

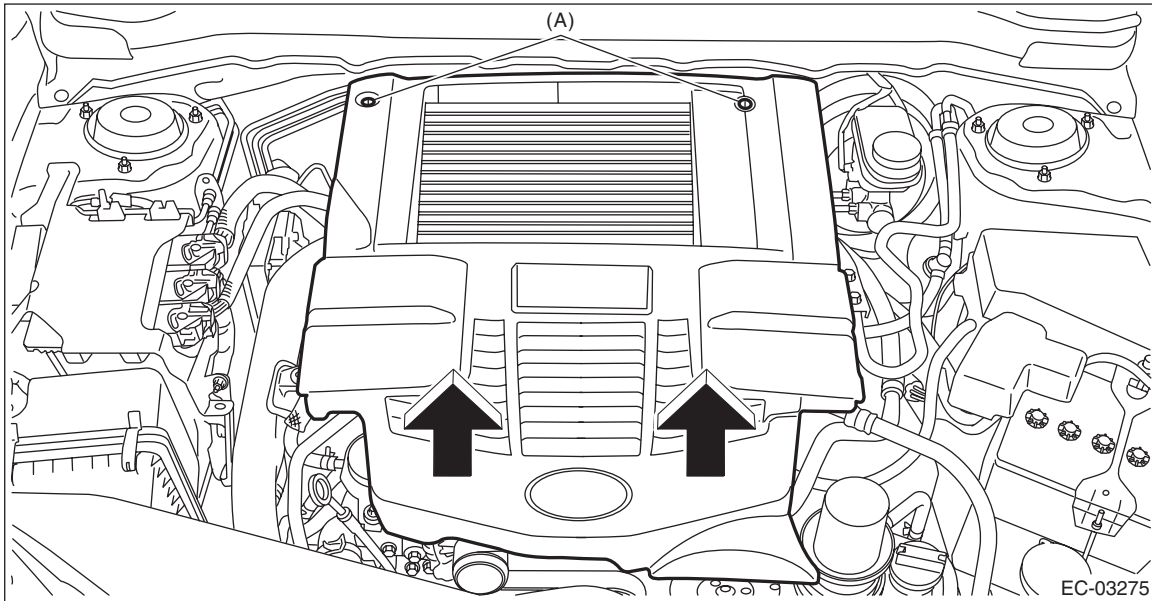
## 2. Front Exhaust Pipe

### A: REMOVAL

#### CAUTION:

**Vehicle components are extremely hot after driving. Be wary of receiving burns from heated parts.**

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



2) Disconnect the ground cable from battery.

3) Remove the air intake duct (rear). <Ref. to IN(H4DOTC)-19, REMOVAL, Air Intake Duct.>

4) Remove the radiator sub fan and fan motor assembly. <Ref. to CO(H4DOTC)-56, REMOVAL, Radiator Sub Fan and Fan Motor.>

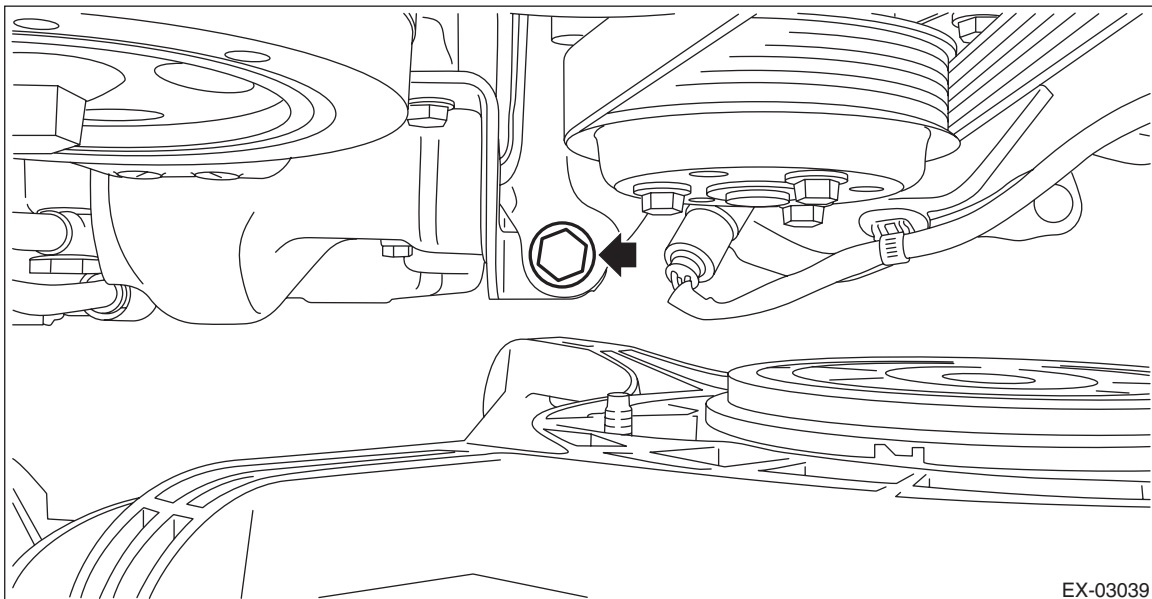
5) Lift up the vehicle.

6) Remove the under cover. <Ref. to EI-23, REMOVAL, Front Under Cover.>

7) Drain engine coolant. <Ref. to CO(H4DOTC)-13, DRAINING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

8) Lower the vehicle.

9) Remove the bolts which secure the water pump pulley cover to the turbocharger stay.

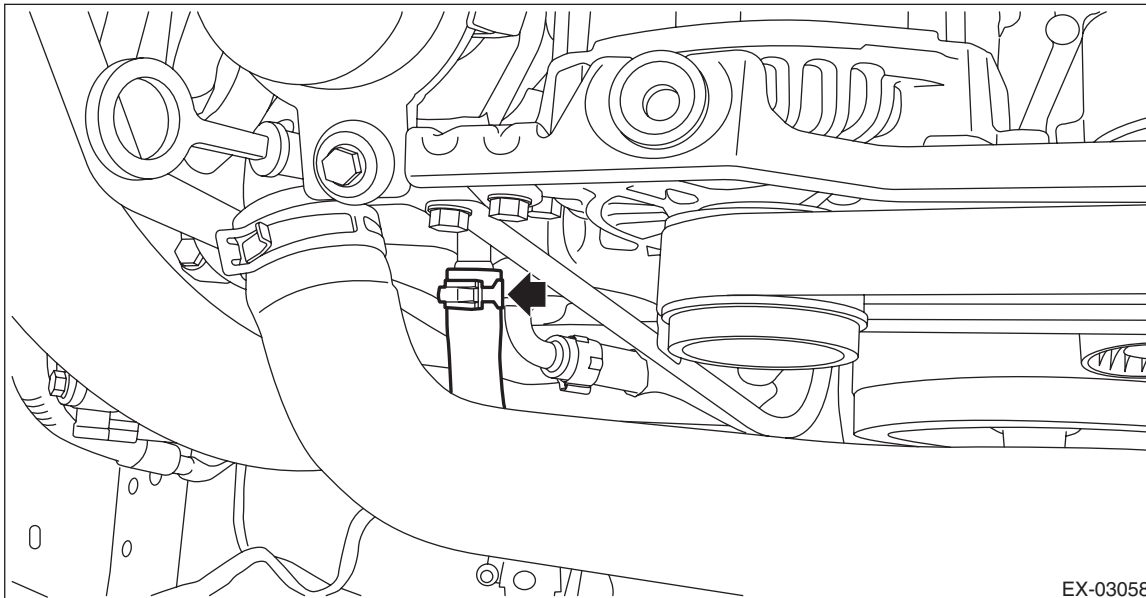


## Front Exhaust Pipe

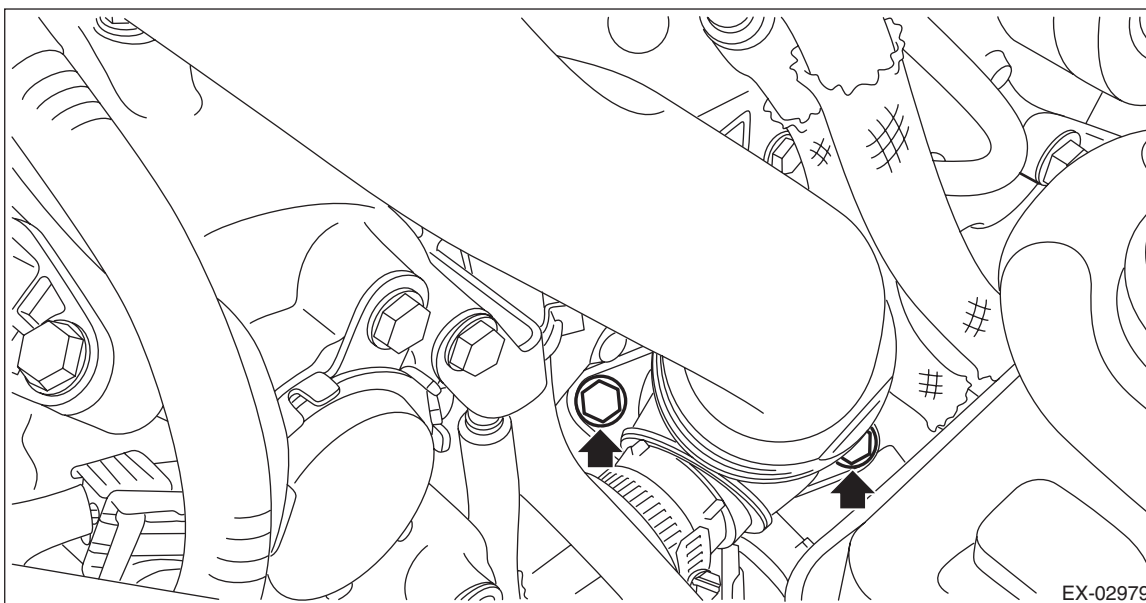
### EXHAUST

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- 10) Disconnect the engine coolant hose from the water pipe assembly.

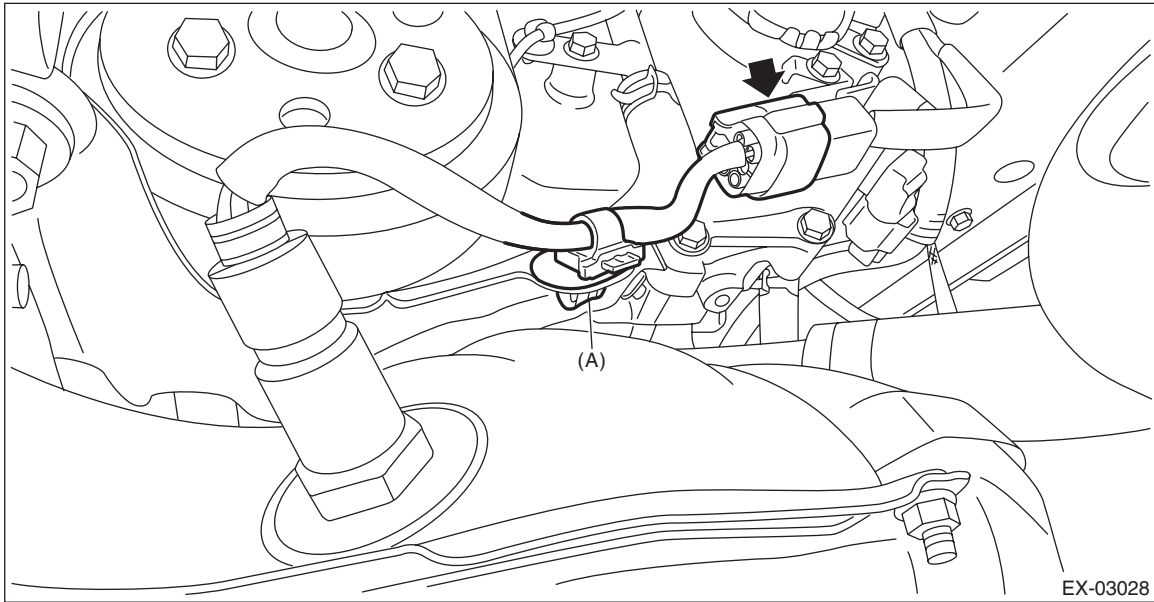


- 11) Remove the bolts which secure the intake duct No. 2 to the turbocharger.

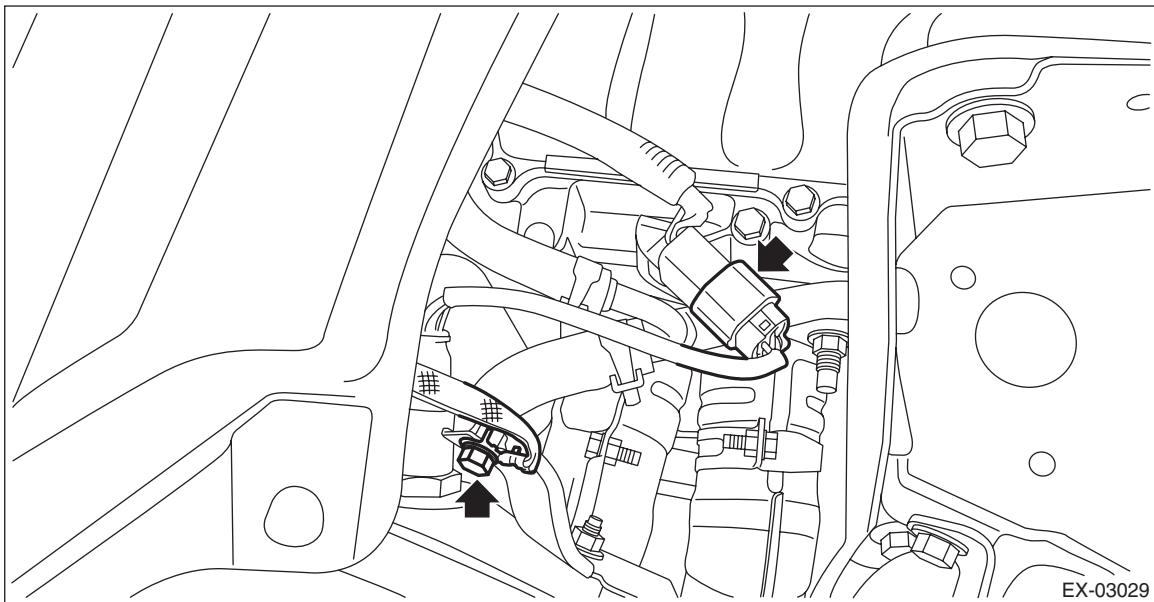


- 12) Lift up the vehicle.

