

2008 Chevrolet Silverado 1500

2008 SUSPENSION Rear Suspension - Cab & Chassis Sierra, Cab & Chassis Silverado, Sierra & Silverado

2008 SUSPENSION

Rear Suspension - Cab & Chassis Sierra, Cab & Chassis Silverado, Sierra & Silverado

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Application	Specification	
	Metric	English
Leaf Spring Mounting Nut	200 N.m	148 lb ft
Rear Leaf Spring Shackle Nut - 1500, 2500, 3500	95 N.m	70 lb ft
Rear Shock Absorber Upper Bolt - 1500, 2500, 3500	115 N.m	85 lb ft
Rear Shock Absorber Lower Bolt - 1500, 2500, 3500	115 N.m	85 lb ft
Rear Spring/Hanger Bolt	50 N.m	37 lb ft
Rear Spring Shock - 3500	50 N.m	37 lb ft
Rear Stabilizer Shaft Insulator Nut - 3500	32 N.m	24 lb ft
Rear Stabilizer Shaft Link Bolt (Frame Side of Link) - 3500	95 N.m	70 lb ft
Rear Stabilizer Shaft Link Nut (Bar Side of Link) - 3500	53 N.m	39 lb ft
Rear Suspension Jounce Bumper	32 N.m	24 lb ft
U-bolts - 1500	100 N.m	74 lb ft
U-bolts - 2500/3500	160 N.m	118 lb ft

REPAIR INSTRUCTIONS

STABILIZER SHAFT REPLACEMENT (3500)

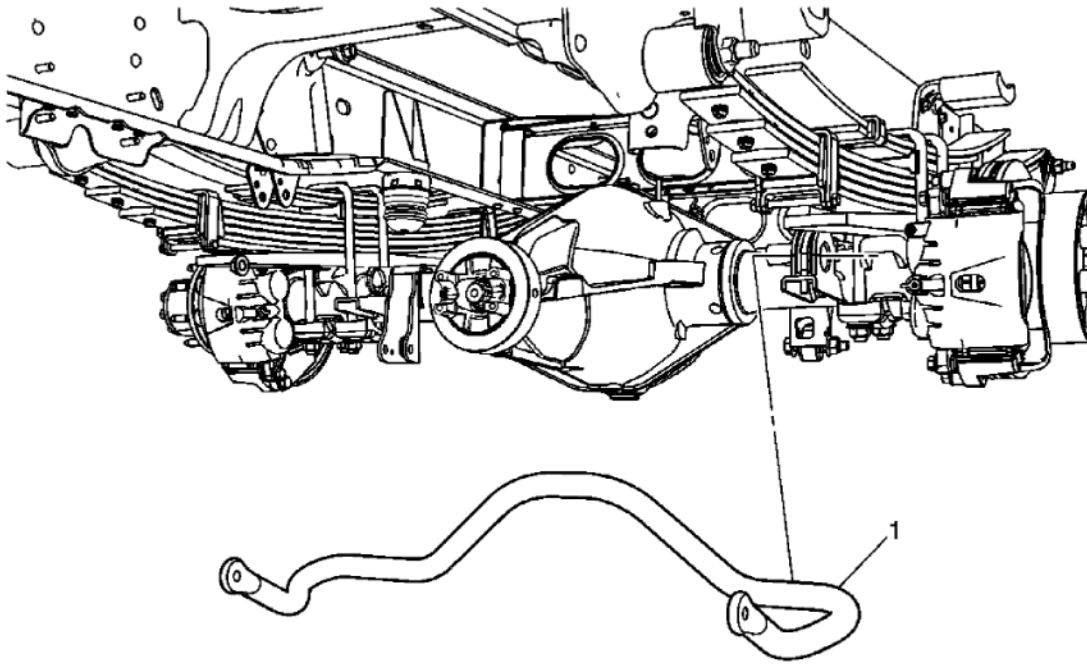


Fig. 1: Stabilizer Shaft (3500)

Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure	
1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> . 2. Remove the right rear shock absorber. Refer to <u>Shock Absorber Replacement (1500)</u> or <u>Shock Absorber Replacement (2500, 3500)</u>. 3. Remove the stabilizer shaft insulators. Refer to <u>Stabilizer Shaft Insulator Replacement (3500)</u>. 4. Remove the lower stabilizer shaft link nuts. Refer to <u>Stabilizer Shaft Link Replacement (3500)</u>. 5. Remove the propeller shaft. • For vehicles equipped the one piece propeller shaft, refer to <u>One-Piece Propeller Shaft Replacement</u> . • For vehicles equipped with the two piece propeller shaft, refer to <u>Two-Piece Propeller Shaft Replacement</u> .	
1	Rear Stabilizer Shaft

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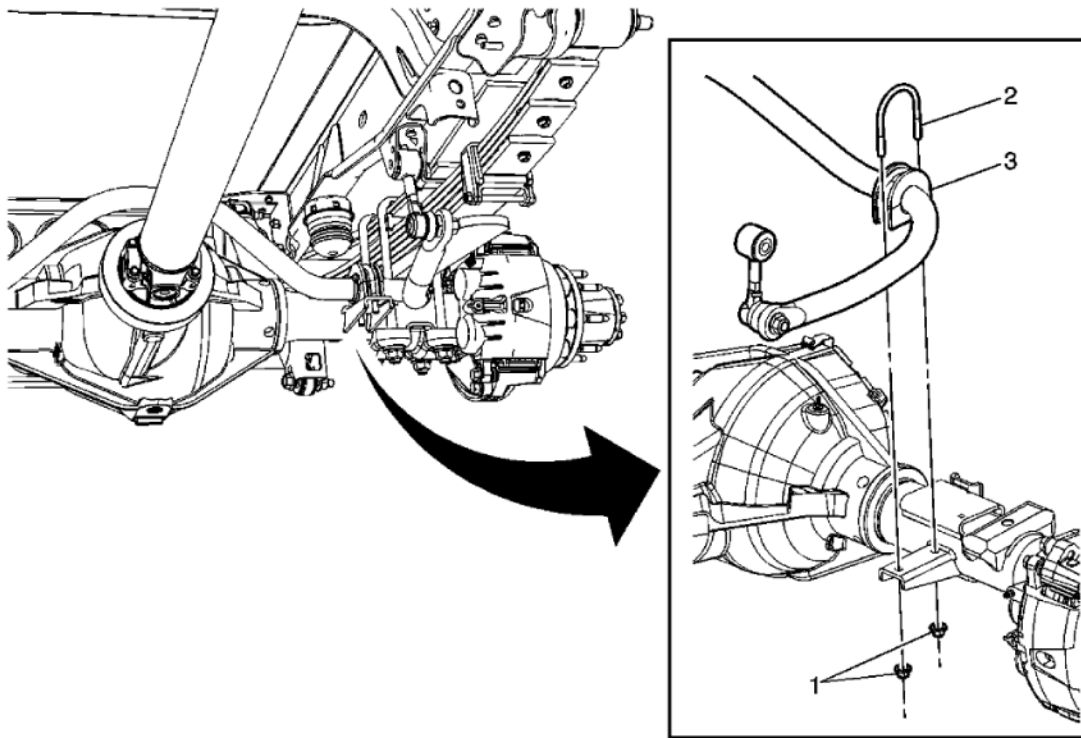


Fig. 2: Stabilizer Shaft Insulator (3500)

Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure	
1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> . 2. Remove the lower stabilizer shaft link nuts. Refer to <u>Stabilizer Shaft Link Replacement (3500)</u>.	
1	Rear Stabilizer Shaft Clamp Nut (Qty: 2) NOTE: Refer to <u>Fastener Notice</u> . Tighten: 32 N.m (24 lb ft)
2	Rear Stabilizer Shaft Insulator Clamp
3	Rear Stabilizer Shaft Insulator Tip: Ensure that the slit in the insulator is facing the front of the vehicle when installed.

