

ENGINE SECTION 3

This service manual has been prepared to provide SUBARU service personnel with the necessary information and data for the correct maintenance and repair of SUBARU vehicles.

This manual includes the procedures for maintenance, disassembling, reassembling, inspection and adjustment of components and diagnostics for guidance of experienced mechanics.

Please peruse and utilize this manual fully to ensure complete repair work for satisfying our customers by keeping their vehicle in optimum condition. When replacement of parts during repair work is needed, be sure to use SUBARU genuine parts.

All information, illustration and specifications contained in this manual are based on the latest product information available at the time of publication approval.

FUEL INJECTION (FUEL SYSTEMS) FU(H6DO)

**EMISSION CONTROL
(AUX. EMISSION CONTROL DEVICES) EC(H6DO)**

INTAKE (INDUCTION) IN(H6DO)

MECHANICAL ME(H6DO)

EXHAUST EX(H6DO)

COOLING CO(H6DO)

LUBRICATION LU(H6DO)

SPEED CONTROL SYSTEMS SP(H6DO)

IGNITION IG(H6DO)

STARTING/CHARGING SYSTEMS SC(H6DO)

ENGINE (DIAGNOSTICS) EN(H6DO)(diag)

EXHAUST

EX(H6DO)

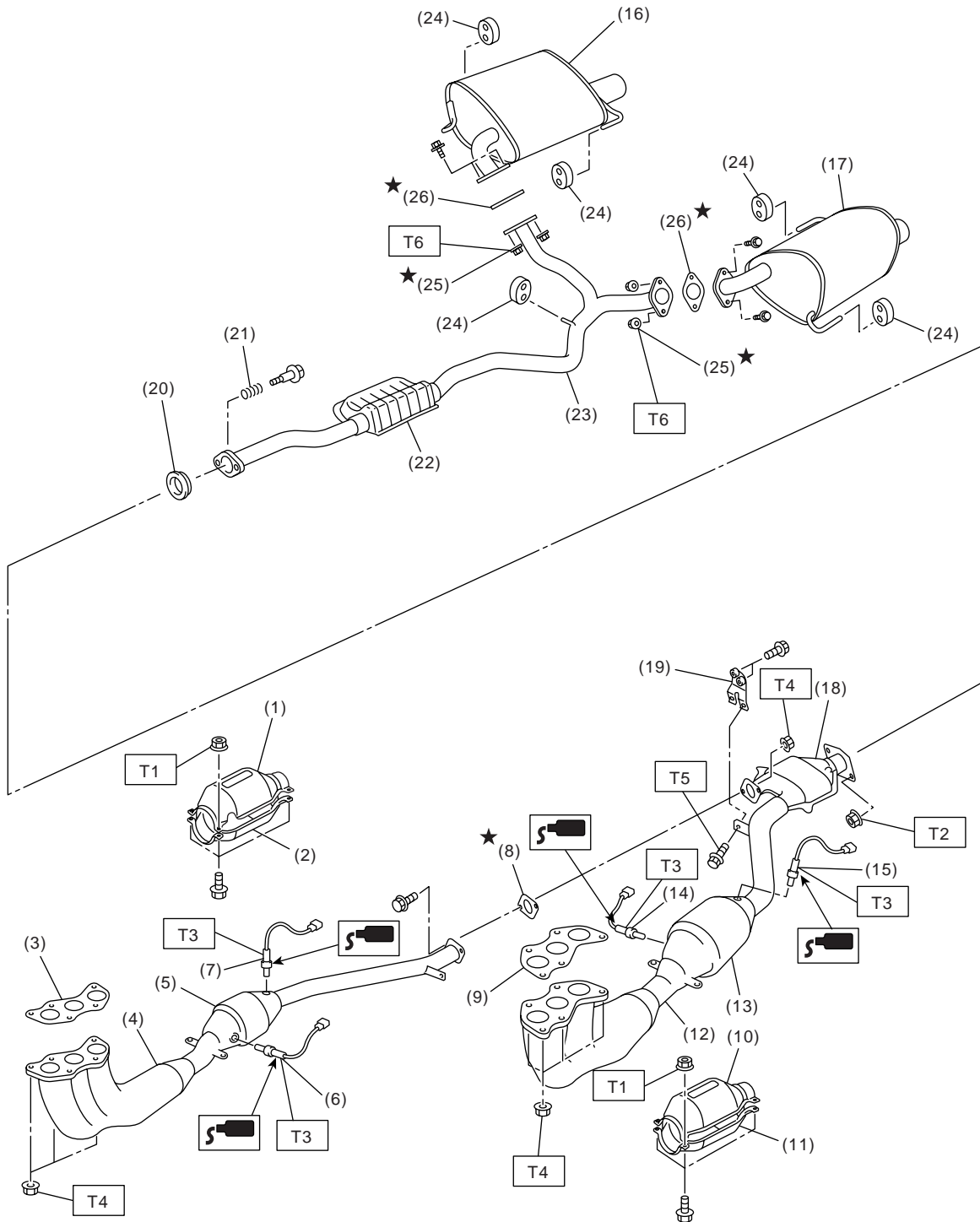
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General Description

