

Rear Suspension

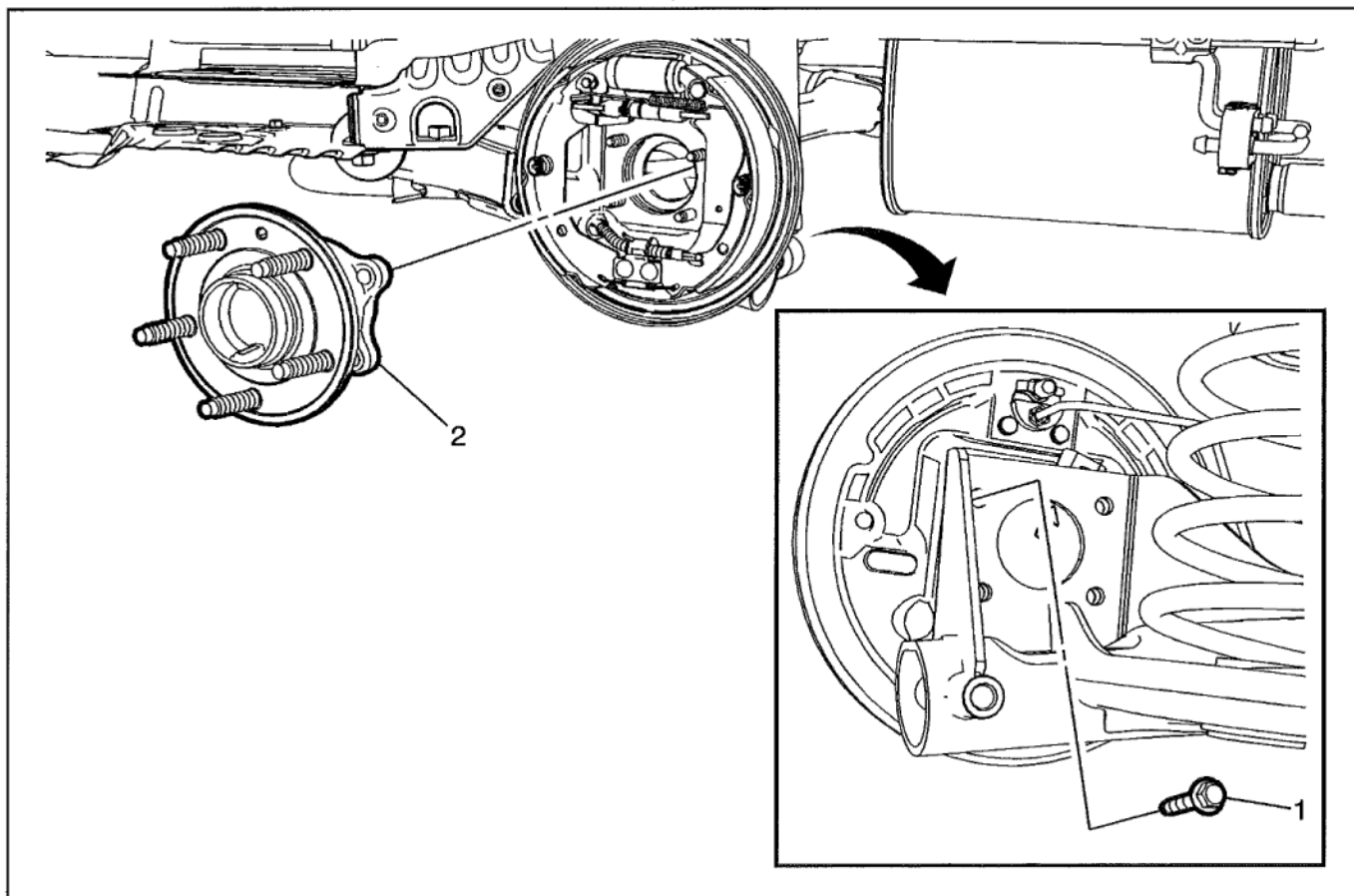
Specifications

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Rear Axle to Body Bolts	175 N•m	129 lb ft
Rear Wheel Bearing and Hub Bolts	58 N•m	43 lb ft
Shock Absorber-to-Axle Bolt- Lower	120 N•m	89 lb ft
Shock Absorber Nut	25 N•m	18 lb ft
Shock Absorber-to-Upper Mount Bolts	58 N•m	43 lb ft

Repair Instructions

Rear Wheel Bearing and Hub Replacement (Drum Brake)



2500384

Rear Wheel Bearing and Hub Replacement (Drum Brake)

Callout	Component Name
Preliminary Procedures 1. Raise and support the vehicle. Refer to <i>Lifting and Jacking the Vehicle</i> on page 1-31. 2. Remove the tire and wheel assembly. Refer to <i>Tire and Wheel Removal and Installation</i> on page 16-60. 3. Remove the rear brake drum. Refer to <i>Brake Drum Replacement (J93, J94)</i> on page 5-90.	
1	Rear Wheel Bearing/Hub Mounting Bolt (Qty 4) Caution: Refer to <i>Fastener Caution</i> on page 0-8. Procedure Remove the electrical connector for the rear wheel speed sensor. Tighten 58 N•m (43 lb ft)
2	Rear Wheel Bearing/Hub Assembly Procedure Ensure that the rear wheel bearing/hub is properly aligned with the rear axle to allow access to the wheel speed sensor connector.

Rear Wheel Bearing and Hub Replacement (Disc Brake)

Special Tools

EN-45059 Angle Meter

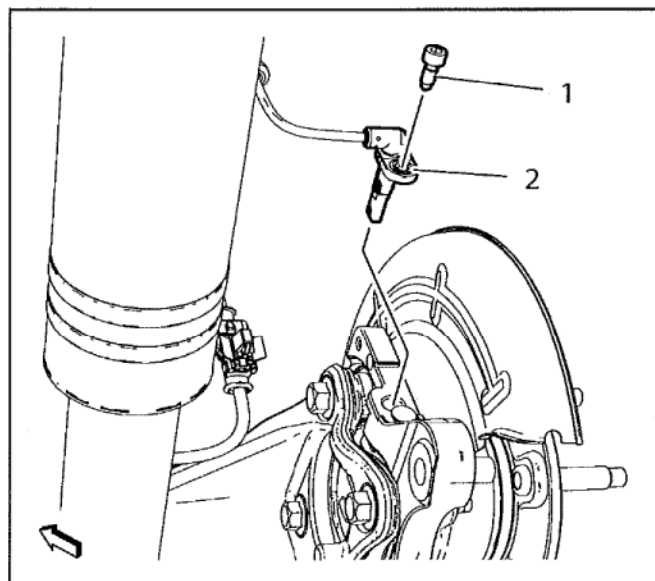
For equivalent regional tools, refer to *Special Tools* on page 16-34.

