

**2007 Saturn Outlook XE**

2007 SUSPENSION Rear Suspension - Outlook

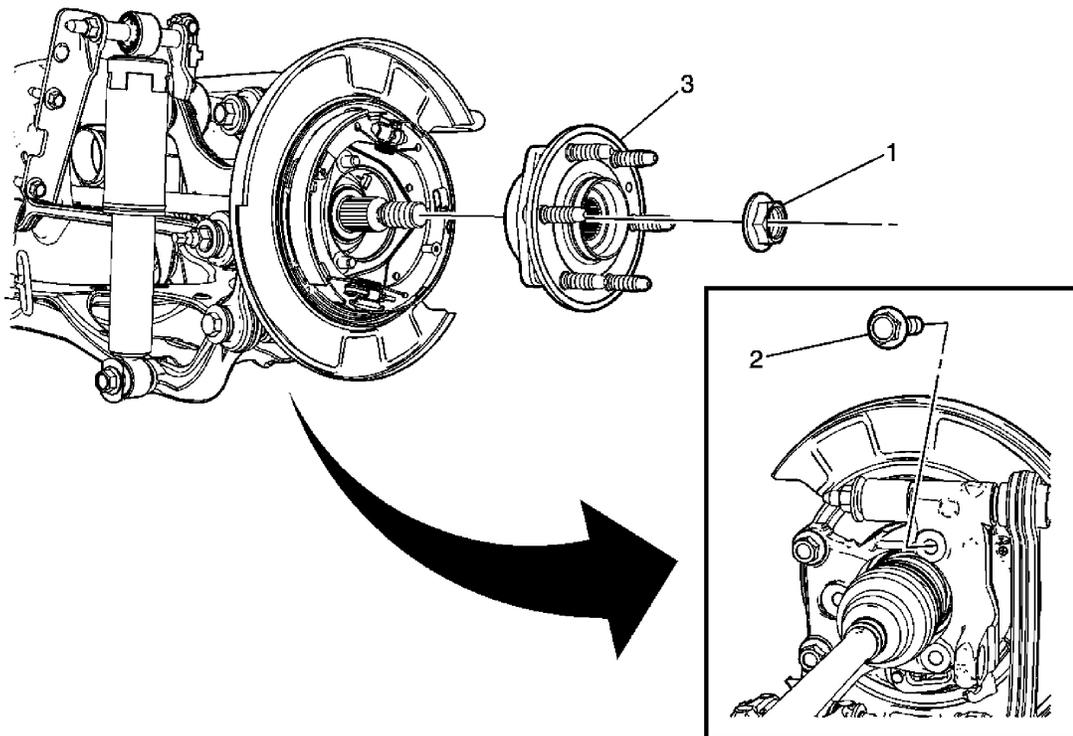
**2007 SUSPENSION****Rear Suspension - Outlook****SPECIFICATIONS****FASTENER TIGHTENING SPECIFICATIONS****Fastener Tightening Specifications**

Application	Specification	
	Metric	English
Adjuster Link to Knuckle Nut		
• First Pass	75 N.m	55 lb ft
• Final Pass	+ 60 degrees	
Adjuster Link to Crossmember Nuts		
	140 N.m	103 lb ft
Lower Control Arm to Knuckle Bolt		
• First Pass	100 N.m	74 lb ft
• Final Pass	+ 60 degrees	
Lower Control Arm to Crossmember Nuts - Front		
• First Pass	110 N.m	81 lb ft
• Final Pass	+ 45 degrees	
Lower Control Arm to Crossmember Nuts - Rear		
• First Pass	120 N.m	89 lb ft
• Final Pass	+ 60 degrees	
Rear Shock Absorber Bracket to Body Bolts		
	73 N.m	54 lb ft
Rear Shock Absorber to Bracket Nuts		
	70 N.m	52 lb ft
Rear Shock Absorber to Lower Control Arm Bolts		
• First Pass	100 N.m	74 lb ft
• Final Pass	+ 60 degrees	
Rear Wheel Bearing and Hub to Knuckle Bolts		
	120 N.m	88 lb ft
Stabilizer Shaft Clamp to Crossmember Bolts		
	50 N.m	37 lb ft
Stabilizer Shaft Link Nuts		
	22 N.m	16 lb ft
Upper Control Arm to Knuckle Bolts		
• First Pass	100 N.m	74 lb ft

• Final Pass	+ 90 degrees	
Upper Control Arm to Crossmember Nuts	140 N.m	103 lb in
Wheel Bearing Hub Bolt	120 N.m	88 lb in
Wheel Drive Shaft Nut	160 N.m	118 lb in

## REPAIR INSTRUCTIONS

### REAR WHEEL BEARING AND HUB REPLACEMENT (AWD)



**Fig. 1: Identifying Rear Wheel Bearing And Hub (AWD)**  
 Courtesy of GENERAL MOTORS CORP.

### Rear Wheel Bearing and Hub Replacement (AWD)

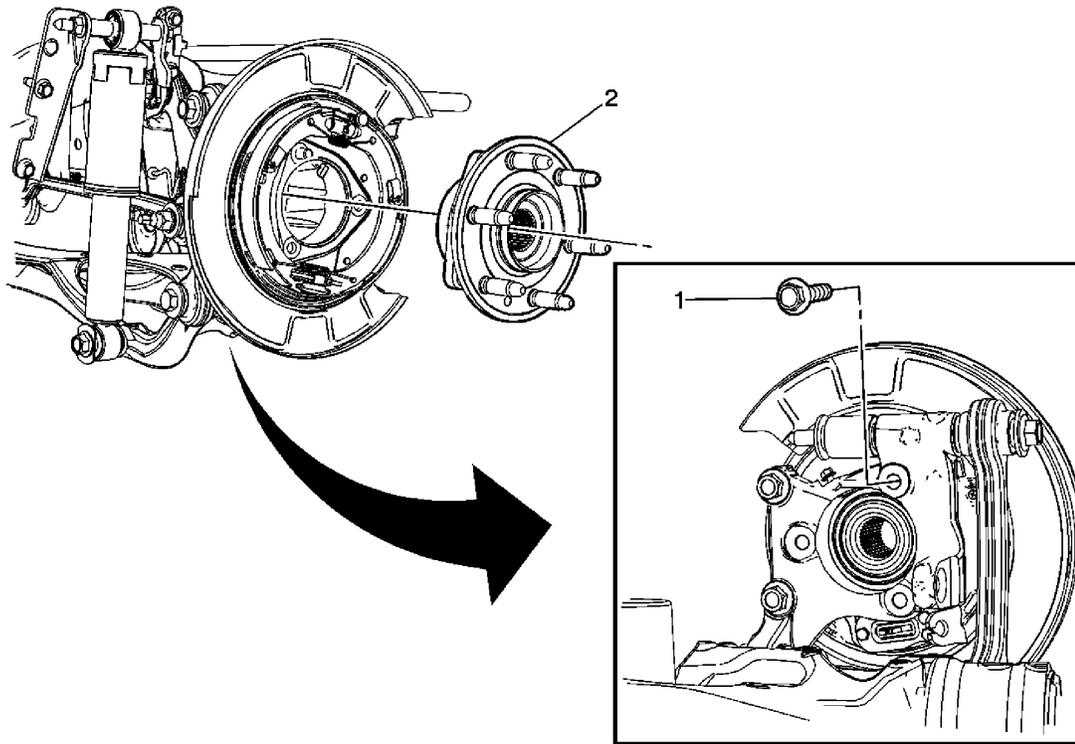
Callout	Component Name
<b>Preliminary Procedures</b>	
1.	Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> .
2.	Remove the rear brake rotor. Refer to <u>Front Brake Rotor Replacement</u> .
3.	Remove the wheel speed sensor. Refer to <u>Rear Wheel Speed Sensor Replacement</u> .

## 2007 Saturn Outlook XE

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1	<p>Wheel Drive Shaft Nut</p> <p><b>NOTE:</b> Refer to <u>Fastener Notice</u> .</p> <p><b>Tip:</b> For AWD vehicles only</p> <p><b>Tighten:</b> 160 N.m (118 lb ft)</p>
2	<p>Wheel Bearing and Hub Bolt (Qty: 3)</p> <p><b>Procedure:</b> Using the <b>J 28733-B</b> , separate the front wheel hub and bearing from the wheel drive shaft.</p> <p><b>Tighten:</b> 120 N.m (88 lb ft).</p> <p><b>Special Tools:</b> <b>J 28733-B</b> Front/Rear Spindle Remover</p>
3	Front Wheel Bearing and Hub Assembly

#### REAR WHEEL BEARING AND HUB REPLACEMENT (FWD)

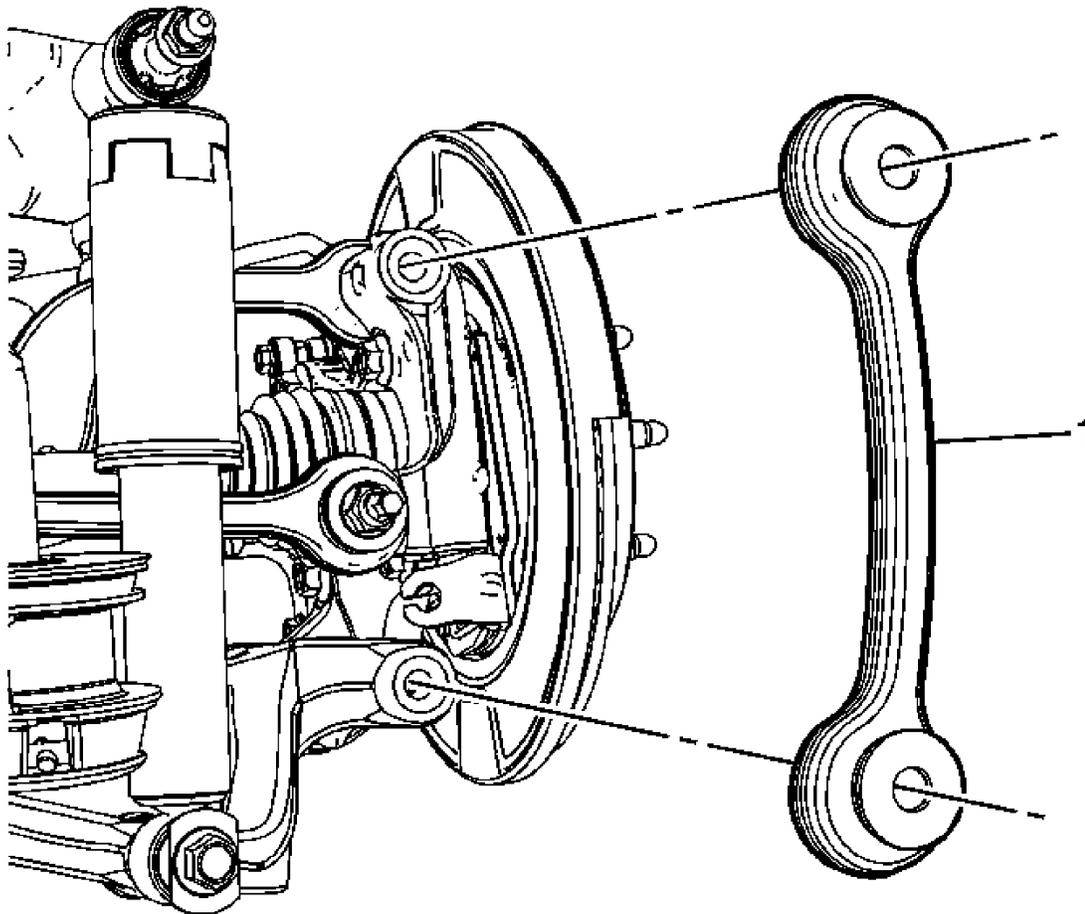


**Fig. 2: Identifying Rear Wheel Bearing And Hub (FWD)**

Courtesy of GENERAL MOTORS CORP.

**Rear Wheel Bearing and Hub Replacement (FWD)**

Callout	Component Name
<b>Preliminary Procedure</b>	
<ol style="list-style-type: none"> <li>1. Raise and support the vehicle. Refer to <b><u>Lifting and Jacking the Vehicle</u></b> .</li> <li>2. Remove the rear brake rotor. Refer to <b><u>Front Brake Rotor Replacement</u></b> .</li> <li>3. Remove the rear wheel speed sensor. Refer to <b><u>Rear Wheel Speed Sensor Replacement</u></b> .</li> </ol>	
1	Rear Wheel Bearing and Hub Bolt (Qty: 3).  <b>NOTE:</b> Refer to <b><u>Fastener Notice</u></b> .  <b>Tighten:</b> 120 N.m (88 lb ft)
2	Rear Wheel Bearing and Hub



**Fig. 3: Identifying Rear Suspension Link**  
 Courtesy of GENERAL MOTORS CORP.

**Rear Suspension Link Replacement - Upper to Lower Control Arm**

Callout	Component Name
<p><b>IMPORTANT:</b>                      The following procedure indicates servicing the left side of the vehicle. The right side of the vehicle is similar.</p> <p><b>Preliminary Procedure</b></p> <ol style="list-style-type: none"> <li>1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> .</li> <li>2. Remove the rear tire and wheel. Refer to <u>Tire and Wheel Removal and Installation</u></li> </ol>	

Rear Lateral Link

**Procedure**

1

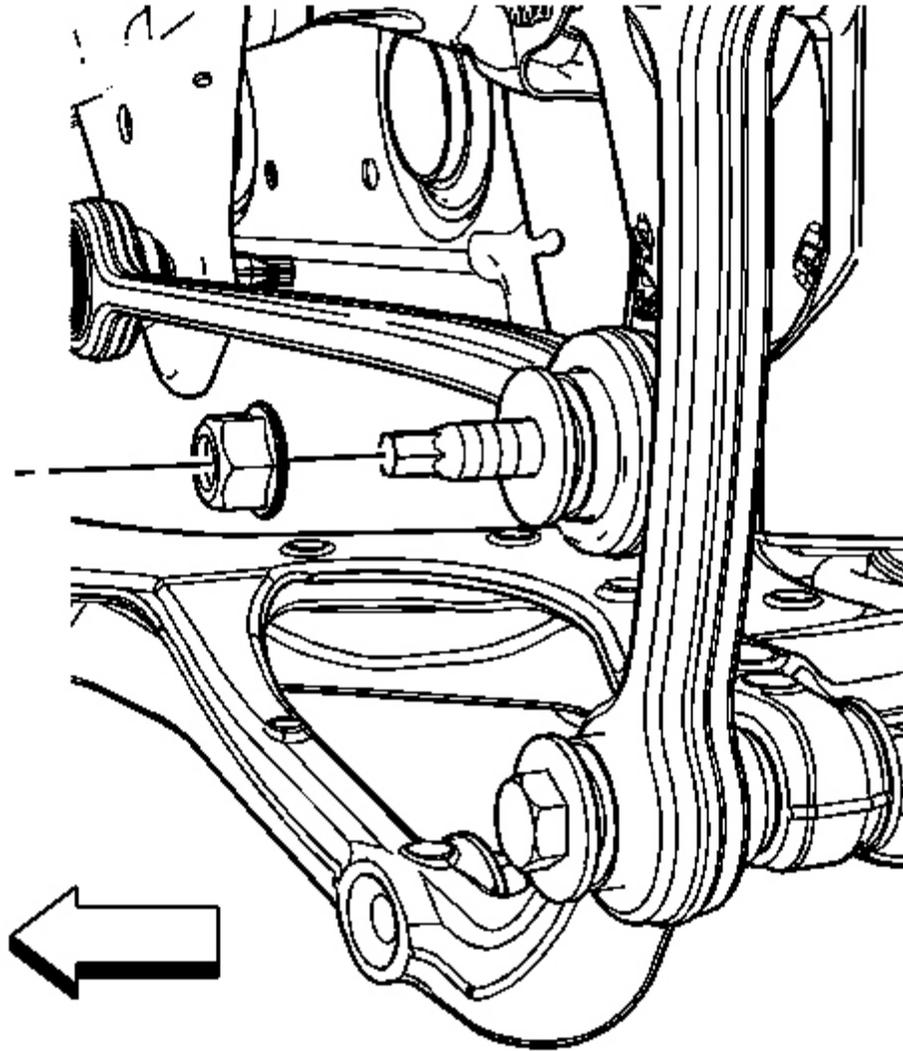
1. Remove the upper control arm bolt. Refer to **Upper Control Arm Replacement**.
2. Remove the lower control arm bolt. Refer to **Lower Control Arm Replacement**.

**Tip:** Support the lower control arm with a jack stand.

## KNUCKLE REPLACEMENT

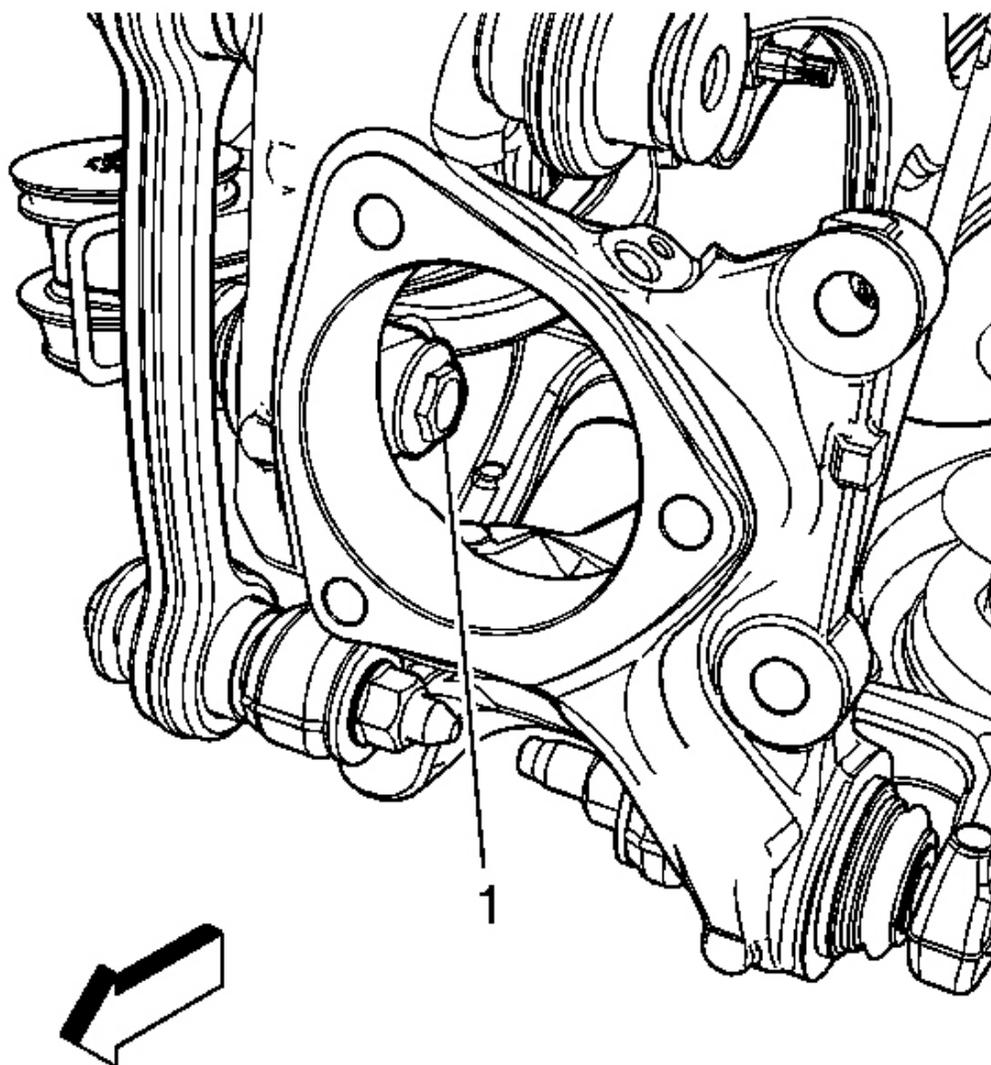
### Removal Procedure

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** .
2. Remove the rear wheel bearing and hub. Refer to **Rear Wheel Bearing and Hub Replacement (AWD)** or **Rear Wheel Bearing and Hub Replacement (FWD)**.
3. Remove rear disc brake backing plate assembly. Refer to **Rear Disc Brake Backing Plate Replacement** .
4. Remove the rear wheel drive shaft. Refer to **Rear Wheel Drive Shaft and Rear Axle Shaft Seal Replacement** .
5. Position a jack stand under the lower control arm.



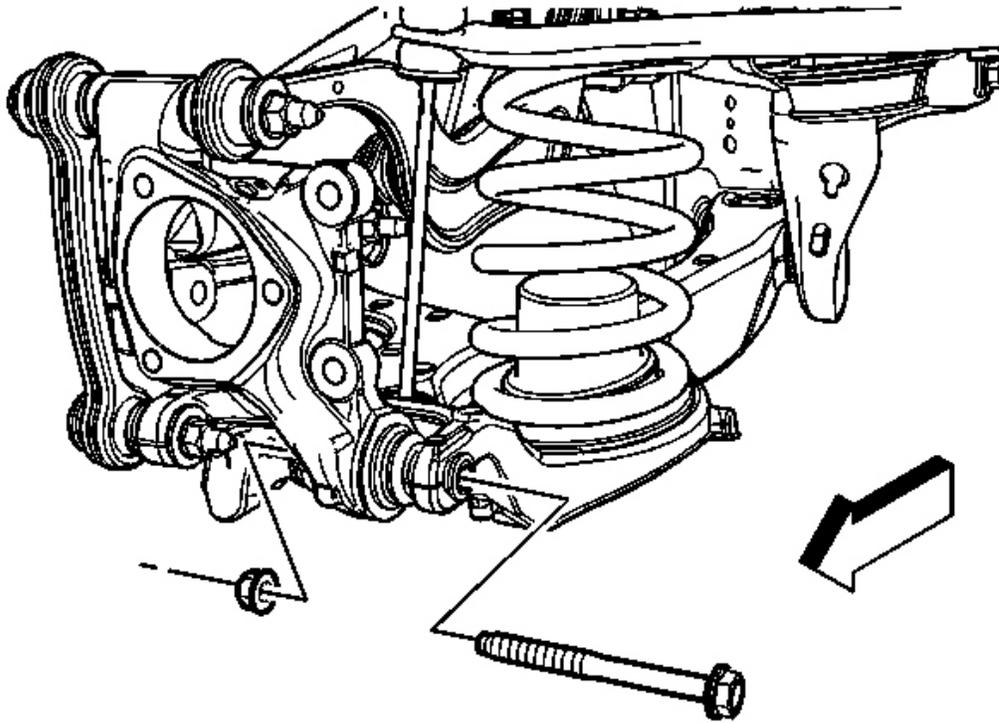
**Fig. 4: Identifying Retaining Nut From Adjuster Link To Knuckle**  
Courtesy of GENERAL MOTORS CORP.

