

2004 Cadillac SRX

2004 SUSPENSION Front Suspension - SRX

2004 SUSPENSION**Front Suspension - SRX****SPECIFICATIONS****FASTENER TIGHTENING SPECIFICATIONS****Fastener Tightening Specifications**

Application	Specification	
	Metric	English
Lower Control Arm Ball Stud Retaining Nut		
• First Pass	20 N.m	15 lb ft
• Second Pass	+180°	
Lower Control Arm to Cradle Nuts	135 N.m	96 lb ft
Power Steering Gear to Cradle Mounting Bolts	180 N.m	133 lb ft
Shock Absorber MR Nut	20 N.m	15 lb ft
Shock Absorber Retaining Nut	25 N.m	18 lb ft
Shock Module to Body Retainer Bolts	112 N.m	83 lb ft
Shock to Yoke Nut	90 N.m	66 lb ft
Shock Yoke to Lower Control Arm Retaining Nut	180 N.m	133 lb ft
Stabilizer Shaft Bracket Bolts	110 N.m	81 lb ft
Stabilizer Shaft Link Nuts	115 N.m	95 lb ft
Tie Rod Retaining Nut		
• First Pass	30 N.m	22 lb ft
• Second Pass	+180°	
Upper Control Arm Ball Stud Retaining Nut	80 N.m	59 lb ft
Wheel Bearing/Hub Mounting Bolts	135 N.m	100 lb ft
Wheel Driveshaft Retaining Nut	160 N.m	118 lb ft

REPAIR INSTRUCTIONS**STABILIZER SHAFT REPLACEMENT****Removal Procedure**

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Remove the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in

Tires and Wheels.

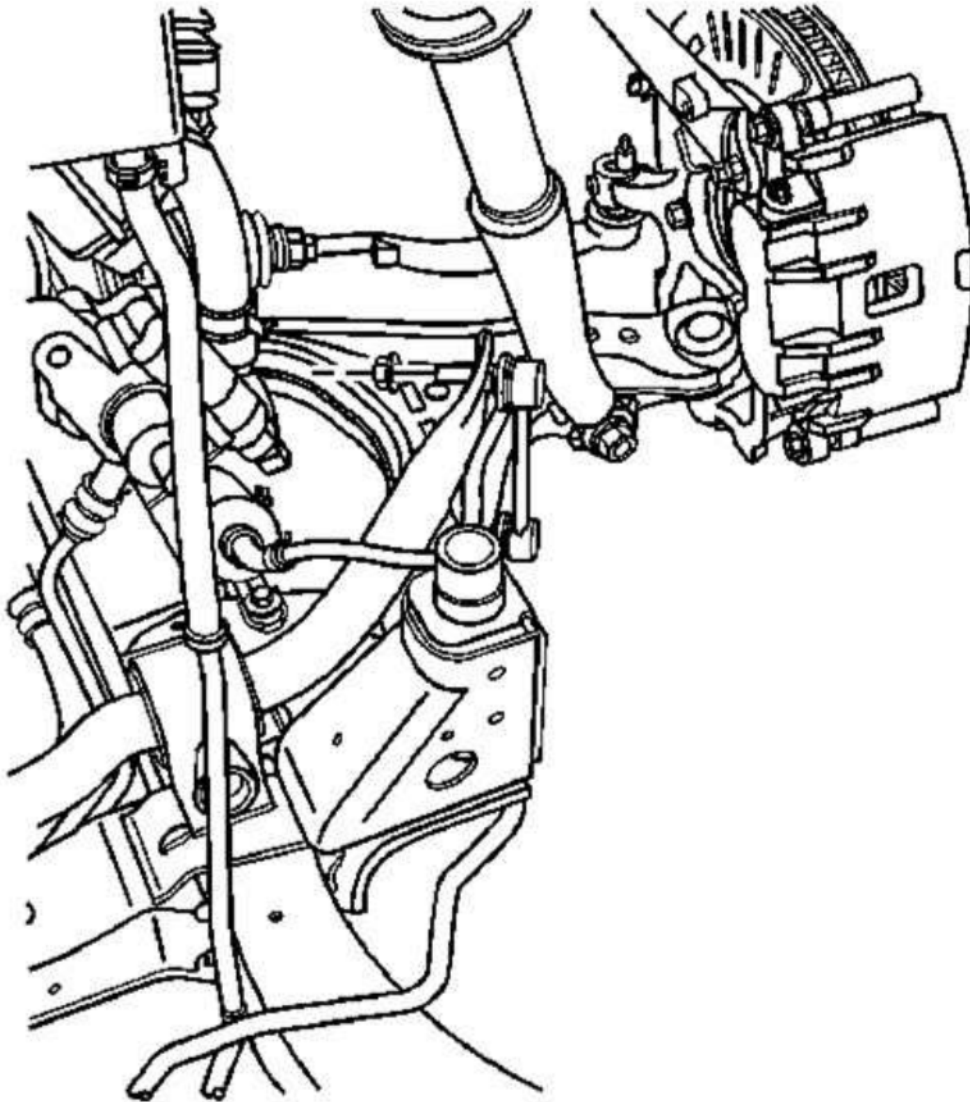


Fig. 1: View Of Stabilizer Shaft Link-To-Stabilizer Shaft Retaining Nuts
Courtesy of GENERAL MOTORS CORP.

3. Remove the stabilizer shaft link to stabilizer shaft retaining nuts. Refer to **Stabilizer Shaft Link Replacement**.
4. Disconnect the stabilizer shaft links from the stabilizer shaft.
5. Remove the stabilizer shaft mounting bolts and brackets.

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6. Remove the stabilizer shaft insulators from the stabilizer shaft.
7. Remove the stabilizer shaft from the vehicle.

Installation Procedure

1. Install the stabilizer shaft to the vehicle.
2. Install the stabilizer shaft insulators to the stabilizer shaft. Install the insulator to the stabilizer shaft with the slit facing rearward.

IMPORTANT: Do not tighten the bolts at this time.

3. Install the stabilizer shaft brackets and mounting bolts.

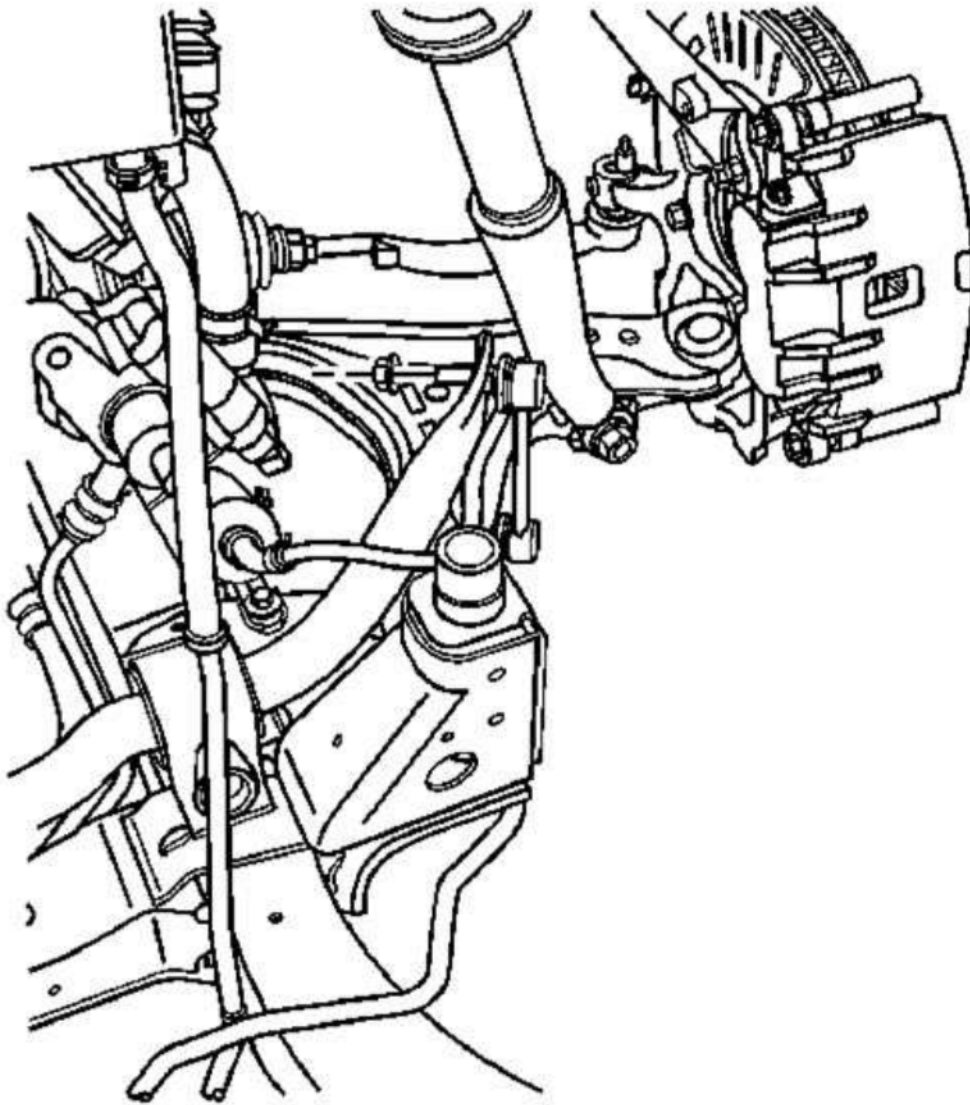


Fig. 2: View Of Stabilizer Shaft Link-To-Stabilizer Shaft Retaining Nuts
Courtesy of GENERAL MOTORS CORP.

4. Connect the stabilizer shaft links to the stabilizer shaft. Refer to **Stabilizer Shaft Link Replacement**.

NOTE: Refer to **Fastener Notice** in Cautions and Notices.

5. Install the stabilizer shaft link retaining nuts.

Tighten:

- Tighten the link nuts to 115 N.m (95 lb ft).
 - Tighten the bracket bolts to 110 N.m (81 lb ft).
6. Install the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
 7. Lower the vehicle.

STABILIZER SHAFT LINK REPLACEMENT

Removal Procedure

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

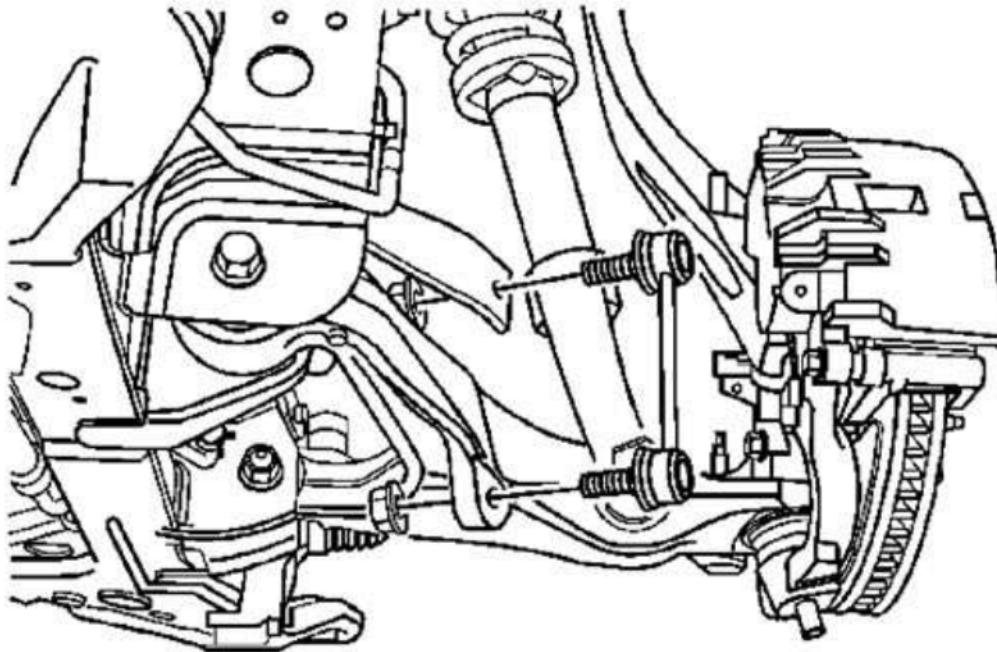


Fig. 3: View Of Stabilizer Shaft Link
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: Hold the shaft link studs with the hex tool to prevent damage to the link seal.

2. Remove the stabilizer shaft link upper retaining nut.
3. Remove the stabilizer shaft link lower retaining nut.
4. Remove the stabilizer shaft link from the vehicle.

Installation Procedure

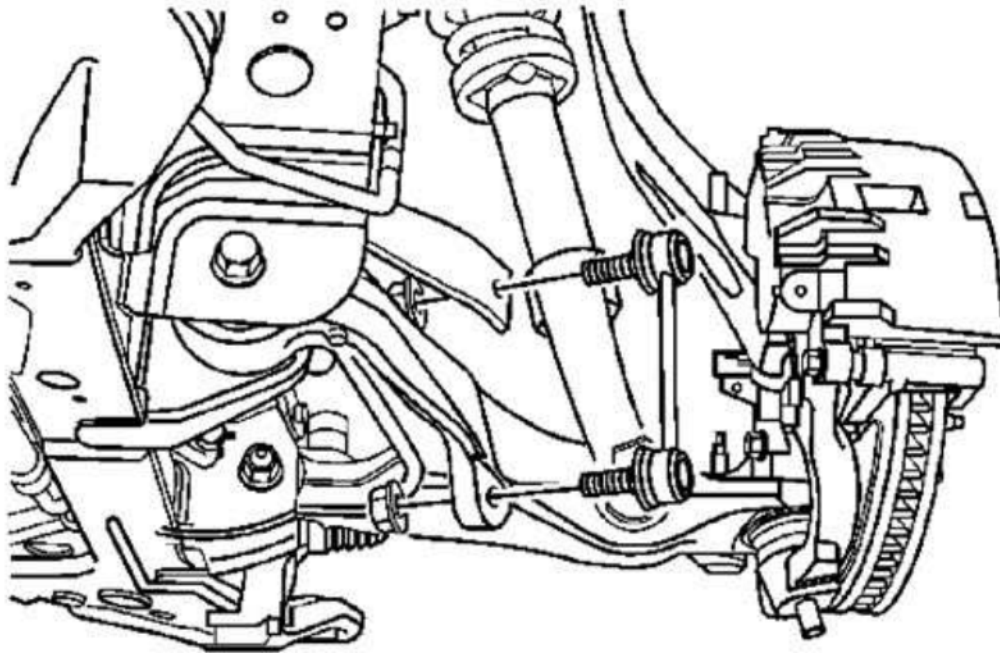


Fig. 4: View Of Stabilizer Shaft Link
Courtesy of GENERAL MOTORS CORP.

1. Install the stabilizer shaft link to the vehicle.

IMPORTANT: Do not tighten the nuts at this time.

IMPORTANT: Hold the shaft link studs with the hex tool to prevent damage to the link seal.

2. Install the stabilizer shaft link lower retaining nut.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Install the stabilizer shaft link upper retaining nut.

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Tighten: Tighten the nuts to 115 N.m (95 lb ft).

4. Lower the vehicle.

STABILIZER SHAFT INSULATOR REPLACEMENT

Removal Procedure

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Remove the tires and wheels. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.

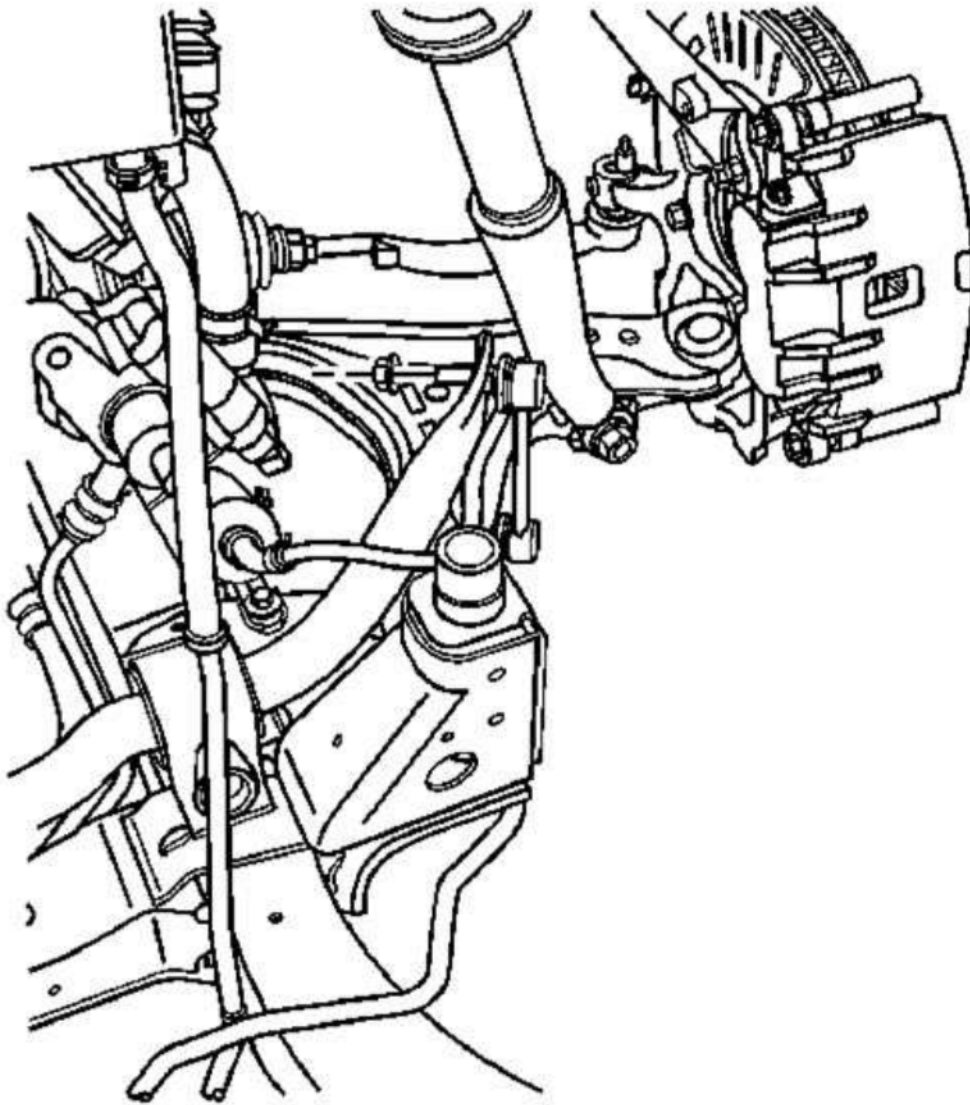


Fig. 5: View Of Stabilizer Shaft Link-To-Stabilizer Shaft Retaining Nuts
Courtesy of GENERAL MOTORS CORP.

3. Remove stabilizer shaft link to stabilizer shaft retaining nut.
4. Separate the stabilizer shaft link from the stabilizer shaft.
5. Remove the stabilizer shaft bracket mounting bolts.
6. Remove the stabilizer shaft bracket.
7. Remove the stabilizer shaft insulator.

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Installation Procedure

1. Install the stabilizer shaft insulator to the stabilizer shaft with the slit facing rearward.
2. Install the stabilizer shaft bracket.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Install the stabilizer shaft bracket mounting bolts.

Tighten: Tighten the bolts to 110 N.m (81 lb ft).

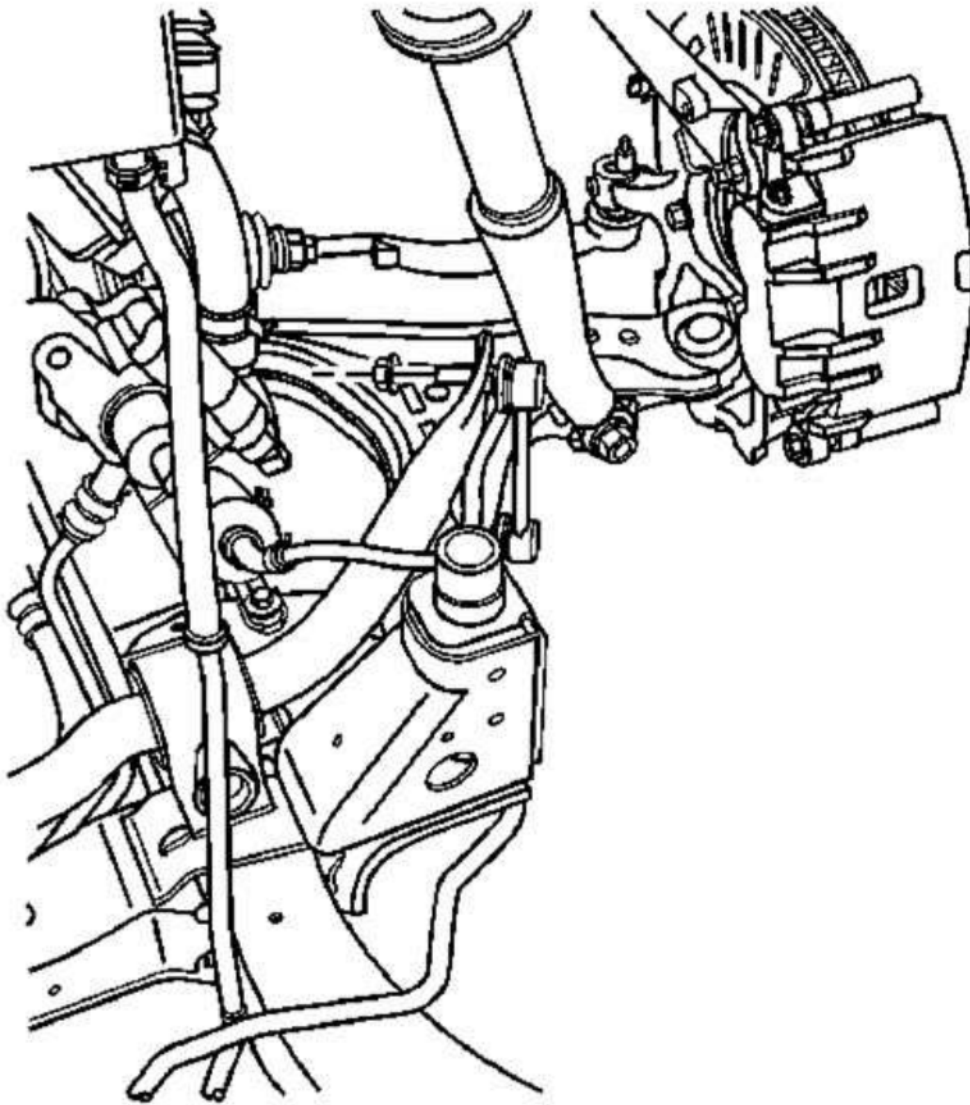


Fig. 6: View Of Stabilizer Shaft Link-To-Stabilizer Shaft Retaining Nuts
Courtesy of GENERAL MOTORS CORP.

4. Install the stabilizer shaft link to the stabilizer shaft.
5. Install stabilizer shaft link to stabilizer shaft retaining nut.