Removal Procedure

1. Raise and suitably support the vehicle. Refer to *Lifting and Jacking the Vehicle* on page 1-31.
2. Remove the tire and wheel assembly. Refer to *Tire and Wheel Removal and Installation* on page 16-60.

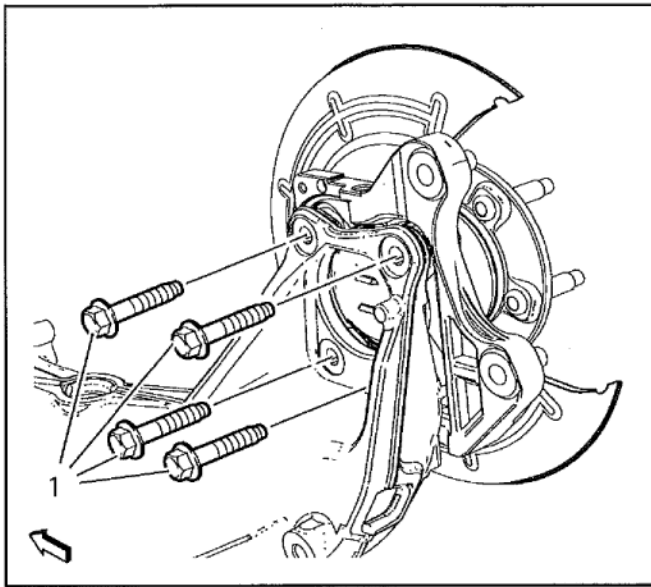
Caution: Support the brake caliper with heavy mechanic wire, or equivalent, whenever it is separated from its mount and the hydraulic flexible brake hose is still connected. Failure to support the caliper in this manner will cause the flexible brake hose to bear the weight of the caliper, which may cause damage to the brake hose and in turn may cause a brake fluid leak.

3. Without disconnecting the hydraulic brake flex hose, remove and support the rear brake caliper and bracket as an assembly. Refer to *Rear Brake Caliper Replacement* on page 5-66.
4. Remove the rear brake rotor. Refer to *Rear Brake Rotor Replacement* on page 5-79.



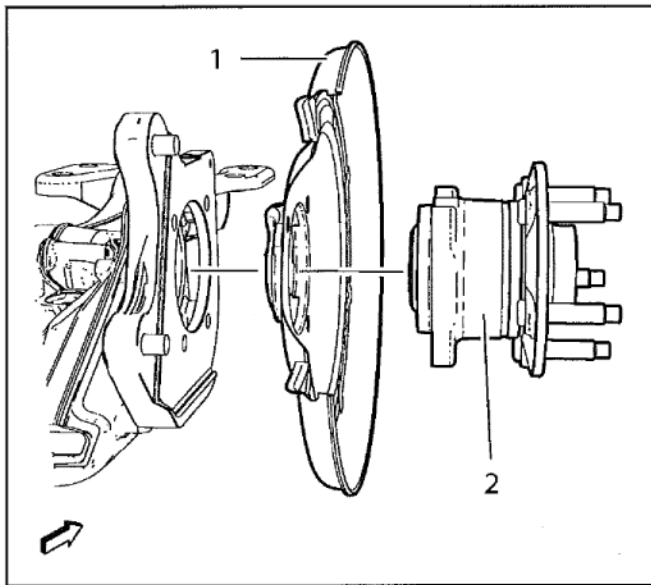
2027694

5. Remove the wheel speed sensor bolt (1).
6. Remove the wheel speed sensor (2).



2027695

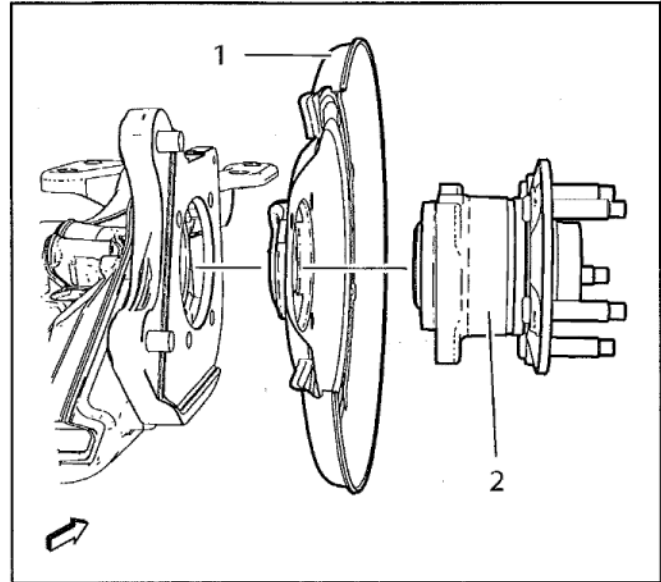
7. Remove and DISCARD the 4 wheel bearing/hub mounting bolts (1).



2027698

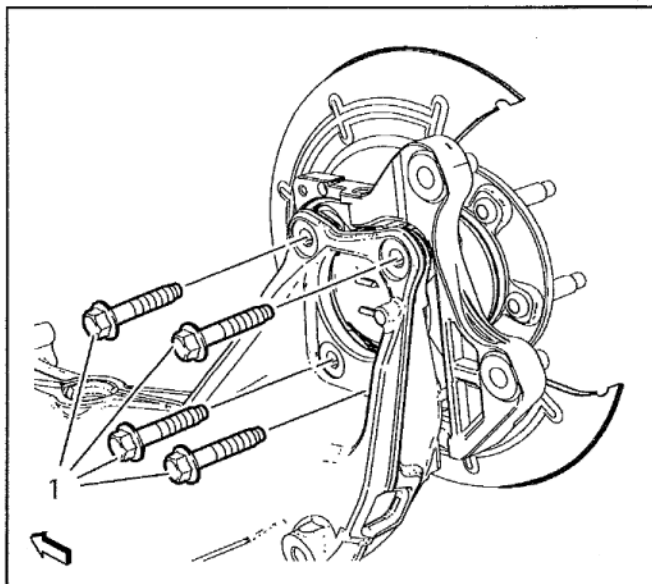
8. Remove the wheel bearing/hub assembly (2) and rear brake shield (1) from the rear axle.

