

2008 ACCESSORIES & EQUIPMENT**Frame and Underbody - LaCrosse****SPECIFICATIONS****FASTENER TIGHTENING SPECIFICATIONS**

Application	Specification	
	Metric	English
Drivetrain Reinforcement Brace Bolt	25 N.m	18 lb ft
Drivetrain Reinforcement Brace Nut	50 N.m	37 lb ft
Front Frame Bolts	145 N.m	107 lb ft
Rear Frame Bolts	160 N.m	118 lb ft
Rear Wheelhouse Liner Bolts	10 N.m	89 lb in
Rear Wheelhouse Liner Nuts	10 N.m	89 lb in

REPAIR INSTRUCTIONS**FRAME REPLACEMENT****Special Tools**

J 39580 Power Pack Stand Engine and Transaxle Assembly Support Remover/Installer

Removal Procedure

1. Install the engine support fixture. Refer to **Engine Support Fixture** for the 3.8L engine, **Engine Support Fixture** for the 3.6L engine, **Engine Support Fixture** for the 5.3L engine.
2. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle**.
3. Remove the front tires and wheels. Refer to **Tire and Wheel Removal and Installation**.
4. Remove and discard the 2 plastic braces from the front of the radiator lower air deflector. The plastic braces are directly below the front cradle bolts.
5. Remove the positive battery cable and the retainers from the frame and position aside. Refer to **Battery Positive Cable Replacement (LY7)** or **Battery Positive Cable Replacement (L26)**.
6. Disconnect any power steering hoses from the frame.
7. Secure the power steering return hose.
8. Remove the stabilizer shaft links and rotate the stabilizer shaft upward to gain access to the mounting bolts in the power steering gear. Refer to **Stabilizer Shaft Link Replacement**.
9. Remove the mounting bolts from the power steering gear. Refer to **Steering Gear Replacement**.

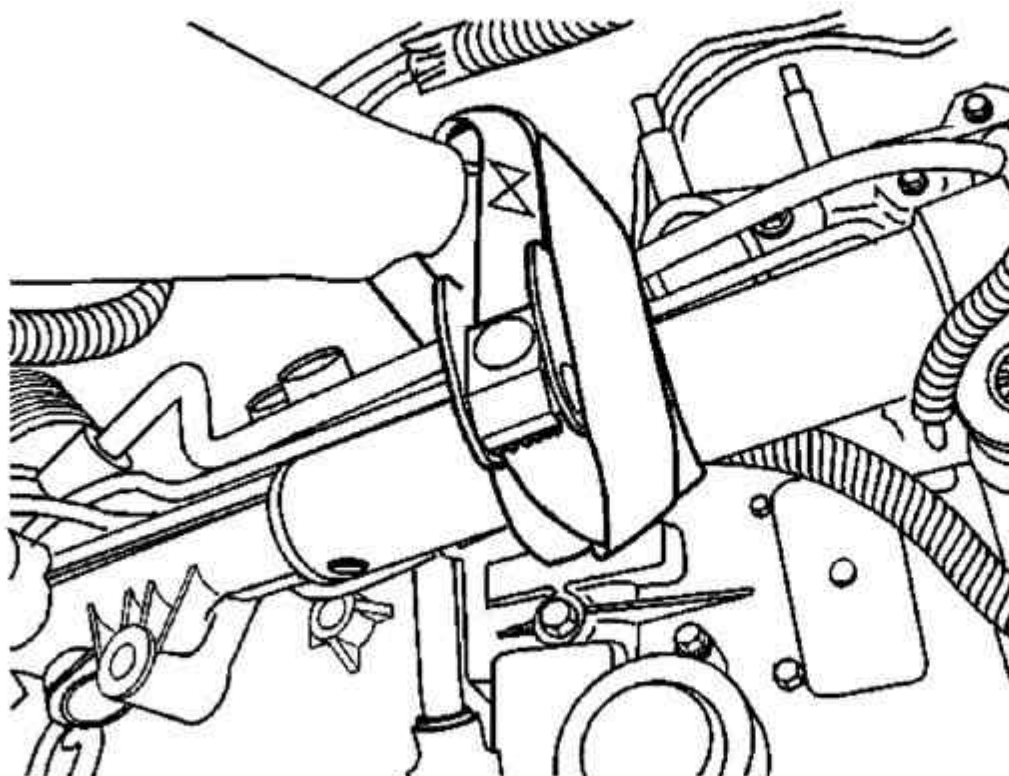


Fig. 1: Securing Power Steering Gear To Exhaust Manifold
Courtesy of GENERAL MOTORS CORP.

10. Secure the power steering gear.
11. Remove the nuts that secure the engine mount to the frame. Refer to **Engine Front Mount Replacement** for the 3.8L engine, **Engine Mount Replacement - Right Side** for the 3.6L engine, **Engine Mount Replacement - Left Side** and **Engine Mount Replacement - Right Side** for the 5.3L engine.
12. Remove the nuts which secure the transaxle mount to the frame. Refer to **Transmission Mount Replacement - Left Side**.

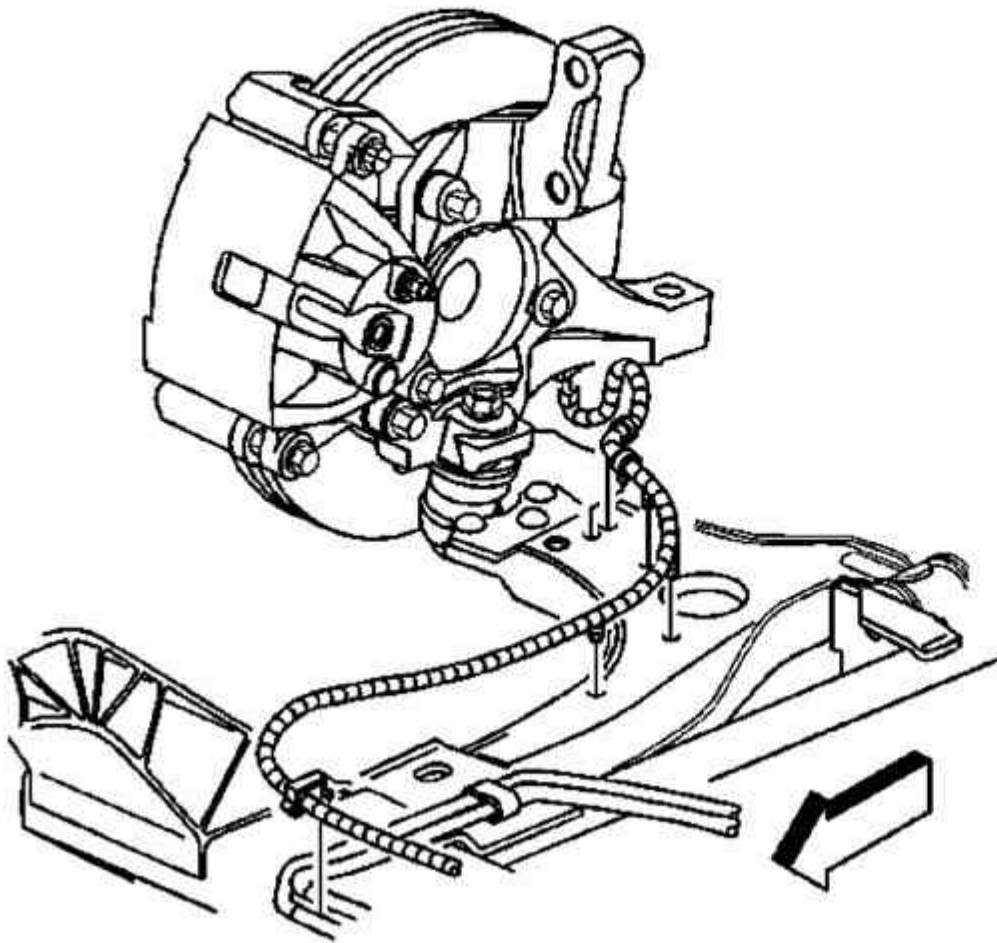


Fig. 2: View Of Front Wheel Speed Sensor Harness Connectors
Courtesy of GENERAL MOTORS CORP.

13. If applicable, disconnect the front wheel speed sensor harness connectors.
14. If applicable, disconnect the wheel speed sensor harness from the frame and lower control arms.
15. If applicable, remove the retainers at the front wheel speed harness from the frame and from the lower control arms.
16. Separate both of the lower ball joints from the steering knuckle. Refer to **Lower Control Arm Replacement**.
17. Remove both front drivetrain reinforcements using the following procedure.
 1. Remove the drivetrain reinforcement to support brace bolts.
 2. Remove the drivetrain reinforcement to front cradle mounting stud nut.
 3. Remove the drivetrain reinforcement from the vehicle.

