

# SECTION : 1G

## ENGINE EXHAUST

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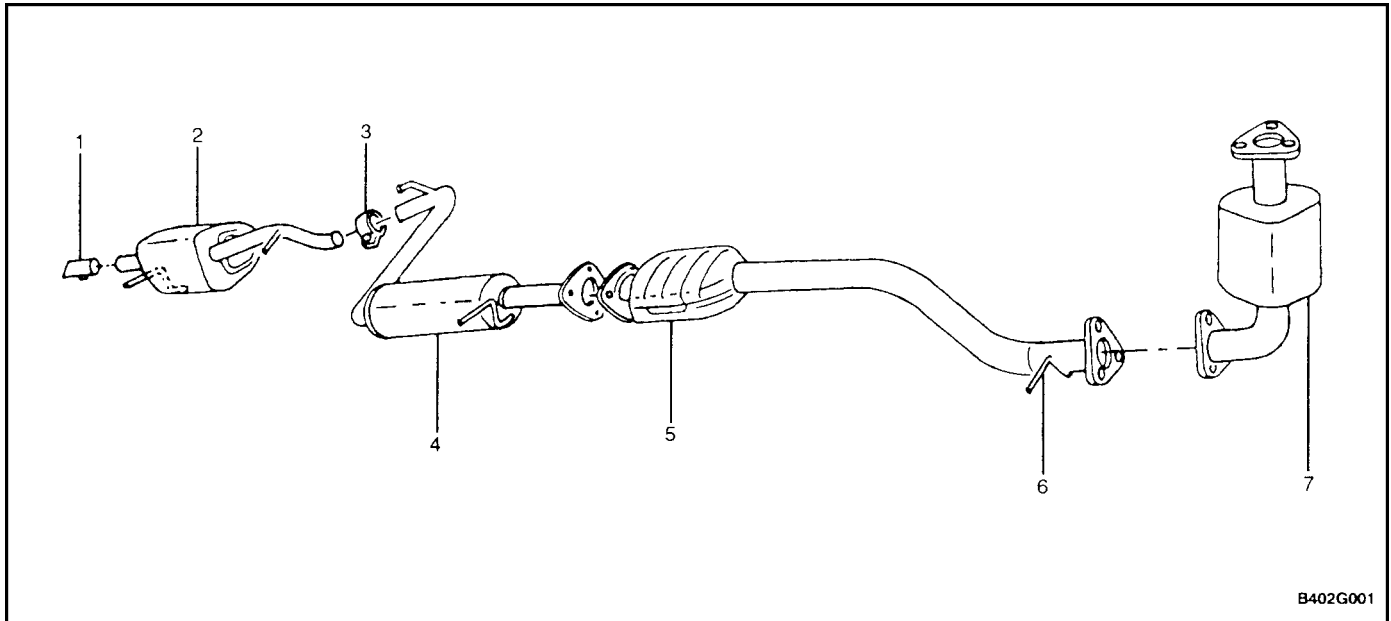
### SPECIFICATIONS

#### FASTENER TIGHTENING SPECIFICATIONS

Application	N•m	Lb-Ft	Lb-In
Auxiliary Catalytic Converter-to-Exhaust Manifold Nuts	40	30	–
Catalytic Converter-to-Front Muffler Pipe	30	22	–
Exhaust Manifold Cover Bolts	15	11	–
Front Connecting Pipe-to-Auxiliary Catalytic Converter Nuts	40	30	–
Front Muffler Pipe-to-Catalytic Converter Nuts	30	22	–
Front Muffler Pipe-to-Rear Muffler Pipe Holding Clamp Nut	50	37	–
Post-Converter Oxygen Sensor Electrical Connector	41	30	–

# COMPONENT LOCATOR

## EXHAUST SYSTEM



B402G001

- 1. Trim Ring (if equipped)
- 2. Muffler
- 3. Metal Clamp
- 4. Front Muffler

- 5. Catalytic Converter
- 6. Post-Converter Heated Oxygen Sensor
- 7. Auxiliary Catalytic Converter