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STABILIZER SHAFT LINK REPLACEMENT (3500)

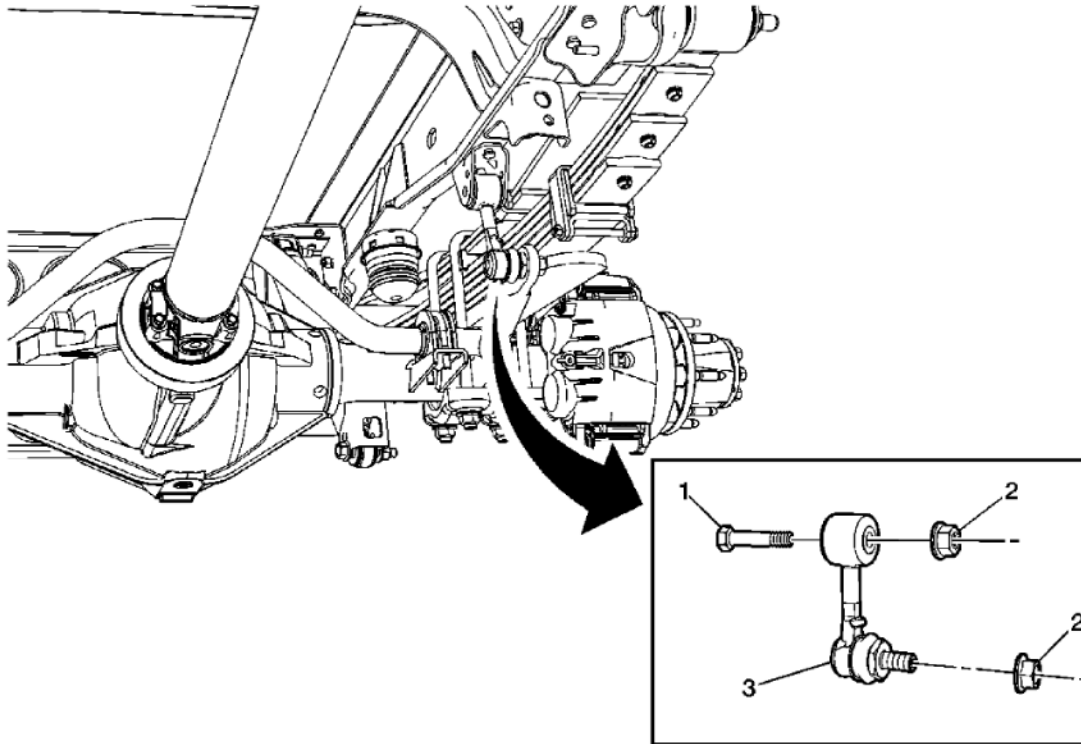


Fig. 3: Stabilizer Shaft Link (3500)

Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure	
1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> .	
2. Remove the rear tire and wheel. Refer to <u>Tire and Wheel Removal and Installation</u> .	
1	Rear Stabilizer Shaft Link Bolt
2	Rear Stabilizer Shaft Nut (Qty: 2) NOTE: Refer to <u>Fastener Notice</u> . Tighten: 95 N.m (70 lb ft)
3	Rear Stabilizer Shaft Link

SHOCK ABSORBER REPLACEMENT (1500)

Removal Procedure

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle .
2. Support the rear axle.

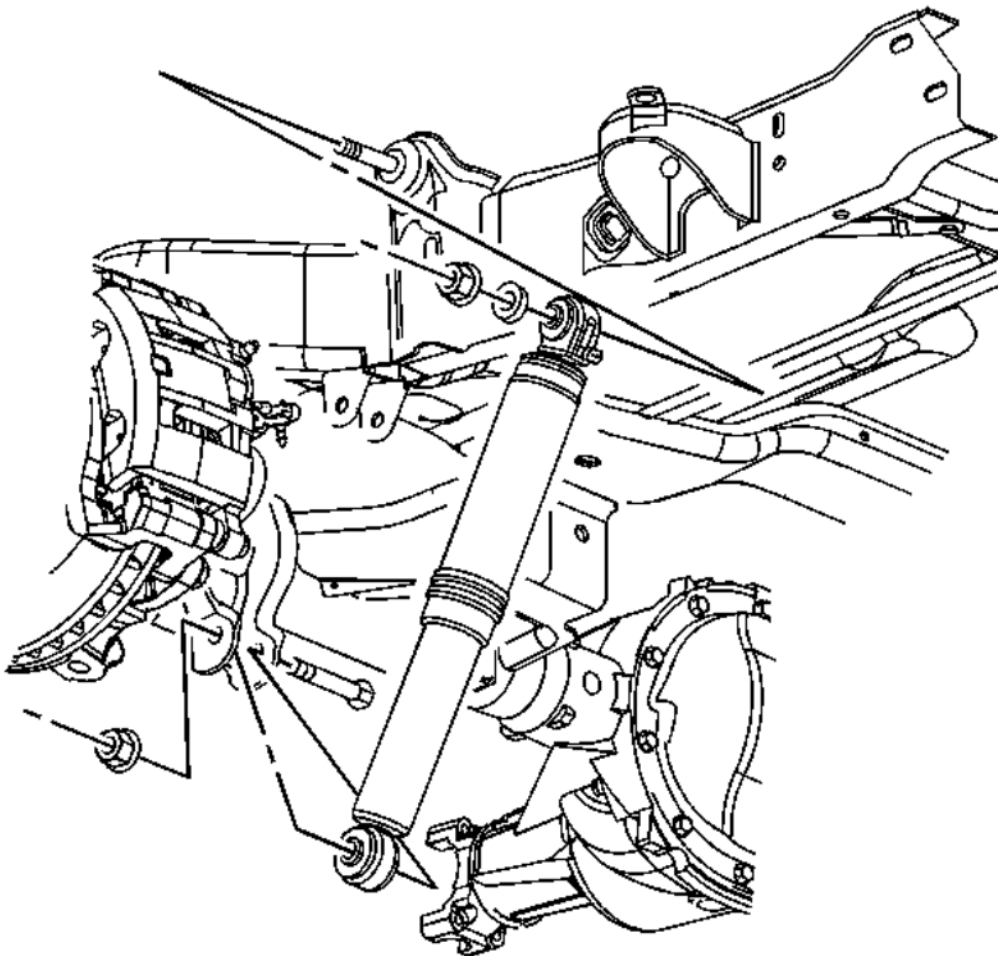


Fig. 4: Shock Absorber Mounting
Courtesy of GENERAL MOTORS CORP.

