

2013 SUSPENSION

Rear Suspension - Malibu

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Adjust Link Bolt (at Knuckle) - GNC		
• First Pass	115 N.m	85 lb ft
• Final Pass	plus 90 degrees	
Adjust Link Nut (at Frame) - GNC		
• First Pass	90 N.m	66 lb ft
• Final Pass	plus 60 degrees	
Lower Control Arm Bolt (at Knuckle) - GNC		
• First Pass	70 N.m	51 lb ft
• Final Pass	plus 90 degrees	
Lower Control Arm Nut (at Frame) - GNC		
• First Pass	90 N.m	66 lb ft
• Final Pass	plus 60 degrees	
Rear Wheel Hub (at Rear Wheel Bracket) - GNC		
• First Pass	90 N.m	66 lb ft
• Final Pass	plus 75 degrees	
Rear Suspension Control Arm Bolt (at Rear Wheel Hub Bracket) - GNC		
• First Pass	150 N.m	111 lb ft
• Final Pass	plus 30 degrees	
Shock Absorber Bolt (at Body Bracket) - GNC	100 N.m	74 lb ft
Shock Absorber Bolt (at Wheel Hub Bracket) - GNC		
• First Pass	150 N.m	111 lb ft
• Final Pass	plus 60 degrees	
Shock Absorber Nut (at Upper Mount Bracket) - GNC	20 N.m	15 lb ft
Stabilizer Shaft Insulator Clamp Bolts - GNC		
• First Pass	22 N.m	16 lb ft
• Final Pass	plus 30 degrees	

Stabilizer Shaft Link Bolt (at Rear Wheel Bracket) - GNC	50 N.m	37 lb ft
Stabilizer Shaft link Nut (at Stabilizer Shaft) - GNC	50 N.m	37 lb ft
Upper Control Arm Nut (at Frame) - GNC		
• First Pass	70 N.m	52 lb ft
• Final Pass	plus 60 degrees	
Upper Control Arm Nut (at Rear Wheel Bracket) - GNC		
• First Pass	150 N.m	111 lb ft
• Final Pass	plus 90 degrees	

REPAIR INSTRUCTIONS

REAR WHEEL BEARING AND HUB REPLACEMENT (GNC)

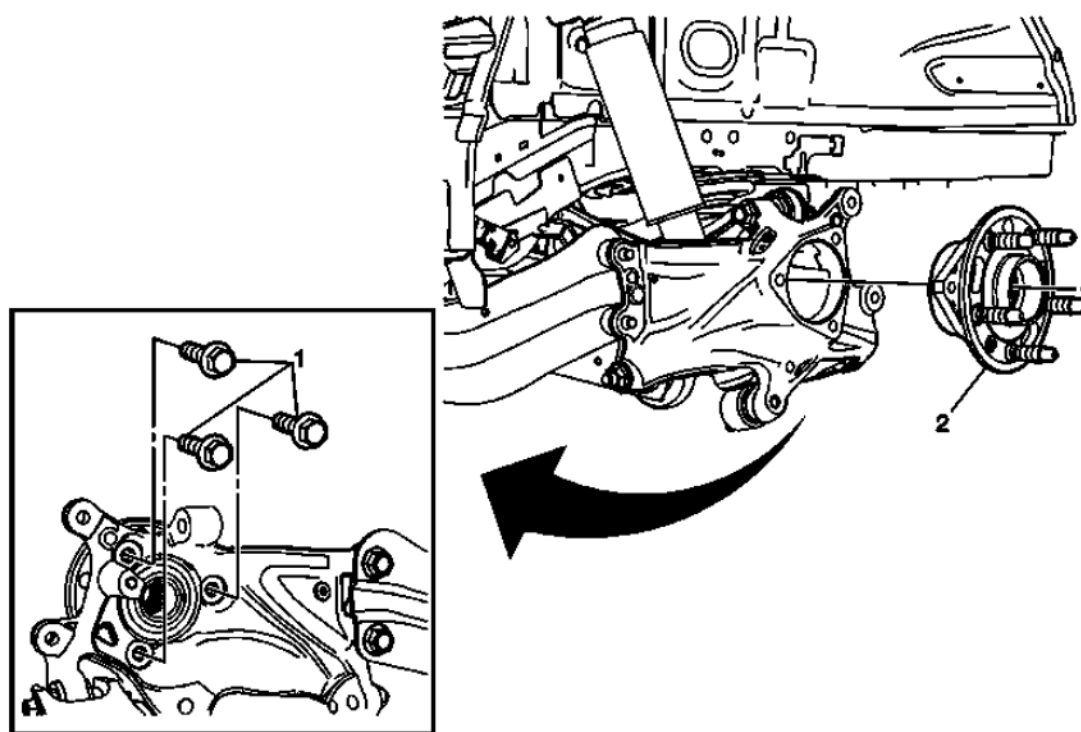


Fig. 1: Rear Wheel Bearing And Hub (GNC)
Courtesy of GENERAL MOTORS COMPANY

Rear Wheel Bearing and Hub Replacement (GNC)

Callout	Component Name
Preliminary Procedure	
1.	Remove the rear tire and wheel. Refer to <u>Tire and Wheel Removal and Installation</u> .
2.	Remove the rear wheel speed sensor. Refer to <u>Rear Wheel Speed Sensor Replacement</u>

3.	Remove the rear brake rotor. Refer to <u>Rear Brake Rotor Replacement</u> .
1	Rear Wheel Bearing Bolts (Qty: 3) CAUTION: Refer to <u>Fastener Caution</u>. Procedure 1. Remove upper control arm. Refer to <u>Upper Control Arm Replacement (GNC)</u>. 2. Remove and discard the bolts. DO NOT reuse, replace with NEW only. Tighten • First Pass: 90 N.m (66 lb ft) • Final Pass: plus 75 degrees
2	Rear Wheel Bearing 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.

REAR WHEEL HUB BRACKET REPLACEMENT (GNC)

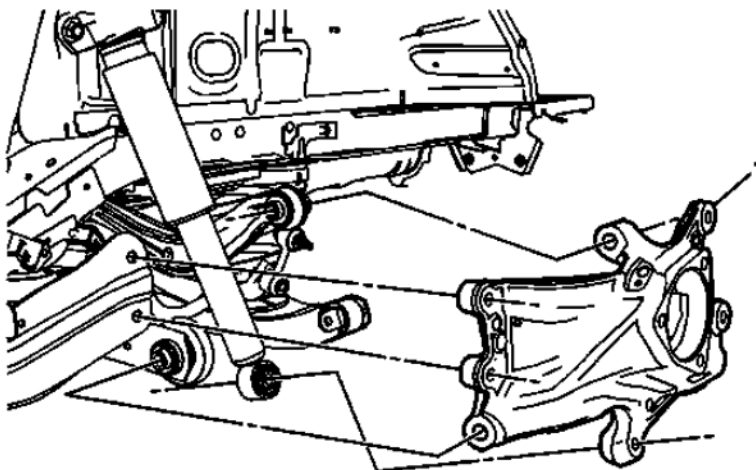


Fig. 2: Rear Wheel Hub Bracket (GNC)
Courtesy of GENERAL MOTORS COMPANY

Rear Wheel Hub Bracket Replacement (GNC)

Callout	Component Name
Preliminary Procedure 1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> . 2. Remove the tire and wheel assembly. Refer to <u>Tire and Wheel Removal and Installation</u> . 3. Remove the rear wheel bearing and hub. Refer to <u>Rear Wheel Bearing and Hub Replacement (GNC)</u>.	
1	Rear Wheel Hub Bracket Procedure 1. Support the rear lower control arm with a suitable jack stand. 2. Remove the bolt from upper control arm to the rear wheel hub bracket. Refer to <u>Upper Control Arm Replacement (GNC)</u>. 3. Remove the bolt from the lower shock absorber bolt to the rear wheel hub bracket. Refer to <u>Shock Absorber Replacement (GNC)</u>. 4. Remove the bolt from the lower control arm to the rear wheel hub bracket. Refer to <u>Lower Control Arm Replacement</u>. 5. Remove the bolt from the adjust link to the rear wheel hub bracket. Refer to <u>Adjust Link Replacement (GNC)</u>. 6. Remove the bolts from the rear suspension control arm to the rear wheel hub bracket. Refer to <u>Rear Suspension Control Arm Replacement</u>.

