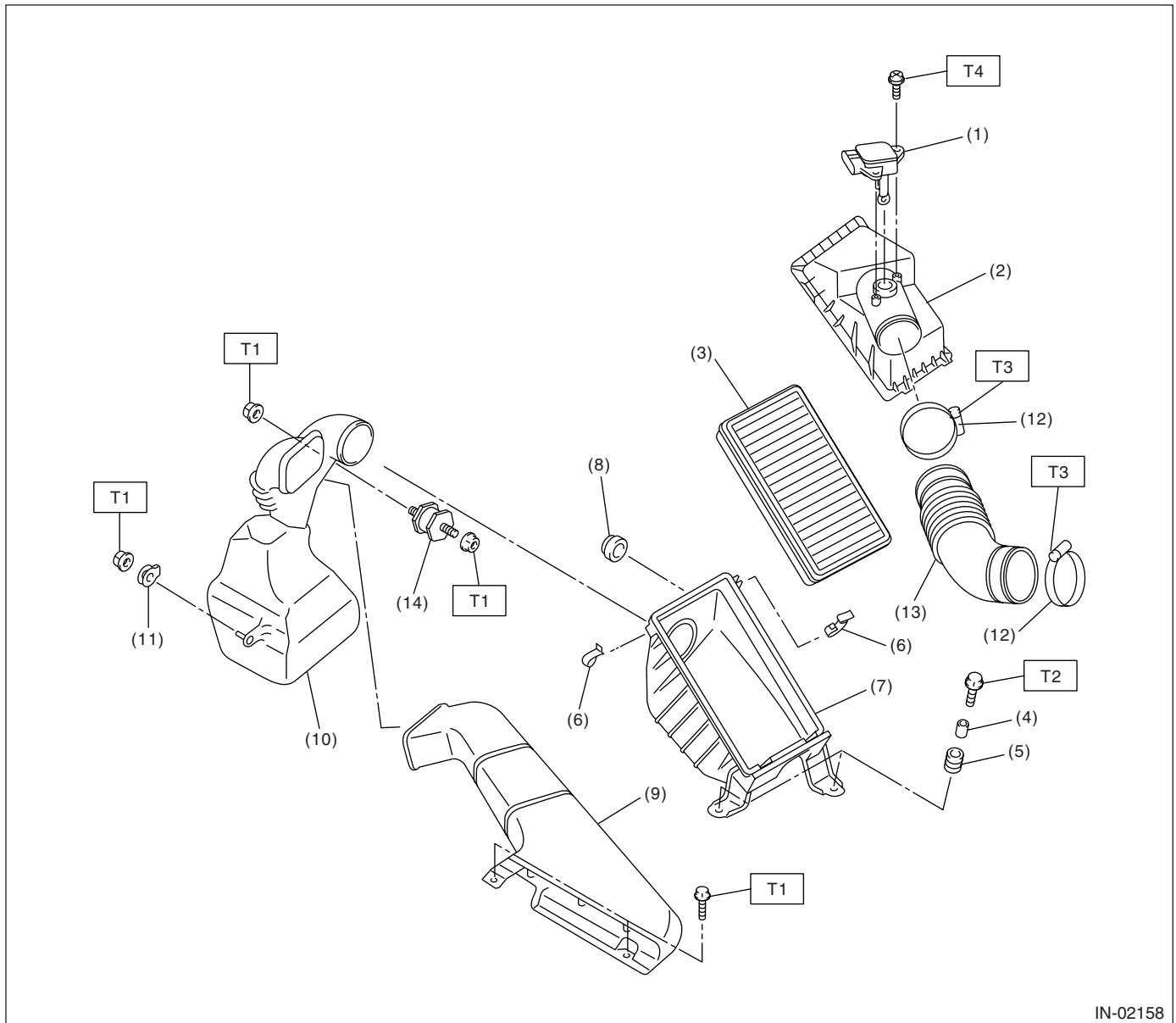


INTAKE (INDUCTION)

1. General Description

A: COMPONENT

1. AIR CLEANER



IN-02158

- | | | |
|---|-----------------------------|--------------|
| (1) Mass air flow and intake air temperature sensor | (7) Air cleaner lower case | (14) Cushion |
| (2) Air cleaner upper cover | (8) Cushion rubber | |
| (3) Air cleaner element | (9) Air intake duct | |
| (4) Spacer | (10) Resonator chamber ASSY | |
| (5) Bushing | (11) Cushion rubber | |
| (6) Clip | (12) Clamp | |
| | (13) Air intake boot | |

Tightening torque: N·m (kgf-m, ft-lb)

