

SECTION : 9R

BODY FRONT END

CAUTION : *Disconnect the negative battery cable before removing or installing any electrical unit or when a tool or equipment could easily come in contact with exposed electrical terminals. Disconnecting this cable will help prevent personal injury and damage to the vehicle. The ignition must also be in LOCK unless otherwise noted.*

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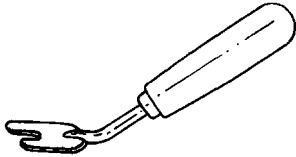
SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Application	N•m	Lb–Ft	Lb–In
A–Pillar Fender Bolt	10	–	89
Cowl Vent Grille Screws	3	–	27
Front Fascia–to–Fender Bolts	2.5	–	22
Front of Fender Bolts	10	–	89
Front Wheel Well Splash Shield Screws	2	–	18
Hinge Bolts	20	15	–
Hood–to–Hinge Bolts	20	15	–
Hood Latch Bolts	10	–	89
Hood Release Handle Screw	2.5	–	22
Lower Fender Bolts	10	–	89
Radiator Grille Bolts	10	–	89
Radiator Grille Nuts	4	–	35
Radiator Grille Screws	2	–	18
Resonator Bolt	9	–	80
Tiedown Hook Bolts	25	18	–
Upper Fender Bolts	10	–	89
Washer Reservoir Bolt	9	–	80

SPECIAL TOOLS

SPECIAL TOOLS TABLE

 <p>A109G029</p>	<p>KM–475–B Trim Remover</p>
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MAINTENANCE AND REPAIR

ON-VEHICLE SERVICE

LUBRICATION

The hood hinges and the locking mechanisms require periodic lubrication for proper operation. Refer to *Section 0B, General Information* for the specific types and intervals of lubrication.

FASTENERS

Notice : Dissimilar metals in direct contact with each other may corrode rapidly. Make sure to use the correct fasteners to prevent premature corrosion.

Many aluminum components are used on current models. Aluminum in contact with steel may corrode rapidly if it is not protected by special finishes or isolators.

The fasteners used have a special finish which provides adequate protection from corrosion. These special fasteners differ in color to easily identify them from the standard metric fasteners, which are medium blue in color.

When replacing fasteners, avoid substituting otherwise similar fasteners in the same location.

ANTICORROSION MATERIALS

To provide rust resistance, anticorrosion materials have been applied to the interior surfaces of most of the metal panels. When servicing these panels, properly re-coat them with a service-type anticorrosion material if any of the original material has been disturbed.

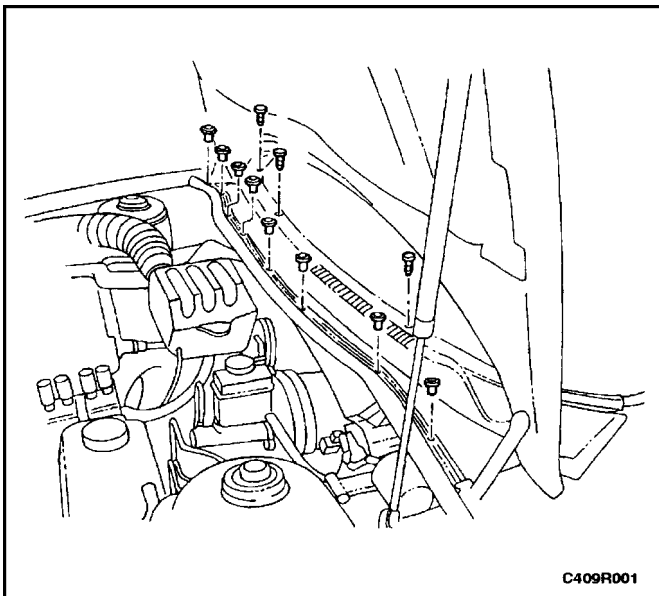
FRONT END SEALING

All locations where waterleaks may occur are sealed during production with high quality, durable sealers. If it becomes necessary to reseal specific areas, use a high quality sealer of medium-bodied consistency which will retain its flexible characteristics after drying and can be painted, if necessary.

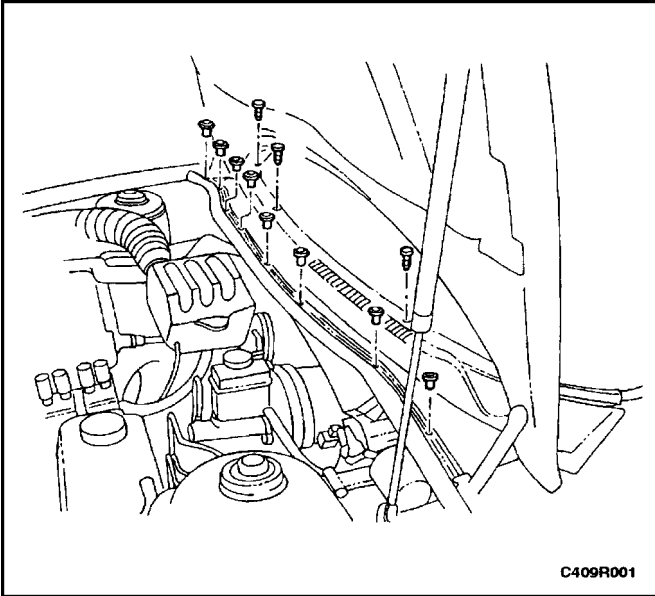
COWL VENT GRILLE

Removal Procedure

1. Raise the hood.
2. Remove the wiper arms. Refer to *Section 9D, Wipers/Washer Systems*.
3. Remove the cowl vent grille retaining screws, clips, and the two-piece grille.