- 13) Disconnect the connector on the front oxygen (A/F) sensor from the engine harness, and remove the clip (A) which secures the front oxygen (A/F) sensor harness to the water pump pulley cover.



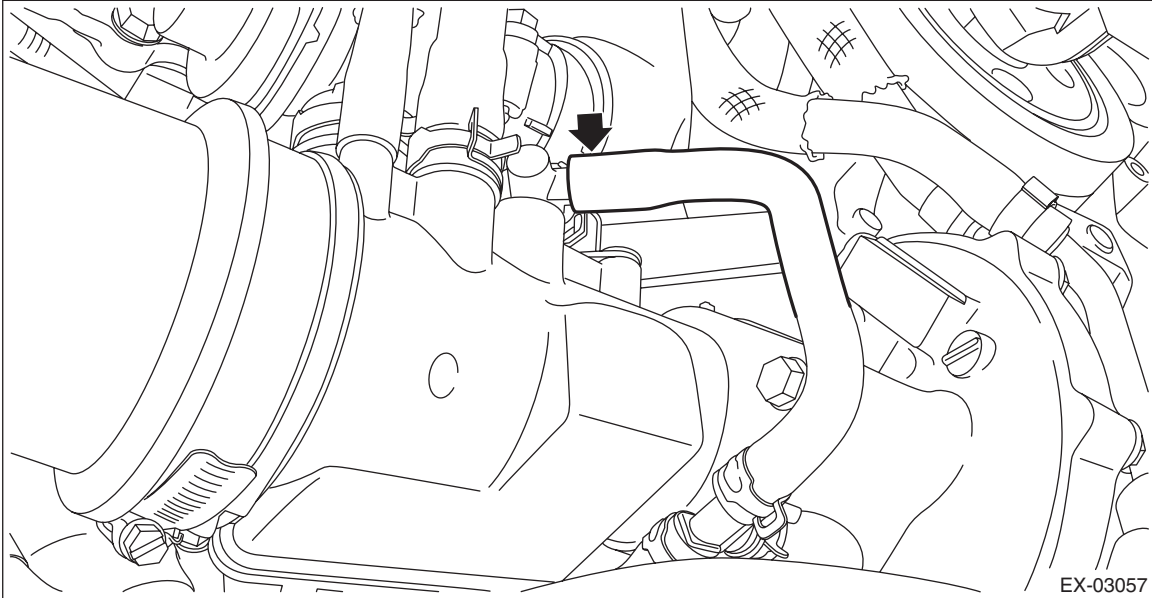
- 14) Disconnect the connector on the rear oxygen sensor from the engine harness, and disconnect the ground cable from the exhaust pipe cover.



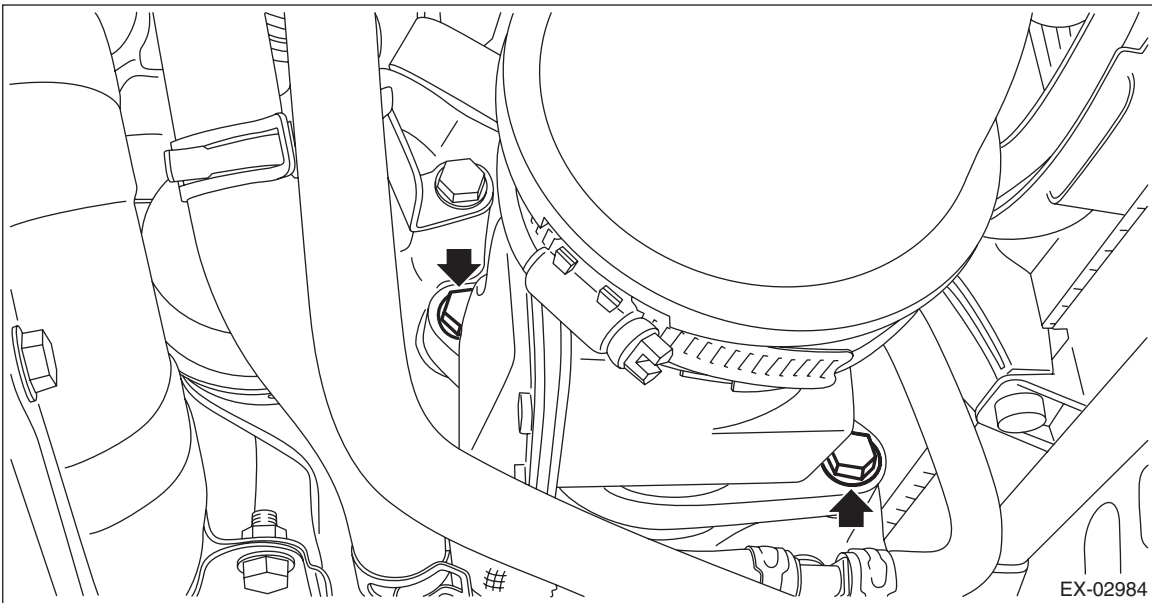
## Front Exhaust Pipe

### EXHAUST

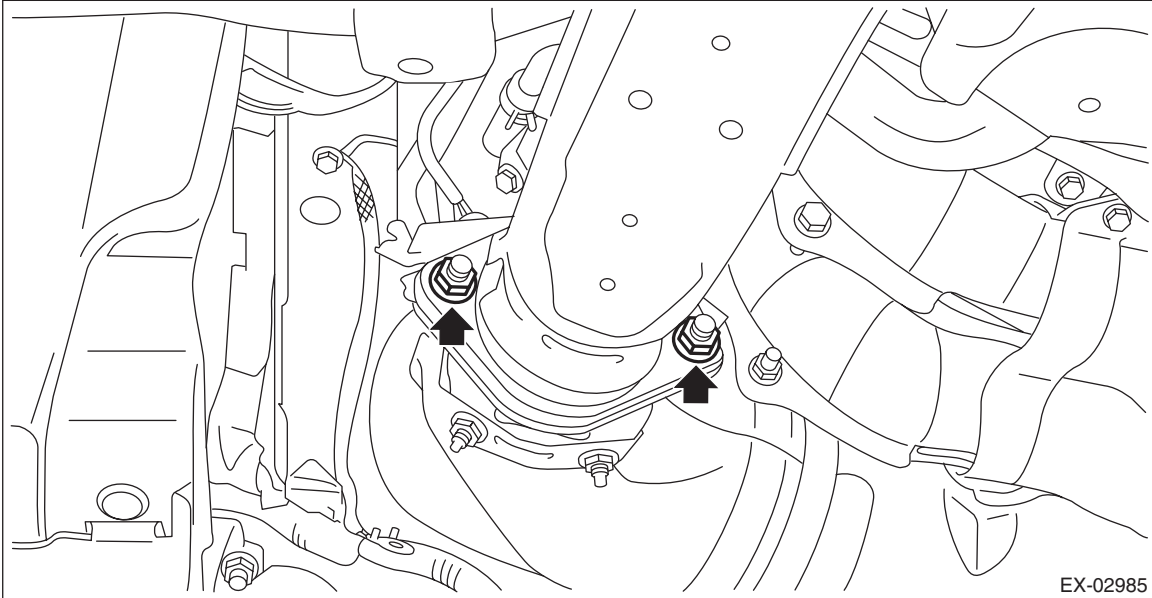
- 15) Disconnect the vacuum control hose from the wastegate control solenoid valve.



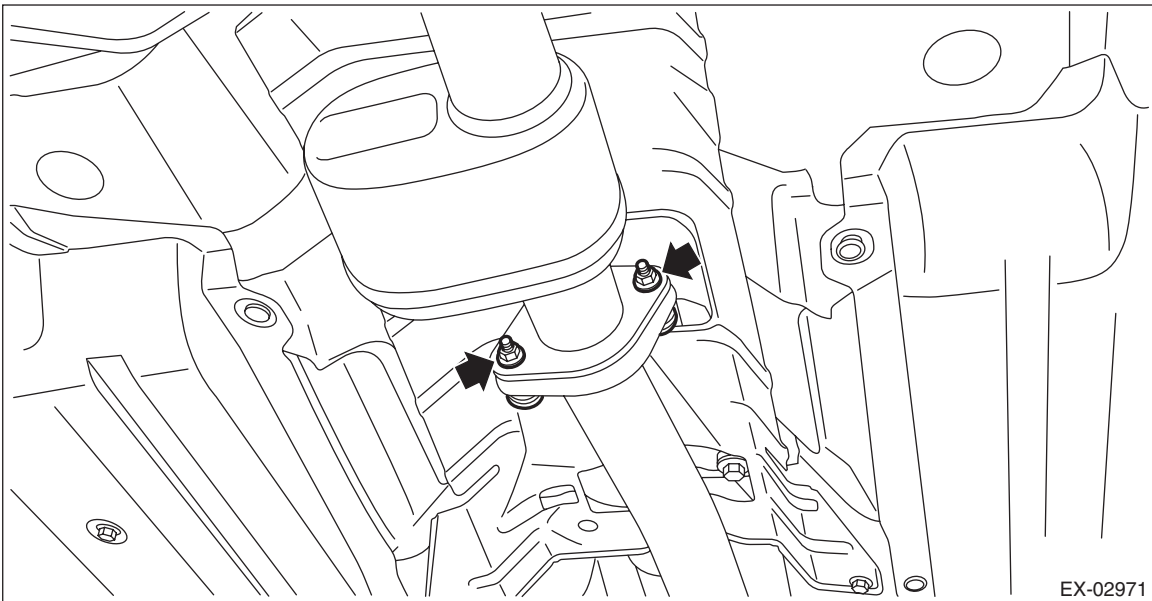
- 16) Remove the bolts which secure the intake duct No. 1 to the turbocharger.



- 17) Remove the nuts which secure the center exhaust pipe (rear) to the center exhaust pipe (front).



- 18) Remove the bolts, springs, and nuts which secure the rear exhaust pipe to the center exhaust pipe (rear).



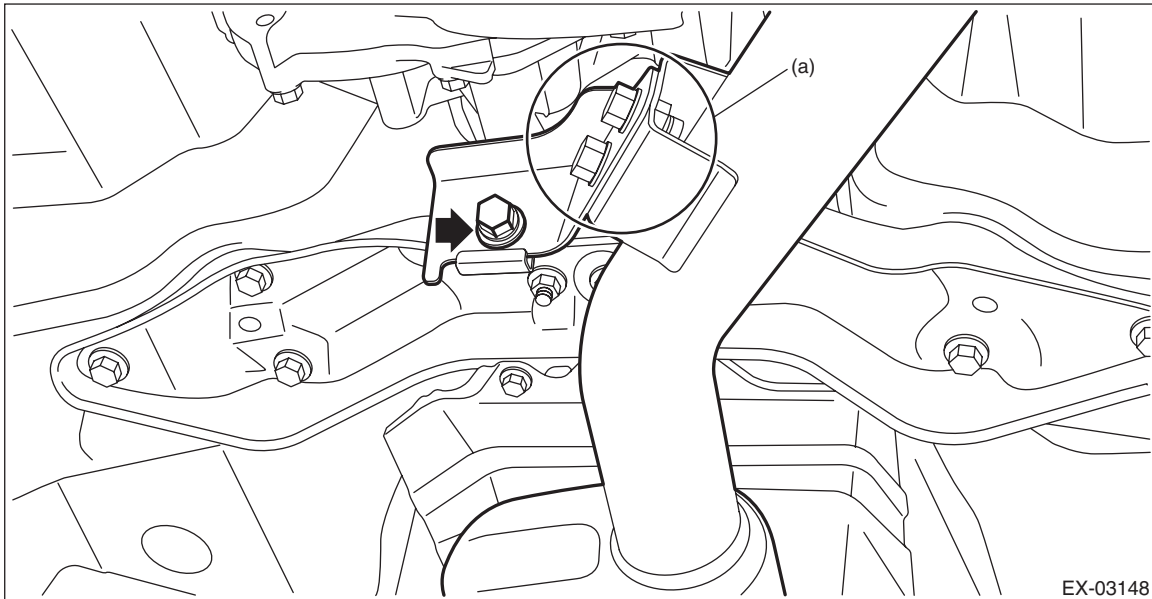
## Front Exhaust Pipe

### EXHAUST

19) Remove the bolt which holds center exhaust pipe (rear) to the hanger bracket, and remove the center exhaust pipe (rear).

#### NOTE:

Removing the exhaust pipe bracket from the center exhaust pipe (rear) will adversely affect the positioning accuracy. Therefore, do not remove the bolts in section (a) shown in the figure.



20) Disconnect the union screw pipe assembly from the oil pipe assembly, and disconnect the engine coolant hose (A) from the water pipe RH.

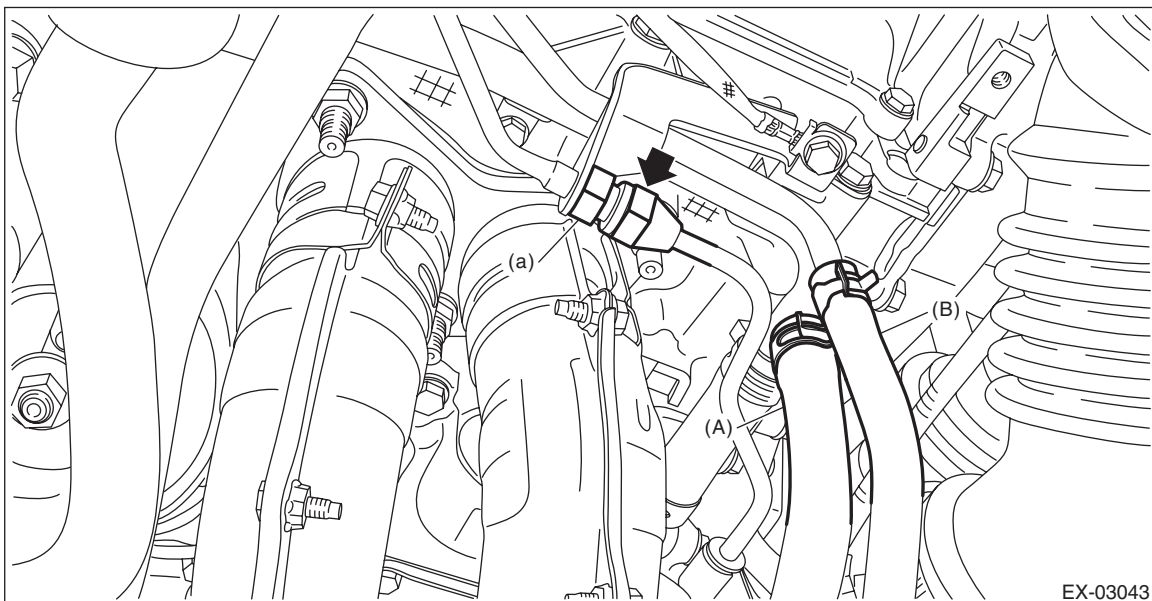
#### CAUTION:

**In order to prevent damaging the oil pipe assembly, fix the section (a) shown in the figure when loosening the flare nut on the union screw pipe assembly, and avoid the part from rotating together while loosening the nut.**

21) Disconnect the turbocharger hose (B) from the oil pipe, and drain the engine oil in the oil catch tank.