3. Remove the upper shock absorber nut and the bolt.
4. Remove the lower shock absorber nut and the bolt.

5. Remove the shock absorber.

Installation Procedure

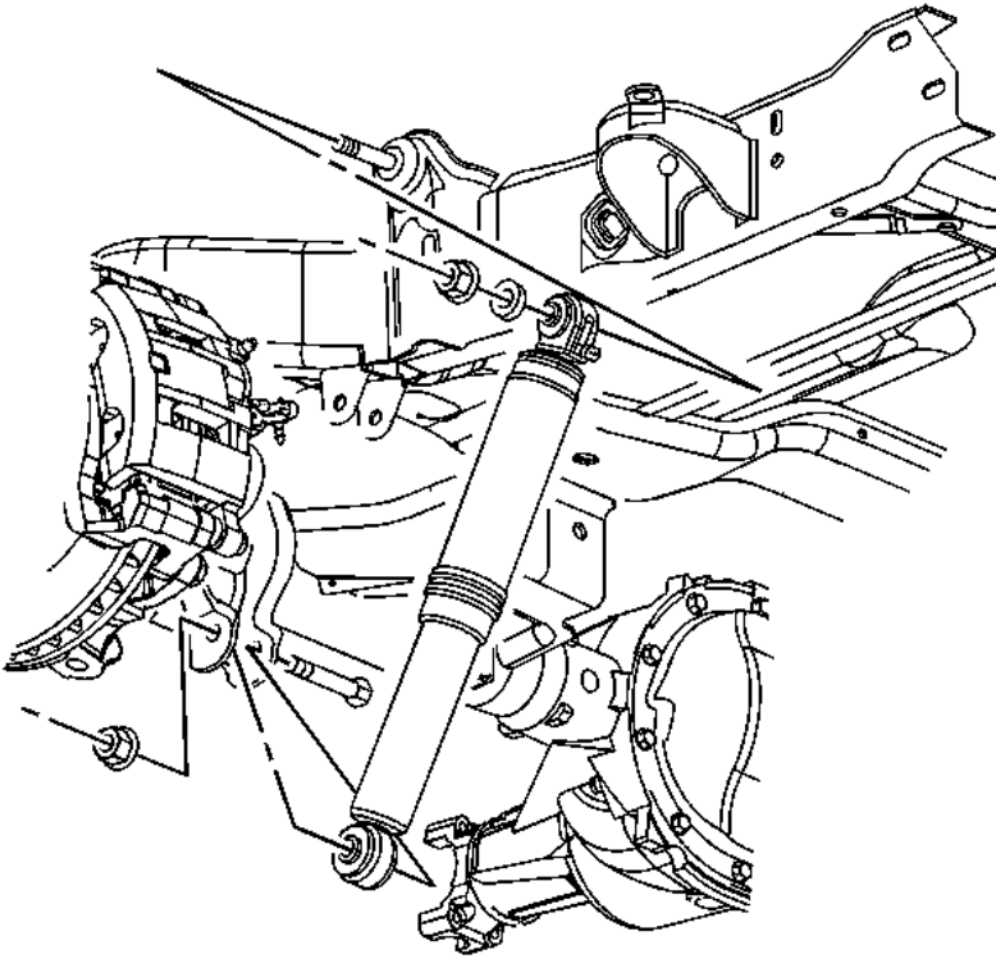


Fig. 5: Shock Absorber Mounting
Courtesy of GENERAL MOTORS CORP.

1. Install the shock absorber.
2. Install the upper shock absorber nut and bolt.

NOTE: **Refer to Fastener Notice .**

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3. Install the lower shock absorber nut and bolt.

Tighten:

- Tighten the upper shock absorber bolts to 115 N.m (85 lb ft).
- Tighten the lower shock absorber bolts to 115 N.m (85 lb ft).

4. Remove the support from the rear axle.

5. Remove the safety stands.

6. Lower the vehicle.

SHOCK ABSORBER REPLACEMENT (2500, 3500)

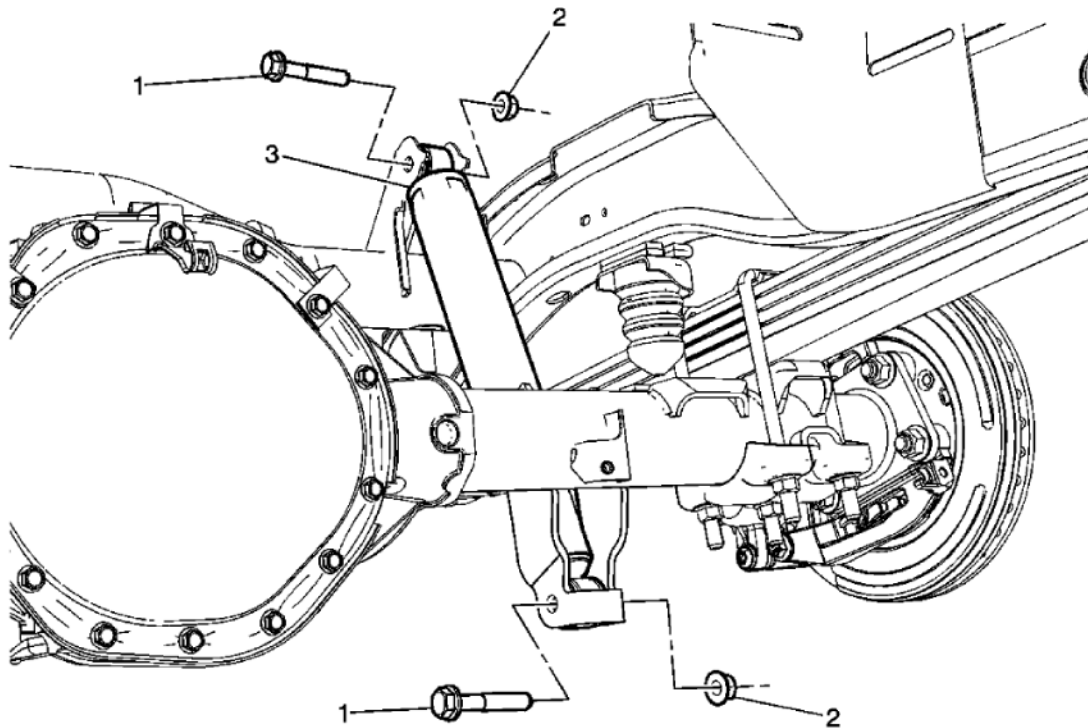


Fig. 6: Shock Absorber (2500, 3500)

Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure:	
Raise the vehicle on a hoist. Refer to <u>Lifting and Jacking the Vehicle</u> .	
	Rear Shock Absorber Bolt (Qty: 2)

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1	NOTE: Refer to <u>Fastener Notice</u> .
	Tip: Support the rear drive axle with a suitable jack stand.
	Tighten: • Upper shock absorber bolts - 115 N.m (85 lb ft). • Lower shock absorber bolts - 115 N.m (85 lb ft).
2	Rear Shock Absorber Nut (Qty: 2)
3	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.