EXHAUST

1. General Description

A: COMPONENT



EX-02013

General Description

EXHAUST

(1) Front catalytic converter upper cover (RH)	(11) Front catalytic converter lower cover (LH)	(23) Rear exhaust pipe
(2) Front catalytic converter lower cover (RH)	(12) Front exhaust pipe (LH)	(24) Cushion rubber
(3) Gasket	(13) Front catalytic converter (LH)	(25) Self-locking nut
(4) Front exhaust pipe (RH)	(14) Front oxygen (A/F) sensor (LH)	(26) Gasket
(5) Front catalytic converter (RH)	(15) Rear oxygen sensor (LH)	
(6) Front oxygen (A/F) sensor (RH)	(16) Muffler (RH)	<i>Tightening torque: N·m (kgf·m, ft·lb)</i>
(7) Rear oxygen sensor (RH)	(17) Muffler (LH)	<i>T1: 13 (1.3, 9.4)</i>
(8) Gasket	(18) Rear catalytic converter	<i>T2: 18 (1.8, 13.0)</i>
(9) Gasket	(19) Bracket	<i>T3: 21 (2.1, 15.2)</i>
(10) Front catalytic converter upper cover (LH)	(20) Gasket	<i>T4: 30 (3.1, 22.4)</i>
	(21) Spring	<i>T5: 35 (3.6, 26.0)</i>
	(22) Chamber	<i>T6: 48 (4.9, 35.4)</i>

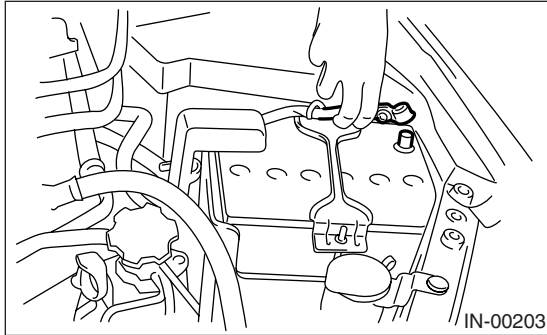
B: CAUTION

- 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 sensors or units, be sure to disconnect the ground cable from battery.

2. Front Exhaust Pipe

A: REMOVAL

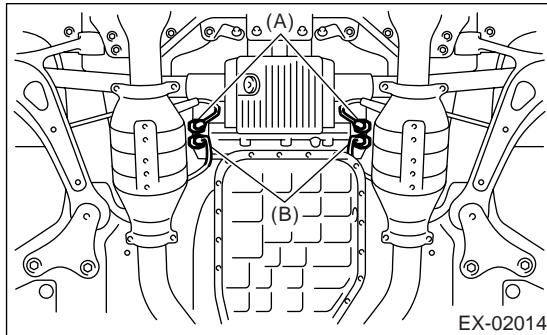
1) Disconnect the ground cable from battery.



2) Lift-up the vehicle.

3) Remove the under cover.

4) Disconnect the front oxygen (A/F) sensor connector (A) and rear oxygen sensor connector (B).



5) Separate the front exhaust pipe from rear exhaust pipe.

CAUTION:

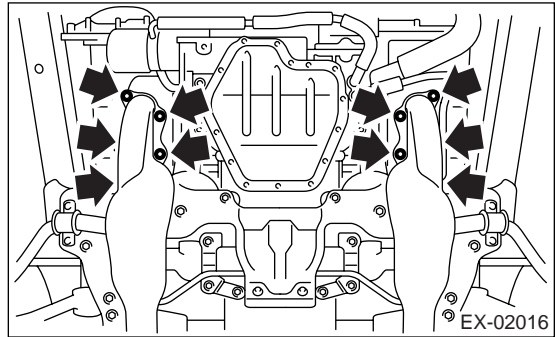
Be careful, exhaust pipe is hot.