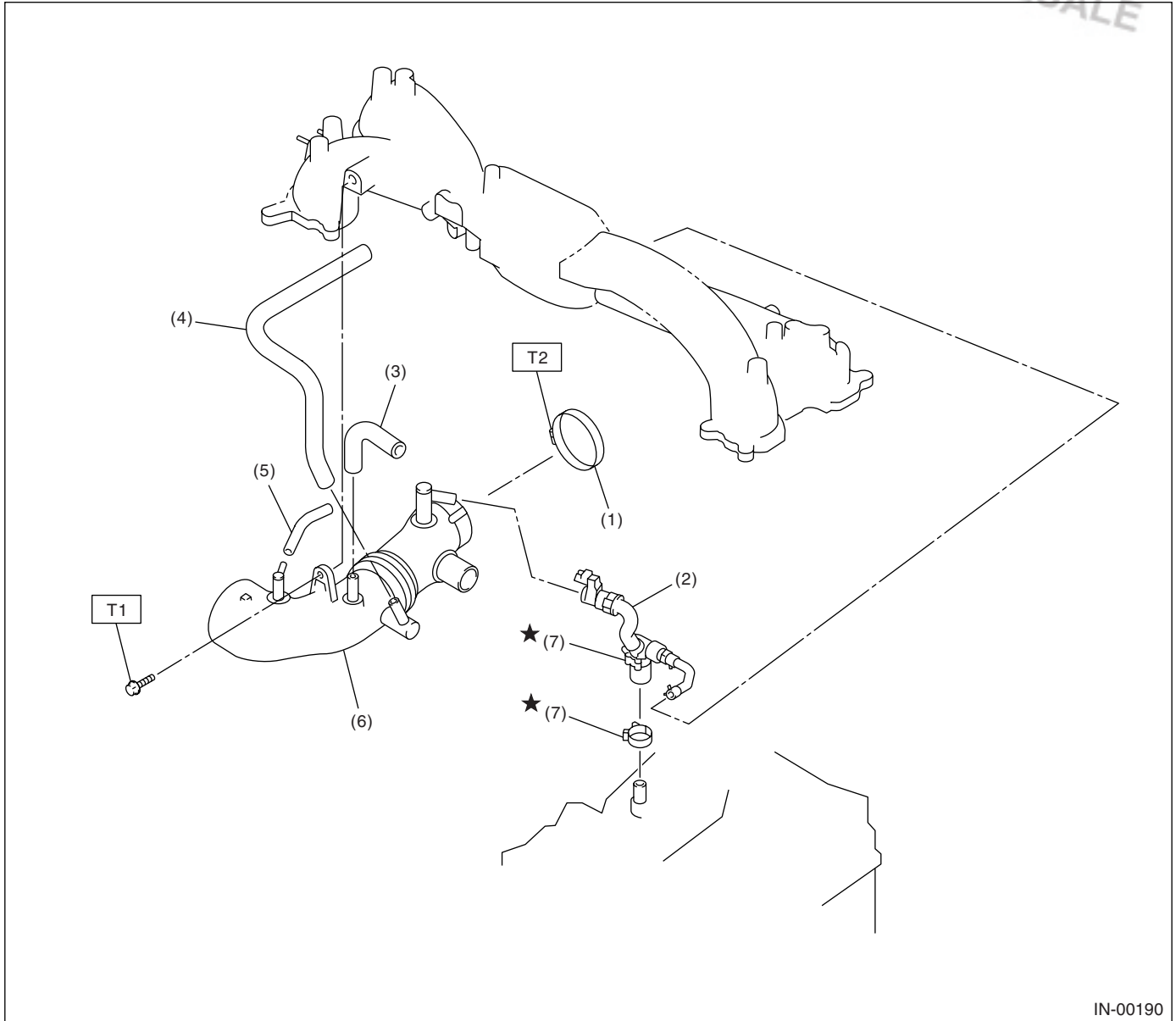
T1: 7.5 (0.76, 5.5)

T2: 33 (3.4, 24.6)

T3: 2.5 (0.25, 1.8)

T4: 1.7 (0.17, 1.2)

2. INTAKE DUCT



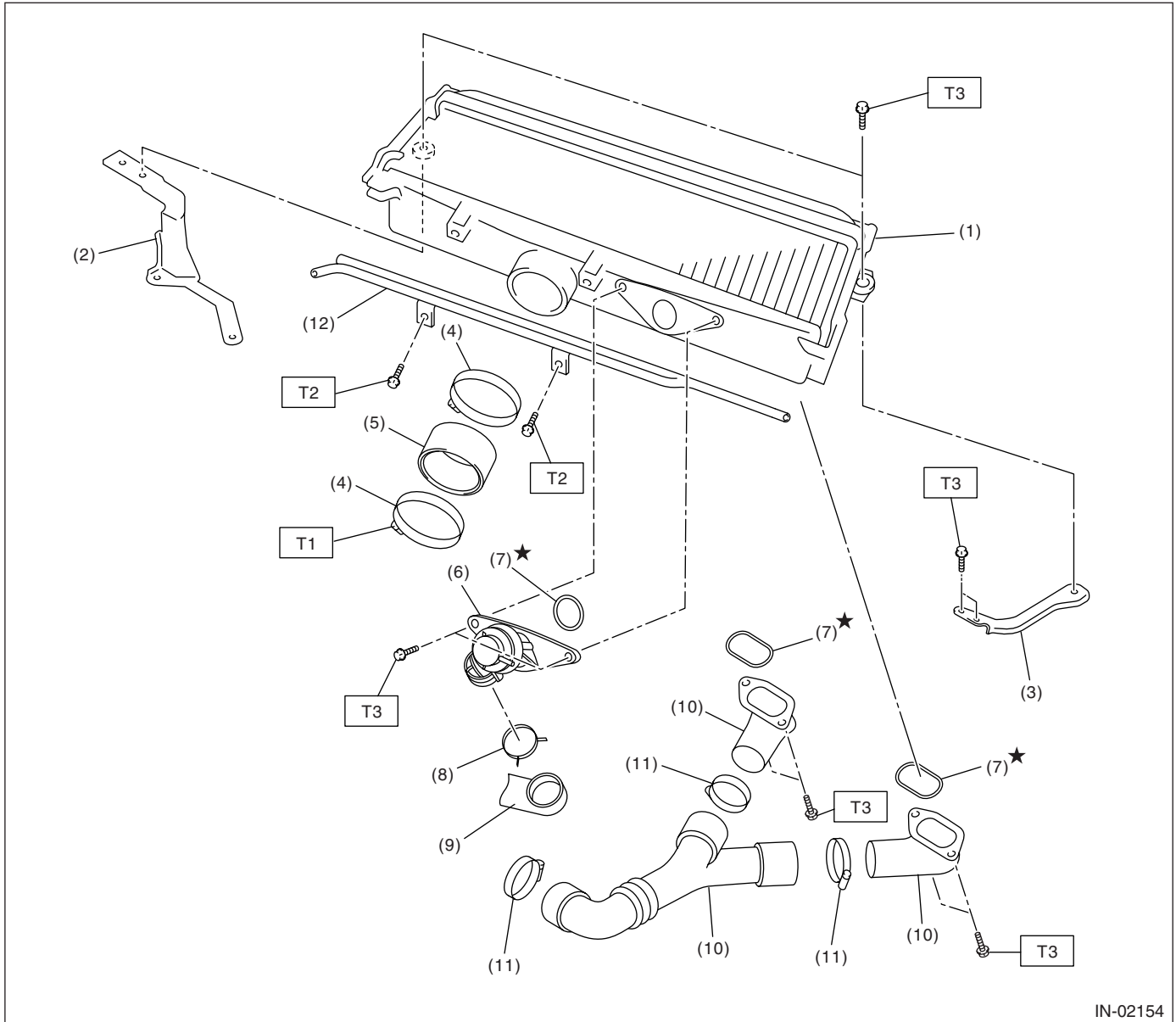
- | | |
|------------------------|------------------------|
| (1) Clamp | (5) Air by-pass hose C |
| (2) PCV hose ASSY | (6) Intake duct |
| (3) Air by-pass hose A | (7) Clamp |
| (4) Air by-pass hose B | |

Tightening torque: N·m (kgf-m, ft-lb)

T1: 19 (1.9, 13.7)

T2: 3 (0.3, 2.2)