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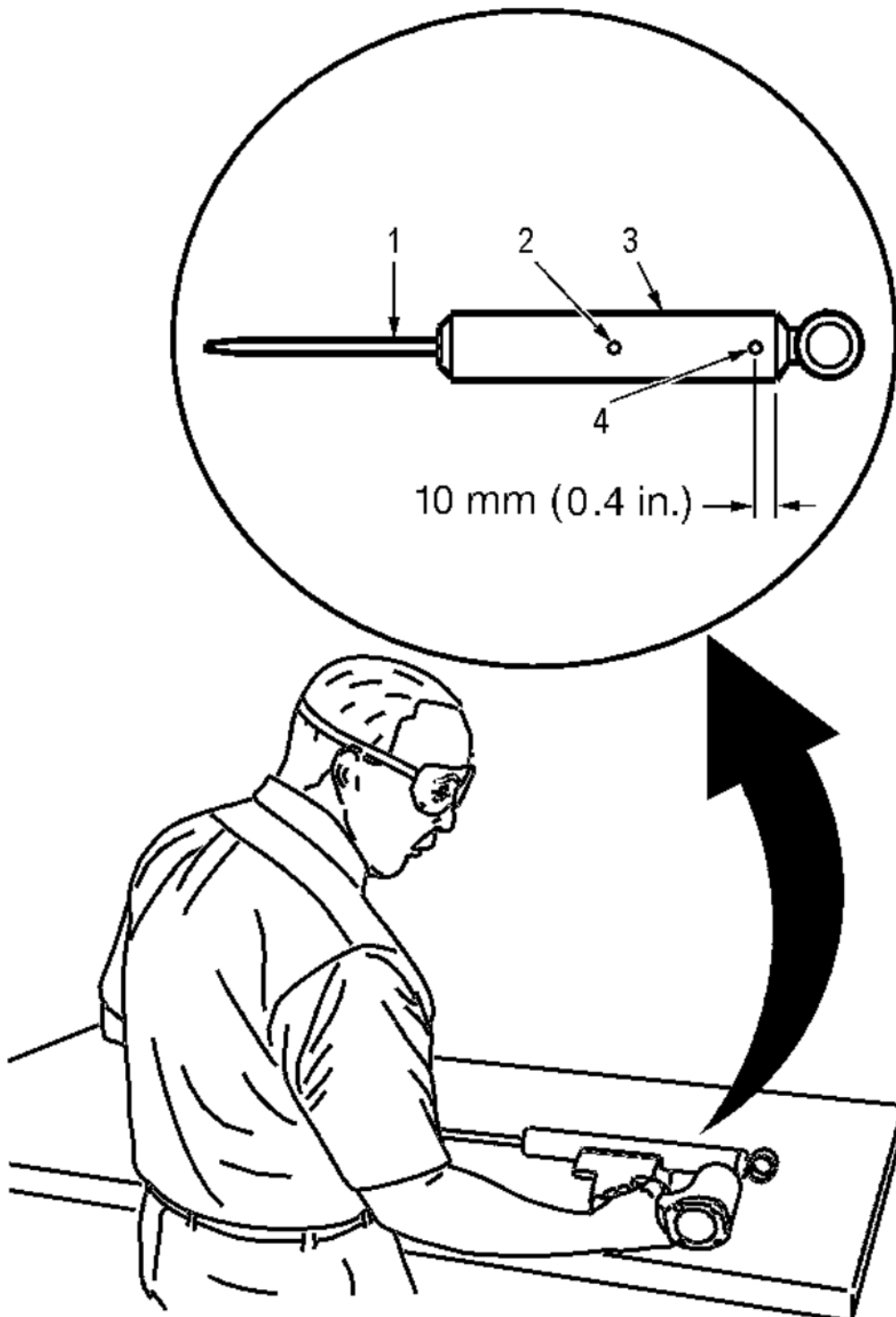


Fig. 7: Drilling Hole In Shock Absorber At Centerpunched Locations
Courtesy of GENERAL MOTORS CORP.

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.

SPRING JOUNCE BUMPER REPLACEMENT (2500/3500)

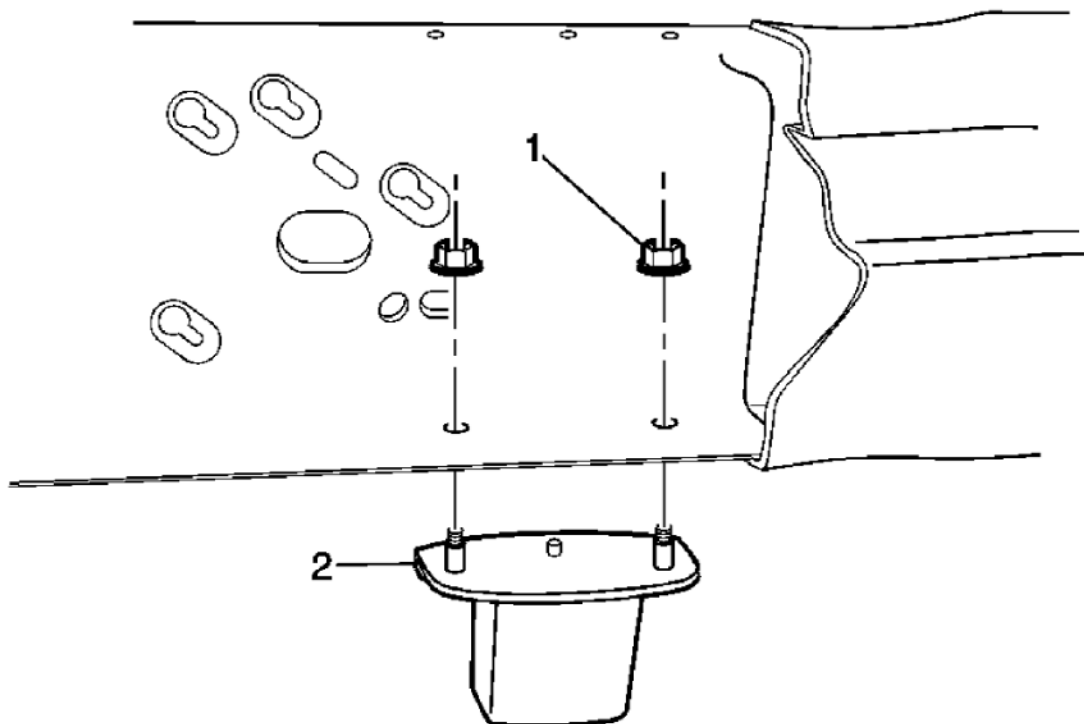


Fig. 8: Spring Jounce Bumper (2500/3500)

Courtesy of GENERAL MOTORS CORP.