Tighten: Tighten the nut to 110 N.m (81 lb ft).

6. Install the tires and wheels. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.

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7. Lower the vehicle.

WHEEL BEARING/HUB REPLACEMENT - FRONT (AWD)

Tools Required

J 45859 Wheel Hub Remover

Removal Procedure

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Remove the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.

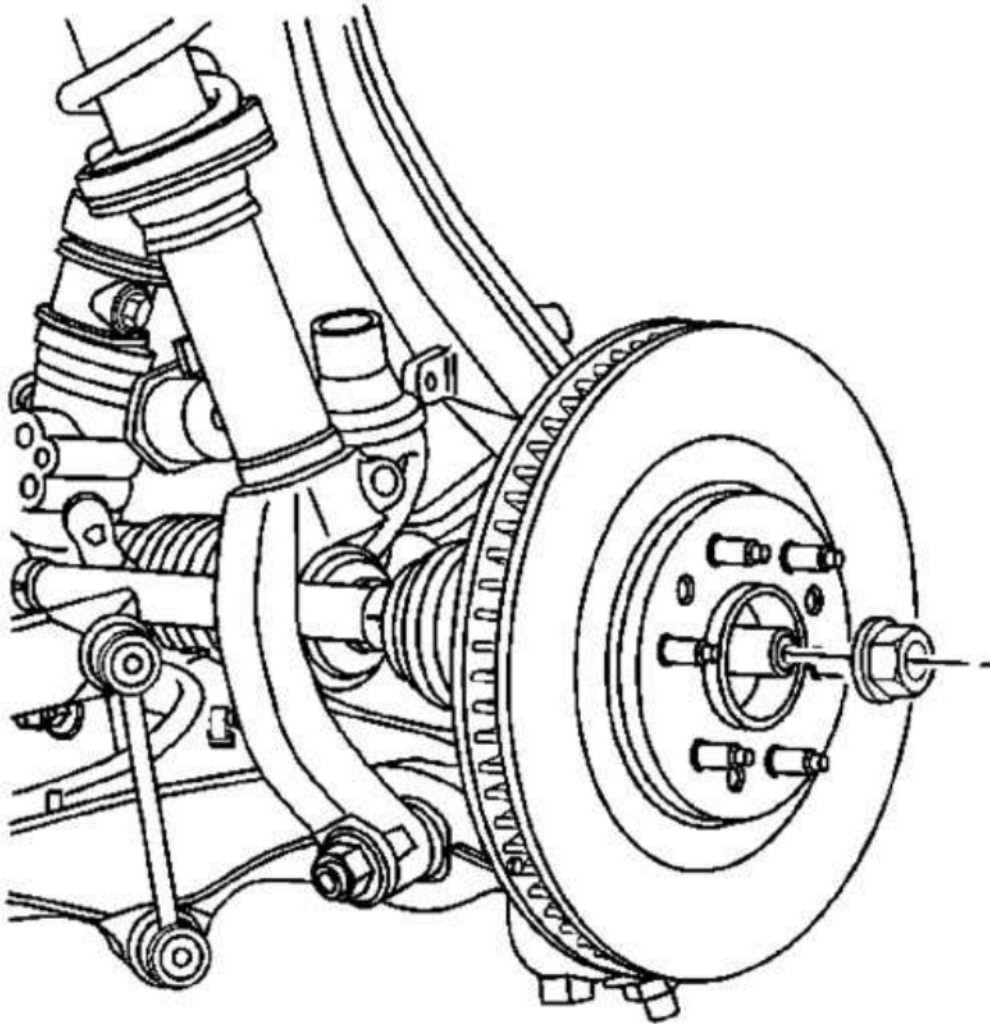


Fig. 7: View Of Wheel Driveshaft Retaining Nut
Courtesy of GENERAL MOTORS CORP.

3. Remove the wheel driveshaft retaining nut and discard.
4. Remove the brake rotor. Refer to **Brake Rotor Replacement - Front** in Disc Brakes.

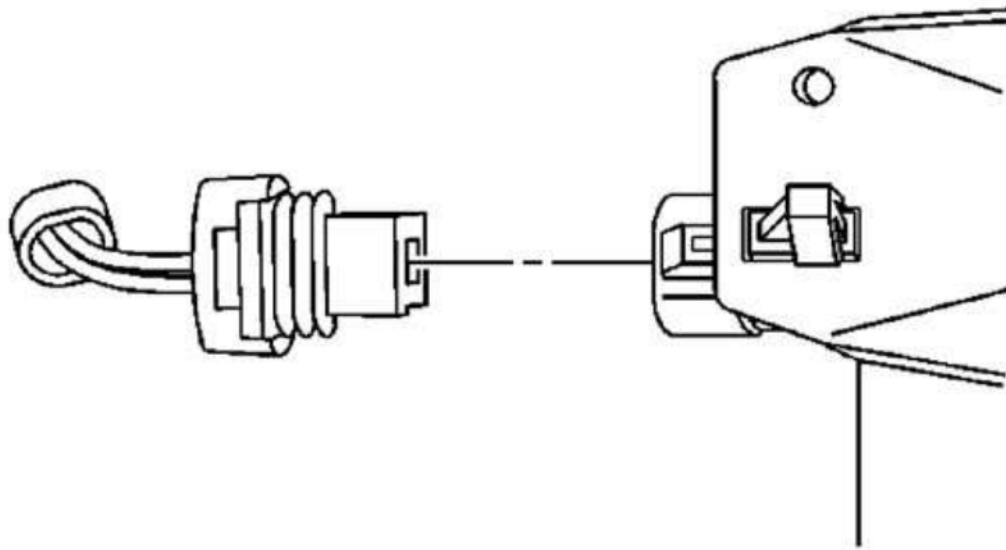


Fig. 8: View Of Wheel Speed Sensor Electrical Connector
Courtesy of GENERAL MOTORS CORP.

5. Disconnect the Anti-lock Brake System (ABS) electrical connector.
6. Remove the ABS electrical connector from the splash shield.

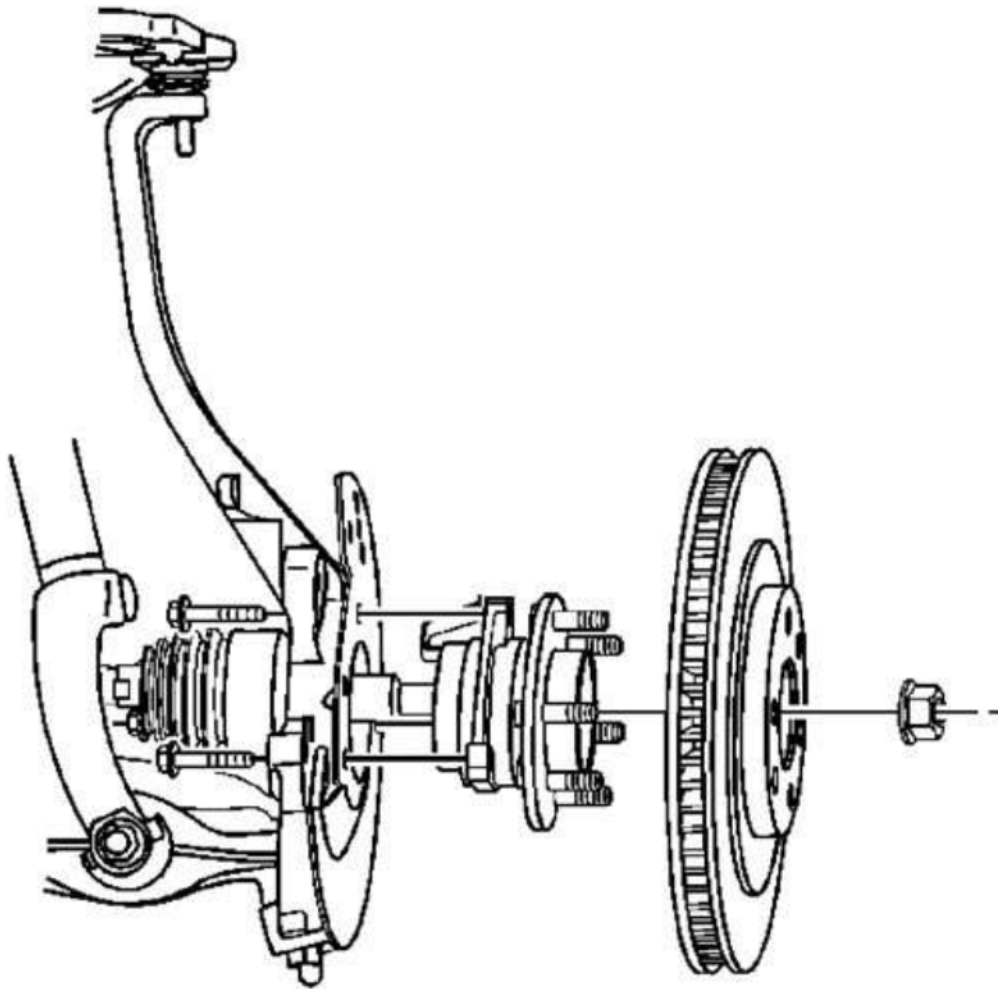


Fig. 9: View Of Wheel Bearing/Hub Mounting Bolts
Courtesy of GENERAL MOTORS CORP.

NOTE: Avoid tool contact to the outer constant velocity boot seal when removing the wheel bearing mounting bolts. Failure to observe this notice may result in damage to the CV boot.

7. Carefully remove the wheel bearing/hub mounting bolts.

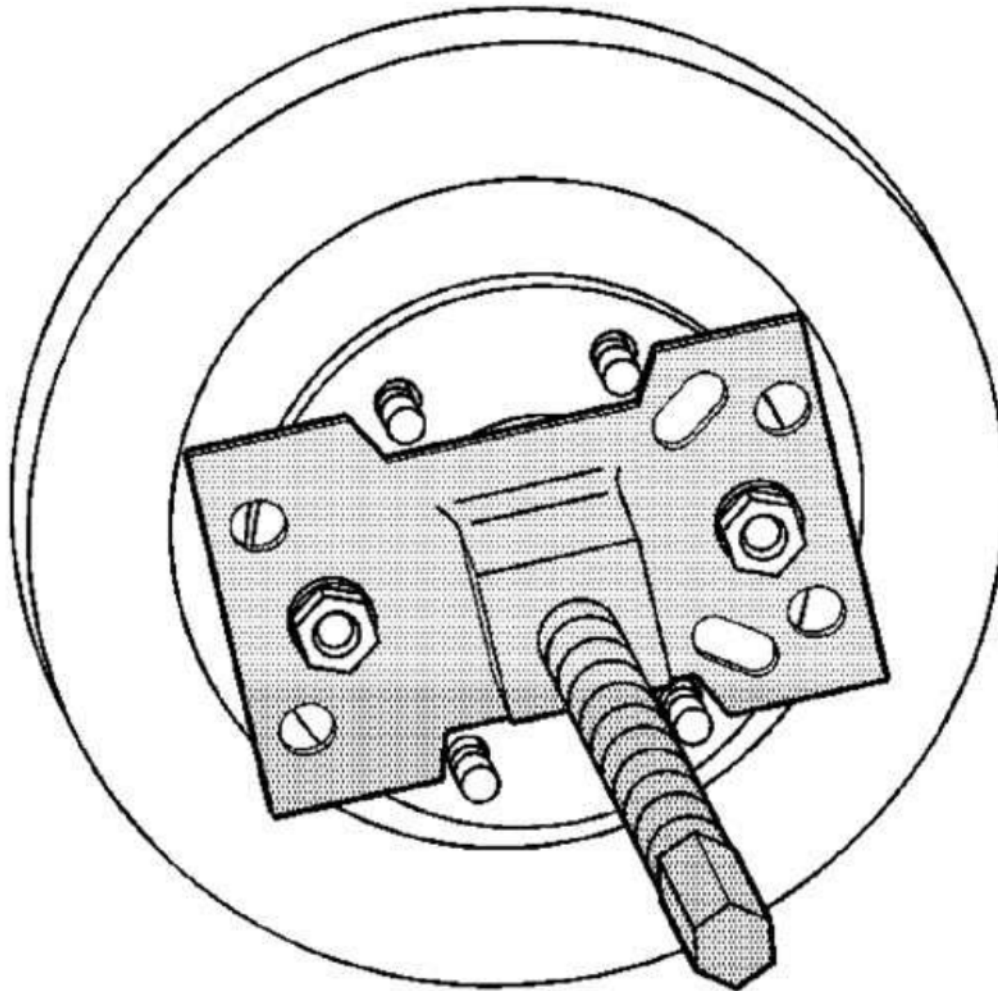


Fig. 10: View Of J 45859

Courtesy of GENERAL MOTORS CORP.

8. Install **J 45859** or equivalent to the wheel bearing/hub.
9. Using **J 45859** or equivalent carefully disengage the wheel driveshaft from the wheel bearing/hub.
10. Remove the wheel bearing/hub.

Installation Procedure

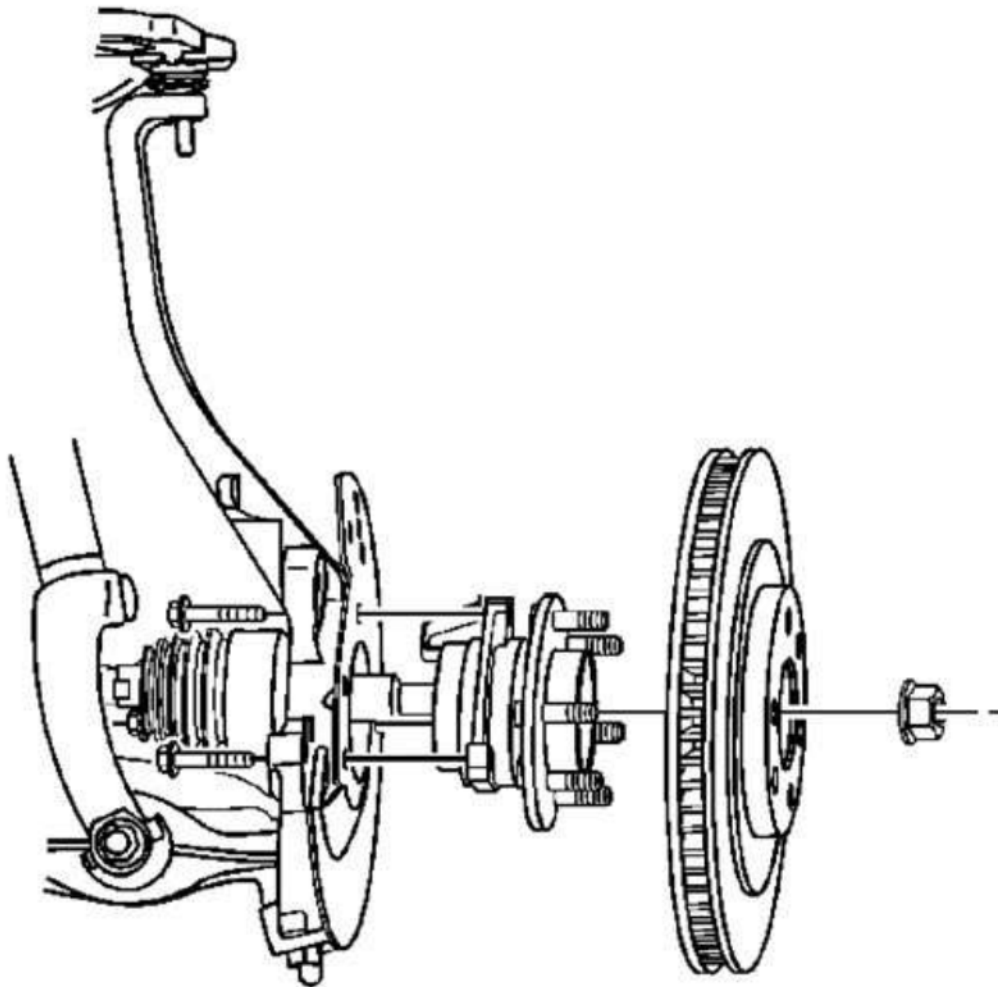


Fig. 11: View Of Wheel Bearing/Hub Mounting Bolts
Courtesy of GENERAL MOTORS CORP.

1. Install the wheel bearing/hub.

NOTE: Refer to Fastener Notice in Caution and Notices.

NOTE: Avoid tool contact to the outer constant velocity boot seal when removing the wheel bearing mounting bolts. Failure to observe this notice may result in damage to the CV boot.

2. Install the wheel bearing/hub mounting bolts.

Tighten: Tighten the wheel bearing/hub mounting bolts to 135 N.m (100 lb ft).

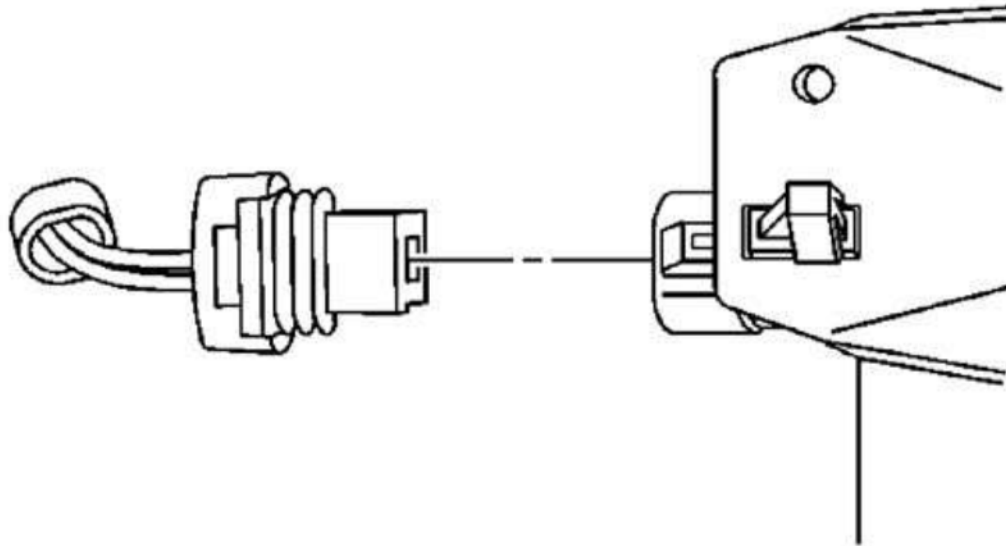


Fig. 12: View Of Wheel Speed Sensor Electrical Connector
Courtesy of GENERAL MOTORS CORP.

3. Install the ABS electrical connector to the splash shield.
4. Connect the ABS electrical connector.

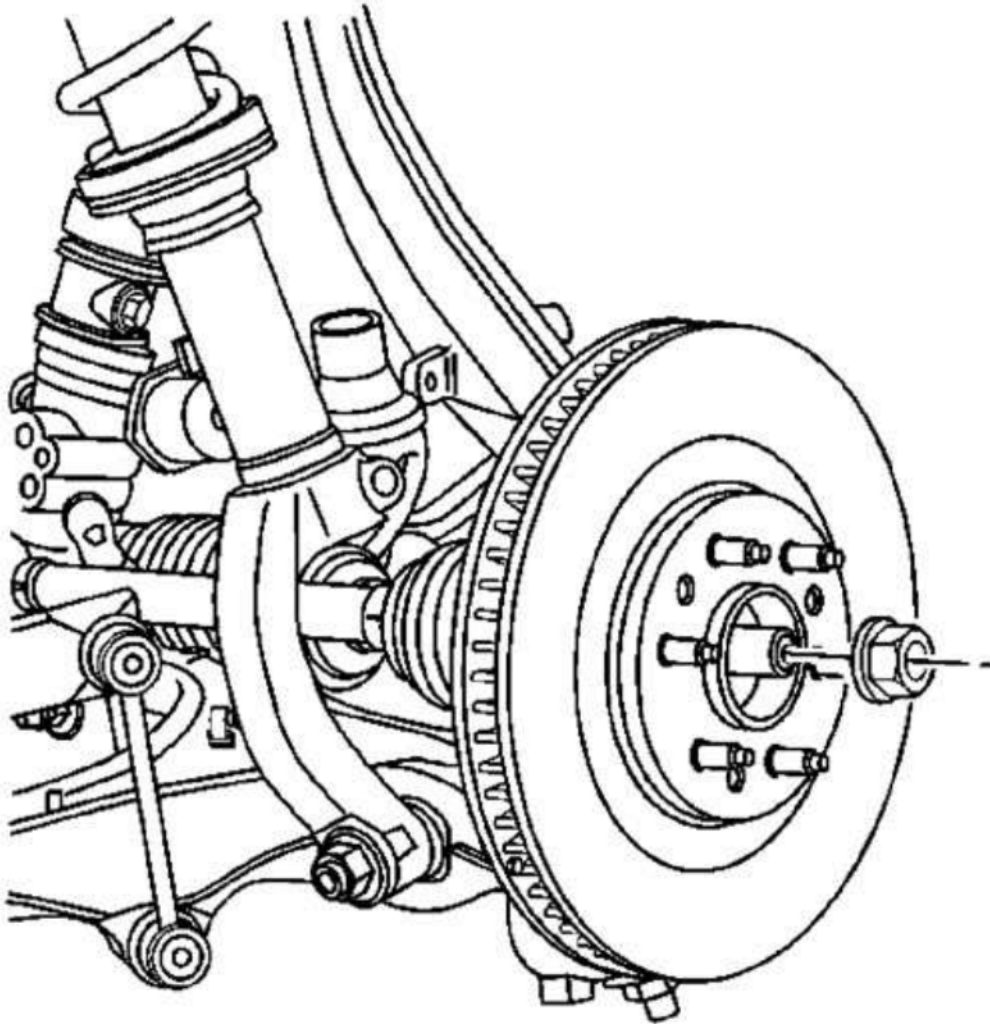


Fig. 13: View Of Wheel Driveshaft Retaining Nut
Courtesy of GENERAL MOTORS CORP.

5. Install a new wheel driveshaft retaining nut.

Tighten: Tighten the nut to 160 N.m (118 lb ft).

6. Install the brake rotor. Refer to **Brake Rotor Replacement - Front** in Disc Brakes.
7. Install the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
8. Lower the vehicle.

WHEEL BEARING/HUB REPLACEMENT - FRONT (RWD)**Removal Procedure**

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle in General Information.
2. Remove the tire and wheel. Refer to Tire and Wheel Removal and Installation in Tires and Wheels.
3. Remove the brake rotor. Refer to Brake Rotor Replacement - Front in Disc Brakes.

