

SPECIFICATIONS > FASTENER SPECIFICATIONS

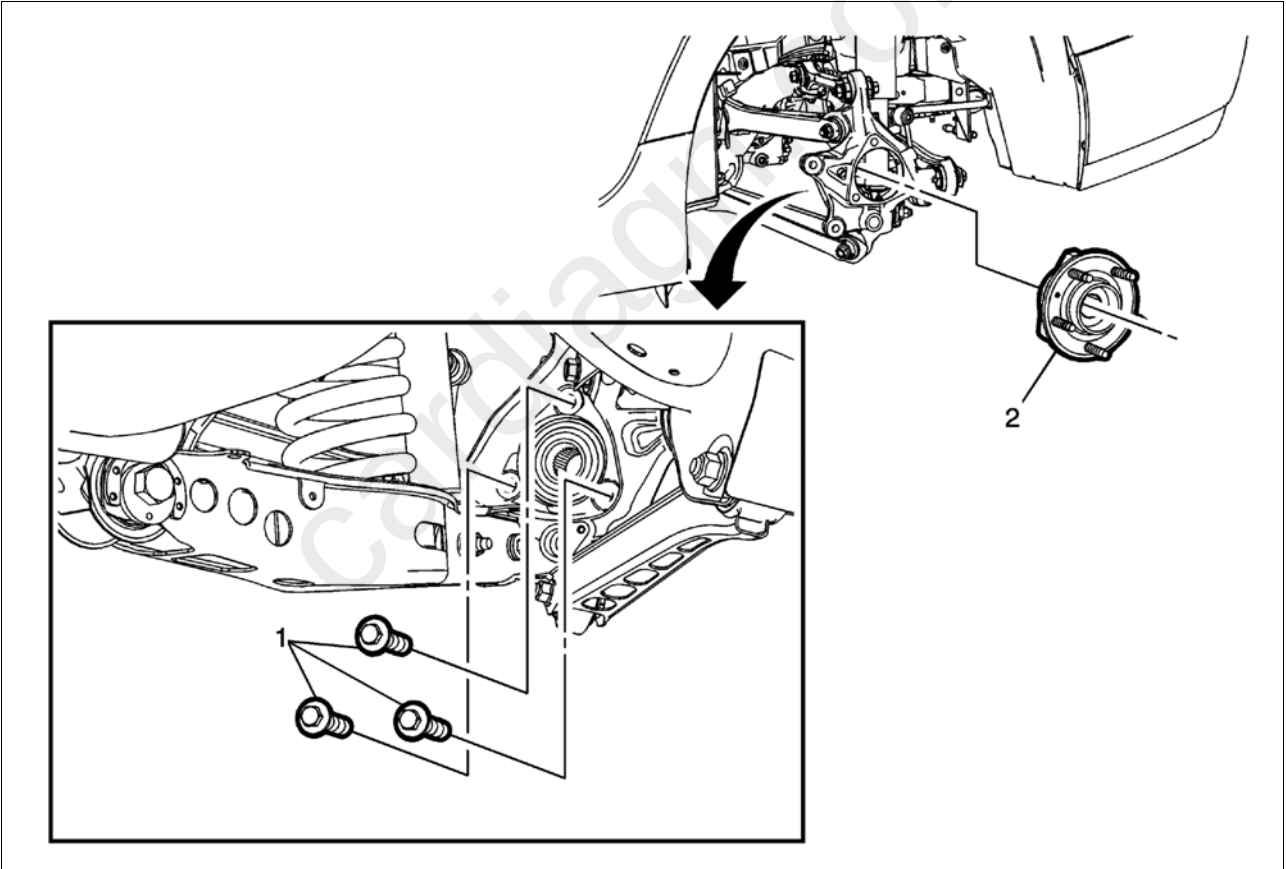
Application	Specification	
	Metric	English
Adjust Link Inner Nut (Requires a NEW bolt.)		
• First Pass	70 N.m	52 lb ft
• Final Pass	105 Degrees	
Adjust Link Outer Bolt (Requires a NEW bolt.)		
• First Pass	100 N.m	74 lb ft
• Final Pass	105 Degrees	
Lower Control Arm Inner Nut (Requires a NEW bolt.)		
• First Pass	115 N.m	85 lb ft
• Final Pass	105 Degrees	
Lower Control Arm Outer Nut (Requires a NEW bolt.)		
• First Pass	150 N.m	110 lb ft
• Final Pass	105 Degrees	
Rear Suspension Bracket Front Bolts (Requires a NEW bolt.)		
	58 N.m	43 lb ft
Rear Suspension Bracket Bolts (Requires a NEW bolt.)		
• First Pass	100 N.m	74 lb ft
• Final Pass	90 degrees	
Rear Suspension Bracket Nuts	58 N.m	43 lb ft

Rear Wheel Bearing and Hub Bolt	130 N.m	96 lb ft
Shock Absorber Bolt (Requires a NEW bolt.)		
• First Pass	100 N.m	74 lb ft
• Final Pass	105 degrees	
Shock Absorber Upper Nuts	43 N.m	32 lb ft
Stabilizer Shaft Insulator Clamp Bolts (Requires a NEW bolt.)	58 N.m	43 lb ft
Stabilizer Shaft Link Bolt	58 N.m	43 lb ft
Stabilizer Shaft Link Nut	43 N.m	32 lb ft
Trailing Arm Lower Control Arm Inner Nut		
• First Pass	70 N.m	52 lb ft
• Final Pass	105 degrees	
Trailing Arm Lower Control Arm Outer Nut (Requires a NEW bolt.)		
• First Pass	100 N.m	74 lb ft
• Final Pass	105 degrees	
Trailing Arm Upper Control Arm Inner Nut (Requires a NEW bolt.)		
• First Pass	70 N.m	52 lb ft
• Final Pass	105 degrees	
Trailing Arm Upper Control Arm Outer Nut (Requires a NEW bolt.)		
• First Pass	100 N.m	74 lb ft
• Final Pass	105 degrees	
Upper Control Arm Inner Nut (Requires a NEW bolt.)		

• First Pass	70 N.m	52 lb ft
• Final Pass	105 degrees	
Upper Control Arm Outer Nut (Requires a NEW bolt.)		
• First Pass	70 N.m	52 lb ft
• Final Pass	105 degrees	

REPAIR INSTRUCTIONS > REAR WHEEL BEARING AND HUB REPLACEMENT

Fig 1: Rear Wheel Bearing And Hub



Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure	

1. Raise and support the vehicle. Lifting and Jacking the Vehicle (Base)Lifting and Jacking the Vehicle (HP)
2. Remove the tire and wheel assembly. Tire and Wheel Removal and Installation
3. Remove the rear brake rotor assembly. Rear Brake Rotor Replacement (J6G)Rear Brake Rotor Replacement (JL9, J55)
4. Separate the wheel drive shaft from the wheel bearing hub assembly. Rear Wheel Drive Shaft Replacement - Left Side , or Rear Wheel Drive Shaft Replacement - Right Side

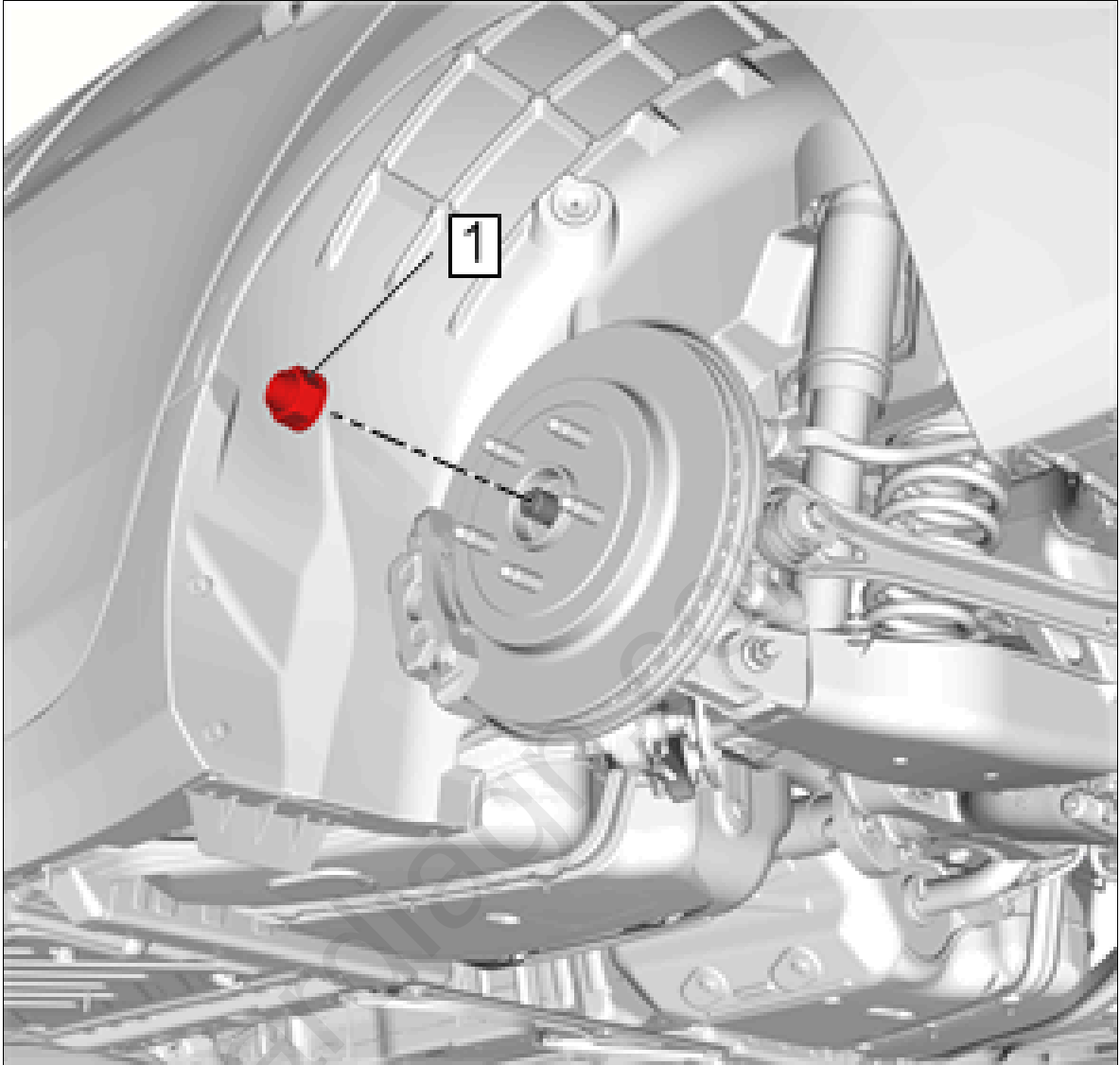
1	Wheel Bearing and Hub Bolt (Qty: 3) CAUTION: <i>Refer to Fastener Caution .</i> Procedure Prepare the wheel bearing and hub bolts and the threaded holes of the wheel bearing and hub for assembly. 1. Thoroughly clean the threadlocker residue from the wheel bearing and hub bolt threads with an approved solvent and allow to dry. 2. Thoroughly clean the threadlocker residue from the wheel bearing and hub threaded holes with an approved solvent and allow to dry. 3. Apply threadlocker to 2/3 of the threaded length of the wheel bearing and hub bolts and the wheel bearing and hub threaded holes. Adhesives, Fluids, Lubricants, and Sealers 4. Ensure there are no gaps in the threadlocker along the filled area of the wheel bearing and hub bolts and the wheel bearing and hub threaded holes. 5. Allow the threadlocker to cure approximately 10 minutes before installation. Tighten 130 N.m (96 lb ft)
2	Wheel Bearing and Hub Assembly

REPAIR INSTRUCTIONS > KNUCKLE REPLACEMENT > REMOVAL PROCEDURE

1. Remove the rear wheel. Tire and Wheel Removal and Installation
2. Remove the rear caliper and bracket. Rear Brake Caliper Bracket Replacement
3. Remove the rear brake rotor. Rear Brake Rotor Replacement (J6G)Rear Brake Rotor Replacement (JL9, J55)

4. Remove the rear brake shield. Rear Brake Shield Replacement

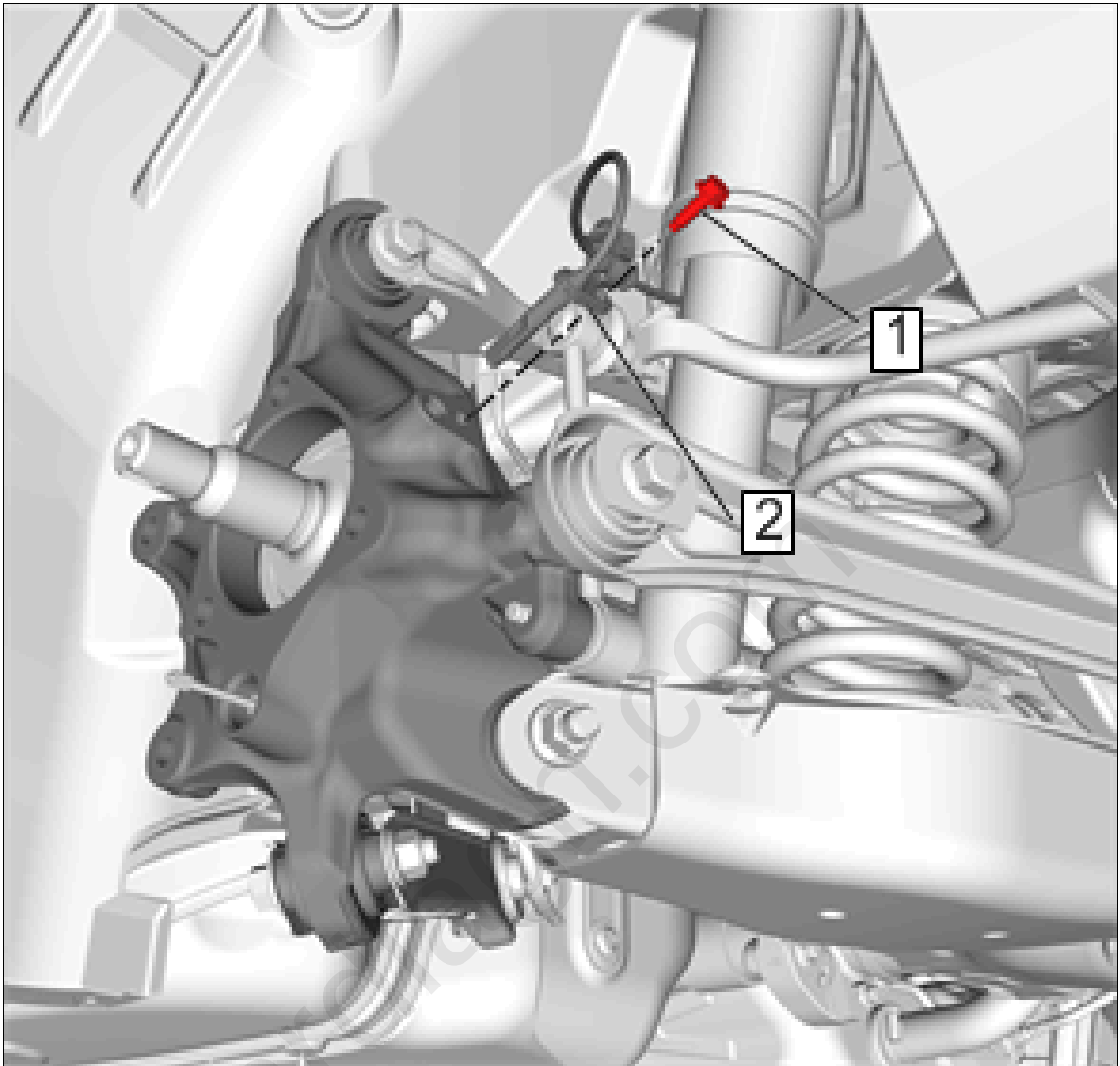
Fig 1: Wheel Drive Shaft Nut



Courtesy of GENERAL MOTORS COMPANY

5. Remove and DISCARD the Wheel Drive Shaft Nut (1).

Fig 2: Wheel Speed Sensor Bolt



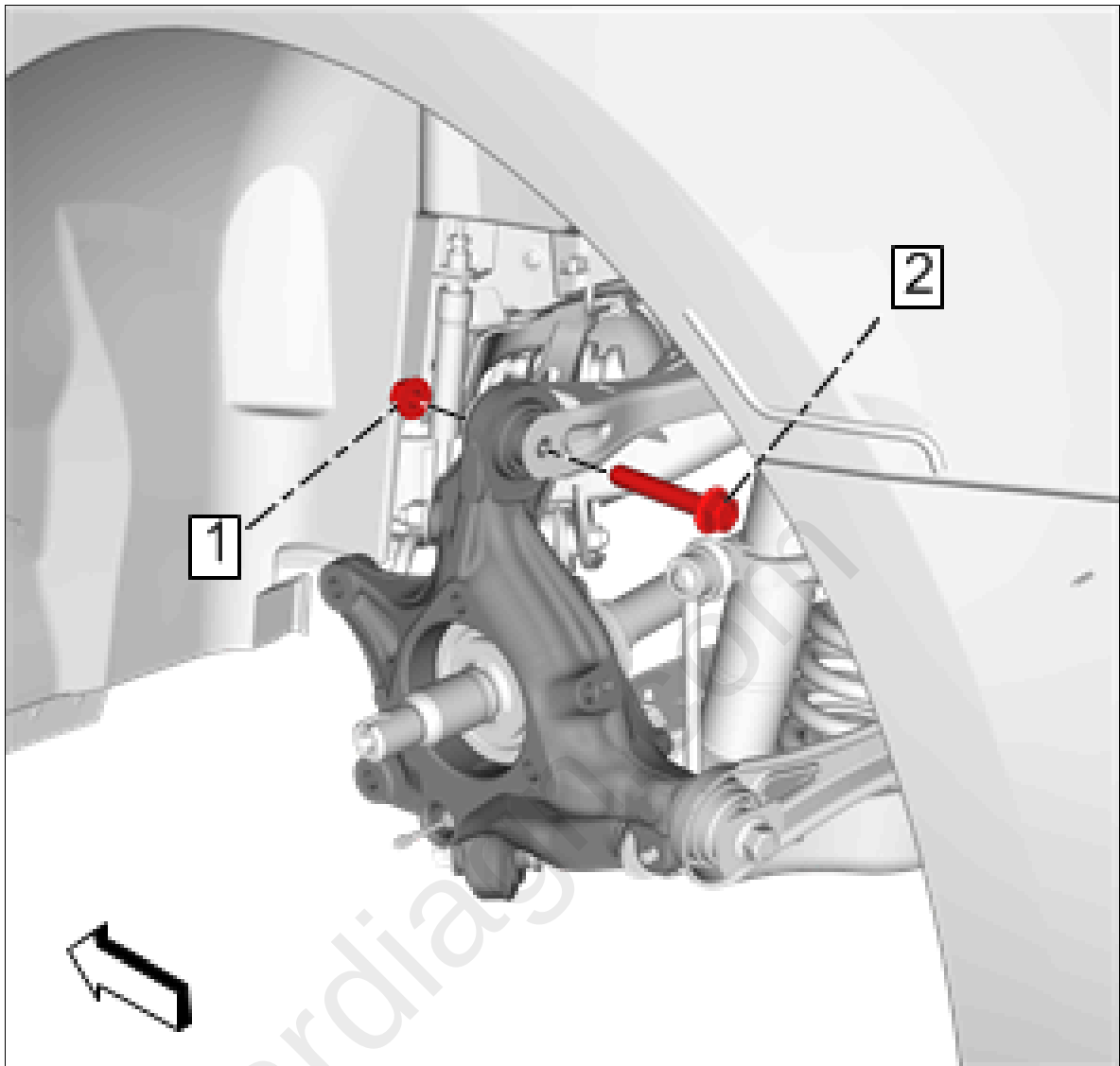
Courtesy of GENERAL MOTORS COMPANY

 NOTE:

The wheel speed sensor must be secured to protect it from damage.

6. Remove Wheel Speed Sensor Bolt (1).
7. Remove Rear Wheel Speed Sensor (2).
8. Remove the rear wheel bearing and hub assembly. Rear Wheel Bearing and Hub Replacement

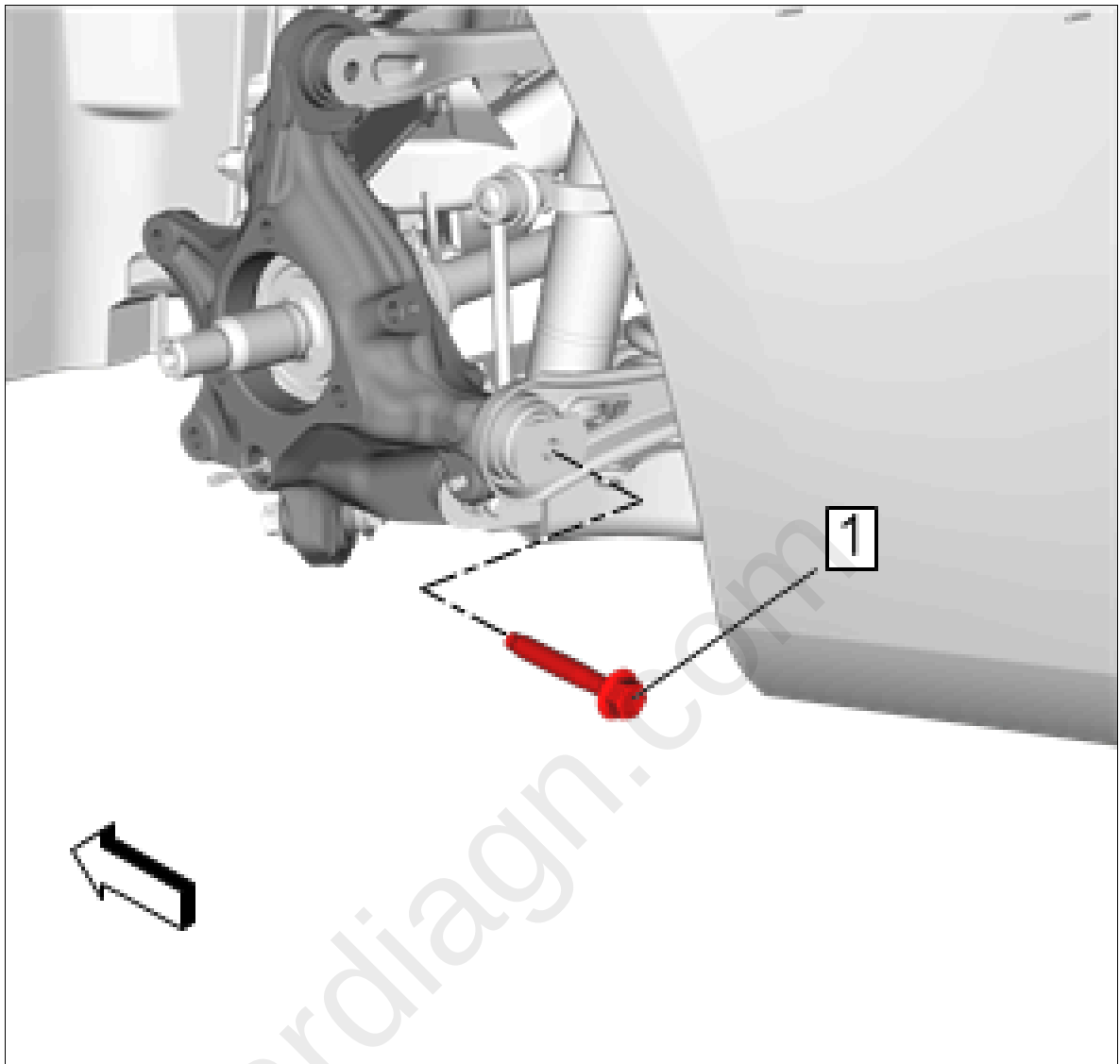
Fig 3: Rear Axle Upper Control Arm Outer Nut And Rear Axle Upper Control Arm Outer Bolt



Courtesy of GENERAL MOTORS COMPANY

9. Remove Rear Suspension Upper Lateral Link nut (1).
10. Remove Rear Suspension Upper Lateral Link Bolt (2).

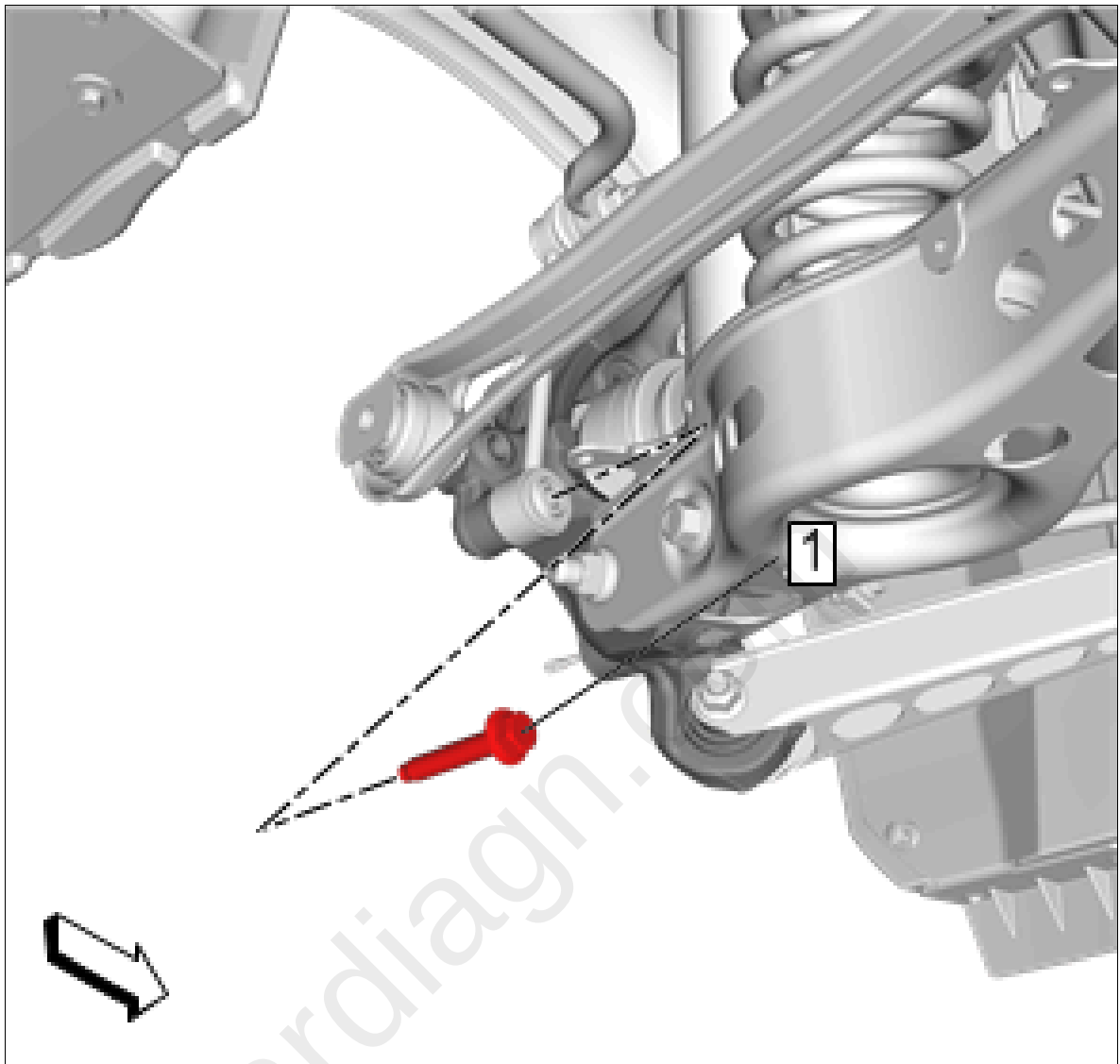
Fig 4: Rear Suspension Adjust Link Outer Bolt



Courtesy of GENERAL MOTORS COMPANY

11. Remove and DISCARD Rear Suspension Adjust Link Outer Bolt (1).

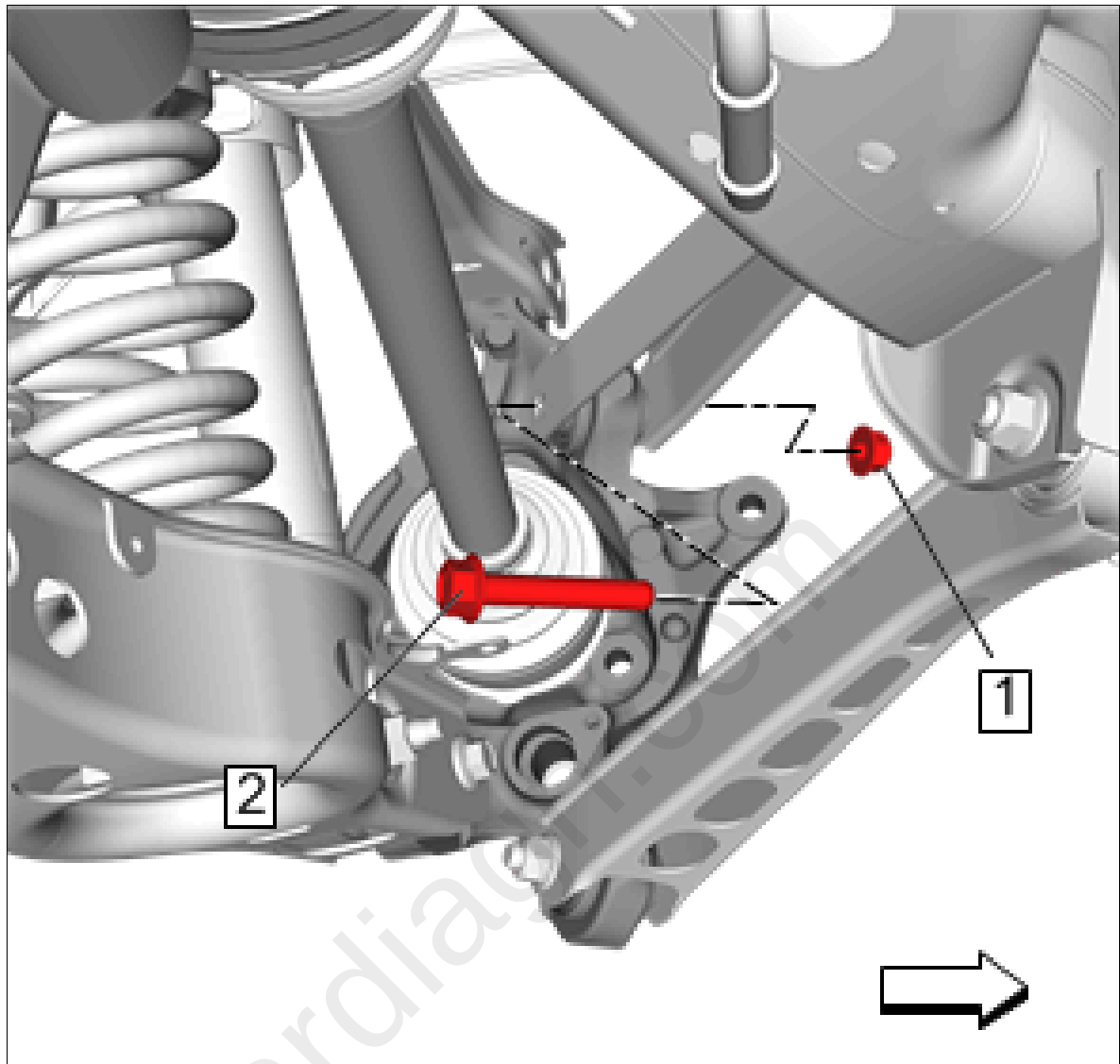
Fig 5: Rear Stabilizer Shaft Link Bolt



Courtesy of GENERAL MOTORS COMPANY

12. Remove Rear Stabilizer Shaft Link Bolt (1).

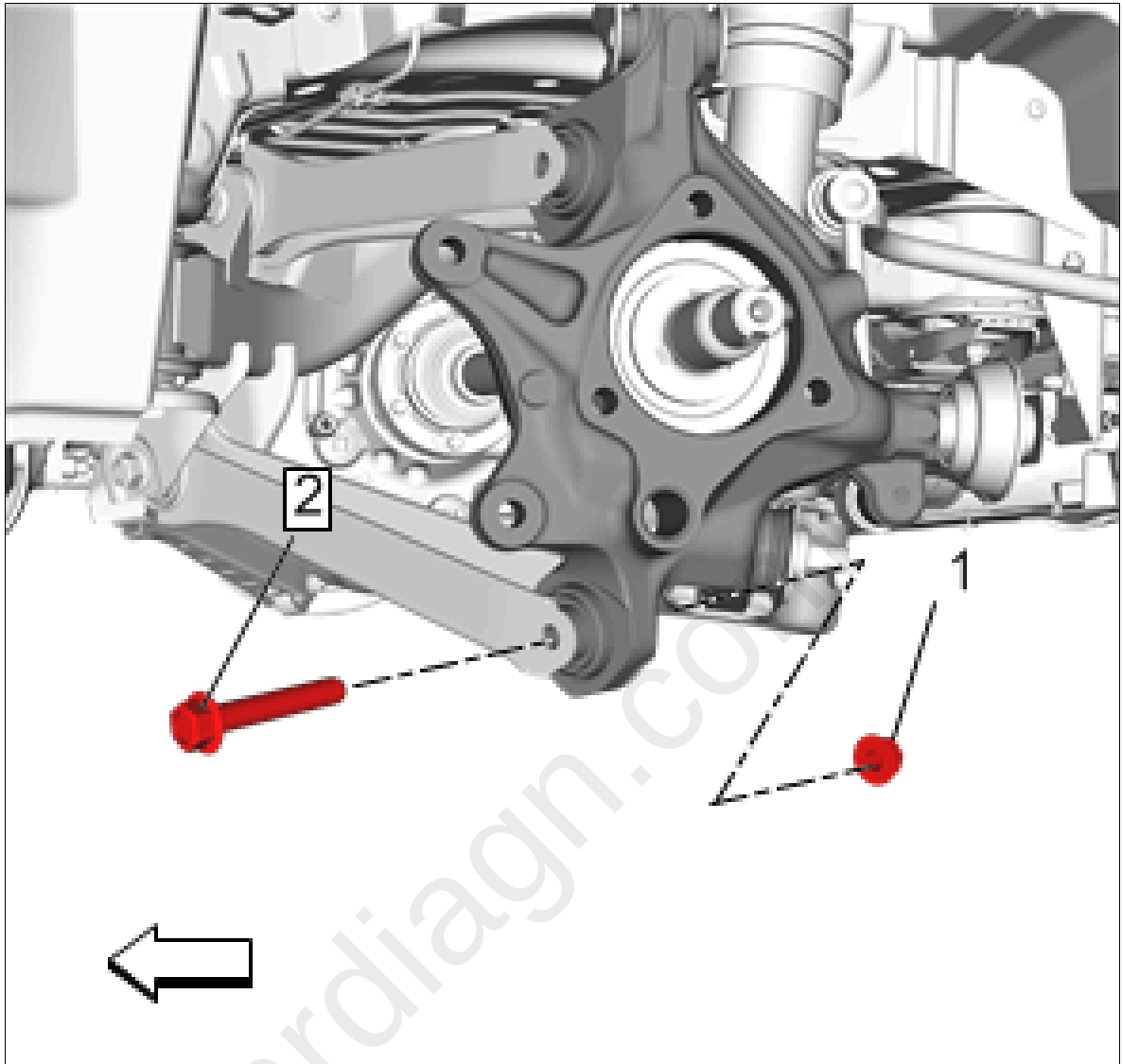
Fig 6: Upper Rear Trailing Arm Nut And Bolt