Installation Procedure



2027698

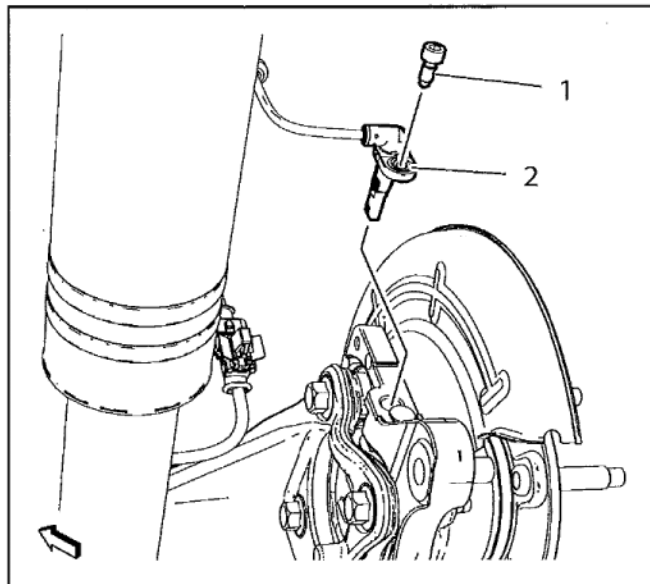
1. Position the rear brake shield (1) and wheel bearing/hub assembly (2) in the rear axle.



2027695

Caution: Refer to *Fastener Caution* on page 0-8.

2. Install the 4 NEW wheel bearing/hub mounting bolts (1) and tighten a first pass to **58 N•m (43 lb ft)**. Tighten the bolts evenly, in a cross-pattern.



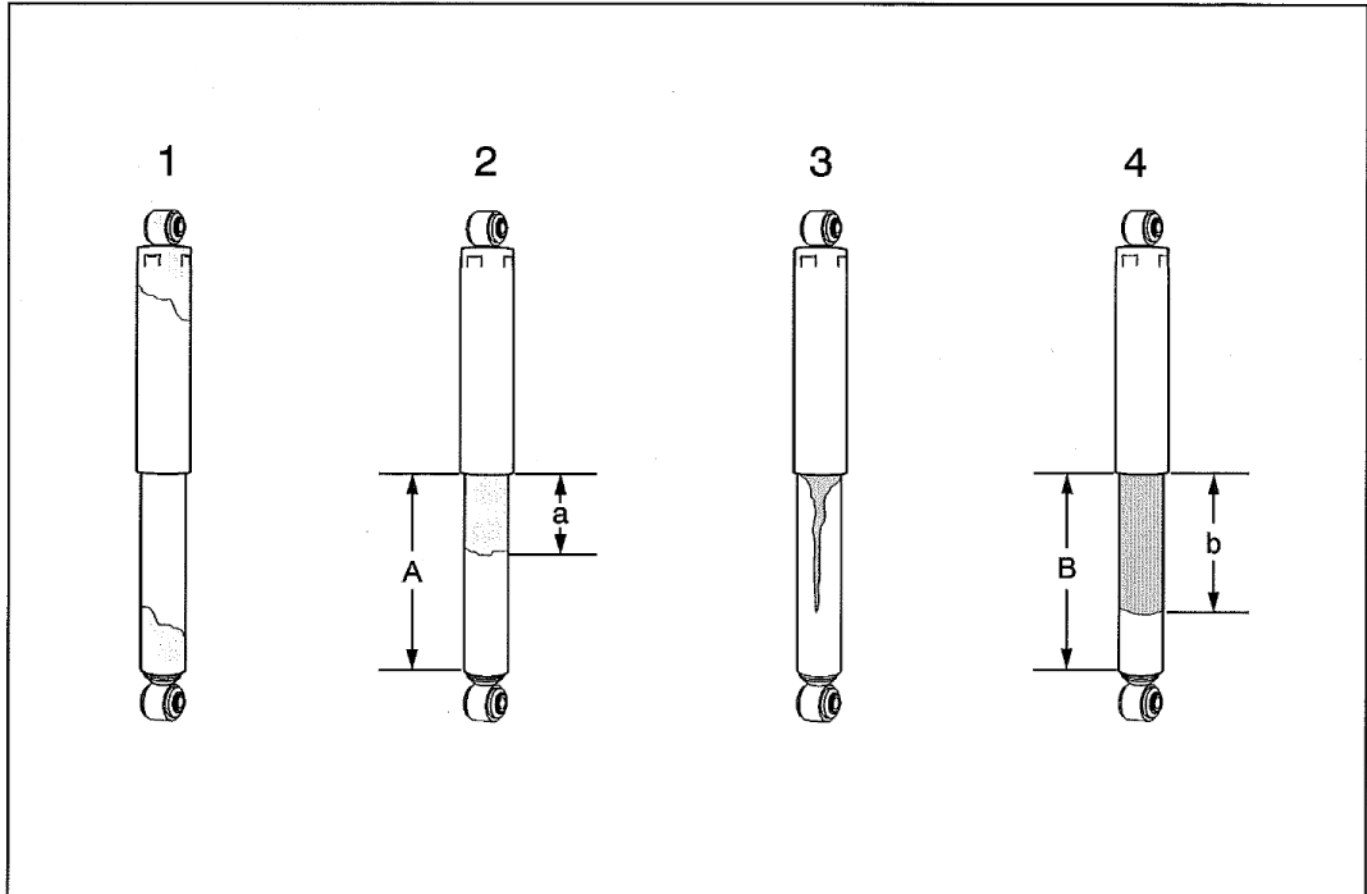
2027694

3. Install the wheel speed sensor (2).
4. Install the wheel speed sensor bolt (1) and tighten to **6 N•m (53 lb in)**.
5. Install the brake rotor. Refer to *Rear Brake Rotor Replacement* on page 5-79.
6. Install the brake caliper and bracket as an assembly. Refer to *Rear Brake Caliper Replacement* on page 5-66.
7. Install the tire and wheel assembly. Refer to *Tire and Wheel Removal and Installation* on page 16-60.
8. Lower the vehicle.>

Strut and Shock Absorber Inspection (Shock Absorber)

Note: The shock absorber assembly DOES NOT have to be removed from the vehicle to perform the following inspection procedure.