REAR SUSPENSION CONTROL ARM REPLACEMENT

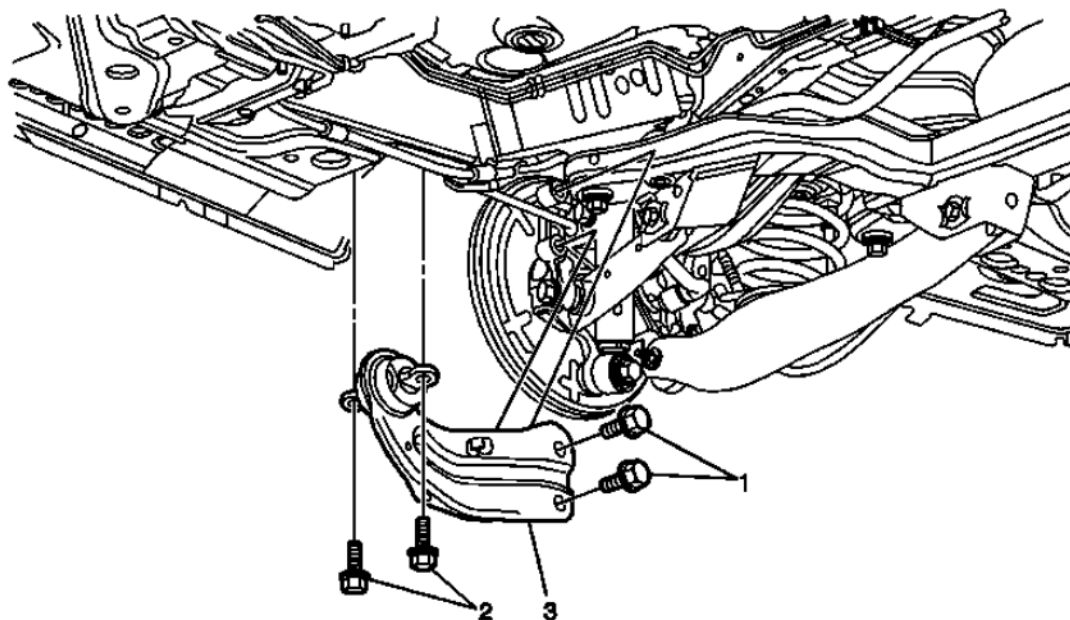


Fig. 3: Rear Suspension Control Arm & Bolts
 Courtesy of GENERAL MOTORS COMPANY

Rear Suspension Control Arm Replacement

Callout	Component Name
Preliminary Procedure	
Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u>	
1	Rear Wheel Hub Bracket Bolt (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u> . Procedure Remove and discard the bolts. DO NOT reuse, replace with NEW only. Tighten • First Pass: 150 N.m (111 lb ft) • Final Pass: plus 30 degrees Special Tools EN-45059 Angle Meter For equivalent regional tools, refer to <u>Special Tools</u>.

2	Rear Suspension Control Arm Bracket Bolt (Qty: 2) Procedure Remove and discard the bolts. DO NOT reuse, replace with NEW only. Tighten • First Pass: 150 N.m (111 lb ft) • Final Pass: plus 30 degrees
3	Rear Suspension Control Arm 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. Procedure Remove the rear speed sensor harness from the rear suspension control arm. Refer to <u>Rear Wheel Speed Sensor Replacement</u> .

REAR SUSPENSION CONTROL ARM BUSHING REPLACEMENT

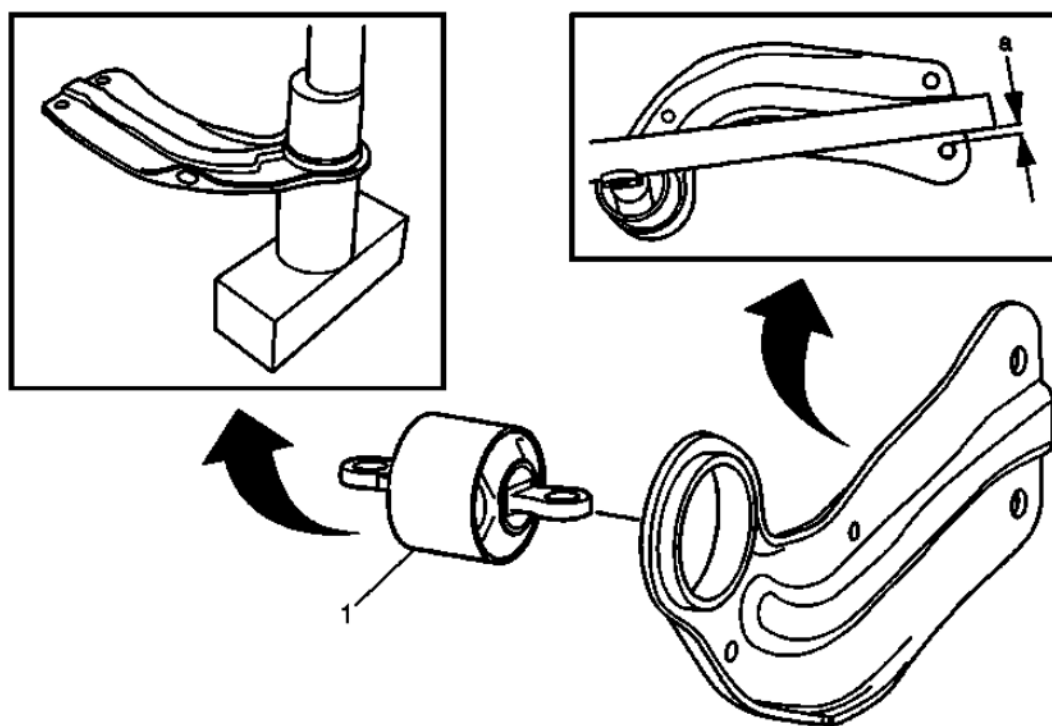


Fig. 4: Rear Suspension Control Arm Bushing
Courtesy of GENERAL MOTORS COMPANY

Rear Suspension Control Arm Bushing Replacement

Callout	Component Name
Preliminary Procedures 1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> . 2. Remove the rear suspension control arm. Refer to <u>Rear Suspension Control Arm Replacement</u>.	
1	Rear Suspension Control Arm Bushing Procedure 1. Using the CH-21474 kit, install the rear suspension control arm bushing. 2. Adjust the rear suspension control arm bushing 18.7 mm from center of hole, when parallel to bushing console with the J-21474 kit. Special Tools CH-21474 Remover/Installer Kit For equivalent regional tools, refer to <u>Special Tools</u>.

STABILIZER SHAFT REPLACEMENT (GNC)

Special Tools

EN-45059 Angle Meter

For equivalent regional tools, refer to **Special Tools**

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 Replacement (LCV, LUK)** , **Exhaust Muffler Replacement (LTG)** .
4. Remove the rear suspension control arm bolts from the body. Refer to **Lower Control Arm Replacement**.
5. Remove the rear spring. Refer to **Rear Spring, Insulator, and Jounce Bumper Replacement (GNC)**.
6. Remove the park brake cables from the trailing arms. Refer to **Parking Brake Rear Cable Replacement** .
7. Without disconnecting the hydraulic brake hose from the caliper, remove and support the brake caliper. Refer to **Rear Brake Caliper Replacement** .
8. Remove the lower shock absorber bolts. Refer to **Shock Absorber Replacement (GNC)**.
9. Support and secure adjustable jack stands to the rear support.

10. Mark up support position to body with spray paint.

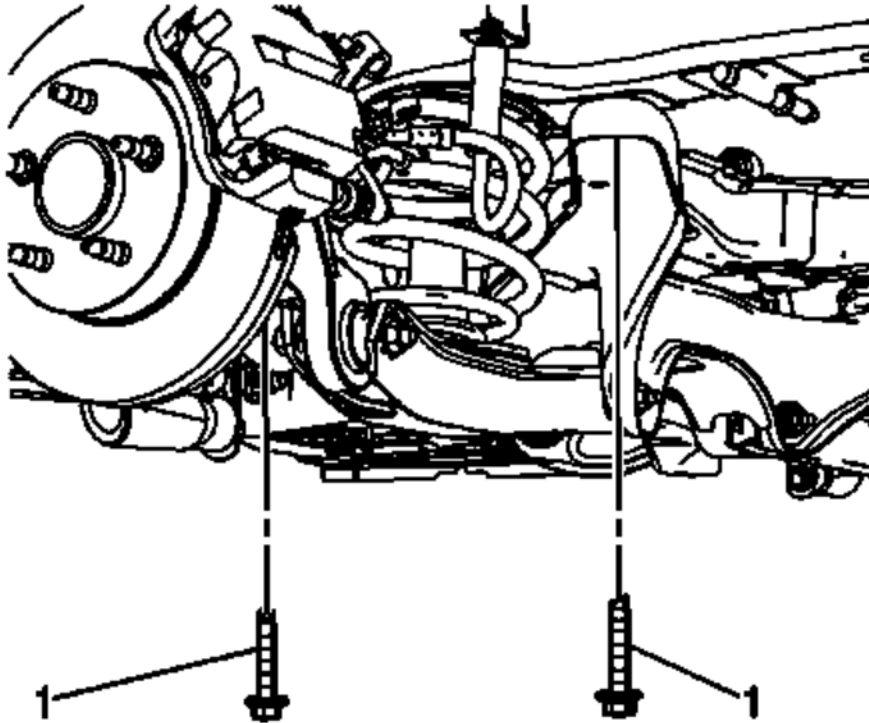


Fig. 5: Identifying Support Mounting Bolts
Courtesy of GENERAL MOTORS COMPANY

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

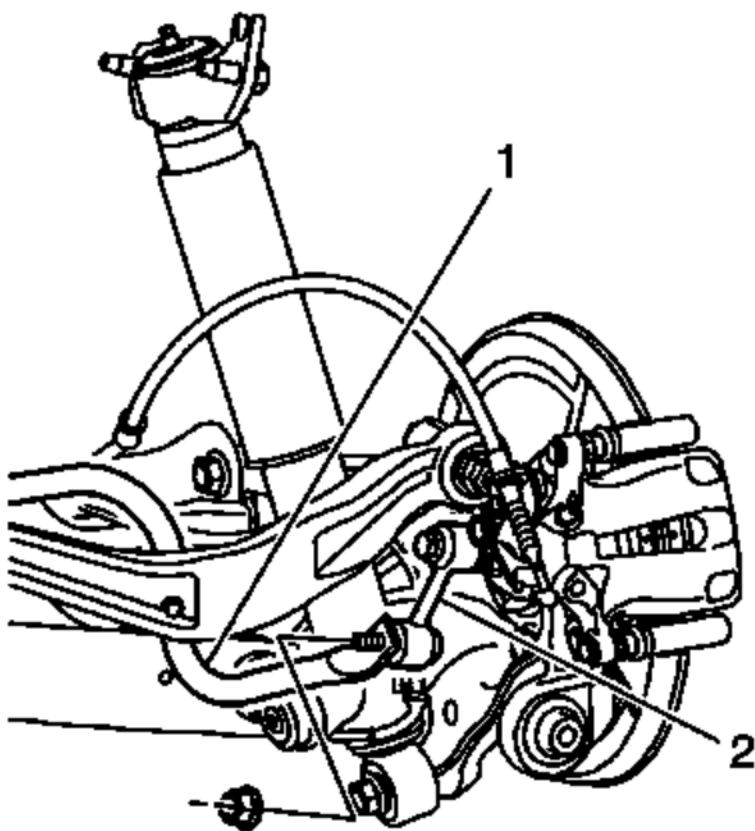


Fig. 6: Stabilizer Shaft & Stabilizer Shaft Link
Courtesy of GENERAL MOTORS COMPANY