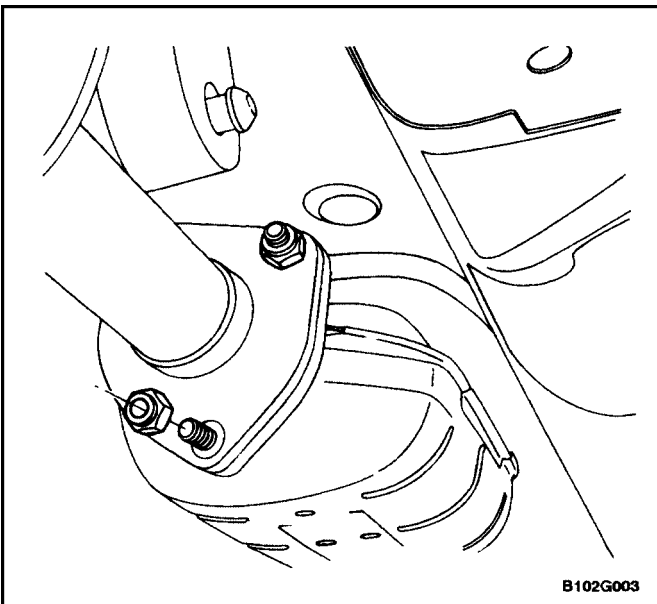
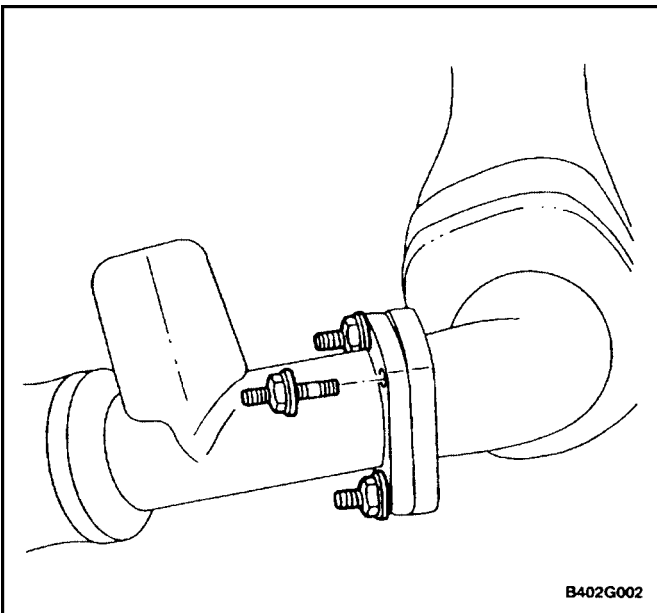
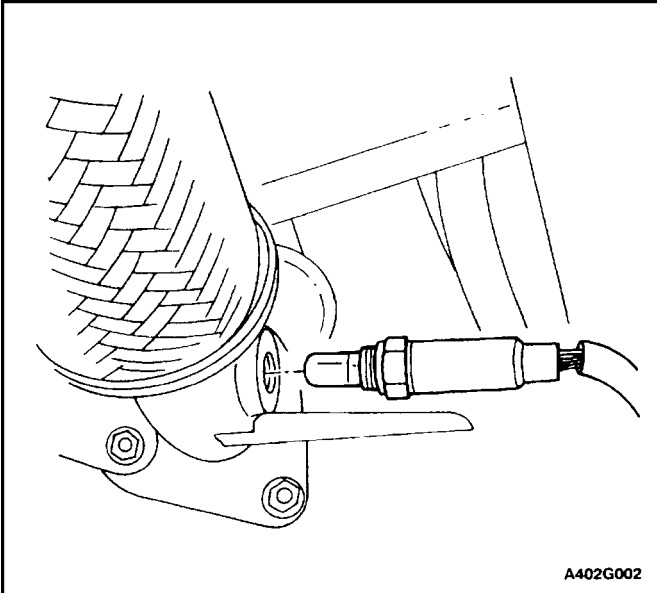
## MAINTENANCE AND REPAIR

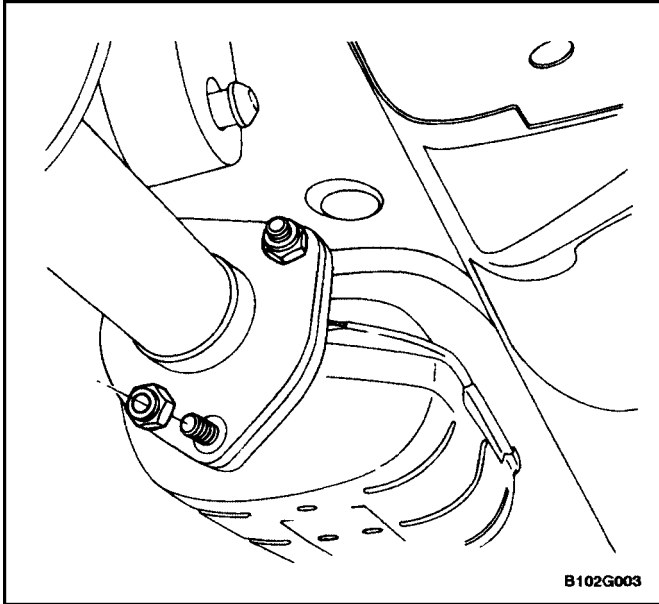
### ON-VEHICLE SERVICE

### MAIN CATALYTIC CONVERTER AND CONNECTING PIPE

#### Removal Procedure

1. Remove the post-converter heated oxygen sensor.
2. Remove the connecting pipe nuts and the gasket from the auxiliary catalytic converter.
3. Remove the catalytic converter nuts and the gasket from the front muffler.
4. Disconnect the main catalytic converter and the connecting pipe from the rubber hanger.