C409R001



Installation Procedure

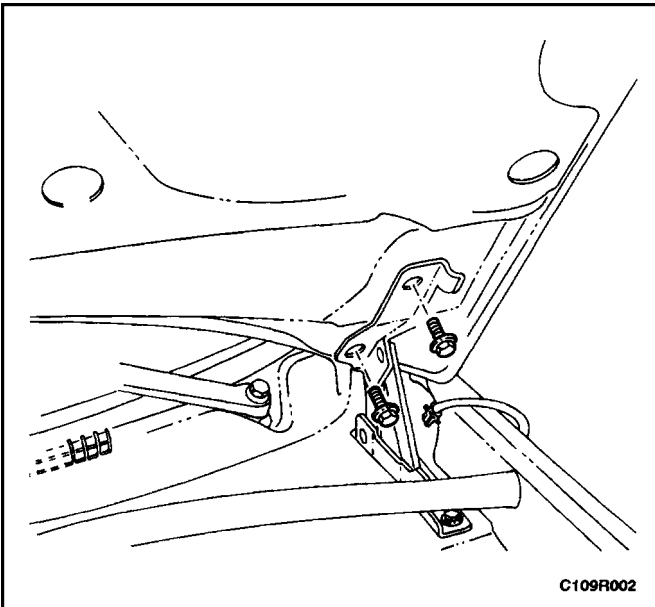
Notice : Dissimilar metals in direct contact with each other may corrode rapidly. Make sure to use the correct fasteners to prevent premature corrosion.

1. Install the two-piece grille with the cowl vent grille retaining clips and screws.

Tighten

Tighten the cowl vent grille screws to 3 N•m (27 lb-in).

2. Install the wiper arms. Refer to *Section 9D, Wipers/Washer System*.
3. Lower the hood.



HOOD

Removal Procedure

Important : Install protective coverings over the fenders and the windshield to prevent damage to the paint, the glass, and the moldings when removing and installing the hood.

1. Raise and support the hood.
2. Mark the position of the hinge to the hood to aid in alignment during installation.
3. Remove the washer hoses from the hood.
4. Remove the hood struts. Refer to "Hood Struts" in this section.
5. Remove the bolts retaining the hood to both of the hinges.
6. With the aid of another technician, remove the hood from the hinges.

Installation Procedure

1. With the aid of another technician, position the hood in the location marked during removal.

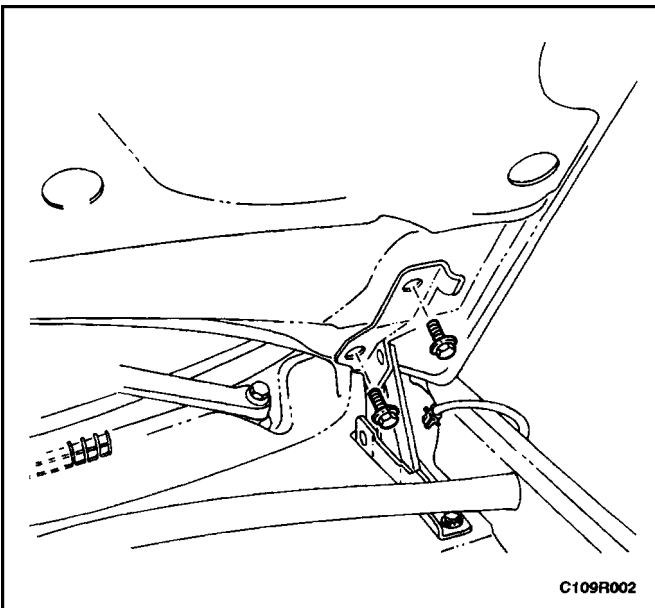
Notice : Dissimilar metals in direct contact with each other may corrode rapidly. Make sure to use the correct fasteners to prevent premature corrosion.

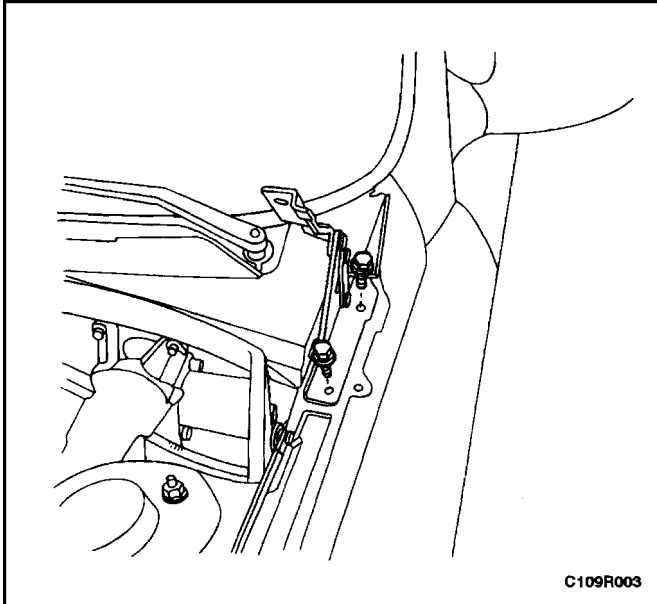
2. Install the two bolts securing the hood to each hinge.

Tighten

Tighten the hood-to-hinge bolts to 20 N•m (15 lb-ft).

3. Install the hood struts. Refer to "Hood Struts" in this section.
4. Inspect the hood for proper alignment.
5. Install the washer hoses to the hood.

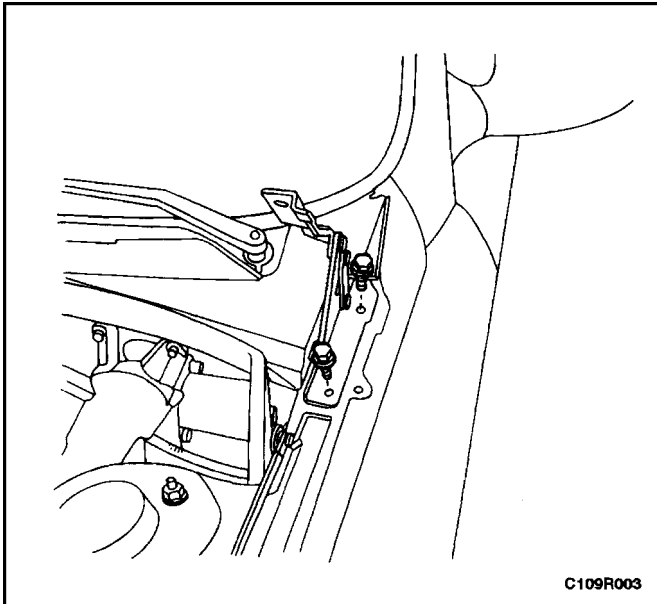




HOOD HINGES

Removal Procedure

1. Remove the hood. Refer to "Hood Struts" in this section.
2. Reposition the cowl vent grille weather strip.
3. Remove the bolts and the hinge.