13. Remove the stabilizer shaft (1) from the stabilizer shaft link (2). Refer to **Stabilizer Shaft Link Replacement (GNC)**

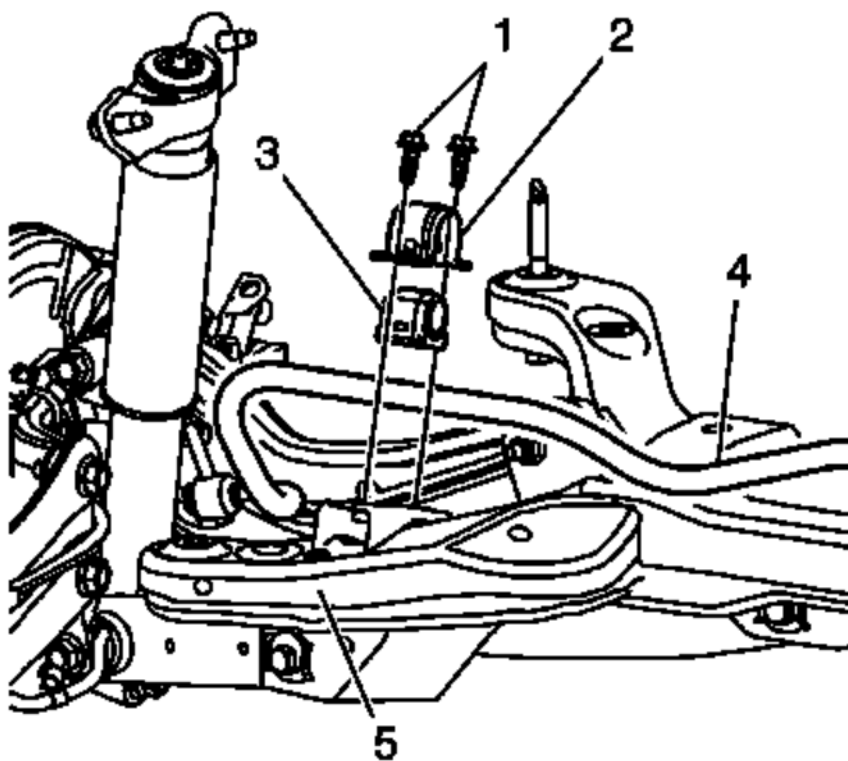


Fig. 7: Stabilizer Shaft Assembly
Courtesy of GENERAL MOTORS COMPANY

14. Remove the stabilizer shaft bolts (1).
15. Remove the stabilizer shaft assembly (4) from the support (5).

Installation Procedure

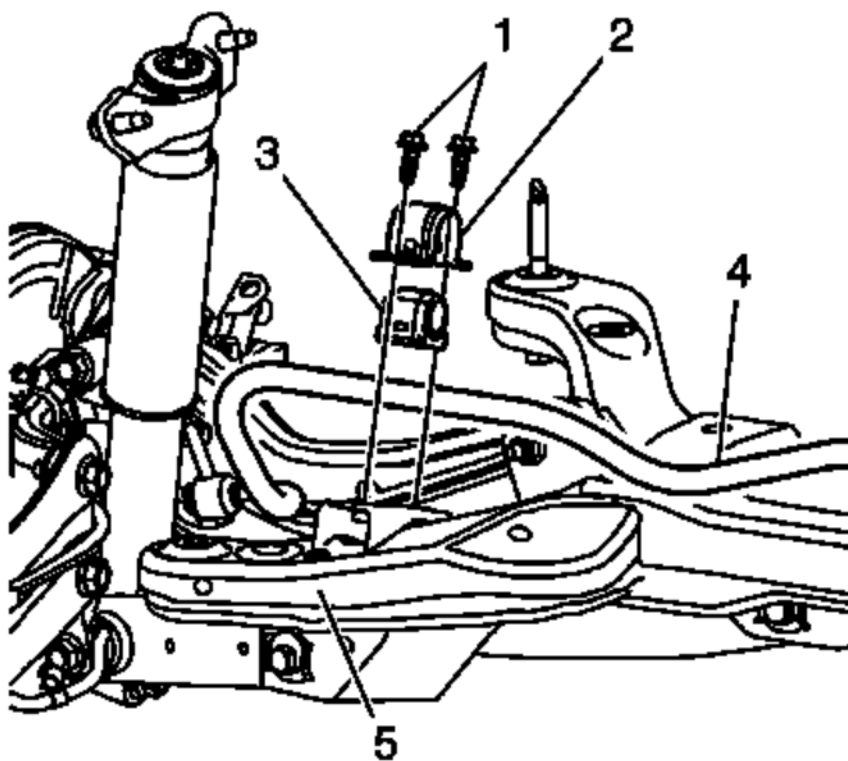


Fig. 8: Stabilizer Shaft Assembly

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. Using a ratchet wrench and the **EN-45059** meter, tighten the NEW clamp bolts (1) to :

Tighten

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

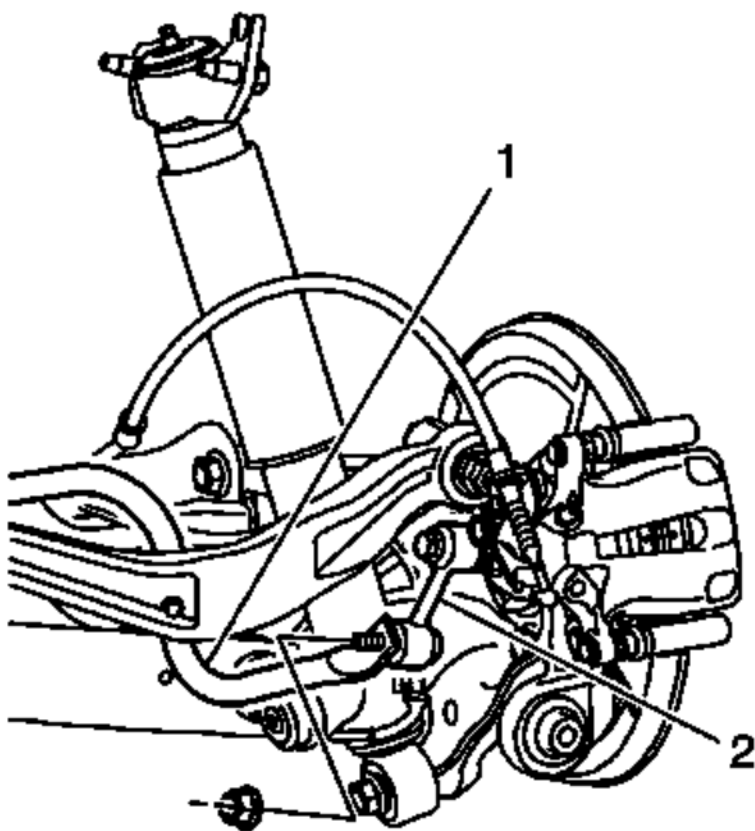


Fig. 9: Stabilizer Shaft & Stabilizer Shaft Link
Courtesy of GENERAL MOTORS COMPANY