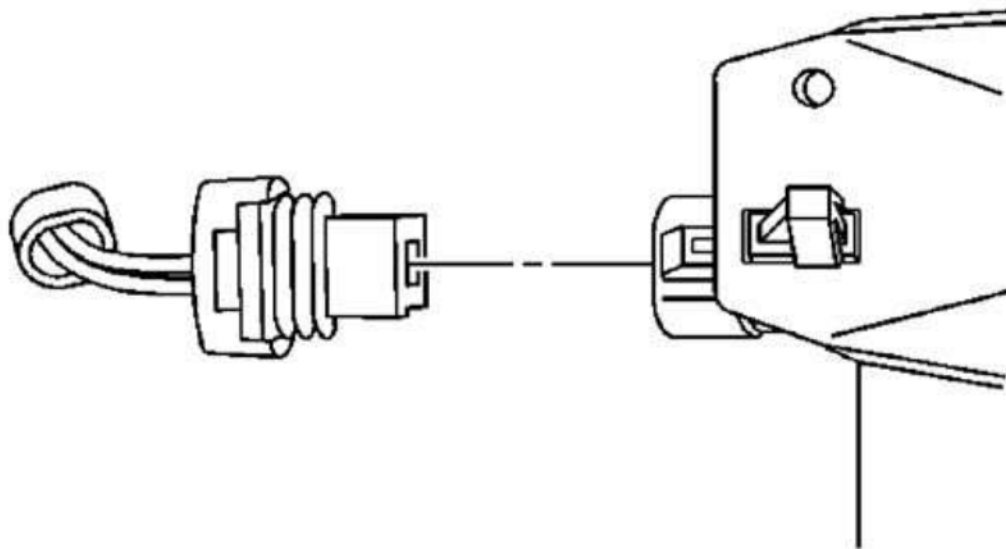


Fig. 14: View Of Wheel Speed Sensor Electrical Connector
Courtesy of GENERAL MOTORS CORP.

4. Disconnect the ABS electrical connector.
5. Remove the electrical connector from the splash shield.

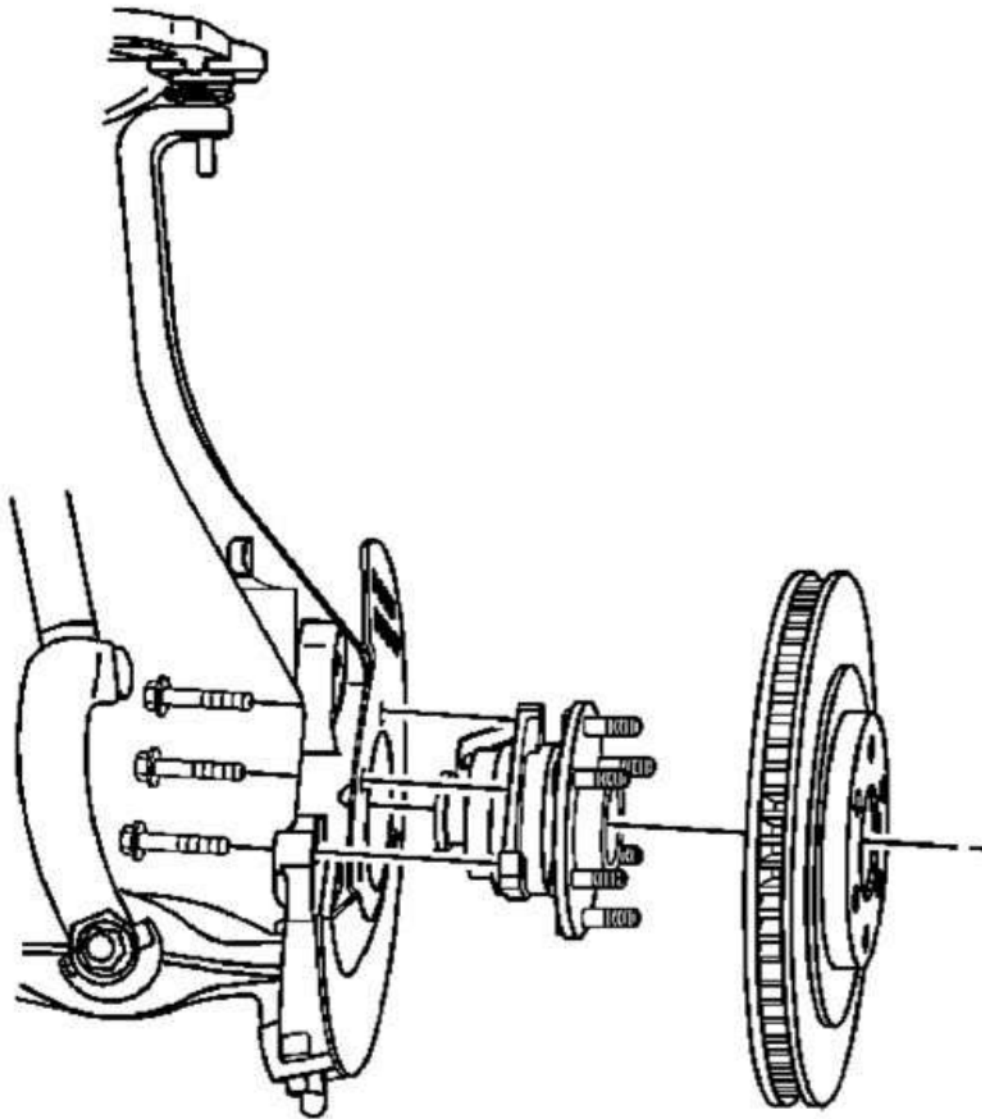


Fig. 15: View Of Wheel Bearing/Hub Assembly
Courtesy of GENERAL MOTORS CORP.

6. Remove the wheel bearing/hub mounting bolts.
7. Remove the wheel bearing/hub.

Installation Procedure

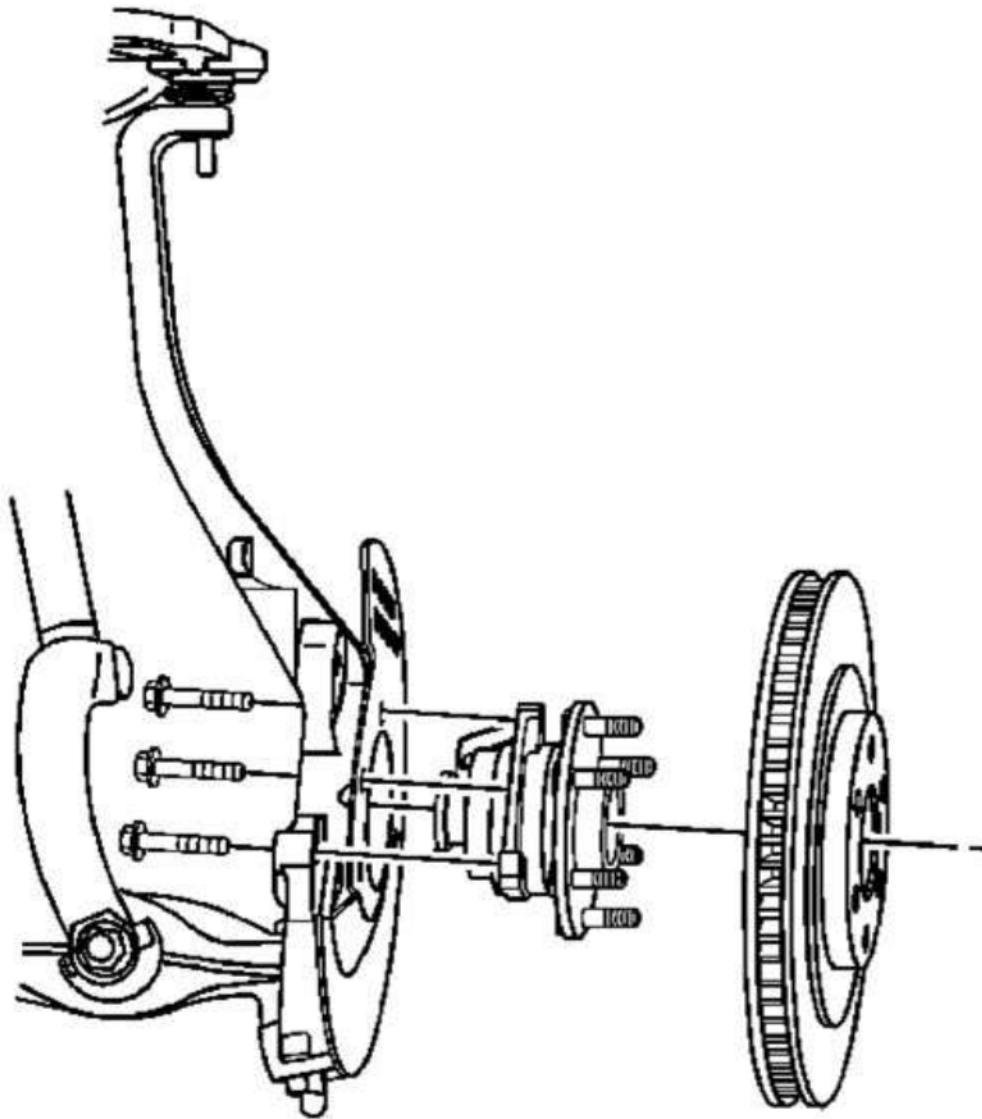


Fig. 16: View Of Wheel Bearing/Hub Assembly
Courtesy of GENERAL MOTORS CORP.

1. Install the wheel bearing/hub.

NOTE: Refer to Fastener Notice in Caution and Notices.

2. Install the wheel bearing/hub mounting bolts.

Tighten: Tighten the bolts to 135 N.m (100 lb ft).

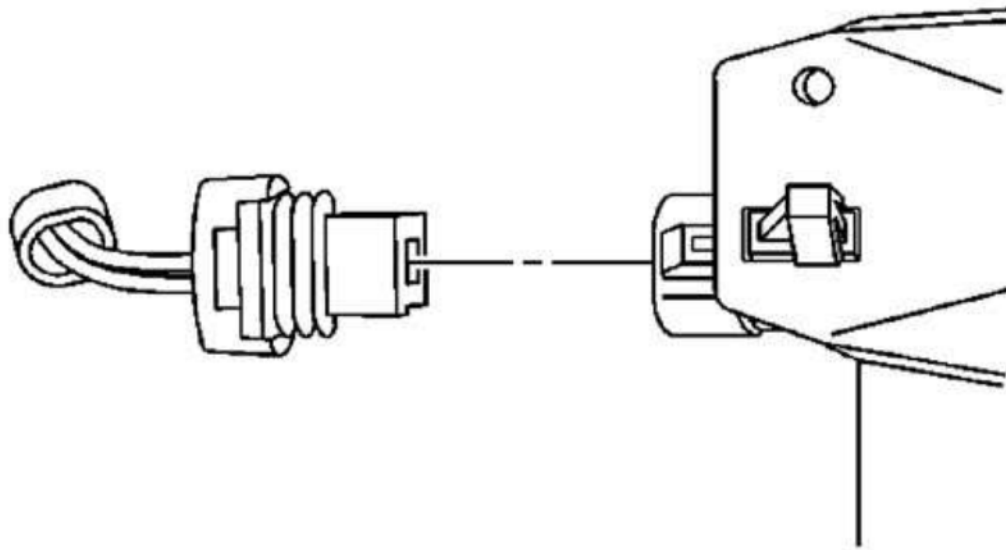


Fig. 17: View Of Wheel Speed Sensor Electrical Connector
Courtesy of GENERAL MOTORS CORP.

3. Install the electrical connector to the splash shield.
4. Connect the ABS electrical connector.
5. Install the brake rotor. Refer to **Brake Rotor Replacement - Front** in Disc Brakes.
6. Install the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
7. Lower the vehicle.

STEERING KNUCKLE REPLACEMENT

Tools Required

- **J 24319-B** Universal Steering Linkage Puller
- **J 43631** Ball Joint Remover

Removal Procedure

NOTE: Do not free the ball stud by using a pickle fork or a wedge-type tool. Damage to the seal or bushing may result.

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

2. Remove the tire and wheel. Refer to Tire and Wheel Removal and Installation in Tires and Wheels.
3. Remove the wheel bearing/hub. Refer to Wheel Bearing/Hub Replacement - Front (AWD) or Wheel Bearing/Hub Replacement - Front (RWD).

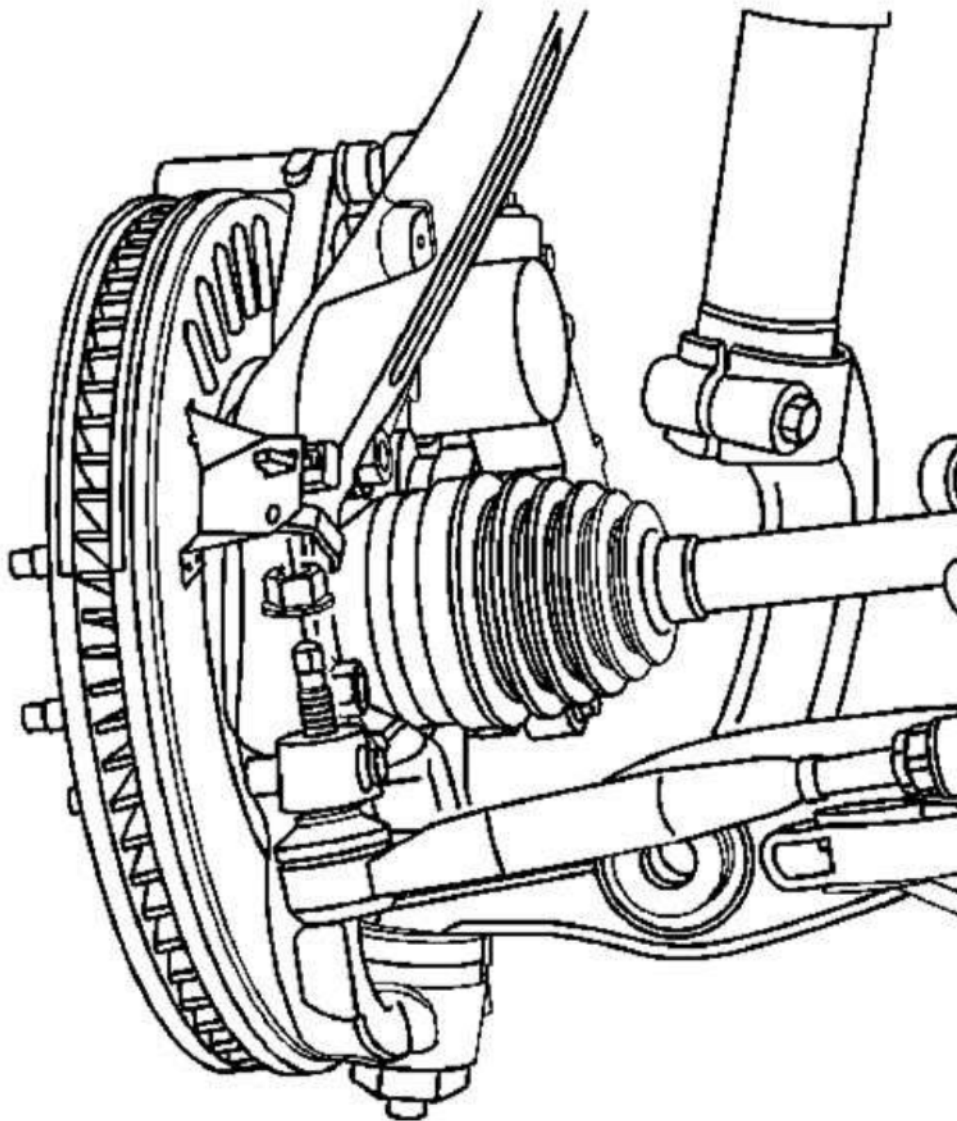


Fig. 18: View Of Outer Tie Rod-To-Steering Knuckle Retaining Nut
Courtesy of GENERAL MOTORS CORP.

4. Remove the outer tie rod to steering knuckle retaining nut.

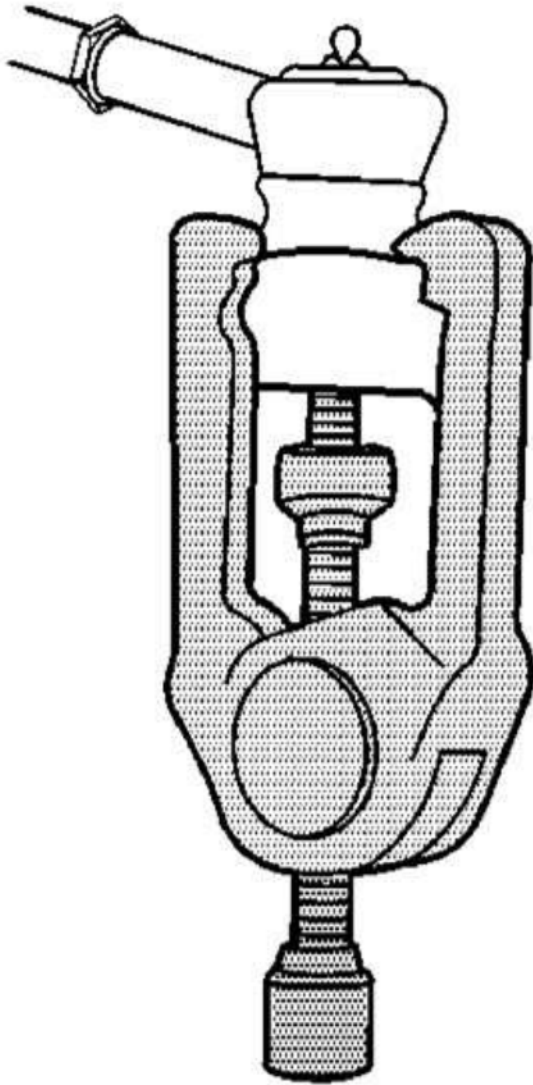


Fig. 19: Removing Outer Tie Rod Assembly From Steering Knuckle
Courtesy of GENERAL MOTORS CORP.

5. Using the J 24319-B , disconnect the tie rod from the steering knuckle.

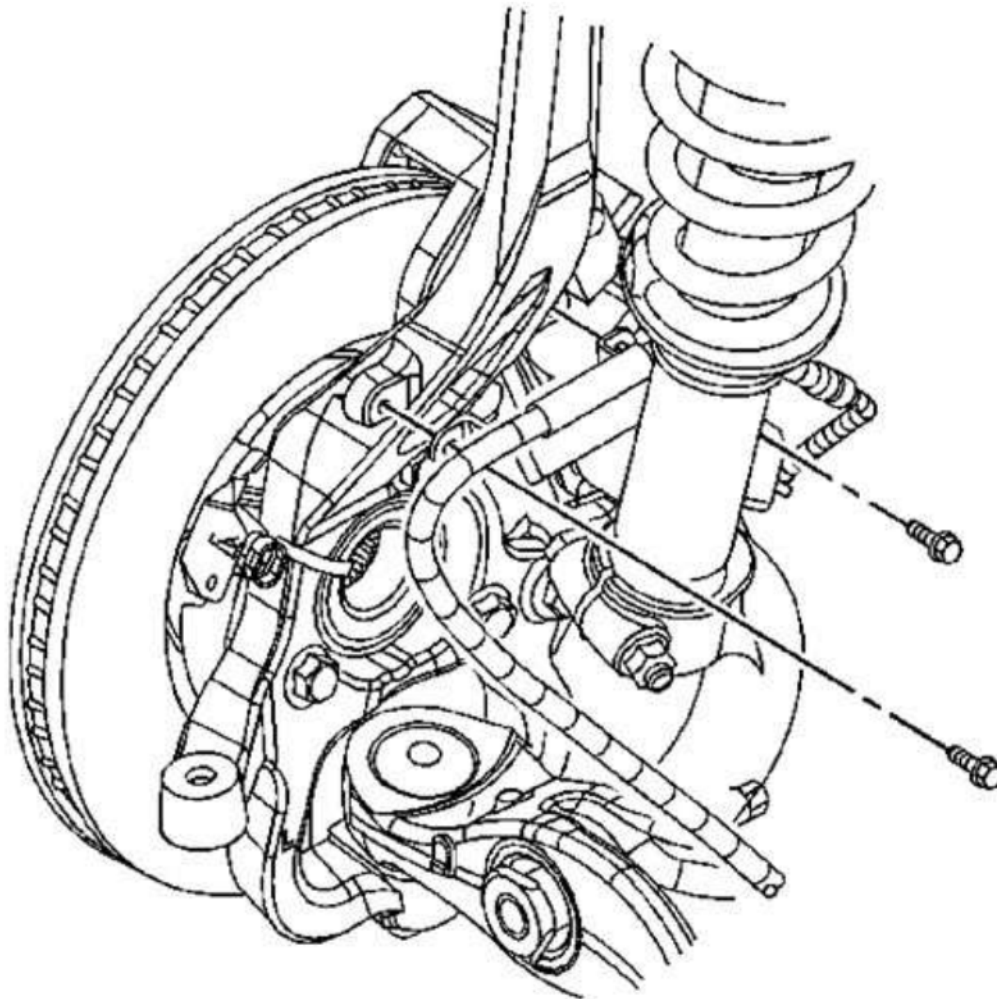


Fig. 20: View Of Brake Hose Bracket-To-Steering Knuckle Retaining Bolts
Courtesy of GENERAL MOTORS CORP.

6. Remove the brake hose bracket to steering knuckle retaining bolts.

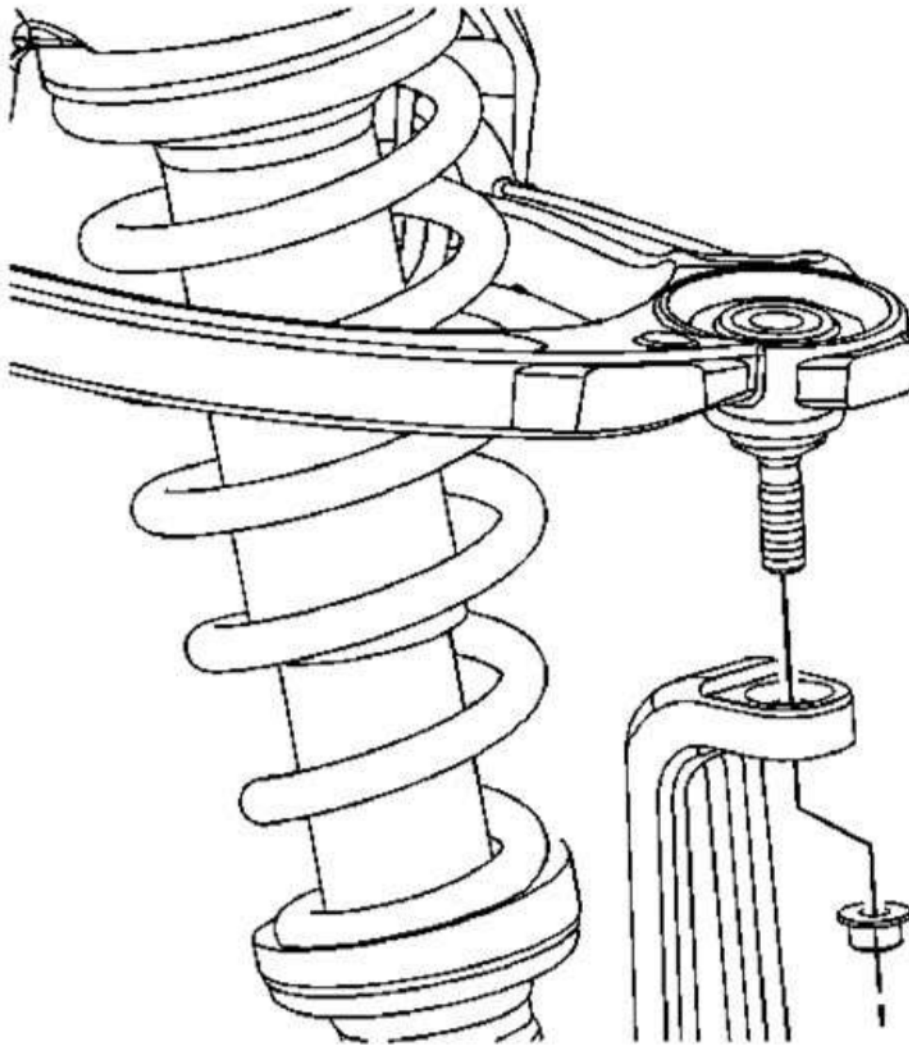


Fig. 21: View Of Upper Control Arm Ball Stud-To-Steering Knuckle Retaining Nut

Courtesy of GENERAL MOTORS CORP.