Installation Procedure

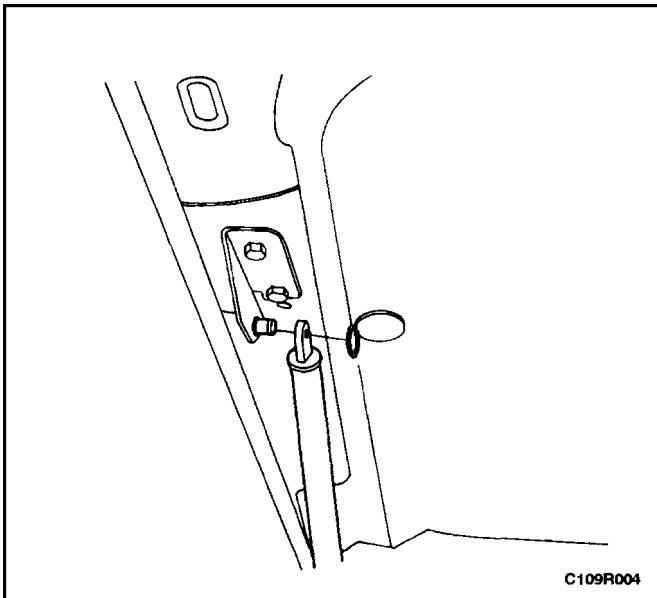
Notice : Dissimilar metals in direct contact with each other may corrode rapidly. Make sure to use the correct fasteners to prevent premature corrosion.

1. Install the hinge with the bolts.

Tighten

Tighten the hinge bolts to 20 N•m (15 lb–ft).

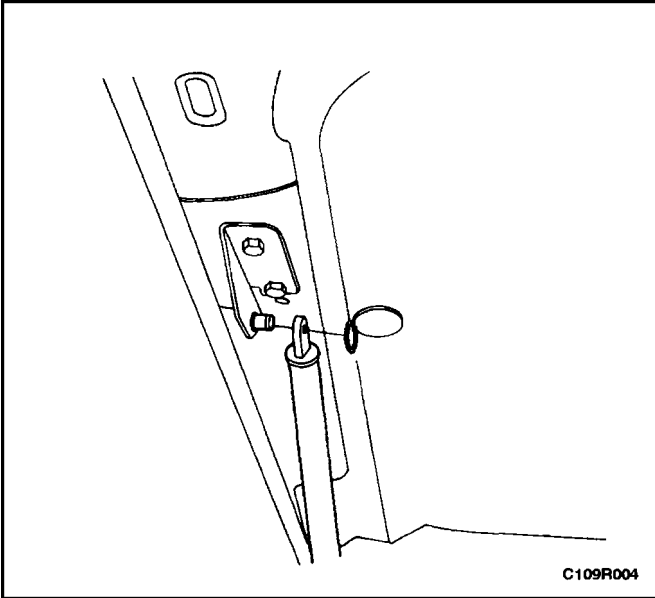
2. Reposition the cowl vent grille weatherstrip to its original position.
3. Install the hood. Refer to "Hood" in this section.



HOOD STRUTS

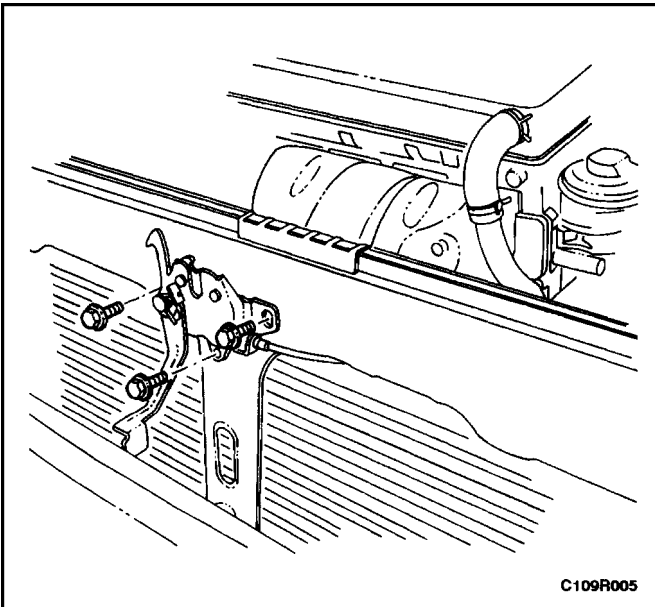
Removal Procedure

1. Raise and support the hood.
2. Remove the retaining clips and the hood strut.



Installation Procedure

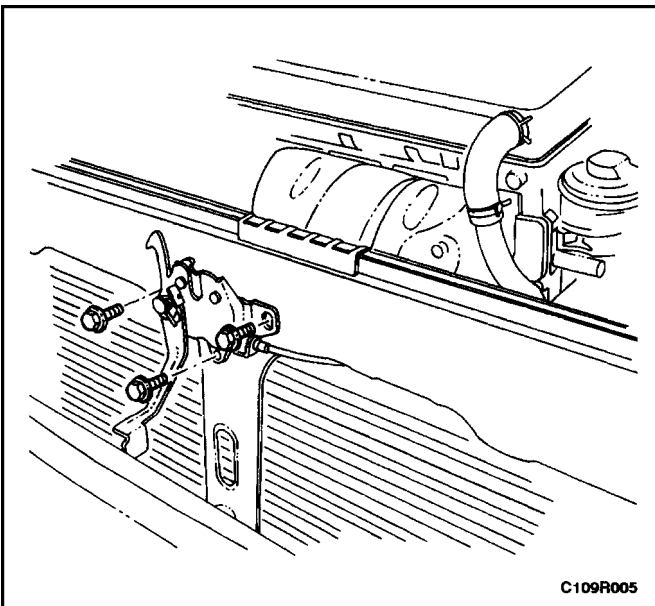
1. Install the retaining clips and the hood strut.
2. Close the hood.



HOOD SECONDARY LATCH

Removal Procedure

1. Open the hood.
2. Mark the position of the hood latch on the radiator support to aid in alignment during installation.
3. Remove the bolts and the hood latch.
4. Disconnect the hood release cable.