Callout	Component Name
Preliminary Procedure	
1. Raise and support the vehicle. Refer to <u>Lifting and Jacking the Vehicle</u> . 2. Remove the rear tire and wheel. Refer to <u>Tire and Wheel Removal and Installation</u> .	
1	Jounce Bumper Nut (Qty: 2) NOTE: Refer to <u>Fastener Notice</u> . Tighten: 33 N.m (24 lb ft)
2	Jounce Bumper

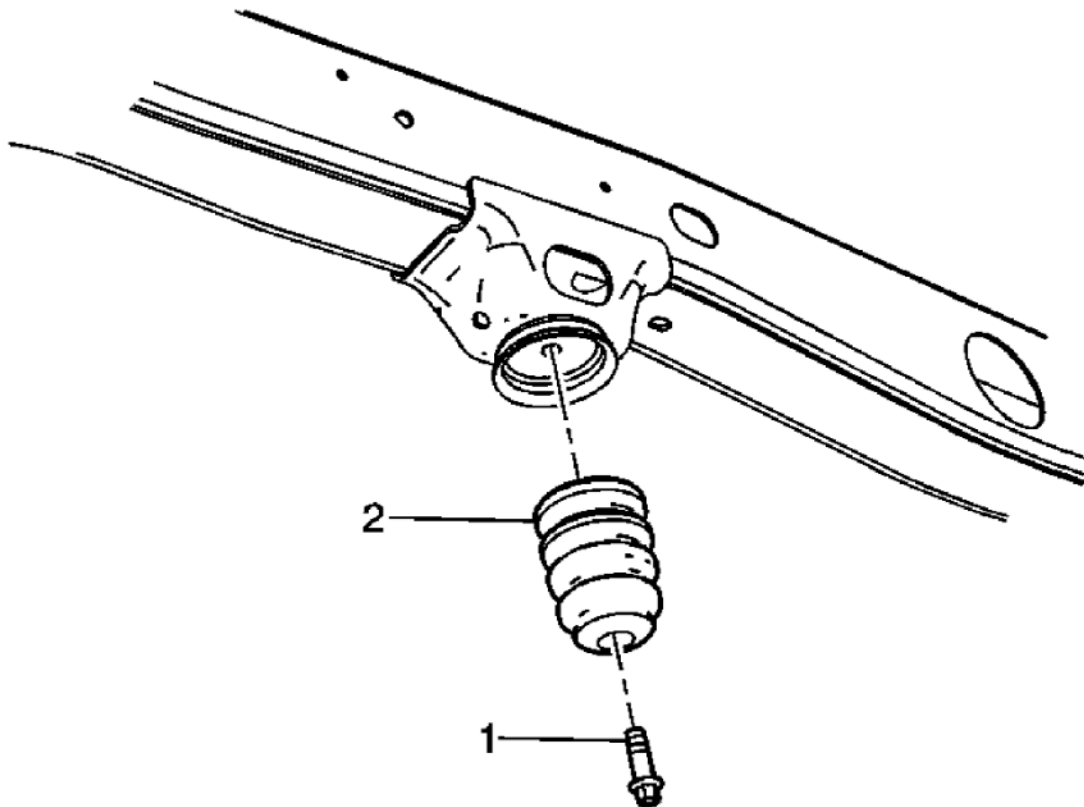
SPRING JOUNCE BUMPER REPLACEMENT (1500)

Fig. 9: Spring Jounce Bumper (1500)

Courtesy of GENERAL MOTORS CORP.

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. Refer to <u>Tire and Wheel Removal and Installation</u> .	
1	Jounce Bumper Bolt NOTE: Refer to <u>Fastener Notice</u> . Tighten: 33 N.m (24 lb ft)
2	Jounce Bumper

LEAF SPRING REPLACEMENT**Removal Procedure**

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** .
2. Support the rear axle independently in order to relieve the tension on the leaf springs.
3. Remove the trailer hitch, if equipped. Refer to **Trailer Hitch Replacement (Light Duty)** or **Trailer Hitch Replacement (Heavy Duty)** .
4. Remove the fuel tank, left side only. Refer to **Fuel Tank Replacement (15 Reg Cab w/26 Gal Tank)** or **Fuel Tank Replacement (25 Ext/Crew Cab w/26 gal Tank)** or **Fuel Tank Replacement (15 Ext/Crew Cab w/26 gal Tank)** or **Fuel Tank Replacement (15/25 Reg/Ext/Crew Cab w/34 gal Tank)** or **Fuel Tank Replacement (35 Reg/Ext/Crew Cab w/34 gal Tank)** .

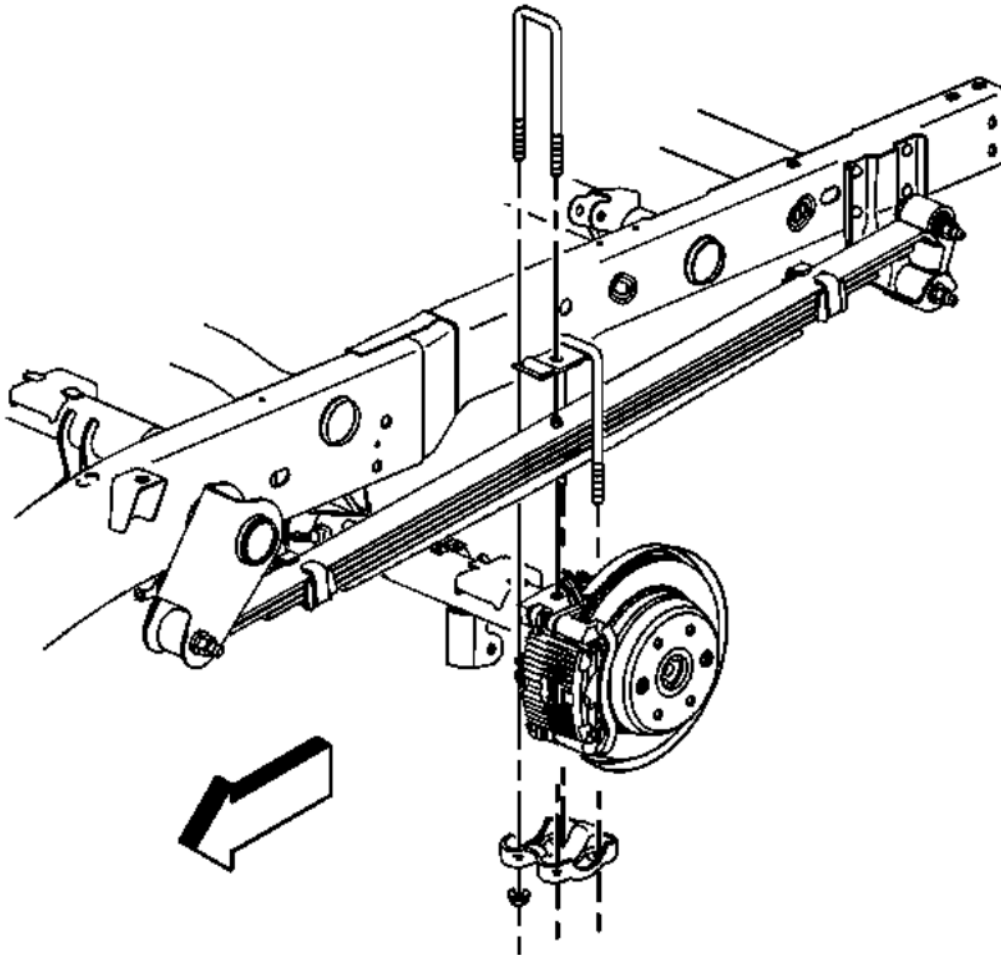


Fig. 10: Identifying U-Bolts
Courtesy of GENERAL MOTORS CORP.