7. Remove the upper control arm ball stud to steering knuckle retaining nut.
8. Separate the upper control arm ball stud from the steering knuckle.

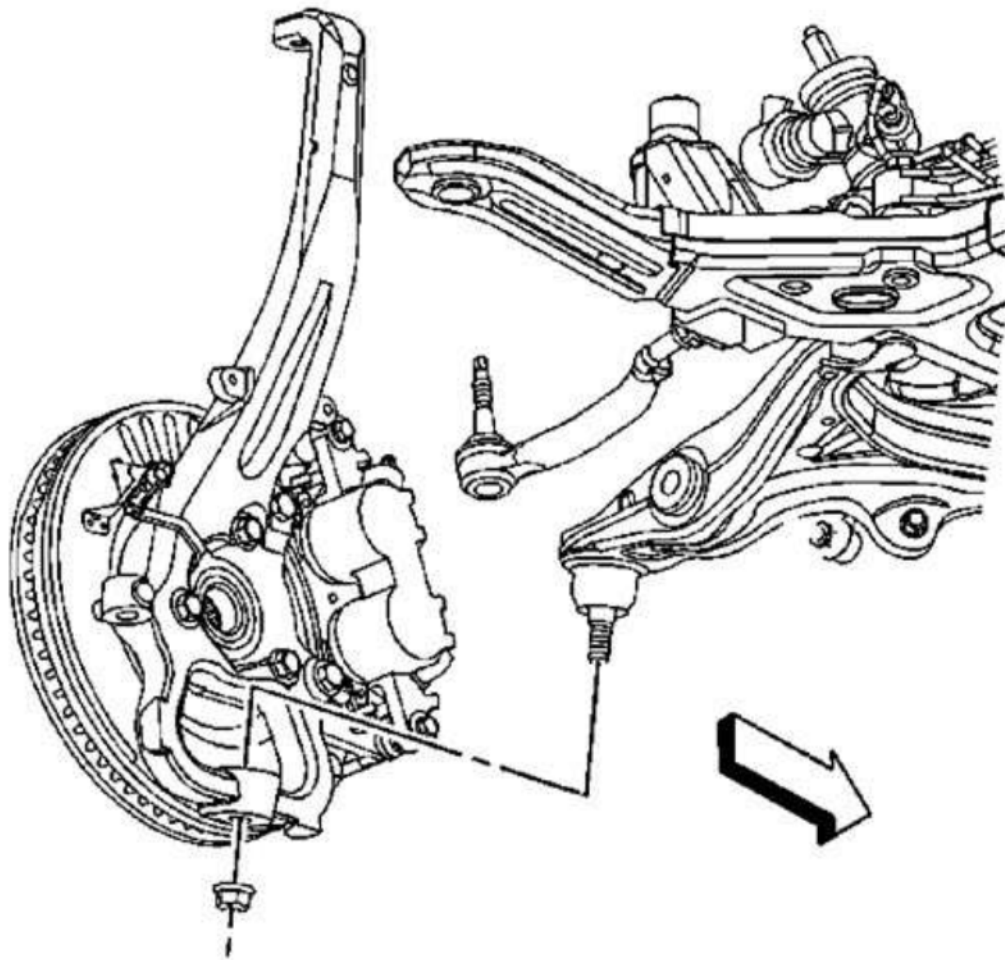


Fig. 22: View Of Lower Control Arm Ball Stud-To-Steering Knuckle Retaining Nut

Courtesy of GENERAL MOTORS CORP.

9. Remove the lower control arm ball stud to steering knuckle retaining nut.

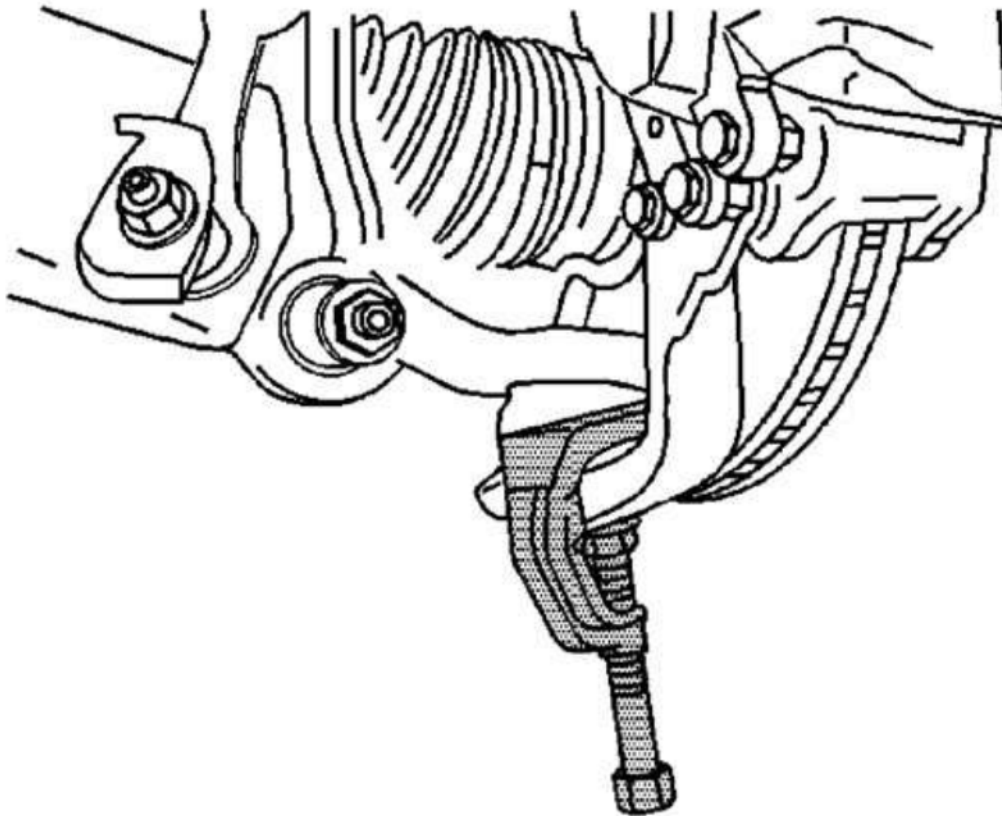


Fig. 23: Removing Steering Knuckle From Lower Control Arm
Courtesy of GENERAL MOTORS CORP.

10. Using the **J 43631** , separate the lower control arm ball stud from the steering knuckle.
11. Remove the steering knuckle.

Installation Procedure

1. Install the steering knuckle to the lower control arm ball stud.

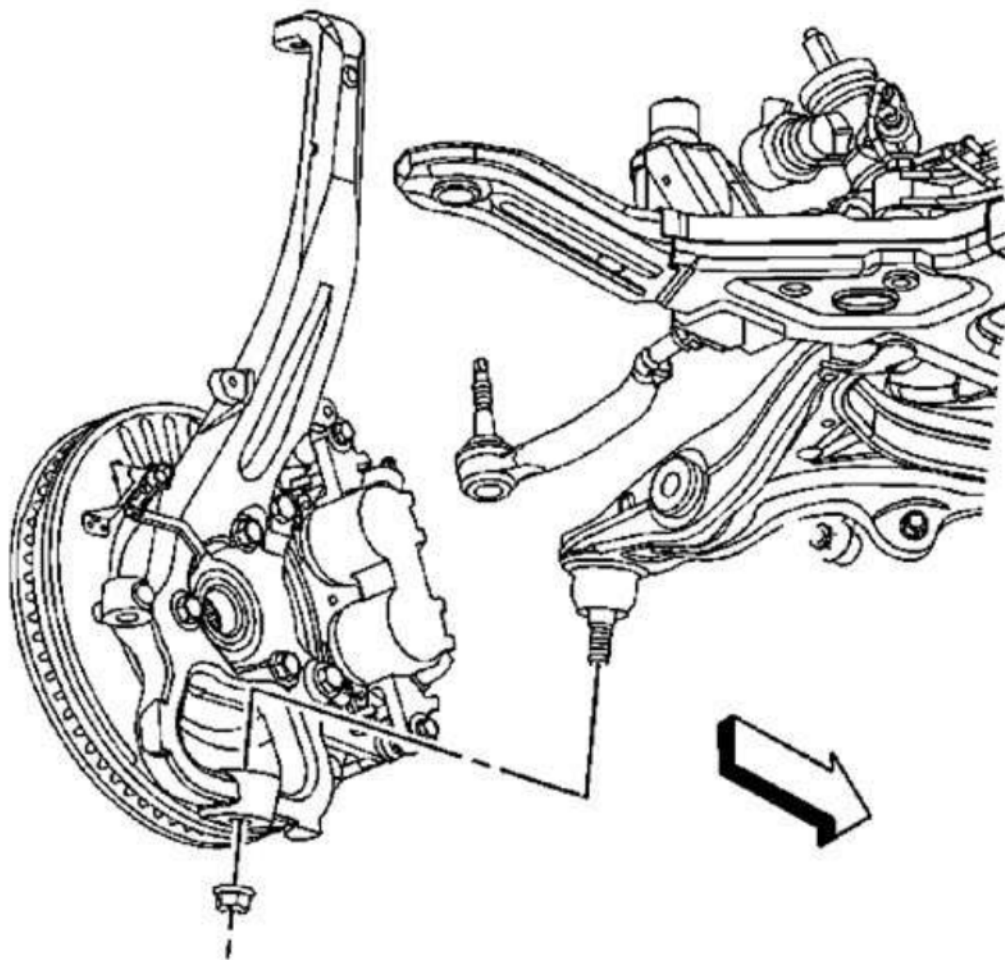


Fig. 24: View Of Lower Control Arm Ball Stud-To-Steering Knuckle Retaining Nut

Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install a new lower control arm ball stud retaining nut.

Tighten:

1. Tighten the nut to 20 N.m (15 lb ft).
2. Tighten the nut to an additional 210 degrees.

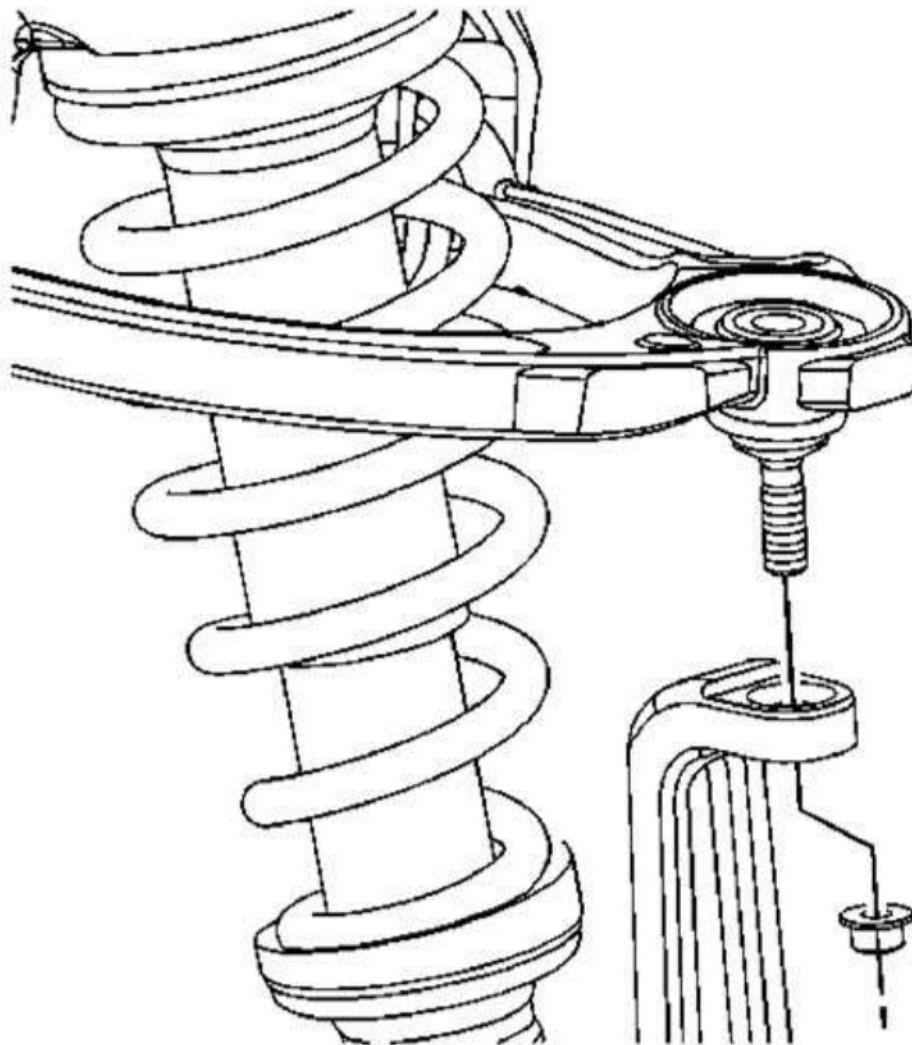


Fig. 25: View Of Upper Control Arm Ball Stud-To-Steering Knuckle Retaining Nut

Courtesy of GENERAL MOTORS CORP.

3. Install the upper control arm ball stud to the steering knuckle.
4. Install a new upper control arm ball stud retaining nut.

Tighten:

1. Tighten the nut to 20 N.m (15 lb ft).
2. Tighten the nut to an additional 210 degrees.

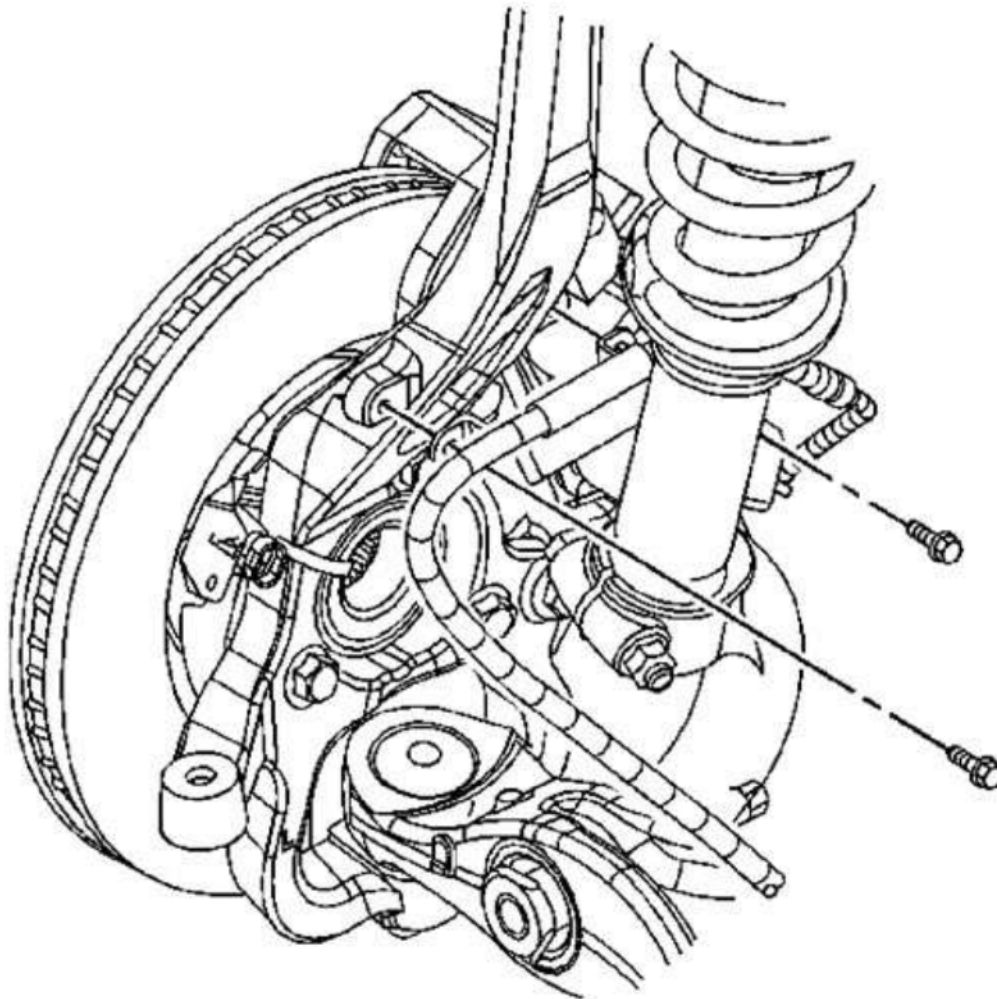


Fig. 26: View Of Brake Hose Bracket-To-Steering Knuckle Retaining Bolts
Courtesy of GENERAL MOTORS CORP.

5. Install the brake hose bracket to the steering knuckle retaining bolts.

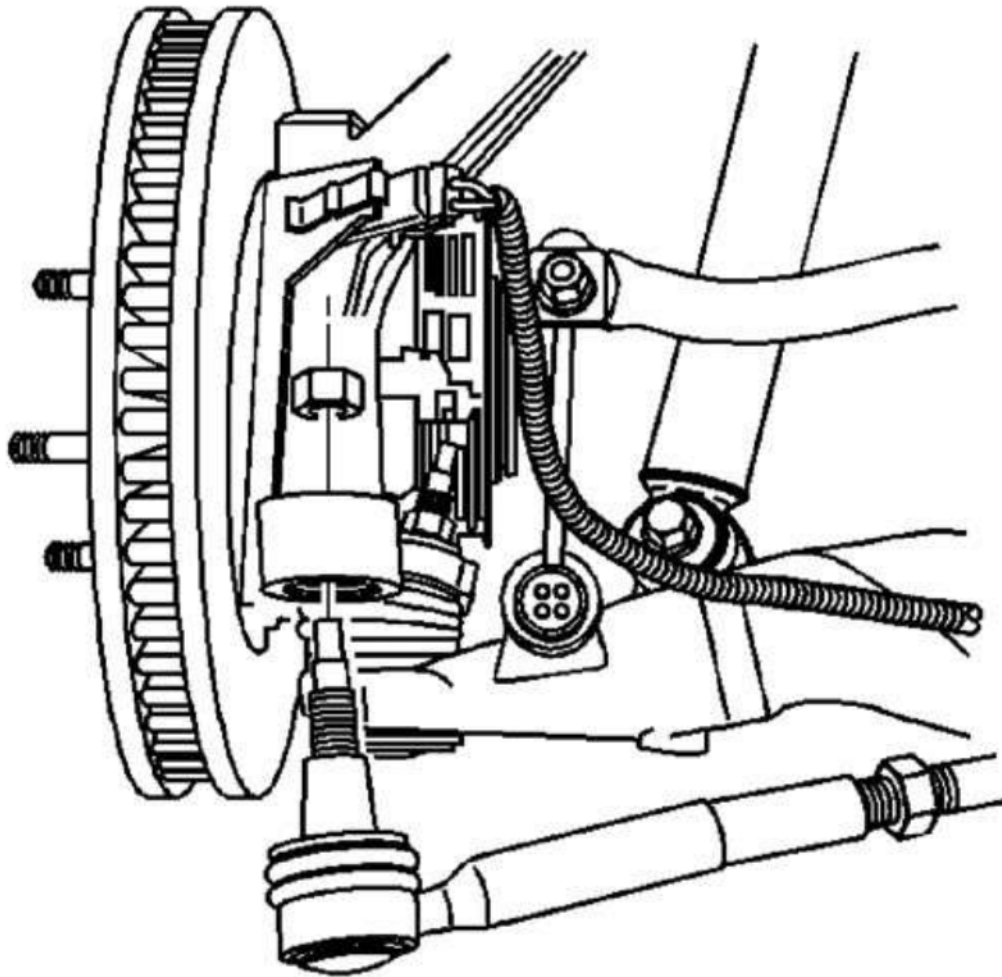


Fig. 27: View Of Outer Tie Rod Retaining Nut
Courtesy of GENERAL MOTORS CORP.

6. Connect the outer tie rod to the steering knuckle.
7. Install the outer tie rod retaining nut.

Tighten: Tighten the nut to 70 N.m (52 lb ft).

8. Install the wheel bearing/hub. Refer to **Wheel Bearing/Hub Replacement - Front (AWD)** or **Wheel Bearing/Hub Replacement - Front (RWD)**.
9. Install the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
10. Lower the vehicle.

LOWER CONTROL ARM REPLACEMENT

Tools Required

J 43631 Ball Joint Remover

Removal Procedure

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Remove the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
3. Remove the shock module yoke. Refer to **Shock Module Yoke Replacement**.

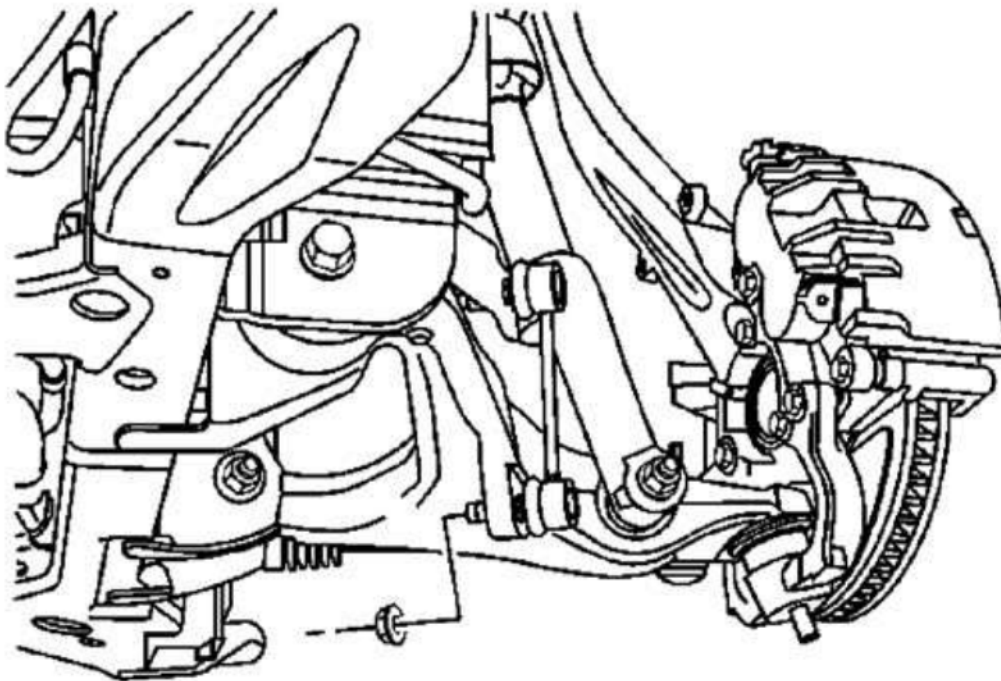


Fig. 28: View Of Stabilizer Shaft Link Lower Retaining Nut
Courtesy of GENERAL MOTORS CORP.