Installation Procedure

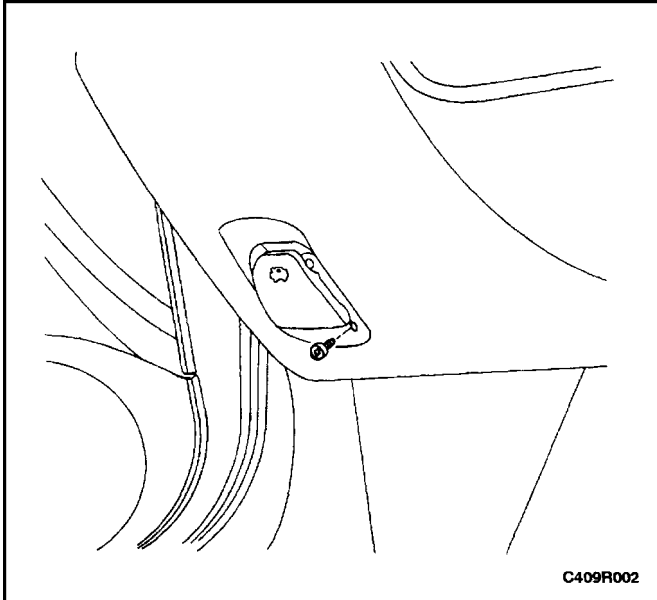
Notice : Dissimilar metals in direct contact with each other may corrode rapidly. Make sure to use the correct fasteners to prevent premature corrosion.

1. Connect the hood release cable to the latch.
2. Position the hood latch in the location marked during removal.
3. Install the hood latch with the bolts.

Tighten

Tighten the hood latch bolts to 10 N•m (89 lb-in).

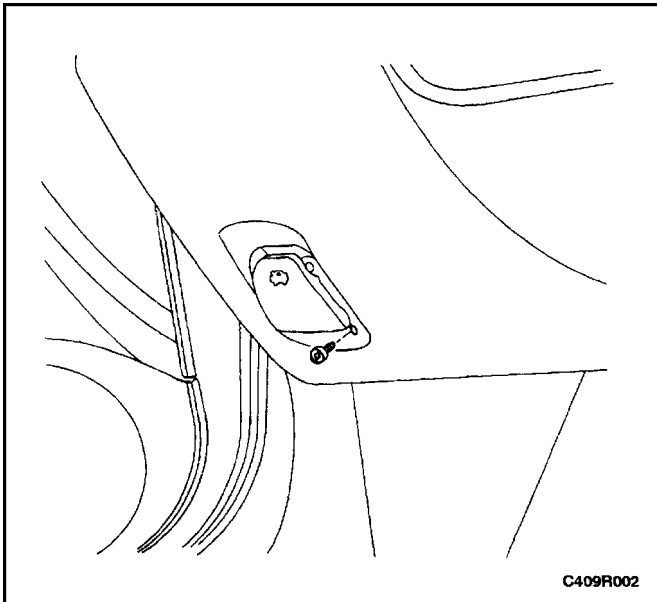
4. Close the hood.



HOOD LATCH RELEASE CABLE

Removal Procedure

1. Remove the hood release handle screw.
2. Remove the knee bolster and the hood release handle.
3. Remove the cable from the hood release handle.
4. Remove the hood secondary latch. Refer to "Hood Secondary Latch" in this section.
5. Remove the cable from the engine compartment.



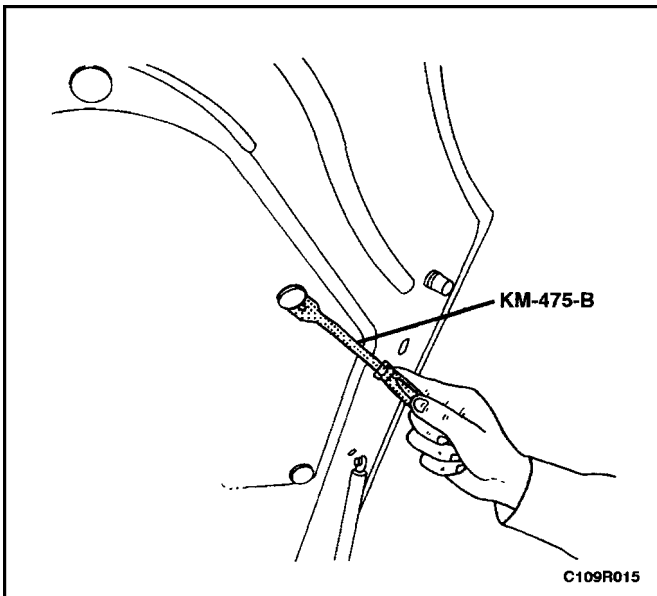
Installation Procedure

Notice : Dissimilar metals in direct contact with each other may corrode rapidly. Make sure to use the correct fasteners to prevent premature corrosion.

1. Install the cable through the engine compartment.
2. Install the hood secondary latch. Refer to "Hood Secondary Latch" in this section.
3. Install the cable to the hood release handle.
4. Install the hood release handle and the knee bolster with the screw.

Tighten

Tighten the hood release handle screw to 2.5 N•m (22 lb-in).