5. Remove the U-bolt nuts.
6. Remove the U-bolts and discard.
7. Remove the spring spacer.
8. Remove the anchor plate.
9. Remove the front and rear leaf spring shackle bolts and nuts. Refer to **Spring Shackle Replacement**.
10. Remove the front bolt and nuts.

11. Remove the leaf spring assembly from the vehicle.

Installation Procedure

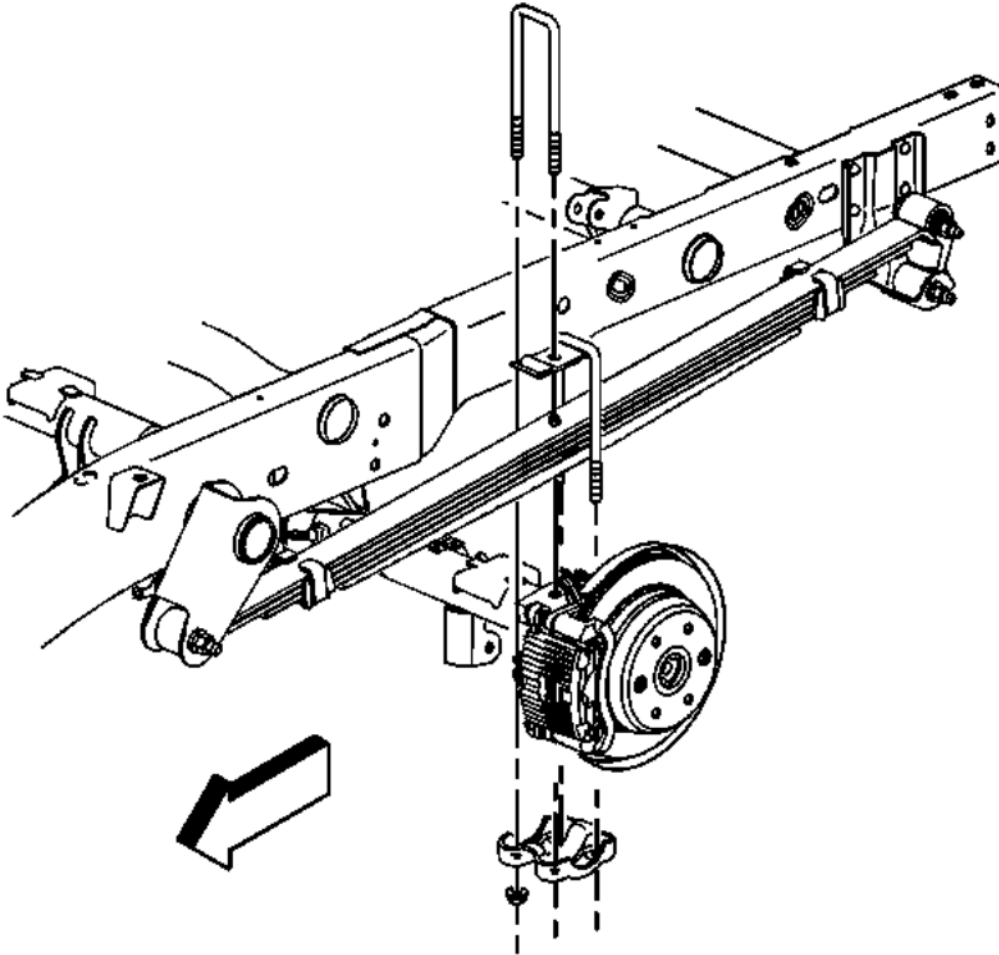


Fig. 11: Identifying U-Bolts
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: Loosely assemble the spring to the front hanger bracket.

1. Install the leaf spring assembly to the vehicle.
2. Install the front bolt and nuts but do not tighten.

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3. Install the front and rear leaf spring shackle bolts and nuts. Refer to **Spring Shackle Replacement**

IMPORTANT: Do not reuse the U-bolts.

4. Install the spring spacer.
5. Install the U-bolts.
6. Install the anchor plate.

NOTE: Refer to Fastener Notice .

7. Install the U-bolt nuts.

Tighten:

- For the 1500, tighten the nut to 100 N.m (74 lb ft).
- For the 2500/3500, tighten the U-bolt nut to 160 N.m (118 lb ft).
- Tighten the front bolt/nut to 200 N.m (148 lb ft).

8. Install the fuel tank. Refer to **Fuel Tank Replacement (15 Reg Cab w/26 Gal Tank)** or **Fuel Tank Replacement (25 Ext/Crew Cab w/26 gal Tank)** or **Fuel Tank Replacement (15/25 Reg/Ext/Crew Cab w/26 gal Tank)** or **Fuel Tank Replacement (15/25 Reg/Ext/Crew Cab w/34 gal Tank)** or **Fuel Tank Replacement (35 Reg/Ext/Crew Cab w/34 gal Tank)** .
9. Install the trailer hitch, if equipped. Refer to **Trailer Hitch Replacement (Light Duty)** or **Trailer Hitch Replacement (Heavy Duty)** .
10. Remove the rear axle support.
11. Remove the safety stands.
12. Lower the vehicle.

SPRING SHACKLE REPLACEMENT

Removal Procedure

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** .

