SECTION EX
EXHAUST SYSTEM

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1.6L/2.0L TURBO ENGINE

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PRECAUTION

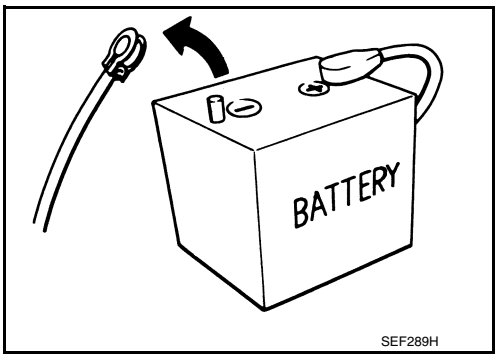
PRECAUTIONS

Precautions for Removing Battery Terminal

INFOID:0000000013537032

When disconnecting the battery terminal, pay attention to the following.
- Always use a 12V battery as power source.
- Never disconnect battery terminal while engine is running.
- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
- For vehicles with the engine listed below, remove the battery terminal after a lapse of the specified time:

BR08DE	: 4 minutes	YD25DDTi	: 2 minutes
D4D engine	: 20 minutes	YS23DDT	: 4 minutes
HRA2DDT	: 12 minutes	YS23DDTT	: 4 minutes
K9K engine	: 4 minutes	ZD30DDTi	: 60 seconds
M9R engine	: 4 minutes	ZD30DDTT	: 60 seconds
R9M engine	: 4 minutes		
V9X engine	: 4 minutes		



NOTE:
ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.
- After high-load driving, if the vehicle is equipped with the V9X engine, turn the ignition switch OFF and wait for at least 15 minutes to remove the battery terminal.

NOTE:
- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- Example of high-load driving
  - Driving for 30 minutes or more at 140 km/h (86 MPH) or more.
  - Driving for 30 minutes or more on a steep slope.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

NOTE:
If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.

NOTE:
The removal of 12V battery may cause a DTC detection error.

Removal and Installation

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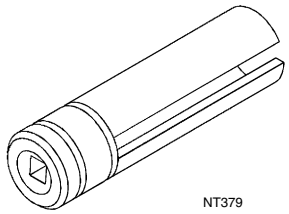
CAUTION:
- **Be sure to use genuine exhaust system parts or equivalents which are specially designed for heat resistance, corrosion resistance, and shape.**
- **Perform the operation with the exhaust system fully cooled down because the system will be hot just after engine stops.**
- **Be careful not to cut your hand on the heat insulator edge.**

PREPARATION

PREPARATION

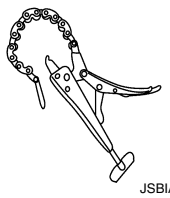
Special Service Tool

INFOID:0000000013537034

Tool number (DAIMLER tool No.) Tool name	Description
KV10117100 (DAIMLER tool No.—) Heated oxygen sensor wrench  NT379	Loosening or tightening air fuel ratio sensor and heated oxygen sensor **For 22 mm (0.87 in) width hexagon nut**

Commercial Service Tool

INFOID:0000000013537035

Tool name	Description
Exhaust pipe cutter  JSBIA9690ZZ	Cutting rear muffler assembly

Lubricant or/and Sealant

INFOID:0000000013537036

Name	Description	Note
Antifriction paste, rubber parts 2.5 kg, DB supply specification 6867.00	Mounting rubber	Antifriction paste, rubber parts 2.5 kg, DB supply specification 6867.00 or equivalent
Paste, hot lubrication 1 kg, DB supply specification 6879.20	Exhaust front tube	(DEUTSCHE BP AG), or equivalent

PERIODIC MAINTENANCE

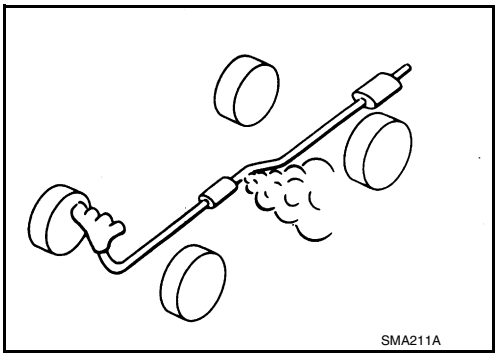
EXHAUST SYSTEM

Inspection

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Check exhaust pipes, muffler and mounting for improper attachment, leaks, cracks, damage or deterioration.