3. INTERCOOLER



IN-02154

- | | |
|----------------------------|------------------------|
| (1) Intercooler | (7) O-ring |
| (2) Intercooler bracket RH | (8) Clamp |
| (3) Intercooler bracket LH | (9) Air by-pass hose A |
| (4) Clamp | (10) Intercooler duct |
| (5) Air intake duct | (11) Clamp |
| (6) Air by-pass valve | (12) PCV pipe |

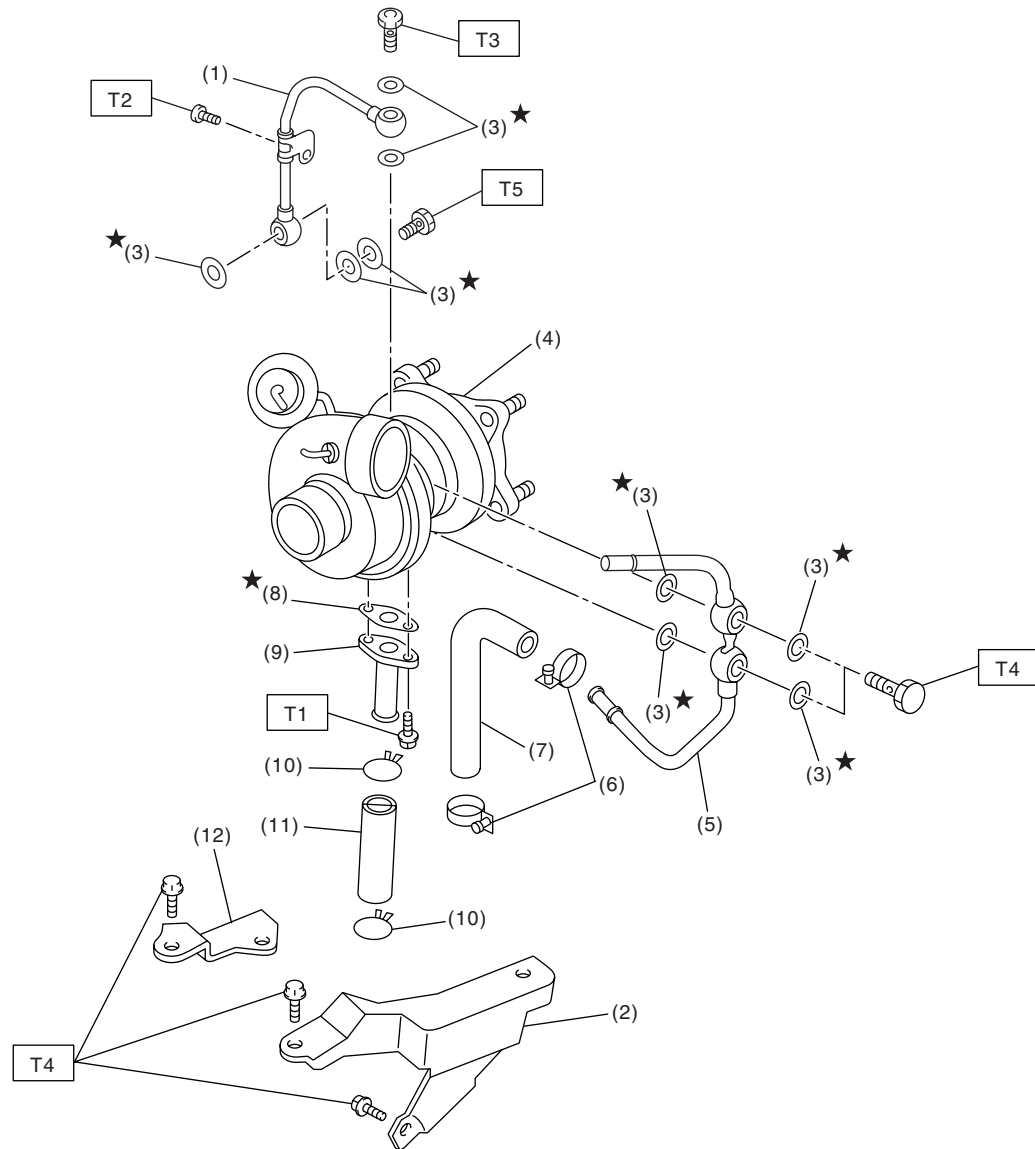
Tightening torque: N·m (kgf-m, ft-lb)

T1: 3 (0.3, 2.2)

T2: 6.3 (0.64, 4.6)

T3: 16 (1.6, 11.6)

4. TURBOCHARGER



IN-02155

- | | |
|-----------------------------|------------------------------|
| (1) Oil inlet pipe A | (7) Engine coolant hose |
| (2) Turbocharger bracket LH | (8) Gasket |
| (3) Metal gasket | (9) Oil outlet pipe |
| (4) Turbocharger | (10) Clip |
| (5) Water pipe | (11) Oil outlet hose |
| (6) Clamp | (12) Turbocharger bracket RH |

Tightening torque: N·m (kgf-m, ft-lb)**T1: 4.4 (0.45, 3.3)****T2: 4.9 (0.50, 3.6)****T3: 16 (1.6, 11.6)****T4: 33 (3.4, 24.6)****T5: 29 (3.0, 21.7)**

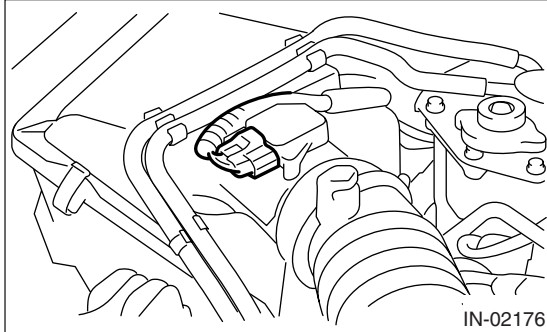
B: CAUTION

- Wear work clothing, including a cap, protective goggles, and protective shoes during operation.
- Remove contamination including dirt and corrosion before removal, installation or disassembly.
- Keep the disassembled parts in order and protect them from dust and dirt.
- Before removal, installation or disassembly, be sure to clarify the failure. Avoid unnecessary removal, installation, disassembly, and replacement.
- Be careful not to burn yourself, because each part on the vehicle is hot after running.
- Be sure to tighten fasteners including bolts and nuts to the specified torque.
- Place shop jacks or rigid racks at the specified points.
- Before disconnecting electrical connectors of sensor or units, be sure to disconnect the ground cable from battery.

