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NOT FOR RESALE

INTAKE (INDUCTION)

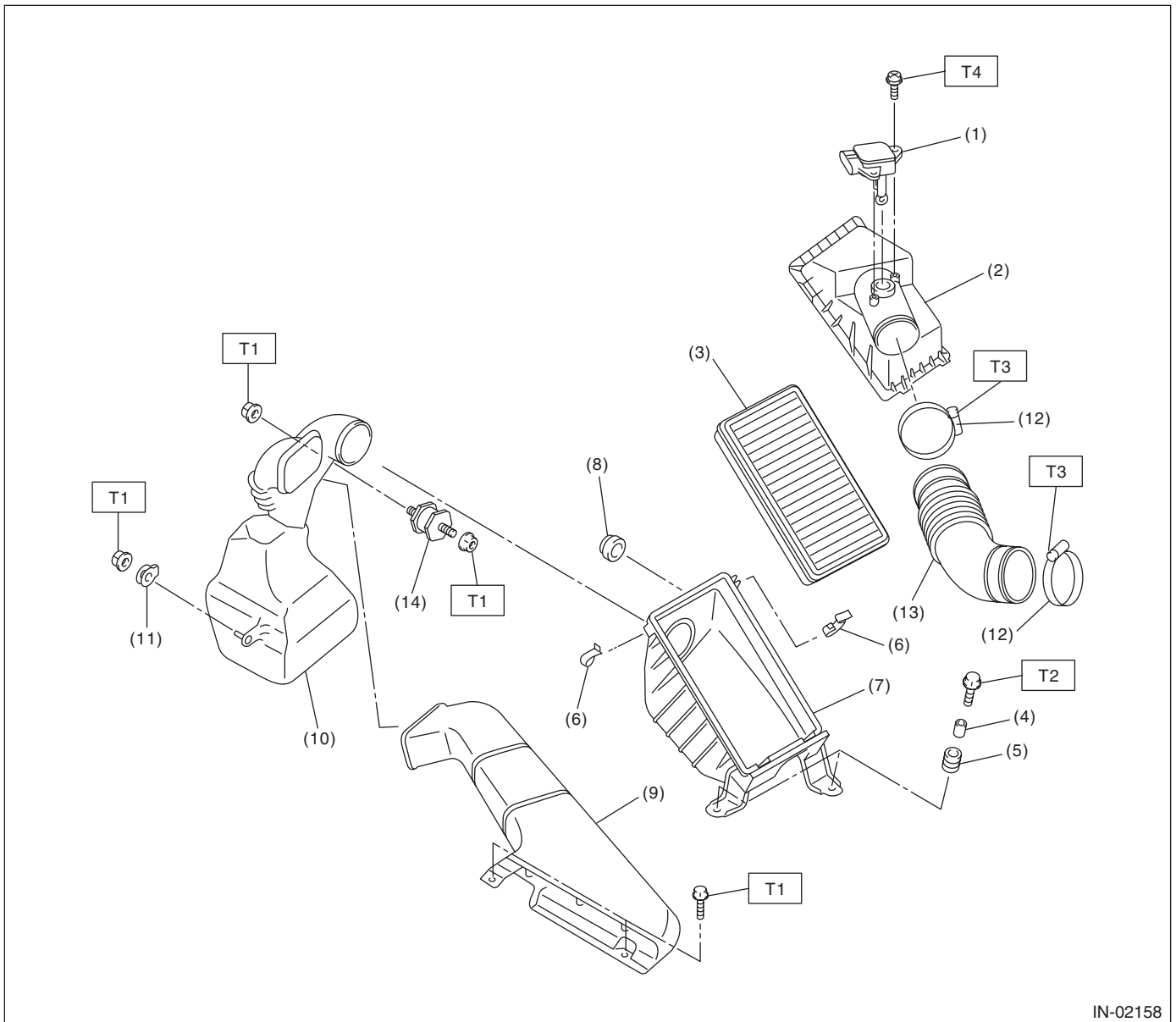
General Description

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)

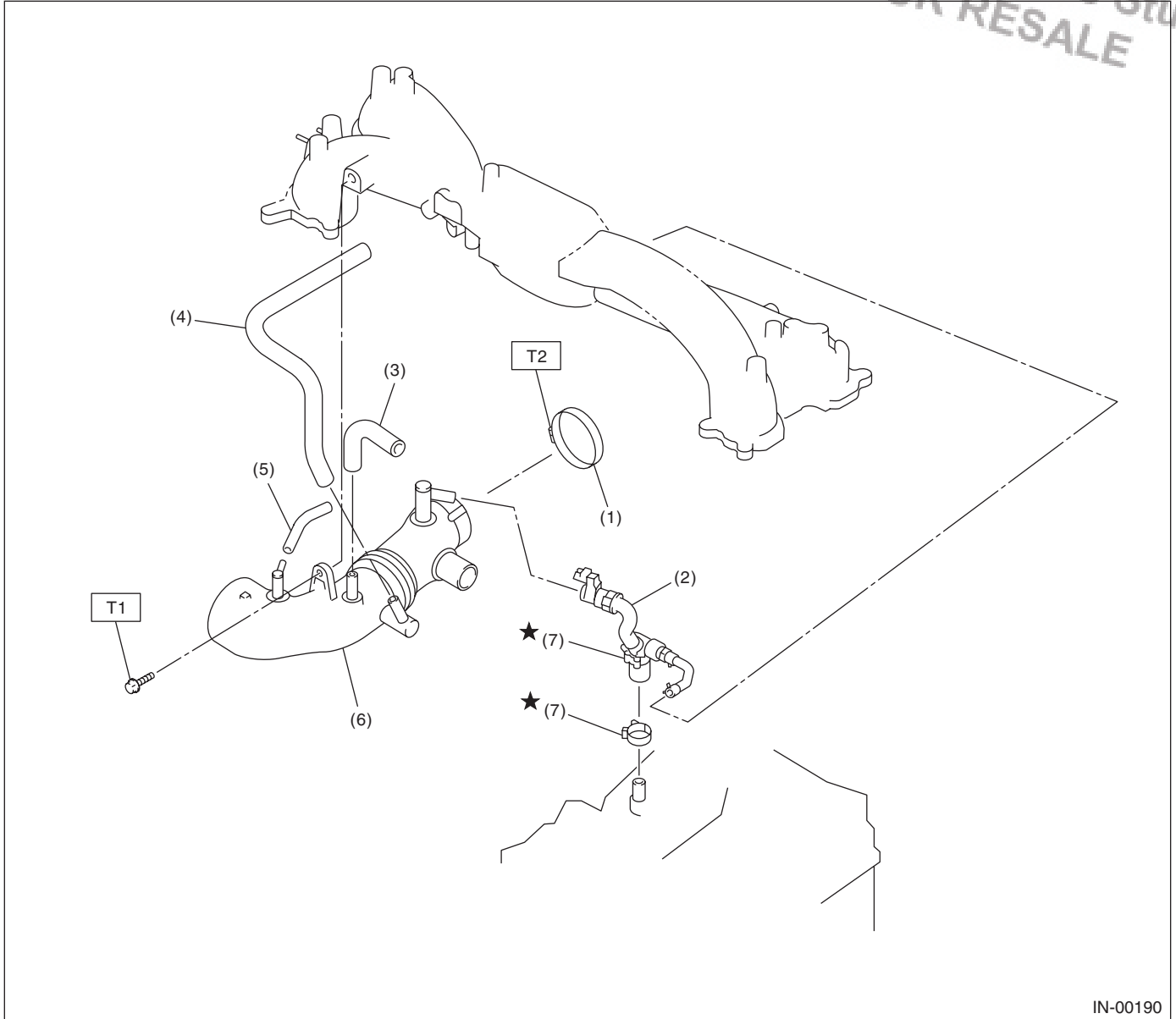
T1: 7.5 (0.76, 5.5)

T2: 33 (3.4, 24.6)

T3: 2.5 (0.25, 1.8)

T4: 1.0 (0.1, 0.7)

2. INTAKE DUCT



IN-00190

- | | |
|------------------------|------------------------|
| (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, 14.0)