- If anything is found, repair or replace damaged parts.



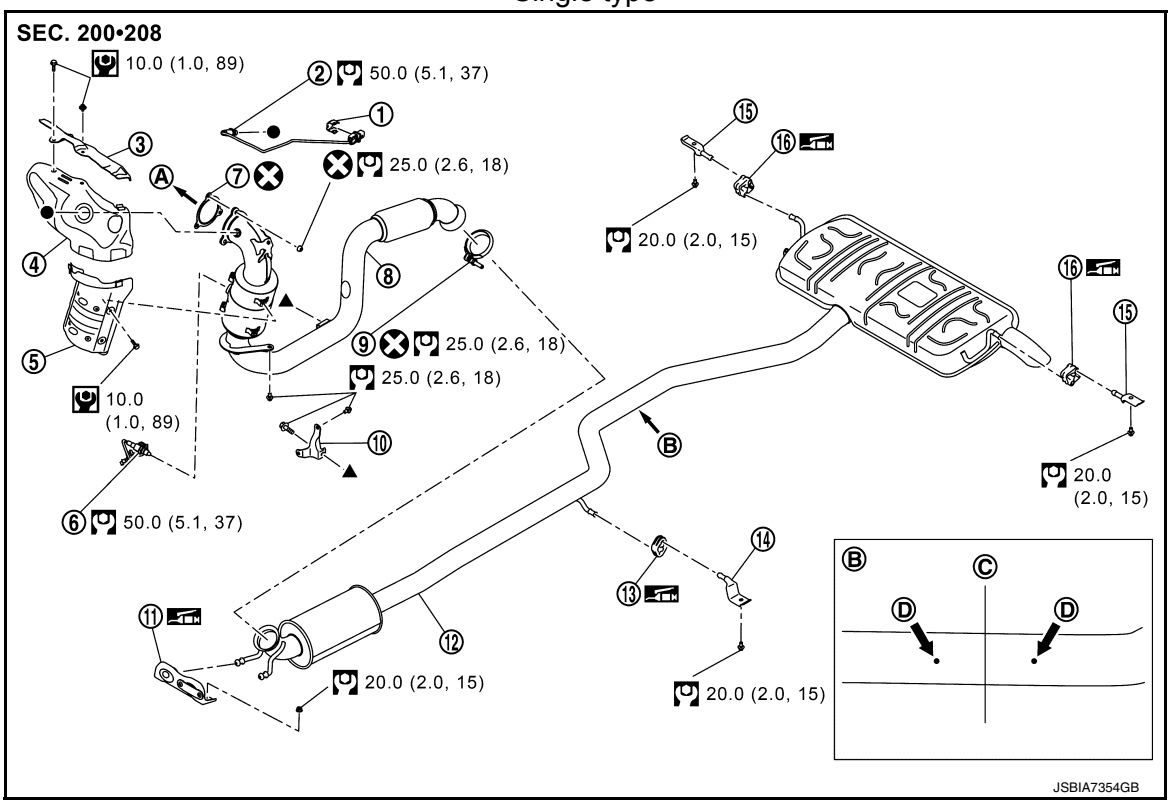
REMOVAL AND INSTALLATION

EXHAUST SYSTEM

Exploded View

INFOID:0000000013537038

Single type



① Clip	② Air fuel ratio sensor	③ Heat insulator
④ Heat insulator	⑤ Heat insulator	⑥ Heated oxygen sensor
⑦ Gasket	⑧ Exhaust front tube	⑨ Tube clamp
⑩ Bracket	⑪ Mounting bracket 1	⑫ Rear muffler assembly
⑬ Mounting rubber	⑭ Mounting bracket 2	⑮ Mounting bracket 3
⑯ Mounting rubber		
Ⓐ To exhaust manifold and turbocharger assembly	Ⓑ View B	Ⓒ Cutting point
Ⓓ Rear clamp install point		

: N·m (kg-m, in-lb)

