
SECTION 1G

ENGINE EXHAUST

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DESCRIPTION AND OPERATION

EXHAUST SYSTEM

Notice: When you are inspecting or replacing exhaust system components, make sure there is adequate clearance from all points on the underbody to avoid possible overheating of the floor pan and possible damage to the passenger compartment insulation and trim materials.

Check the complete exhaust system and the nearby body areas and tailgate for broken, damaged, missing or mispositioned parts, open seams, holes, loose connections or other deterioration which could permit exhaust fumes to seep into the luggage or passenger compartment. Dust or water in the luggage may be an indication of a problem in one of these areas. Any defects should be corrected immediately.

MUFFLER

The muffler reduces the temperature, pressure, and noise of the exhaust gas.

Aside from the exhaust manifold connection, the exhaust system uses a flange and seal joint design opposed to a slip joint coupling design with clamp. If holes, open seams or any deterioration is discovered upon inspection of the front muffler and pipe assembly, the

complete assembly should be replaced. The same procedure is applicable to the rear muffler assembly.

Heat shields in the front and rear muffler assembly positions, as well as for the catalytic converter and front exhaust pipe, protect the vehicle and the environment from high temperatures the exhaust system develops.

CATALYTIC CONVERTER

Notice: When jacking or lifting the vehicle from the body side rails, be certain that the lift pads do not contact the catalytic converter as this could damage the catalytic converter.

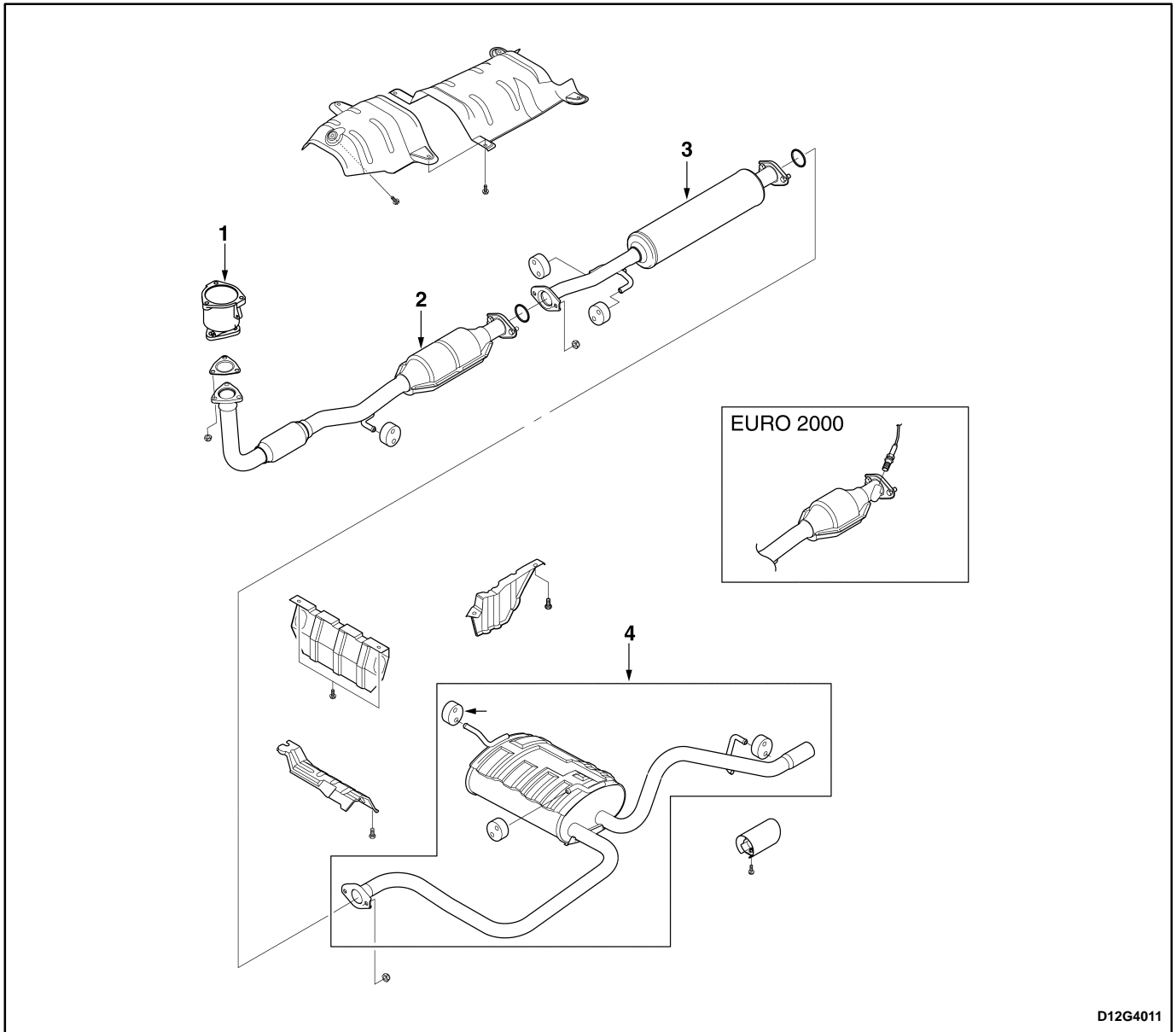
Notice: The catalytic converter requires the use of unleaded fuel only, or damage to the catalyst will result.