Courtesy of GENERAL MOTORS COMPANY

13. Remove the upper rear trailing link nut (1) and bolt (2). DISCARD the bolt.

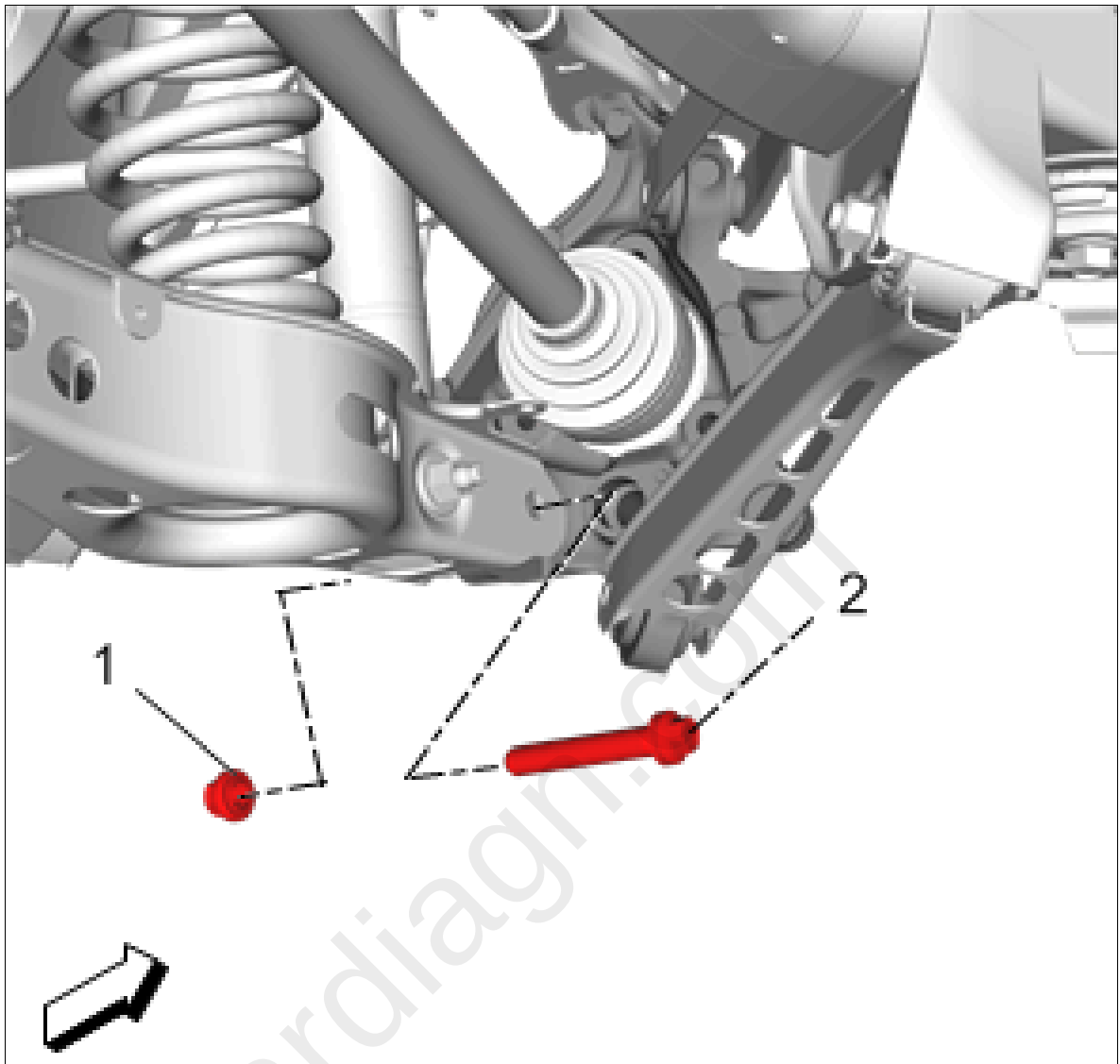
Fig 7: Lower Rear Trailing Arm Outer Nut



Courtesy of GENERAL MOTORS COMPANY

14. Remove the lower rear trailing link outer nut (1) and remove the bolt (2). DISCARD the bolt.

Fig 8: Rear Suspension Lower Control Arm Outer Nut And Bolt



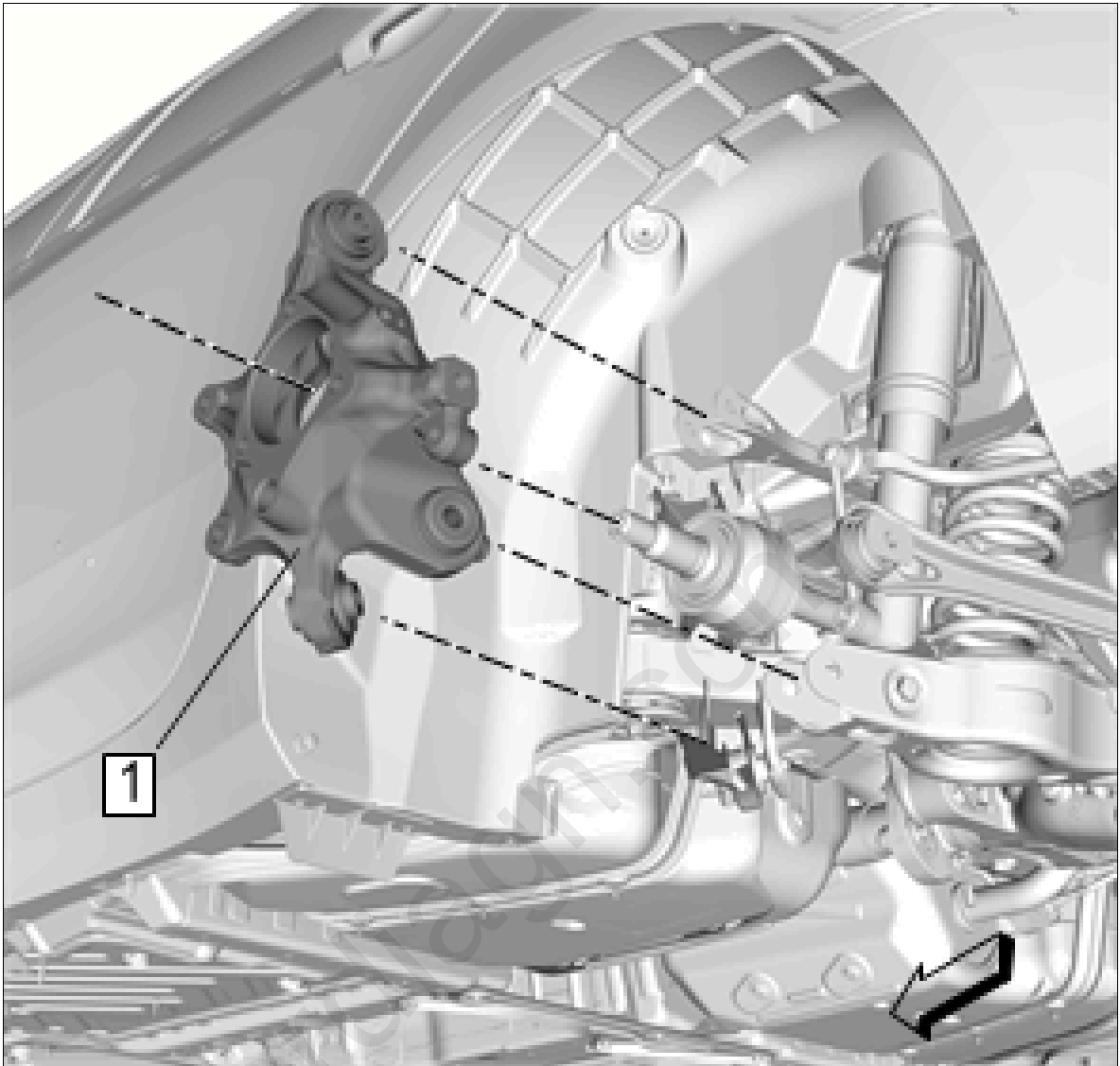
Courtesy of GENERAL MOTORS COMPANY

 CAUTION:

Pry bar tools may cause damage to the ball joint seals when removing links from the knuckle. Damage to the seals may cause knuckle and control arm failure. The knuckle will need to be replaced if there is damage to the seals.

15. Remove Rear Suspension Lower Control Arm Nut (1).
16. Remove and DISCARD Rear Suspension Lower Control Arm Bolt (1).

Fig 9: Knuckle



Courtesy of GENERAL MOTORS COMPANY

17. Remove Knuckle (1).

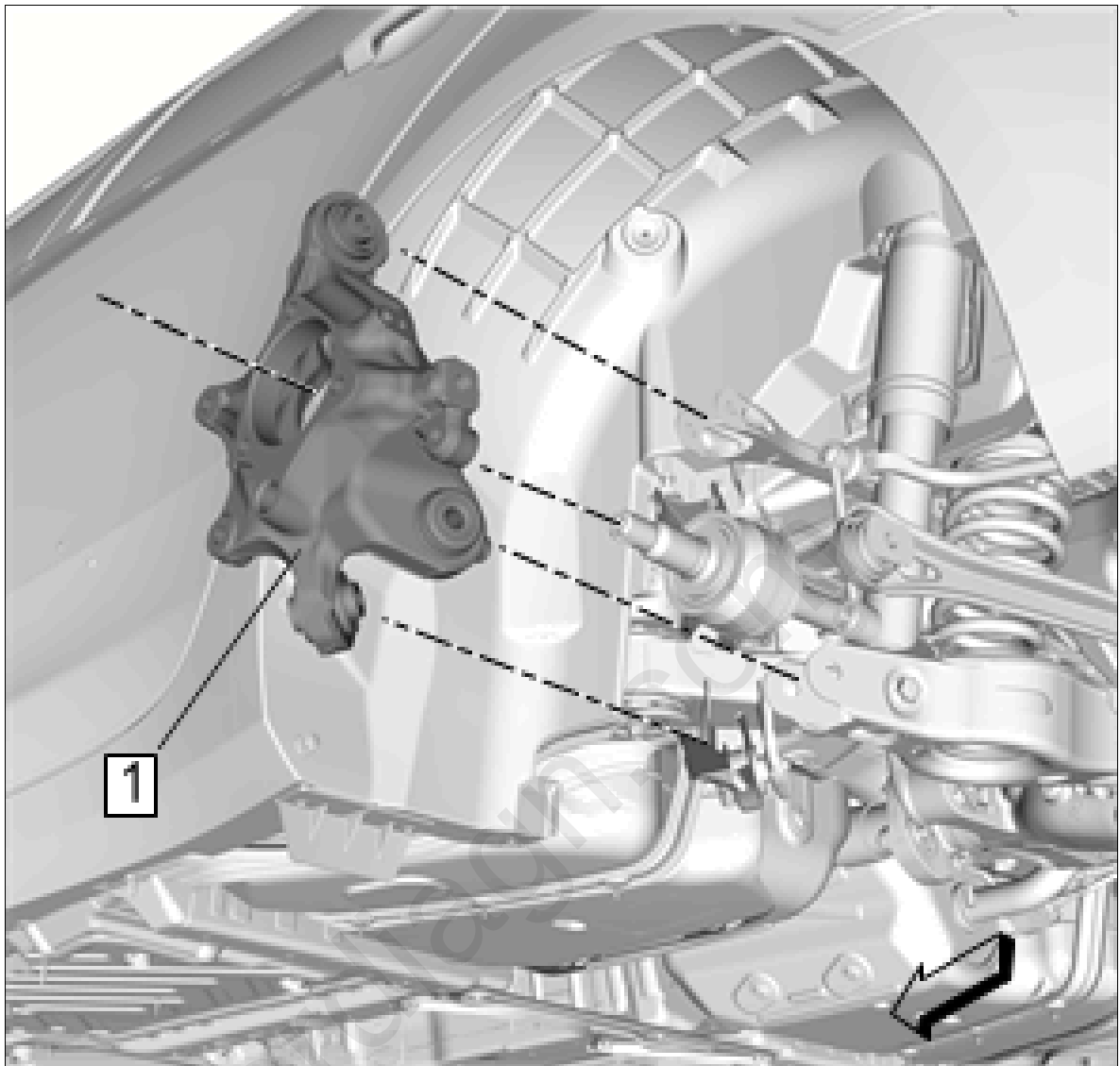
REPAIR INSTRUCTIONS > KNUCKLE REPLACEMENT > INSTALLATION PROCEDURE



CAUTION:

Refer to Fastener Caution .

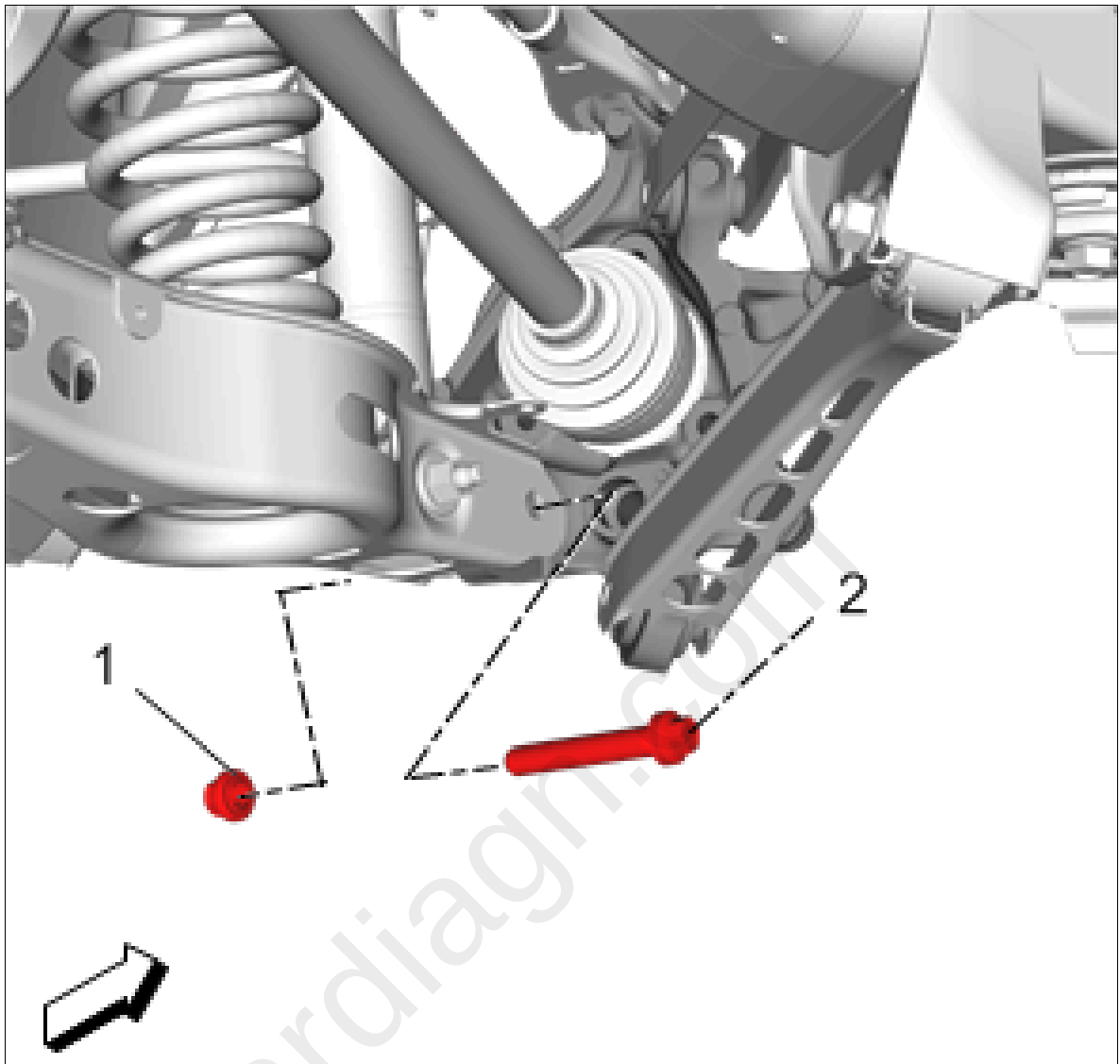
Fig 1: Knuckle



Courtesy of GENERAL MOTORS COMPANY

1. Install Knuckle (1).

Fig 2: Rear Suspension Lower Control Arm Outer Nut And Bolt



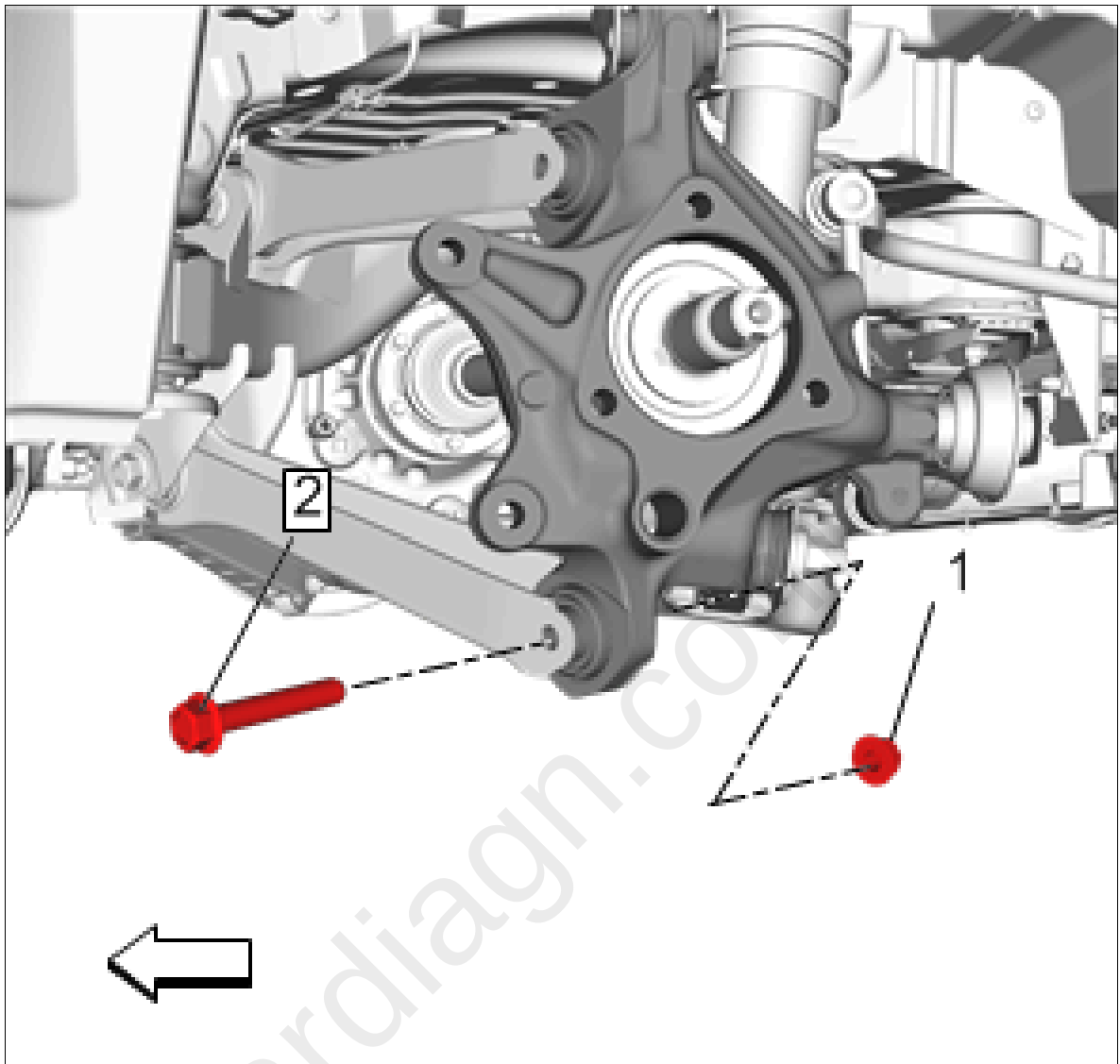
Courtesy of GENERAL MOTORS COMPANY

 CAUTION:

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

2. Install a NEW bolt Rear Suspension Lower Control Arm Bolt (2).
3. Install Rear Suspension Lower Control Arm Nut (1) - Lower Control Arm Replacement

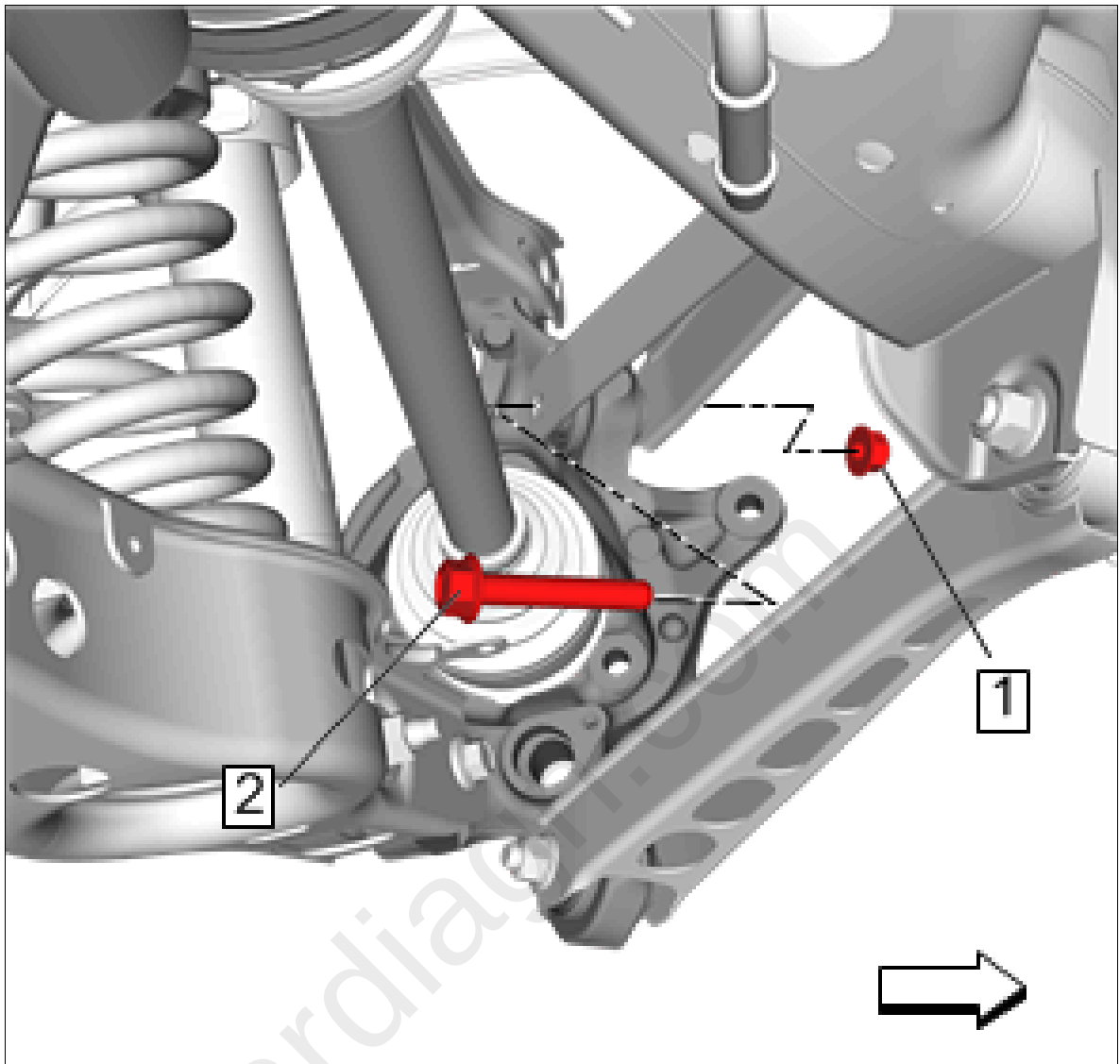
Fig 3: Lower Rear Trailing Arm Outer Nut



Courtesy of GENERAL MOTORS COMPANY

4. Install the NEW lower rear trailing link outer bolt (2) and the nut (1). Rear Suspension Lower Trailing Link Replacement

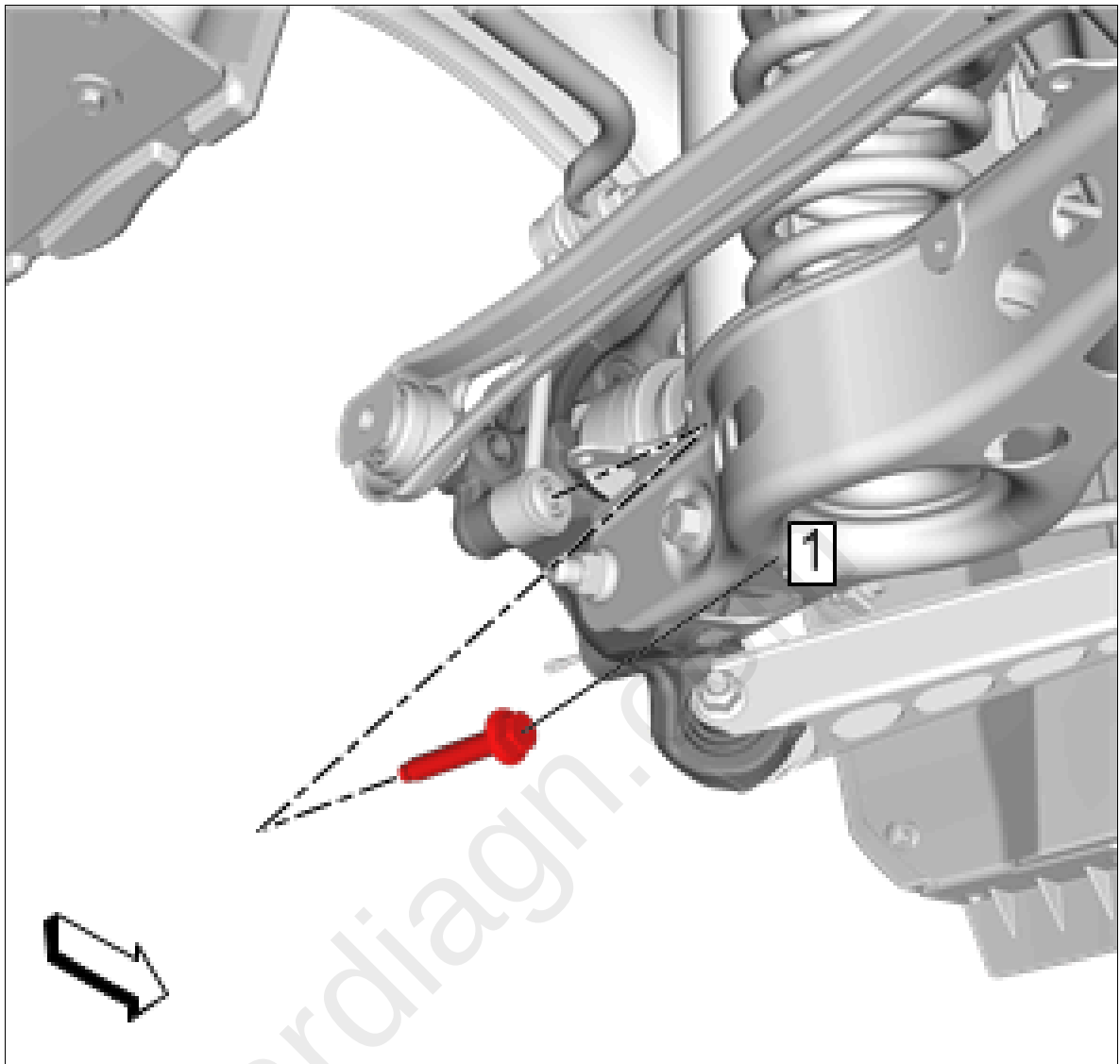
Fig 4: Upper Rear Trailing Arm Nut And Bolt



Courtesy of GENERAL MOTORS COMPANY

5. Install the NEW upper rear trailing link outer bolt (2) and the nut (1). Rear Suspension Upper Trailing Link Replacement

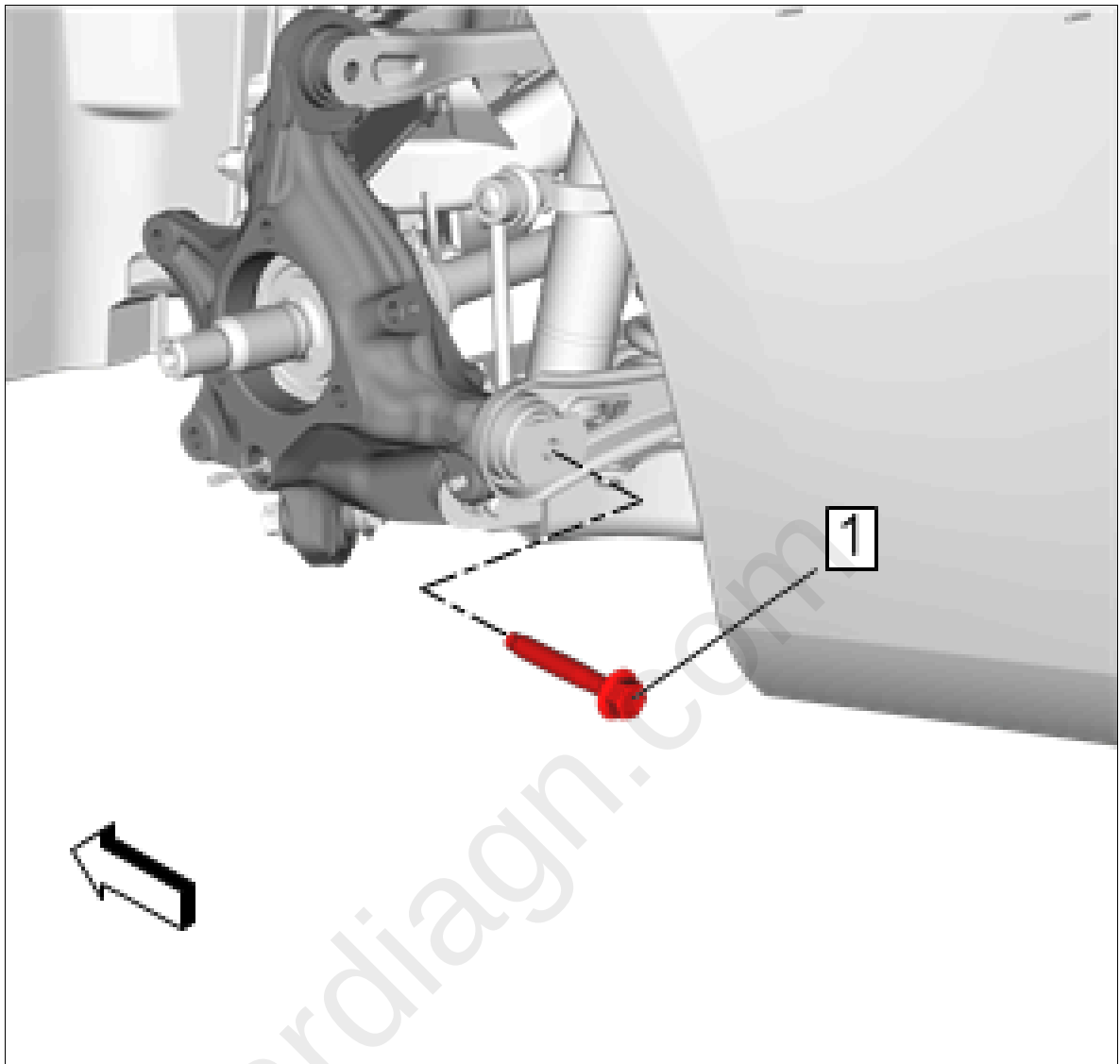
Fig 5: Rear Stabilizer Shaft Link Bolt



Courtesy of GENERAL MOTORS COMPANY

6. Install Rear Stabilizer Shaft Link Bolt (1) - Stabilizer Shaft Link Replacement

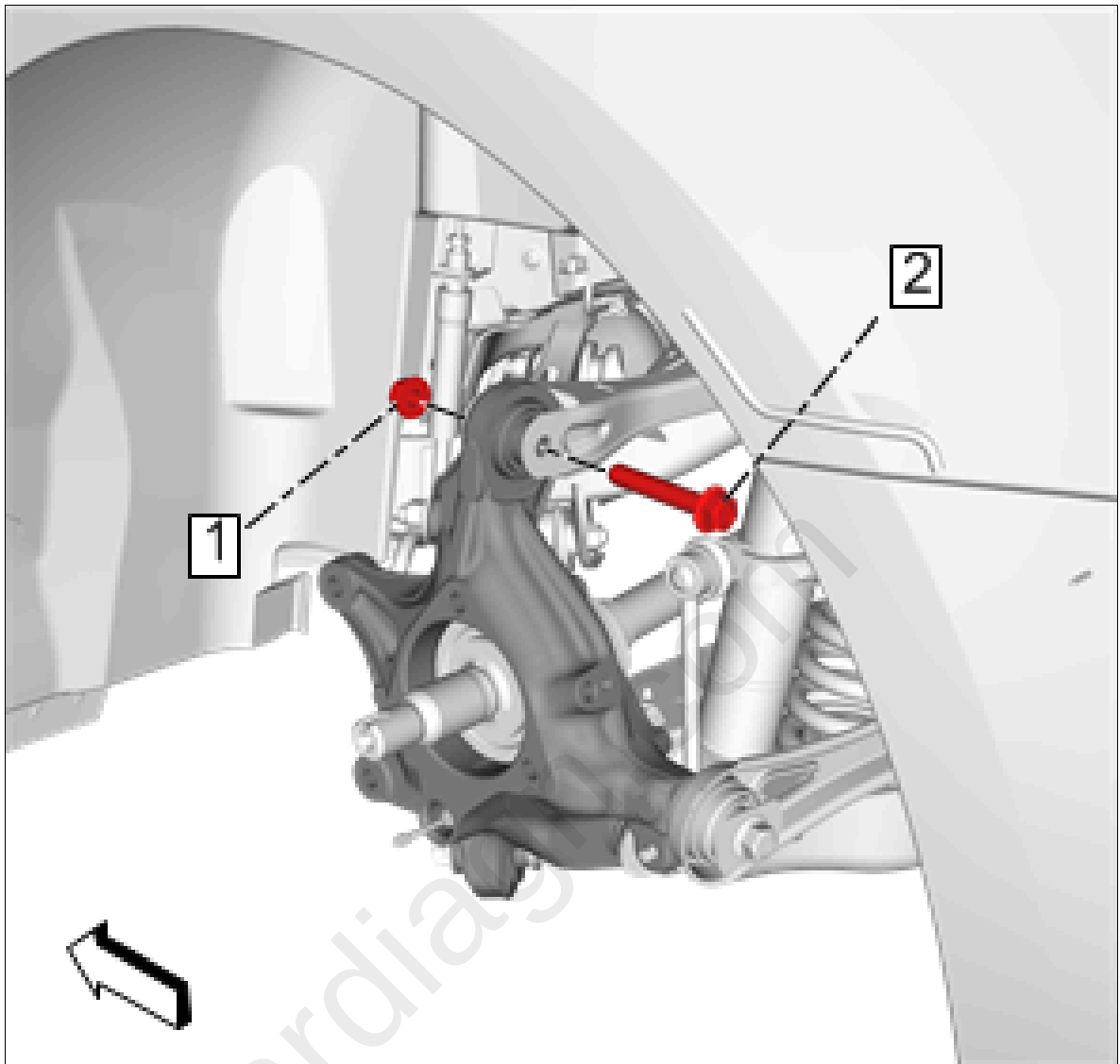
Fig 6: Rear Suspension Adjust Link Outer Bolt



Courtesy of GENERAL MOTORS COMPANY

7. Install Rear Suspension Adjust Link Outer Bolt (1) - Adjust Link Replacement

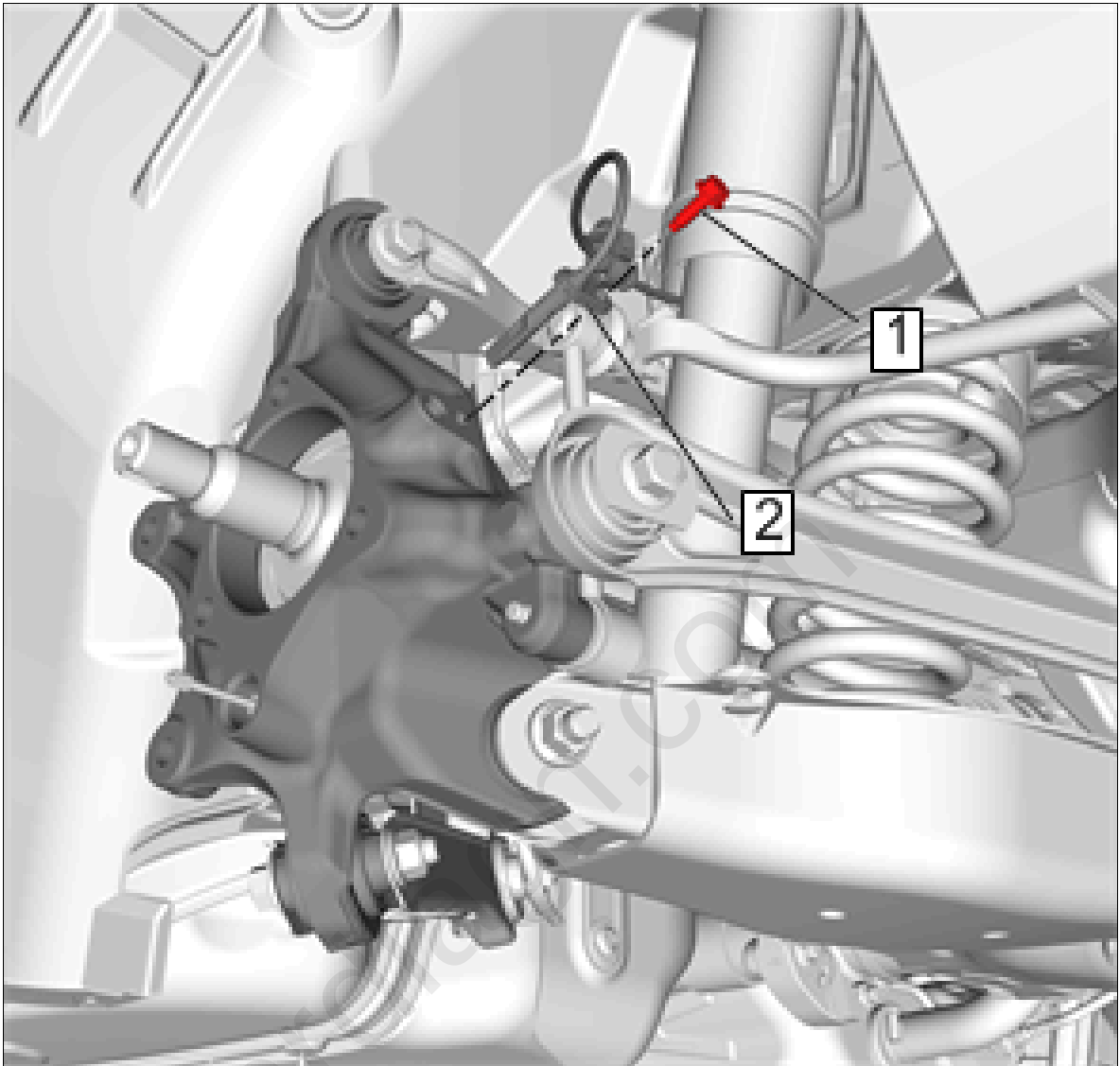
Fig 7: Rear Axle Upper Control Arm Outer Nut And Rear Axle Upper Control Arm Outer Bolt