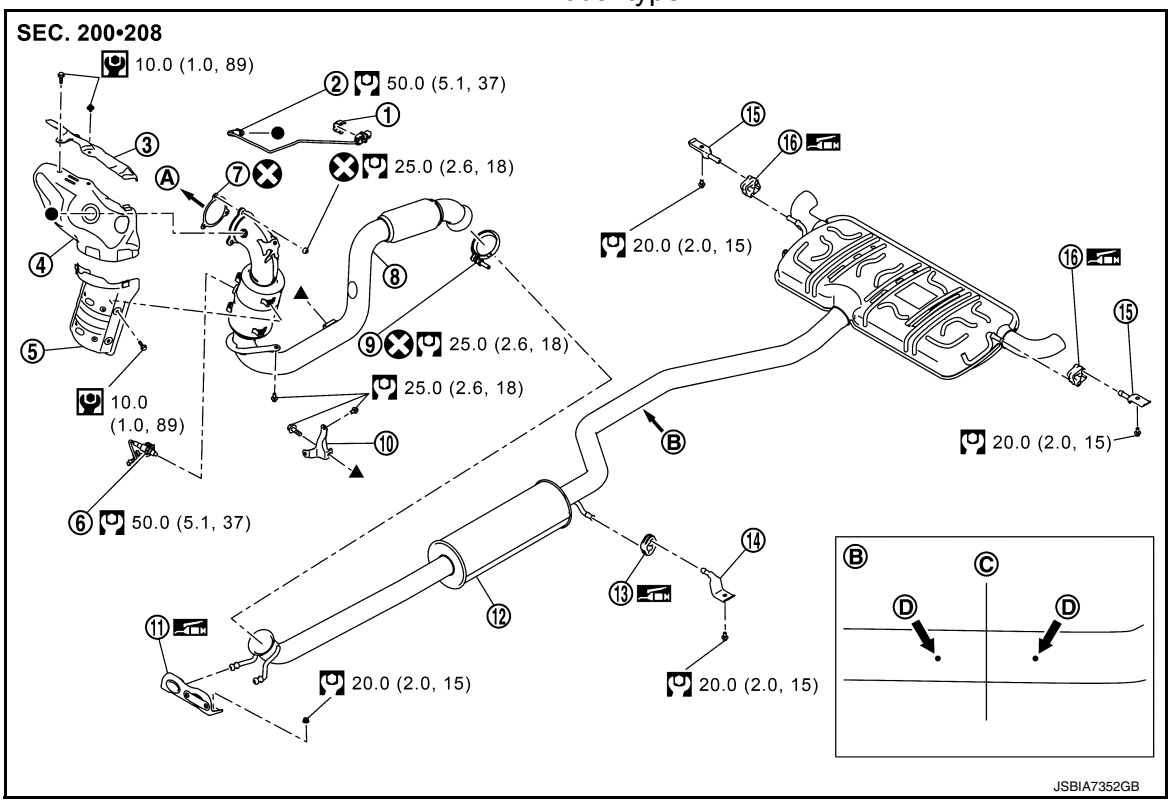
: N·m (kg-m, ft-lb)

: Always replace after every disassembly.

: Should be lubricated with antifriction paste.

●, ▲ : Indicates that the part is connected at points with same symbol in actual vehicle.

2WD dual type



① Clip	② Air fuel ratio sensor	③ Heat insulator
④ Heat insulator	⑤ Heat insulator	⑥ Heated oxygen sensor
⑦ Gasket	⑧ Exhaust front tube	⑨ Tube clamp
⑩ Bracket	⑪ Mounting bracket 1	⑫ Rear muffler assembly
⑬ Mounting rubber	⑭ Mounting bracket 2	⑮ Mounting bracket 3
⑯ Mounting rubber		
Ⓐ To exhaust manifold and turbocharger assembly	Ⓑ View B	Ⓒ Cutting point
Ⓓ Rear clamp install point		

: N·m (kg-m, in-lb)