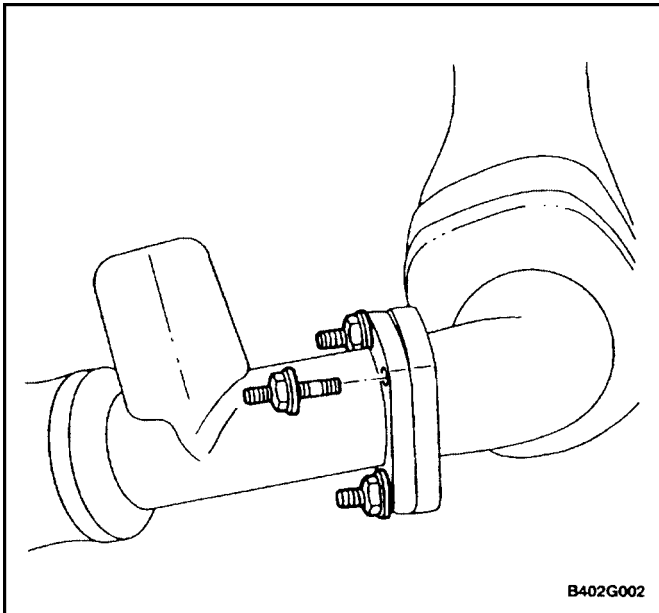
### Installation Procedure

1. Install the catalytic converter and the gasket to the front muffler. Use the nuts to secure the converter.

#### Tighten

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

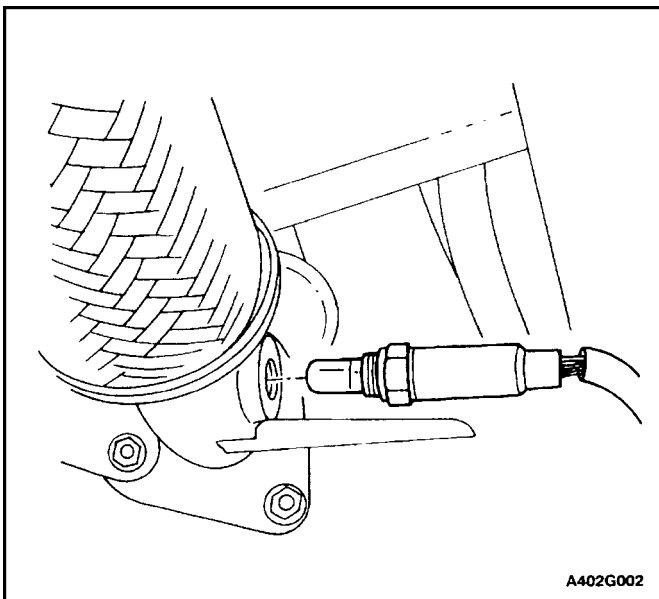
2. Connect the main catalytic converter and the connecting pipe to the rubber hanger.



3. Install the gasket and the connecting pipe nuts to the auxiliary catalytic converter.

#### Tighten

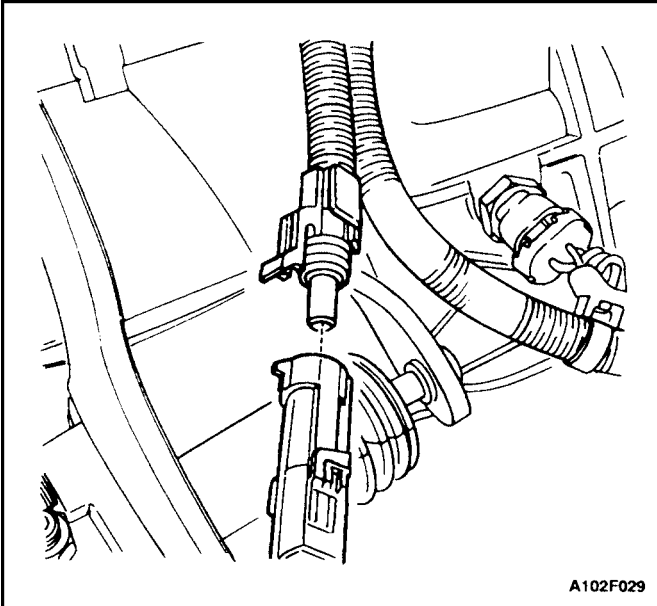
Tighten the front connecting pipe-to-auxiliary catalytic converter nuts to 35 N•m (26 lb-ft).



4. Install the post-converter heated oxygen sensor.

#### Tighten

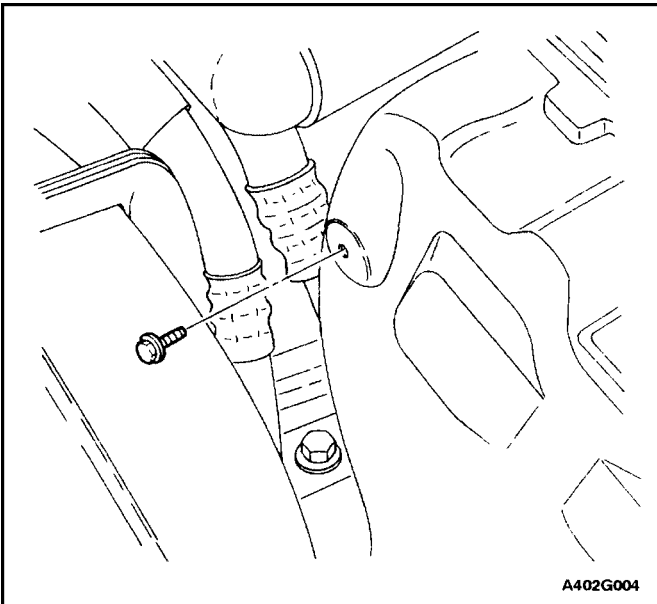
Tighten the post-converter heated oxygen sensor to 41 N•m (30 lb-ft).