Courtesy of GENERAL MOTORS COMPANY

8. Install a NEW Rear Suspension Upper Lateral Link Bolt (2).
9. Install Rear Suspension Upper Lateral Link nut (1) - Rear Suspension Upper Lateral Link Replacement

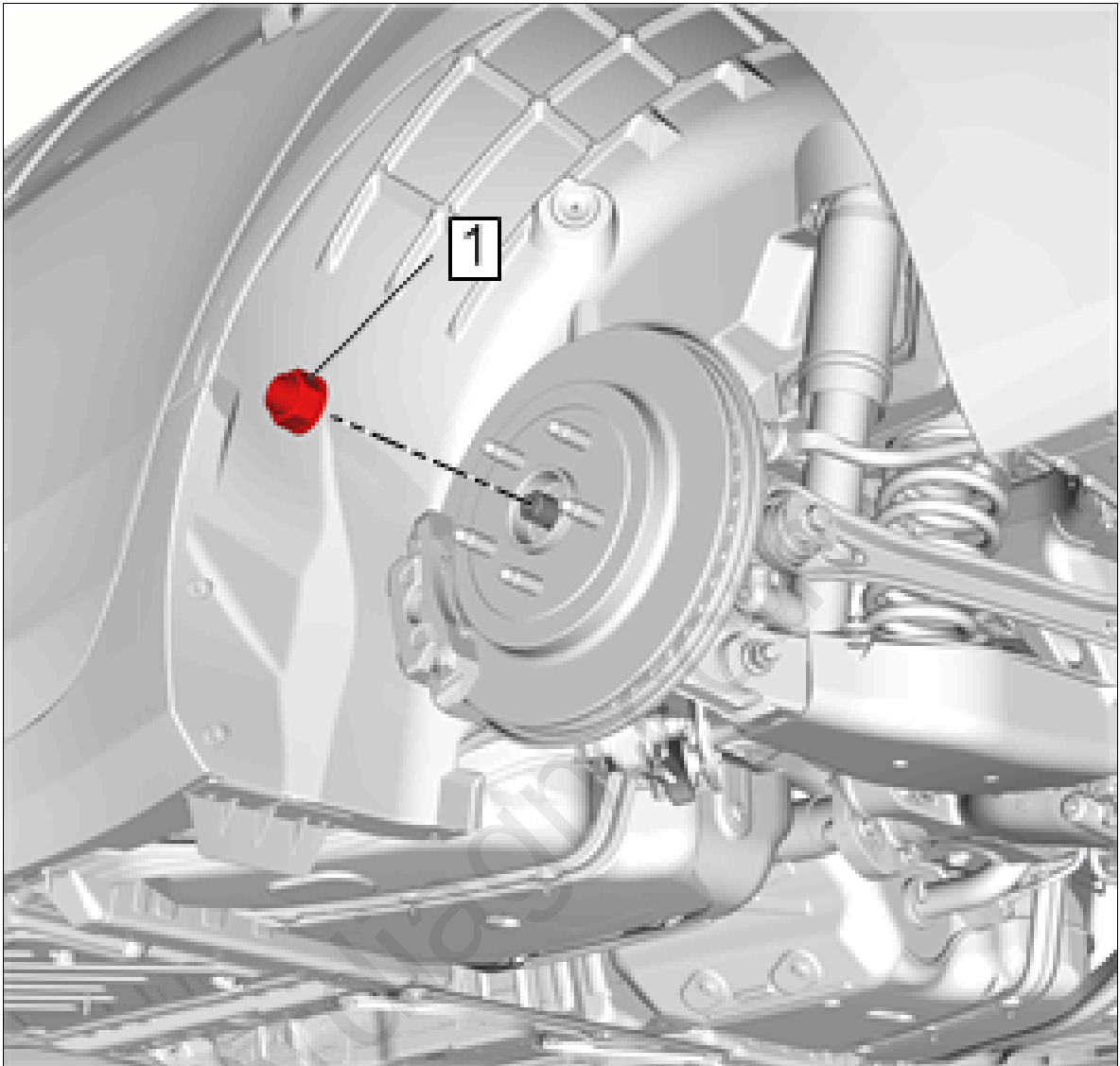
Fig 8: Wheel Speed Sensor Bolt



Courtesy of GENERAL MOTORS COMPANY

10. Install Rear Wheel Speed Sensor (2).
11. Wheel Speed Sensor Bolt(1) »»»Install — Rear Wheel Speed Sensor Replacement
12. Install the rear brake shield. Rear Brake Shield Replacement
13. Install the wheel bearing and hub assembly. Rear Wheel Bearing and Hub Replacement
14. Install the rear brake rotor. Rear Brake Rotor Replacement (J6G)Rear Brake Rotor Replacement (JL9, J55)
15. Install the rear brake caliper and bracket. Rear Brake Caliper Bracket Replacement

Fig 9: Wheel Drive Shaft Nut

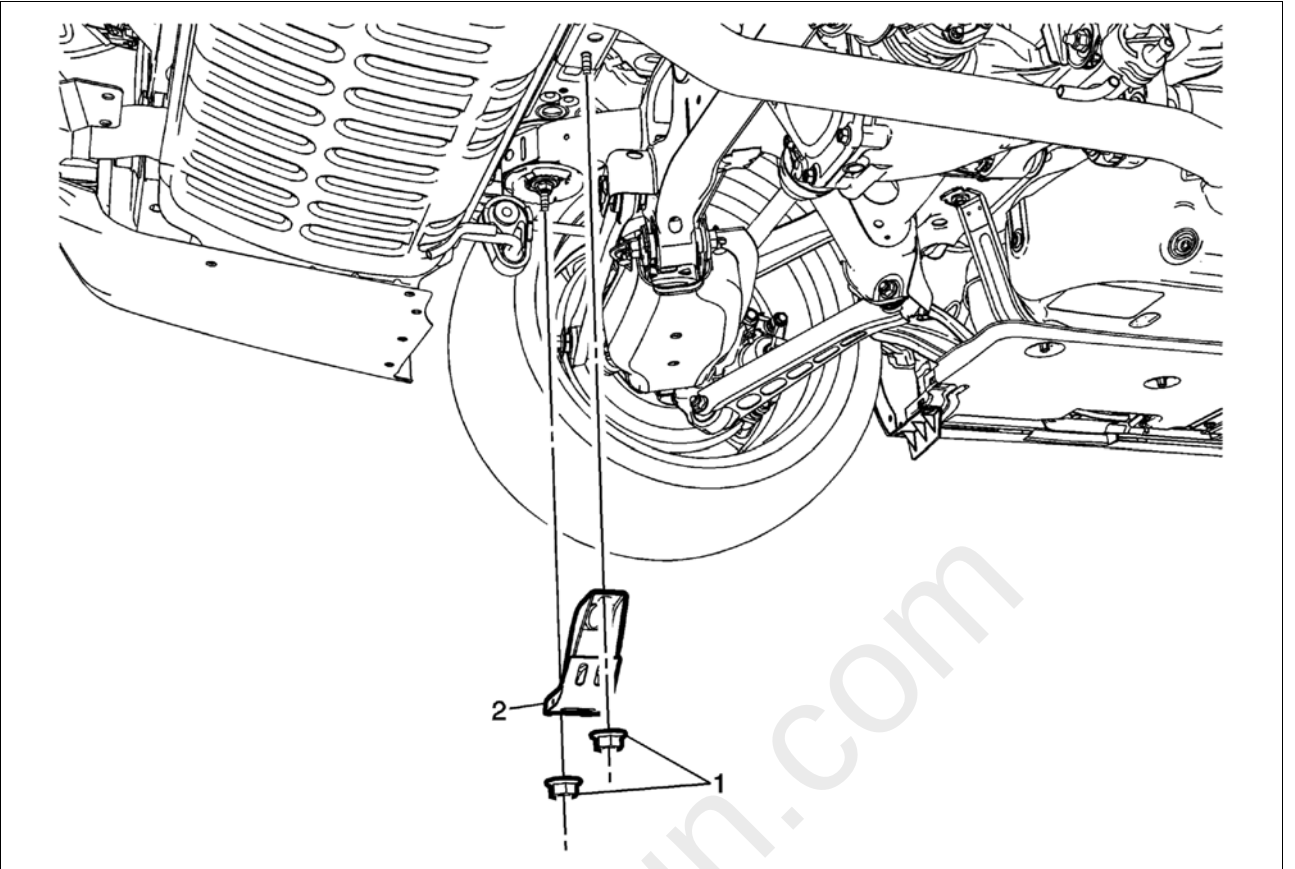


Courtesy of GENERAL MOTORS COMPANY

16. Install the NEW wheel drive shaft retaining nut (1). Rear Wheel Drive Shaft Replacement - Left Side , or Rear Wheel Drive Shaft Replacement - Right Side
17. Install the rear wheel. Tire and Wheel Removal and Installation
18. Adjust the rear wheel alignment. Rear Camber Adjustment , or Rear Toe Adjustment

REPAIR INSTRUCTIONS > REAR SUSPENSION BRACKET REPLACEMENT (REAR (COUPE))

Fig 1: Rear Suspension Bracket (Rear (Coupe))



Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Raise and support the vehicle. Lifting and Jacking the Vehicle (Base)Lifting and Jacking the Vehicle (HP)	
1	Rear Suspension Bracket Nut (Qty: 2) <i>CAUTION:</i> <i>Refer to Fastener Caution .</i> Tighten 58 N.m (43 lb ft)
2	Rear Suspension Bracket

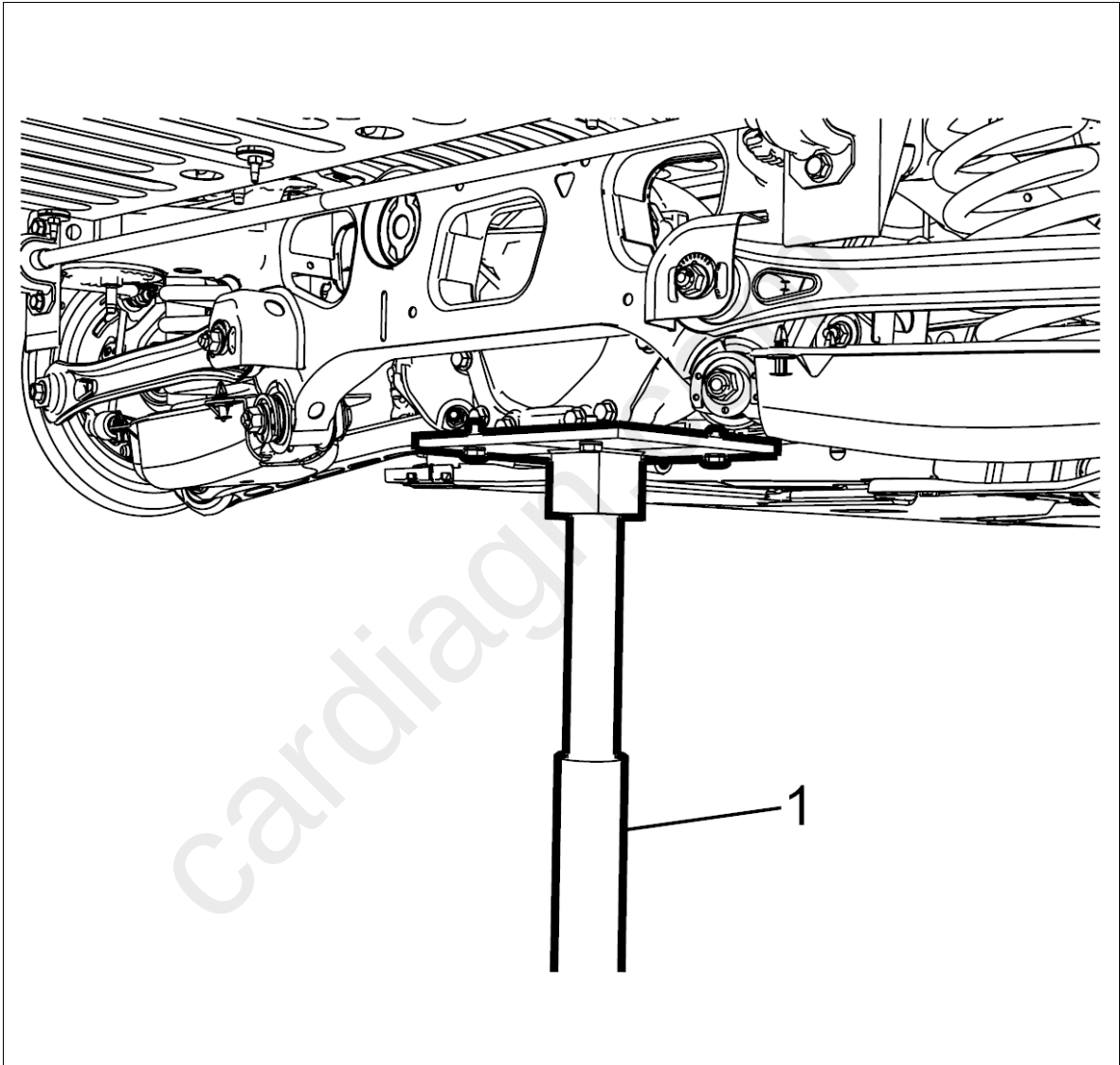


NOTE:

The following service procedure is to be performed one side at a time.

1. Raise and support the vehicle. Lifting and Jacking the Vehicle (Base)Lifting and Jacking the Vehicle (HP)

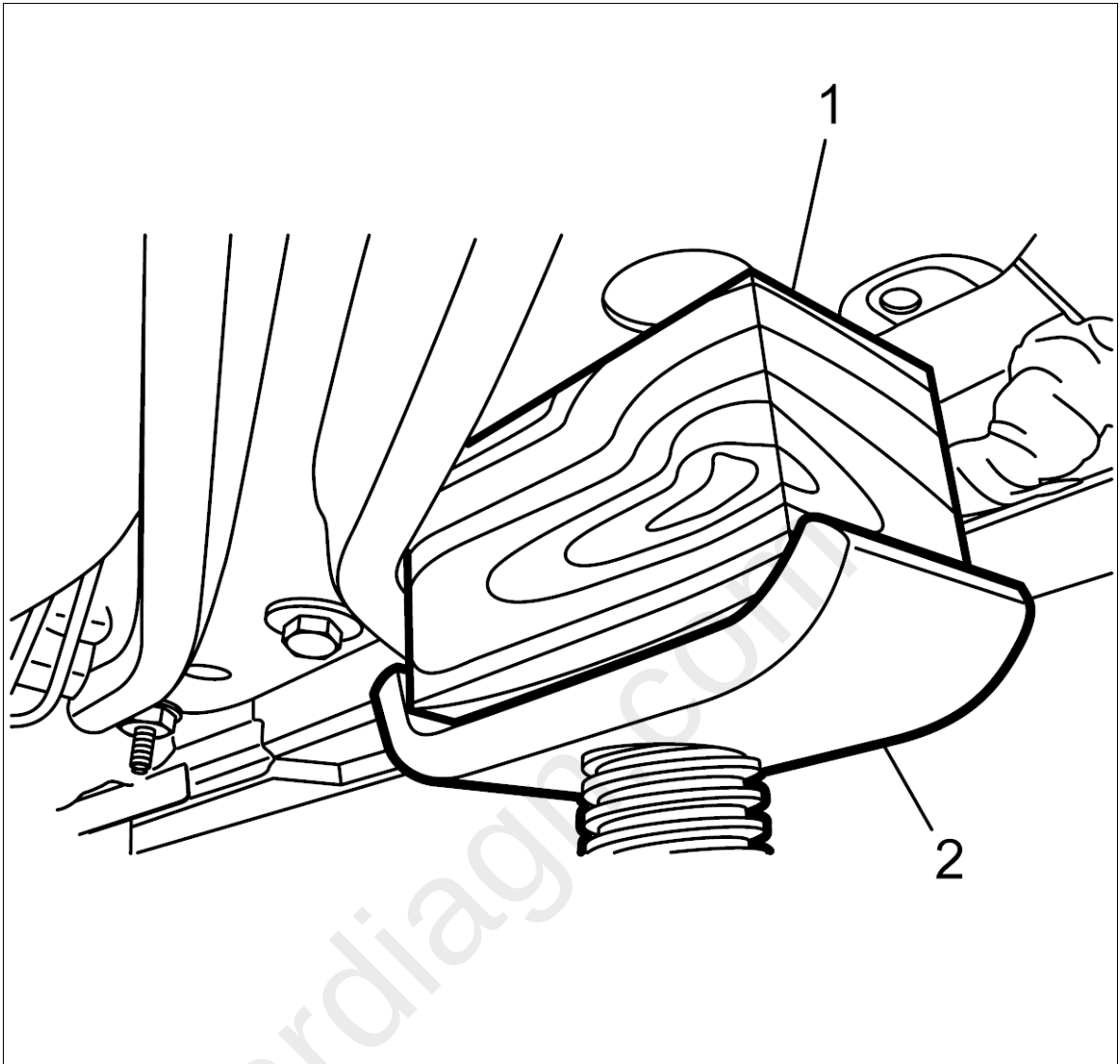
Fig 1: Jack Stand



Courtesy of GENERAL MOTORS COMPANY

2. Using a suitable jack stand (1), support the rear drive axle.

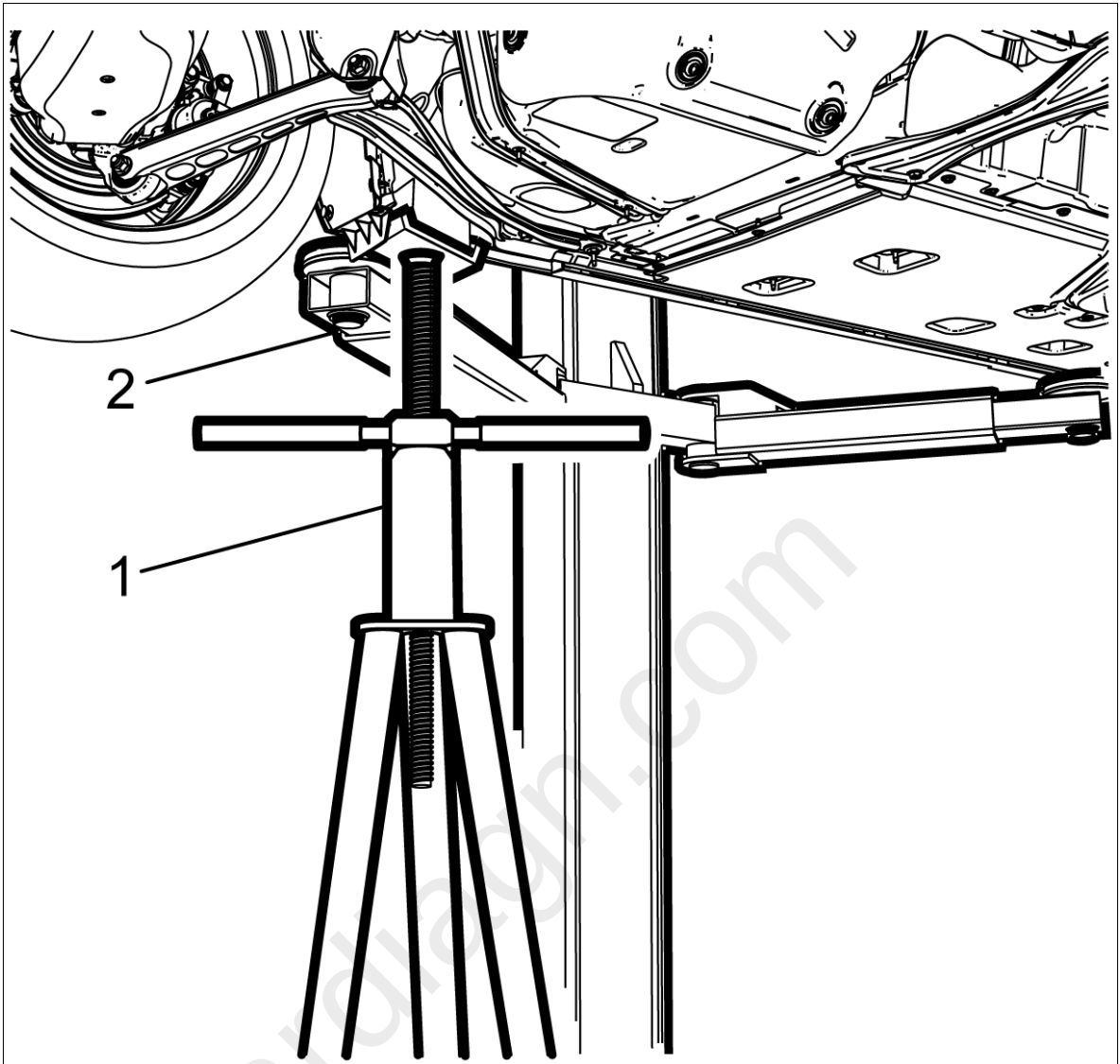
Fig 2: Block Of Wood And Adjustable Jack Stand



Courtesy of GENERAL MOTORS COMPANY

3. Position a block of wood (1) and a adjustable jack stand (2) between the frame of the vehicle and the suspension bracket.

Fig 3: Jack Stand & Hoist Pad



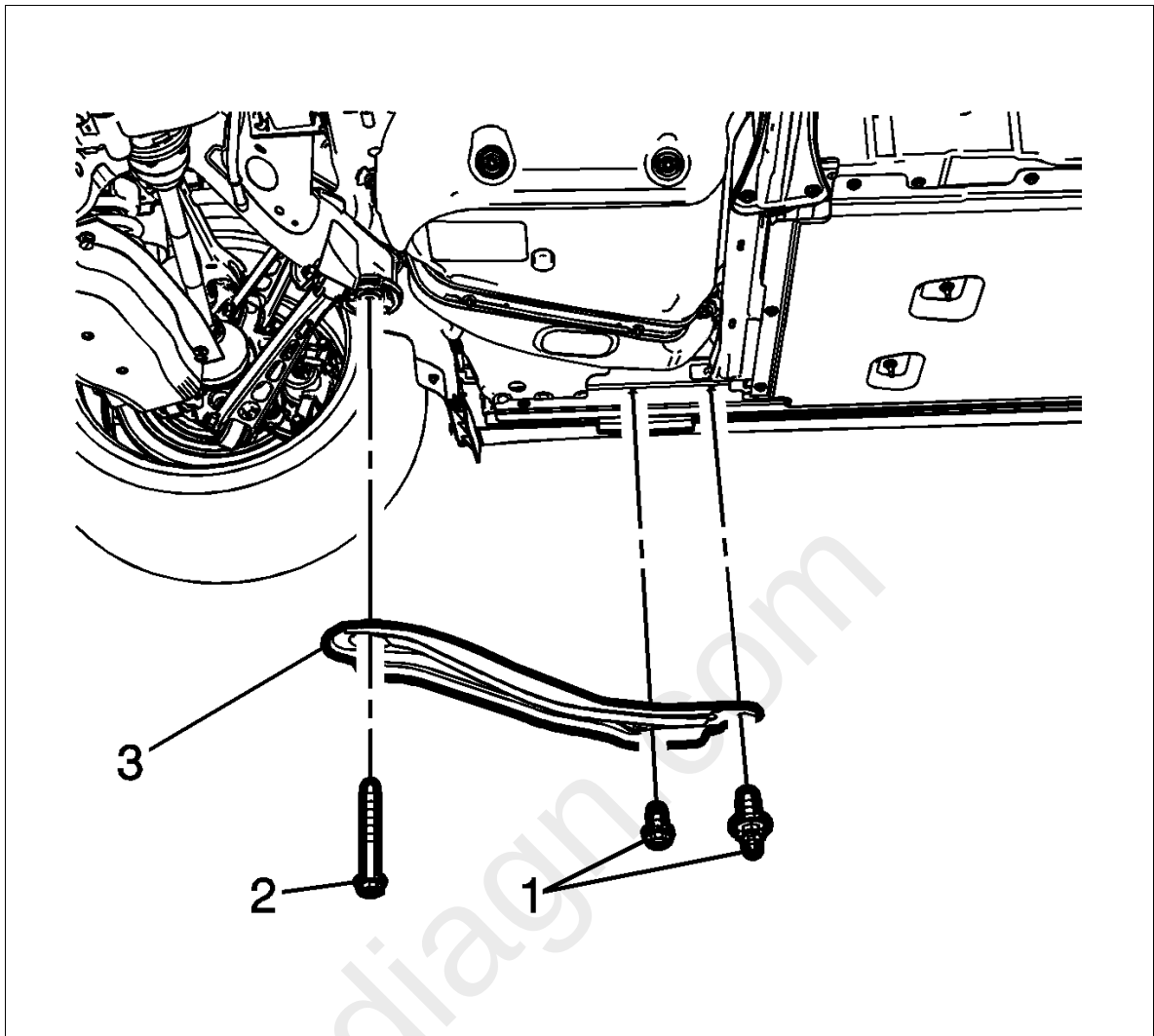
Courtesy of GENERAL MOTORS COMPANY

 **NOTE:**

DO NOT rise the vehicle higher than necessary.

4. Using the block of wood and the adjustable jack stand (1), rise the vehicle just enough to reposition the hoist pad (2) from under the vehicle.

Fig 4: Rear Suspension Bracket & Mounting Bolts

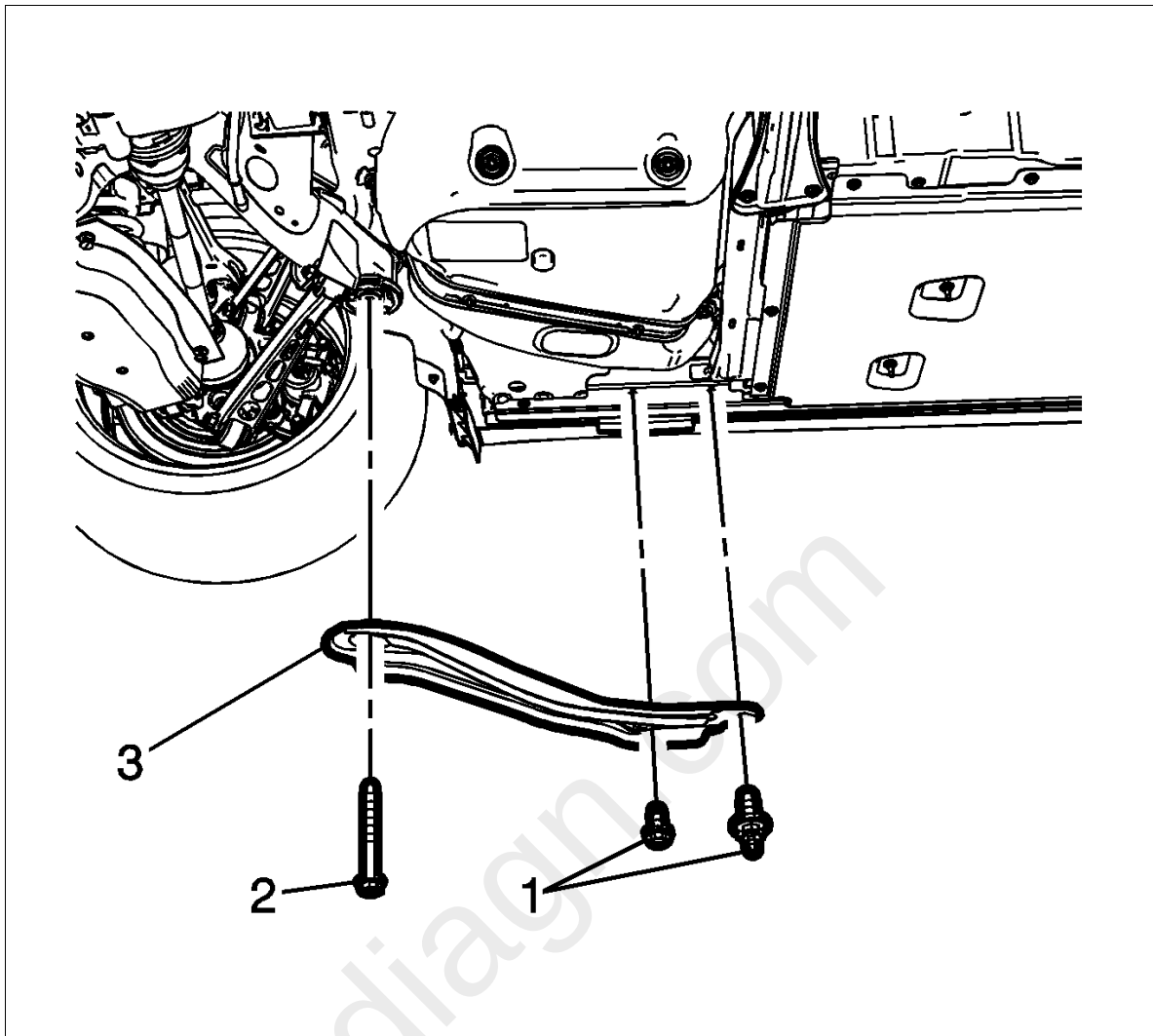


Courtesy of GENERAL MOTORS COMPANY

5. Remove and DISCARD the front and rear mounting bolts (1) and (2) for the rear suspension bracket (3). Replace with NEW only.
6. Remove Rear Suspension Bracket.

REPAIR INSTRUCTIONS > REAR SUSPENSION BRACKET REPLACEMENT (FRONT) > INSTALLATION PROCEDURE

Fig 1: Rear Suspension Bracket & Mounting Bolts



Courtesy of GENERAL MOTORS COMPANY

1. Install Rear Suspension Bracket.

 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.

 CAUTION:

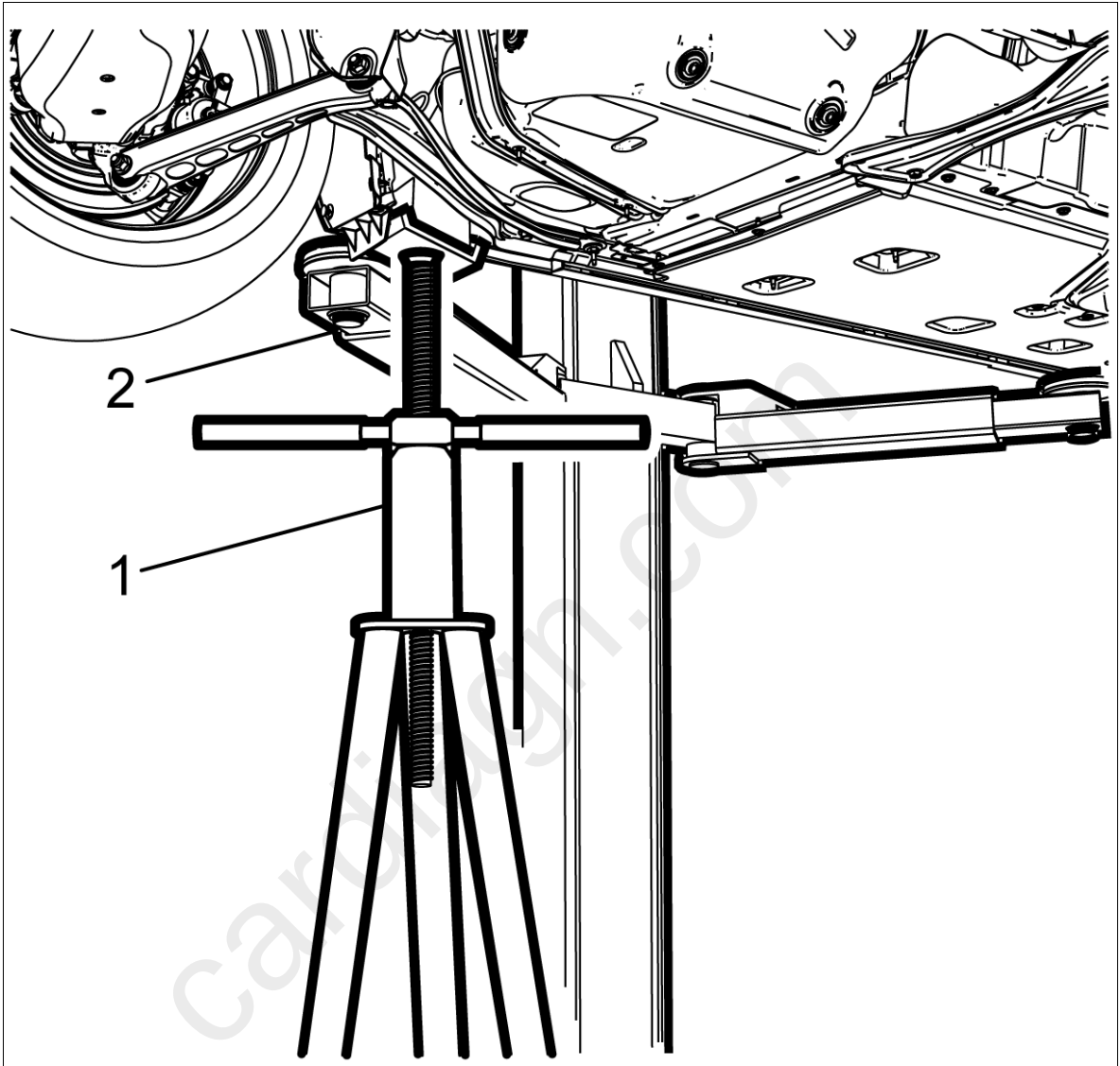
Refer to Fastener Caution .