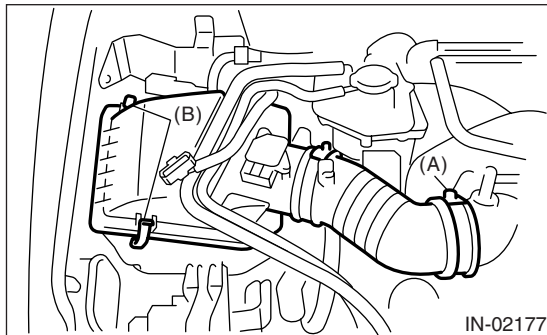
2. Air Cleaner Element

A: REMOVAL

- 1) Disconnect the ground cable from battery.
- 2) Disconnect the connector from mass air flow and intake air temperature sensor.



- 3) Loosen the clamp (A) which connects the air intake boot and intake duct.
- 4) Remove the clip (B) from air cleaner upper cover.



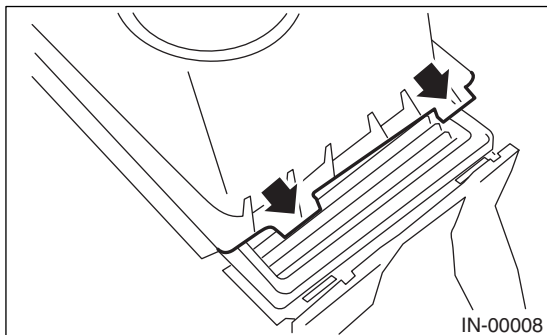
- 5) Remove the air cleaner upper cover.
- 6) Remove the air cleaner element.

B: INSTALLATION

Install in the reverse order of removal.

NOTE:

Before installing the air cleaner upper cover, align the holes with protruding portions of air cleaner lower case, then secure the upper cover to the lower case.



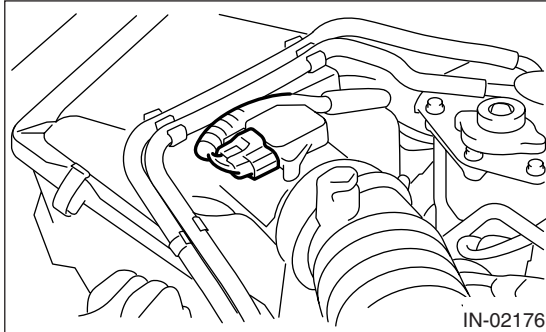
C: INSPECTION

Replace it if excessively damaged or dirty.

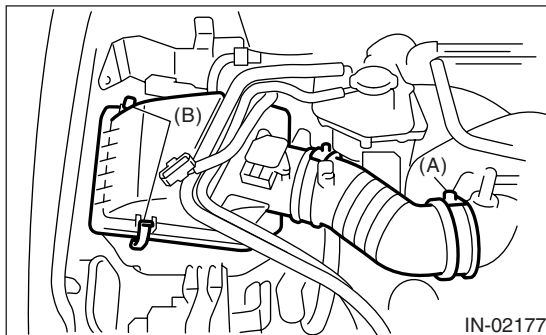
3. Air Cleaner Case

A: REMOVAL

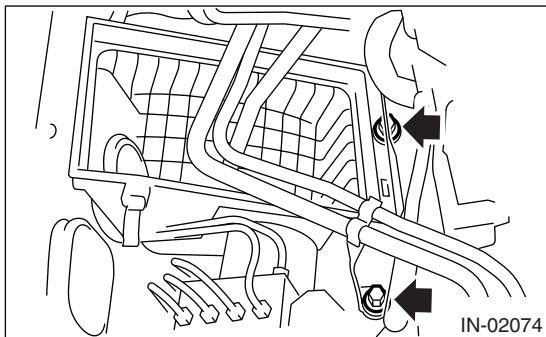
- 1) Disconnect the ground cable from battery.
- 2) Disconnect the connector from mass air flow and intake air temperature sensor.



- 3) Loosen the clamp (A) which connects the air intake boot and intake duct.
- 4) Remove the clip (B) from air cleaner upper cover.



- 5) Remove the air cleaner upper cover.
- 6) Remove the air cleaner element.
- 7) Remove the air cleaner lower case.

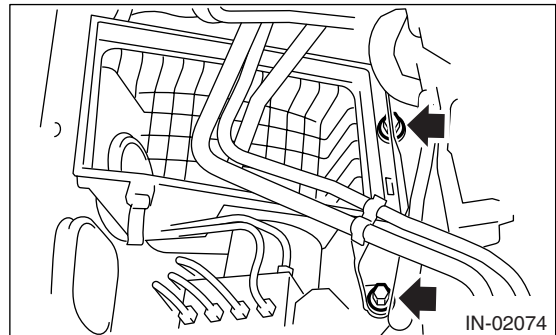


B: INSTALLATION

Install in the reverse order of removal.

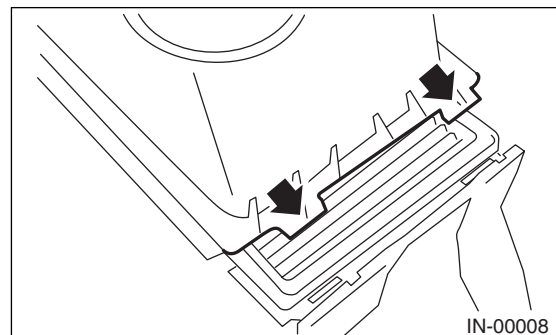
Tightening torque:

33 N·m (3.4 kgf-m, 24.6 ft-lb)



NOTE:

Before installing the air cleaner upper cover, align the holes with protruding portions of air cleaner lower case, then secure the upper cover to the lower case.



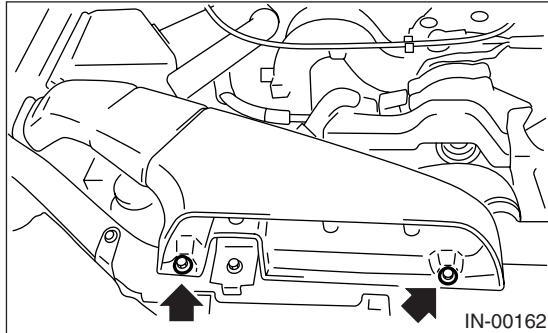
C: INSPECTION

Inspect for cracks and loose connections.

4. Air Intake Duct

A: REMOVAL

Remove the bolts which install the air intake duct on front side of body.