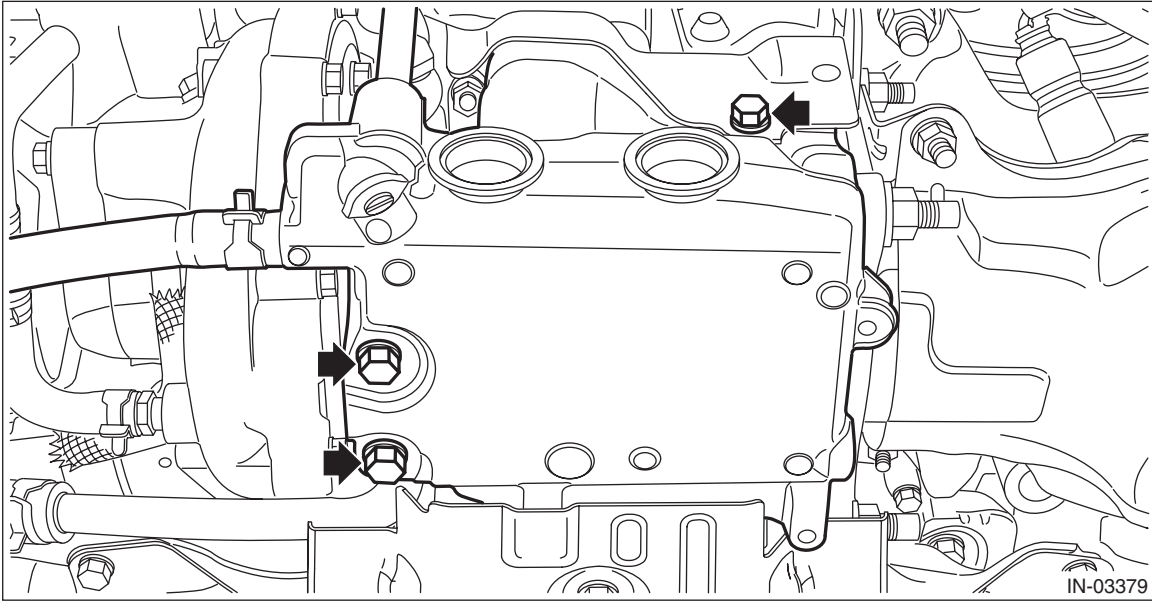
#### NOTE:

Prepare the container for draining of engine oil.

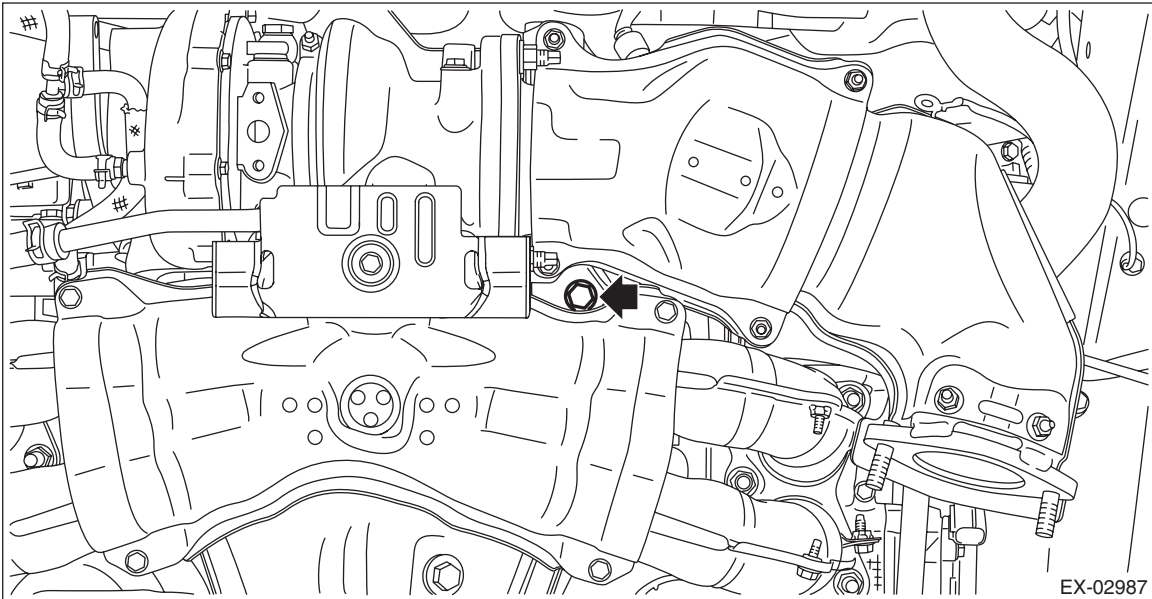




22) Remove the bolts securing the oil catch tank to the turbo charger and the exhaust stay, and place the oil catch tank aside so that it does not interfere operation.



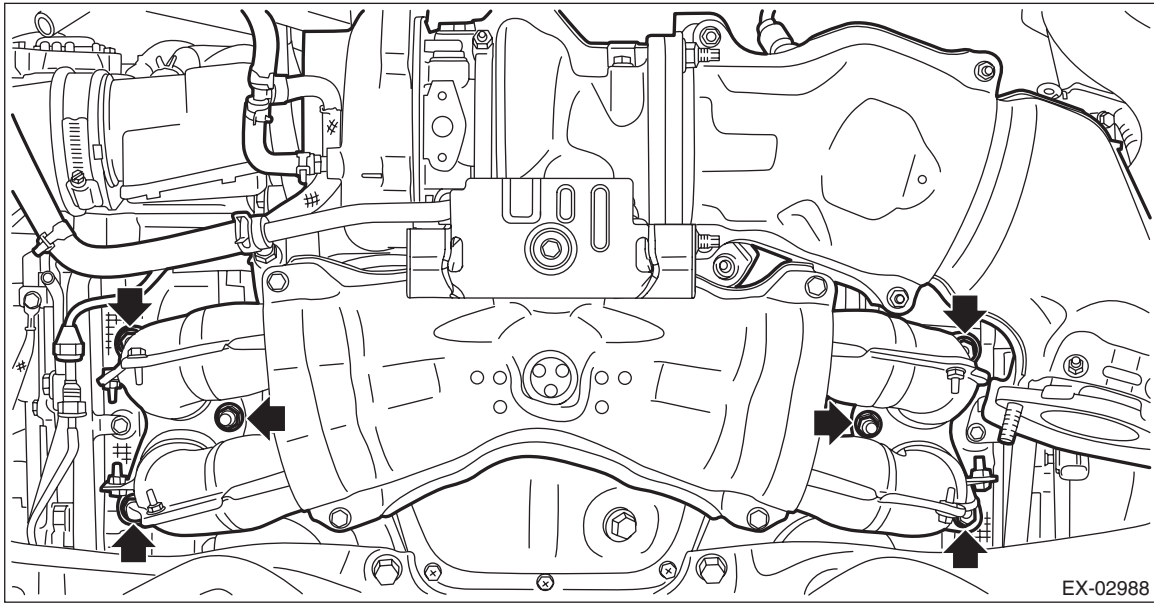
23) Remove the bolts which secure the turbocharger stay.



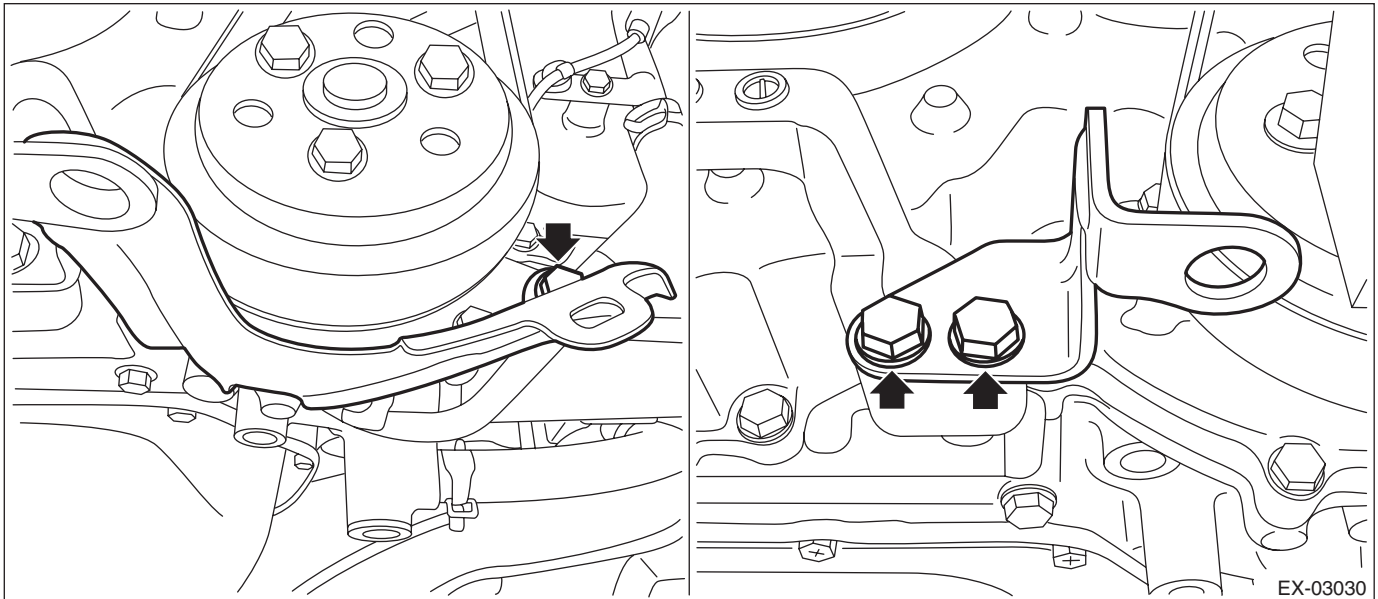
## Front Exhaust Pipe

### EXHAUST

24) While holding the front exhaust pipe with transmission jack, remove the nuts which hold the front exhaust pipe to the cylinder head exhaust port, and remove the front exhaust pipe.

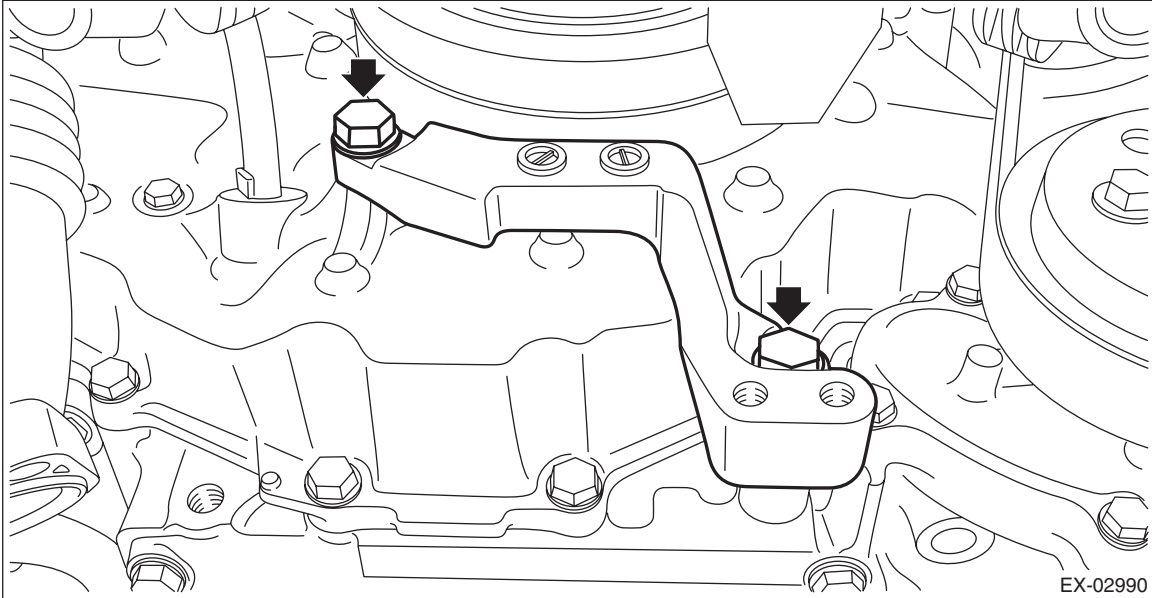


25) Remove the water pump pulley cover and exhaust pipe stay from the engine and turbocharger stay.





26) Remove the turbocharger stay from the engine.