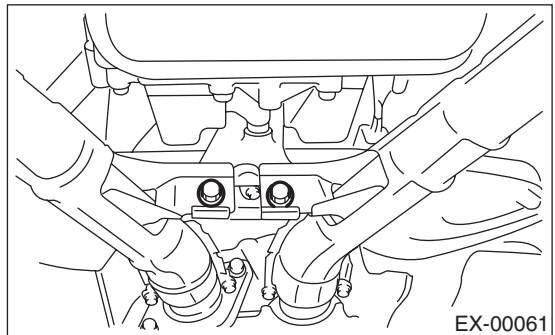
6) Remove the nuts which hold front exhaust pipe onto cylinder heads.

CAUTION:

Be careful not to pull down the front exhaust pipe assembly.



7) Remove the bolts which hold front exhaust pipe assembly to hanger bracket.

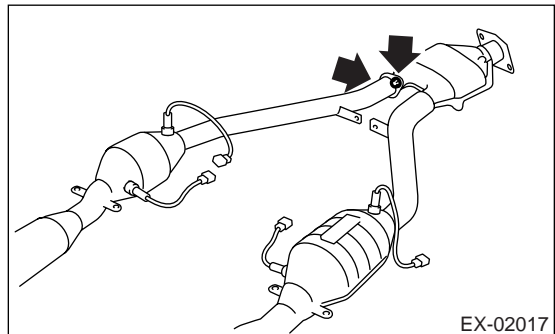


8) Remove the front exhaust pipe assembly from vehicle.

CAUTION:

- Be careful not to let the front exhaust pipe assembly fall off when removing, as it is quite heavy.
- After removing the front exhaust pipe assembly, do not apply excessive pulling force on the rear exhaust pipe.

9) Disconnect the front exhaust pipe (RH) from front exhaust pipe assembly.



10) Remove the front oxygen (A/F) sensor and rear oxygen sensor. <Ref. to FU(H6DO)-30, REMOVAL, Front Oxygen (A/F) Sensor.> <Ref. to FU(H6DO)-32, REMOVAL, Rear Oxygen Sensor.>

Front Exhaust Pipe

EXHAUST

B: INSTALLATION

1) Install the front oxygen (A/F) sensor and rear oxygen sensor. <Ref. to FU(H6DO)-30, INSTALLATION, Front Oxygen (A/F) Sensor.> <Ref. to FU(H6DO)-32, INSTALLATION, Rear Oxygen Sensor.>

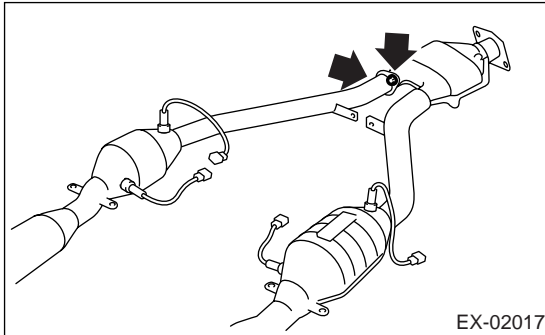
2) Install the front exhaust pipe (RH) to front exhaust pipe assembly.

NOTE:

Use a new gasket.

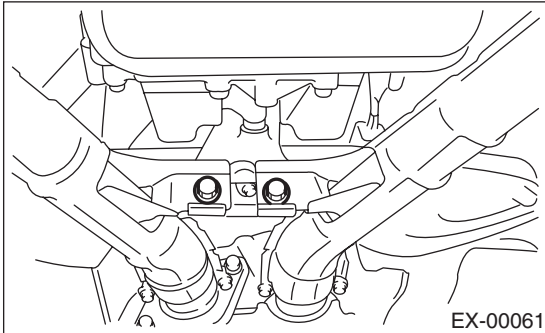
Tightening torque:

30 N·m (3.1 kgf-m, 22.4 ft-lb)



3) Install the front exhaust pipe assembly to vehicle.

