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# SECTION 1G

## ENGINE EXHAUST

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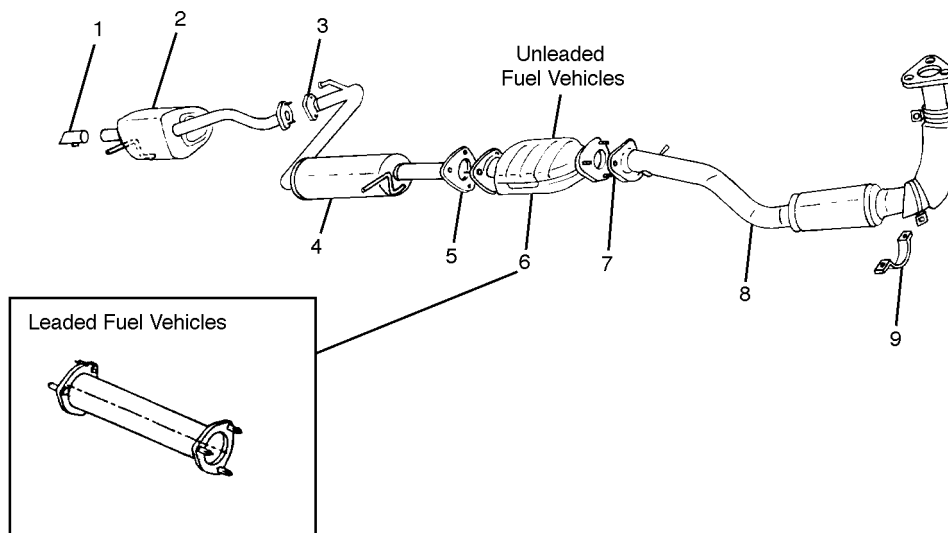
### SPECIFICATIONS

#### FASTENER TIGHTENING SPECIFICATIONS

Application	N•m	Lb-Ft	Lb-In
Front Exhaust Pipe-to-Catalytic Converter/Connecting Pipe Nuts	30	22	-
Front Exhaust Pipe-to-Exhaust Manifold Nuts	40	30	-
Front Muffler-to-Catalytic Converter/Connecting Pipe Nuts	30	22	-
Front Muffler-to-Rear Muffler Nuts	30	22	-
Lower Front Exhaust Pipe Holding Bracket Nuts	30	22	-

## COMPONENT LOCATOR

### EXHAUST SYSTEM



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- |                 |  |
|-----------------|--|
| 1 Trim Ring     | 6 Catalytic Converter or Connecting Pipe |
| 2 Rear Muffler  | 7 Metal Gasket                           |
| 3 Metal Gasket  | 8 Front Exhaust Pipe                     |
| 4 Front Muffler | 9 Metal Holding Bracket                  |
| 5 Metal Gasket  |  |

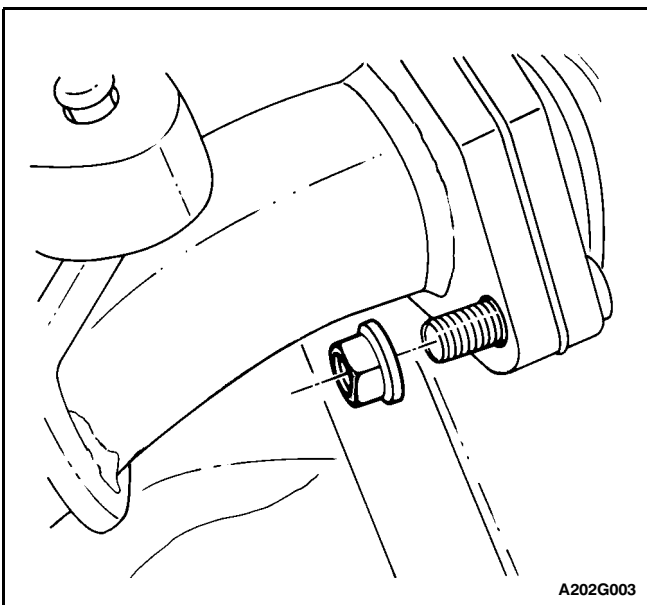
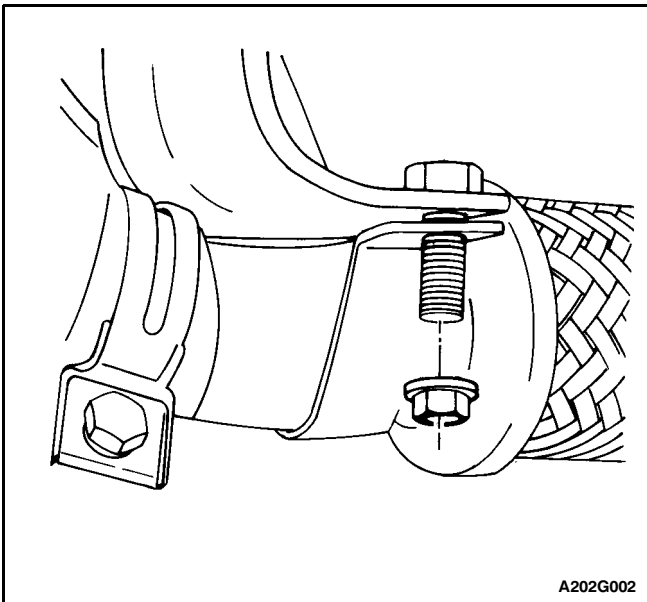
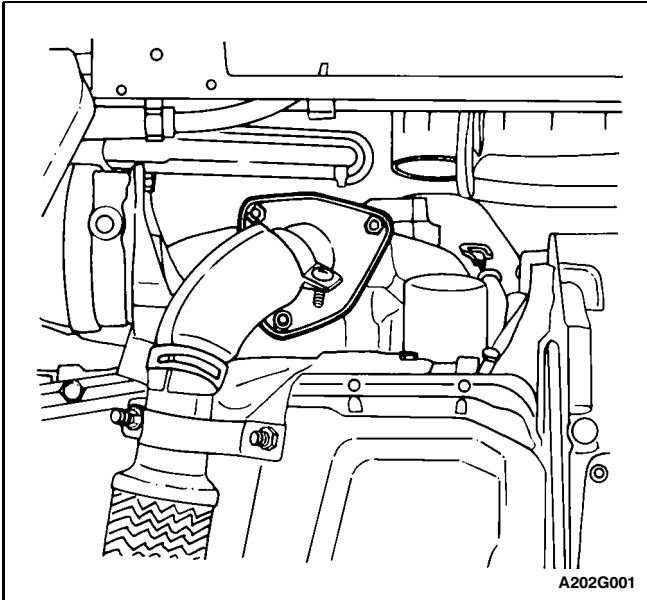
## MAINTENANCE AND REPAIR