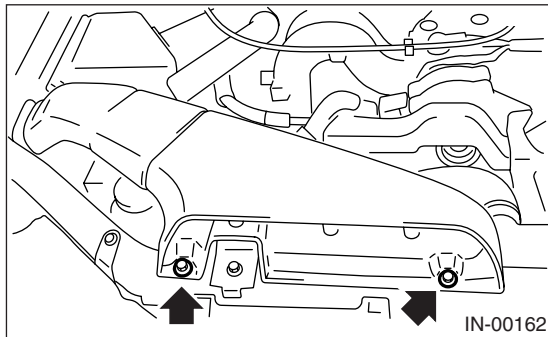


B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:

7.5 N·m (0.76 kgf-m, 55 ft-lb)



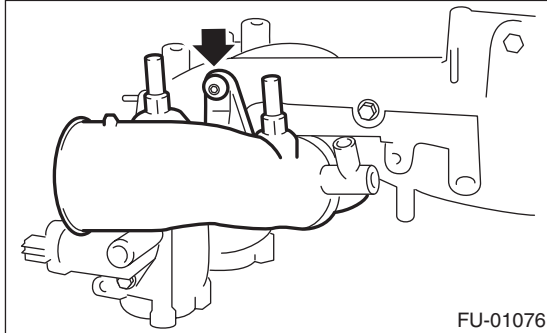
C: INSPECTION

- 1) Inspect for cracks and loose connections.
- 2) Inspect that no foreign objects are mixed in air intake duct.

5. Intake Duct

A: REMOVAL

- 1) Disconnect the ground cable from battery.
- 2) Remove the intake manifold. <Ref. to FU(H4DOTC)-14, REMOVAL, Intake Manifold.>
- 3) Remove the sensor, engine harness and fuel pipe attached to intake manifold. <Ref. to FU(H4DOTC)-19, DISASSEMBLY, Intake Manifold.>
- 4) Remove the intake duct from intake manifold.

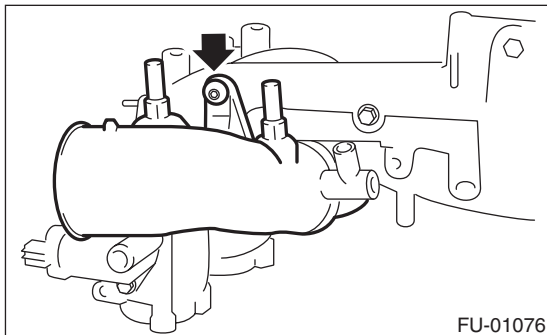


B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:

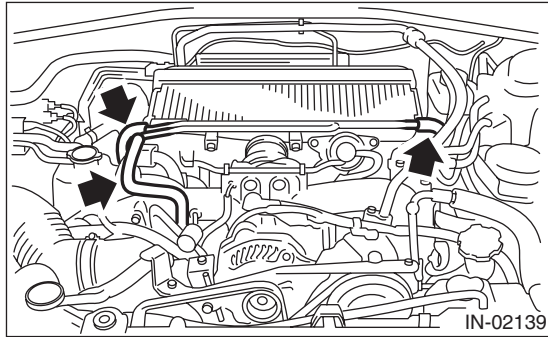
19 N·m (1.9 kgf-m, 13.7 ft-lb)



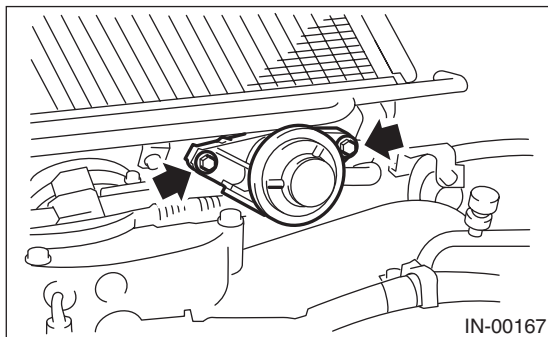
6. Intercooler

A: REMOVAL

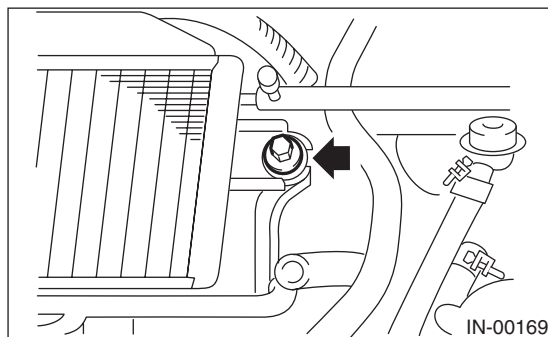
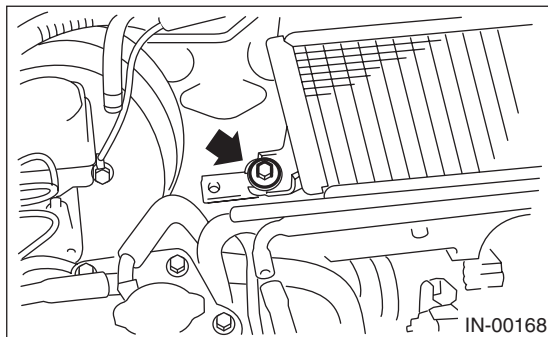
1) Disconnect the PCV hoses from PCV pipe.



2) Remove the air by-pass valve from intercooler.

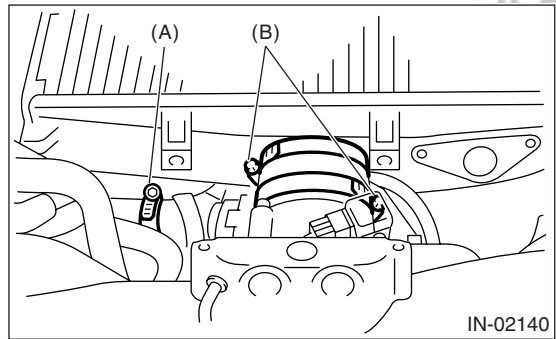


3) Remove the bolts which secure the intercooler to bracket.



4) Loosen the clamp (A) which connects the turbo-charger to intercooler ducts.

5) Loosen the clamp (B) which connects the throttle body to intercooler.



6) Remove the intercooler air duct from turbocharg-er.