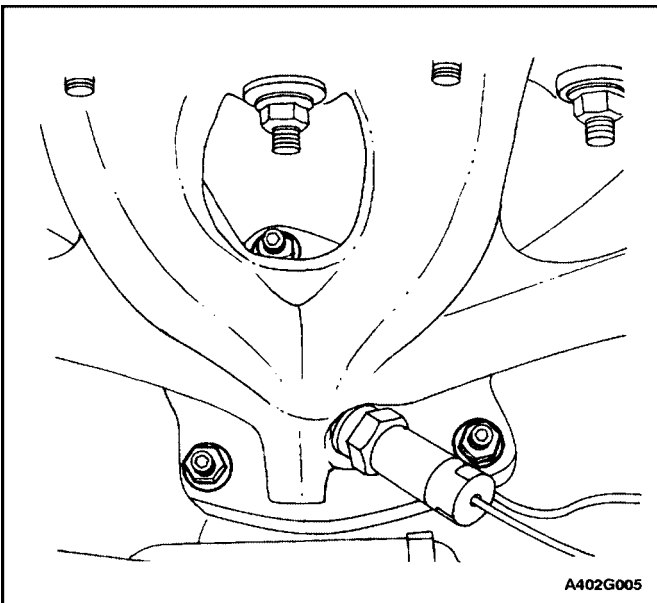
## AUXILIARY CATALYTIC CONVERTER

### Removal Procedure

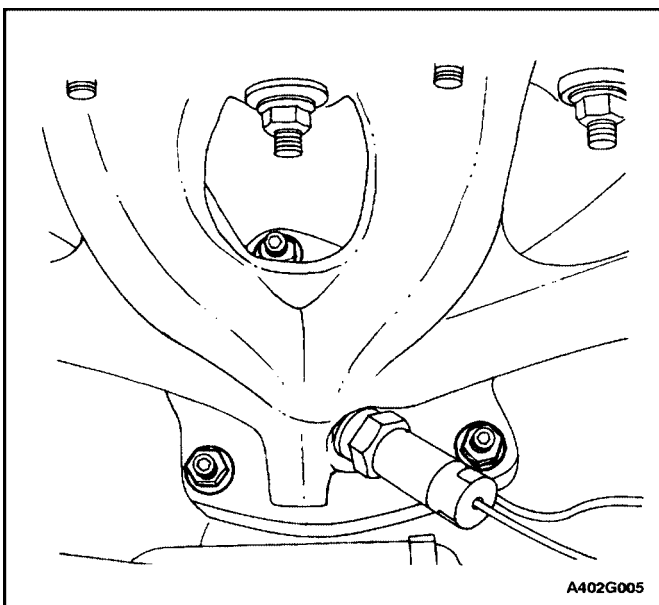
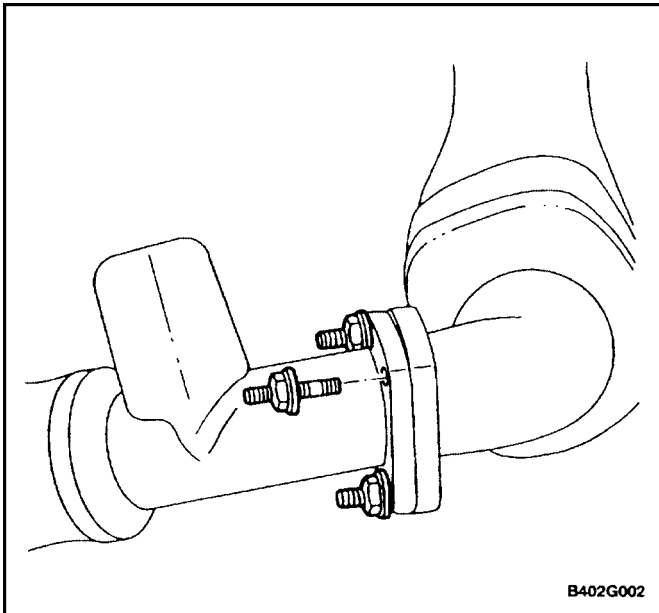
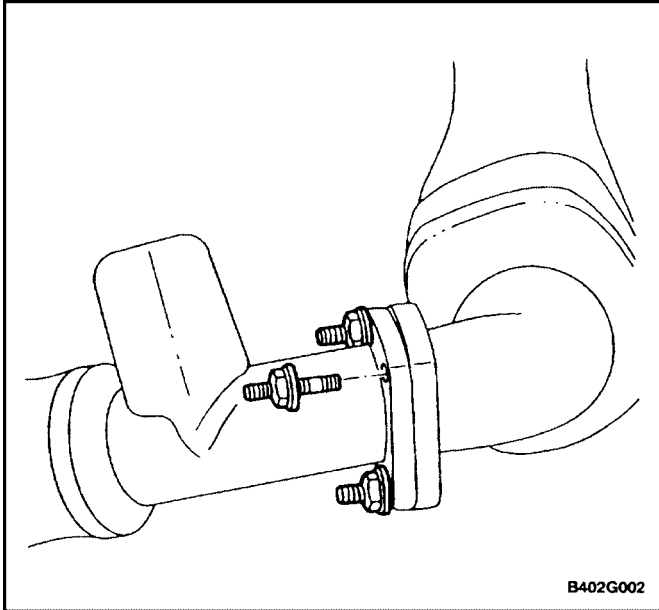
1. Disconnect the pre-converter oxygen sensor electrical connector.



2. Remove the exhaust manifold cover bolts and the exhaust manifold cover.



3. Remove the auxiliary catalytic converter upper flange nuts.



4. Remove the auxiliary catalytic converter lower flange nuts.
5. Remove the auxiliary catalytic converter and the gaskets.

### Installation Procedure

1. Install the auxiliary catalytic converter and the gaskets.

**Important :** Position the auxiliary catalytic converter onto the exhaust manifold flange with one upper flange nut and bolt.

