

SECTION : 9N

FRAME AND UNDERBODY

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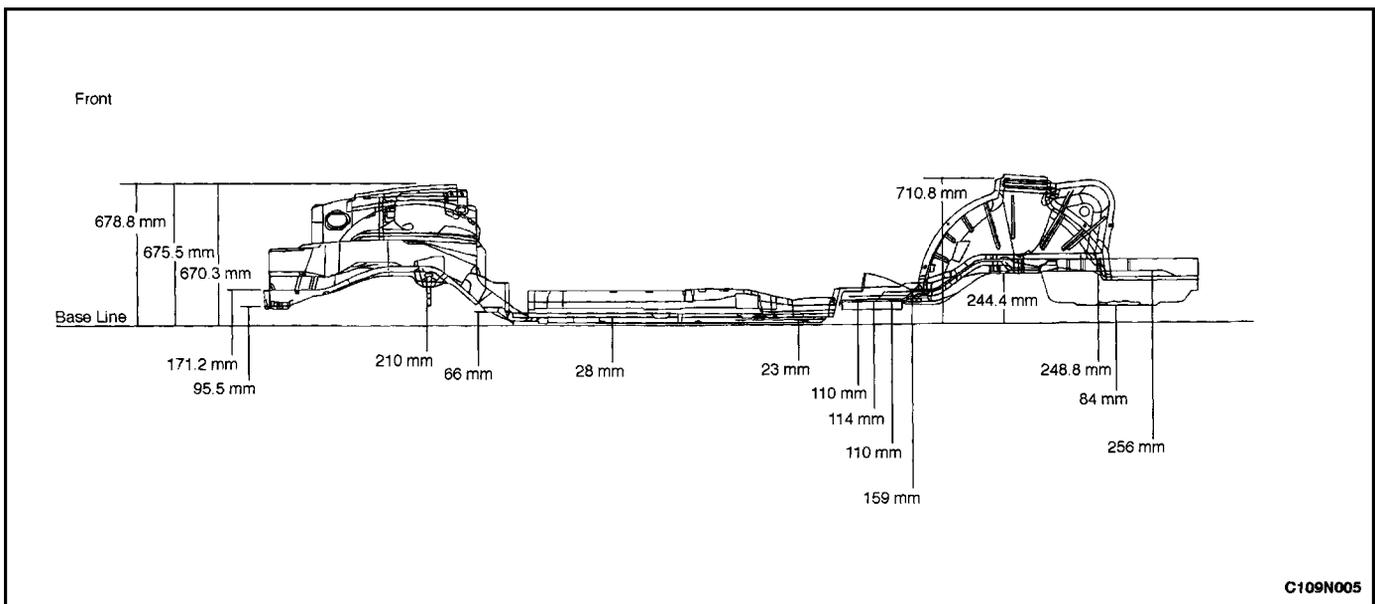
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SPECIFICATIONS