The catalytic converter is an emission control device added to the exhaust system to reduce pollutants from the exhaust pipes.

The oxidation catalyst is coated with a catalytic material containing platinum and palladium, which reduces levels of hydrocarbon (HC) and carbon monoxide (CO) from the exhaust gas. The three-way catalyst has coatings which contain platinum and rhodium, which additionally lower the levels of oxides of nitrogen (NOx).

COMPONENT LOCATOR

EXHAUST SYSTEM



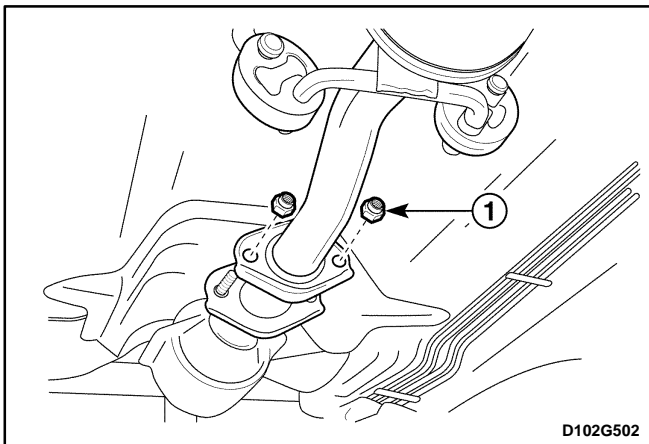
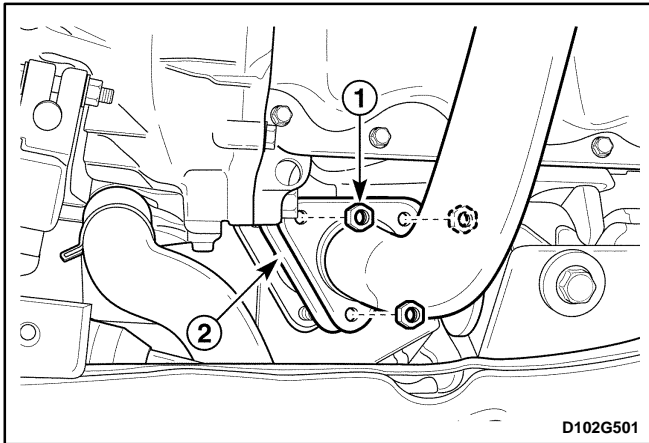
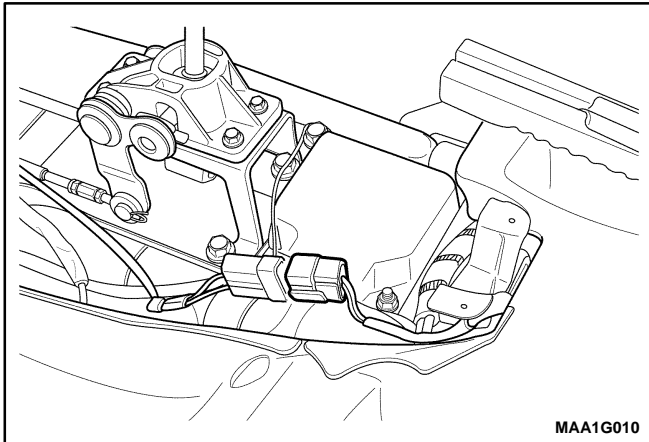
- 1 Pup-up Catalytic Converter
- 2 Front Exhaust Pipe/Catalytic Converter Assembly

