

**2017 SUSPENSION**  
**Rear Suspension - Impala**

## SPECIFICATIONS

### FASTENER SPECIFICATIONS

#### Single Use Threaded Fastener/Component Tightening Specifications

| <b>NOTE:</b><br><i>All fasteners/components listed in this table MUST BE DISCARDED and replaced with NEW after removal.</i> |                     |
|-----------------------------------------------------------------------------------------------------------------------------|---------------------|
| Application                                                                                                                 | Specification       |
|                                                                                                                             | Metric (English)    |
| Lower Control Arm Outer Bolt                                                                                                |                     |
| • First Pass:                                                                                                               | 70 N.m (52 lb ft)   |
| • Final Pass:                                                                                                               | 90 degrees          |
| Rear Suspension Control Arm                                                                                                 |                     |
| • First Pass:                                                                                                               | 150 N.m (111 lb ft) |
| • Final Pass:                                                                                                               | 30 degrees          |
| Rear Suspension Link Inner Nut                                                                                              |                     |
| • First Pass:                                                                                                               | 90 N.m (66 lb ft)   |
| • Final Pass:                                                                                                               | 60 degrees          |
| Rear Suspension Link Outer Bolt                                                                                             |                     |
| • First Pass:                                                                                                               | 115 N.m (85 lb ft)  |
| • Final Pass:                                                                                                               | 90 degrees          |
| Rear Wheel Bearing and Hub Bolt                                                                                             |                     |
| • First Pass:                                                                                                               | 90 N.m (66 lb ft)   |
| • Final Pass:                                                                                                               | 75 degrees          |
| Shock Absorber Lower Bolt                                                                                                   |                     |
| • First Pass:                                                                                                               | 150 N.m (111 lb ft) |
| • Final Pass:                                                                                                               | 60 degrees          |
| Stabilizer Shaft Insulator Clamp Bolt                                                                                       |                     |

**NOTE:**

*All fasteners/components listed in this table MUST BE DISCARDED and replaced with NEW after removal.*

| Application                  | Specification       |
|------------------------------|---------------------|
|                              | Metric (English)    |
| • First Pass:                | 22 N.m (16 lb ft)   |
| • Final Pass:                | 30 degrees          |
| Upper Control Arm Outer Bolt |                     |
| • First Pass:                | 150 N.m (111 lb ft) |
| • Final Pass:                | 90 degrees          |

**Reusable Threaded Fastener Tightening Specifications****NOTE:**

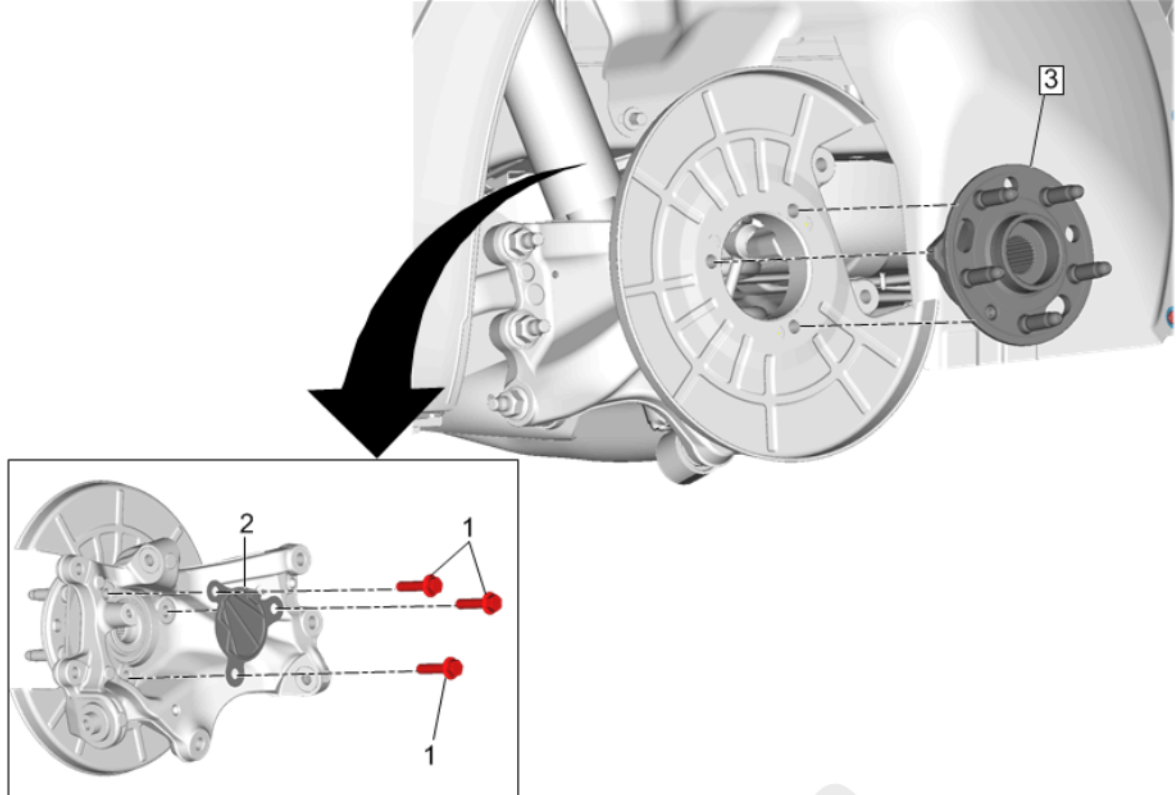
*All fasteners listed in this table can be reused after removal.*

| Application                 | Specification      |
|-----------------------------|--------------------|
|                             | Metric (English)   |
| Lower Control Arm Inner Nut |                    |
| • First Pass:               | 90 N.m (66 lb ft)  |
| • Final Pass:               | 60 degrees         |
| Shock Absorber Nut          | 20 N.m (74 lb ft)  |
| Shock Absorber Upper Bolt   | 100 N.m (15 lb ft) |
| Stabilizer Shaft Link Bolt  | 55 N.m (41 lb ft)  |
| Stabilizer Shaft Link Nut   | 55 N.m (41 lb ft)  |
| Upper Control Arm Inner Nut |                    |
| • First Pass:               | 70 N.m (52 lb ft)  |
| • Final Pass:               | 60 degrees         |

**ADHESIVES, FLUIDS, LUBRICANTS, AND SEALERS**

| Application                | Type of Material | GM Part Number |          |
|----------------------------|------------------|----------------|----------|
|                            |                  | United States  | Canada   |
| Knuckle Bearing Pilot Bore | Grease           | 12345996       | 10953501 |

**REPAIR INSTRUCTIONS****REAR WHEEL BEARING AND HUB REPLACEMENT**



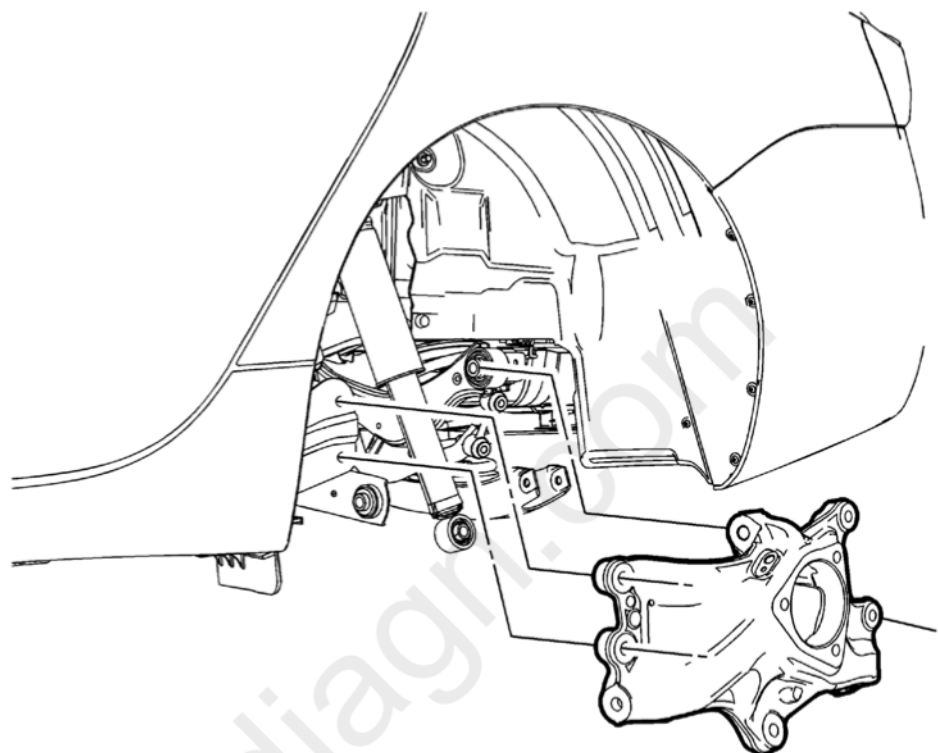
**Fig. 1: Rear Wheel Bearing and Hub**

Courtesy of GENERAL MOTORS COMPANY

| Callout                                                                                                                                                                                                                                                                                                                                                              | Component Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Preliminary Procedure</b> <ol style="list-style-type: none"> <li><a href="#">Tire and Wheel Removal and Installation</a></li> <li><a href="#">Rear Wheel Speed Sensor Replacement</a></li> <li><a href="#">Rear Brake Rotor Replacement</a></li> <li><a href="#">Shock Absorber Replacement</a></li> <li><a href="#">Upper Control Arm Replacement</a></li> </ol> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 1                                                                                                                                                                                                                                                                                                                                                                    | <p>Rear Wheel Bearing Bolts (Qty: 3)</p> <p><b>CAUTION:</b><br/>Refer to <a href="#">Fastener Caution</a> .</p> <p><b>CAUTION:</b><br/>This vehicle is equipped with torque-to-yield or single use fasteners. Install a <b>NEW</b> torque-to-yield or single use fastener when installing this component. Failure to replace the torque-to-yield or single use fastener could cause damage to the vehicle or component.</p> <p><b>NOTE:</b><br/><b>DISCARD</b> the bolts. Replace with <b>NEW</b> only.</p> <p><b>Tighten</b></p> <ol style="list-style-type: none"> <li>First Pass: 90 N.m (66 lb ft)</li> <li>Final Pass: 75 degrees</li> </ol> |
| 2                                                                                                                                                                                                                                                                                                                                                                    | <p>Rear Wheel Bearing Dirt Deflector<br/>If Equipped</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| Callout | Component Name                                                                                                                                                                                                                                                                                                                                                                                    |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3       | <p>Rear Wheel Bearing</p> <p><b>NOTE:</b><br/> <b>Avoid applying grease to any other machined surface, holes, or threads. Ensure the drain channel at the bottom of the bore is not blocked with grease or debris.</b></p> <p>Apply grease evenly and ensure complete coverage to the knuckle bearing pilot bore only.<br/> <u><a href="#">Adhesives, Fluids, Lubricants, and Sealers</a></u></p> |

## REAR WHEEL HUB BRACKET REPLACEMENT



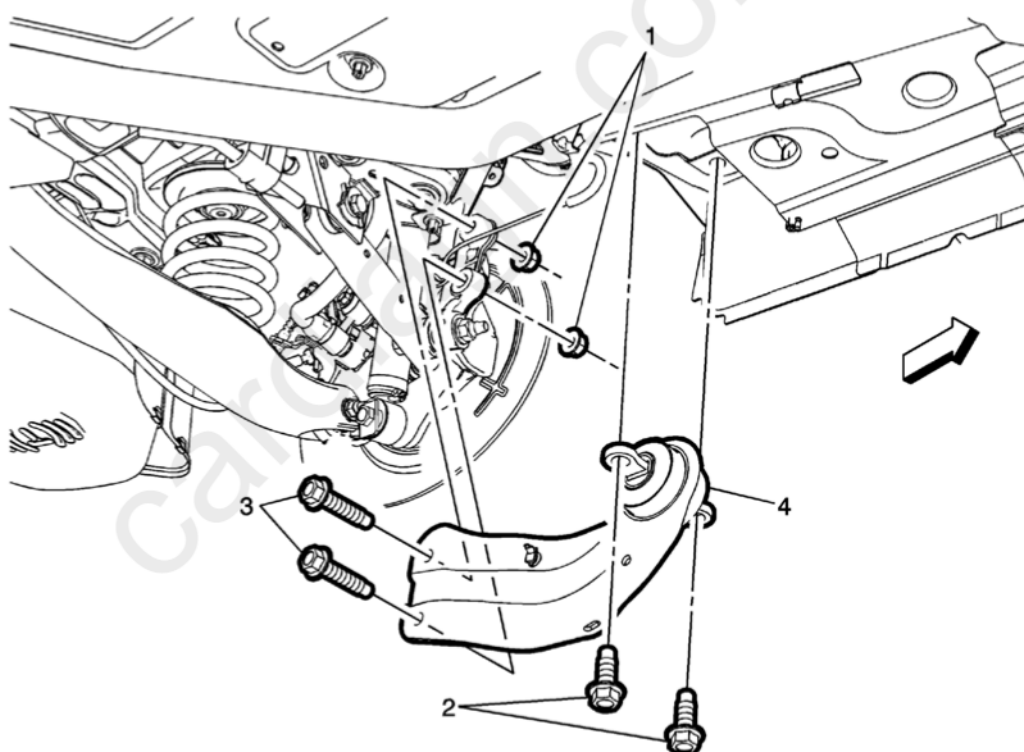
**Fig. 2: Rear Wheel Hub Bracket**

Courtesy of GENERAL MOTORS COMPANY

| Callout                                                                                                                                                                                                                                                                                                                                                                                                                                 | Component Name |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Preliminary Procedure</b> <ol style="list-style-type: none"> <li>1. Raise and support the vehicle. Refer to <u><a href="#">Lifting and Jacking the Vehicle</a></u> .</li> <li>2. Remove the tire and wheel assembly. Refer to <u><a href="#">Tire and Wheel Removal and Installation</a></u> .</li> <li>3. Remove the rear wheel bearing and hub. Refer to <u><a href="#">Rear Wheel Bearing and Hub Replacement</a></u>.</li> </ol> |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |

| Callout | Component Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | Rear Wheel Hub Bracket                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|         | <p><b>CAUTION:</b></p> <p>This vehicle is equipped with torque-to-yield or single use fasteners. Install a <b>NEW</b> torque-to-yield or single use fastener when installing this component. Failure to replace the torque-to-yield or single use fastener could cause damage to the vehicle or component.</p> <p><b>Procedure</b></p> <p>1</p> <ol style="list-style-type: none"> <li>1. Support the rear suspension lower control arm with a suitable jack stand.</li> <li>2. Remove the bolt from the rear suspension link to the rear wheel hub bracket. Refer to <a href="#">Rear Suspension Link Replacement - Toe Link</a></li> <li>3. Remove the bolt from the rear suspension lower control arm to the rear wheel hub bracket. Refer to <a href="#">Lower Control Arm Replacement</a>.</li> <li>4. Remove the bolt from the stabilizer shaft link to the rear wheel hub bracket. Refer to <a href="#">Stabilizer Shaft Link Replacement</a></li> <li>5. Remove the bolt from the rear suspension control arm to the rear wheel hub bracket. Refer to <a href="#">Rear Suspension Control Arm Replacement</a>.</li> </ol> |