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

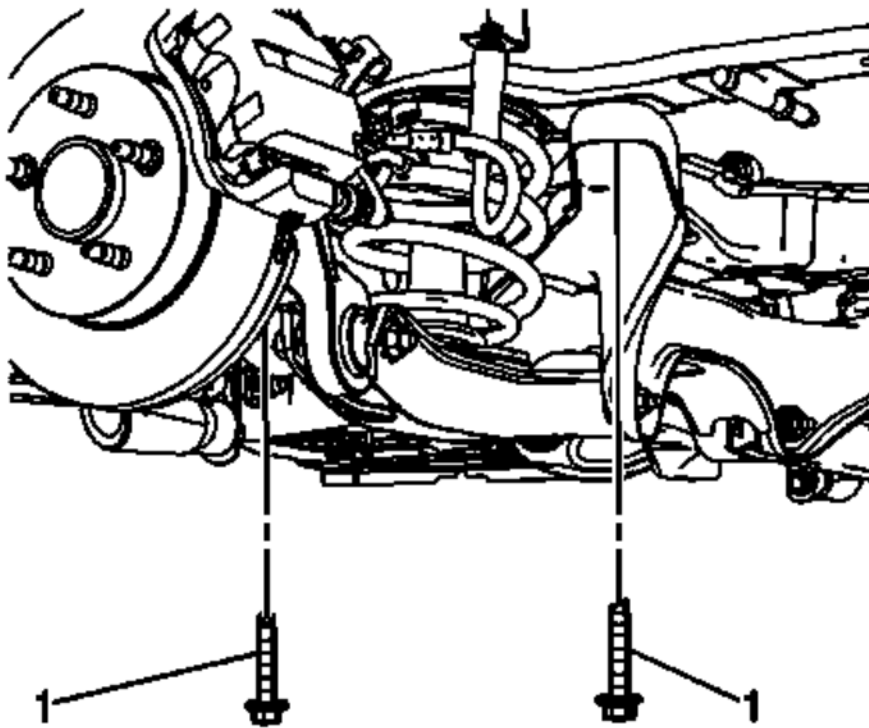


Fig. 10: Identifying Support Mounting Bolts
Courtesy of GENERAL MOTORS COMPANY

6. Install the rear support bolts (1). Refer to **Rear Suspension Support Replacement (GNC)** .
7. Install the lower shock absorber mounting bolts. Refer to **Shock Absorber Replacement (GNC)**.
8. Install the rear brake calipers. Refer to **Rear Brake Caliper Replacement** .
9. Install the rear suspension control arm bolts to the body. Refer to **Lower Control Arm Replacement**.
10. Install the rear springs. Refer to **Rear Spring, Insulator, and Jounce Bumper Replacement (GNC)**.
11. Remove the adjustable jack stands from the rear support.
12. Install the park brake cables on the trailing arms. Refer to **Parking Brake Rear Cable Replacement** .
13. Install the rear muffler assembly. Refer to **Exhaust Muffler Replacement (LCV, LUK)** , **Exhaust Muffler Replacement (LTG)** .
14. Install the tire and wheel assemblies. Refer to **Tire and Wheel Removal and Installation** .
15. Lower the vehicle.

STABILIZER SHAFT INSULATOR REPLACEMENT (GNC)

Special Tools

EN-45059 Angle Meter

For equivalent regional tools, refer to **Special Tools**

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 Replacement (LCV, LUK)** , **Exhaust Muffler Replacement (LTG)** .
4. Remove the rear spring. Refer to **Rear Spring, Insulator, and Jounce Bumper Replacement (GNC)**.
5. Remove the park brake cables from the trailing arms. Refer to **Parking Brake Rear Cable Replacement** .
6. Without disconnecting the hydraulic brake hose from the caliper, remove and support the brake calliper. Refer to **Rear Brake Caliper Replacement** .
7. Remove the lower shock absorber fasteners. Refer to **Shock Absorber Replacement (GNC)**.
8. Support and secure adjustable jack stands to the rear support.
9. Mark up support position to body with spray paint.

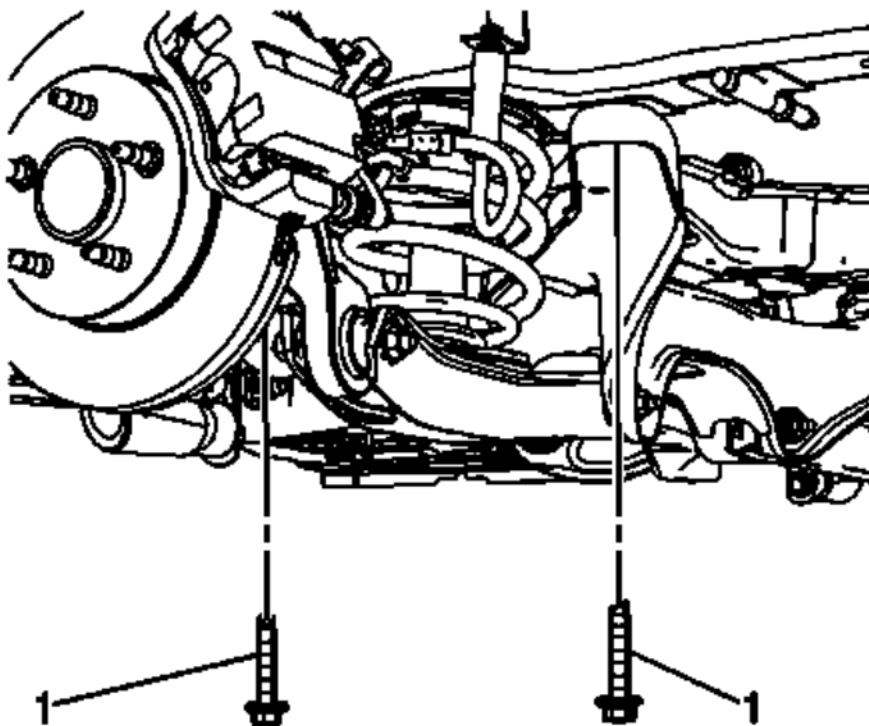


Fig. 11: Identifying Support Mounting Bolts
Courtesy of GENERAL MOTORS COMPANY

10. Remove the mounting bolts (1) for the support. Refer to **Rear Suspension Support Replacement (GNC)**.
11. Lower the support enough to gain access to the rear stabilizer shaft insulator clamps mounting bolts.

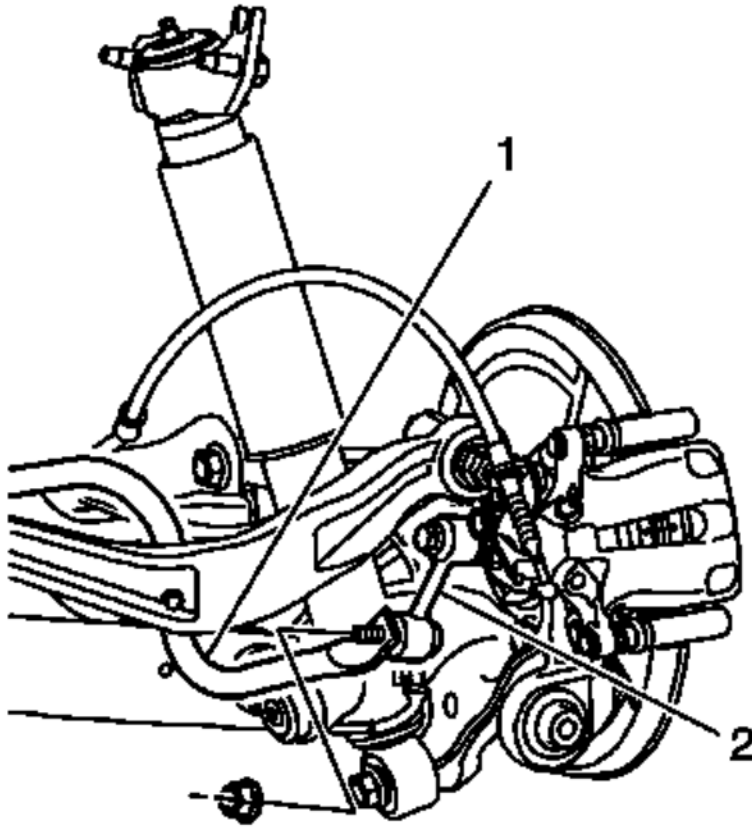


Fig. 12: Stabilizer Shaft & Stabilizer Shaft Link
Courtesy of GENERAL MOTORS COMPANY

12. Remove the stabilizer shaft (1) from the stabilizer shaft link (2). Refer to **Stabilizer Shaft Link Replacement (GNC)**

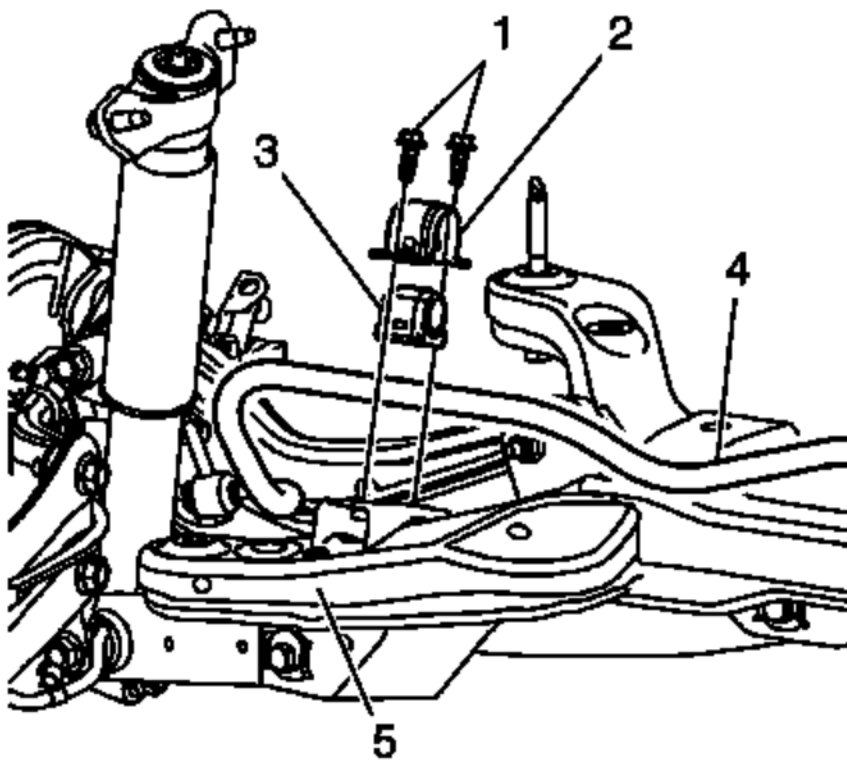


Fig. 13: Stabilizer Shaft Assembly
Courtesy of GENERAL MOTORS COMPANY

NOTE: Change one insulator at the time to ensure the right position and angle.