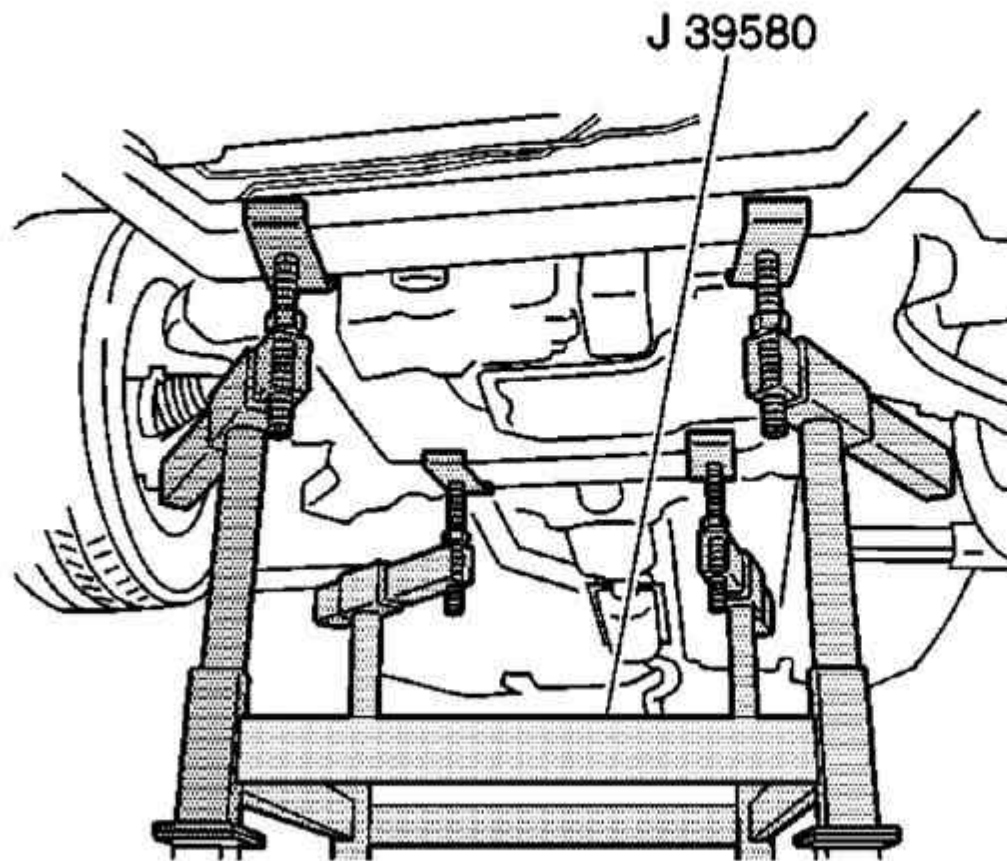


Fig. 3: Identifying Utility Stand
Courtesy of GENERAL MOTORS CORP.

18. Lower the vehicle until the frame contacts the **J 39580** .

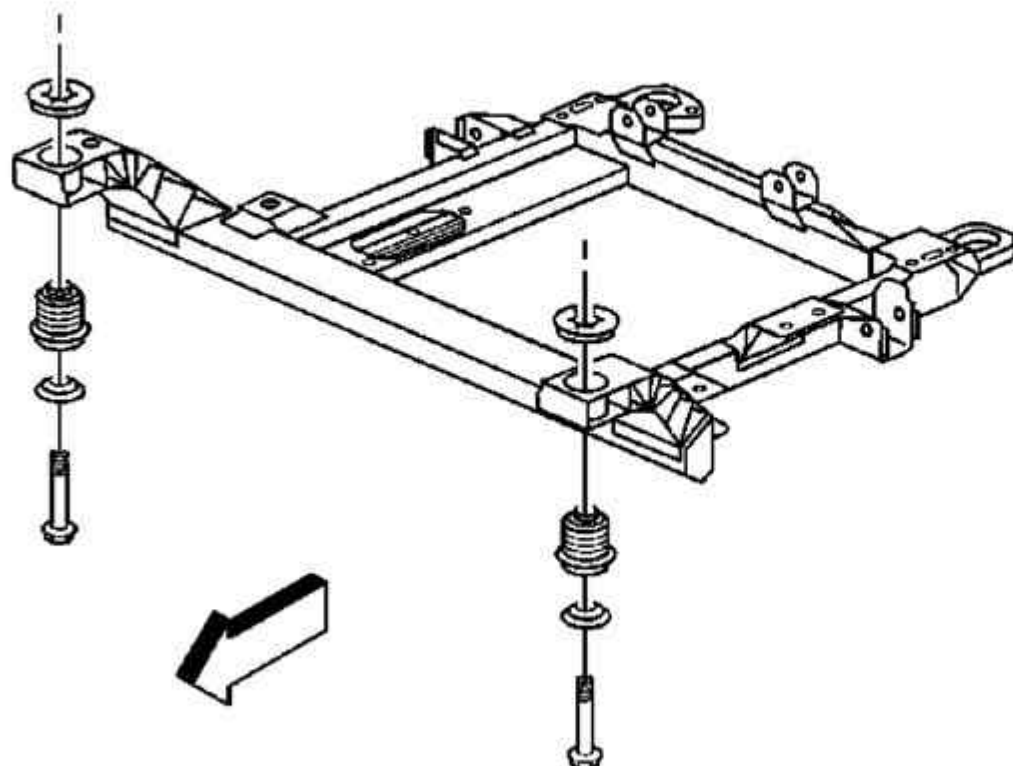


Fig. 4: View Of Bolts From Front Frame Of Body
Courtesy of GENERAL MOTORS CORP.

19. Remove the bolts which secure the front frame to the body.

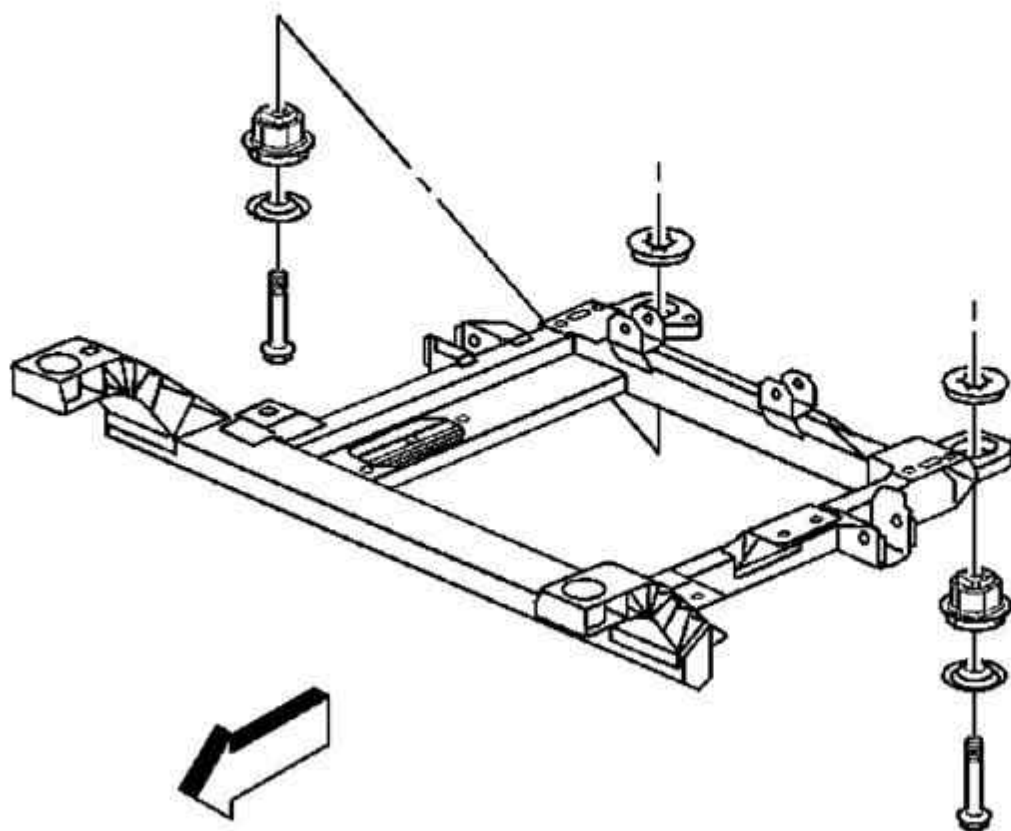


Fig. 5: View Of Bolts From Rear Frame Of Body
Courtesy of GENERAL MOTORS CORP.

20. Remove the bolts which secure the rear frame to the body.
21. Raise the vehicle in order to separate the frame from the body.
22. If you are replacing the frame, remove the following components:
 - Both of the lower control arms-Refer to **Lower Control Arm Replacement** .
 - The stabilizer shaft-Refer to **Stabilizer Shaft Replacement** .
 - The spacers, the upper insulator, the lower insulator, and the retainers-Refer to **Front Frame Cushion or Insulator Replacement** or to **Rear Frame Cushion or Insulator Replacement**.