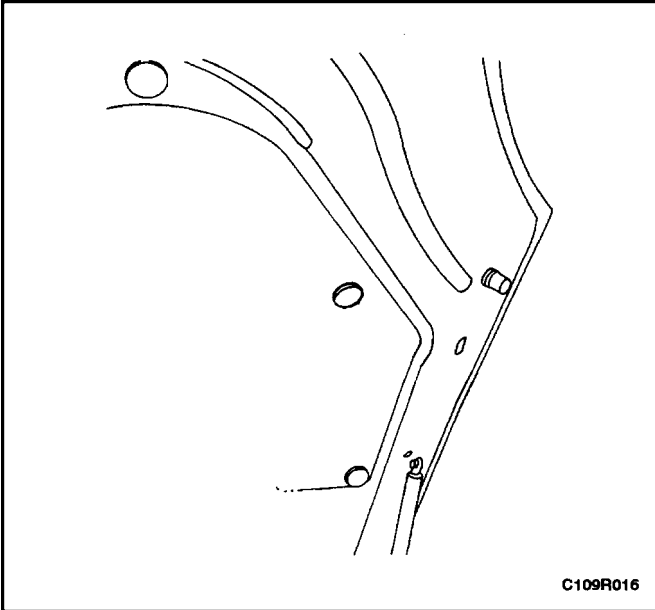
HOOD INSULATION

Tools Required

KM-475-B Trim Remover

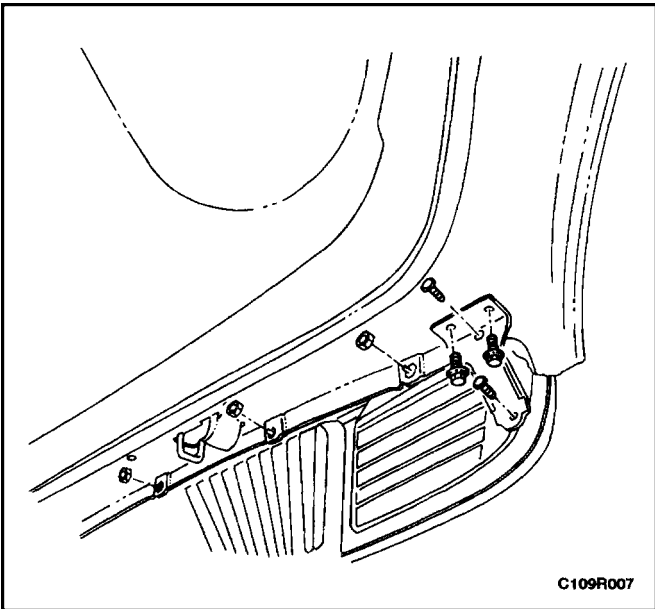
Removal Procedure

1. Open the hood.
2. Remove the washer hose from the hood.
3. Remove the retaining clips using the trim remover KM-475-B.
4. Remove the hood insulation.



Installation Procedure

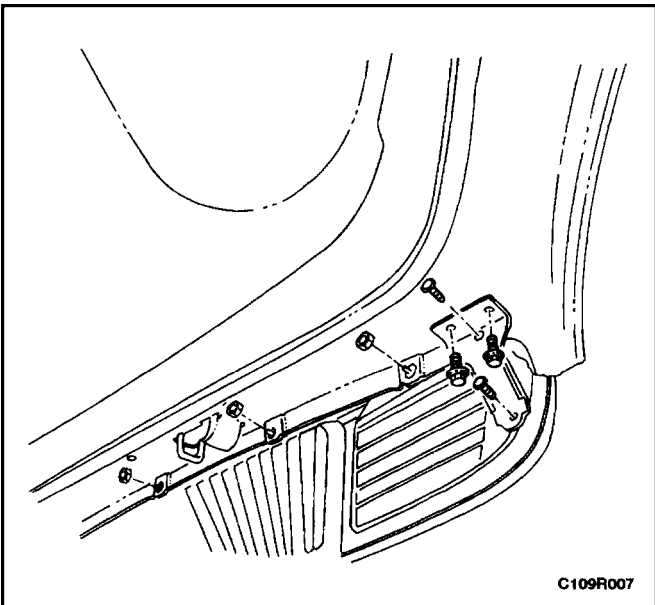
1. Install the hood insulation with the retaining clips.
2. Install the washer hose to the hood.
3. Close the hood.



RADIATOR GRILLE

Removal Procedure

1. Open the hood.
2. Remove the screws, the bolts, and the radiator grille bracket.



Installation Procedure

Notice : Dissimilar metals in direct contact with each other may corrode rapidly. Make sure to use the correct fasteners to prevent premature corrosion.

1. Install the radiator grille with the nuts.

Tighten

Tighten the radiator grille nuts to 4 N•m (35 lb-in).

2. Install the radiator grille bracket with the screws and the bolts.

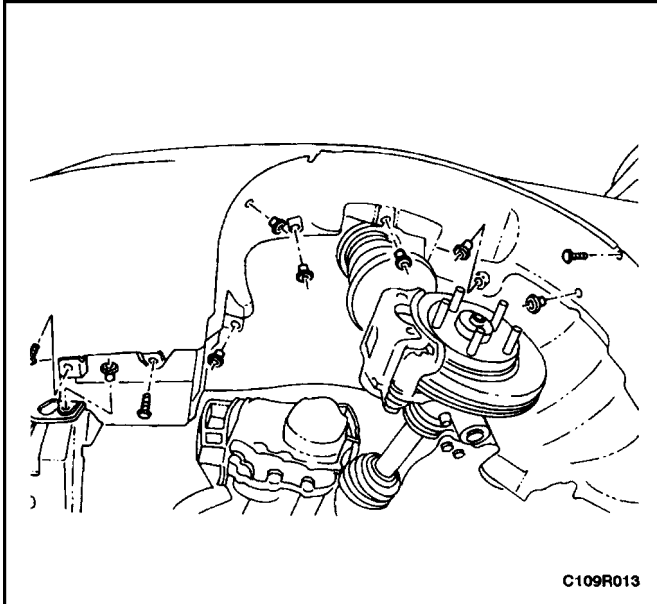
Tighten

Tighten the radiator grille screws to 2 N•m (18 lb-in).

Tighten

Tighten the radiator grille bolts to 10 N•m (89 lb-in).

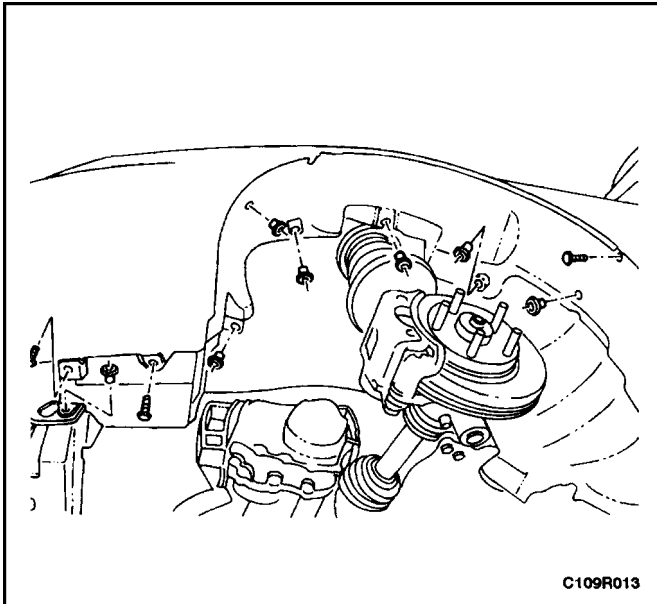
3. Close the hood.



FRONT WHEEL WELL SPLASH SHIELD

Removal Procedure

1. Raise and suitably support the vehicle.
2. Remove the front wheel. Refer to *Section 2E, Tires and Wheels*.
3. Remove the front mud guard. Refer to *Section 9M, Exterior Trim*.
4. Remove the screws and the front wheel well splash shield.