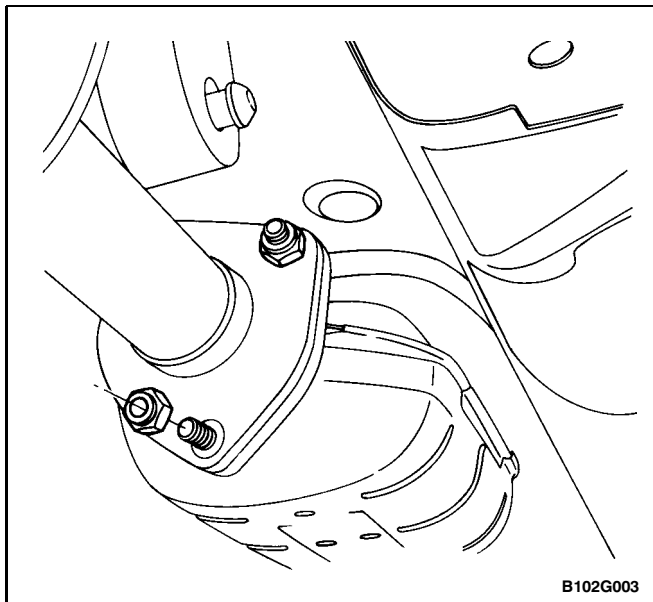
### ON-VEHICLE SERVICE

#### CATALYTIC CONVERTER/ CONNECTING PIPE

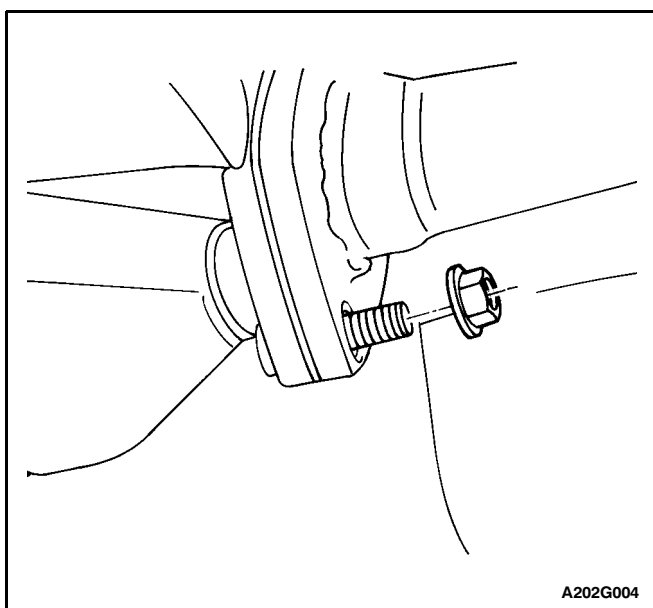
##### Removal Procedure

1. Remove the front exhaust pipe nuts and the gasket from the exhaust manifold.
2. Remove the nuts from the holding bracket which secures the front exhaust pipe to the engine block bracket near the oil pan.
3. Remove the lower holding bracket.
4. Disconnect the other end of the front exhaust pipe from the rubber hanger.
5. Remove the nuts from the front exhaust pipe to the catalytic converter or connecting pipe flange.
6. Remove the front exhaust pipe and the gasket.





7. Remove the nuts from the front muffler pipe-to-catalytic converter or connecting pipe flange.
8. Remove the catalytic converter or the connecting pipe and the gasket.
9. Clean the sealing surfaces on the front exhaust pipe flange and the exhaust manifold.
10. Check the exhaust pipe and the catalytic converter or the connecting pipe for holes, damage, open seams, or other deterioration which could permit exhaust fumes to seep into the passenger compartment.