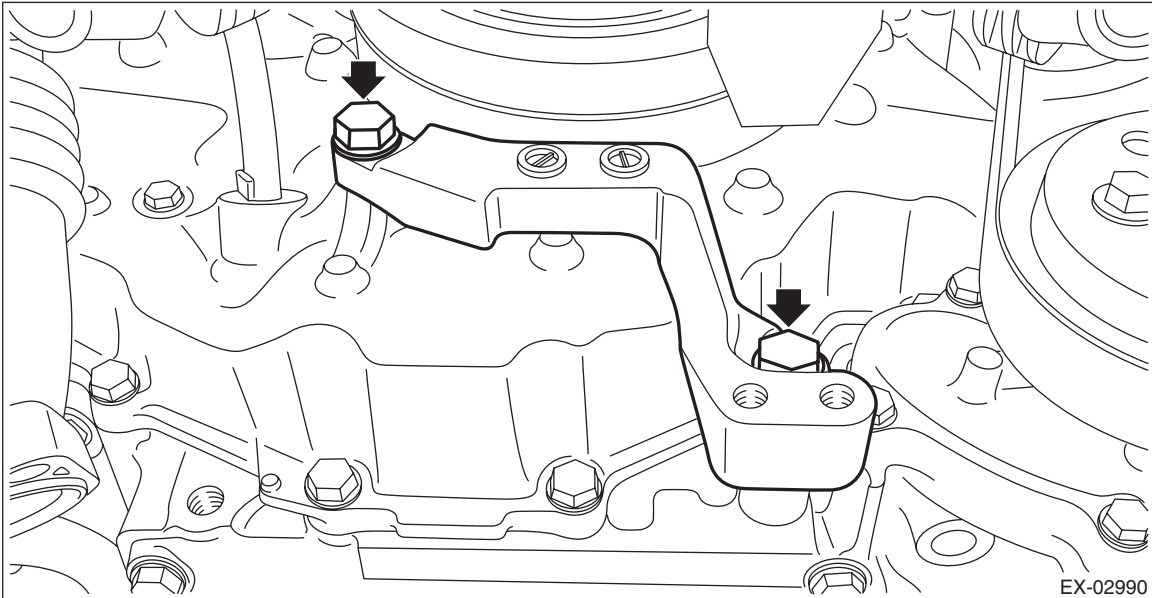


## B: INSTALLATION

1) Install the turbocharger stay to the engine.

**Tightening torque:**

**30 N·m (3.1 kgf-m, 22.1 ft-lb)**



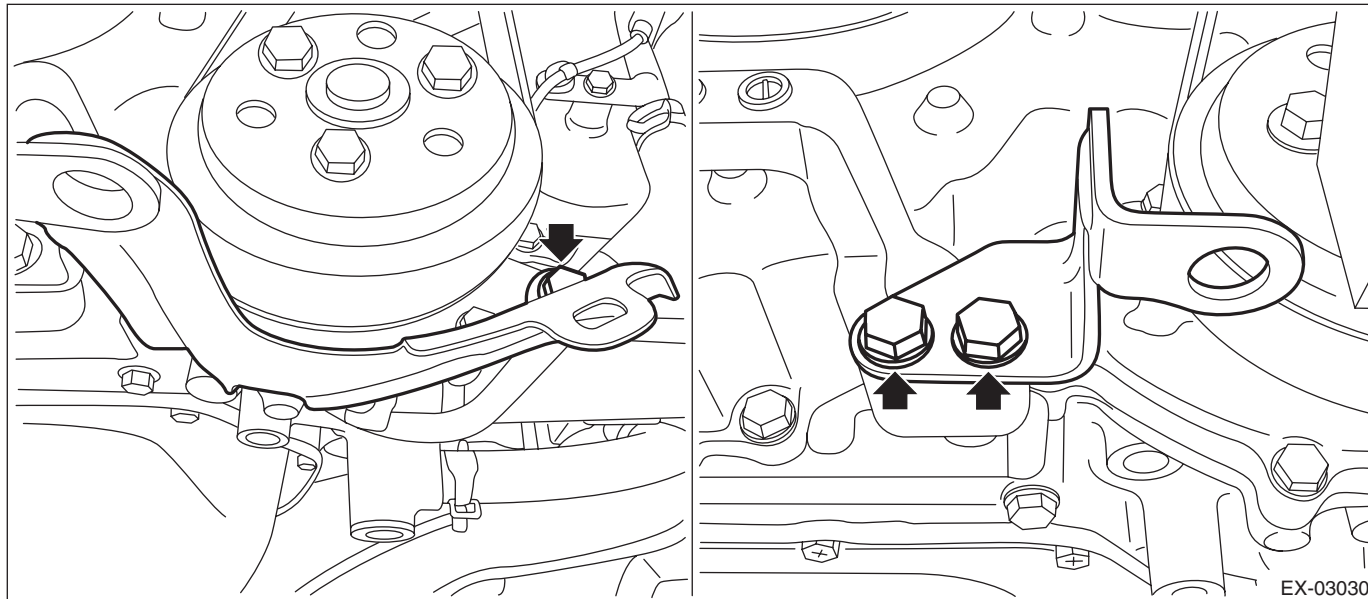
## Front Exhaust Pipe

### EXHAUST

2) Install the water pump pulley cover and exhaust pipe stay to the engine and turbocharger stay.

**Tightening torque:**

**19 N·m (1.9 kgf-m, 14.0 ft-lb)**



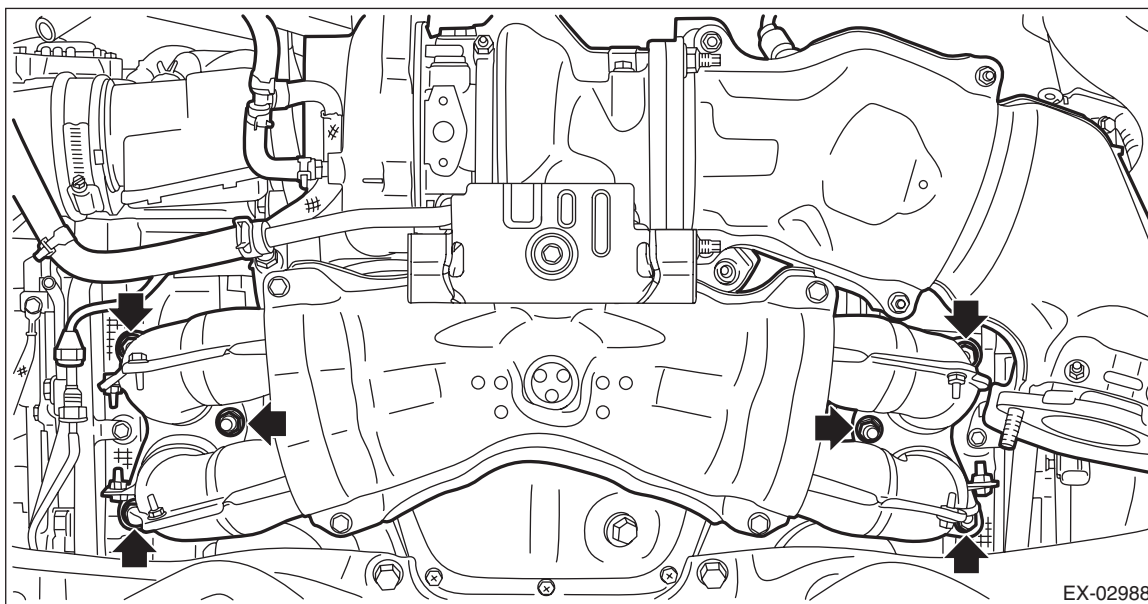
3) While holding the front exhaust pipe with transmission jack, set the front exhaust pipe, and install the nuts which hold the front exhaust pipe to the cylinder head exhaust port.

**NOTE:**

Use a new gasket.

**Tightening torque:**

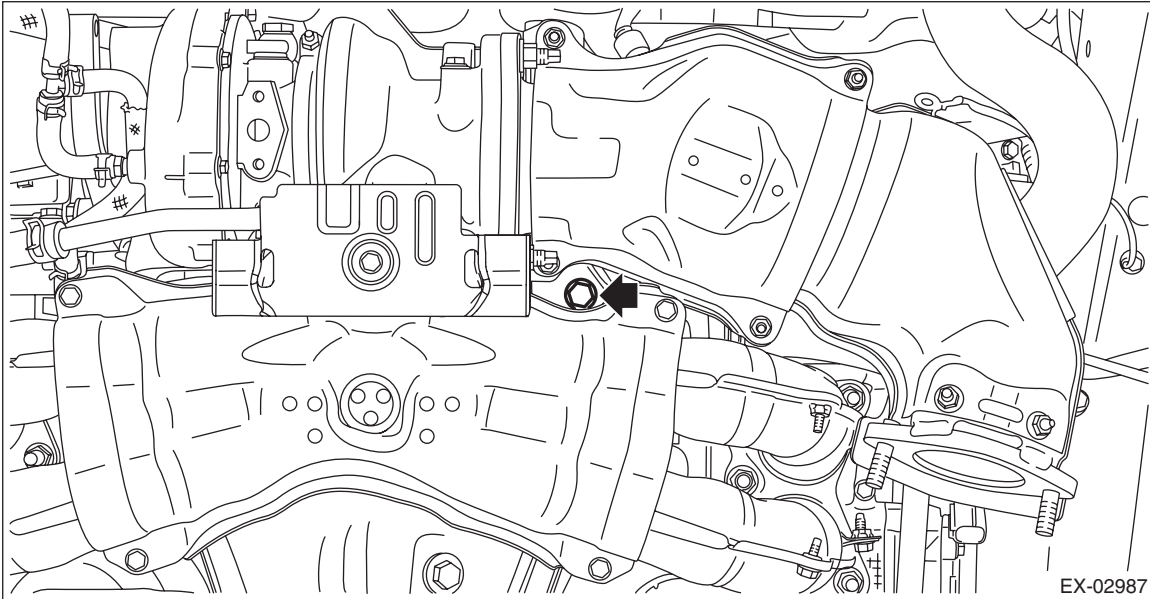
**42.5 N·m (4.3 kgf-m, 31.3 ft-lb)**



- 4) Attach the bolt which holds the turbocharger stay.

**Tightening torque:**

**33 N·m (3.4 kgf-m, 24.3 ft-lb)**

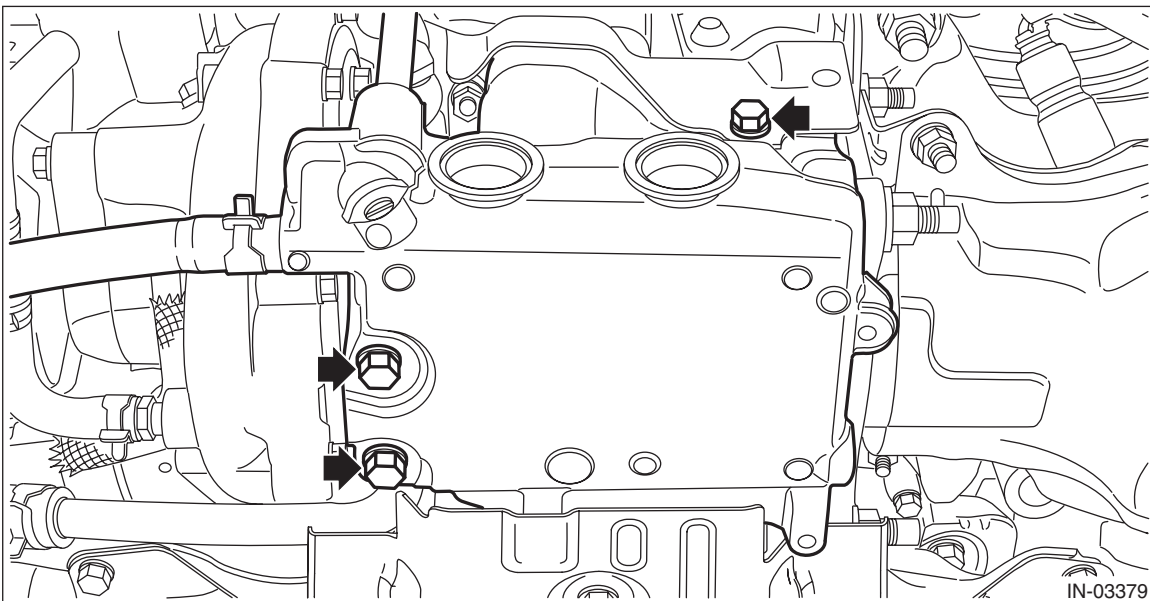


- 5) Install the oil catch tank to the turbocharger and exhaust stay.

(1) Set the oil catch tank to the turbocharger, and temporarily tighten the bolts which secure the oil catch tank to the turbocharger and exhaust stay.

**NOTE:**

Use a new gasket.



## Front Exhaust Pipe

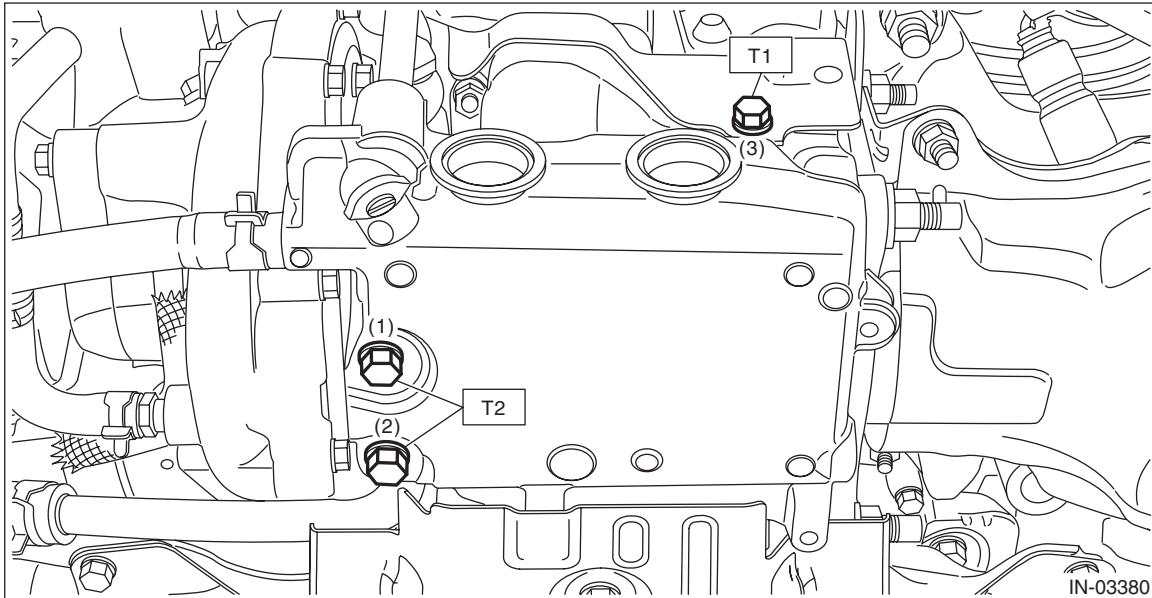
### EXHAUST

(2) Tighten the bolts which secure the oil catch tank to the turbocharger and exhaust stay in numerical order as shown in the figure.