6. Remove the nut from the bolt from the knuckle to the adjuster link.



**Fig. 5: Identifying Bolt From Knuckle To Adjuster Link**  
Courtesy of GENERAL MOTORS CORP.

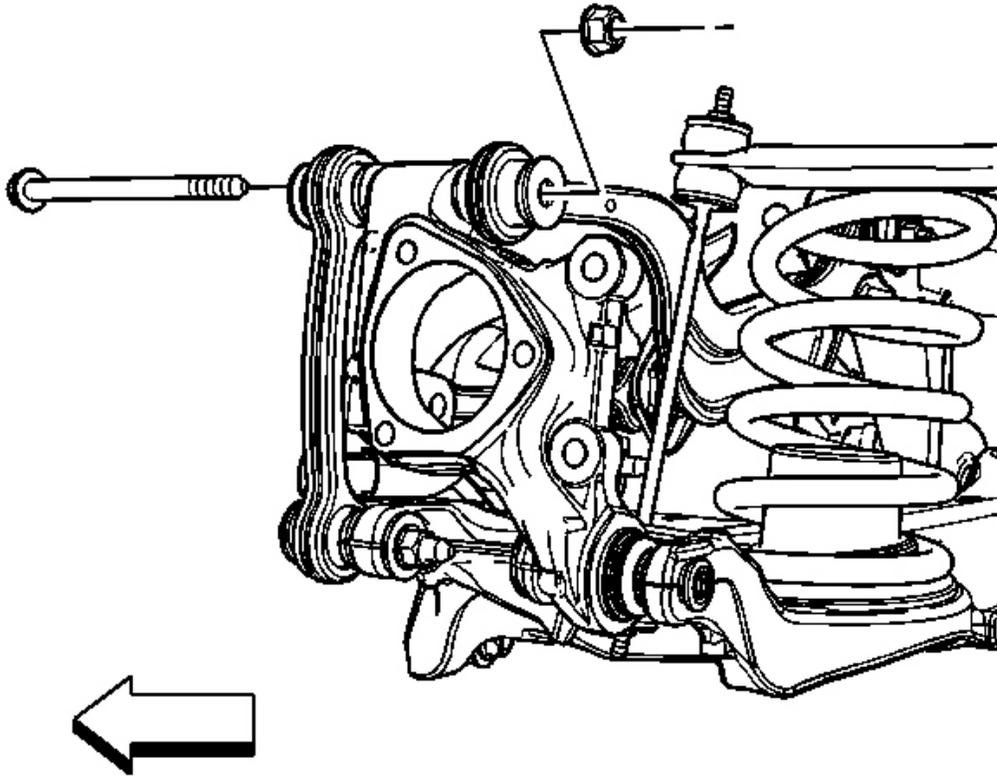
7. Remove the bolt (1) from the knuckle to the adjuster link.



**Fig. 6: Identifying Bolt From Lower Control Arm To Knuckle**  
Courtesy of GENERAL MOTORS CORP.

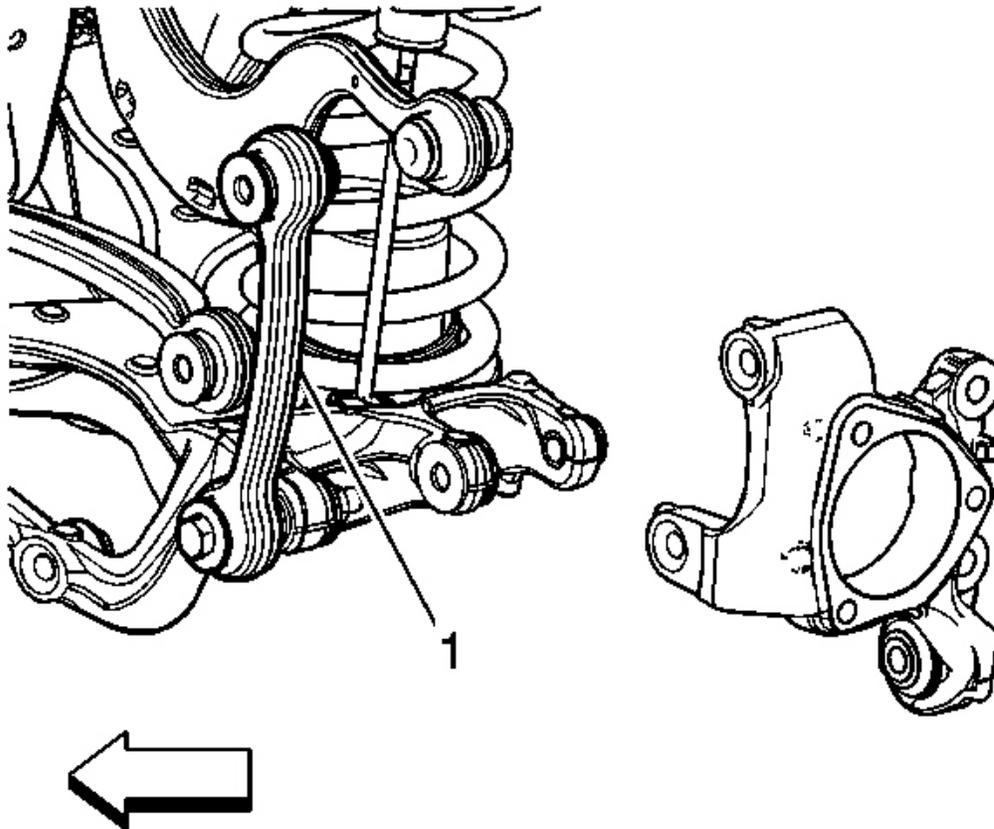
**IMPORTANT:** If removing the lower nut and bolt in step 8 or the upper nut and bolt in step 9, to service other suspension components, it is not necessary to remove the knuckle.

8. Remove the lower knuckle to lower control arm nut and bolt.



**Fig. 7: Identifying Bolt From Upper Control Arm To Knuckle**  
Courtesy of GENERAL MOTORS CORP.

9. Remove the bolt and nut from the upper control arm to the knuckle.



**Fig. 8: Identifying Rear Suspension Link**  
Courtesy of GENERAL MOTORS CORP.

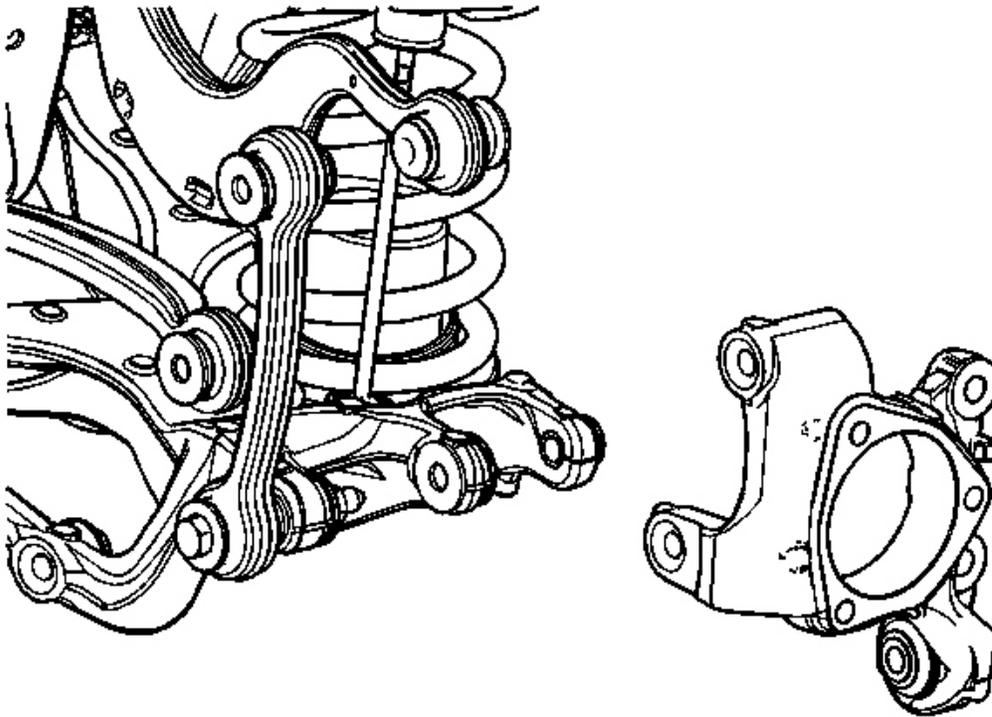
**IMPORTANT:** In the following service procedure, it is not necessary to remove the rear suspension link from the lower control arm. The link (1) can remain attached to the lower control arm.

10. Remove the knuckle from the upper and lower control arms.

#### Installation Procedure

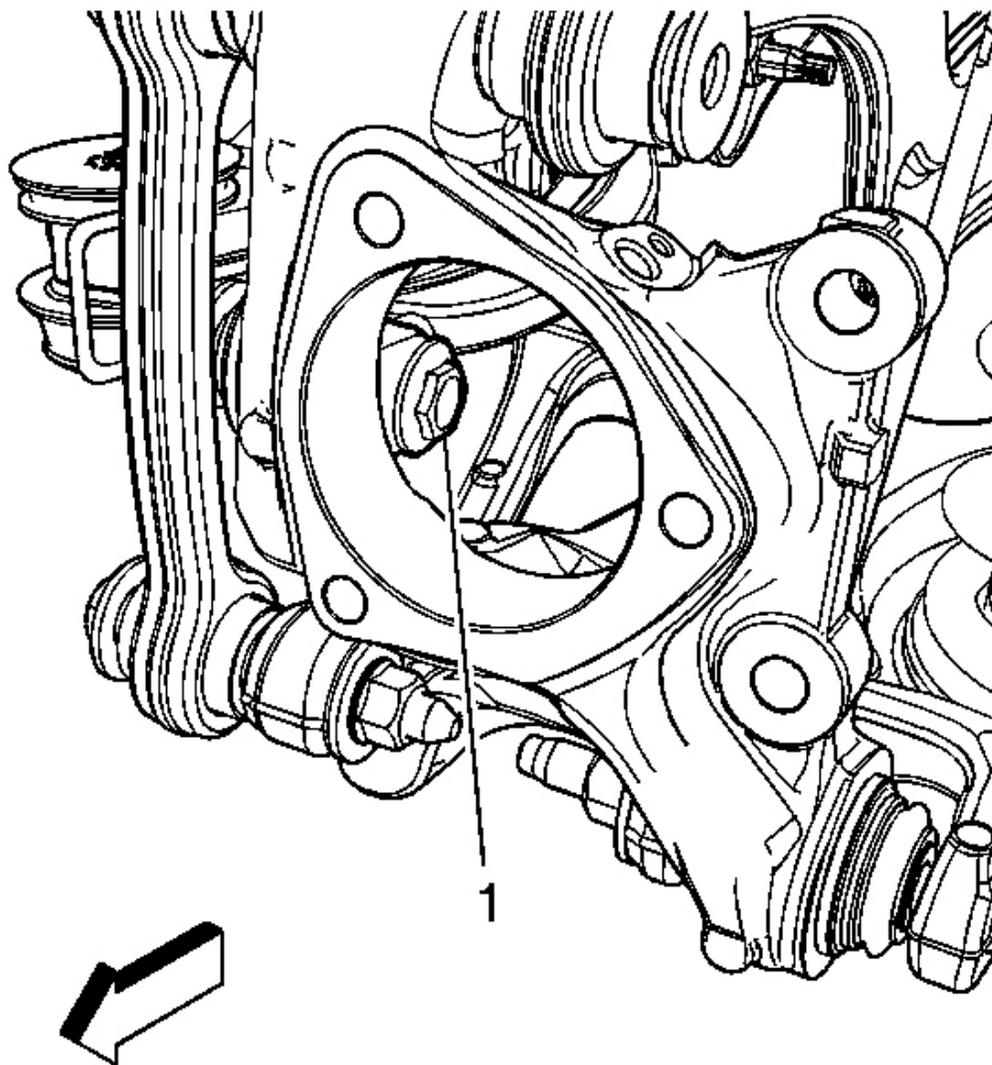
**IMPORTANT:** In steps 2-5, ensure that all the fasteners are installed loose in order to allow movement in the knuckle to allow for alignment all the mounting holes. After all the fasteners have been installed,

then the proper torque specifications can be applied.



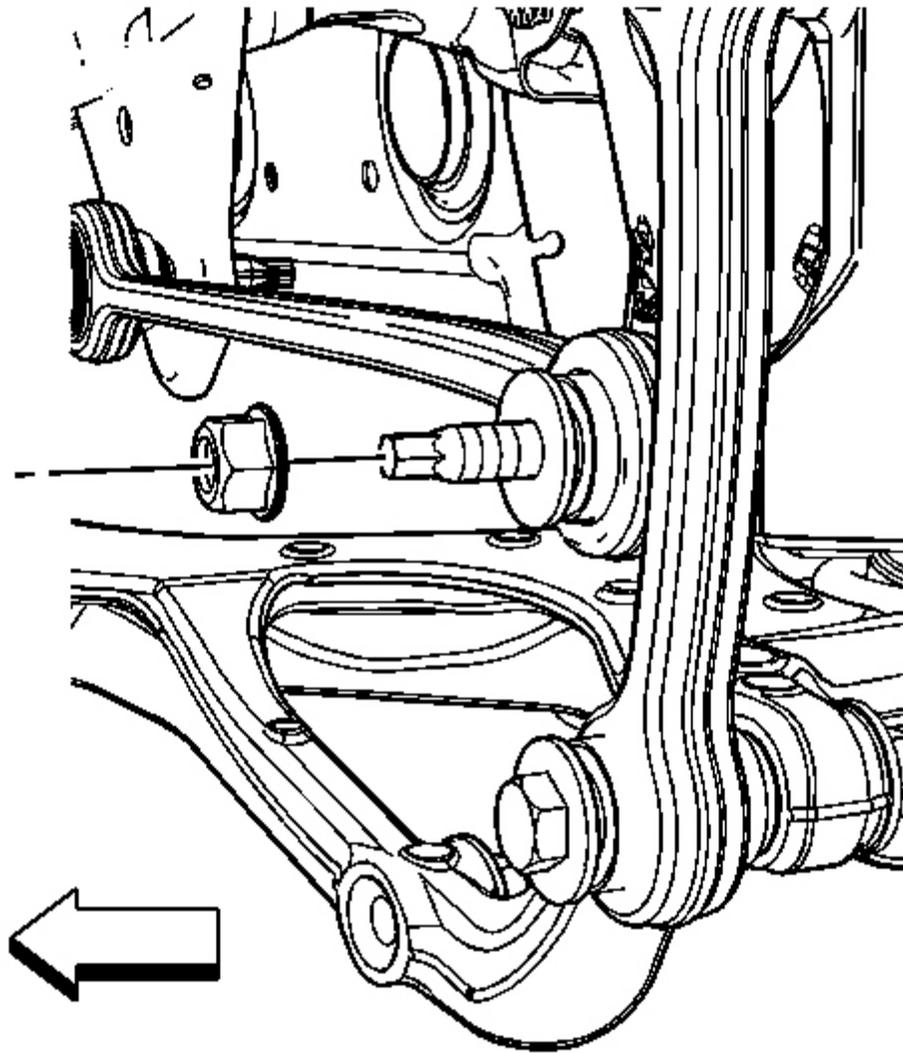
**Fig. 9: Identifying Lower Knuckle**  
**Courtesy of GENERAL MOTORS CORP.**

1. Position the knuckle in the upper and lower control arms.



**Fig. 10: Identifying Bolt From Knuckle To Adjuster Link**  
Courtesy of GENERAL MOTORS CORP.

2. Install the bolt (1) from the knuckle to the adjuster link.

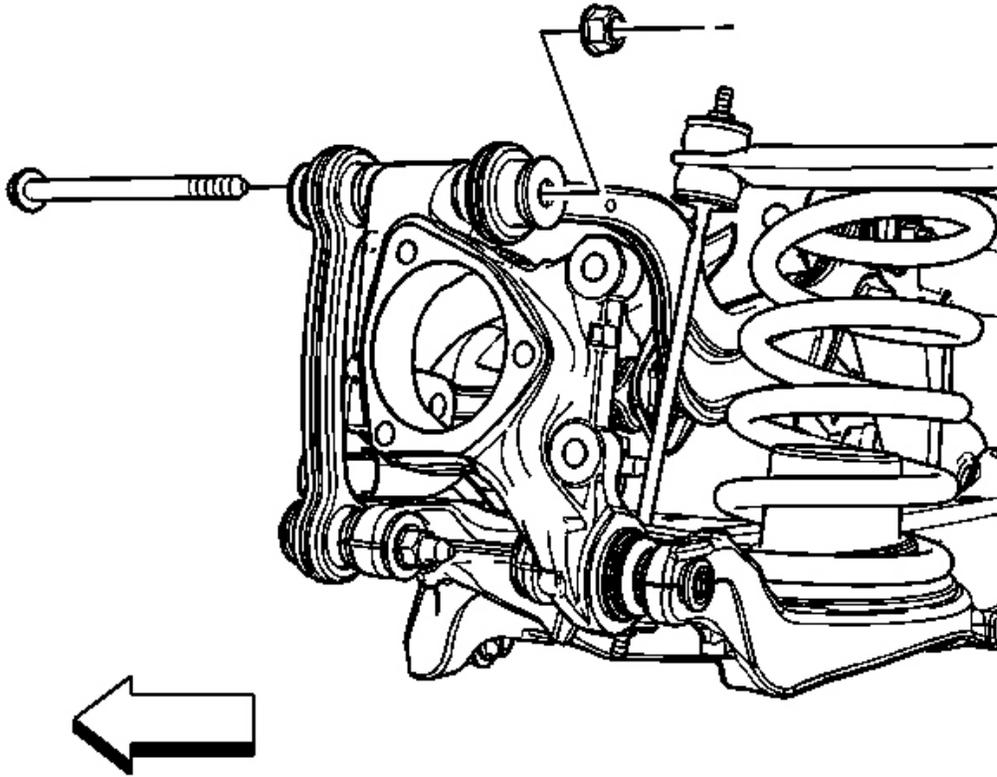


**Fig. 11: Identifying Retaining Nut From Adjuster Link To Knuckle**  
Courtesy of GENERAL MOTORS CORP.

**NOTE:** Refer to Fastener Notice .

3. Finger tighten the nut for the bolt from the knuckle to the adjuster link.

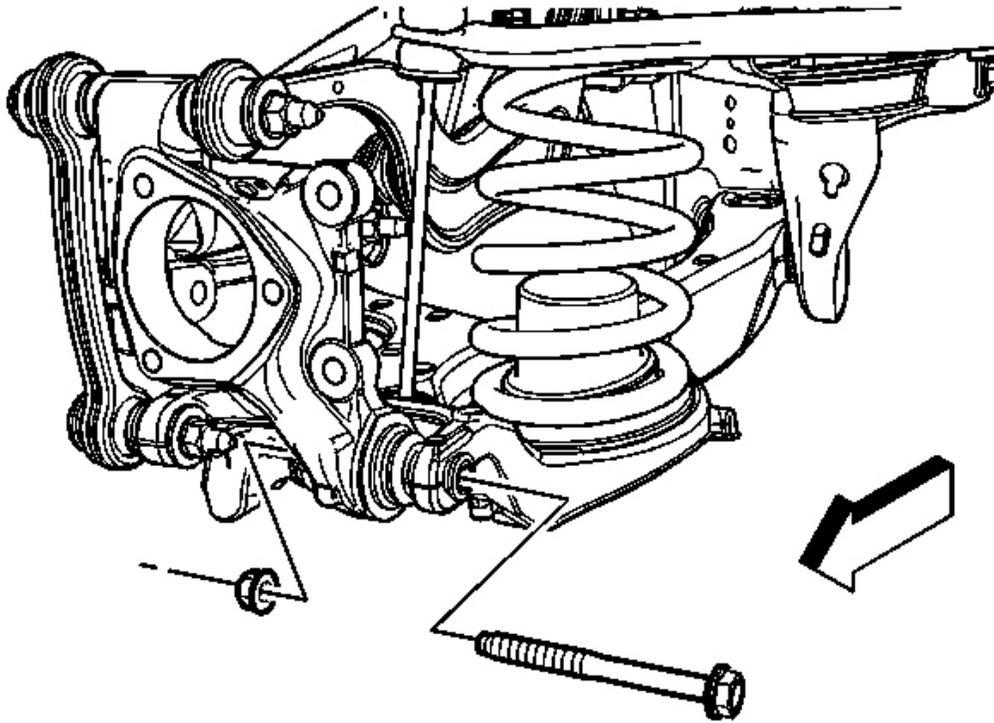
**Tighten:** Tighten the nut to 75 N.m (55 lb ft) plus 60 degrees.



**Fig. 12: Identifying Bolt From Upper Control Arm To Knuckle**  
Courtesy of GENERAL MOTORS CORP.

4. Install the bolt from the upper control arm to the knuckle and finger tighten the nut.

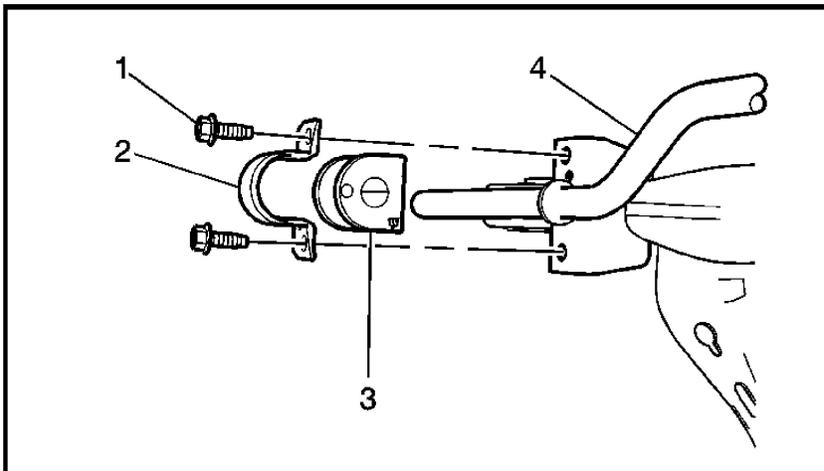
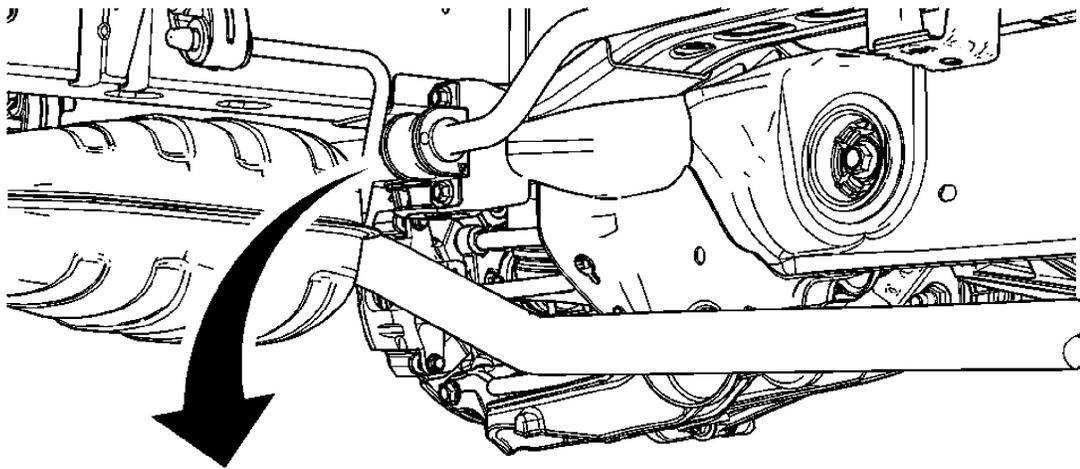
**Tighten:** Tighten the bolt to 100 N.m (74 lb ft) plus 60 degrees.