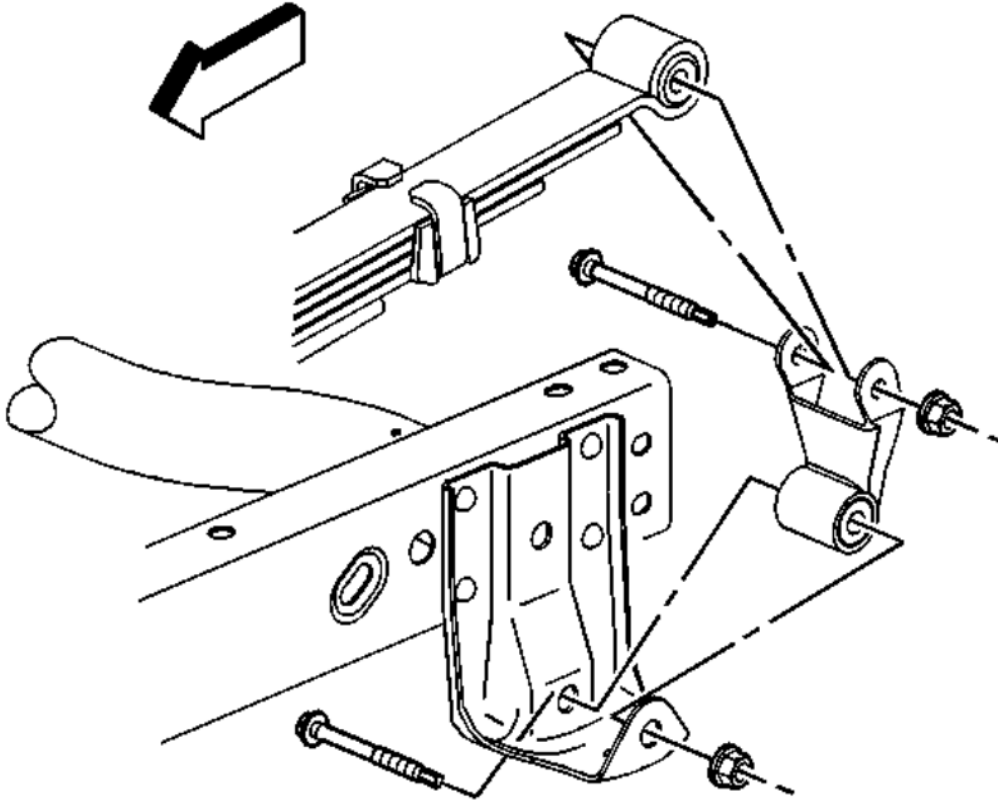


Fig. 12: Rear Spring Bracket Nut And Bolt
Courtesy of GENERAL MOTORS CORP.

2. Remove the leaf spring assembly from vehicle. Refer to **Leaf Spring Replacement**.
3. Remove the shackle nut and the bolt from the spring.

Installation Procedure

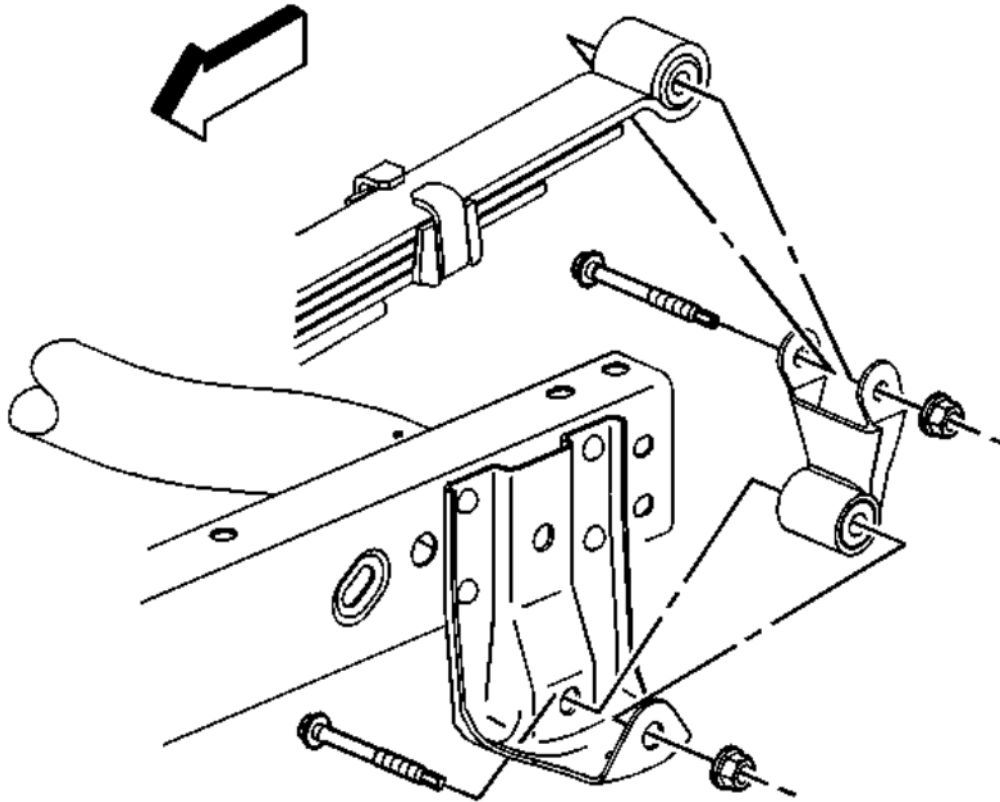


Fig. 13: Rear Spring Bracket Nut And Bolt
Courtesy of GENERAL MOTORS CORP.

1. Install the shackle to the spring.

NOTE: Refer to Fastener Notice .

2. Install the shackle nut and bolt to the spring.

Tighten: Tighten the shackle nuts to 95 N.m (70 lb ft).

3. Install the leaf spring assembly to the vehicle. Refer to Leaf Spring Replacement.
4. Remove the safety stands.
5. Lower the vehicle.

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WHEEL STUD REPLACEMENT

Tools Required

J 43631 Ball Joint Remover

Removal Procedure

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** .
2. Remove the tire and wheel. Refer to **Tire and Wheel Removal and Installation** .
3. Remove the brake rotor. Refer to **Rear Brake Rotor Replacement (JD9)** or **Rear Brake Rotor Replacement (JH6)** or **Rear Brake Rotor Replacement (JH7)** .