#### **Tightening torque:**

**T1: 6.4 N·m (0.7 kgf-m, 4.7 ft-lb)**

**T2: 10.5 N·m (1.1 kgf-m, 7.7 ft-lb)**



6) Connect the turbocharger hose (B) to the oil pipe.

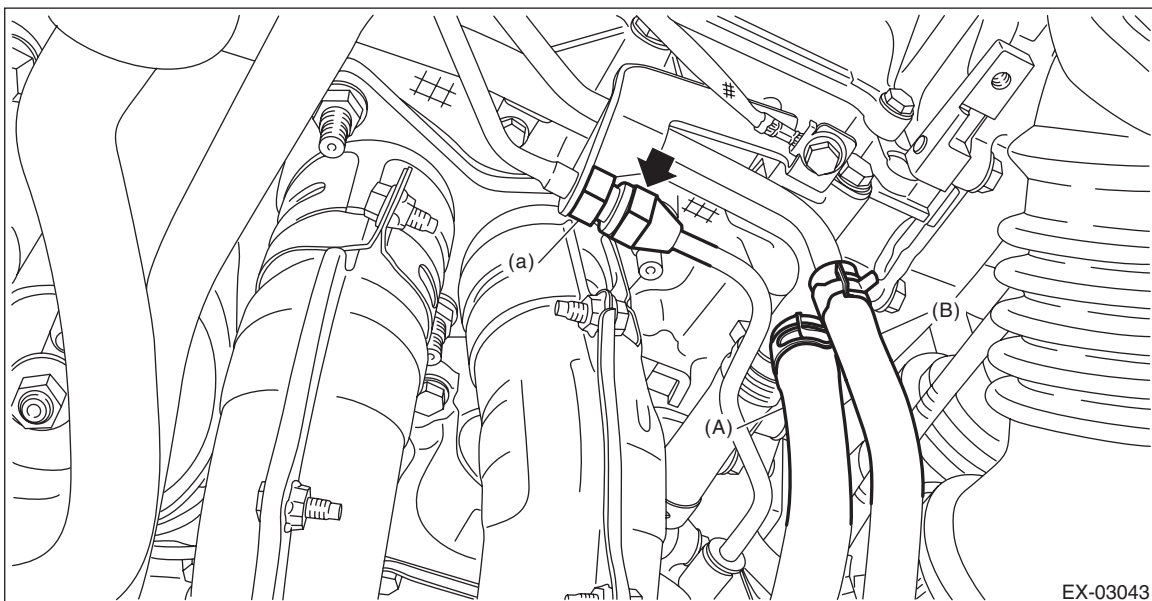
7) Connect the union screw pipe assembly to the oil pipe assembly, and connect the engine coolant hose (A) to the water pipe RH.

#### **CAUTION:**

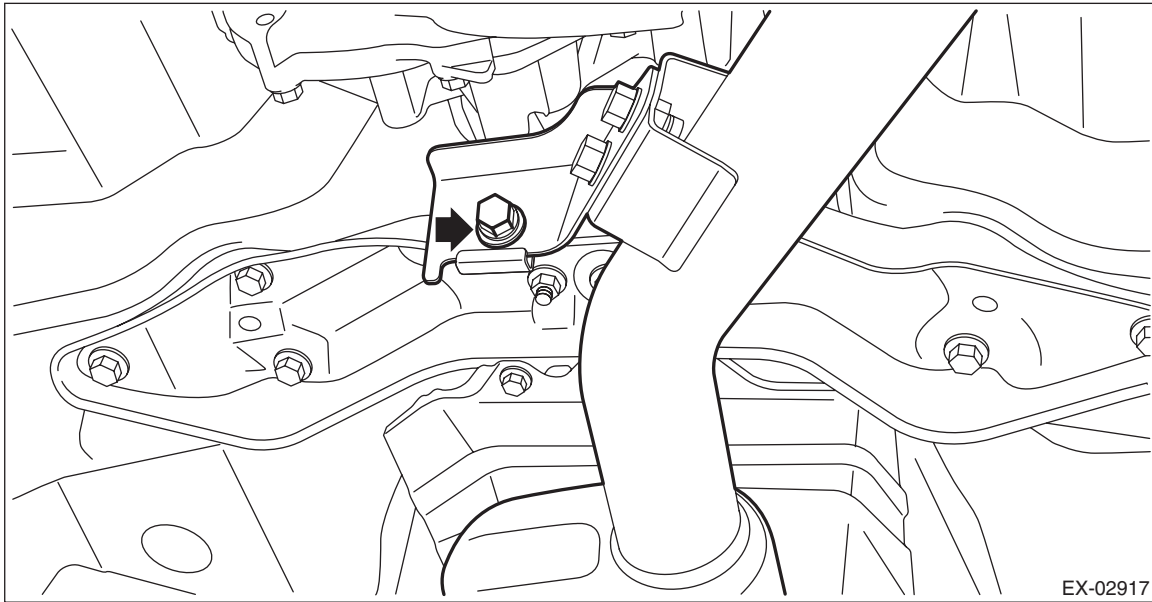
In order to prevent damaging the oil pipe assembly, fix the section (a) shown in the figure when tightening the flare nut on the union screw pipe assembly, and avoid the part from rotating together while tightening the nut.

#### **Tightening torque:**

**20 N·m (2.0 kgf-m, 14.8 ft-lb)**



- 8) Set the center exhaust pipe (rear), and temporarily tighten the bolt which holds the center exhaust pipe (rear) to the hanger bracket.



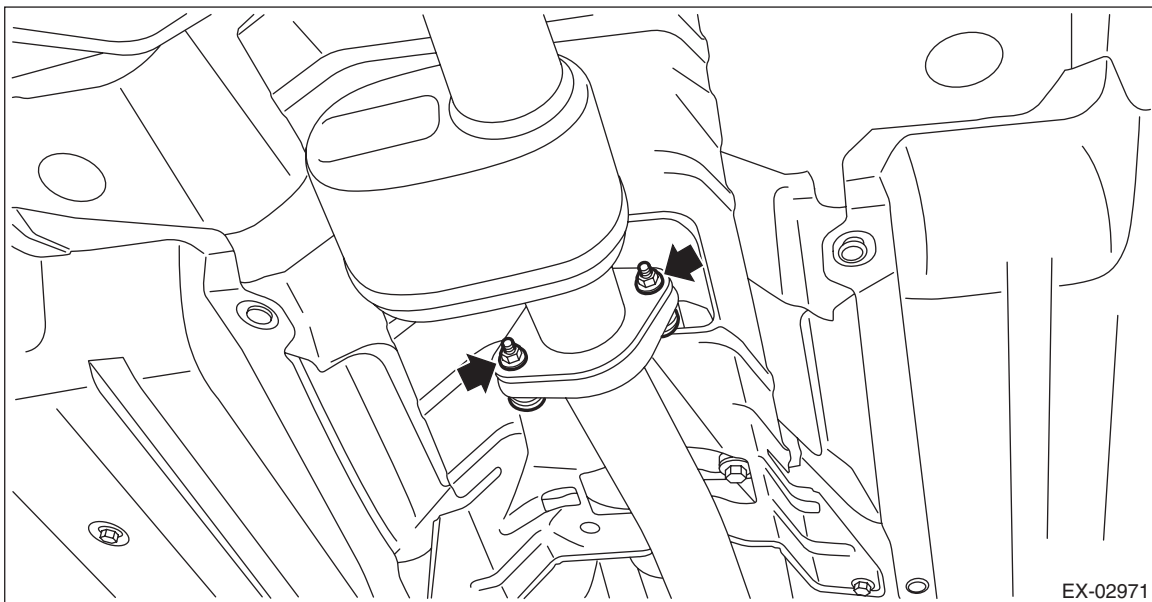
- 9) Install the bolts, springs, and nuts which secure the rear exhaust pipe to the center exhaust pipe (rear).

NOTE:

Use a new gasket.

**Tightening torque:**

**18 N·m (1.8 kgf-m, 13.3 ft-lb)**



## Front Exhaust Pipe

### EXHAUST

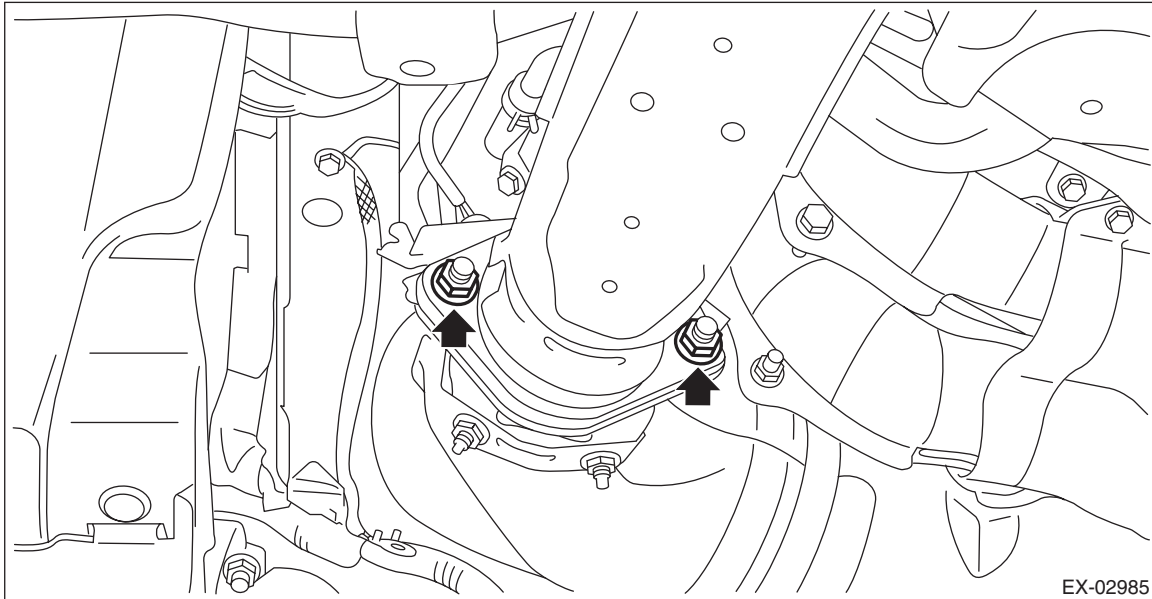
10) Install the nuts which secure the center exhaust pipe (rear) to the center exhaust pipe (front).

**NOTE:**

Use a new gasket.

**Tightening torque:**

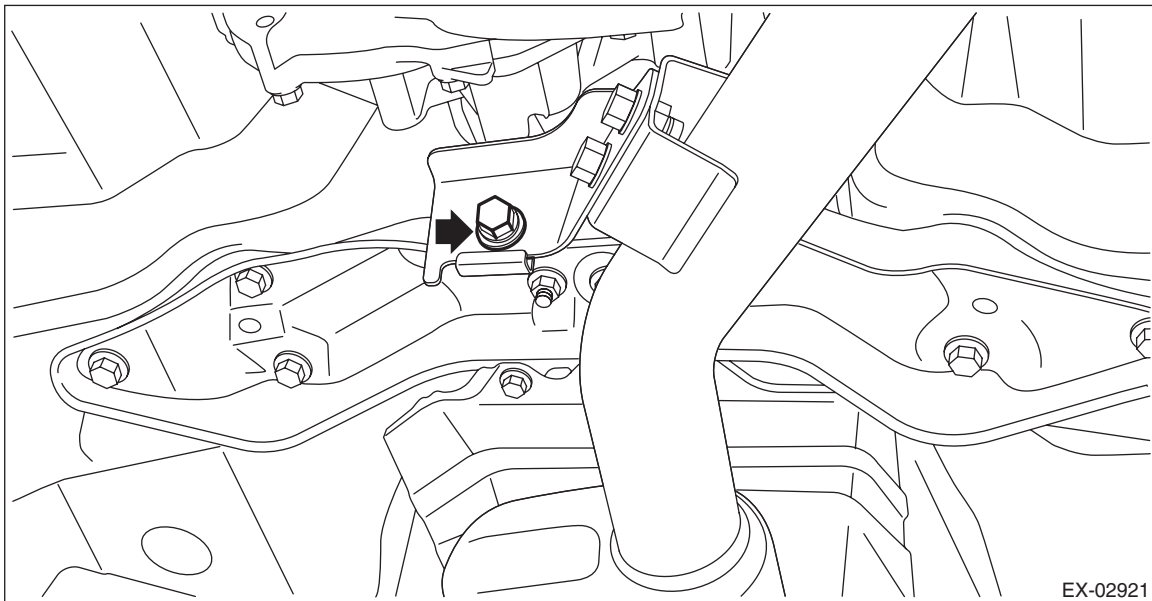
**42.5 N·m (4.3 kgf-m, 31.3 ft-lb)**



11) Tighten the bolts which hold center exhaust pipe (rear) to the hanger bracket.

**Tightening torque:**

**35 N·m (3.6 kgf-m, 25.8 ft-lb)**





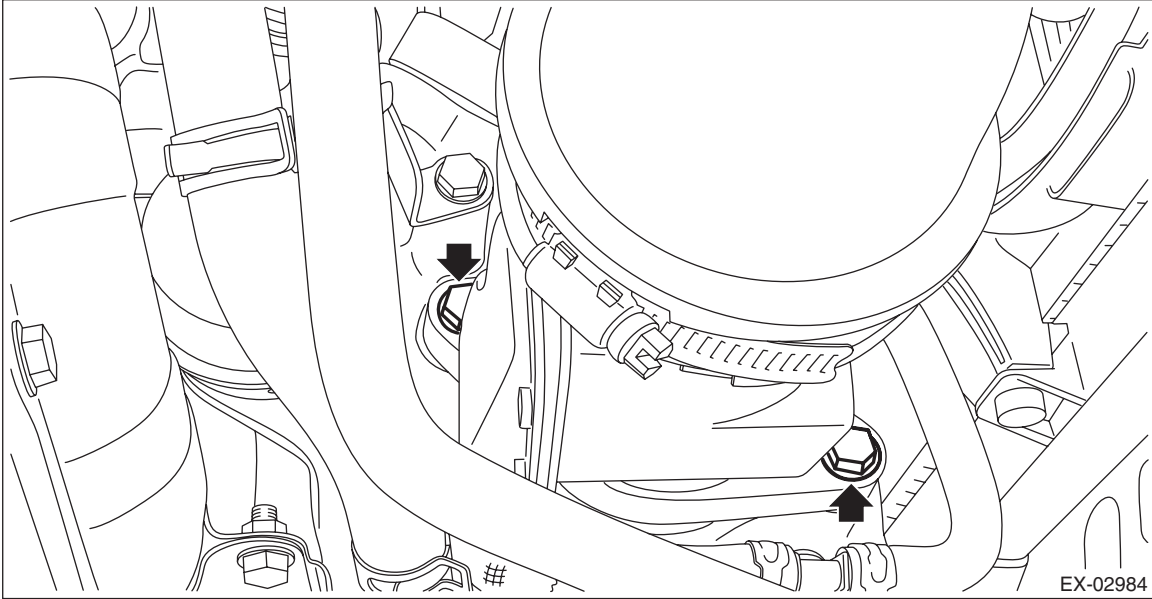
12) Install the bolt which secure the intake duct No. 1 to the turbocharger.