2. Install two NEW front bracket bolts (1) and tighten to 58 N.m (43 lb ft)

3. Install a NEW rear bracket bolt (2) and tighten to:

1. First Pass: 100 N.m (74 lb ft)
2. Final Pass: plus 90 degrees

Fig 2: Jack Stand & Hoist Pad

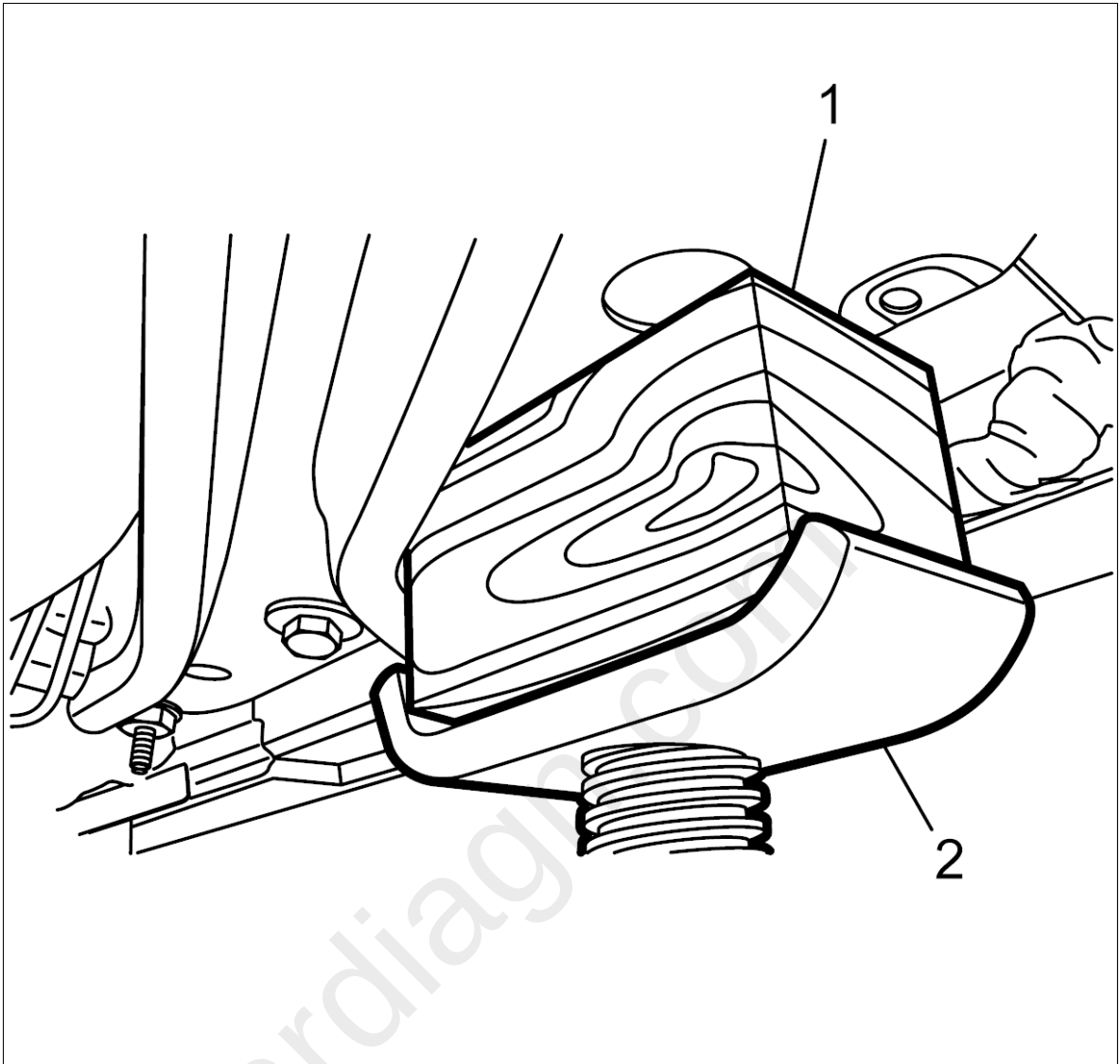


Courtesy of GENERAL MOTORS COMPANY

4. Reposition the hoist lift pad (2) back underneath the vehicle.

5. Using the adjustable jack stand (1) and the block of wood, slowly lower the vehicle back on the hoist pad (2).

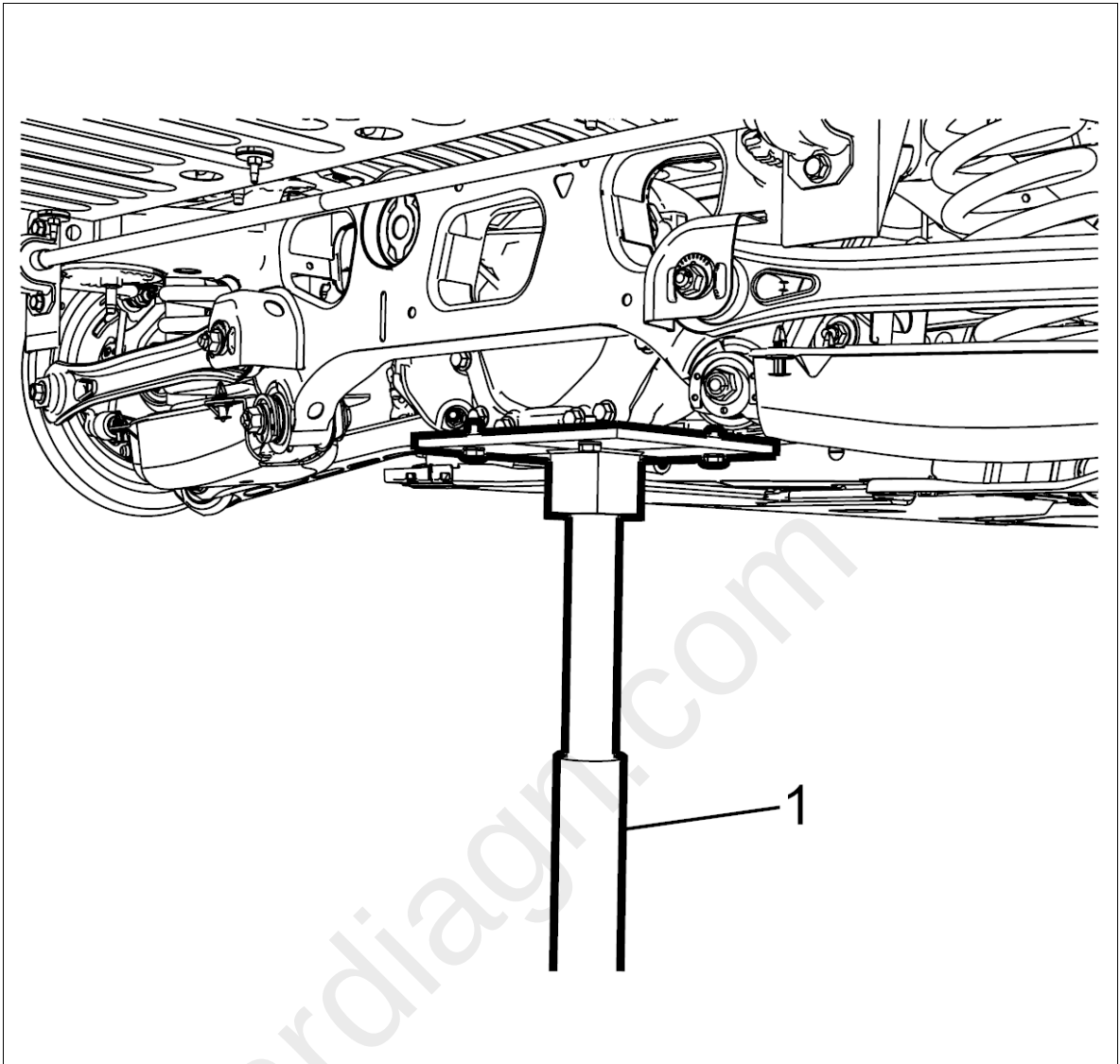
Fig 3: Block Of Wood And Adjustable Jack Stand



Courtesy of GENERAL MOTORS COMPANY

6. Remove the adjustable jack stand (2) and the block of wood (1) from underneath the vehicle.

Fig 4: Jack Stand



Courtesy of GENERAL MOTORS COMPANY

7. Remove the jack stand (1) supporting the rear drive axle.
8. Lower the vehicle.

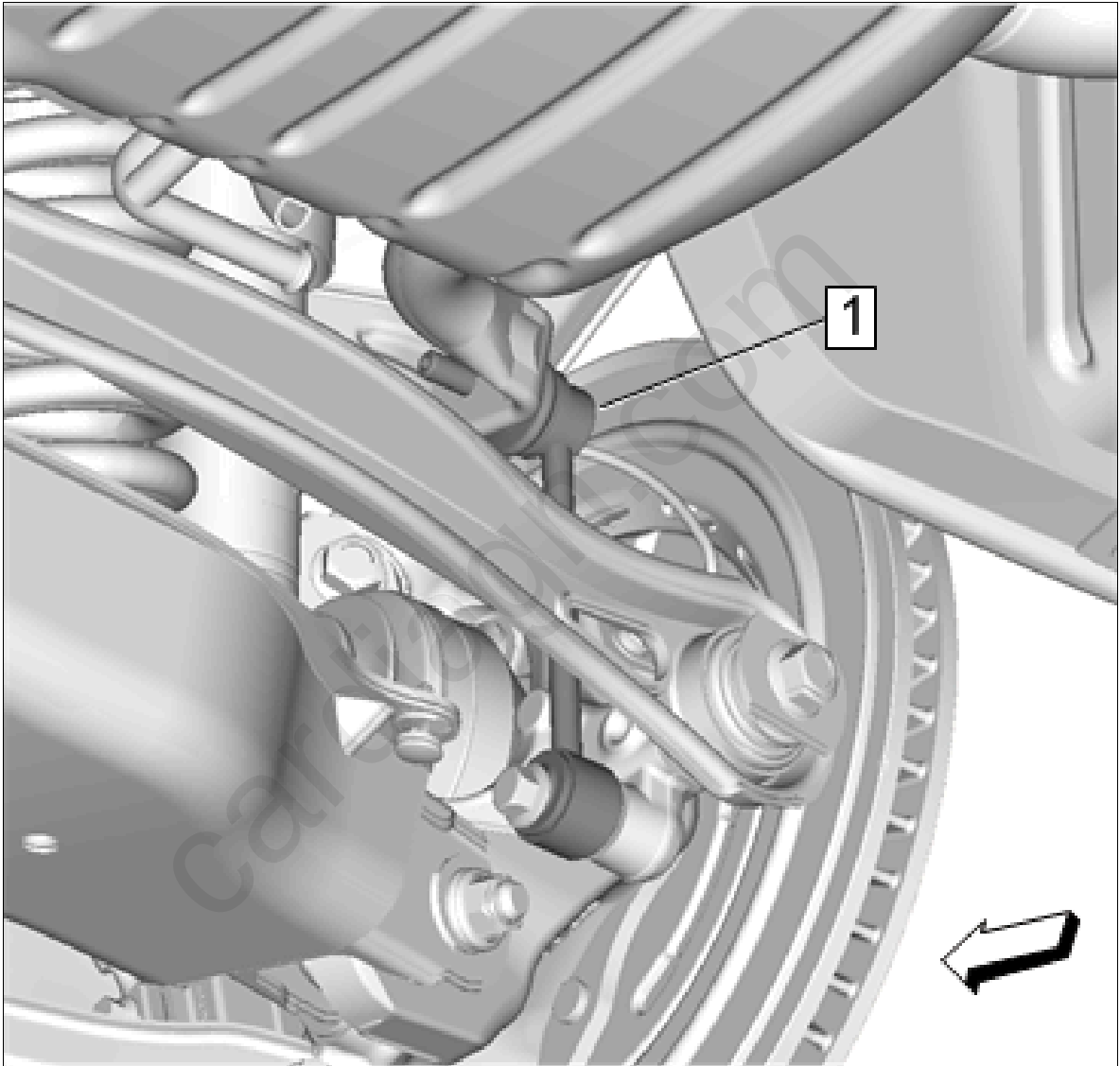
REPAIR INSTRUCTIONS > STABILIZER SHAFT REPLACEMENT (FE3, FE4) > REMOVAL PROCEDURE

1. Remove the rear tire and wheel assemblies. Tire and Wheel Removal and Installation

 CAUTION:

Use care when removing or installing the stabilizer shaft as coating can be removed by contact with tools or other vehicle components. Corrosion will occur and early stabilizer shaft failure will be the result.

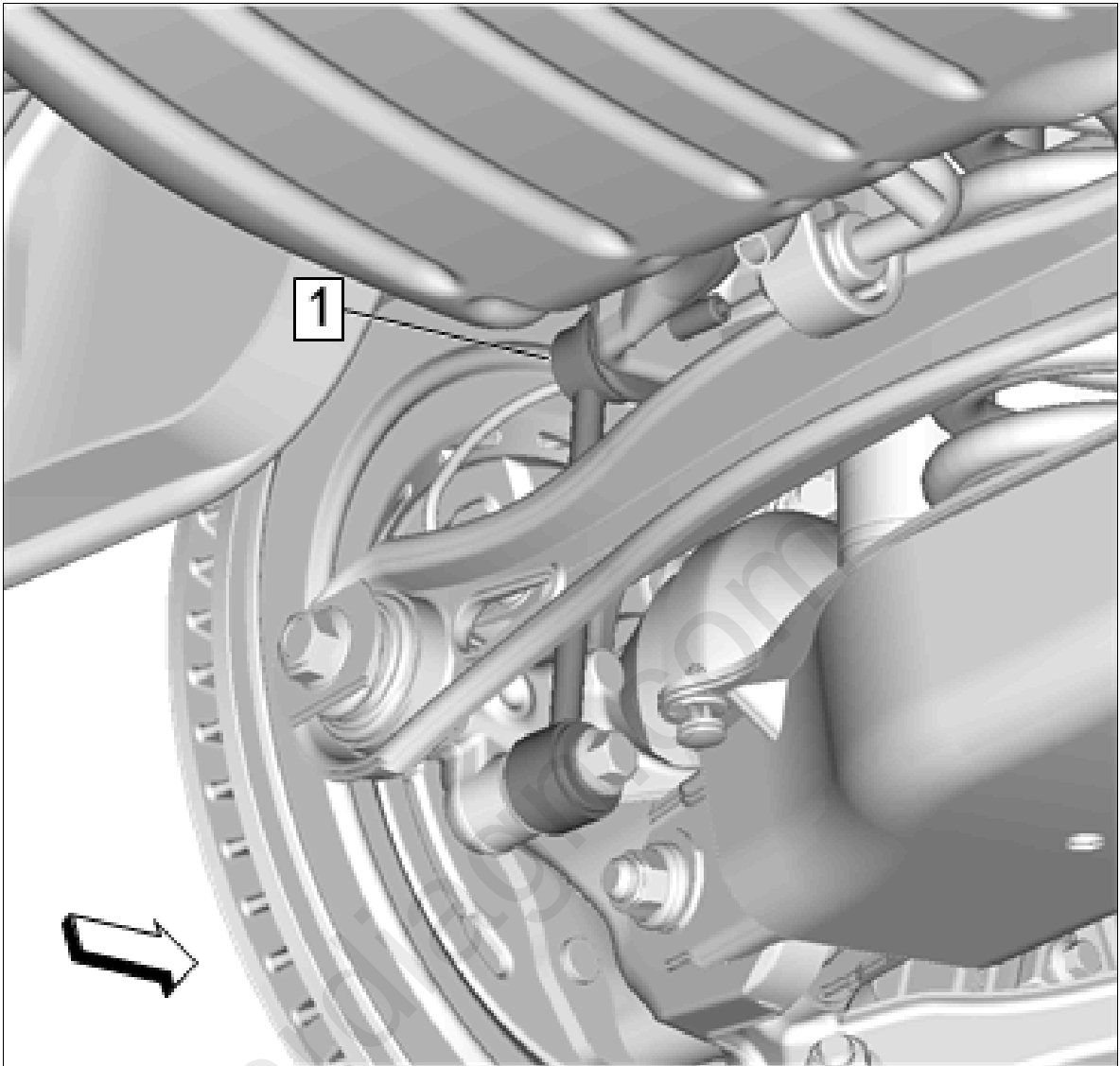
Fig 1: Rear Stabilizer Shaft Link



Courtesy of GENERAL MOTORS COMPANY

2. Separate Rear Stabilizer Shaft Link (1) at Right Side - Stabilizer Shaft Link Replacement

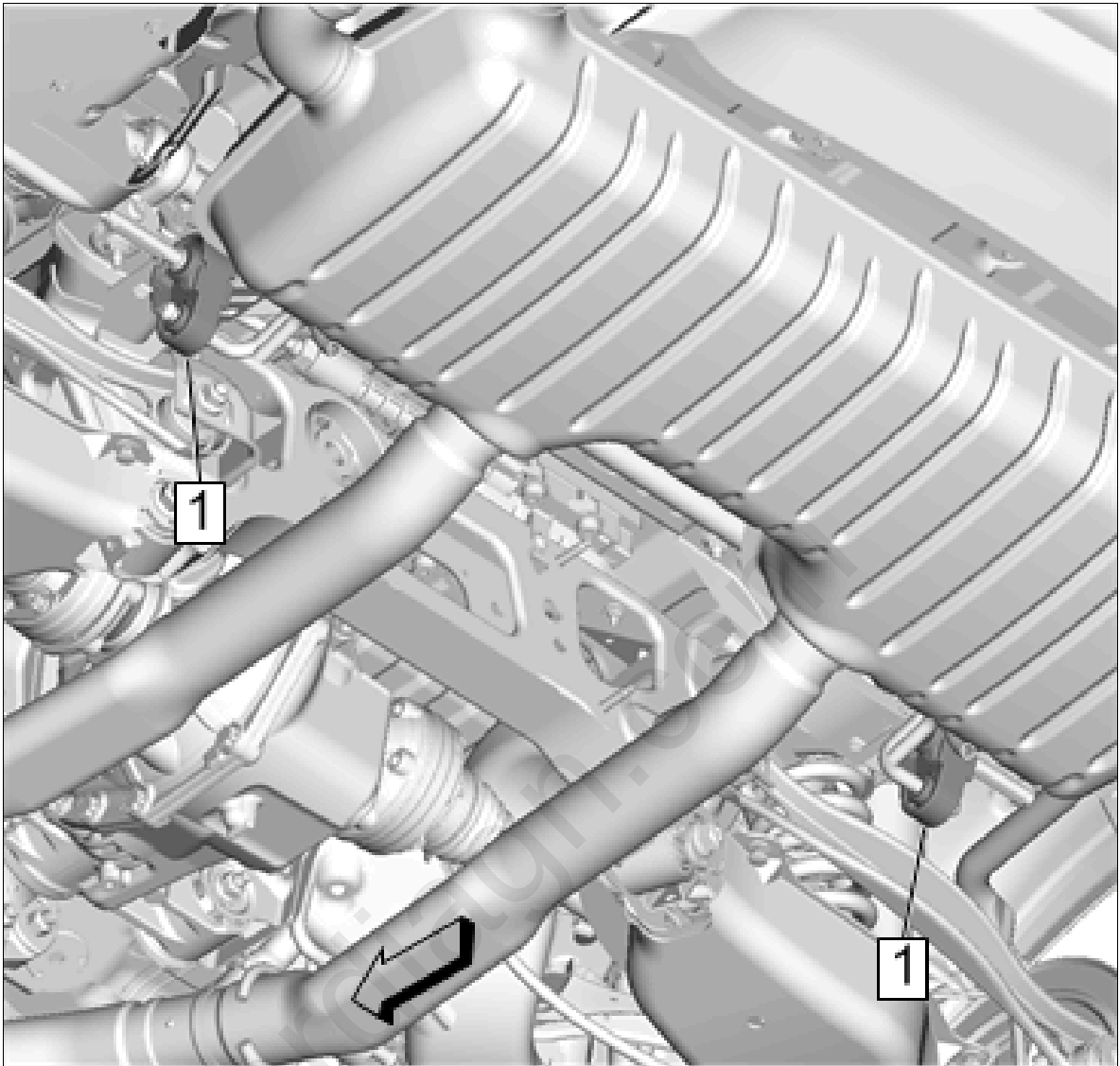
Fig 2: Rear Stabilizer Shaft Link



Courtesy of GENERAL MOTORS COMPANY

3. Separate Rear Stabilizer Shaft Link (1) at Left Side - Stabilizer Shaft Link Replacement

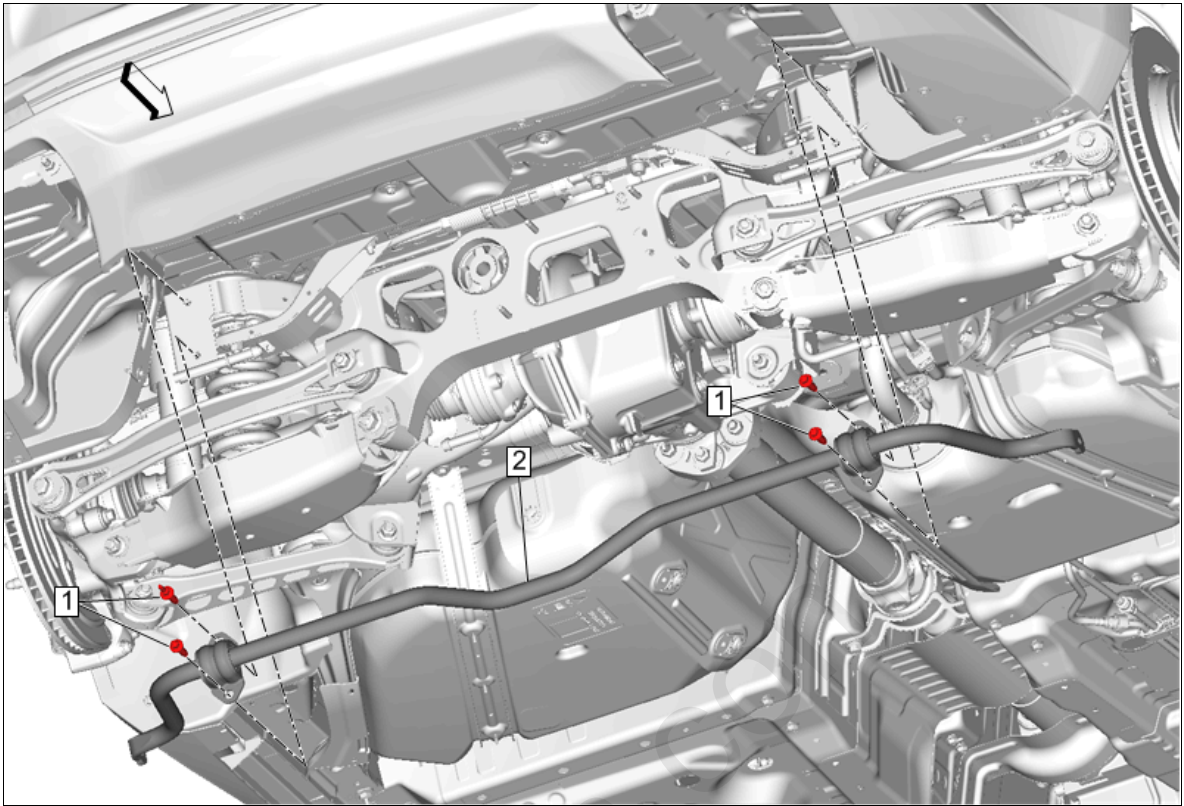
Fig 3: Rear Exhaust Muffler Isolators



Courtesy of GENERAL MOTORS COMPANY

4. Remove the two rear exhaust muffler isolators. Exhaust Muffler Replacement (LGX, Coupe)Exhaust Muffler Replacement (LGX, Convertible)Exhaust Muffler Replacement (LT1, Coupe)Exhaust Muffler Replacement (LT1, Convertible)Exhaust Muffler Replacement (LTG, Coupe)Exhaust Muffler Replacement (LTG, Convertible)
5. Remove the wiring harness from the top left stabilizer shaft insulator clamp bolt.

Fig 4: Rear Stabilizer Shaft And Insulator Clamp Bolt



Courtesy of GENERAL MOTORS COMPANY

 NOTE:

The Exhaust Muffler is removed for illustration purposes only. It is not necessary to remove the Exhaust Muffler to remove the Stabilizer Shaft.

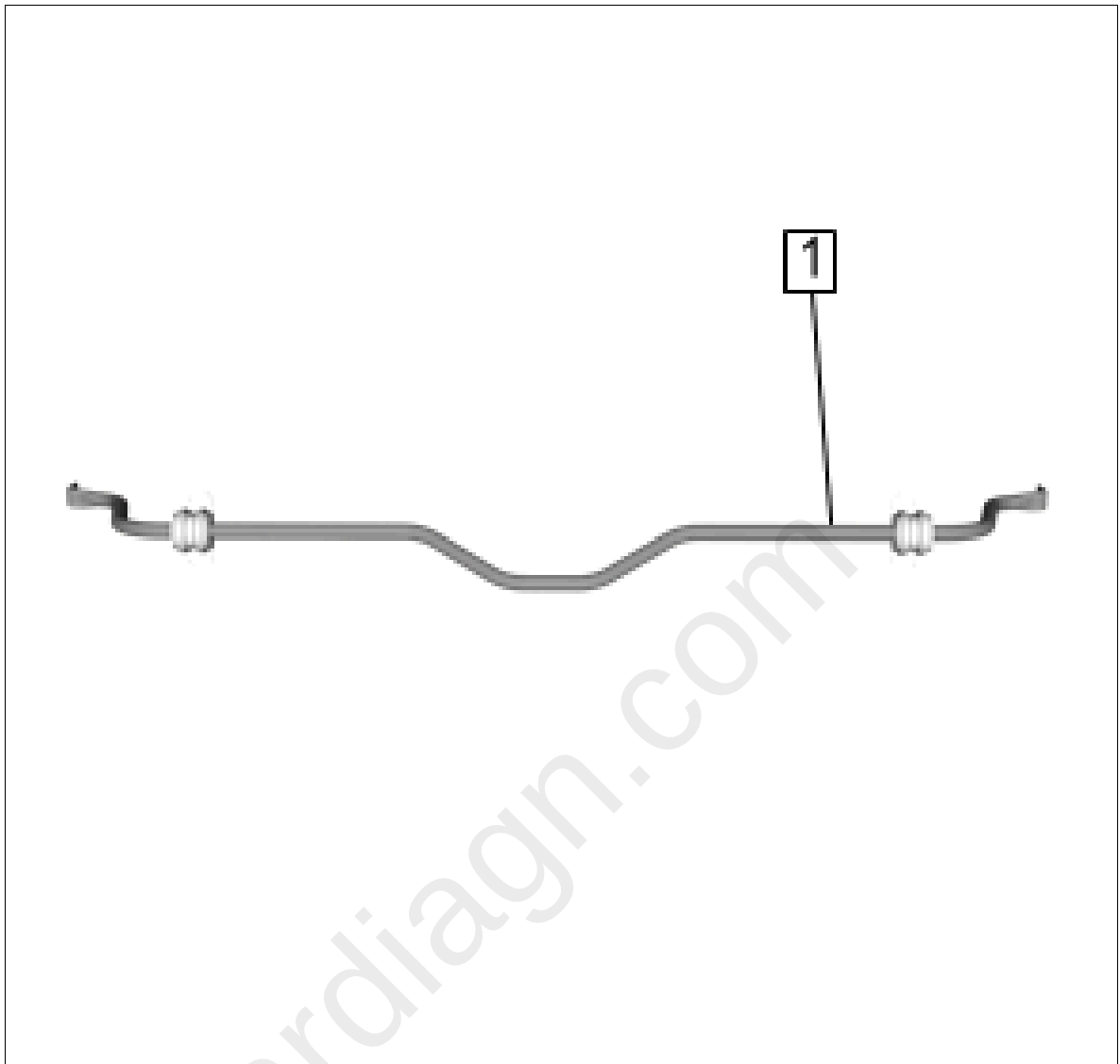
6. Remove Rear Stabilizer Shaft Insulator Clamp Bolt (1) (Qty: 4).
7. Remove Rear Stabilizer Shaft (2).

REPAIR INSTRUCTIONS > STABILIZER SHAFT REPLACEMENT (FE3, FE4) > INSTALLATION PROCEDURE

 CAUTION:

Use care when removing or installing the stabilizer shaft as coating can be removed by contact with tools or other vehicle components. Corrosion will occur and early stabilizer shaft failure will be the result.

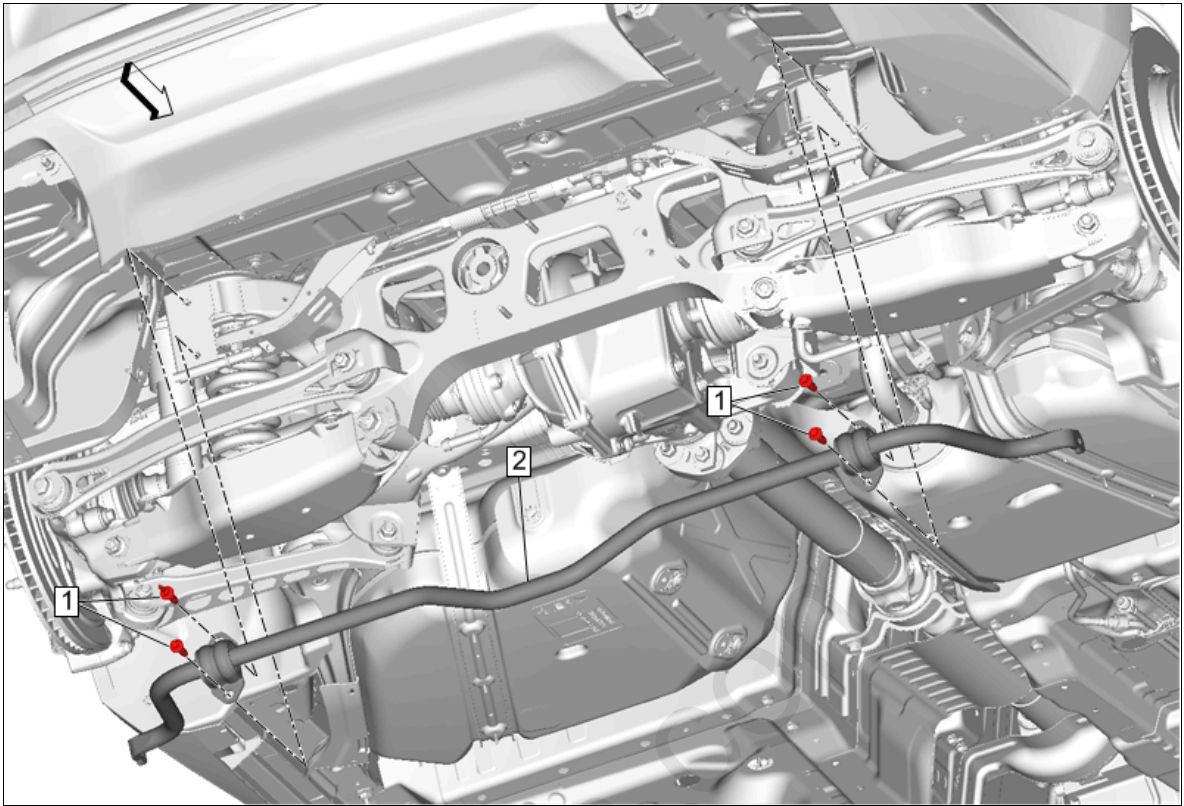
Fig 1: ID Label



Courtesy of GENERAL MOTORS COMPANY

1. Prior to installation verify that the ID label (1) is on the right hand side of the vehicle.
2. Install the stabilizer shaft with the vehicle at curb height.

Fig 2: Rear Stabilizer Shaft And Insulator Clamp Bolt



Courtesy of GENERAL MOTORS COMPANY

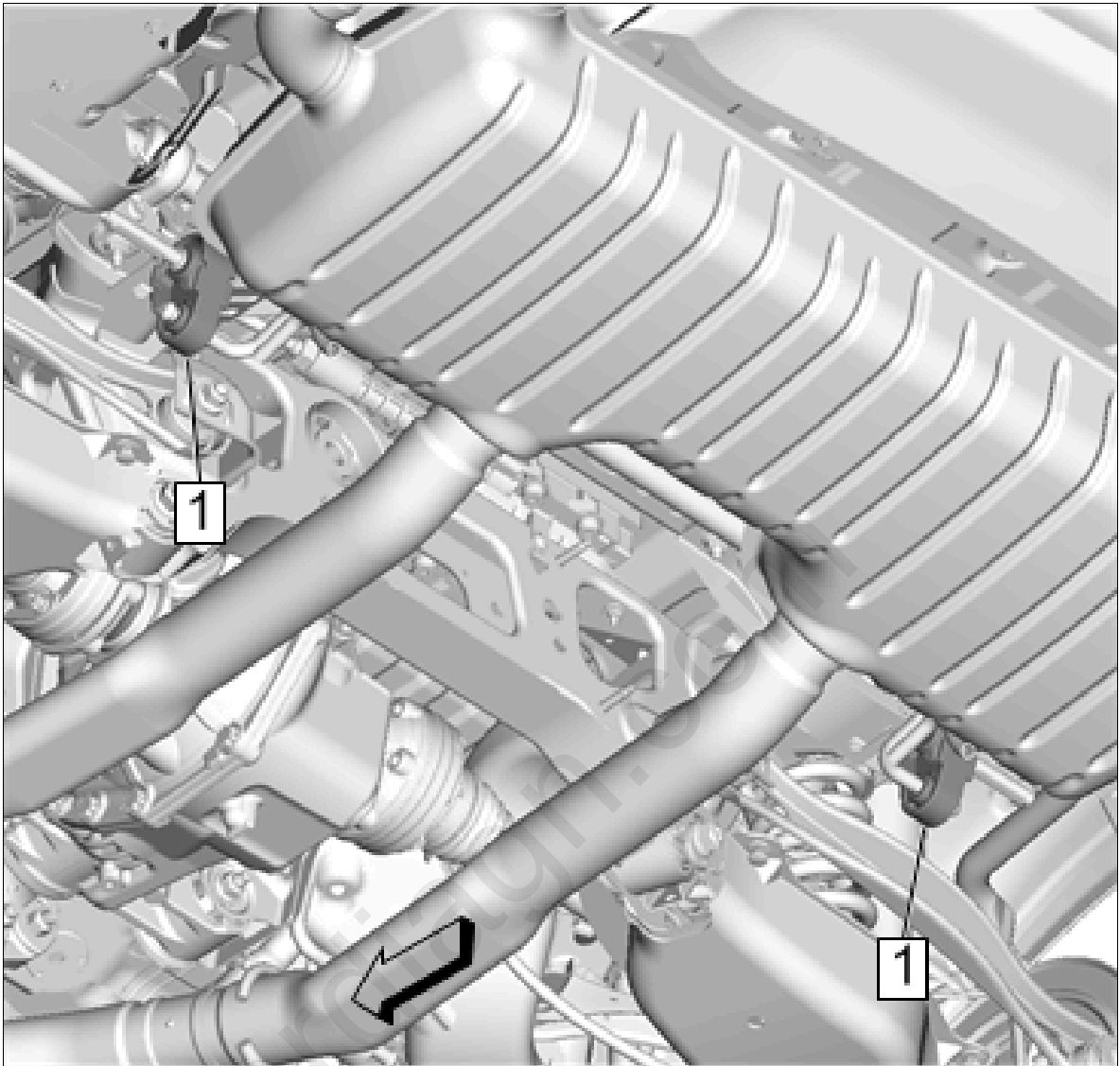
3. Install Rear Stabilizer Shaft (2).

 **CAUTION:**

Refer to Fastener Caution .

4. Install Rear Stabilizer Shaft Insulator Clamp Bolt (1) (Qty: 4) and tighten to 58 N.m (43 lb ft)
5. Install the wiring harness to the top left stabilizer shaft insulator clamp bolt.