2. Install the auxiliary catalytic converter lower flange nuts and the bolts.

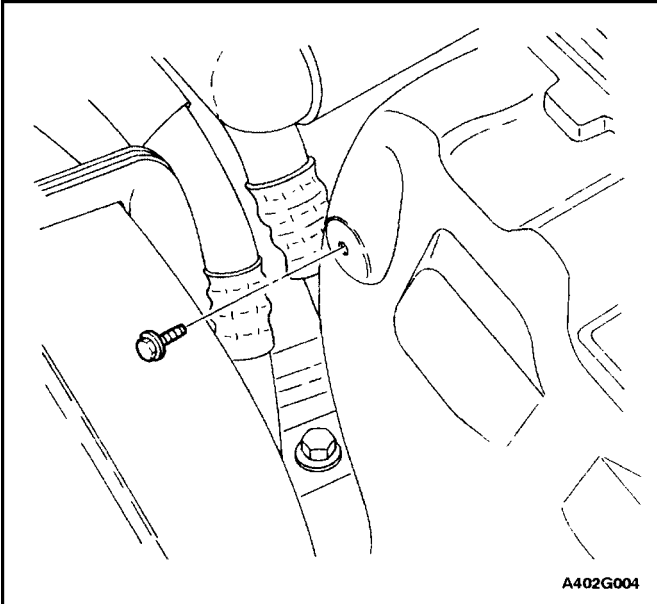
#### **Tighten**

Tighten the front connecting pipe-to-auxiliary catalytic converter nuts to 35 N•m (26 lb–ft).

3. Install the remaining auxiliary catalytic converter upper flange nuts.

#### **Tighten**

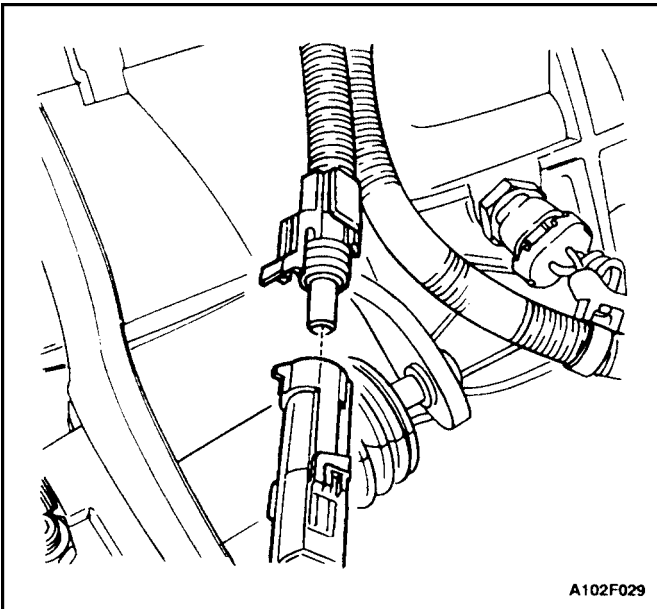
Tighten the auxiliary catalytic converter-to-exhaust manifold nuts to 35 N•m (26 lb–ft).



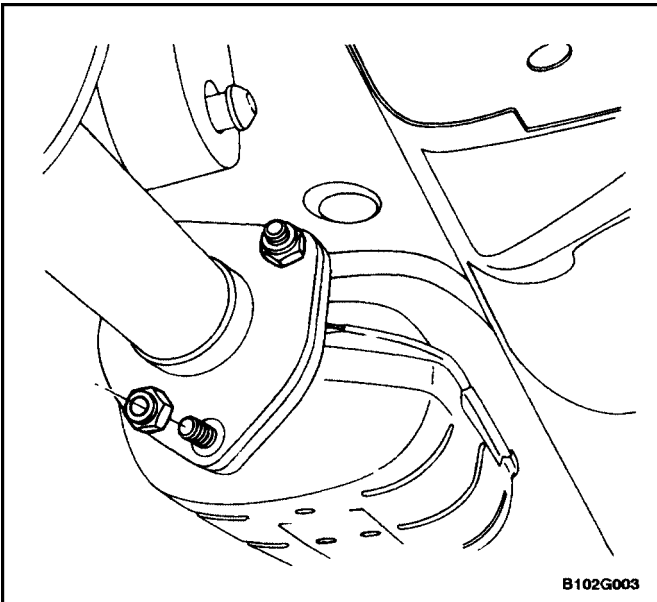
4. Install the exhaust manifold cover and the exhaust manifold cover bolts.

**Tighten**

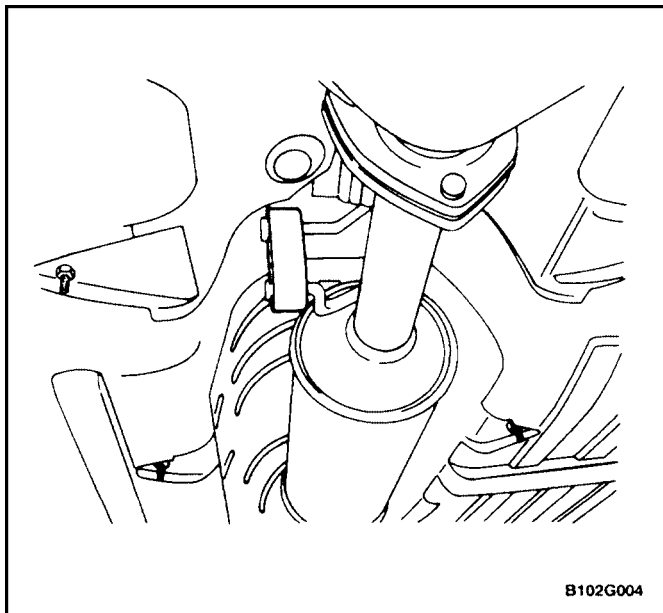
Tighten the exhaust manifold cover bolts to 15 N•m (11 lb–ft).