**NOTE:**

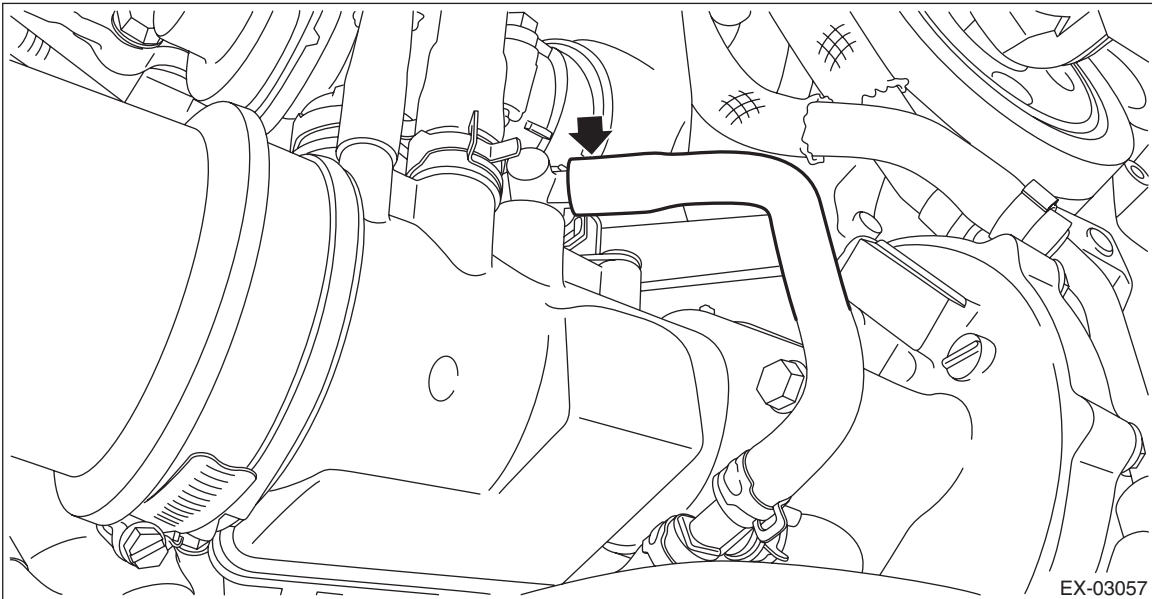
- Use new O-rings.
- Be careful not to pinch the O-ring.

**Tightening torque:**

**6.4 N·m (0.7 kgf-m, 4.7 ft-lb)**



13) Connect the vacuum control hose to the wastegate control solenoid valve.



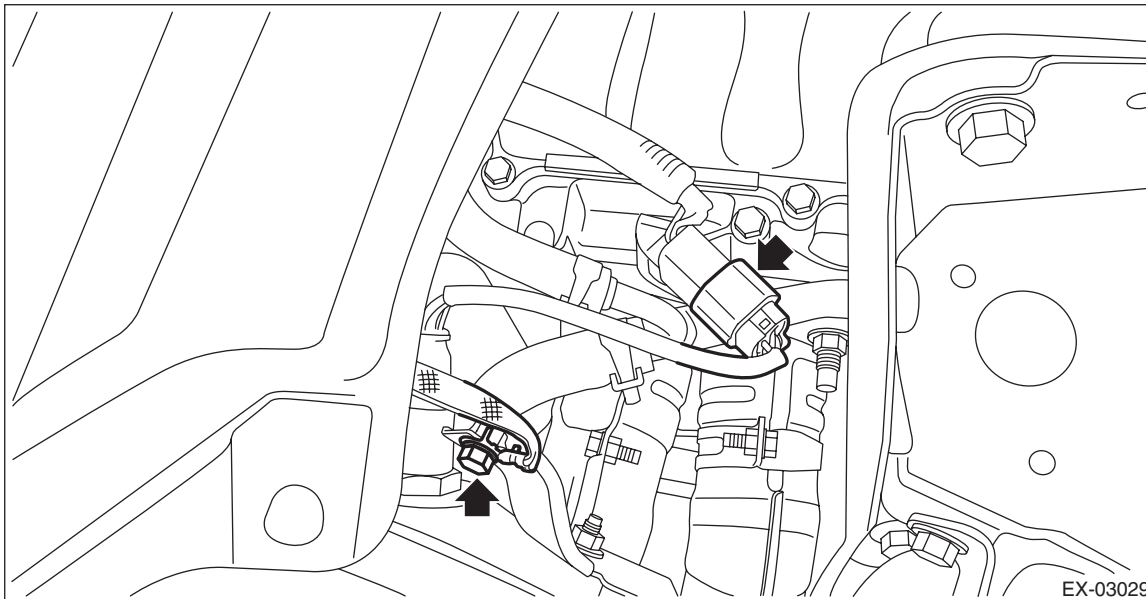
## Front Exhaust Pipe

### EXHAUST

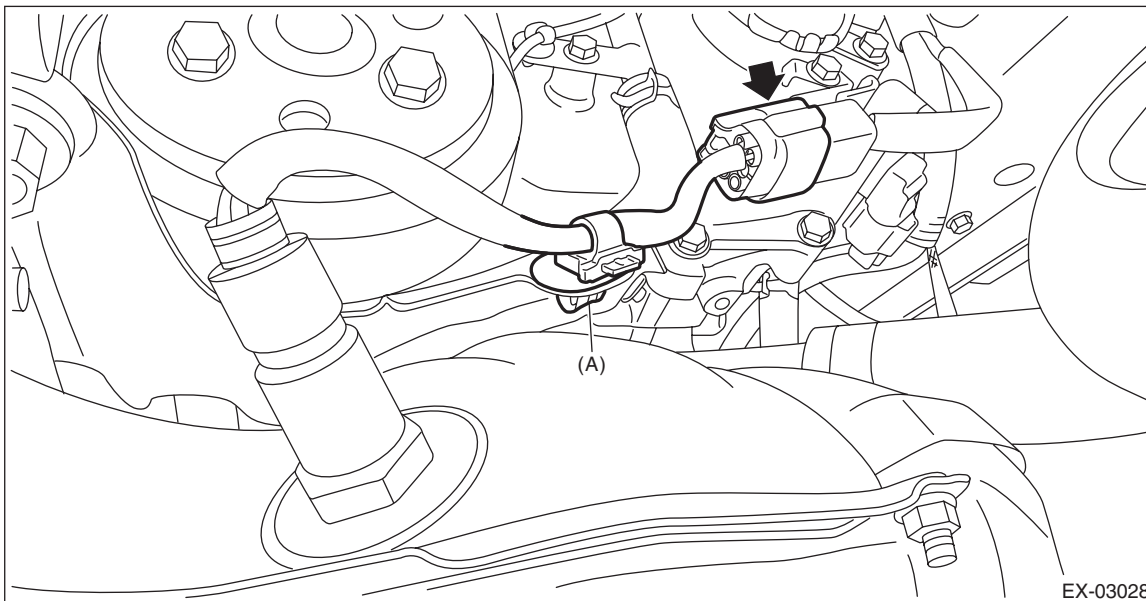
14) Connect the connector on the rear oxygen sensor to the engine harness, and connect the ground cable to the exhaust pipe cover.

**Tightening torque:**

**7 N·m (0.7 kgf-m, 5.2 ft-lb)**



15) Secure the front oxygen (A/F) sensor harness to the water pump pulley cover with the clip (A), and connect the front oxygen (A/F) sensor connector to the engine harness.

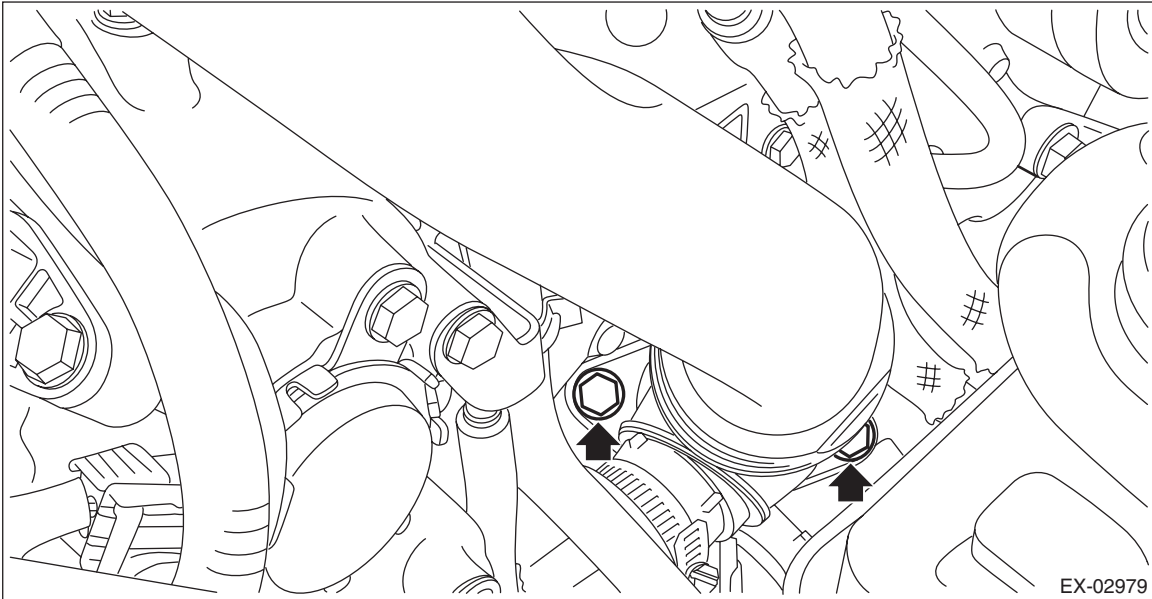


16) Install the under cover. <Ref. to EI-23, INSTALLATION, Front Under Cover.>

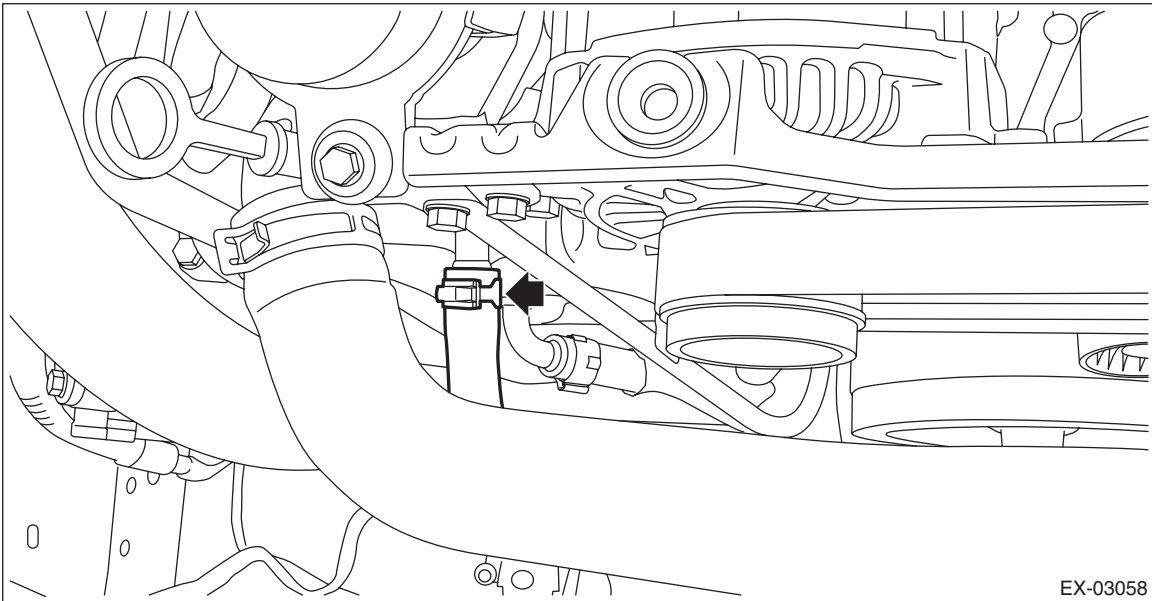
- 17) Lower the vehicle.
- 18) Install the bolts which secure the intake duct No. 2 to the turbocharger.

**Tightening torque:**

**16 N·m (1.6 kgf-m, 11.8 ft-lb)**



- 19) Connect the engine coolant hoses to the water pipe assembly.



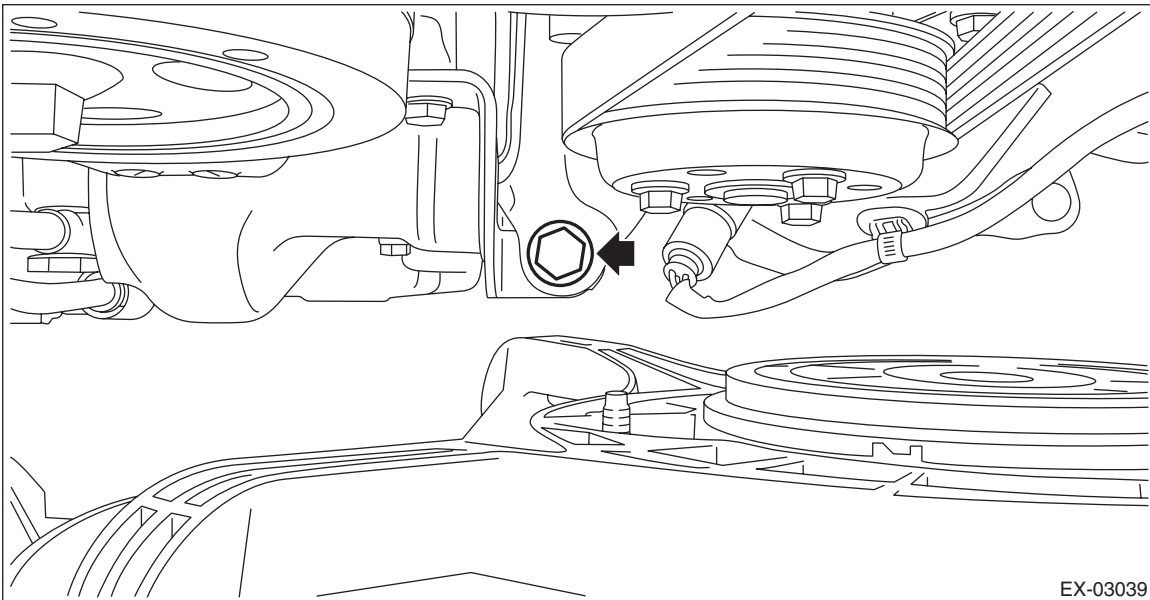
## Front Exhaust Pipe

### EXHAUST

20) Attach the bolt which secures the water pump pulley cover to the turbocharger stay.