**Fig. 13: Identifying Bolt From Lower Control Arm To Knuckle**  
Courtesy of GENERAL MOTORS CORP.

5. Install the bolt from the lower control arm to the knuckle and finger tighten.  
**Tighten:** Tighten the bolt to 100 N.m (74 lb ft) plus 60 degrees.
6. Remove the jack stand from under the lower control arm.
7. Install the rear wheel drive shaft. Refer to **Rear Wheel Drive Shaft and Rear Axle Shaft Seal Replacement** .
8. Install rear disc brake backing plate assembly. Refer to **Rear Disc Brake Backing Plate Replacement** .
9. Install the rear wheel bearing and hub. Refer to **Rear Wheel Bearing and Hub Replacement (AWD)** or **Rear Wheel Bearing and Hub Replacement (FWD)**.
10. Remove the support and lower the vehicle.

## STABILIZER SHAFT REPLACEMENT



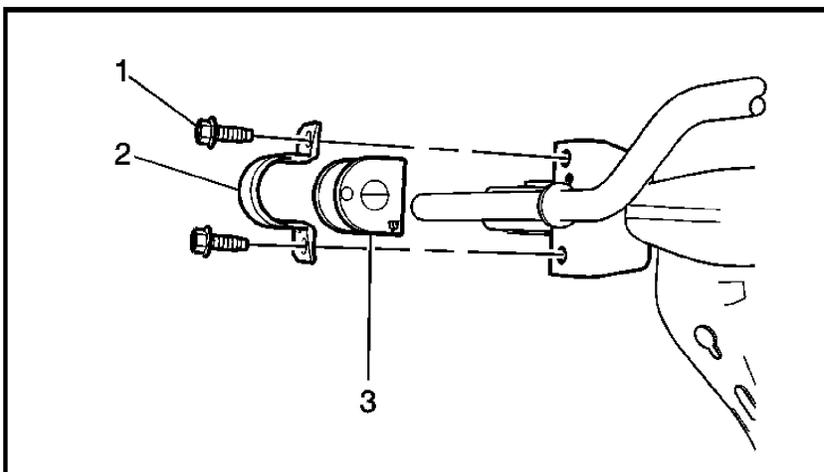
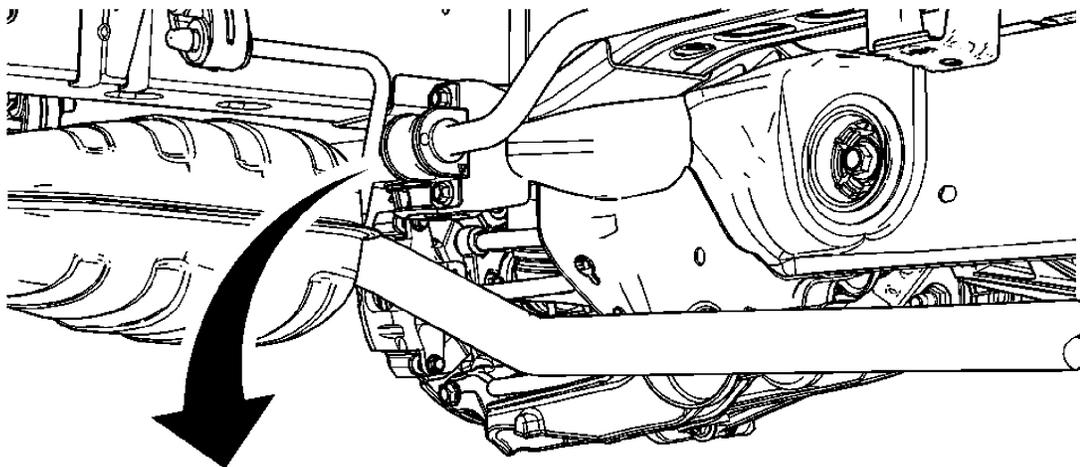
**Fig. 14: View Of Stabilizer Shaft**  
 Courtesy of GENERAL MOTORS CORP.

## Stabilizer Shaft Replacement

Callout	Component Name
<b>Preliminary Procedure</b>	
<ol style="list-style-type: none"> <li>1. Raise and support the vehicle. Refer to <b><u>Lifting and Jacking the Vehicle</u></b> .</li> <li>2. Remove the tire and wheel. Refer to <b><u>Tire and Wheel Removal and Installation</u></b> .</li> <li>3. Remove the stabilizer shaft link upper bushings and retaining nut. Refer to <b><u>Stabilizer Shaft Link Replacement</u></b>.</li> </ol>	
	Stabilizer Shaft Clamp Bolt (Qty: 2).

1	<p><b>NOTE:</b> Refer to <u>Fastener Notice</u> .</p> <p><b>Tighten:</b> 50 N.m (37 lb ft).</p>
2	Stabilizer Shaft Insulator Clamp
3	Stabilizer Shaft Insulator
4	<p>Stabilizer Shaft</p> <p><b>Tip:</b> It maybe necessary to maneuver the stabilizer shaft to remove it from the vehicle.</p>

### STABILIZER SHAFT INSULATOR REPLACEMENT

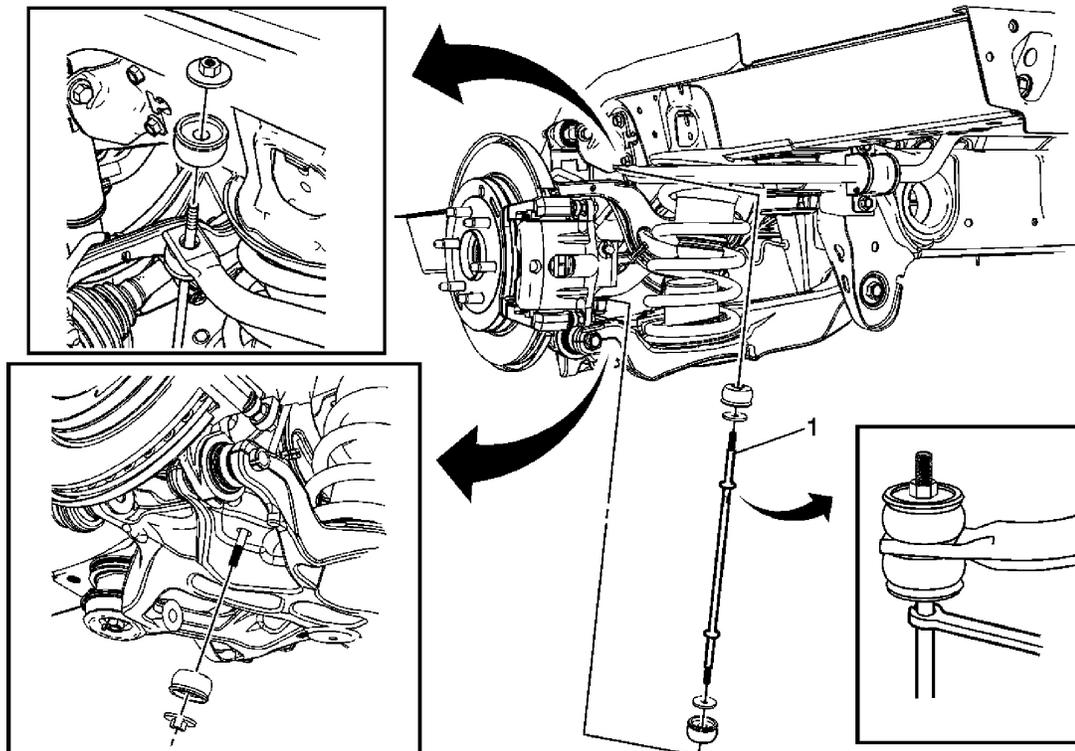


**Fig. 15: Identifying Stabilizer Shaft Insulator**  
Courtesy of GENERAL MOTORS CORP.

## Stabilizer Shaft Insulator Replacement

Callout	Component Name
<b>IMPORTANT:</b> The following service procedure indicates the left side of the vehicle. The right side of the vehicle is similar.	
<b>Preliminary Procedure:</b> Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> .	
1	Stabilizer Shaft Clamp Bolt (Qty: 2)  <b>NOTE:</b> Refer to <u>Fastener Notice</u> .  <b>Tighten:</b> 50 N.m (37 lb ft)
2	Stabilizer Shaft Clamp
3	Stabilizer Shaft Insulator

## STABILIZER SHAFT LINK REPLACEMENT



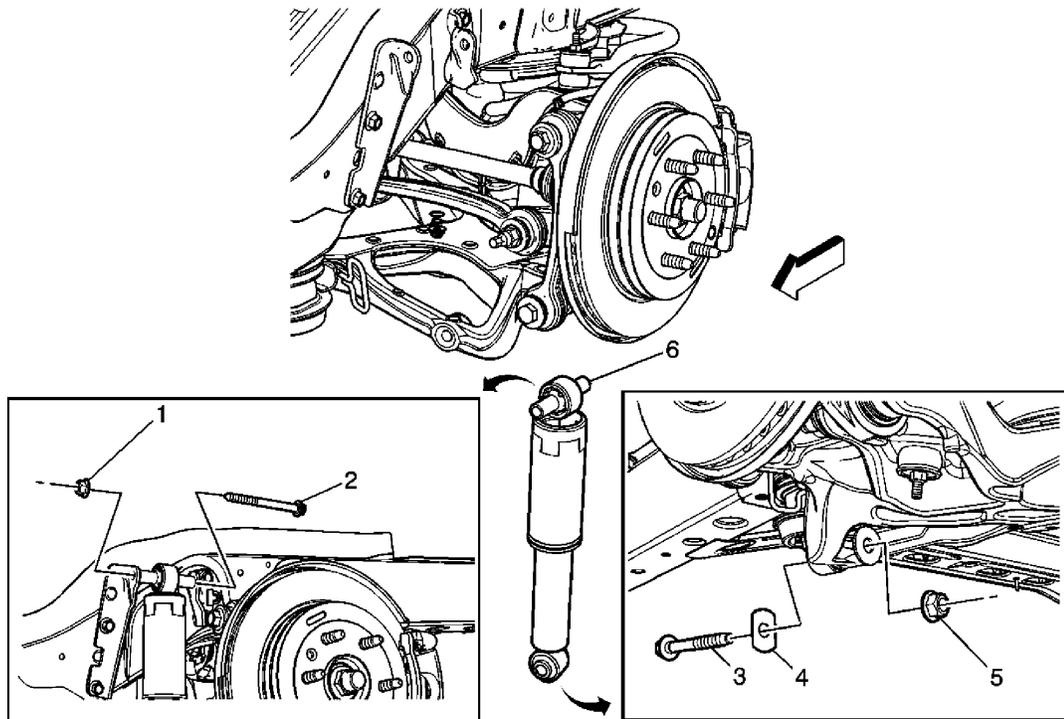
**Fig. 16: Identifying Stabilizer Shaft Link**

Courtesy of GENERAL MOTORS CORP.

### Stabilizer Shaft Link Replacement

Callout	Component Name
<b>Preliminary Procedures</b>	
<ol style="list-style-type: none"> <li>1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> .</li> <li>2. Remove the tire and wheel. Refer to <u>Tire and Wheel Removal and Installation</u> .</li> </ol>	
1	<p>Stabilizer Shaft Link</p> <p><b>NOTE:</b> Refer to <u>Fastener Notice</u> .</p> <p><b>Procedure</b></p> <ol style="list-style-type: none"> <li>1. Use a wrench to keep the stabilizer shaft link from rotating.</li> <li>2. Remove the upper stabilizer shaft link retaining nut, washer and bushing.</li> <li>3. Repeat the previous steps on the lower stabilizer shaft retaining nut, washer and bushing.</li> <li>4. Remove the stabilizer shaft link from the vehicle. Left side shown, right side similar.</li> </ol> <p><b>Tip:</b> Apply a small amount of penetrating oil on the treads of the stabilizer shaft link prior to removing the retaining nuts.</p> <p><b>Tighten:</b> 22 N.m (16 lb ft)</p>

### SHOCK ABSORBER REPLACEMENT



**Fig. 17: Identifying Shock Absorber**  
 Courtesy of GENERAL MOTORS CORP.

**Shock Absorber Replacement**

Callout	Component Name
<b>Preliminary Procedures</b>	
1. Raise and support the vehicle. Refer to <b><u>Lifting and Jacking the Vehicle</u></b> . 2. Remove the rear tire and wheel. Refer to <b><u>Tire and Wheel Removal and Installation</u></b> .	
1	Upper Rear Shock Absorber Bolt  <b>NOTE:</b> Refer to <b><u>Fastener Notice</u></b> .  <b>Tighten:</b> 70 N.m (52 lb ft)
2	Upper Shock Absorber Nut
	Lower Rear Shock Absorber Bolt
<b>Procedure</b>	

## 2007 Saturn Outlook XE

### 2007 SUSPENSION Rear Suspension - Outlook

3	1. Position a jack stand under the lower control arm. 2. Raise or lower the jack stand to aid in the installation of the lower shock absorber bolt.  <b>Tighten:</b> 100 N.m (74 lb ft) plus 60 degrees
4	Lower Shock Absorber Washer
5	Lower Shock Absorber Nut
6	Rear Shock Absorber

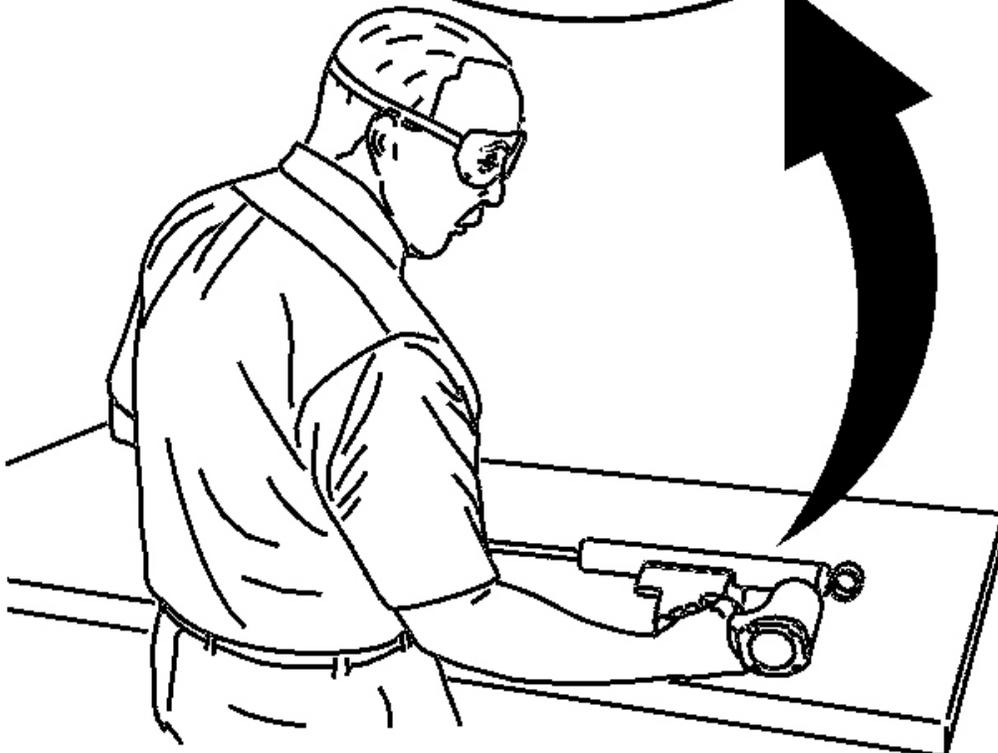
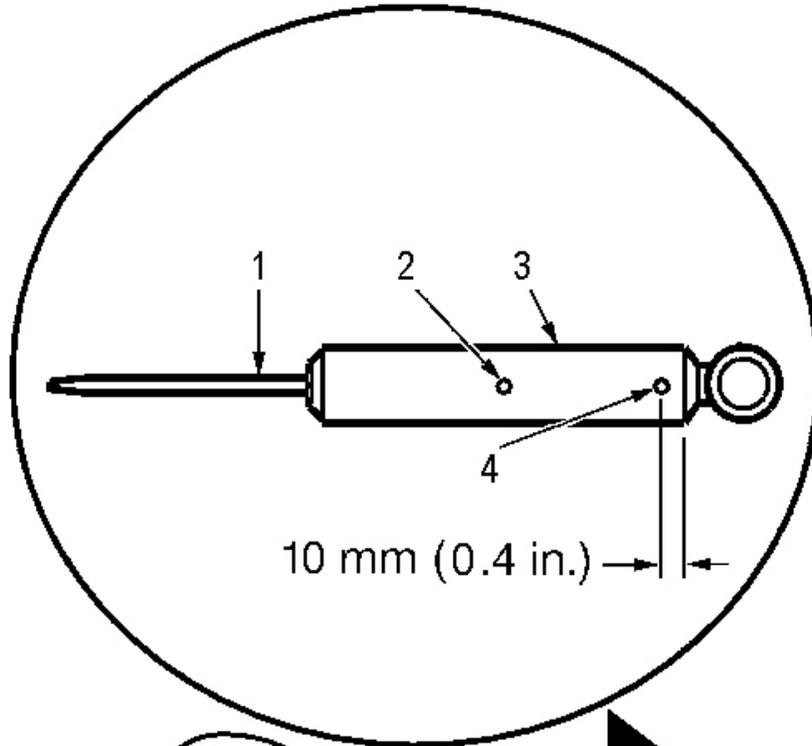
#### SHOCK ABSORBER DISPOSAL

**CAUTION:** 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.

**CAUTION:** 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.

2007 Saturn Outlook XE

2007 SUSPENSION Rear Suspension - Outlook

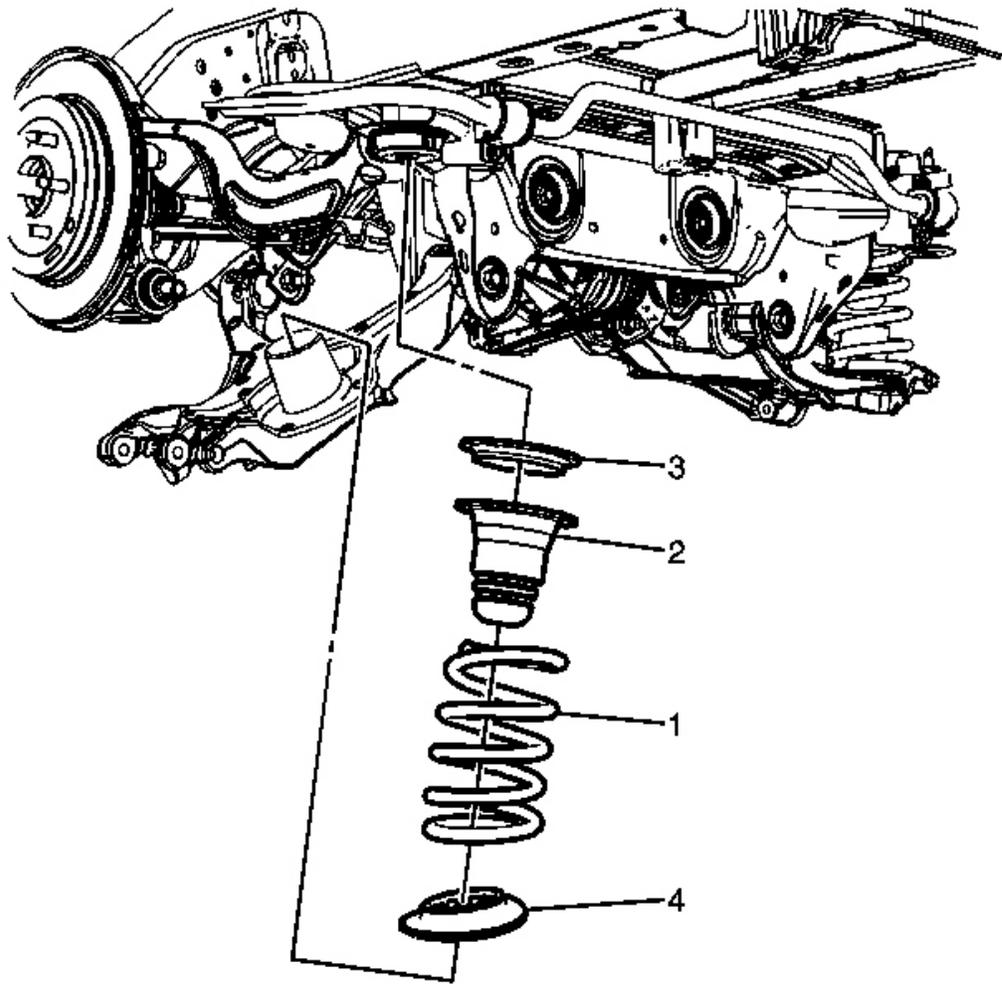


**Fig. 18: Identifying Shock Absorber Centerpunch/Drill Locations**  
**Courtesy of GENERAL MOTORS CORP.**

1. Make an indentation 10 mm (0.4 in) from the bottom (4) 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.

**REAR SPRING, INSULATOR AND JOUNCE BUMPER REPLACEMENT**

**Removal Procedure**

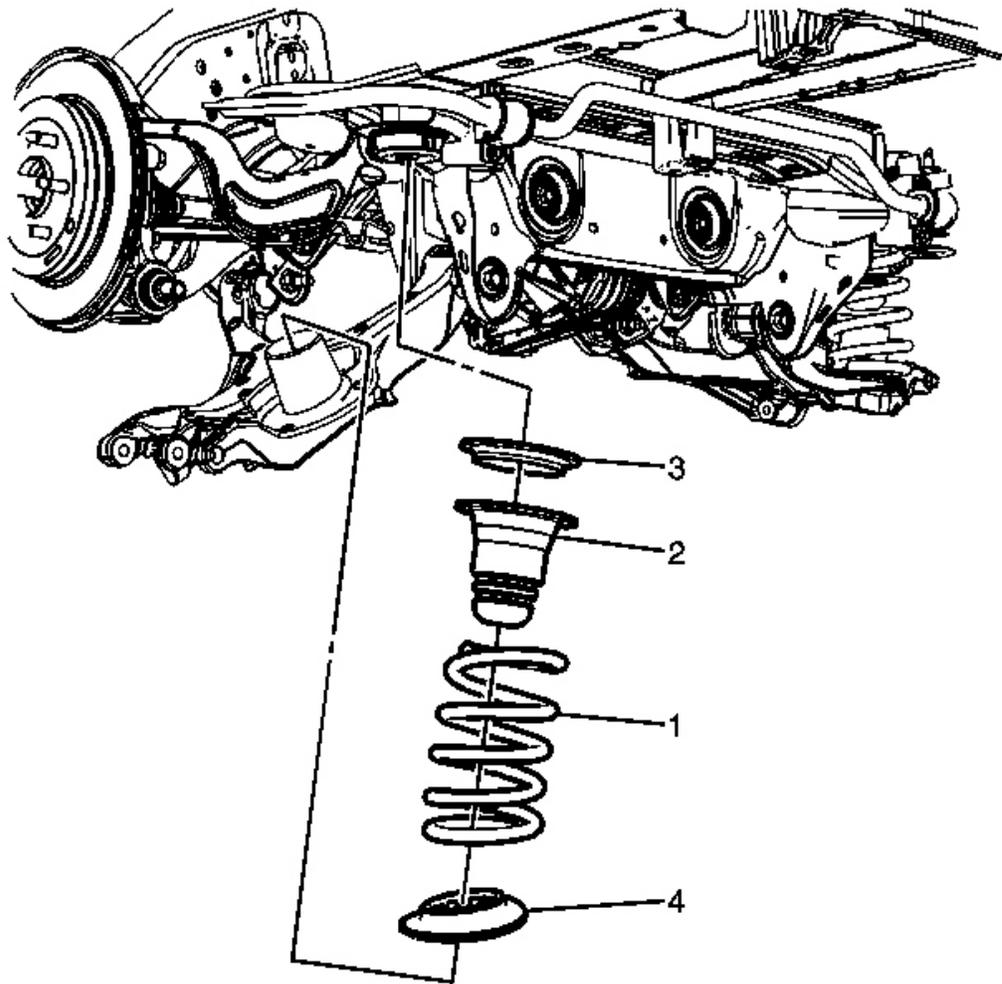


**Fig. 19: Identifying Rear Spring And Insulator**  
Courtesy of GENERAL MOTORS CORP.

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** .
2. Remove the rear tire and wheel. Refer to **Tire and Wheel Removal and Installation** .
3. Position an adjustable jack stand under the lower control arm.
4. Remove the lower stabilizer shaft link bushing and nut. Refer to **Stabilizer Shaft Link Replacement**.
5. Remove the lower shock absorber bolt. Refer to **Shock Absorber Replacement**.
6. Remove the lower bolts from the knuckle. Refer to **Knuckle Replacement**.