- 3 Front Muffler Pipe
- 4 Rear Muffler Pipe

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REPAIR INSTRUCTIONS

ON-VEHICLE SERVICE

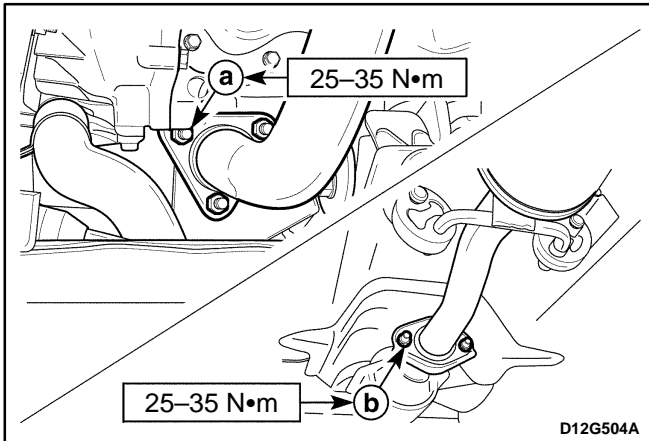
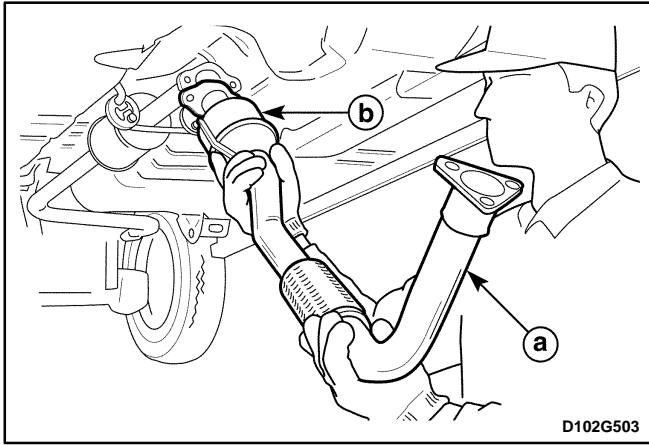


EXHAUST PIPE/CATALYTIC CONVERTER

Caution : Make sure to confirm that the components is cool. And do work.

Removal Procedure

1. Remove the floor console. Refer to *Section 9G, Interior Trim*, if equipped Heated Oxygen Sensor (HO2S).
2. Disconnect HO2S connector.
3. Remove the front exhaust pipe from the exhaust manifold or pup-up catalytic converter.
 - Remove the nuts (1).
 - Remove the gasket (2).
4. Check the gasket for damage or crack.
5. Remove the front exhaust pipe from the front muffler pipe.
 - Remove the nuts (1).



6. Remove the front exhaust pipe and the catalytic converter assembly.
 - a. Front exhaust pipe.
 - b. Catalytic converter.
7. Clean the sealing surfaces on the front exhaust pipe flange and the exhaust manifold.
8. Check the exhaust pipe and the catalytic converter for holes, damage, open seams, or other deterioration which could permit exhaust fumes to seep into the passenger compartment.

Installation Procedure

1. Using the nuts and the gasket, secure the front exhaust pipe and the catalytic converter assembly to the exhaust manifold.

Tighten

Tighten the nuts to 25–35 N•m (18–25 lb-ft).

- a. Front exhaust pipe nut.
2. Install the front exhaust pipe and the catalytic converter assembly to the front muffler pipe flange. Use the nuts to secure the front exhaust pipe and the catalytic converter assembly.

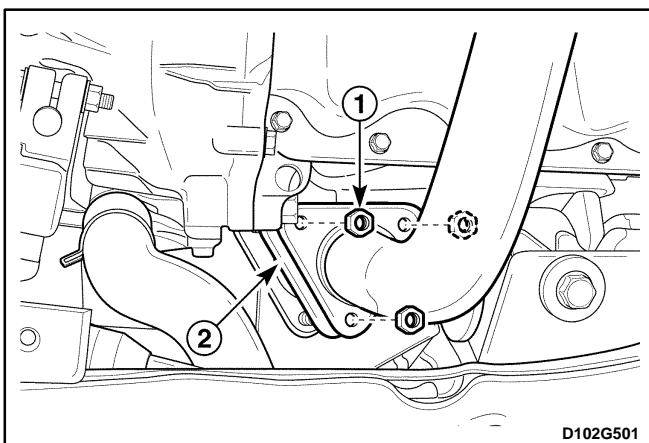
Tighten

Tighten the nuts to 25–35 N•m (18–25 lb-ft).