Installation Procedure

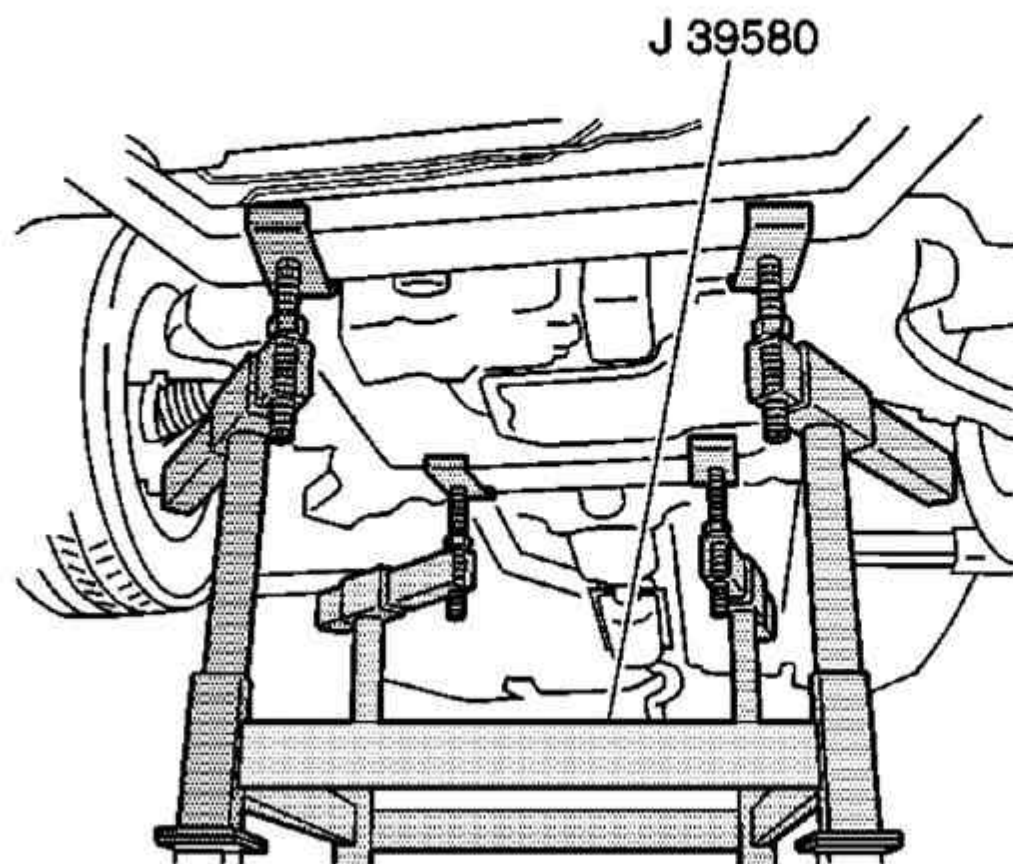


Fig. 6: Identifying Utility Stand
Courtesy of GENERAL MOTORS CORP.

1. If you are replacing the frame, install the following components:
 - Both of the lower control arms-Refer to **Lower Control Arm Replacement** .
 - The stabilizer shaft-Refer to **Stabilizer Shaft Replacement** .
 - The spacers, the upper insulator, the lower insulator, and the retainers-Refer to **Front Frame Cushion or Insulator Replacement** or to **Rear Frame Cushion or Insulator Replacement**.
2. Position the engine support table with the frame under the vehicle.
3. Lower the vehicle to the frame.

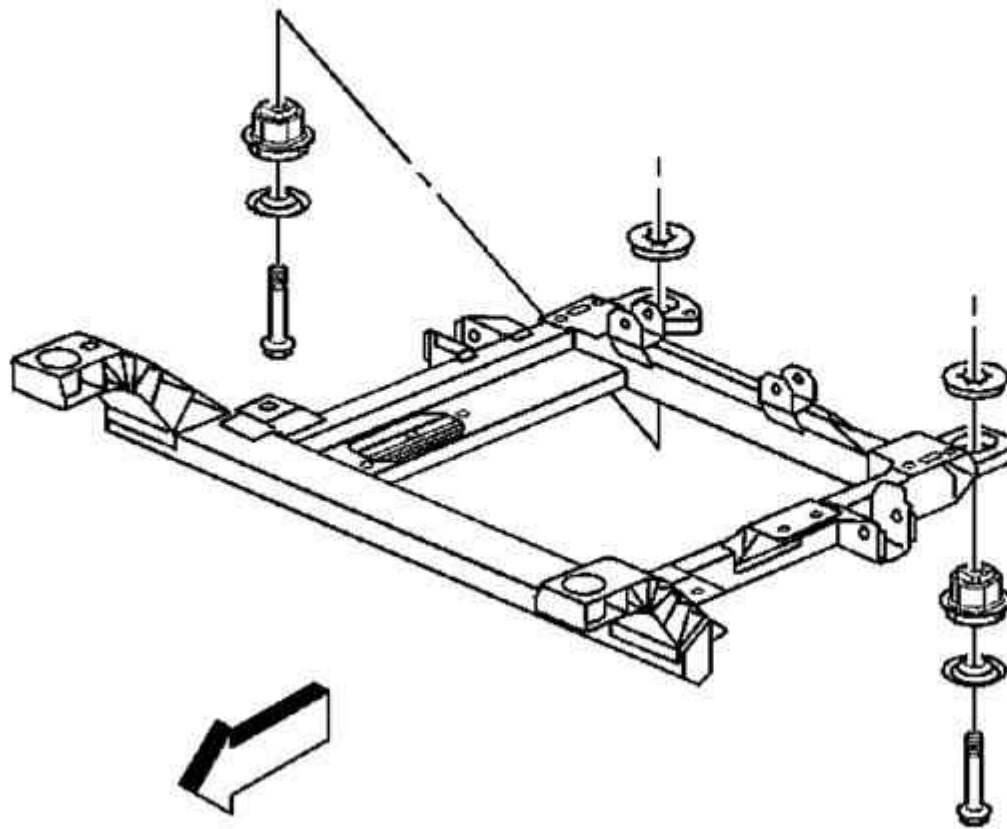


Fig. 7: View Of Bolts From Rear Frame Of Body
Courtesy of GENERAL MOTORS CORP.

4. Loosely install the bolts to secure the rear frame to the body.

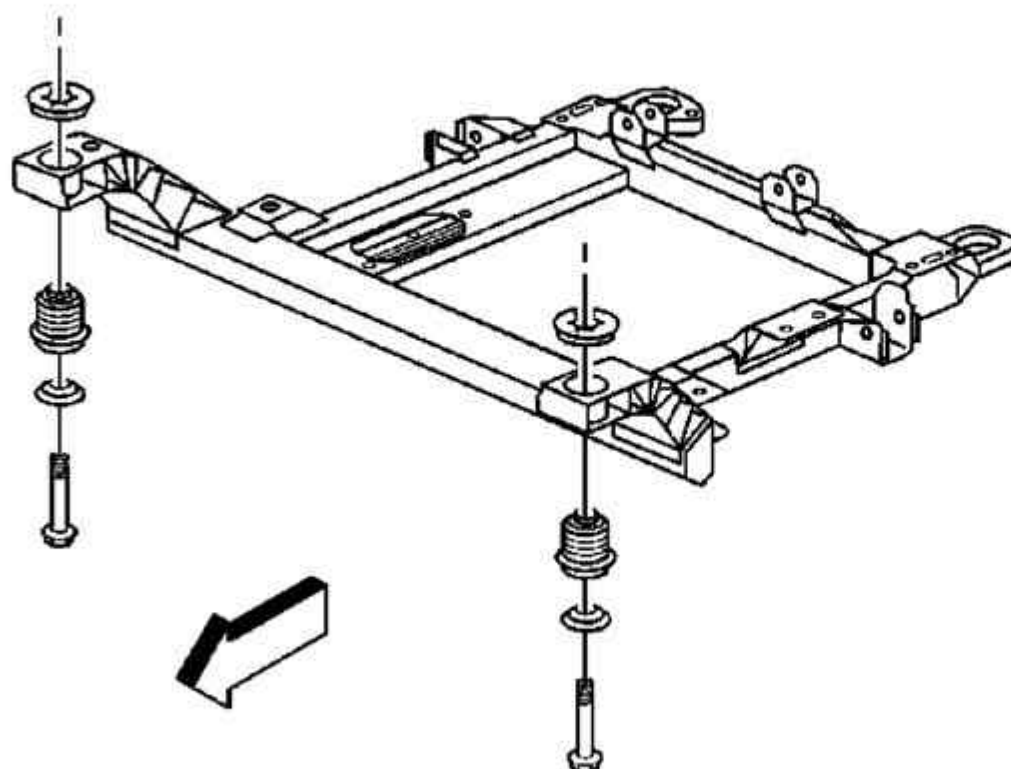


Fig. 8: View Of Bolts From Front Frame Of Body
Courtesy of GENERAL MOTORS CORP.

5. Loosely install the bolts to secure the front frame to the body.
6. Align the frame to the body by inserting two 19 X 203 mm (0.74 X 8 in) pins in the alignment holes on the right side of the frame.

NOTE: Refer to Fastener Notice .

7. Install the front and rear frame bolts.

Tighten:

- Tighten the front bolts to 145 N.m (107 lb ft).
- Tighten the rear bolts to 160 N.m (118 lb ft).