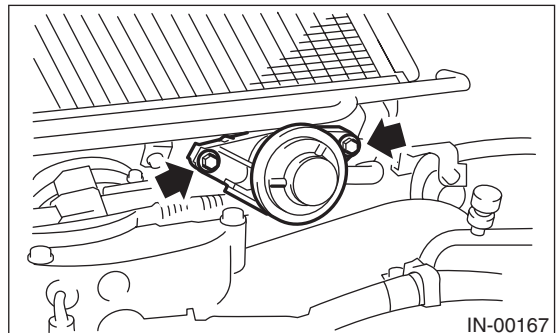
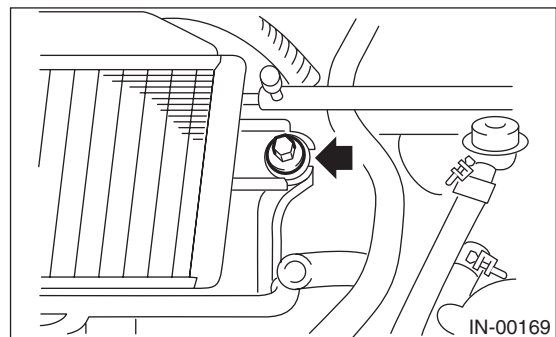
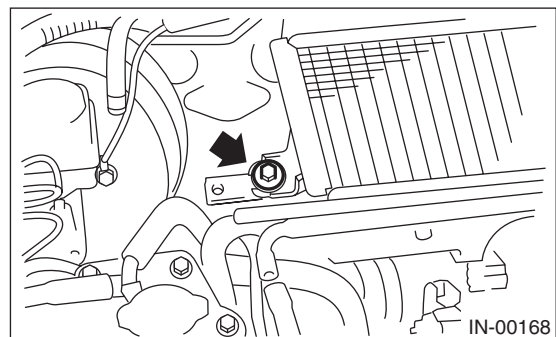
7) Remove the intercooler from throttle body.

B: INSTALLATION

Install in the reverse order of removal.

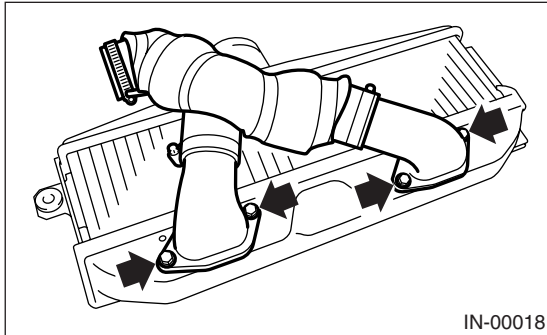
Tightening torque:

16 N·m (1.6 kgf-m, 11.6 ft-lb)

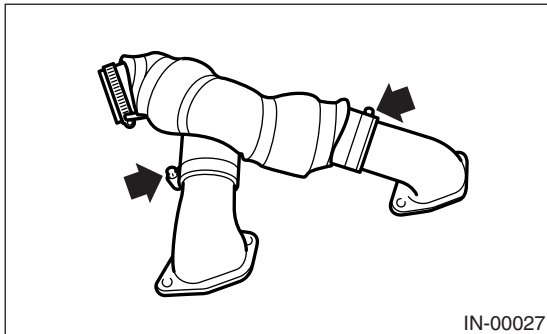


C: DISASSEMBLY

1) Remove the intercooler ducts from intercooler.



2) Separate the intercooler ducts.



D: ASSEMBLY

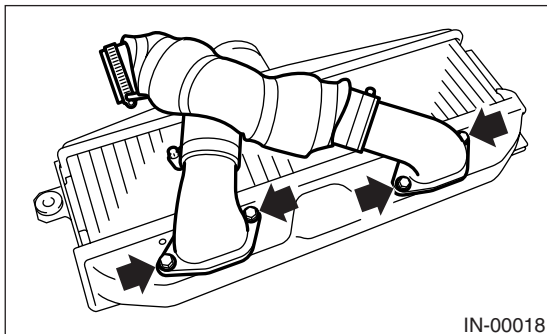
Assemble in the reverse order of disassembly.

NOTE:

Do not let the O-ring bite.

Tightening torque:

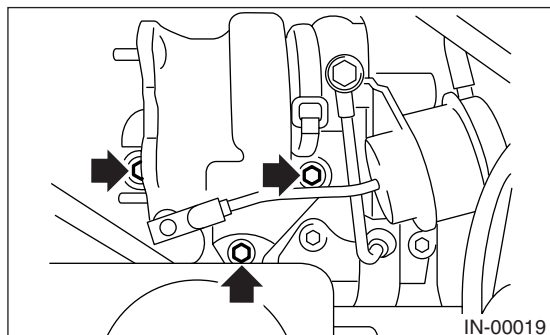
16 N·m (1.6 kgf-m, 11.6 ft-lb)



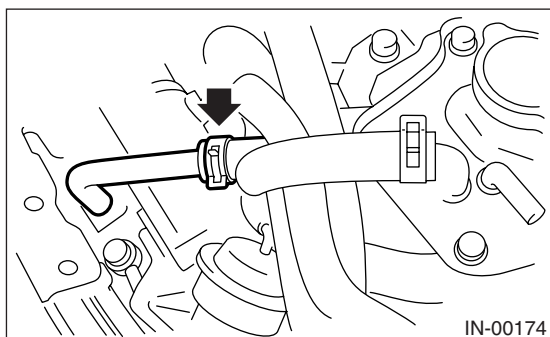
7. Turbocharger

A: REMOVAL

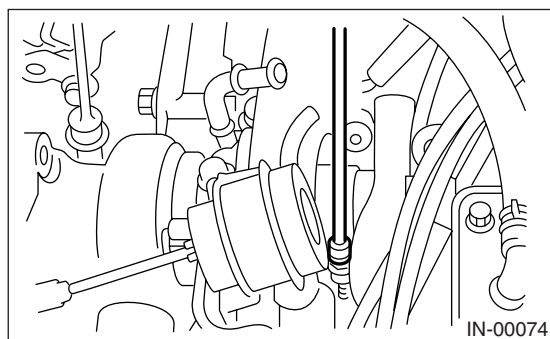
- 1) Set the vehicle on a lift.
- 2) Disconnect the ground cable from battery.
- 3) Remove the center exhaust pipe. <Ref. to EX(H4DOTC)-10, REMOVAL, Center Exhaust Pipe.>
- 4) Lower the vehicle.
- 5) Disconnect the turbocharger joint pipe from turbo-charger.



- 6) Disconnect the engine coolant hose which is connected to coolant filler tank.