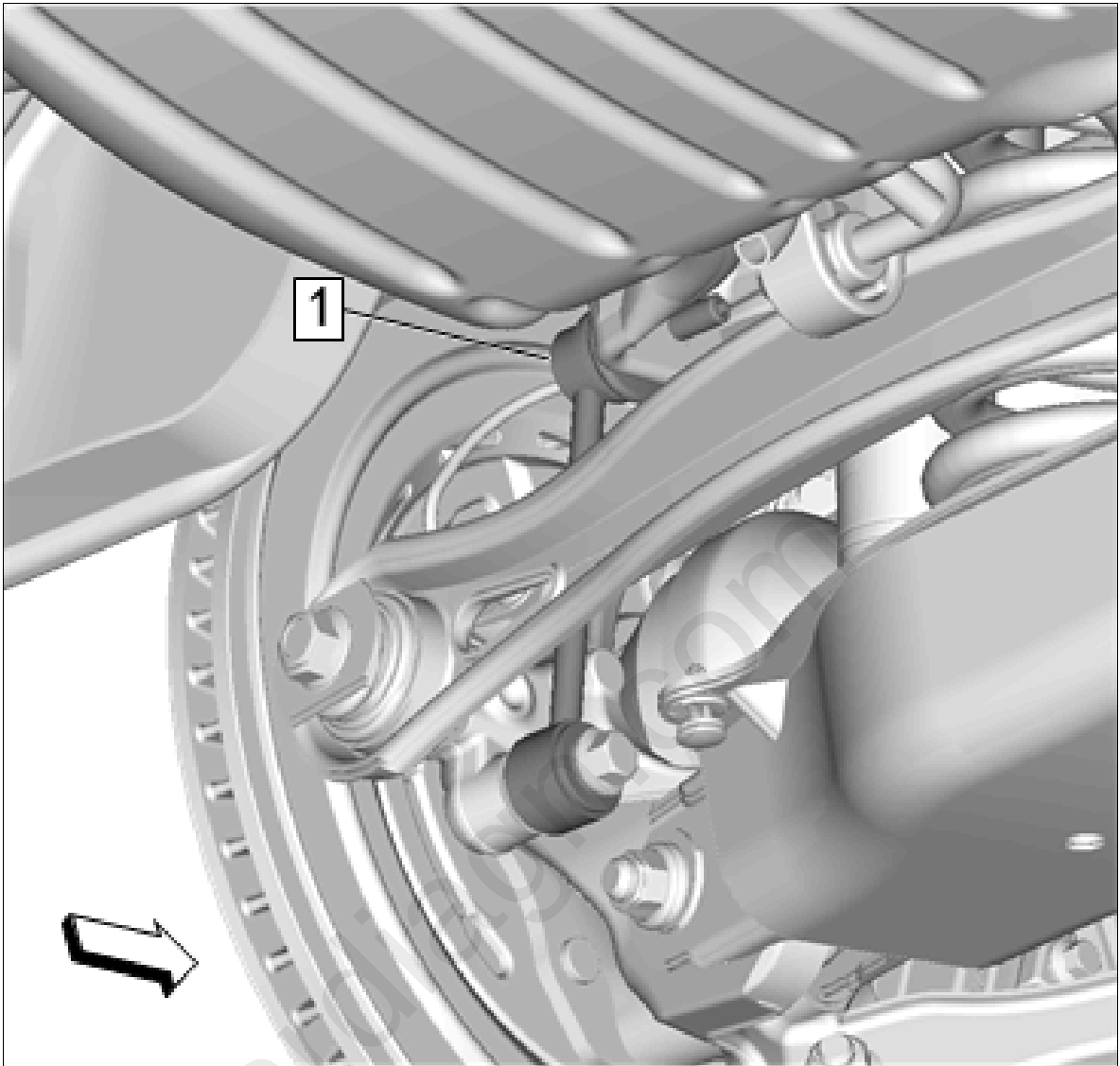
Fig 3: Rear Exhaust Muffler Isolators



Courtesy of GENERAL MOTORS COMPANY

6. Install the two rear exhaust muffler isolators. Exhaust Muffler Replacement (LGX, Coupe)Exhaust Muffler Replacement (LGX, Convertible)Exhaust Muffler Replacement (LT1, Coupe)Exhaust Muffler Replacement (LT1, Convertible)Exhaust Muffler Replacement (LTG, Coupe)Exhaust Muffler Replacement (LTG, Convertible)

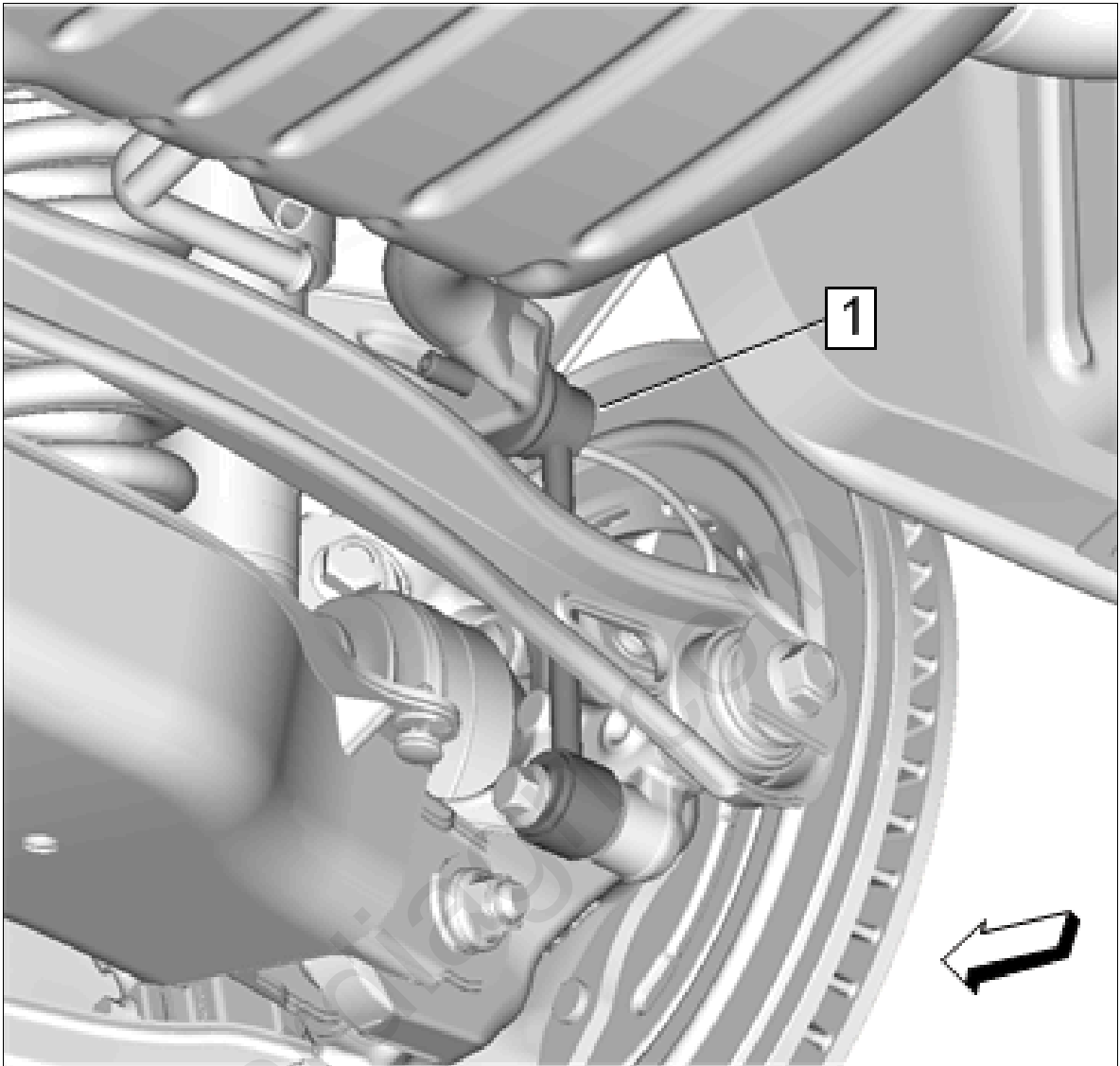
Fig 4: Rear Stabilizer Shaft Link



Courtesy of GENERAL MOTORS COMPANY

7. Install Rear Stabilizer Shaft Link (1) at Left Side - Stabilizer Shaft Link Replacement

Fig 5: Rear Stabilizer Shaft Link

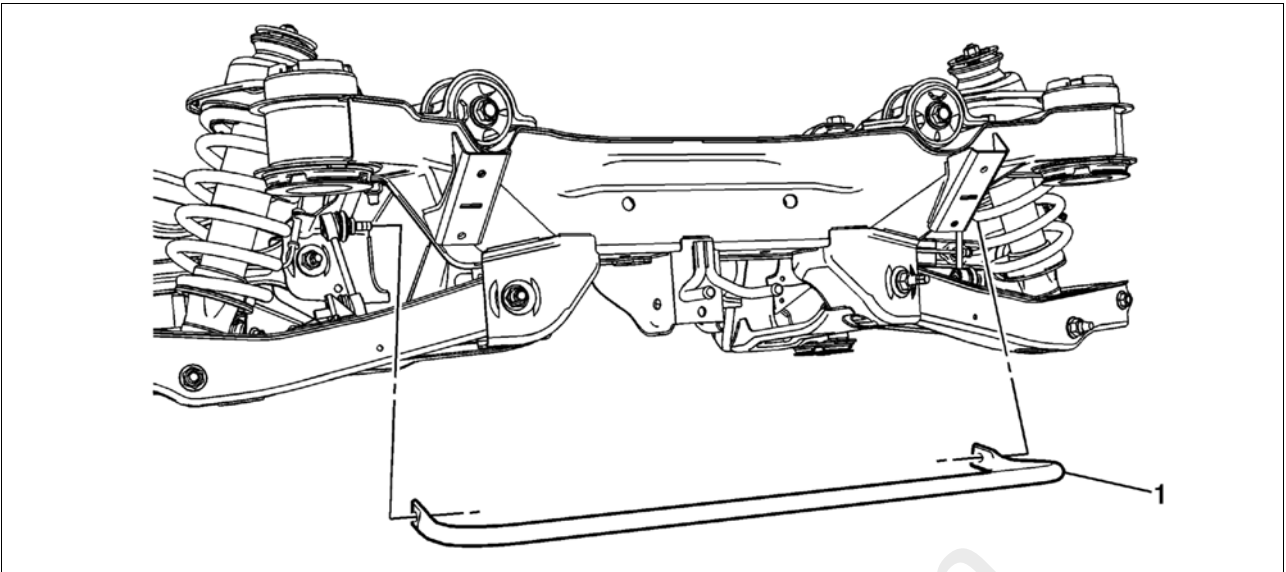


Courtesy of GENERAL MOTORS COMPANY

8. Install Rear Stabilizer Shaft Link (1) at Right Side - Stabilizer Shaft Link Replacement
9. Install the rear tire and wheel assemblies. Tire and Wheel Removal and Installation

REPAIR INSTRUCTIONS > STABILIZER SHAFT REPLACEMENT

Fig 1: Stabilizer Shaft

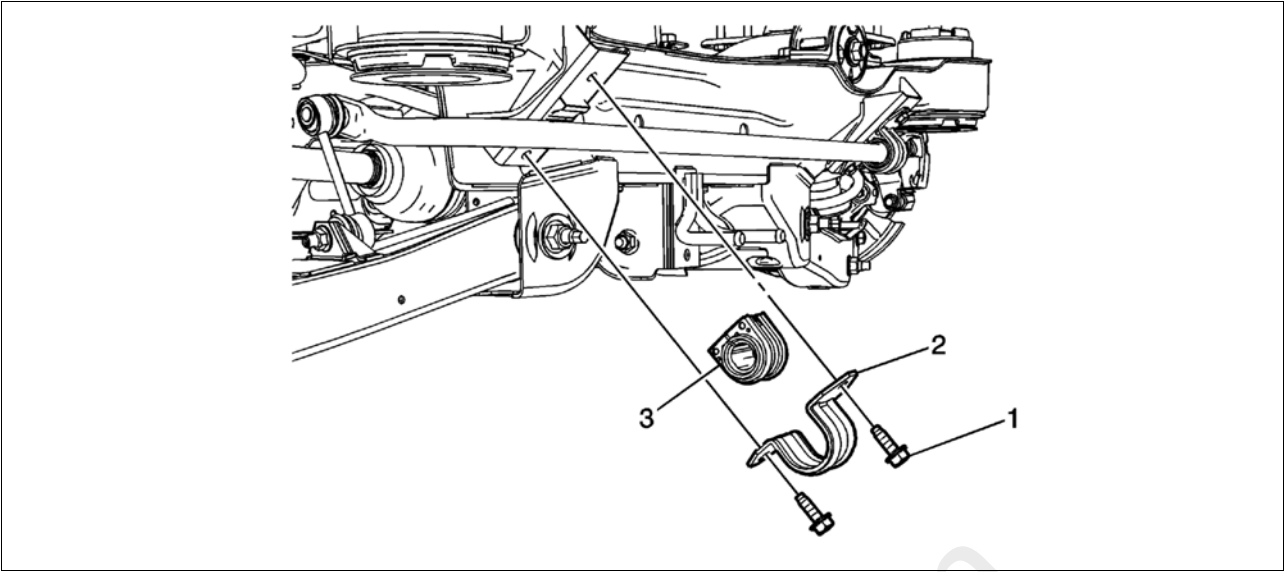


Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. Raise and support the vehicle. Lifting and Jacking the Vehicle (Base)Lifting and Jacking the Vehicle (HP) 2. Remove the rear stabilizer shaft from the rear stabilizer shaft links. Stabilizer Shaft Link Replacement 3. Separate the rear exhaust muffler insulators from the exhaust muffler. Exhaust Muffler Replacement (LGX, Coupe)Exhaust Muffler Replacement (LGX, Convertible)Exhaust Muffler Replacement (LT1, Coupe)Exhaust Muffler Replacement (LT1, Convertible)Exhaust Muffler Replacement (LTG, Coupe)Exhaust Muffler Replacement (LTG, Convertible) 4. Remove the rear stabilizer shaft bushings. Stabilizer Shaft Insulator Replacement Stabilizer Shaft Insulator Replacement (FE3, FE4)	
1	Rear Stabilizer Shaft

REPAIR INSTRUCTIONS > STABILIZER SHAFT INSULATOR REPLACEMENT

Fig 1: Stabilizer Shaft Insulator



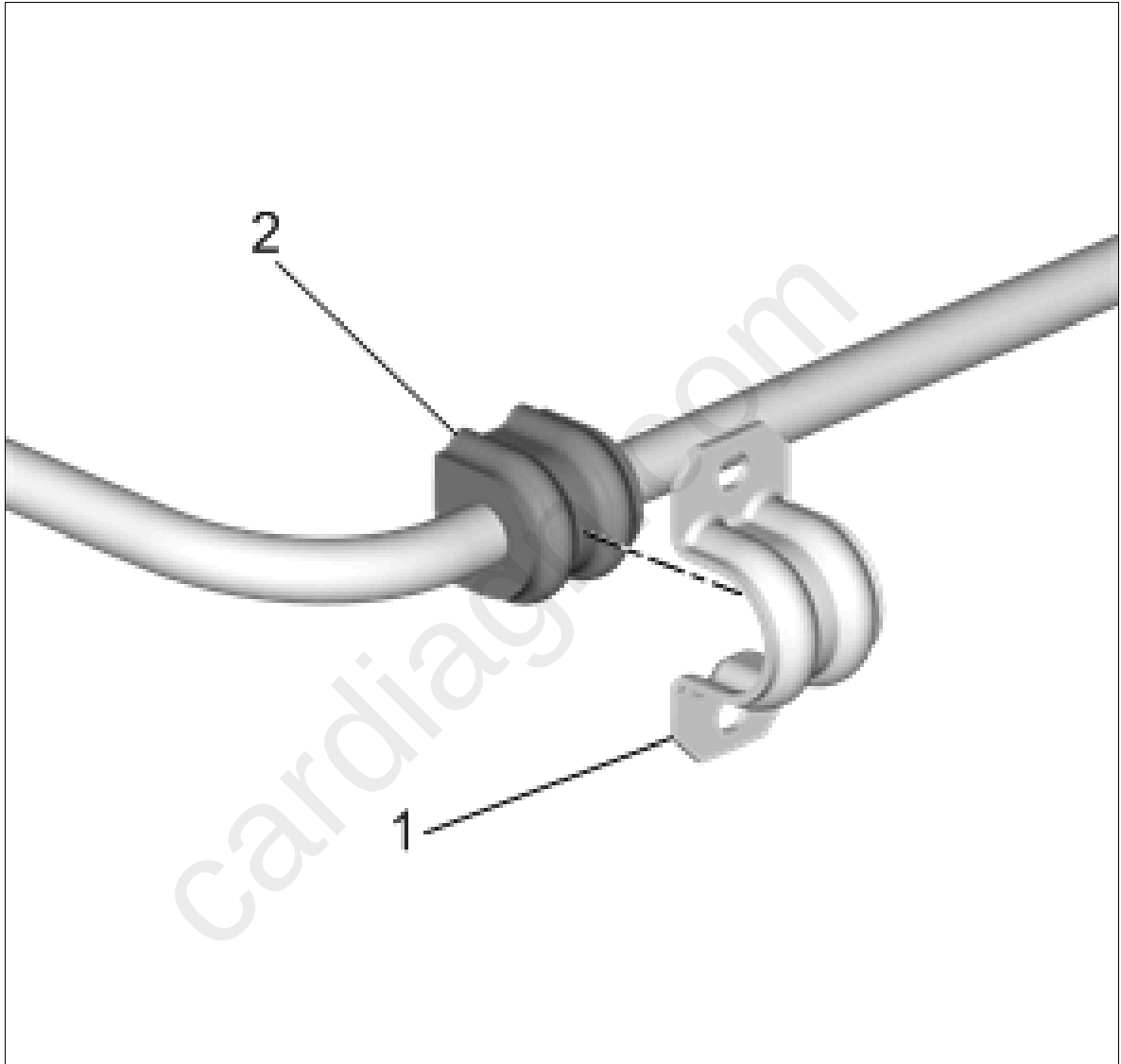
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. Raise and support the vehicle. Lifting and Jacking the Vehicle (Base)Lifting and Jacking the Vehicle (HP) 2. Remove the wiring harness retainer from the upper insulator clamp bolt, if equipped.	
1	Rear Stabilizer Shaft Clamp Bolt (Qty: 2) CAUTION: <i>Refer to Fastener Caution .</i>  NOTE: <i>The stabilizer shaft must be at Trim Height before tightening the Rear Stabilizer Shaft Clamp Bolts.</i> Tighten 58 N.m (43 lb ft)
2	Rear Stabilizer Shaft Clamp
3	Rear Stabilizer Shaft Insulator

REPAIR INSTRUCTIONS > STABILIZER SHAFT INSULATOR REPLACEMENT (FE3, FE4) > REMOVAL PROCEDURE

1. Remove Stabilizer Shaft - Stabilizer Shaft Replacement (FE3, FE4) Stabilizer Shaft Replacement

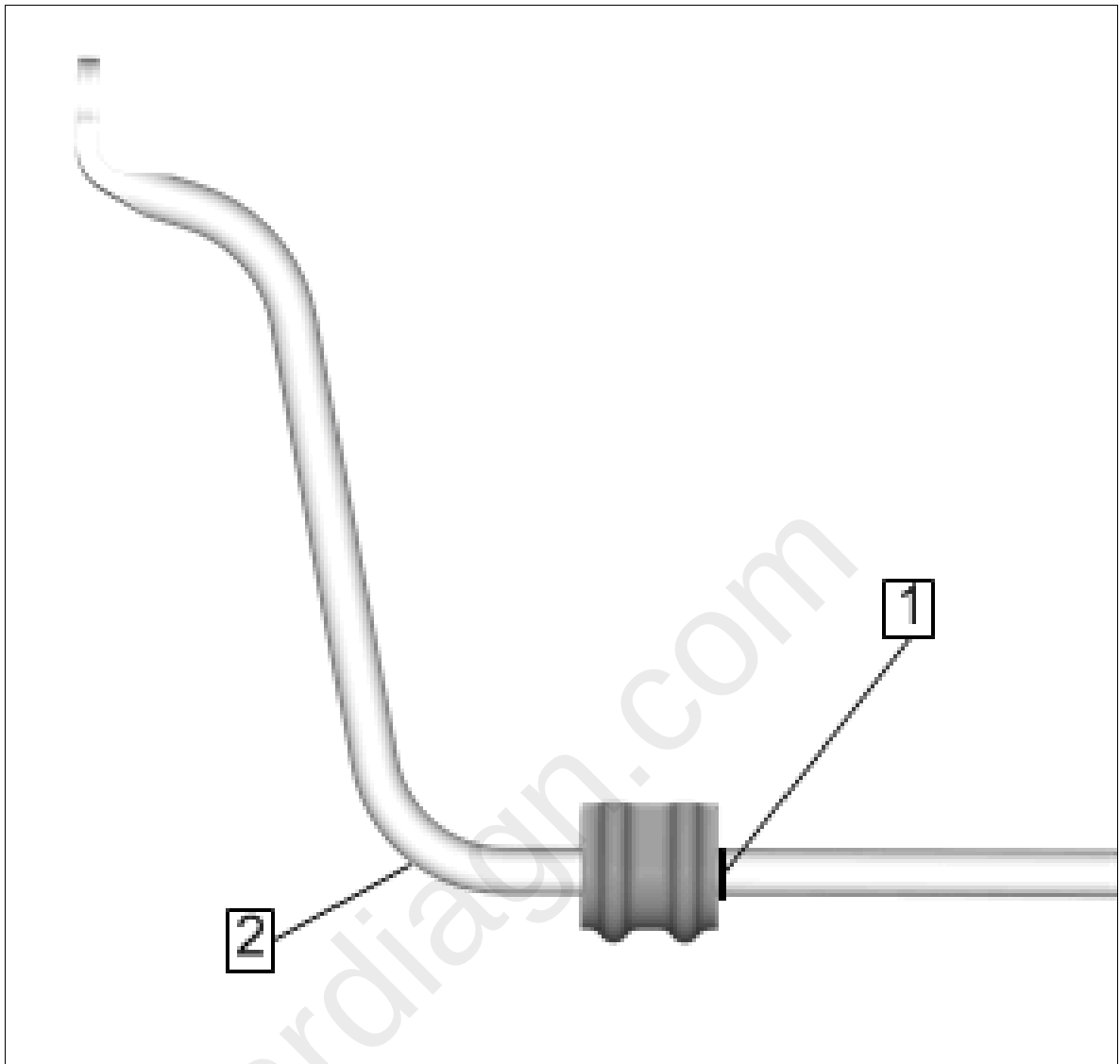
Fig 1: Rear Stabilizer Shaft Insulator And Clamp



Courtesy of GENERAL MOTORS COMPANY

2. Remove the rear stabilizer shaft insulator clamp (1) from the stabilizer shaft insulator (2).

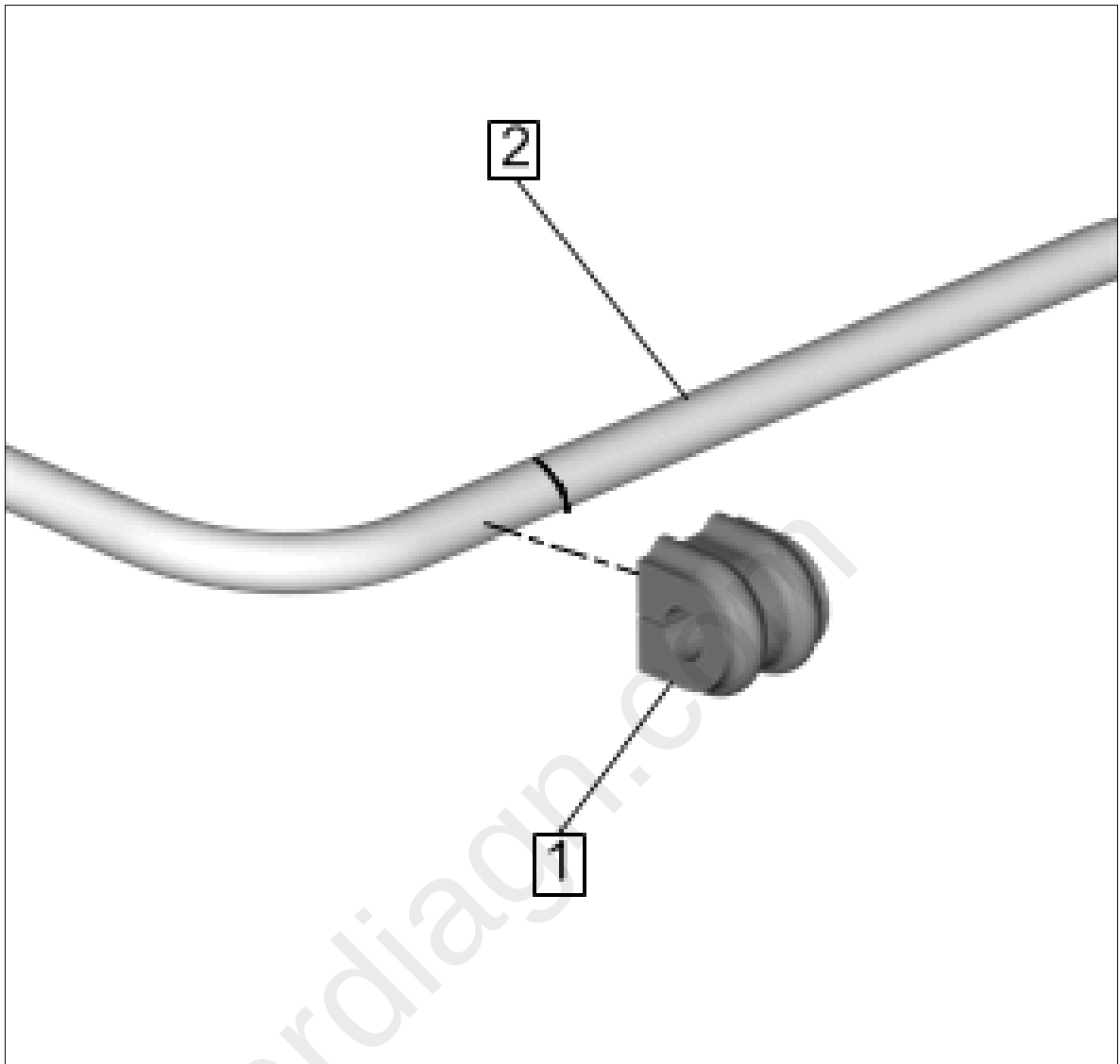
Fig 2: Reference Mark On Stabilizer Shaft



Courtesy of GENERAL MOTORS COMPANY

3. Paint a reference mark (1) on the stabilizer shaft (2) next to the stabilizer shaft insulator.

Fig 3: Stabilizer Shaft Insulator And Stabilizer Shaft

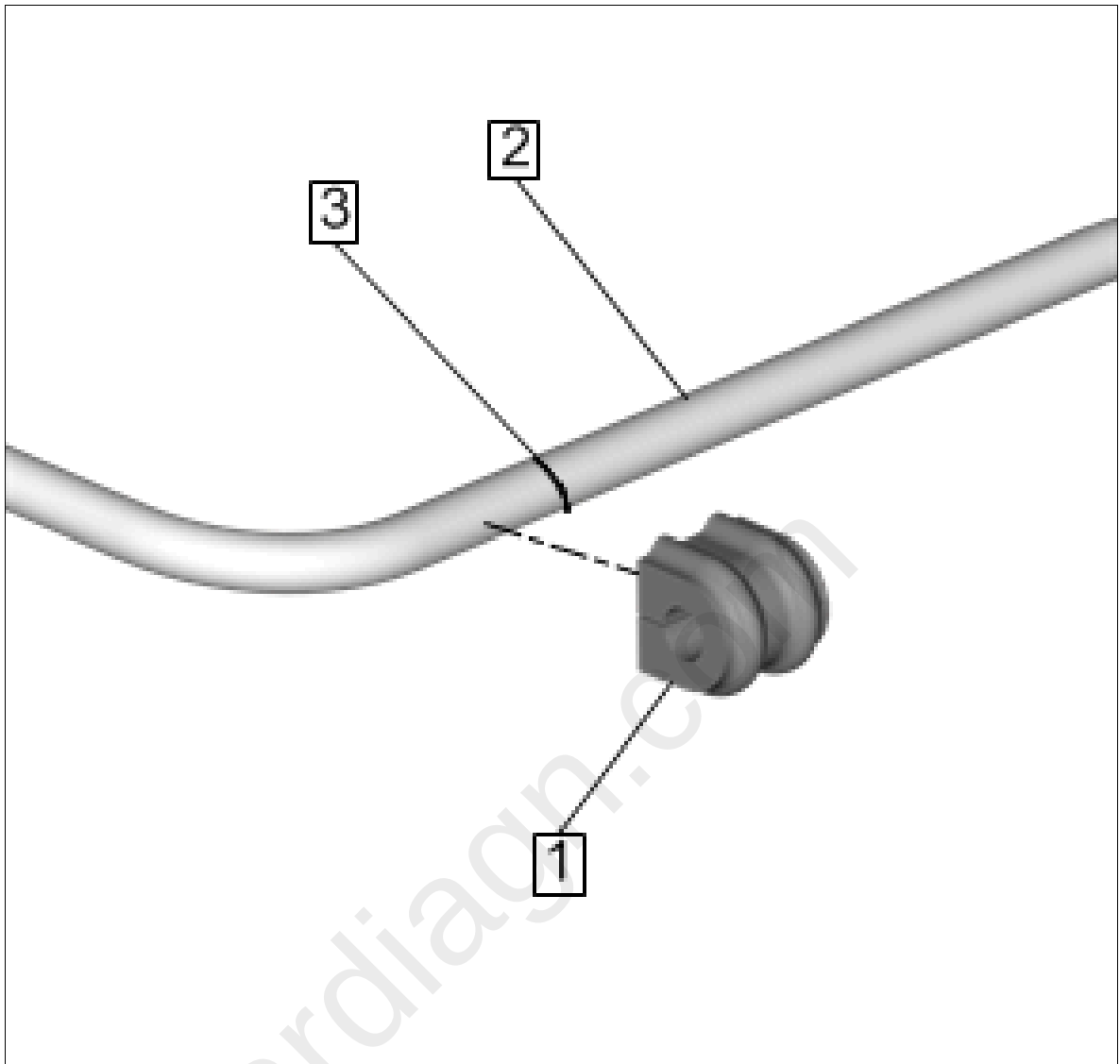


Courtesy of GENERAL MOTORS COMPANY

4. Remove the stabilizer shaft insulator (1) from the stabilizer shaft (2).

REPAIR INSTRUCTIONS > STABILIZER SHAFT INSULATOR REPLACEMENT (FE3, FE4) > INSTALLATION PROCEDURE

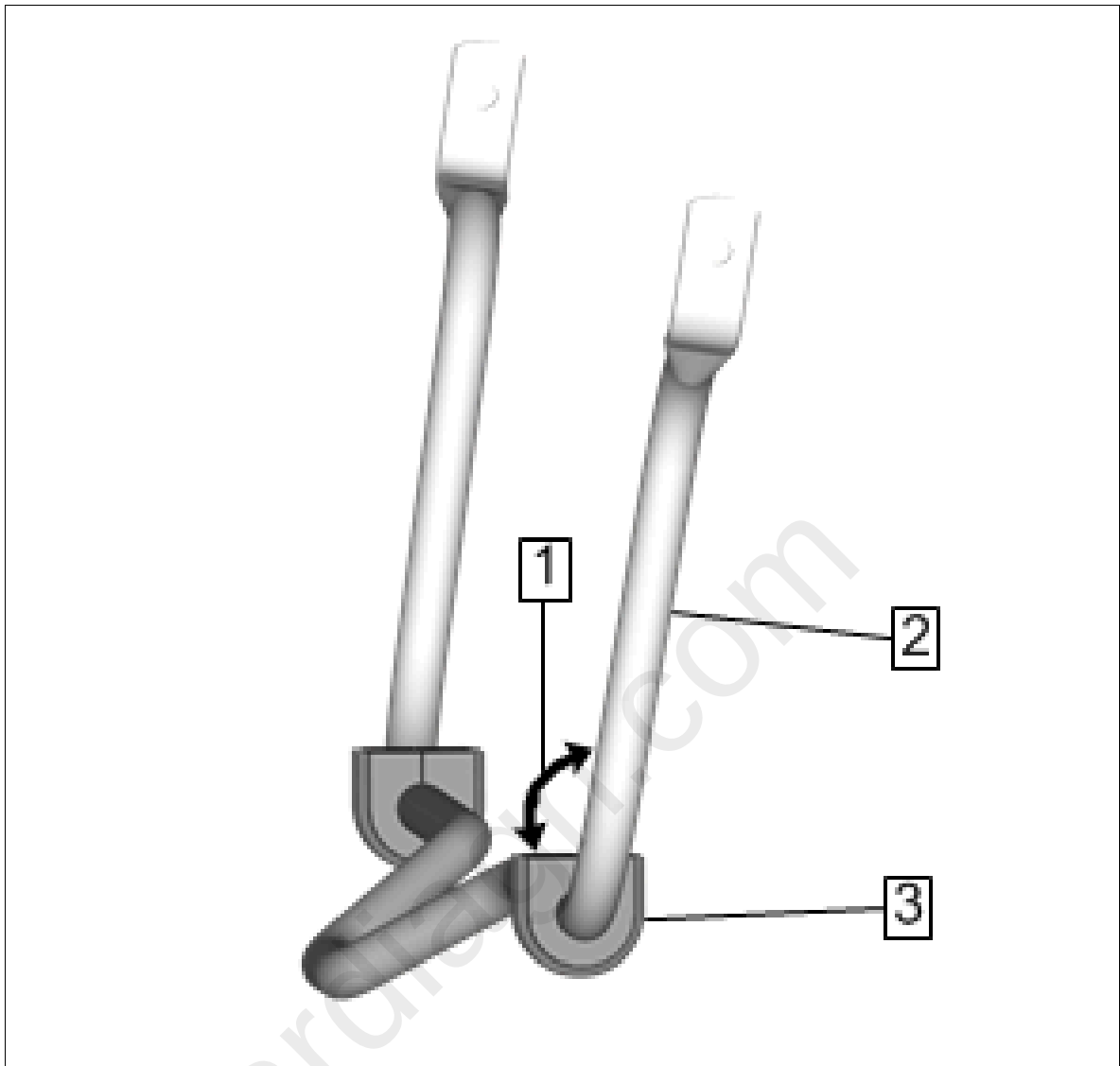
Fig 1: Stabilizer Shaft Insulator, Stabilizer Shaft And Painted Reference Mark



Courtesy of GENERAL MOTORS COMPANY

1. Install the stabilizer shaft insulator (1) onto the stabilizer shaft (2) aligning it with the painted reference mark (3).

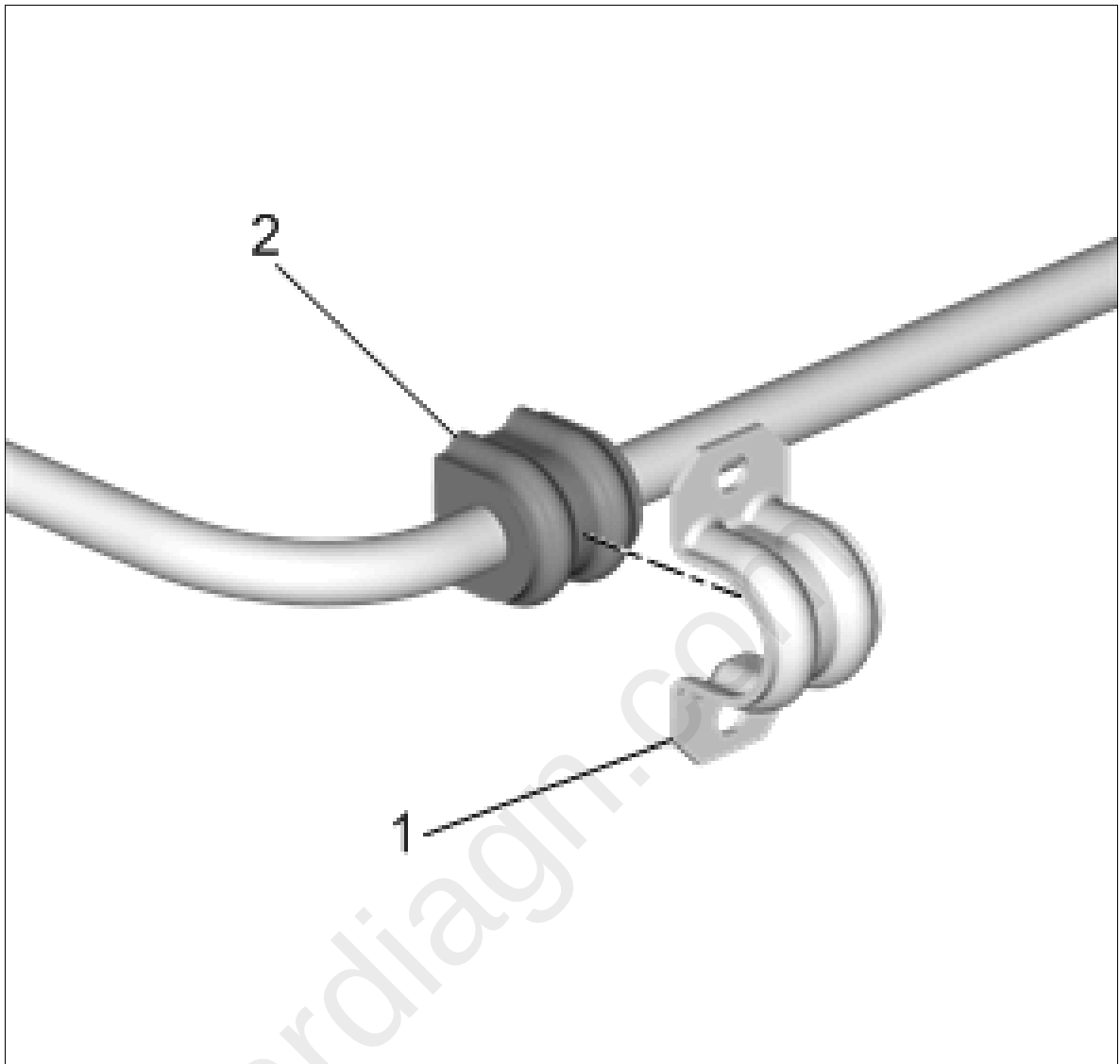
Fig 2: Position Stabilizer Shaft And Stabilizer Insulator



Courtesy of GENERAL MOTORS COMPANY

2. Prior to installing the stabilizer shaft insulator clamp, position the stabilizer shaft (2) and the stabilizer insulator (3) at an angle of 84.6 degrees (1).
3. Apply a soap and water solution to the outside of the stabilizer shaft insulator to aid in installation of the stabilizer shaft insulator clamp.