4. Remove the stabilizer shaft link lower retaining nut.
5. Remove the stabilizer shaft link from the lower control arm.
6. Remove the ABS wire harness from the lower control arm.

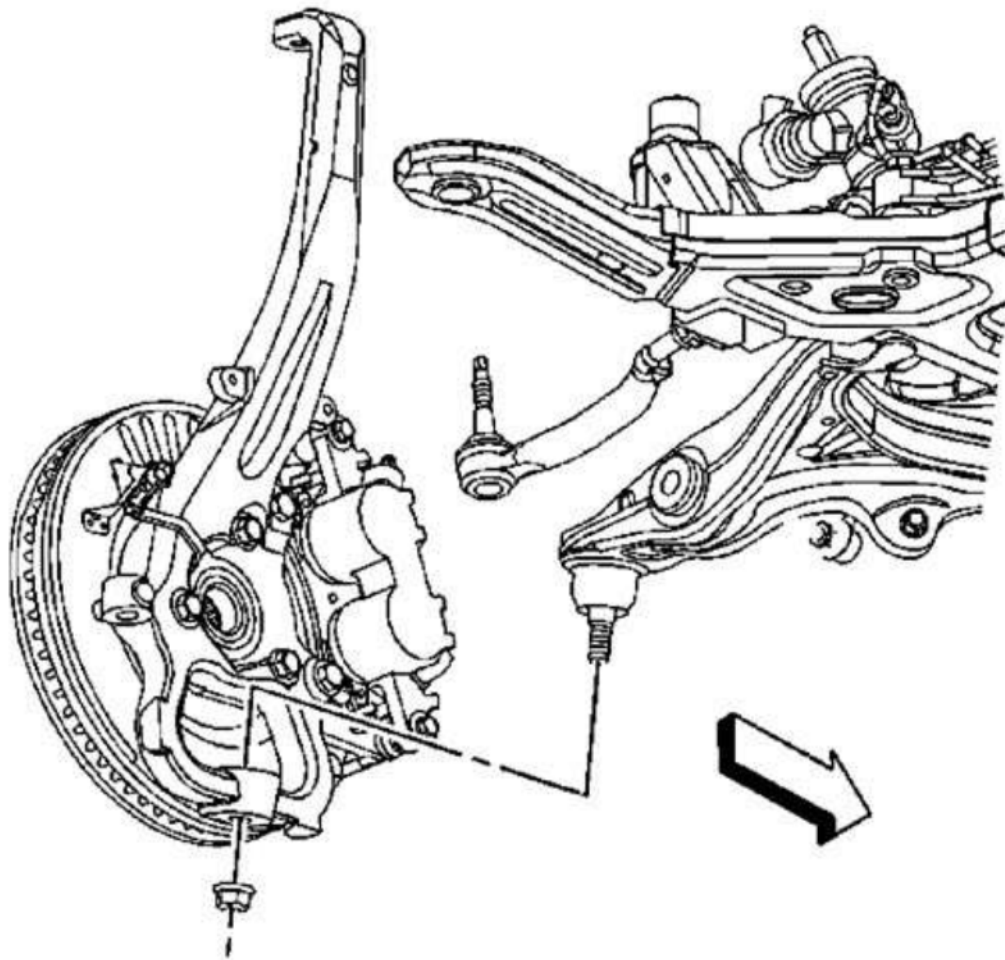


Fig. 29: View Of Lower Control Arm Ball Stud-To-Steering Knuckle Retaining Nut

Courtesy of GENERAL MOTORS CORP.

7. Remove the lower control arm to steering knuckle nut.

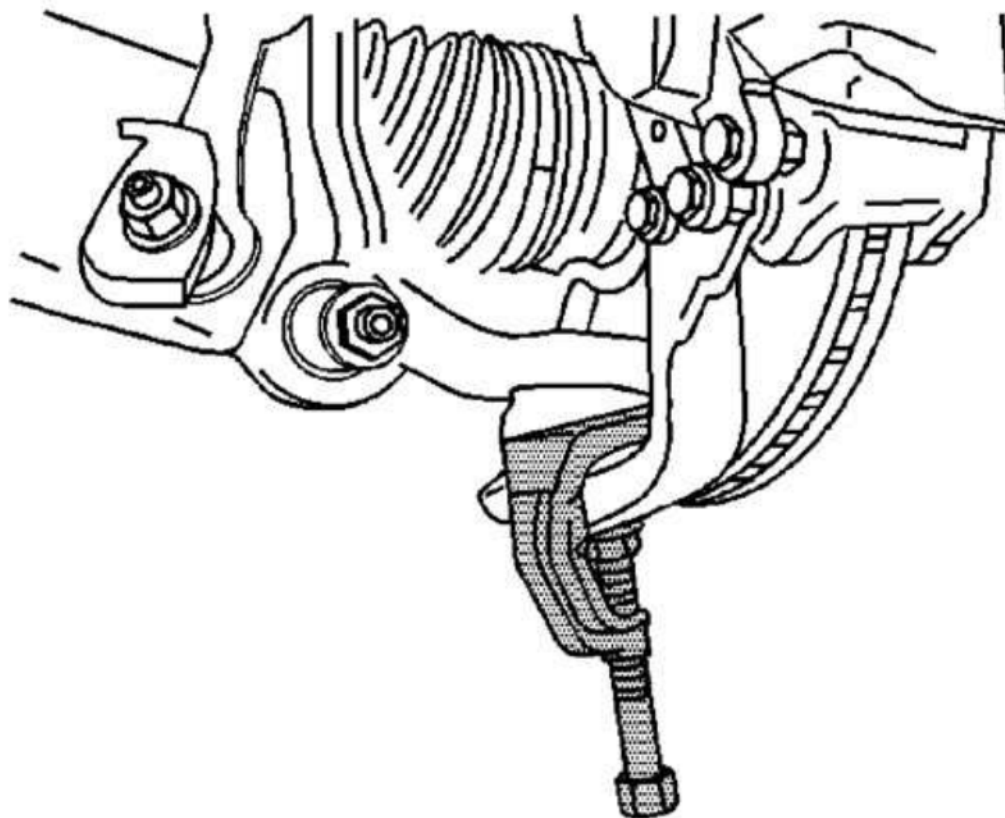


Fig. 30: Removing Steering Knuckle From Lower Control Arm
Courtesy of GENERAL MOTORS CORP.

8. Using the J 43631 , separate the lower control arm from the steering knuckle.

IMPORTANT: Will need to raise the power steering gear to have clearance when removing the rear lower control arm to frame retaining bolt.

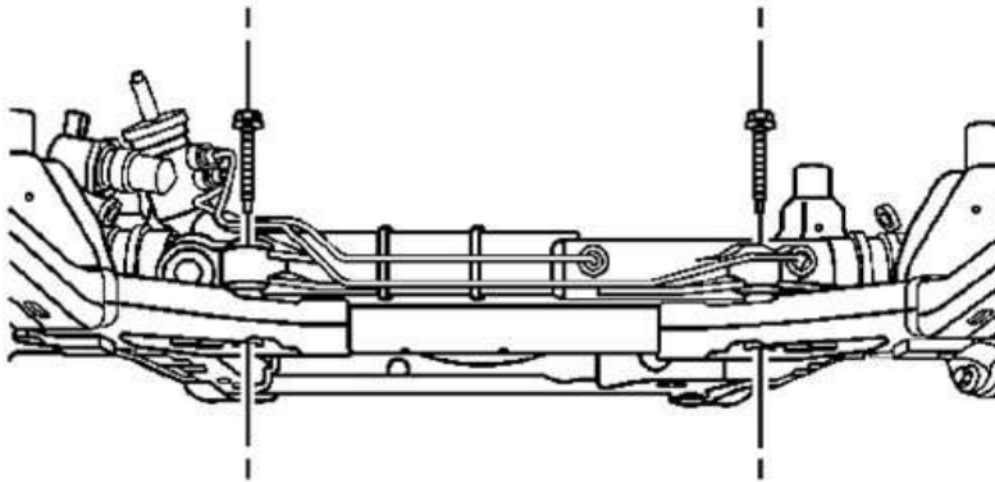


Fig. 31: View Of Power Steering Gear Retaining Bolts
Courtesy of GENERAL MOTORS CORP.

9. Loosen the power steering gear retaining bolts and raise the power steering gear.

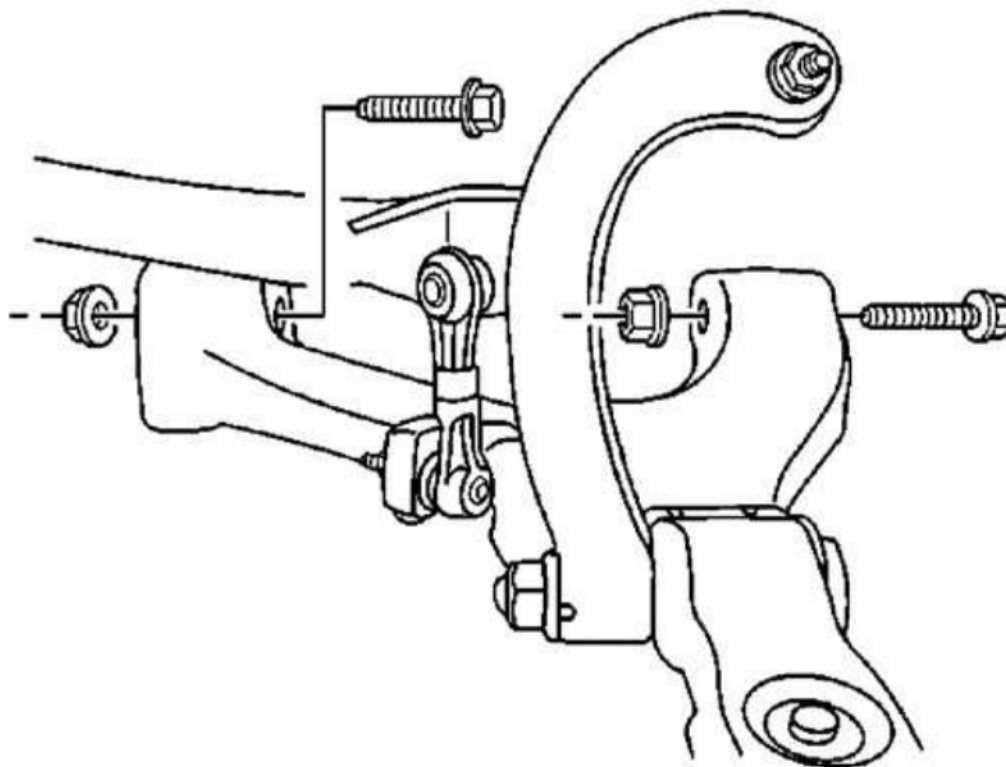


Fig. 32: Removing/Installing Lower Control Arm-To-Lower Control Arm Bracket Mounting Nuts

Courtesy of GENERAL MOTORS CORP.

10. Remove the lower control arm to cradle nuts.
11. Remove the lower control arm to cradle bolts.
12. Remove the lower control arm by lowering the lower control arm at the frame and moving the ball stud upwards.

Installation Procedure

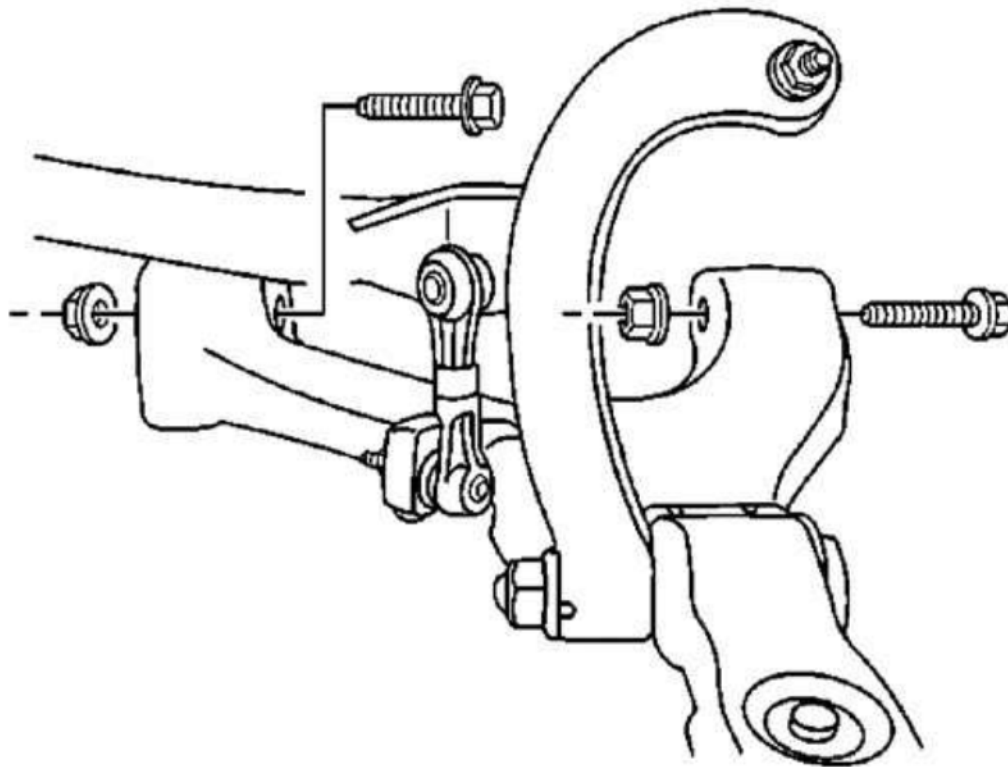


Fig. 33: Removing/Installing Lower Control Arm-To-Lower Control Arm Bracket Mounting Nuts

Courtesy of GENERAL MOTORS CORP.

1. Install the lower control arm by installing the lower control arm on the ball stud and moving the lower control arm up to the cradle.
2. Install the lower control arm to cradle bolts.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Install the lower control arm to cradle nuts.

Tighten: Tighten the nuts to 135 N.m (96 lb ft).

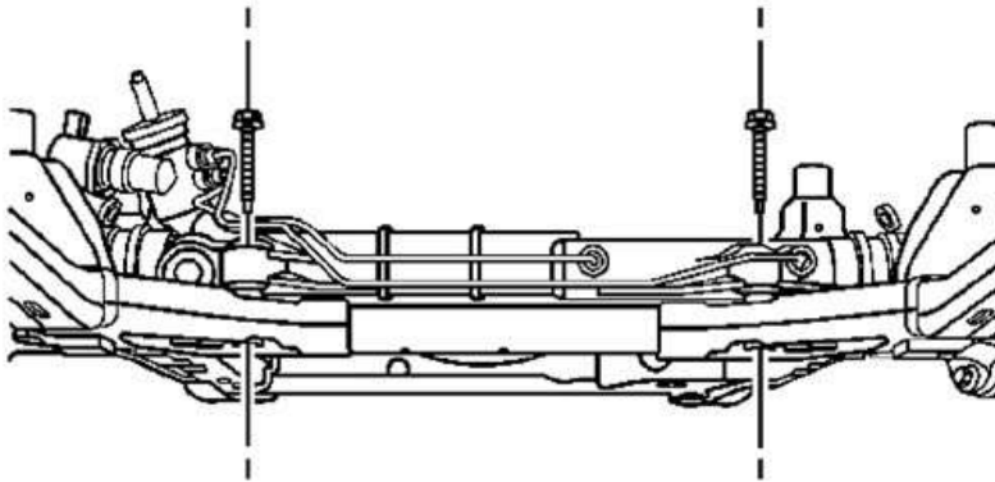


Fig. 34: View Of Power Steering Gear Retaining Bolts
Courtesy of GENERAL MOTORS CORP.

4. Tighten the power steering gear retaining bolts.

Tighten: Tighten the bolts to 120 N.m (89 lb ft).

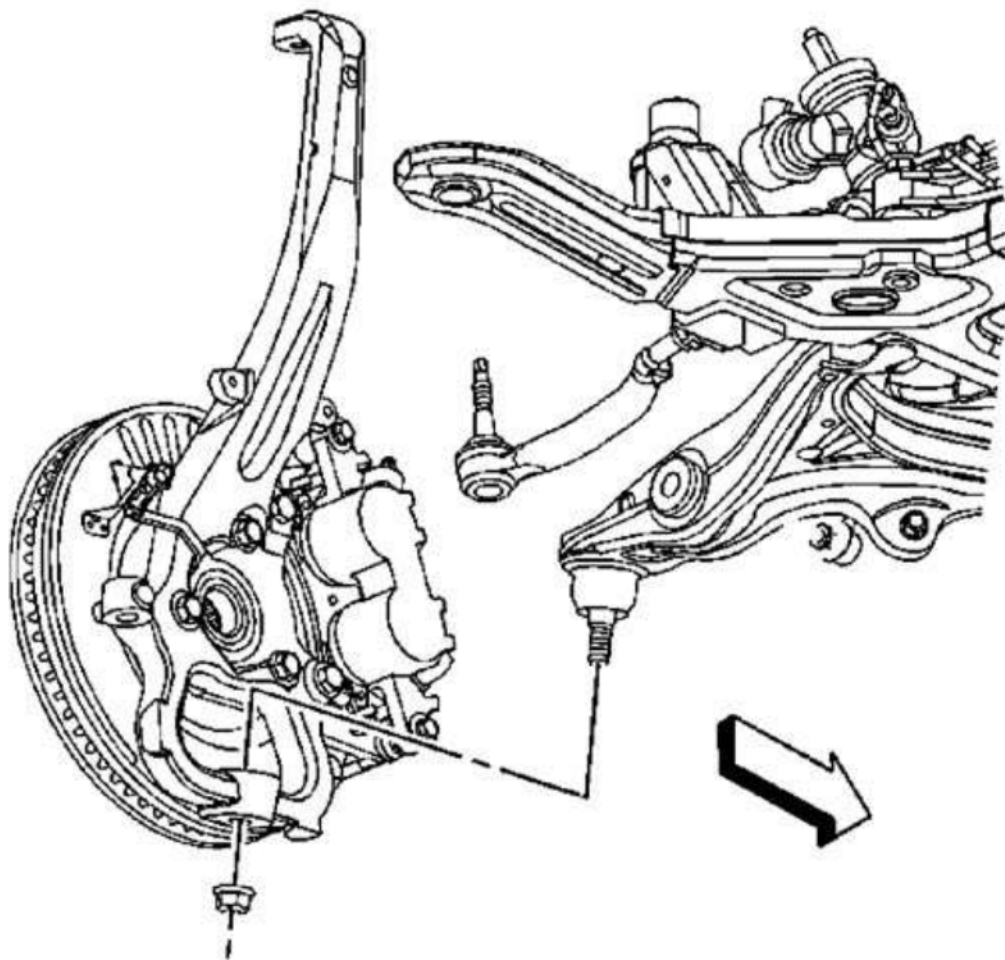


Fig. 35: View Of Lower Control Arm Ball Stud-To-Steering Knuckle Retaining Nut

Courtesy of GENERAL MOTORS CORP.

5. Install the lower control arm to steering knuckle nut.

Tighten:

1. Tighten the nut to 20 N.m (15 lb ft).
 2. Tighten the nut to an additional 210 degrees.
6. Install the ABS wire harness to the lower control arm.

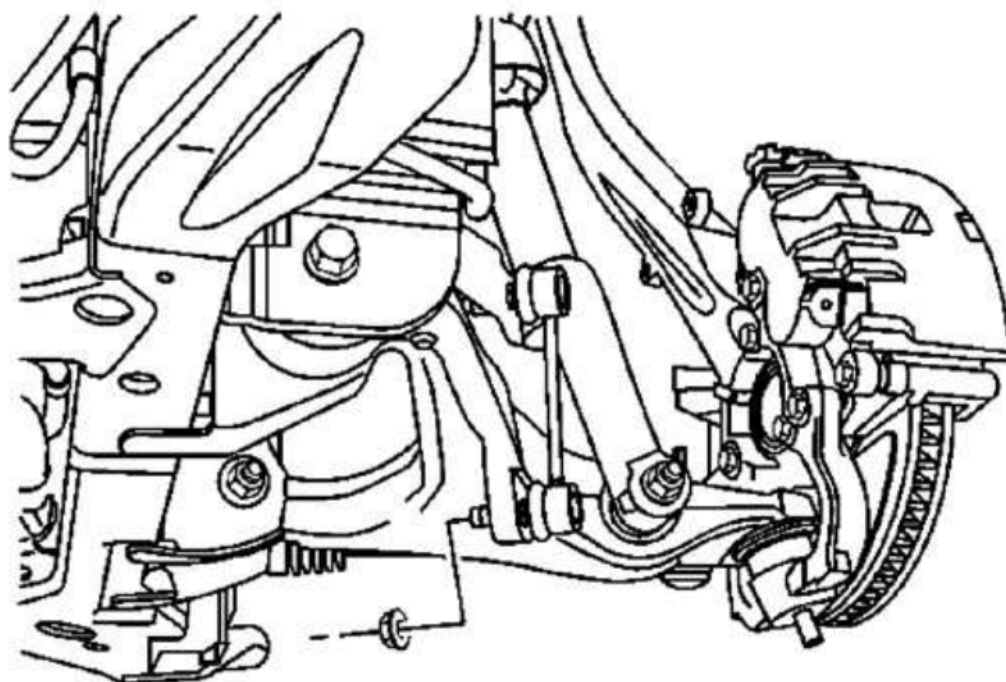


Fig. 36: View Of Stabilizer Shaft Link Lower Retaining Nut
Courtesy of GENERAL MOTORS CORP.

7. Install the stabilizer shaft link to the lower control arm.
8. Install the stabilizer shaft link lower retaining nut.

Tighten: Tighten the nut to 110 N.m (81 lb ft).

9. Install the shock module yoke. Refer to **Shock Module Yoke Replacement**.
10. Install the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
11. Lower the vehicle.
12. Align the front end. Refer to **Measuring Wheel Alignment** in Wheel Alignment.

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 in General Information.
2. Remove the tire and wheel. Refer to Tire and Wheel Removal and Installation in Tires and Wheels.