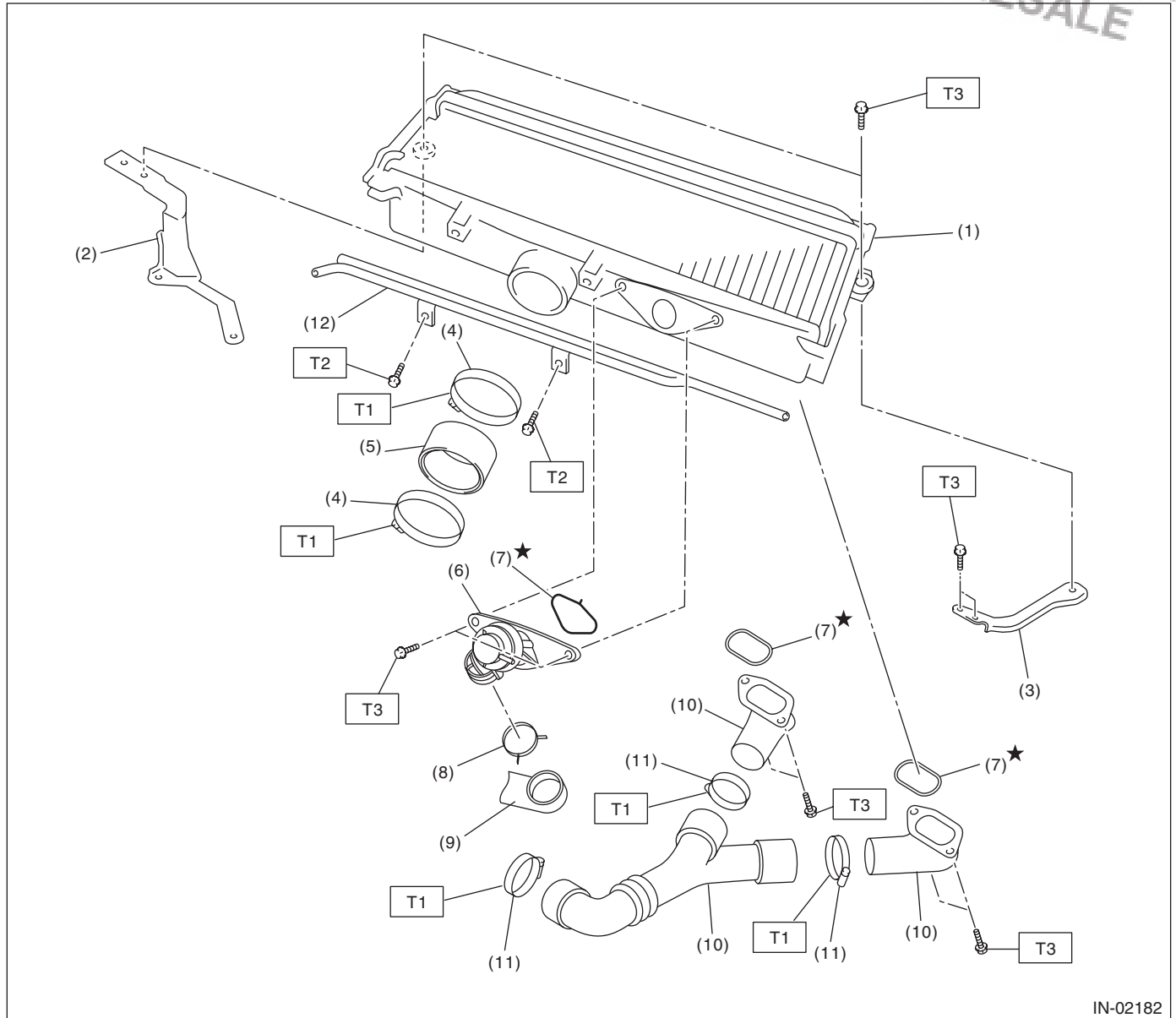
T2: 3 (0.3, 2.2)

General Description

INTAKE (INDUCTION)

3. INTERCOOLER

- Except for STI model



IN-02182

- | | |
|----------------------------|------------------------|
| (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)

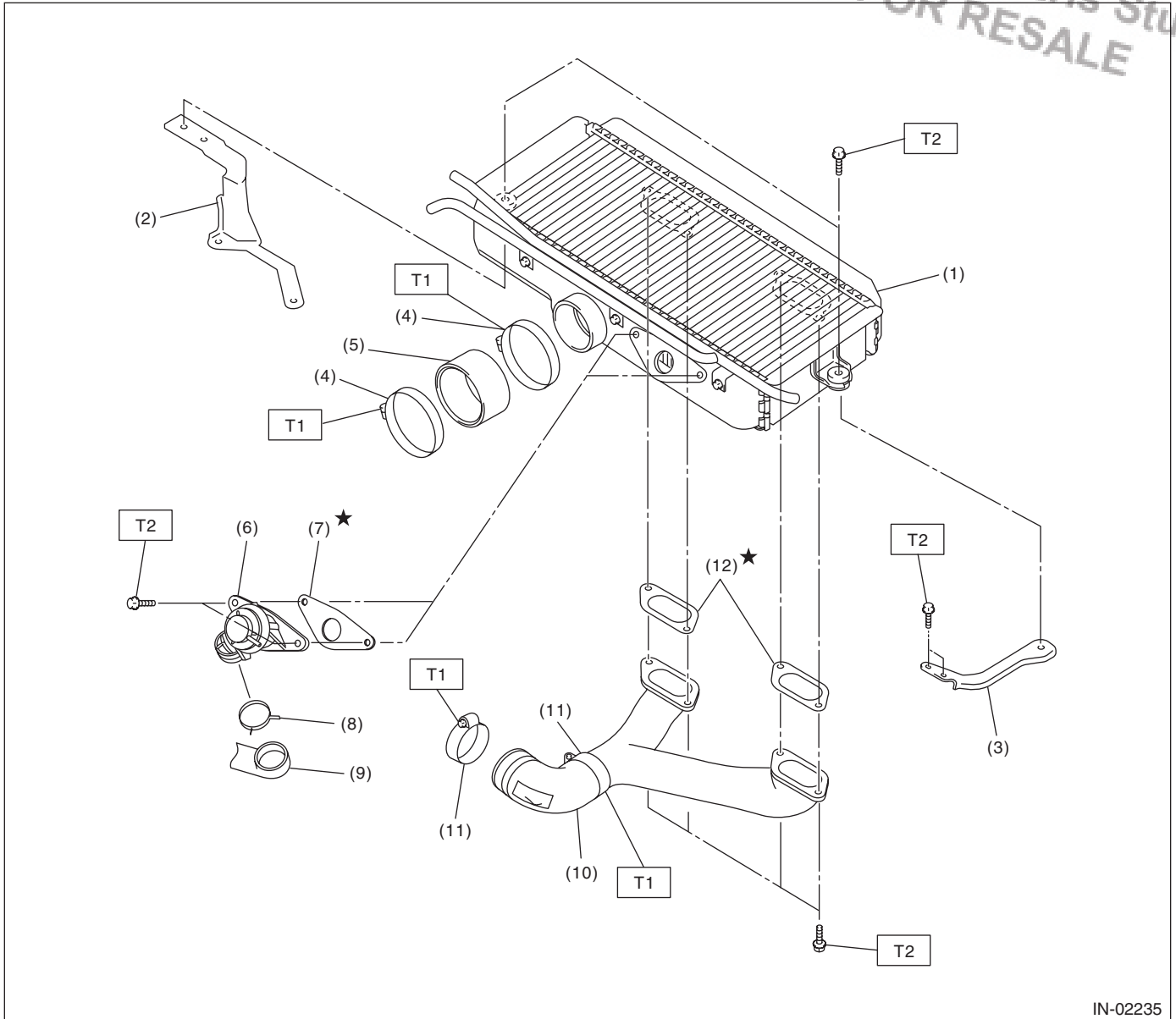
T2: 6.3 (0.64, 4.6)

T3: 16 (1.6, 11.6)

General Description

INTAKE (INDUCTION)

- STI model



IN-02235

- | | | |
|----------------------------|------------------------|-------------|
| (1) Intercooler | (7) Gasket | (12) Gasket |
| (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 | | |

Tightening torque: N·m (kgf·m, ft·lb)

T1: 3 (0.3, 2.2)

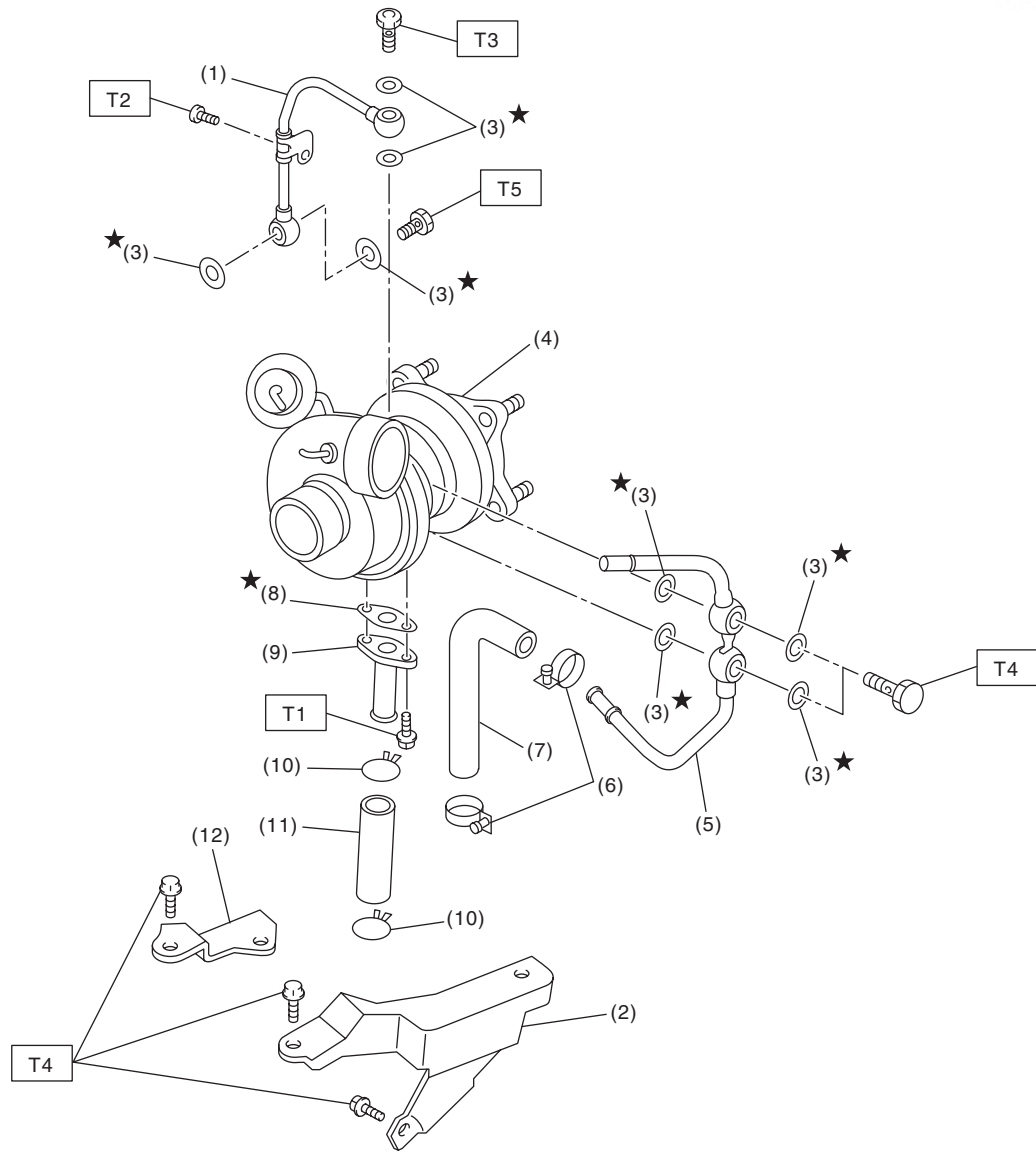
T2: 16 (1.6, 11.8)