Fig 3: Stabilizer Shaft And Stabilizer Shaft Insulator Clamp In Vice



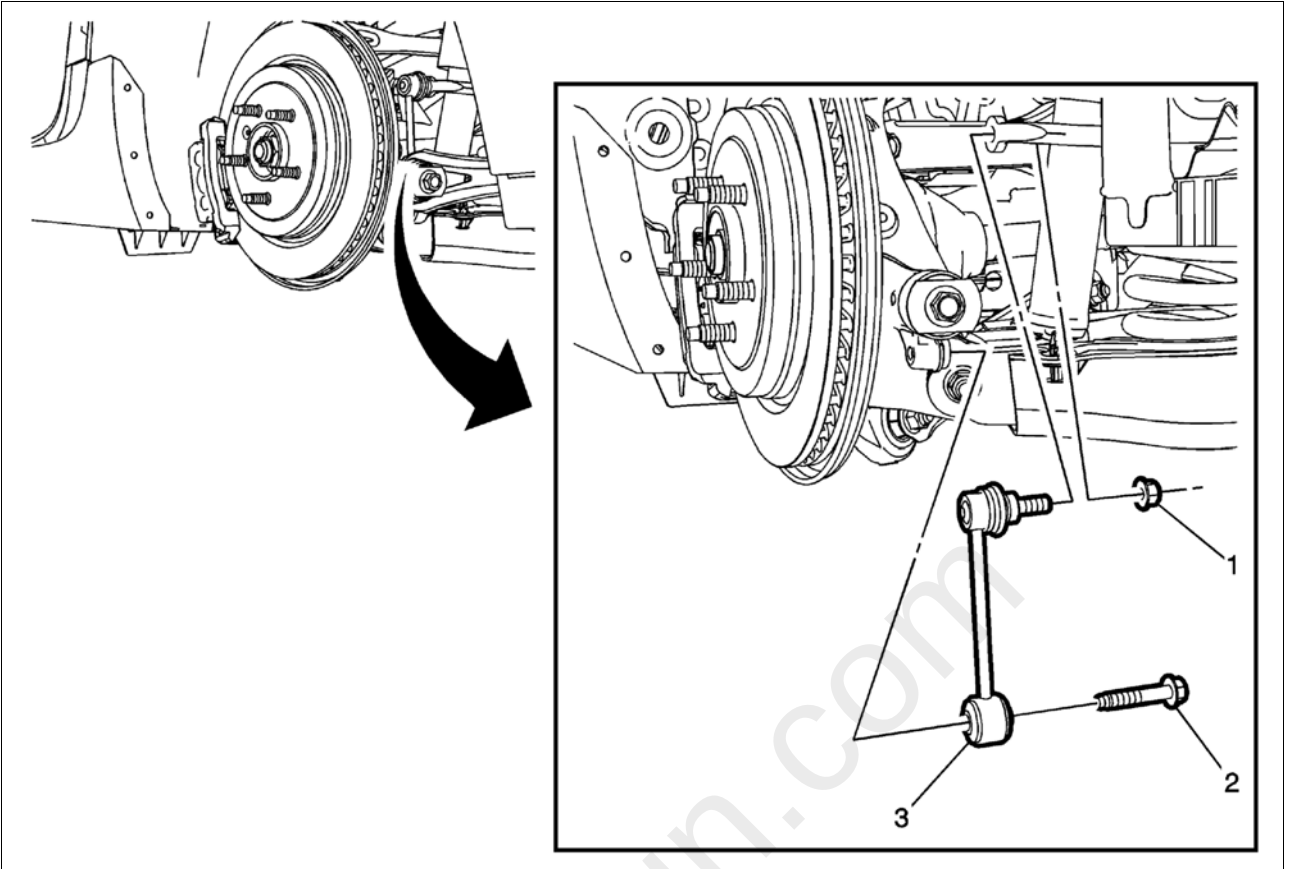
Courtesy of GENERAL MOTORS COMPANY

 NOTE:

Use caution not to change the angle of the stabilizer shaft and the stabilizer shaft insulator when the stabilizer shaft insulator clamp is installed.

4. Place the stabilizer shaft and the stabilizer shaft insulator clamp into a vice and press them together.
5. Stabilizer Shaft»Install — Stabilizer Shaft Replacement (FE3, FE4) Stabilizer Shaft Replacement

Fig 1: Stabilizer Shaft Link



Courtesy of GENERAL MOTORS COMPANY

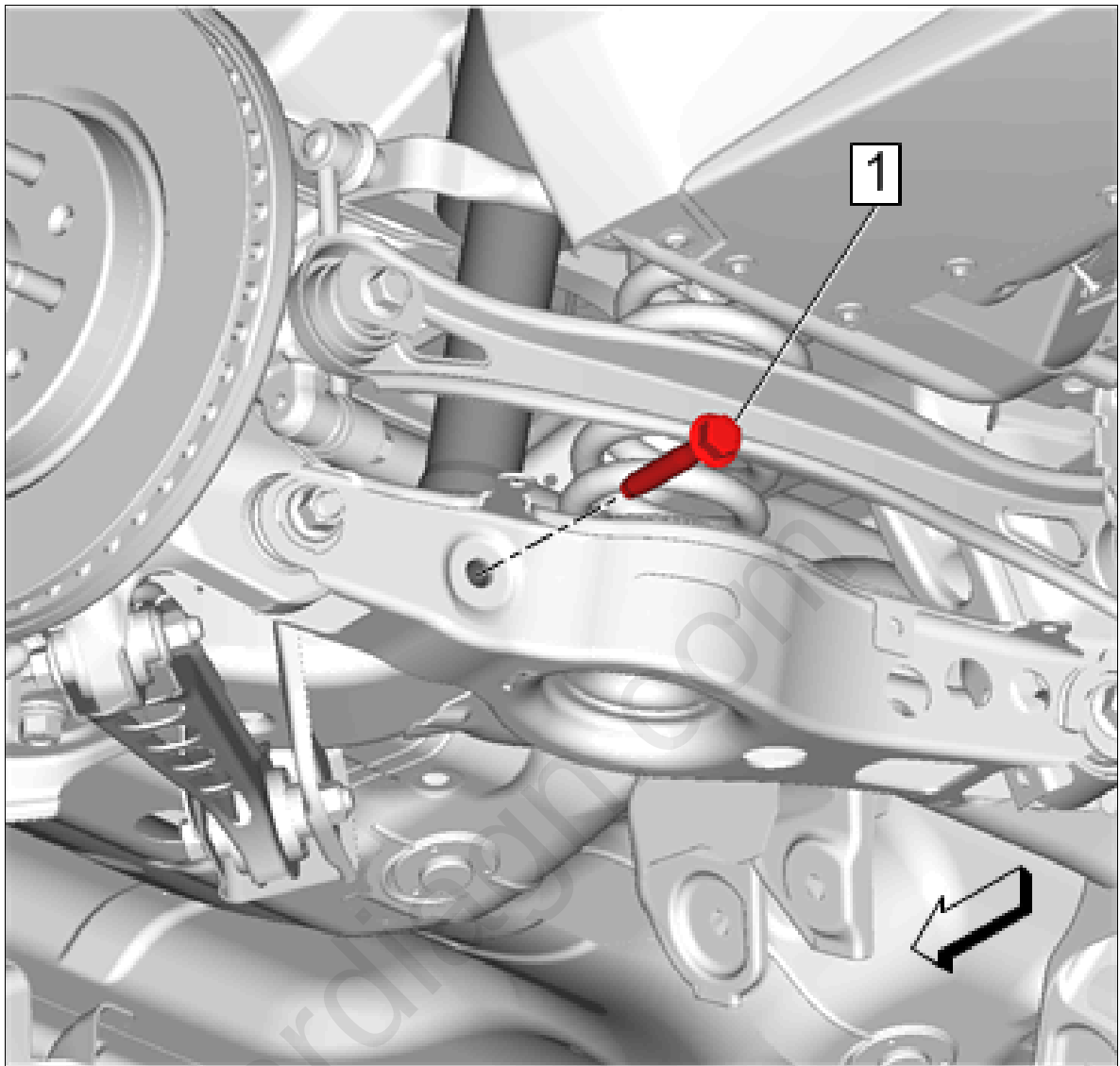
Callout	Component Name
Preliminary Procedures 1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle (Base)Lifting and Jacking the Vehicle (HP) . 2. Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation . 3. Remove the rear suspension lower control arm cover. Refer to Rear Suspension Lower Control Arm Cover Replacement .	
1	Stabilizer Shaft Link Nut CAUTION: <i>Refer to Fastener Caution .</i> Procedure 1. Using the proper size allen wrench, hold the upper stabilizer shaft ball stud.

	2. Remove the upper stabilizer shaft link nut.  NOTE: <i>DO NOT allow the upper stabilizer shaft ball stud to rotate.</i> Tighten 43 N.m (32 lb ft)  NOTE: <i>Tighten at curb height using jackstands. Refer to Height Measurements.</i>
2	Stabilizer Shaft Link Bolt Procedure Remove the stabilizer shaft bolt. Tighten 58 N.m (43 lb ft)
3	Stabilizer Shaft Link

REPAIR INSTRUCTIONS > SHOCK ABSORBER REPLACEMENT > REMOVAL PROCEDURE

1. Remove the tire and wheel assembly. Tire and Wheel Removal and Installation
2. Remove the rear wheelhouse panel liner. Rear Wheelhouse Liner Replacement
3. Remove the rear suspension lower control arm cover. Rear Suspension Lower Control Arm Cover Replacement
4. Using a hydraulic jack, support the rear lower control arm.

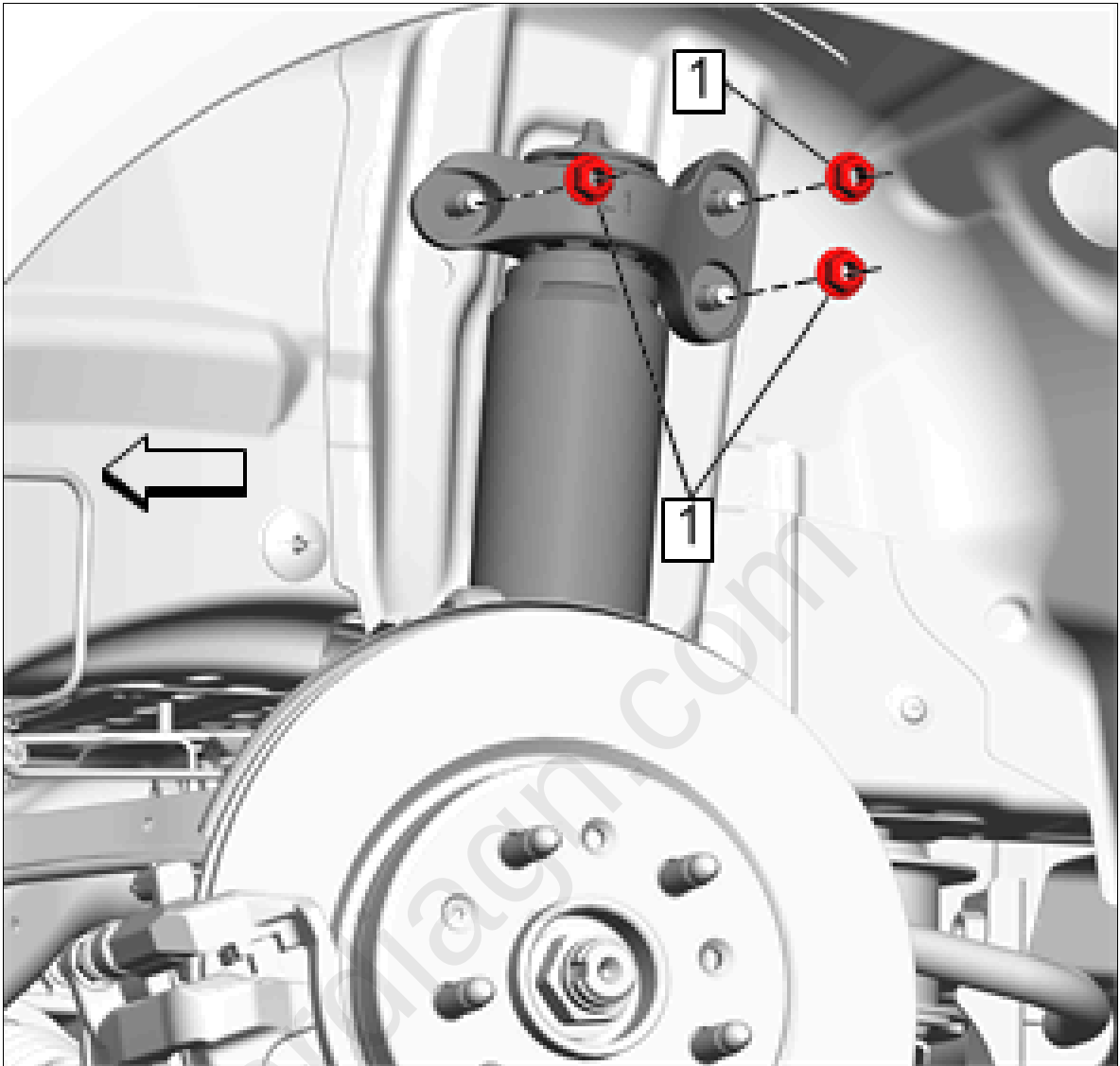
Fig 1: Lower Rear Shock Absorber Bolt



Courtesy of GENERAL MOTORS COMPANY

5. Remove the lower rear shock absorber bolt (1). DISCARD the bolt.
6. Remove the rear shock absorber electrical connection, if applicable.

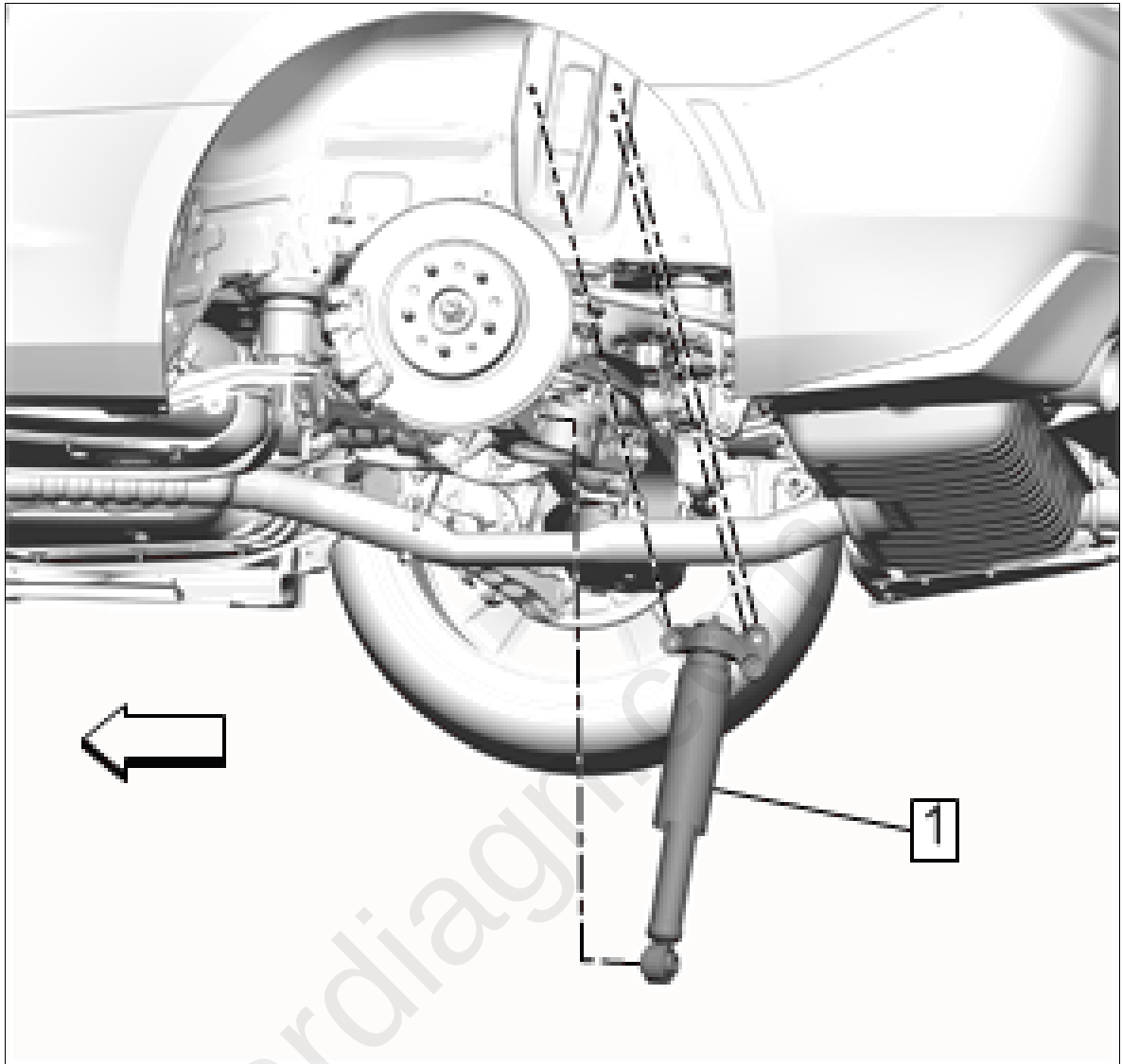
Fig 2: Upper Shock Absorber Nuts



Courtesy of GENERAL MOTORS COMPANY

7. Remove the upper shock absorber nuts (1) (Qty: 3).

Fig 3: Rear Shock Absorber

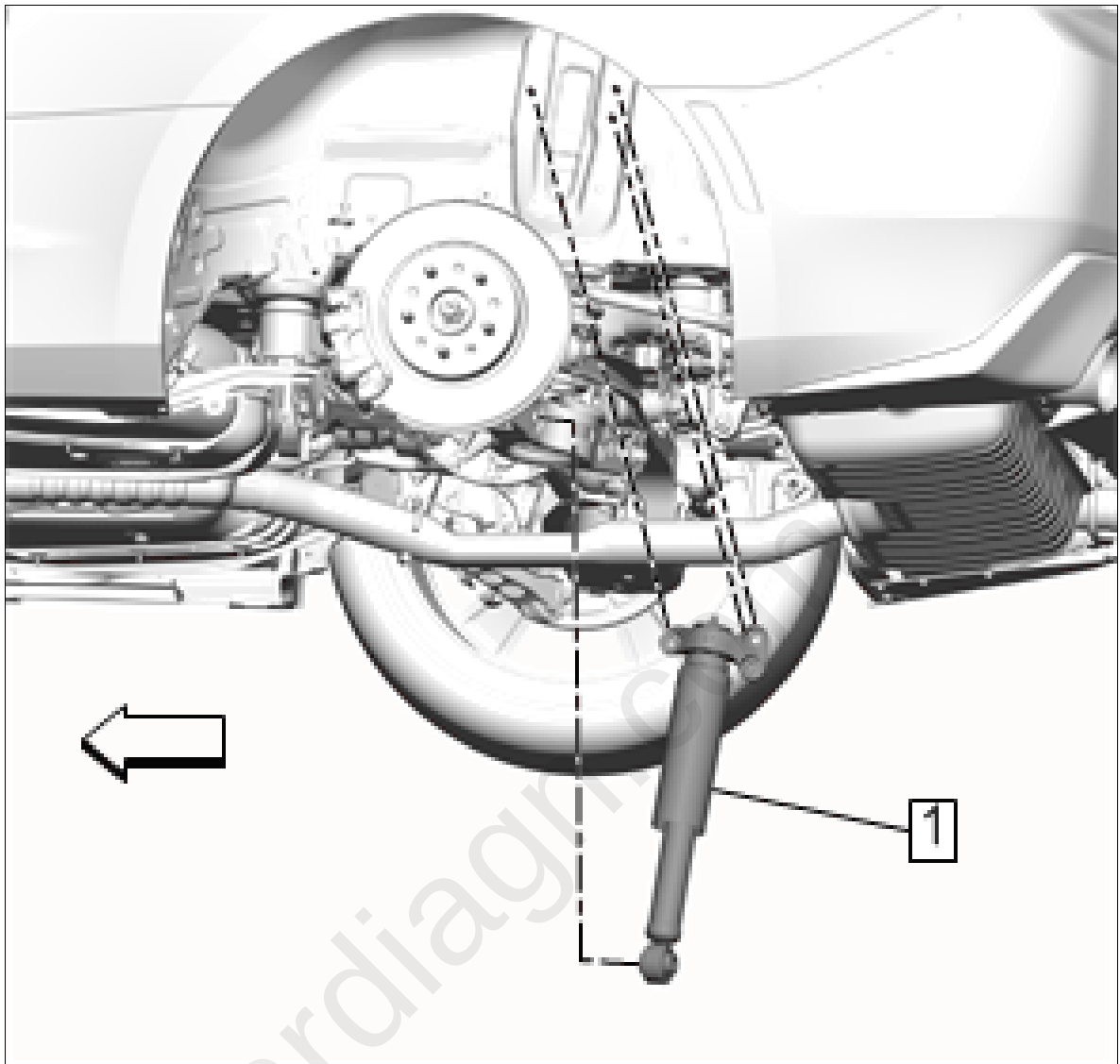


Courtesy of GENERAL MOTORS COMPANY

8. Remove the rear shock absorber (1) from the vehicle.

REPAIR INSTRUCTIONS > SHOCK ABSORBER REPLACEMENT > INSTALLATION PROCEDURE

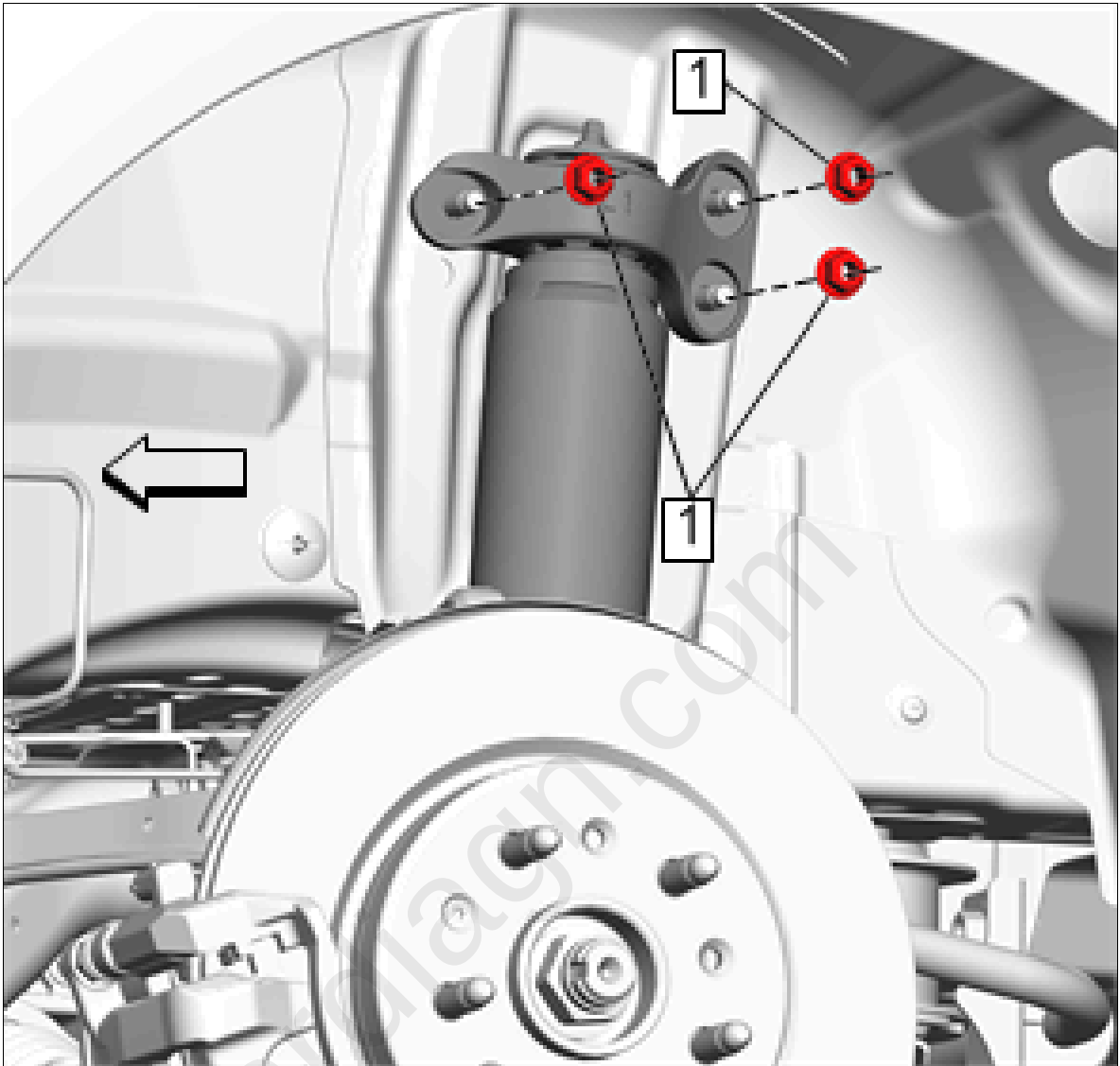
Fig 1: Rear Shock Absorber



Courtesy of GENERAL MOTORS COMPANY

1. Position the shock absorber (1) in the vehicle.

Fig 2: Upper Shock Absorber Nuts



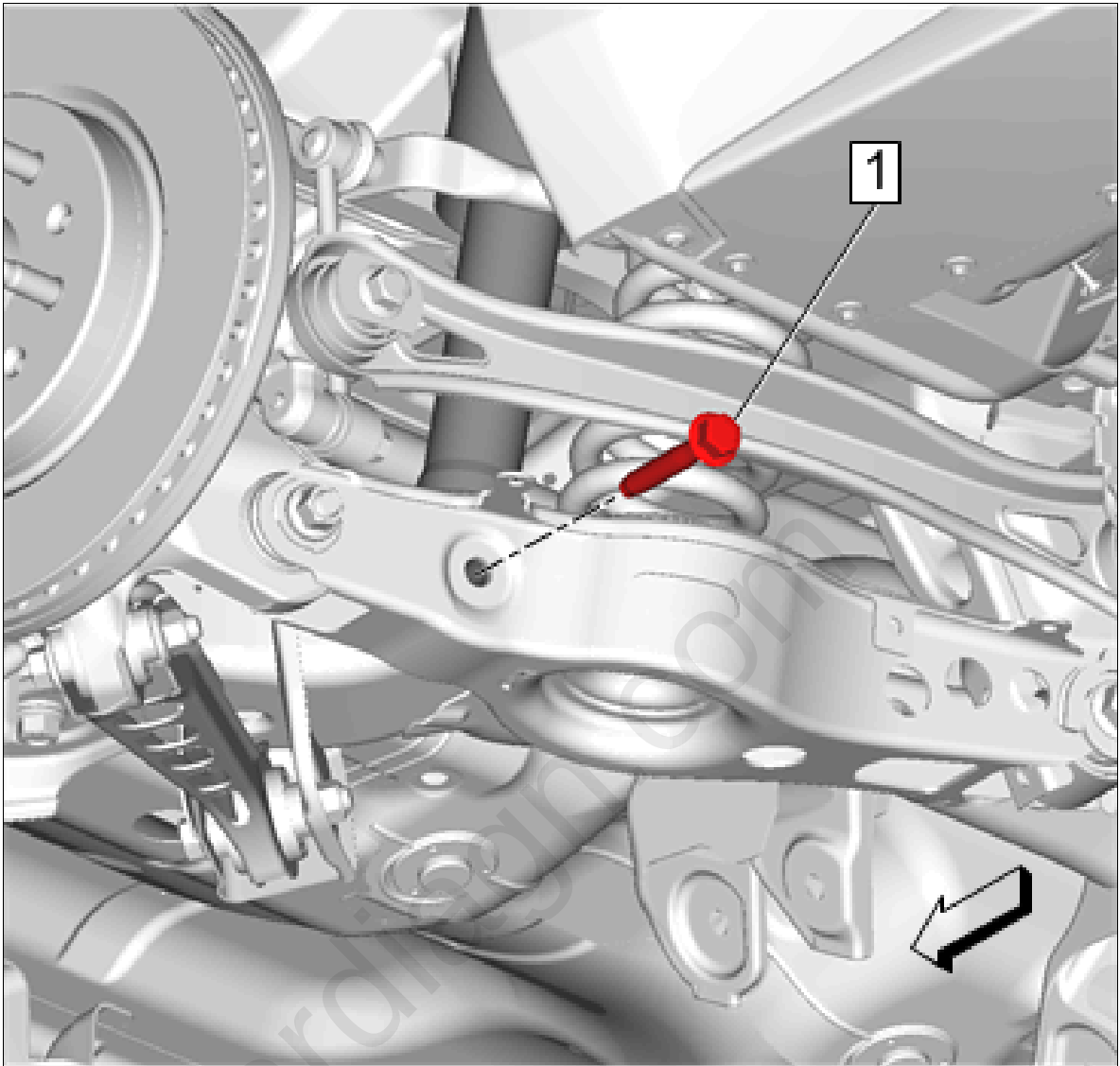
Courtesy of GENERAL MOTORS COMPANY

 **CAUTION:**

Refer to Fastener Caution .

2. Install the upper shock absorber nuts (1) (Qty: 3) and tighten to 43 N.m (32 lb ft).
3. Install the rear shock absorber electrical connection, if applicable.

Fig 3: Lower Rear Shock Absorber Bolt



Courtesy of GENERAL MOTORS COMPANY

 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.

4. Install the NEW lower rear shock absorber bolt (1).

Tighten

1. First Pass: 100 N.m (74 lb ft)
2. Final Pass: (90-105 degrees)

5. Remove the hydraulic jack from the lower control arm.
6. Install the rear wheelhouse panel liner. Rear Wheelhouse Liner Replacement
7. Install the rear suspension lower control arm cover. Rear Suspension Lower Control Arm Cover Replacement
8. Install the tire and wheel assembly. Tire and Wheel Removal and Installation
9. Remove the supports and lower the vehicle.

REPAIR INSTRUCTIONS > SHOCK ABSORBER DISPOSAL



WARNING:

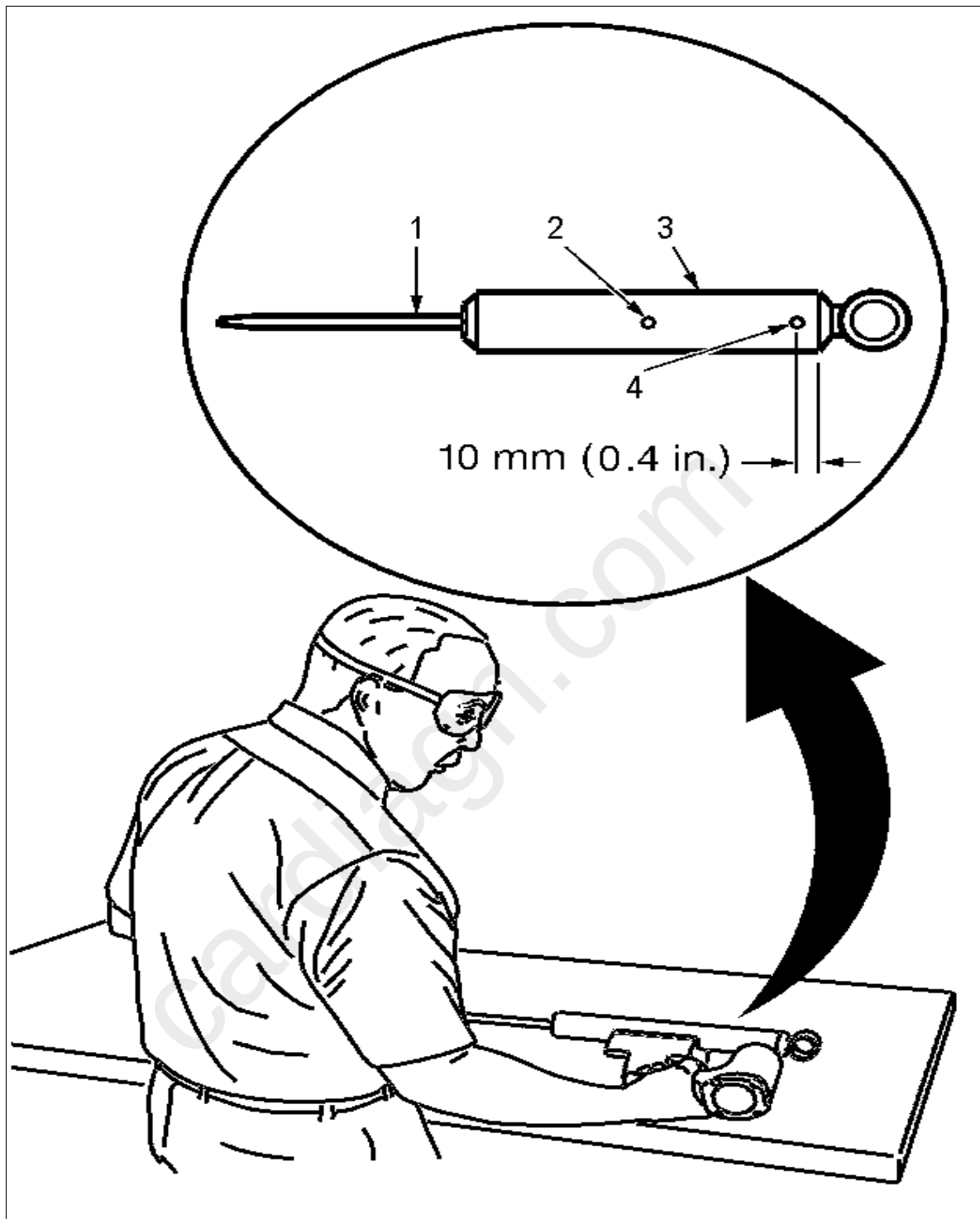
Gas charged shock absorbers contain high pressure gas. Do not remove the snap ring from inside the top of the tube. If the snap ring is removed, the contents of the shock absorber will come out with extreme force which may result in personal injury.



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 1: Drilling Hole In Shock Absorber At Centerpunched Locations



Courtesy of GENERAL MOTORS COMPANY

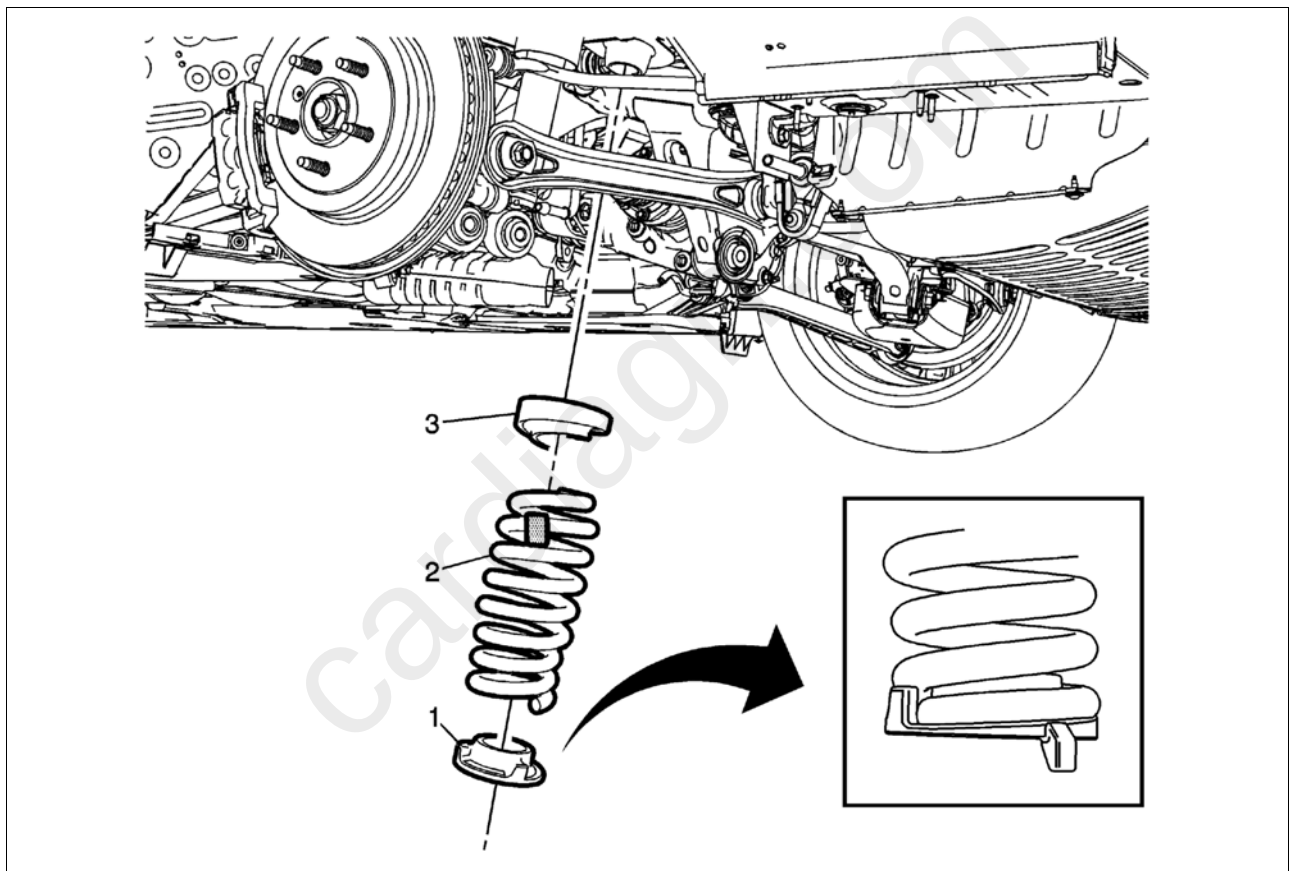
1. Make an indentation 10 mm (0.4 in) from the bottom of the tube (3) using a centerpunch.
2. Clamp the shock absorber in a vise horizontally with the shock absorber rod (1) completely extended.
3. Drill a hole in the shock absorber at the centerpunch (4) using a 5 mm (3/16 in) drill bit. Gas or a gas/oil mixture will exhaust when the drill bit penetrates the shock absorber. Use shop towels

in order to contain the escaping oil.