8. Install the drivetrain reinforcements using the following procedure:
 1. Position the drivetrain reinforcements to the front cradle mount stud to the support brace.
 2. Loosely install the drivetrain reinforcement to support brace bolts.
 3. Install the drivetrain reinforcement to cradle mount nut.

Tighten:

- Tighten the drivetrain reinforcement brace nut to 50 N.m (37 lb ft).
- Tighten the drivetrain reinforcement brace bolts to 25 N.m (18 lb ft).

9. Connect both the lower ball joints to the steering knuckle. Refer to Lower Control Arm Ball Joint Replacement .
10. Install the nuts that secure the engine mount to the frame. Refer to Engine Front Mount Replacement for

the 3.8L engine, Engine Mount Replacement - Right Side for the 3.6L engine, Engine Mount Replacement - Left Side and Engine Mount Replacement - Right Side for the 5.3L engine.

11. Install the nuts which secure the transaxle mount to the frame. Refer to Transmission Mount Replacement - Left Side.
12. Install the steering gear mounting bolts. Refer to Steering Gear Replacement.
13. Install the stabilizer shaft links. Refer to Stabilizer Shaft Link Replacement.

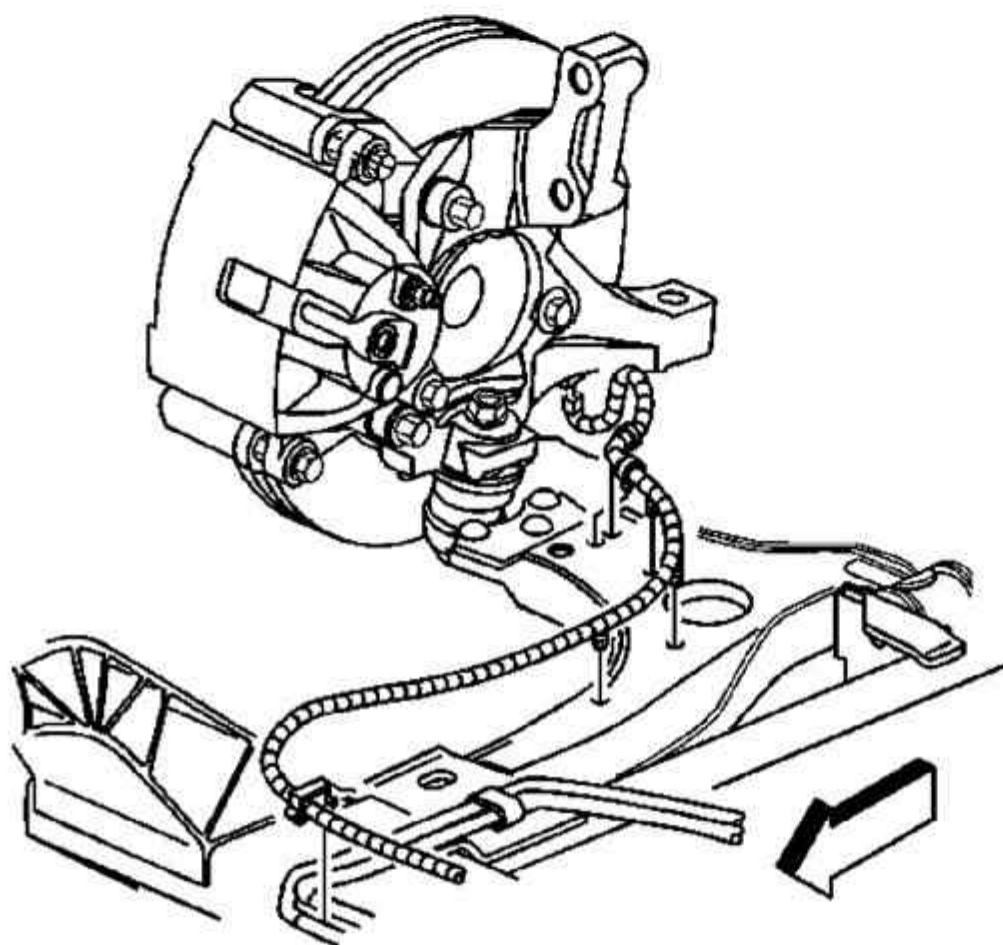


Fig. 9: View Of Front Wheel Speed Sensor Harness Connectors
Courtesy of GENERAL MOTORS CORP.

14. If applicable, connect the wheel speed sensor wiring harness to the frame and lower control arm.
15. If applicable, connect the front wheel speed sensor connectors (1).
16. If applicable, install the front wheel speed harness retainers (2) to the frame and to the lower control arm.
17. Install the positive battery cable and retainers to the frame. Refer to Battery Positive Cable Replacement (LY7) or Battery Positive Cable Replacement (L26).
18. Connect any power steering hoses to the frame.
19. Connect the fog lamp harness connectors.
20. Install the front tires and wheels. Refer to Tire and Wheel Removal and Installation.
21. Lower the vehicle.
22. Remove the engine support fixture. Refer to Engine Support Fixture for the 3.8L engine, Engine Support Fixture for the 3.6L engine, Engine Support Fixture for the 5.3L engine.
23. Inspect the front wheel alignment. Refer to Wheel Alignment Measurement.

FRONT FRAME CUSHION OR INSULATOR REPLACEMENT**Tools Required**

J 45296 Frame Insulator Remover/Installer. See Special Tools.

Removal Procedure

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the intermediate steering shaft. Refer to Intermediate Steering Shaft Replacement.
3. Install a jackstand under the center of the frame, between the front frame insulators.

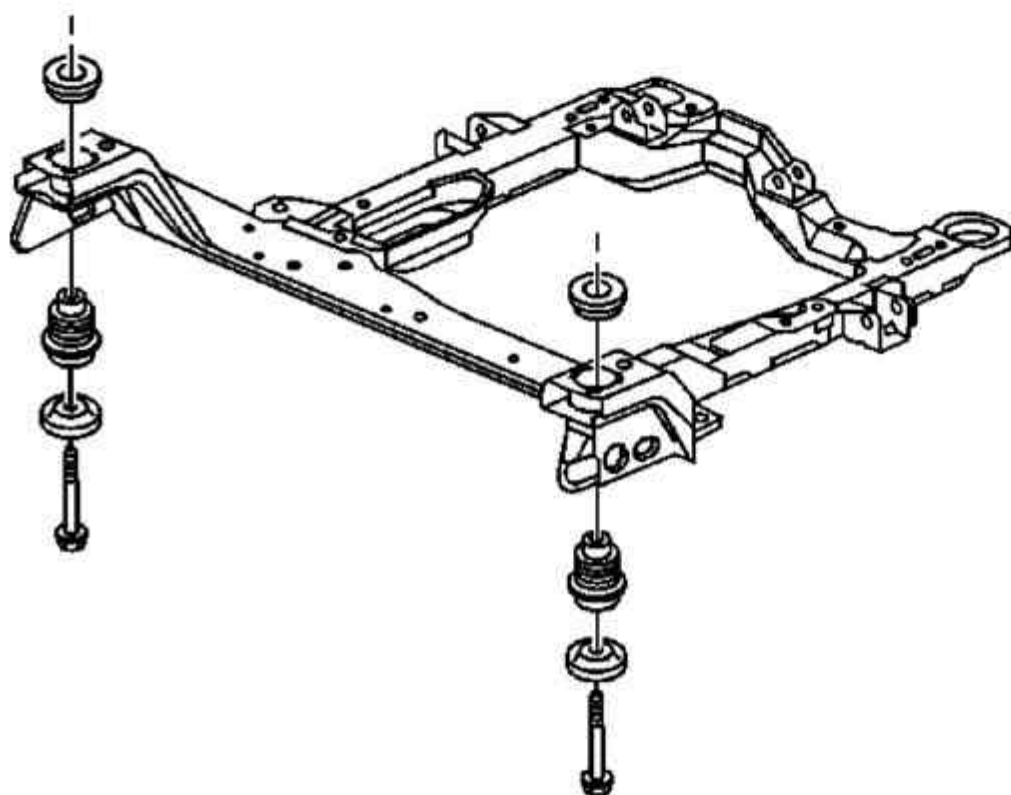


Fig. 10: View Of Front Frame Bolts And Retainers
Courtesy of GENERAL MOTORS CORP.

4. Remove the front frame bolts and retainers.
5. Lower the front of the frame.
6. Remove the frame front upper insulators.