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

Installation Procedure

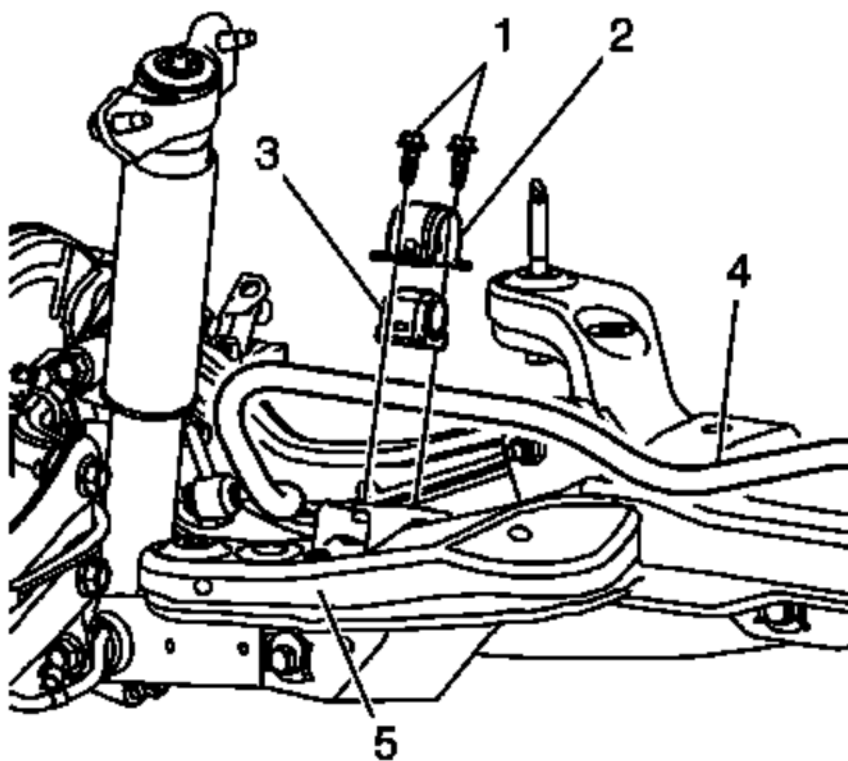


Fig. 14: Stabilizer Shaft Assembly

Courtesy of GENERAL MOTORS COMPANY

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

CAUTION: Refer to Fastener Caution .

2. Using a ratchet and the **EN-45059** meter, tighten the bolts (1) to:

Tighten

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

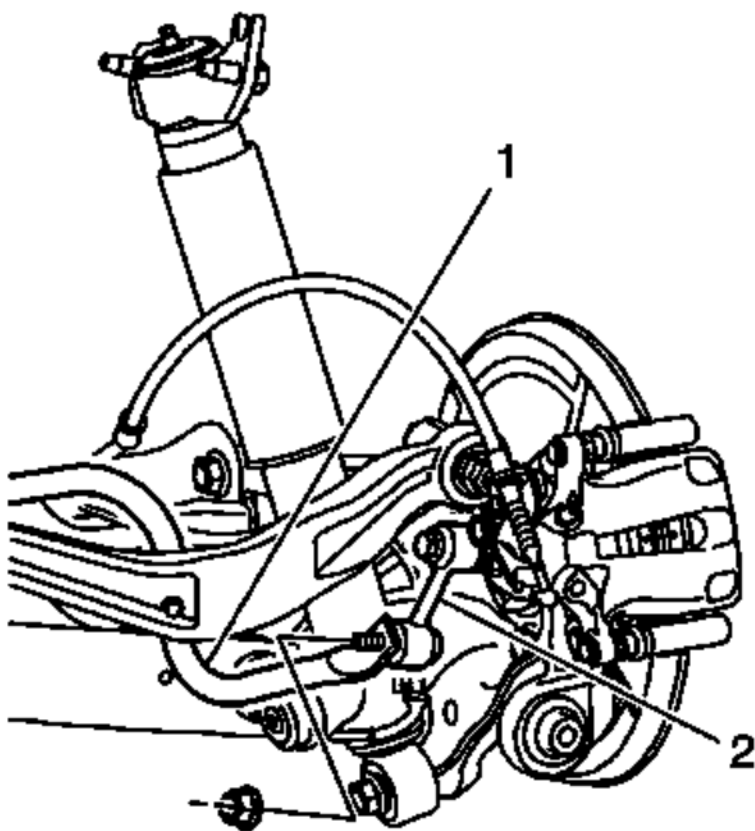


Fig. 15: Stabilizer Shaft & Stabilizer Shaft Link
Courtesy of GENERAL MOTORS COMPANY

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

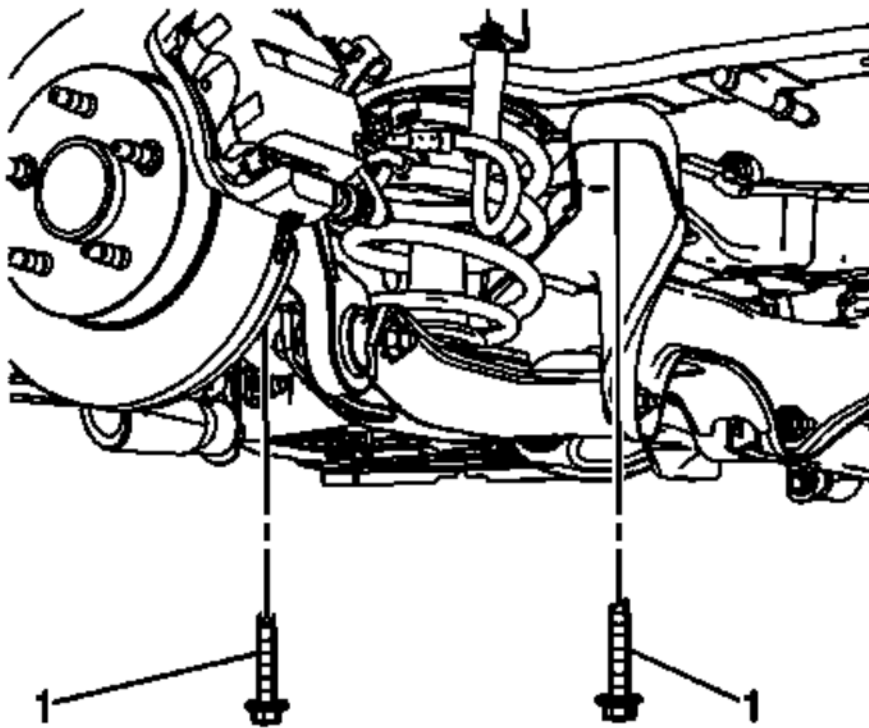


Fig. 16: Identifying Support Mounting Bolts
 Courtesy of GENERAL MOTORS COMPANY

5. Install the rear support bolts (1). Refer to **Rear Suspension Support Replacement (GNC)** .
6. Install the lower shock absorber mounting bolts. Refer to **Shock Absorber Replacement (GNC)**.
7. Install the rear brake callipers. Refer to **Rear Brake Caliper Replacement** .
8. Install the rear springs. Refer to **Rear Spring, Insulator, and Jounce Bumper Replacement (GNC)**.
9. Remove the adjustable jack stands from the rear support.
10. Install the park brake cables on the trailing arms. Refer to **Parking Brake Rear Cable Replacement** .
11. Install the rear muffler assembly. Refer to **Exhaust Muffler Replacement (LCV, LUK)** , **Exhaust Muffler Replacement (LTG)** .
12. Install the tire and wheel assemblies. Refer to **Tire and Wheel Removal and Installation** .
13. Lower the vehicle.