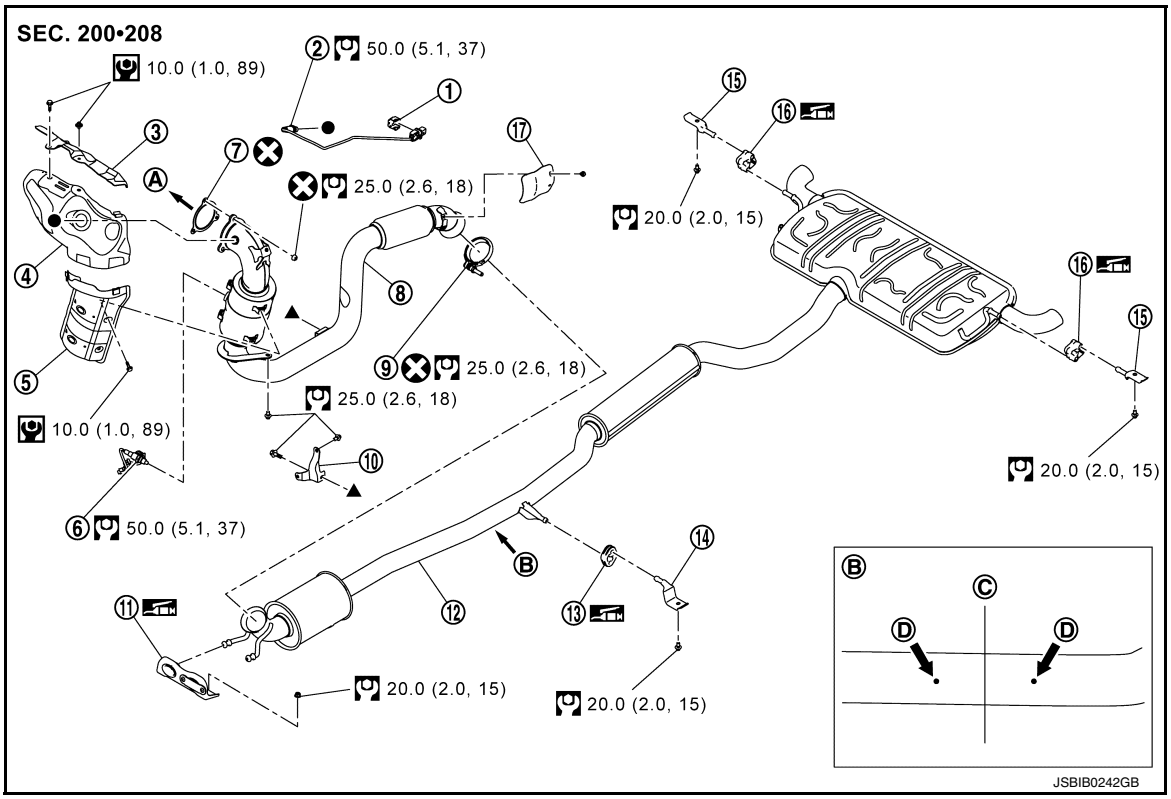
: N·m (kg-m, ft-lb)

: Always replace after every disassembly.

: Should be lubricated with antifriction paste.

●, ▲ : Indicates that the part is connected at points with same symbol in actual vehicle.

AWD models



① Clip	② Air fuel ratio sensor	③ Heat insulator
④ Heat insulator	⑤ Heat insulator	⑥ Heated oxygen sensor
⑦ Gasket	⑧ Exhaust front tube	⑨ Tube clamp
⑩ Bracket	⑪ Mounting bracket 1	⑫ Rear muffler assembly
⑬ Mounting rubber	⑭ Mounting bracket 2	⑮ Mounting bracket 3
⑯ Mounting rubber	⑰ Heat insulator	
Ⓐ To exhaust manifold and turbocharger assembly	Ⓑ View B	Ⓒ Cutting point
Ⓓ Rear clamp install point		

: N·m (kg-m, in-lb)

: N·m (kg-m, ft-lb)

: Always replace after every disassembly.

: Should be lubricated with antifriction paste.

●, ▲ : Indicates that the part is connected at points with same symbol in actual vehicle.

Removal and Installation

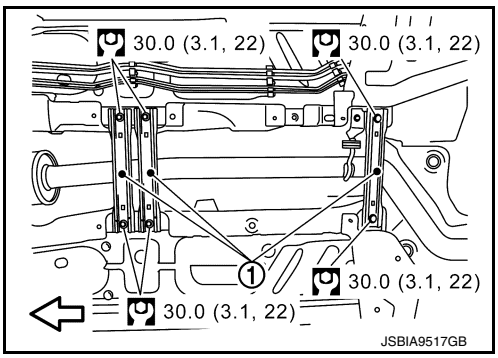
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REMOVAL

Rear Muffler Assembly

1. Remove engine under cover. Refer to EXT-44, "ENGINE UNDER COVER : Removal and Installation".

2. Remove tunnel stay ①.



⇦ : Vehicle front

: N·m (kg-m, ft-lb)

3. Remove exhaust finshers. Refer to EXT-25, "Exploded View".
4. Remove tube clamp.
5. Remove nuts of mounting bracket 1.
6. Remove bolts of mounting bracket 2 and 3.
7. Remove rear muffler assembly.