## REAR SUSPENSION CONTROL ARM REPLACEMENT

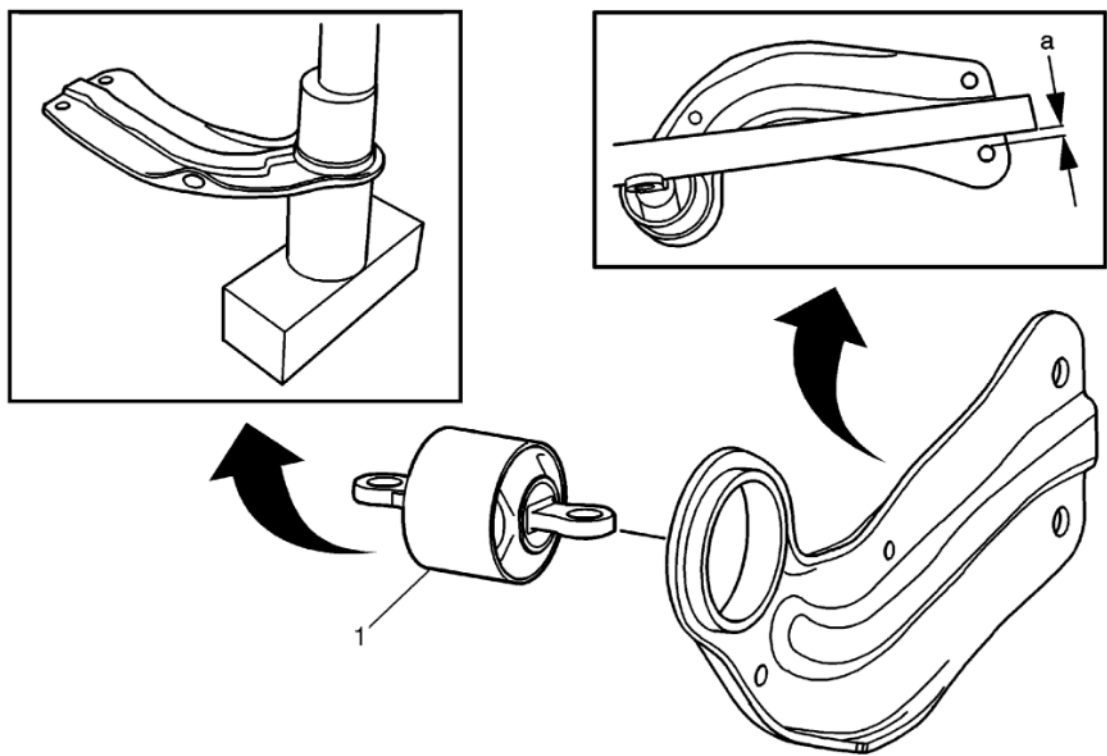


**Fig. 3: Rear Suspension Control Arm**  
Courtesy of GENERAL MOTORS COMPANY

| Callout                      | Component Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Preliminary Procedure</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                              | <ol style="list-style-type: none"> <li>1. Raise and support the vehicle. Refer to <a href="#">Lifting and Jacking the Vehicle</a></li> <li>2. Remove the tire and wheel assembly. Refer to <a href="#">Tire and Wheel Removal and Installation</a></li> <li>3. Remove the rear wheel speed sensor harness from the rear suspension control arm. Refer to <a href="#">Rear Wheel Speed Sensor Replacement</a> .</li> <li>4. Remove the underbody rear air deflector. Refer to <a href="#">Underbody Rear Air Deflector Replacement - Left Side</a> , or <a href="#">Underbody Rear Air Deflector Replacement - Right Side</a> .</li> </ol> |

| Callout | Component Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Rear Wheel Hub Bracket Nut (Qty: 2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2       | <p>Rear Suspension Control Arm Bracket Bolt (Qty: 2)</p> <p><b>CAUTION:</b><br/>This vehicle is equipped with torque-to-yield or single use fasteners. Install a NEW torque-to-yield or single use fastener when installing this component. Failure to replace the torque-to-yield or single use fastener could cause damage to the vehicle or component.</p> <p><b>CAUTION:</b><br/>Refer to <a href="#">Fastener Caution</a> .</p> <p><b>Procedure</b><br/>Remove and discard the bolts. DO NOT reuse, replace with NEW only.</p> <p><b>Tighten</b></p> <ul style="list-style-type: none"> <li>• First Pass: 150 N.m (111 lb ft)</li> <li>• Final Pass: plus 30 degrees</li> </ul>                                                                                                                    |
| 3       | <p>Rear Wheel Hub Bracket Bolt (Qty: 2)</p> <p><b>CAUTION:</b><br/>This vehicle is equipped with torque-to-yield or single use fasteners. Install a NEW torque-to-yield or single use fastener when installing this component. Failure to replace the torque-to-yield or single use fastener could cause damage to the vehicle or component.</p> <p><b>CAUTION:</b><br/>Refer to <a href="#">Fastener Caution</a> .</p> <p><b>Procedure</b><br/>Remove and discard the bolts. DO NOT reuse, replace with NEW only.</p> <p><b>Tighten</b></p> <ul style="list-style-type: none"> <li>• First Pass: 150 N.m (111 lb ft)</li> <li>• Final Pass: plus 30 degrees</li> </ul> <p><b>Special Tools</b><br/>EN-45059 Angle Meter<br/>For equivalent regional tools, refer to <a href="#">Special Tools</a>.</p> |
| 4       | Rear Suspension Control Arm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## REAR SUSPENSION CONTROL ARM BUSHING REPLACEMENT



**Fig. 4: Rear Suspension Control Arm Bushing**  
Courtesy of GENERAL MOTORS COMPANY

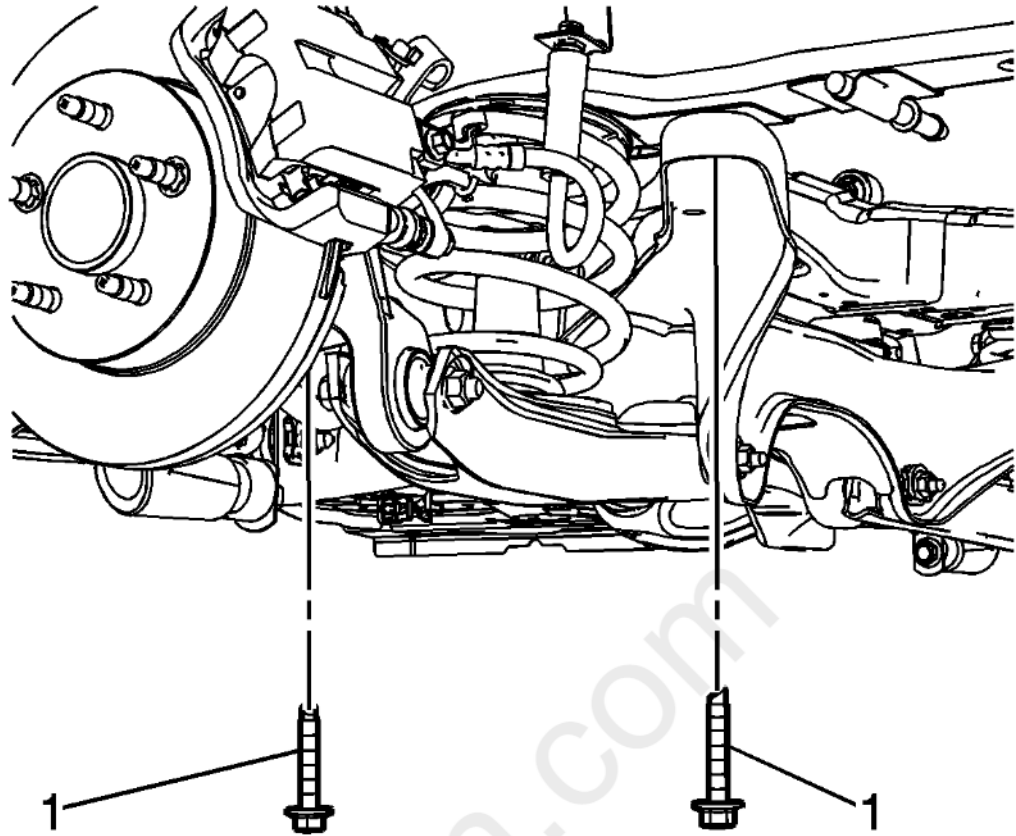
| Callout                                                                                                                                                                                                                                                                                            | Component Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Preliminary Procedures</b> <ol style="list-style-type: none"> <li>1. Raise and support the vehicle. Refer to <a href="#">Lifting and Jacking the Vehicle</a> .</li> <li>2. Remove the rear suspension control arm. Refer to <a href="#">Rear Suspension Control Arm Replacement</a>.</li> </ol> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 1                                                                                                                                                                                                                                                                                                  | Rear Suspension Control Arm Bushing<br><b>Procedure</b> <ol style="list-style-type: none"> <li>1. Using the <b>CH-21474</b> kit, install the rear suspension control arm bushing.</li> <li>2. Adjust the rear suspension control arm bushing 18.7 mm from center of hole, when parallel to bushing console with the <b>J-21474</b> kit.</li> </ol> <b>Special Tools</b><br><b>CH-21474</b> Remover/Installer Kit<br>For equivalent regional tools, refer to <a href="#">Special Tools</a> . |

## STABILIZER SHAFT REPLACEMENT

### Removal Procedure

1. Raise and support the vehicle. Refer to [Lifting and Jacking the Vehicle](#) .
2. Remove the tire and wheel assembly. Refer to [Tire and Wheel Removal and Installation](#) .
3. Remove the exhaust assembly. Refer to [Exhaust Muffler with Resonator, Exhaust, and Tail Pipe Replacement](#)
4. Remove the rear suspension control arm bolts from the body. Refer to [Rear Suspension Control Arm Replacement](#).
5. Remove the rear spring. Refer to [Rear Coil Spring Replacement](#).
6. Remove the park brake cables from the rear suspension support. Refer to [Parking Brake Cable Replacement](#)
7. Without disconnecting the hydraulic brake hose from the caliper, remove and support the brake calliper. Refer to [Rear Brake Caliper Replacement](#) .
8. Remove the lower shock absorber fasteners. Refer to [Shock Absorber Replacement](#).

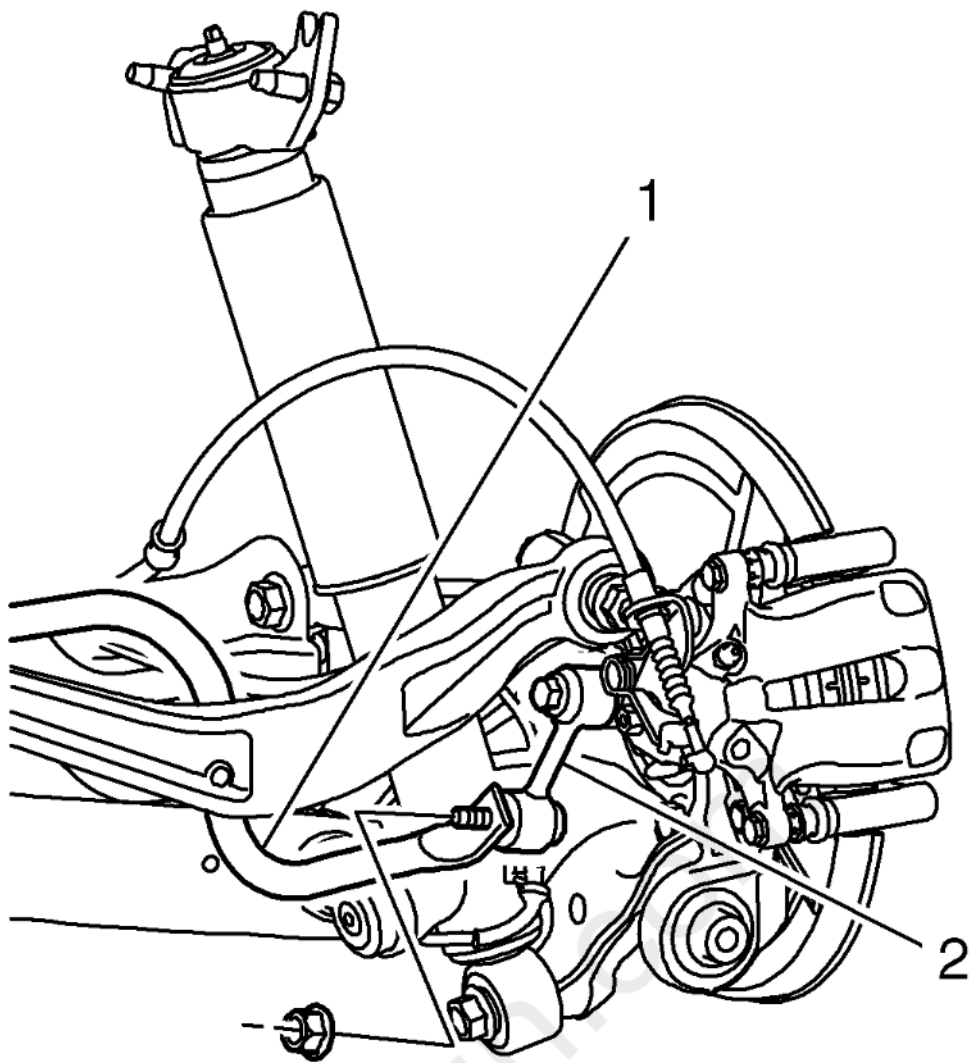
9. Support and secure adjustable jack stands to the rear support.
10. Mark up rear suspension support position to body with spray paint.