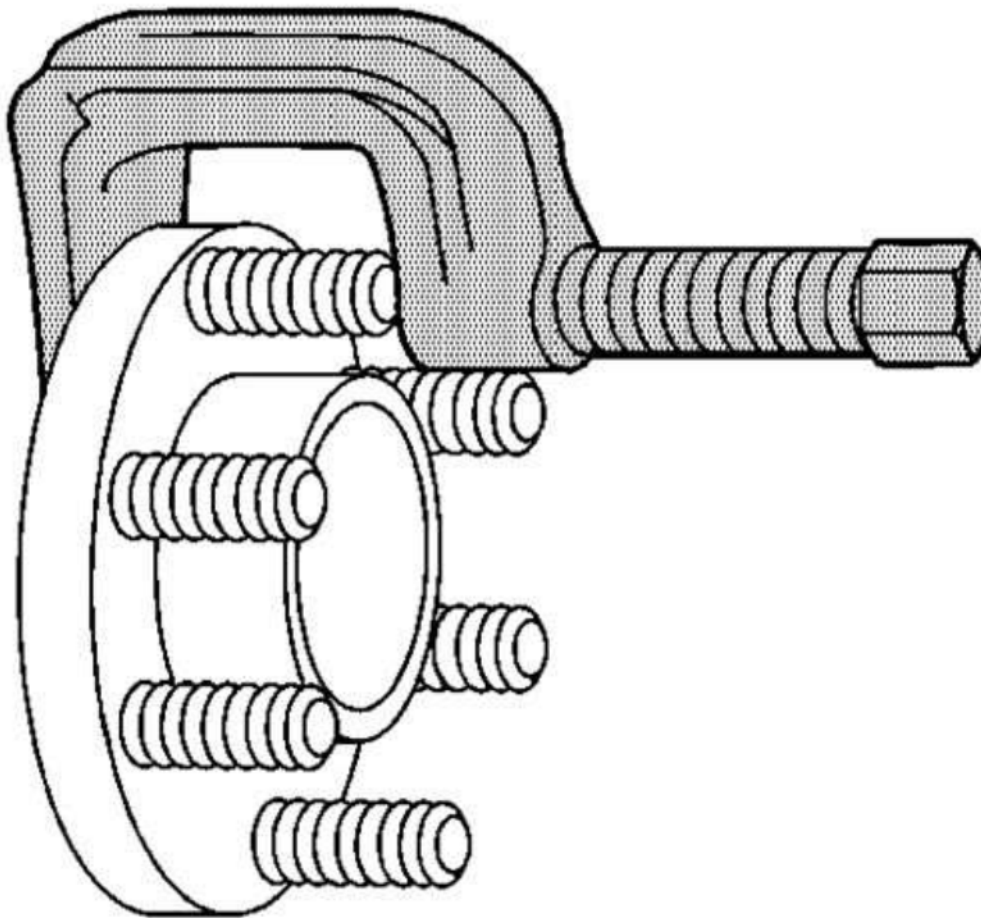


Fig. 37: Removing Wheel Stud At Inner Most Notch
Courtesy of GENERAL MOTORS CORP.

3. Remove the brake rotor. Refer to Brake Rotor Replacement - Front in Disc Brakes.
4. Using **J 43631** remove the wheel stud at the inner most notch.

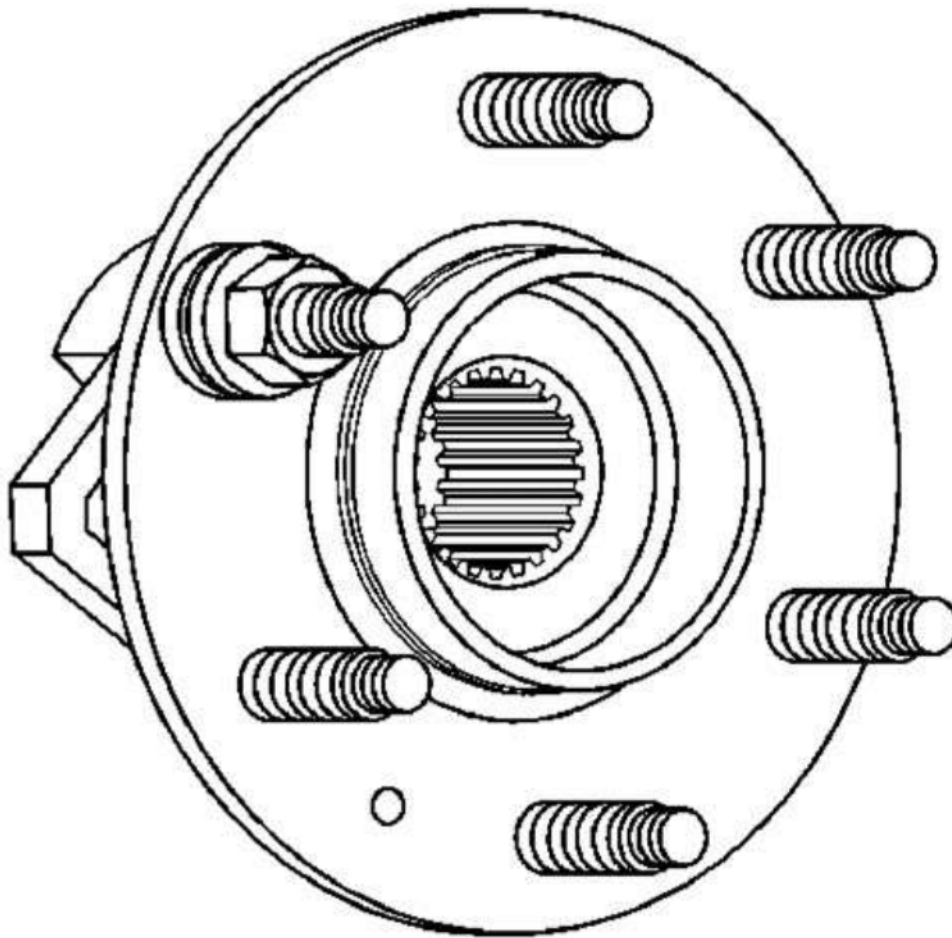


Fig. 38: Installing Wheel Studs
Courtesy of GENERAL MOTORS CORP.

1. Install the new stud from the back side of the hub.
2. Install flat washers on the wheel stud.

IMPORTANT: Ensure that the wheel stud is fully seated against the wheel hub flange.

3. With the flat side of a wheel nut against the washers, tighten the wheel nut until the wheel stud head seats against the wheel hub flange.
4. Install the brake rotor. Refer to **Brake Rotor Replacement - Front** in Disc Brakes.
5. Install the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in Tires

and Wheels.

6. Lower the vehicle.

SHOCK MODULE REPLACEMENT

Removal Procedure

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Remove the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
3. Remove the shock yoke. Refer to **Shock Module Yoke Replacement**.
4. Vehicles equipped with electronic suspension control (ESC), or automatic headlamp aiming, disconnect the suspension position sensor link rod from the upper control arm.

NOTE: The ball stud must not rotate during disassembly/reassembly. Hand tools must be used to keep the ball stud from rotating. If air tools are used, and the stud is allowed to rotate, damage to the ball stud may occur.

IMPORTANT: Hold the upper control arm to the steering knuckle when removing the retaining nut.

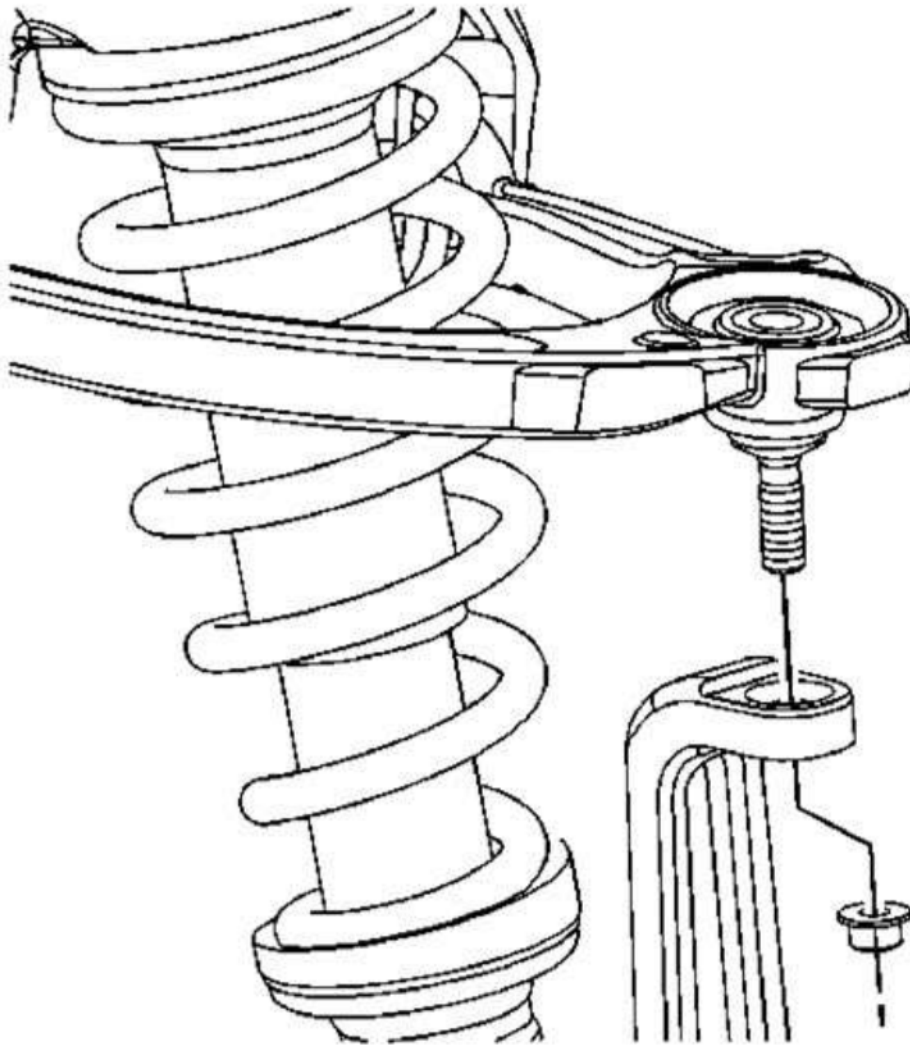


Fig. 39: View Of Upper Control Arm Ball Stud-To-Steering Knuckle Retaining Nut

Courtesy of GENERAL MOTORS CORP.

IMPORTANT: To prevent the ball stud from slipping, insert a hex-head tool while removing the upper control arm-to-steering knuckle nut.

5. Remove the upper control arm to steering knuckle nut.
6. Separate the upper control arm from the steering knuckle.
7. Lower the vehicle.

8. Vehicles equipped with ESC, disconnect the damper coil harness connector.

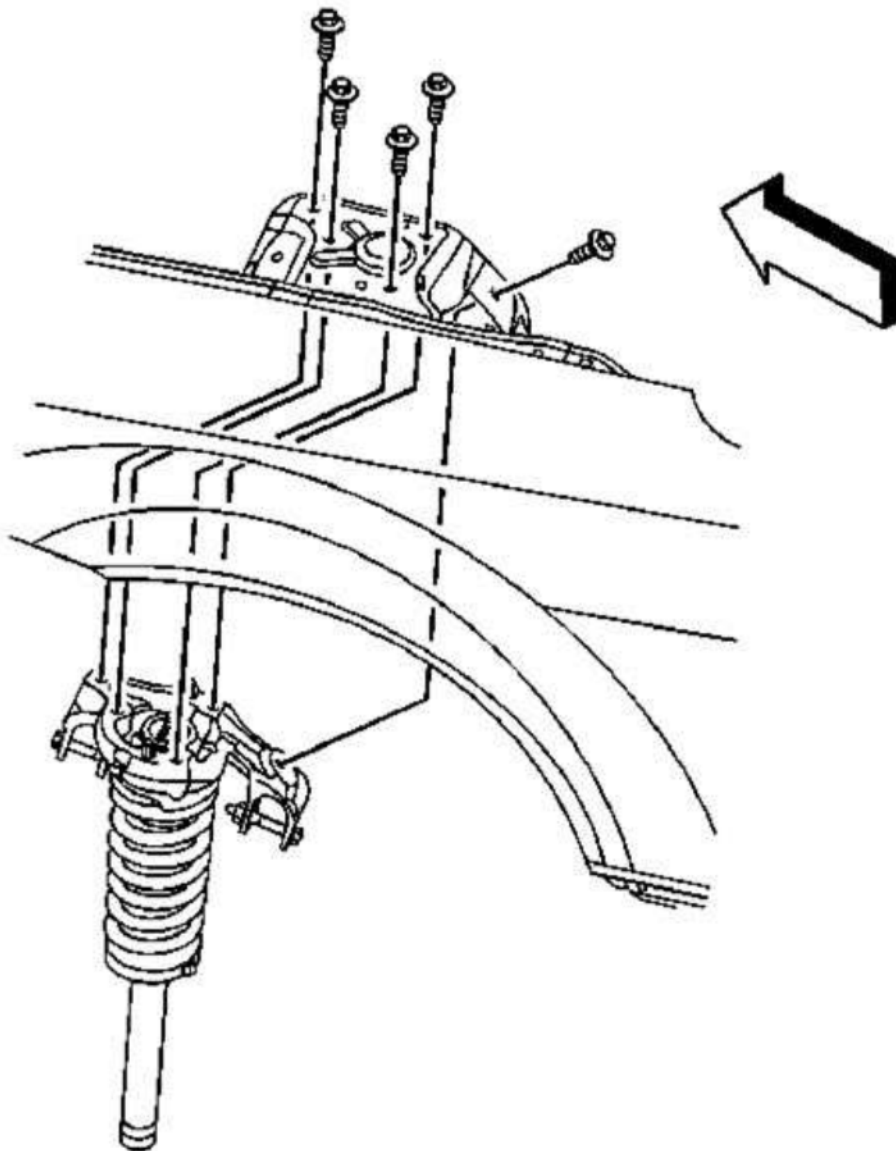


Fig. 40: View Of Shock Module
Courtesy of GENERAL MOTORS CORP.

9. Remove the shock module upper mounting bolts.
10. Remove the shock module from the vehicle.

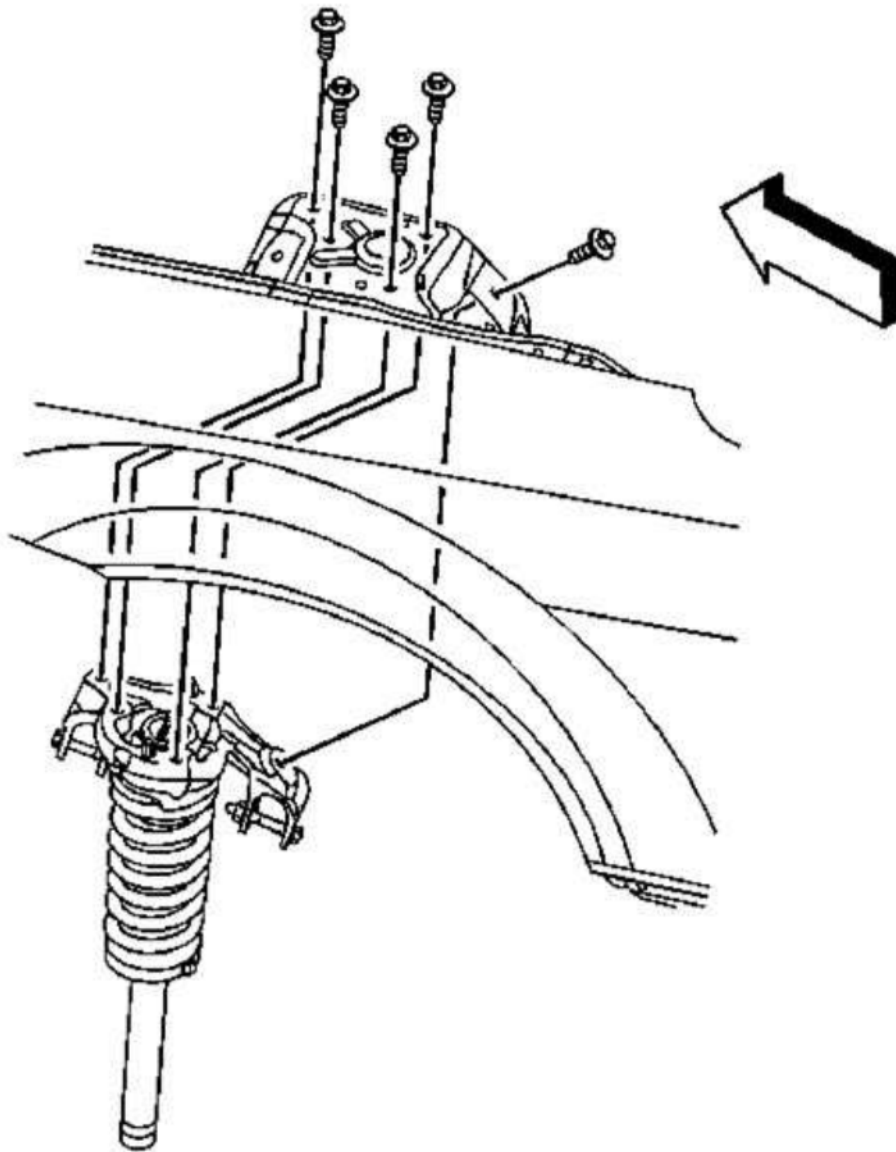


Fig. 41: View Of Shock Module
Courtesy of GENERAL MOTORS CORP.

1. Install the shock module to the vehicle.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the shock module upper mounting bolts.

Tighten: Tighten the bolts to 112 N.m (83 lb ft).

3. Vehicles equipped with ESC, connect the damper coil harness connector.
4. Raise the vehicle.

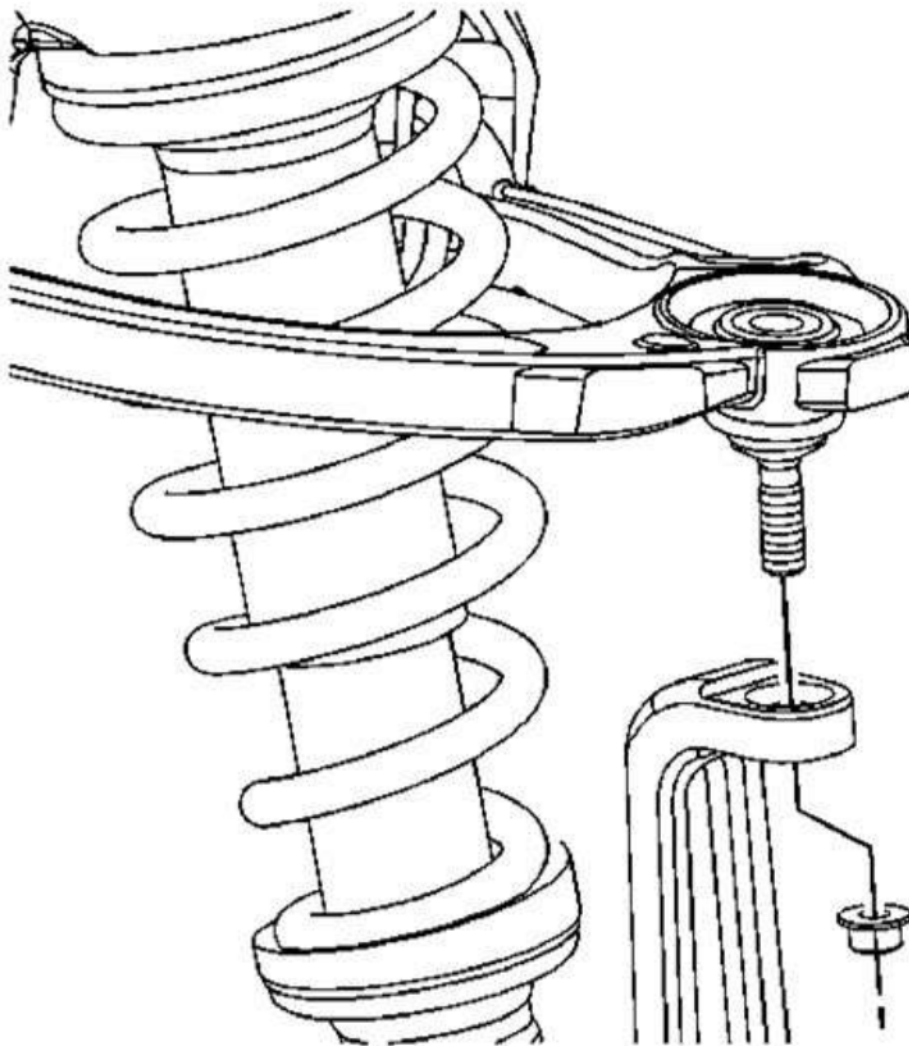


Fig. 42: View Of Upper Control Arm Ball Stud-To-Steering Knuckle Retaining Nut

Courtesy of GENERAL MOTORS CORP.

5. Install the upper control arm to the steering knuckle.
6. Install the upper control arm to steering knuckle retaining nut.

Tighten:

- Tighten the nut to 20 N.m (18 lb ft).
 - Tighten the nut an additional 210 degrees.
7. Vehicles equipped with ESC, or automatic headlamp aiming, connect the suspension position sensor link rod to the upper control arm.
 8. Install the shock yoke. Refer to **Shock Module Yoke Replacement**.
 9. Install the shock to the yoke.
 10. Install the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
 11. Lower the vehicle.

SHOCK, SHOCK COMPONENT, AND/OR SPRING REPLACEMENT**Removal Procedure**

NOTE: Use care when handling the coil springs in order to avoid chipping or scratching the coating. Damage to the coating will result in premature failure of the coil springs.

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Remove the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
3. Remove the shock module from the vehicle. Refer to **Shock Module Replacement**.