- b. Front muffler pipe nut.

Notice : Make sure not to contact the components with the underbody.

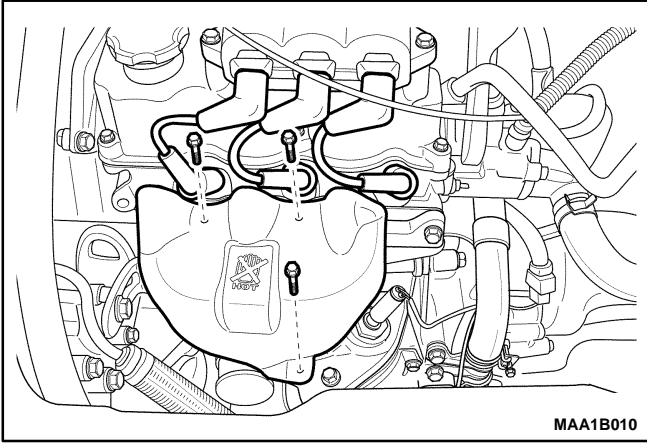
3. Connect the Heated Oxygen Sensor (HO2S) connector.
4. Install the floor console. Refer to *Section 9G, Interior Trim*.



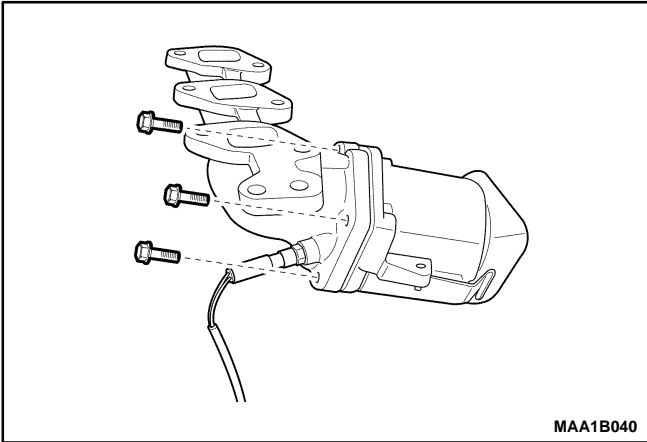
PUP-UP CATALYTIC CONVERTER

Removal Procedure

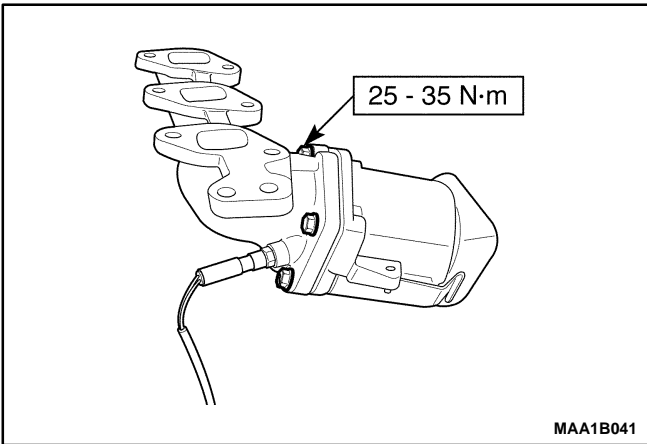
1. Remove the front exhaust pipe from the pup-up catalytic converter.
 - Remove the nuts (1).
 - Remove the gasket (2).
2. Check the gasket for damage or leak.



3. Remove the air cleaner assembly. Refer to *Section 1B, SOHC Engine Mechanical*.
4. Disconnect Oxygen Sensor (O2S) connector.
5. Remove the exhaust manifold heat shield.
6. Remove the exhaust manifold. Refer to *Section 1B, SOHC Engine Mechanical*.