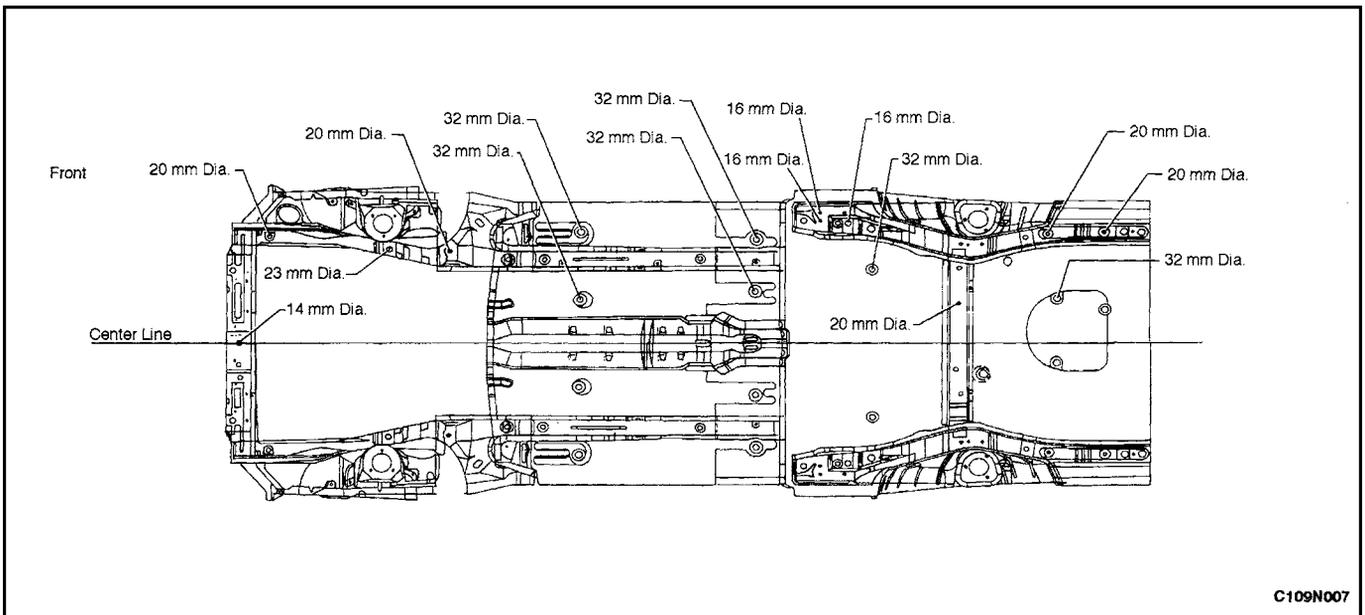
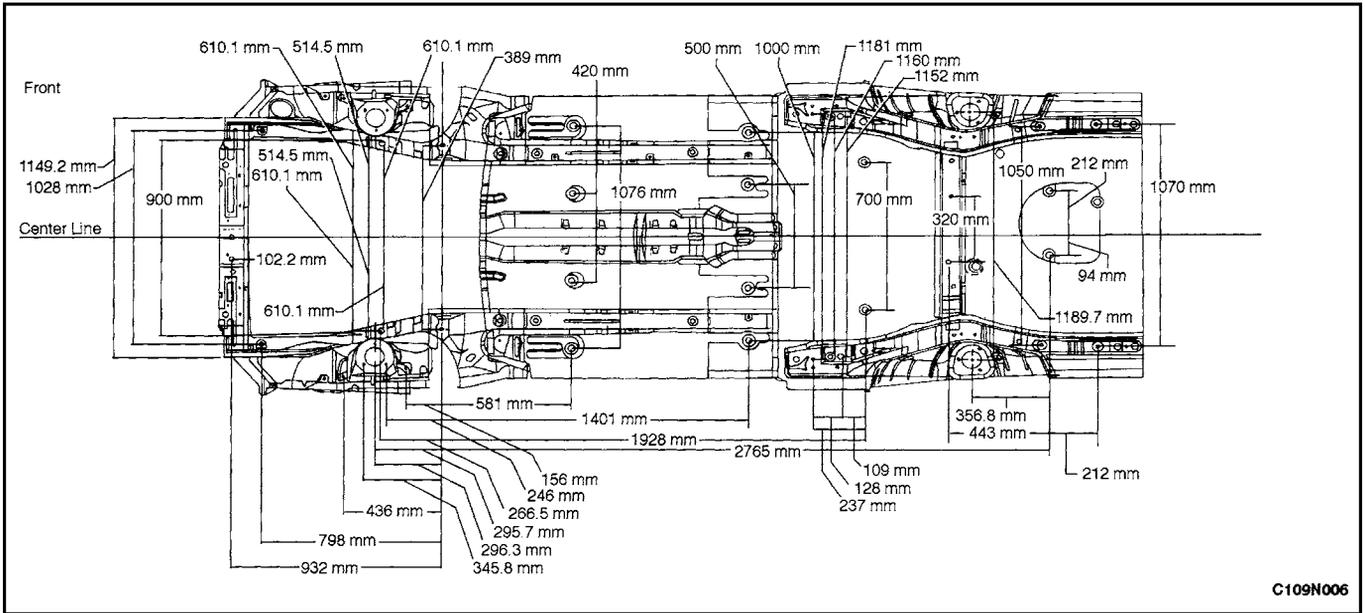
FASTENER TIGHTENING SPECIFICATIONS

Application	N•m	Lb-Ft	Lb-In
Center Member-to-Crossmember Bolt	90	66	–
Center Member-to-Radiator Bolt	90	66	–
Engine Under Cover Bolts	10	–	89
Forward Engine Mount Through-Bolt	80	59	–
Rear Engine Mount Through-Bolt	80	59	–

UNDERBODY DIMENSIONS



9N – 2 FRAME AND UNDERBODY



MAINTENANCE AND REPAIR

ON-VEHICLE SERVICE

ALIGNMENT CHECKING

An accurate method of determining the alignment of the underbody uses a measuring tram gauge. The tram gauge set used to perform the recommended measuring checks must include a vertical pointer able to reach 457 mm (18 inches).