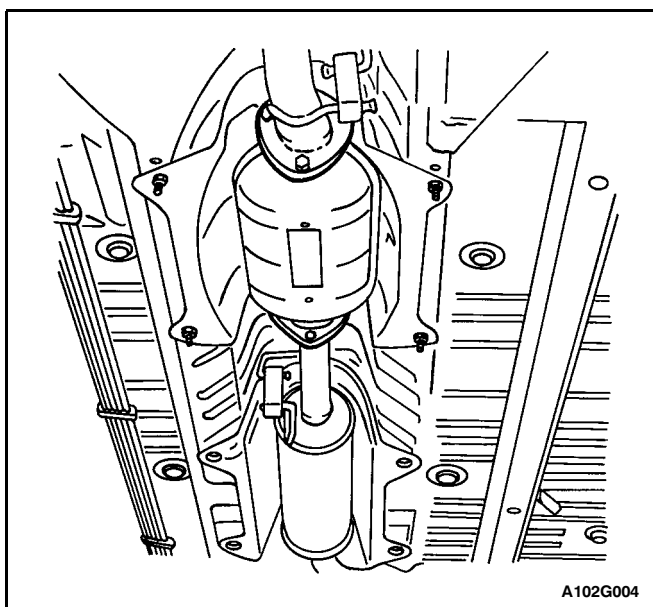


### Installation Procedure

1. Install the catalytic converter or the connecting pipe and the gasket to the front muffler pipe flange. Use the nuts to secure the converter or the connecting pipe.

#### Tighten

Tighten the front muffler-to-catalytic converter/connecting pipe nuts to 30 N•m (22 lb-ft).

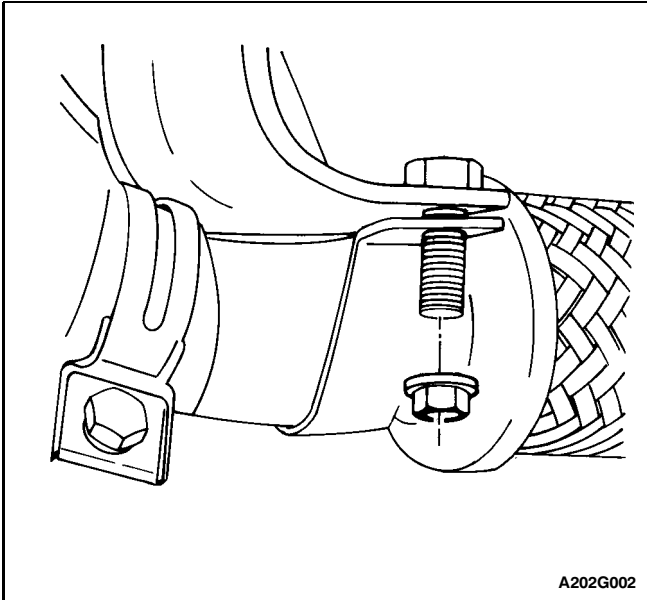


2. Connect the front exhaust pipe to the rubber hanger.
3. Using the nuts and the gasket, secure the front exhaust pipe to the catalytic converter or the connecting pipe flange.

#### Tighten

Tighten the front exhaust pipe-to-catalytic converter/connecting pipe nuts to 30 N•m (22 lb-ft).

4. Place the front exhaust pipe in the engine block bracket near the oil pan.

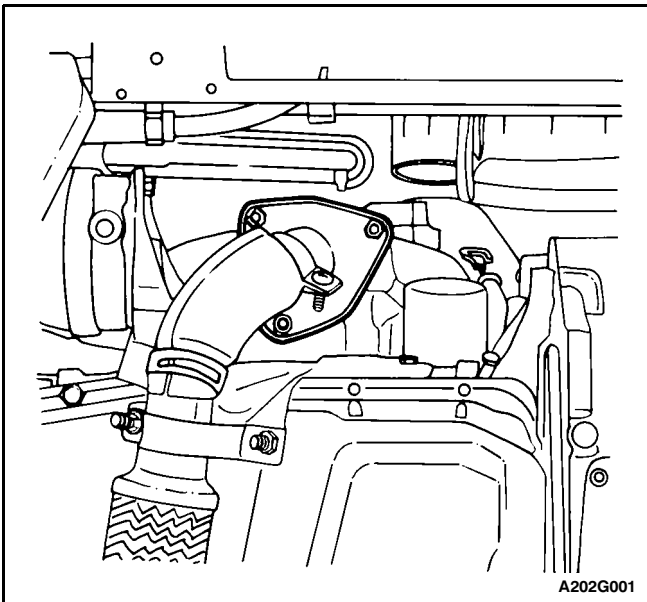


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5. Secure the front exhaust pipe with the lower holding bracket.

### **Tighten**

Tighten the lower front exhaust pipe holding bracket nuts to 30 N•m (22 lb-ft).