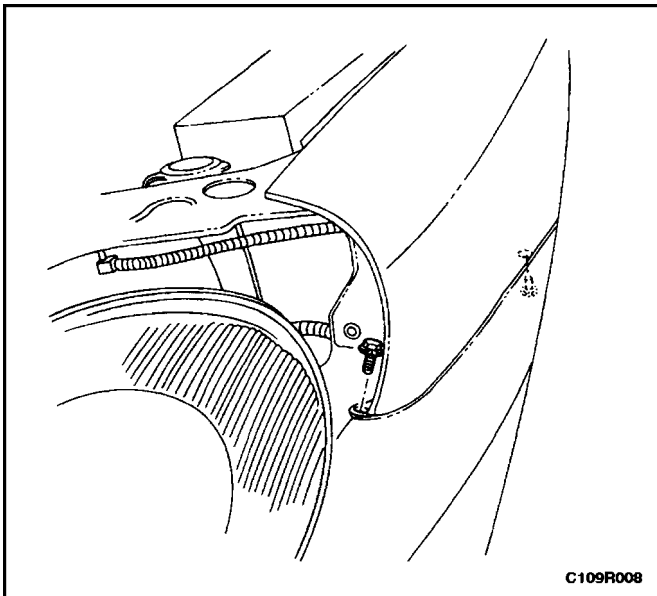
Installation Procedure

1. Install the screws and the front wheel well splash shield.

Tighten

Tighten the front wheel well splash shield screws to 2 N•m (18 lb-in).

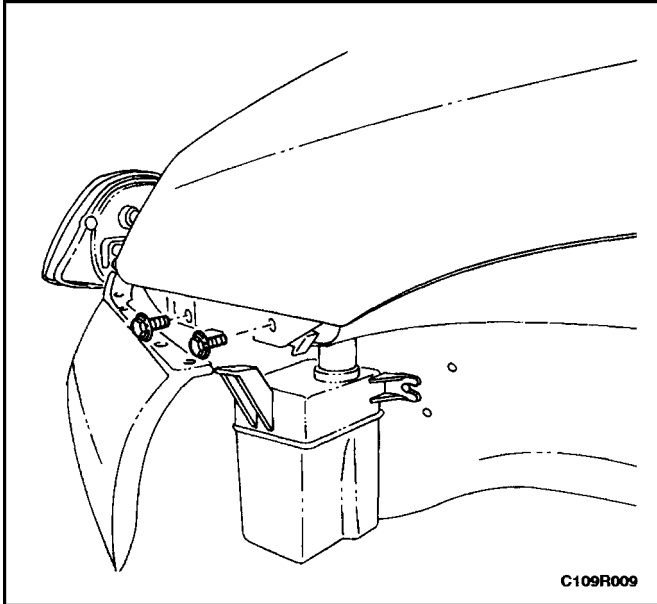
2. Install the front mud guard. Refer to *Section 9M, Exterior Trim*.
3. Install the front wheel. Refer to *Section 2E, Tires and Wheels*.
4. Lower the vehicle.



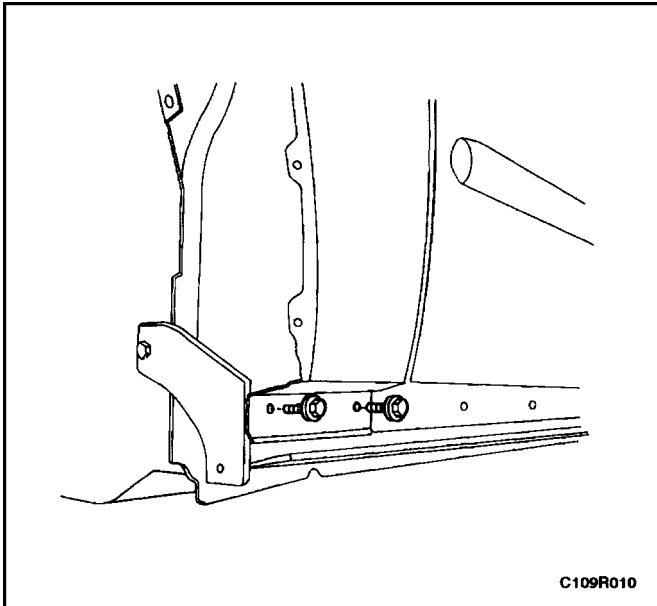
FENDER

Removal Procedure

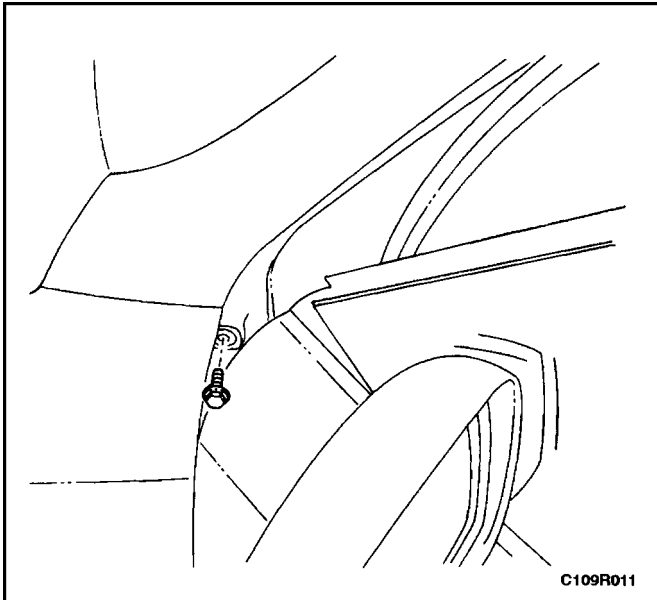
1. Remove the front wheel well splash shield. Refer to "Front Wheel Well Splash Shield" in this section.
2. Reposition the front headlamp.
3. Remove the bolts securing the front fascia to the fender.