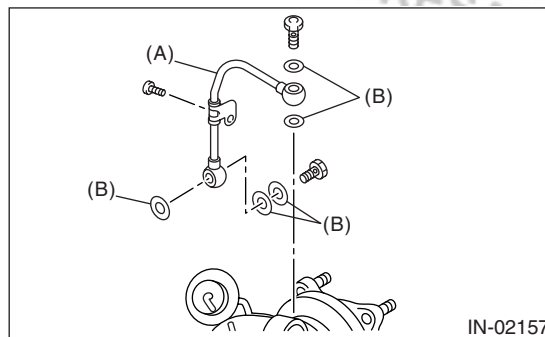


- 7) Loosen the clamp which secures the turbocharger to intake duct.

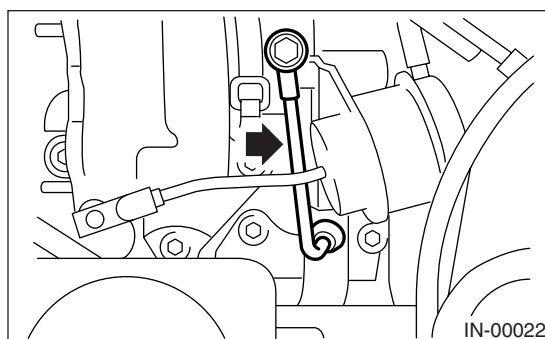


- 8) Remove the bolt which secures the bracket of oil inlet pipe to turbocharger.

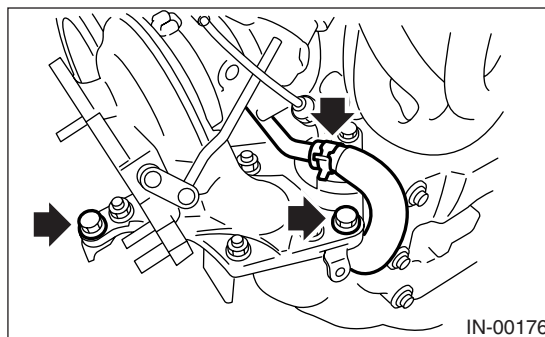
- 9) Remove the oil inlet pipe from turbocharger.



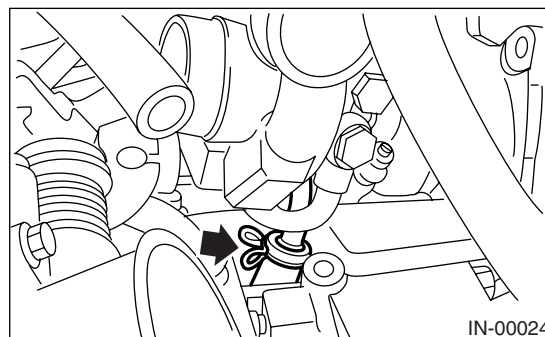
- (A) Oil inlet pipe
(B) Metal gasket



- 10) Disconnect the engine coolant hose.
- 11) Remove the turbocharger bracket.



- 12) Disconnect the oil outlet hose from pipe.



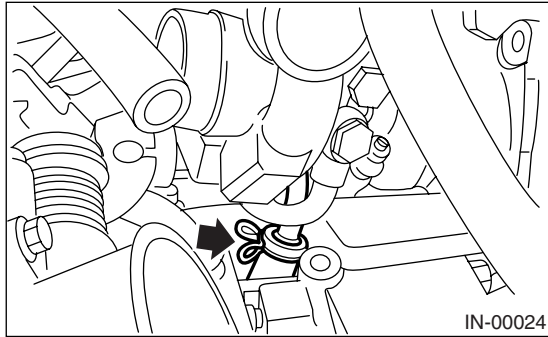
- 13) Take out the turbocharger from engine compartment.

Turbocharger

INTAKE (INDUCTION)

B: INSTALLATION

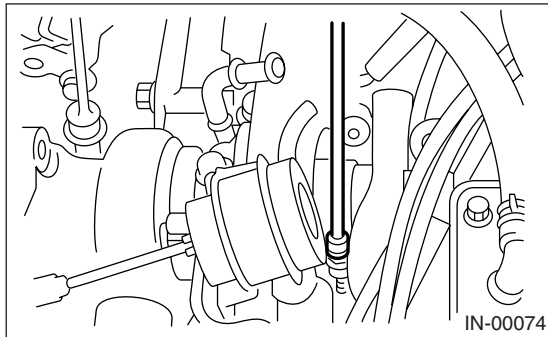
- 1) Connect the oil outlet hose to outlet pipe.



- 2) Install the turbocharger to intake duct.

Tightening torque:

3 N·m (0.3 kgf-m, 2.2 ft-lb)



- 3) Install the oil inlet pipe to turbocharger.

NOTE:

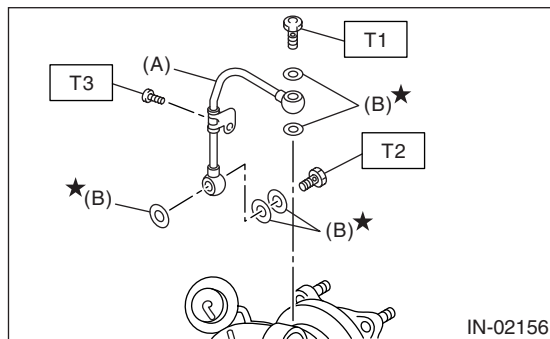
Replace the gasket with new one.

Tightening torque:

T1: 16 N·m (1.6 kgf-m, 11.6 ft-lb)

T2: 29 N·m (3.0 kgf-m, 21.7 ft-lb)

T3: 4.9 N·m (0.50 kgf-m, 3.6 ft-lb)



(A) Oil inlet pipe

(B) Metal gasket

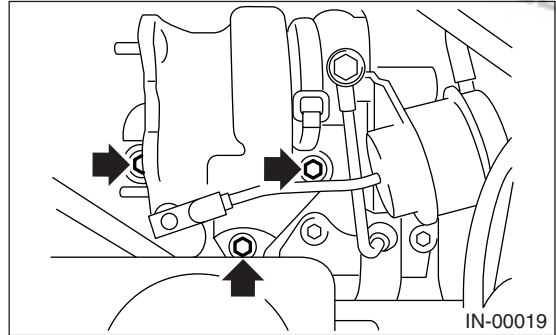
- 4) Install the joint pipe to turbocharger.

NOTE:

Replace the gasket with a new one.