General Description

INTAKE (INDUCTION)

4. TURBOCHARGER

- Except for STI model



IN-02236

- | | |
|-----------------------------|------------------------------|
| (1) Oil inlet pipe | (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, 11.8)

T4: 33 (3.4, 24.6)

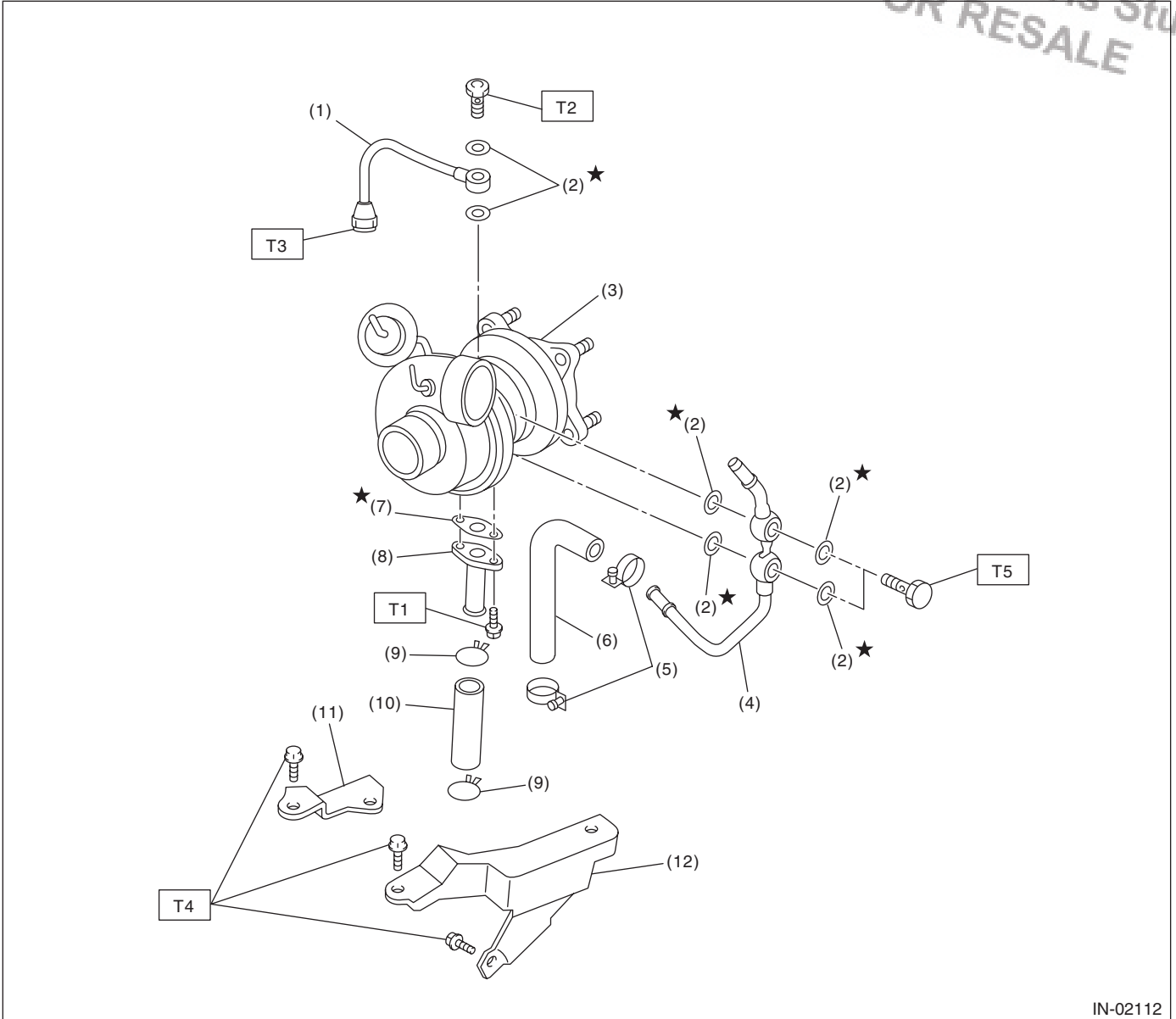
T5: 29 (3.0, 21.7)

General Description

INTAKE (INDUCTION)

- STI model

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IN-02112

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

Tightening torque: N·m (kgf·m, ft·lb)

T1: 4.4 (0.45, 3.3)

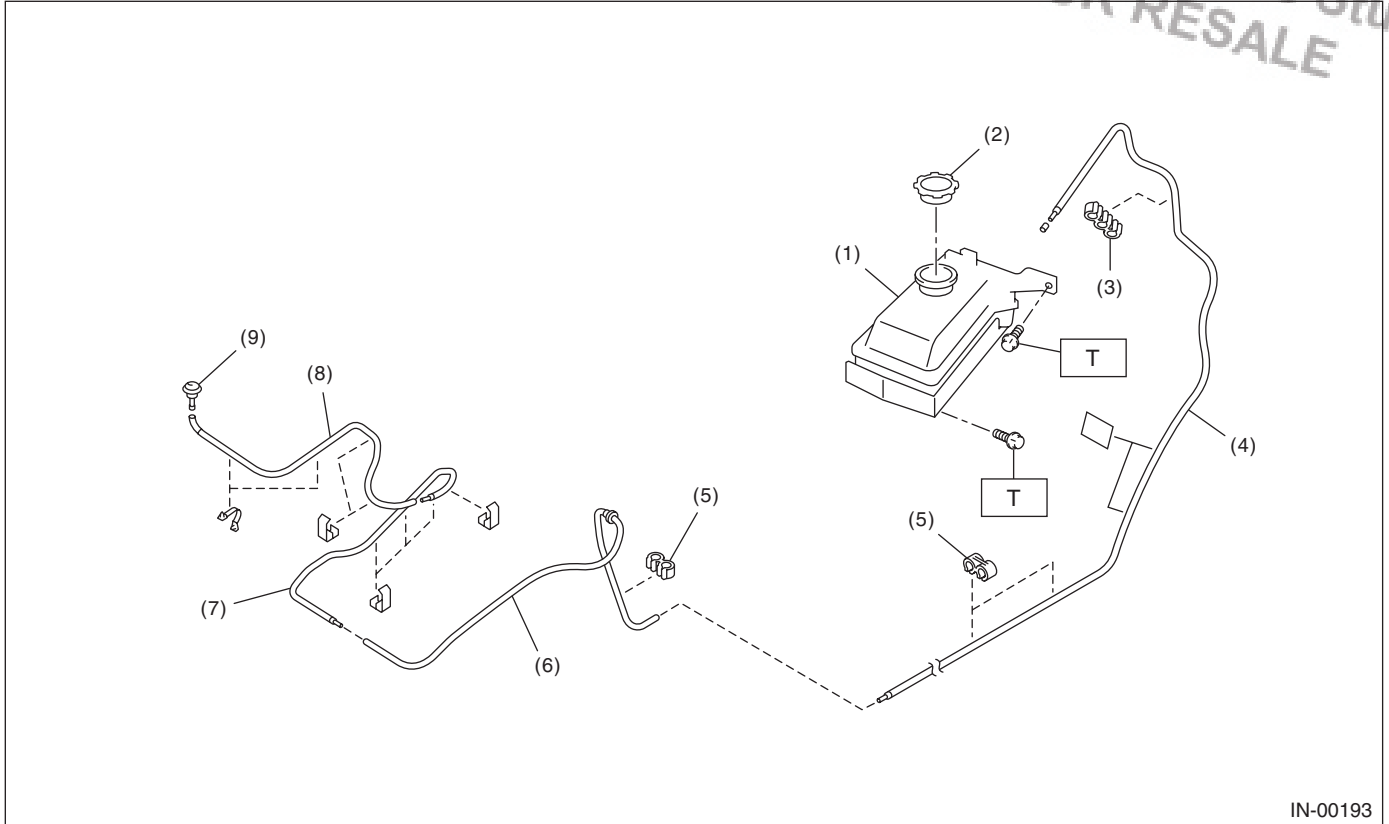
T2: 16 (1.6, 11.8)

T3: 20 (2.0, 14.8)

T4: 33 (3.4, 24.6)

T5: 29 (3.0, 21.7)

5. INTERCOOLER WATER SPRAY



- | | | |
|---------------------|----------------------|------------|
| (1) Water tank ASSY | (5) Clamp | (9) Nozzle |
| (2) Water tank cap | (6) Center hose | |
| (3) Clamp | (7) Front hose | |
| (4) Rear hose | (8) Intercooler hose | |

Tightening torque: N·m (kgf·m, ft·lb)
T: 6 (0.6, 4.4)

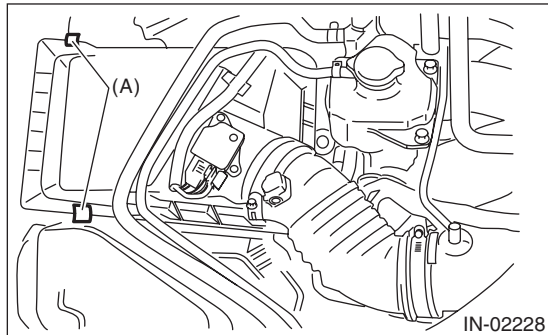
B: CAUTION

- Wear appropriate work clothing, including a cap, protective goggles and protective shoes when performing any work.
- 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.
- Vehicle components are extremely hot after driving. Be wary of receiving burns from heated parts.
- 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 connectors of sensors or units, be sure to disconnect the ground cable from the battery.