Two types of measurements can be made with a tram gauge: direct point-to-point measurements and measurements calculated on a horizontal plane (datum line) parallel to the underbody. Point-to-point measurements are generally taken on steering and suspension engine compartment parts and simply require the vertical pointers to be set equally.

For horizontal plane measurements, the vertical pointers must be set as specified for each point to be measured.

Dimensions-to-gauge holes are measured to the center of the holes and flush to the adjacent surface metal unless otherwise specified. It is recommended that the diagonal dimensions to the cross-body be checked on both sides in order to verify the dimensional accuracy of the vehicle underbody.

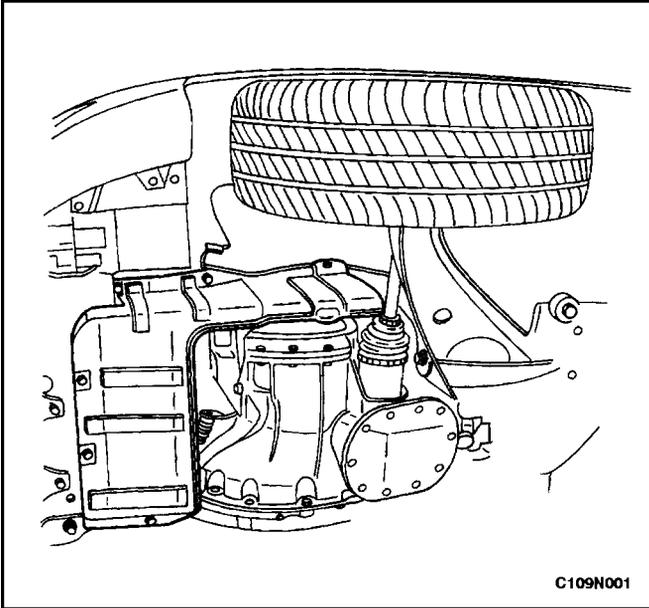
FLOOR PAN INSULATORS

The floor pan insulators have been designed for the higher floor pan temperatures that result from the use of the catalytic converter in the exhaust system. Therefore, when servicing a vehicle, it is essential that any insulators that may have been disturbed or removed be reinstalled in the original sequence and location. Also, if an insulator needs to be replaced, use only the insulation specified for that location on the floor pan.

When servicing or replacing interior insulators, observe the following instructions.

- Install the insulators in the original position and sequence. Butt the pieces together in order to avoid gapping or overlapping.
- If it is necessary to replace an insulator, use only the specified insulation.
- Use the original part to determine the amount of replacement material required and as a template for cutting and fitting the new piece to the floor pan.
- When installing the insulator, do not enlarge any cutouts or holes that are used for the attachment of interior parts such as the instrument panel or the floor console.
- Route the cross-body harness for interior parts over the floor pan insulators. Clip it in the original location.
- Do not apply spray-on deadeners or trim adhesives to the top of the floor pan at the area directly over the catalytic converter or the muffler.

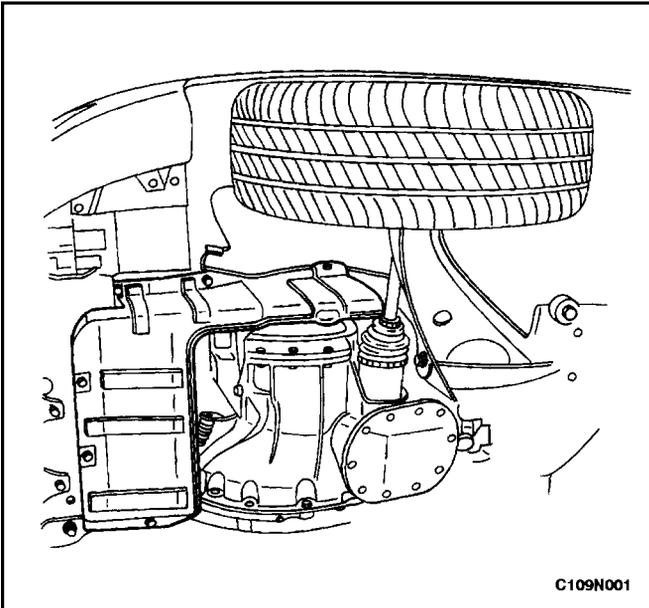
Any insulator service repair or replacement should be the same thickness, size, and location as the original installation in the vehicle.