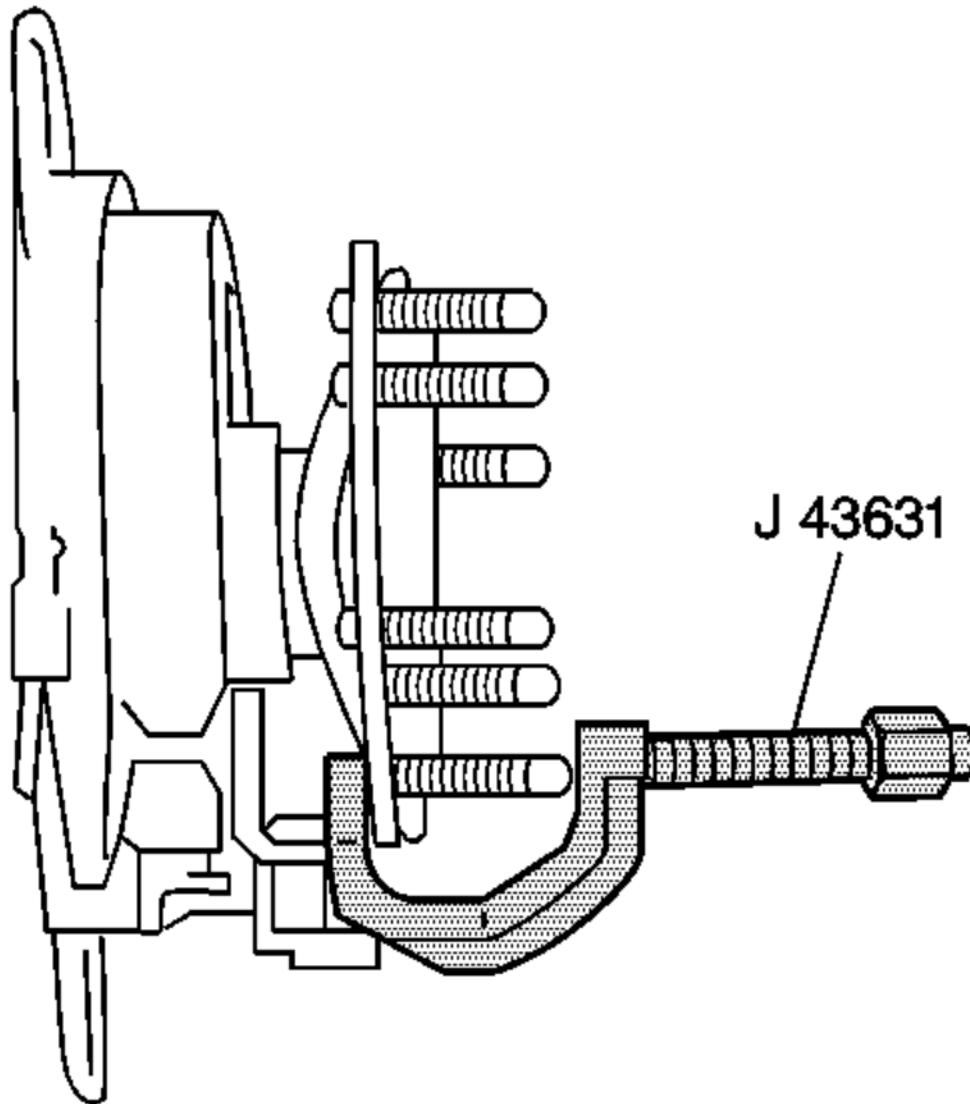


Fig. 14: Removing Wheel Stud From Hub Flange
Courtesy of GENERAL MOTORS CORP.

4. Remove the wheel stud from the hub flange using the **J 43631**.
5. Remove the wheel stud from the hub flange.

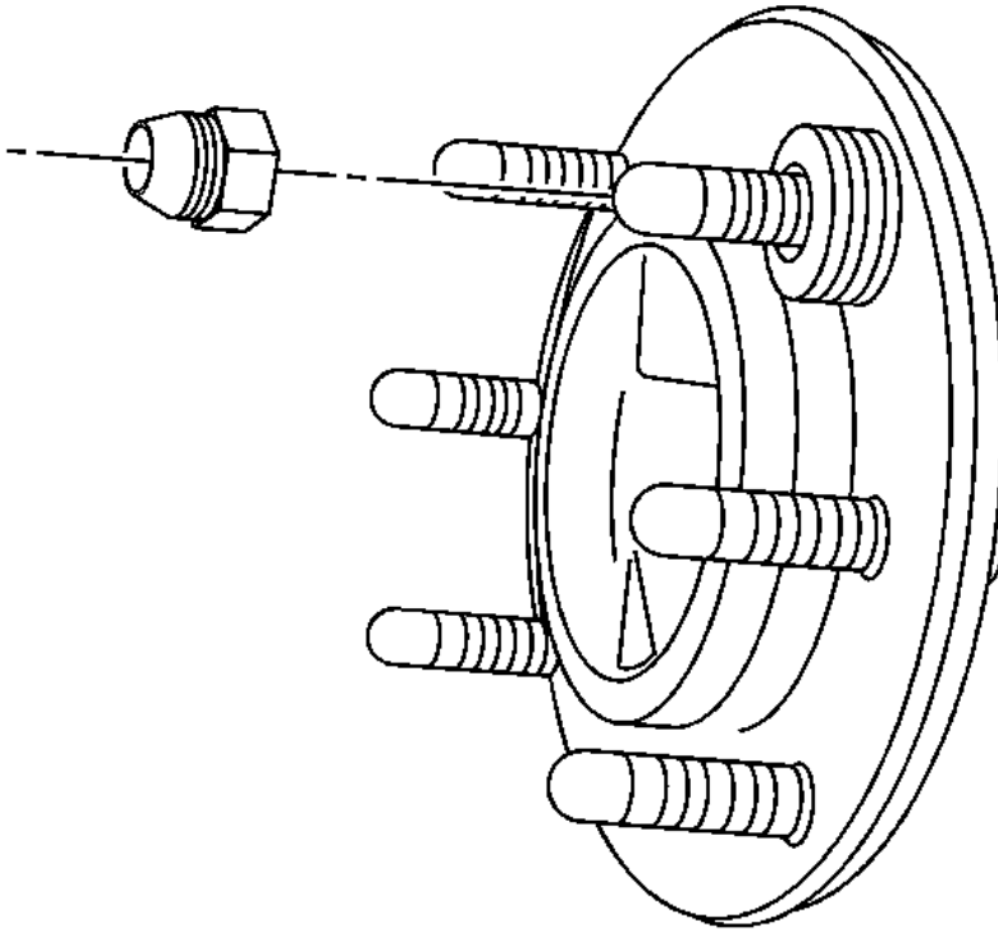


Fig. 15: View Of Wheel Nut & Studs
Courtesy of GENERAL MOTORS CORP.

1. Install the new stud into the hub flange hole using firm hand pressure.
2. Install 4 washers to the new wheel stud.
3. Thread a wheel nut onto the new stud with the flat side facing the front hub flange.
4. Tighten the lug nut until the stud contacts the back of the hub flange.
5. Remove the wheel nut.
6. Remove the washers.
7. Install the brake rotor. Refer to **Rear Brake Rotor Replacement (JD9)** or **Rear Brake**

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Rotor Replacement (JH6) or Rear Brake Rotor Replacement (JH7) .

8. Install the tire and wheel. Refer to **Tire and Wheel Removal and Installation** .
9. Remove the safety stands.
10. Lower the vehicle.

DESCRIPTION AND OPERATION

GENERAL DESCRIPTION

All 15 series utility vehicles use a 5-link rear suspension system. The rear axle is attached to the frame with the upper control arms, lower control arms, and a track bar. Two coil springs and a link mounted rear stabilizer shaft complete the system.

All 25 series Utility models use a rear spring suspension system and a solid rear axle suspension system. The rear axle is attached to the multi-rear springs by U-bolts. The front of the spring ends are attached to the frame at the front hangers through rubber bushings. The rear of the spring ends are attached to the frame with shackles that allow the springs to change their length, due to the spring compressing, while the vehicle is in motion. The ride control is provided by 2 identical direct dual-action shock absorbers that are angle-mounted between the frame and the brackets which are attached to the axle tubes.

SPECIAL TOOLS AND EQUIPMENT

SPECIAL TOOLS

Illustration	Tool Number/ Description
	J 43631 Ball Joint Remover