7. Using the adjustable jack stand, slowly lower the vehicle until the rear spring (1), insulator (4), jounce bumper (2) and the spring seat (3) can be removed.

**Installation Procedure**



**Fig. 20: Identifying Rear Spring And Insulator**  
Courtesy of GENERAL MOTORS CORP.

1. Position the spring seat (3), jounce bumper (2), rear spring (1) and the insulator (4) on the lower control arm.
2. Using the adjustable jack stand, raise the lower control arm until the lower bolts for the

knuckle can be installed. Refer to **Knuckle Replacement**.

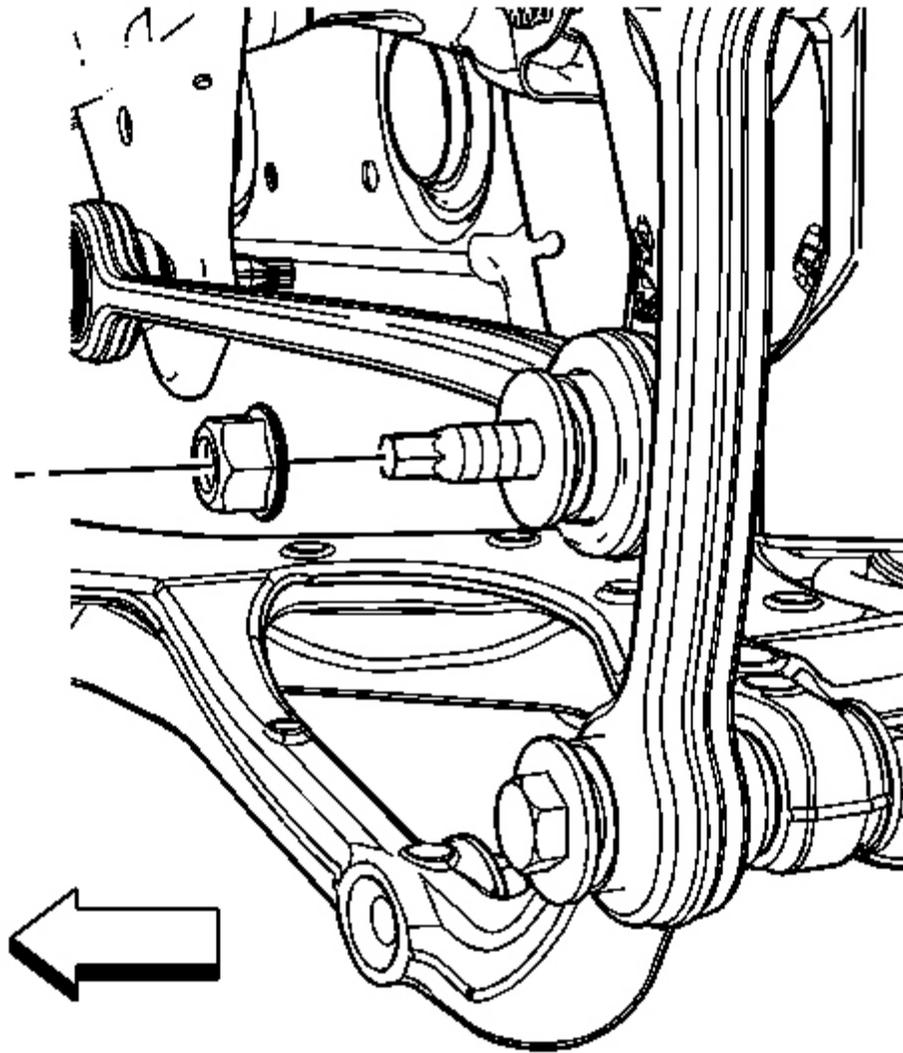
3. Remove the adjustable jack stand.
4. Install the lower stabilizer shaft link bushing and nut. Refer to **Stabilizer Shaft Link Replacement**.
5. Install the lower shock absorber bolt. Refer to **Shock Absorber Replacement**.
6. Install the rear tire and wheels. Refer to **Tire and Wheel Removal and Installation**.
7. Remove the support and lower the vehicle.

#### ADJUSTMENT LINK REPLACEMENT

##### Removal Procedure

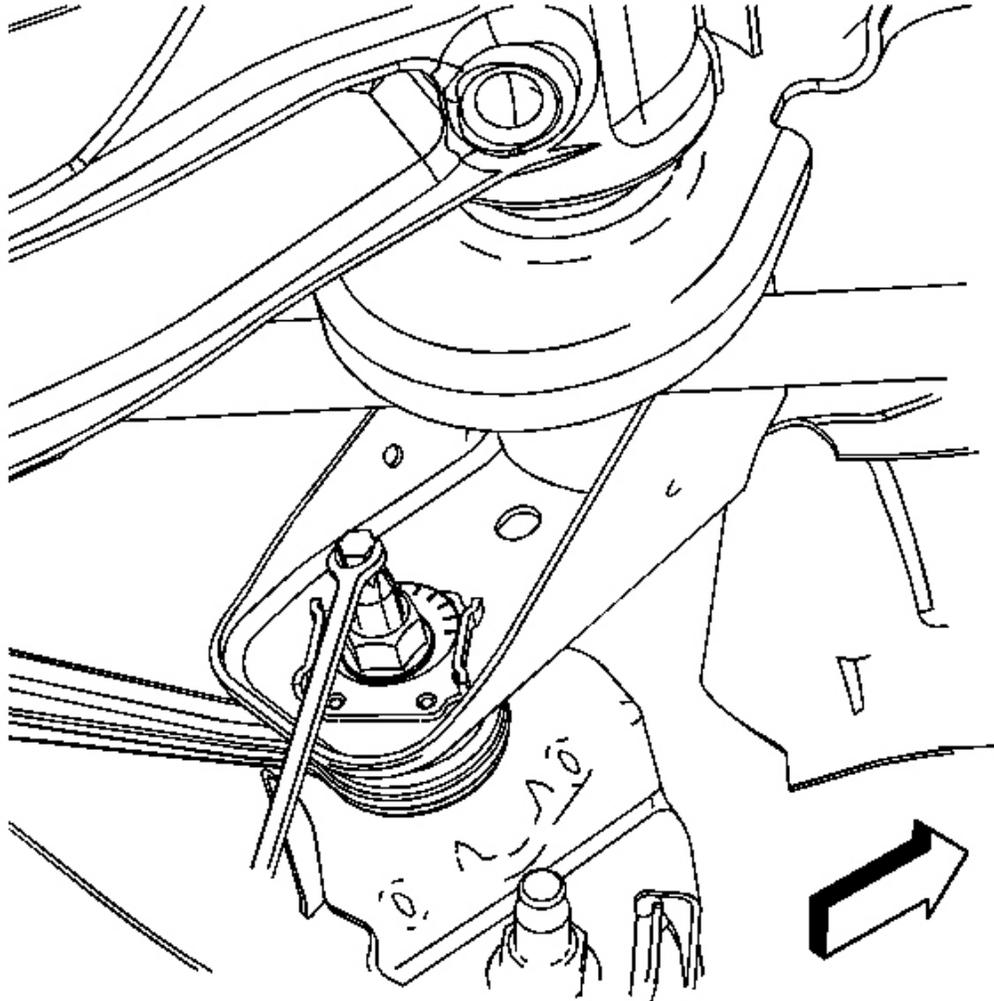
**IMPORTANT:** The following procedure indicates servicing the left side of the vehicle. Servicing the right side of the vehicle is similar.

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle**.
2. Remove the rear shock absorber. Refer to **Shock Absorber Replacement**.



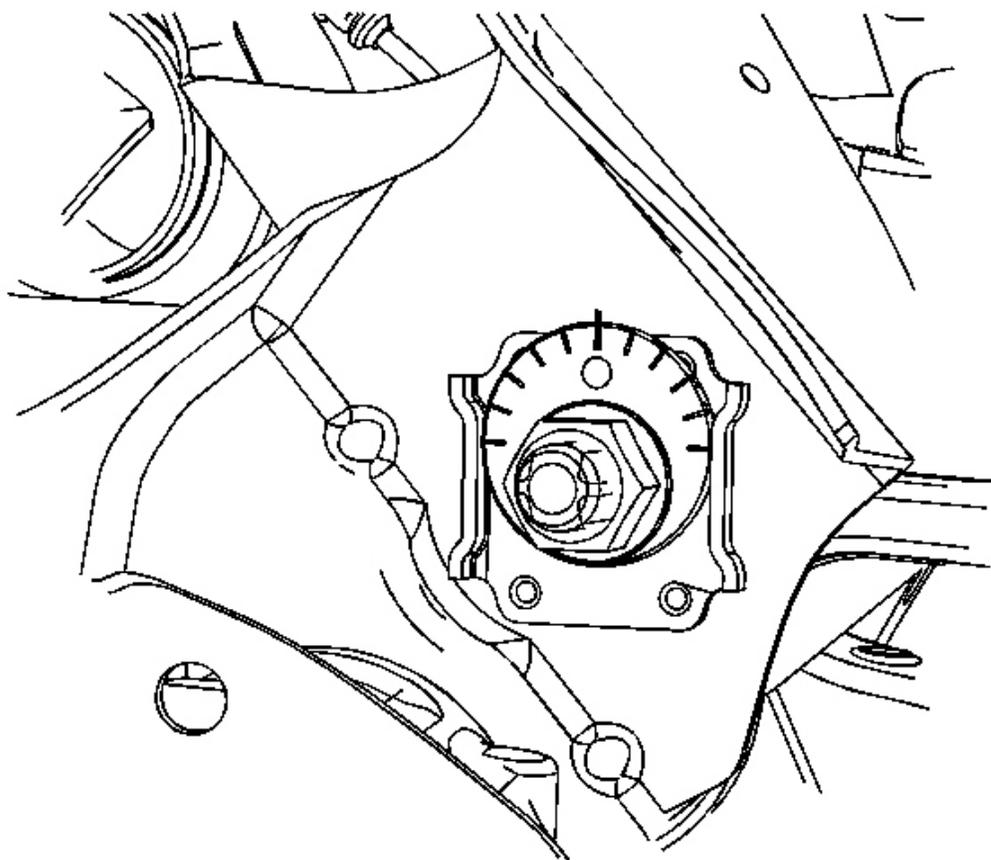
**Fig. 21: Identifying Retaining Nut From Adjuster Link To Knuckle**  
Courtesy of GENERAL MOTORS CORP.

3. Remove the retaining nut from the adjuster link to the knuckle.



**Fig. 22: Identifying Wrench Holding Adjuster Cam Bolt**  
Courtesy of GENERAL MOTORS CORP.

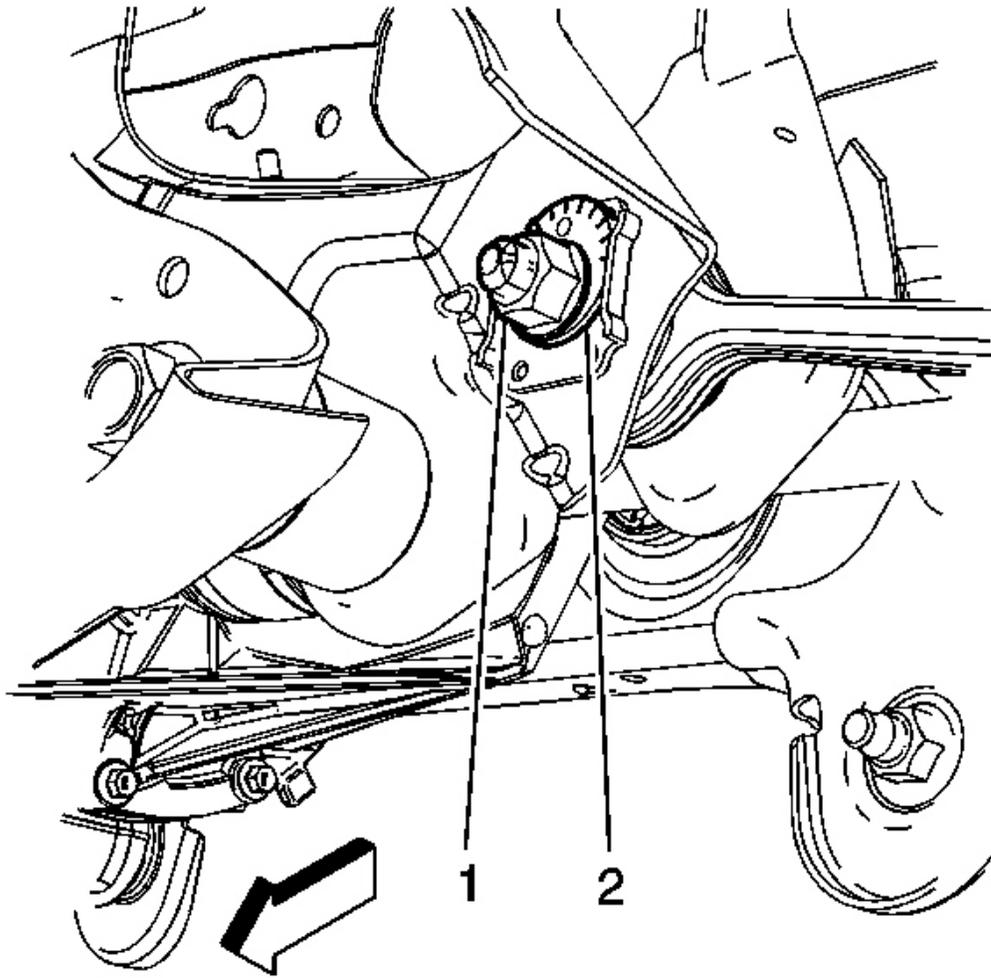
4. Install a wrench to hold the adjuster cam bolt.



**Fig. 23: Identifying Reference Marks On Adjuster Cam And Mounting Bracket**  
Courtesy of GENERAL MOTORS CORP.

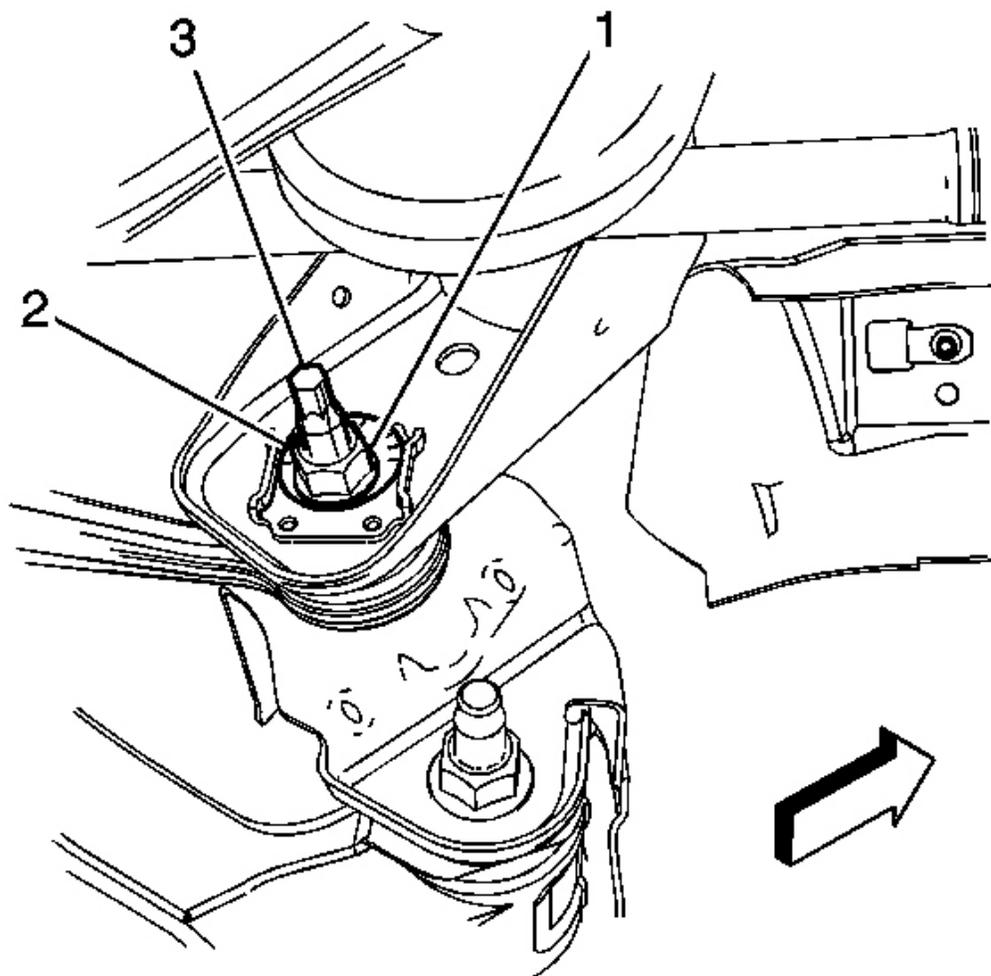
**IMPORTANT:** In steps 5 and 6, if servicing other suspension components, mark the relationship of the adjuster cams to the mounting brackets to aid in the re-installation of the adjustment link.

5. Mark a point of reference on the adjuster cam and the mounting bracket.



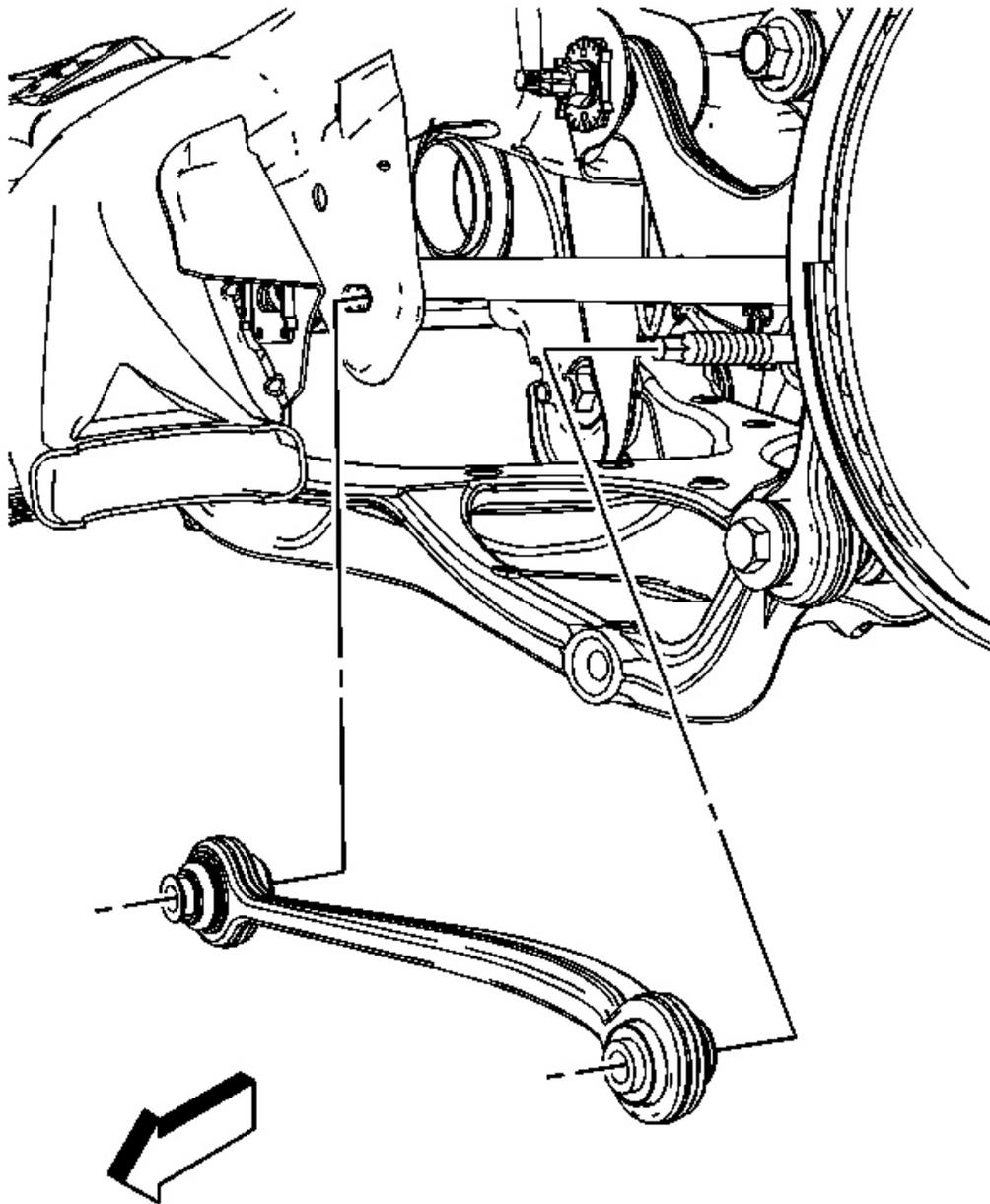
**Fig. 24: Identifying Front Adjuster Nut & Adjuster Cam**  
Courtesy of GENERAL MOTORS CORP.