Note: A light film of oil on the top portion of the lower shock absorber tube is normal. DO NOT replace the shock absorber for this condition.



2355938

Condition 1

Oil or fluid residue only on the bottom or top of the shock absorber and not originating from the shaft seal, is not a shock absorber related problem. DO NOT replace the shock absorber, look for other external leaks.

Condition 2

Light film/residue on approximately 1/3 (a) or less of the lower shock tube (A) and originating from the shaft seal, is a NORMAL condition. DO NOT replace the shock absorber.

Condition 3

Oil drip or trail down the lower shock tube and originating from the shaft seal, is an ABNORMAL condition. Replace the shock absorber.

Condition 4

An extreme wet film of oil covering more than 1/3 (b) of the lower shock tube and originating from the shaft seal (B), is an ABNORMAL condition. Replace the shock absorber. Refer to *Shock Absorber Replacement* on page 16-29.

Inspection

1. Verify the customer's concern is present. If the concern is present, continue to the next step. If the concern is not present, then the vehicle is operating normally.

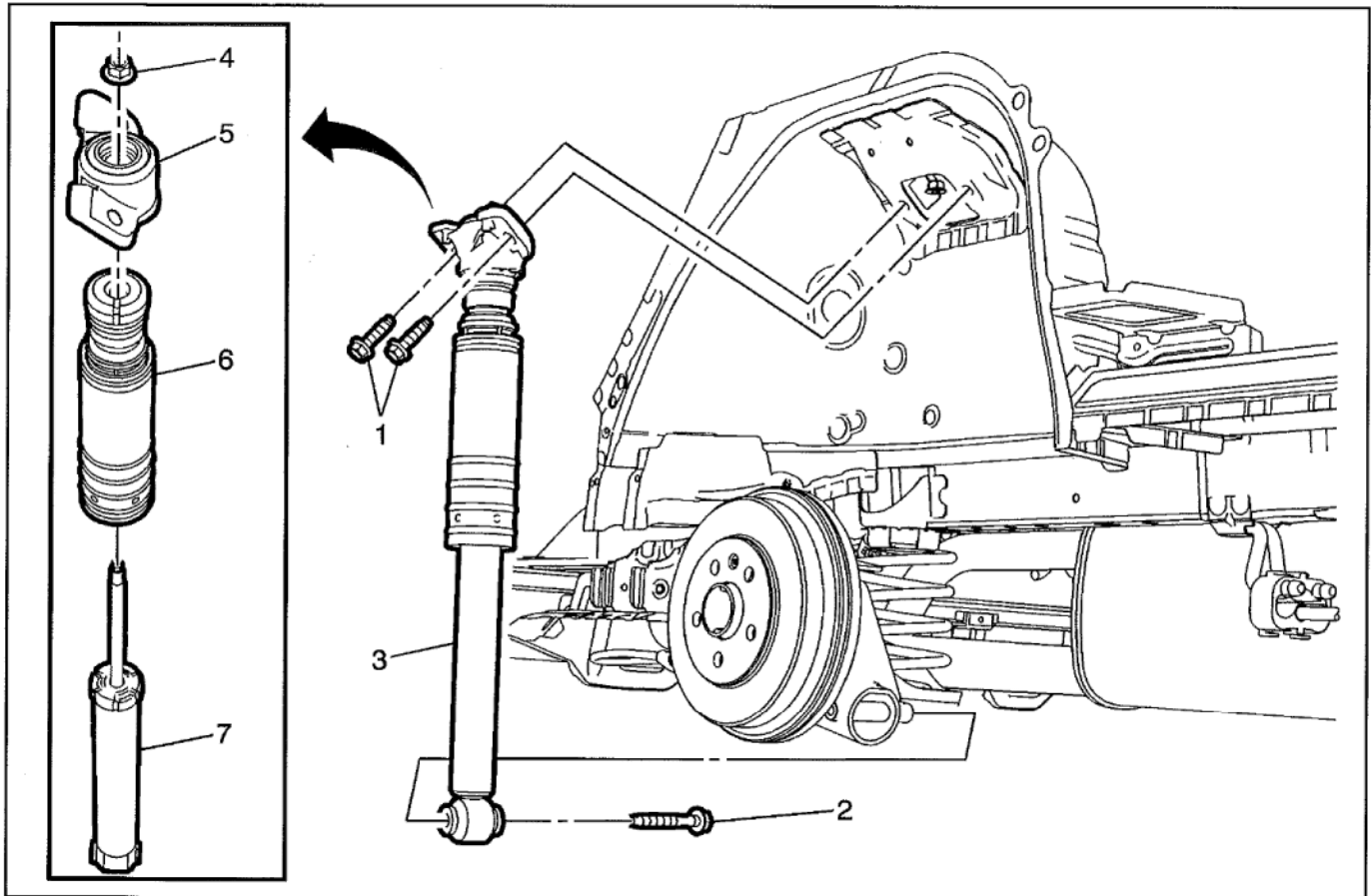
Note: The shock absorber assembly DOES NOT have to be removed from the vehicle to perform the following inspection procedure.

2. Raise and support the vehicle. Refer to *Lifting and Jacking the Vehicle* on page 1-31.
3. Visually inspect each of the shock absorbers for external fluid leaks. Refer to the following conditions 1, 2, 3, and 4 for visual inspection.
 - If conditions 1 or 2 are found, continue to step 4.
 - If conditions 3 or 4 are found, replace shock absorber. Refer to *Shock Absorber Replacement* on page 16-29.
4. If equipped with electronic suspension control system, ensure that the system is working properly. Refer to Diagnostic Starting Point – Electronic Suspension Control.