ENGINE UNDER COVERS

Removal Procedure

1. Raise and suitably support the vehicle.
2. Remove the bolts and the engine under cover.



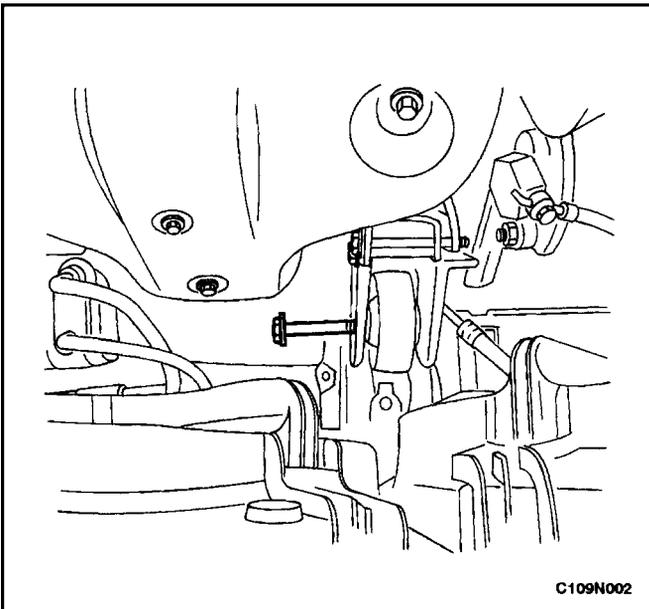
Installation Procedure

1. Install the engine under cover with the bolts.

Tighten

Tighten the engine under cover bolts to 10 N•m(89 lb-in).

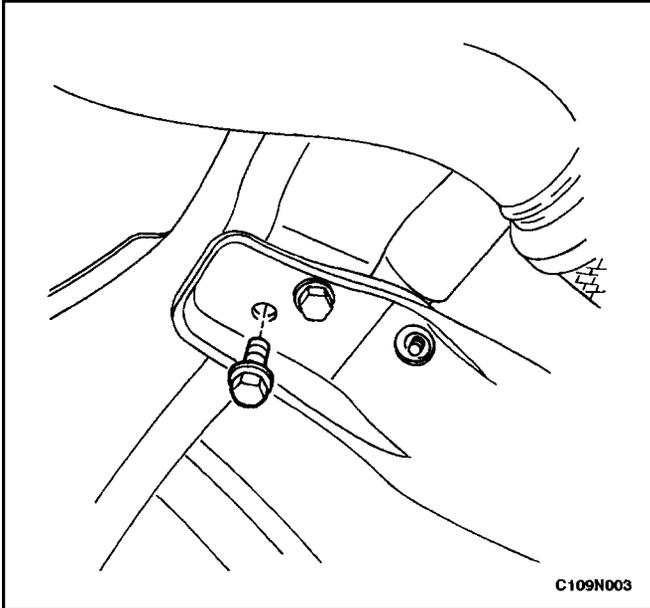
2. Lower the vehicle.