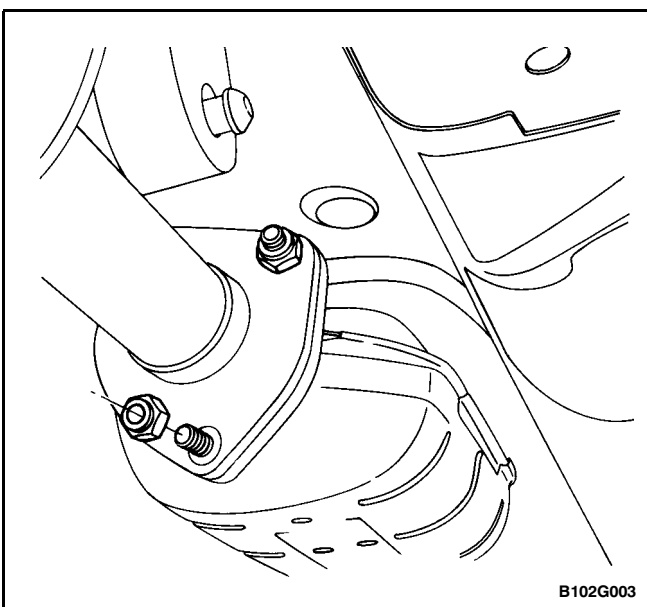


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6. Using the nuts and the gasket, secure the front exhaust pipe to the exhaust manifold.

### **Tighten**

Tighten the front exhaust pipe-to-exhaust manifold nuts to 40 N•m (30 lb-ft).

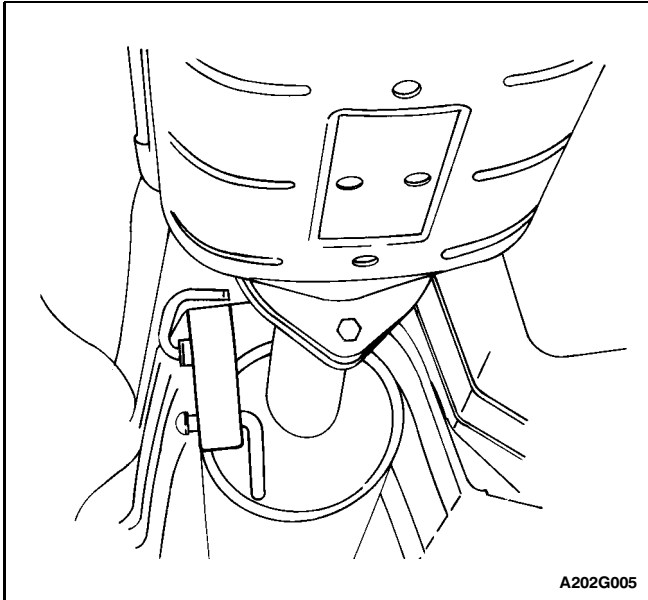


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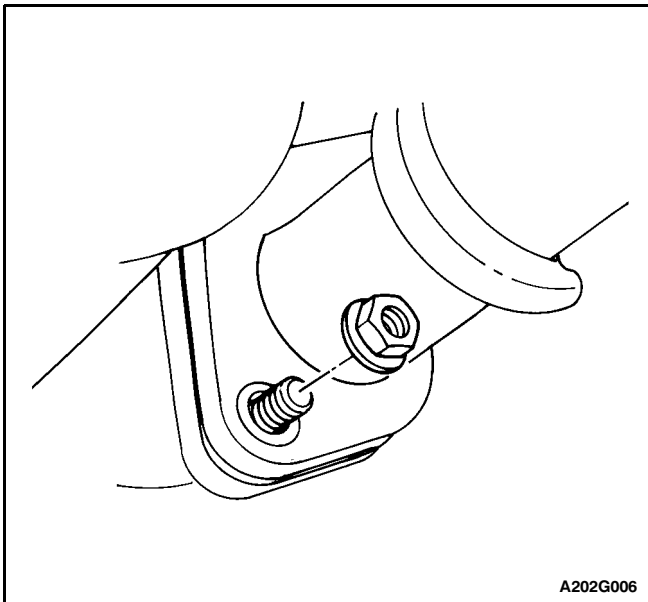
## **MUFFLER - FRONT**

### **Removal Procedure**

1. Remove the nuts and the gasket from the front muffler pipe to the catalytic converter or the connecting pipe flange.



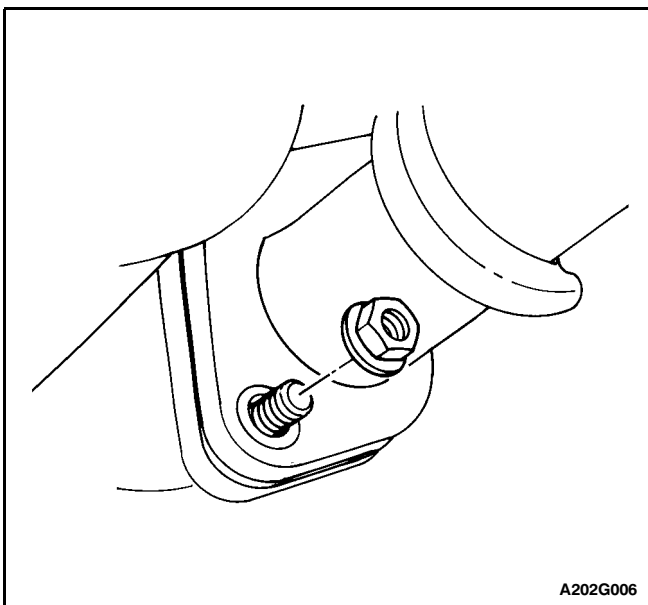
2. Detach the front muffler from the rubber hanger.