5. Use your hands in order to lift up and push down on each corner of the vehicle 3 times. Remove your hands from the vehicle. If the corner motion

exceeds 2 cycles, replace the shock absorber. If the shock absorber does not exceed 2 cycles, NO repair is necessary.

Shock Absorber Replacement



2498857

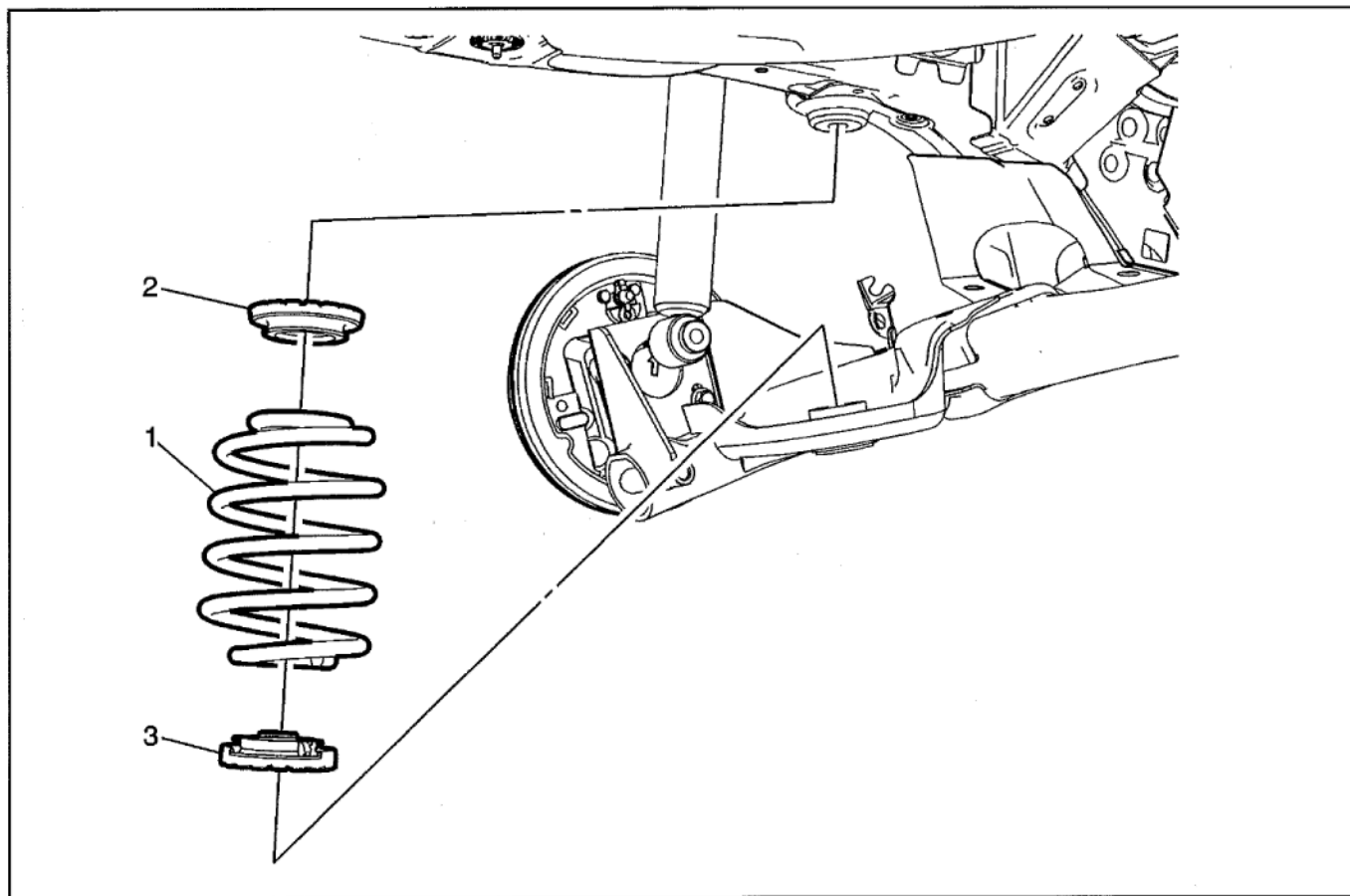
Shock Absorber Replacement

Callout	Component Name
Preliminary Procedure	
1. Raise and support the vehicle. Refer to <i>Lifting and Jacking the Vehicle</i> on page 1-31.	
2. Remove the tire and wheel assembly. Refer to <i>Tire and Wheel Removal and Installation</i> on page 16-60.	
1	Rear Shock Absorber Upper Bolt (Qty: 2) Caution: Refer to <i>Fastener Caution</i> on page 0-8. Procedure Support the rear axle with a hydraulic jack. Tighten 58 N•m (43 lb ft)
2	Rear Shock Absorber Lower Bolt Tighten - First Pass: 100 N•m (74 lb ft) - Final Pass: plus 90 degrees
3	Rear Shock Absorber Assembly
4	Shock Absorber Nut Tighten 25 N•m (18 lb ft)

Shock Absorber Replacement (cont'd)

Callout	Component Name
5	Shock Absorber Mount
6	Shock Absorber Bumper
7	Rear Shock Absorber

Rear Spring, Insulator, and Jounce Bumper Replacement



2500313

Rear Spring, Insulator, and Jounce Bumper Replacement

Callout	Component Name
Preliminary Procedure Raise and support the vehicle. Refer to <i>Lifting and Jacking the Vehicle</i> on page 1-31.	
1	Rear Spring Procedure 1. If removing the rear spring to service other suspension components, note the position of the rear spring in relationship to the insulators. 2. Support the rear axle with a hydraulic jack. 3. Remove the lower rear shock absorber bolt. Refer to <i>Shock Absorber Replacement</i> on page 16-29.
2	Upper Rear Spring Insulator Tip: Ensure that the rear spring insulator is properly seated in the rear frame rail.
3	Lower Rear Spring Insulator Tip: Ensure that the rear spring insulator is properly seated in the rear axle.