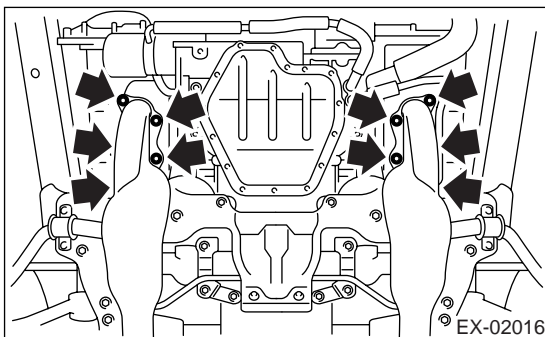
4) Temporarily tighten the bolts which hold front exhaust pipe assembly to hanger bracket.



5) Install the nuts to cylinder head which hold front exhaust pipe.

Tightening torque:

30 N·m (3.1 kgf-m, 22.4 ft-lb)



6) Install the under cover.

7) Tighten the bolts which install the front exhaust pipe to rear exhaust pipe.

Tightening torque:

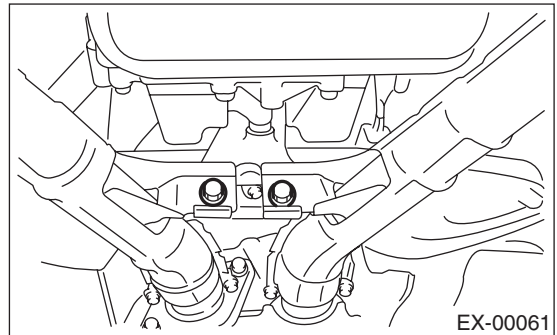
18 N·m (1.8 kgf-m, 13.0 ft-lb)



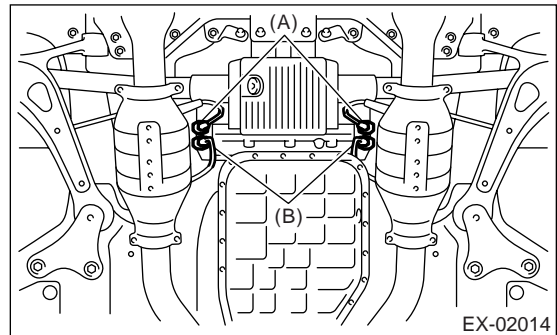
8) Tighten the bolts which hold the front exhaust pipe assembly to hanger bracket.

Tightening torque:

35 N·m (3.6 kgf-m, 26.0 ft-lb)

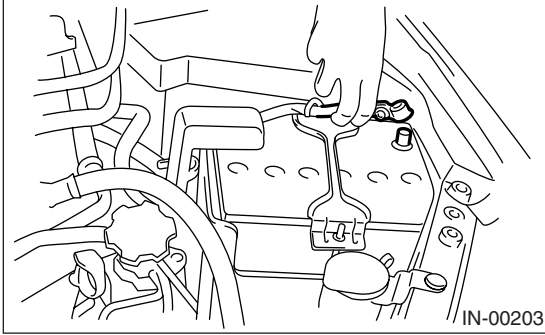


9) Connect the front oxygen (A/F) sensor connector (A) and rear oxygen sensor connector (B).



10) Lower the vehicle.

11) Connect the battery ground cable to battery.



C: INSPECTION

- 1) Make sure there are no exhaust leaks from connections and welds.
- 2) Make sure there are no holes or rusting.

Rear Exhaust Pipe

EXHAUST

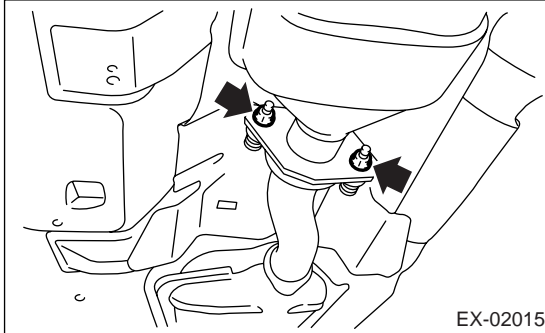
3. Rear Exhaust Pipe

A: REMOVAL

1) Separate the rear exhaust pipe from front exhaust pipe.

CAUTION:

Be careful, exhaust pipe is hot.

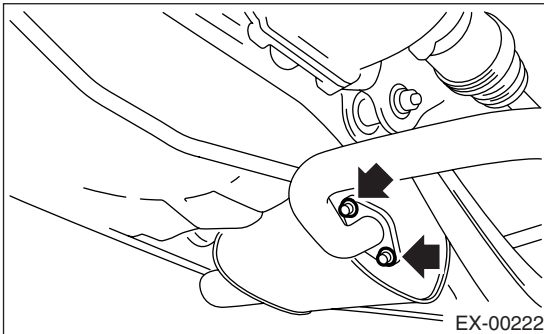


2) Separate the rear exhaust pipe from muffler.