**Fig. 5: Identifying Support Mounting Bolts**

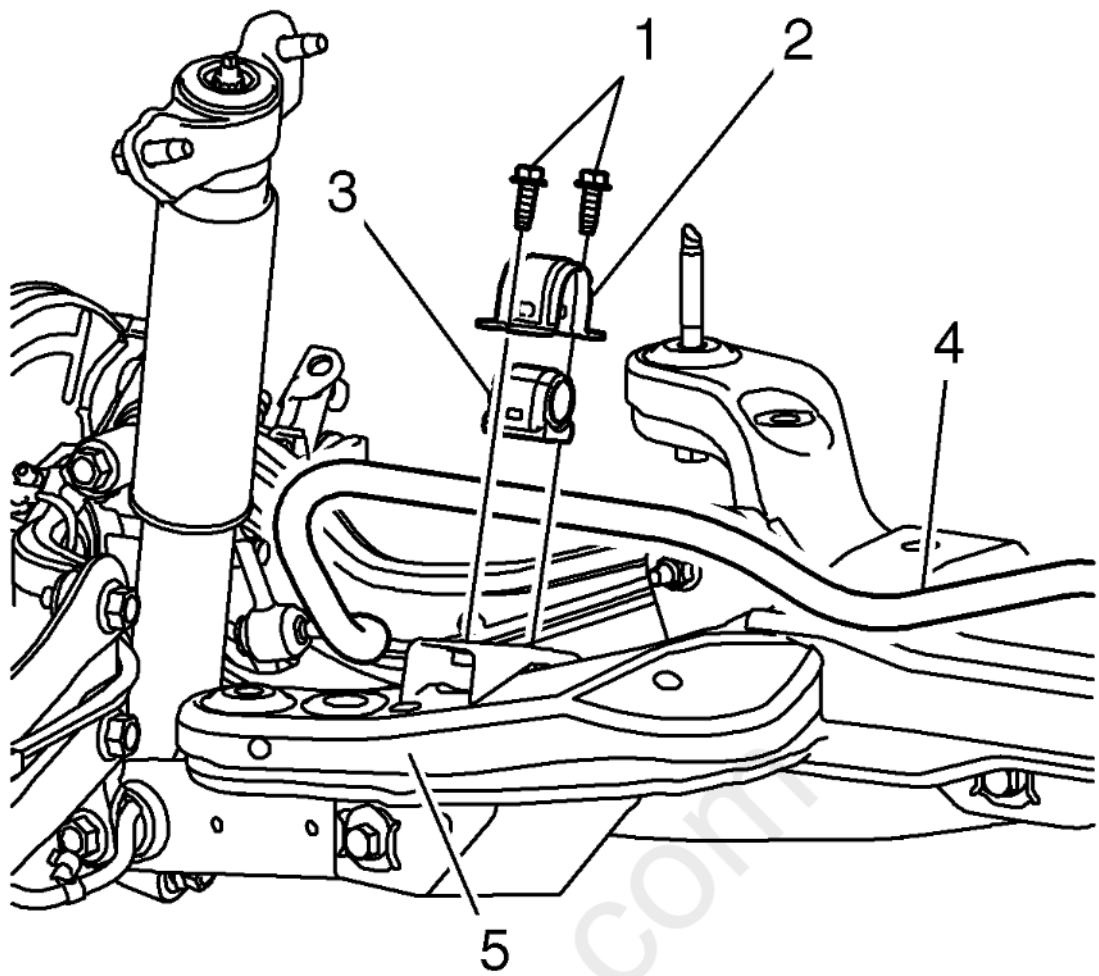
Courtesy of GENERAL MOTORS COMPANY

11. Remove the mounting bolts (1) for the rear suspension support. Refer to [\*\*Rear Suspension Support Replacement\*\*](#).
12. Lower the rear suspension support enough to gain access to the rear stabilizer shaft insulator clamps mounting bolts.



**Fig. 6: Stabilizer Shaft & Stabilizer Shaft Link**  
Courtesy of GENERAL MOTORS COMPANY

13. Remove the stabilizer shaft (1) from the stabilizer shaft link (2). Refer to [Stabilizer Shaft Link Replacement](#).

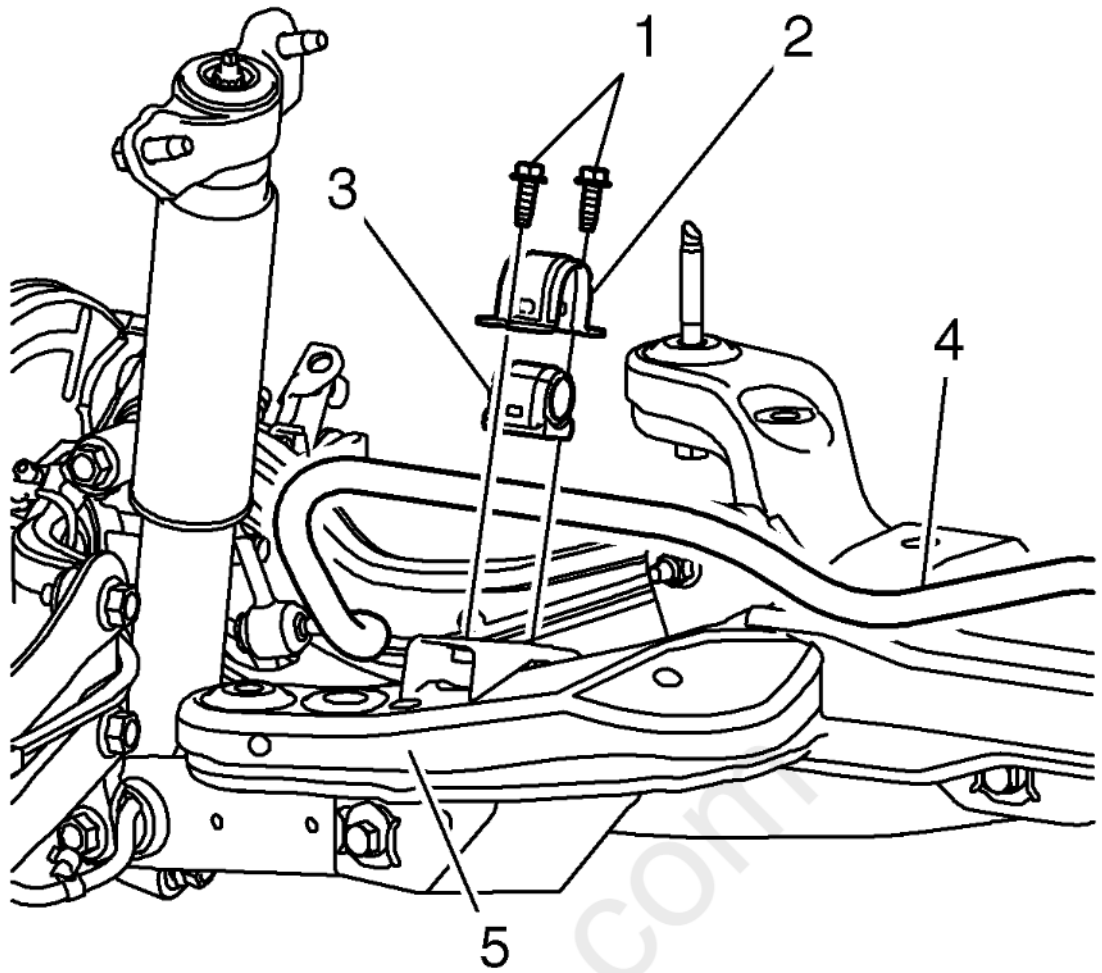


**Fig. 7: Stabilizer Shaft Assembly**

Courtesy of GENERAL MOTORS COMPANY

14. Remove and discard the stabilizer shaft bolts (1). Replace with NEW only.
15. Remove the stabilizer shaft assembly (4) from the support (5).

#### **Installation Procedure**



**Fig. 8: Stabilizer Shaft Assembly**

Courtesy of GENERAL MOTORS COMPANY

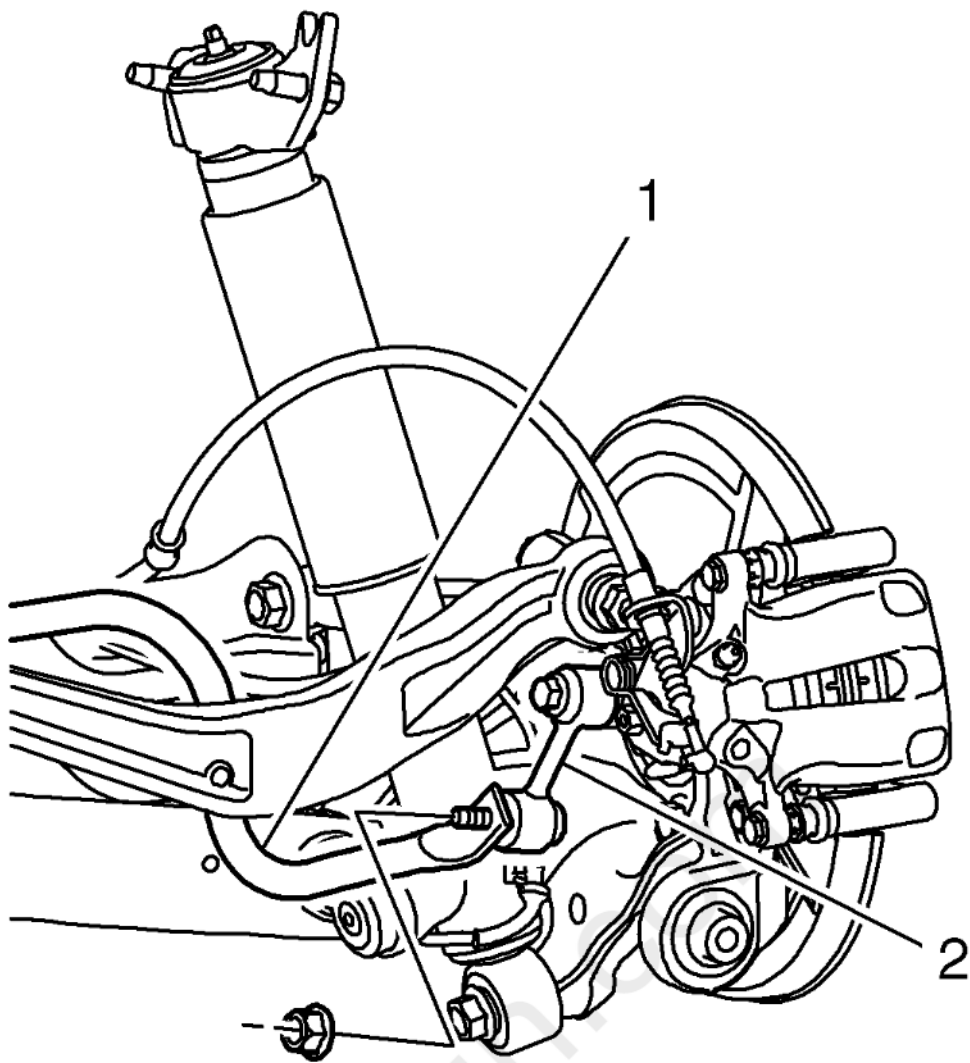
1. Load the suspension with the proper jack stand before tightening the bolts to specifications.
2. Install the stabilizer shaft (4) on the support (5).

**CAUTION:** Refer to **Fastener Caution** .

3. Install NEW clamp bolts (1) and tighten to:

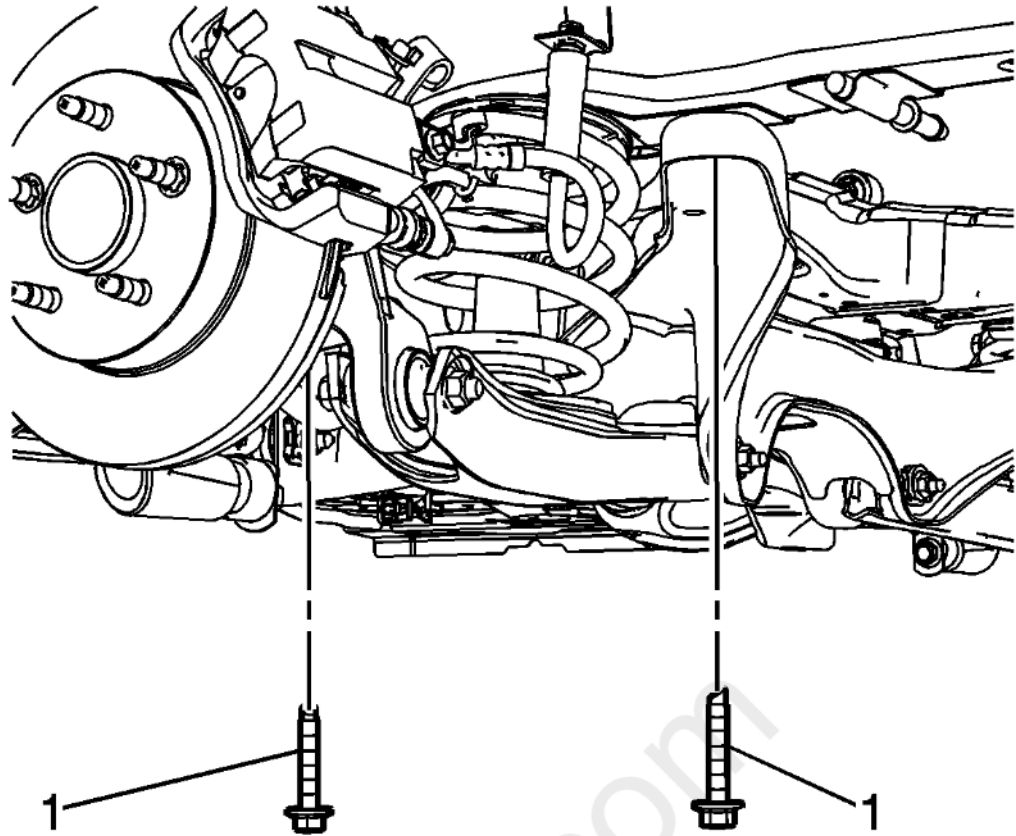
**Tighten**

- First Pass: 22 N.m (16 lb ft).
- Final Pass: plus 30 degrees.



**Fig. 9: Stabilizer Shaft & Stabilizer Shaft Link**  
Courtesy of GENERAL MOTORS COMPANY

4. Install the stabilizer shaft (1) to stabilizer shaft link (2). Refer to [Stabilizer Shaft Link Replacement](#).
5. Raise the rear suspension support back into position.