Exhaust Front Tube

1. Disconnect the battery cable from the negative terminal. Refer to EX-2, "Precautions for Removing Battery Terminal".
2. Remove engine cover and bracket. Refer to EM-20, "Removal and Installation".
3. Remove air cleaner housing assembly. Refer to EM-23, "Removal and Installation".
4. Remove cooling fan assembly. Refer to CO-16, "Removal and Installation".
5. Remove air fuel ratio sensor.
   - Using heated oxygen sensor wrench (SST: KV10117100), remove air fuel ratio sensor.

   CAUTION:
   - **Discard any sensor which has been dropped from a height of more than 0.5 m (19.7 in) onto a hard surface such as a concrete floor; use a new one.**
   - **Before installing new sensors, clean the exhaust threads.**
6. Remove heat insulators.
7. Remove mounting nuts.
8. Remove engine under cover. Refer to EXT-44, "ENGINE UNDER COVER : Removal and Installation".
9. Remove radiator core support lower. Refer to DLK-236, "Removal and Installation".
10. Disconnect heated oxygen sensor harness connector.
11. Remove tube clamp.
12. Remove bracket.
13. Remove dust shield of drive shaft (right side). Refer to FAX-15, "Exploded View".
14. Remove mounting bolts, and then remove exhaust front tube.
15. Remove heated oxygen sensor and heat insulator if necessary.
    - Using heated oxygen sensor wrench (SST: KV10117100), remove heated oxygen sensor.

    CAUTION:
    - **Discard any sensor which has been dropped from a height of more than 0.5 m (19.7 in) onto a hard surface such as a concrete floor; use a new one.**
    - **Before installing new sensors, clean the exhaust threads.**

INSTALLATION

Note the following, and install in the reverse order of removal.

CAUTION:
- **Do not reuse tube clamp.**
- **When installing each mounting rubber, apply paste "antifriction paste, rubber parts 2.5 kg, DBL 6867.00 [A 000 989 01 60]" to avoid twisting.**
- **Temporarily tighten mounting nuts and bolts. Check each part for unusual interference and mounting rubber interference, and then tighten them to the specified torque.**
- **When installing each mounting rubber, avoid twisting or unusual extension in up/down, front/rear and right/left directions.**

NOTE:
- If sensors is replaced, carry out the reset of adoption of sensors. Refer to EC-182, "Special Repair Requirement List".
- Install the air fuel ratio sensor and the heated oxygen sensor.

  CAUTION:
  - **Before installing new sensors, clean the exhaust threads.**

- **Apply paste, hot lubrication 1 kg, DB supply specification 6879.20 [A 000 989 76 51] to sensor threads.**
- **Discard any sensor which has been dropped from a height of more than 0.5 m (19.7 in) onto a hard surface such as a concrete floor; use a new one.**

Replacement

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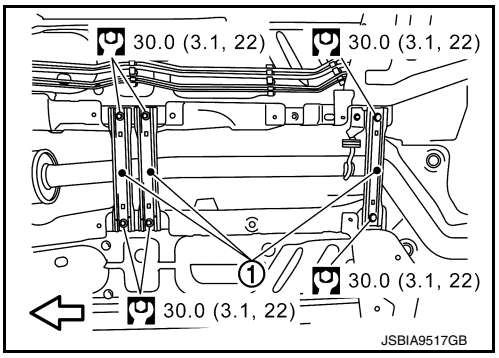
REMOVAL

Rear muffler assembly front side

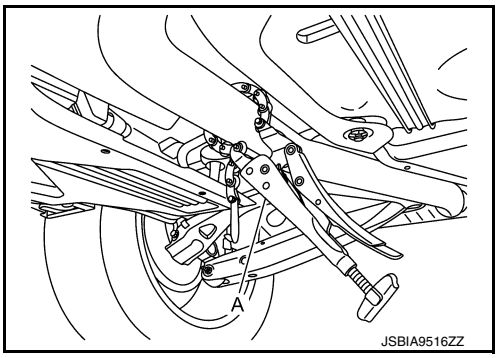
1. Remove engine under cover. Refer to EXT-44, "ENGINE UNDER COVER : Removal and Installation".
2. Remove tunnel stay ①.