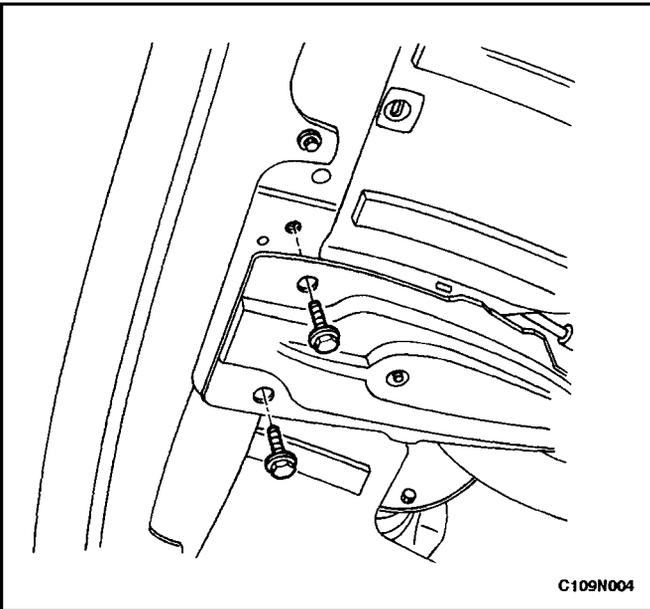
CENTER MEMBER

Removal Procedure

1. Remove the engine under covers. Refer to "Engine Under Covers" in this section.
2. Remove the screws and reposition the power steering return line.
3. Remove the forward engine mount through-bolt.



4. Remove the rear engine mount through-bolt.
5. Remove the bolts and the center member (center member-to-crossmember bolt shown).



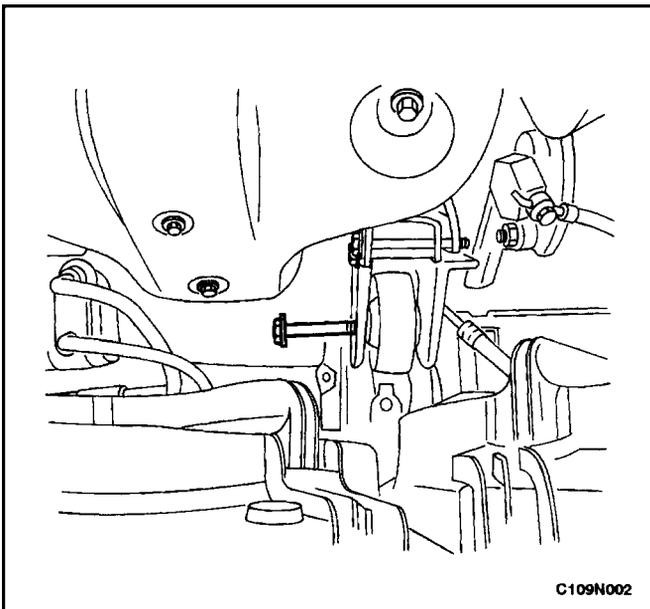
Installation Procedure

1. Install the center member with the bolts (center member-to-radiator bolt shown).

Tighten

Tighten the center member-to-crossmember bolt to 90 N•m (66 lb-ft).

Tighten the center member-to-radiator bolt to 90 N•m (66 lb-ft).



2. Install the rear engine mount through-bolt.

Tighten

Tighten the forward engine mount through-bolt to 80 N•m (59 lb-ft).

3. Install the forward engine mount through-bolt.

Tighten

Tighten the forward engine mount through-bolt to 80 N•m (59 lb-ft).

4. Install the power steering return line to its original position and install the screws.
5. Install the engine under covers. Refer to "Engine Under Covers" in this section.

GENERAL DESCRIPTION AND SYSTEM OPERATION

GENERAL BODY CONSTRUCTION

This vehicle is constructed with a unitized body which incorporates integral front and rear frame side rails.

The front suspension lower control arms are bolted to and retained by supports, one each on the right and left sides. The front suspension lower control arm supports are attached to the underbody with three bolts at two locations. The engine is bolted to the integral front side rails. The suspension strut towers must be dimensionally correct in relation to the remainder of the underbody in order to maintain specified suspension strut and caster/ camber angles.

Since the individual underbody parts contribute directly to the overall strength of the body, it is essential to observe proper welding techniques during service repair operations. The underbody parts should be properly sealed and rustproofed whenever body repair operations destroy or damage the original sealing and rustproofing. When rustproofing critical underbody parts, use a good-quality type of air-dry primer, such as a corrosionresistant chromate or an equivalent material. Combination-type primer/surfacers are not recommended.

ENGINE UNDER COVERS

The engine under covers are molded pieces of plastic that serve as shields for the underside of the engine. The covers help protect the engine from small rocks, gravel and other objects that would otherwise come into contact with the engine during normal driving conditions.