**Fig. 10: Identifying Support Mounting Bolts**  
 Courtesy of GENERAL MOTORS COMPANY

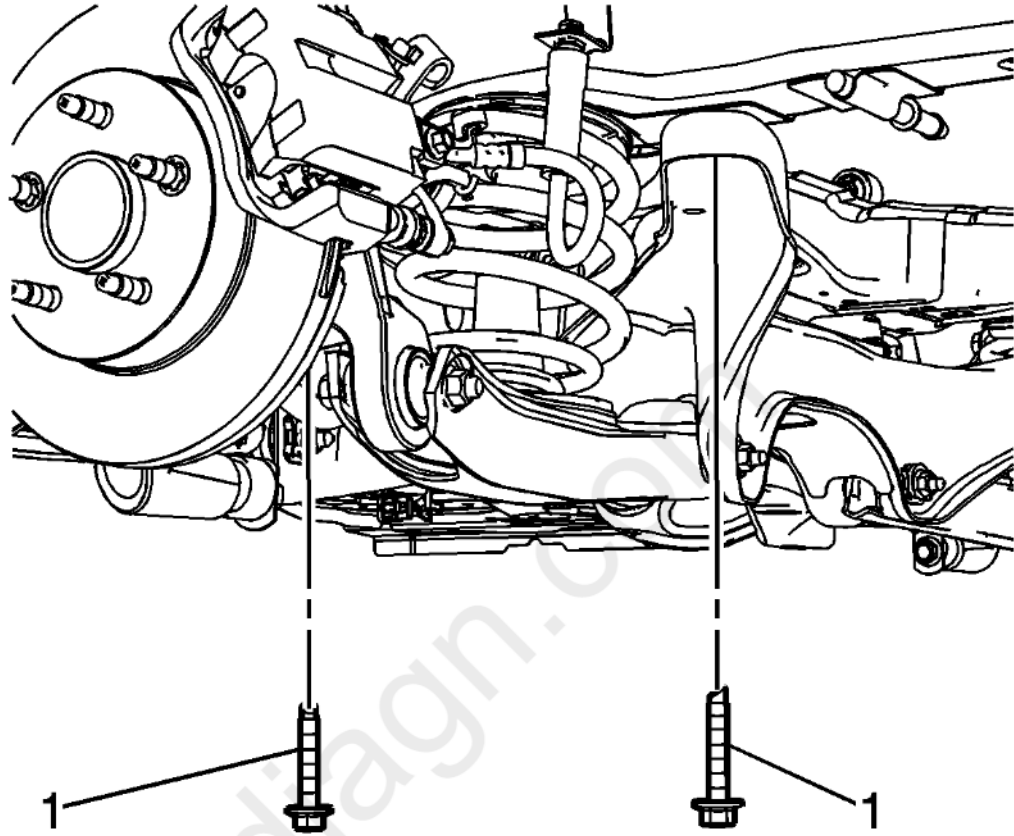
6. Install the mounting bolts (1) for the rear suspension support. Refer to [Rear Suspension Support Replacement](#) .
7. Install the lower shock absorber mounting bolts. Refer to [Shock Absorber Replacement](#) .
8. Install the rear brake callipers. Refer to [Rear Brake Caliper Replacement](#) .
9. Install the rear suspension control arm bolts to the body. Refer to [Rear Suspension Control Arm Replacement](#) .
10. Install the rear springs. Refer to [Rear Coil Spring Replacement](#) .
11. Remove the adjustable jack stands from the rear support.
12. Install the park brake cables on the rear suspension support. Refer to [Parking Brake Cable Replacement](#) .
13. Install the exhaust assembly. Refer to [Exhaust Muffler with Resonator, Exhaust, and Tail Pipe Replacement](#) .
14. Install the tire and wheel assemblies. Refer to [Tire and Wheel Removal and Installation](#) .
15. Lower the vehicle.

## **STABILIZER SHAFT INSULATOR REPLACEMENT**

### **Removal Procedure**

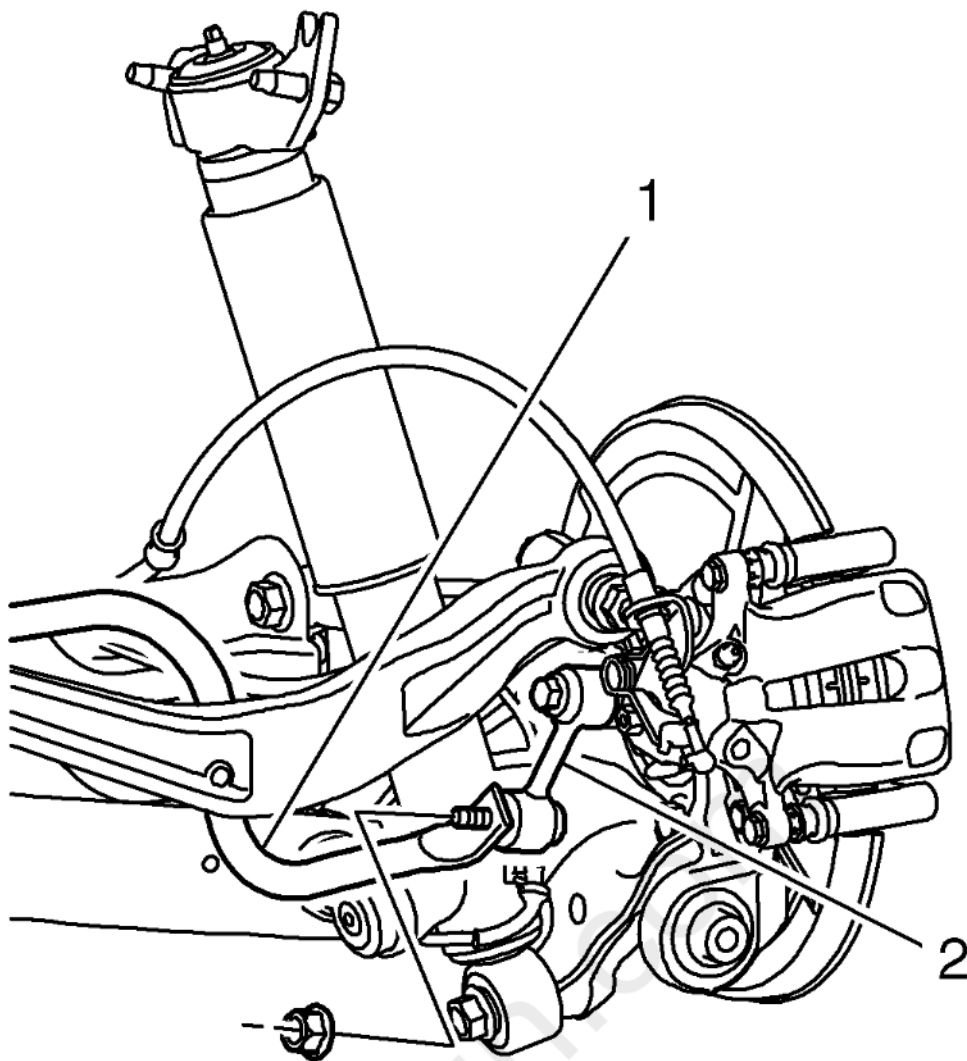
1. Raise and support the vehicle. Refer to [Lifting and Jacking the Vehicle](#) .
2. Remove the tire and wheel assembly. Refer to [Tire and Wheel Removal and Installation](#) .
3. Remove the rear muffler assembly. Refer to [Exhaust Muffler with Resonator, Exhaust, and Tail Pipe Replacement](#) .
4. Remove the rear suspension control arm bolts from the body. Refer to [Rear Suspension Control Arm Replacement](#) .
5. Remove the rear spring. Refer to [Rear Coil Spring Replacement](#) .

6. Remove the park brake cables from the rear suspension support. Refer to [Parking Brake Cable Replacement](#).
7. Without disconnecting the hydraulic brake hose from the caliper, remove and support the brake calliper. Refer to [Rear Brake Caliper Replacement](#).
8. Remove the lower shock absorber fasteners. Refer to [Shock Absorber Replacement](#).
9. Support and secure adjustable jack stands to the rear support.
10. Mark up support position to body with spray paint.



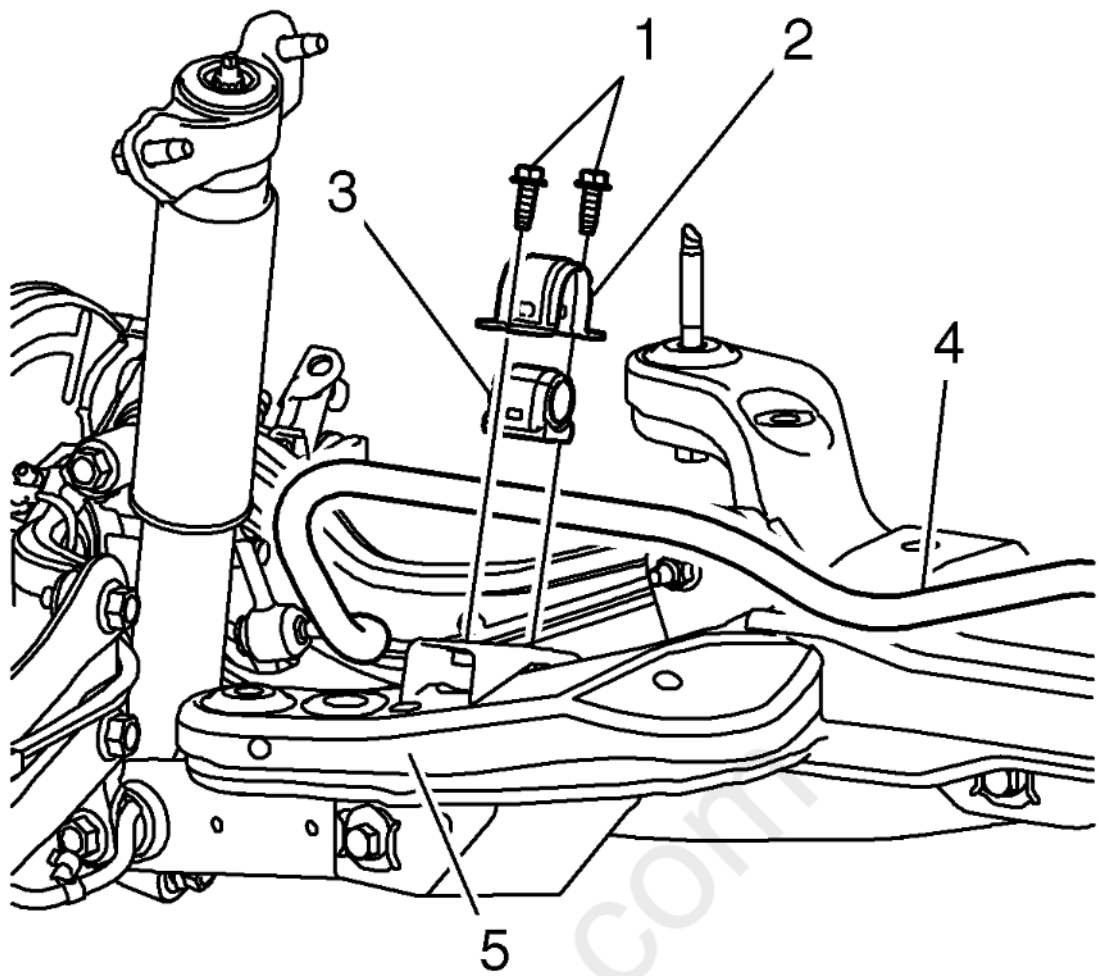
**Fig. 11: Identifying Support Mounting Bolts**  
Courtesy of GENERAL MOTORS COMPANY

11. Remove the mounting bolts (1) for the support. Refer to [Rear Suspension Support Replacement](#).
12. Lower the support enough to gain access to the rear stabilizer shaft insulator clamps mounting bolts.



**Fig. 12: Stabilizer Shaft & Stabilizer Shaft Link**  
Courtesy of GENERAL MOTORS COMPANY

13. Remove the stabilizer shaft (1) from the stabilizer shaft link (2). Refer to [Stabilizer Shaft Link Replacement](#).



**Fig. 13: Stabilizer Shaft Assembly**

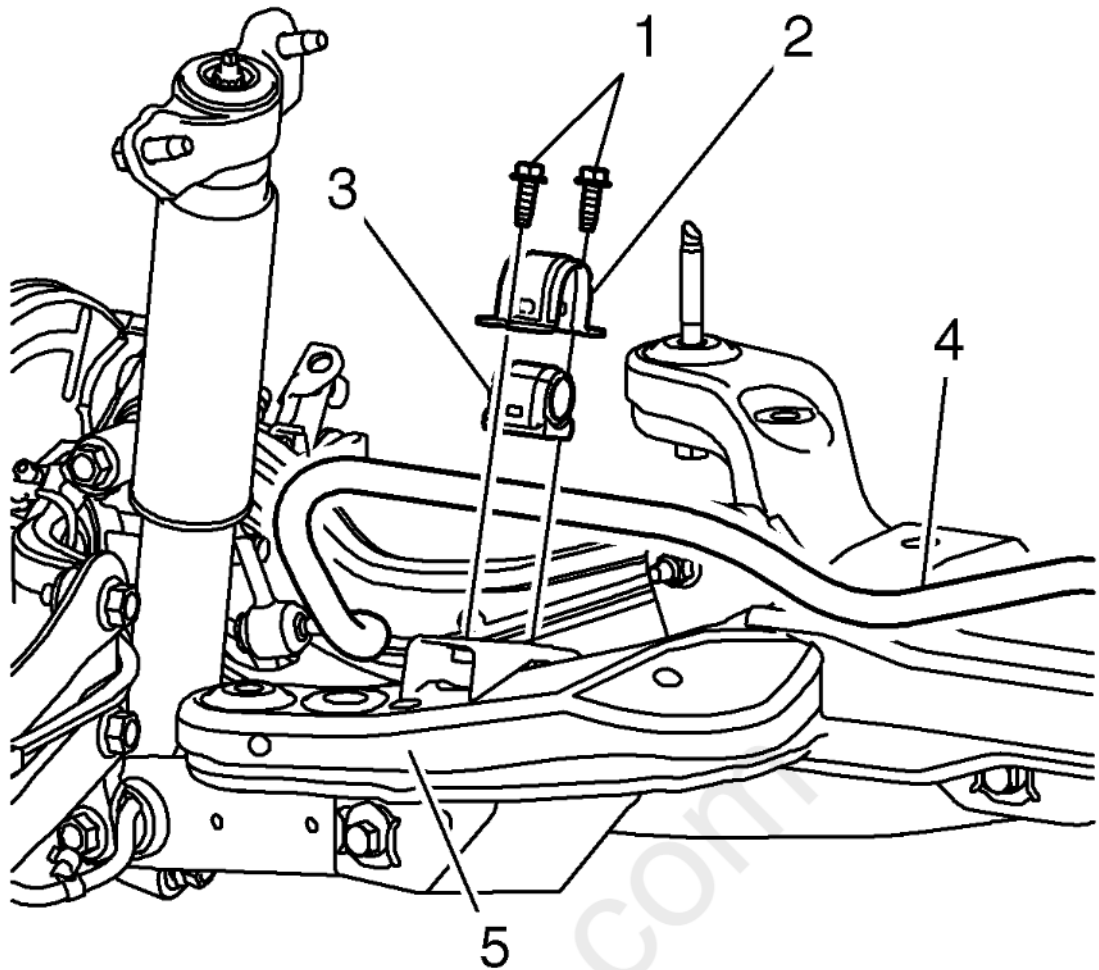
Courtesy of GENERAL MOTORS COMPANY

**NOTE:**

- Change one insulator at the time to ensure the right position and angle.
- DO NOT reuse the bracket bolt. Discard and use NEW bolts only.