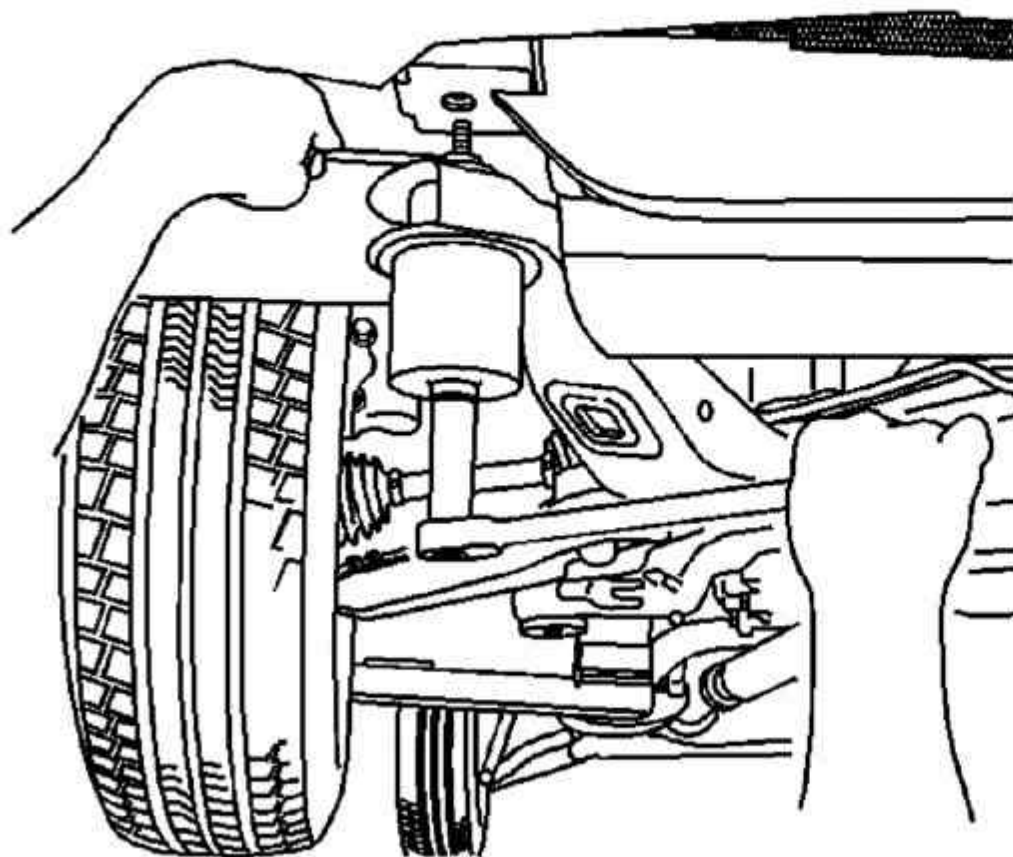


Fig. 11: View Of Frame Front Upper Insulators
Courtesy of GENERAL MOTORS CORP.

7. Install the **J 45296** , or equivalent to the front frame insulator that you are removing. See **Special Tools**.
8. Using the **J 45296** , or equivalent remove the front insulator from the frame. See **Special Tools**.

Installation Procedure

1. Clean the front frame insulator opening.
2. Apply a thin coat of rubber lubricant GM P/N 01051717 (Canadian P/N 12345884) or equivalent to the inside of the front frame insulator opening and to the front frame insulator.

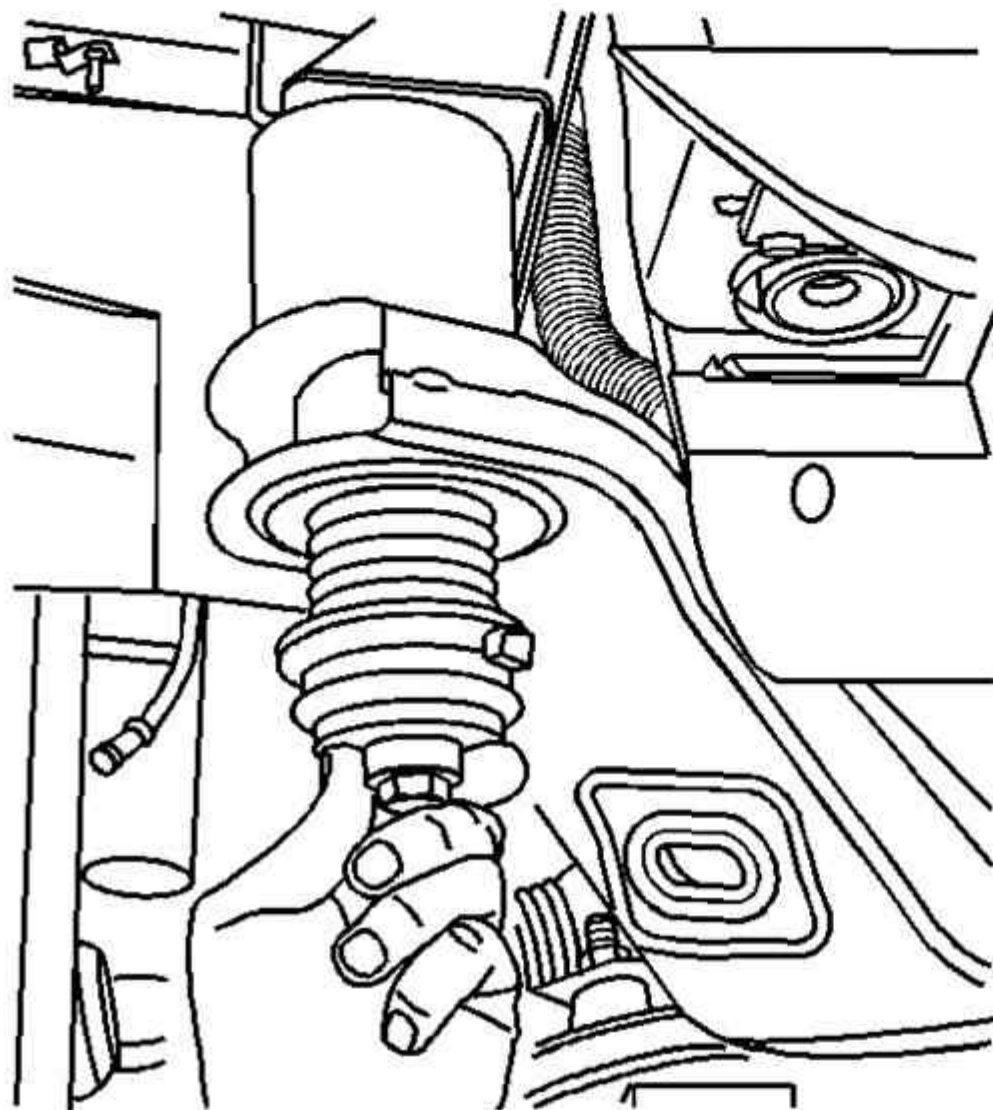


Fig. 12: Aligning The Front Frame Insulator
Courtesy of GENERAL MOTORS CORP.

3. Align the front frame insulator to the opening with the alignment tabs facing to the front.
4. Using the **J 45296** , or equivalent install the insulator to the front frame. See **Special Tools**.

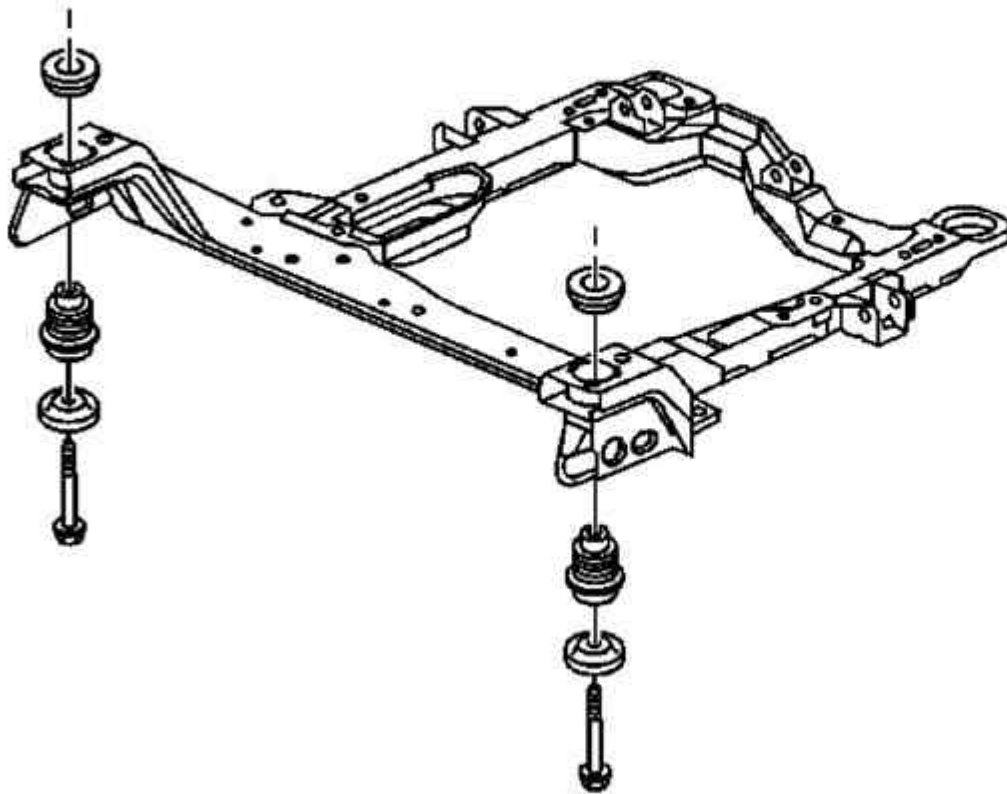


Fig. 13: View Of Front Frame Bolts And Retainers
Courtesy of GENERAL MOTORS CORP.