Tightening torque:

35 N·m (3.6 kgf-m, 25.8 ft-lb)

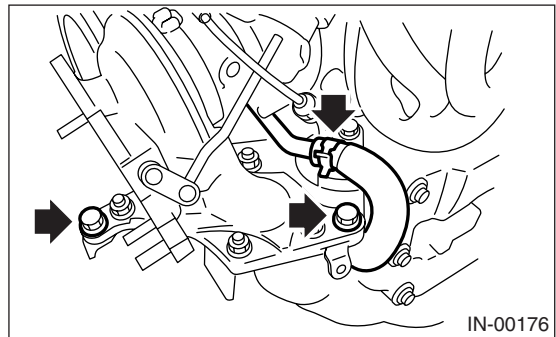


- 5) Connect the engine coolant hose.

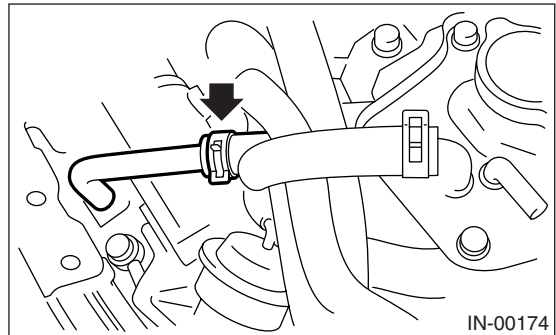
- 6) Install the turbocharger bracket.

Tightening torque:

33 N·m (3.4 kgf-m, 24.6 ft-lb)



- 7) Connect the engine coolant hose which is connected to coolant filler tank.



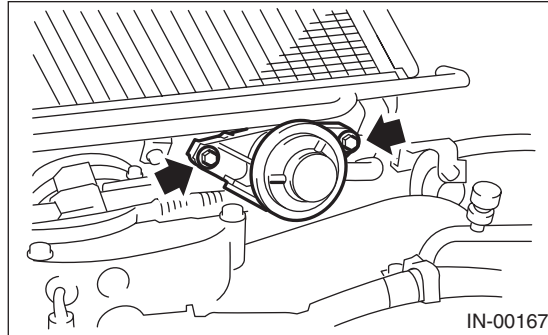
- 8) Lift-up the vehicle.

- 9) Install the center exhaust pipe. <Ref. to EX(H4DOTC)-11, INSTALLATION, Center Exhaust Pipe.>

8. Air By-pass Valve

A: REMOVAL

1) Remove the air by-pass valve from intercooler.



2) Disconnect the air by-pass hoses from air by-pass valve.

B: INSTALLATION

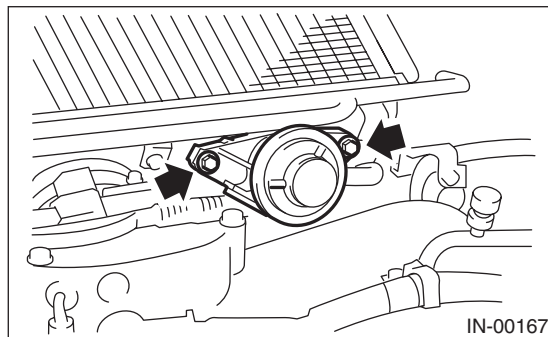
Install in the reverse order of removal.

NOTE:

Do not let the O-ring bite.

Tightening torque:

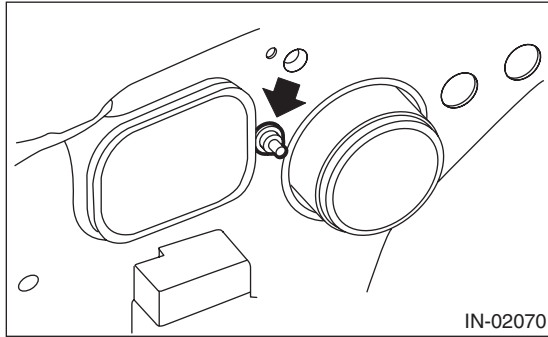
16 N·m (1.6 kgf-m, 11.6 ft-lb)



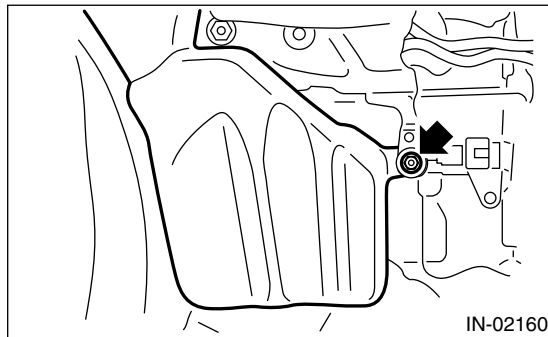
9. Resonator Chamber

A: REMOVAL

- 1) Set the vehicle on a lift.
- 2) Remove the air intake duct. <Ref. to IN(H4DOTC)-9, REMOVAL, Air Intake Duct.>
- 3) Remove the air cleaner lower case. <Ref. to IN(H4DOTC)-8, REMOVAL, Air Cleaner Case.>
- 4) Remove the resonator chamber mounting nut on right side of engine compartment.



- 5) Remove the front wheel RH, and lift up the vehicle.
- 6) Remove the front mud guard RH.
- 7) Remove the resonator chamber from the inside front fender.

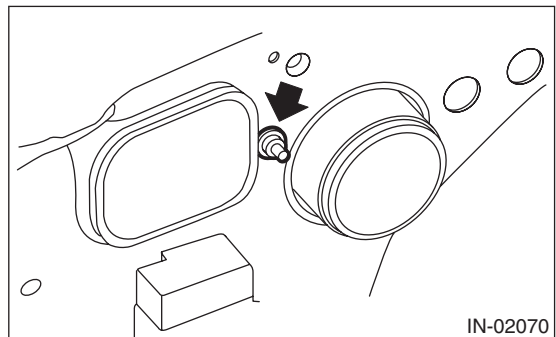
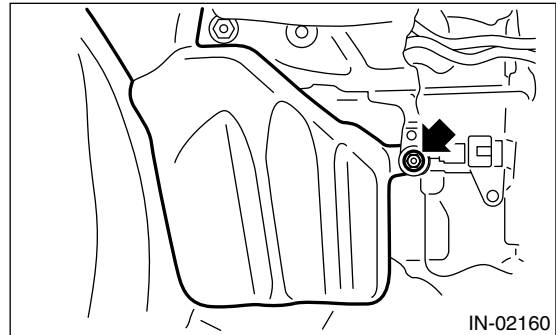


B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:

7.5 N·m (0.76 kgf-m, 5.5 ft-lb)



C: INSPECTION

- 1) Inspect for cracks and loose connections.
- 2) Inspect that no foreign objects are mixed in resonator chamber.