2. Air Cleaner Element

A: REMOVAL

1) Remove the clip (A) from air cleaner upper cover.



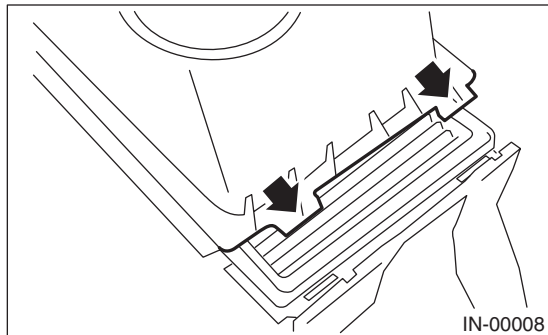
2) Remove the air cleaner element.

B: INSTALLATION

Install in the reverse order of removal.

NOTE:

Before installing the air cleaner upper cover, position the protrusion with the hole in the air cleaner lower case to mount the upper cover and the lower case.



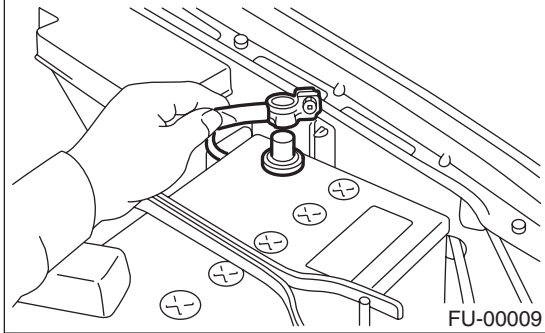
C: INSPECTION

Replace if excessively damaged or dirty.

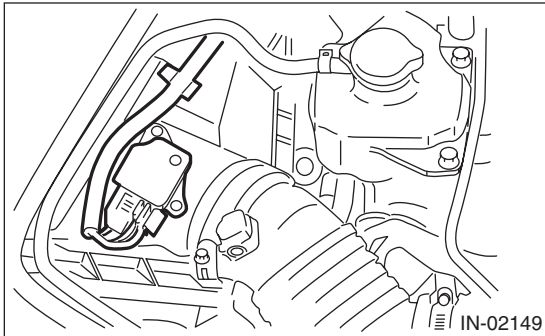
3. Air Cleaner Case

A: REMOVAL

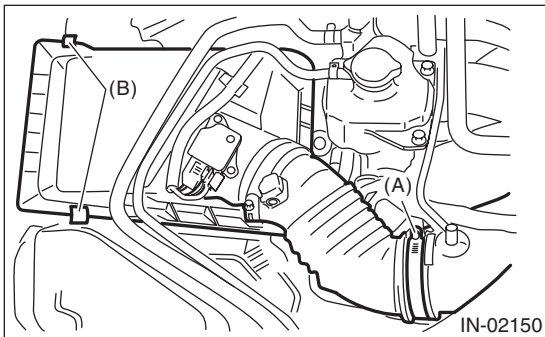
- 1) Disconnect the ground cable from the battery.



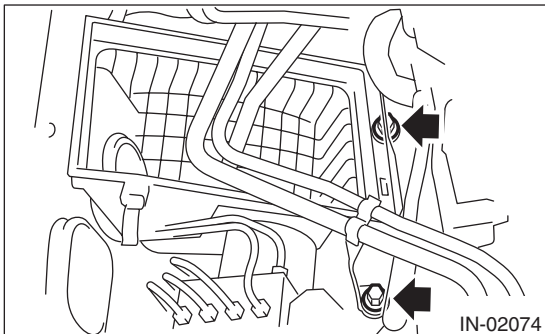
- 2) Disconnect the connector from mass air flow and intake air temperature sensor.



- 3) Loosen the clamps (A) which connect the air intake boot and the 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.

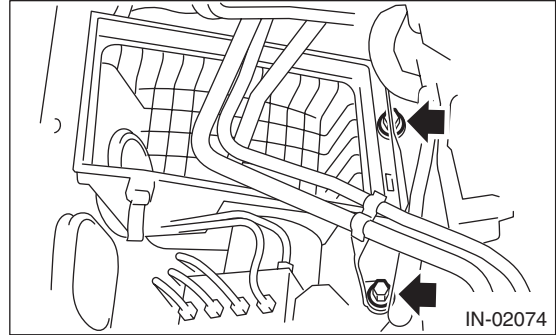


B: INSTALLATION

Install in the reverse order of removal.

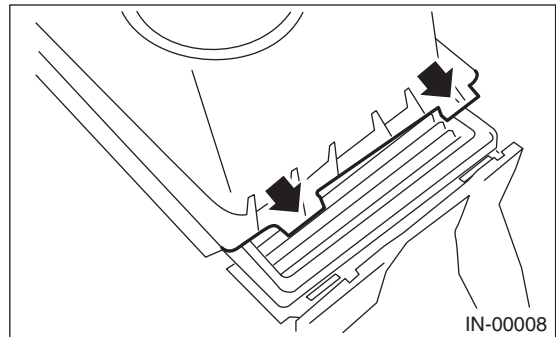
Tightening torque:

33 N·m (3.4 kgf-m, 24.6 ft-lb)



NOTE:

Before installing the air cleaner upper cover, position the protrusion with the hole in the air cleaner lower case to mount the upper cover and the lower case.



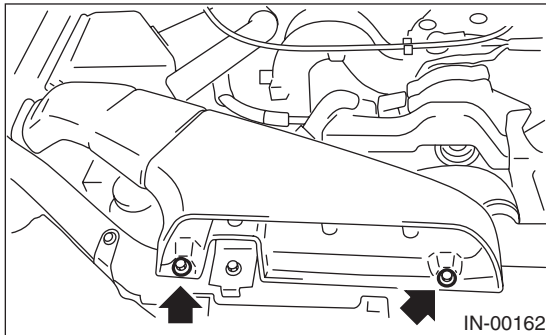
C: INSPECTION

Check for cracks or loose connections.

4. Air Intake Duct

A: REMOVAL

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

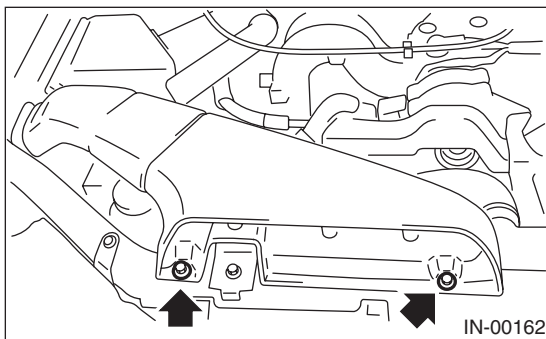


B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:

7.5 N·m (0.76 kgf-m, 5.5 ft-lb)



C: INSPECTION

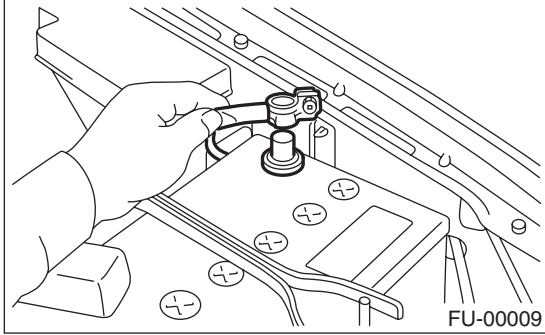
- 1) Check for cracks or loose connections.
- 2) Inspect that no foreign objects in the air intake duct.

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5. Intake Duct

A: REMOVAL

1) Disconnect the ground cable from the battery.

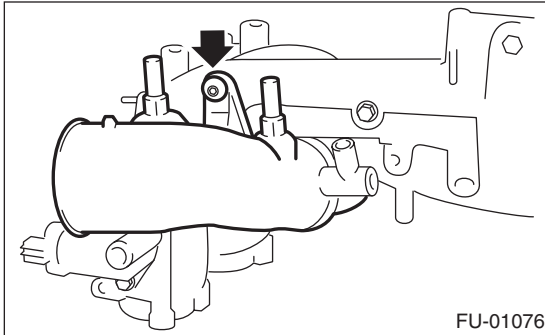


2) Remove the intake manifold.

<Ref. to FU(H4DOTC)-17, REMOVAL, Intake Manifold.>

3) Remove the sensor, engine harness and fuel pipe attached to the intake manifold. <Ref. to FU(H4DOTC)-23, DISASSEMBLY, Intake Manifold.>

4) Remove the intake duct from intake manifold.