5. Install the frame front upper insulators.
6. Raise the front of the frame.

NOTE: Refer to Fastener Notice .

7. Install the front frame bolts and retainers.

Tighten: Tighten the front bolts to 145 N.m (107 lb ft).

8. Remove the jackstand.
9. Connect the steering intermediate shaft. Refer to Intermediate Steering Shaft Replacement .
10. Lower the vehicle.

REAR FRAME CUSHION OR INSULATOR REPLACEMENT

Removal Procedure

IMPORTANT: When installing a body mount, ensure the lower insulator is seated into the frame. The lower insulator should not be loose. The spacer and the corresponding upper insulator is pressed into the lower insulator thus squeezing the frame. The bolt is then inserted through the mount, capturing the lower retainer. The body mount components prevent contact of the frame to the body.

Do not over tighten the body mount. Over tightening may collapse a spacer or strip a bolt. When the frame insulator bolts are removed, always discard

the bolts and replace with new bolts.

When clamping by the mount, ensure the surfaces are clean and dry. If the frame insulator bolt does not screw in smoothly, run a tap through the frame crossmember nut in the body in order to remove foreign material. Ensure the tap does not punch through the underbody.

1. Raise and suitably support the vehicle. Refer to Lifting and Jacking the Vehicle.
2. Remove the frame. Refer to Frame Replacement.

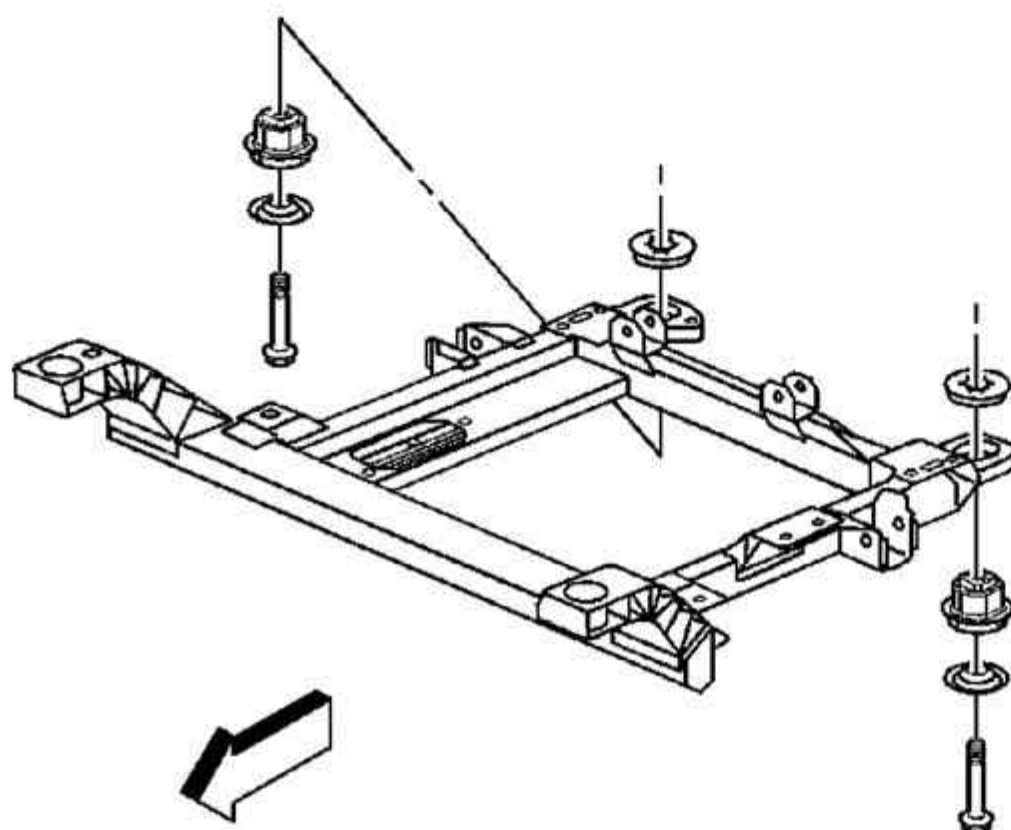


Fig. 14: View Of Bolts From Rear Frame Of Body
Courtesy of GENERAL MOTORS CORP.

3. Remove the upper and lower insulators from the rear of the frame as a set.

Installation Procedure

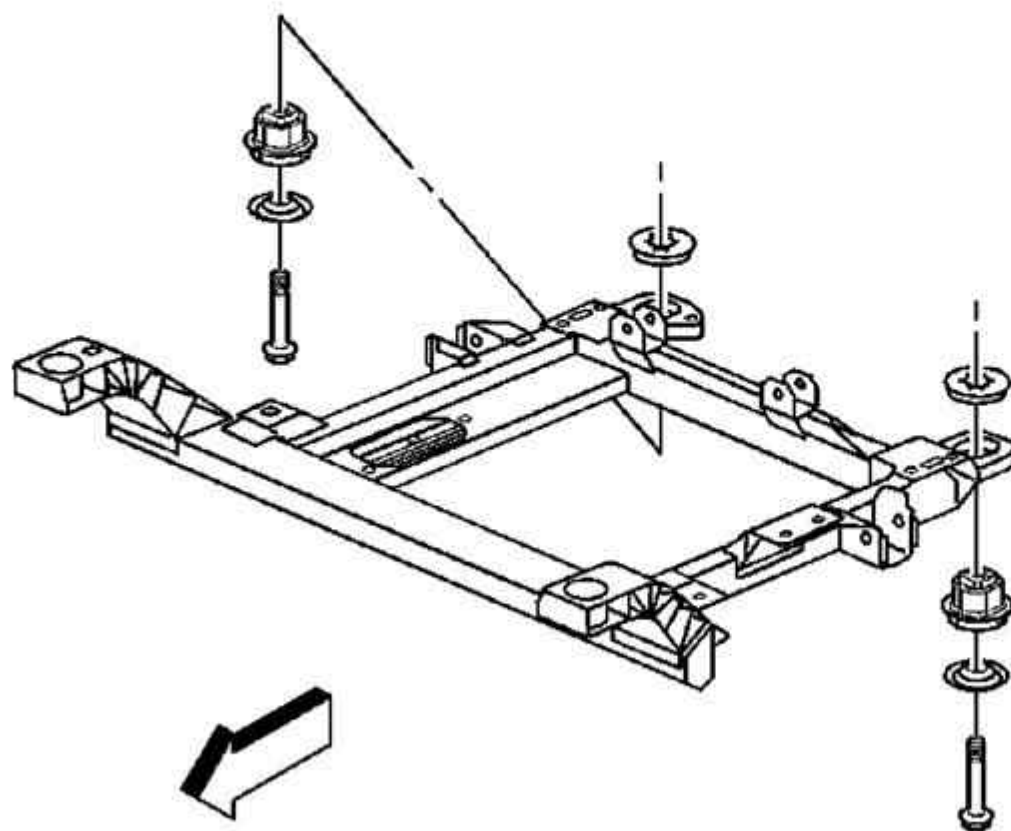


Fig. 15: View Of Bolts From Rear Frame Of Body
Courtesy of GENERAL MOTORS CORP.

1. Apply a thin coat of rubber lubricant GM P/N 01051717 (Canadian P/N 12345884) or equivalent to the inside surface of lower insulator and to top surface of upper insulator.
2. Install the upper and lower insulators to the rear of the frame as a set.
3. Install the frame. Refer to **Frame Replacement**.
4. Lower the vehicle.