6. Remove the front adjuster nut (1) and the adjuster cam (2).



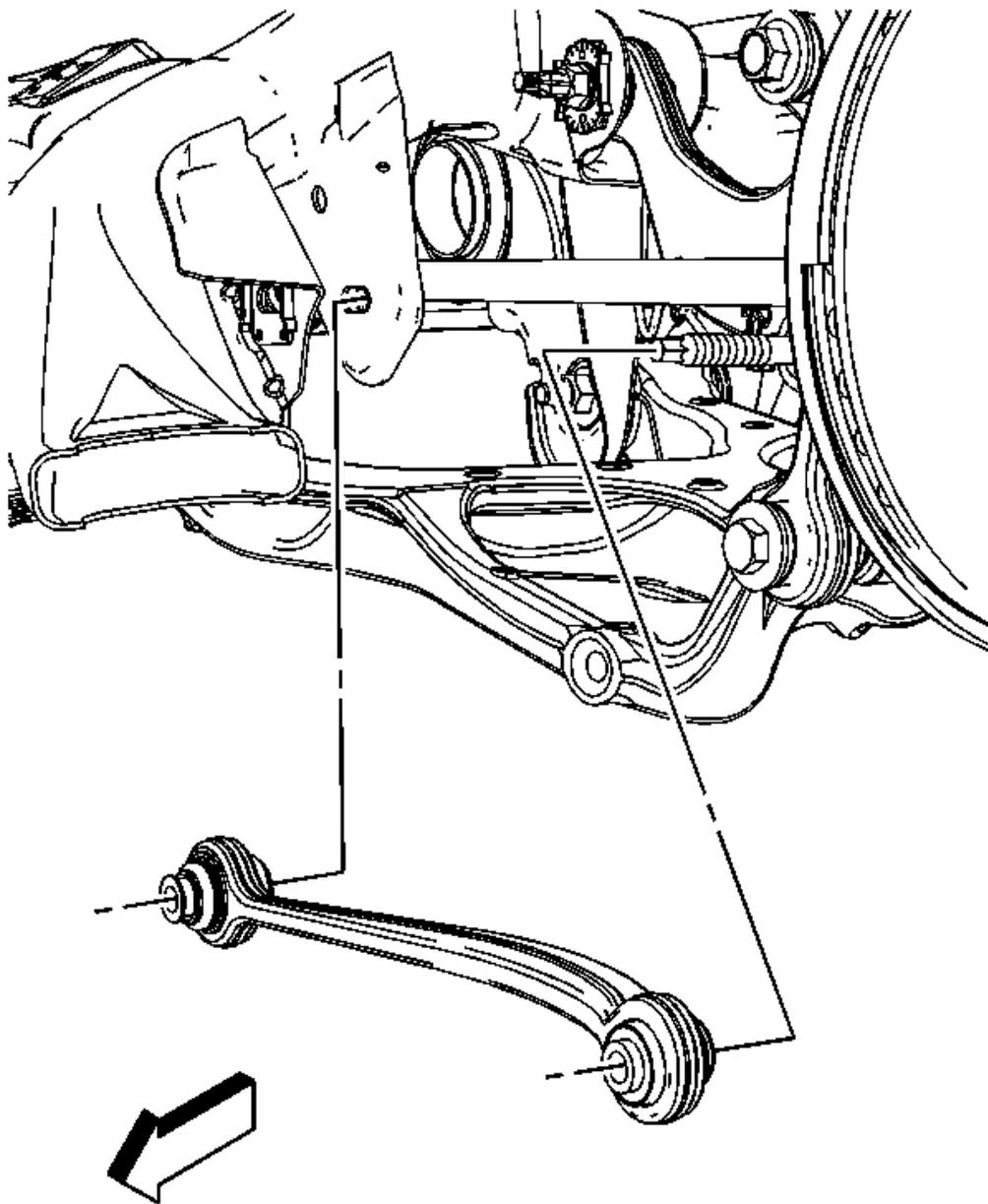
**Fig. 25: Identifying Adjuster Bolt In Mounting Bracket & Adjuster Link**  
Courtesy of GENERAL MOTORS CORP.

7. Remove the rear adjuster nut (1), adjuster cam (2).
8. Maneuver the adjuster bolt (3) so as to remove it from the mounting bracket.



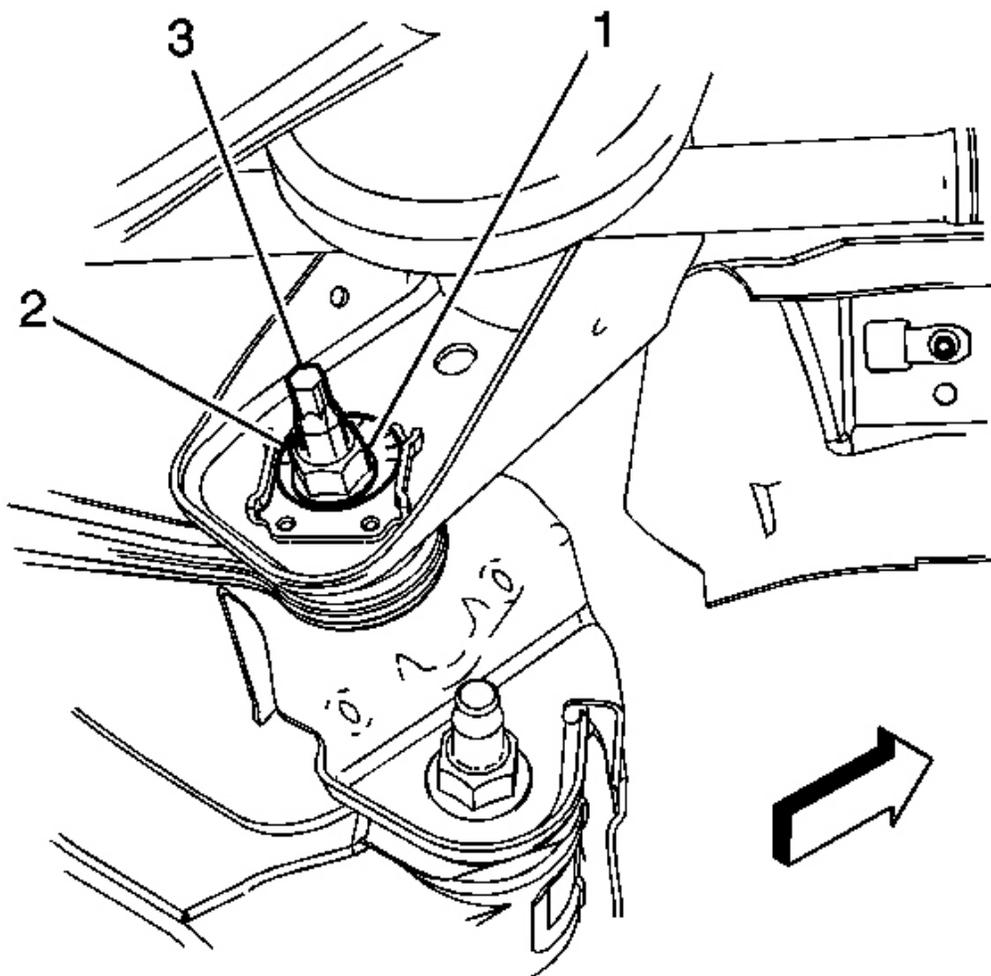
**Fig. 26: Identifying Adjuster Link**  
Courtesy of GENERAL MOTORS CORP.

9. Remove the adjuster link from the knuckle and the mounting bracket,



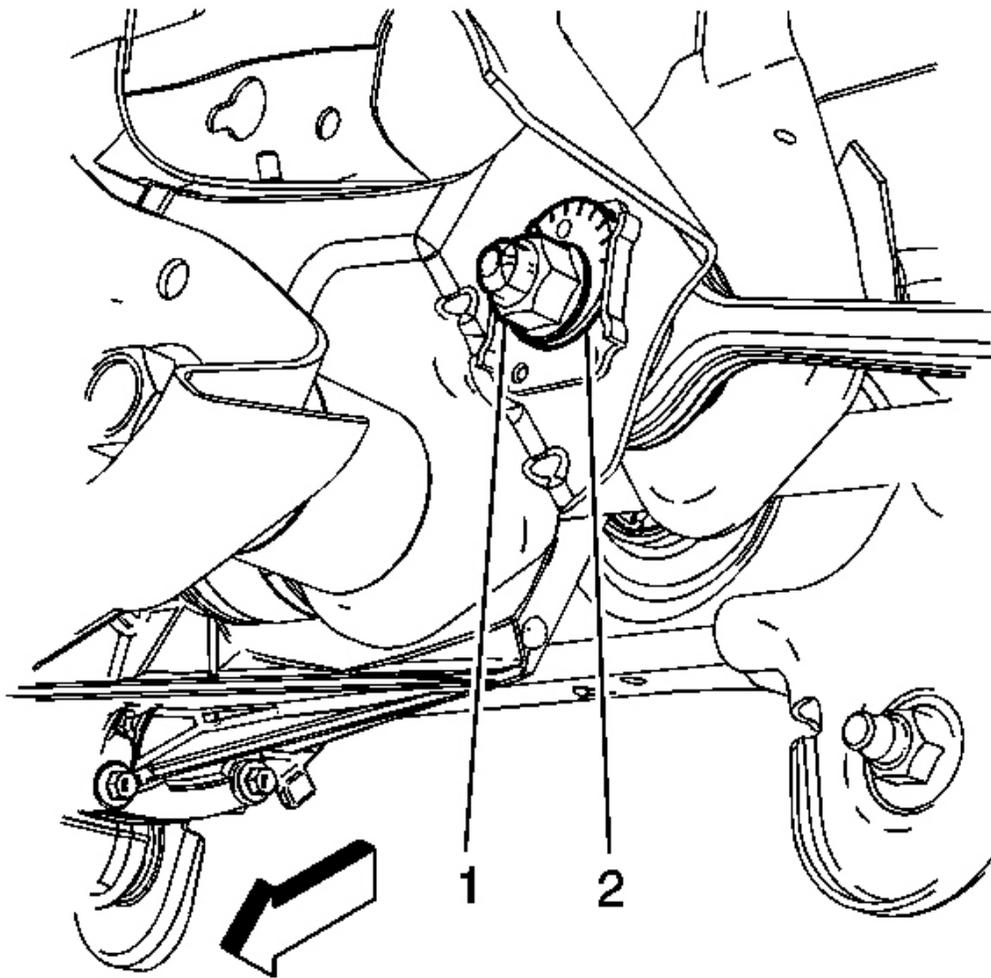
**Fig. 27: Identifying Adjuster Link**  
Courtesy of GENERAL MOTORS CORP.

1. Install the adjuster link on the knuckle and in the mounting bracket.



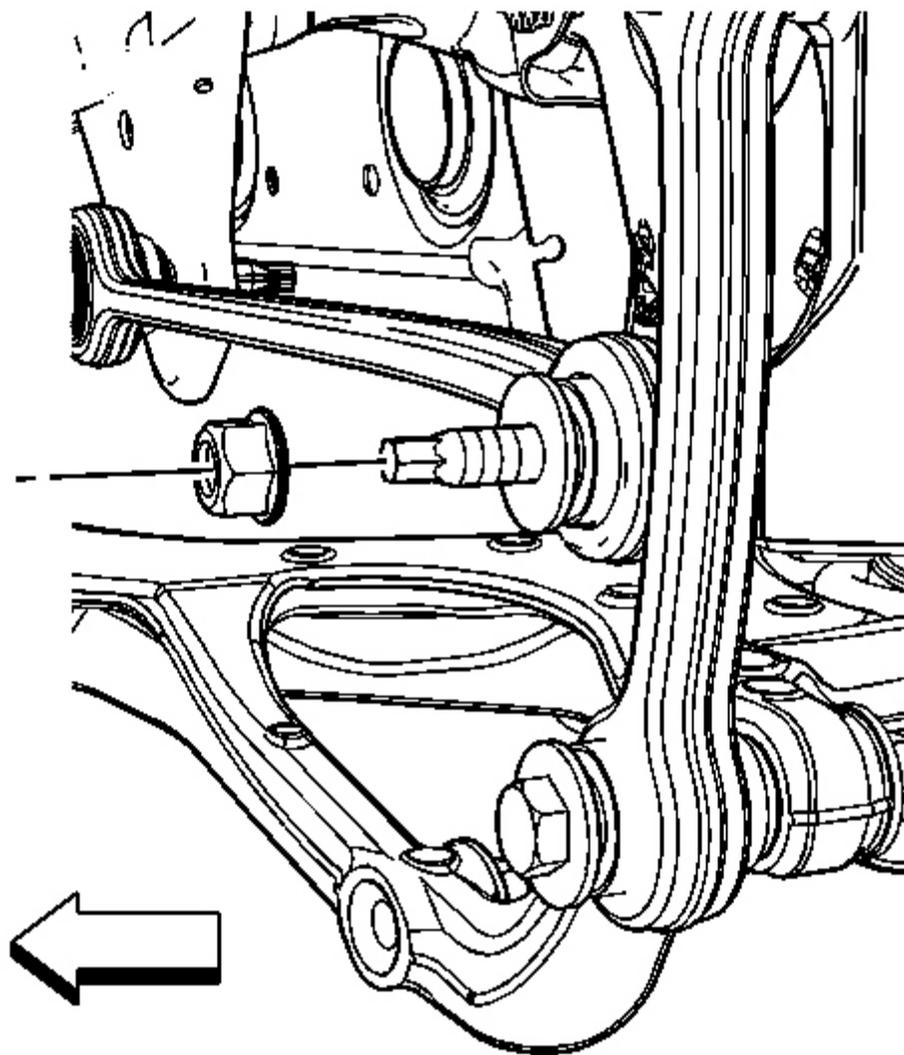
**Fig. 28: Identifying Adjuster Bolt In Mounting Bracket & Adjuster Link**  
Courtesy of GENERAL MOTORS CORP.

2. Install the adjuster bolt (3) in the mounting bracket and adjuster link.
3. Install the rear adjuster cam (2) and adjuster nut (1). Finger tighten the nut at this time.



**Fig. 29: Identifying Front Adjuster Nut & Adjuster Cam**  
Courtesy of GENERAL MOTORS CORP.

4. Install the front adjuster cam (2) and the adjuster nut (1). Finger tighten the nut at this time.



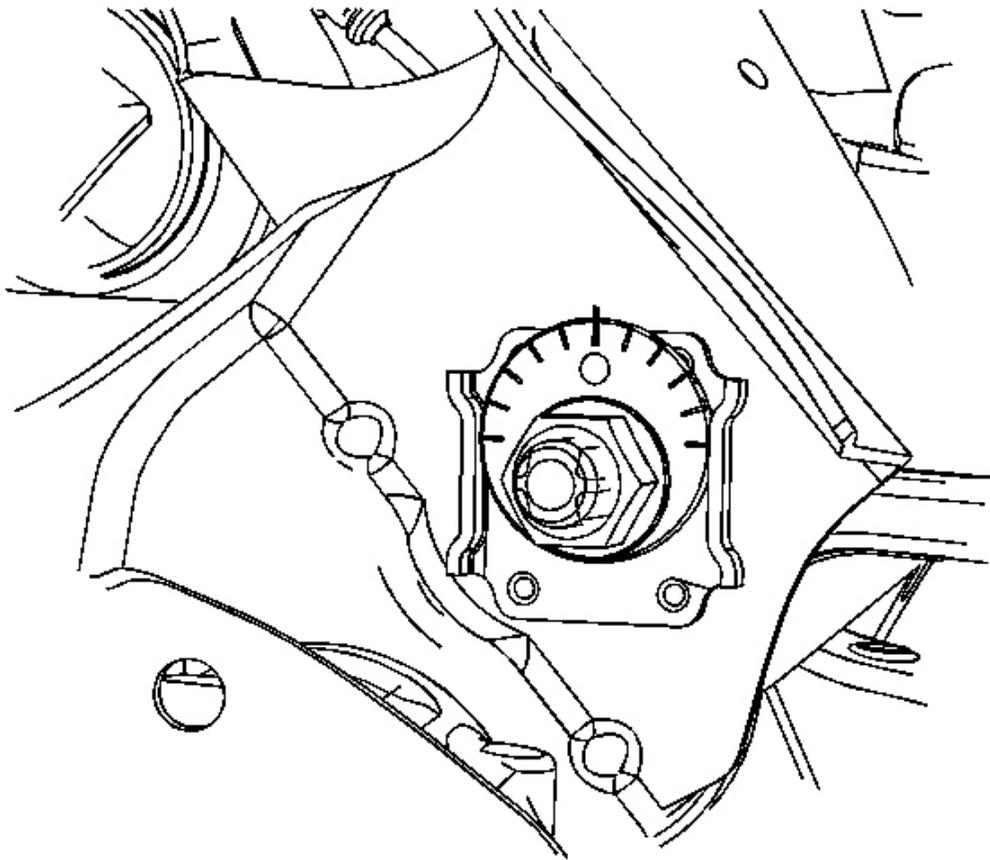
**Fig. 30: Identifying Retaining Nut From Adjuster Link To Knuckle**  
Courtesy of GENERAL MOTORS CORP.

**NOTE:** Refer to Fastener Notice .

5. Install the retaining nut for the adjuster link.

**Tighten:** Tighten the retaining nut to 75 N.m (55 lb ft) plus 60 degrees.

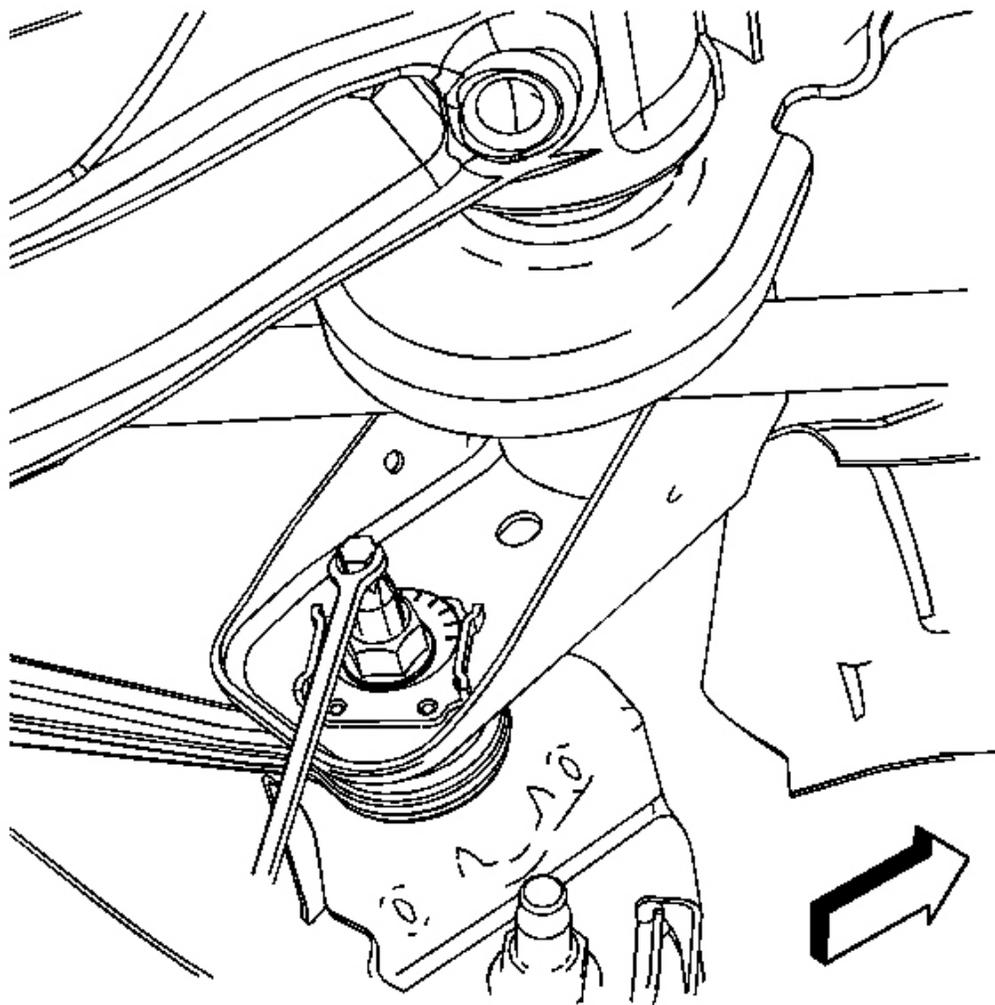
6. Install the rear shock absorber. Refer to **Shock Absorber Replacement**.



**Fig. 31: Identifying Reference Marks On Adjuster Cam And Mounting Bracket**  
Courtesy of GENERAL MOTORS CORP.

**IMPORTANT:** If servicing other suspension components, align the relationship marks on the adjuster cam and the mounting brackets to aid in the re-installation of the adjustment link.

7. Align the reference marks on the adjuster cam and the mounting bracket.



**Fig. 32: Identifying Wrench Holding Adjuster Cam Bolt**  
Courtesy of GENERAL MOTORS CORP.

8. Install a wrench to hold the adjuster cam bolt.
9. Tighten the adjuster cam nuts.

**Tighten:** Tighten the adjuster cam nuts to 140 N.m (103 lb ft).

10. Remove the support and lower the vehicle.
11. Align the rear suspension. Refer to **Wheel Alignment Specifications** .