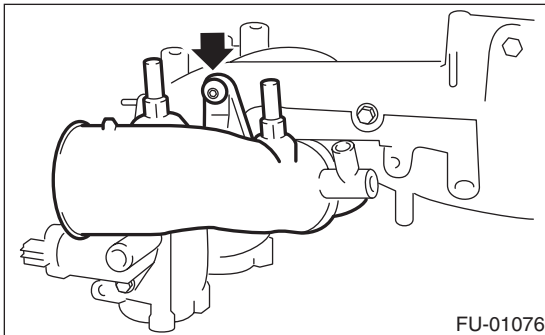


B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:

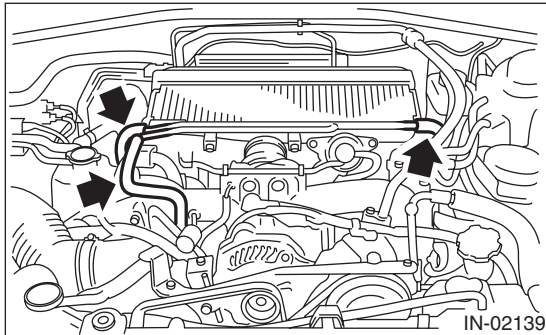
19 N·m (1.9 kgf·m, 14.0 ft·lb)



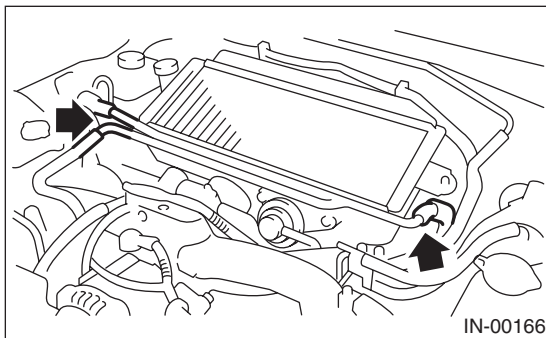
6. Intercooler

A: REMOVAL

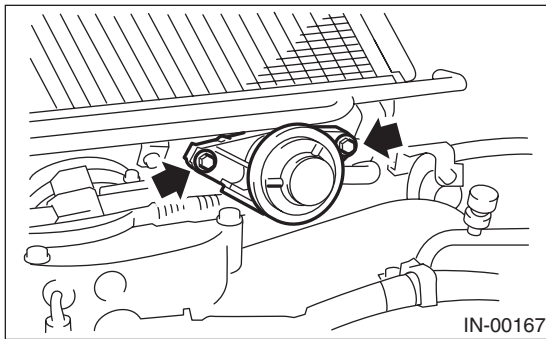
- 1) Disconnect the PCV hose from PCV pipe.
 - Except for STI model



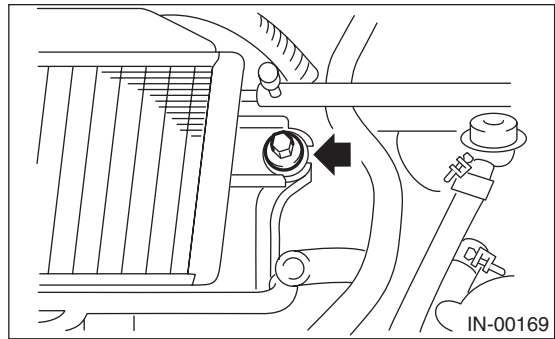
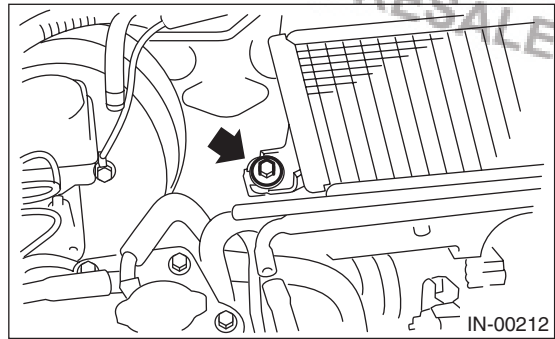
- STI model



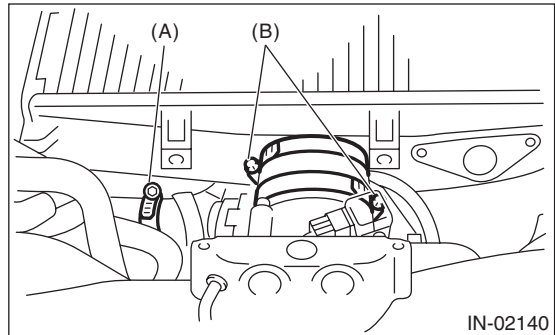
- 2) Remove the air by-pass valve from intercooler.



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



- 4) Loosen the clamp (A) which connect the turbo-charger and intercooler duct.
- 5) Loosen the clamps (B) which connect the throttle body and intercooler.



- 6) Remove the intercooler duct from turbocharger.
- 7) Remove the intercooler sensor from throttle body.

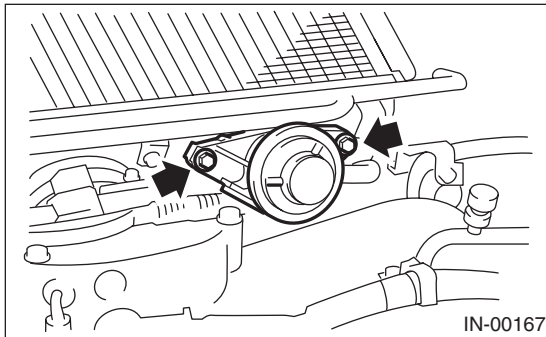
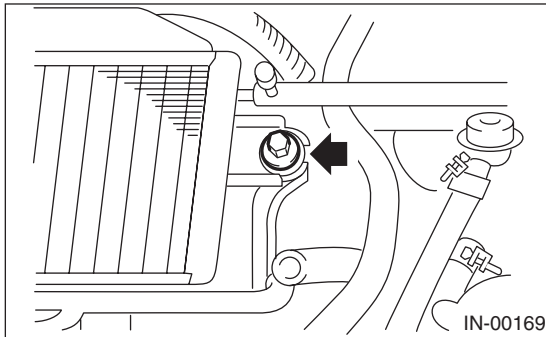
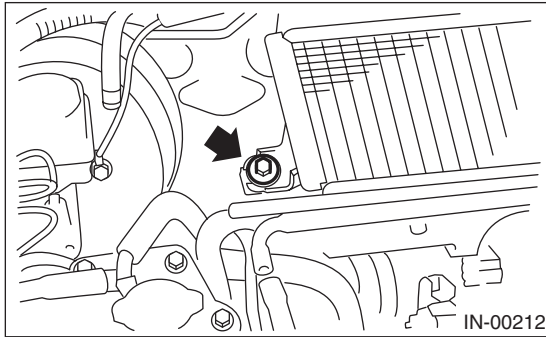
INTAKE (INDUCTION)

B: INSTALLATION

Install in the reverse order of removal.

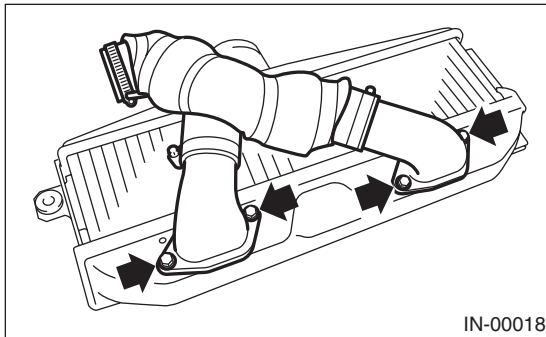
Tightening torque:

16 N·m (1.6 kgf·m, 11.6 ft·lb)



C: DISASSEMBLY

1) Remove the intercooler ducts from intercooler.



2) Separate the intercooler duct.

D: ASSEMBLY

1) Connect the intercooler duct.

Tightening torque:

3 N·m (0.3 kgf·m, 2.2 ft·lb)

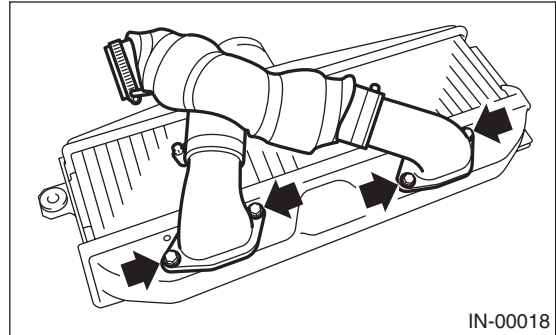
2) Install the intercooler duct to the intercooler.

NOTE:

Use new O-ring or gasket.