3. Remove the nuts and the gasket from the the rear muffler pipe flange. Disconnect the front muffler from the rubber hanger.

4. Remove the front muffler.

5. Check the exhaust pipe and the front muffler for holes, damage, open seams, or other deterioration which could permit exhaust fumes to seep into the passenger compartment or the trunk.

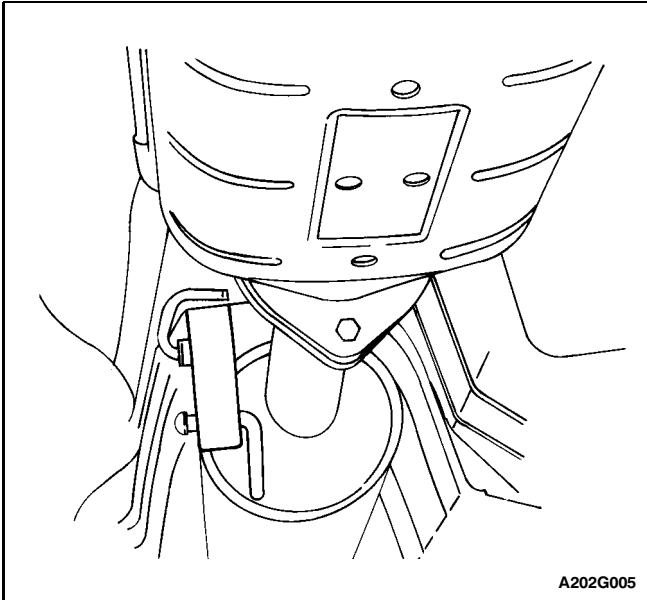


### Installation Procedure

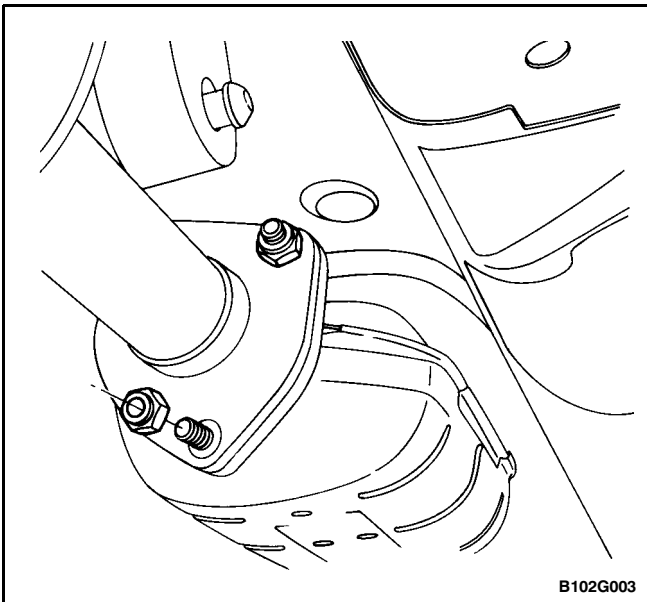
1. Attach the front muffler and the gasket to the rear muffler using the nuts. Secure the front muffler to the rubber hanger.

#### Tighten

Tighten the front muffler-to-rear muffler nuts to 30 N•m (22 lb-ft).



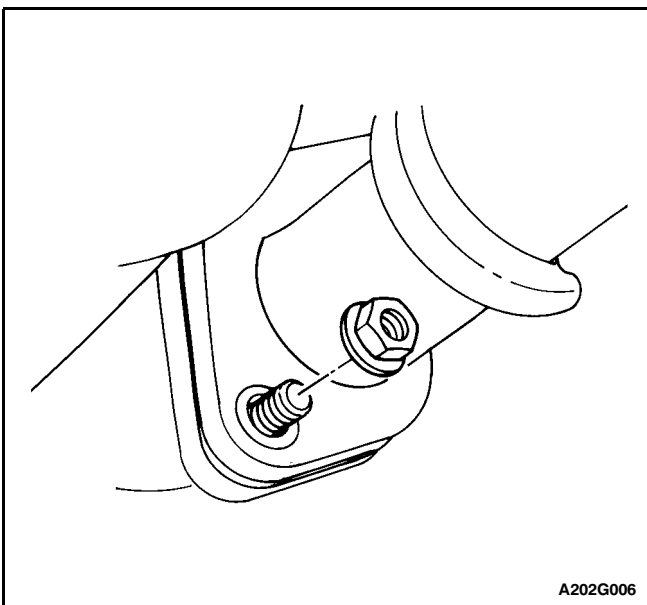
2. Attach the front muffler assembly to the rubber hanger. Loosely secure the front muffler assembly to the catalytic converter or connecting pipe flange.