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

REPAIR INSTRUCTIONS > REAR COIL SPRING REPLACEMENT

Fig 1: Rear Coil Spring & Insulators



Courtesy of GENERAL MOTORS COMPANY

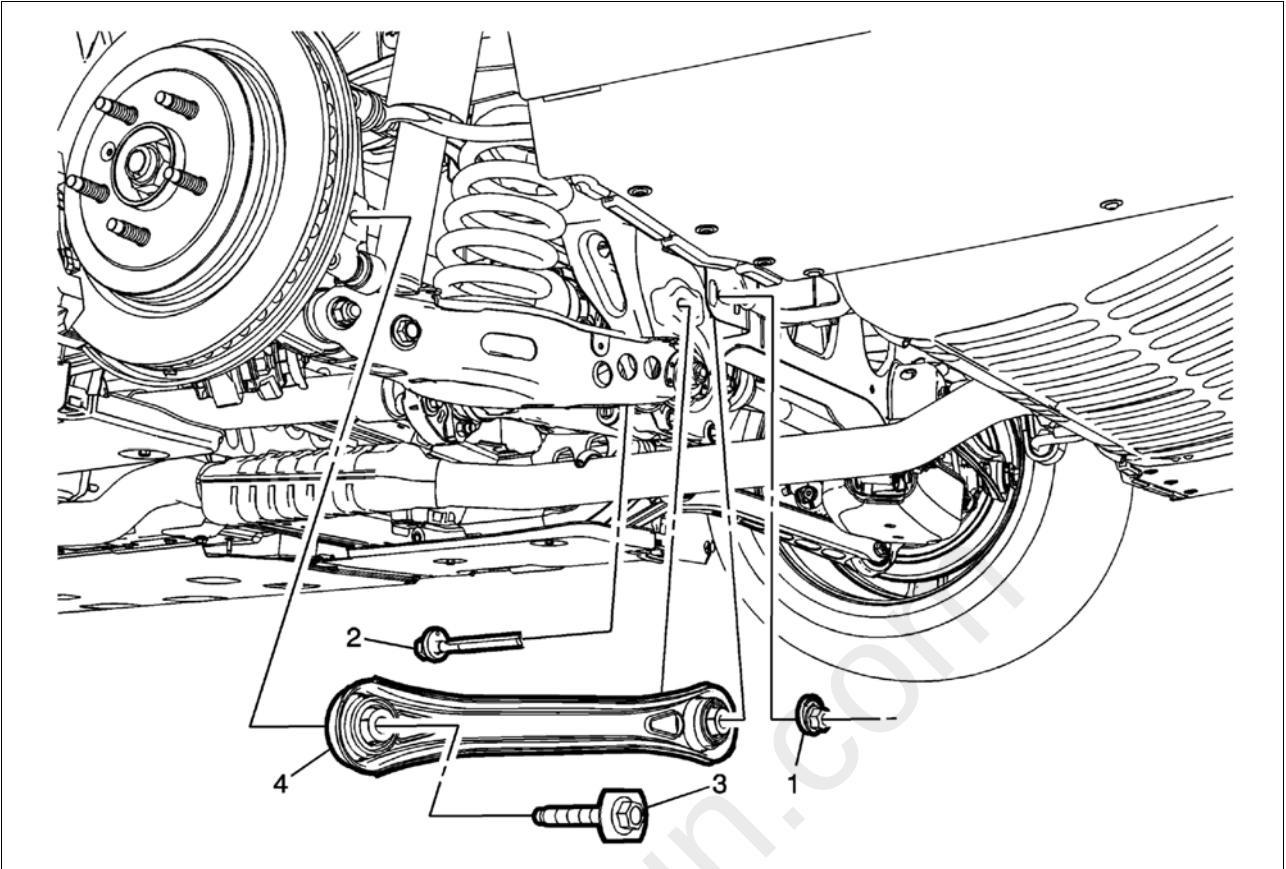
Callout	Component Name
Preliminary Procedure	
1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle (Base)Lifting and Jacking the Vehicle (HP) .	
2. Remove the tire and wheel assembly. Refer Tire and Wheel Removal and Installation .	

3. Remove the lower control arm. Refer to Lower Control Arm Replacement .

1	Rear Coil Spring Lower Insulator Procedure When installing the lower insulator on the coil spring, ensure that the insulator stop is against the last coil on the spring.  NOTE: <i>The spring tag should be on the top side of coil spring, toward the upper insulator for correct installation of the coil spring and insulators.</i>
2	Rear Coil Spring Procedure When installing the coil spring, ensure that the coil spring is properly seated in both insulators.
3	Rear Coil Spring Upper Insulator Procedure When installing the upper insulator on the coil spring, ensure that the insulator stop is against the last coil on the spring.

REPAIR INSTRUCTIONS > ADJUST LINK REPLACEMENT

Fig 1: Rear Suspension Adjust Link & Mounting Components



Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures	
1. Raise and support the vehicle. Lifting and Jacking the Vehicle (Base)Lifting and Jacking the Vehicle (HP) .	
2. Remove the tire and wheel assembly. Tire and Wheel Removal and Installation .	

Rear Suspension Adjust Link Inner Nut

CAUTION:

Refer to Fastener Caution .

1



NOTE:

Ensure the cam washer is sitting flat in the cradle bracket.

Tighten

- First Pass: 70 N.m (52 lb ft)
- Final Pass: plus 105 degrees

Rear Suspension Adjust Link Inner 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.

2

Remove and discard the inner bolt. DO NOT re-use. Replace with NEW only.



NOTE:

Ensure the cam washer is sitting flat in the cradle bracket.

Rear Suspension Adjust Link Outer 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.

3

CAUTION:

Refer to Fastener Caution .



NOTE:

Discard the outer bolt. DO NOT re-use. Replace with NEW only

Tighten

- First Pass: 100 N.m (74 lb ft)
- Final Pass: plus 105 degrees

Rear Suspension Adjust Link

Procedure

Align the rear end of the vehicle. Rear Toe Adjustment .

4

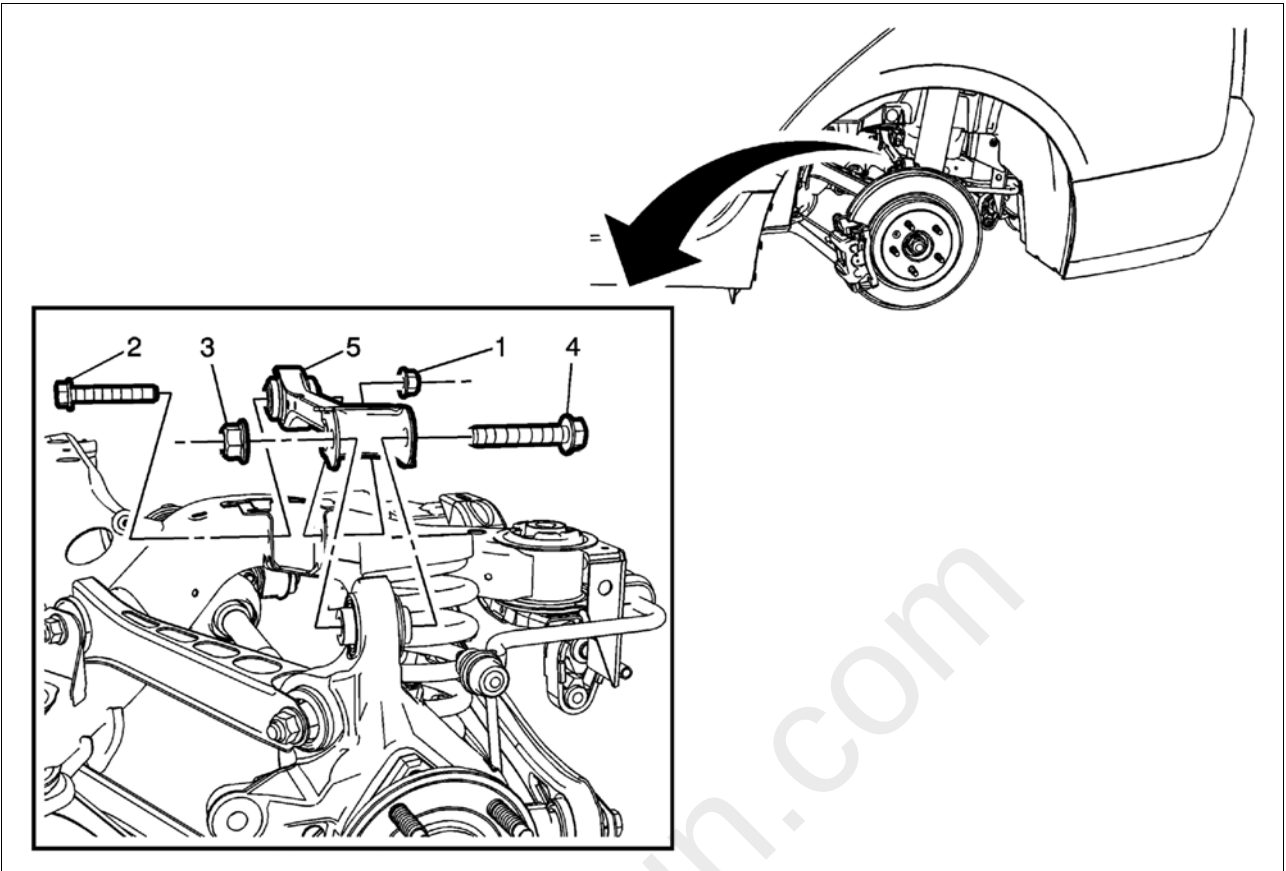


NOTE:

Note the orientation of the adjust link when removing for proper installation. Flat side of adjust link should face front of vehicle.

**REPAIR INSTRUCTIONS > REAR SUSPENSION UPPER LATERAL LINK
REPLACEMENT**

Fig 1: Upper Control Arm



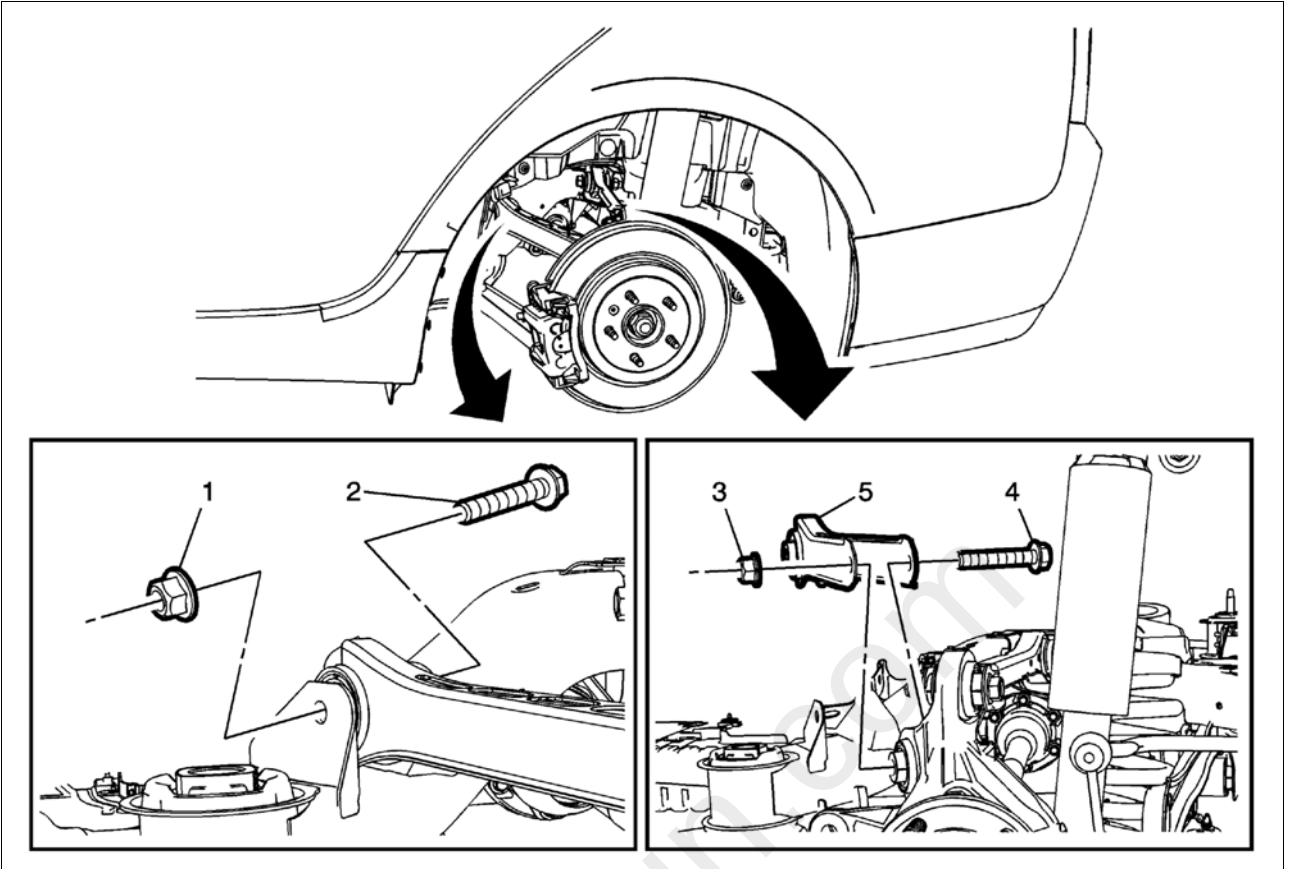
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle (Base)Lifting and Jacking the Vehicle (HP) . 2. Remove the tire and wheel assembly. Refer to Tire and Wheel Removal and Installation . 3. Using a hydraulic jack stand, support the rear knuckle. 4. Disconnect rear wheel speed sensor harness.	
1	Rear Suspension Upper Control Arm Inner Nut <i>CAUTION:</i> <i>Refer to Fastener Caution .</i> Tighten

	• First Pass: 70 N.m (52 lb ft) • Final Pass: plus 105 degrees
2	Rear Suspension Upper Control Arm Inner Bolt CAUTION: <i>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.</i> Procedure Remove and discard the inner bolt. Do Not reuse. Replace with NEW only.
3	Rear Suspension Upper Control Arm Outer Nut Tighten • First Pass: 70 N.m (52 lb ft) • Final Pass: plus 105 degrees
4	Rear Suspension Upper Control Arm Outer Bolt CAUTION: <i>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.</i> Procedure Remove and discard the outer bolt. Do Not reuse. Replace with NEW only.
5	Rear Suspension Upper Control Arm Procedure Verify the rear wheel alignment. Refer to Wheel Alignment Specifications .

REPAIR INSTRUCTIONS > REAR SUSPENSION UPPER TRAILING LINK REPLACEMENT

Fig 1: Rear Suspension Upper Trailing Link



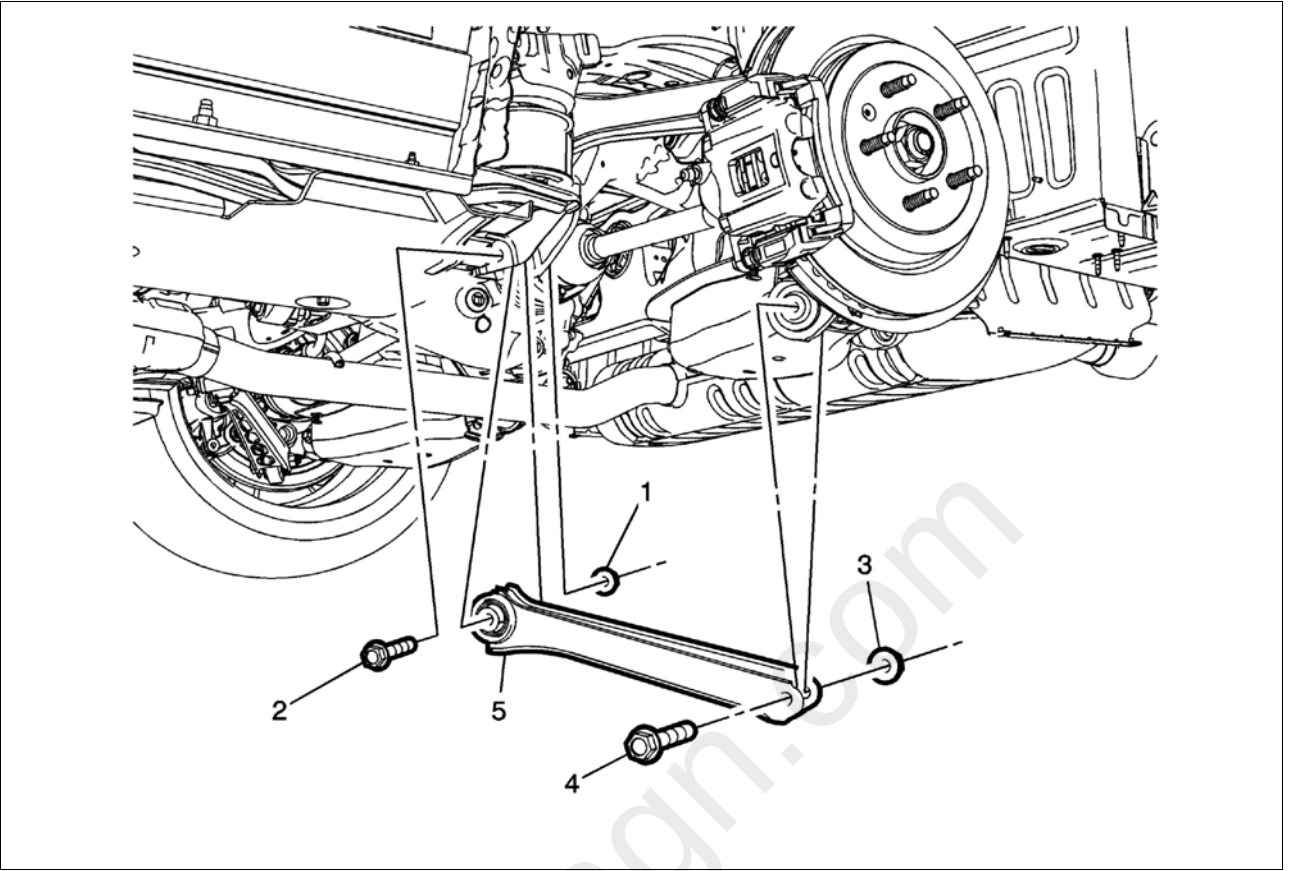
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. Remove the tire and wheel assembly. Tire and Wheel Removal and Installation . 2. Using a hydraulic jack stand, support the rear knuckle. 3. Remove the rear suspension upper lateral link nut and bolt only. Rear Suspension Upper Lateral Link Replacement 4. Remove the electronic parking brake wiring harness from the upper trailing link.	
1	Upper Trailing Link Inner Nut <i>CAUTION:</i> <i>Refer to Fastener Caution .</i> Tighten

	• First Pass: 70 N.m (52 lb ft) • Final Pass: 105 degrees
2	Upper Trailing Link Inner Bolt CAUTION: <i>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.</i> Procedure Remove and DISCARD the bolt. Do NOT re-use, replace with NEW only.
3	Upper Trailing Link Outer Nut Tighten • First Pass: 100 N.m (74 lb ft) • Final Pass: 105 degrees
4	Upper Trailing Link Outer Bolt CAUTION: <i>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.</i> Procedure Remove and DISCARD the bolt. Do NOT re-use, replace with NEW only.
5	Upper Trailing Link Procedure 1. Pull outward on the upper portion of the knuckle to allow clearance to remove the upper trailing link. 2. Verify the rear wheel alignment. Wheel Alignment Specifications

REPLACEMENT

Fig 1: Rear Suspension Lower Trailing Link



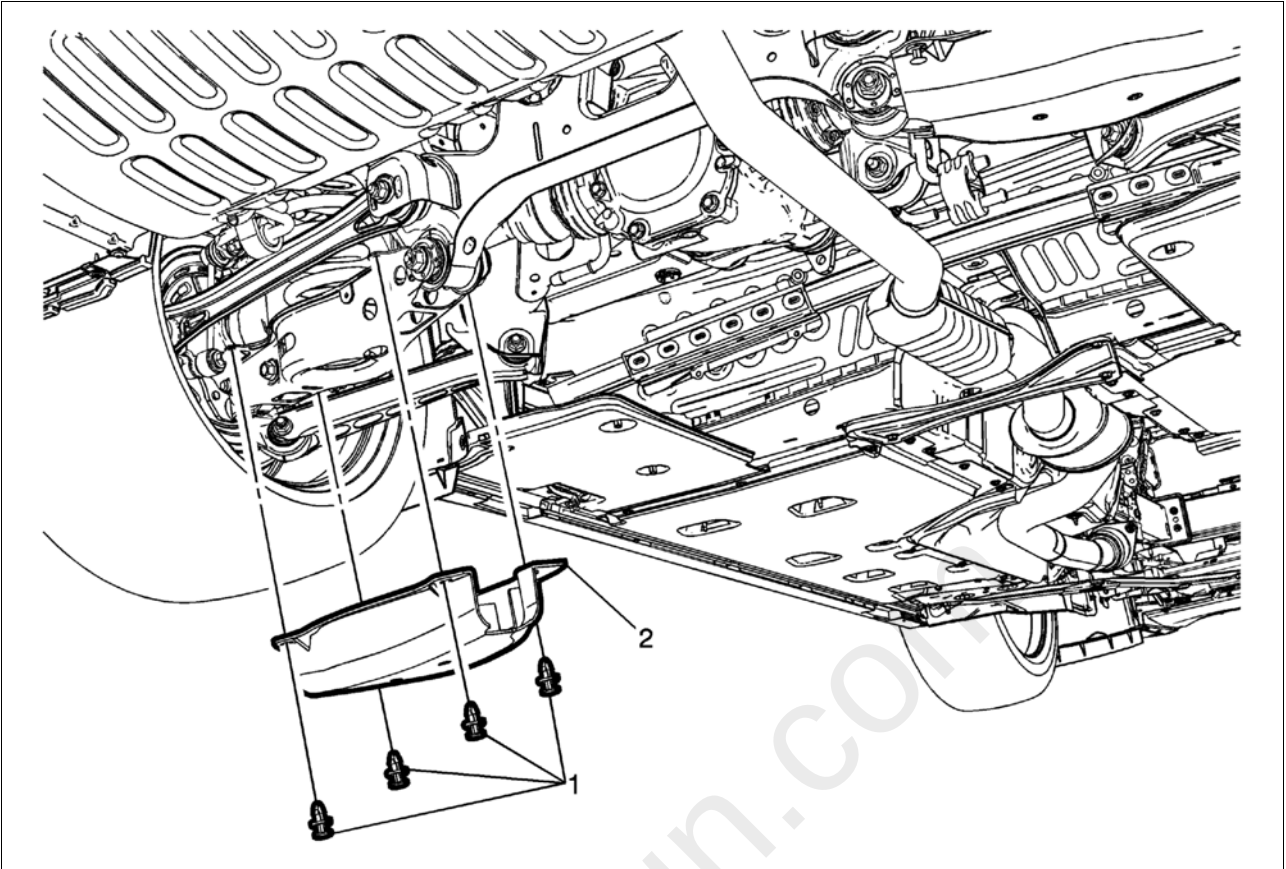
Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedures 1. Raise and support the vehicle. Lifting and Jacking the Vehicle (Base)Lifting and Jacking the Vehicle (HP) 2. Remove the tire and wheel assembly. Tire and Wheel Removal and Installation 3. Using a hydraulic jack stand, support the rear knuckle.	
1	Lower Trailing Arm Inner nut <i>CAUTION:</i> <i>Refer to Fastener Caution .</i> Tighten

	• First Pass: 70 N.m (52 lb ft) • Final Pass: 90-100 degrees
2	Lower Trailing Arm Inner Bolt CAUTION: <i>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.</i> Procedure Remove and discard the bolt. Do NOT re-use, replace with NEW only.
3	Lower Trailing Arm Outer Nut
4	Lower Trailing Arm Outer Bolt CAUTION: <i>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.</i> Procedure Remove and discard the bolt. Do NOT re-use, replace with NEW only. Tighten • First Pass: 100 N.m (74 lb ft) • Final Pass: 90-100 degrees
5	Lower Trailing Arm Procedure Verify the rear wheel alignment. Wheel Alignment Specifications

REPAIR INSTRUCTIONS > REAR SUSPENSION LOWER CONTROL ARM COVER REPLACEMENT

Fig 1: Rear Suspension Lower Control Arm Cover



Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure Raise the support the vehicle. Refer to Lifting and Jacking the Vehicle (Base)Lifting and Jacking the Vehicle (HP)	
1	Push Pin Fastener (Qty: 4) Procedure Using the appropriate tool, release the push pin fastener on the lower control arm cover.  NOTE: <i>Ensure push pin fastener is correctly installed through both the rear suspension lower control arm cover and lower control arm.</i>
2	Rear Suspension Lower Control Arm Cover  NOTE: <i>Rear suspension lower control arm covers are not interchangeable from left to</i>

right side. Install covers on same side they were removed.

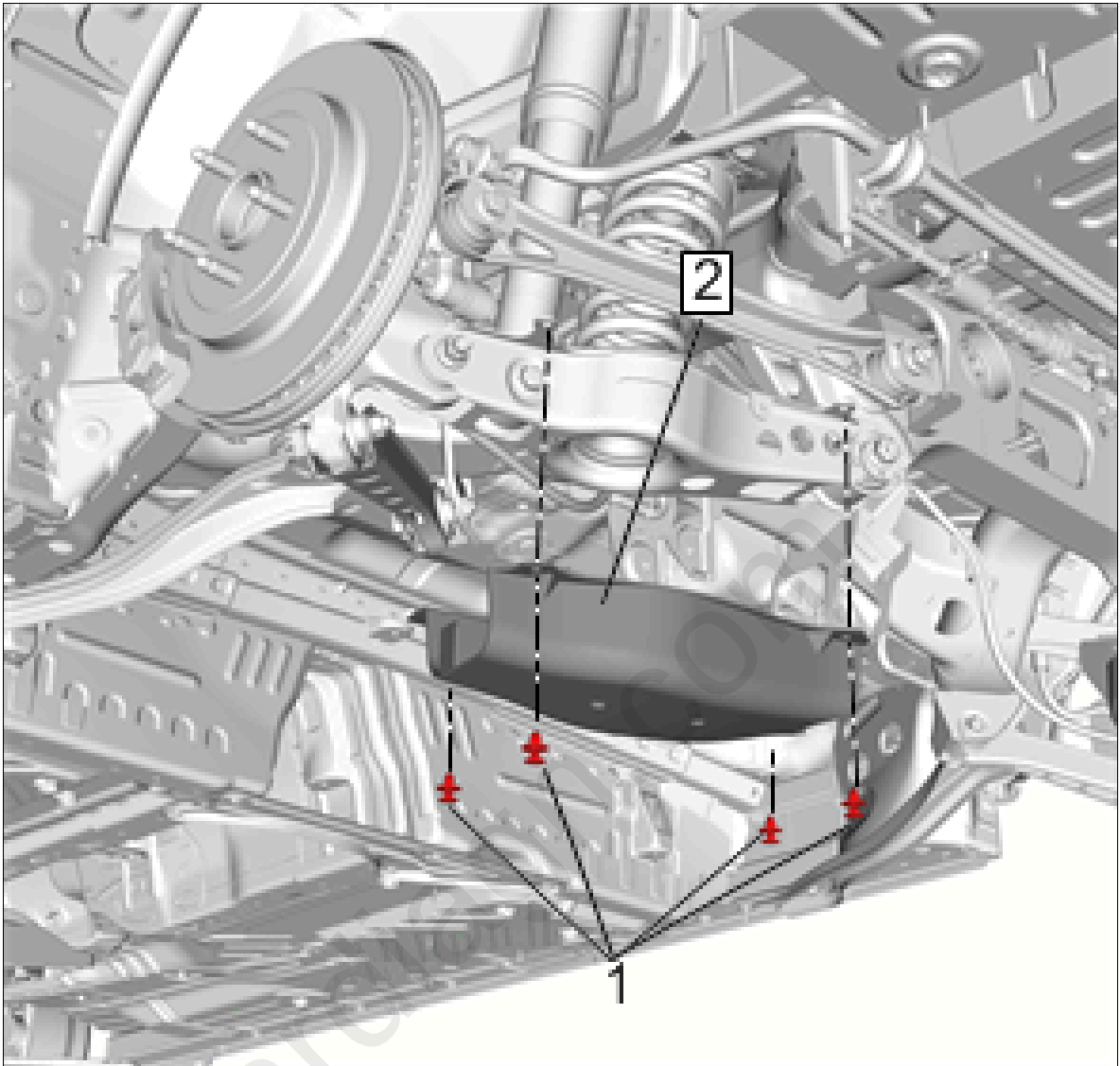
REPAIR INSTRUCTIONS > LOWER CONTROL ARM REPLACEMENT > SPECIAL TOOLS

J-36660-A Torque Angle Meter

REPAIR INSTRUCTIONS > LOWER CONTROL ARM REPLACEMENT > REMOVAL PROCEDURE

1. Remove the rear wheel. Tire and Wheel Removal and Installation

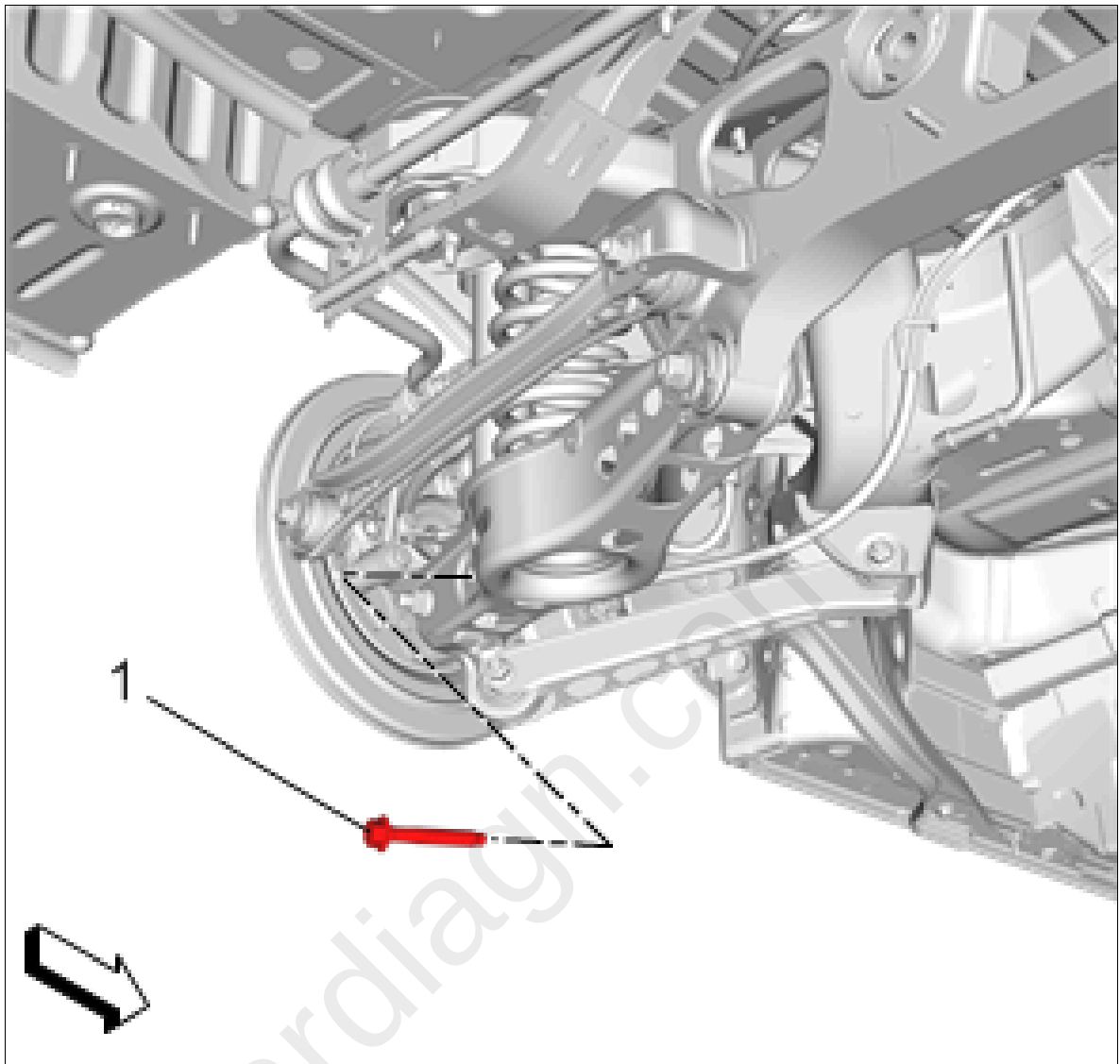
Fig 1: Rear Suspension Lower Control Arm Cover



Courtesy of GENERAL MOTORS COMPANY

2. Remove the rear suspension lower control arm cover push pins (1) (Qty: 4).
3. Remove Rear Suspension Lower Control Arm Cover (2).
4. Support the rear suspension lower control arm.