Tightening torque:

16 N·m (1.6 kgf·m, 11.6 ft·lb)

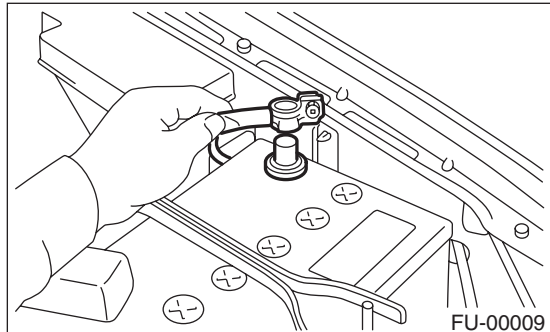


7. Turbocharger

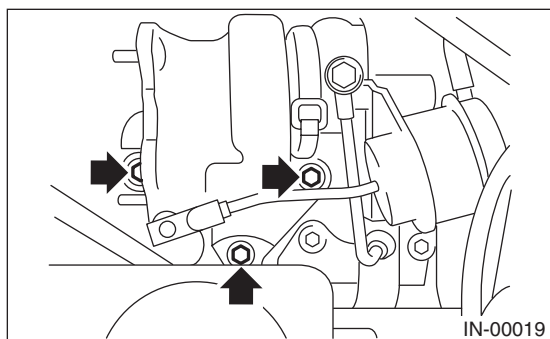
A: REMOVAL

1. EXCEPT FOR STI MODEL

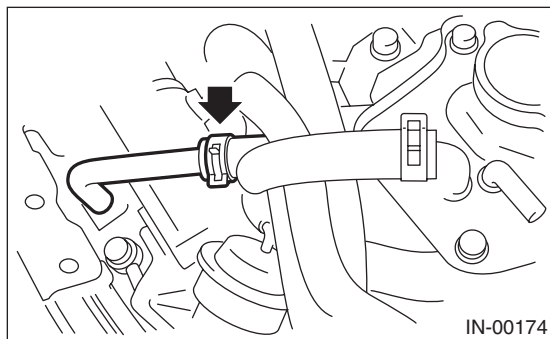
- 1) Set the vehicle on a lift.
- 2) Disconnect the ground cable from the battery.



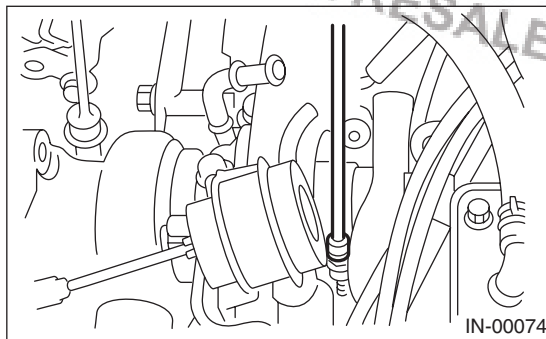
- 3) Remove the center exhaust pipe.
<Ref. to EX(H4DOTC)-10, REMOVAL, Center Exhaust Pipe.>
- 4) Lower the vehicle.
- 5) Separate the turbocharger joint pipe from turbocharger.



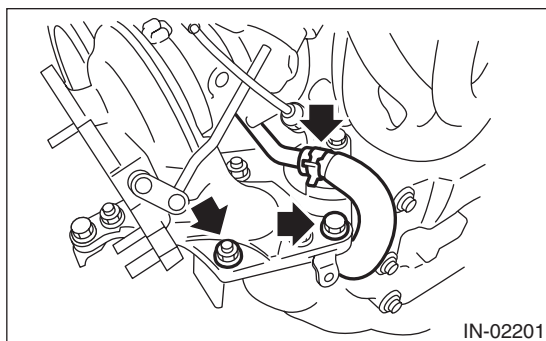
- 6) Disconnect the engine coolant hose which is connected to coolant filler tank.



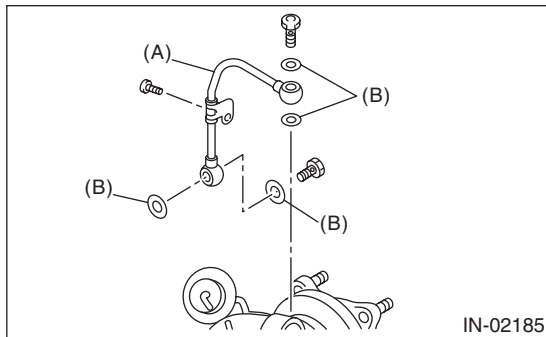
- 7) Loosen the clamp which secures turbocharger to intake duct.



- 8) Remove the bolts which secure oil inlet pipe bracket to turbocharger.
- 9) Disconnect the engine coolant hose from the pipe, and remove the turbocharger bracket RH.

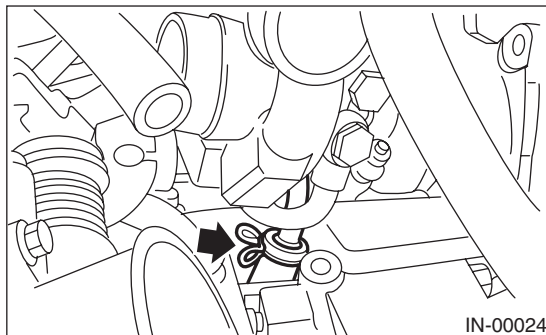


- 10) Remove the oil inlet pipe from turbocharger.



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

- 11) Disconnect the oil outlet hose from pipe.



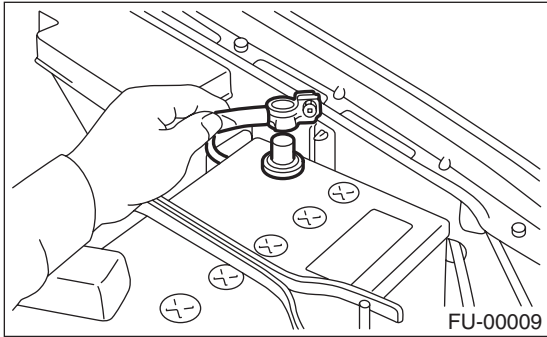
- 12) Take out the turbocharger from engine compartment.

Turbocharger

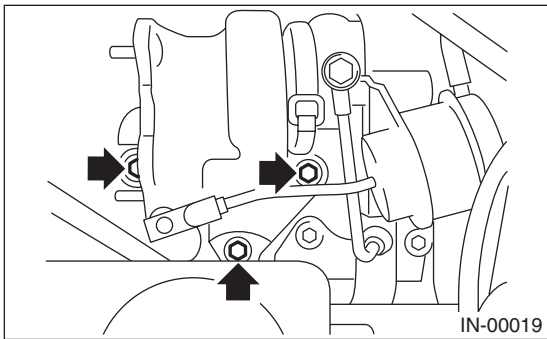
INTAKE (INDUCTION)

2. STI MODEL

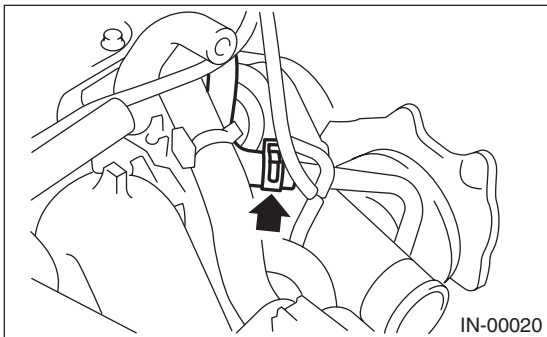
- 1) Set the vehicle on a lift.
- 2) Disconnect the ground cable from the battery.



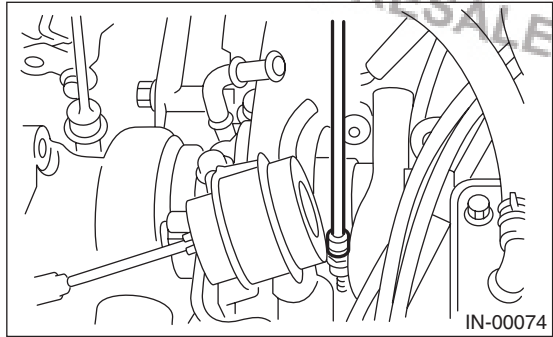
- 3) Lift up the vehicle.
- 4) Remove the center exhaust pipe. <Ref. to EX(H4DOTC)-10, REMOVAL, Center Exhaust Pipe.>
- 5) Lower the vehicle.
- 6) Separate the turbocharger joint pipe from turbocharger.



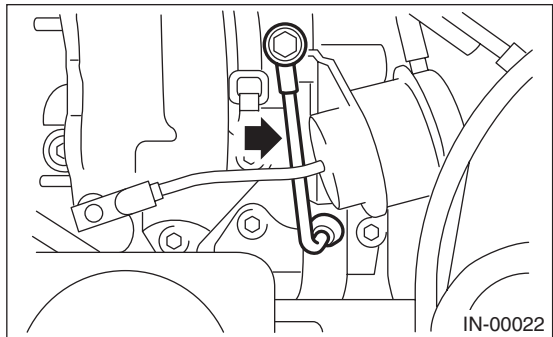
- 7) Disconnect the engine coolant hose which is connected to coolant filler tank.



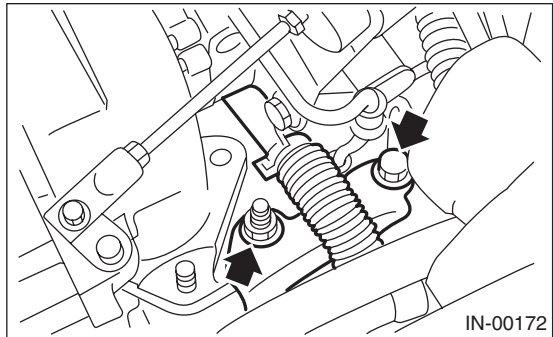
- 8) Loosen the clamp which secures turbocharger to intake duct.



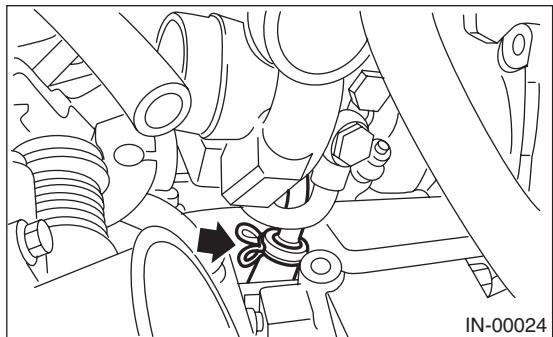
- 9) Loosen the flare joint of the oil inlet pipe, and disconnect the flare joint.
- 10) Remove the oil inlet pipe from turbocharger.