FRONT FENDER LINER REPLACEMENT

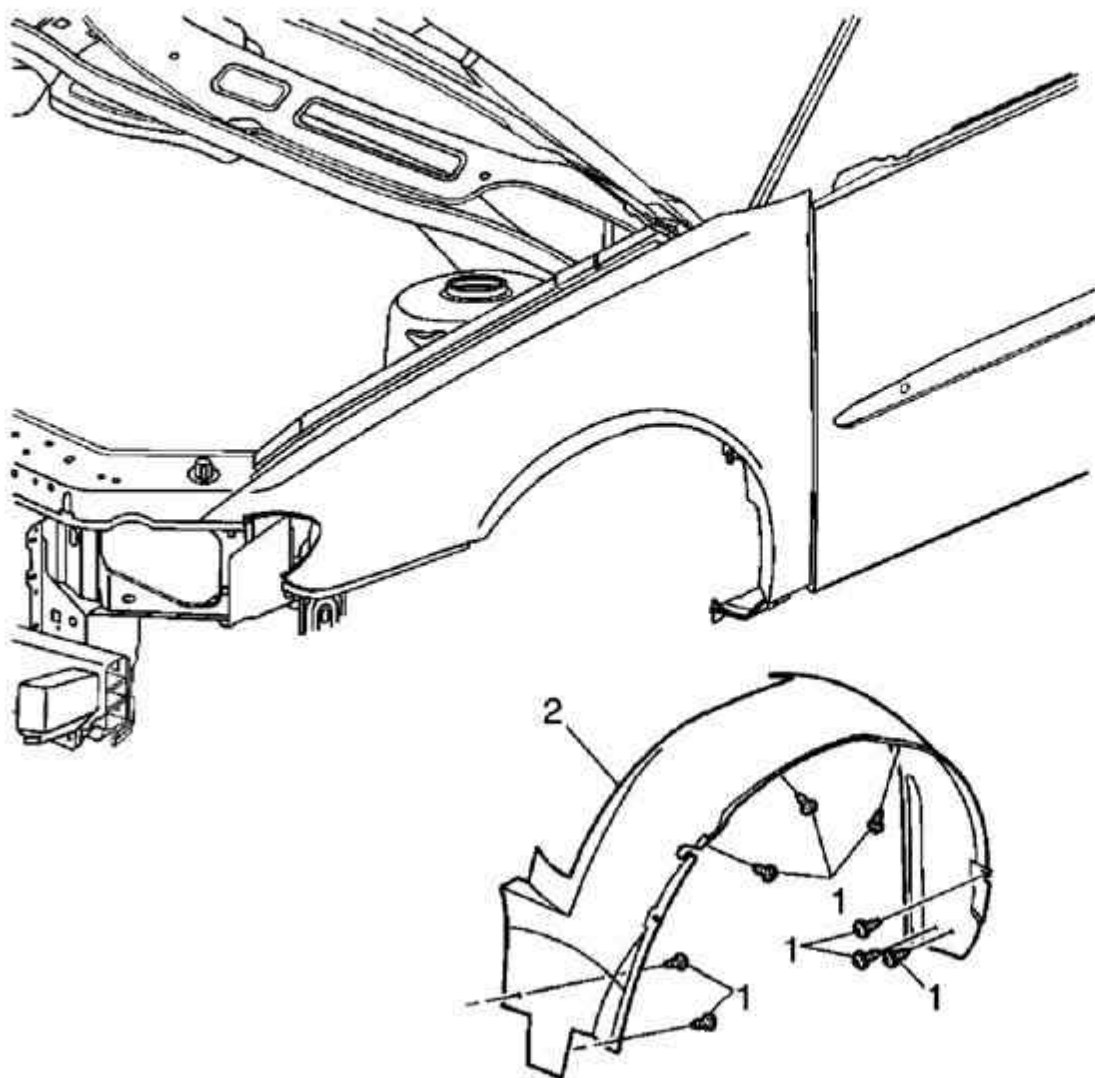


Fig. 16: View Of Front Fender Liner
 Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedures	
1.	Lift and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> .
2.	Remove the tire and wheel assembly. Refer to <u>Tire and Wheel Removal and Installation</u> .
1	Front Wheelhouse Liner Plastic Retainer (Qty: 10)
2	Front Wheelhouse Liner

REAR WHEELHOUSE LINER PANEL REPLACEMENT

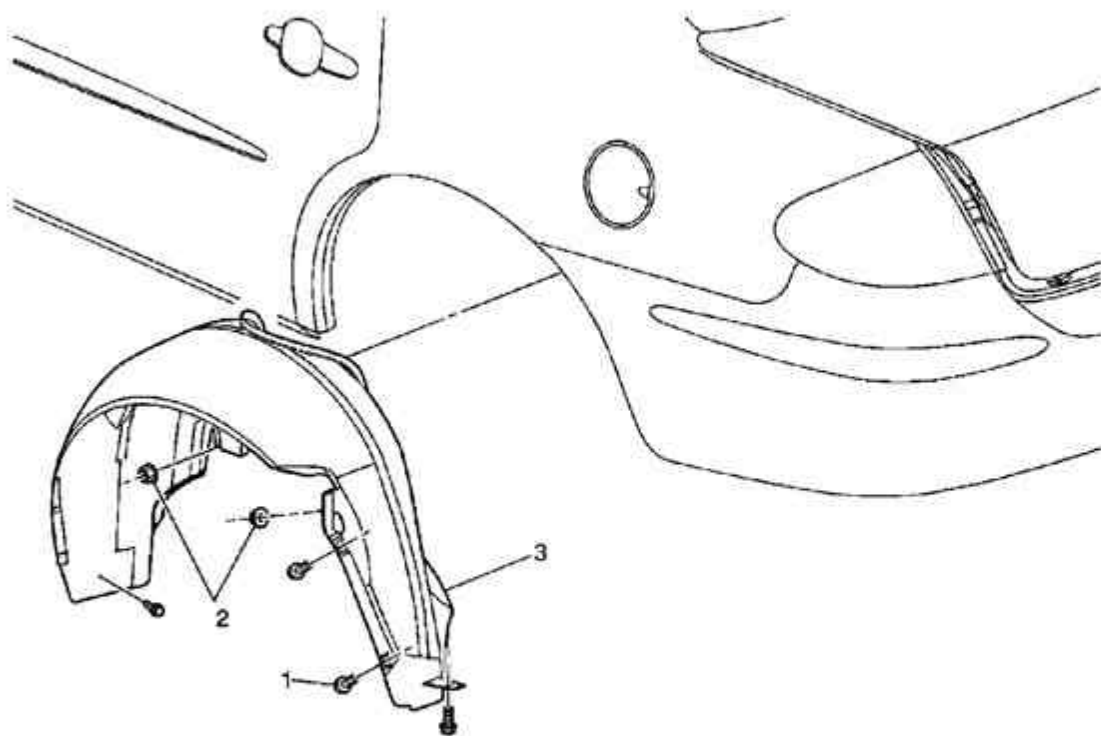


Fig. 17: View Of Wheelhouse Liner Panel
Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
1	Rear Wheelhouse Liner Bolt (Qty: 4) NOTE: Refer to <u>Fastener Notice</u> . Tighten: 10 N.m (89 lb in)
2	Rear Wheelhouse Liner Nut (Qty: 2) Tighten: 10 N.m (89 lb in)
3	Rear Wheelhouse Liner

ENGINE SPLASH SHIELD REPLACEMENT

Tools Required

J 38778 Door Trim Pad and Garnish Clip Remover

Removal Procedure

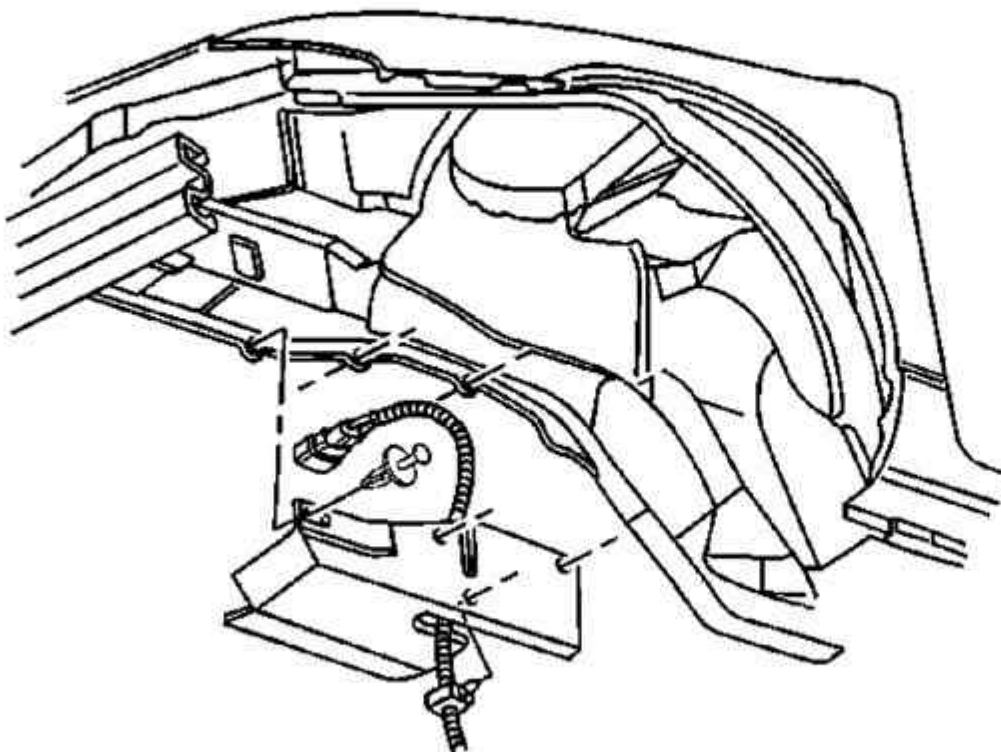


Fig. 18: Removing/Installing Engine Splash Shield & Retainers
Courtesy of GENERAL MOTORS CORP.

1. Remove the push-in retainers that hold the ABS lead to the engine splash shield.
2. Use the **J 38778** in order to remove the push-in retainers from the engine splash shield.