STABILIZER SHAFT LINK REPLACEMENT (GNC)

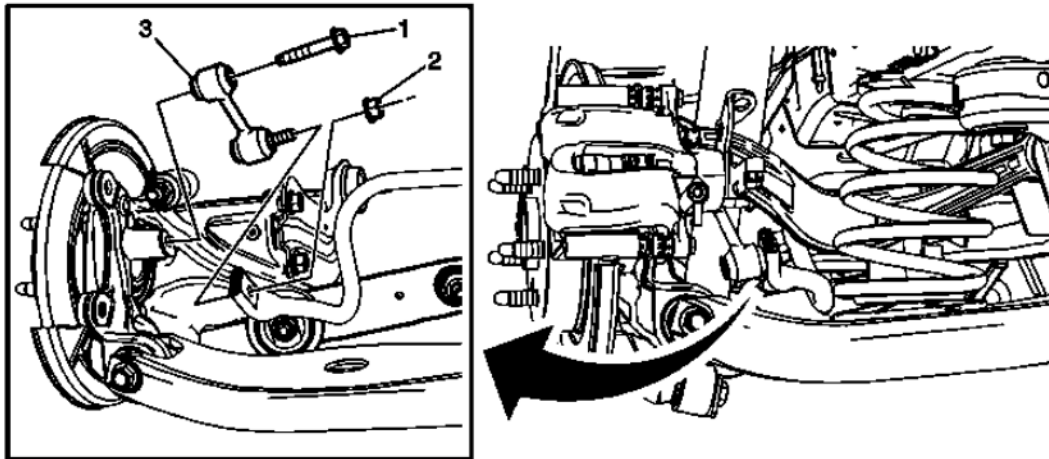


Fig. 17: Stabilizer Shaft Link, Nuts & Bolts (GNC)
 Courtesy of GENERAL MOTORS COMPANY

Stabilizer Shaft Link Replacement (GNC)

Callout	Component Name
Preliminary Procedure 1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> . 2. Remove the tire and wheel assembly. Refer to <u>Tire and Wheel Removal and Installation</u> .	
1	Rear Stabilizer Shaft Link Bolt CAUTION: Refer to <u>Fastener Caution</u> . Tighten 50 N.m(37 lb ft)
2	Rear Stabilizer Shaft Link Nut Tighten 50 N.m(37 lb ft)
3	Stabilizer Shaft Link

SHOCK ABSORBER REPLACEMENT (GNC)

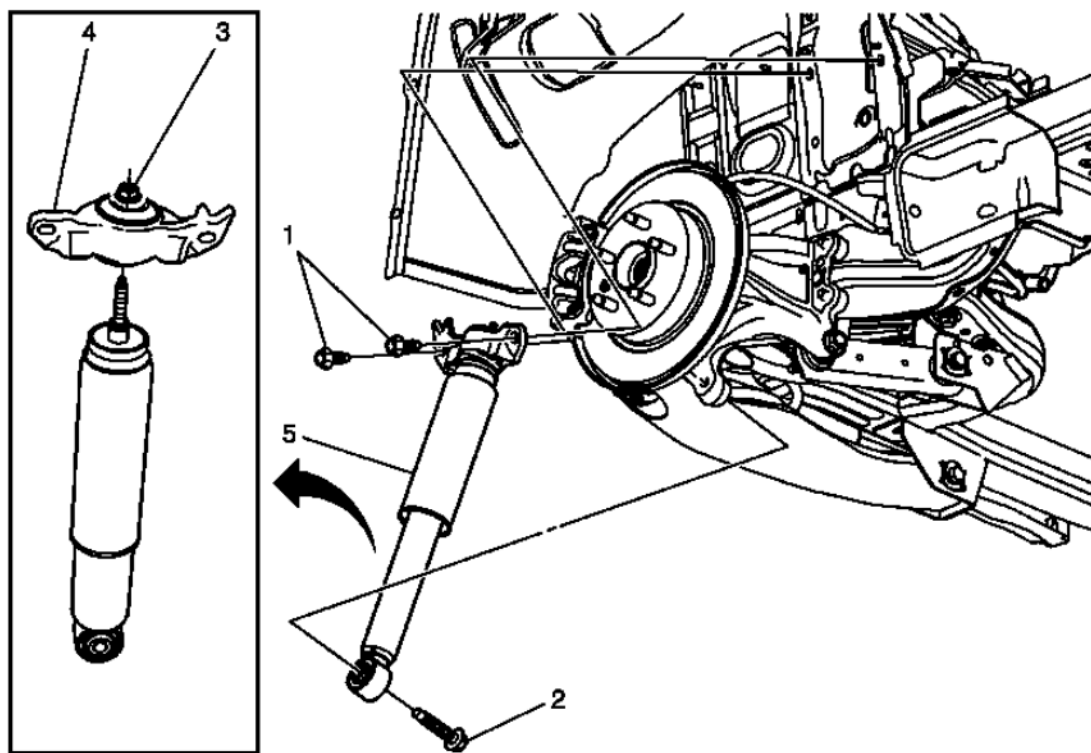


Fig. 18: Shock Absorber Components (GNC)
 Courtesy of GENERAL MOTORS COMPANY

Shock Absorber Replacement (GNC)

Callout	Component Name
Preliminary Procedures 1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> . 2. Remove the rear tire and wheel assembly. Refer to <u>Tire and Wheel Removal and Installation</u> . 3. Remove the rear wheelhouse panel liner from the vehicle. Refer to <u>Rear Wheelhouse Liner Replacement</u> .	
1	Rear Shock Absorber Bolts Upper Body (Qty: 2) CAUTION: Refer to <u>Fastener Caution</u> . Procedure Remove and discard the bolt. Replace with NEW only Tighten 100 N.m (74 lb ft)
	Rear Shock Absorber Bolt Procedure Remove and discard the bolt. Replace with NEW only.

2	Tighten • First Pass: 150 N.m (111 lb ft) • Final Pass: plus 60 degrees Special Tools EN-45059 Angle Meter For equivalent regional tools, refer to Special Tools .
3	Shock Absorber Nut Tighten 20 N.m (15 lb ft)
4	Rear Shock Absorber Upper Mount Procedure Transfer the upper mount to the new shock absorber.
5	Shock Absorber Procedure Disconnect any electrical connectors, if equipped.

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.