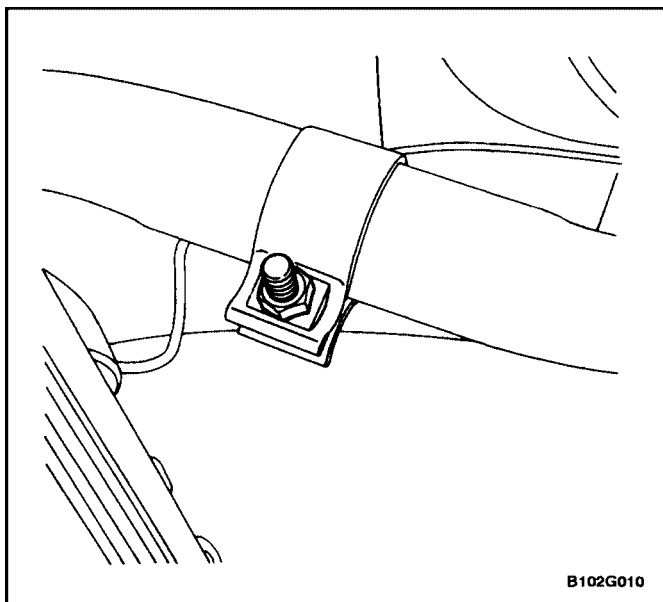
5. Connect the pre-converter oxygen sensor electrical connector.

**MUFFLER – FRONT****Removal Procedure**

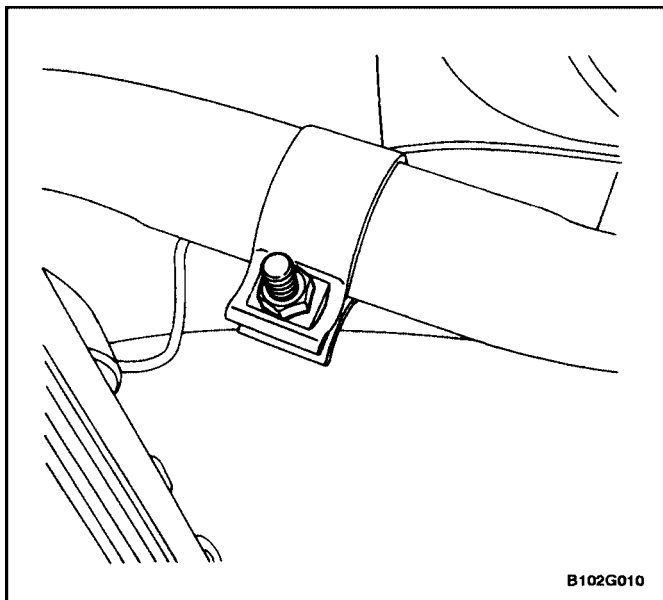
1. Remove the nuts and the gasket that secure the front muffler pipe to the catalytic converter flange.



2. Detach the front muffler assembly from the front rubber hangers.



3. Loosen the front muffler pipe-to-rear muffler pipe holding clamp nut and the washer.
4. Disconnect the front muffler pipe from the rear rubber hanger.
5. Remove the front muffler pipe.
6. Check the exhaust pipe and the front muffler pipe for holes, damage, open seams, or other deterioration which could permit exhaust fumes to seep into the passenger compartment or the trunk.



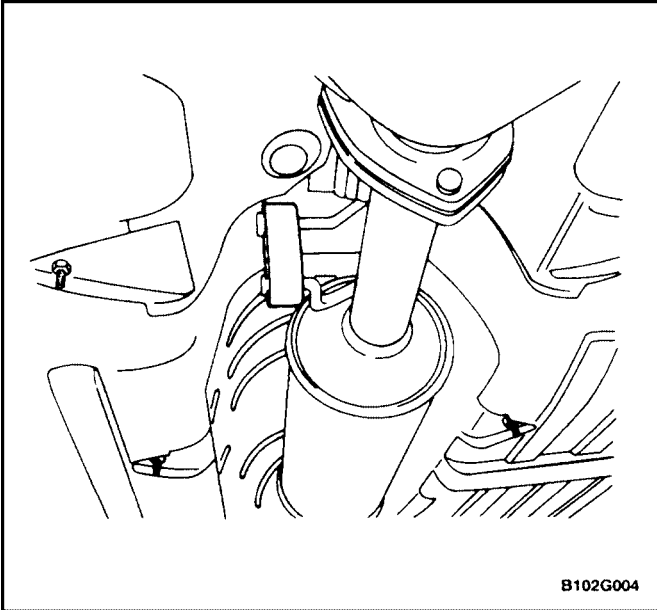
## Installation Procedure

1. Secure the front muffler pipe to the rear rubber hanger near the rear muffler pipe holding clamp.
2. Place the front muffler pipe into the rear muffler pipe.
3. Secure the front muffler pipe to the rear muffler pipe with the holding clamp, the washer, and the nut.