## UPPER CONTROL ARM REPLACEMENT

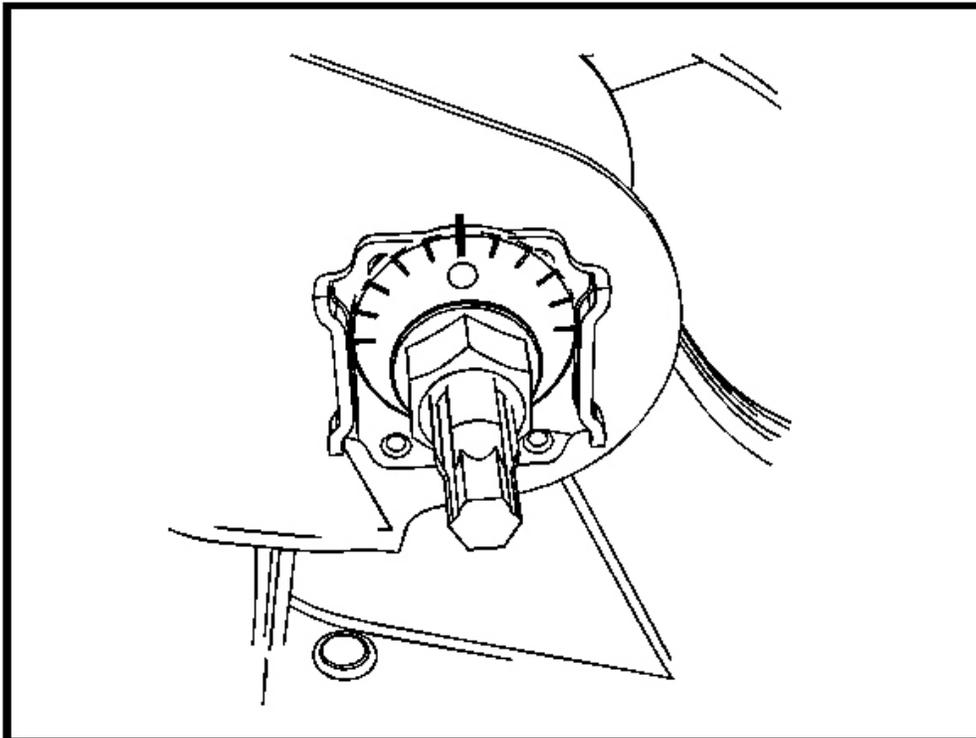
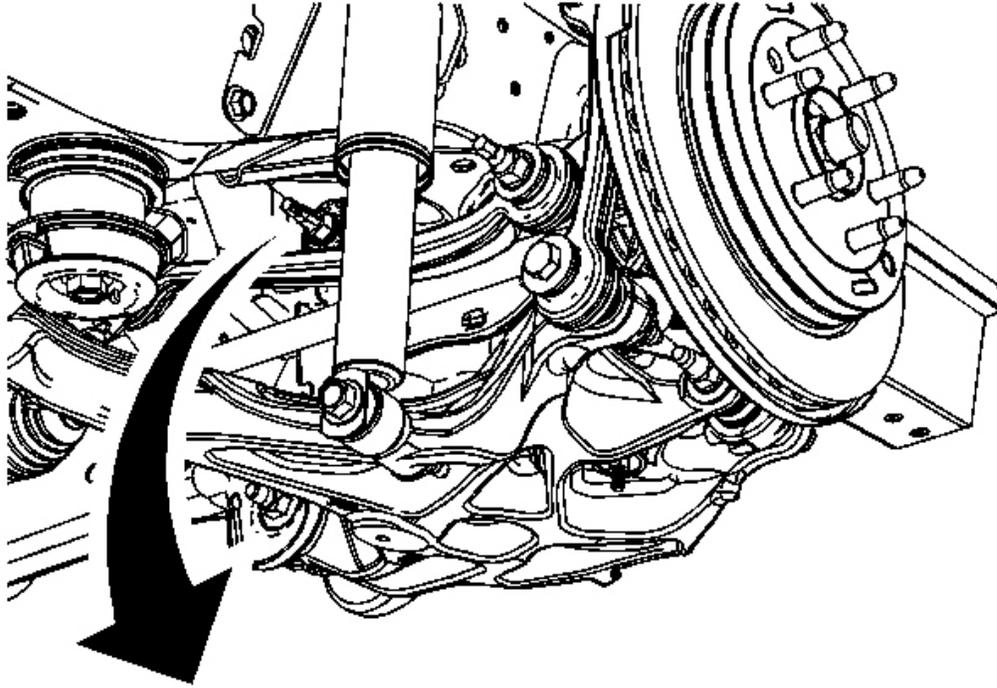
### Removal Procedure

**IMPORTANT:** In the following service procedures, the left side is shown, the right side is similar.

1. Remove the tire and wheel assembly. Refer to **Tire and Wheel Removal and Installation** .

2007 Saturn Outlook XE

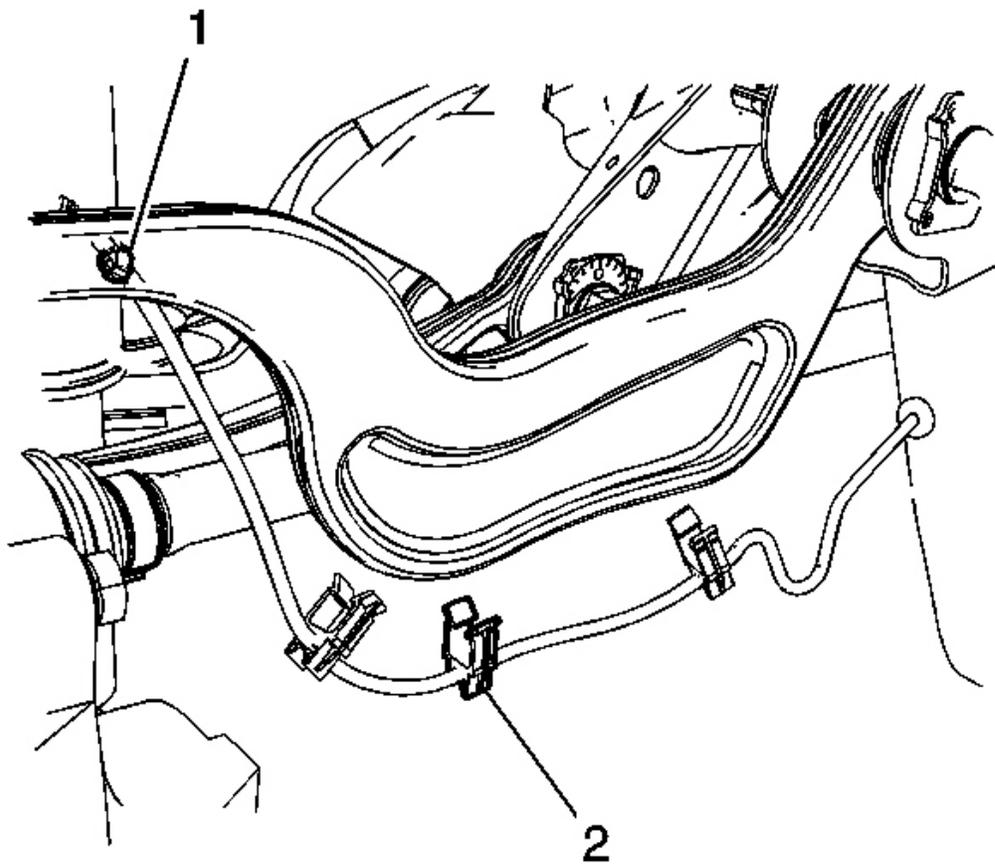
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**Fig. 33: Identifying Reference Marks On Adjuster Cam & Bracket**  
Courtesy of GENERAL MOTORS CORP.

**IMPORTANT:** If removing the upper control arm to service scribe a line on the front adjuster cam to aid in the realignment of the control arm.

2. Scribe a reference mark on the adjuster cam and the bracket to aid in installing the upper control arm.

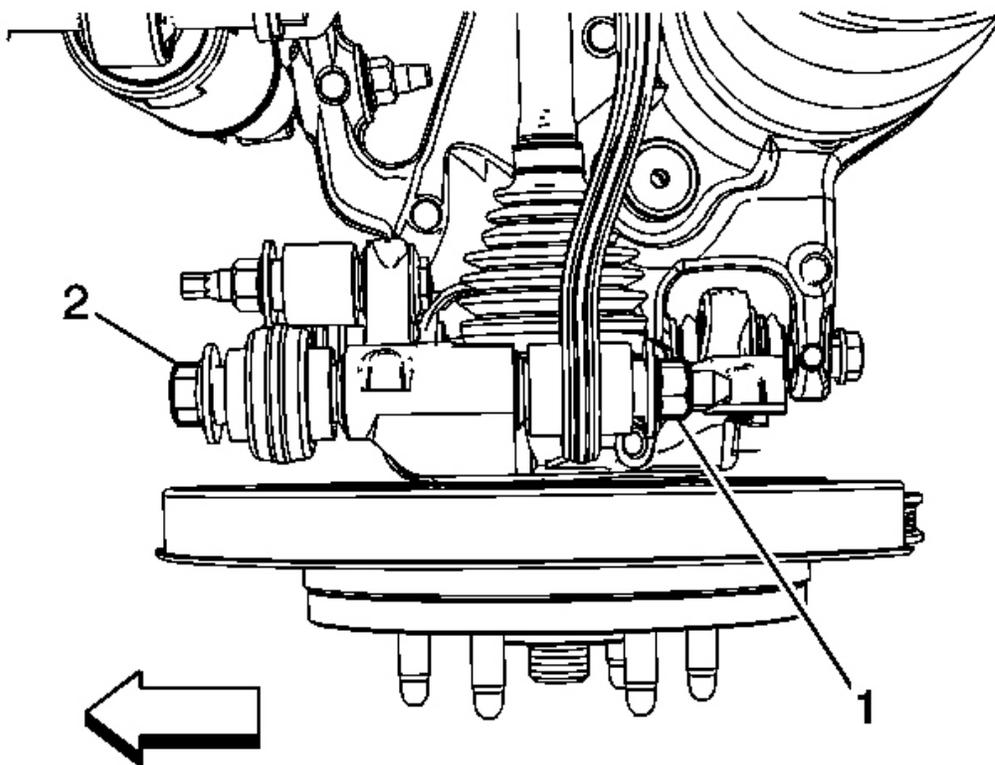


**Fig. 34: Identifying Speed Sensor Wiring Harness Retaining Clips**  
Courtesy of GENERAL MOTORS CORP.

3. Remove the speed sensor wiring harness retaining clips (1) and (2) from the upper control

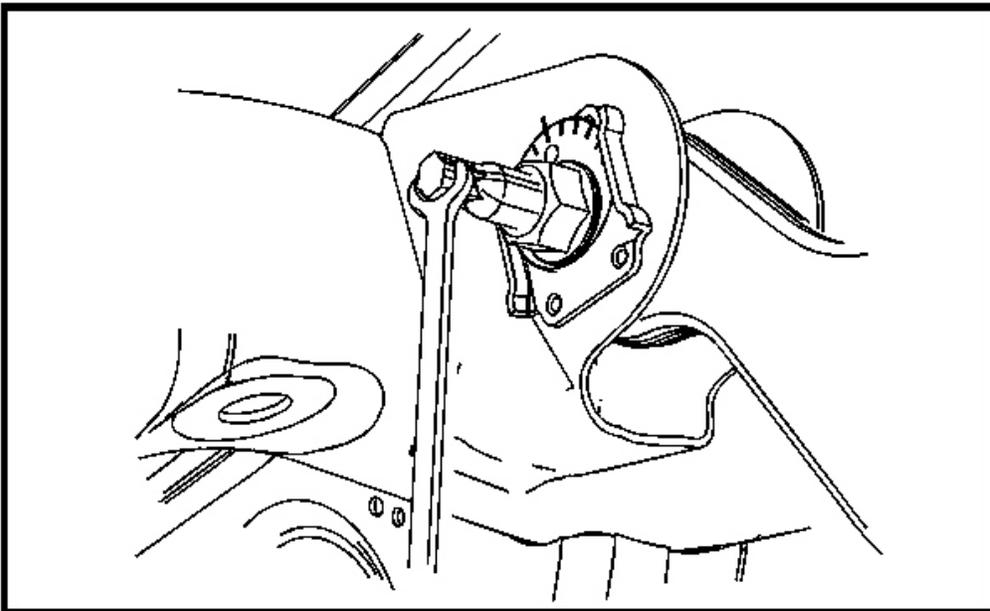
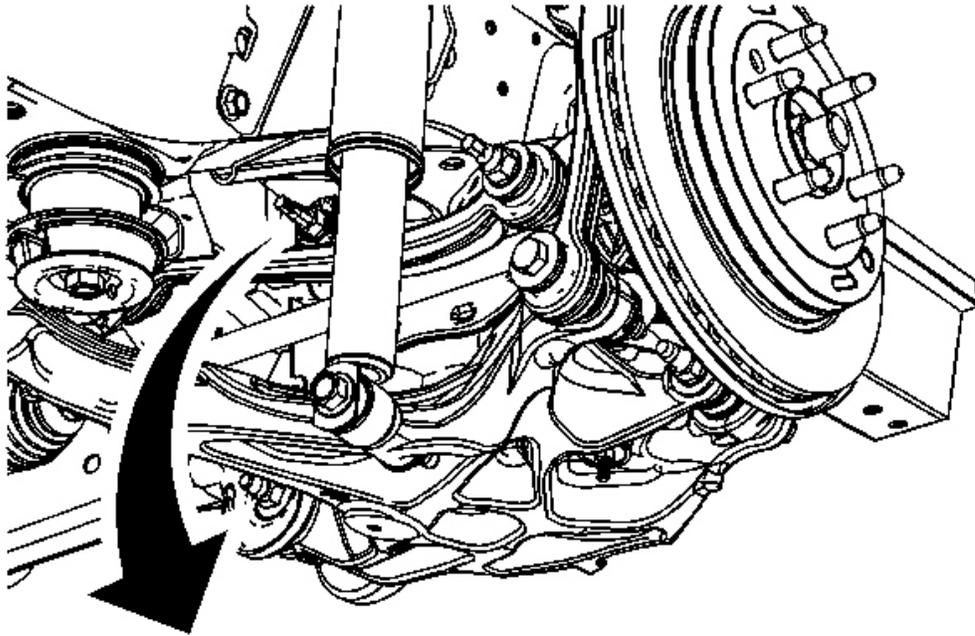
arm.

4. Position a jack stand under the lower control arm.



**Fig. 35: Identifying Upper Control Arm Bolt & Nut**  
Courtesy of GENERAL MOTORS CORP.

5. Remove the upper control arm mounting nut (1) and bolt (2).



**Fig. 36: Identifying A Wrench Holding Adjuster Cam Bolt**  
Courtesy of GENERAL MOTORS CORP.

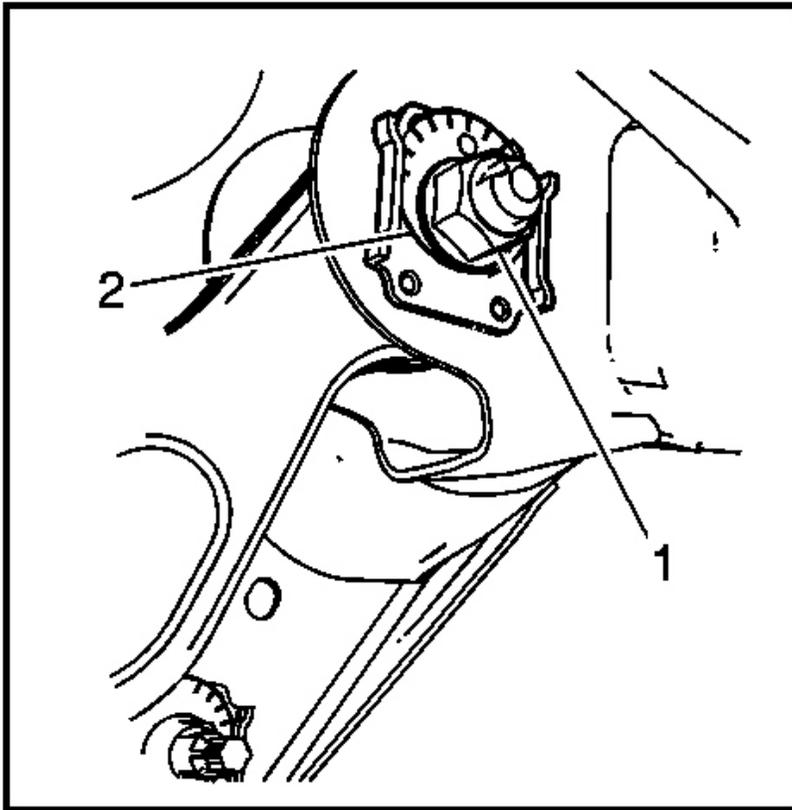
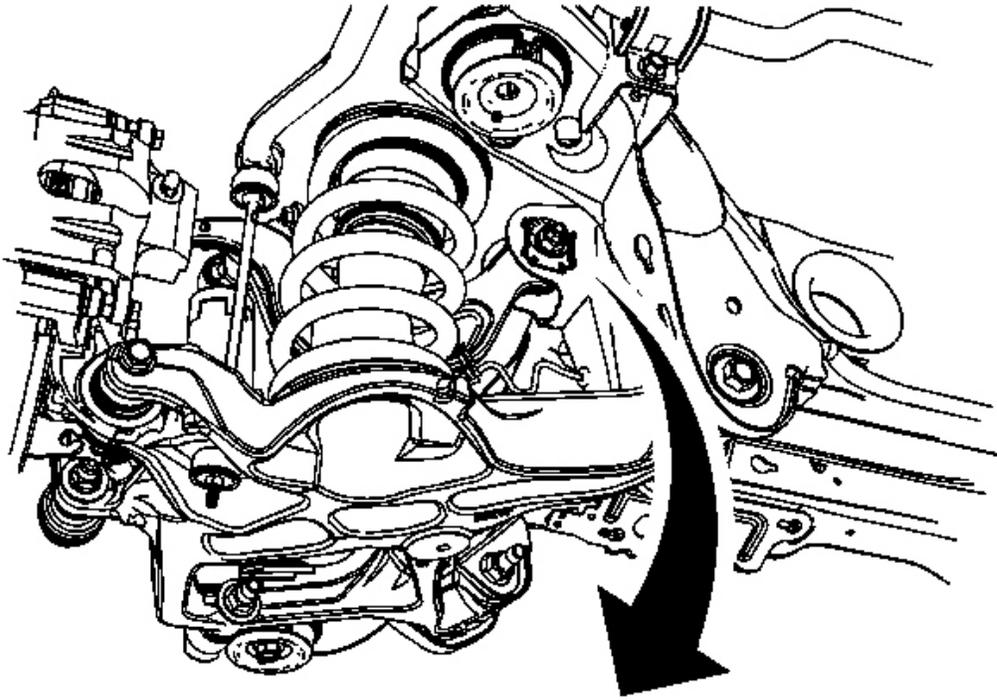
**2007 Saturn Outlook XE**

2007 SUSPENSION Rear Suspension - Outlook

6. Use a wrench to hold the adjuster cam bolt.

2007 Saturn Outlook XE

2007 SUSPENSION Rear Suspension - Outlook

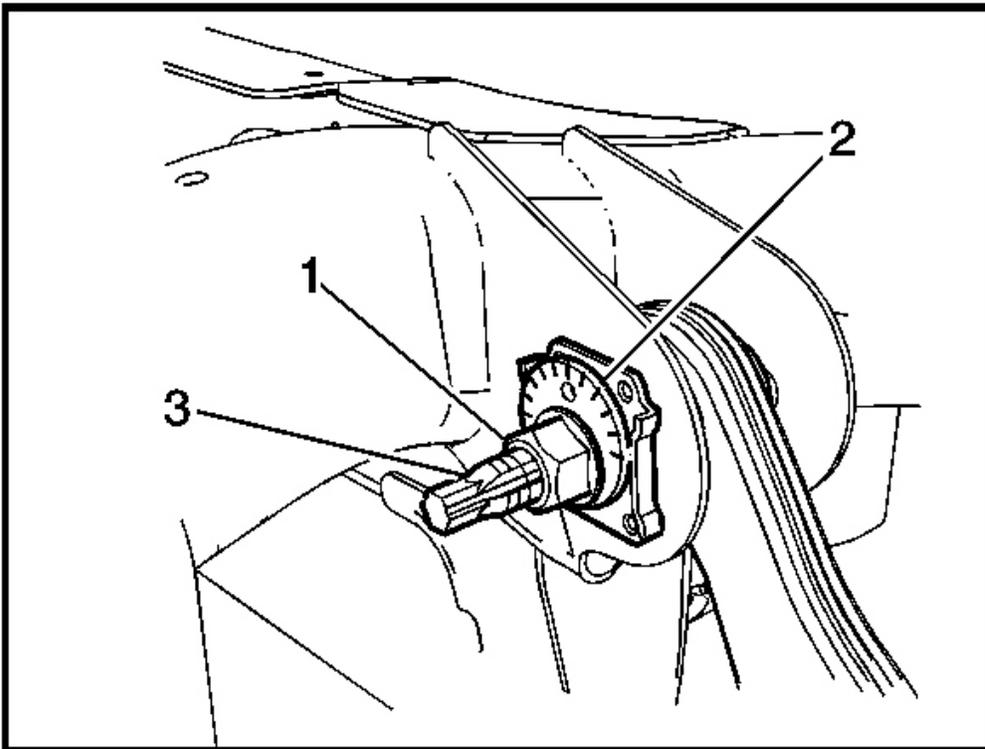
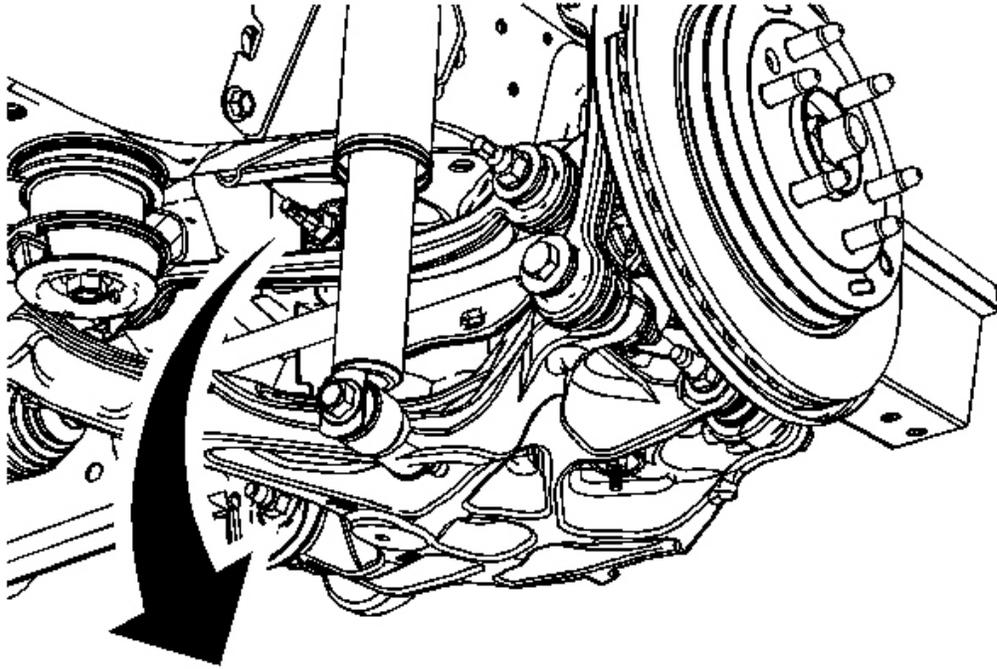