3. Secure the front muffler assembly to the catalytic converter or connecting pipe flange with the nuts.

### **Tighten**

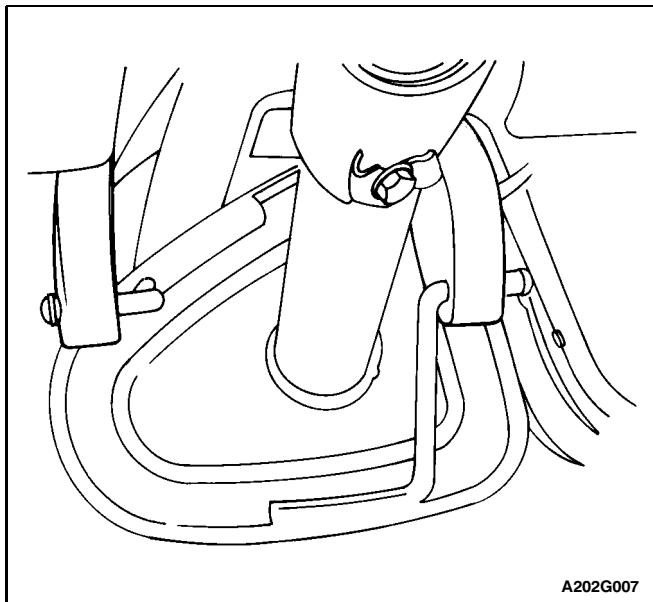
Tighten the front muffler-to-catalytic converter/connecting pipe nuts to 30 N·m (22 lb-ft).



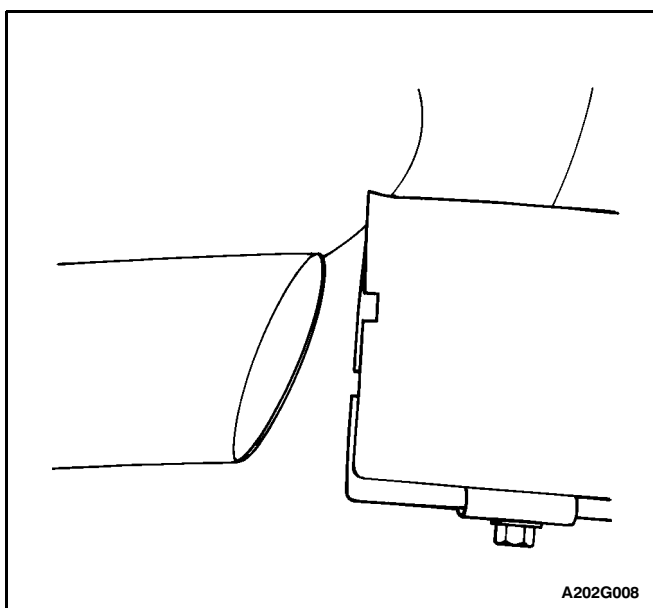
## **MUFFLER - REAR**

### **Removal Procedure**

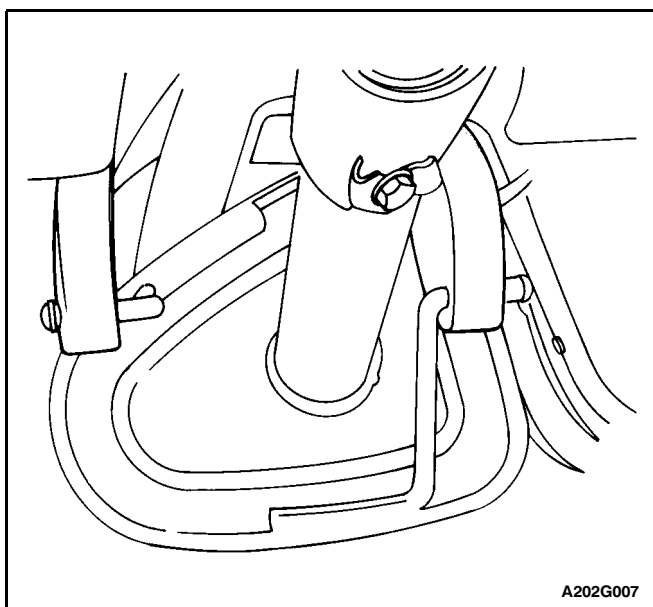
1. Remove the nuts and gasket from the rear muffler pipe flange-to-front muffler pipe flange.



2. Detach the rear muffler assembly from the rubber hangers on the tail pipe end.
3. Remove the rear muffler assembly.



4. Remove the trim ring from the rear muffler pipe.
5. Check the rear muffler and the pipes for holes, damage, open seams, and other deterioration which could permit exhaust fumes to seep into the passenger compartment or trunk.



### Installation Procedure

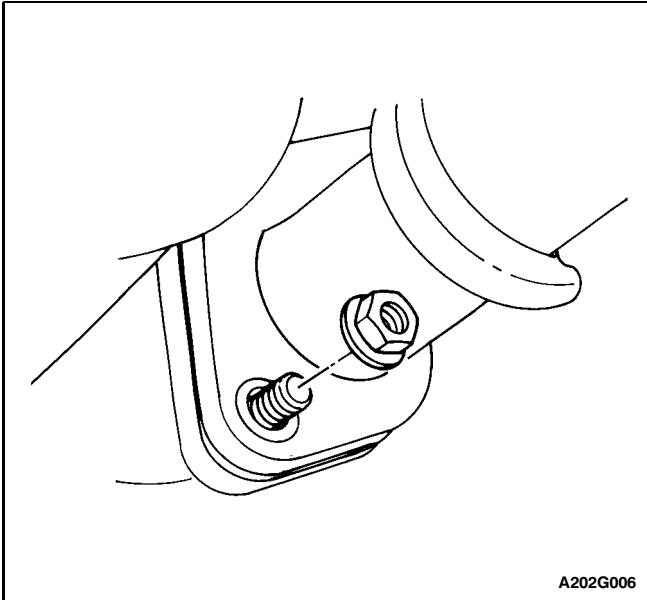
1. Install the trim ring on the rear muffler pipe.