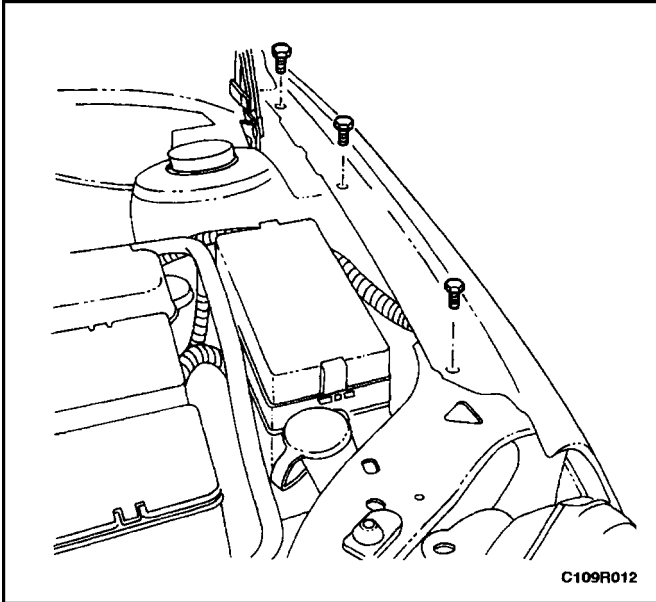
4. Reposition the front fascia.
5. Remove the fender bolts behind the front fascia.



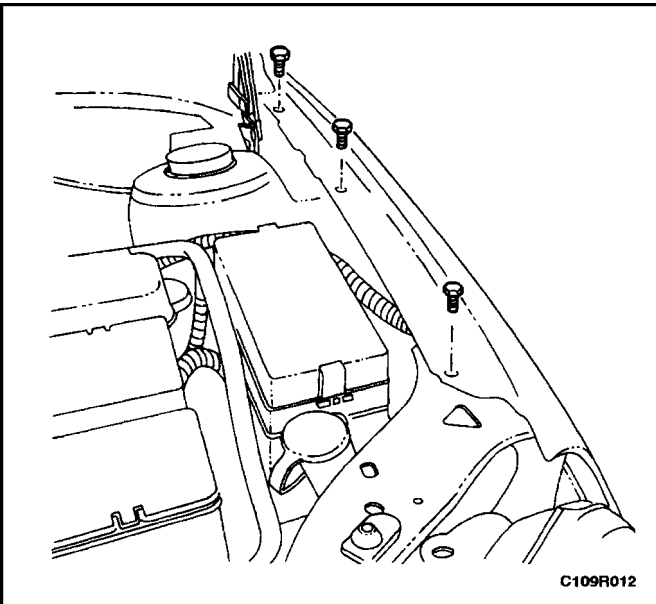
6. Remove the rocker panel molding. Refer to *Section 9M, Exterior Trim*.
7. Remove the bolts at the base of the fender.



8. Open the front door and remove the bolt at the base of the A-pillar.



9. Reposition the cowl vent grille weatherstrip.
10. Remove the upper fender bolts and the fender.



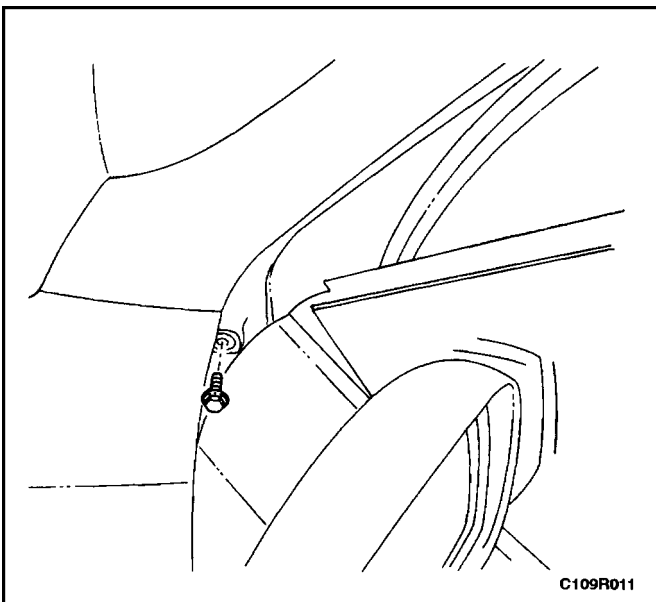
Installation Procedure

Notice : Dissimilar metals in direct contact with each other may corrode rapidly. Make sure to use the correct fasteners to prevent premature corrosion.

1. Install the fender with the upper fender bolts.

Tighten

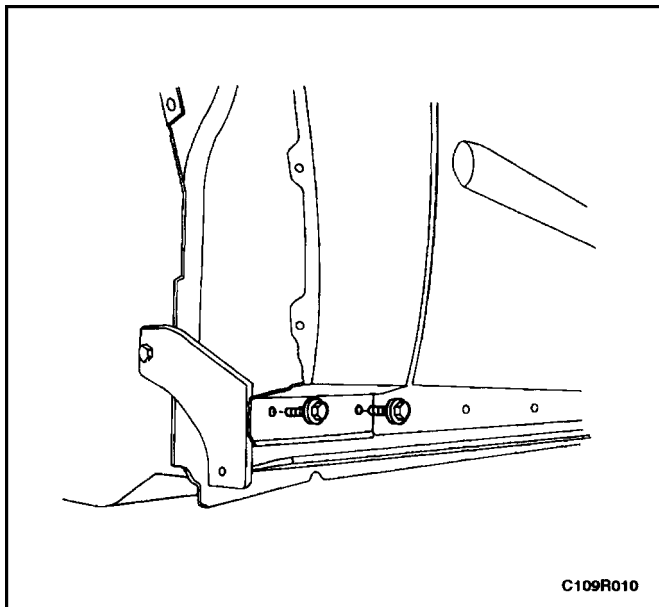
Tighten the upper fender bolts to 10 N•m (89 lb-in).



2. Reposition the cowl vent grille weatherstrip to its original position.
3. Install the bolt at the base of the A-pillar.

Tighten

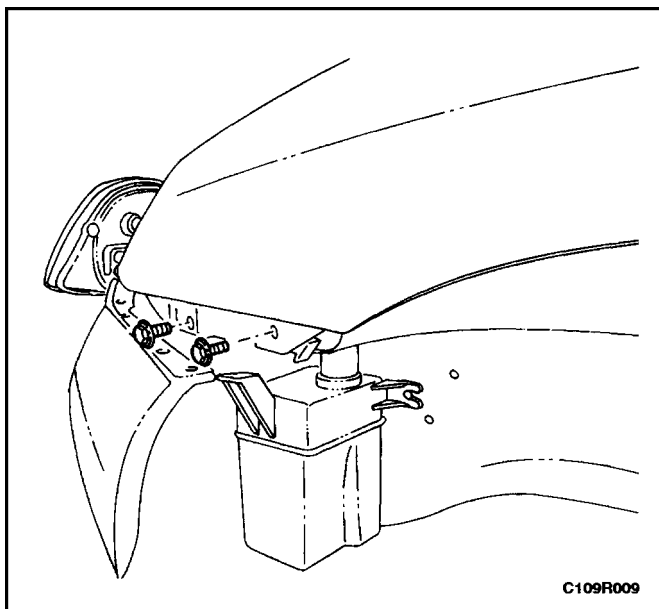
Tighten the A-pillar fender bolt to 10 N•m (89 lb-in).