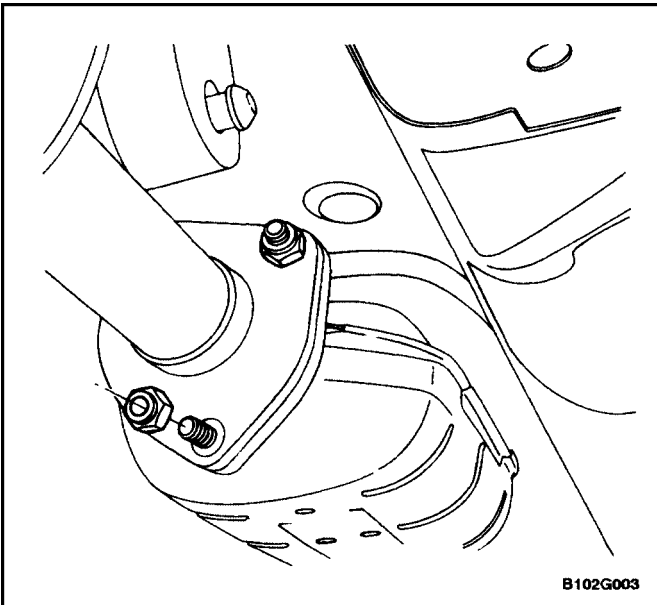
### Tighten

Tighten the front muffler pipe-to-rear muffler pipe holding clamp nut to 50 N•m (37 lb–ft).





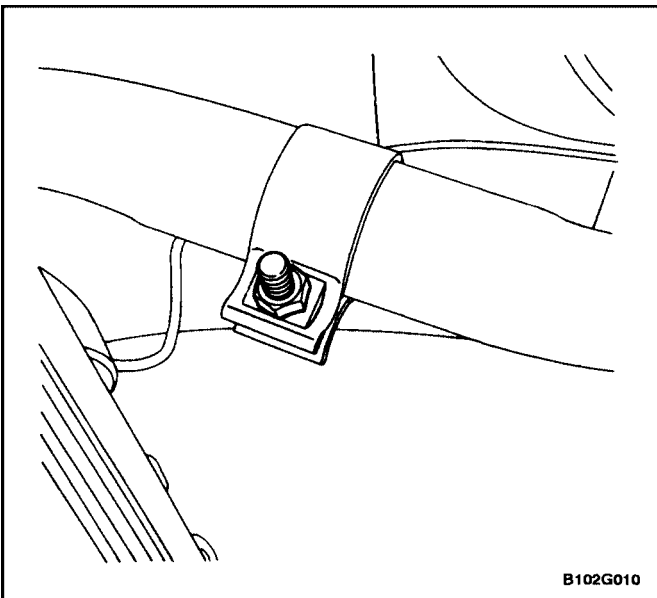
- Attach the front muffler assembly to the front rubber hangers. Loosely secure the front muffler assembly to the catalytic converter flange.



- Secure the front muffler assembly to the catalytic converter with the nuts.

### **Tighten**

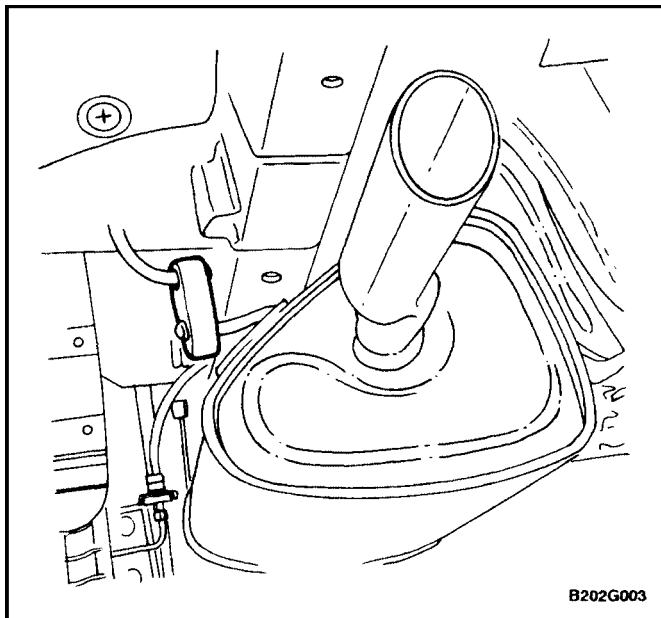
Tighten the front muffler pipe-to-catalytic converter nuts to 35 N•m (26 lb-ft).