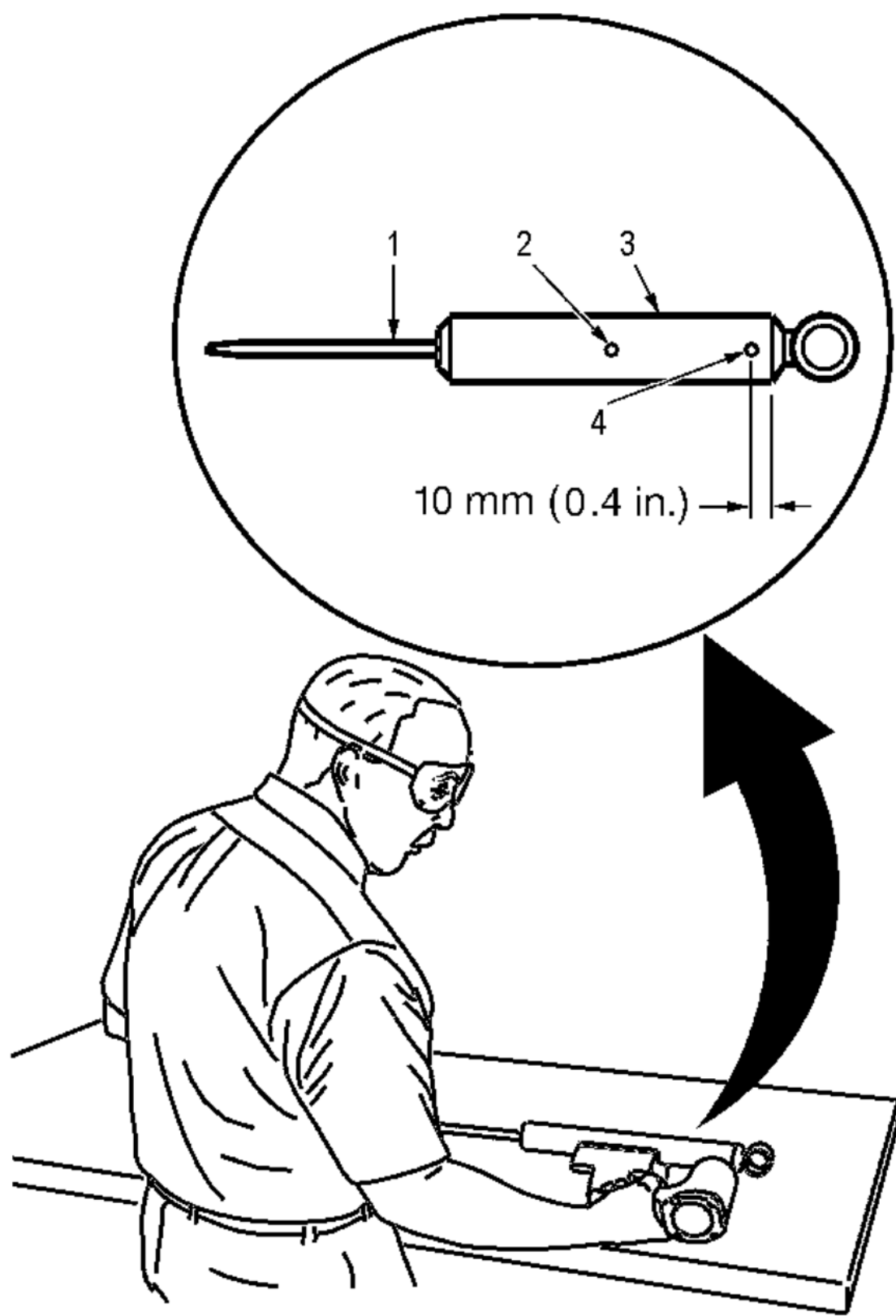


Fig. 19: Drilling Hole In Shock Absorber At Centerpunched Locations

Courtesy of GENERAL MOTORS COMPANY

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

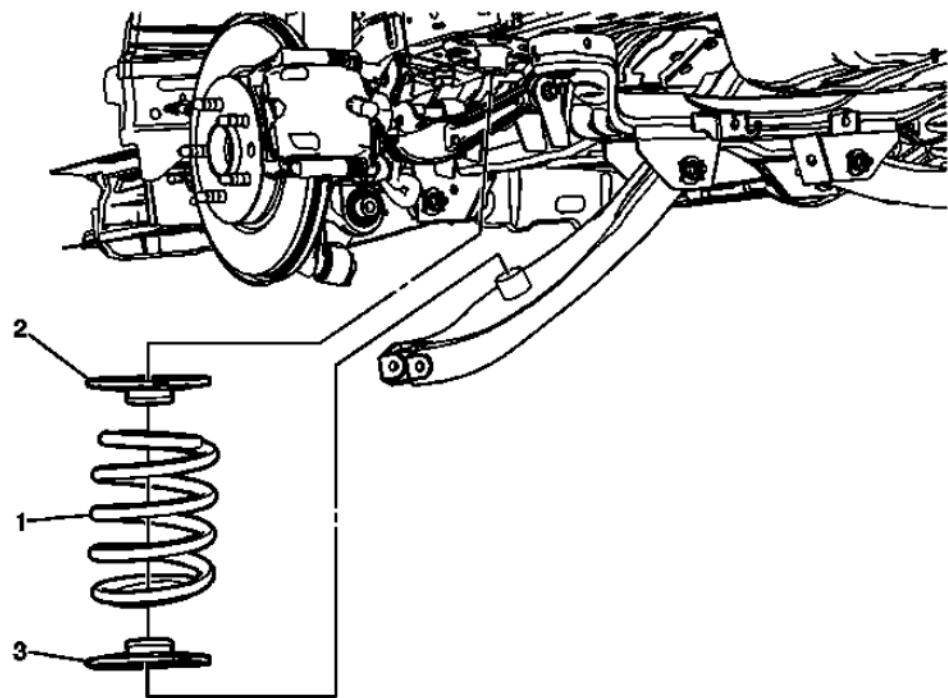


Fig. 20: Rear Spring, Insulator & Jounce Bumper (GNC)
Courtesy of GENERAL MOTORS COMPANY

Rear Spring, Insulator, and Jounce Bumper Replacement (GNC)

Callout	Component Name
WARNING: 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.

Preliminary Procedure

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. Remove the rear brake caliper and relocate to the side, if needed. Refer to Rear Brake Caliper Replacement .

1	Rear Spring Procedure 1. Use the proper jack stand to support the lower control arm. 2. Disconnect the lower control arm from the rear wheel hub bracket. Refer to <u>Lower Control Arm Replacement</u>.
2	Rear Spring Insulator (Upper)
3	Rear Spring Insulator (Lower)

ADJUST LINK REPLACEMENT (GNC)

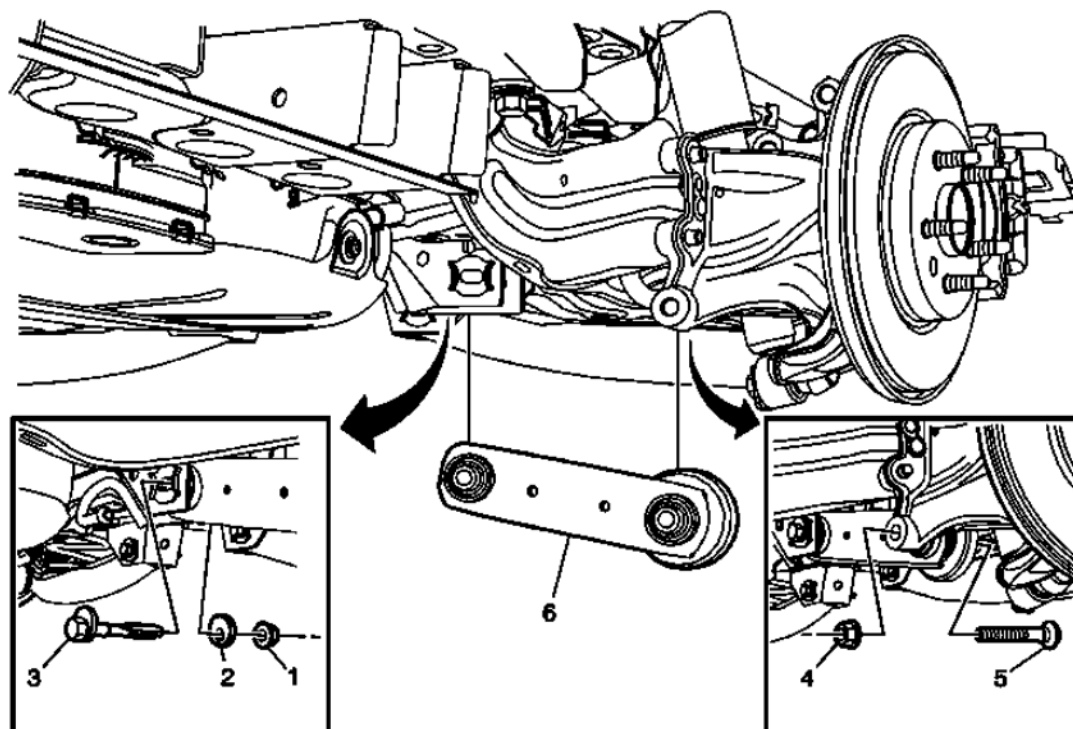


Fig. 21: Adjust Link (GNC)

Courtesy of GENERAL MOTORS COMPANY

Adjust Link Replacement (GNC)

Callout	Component Name
Preliminary Procedure Raise and suitably support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> .	
1	Rear Suspension Link Inner Nut CAUTION: Refer to <u>Fastener Caution</u> . 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. Procedure 1. Remove and discard the bolt and nut. Replace with NEW only. 2. Support the adjust link horizontally with a jack before tightening the nut. Tighten • First Pass: 90 (66 lb ft) • Final Pass: plus 60 degrees Special Tools EN-45059 Angle Meter For equivalent regional tools, refer to <u>Special Tools</u> .
2	Rear Suspension Washer
3	Rear Suspension Link Bolt (Inner) Procedure Remove and discard the bolt. Replace with NEW only.
4	Rear Suspension Link Nut (Outer)
	Rear Suspension Link Bolt (Outer) 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. Procedure

5	Remove and discard the rear suspension link bolt. Replace with NEW only. Tighten • First Pass: 115 (85 lb ft) • Final Pass: plus 90 degrees Special Tools EN-45059 Angle Meter For equivalent regional tools, refer to Special Tools.
6	Adjust Link Procedure After installation, check the rear alignment. Refer to Wheel Alignment Measurement .

UPPER CONTROL ARM REPLACEMENT (GNC)

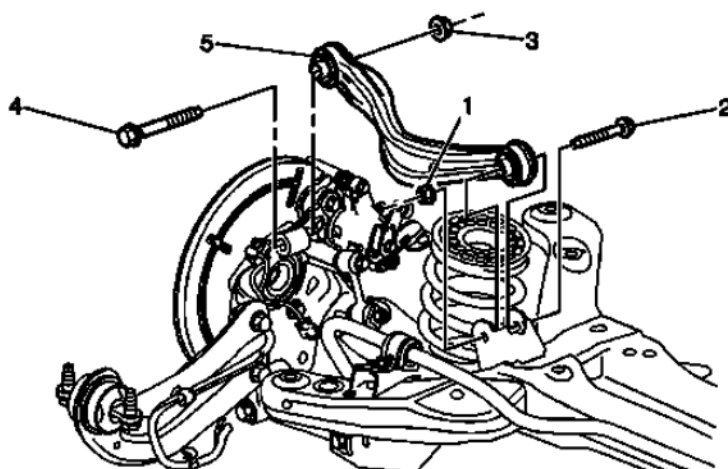


Fig. 22: Upper Control Arm (GNC)

Courtesy of GENERAL MOTORS COMPANY

Upper Control Arm Replacement (GNC)

Callout	Component Name
Preliminary Procedures 1. Raise and suitably support the vehicle. Refer to Lifting and Jacking the Vehicle . 2. Remove the rear tire and wheel assembly. Refer to Tire and Wheel Removal and Installation .	
	Rear Suspension Upper Control Arm Nut CAUTION: Refer to Fastener Caution .

1	Procedure Remove and discard the bolt. DO NOT reuse, replace with NEW only. Tighten • First Pass: 70 N.m (52 lb ft) • Final Pass: plus 60 degrees Special Tools EN-45059 Angle Meter For equivalent regional tools, refer to Special Tools.
2	Rear Suspension Upper Control Arm
3	Rear Suspension Upper Control Arm Nut Procedure Remove and discard the bolt. DO NOT reuse, replace with NEW only. Tighten • First Pass: 150 N.m (111 lb ft) • Final Pass: plus 90 degrees Special Tools EN-45059 Angle Meter For equivalent regional tools, refer to Special Tools.
4	Rear Suspension Upper Control Arm Bolt Procedure Remove and discard the bolt. Do Not reuse, replace with NEW only.
5	Rear Suspension Upper Control Arm 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.