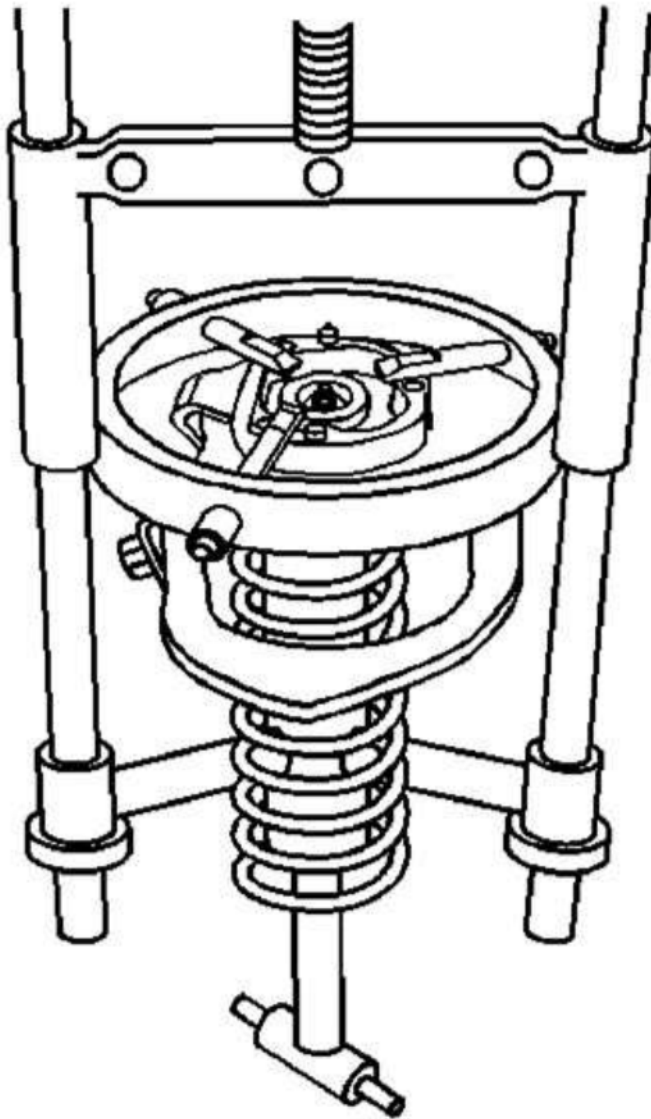


Fig. 43: View Of Spring Compressor
Courtesy of GENERAL MOTORS CORP.

4. Install the shock module into the spring compressor.
5. Mark the upper control arm assembly and insulator for proper installation.

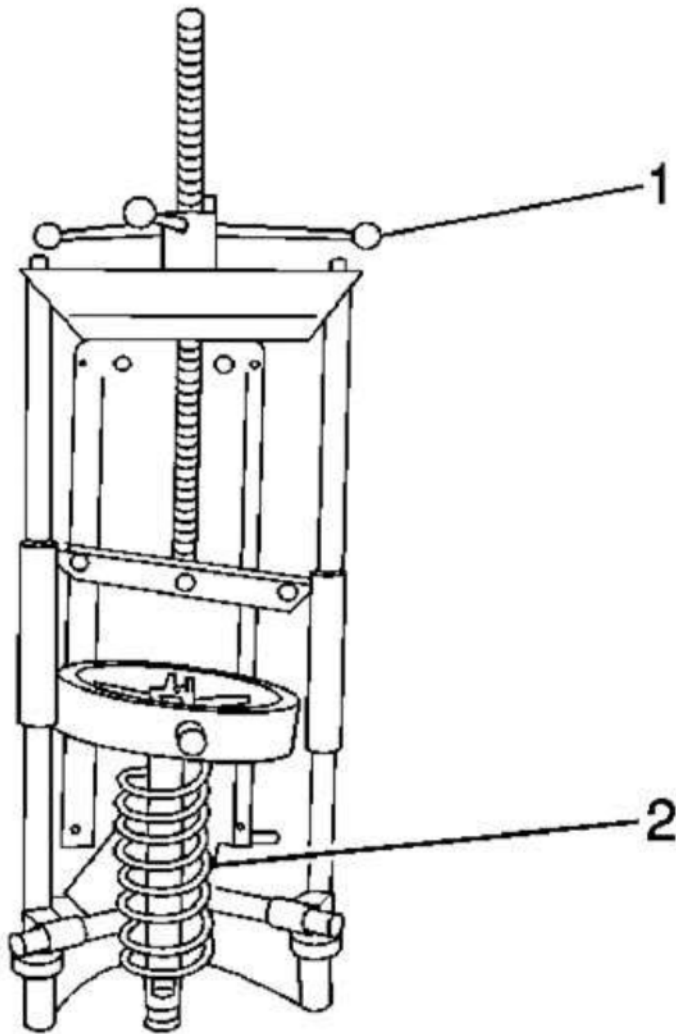


Fig. 44: View Of Compressor Forcing Screw & Coil Spring
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: The spring is compressed when the shock absorber moves freely.

6. Turn the spring compressor forcing screw (1) until the coil spring (2) is compressed.
7. Remove the magna-ride sensor nut.

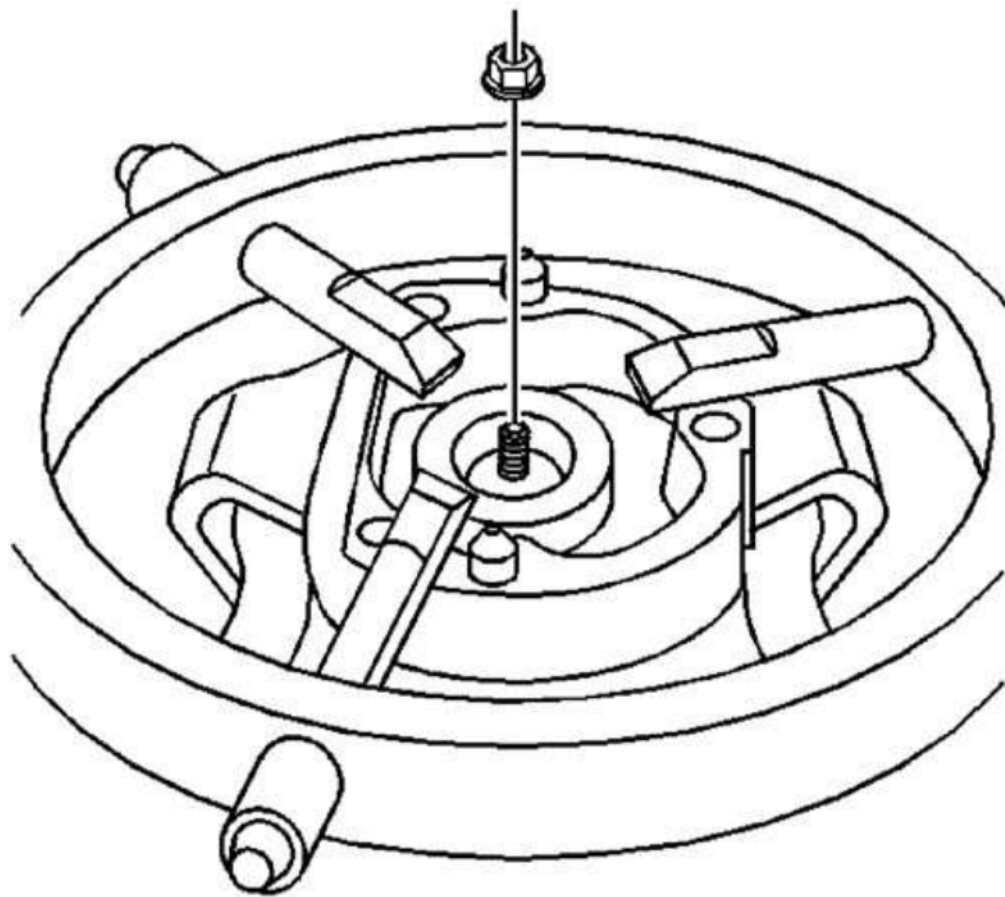


Fig. 45: View Of Shock Absorber Upper Retaining Nut
Courtesy of GENERAL MOTORS CORP.

8. Remove the shock absorber upper retaining nut.
9. Remove the shock absorber from the shock module.
10. Loosen the compressor forcing screw until the upper mounting plate and coil spring may be removed.
11. Remove the upper control arm bracket assembly, insulator and coil spring from the spring compressor.

Installation Procedure

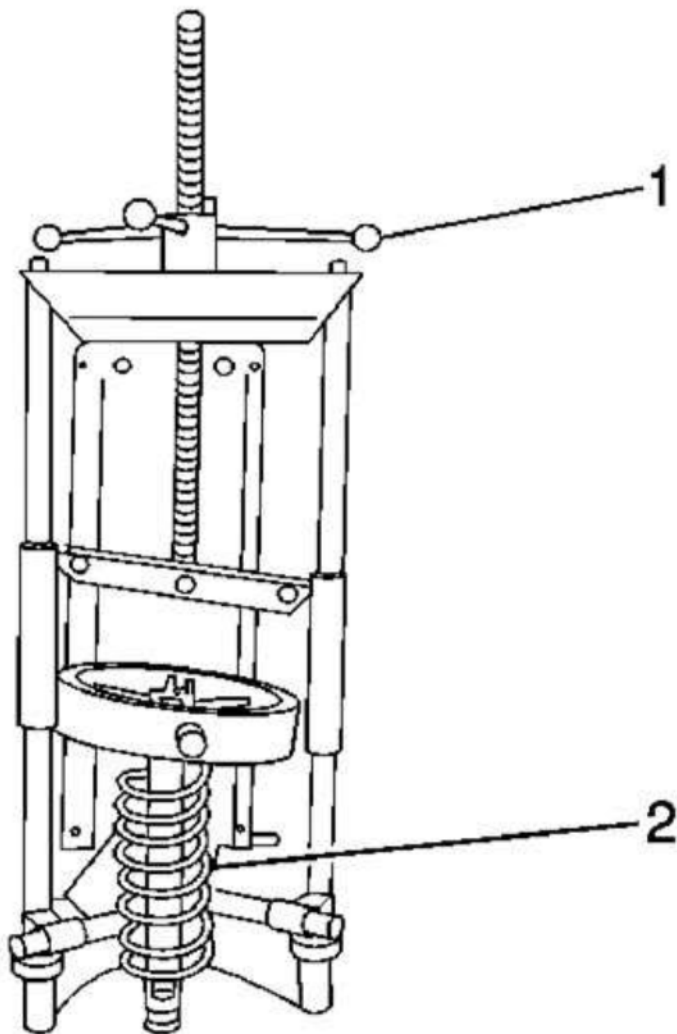


Fig. 46: View Of Compressor Forcing Screw & Coil Spring
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: Ensure the alignment pins in the upper control arm bracket is orientated 90 degrees with the shock absorber lower mounting holes.

1. Install the coil spring, insulator, upper control arm bracket assembly, and shock absorber to the spring compressor aligning all marks.
2. Turn the spring compressor forcing screw (1) until the coil spring is compressed.

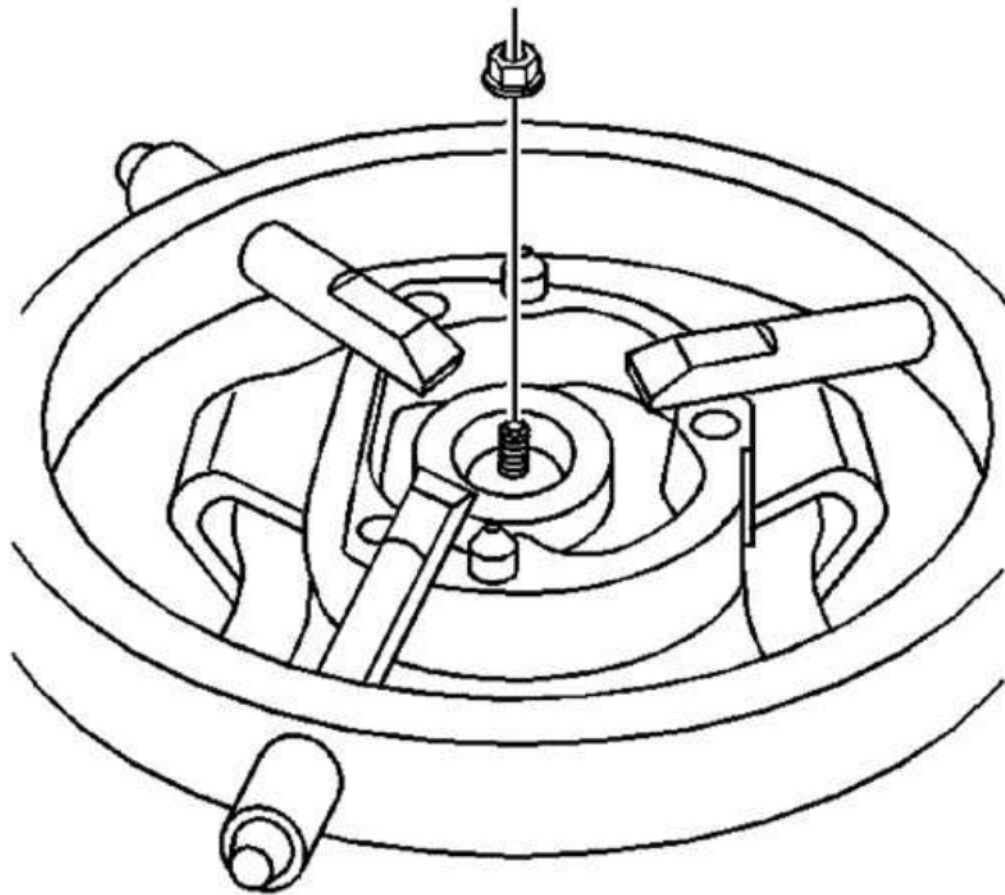


Fig. 47: View Of Shock Absorber Upper Retaining Nut
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Install the shock absorber retaining nut.

Tighten: Tighten the nut to 25 N.m (18 lb ft).

4. Install the magnaride sensor nut.

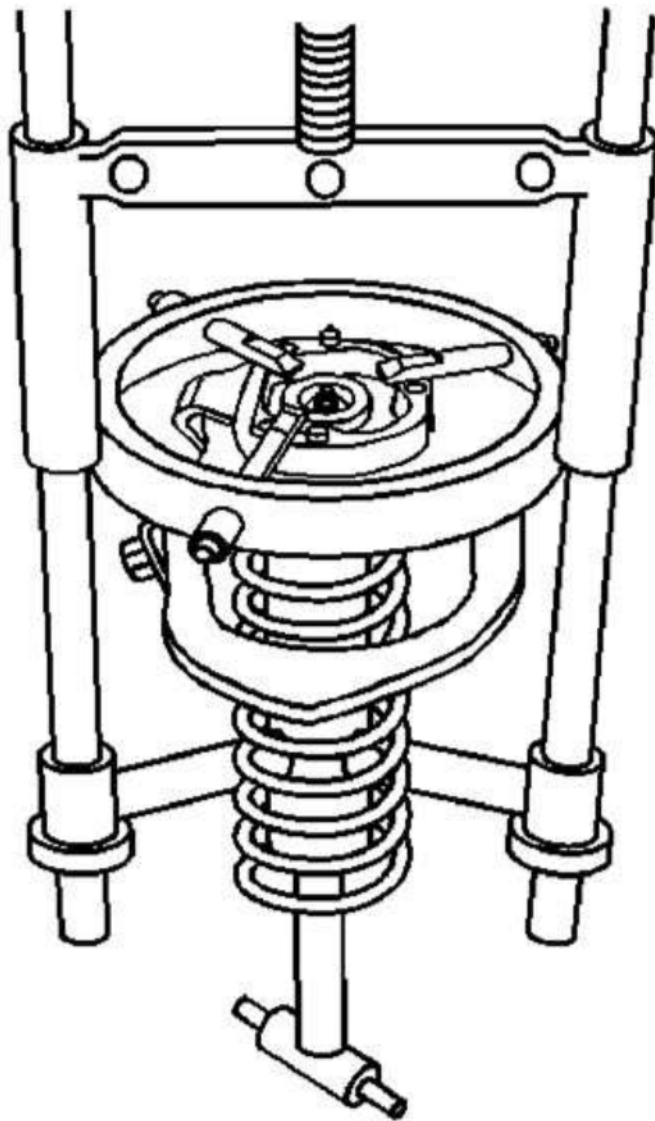


Fig. 48: View Of Spring Compressor
Courtesy of GENERAL MOTORS CORP.

5. Remove the shock module from the spring compressor.
6. Install the shock module to the vehicle. Refer to **Shock Module Replacement**.
7. Install the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
8. Lower the vehicle.

SHOCK MODULE YOKE REPLACEMENT

Tools Required

J 24319-B Steering Linkage and Tie Rod Puller

Removal Procedure

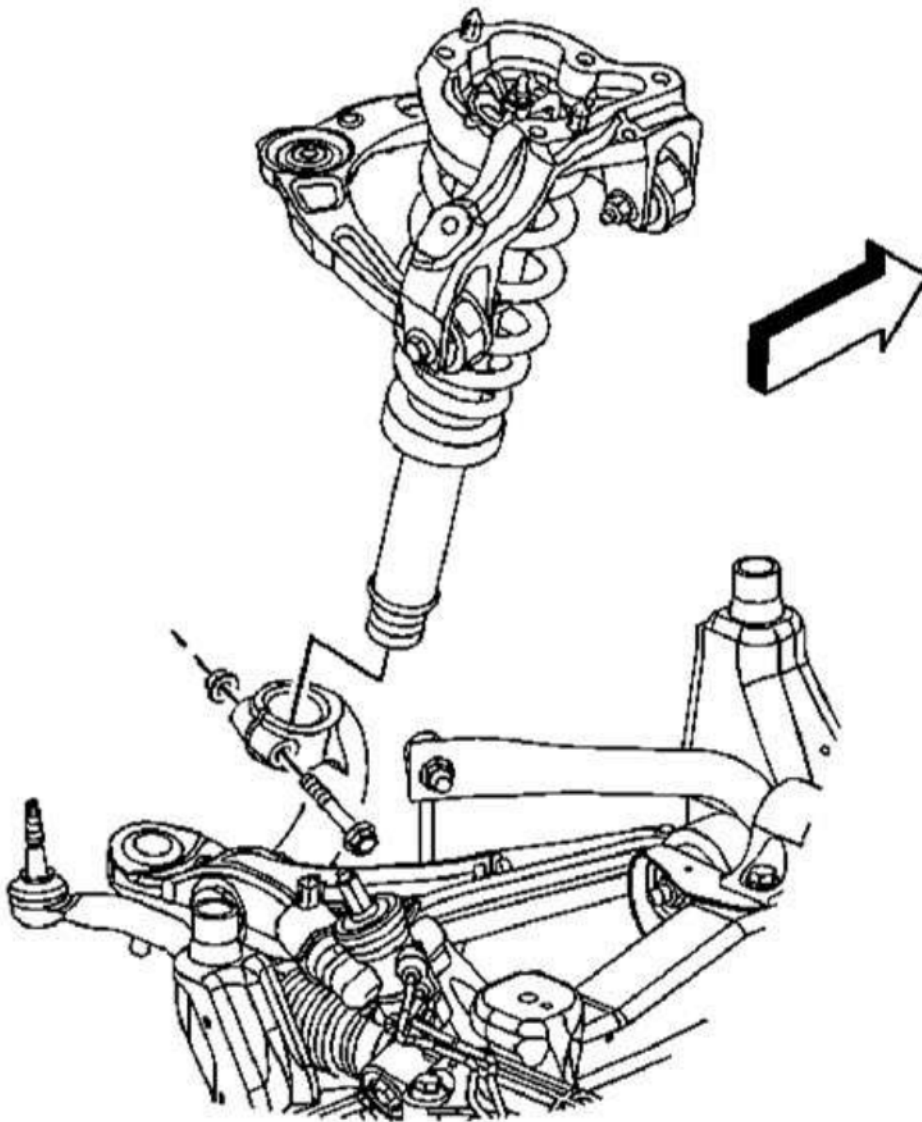


Fig. 49: View Of Shock-To-Yoke Retaining Bolt
Courtesy of GENERAL MOTORS CORP.

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle in General Information.
2. Remove the tire and wheel. Refer to Tire and Wheel Removal and Installation in Tires and Wheels.
3. Remove the shock to yoke retaining nut.
4. Remove the shock to yoke retaining bolt by pulling up slightly on the lower control arm to remove the pressure on the bolt.

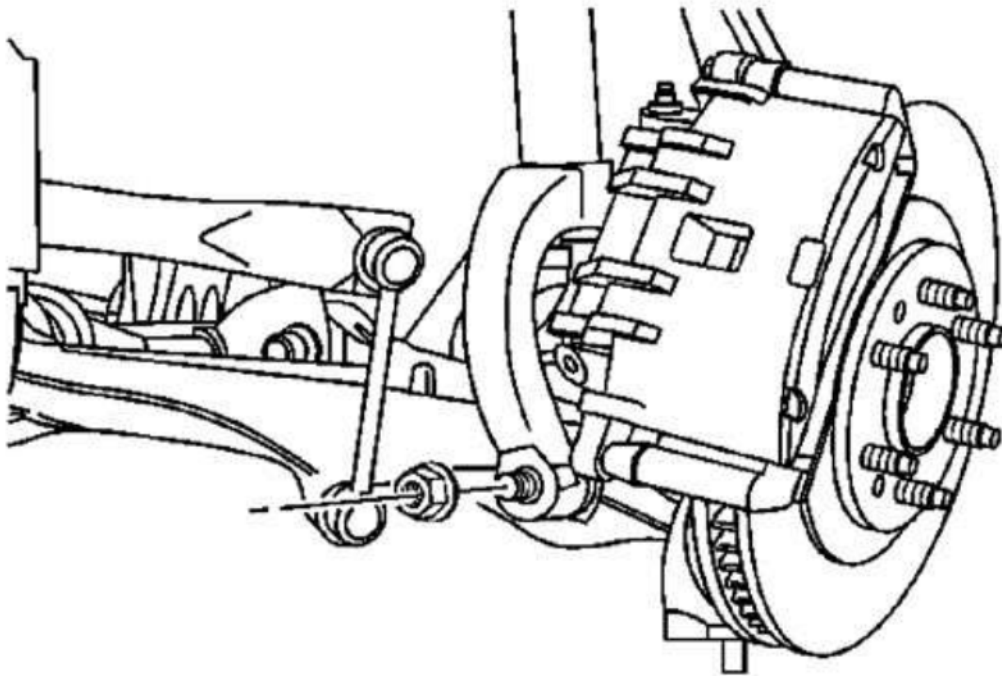


Fig. 50: View Of Yoke-To-Lower Control Arm Retaining Nut
Courtesy of GENERAL MOTORS CORP.