- 11) Disconnect the engine coolant hose from the pipe, and remove the turbocharger bracket RH.



- 12) Disconnect the oil outlet hose from pipe.

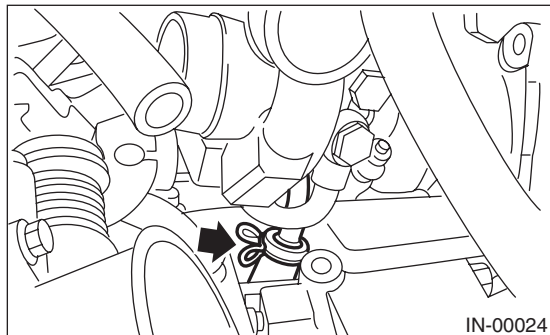


- 13) Take out the turbocharger from engine compartment.

B: INSTALLATION

1. EXCEPT FOR STI MODEL

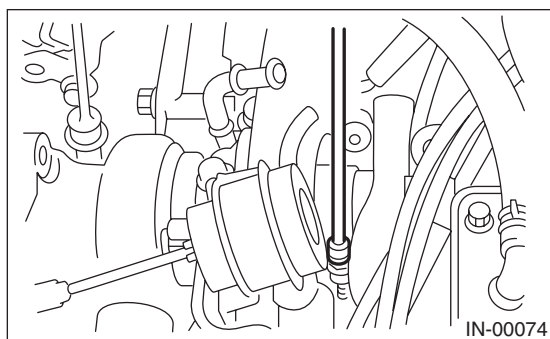
1) Connect the oil outlet hose to outlet pipe.



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:

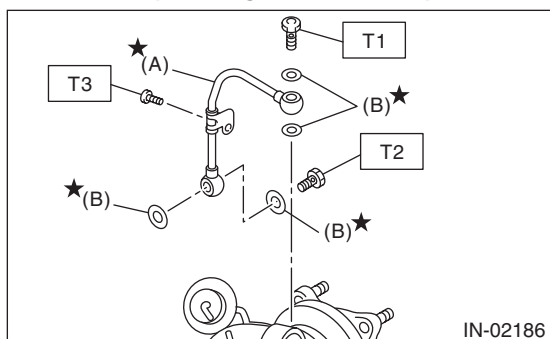
Use a new gasket.

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)



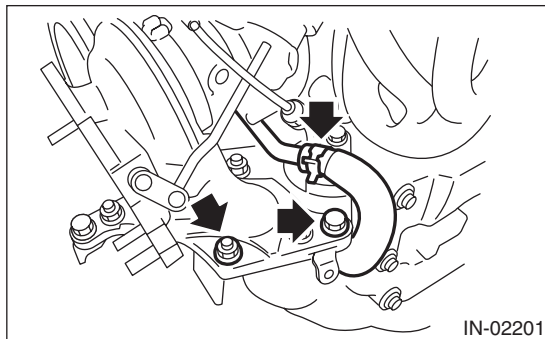
(A) Oil inlet pipe

(B) Metal gasket

4) Install the turbocharger bracket RH, and connect the engine coolant hose to the pipe.

Tightening torque:

33 N·m (3.4 kgf-m, 24.6 ft-lb)



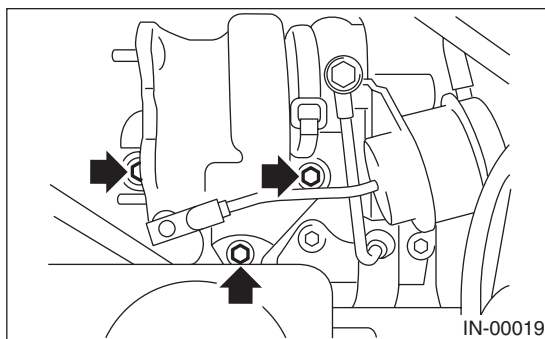
5) Install the joint pipe to turbocharger.

NOTE:

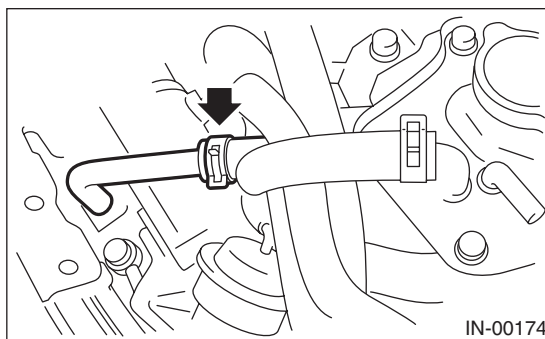
Use a new gasket.

Tightening torque:

35 N·m (3.6 kgf-m, 25.8 ft-lb)



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



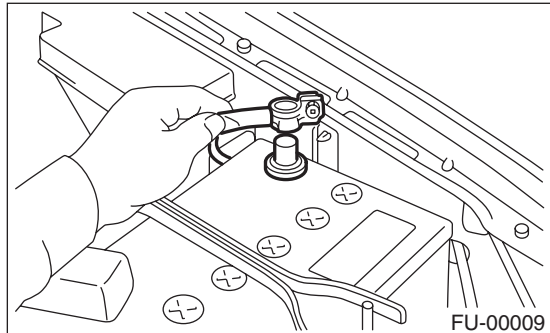
7) Lift up the vehicle.

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

Turbocharger

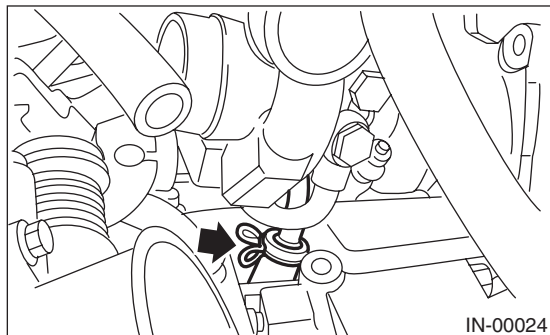
INTAKE (INDUCTION)

9) Connect the ground cable to the battery.



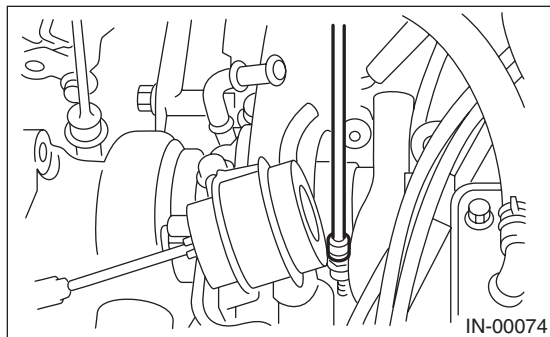
2. STI MODEL

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)



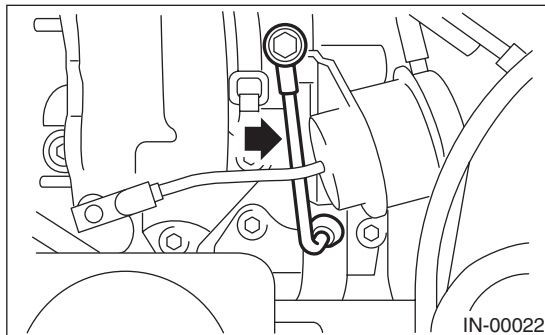
3) Install the oil inlet pipe to turbocharger, and connect the flare joint.

NOTE:
Use a new gasket.

Tightening torque:

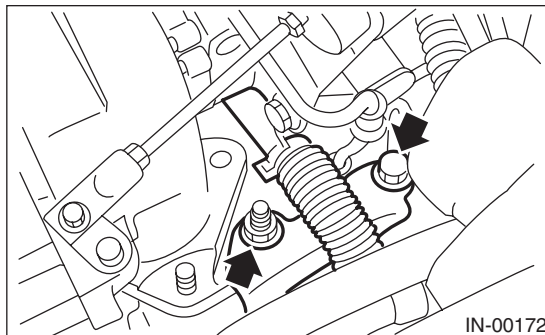
Union bolt
16 N·m (1.6 kgf-m, 11.8 ft-lb)

Flare joint
20 N·m (2.0 kgf-m, 14.8 ft-lb)



4) Install the turbocharger bracket RH, and connect the engine coolant hose to the pipe.

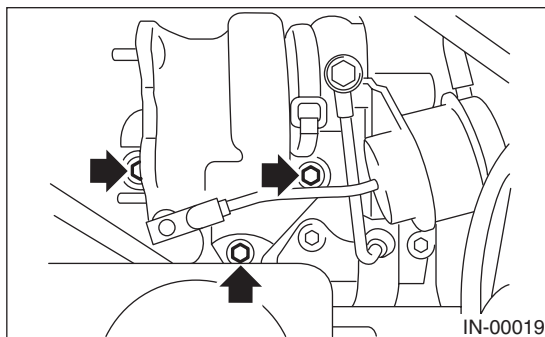
Tightening torque:
33 N·m (3.4 kgf-m, 24.6 ft-lb)



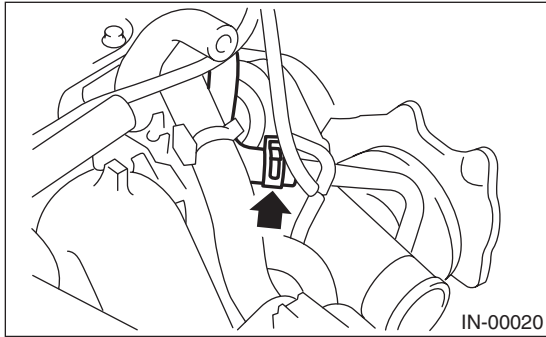
5) Attach the turbocharger joint pipe to turbocharger.