Rear Axle Replacement

Removal Procedure

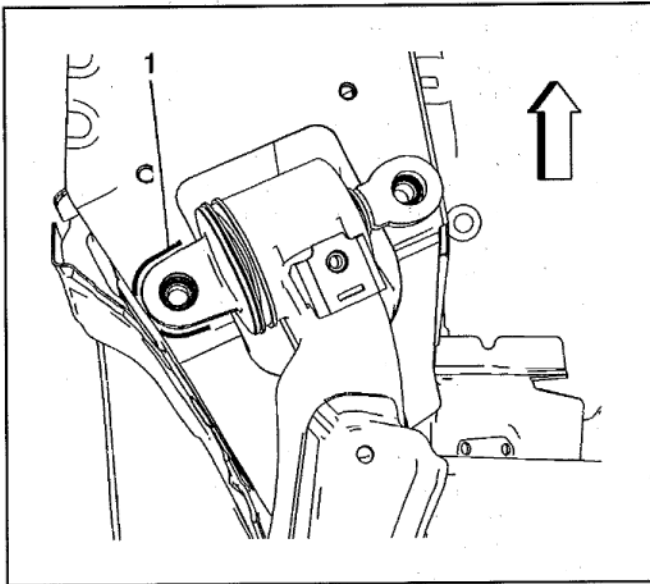
1. Raise and support the vehicle. Refer to *Lifting and Jacking the Vehicle* on page 1-31.
2. Remove the tires and wheel assembly. Refer to *Tire and Wheel Removal and Installation* on page 16-60.
3. Remove the park brake cables from the rear axle. Refer to *Parking Brake Cable Replacement (Drum Brake)* on page 5-189 or *Parking Brake Cable Replacement (Disc Brake)* on page 5-192.

Note: Cap the rear brake lines so as to prevent the hydraulic brake system from being contaminated.

4. Remove the rear brake line from the rear axle. Refer to *Brake Pipe Replacement* on page 5-158.

Note: Relocate the rear brake assembly to the side using mechanics wire.

5. Remove the rear wheel bearing/hub from the rear axle. Refer to *Rear Wheel Bearing and Hub Replacement (Drum Brake)* on page 16-24 or *Rear Wheel Bearing and Hub Replacement (Disc Brake)* on page 16-25.
6. Using a hydraulic jack stand, support the rear axle assembly.

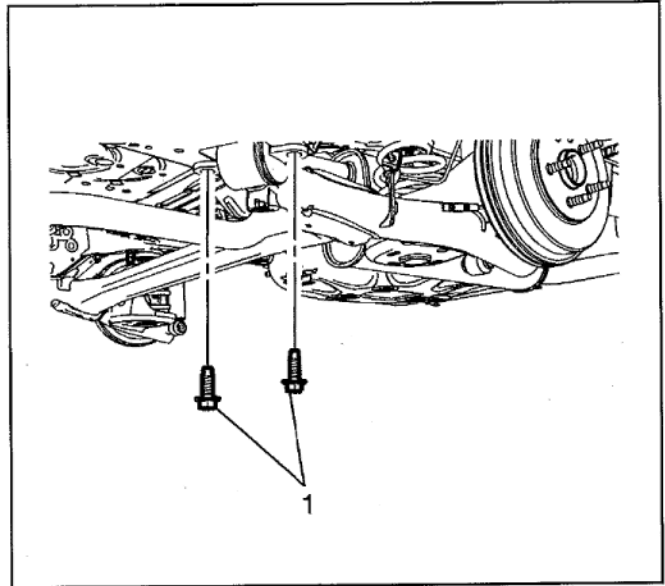


2539862

7. Using a bright colored paint, mark (1) the outline of the rear axle mounting bracket to the chassis to properly align the rear axle to the chassis for installation.

Note: Before removing the spring and insulator's, note the relationship of the spring and insulators to the body and the rear axle.

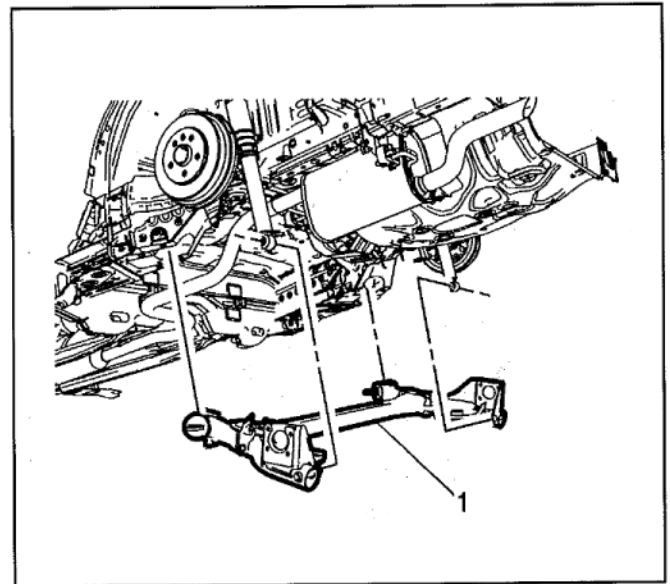
8. Lower the rear axle and remove the rear springs and the insulators. Refer to *Rear Spring, Insulator, and Jounce Bumper Replacement* on page 16-30.



2500476

Note: DO NOT remove the rear axle mounting bolts at this time.

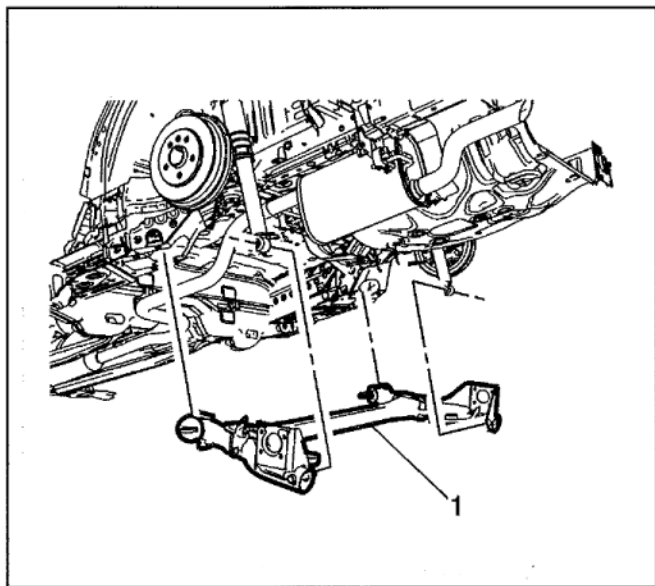
9. Loosen the mounting bolts (1) for the rear axle.
10. With the aide of an assistant, remove the mounting bolts.