⇦ : Vehicle front

: N·m (kg-m, ft-lb)

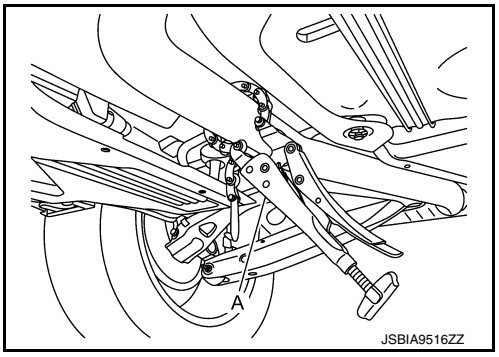


3. Separate the rear muffler assembly according to the following instructions.
   - Check cutting position. Refer to EX-5, "Exploded View".
   - Install exhaust pipe cutter (commercial service tool) (A) to cut pipe.
4. Remove tube clamp.
5. Remove nuts of mounting bracket 1.
6. Remove mounting bolt of mounting bracket to remove the separated rear muffler.

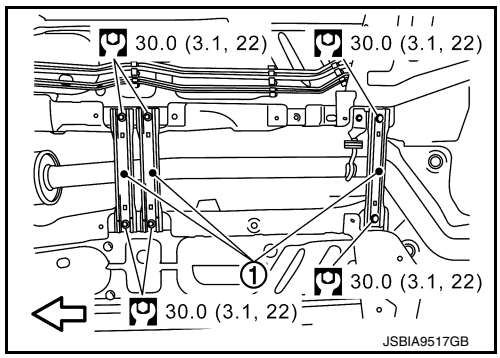


Rear muffler assembly rear side

1. Separate the rear muffler assembly according to the following instructions.
   - Check cutting position. Refer to EX-5, "Exploded View".
   - Install exhaust pipe cutter (commercial service tool) (A) to cut pipe.



2. Remove tunnel stay ① (AWD models).



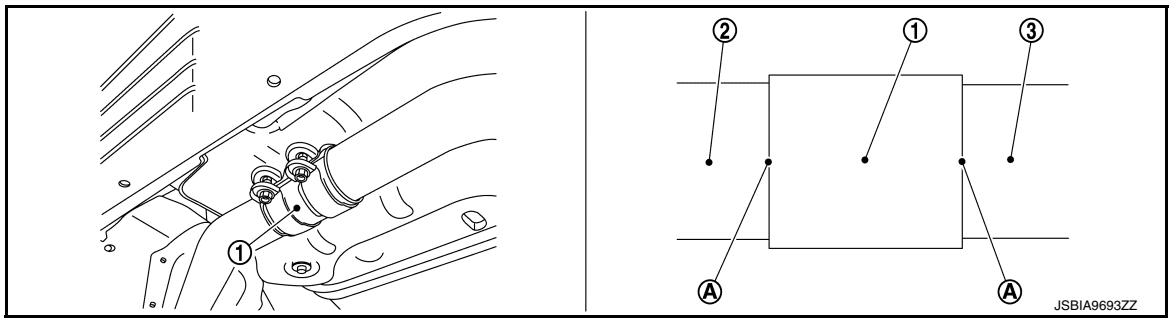
⇦ : Vehicle front

: N·m (kg-m, ft-lb)

3. Remove mounting bolt of mounting bracket to remove the separated rear muffler.

INSTALLATION

1. Remove burr from the cut section of the pipe.
2. Install clamp according to the following instructions.
   - Fit the end faces of clamp ① to front side ② of rear muffler assembly and the install point Ⓐ of rear side ③.
   - Install clamp to pipe without the interference with the floor part and tighten nut to the specified torque from below.



Clamp tightening torque **: 25.0 N·m (2.6 kg-m, 18 ft-lb)**

Inspection

INFOID:0000000013537041

INSPECTION AFTER INSTALLATION

- Check clearance between tail tube and rear bumper is even.
- With engine running, check exhaust tube joints for gas leaks and unusual noises.
- Check to ensure that mounting brackets and mounting rubbers are installed properly and free from undue stress. Improper installation could result in excessive noise and vibration.