NOTE:
Use a new gasket.

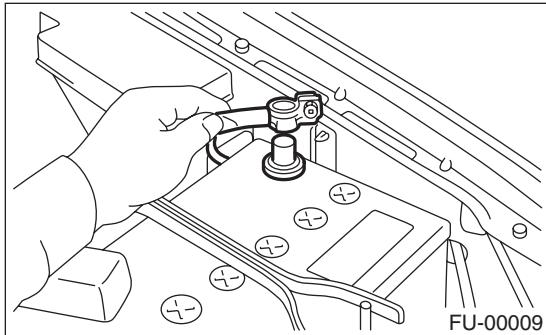
Tightening torque:
35 N·m (3.6 kgf-m, 25.8 ft-lb)



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



- 7) Lift up the vehicle.
8) Install the center exhaust pipe. <Ref. to EX(H4DOTC)-11, INSTALLATION, Center Exhaust Pipe.>
9) Lower the vehicle.
10) Connect the ground cable to the battery.

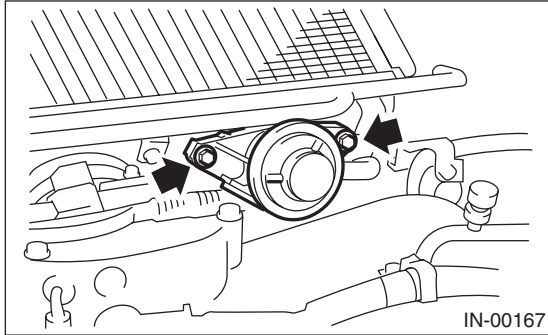


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8. Air By-pass Valve

A: REMOVAL

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



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

B: INSTALLATION

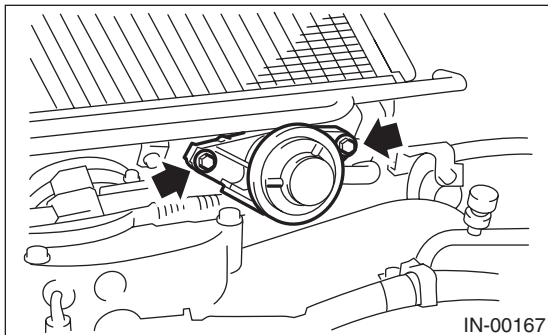
Install in the reverse order of removal.

NOTE:

Use new O-ring or gasket.

Tightening torque:

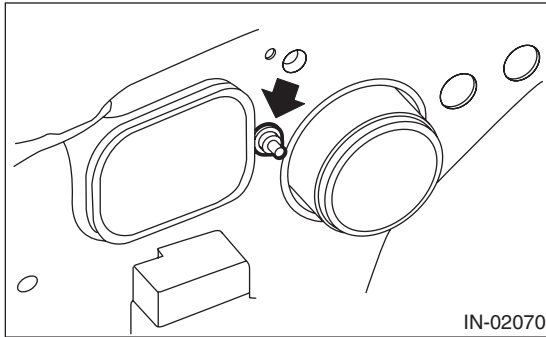
16 N·m (1.6 kgf·m, 11.6 ft·lb)



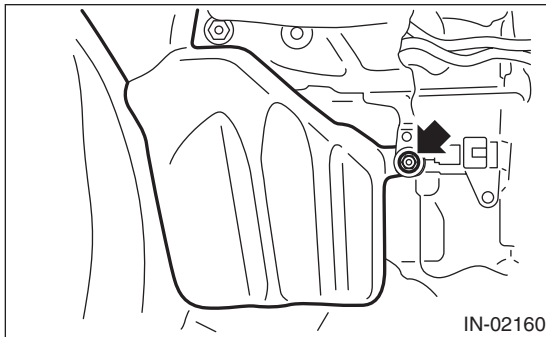
9. Resonator Chamber

A: REMOVAL

- 1) Set the vehicle on a lift.
- 2) Remove the air intake duct. <Ref. to IN(H4DOTC)-11, REMOVAL, Air Intake Duct.>
- 3) Remove the air cleaner case. <Ref. to IN(H4DOTC)-10, REMOVAL, Air Cleaner Case.>
- 4) Remove the resonator chamber mounting nut on the right of engine compartment.



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

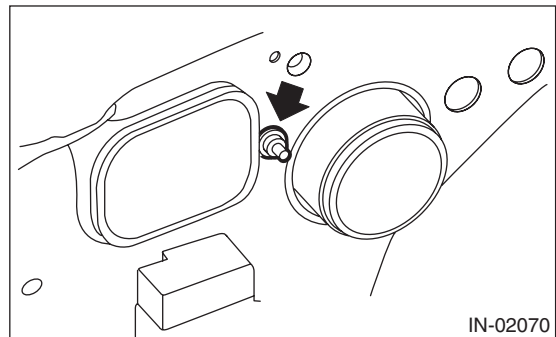
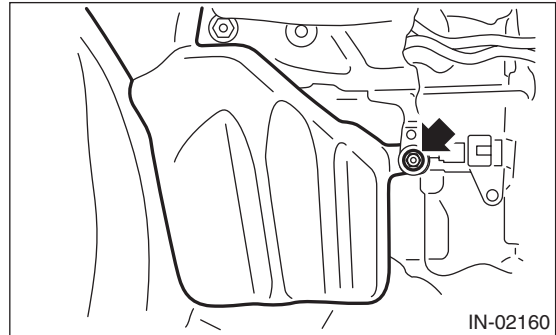


B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:

7.5 N·m (0.76 kgf-m, 5.5 ft-lb)



C: INSPECTION

- 1) Check for cracks or loose connections.
- 2) Check that no foreign objects are mixed in the resonator chamber.

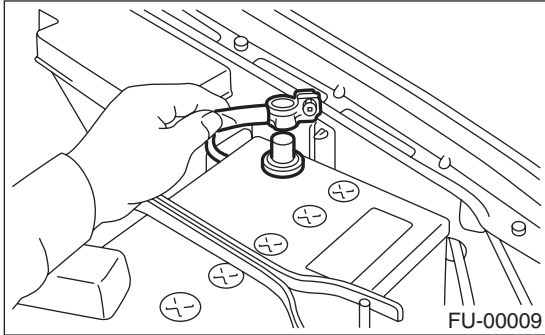
Intercooler Water Spray Tank

INTAKE (INDUCTION)

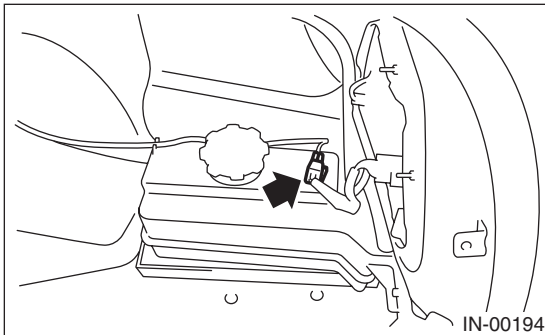
10. Intercooler Water Spray Tank

A: REMOVAL

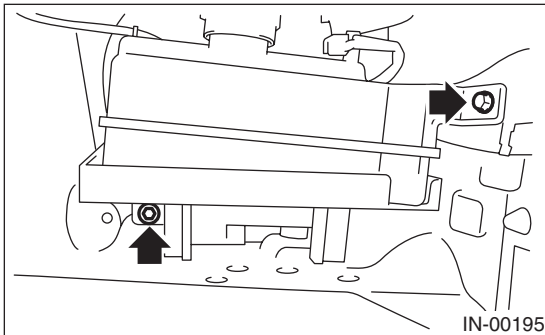
- 1) Disconnect the ground cable from the battery.



- 2) Remove the trunk room trim. <Ref. to EI-59, REMOVAL, Trunk Room Trim.>
- 3) Disconnect the water tank connector.



- 4) Remove the two water tank mounting bolts.



- 5) Disconnect the hose between body and water tank, and remove the water tank.

B: INSTALLATION

Install in the reverse order of removal.

Tightening torque:

6 N·m (0.6 kgf·m, 4.4 ft·lb)

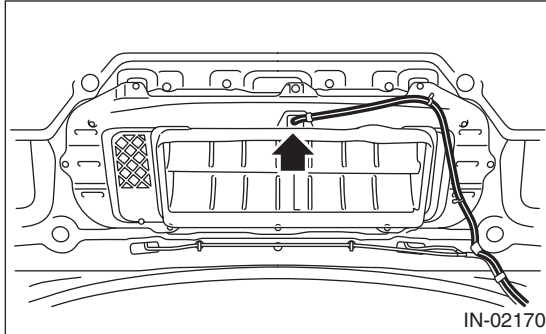
C: INSPECTION

- 1) Check the hose for deformation, damage, cracks or clogging.
- 2) Check the water tank for damage or cracks.

11. Intercooler Water Spray Nozzle

A: REMOVAL

- 1) Open the front hood.
- 2) Disconnect the hose connections.
- 3) Push out the nozzle clip upward from the back side of front hood.



B: INSTALLATION

Install in the reverse order of removal.

C: INSPECTION

Check the hose and nozzle for deformation, damage, cracks or clogging.

Intercooler Water Spray Nozzle

INTAKE (INDUCTION)

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