**Fig. 37: Identifying Rear Upper Adjuster Cam & Cam Bolt**  
**Courtesy of GENERAL MOTORS CORP.**

7. Remove the rear upper adjuster cam bolt (1).
8. Remove the rear upper adjuster cam (2).

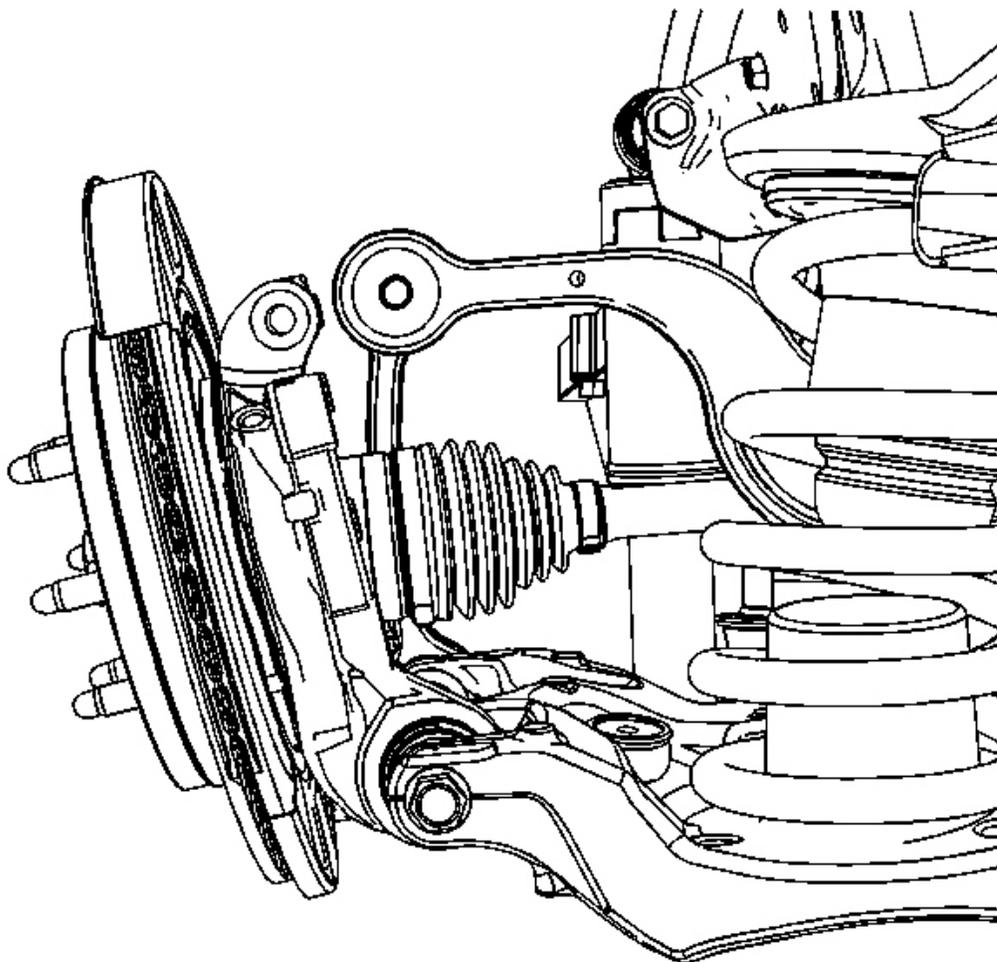
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2007 SUSPENSION Rear Suspension - Outlook



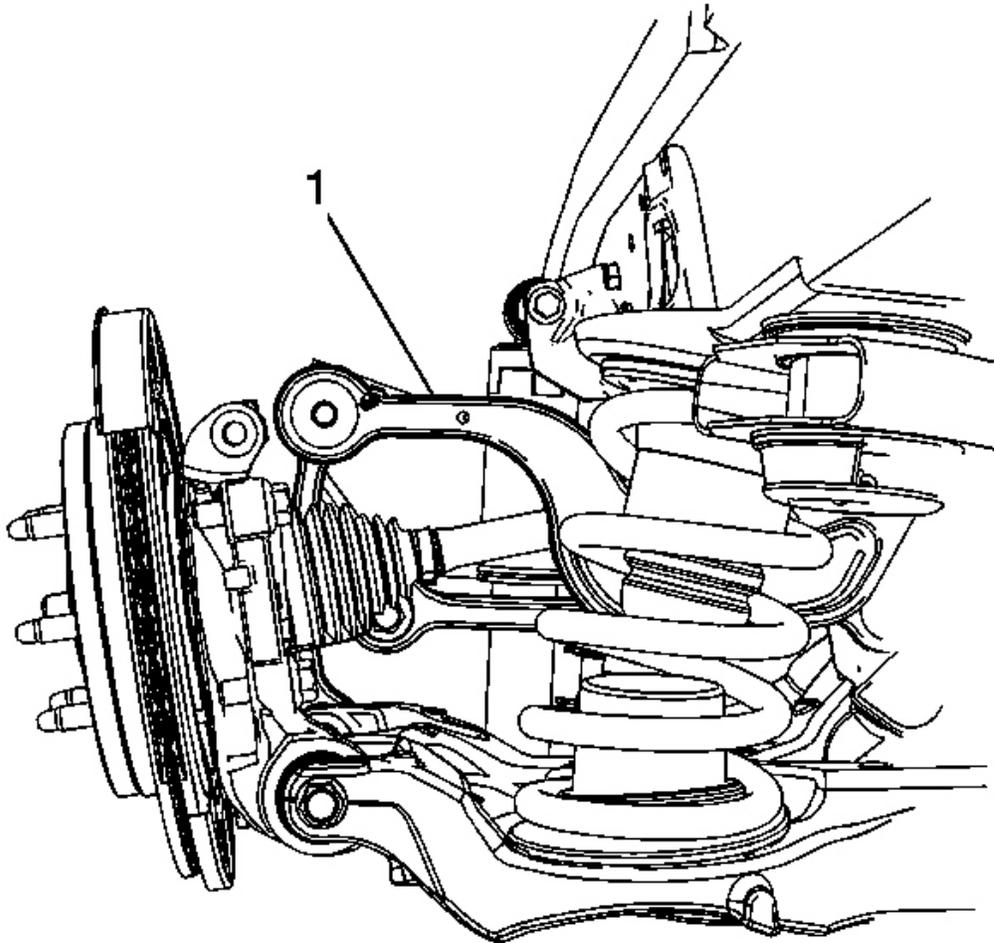
**Fig. 38: Identifying Adjuster Cam, Cam Nut & Bolt**  
Courtesy of GENERAL MOTORS CORP.

9. Remove front the adjuster cam nut (1).
10. Remove the adjuster cam (2).
11. Remove the adjuster cam bolt (3).



**Fig. 39: Identifying Knuckle Assembly**  
Courtesy of GENERAL MOTORS CORP.

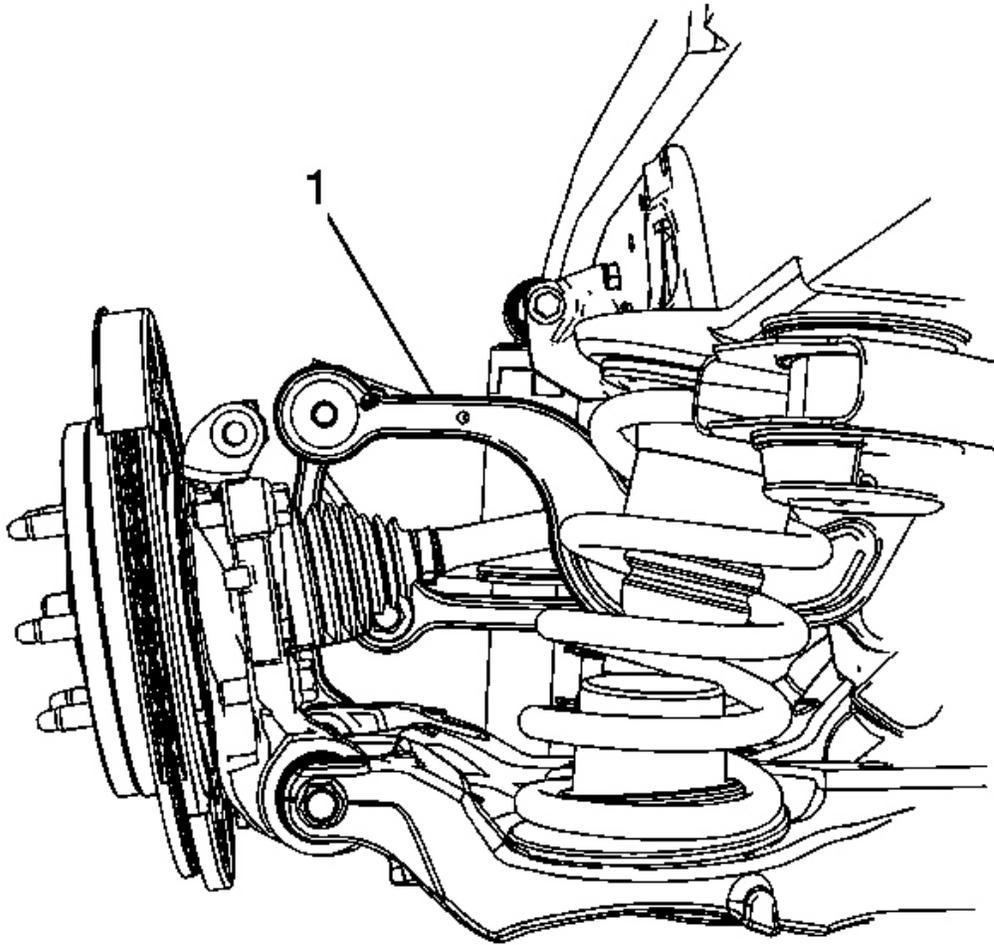
12. Rotate the rear knuckle down to gain removal clearance for the upper control arm.



**Fig. 40: Identifying Upper Control Arm**  
Courtesy of GENERAL MOTORS CORP.

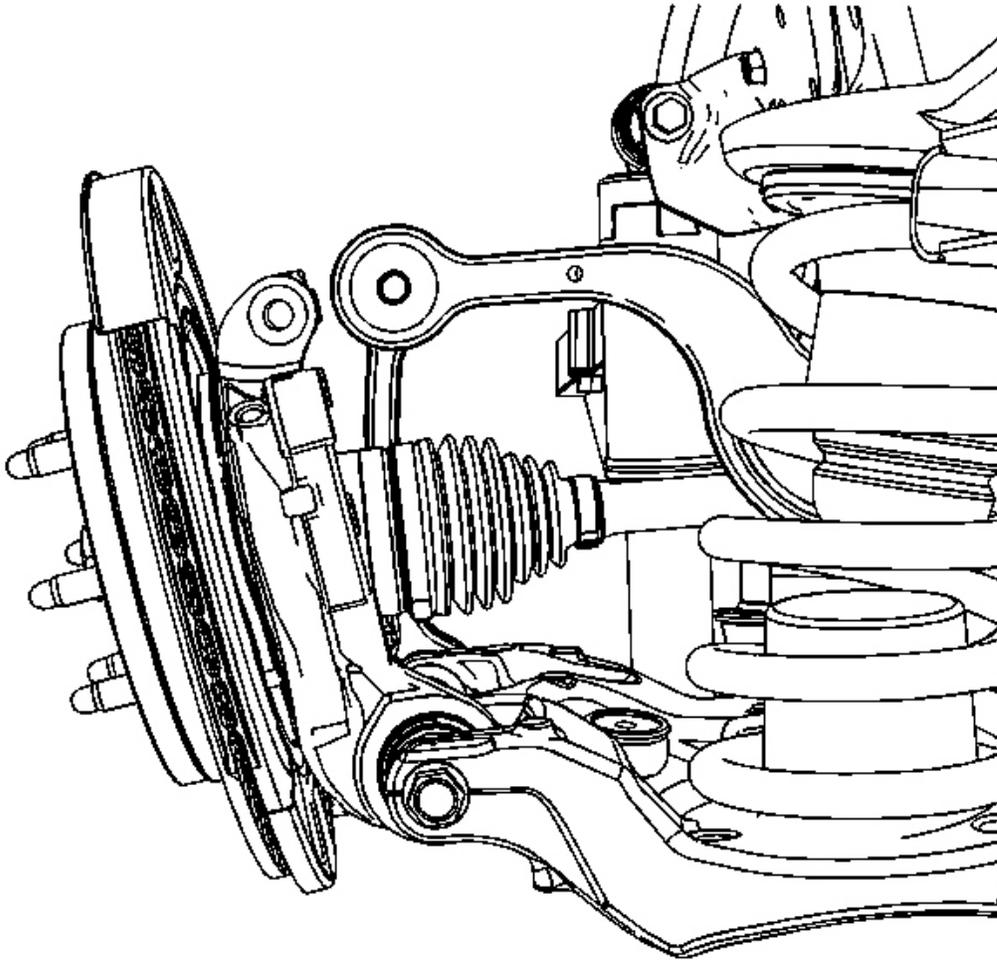
13. Remove the upper control arm (1).

**Installation Procedure**



**Fig. 41: Identifying Upper Control Arm**  
Courtesy of GENERAL MOTORS CORP.

1. Install the upper control arm (1) in the mounting bracket.

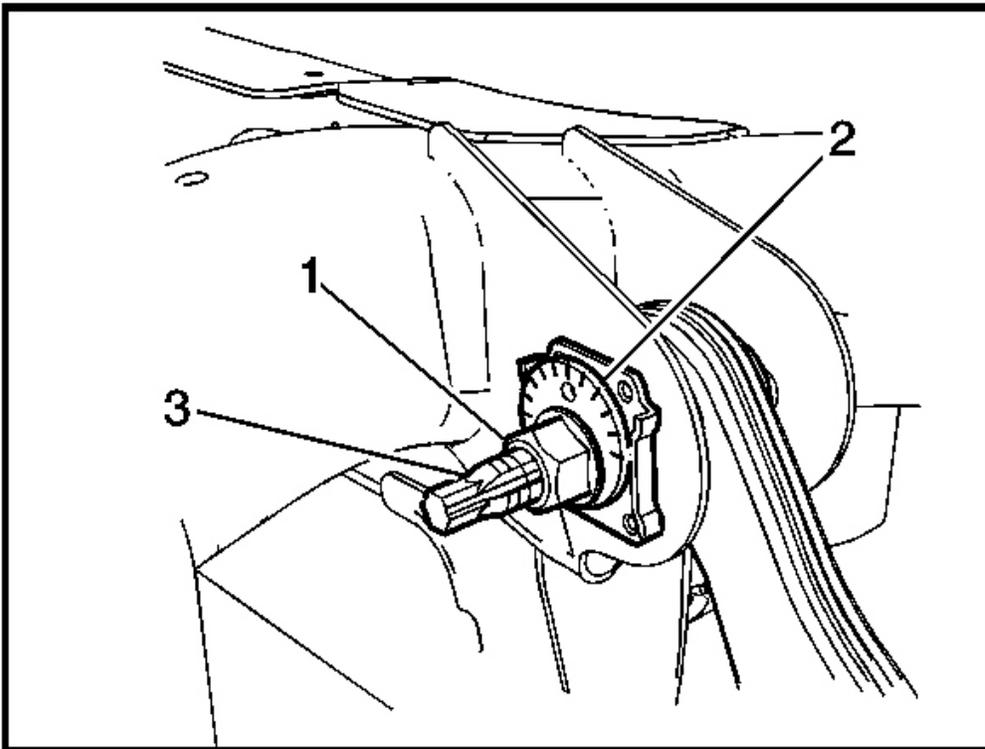
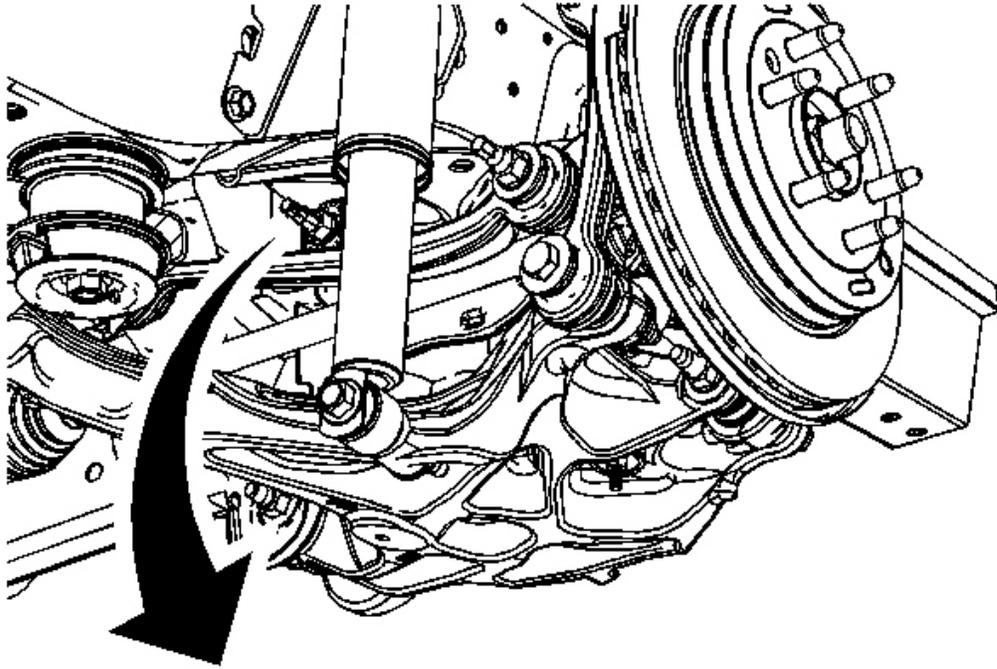


**Fig. 42: Identifying Knuckle Assembly**  
**Courtesy of GENERAL MOTORS CORP.**

2. Rotate the knuckle assembly back into the proper position.

2007 Saturn Outlook XE

2007 SUSPENSION Rear Suspension - Outlook

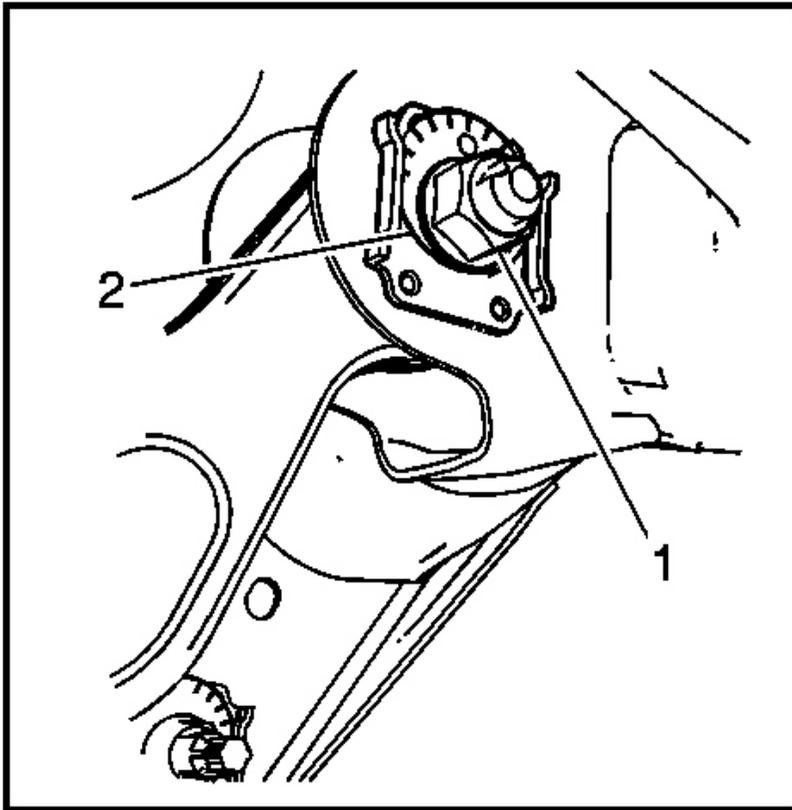
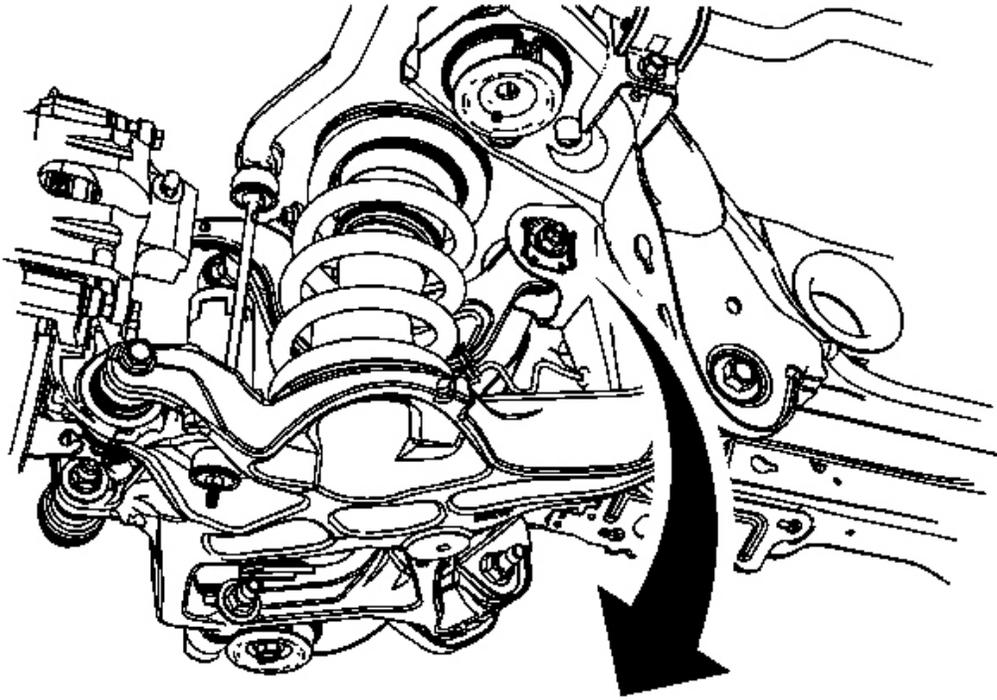


**Fig. 43: Identifying Adjuster Cam, Cam Nut & Bolt**  
**Courtesy of GENERAL MOTORS CORP.**

3. Position the front adjuster cam (2) in the mounting bracket.
4. Install the adjuster cam bolt (3).
5. Finger tighten the front adjuster cam nut (1).