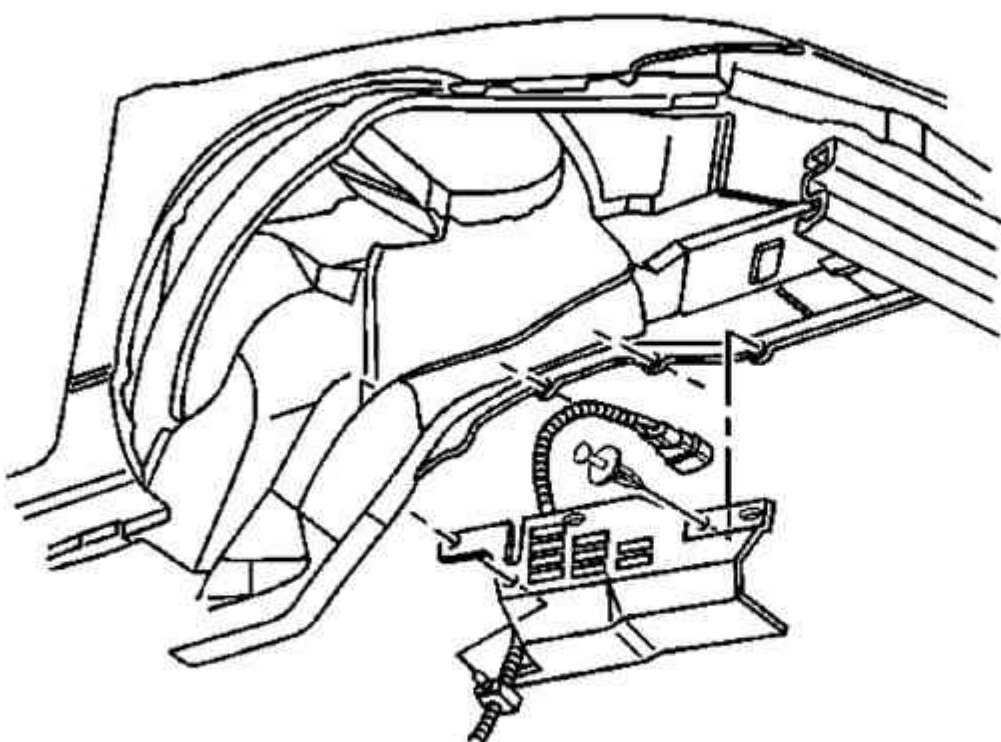


Fig. 19: Identifying Right Engine Splash Shield & Retainers
Courtesy of GENERAL MOTORS CORP.

3. Remove the engine splash shield from the lower flange of the engine compartment side rail.

Installation Procedure

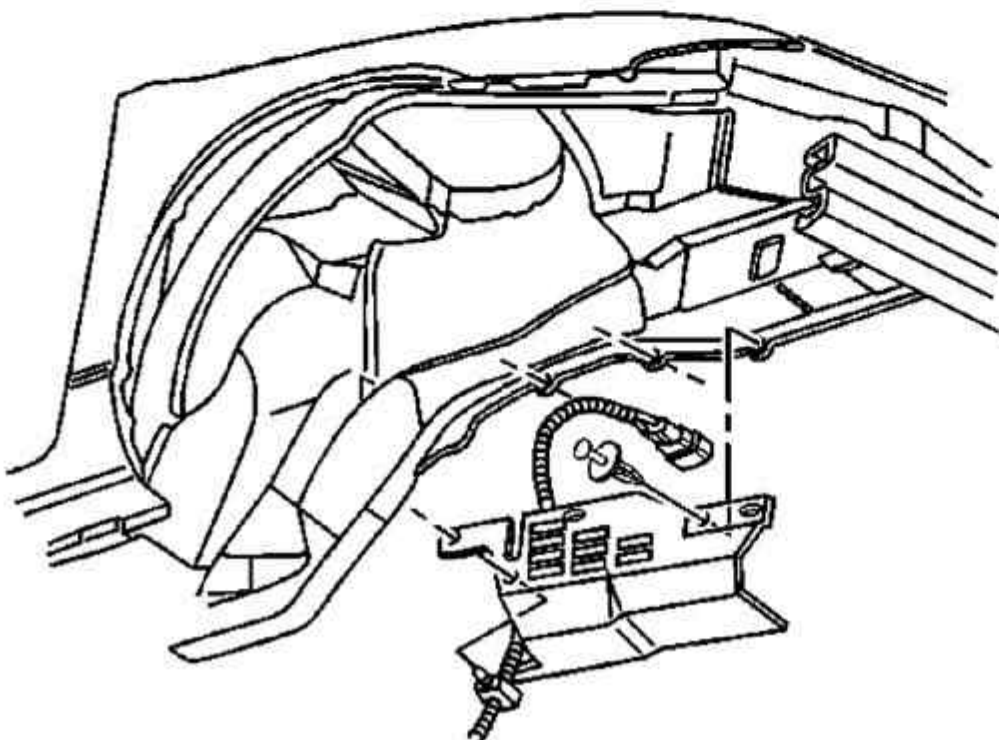


Fig. 20: Identifying Right Engine Splash Shield & Retainers
Courtesy of GENERAL MOTORS CORP.

1. Install the engine splash shield to the lower flange of the engine compartment side rail.
2. Route the ABS lead through the slot in the engine splash shield.

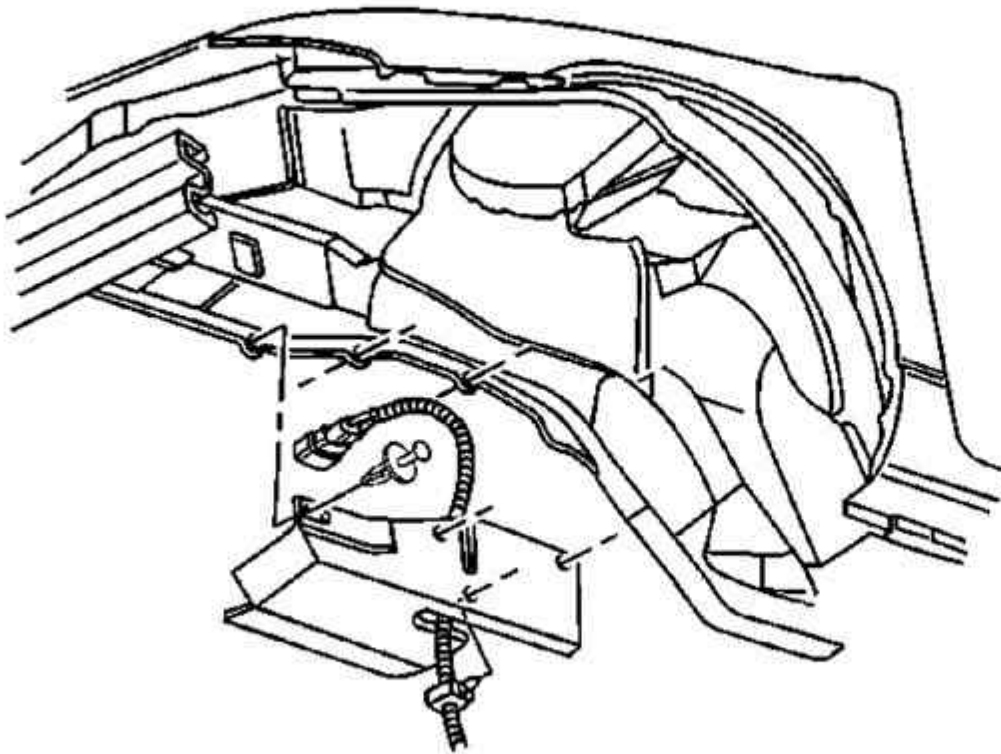
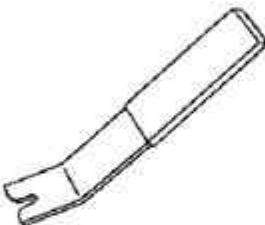


Fig. 21: Removing/Installing Engine Splash Shield & Retainers
 Courtesy of GENERAL MOTORS CORP.

3. Align the holes in the engine splash shield to holes in the outboard side engine compartment side rail.
4. Install the push-in retainers to the engine splash shield.

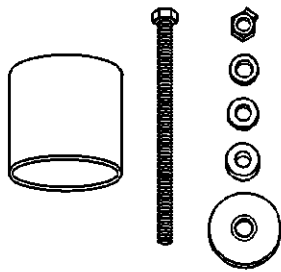
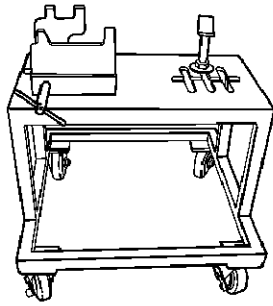
SPECIAL TOOLS AND EQUIPMENT

SPECIAL TOOLS

Illustration	Tool Number/Description
	J-38778 Door Trim Pad and Garnish Clip Remover
	J-39580 Power Pack Stand Engine and Transaxle Assembly Support Remove/Installer

2008 Buick LaCrosse CXL

2008 ACCESSORIES & EQUIPMENT Frame and Underbody - LaCrosse



J-45296
Frame Insulator Remover/Installer

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