**Tightening torque:**

**33 N·m (3.4 kgf-m, 24.3 ft-lb)**



21) Install the radiator sub fan and fan motor assembly. <Ref. to CO(H4DOTC)-56, INSTALLATION, Radiator Sub Fan and Fan Motor.>

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

23) Connect the battery ground terminal.

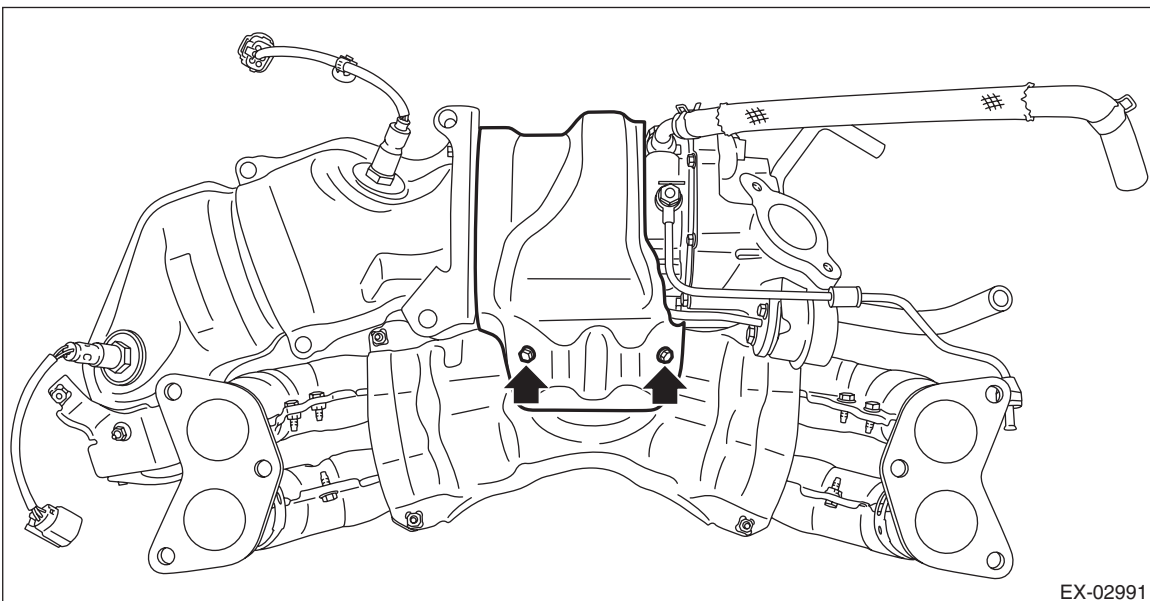
24) Fill engine coolant. <Ref. to CO(H4DOTC)-14, FILLING OF ENGINE COOLANT, REPLACEMENT, Engine Coolant.>

25) Check the engine oil level and replenish the engine oil if necessary. <Ref. to LU(H4DO)-12, INSPECTION, Engine Oil.>

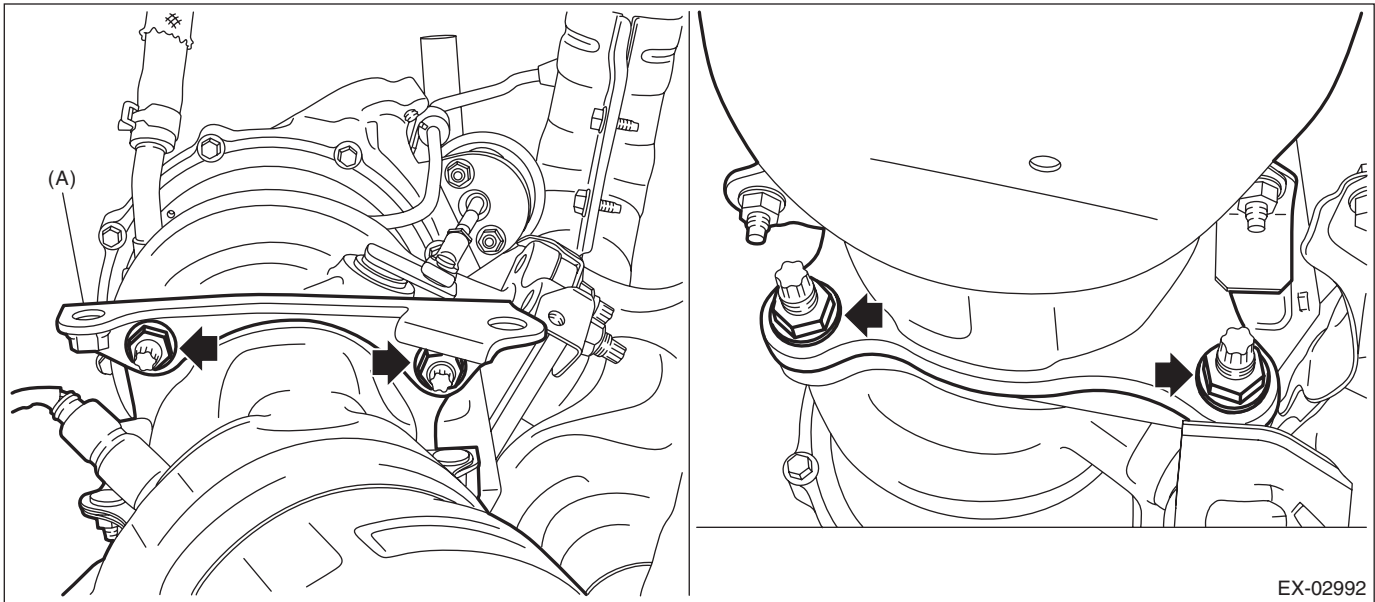
26) Install the collector cover.

### C: DISASSEMBLY

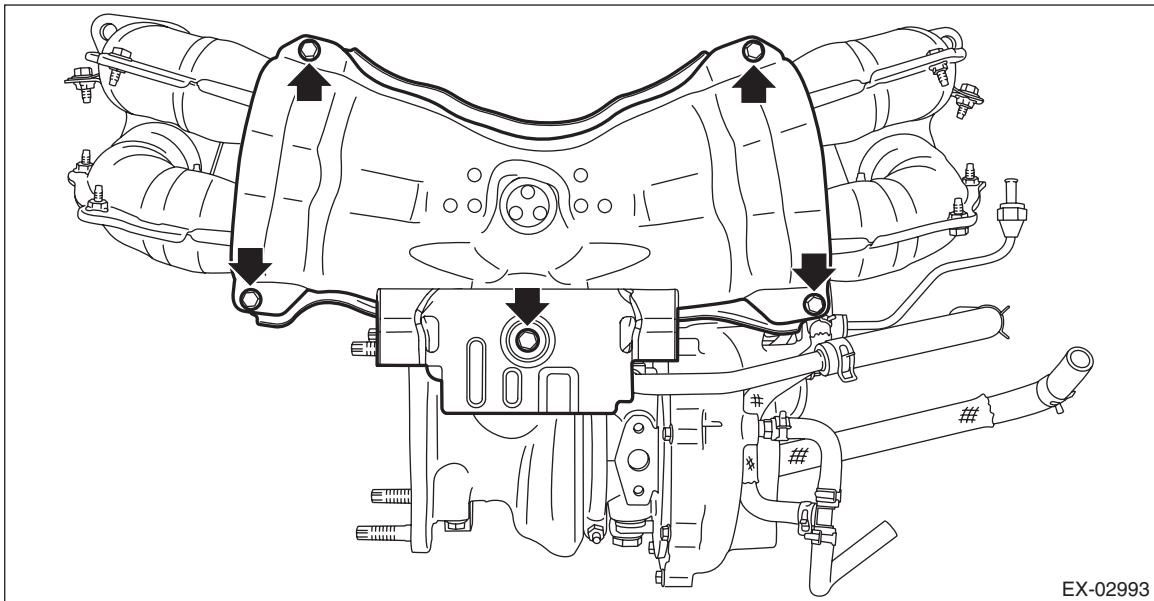
1) Remove the exhaust pipe cover from the turbocharger stay.



2) Remove nuts which hold the center exhaust pipe (front) to the turbocharger, and remove the center exhaust pipe (front) together with the turbocharger stay (A).



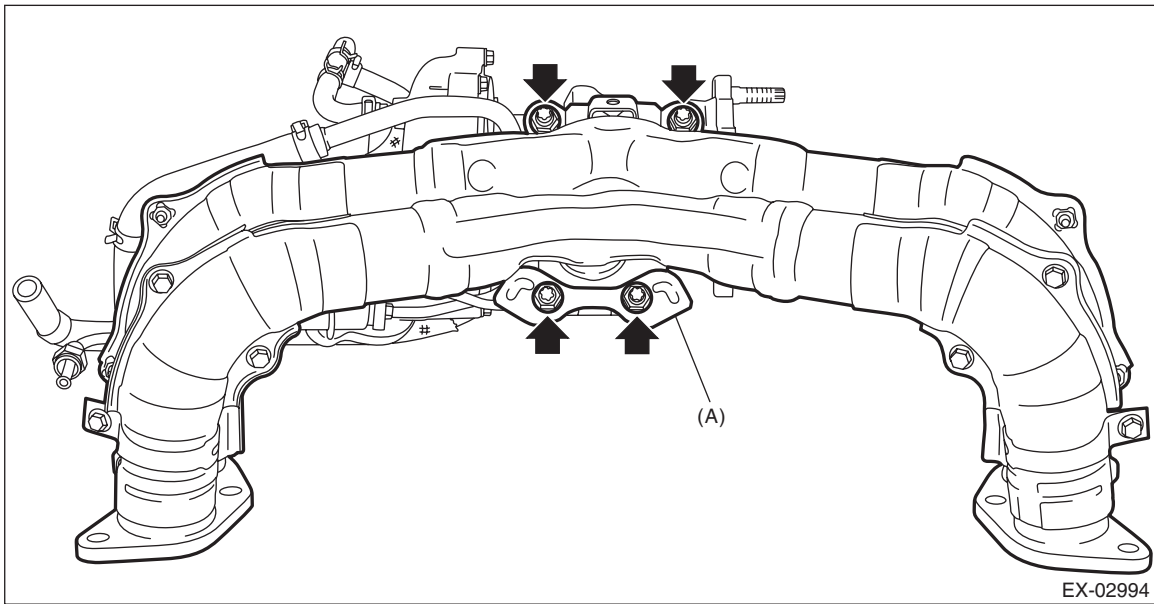
3) Remove the exhaust pipe cover from the front exhaust pipe.



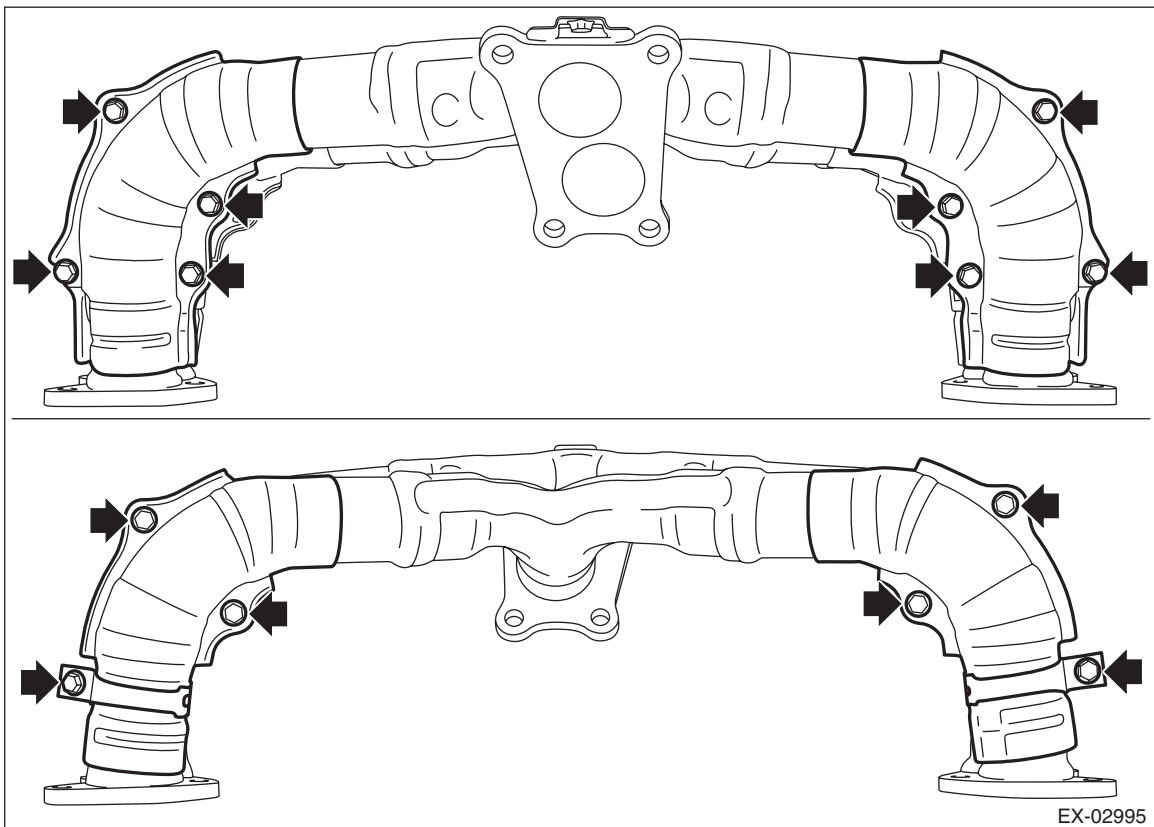
## Front Exhaust Pipe

### EXHAUST

4) Remove nuts which secure the front exhaust pipe to the turbocharger, and remove the front exhaust pipe together with the turbocharger stay (A).