2500672

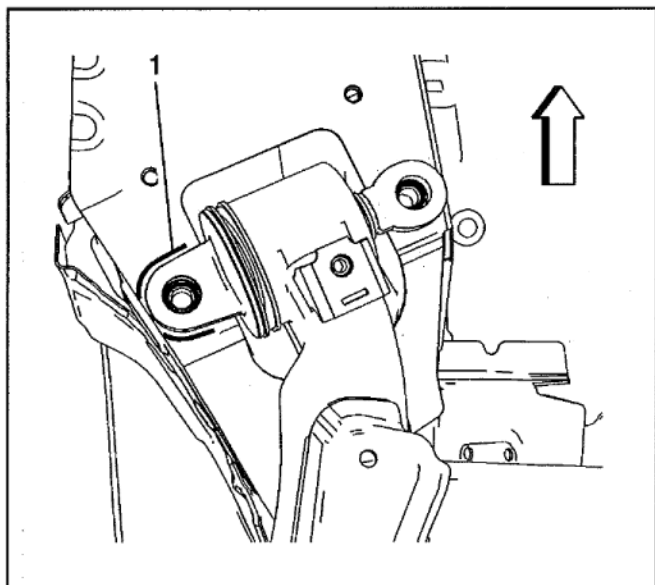
11. With the mounting bolts removed, lower the rear axle assembly (1).

Installation Procedure



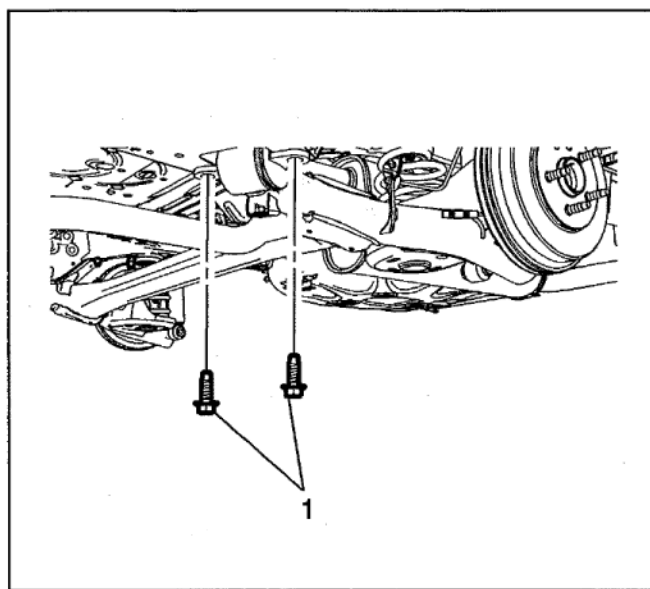
2500672

1. Using a hydraulic jack stand and the aide of an assistant, position the rear axle assembly (1) in the vehicle.



2539862

2. Align the mounting points of the rear axle to the painted outline (1) on the chassis.



2500476

Caution: Refer to *Fastener Caution* on page 0-8.

3. Install the rear axle mounting bolts (1) and tighten to:
 - First Pass: **160 N·m (118 lb ft)**
 - Final Pass: **plus 30 degrees**

Note: Ensure that the rear springs and insulators are properly aligned seated in the rear axle.

4. Install the rear spring and the insulators. Refer to *Rear Spring, Insulator, and Jounce Bumper Replacement* on page 16-30.
5. Install the rear wheel bearing/hub mounting bolts to the rear axle. Refer to *Rear Wheel Bearing and Hub Replacement (Drum Brake)* on page 16-24 or *Rear Wheel Bearing and Hub Replacement (Disc Brake)* on page 16-25.
6. Install the rear park brake cables. Refer to *Parking Brake Cable Replacement (Drum Brake)* on page 5-189 or *Parking Brake Cable Replacement (Disc Brake)* on page 5-192.
7. Install the rear brake lines on the rear axle. Refer to *Brake Pipe Replacement* on page 5-158.
8. Bleed the hydraulic brake system. Refer to *Hydraulic Brake System Bleeding (Pressure)* on page 5-169 or *Hydraulic Brake System Bleeding (Manual)* on page 5-170.
9. Install the tire and wheel assembly. Refer to *Tire and Wheel Removal and Installation* on page 16-60.
10. Remove the supports and lower the vehicle.

Wheel Stud Replacement

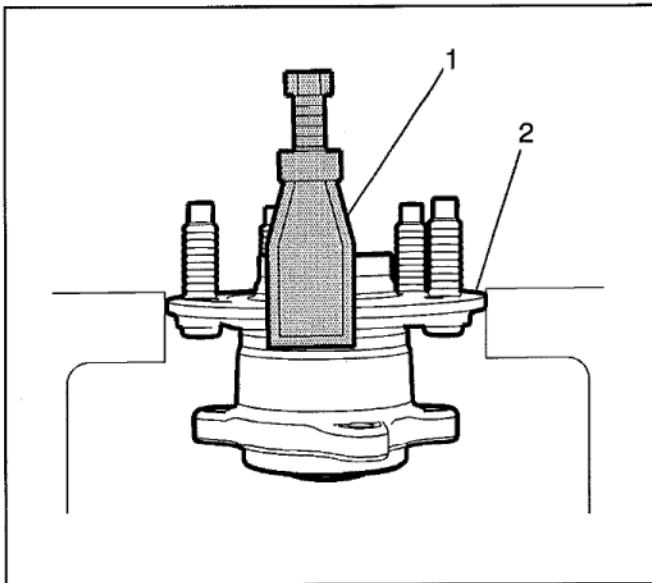
Special Tools

CH 43631 Ball Joint Separator

For the regional equivalent tool, refer to *Special Tools* on page 16-34.