14. Remove the bracket bolt (1), the bracket (2) and the insulator (3).

**Installation Procedure**



**Fig. 14: Stabilizer Shaft Assembly**

Courtesy of GENERAL MOTORS COMPANY

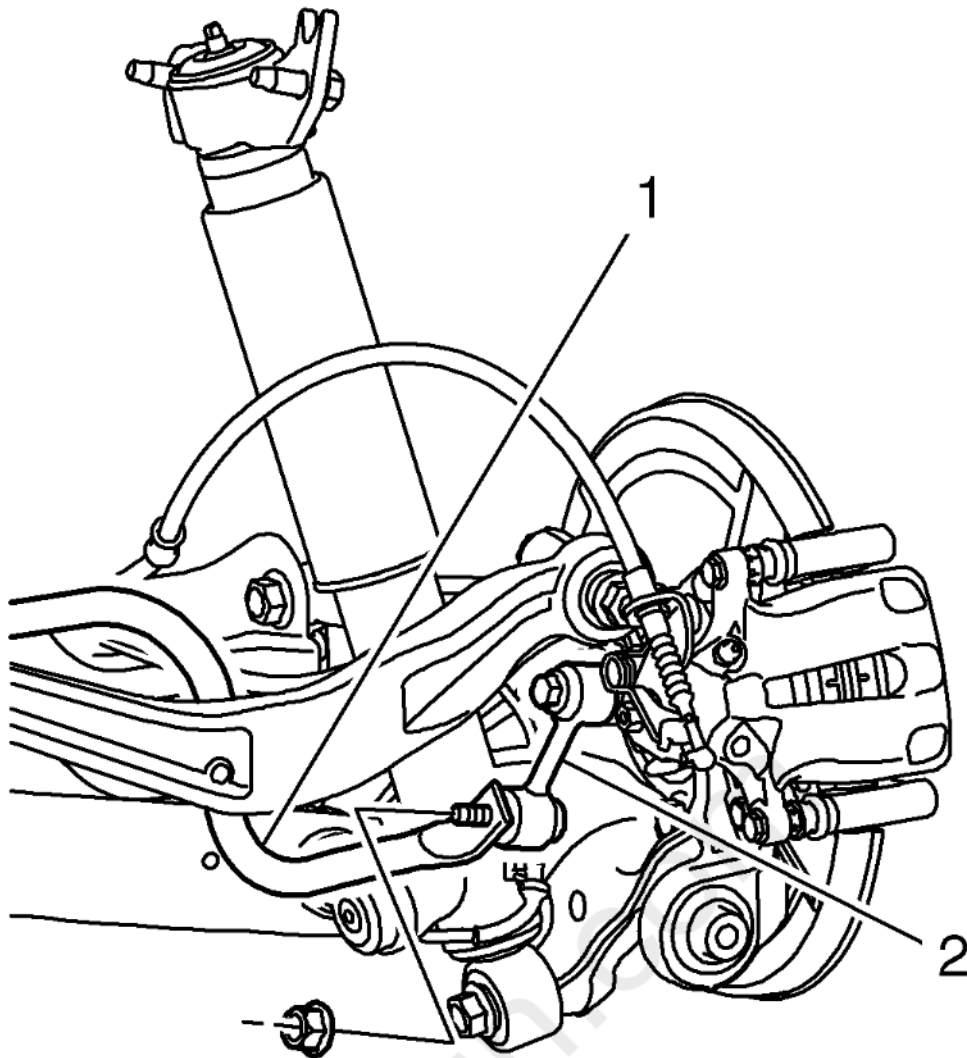
1. Install the insulator (3), the bracket (2), on the stabilizer shaft (4).

**CAUTION:** Refer to **Fastener Caution** .

**CAUTION:** This vehicle is equipped with torque-to-yield or single use fasteners. Install a **NEW** torque-to-yield or single use fastener when installing this component. Failure to replace the torque-to-yield or single use fastener could cause damage to the vehicle or component.

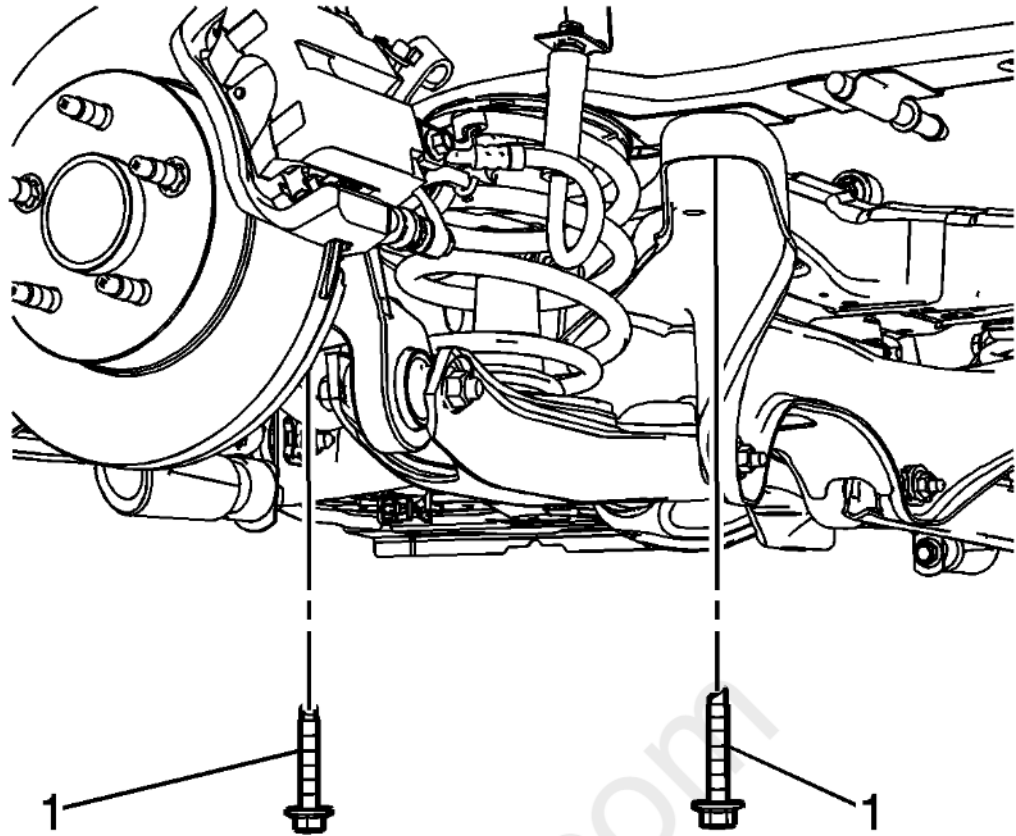
2. Install the NEW bolts (1) and tighten to:

- First Pass: 22 N.m (16 lb ft).
- Final Pass: plus 30 degrees.



**Fig. 15: Stabilizer Shaft & Stabilizer Shaft Link**  
Courtesy of GENERAL MOTORS COMPANY

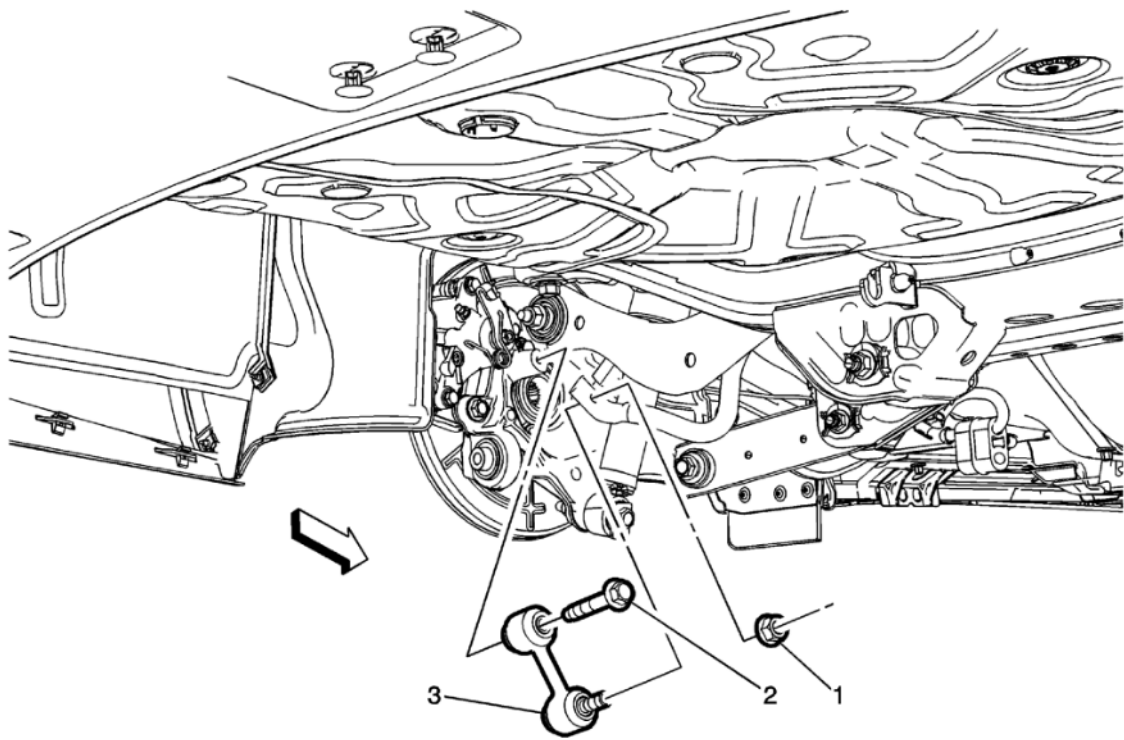
3. Install the stabilizer shaft (1) to stabilizer shaft link (2). Refer to [Stabilizer Shaft Link Replacement](#).
4. Raise the rear support back into position.



**Fig. 16: Identifying Support Mounting Bolts**  
 Courtesy of GENERAL MOTORS COMPANY

5. Install the rear support bolts (1). Refer to [Rear Suspension Support Replacement](#) .
6. Install the lower shock absorber mounting bolts. Refer to [Shock Absorber Replacement](#).
7. Install the rear brake callipers. Refer to [Rear Brake Caliper Replacement](#) .
8. Install the rear suspension control arm bolts to the body. Refer to [Rear Suspension Control Arm Replacement](#).
9. Install the rear springs. Refer to [Rear Coil Spring Replacement](#).
10. Remove the adjustable jack stands from the rear support.
11. Install the park brake cables on the rear suspension support. Refer to [Parking Brake Cable Replacement](#) .
12. Install the rear muffler assembly. Refer to [Exhaust Muffler with Resonator, Exhaust, and Tail Pipe Replacement](#) .
13. Install the tire and wheel assemblies. Refer to [Tire and Wheel Removal and Installation](#) .
14. Lower the vehicle.

## **STABILIZER SHAFT LINK REPLACEMENT**

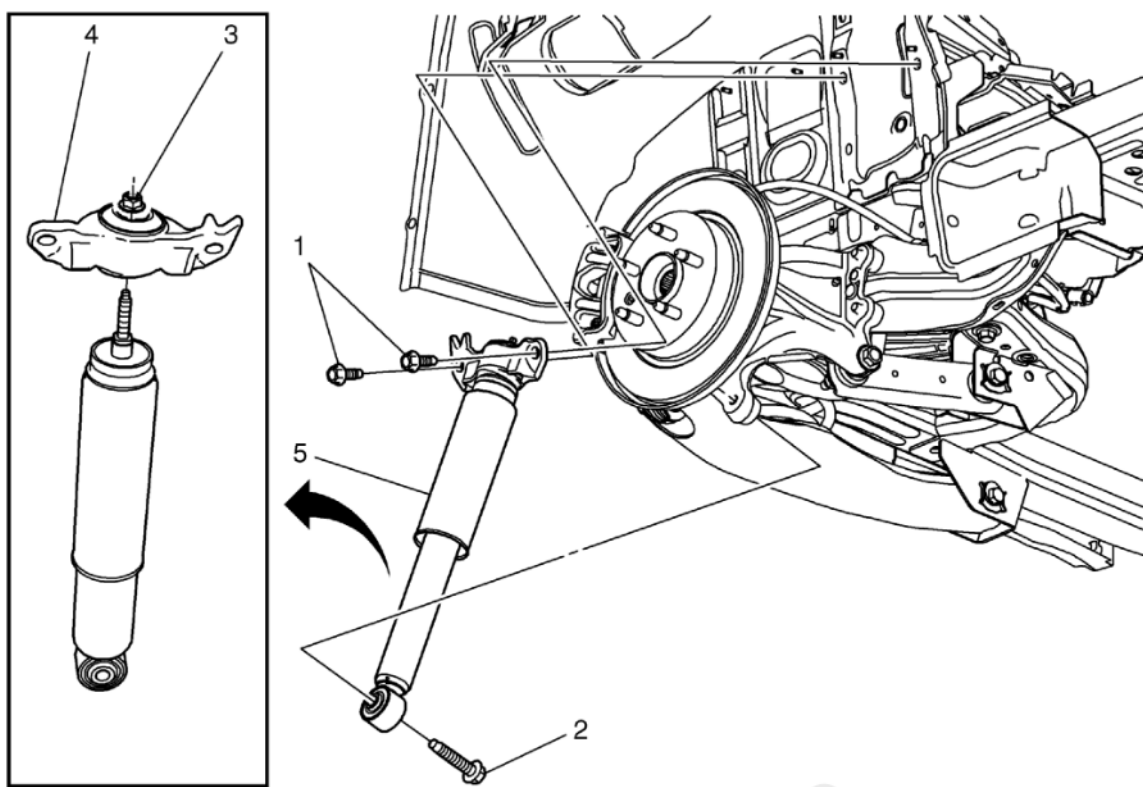


**Fig. 17: Stabilizer Shaft Link**

Courtesy of GENERAL MOTORS COMPANY

| Callout                                                                                                                                                                                                                                                                                        | Component Name                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Preliminary Procedure</b> <ol style="list-style-type: none"> <li>1. Raise and support the vehicle. Refer to <a href="#">Lifting and Jacking the Vehicle</a> .</li> <li>2. Remove the tire and wheel assembly. Refer to <a href="#">Tire and Wheel Removal and Installation</a> .</li> </ol> |                                                                                                                                                                                                                                                                |
| 1                                                                                                                                                                                                                                                                                              | Stabilizer Shaft Link Nut<br><b>CAUTION:</b><br>Refer to <a href="#">Fastener Caution</a> .<br><br><b>Procedure</b><br>Load the rear suspension with the proper jack stand before tightening the nut to specifications.<br><b>Tighten</b><br>55 N.m (41 lb ft) |
| 2                                                                                                                                                                                                                                                                                              | Stabilizer Shaft Link Bolt<br><b>Procedure</b><br>Load the rear suspension with the proper jack stand before tightening the bolt to specifications.<br><b>Tighten</b><br>55 N.m (41 lb ft)                                                                     |
| 3                                                                                                                                                                                                                                                                                              | Stabilizer Shaft Link                                                                                                                                                                                                                                          |