4. Install the bolts at the base of the fender.

Tighten

Tighten the lower fender bolts to 10 N•m (89 lb-in).

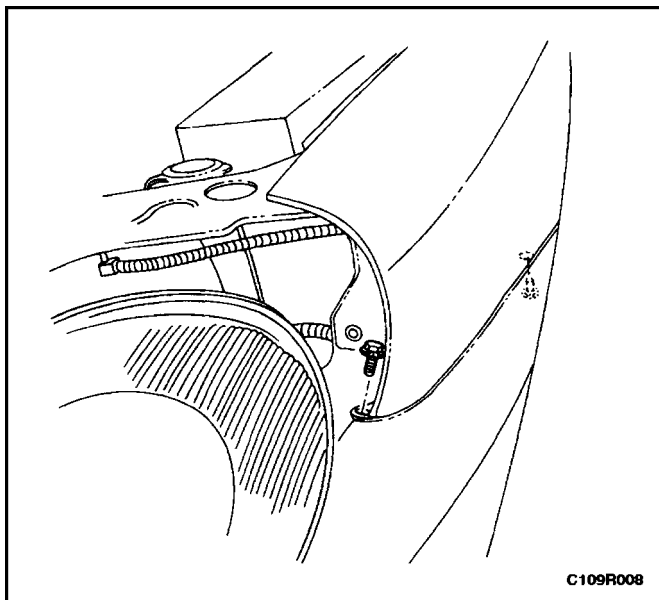


5. Install the rocker panel molding. Refer to *Section 9M, Exterior Trim*.

6. Install the front fender bolts behind the front fascia.

Tighten

Tighten the front fender bolts to 10 N•m (89 lb-in).



7. Install the front fascia to its original position.

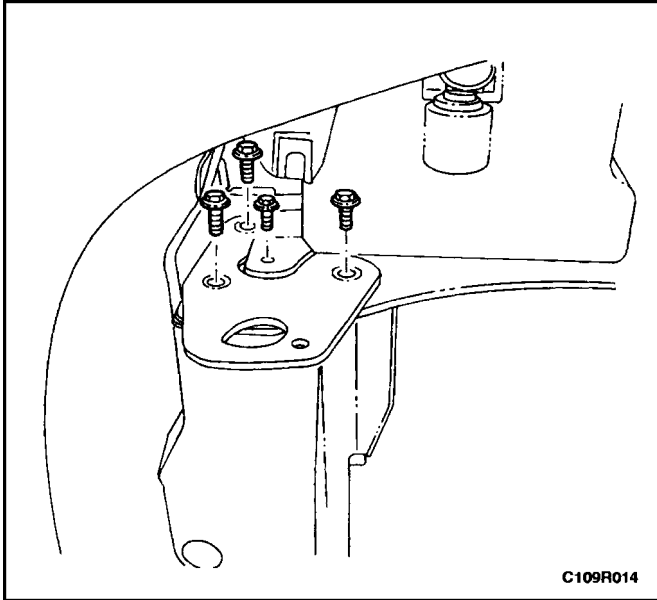
8. Install the bolts securing the front fascia to the fender.

Tighten

Tighten the front fascia-to-fender bolts to 2.5 N•m (22 lb-in).

9. Install the front headlamp to its original position.

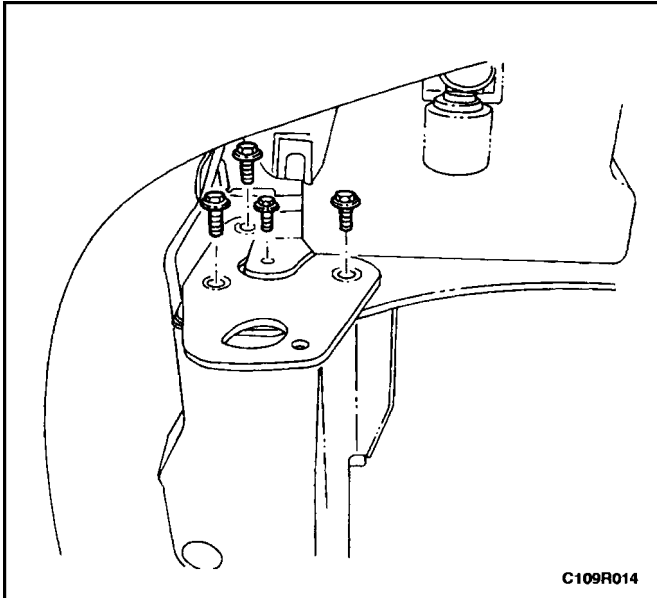
10. Install the front wheel well splash shield. Refer to "Front Wheel Well Splash Shield" in this section.



TIEDOWN HOOK

Removal Procedure

1. Reposition the front portion of the front wheel well splash shield.
2. Remove the front washer reservoir bolt (driver's side shown), and the resonator bolt (passenger's side).
3. Remove the bolts and the tiedown hook.



Installation Procedure

Notice : Dissimilar metals in direct contact with each other may corrode rapidly. Make sure to use the correct fasteners to prevent premature corrosion.

1. Install the tiedown hook with the bolts.

Tighten

Tighten the tiedown hook bolts to 25 N•m (18 lb–ft).

2. Install the front washer reservoir bolt (driver's side shown).

Tighten

Tighten the washer reservoir bolt to 9 N•m (80 lb–in).

3. Install the resonator bolt (passenger's side).

Tighten

Tighten the resonator bolt to 9 N•m (80 lb–in).

4. Install the front wheel well splash shield to its original position.

GENERAL DESCRIPTION AND SYSTEM OPERATION

BODY FRONT END

This vehicle has a unitized body with a frame assembly supporting the engine and the transaxle. The fender panels and the radiator support are also integral parts of the body.