#### Tighten

Tighten the trim ring bolt until it bottoms on the exhaust pipe. Tighten an additional quarter turn.

2. Secure the rear muffler assembly to the rubber hangers on the tail pipe end.



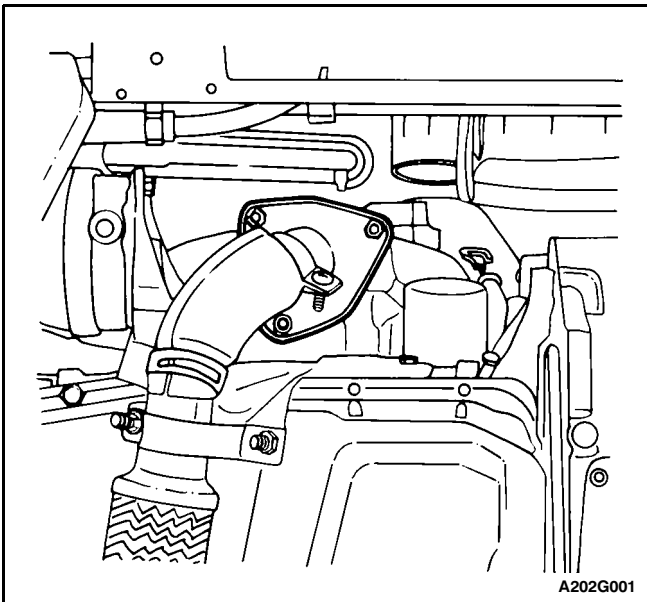


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3. Secure the nuts and the gasket from the rear muffler pipe flange-to-front muffler pipe flange.

### Tighten

Tighten the front muffler-to-rear muffler nuts to 30 N•m (22 lb-ft).

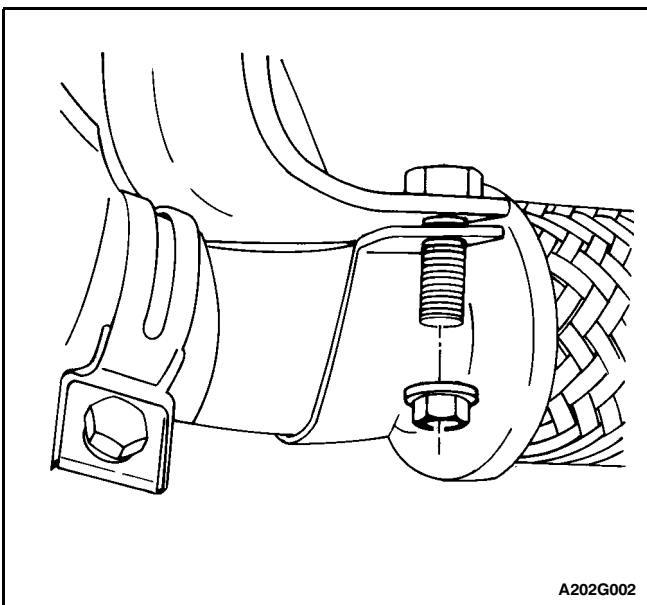


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## EXHAUST PIPE

### Removal Procedure

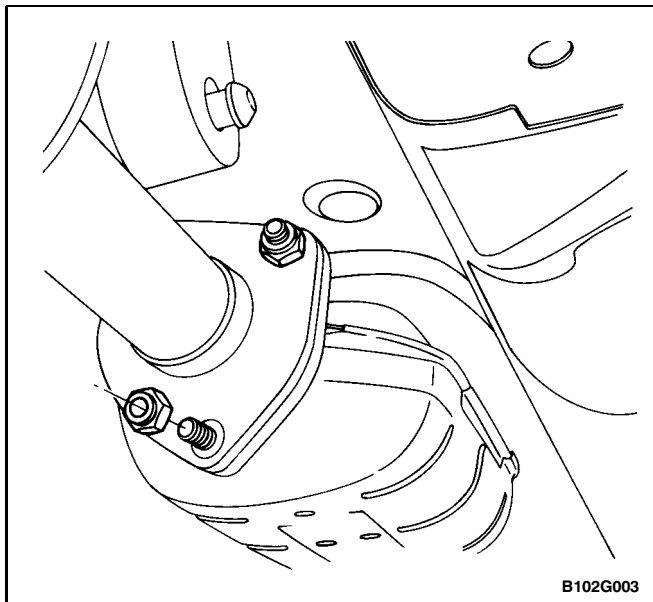
1. Remove the front exhaust pipe nuts and the gasket from the exhaust manifold.