## REAR SHOCK ABSORBER MOUNT REPLACEMENT



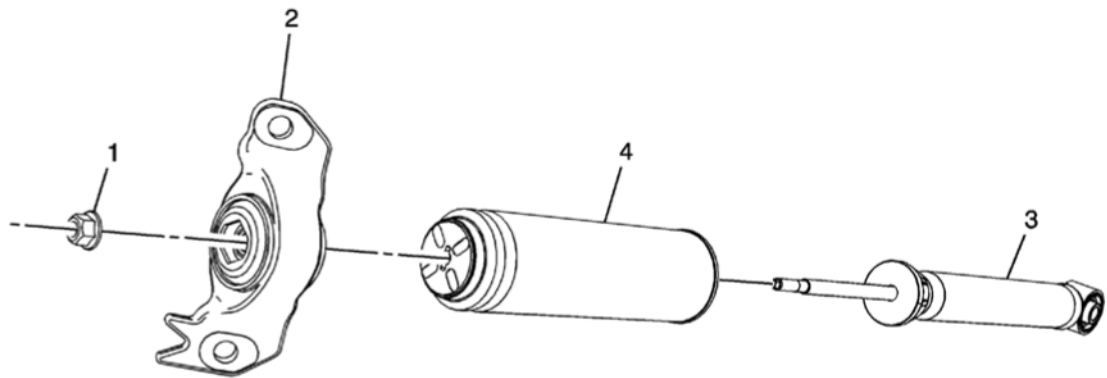
**Fig. 18: Rear Shock Absorber Mount Replacement**

Courtesy of GENERAL MOTORS COMPANY

| Callout                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Component Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Preliminary Procedures</b> <ol style="list-style-type: none"> <li>1. Raise and support the vehicle. <a href="#">Lifting and Jacking the Vehicle</a></li> <li>2. Remove the rear tire and wheel assembly. <a href="#">Tire and Wheel Removal and Installation</a></li> <li>3. Remove the three rear wheelhouse panel liner fasteners that are nearest to the shock absorber top mount. Reposition the liner to remove the top mount bolts. <a href="#">Rear Wheelhouse Liner Replacement</a></li> </ol> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>Rear Shock Absorber Upper Bolt (Qty: 2)</p> <p><b>CAUTION:</b><br/>Refer to <a href="#">Fastener Caution</a> .</p> <p><b>Procedure</b><br/>Support the lower control arm with a suitable jack stand.</p> <p><b>NOTE:</b><br/>Ensure jounce bumper and dust cover are secure within the top mount before tightening. If not properly secure, the jounce bumper and dust cover will fall down causing a click noise. When the top mount is fastened, it secures the jounce bumper within the top mount.</p> <p><b>Tighten</b><br/>100 N.m (74 lb ft)</p> |

| Callout | Component Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2       | <p>Rear Shock Absorber Lower Bolt</p> <p><b>CAUTION:</b><br/> <b>This vehicle is equipped with torque-to-yield or single use fasteners. Install a NEW torque-to-yield or single use fastener when installing this component. Failure to replace the torque-to-yield or single use fastener could cause damage to the vehicle or component.</b></p> <p><b>Procedure</b><br/> Remove and discard the bolt. Replace with NEW only.</p> <p><b>Tighten</b></p> <ul style="list-style-type: none"> <li>• First Pass: 150 N.m (110 lb ft)</li> <li>• plus 60 degrees</li> </ul> |
| 3       | <p>Shock Absorber Nut</p> <p><b>CAUTION:</b><br/> <b>Do Not use air tools to remove the upper shock absorber nut. Doing so could damage the shock absorber internally.</b></p> <p><b>Tighten</b><br/> 20 N.m (15 lb ft)</p>                                                                                                                                                                                                                                                                                                                                              |
| 4       | <p>Rear Shock Absorber Upper Mount</p> <p><b>Procedure</b><br/> Transfer the upper mount to the new shock absorber.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 5       | <p>Shock Absorber</p> <p><b>Procedure</b></p> <ol style="list-style-type: none"> <li>1. Disconnect any electrical connectors, if equipped.</li> <li>2. Tug downwards on the jounce bumper and dust cover. If the assembly falls out of the mount, remove the top mount fasteners and start over.</li> </ol>                                                                                                                                                                                                                                                              |

## REAR SHOCK ABSORBER BOOT REPLACEMENT

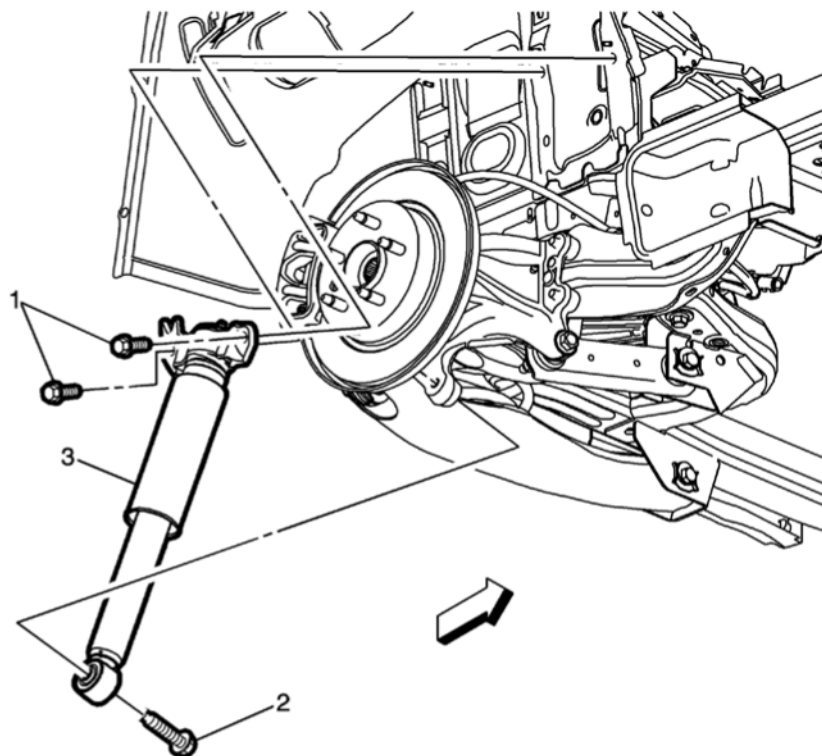


**Fig. 19: Rear Shock Absorber, Boot, Mount & Nut**

Courtesy of GENERAL MOTORS COMPANY

| Callout                                                                                                                                                                                                                                                                                                                                                                                           | Component Name                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| <b>Preliminary Procedures</b> <ol style="list-style-type: none"> <li>1. Raise and support the vehicle. Refer to <a href="#">Lifting and Jacking the Vehicle</a> .</li> <li>2. Remove the rear tire and wheel assembly. Refer to <a href="#">Tire and Wheel Removal and Installation</a> .</li> <li>3. Remove rear shock absorber. Refer to <a href="#">Shock Absorber Replacement</a>.</li> </ol> |                                                                |
| 1                                                                                                                                                                                                                                                                                                                                                                                                 | Rear Shock Absorber Nut<br><b>Tighten</b><br>20 N.m (15 lb ft) |
| 2                                                                                                                                                                                                                                                                                                                                                                                                 | Rear Shock Absorber Mount                                      |
| 3                                                                                                                                                                                                                                                                                                                                                                                                 | Rear Shock Absorber                                            |
| 4                                                                                                                                                                                                                                                                                                                                                                                                 | Rear Shock Absorber Boot                                       |

## **SHOCK ABSORBER REPLACEMENT**



**Fig. 20: Shock Absorber**

Courtesy of GENERAL MOTORS COMPANY

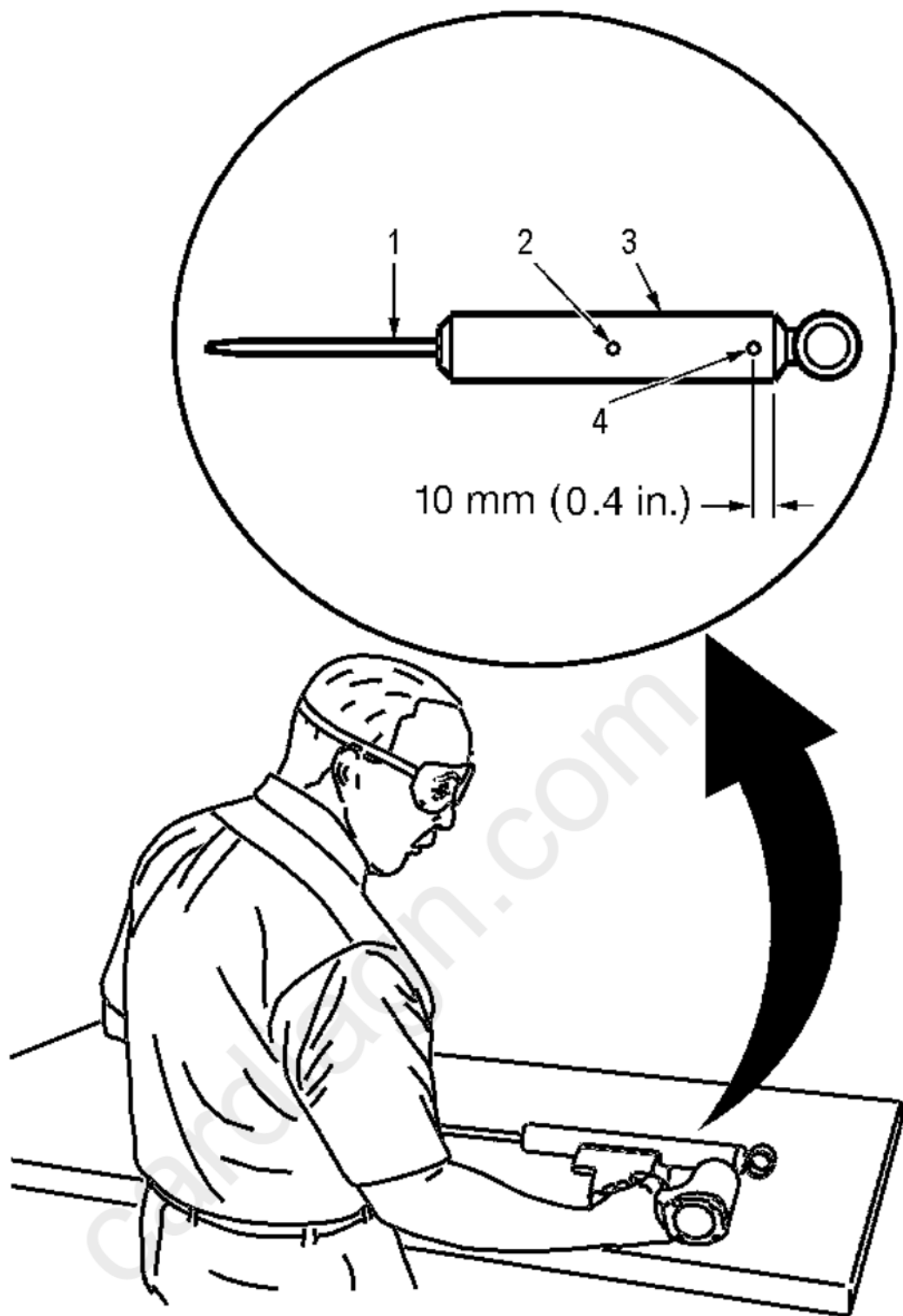
| Callout                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Component Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Preliminary Procedures</b> <ol style="list-style-type: none"> <li>1. Raise and support the vehicle. <a href="#">Lifting and Jacking the Vehicle</a></li> <li>2. Remove the rear tire and wheel assembly. <a href="#">Tire and Wheel Removal and Installation</a></li> <li>3. Remove the three rear wheelhouse panel liner fasteners that are nearest to the shock absorber top mount. Reposition the liner to remove the top mount bolts. <a href="#">Rear Wheelhouse Liner Replacement</a></li> </ol> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <p>Rear Shock Absorber Upper Bolt (Qty: 2)</p> <p><b>CAUTION:</b><br/>Refer to <a href="#">Fastener Caution</a> .</p> <p><b>Procedure</b><br/>Support the lower control arm with a suitable jack stand.</p> <p><b>NOTE:</b><br/>Ensure jounce bumper and dust cover are secure within the top mount before tightening. If not properly secure, the jounce bumper and dust cover will fall down causing a click noise. When the top mount is fastened, it secures the jounce bumper within the top mount.</p> <p><b>Tighten</b><br/>100 N.m (74 lb ft)</p> |

| Callout | Component Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2       | <p>Rear Shock Absorber Lower Bolt</p> <p><b>CAUTION:</b></p> <p>This vehicle is equipped with torque-to-yield or single use fasteners. Install a NEW torque-to-yield or single use fastener when installing this component. Failure to replace the torque-to-yield or single use fastener could cause damage to the vehicle or component.</p> <p><b>Procedure</b><br/>Remove and discard the bolt. Replace with NEW only.</p> <p><b>Tighten</b></p> <ul style="list-style-type: none"> <li>• First Pass: 150 N.m (110 lb ft)</li> <li>• plus 60 degrees</li> </ul> |
| 3       | <p>Shock Absorber</p> <p><b>Procedure</b><br/>Tug downwards on the jounce bumper and dust cover. If the assembly falls out of the mount, remove the top mount fasteners and start over.</p>                                                                                                                                                                                                                                                                                                                                                                        |

### SHOCK ABSORBER DISPOSAL

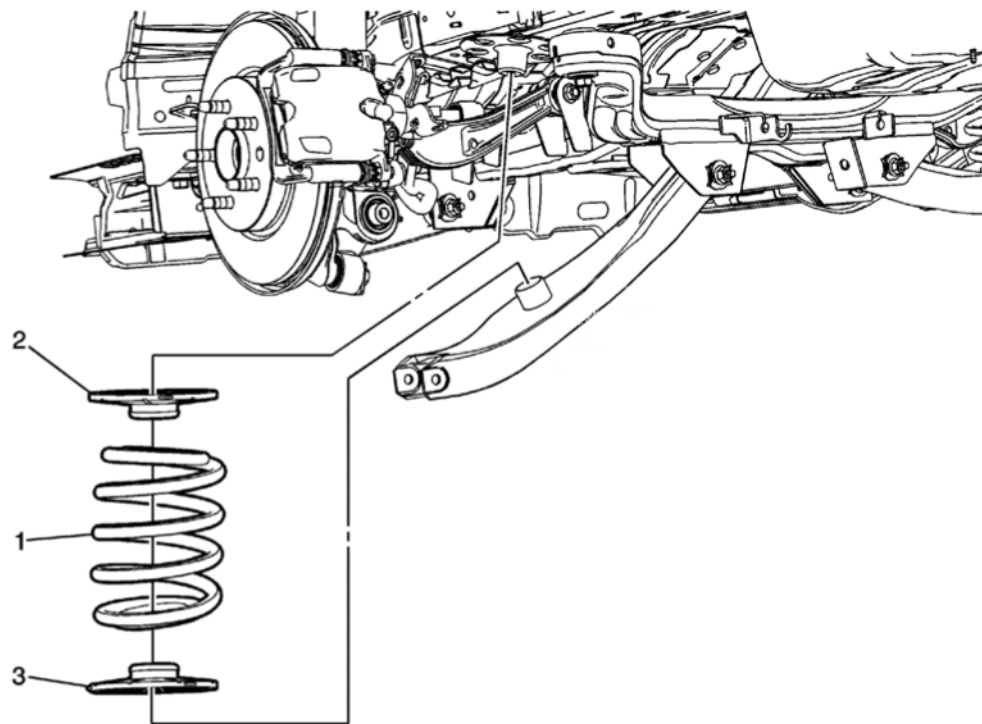
**WARNING:** Gas charged shock absorbers contain high pressure gas. Do not remove the snap ring from inside the top of the tube. If the snap ring is removed, the contents of the shock absorber will come out with extreme force which may result in personal injury.