5. Remove the yoke to lower control arm retaining nut.

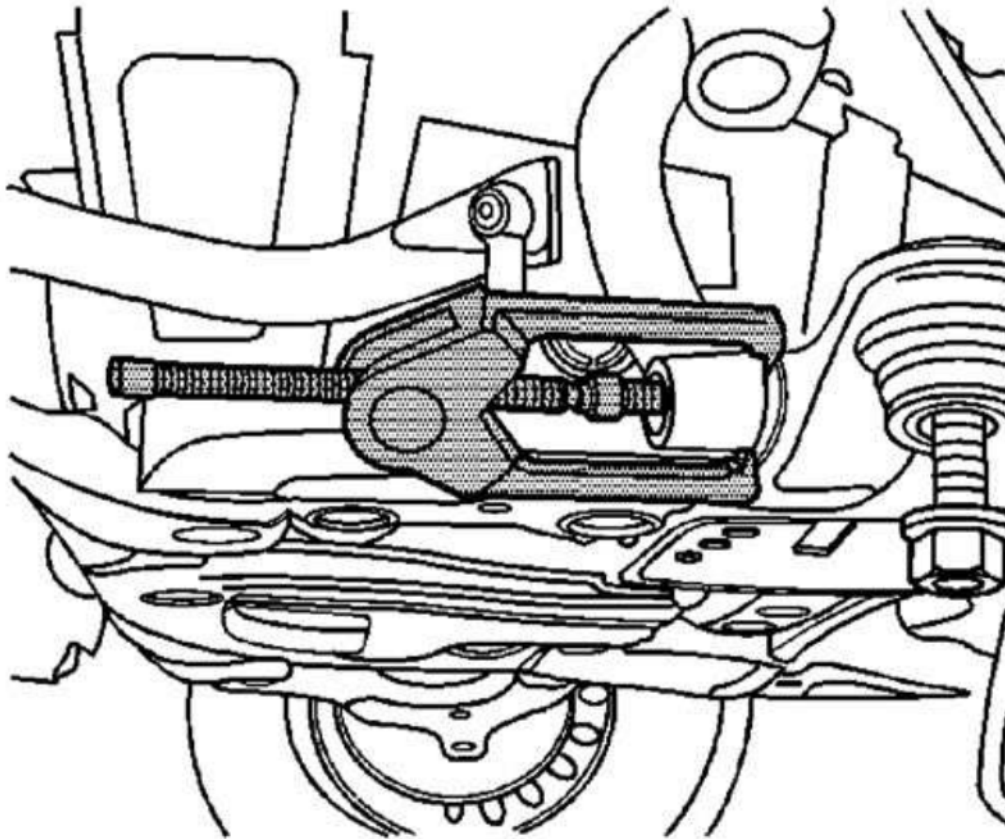


Fig. 51: Disconnecting Shock Module Yoke From Lower Control Arm
Courtesy of GENERAL MOTORS CORP.

6. Using the **J 24319-B** , separate the yoke from the lower control arm.

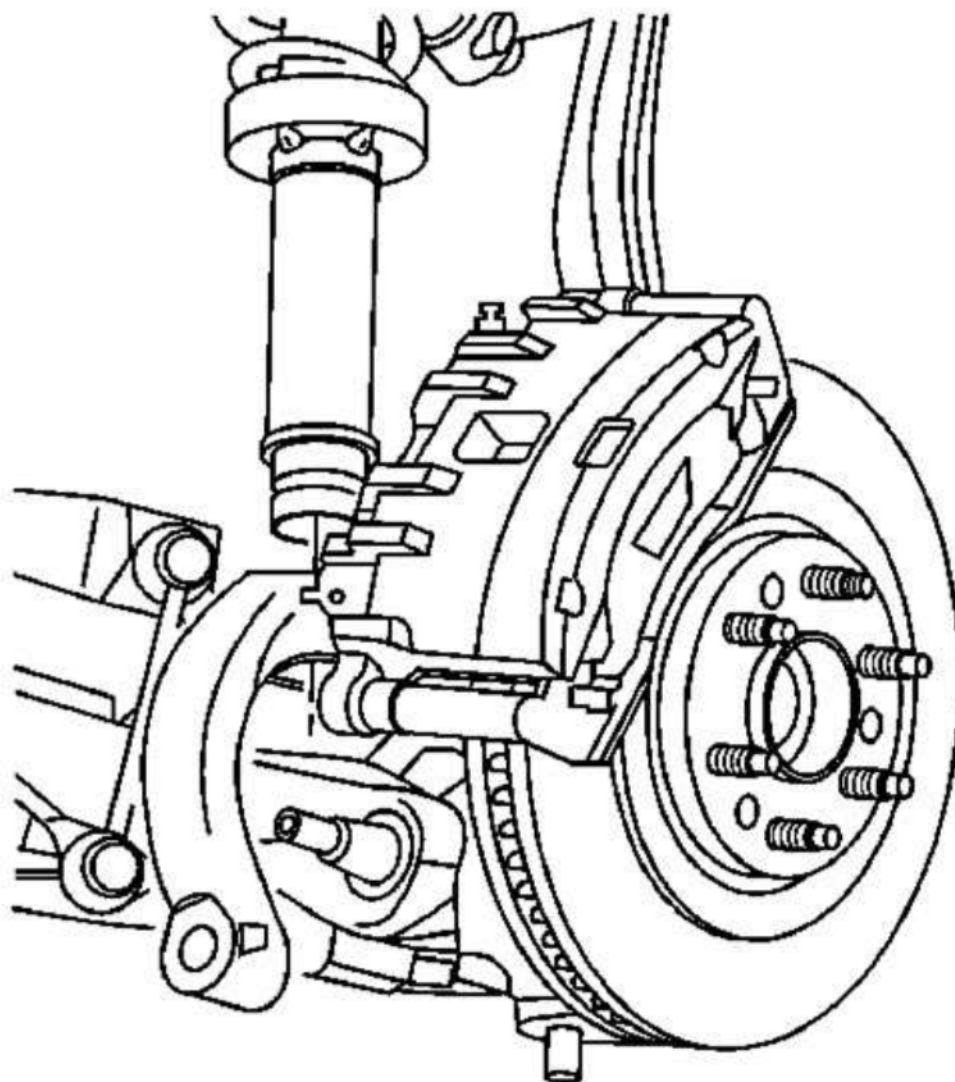


Fig. 52: View Of Yoke
Courtesy of GENERAL MOTORS CORP.

7. Remove the yoke from the vehicle.

Installation Procedure

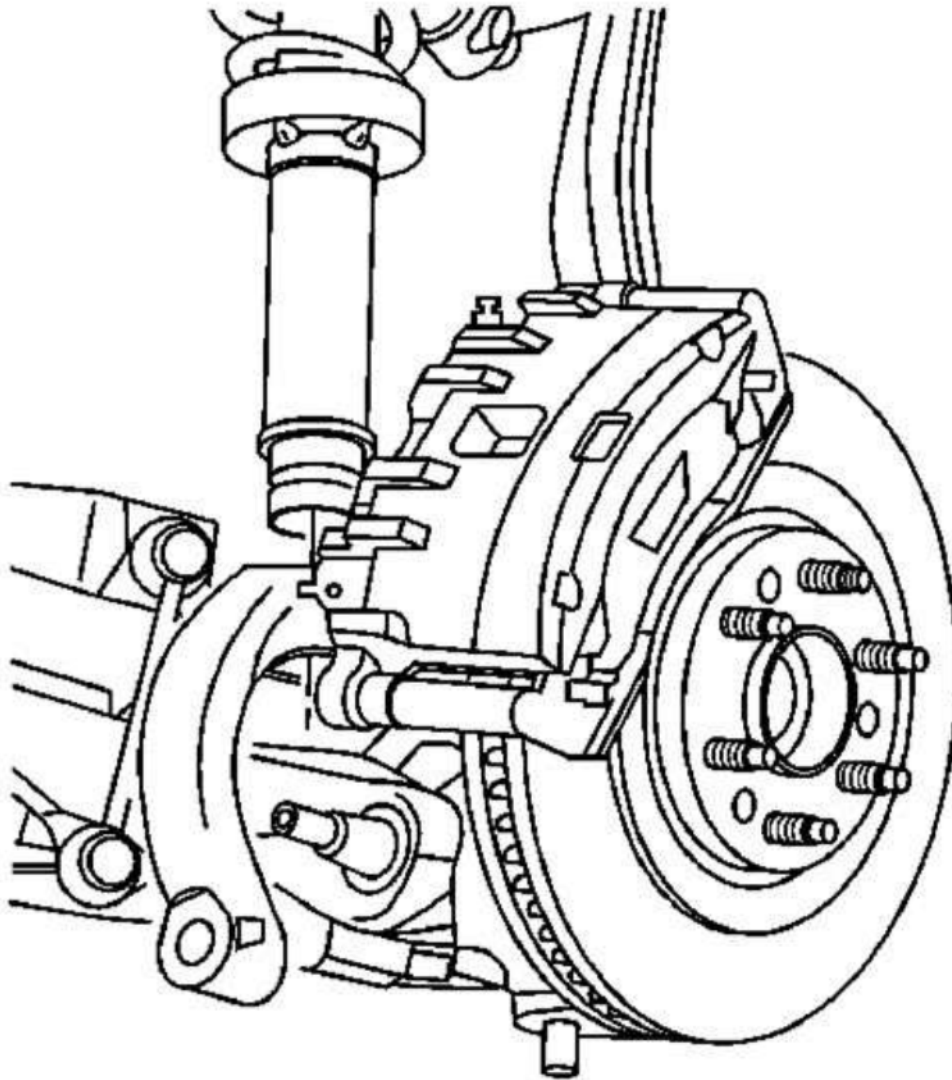


Fig. 53: View Of Yoke

Courtesy of GENERAL MOTORS CORP.

1. Install the yoke to the vehicle.

IMPORTANT: Do not tighten the nut at this time.

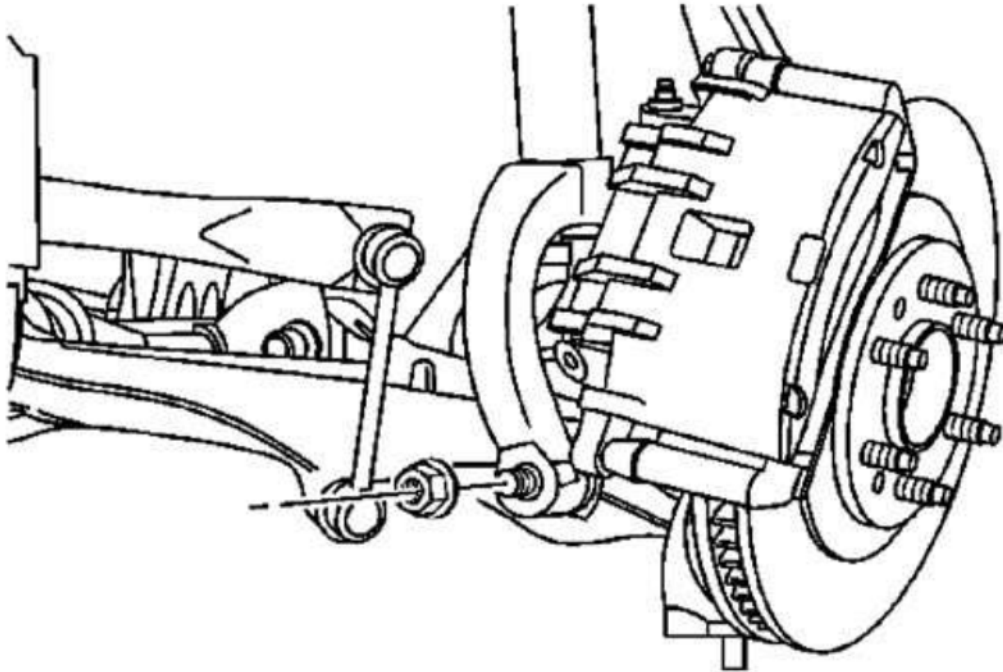


Fig. 54: View Of Yoke-To-Lower Control Arm Retaining Nut
Courtesy of GENERAL MOTORS CORP.

2. Install the yoke to lower control arm retaining nut.

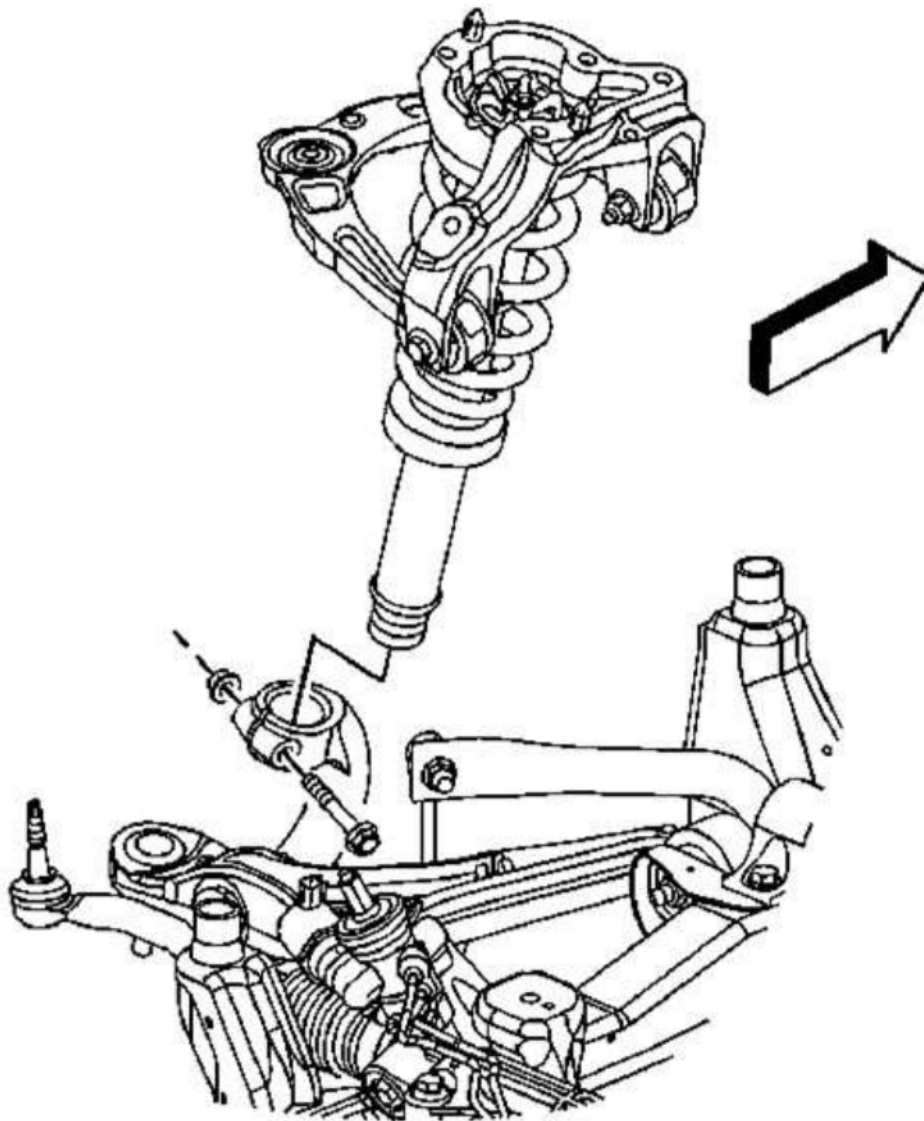


Fig. 55: View Of Shock-To-Yoke Retaining Bolt
Courtesy of GENERAL MOTORS CORP.

3. Install the yoke to the shock.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Install the yoke to shock retaining bolt and nut.

Tighten:

2004 Cadillac SRX

2004 SUSPENSION Front Suspension - SRX

- Tighten the shock to yoke nut to 110 N.m (81 lb ft).
 - Tighten the yoke to lower control arm nut to 180 N.m (133 lb ft).
5. Install the tire and wheel. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
 6. Lower the vehicle.

SHOCK ABSORBER DISPOSAL

CAUTION: Gas charged shock absorbers contain high pressure gas. Do not attempt to cut the shock open before all gas pressure is released. Failure to do so 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.

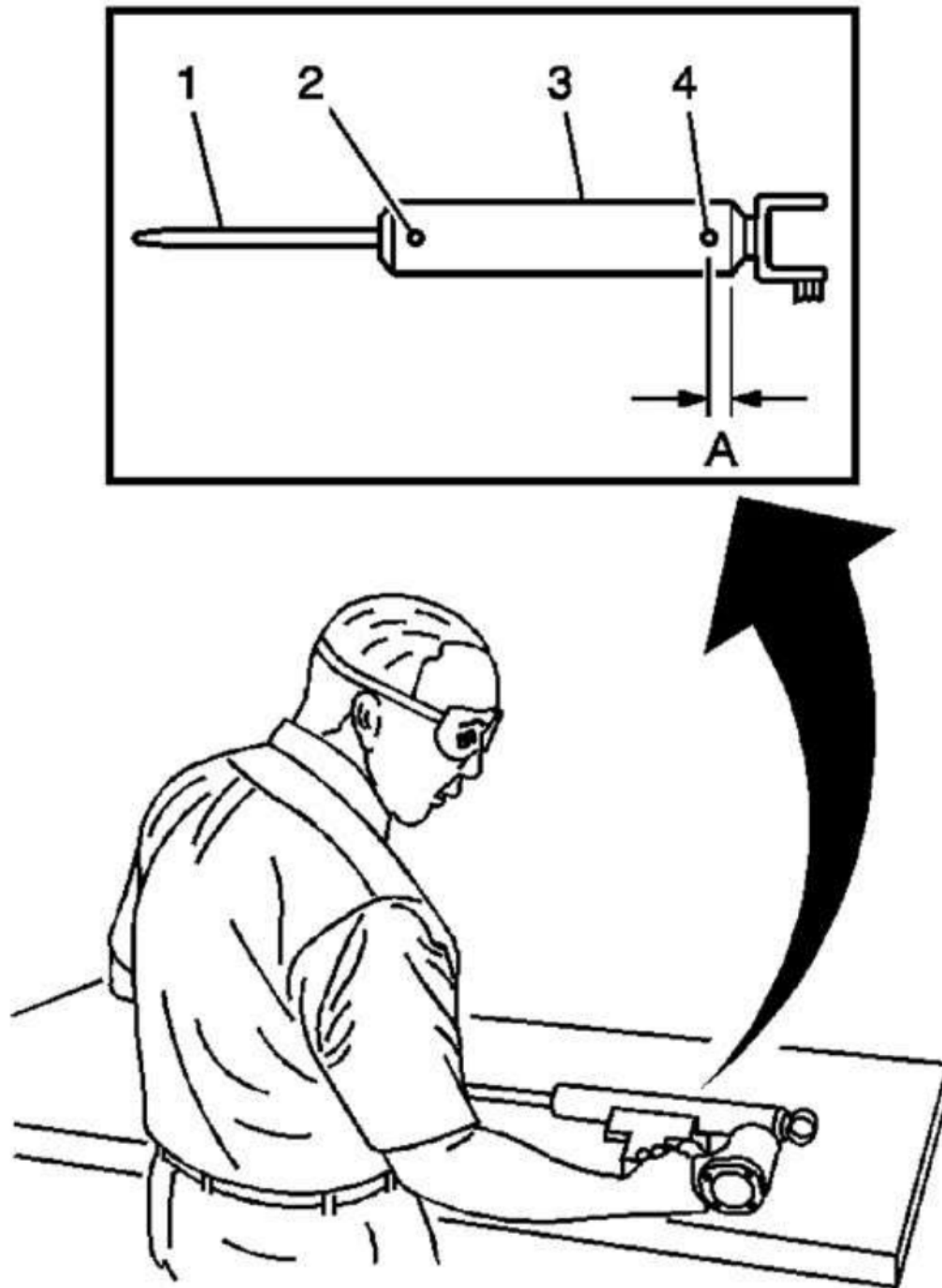


Fig. 56: Disposing Of Shock Absorber
Courtesy of GENERAL MOTORS CORP.

1. Make an indentation 50 mm (2 in) from the top (2) of the tube using a centerpunch.

2. Make an indentation 25 mm (1.0 in) from the bottom (4) of the tube (3) using a centerpunch.
3. Clamp the shock absorber in a vise horizontally with the shock absorber rod (1) completely extended.
4. 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.
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.

DESCRIPTION AND OPERATION

GENERAL DESCRIPTION

The front suspension has 2 primary purposes:

- Isolate the driver from irregularities in the road surface.
- Define the ride and handling characteristics of the vehicle.

The front suspension absorbs the impact of the tires travelling over irregular road surfaces and dissipates this energy throughout the suspension system. This process isolates the vehicle occupants from the road surface. The rate at which the suspension dissipates the energy and the amount of energy that is absorbed is how the suspension defines the vehicle's ride characteristics. Ride characteristics are designed into the suspension system and are not adjustable. The ride characteristics are mentioned in this description in order to aid in the understanding of the functions of the suspension system. The suspension system must allow for the vertical movement of the tire and wheel assembly as the vehicle travels over irregular road surfaces while maintaining the tire's horizontal relationship to the road.

This requires that the steering knuckle be suspended between an upper and a lower control arm. The lower control arm attaches from the steering knuckle at the outermost point of the control arm. The attachment is through a ball and socket type joint. The innermost end of the control arm attached at 2 points to the vehicle frame, through semi-rigid bushings. The upper control arm attaches to the upper control arm bracket and is part of the front shock module assembly that bolts to the body. Between the upper control arm bracket assembly and the seat on the shock, isolated by insulators under compression, is a coil spring.

This up and down motion of the steering knuckle as the vehicle travels over bumps is absorbed predominantly by the coil spring. The vertical movement of the steering knuckle as the vehicle

travels over irregular road surfaces will tend to compress the spring and spring tension will lead the spring to return to the original, at-rest state. This action isolates the vehicle from the road surface. The lower control arms are allowed to pivot at the vehicle frame in a vertical fashion. The upper control arms are allowed to pivot on the upper control arm bracket. The ball joint allows the steering knuckle to maintain the perpendicular relationship to the road surface.

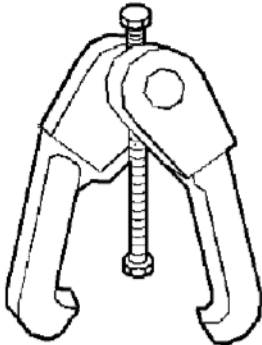
A shock absorber is used in conjunction with this system in order to dampen out the oscillations of the coil spring. A shock absorber is a basic hydraulic cylinder. The shock is filled with oil and has a moveable shaft that connects to a piston inside the shock absorber. Valves inside the shock absorber offer resistance to oil flow and consequently inhibit rapid movement of the piston and shaft. Each end of the shock absorber is connected in such a fashion to utilize this recoil action of a spring alone.

Front suspensions systems utilize a stabilizer shaft. The stabilizer bar connects between the left and right lower control arm assemblies through the stabilizer link and stabilizer shaft insulators. This bar controls the amount of independent movement of the suspension when the vehicle turns. Limiting the independent movement defines the vehicle's handling characteristics on turns.

SPECIAL TOOLS AND EQUIPMENT

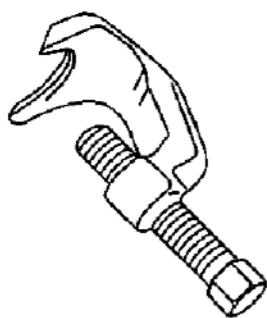
SPECIAL TOOLS

Special Tools

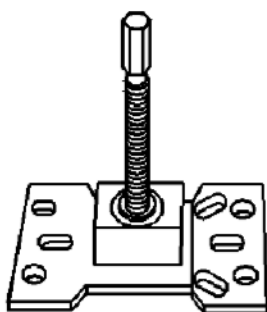
Illustration	Tool Number/ Description
	J 24319-B Universal Steering Linkage Puller

2004 Cadillac SRX

2004 SUSPENSION Front Suspension - SRX



J 43631
Ball Joint Remover



J 45859
Wheel Hub Remover

2004 Cadillac SRX
2004 SUSPENSION Front Suspension - SRX

2004 Cadillac SRX
2004 SUSPENSION Front Suspension - SRX

2004 Cadillac SRX
2004 SUSPENSION Front Suspension - SRX