LOWER CONTROL ARM REPLACEMENT

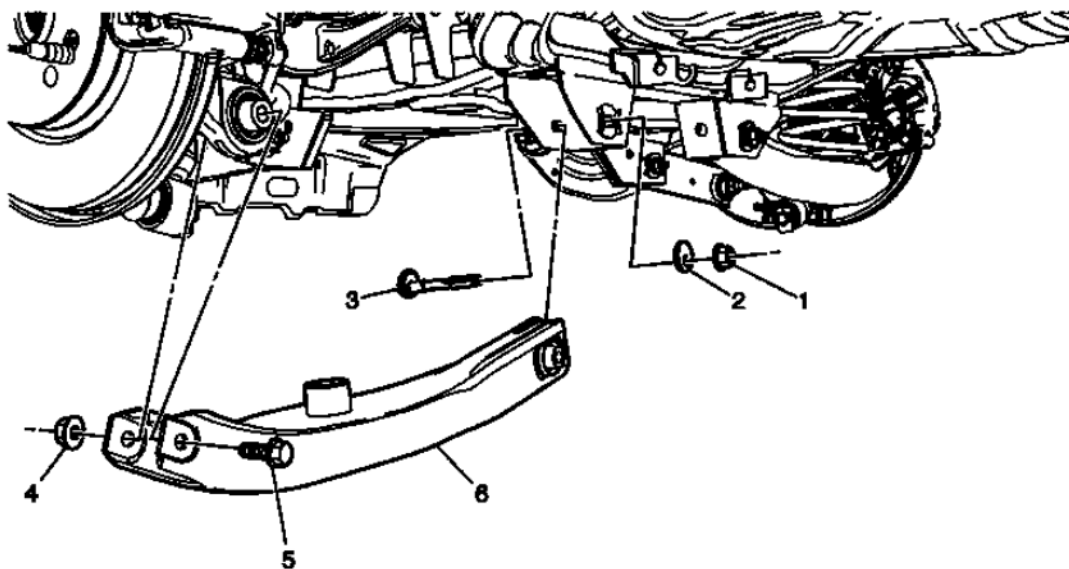


Fig. 23: Rear Axle Lower Control Arm (GNC)
 Courtesy of GENERAL MOTORS COMPANY

Lower Control Arm Replacement

Callout	Component Name
Preliminary Procedure 1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> . 2. Remove the tire and wheel assembly. Refer to <u>Tire and Wheel Removal and Installation</u> . 3. Remove the rear spring. Refer to <u>Rear Spring, Insulator, and Jounce Bumper Replacement (GNC)</u>.	
1	Rear Suspension Lower Control Arm Inner Nut CAUTION: Refer to <u>Fastener Caution</u> . Tighten • First Pass: 90 N.m(66 lb ft) • Final Pass: plus 60 degrees Special Tools

	EN-45059 Angle Meter For equivalent regional tools, refer to <u>Special Tools</u> .
2	Rear Suspension Lower Control Arm Washer
3	Rear Suspension Lower Control Arm Bolt Procedure Remove and discard the bolt. DO NOT reuse, replace with NEW only.
4	Rear Suspension Lower Control Arm Nut
5	Rear Suspension Lower Control Arm Bolt 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. Procedure Remove and discard the bolt. DO NOT reuse, replace with NEW only. Tighten • First Pass: 70 N.m(51 lb ft) • Final Pass: plus 90 degrees Special Tools EN-45059 Angle Meter For equivalent regional tools, refer to <u>Special Tools</u> .
6	Rear Lower Control Arm Procedure Check the rear alignment after installation. Refer to <u>Wheel Alignment Measurement</u> .

WHEEL STUD REPLACEMENT

Special Tools

CH-43631 Ball Joint Remover

For equivalent regional tools, refer to **Special Tools**.

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 wheel bearing and hub. Refer to **Rear Wheel Bearing and Hub Replacement (GNC)**.
4. Install the wheel bearing and hub assembly (2) in a suitable vise.

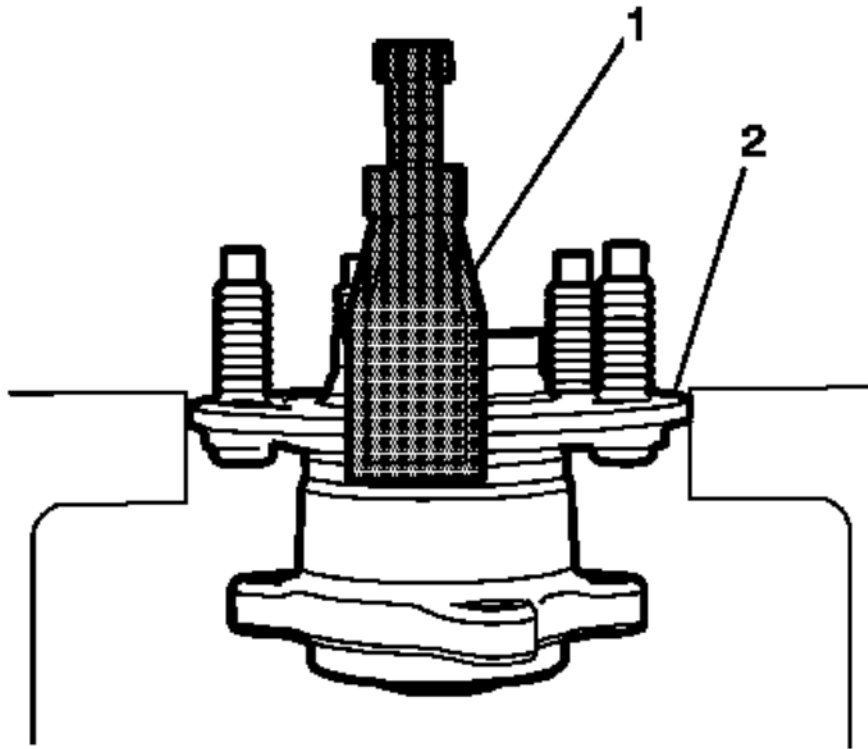


Fig. 24: Wheel Bearing Hub/Assembly & Separator
Courtesy of GENERAL MOTORS COMPANY

5. Use **CH-43631** remover (1) to remove and discard the wheel stud.

Installation Procedure

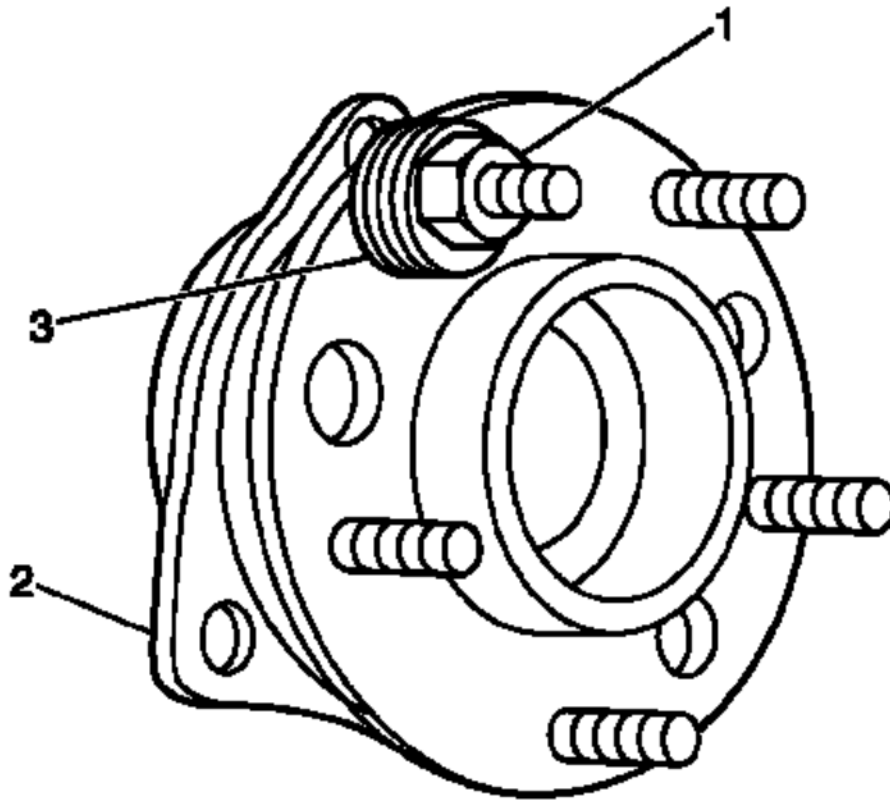


Fig. 25: Hub, Wheel Nut & Washers
Courtesy of GENERAL MOTORS COMPANY

1. Install the NEW wheel stud into the wheel bearing hub.
2. Add enough washers (3) in order to draw the stud into the hub.
3. Install the wheel nut (1) with the flat side against the washers.
4. Tighten the wheel nut (1) until the head of the wheel stud is fully seated against the back of the bearing hub flange.
5. Remove the wheel nut (1) and the washers (3).
6. Remove the wheel bearing and hub assembly from vise.
7. Install the rear wheel bearing and hub. Refer to **Rear Wheel Bearing and Hub Replacement (GNC)**.
8. Install the tire and wheel assembly. Refer to **Tire and Wheel Removal and Installation** .
9. Lower the vehicle.

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:

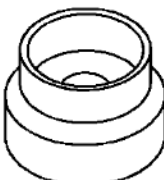
- Maintains the relationship of the rear axle to the body
- Controls the torque reaction on acceleration and braking

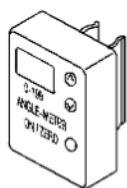
The suspension system consists of the following components:

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

SPECIAL TOOLS AND EQUIPMENT

SPECIAL TOOLS

Illustration	Tool Number/Description
	CH-21474 J-21474 Not used in Europe Control Arm Bushing Installer
	CH-49455 Ball Joint Remover
	EN-45059 J-45059



Angle Meter