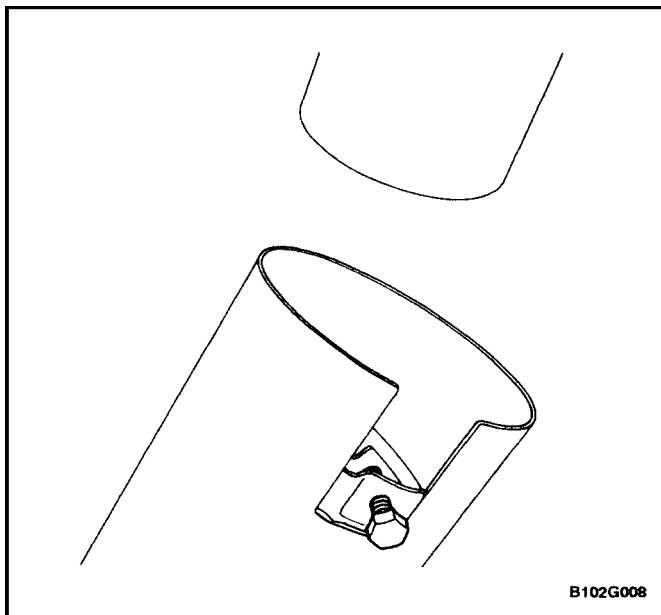
## **MUFFLER – REAR**

### **Removal Procedure**

- Loosen the front muffler pipe-to-rear muffler pipe holding clamp nut and the washer.
- Spread the loosened holding clamp and position it away from the junction of the front muffler pipe and the rear muffler pipe.
- Separate the rear muffler pipe from the front muffler pipe.

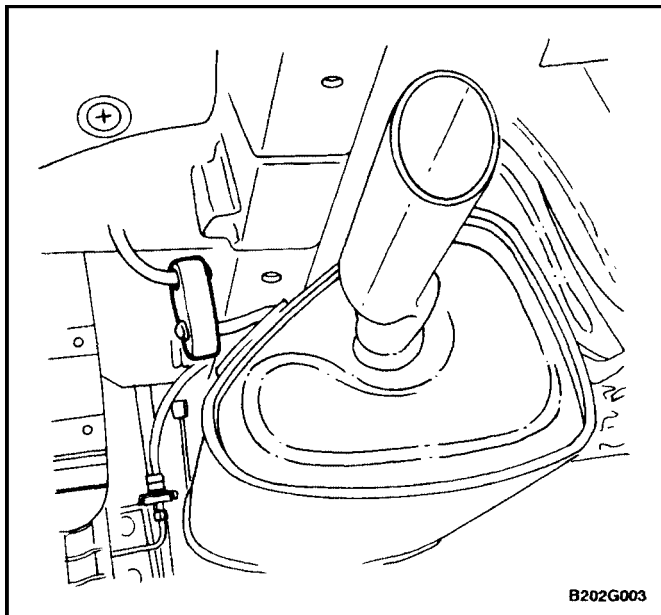


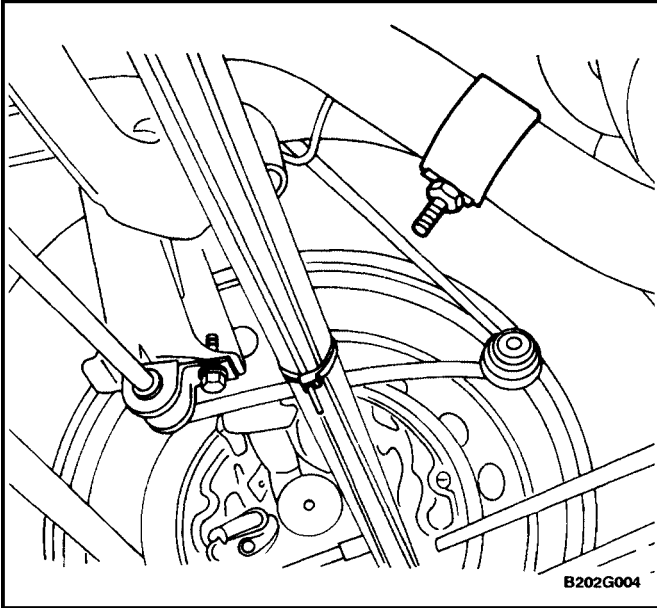
4. Remove the bolt that secures the trim ring, (if equipped), to the rear muffler pipe.
5. Remove the trim ring.
6. Detach the rear muffler pipe from the rear rubber hangers at the top of the rear muffler assembly near the exhaust tail pipe and near the junction of the rear muffler pipe with the front muffler pipe.
7. Remove the rear muffler assembly.
8. 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 the trunk.



### Installation Procedure

1. Place the exhaust tail pipe trim ring, (if equipped), on the rear muffler pipe.
2. Secure the exhaust pipe trim ring on the rear muffler pipe, and tighten the exhaust trim ring bolt until it bottoms out on the exhaust pipe. Tighten an additional quarter turn.
3. Secure the rear muffler assembly to the rear rubber hangers near the exhaust tail pipe and near the junction of the rear muffler pipe with the front muffler pipe.





4. Place the rear muffler pipe into the front muffler pipe.
5. Secure the rear muffler pipe to the front muffler pipe with the holding clamp, the washer, and the nut.

### **Tighten**

Tighten the front muffler pipe-to-rear muffler pipe holding clamp nut to 70 N•m (52 lb–ft).

## GENERAL DESCRIPTION AND SYSTEM 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.

**CAUTION** : *Check the complete exhaust system, the nearby body areas, and the trunk lid for broken, damaged, missing or mispositioned parts, open seams, holes, loose connections or other deterioration which could permit exhaust fumes to seep into the trunk or 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.*

### MUFFLER

Aside from the exhaust manifold connection and the rear muffler-to-front muffler joint, the exhaust system uses a flange and seal joint design. 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 the rear muffler assembly positions as well as in the catalytic converter, protect the vehicle and the environment from high temperatures developed from the exhaust system.

### CATALYTIC CONVERTERS

**Notice** : When jacking or lifting the vehicle from the body side rails, be certain 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 escaping 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 (NO<sub>x</sub>).