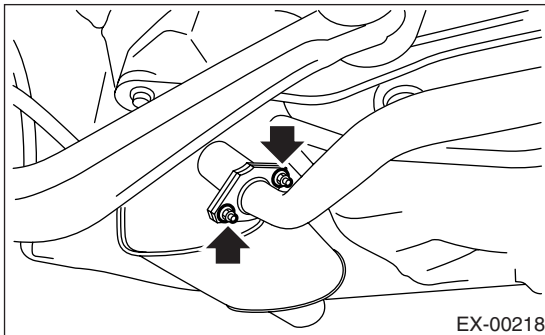
CAUTION:

Be careful not to pull down the rear exhaust pipe.

- LH side

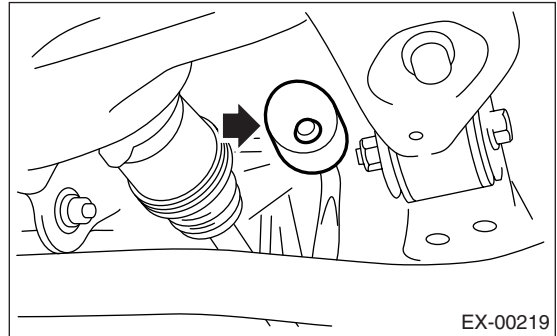


- RH side



3) Apply a coat of spray type lubricant to the mating area of cushion rubber.

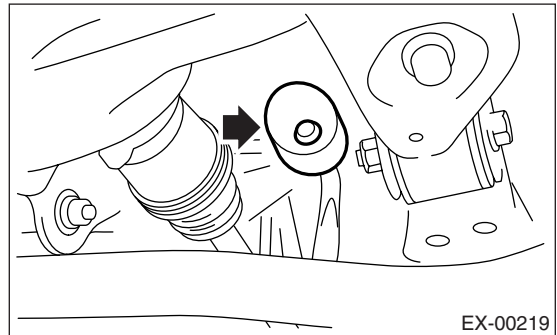
4) Remove the rear exhaust pipe bracket from cushion rubber.



B: INSTALLATION

1) Apply a coat of spray type lubricant to the mating area of cushion rubber.

2) Install the rear exhaust pipe bracket to cushion rubber.



3) Install the rear exhaust pipe to muffler.

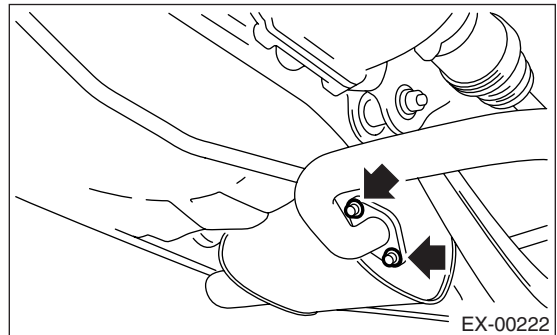
NOTE:

Use a new gasket and self-locking nut.

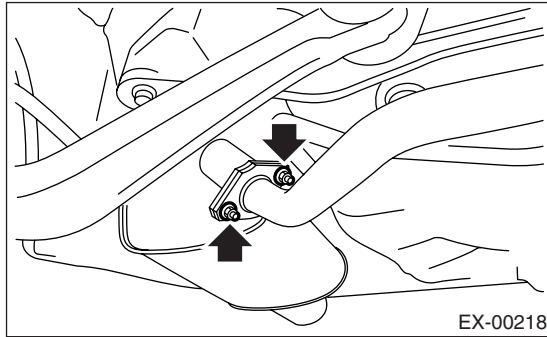
Tightening torque:

48 N·m (4.9 kgf·m, 35.4 ft·lb)

- LH side



- RH side



4) Install the rear exhaust pipe to center exhaust pipe.

Tightening torque:

18 N·m (1.8 kgf·m, 13.0 ft·lb)



C: INSPECTION

- 1) Make sure there are no exhaust leaks from connections and welds.
- 2) Make sure there are no holes or rusting.
- 3) Make sure the cushion rubber is not worn or cracked.