**WARNING:** To prevent personal injury, wear safety glasses when centerpunching and drilling the shock absorber. Use care not to puncture the shock absorber tube with the centerpunch.



**Fig. 21: Drilling Hole In Shock Absorber At Centerpunched Locations**  
**Courtesy of GENERAL MOTORS COMPANY**

1. Make an indentation 10 mm (0.4 in) from the bottom of the tube (3) using a centerpunch.
2. Clamp the shock absorber in a vise horizontally with the shock absorber rod (1) completely extended.
3. Drill a hole in the shock absorber at the centerpunch (4) using a 5 mm (3/16 in) drill bit. Gas or a gas/oil mixture will exhaust when the drill bit penetrates the shock absorber. Use shop towels in order to contain the escaping oil.
4. Make an indentation in the middle (2) of the tube (3) with a centerpunch.
5. Drill a second hole in the shock absorber at the centerpunch (2) using a 5 mm (3/16 in) drill bit. Oil will exhaust when the drill bit penetrates the shock absorber. Use shop towels in order to contain the escaping oil.
6. Remove the shock absorber from the vise. Hold the shock absorber over a drain pan horizontally with the holes down. Move the rod (1) in and out of the tube (3) to completely drain the oil from the shock absorber.

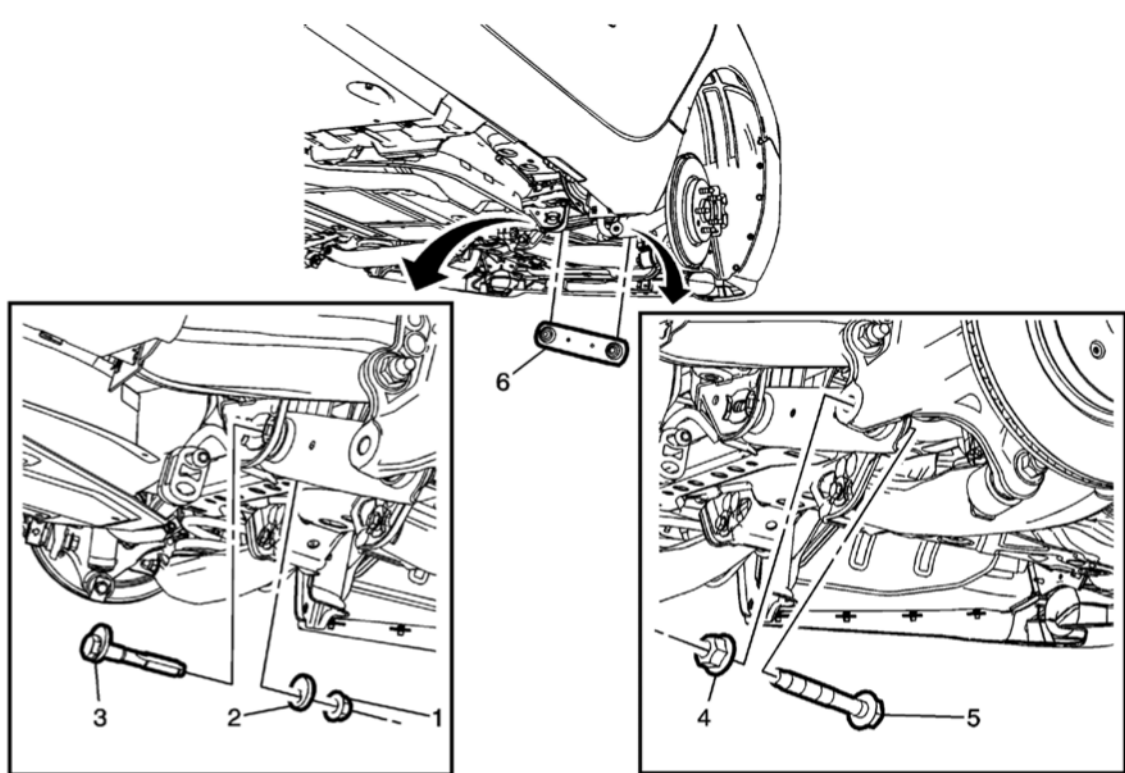


**Fig. 22: Rear Spring, Insulator & Jounce Bumper**

Courtesy of GENERAL MOTORS COMPANY

| Callout                                                                                                                                                                                                                                                                                                                        | Component Name                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>WARNING:</b><br>To prevent personal injury and/or component damage, use the proper tools to support the lower control arm when removing the coil spring. The coil spring is under extreme pressure and can become a projectile should the spring separate from the lower control arm before all of the tension is relieved. |                                                                                                                                                                                                                                                                                           |
| <b>Preliminary Procedure</b><br><ol style="list-style-type: none"> <li>1. Raise and support the vehicle. Refer to <a href="#">Lifting and Jacking the Vehicle</a> .</li> <li>2. Remove the rear tire and wheel. Refer to <a href="#">Tire and Wheel Removal and Installation</a> .</li> </ol>                                  |                                                                                                                                                                                                                                                                                           |
| 1                                                                                                                                                                                                                                                                                                                              | Rear Spring<br><b>Procedure</b><br><ol style="list-style-type: none"> <li>1. Use the proper jack stand to support the lower control arm.</li> <li>2. Disconnect the lower control arm from the rear wheel hub bracket. Refer to <a href="#">Lower Control Arm Replacement</a>.</li> </ol> |
| 2                                                                                                                                                                                                                                                                                                                              | Rear Spring Insulator (Upper)                                                                                                                                                                                                                                                             |
| 3                                                                                                                                                                                                                                                                                                                              | Rear Spring Insulator (Lower)                                                                                                                                                                                                                                                             |

## REAR SUSPENSION LINK REPLACEMENT - TOE LINK



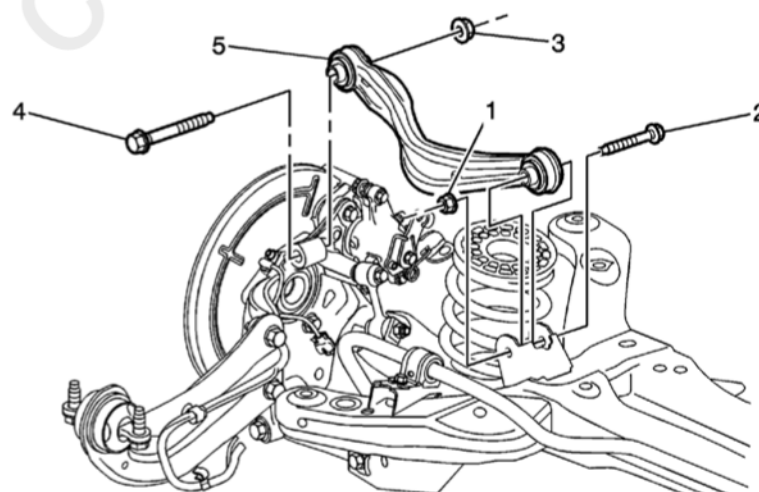
**Fig. 23: Rear Suspension Link & Mounting Components - Toe Link**

Courtesy of GENERAL MOTORS COMPANY

| Callout                                                                                                                            | Component Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Preliminary Procedure</b><br>Raise and suitably support the vehicle. Refer to <a href="#">Lifting and Jacking the Vehicle</a> . |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 1                                                                                                                                  | <p>Rear Suspension Link Inner Nut</p> <p><b>CAUTION:</b><br/>Refer to <a href="#">Fastener Caution</a> .</p> <p><b>CAUTION:</b><br/>This vehicle is equipped with torque-to-yield or single use fasteners. Install a <b>NEW</b> torque-to-yield or single use fastener when installing this component. Failure to replace the torque-to-yield or single use fastener could cause damage to the vehicle or component.</p> <p><b>Procedure</b></p> <ol style="list-style-type: none"> <li>1. Remove and discard the nut. Replace with NEW only.</li> <li>2. Support the adjust link horizontally with a jack before tightening the nut.</li> </ol> <p><b>Tighten</b></p> <ul style="list-style-type: none"> <li>• First Pass: 90 N.m (66 lb ft)</li> <li>• Final Pass: plus 60 degrees</li> </ul> <p><b>Special Tools</b><br/>           EN-45059 Angle Meter<br/>           For equivalent regional tools, refer to <a href="#">Special Tools</a>.</p> |
| 2                                                                                                                                  | Rear Suspension Washer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Callout | Component Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3       | <p>Rear Suspension Link Inner Bolt</p> <p><b>CAUTION:</b></p> <p>This vehicle is equipped with torque-to-yield or single use fasteners. Install a <b>NEW</b> torque-to-yield or single use fastener when installing this component. Failure to replace the torque-to-yield or single use fastener could cause damage to the vehicle or component.</p> <p><b>Procedure</b><br/>Remove and discard the bolt. Replace with NEW only.</p>                                                                                                                                                                                                                                                                                        |
| 4       | Rear Suspension Link Outer Nut                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 5       | <p>Rear Suspension Link Outer Bolt</p> <p><b>CAUTION:</b></p> <p>This vehicle is equipped with torque-to-yield or single use fasteners. Install a <b>NEW</b> torque-to-yield or single use fastener when installing this component. Failure to replace the torque-to-yield or single use fastener could cause damage to the vehicle or component.</p> <p><b>Procedure</b><br/>Remove and discard the bolt. Replace with NEW only.</p> <p><b>Tighten</b></p> <ul style="list-style-type: none"> <li>• First Pass: 115 N.m (85 lb ft)</li> <li>• Final Pass: plus 90 degrees</li> </ul> <p><b>Special Tools</b><br/><b>EN-45059</b> Angle Meter<br/>For equivalent regional tools, refer to <a href="#">Special Tools</a>.</p> |
| 6       | <p>Rear Suspension Link</p> <p><b>Procedure</b><br/>After installation, check the rear alignment. Refer to <a href="#">Wheel Alignment Specifications</a> .</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## UPPER CONTROL ARM REPLACEMENT



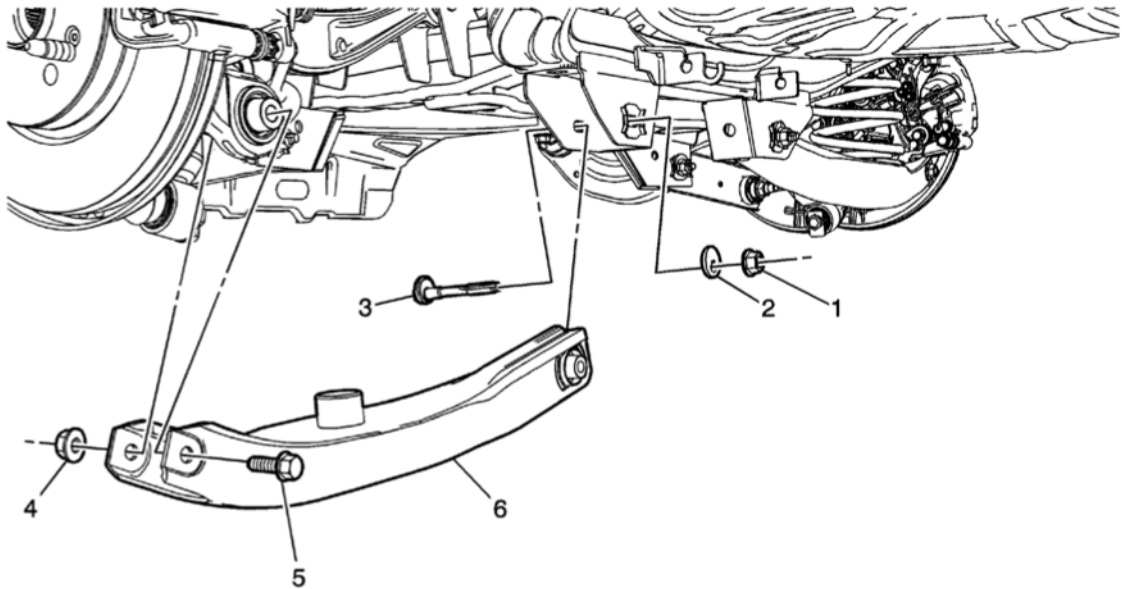
**Fig. 24: Upper Control Arm (GNC)**

Courtesy of GENERAL MOTORS COMPANY

| Callout | Component Name |
|---------|----------------|
|         |                |

| Callout                                                                                                                                                                                                                                                                                                                                                                                                       | Component Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CAUTION:</b><br>Refer to <a href="#">Fastener Caution</a> .                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>CAUTION:</b><br>This bolt is designed to permanently stretch when tightened, and therefore <b>MUST</b> be replaced anytime it is removed. The correct part number fastener must be used to replace this type of fastener. Do not use a bolt that is stronger in this application. If the correct bolt is not used, the parts will not be tightened correctly. The system or the components may be damaged. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Preliminary Procedures</b> <ol style="list-style-type: none"> <li>1. Raise and suitably support the vehicle. Refer to <a href="#">Lifting and Jacking the Vehicle</a> .</li> <li>2. Remove the rear tire and wheel assembly. Refer to <a href="#">Tire and Wheel Removal and Installation</a> .</li> </ol>                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 1                                                                                                                                                                                                                                                                                                                                                                                                             | Rear Suspension Upper Control Arm Inner Nut<br><br><b>Tighten</b> <ol style="list-style-type: none"> <li>1. First Pass: 70 N.m (52 lb ft)</li> <li>2. Final Pass: plus 60 degrees</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2                                                                                                                                                                                                                                                                                                                                                                                                             | Rear Suspension Upper Control Arm Inner Bolt<br><br><b>WARNING:</b><br>This vehicle is equipped with torque-to-yield or single use fasteners. Install a <b>NEW</b> torque-to-yield or single use fastener when installing this component. Failure to replace the torque-to-yield or single use fasteners could cause damage to the vehicle, component, or bodily injury.<br><br><b>Procedure</b><br>Remove and discard the bolt. Replace with NEW only.                                                                                                                                                   |
| 3                                                                                                                                                                                                                                                                                                                                                                                                             | Rear Suspension Upper Control Arm Outer Nut                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 4                                                                                                                                                                                                                                                                                                                                                                                                             | Rear Suspension Upper Control Arm Outer Bolt<br><br><b>WARNING:</b><br>This vehicle is equipped with torque-to-yield or single use fasteners. Install a <b>NEW</b> torque-to-yield or single use fastener when installing this component. Failure to replace the torque-to-yield or single use fasteners could cause damage to the vehicle, component, or bodily injury.<br><br><b>Procedure</b><br>Remove and discard the bolt. Replace with NEW only.<br><br><b>Tighten</b> <ol style="list-style-type: none"> <li>1. First Pass: 150 N.m (85 lb ft)</li> <li>2. Final Pass: plus 90 degrees</li> </ol> |
| 5                                                                                                                                                                                                                                                                                                                                                                                                             | Rear Suspension Upper Control Arm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## LOWER CONTROL ARM REPLACEMENT