5) Remove the exhaust pipe cover from the front exhaust pipe.





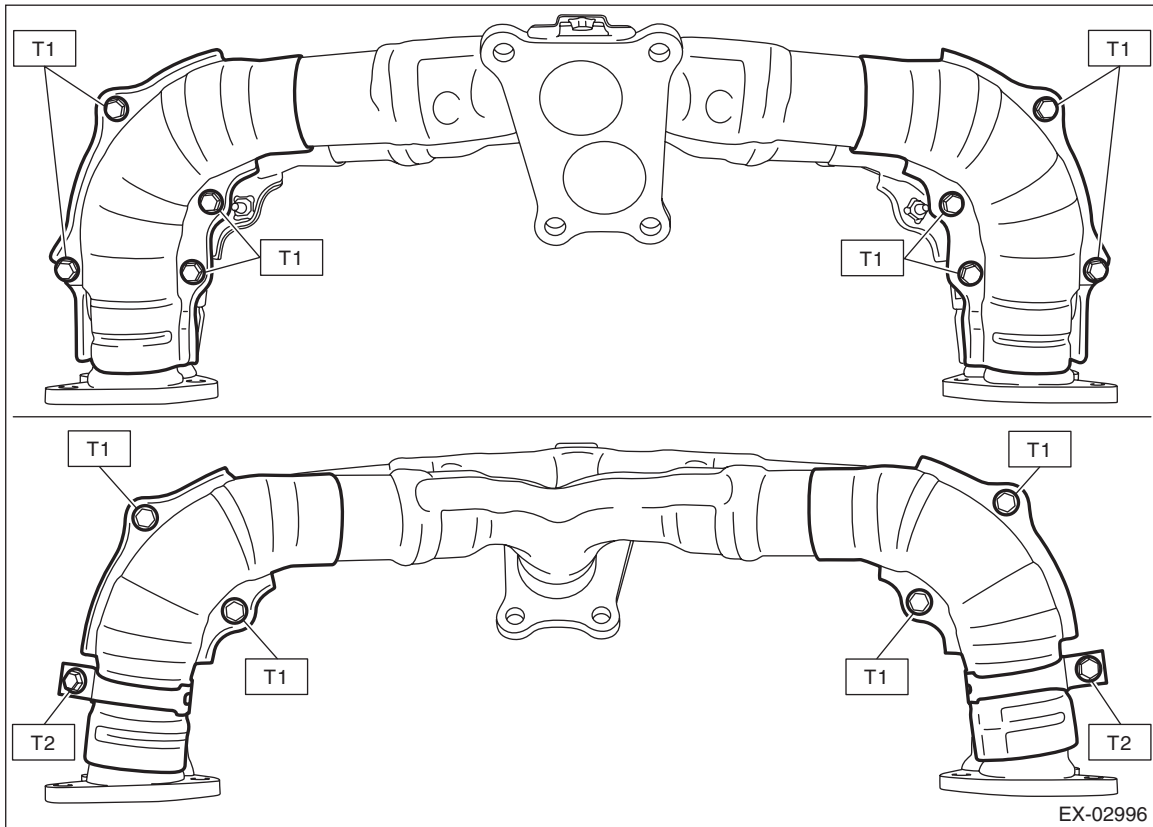
## D: ASSEMBLY

1) Install the exhaust pipe cover to the front exhaust pipe.

**Tightening torque:**

**T1: 6.4 N·m (0.7 kgf-m, 4.7 ft-lb)**

**T2: 13 N·m (1.3 kgf-m, 9.6 ft-lb)**



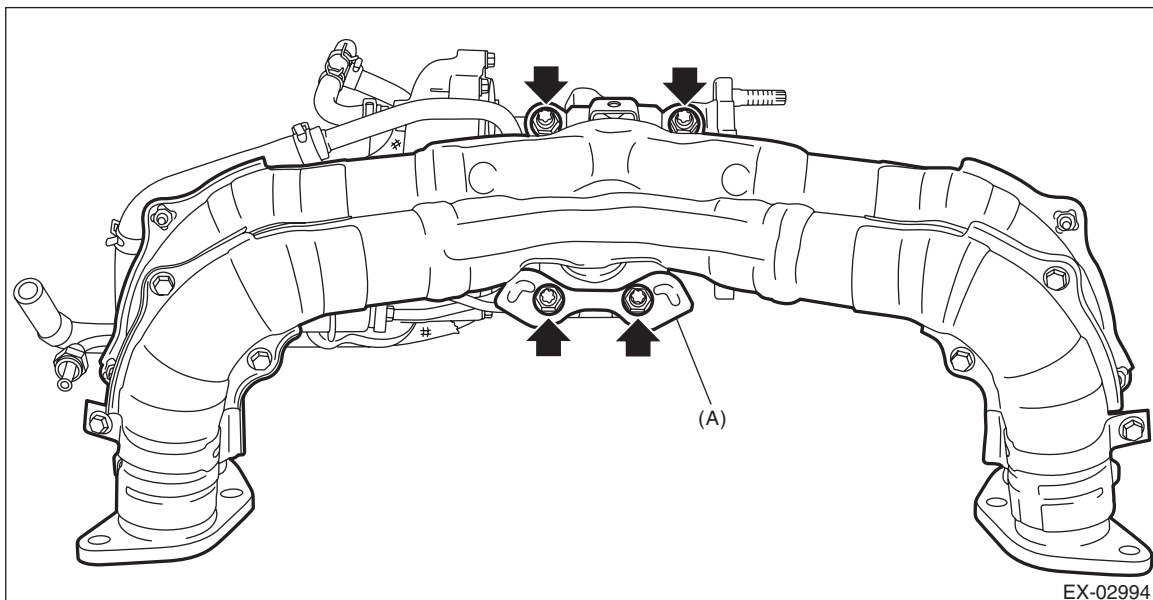
2) Install the front exhaust pipe together with the turbocharger stay (A) to the turbocharger.

**NOTE:**

Use a new gasket and self-locking nut.

**Tightening torque:**

**42.5 N·m (4.3 kgf-m, 31.3 ft-lb)**



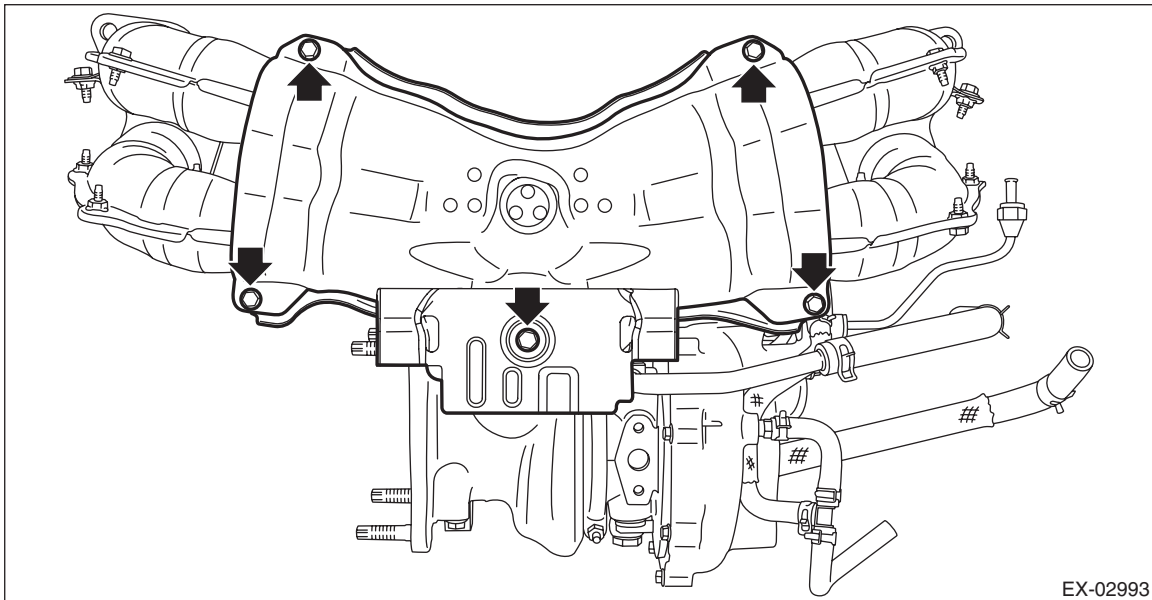
## Front Exhaust Pipe

### EXHAUST

3) Install the exhaust pipe cover to the front exhaust pipe.

**Tightening torque:**

**6.4 N·m (0.7 kgf-m, 4.7 ft-lb)**



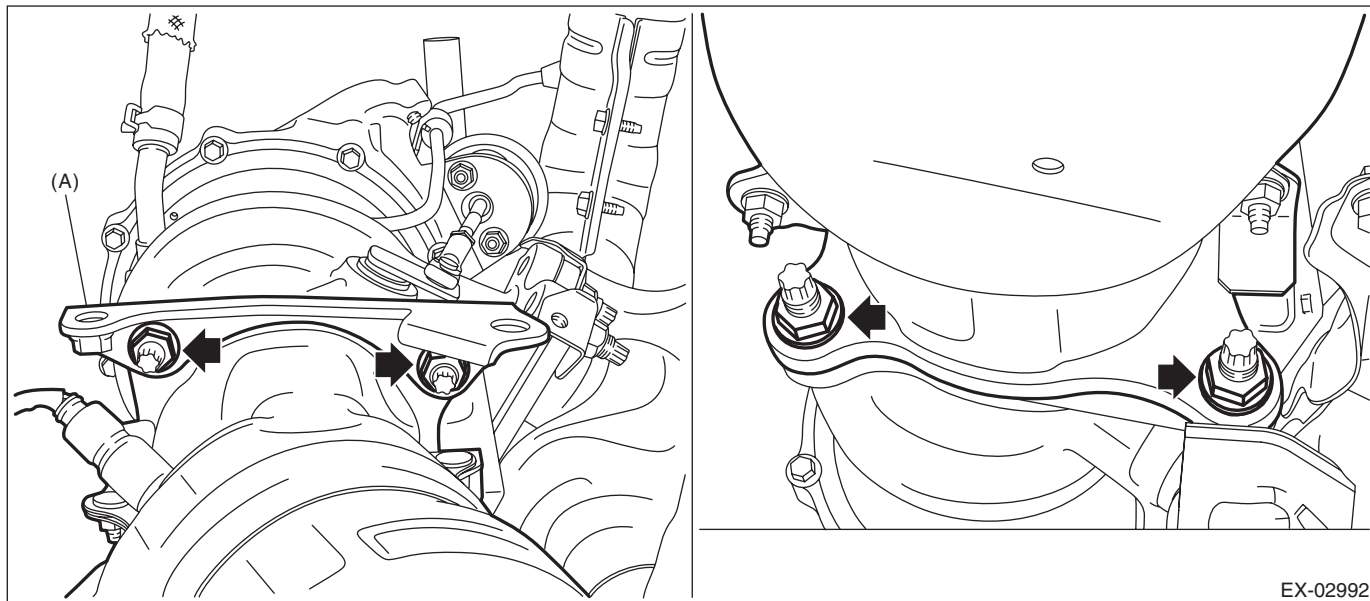
4) Install the center exhaust pipe (front) together with the turbocharger stay (A) to the turbocharger.

**NOTE:**

Use a new gasket and self-locking nut.

**Tightening torque:**

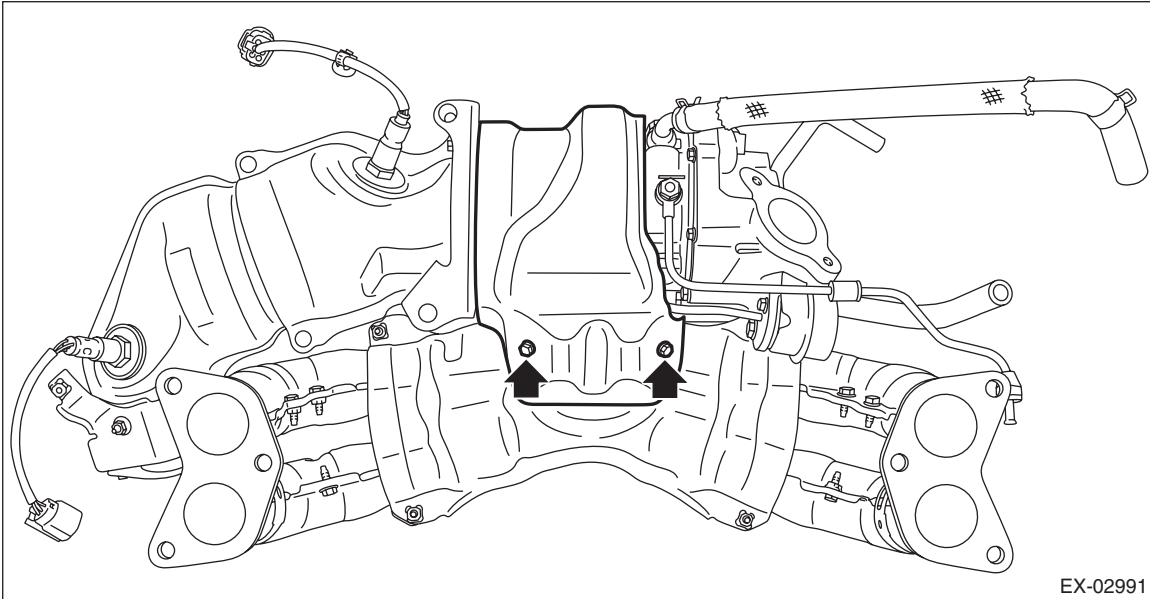
**42.5 N·m (4.3 kgf-m, 31.3 ft-lb)**



5) Install the exhaust pipe cover to the turbocharger stay.

**Tightening torque:**

**6.4 N·m (0.7 kgf-m, 4.7 ft-lb)**



## E: INSPECTION

- 1) Check the connections and welded parts for exhaust leaks.
- 2) Make sure there are no holes or rusting.