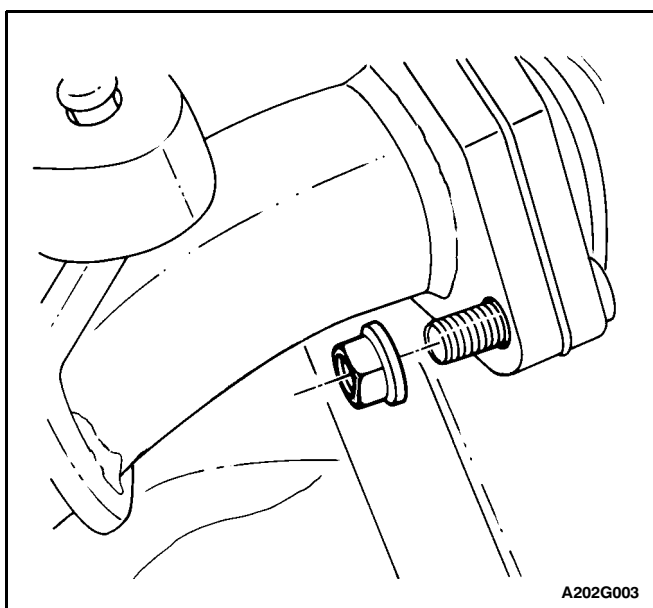
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2. Remove the nuts from the holding bracket which secures the front exhaust pipe to an engine block bracket near the oil pan.

3. Remove the holding bracket.



4. Remove the nuts and the gasket from the converter flange or the connecting pipe and detach the front exhaust pipe from the rubber hanger.
5. Check the exhaust pipe for holes, damage, or other deterioration which could permit fumes to seep into the passenger compartment.
6. Clean the sealing surfaces on the front exhaust flange and the exhaust manifold.

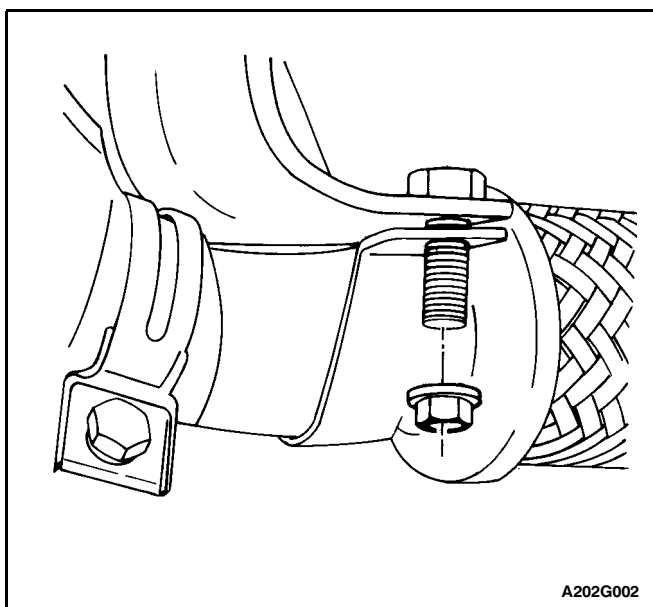


### Installation Procedure

1. Install the nuts and the gasket from the catalytic converter or the connecting pipe flange. Attach the front exhaust pipe to the rubber hanger.

#### Tighten

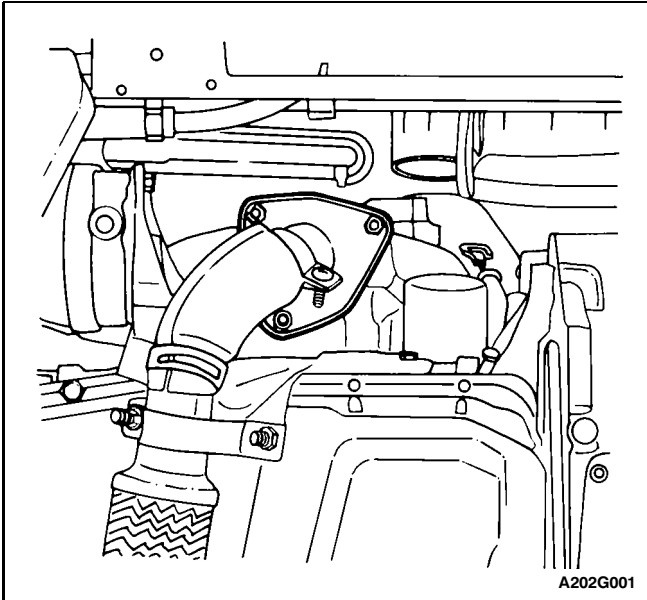
Tighten the front exhaust pipe-to-catalytic converter/ connecting pipe nuts to 30 N•m (22 lb-ft).



2. Place the front exhaust pipe in the engine block bracket near the oil pan.
3. Secure the front exhaust pipe with the lower holding bracket.

#### Tighten

Tighten the lower front exhaust pipe holding bracket nuts to 30 N•m (22 lb-ft).



4. Using the nuts and the gasket, secure the front exhaust pipe to the exhaust manifold.

**Tighten**

Tighten the front exhaust pipe-to-exhaust manifold nuts to 40 N•m (30 lb-ft).

## GENERAL DESCRIPTION AND SYSTEM OPERATION

### EXHAUST SYSTEM

**Notice:** When you are inspecting or replacing the 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.

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

The exhaust manifold-to-front exhaust pipe connection is of the flex joint type.

### MUFFLER

Aside from the exhaust manifold connection, the exhaust system uses a flange and seal joint design as opposed to a slip joint coupling design with clamps and U-bolts. The exhaust manifold-to-exhaust pipe connection is of the flex joint type. 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).

### CONNECTING PIPE

Connecting pipe is used in place of the catalytic converter for those vehicles using leaded fuel.