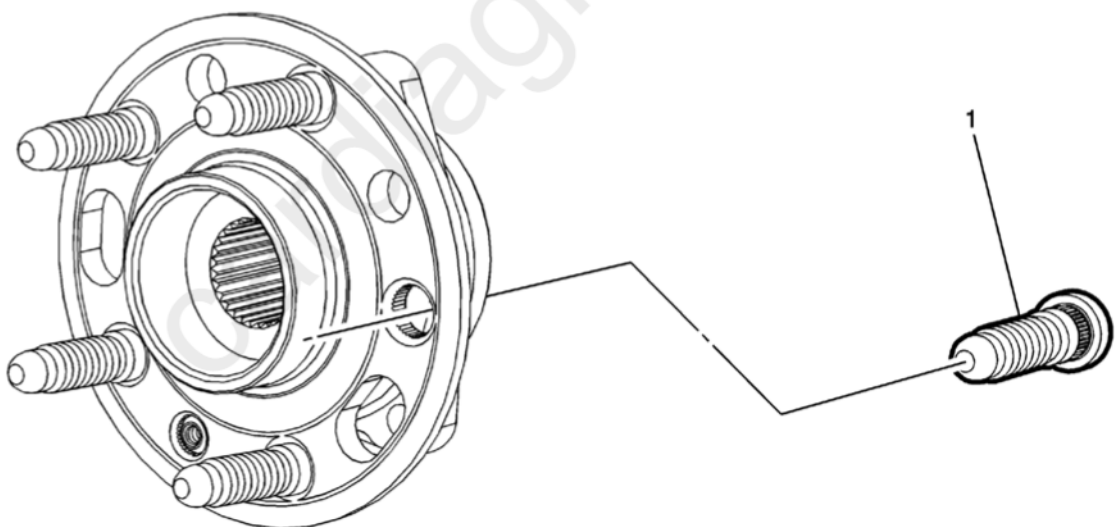


**Fig. 25: Rear Axle Lower Control Arm (GNC)**  
 Courtesy of GENERAL MOTORS COMPANY

| Callout                                                                                                                                                                                                                                                                                                                                                                                   | Component Name                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Preliminary Procedure</b> <ol style="list-style-type: none"> <li>1. Raise and support the vehicle. Refer to <a href="#">Lifting and Jacking the Vehicle</a> .</li> <li>2. Remove the tire and wheel assembly. Refer to <a href="#">Tire and Wheel Removal and Installation</a> .</li> <li>3. Remove the rear spring. Refer to <a href="#">Rear Coil Spring Replacement</a>.</li> </ol> |                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 1                                                                                                                                                                                                                                                                                                                                                                                         | Rear Suspension Lower Control Arm Inner Nut<br><b>CAUTION:</b><br>Refer to <a href="#">Fastener Caution</a> .<br><b>Tighten</b> <ul style="list-style-type: none"> <li>• First Pass: 90 N.m (66 lb ft)</li> <li>• Final Pass: plus 60 degrees</li> </ul> <b>Special Tools</b><br>EN-45059 Angle Meter<br>For equivalent regional tools, refer to <a href="#">Special Tools</a> .                                                      |
| 2                                                                                                                                                                                                                                                                                                                                                                                         | Rear Suspension Lower Control Arm Washer                                                                                                                                                                                                                                                                                                                                                                                              |
| 3                                                                                                                                                                                                                                                                                                                                                                                         | Rear Suspension Lower Control Arm Inner Bolt<br><b>CAUTION:</b><br>This vehicle is equipped with torque-to-yield or single use fasteners. Install a NEW torque-to-yield or single use fastener when installing this component. Failure to replace the torque-to-yield or single use fastener could cause damage to the vehicle or component.<br><b>Procedure</b><br>Remove and discard the bolt. DO NOT reuse, replace with NEW only. |
| 4                                                                                                                                                                                                                                                                                                                                                                                         | Rear Suspension Lower Control Arm Outer Nut                                                                                                                                                                                                                                                                                                                                                                                           |

| Callout | Component Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5       | <p>Rear Suspension Lower Control Arm Outer Bolt</p> <p><b>CAUTION:</b><br/>This vehicle is equipped with torque-to-yield or single use fasteners. Install a NEW torque-to-yield or single use fastener when installing this component. Failure to replace the torque-to-yield or single use fastener could cause damage to the vehicle or component.</p> <p><b>Procedure</b><br/>Remove and discard the bolt. DO NOT reuse, replace with NEW only.</p> <p><b>Tighten</b></p> <ul style="list-style-type: none"> <li>• First Pass: 70 N.m (51 lb ft)</li> <li>• Final Pass: plus 90 degrees</li> </ul> <p><b>Special Tools</b><br/>EN-45059 Angle Meter<br/>For equivalent regional tools, refer to <a href="#">Special Tools</a>.</p> |
| 6       | <p>Rear Lower Control Arm</p> <p><b>Procedure</b><br/>Check the rear alignment after installation. Refer to <a href="#">Wheel Alignment Specifications</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## WHEEL STUD REPLACEMENT



**Fig. 26: Wheel Stud**

Courtesy of GENERAL MOTORS COMPANY

| Callout                                                                                                                                                                                                                                                                                                                                                                                                          | Component Name |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>Preliminary Procedure</b> <ol style="list-style-type: none"> <li>1. Raise and support the vehicle. Refer to <a href="#">Lifting and Jacking the Vehicle</a>.</li> <li>2. Remove the tire and wheel assembly. Refer to <a href="#">Tire and Wheel Removal and Installation</a>.</li> <li>3. Remove the rear wheel bearing and hub. Refer to <a href="#">Rear Wheel Bearing and Hub Replacement</a>.</li> </ol> |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                  |                |

| Callout | Component Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | <p>Wheel Stud</p> <p><b>Procedure</b></p> <ol style="list-style-type: none"> <li>1. Position the wheel bearing and hub assembly in a suitable vise.</li> <li>2. Using the <b>CH-43631</b> remover, remove the wheel stud.</li> <li>3. Position NEW wheel stud in the wheel bearing and hub assembly.</li> <li>4. Using 3 or 4 washers and an old wheel nut, tighten the wheel nut until the NEW wheel stud is fully seated in the wheel bearing and hub assembly.</li> <li>5. Remove the washers and the wheel nut.</li> </ol> <p><b>Special Tools</b><br/> <b>CH-43631</b> Ball Joint Remover<br/> For regional equivalent tools, refer to <a href="#">Special Tools</a>.</p> |

## DESCRIPTION AND OPERATION

### REAR SUSPENSION DESCRIPTION AND OPERATION

The rear suspension system on this vehicle is of the independent link type. Rear suspension adjustment is achieved through adjustable toe links and lower control arms. The rear coil springs are retained between the body and the lower control arm. Rubber insulators isolate the coil spring at both top and bottom. The rear suspension consists of 2 shock absorbers attached to the knuckle and the reinforced body areas.

The rear suspension system performs the following functions:

- Maintains the relationship of the rear axle to the body
- Controls the torque reaction on acceleration and braking

The suspension system consists of the following components:

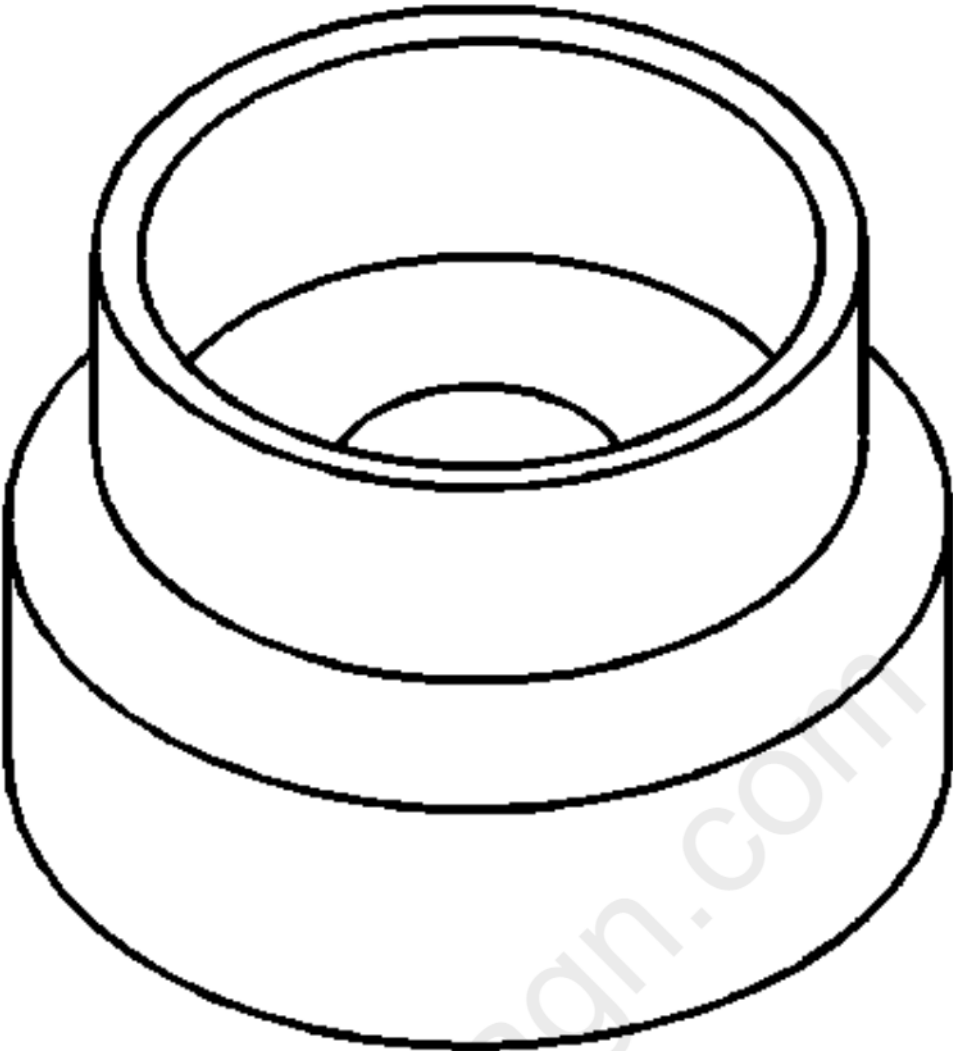
- Support assembly
- Coil springs and insulators
- Stabilizer shaft, insulators and stabilizer links
- Toe links
- Upper control arms
- Lower control arms
- Rear suspension control arms
- Knuckles
- Wheel bearing/hub
- Shock absorbers

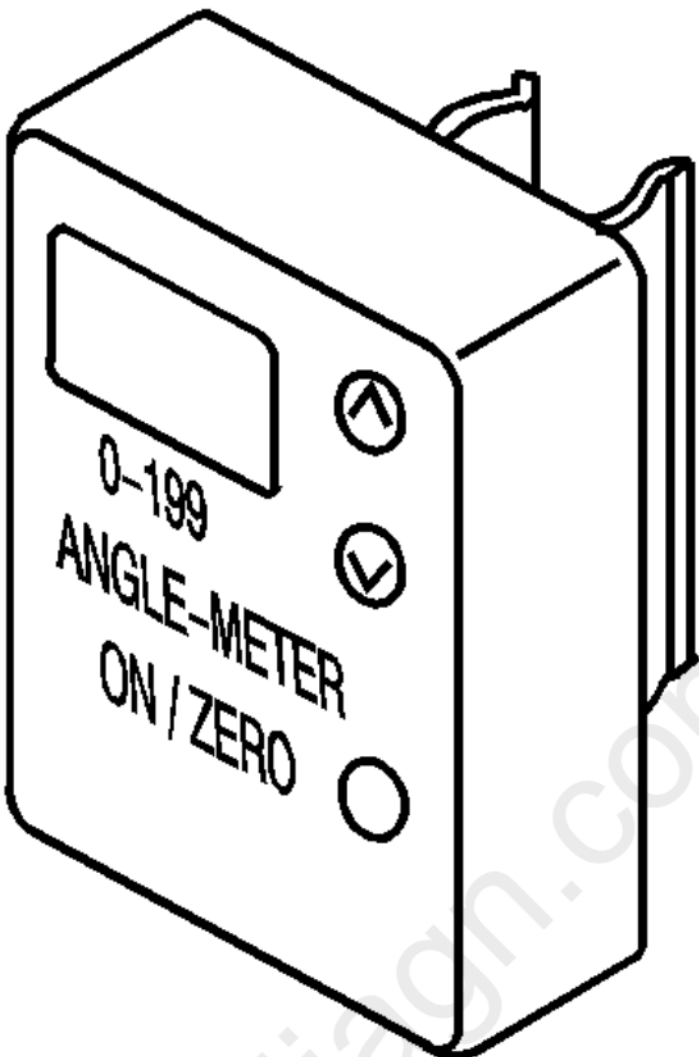
## SPECIAL TOOLS AND EQUIPMENT

### SPECIAL TOOLS

| Illustration | Tool Number/Description |
|--------------|-------------------------|
|              |                         |

| Illustration                                                                        | Tool<br>Number/Description                            |
|-------------------------------------------------------------------------------------|-------------------------------------------------------|
|  | <p>CH-43631<br/>J-43631<br/>Ball Joint Remover</p>    |
|                                                                                     | <p>CH-21474<br/>J-21474<br/>Remover/Installer kit</p> |

| Illustration                                                                        | Tool<br>Number/Description |
|-------------------------------------------------------------------------------------|----------------------------|
|  |                            |
|                                                                                     |                            |

| Illustration                                                                        | Tool<br>Number/Description                  |
|-------------------------------------------------------------------------------------|---------------------------------------------|
|  | <p>EN-45059<br/>J-45059<br/>Angle Meter</p> |