7. Remove pup-up catalytic convertor.
 - Remove the bolts.

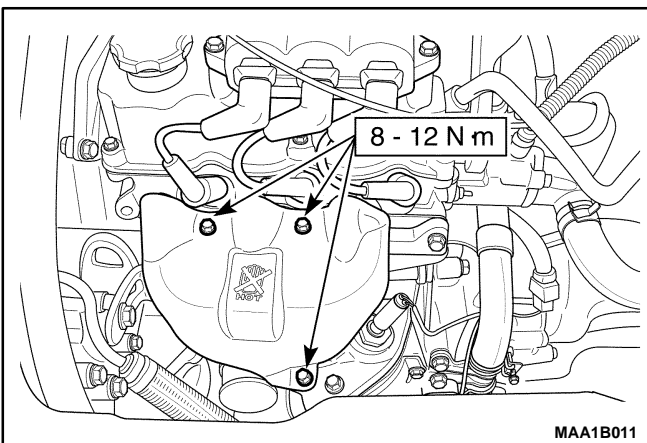


Installation Procedure

1. Install pup-up catalytic convertor to exhaust pipe.

Tighten

Tighten the bolts to 25–35 N•m (18–25 lb-ft).

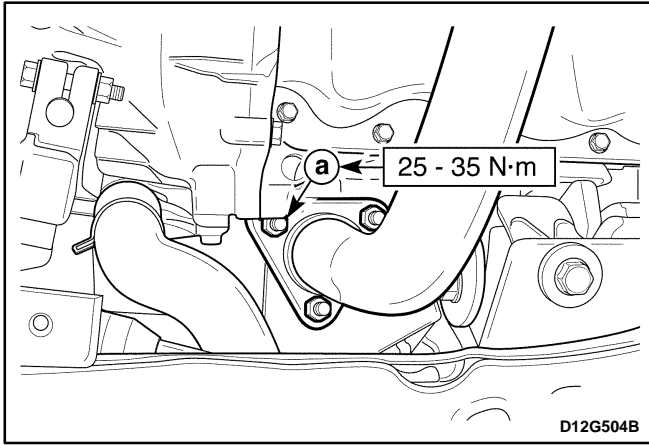


2. Install exhaust manifold. Refer to *Section 1B, SOHC Engine Mechanical*.

Tighten

Tighten the bolts and nuts to 17–27 N•m (13–20 lb-ft).

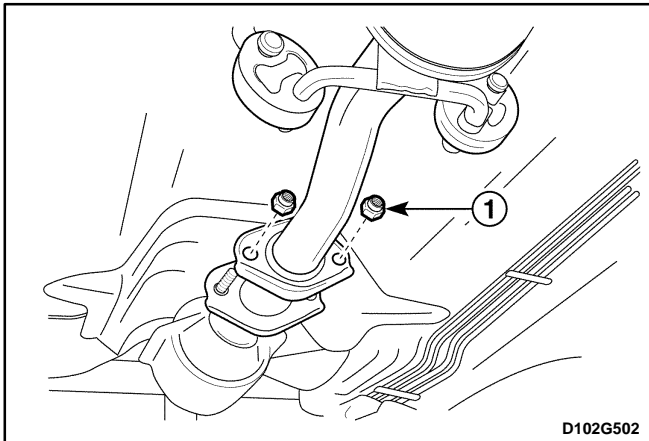
Tighten the exhaust manifold heat shield bolts to 8–12 N•m (71–106 lb-in).



3. Install the front exhaust pipe to pup-up catalytic converter.

Tighten

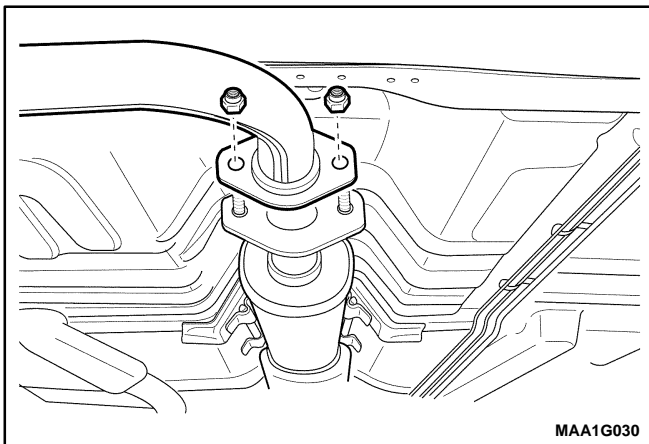
Tighten the bolts to 25–35 N•m (18–25 lb-ft).