Muffler

EXHAUST

4. Muffler

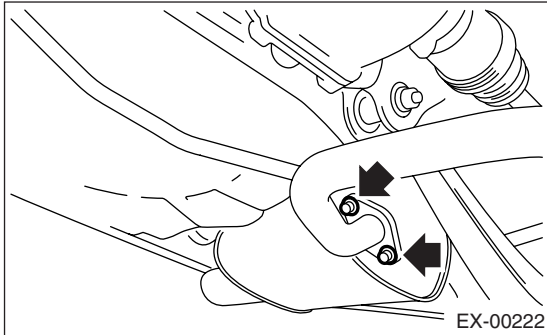
A: REMOVAL

1) Separate the muffler from rear exhaust pipe.

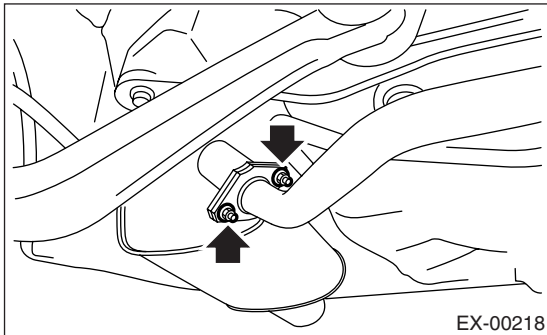
CAUTION:

Be careful, exhaust pipe is hot.

- LH side

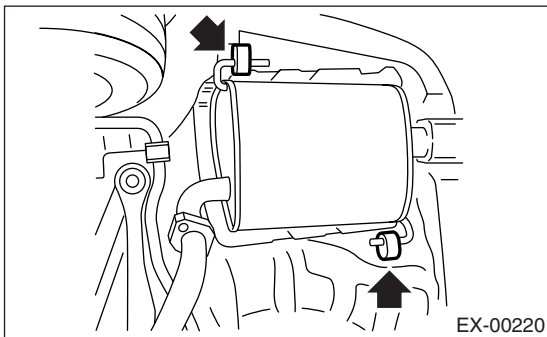


- RH side

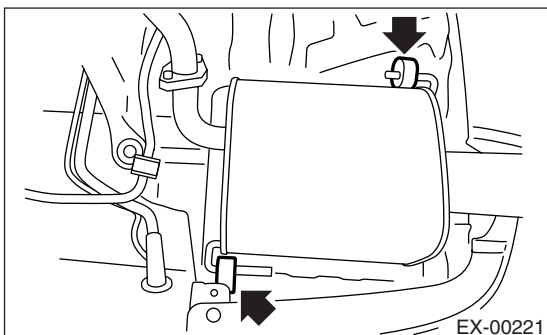


2) Apply a coat of spray type lubricant to the mating area of cushion rubber.

- LH side



- RH side



3) Remove the front and rear cushion rubber, and then remove the muffler.

B: INSTALLATION

Install in the reverse order of removal.

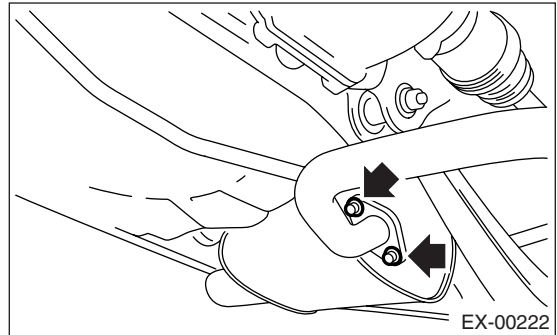
NOTE:

Use a new gasket and self-locking nut.

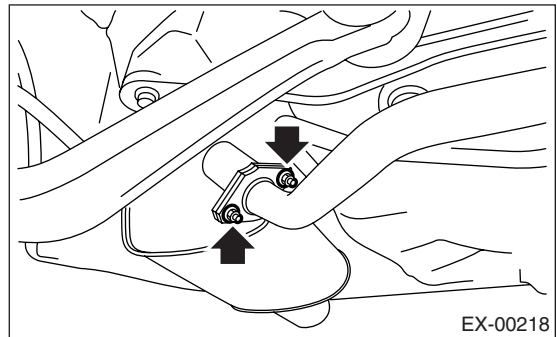
Tightening torque:

48 N·m (4.9 kgf-m, 35.4 ft-lb)

- LH side



- RH side



C: INSPECTION

1) Make sure there are no exhaust leaks from connections and welds.

2) Make sure there are no holes or rusting.

3) Make sure the cushion rubber is not worn or cracked.