Removal Procedure

1. Raise and support the vehicle. Refer to *Lifting and Jacking the Vehicle* on page 1-31.
2. Remove the wheel bearing and hub assembly. Refer to *Rear Wheel Bearing and Hub Replacement (Drum Brake)* on page 16-24 or *Rear Wheel Bearing and Hub Replacement (Disc Brake)* on page 16-25.

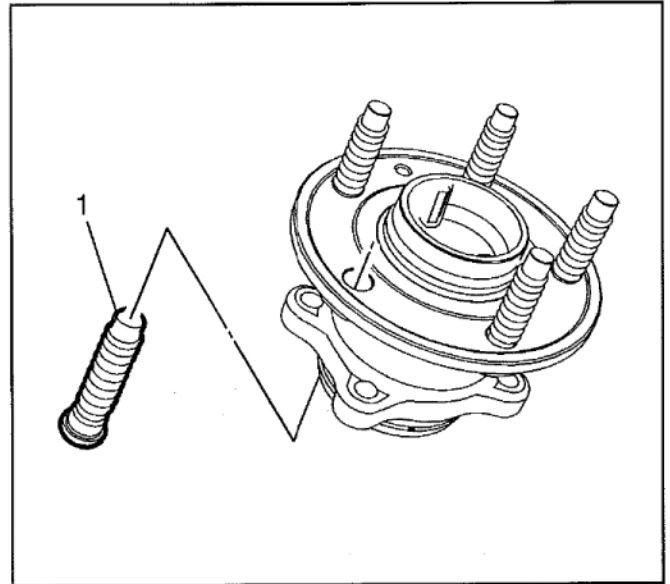


2501244

Note: Ensure that the wheel bearing and hub flange is securely tighten in the vise.

3. Install the wheel bearing and hub assembly (2) in a suitable vise.
4. Using the CH 43631 separator (1), remove and discard the wheel stud from the wheel bearing and hub assembly.

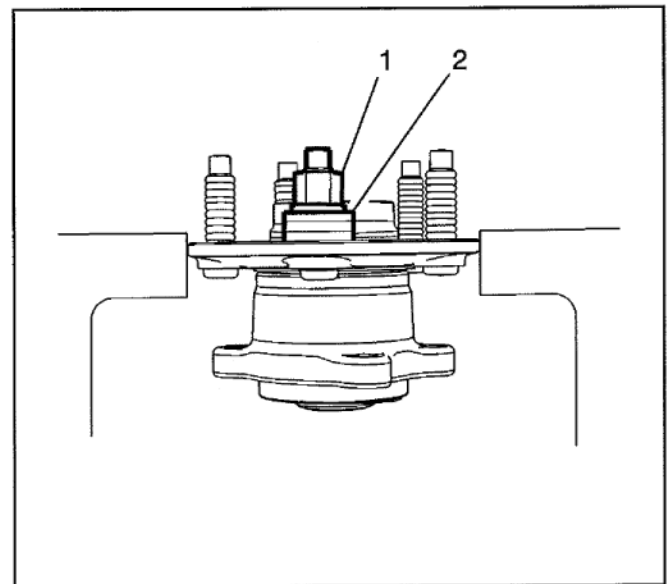
Installation Procedure



2500978

Note: Ensure that the wheel stud is properly aligned in the wheel hub flange.

1. Position the NEW wheel stud (1) in the wheel bearing and hub assembly.



2501147

2. Using three washers (2) and an old wheel nut (1), tighten the wheel nut (1) until the wheel stud is seated in the wheel bearing and hub flange.
3. Remove the wheel bearing and hub assembly from the vise.
4. Install the wheel bearing and hub assembly. Refer to *Rear Wheel Bearing and Hub Replacement (Drum Brake)* on page 16-24 or *Rear Wheel Bearing and Hub Replacement (Disc Brake)* on page 16-25.
5. Remove the support and lower the vehicle.

Description and Operation

Rear Suspension Description and Operation

This vehicle has a beam rear suspension system consisting of the following components:

- An axle with integral trailing arms
- A cross beam
- Two coil springs
- Two standard shock absorbers

Axle Assembly

The axle assembly attaches to the underbody through a rubber bushing and bracket located at the front of each integral trailing arm. The brackets are bolted to the underbody side rails. The axle structure itself maintains the geometrical relationship of the wheels relative to the centerline of the body.

Rear camber and tow are not adjustable. Replace any damaged suspension components as necessary.

Coil Spring

The coil springs support the weight of the vehicle in the rear. Rubber insulators isolate the coil spring at the upper and lower spring seat.

Shock Absorber

The shock absorbers are connected to the rear axle and the vehicle underbody. The shock absorbers are non-adjustable and non-refillable. Service of the shocks requires replacement of the shock assembly.

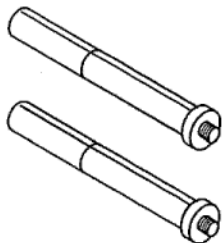
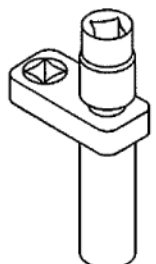
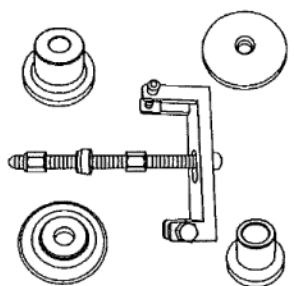
Wheel Bearing/Hub Assembly

A single hub and bearing assembly is bolted to both ends of the rear axle assembly. The hub and bearing assembly is a sealed unit that eliminates the need for wheel bearing adjustment or periodic maintenance.

Although the rear suspension components are lubricated for life and require no routine lubrication, they should be inspected periodically for damage and wear.

Special Tools and Equipment

Illustration	Tool Number/ Description
	CH-24319-B CH-43631 J-24319-B J-43631 Ball Joint Remover
400167	

Illustration	Tool Number/ Description
	CH-51035 Rear Axle Supporter Adapter
2866875	
	CH-51095 J-39642 Shock Nut Removal Tool Set
2866882	
	DT-50187 Rear Axle Supporter
2329964	
	CH-50559 Wheel Hub / Bearing Remover / Installer Kit
2548684	