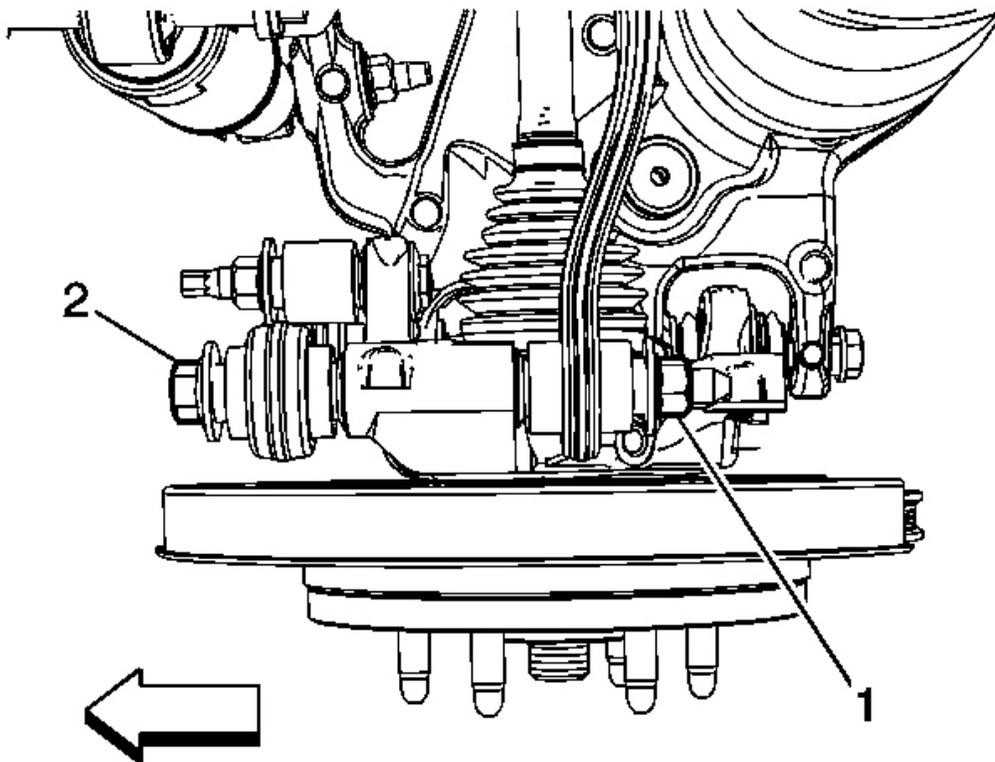
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**Fig. 44: Identifying Rear Upper Adjuster Cam & Cam Bolt**  
Courtesy of GENERAL MOTORS CORP.

6. Position the rear adjuster cam (2) in the mounting bracket.
7. Finger tighten the rear adjuster cam nut (1).



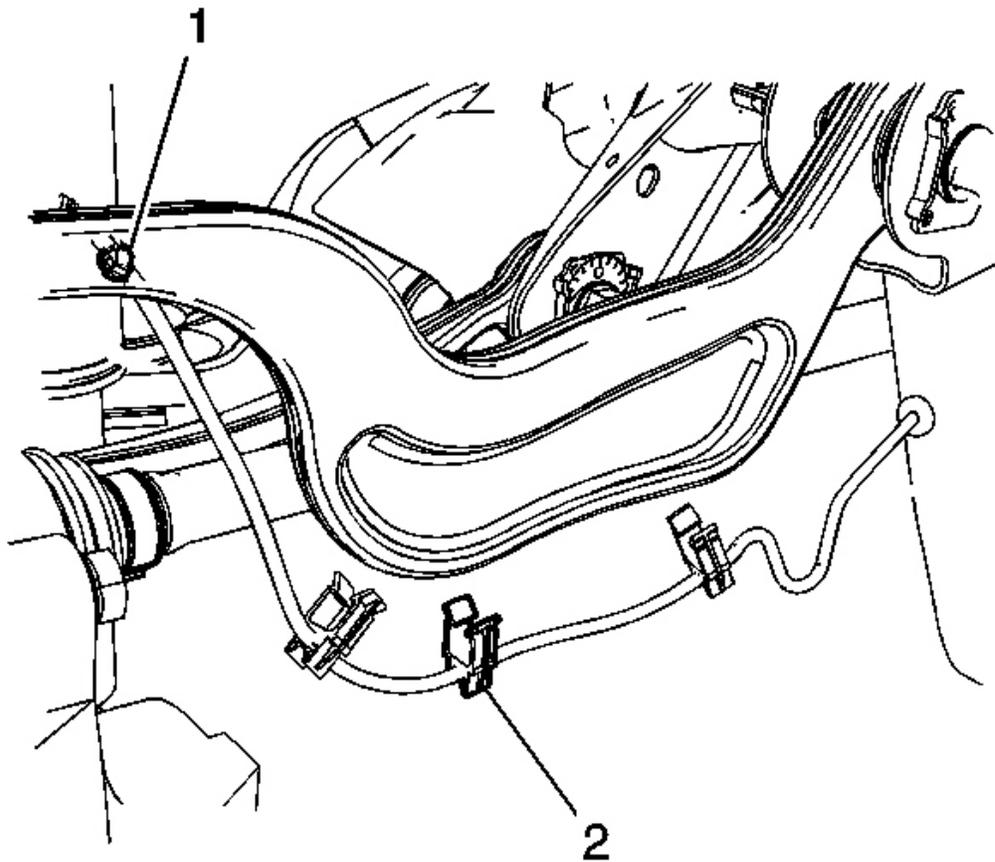
**Fig. 45: Identifying Upper Control Arm Bolt & Nut**  
Courtesy of GENERAL MOTORS CORP.

**NOTE:** Refer to Fastener Notice .

8. Install the upper control arm bolt (2) and nut (1).

**Tighten:** Tighten the bolt to 100 N.m (74 lb ft) plus 90 degrees.

9. Remove the jack stand from under the lower control arm.

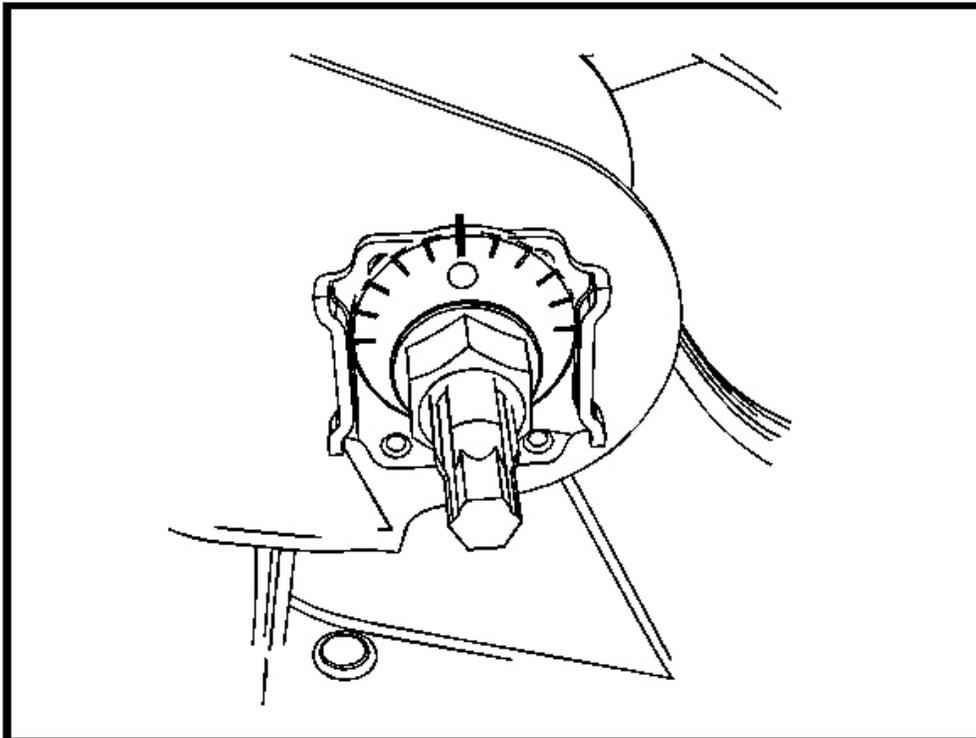
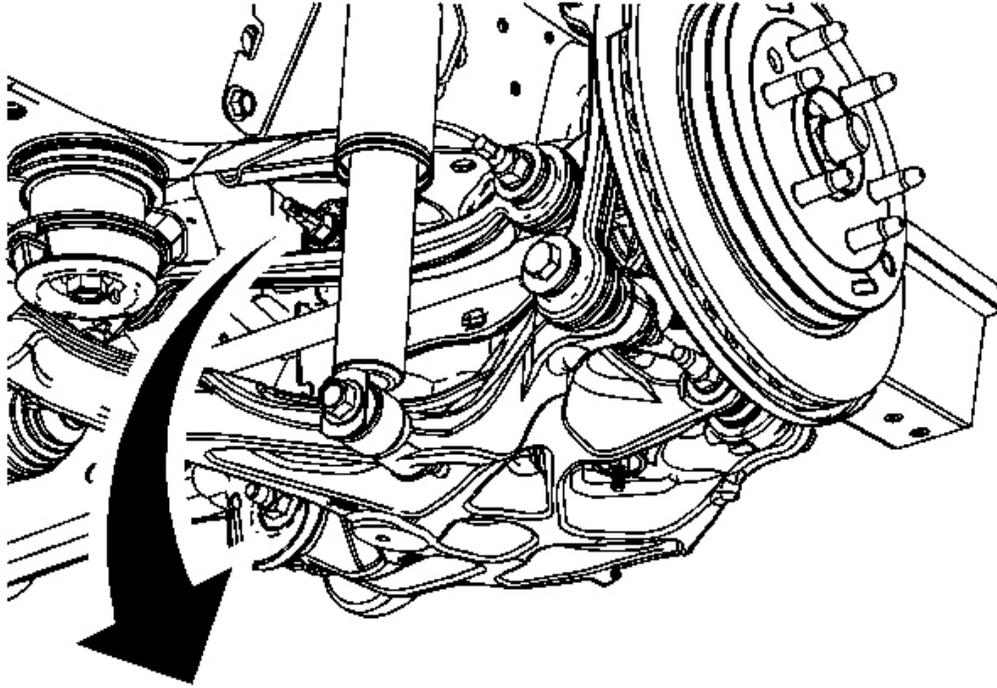


**Fig. 46: Identifying Speed Sensor Wiring Harness Retaining Clips**  
Courtesy of GENERAL MOTORS CORP.

10. Install the speed sensor wiring harness retaining clips (1) and (2) on the upper control arm.

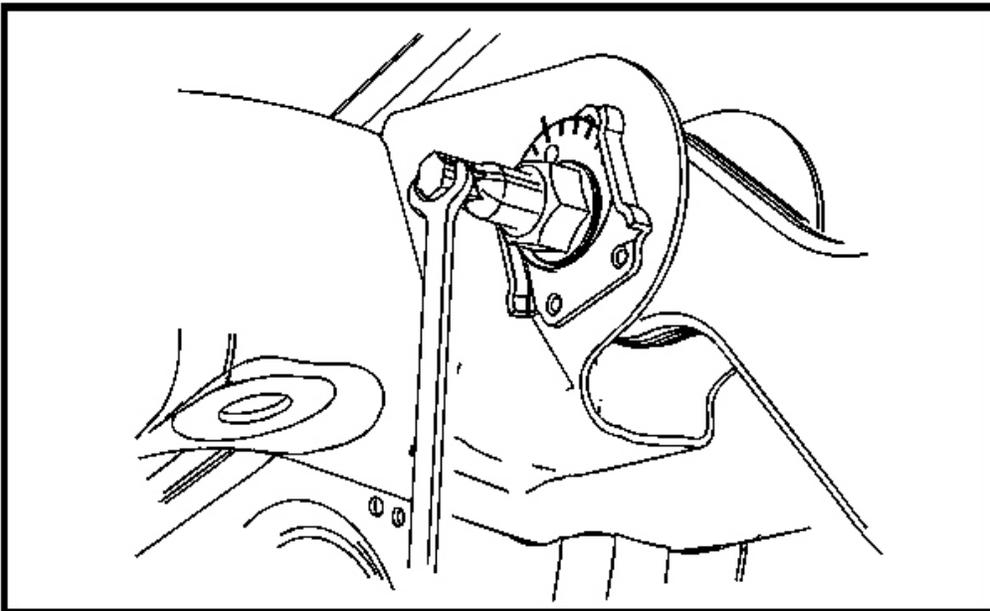
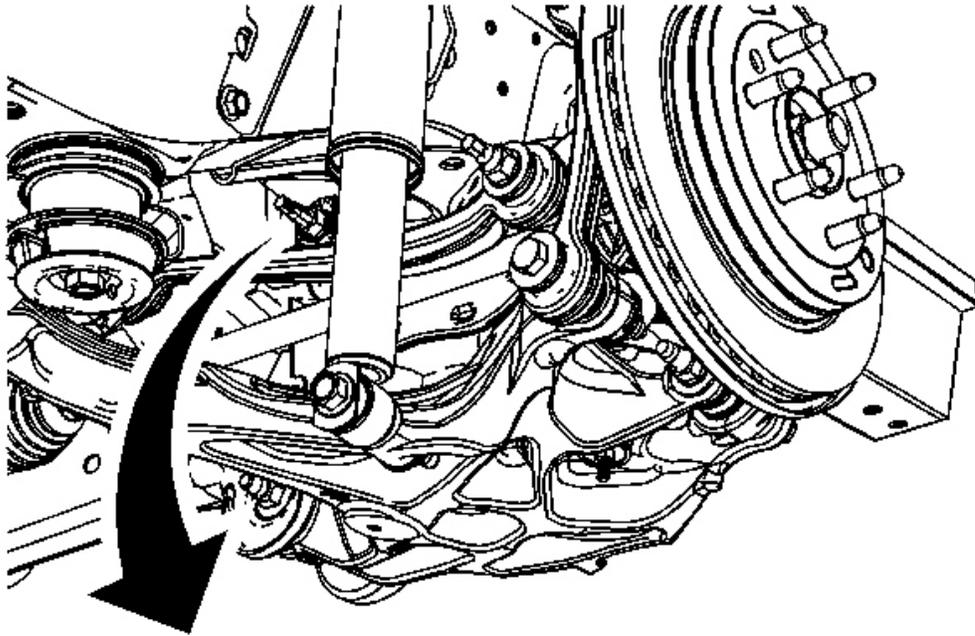
2007 Saturn Outlook XE

2007 SUSPENSION Rear Suspension - Outlook



**Fig. 47: Identifying Reference Marks On Adjuster Cam & Bracket**  
**Courtesy of GENERAL MOTORS CORP.**

11. Align the reference marks on the adjuster cam and bracket.



**Fig. 48: Identifying A Wrench Holding Adjuster Cam Bolt**  
Courtesy of GENERAL MOTORS CORP.

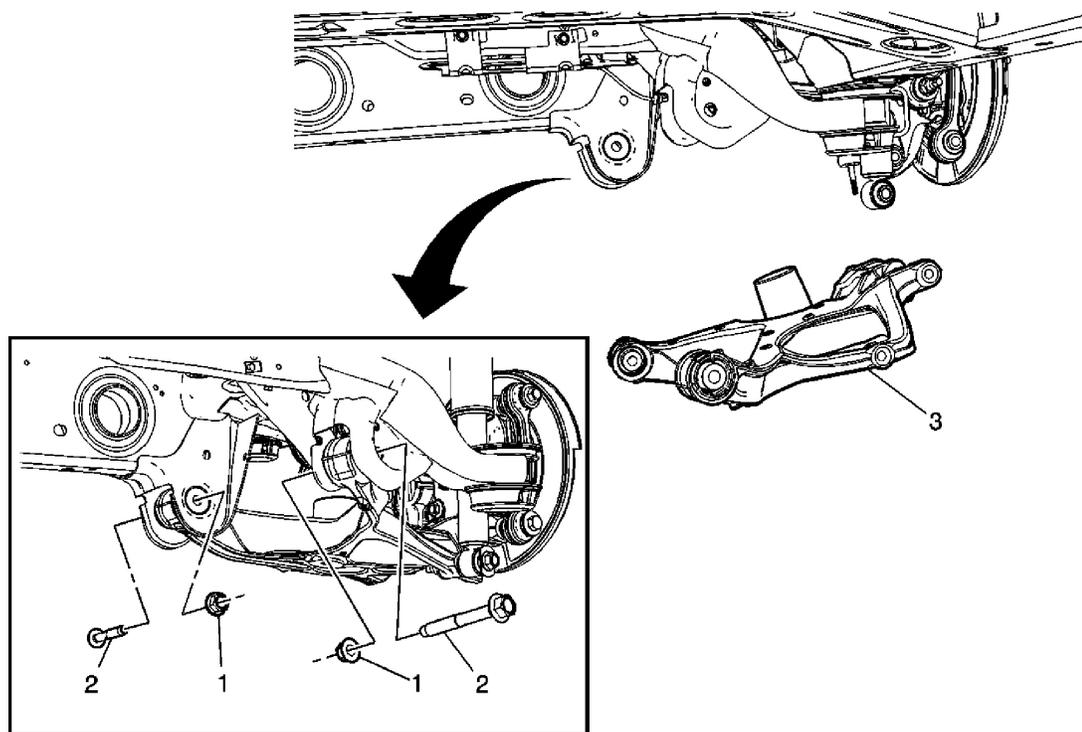
12. Using a wrench to hold the adjuster cam bolt in place, tighten all the adjuster cam nuts.

**Tighten:** Tighten the nuts to 140 N.m (103 lb ft).

13. Install the tire and wheel assembly. Refer to **Tire and Wheel Removal and Installation** .

14. Verify wheel alignment. Refer to **Wheel Alignment Specifications** .

**LOWER CONTROL ARM REPLACEMENT**



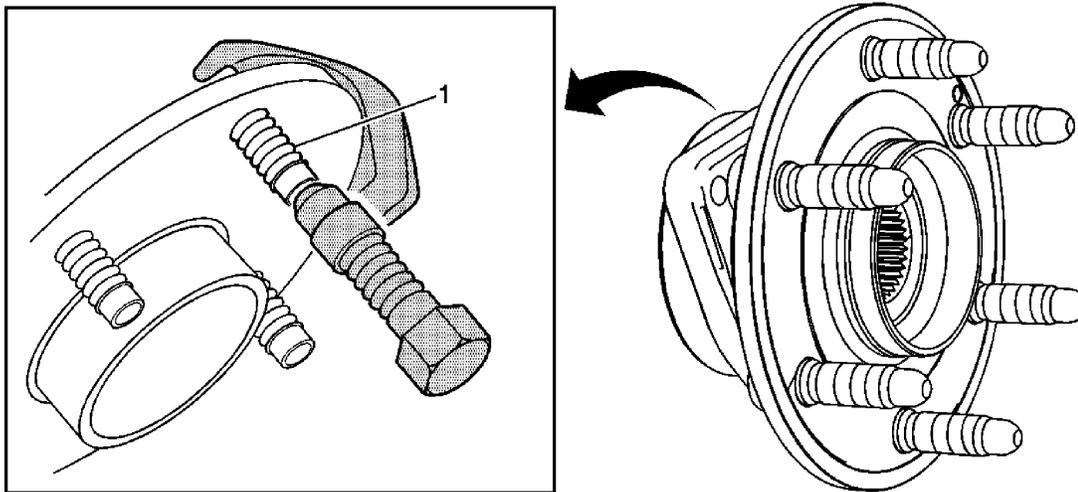
**Fig. 49: Identifying Lower Control Arm**  
 Courtesy of GENERAL MOTORS CORP.

**Lower Control Arm Replacement**

Callout	Component Name
<b>Preliminary Procedure:</b> Remove the rear coil spring and related parts. Refer to <b><u>Rear Spring, Insulator and Jounce Bumper Replacement</u></b> .	
1	Rear Lower Control Arm Nut (Qty: 2)
	Rear Lower Control Arm Bolt (Qty: 2)

2	<p><b>NOTE:</b> Refer to <u>Fastener Notice</u> .</p> <p><b>Tighten:</b></p> <ul style="list-style-type: none"> <li>• Tighten the front control nut to 110 N.m (81 lb ft) plus 45 degrees</li> <li>• Tighten the rear control nut to 120 N.m (89 lb ft) plus 60 degrees</li> </ul>
3	Rear Lower Control Arm

**WHEEL STUD REPLACEMENT**



**Fig. 50: Identifying Wheel Stud**  
Courtesy of GENERAL MOTORS CORP.

**Wheel Stud Replacement**

Callout	Component Name
<p><b>Preliminary Procedure:</b> Remove the rear wheel bearing/hub assembly. Refer to <u>Rear Wheel Bearing and Hub Replacement (AWD)</u> or <u>Rear Wheel Bearing and Hub Replacement (FWD)</u>.</p>	
1	<p>Wheel Stud (Qty: 6)</p> <p><b>Procedure</b></p> <ol style="list-style-type: none"> <li>1. Use either an old lug nut or a nut that will fit the wheel stud.</li> <li>2. Tighten the lug nut/nut until the wheel stud is seated against the wheel hub.</li> </ol>

## 2007 Saturn Outlook XE

### 2007 SUSPENSION Rear Suspension - Outlook

**Tip:** Ensure that the washers being used, the center hole is larger than the wheel stud.

**Special Tools:**

**J 43631** Ball Joint Remover

## DESCRIPTION AND OPERATION

### REAR SUSPENSION DESCRIPTION AND OPERATION

The rear suspension system on this vehicle is the independent suspension type. The rear suspension system consists of the following components:

- The crossmember
- The knuckle
- The adjuster link
- The wheel bearing
- The upper control arms
- The lower control arms (with integral ball joints)
- The coils springs
- The stabilizer shaft
- The stabilizer shaft links
- The shock absorbers
- The coils springs

## SPECIAL TOOLS AND EQUIPMENT

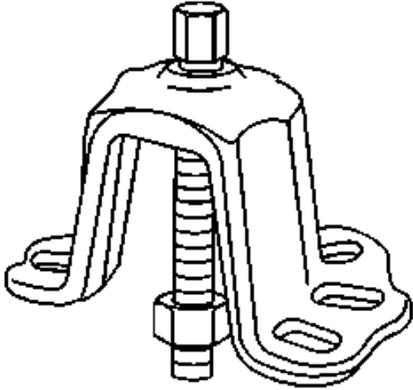
### SPECIAL TOOLS

#### Special Tools

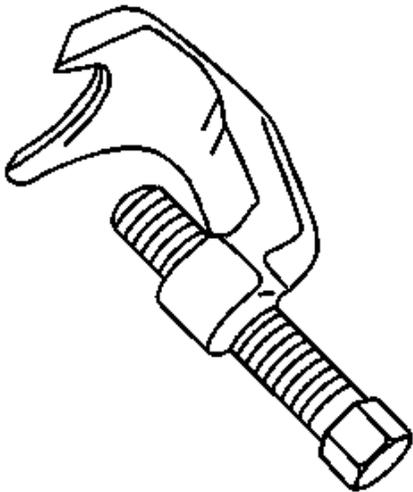
Illustration	Tool Number/Description

2007 Saturn Outlook XE

2007 SUSPENSION Rear Suspension - Outlook



J 28733-B  
Front/Rear Spindle Remover



J 43631  
Ball Joint Remover