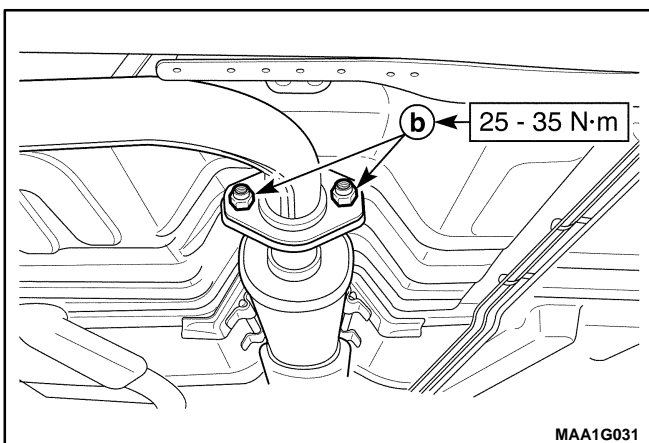
FRONT MUFFLER

Removal Procedure

1. Remove the front exhaust pipe-to-front muffler nuts.
 - Remove the nuts (1).



2. Remove the front muffler-to-rear muffler nuts.
3. Detach the front muffler from rubber hanger and remove the front muffler.



Installation Procedure

1. Hang the front muffler to rubber hanger.
2. Install the front muffler-to-rear muffler nuts.

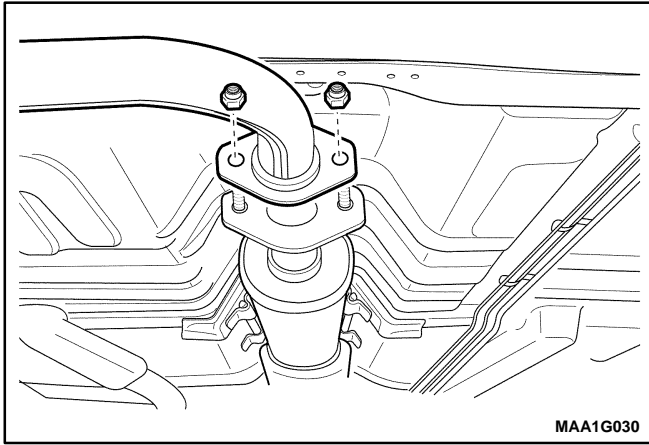
Tighten

Tighten the nuts to 25–35 N•m (18–25 lb-ft).

3. Install the exhaust pipe-to-front muffler nuts.

Tighten

Tighten the nuts to 25–35 N•m (18–25 lb-ft) (a).



REAR MFFLER

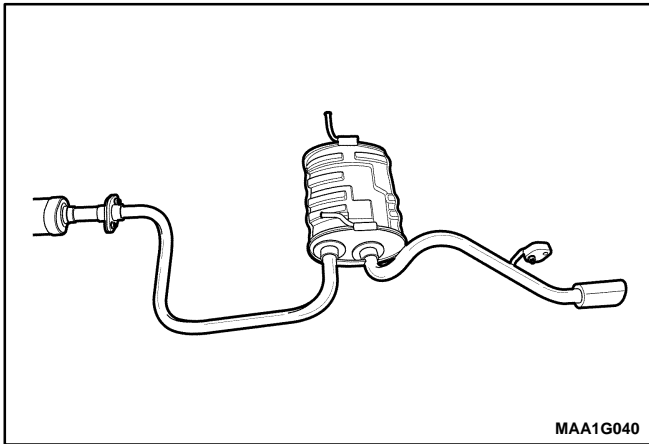
Removal Procedure

1. Remove the front muffler-to rear muffler nuts.

Tighten

Tighten the nuts to 25–35 N•m (18–25 lb-ft).

2. Detach the rear muffler from the rubber hangers.



3. Remove the rear muffler.

4. Installation should flow the removal procedure in reverse order.

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Application	N•m	Lb-Ft	Lb-In
Front Exhaust Pipe-to-Front Muffler Pipe Nuts	25 – 35	18 – 25	–
Front Exhaust Pipe-to-Exhaust Manifold Nuts	25 – 35	18 – 25	–
Front Exhaust Pipe-to-Pup-up Catalytic Converter	25 – 35	18 – 25	–
Front Muffler-to-Rear Muffler nuts	25 – 35	18 – 25	–
Pup-up Catalytic Converter-to-Exhaust Manifold Bolt	25 – 35	18 – 25	–
Muffler Clamp Nut	24 – 28	18 – 21	–
Catalytic Converter Heat Shield	8 – 12	–	71 – 106
Rear Muffler Heat Shield	8 – 12	–	71 – 106