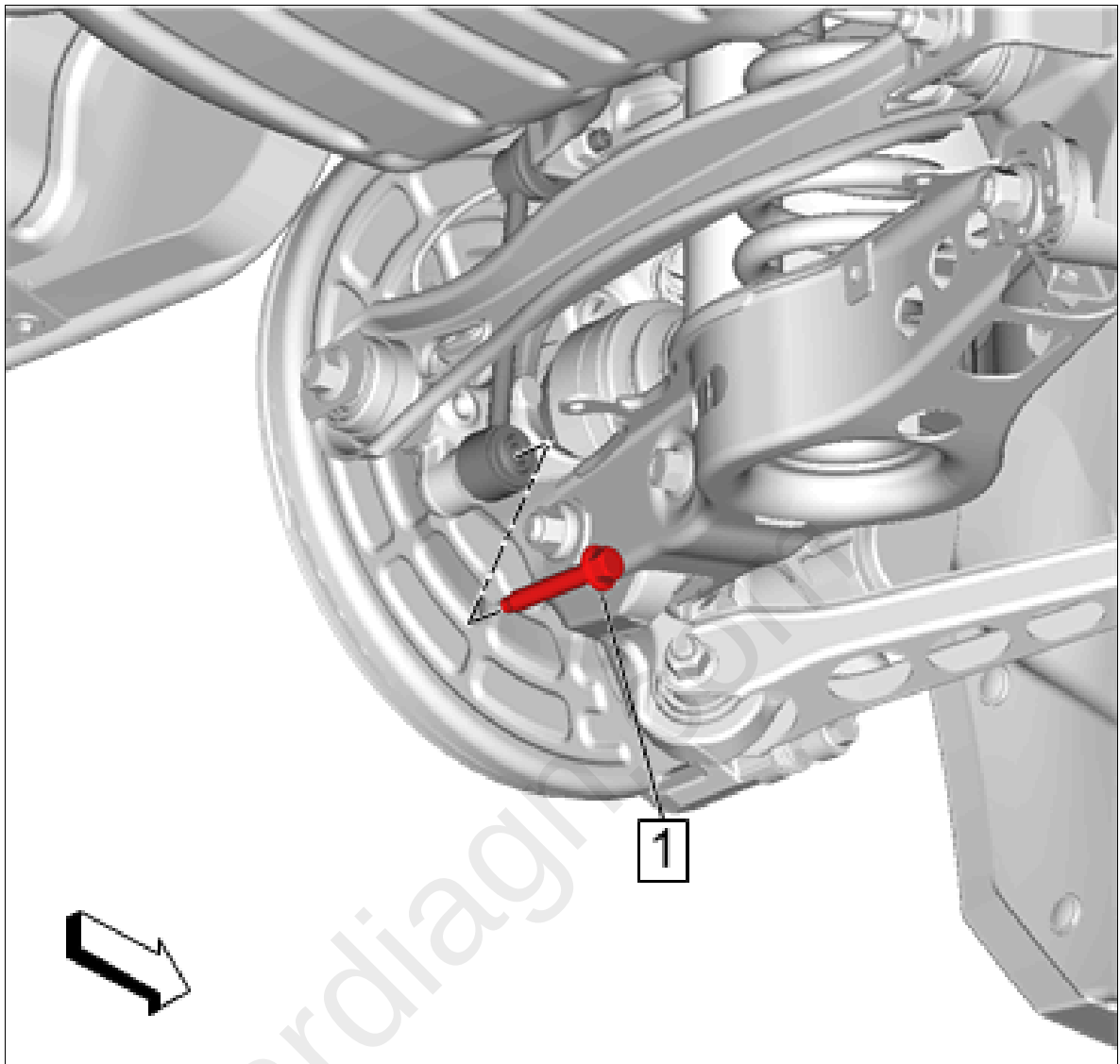
Fig 2: Rear Shock Absorber Lower Bolt



Courtesy of GENERAL MOTORS COMPANY

5. Remove and DISCARD Rear Shock Absorber Bolt (1)

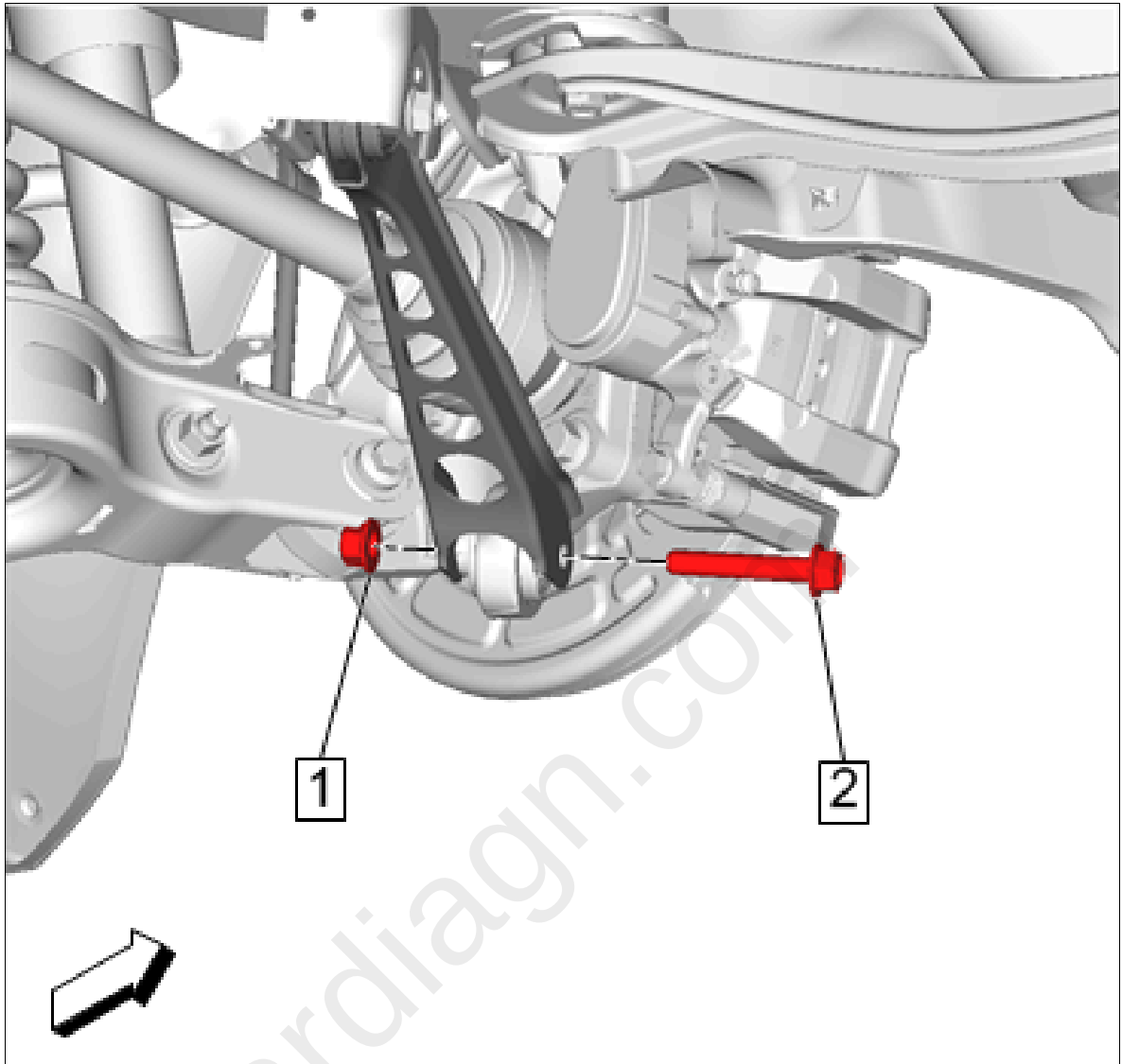
Fig 3: Stabilizer Shaft Link Bolt



Courtesy of GENERAL MOTORS COMPANY

6. Remove Stabilizer Shaft Link Bolt (1).

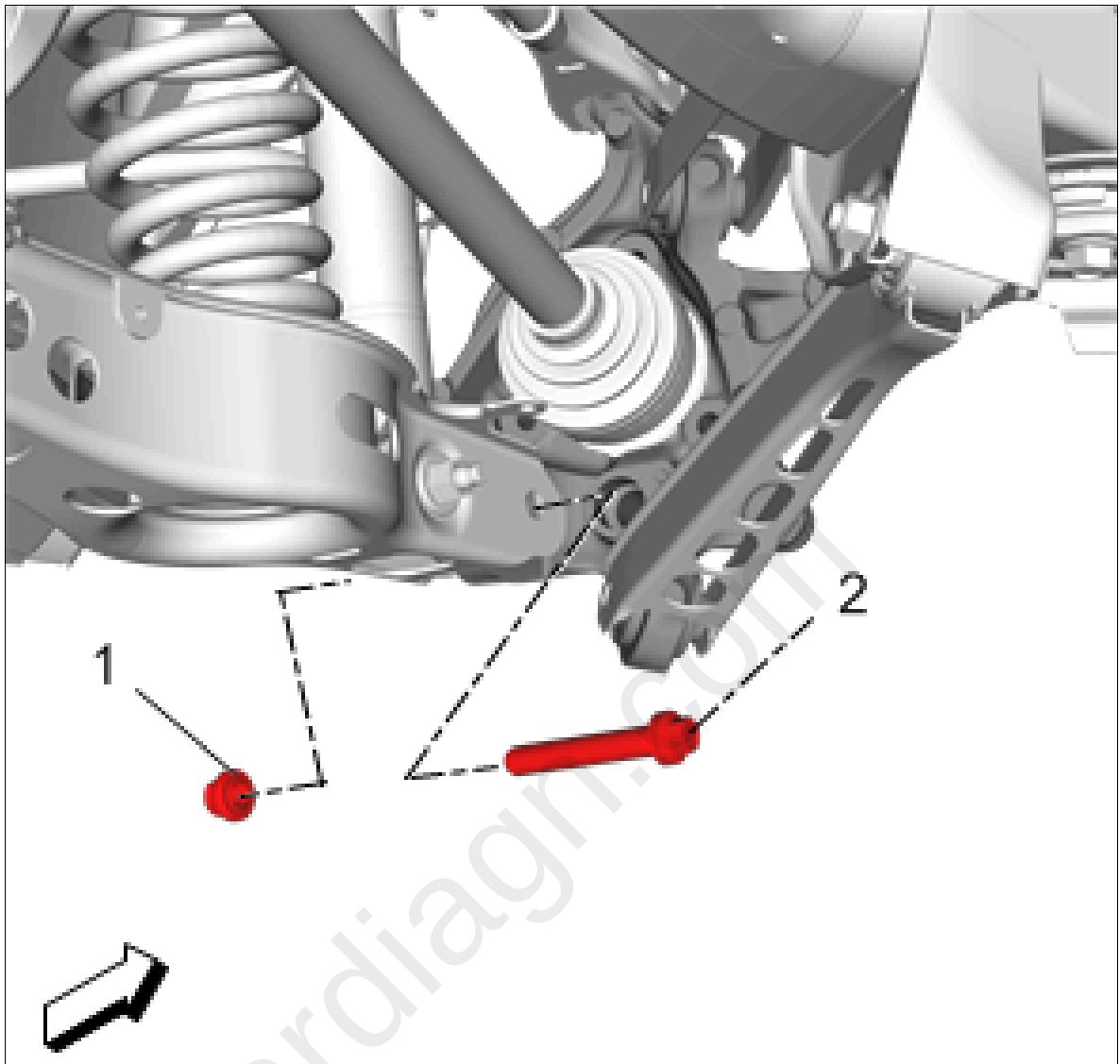
Fig 4: Rear Suspension Lower Trailing Link Outer Nut And Bolt



Courtesy of GENERAL MOTORS COMPANY

7. Remove Rear Suspension Lower Trailing Link Outer Nut (1).
8. Remove and DISCARD Rear Suspension Lower Trailing Link Outer Bolt (2).

Fig 5: Rear Suspension Lower Control Arm Outer Nut And Bolt



Courtesy of GENERAL MOTORS COMPANY

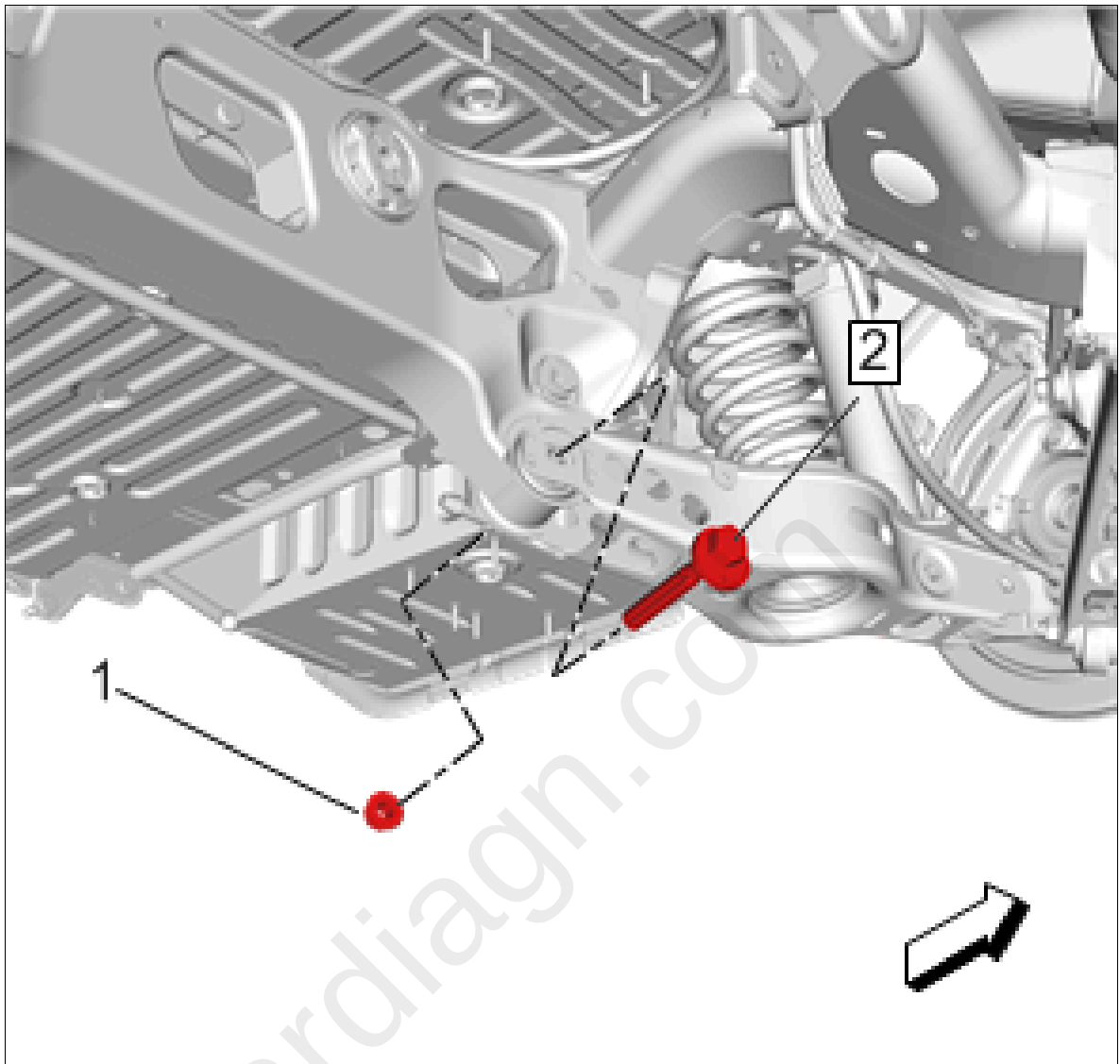


CAUTION:

When removing/installing the lower control arm bolt, use care to not damage the park brake cable housing. If the housing is damaged, park brake failure may occur

9. Remove the rear suspension lower control arm outer nut (1) and bolt (2). DISCARD the bolt.

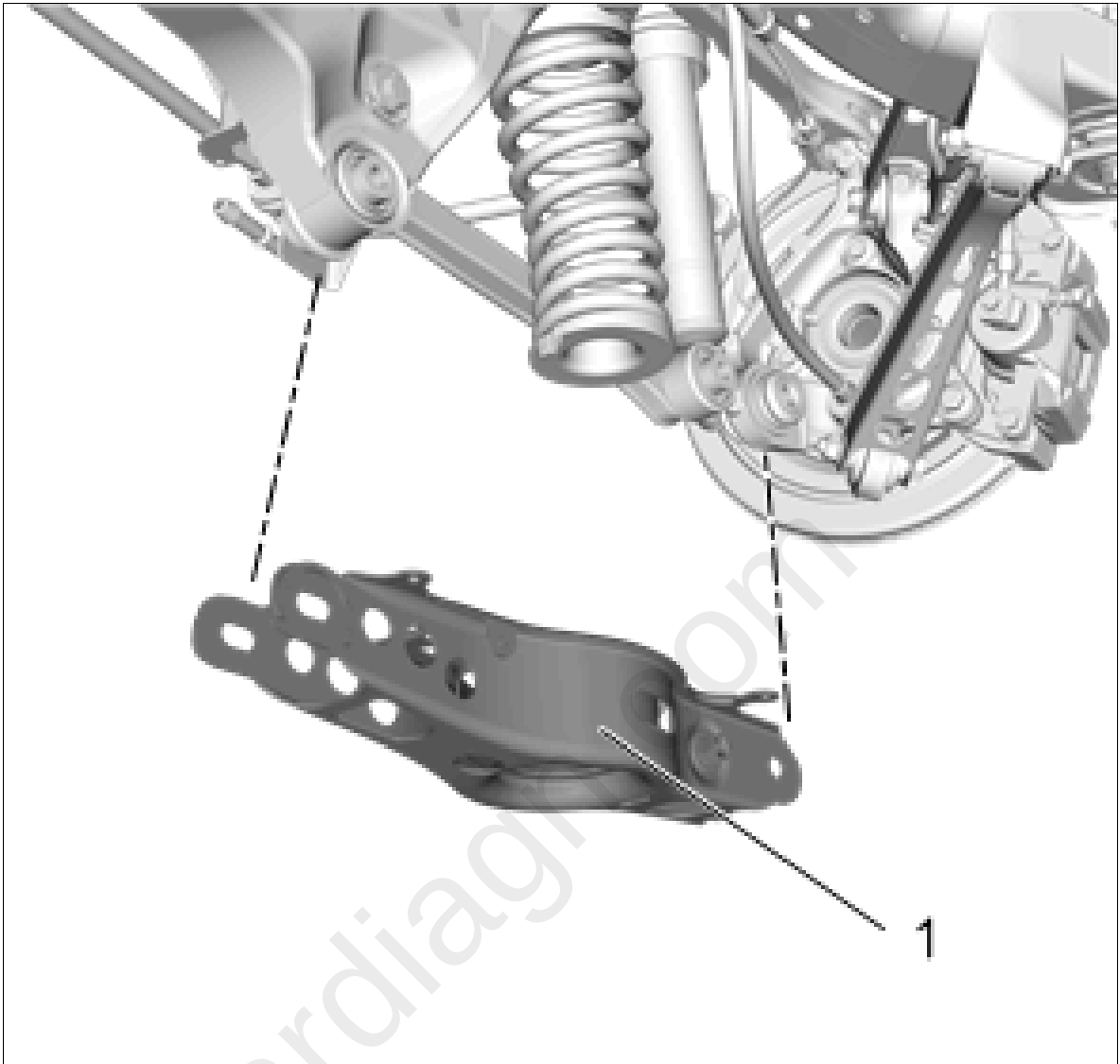
Fig 6: Rear Suspension Lower Control Arm Inner Nut And Bolt



Courtesy of GENERAL MOTORS COMPANY

10. Remove the rear suspension lower control arm inner nut (1) and bolt (2).

Fig 7: Rear Suspension Lower Control Arm



Courtesy of GENERAL MOTORS COMPANY

 CAUTION:

Pry bar tools may cause damage to the ball joint seals when removing links from the knuckle. Damage to the seals may cause knuckle and control arm failure. The knuckle will need to be replaced if there is damage to the seals.

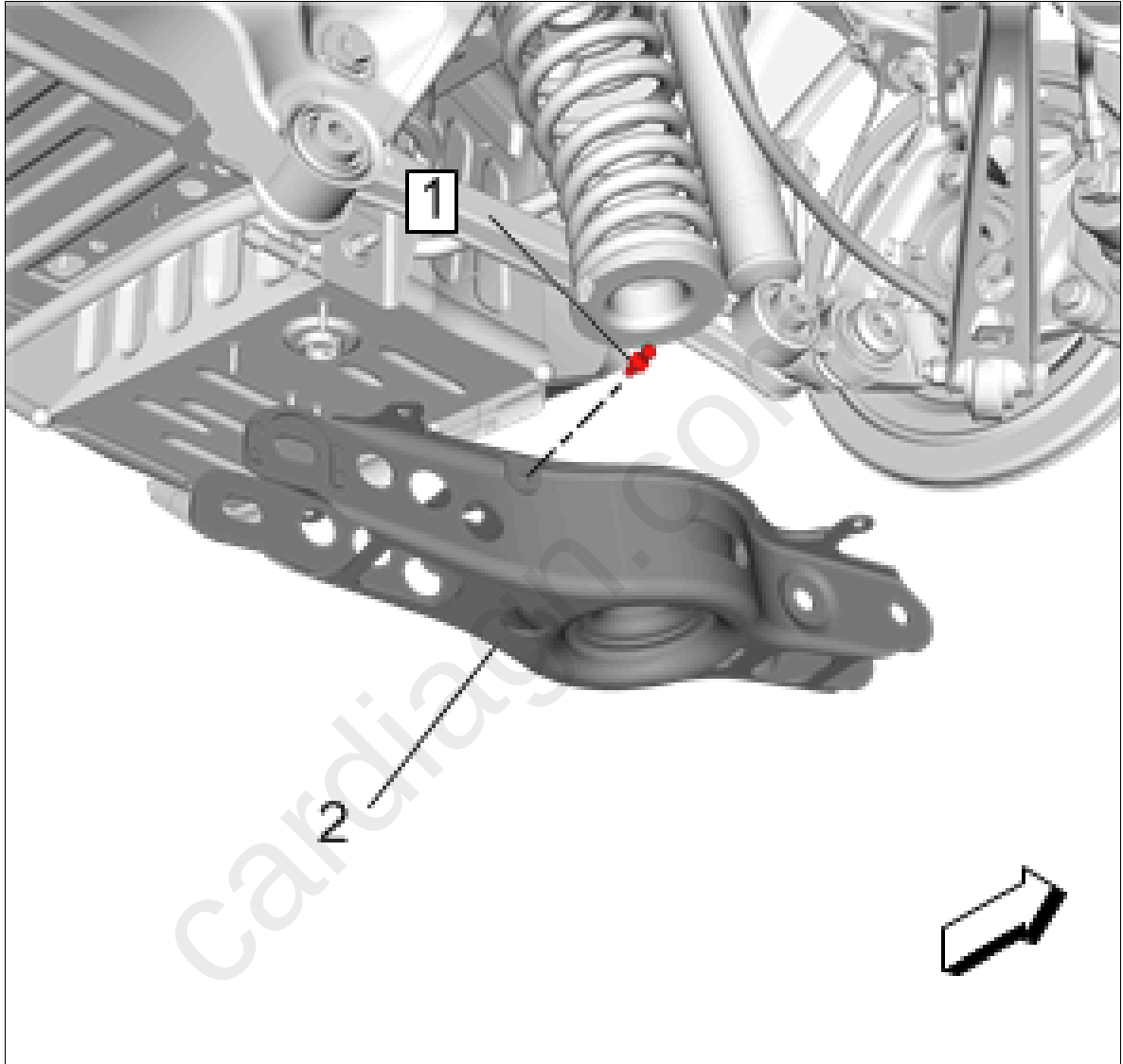
11. Remove Rear Suspension Lower Control Arm (1).

**REPAIR INSTRUCTIONS > LOWER CONTROL ARM REPLACEMENT > INSTALLATION
PROCEDURE**

 **CAUTION:**

Refer to Fastener Caution .

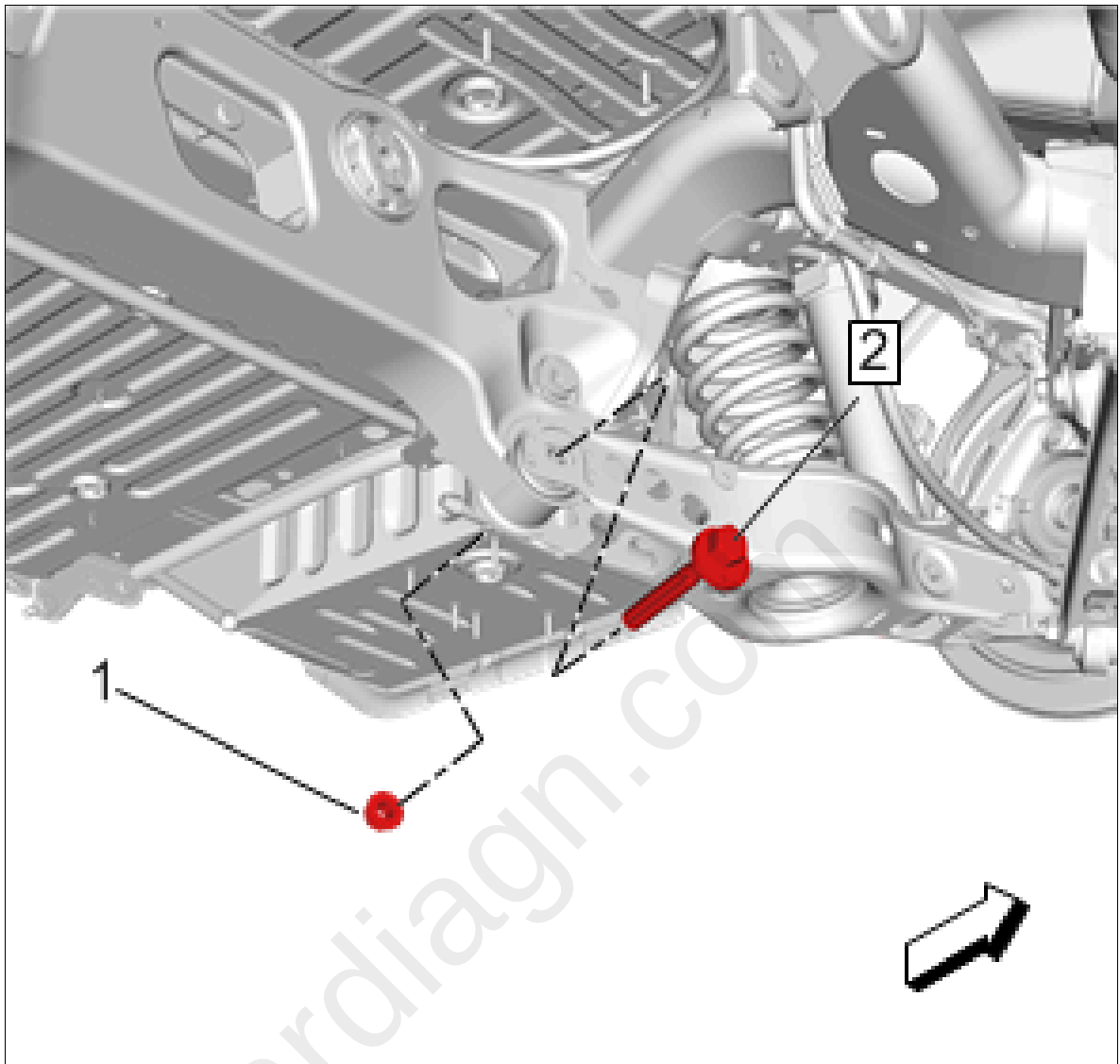
Fig 1: Rear Suspension Lower Control Arm



Courtesy of GENERAL MOTORS COMPANY

1. Install Rear Suspension Lower Control Arm (2).

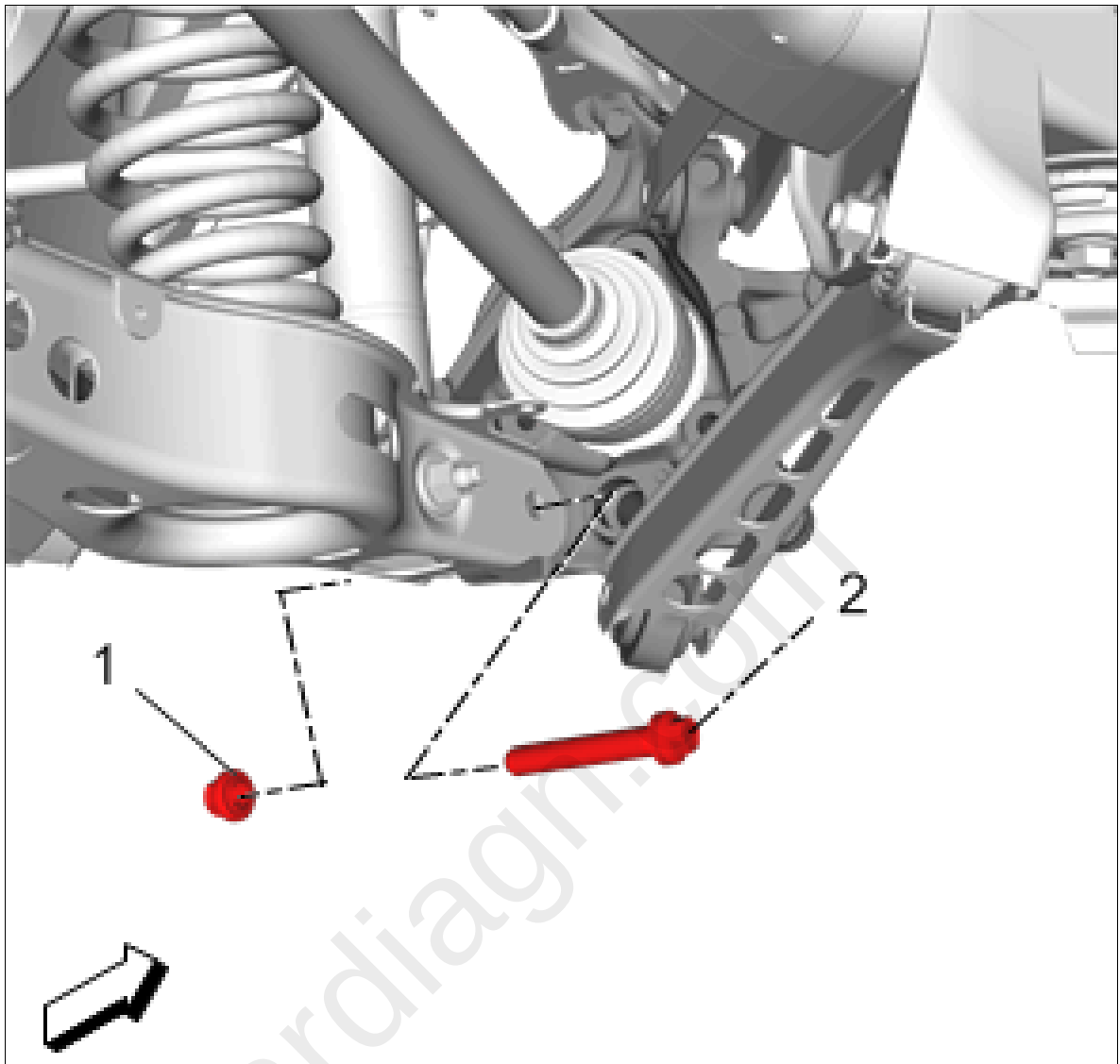
Fig 2: Rear Suspension Lower Control Arm Inner Nut And Bolt



Courtesy of GENERAL MOTORS COMPANY

2. Install the rear suspension lower control arm inner nut (1) and bolt (2). Do not tighten at this time.

Fig 3: Rear Suspension Lower Control Arm Outer Nut And Bolt



Courtesy of GENERAL MOTORS COMPANY



CAUTION:

When removing/installing the lower control arm bolt, use care to not damage the park brake cable housing. If the housing is damaged, park brake failure may occur

3. Install a NEW Rear Suspension Lower Control Arm Bolt (2).
4. Install Rear Suspension Lower Control Arm Nut (1).



NOTE:

Tighten the bolt and hold the nut.

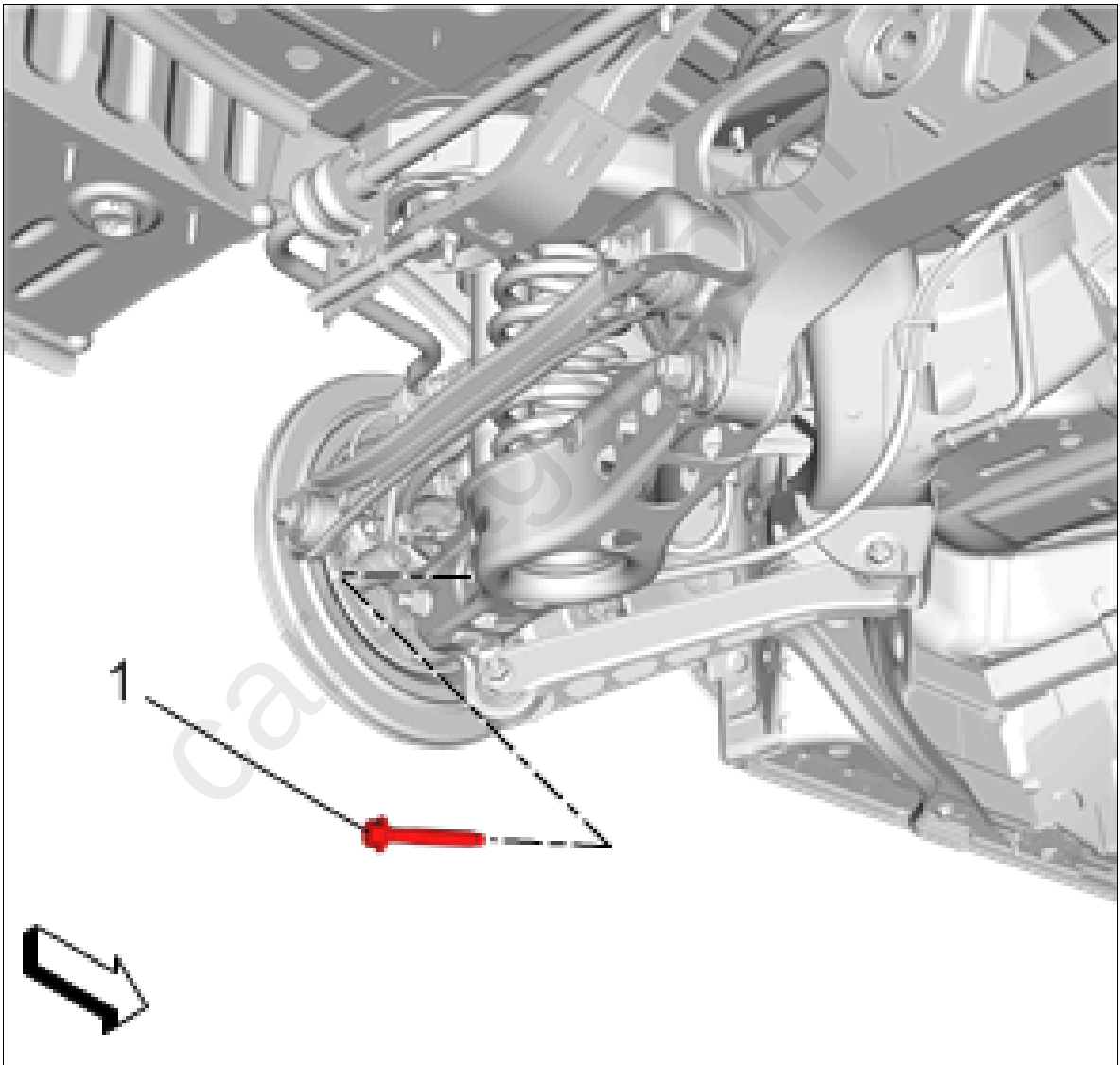
Tighten

1. First Pass: 150 N.m (111 lb ft)
 2. Final Pass: plus 90-105 degrees
5. Tighten Rear Suspension Lower Control Arm Inner Nut.

Tighten

1. First Pass: 115 N.m (85 lb ft)
2. Final Pass: plus 90-105 degrees

Fig 4: Rear Shock Absorber Lower Bolt



Courtesy of GENERAL MOTORS COMPANY

WARNING:

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

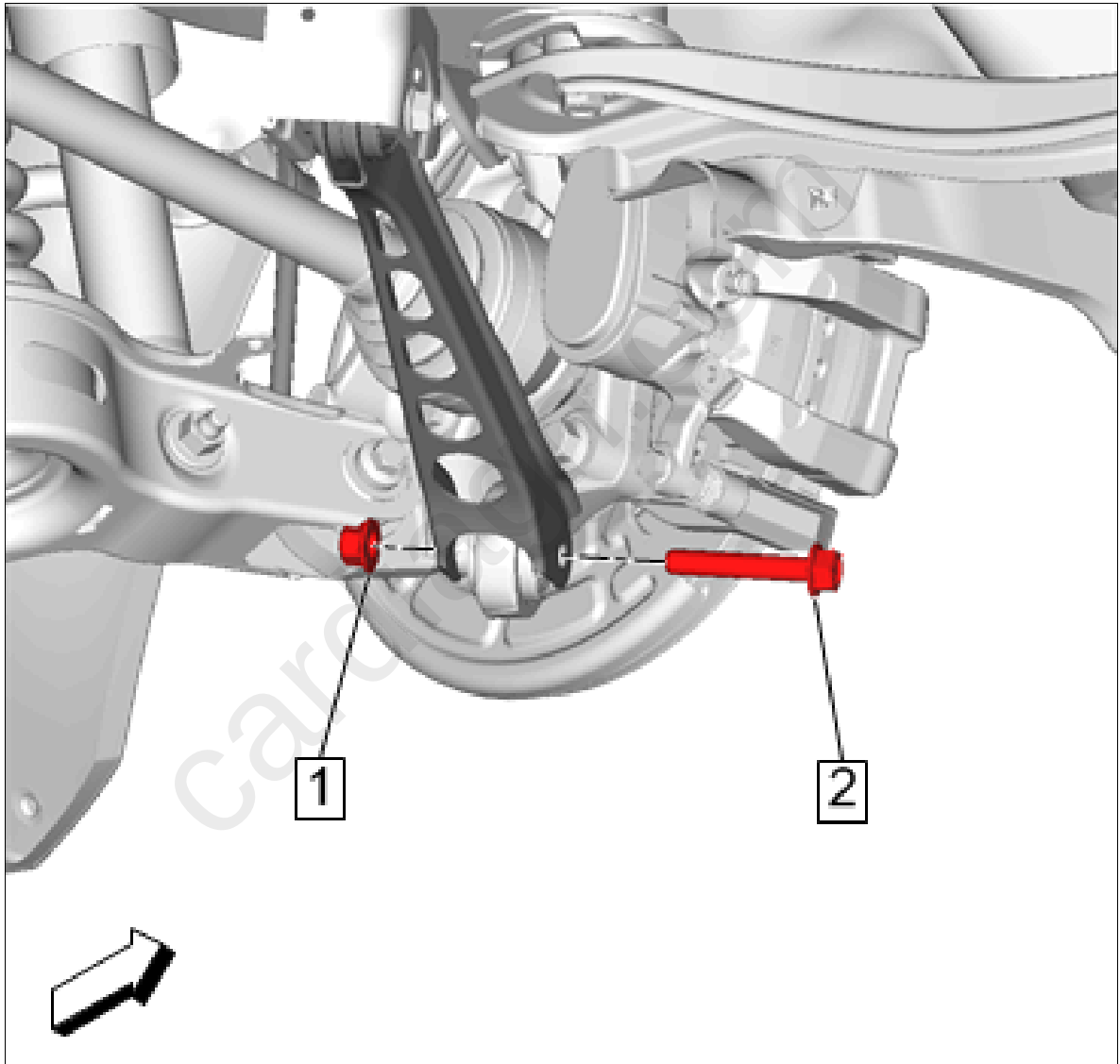
replace the torque-to-yield or single use fasteners could cause damage to the vehicle, component, or bodily injury.

6. Install the NEW rear shock absorber lower bolt (1).

Tighten

1. First Pass: 100 N.m (74 lb ft)
2. Final Pass: plus 90-105 degrees

Fig 5: Rear Suspension Lower Trailing Link Outer Nut And Bolt



Courtesy of GENERAL MOTORS COMPANY

7. Install a NEW Rear Suspension Lower Trailing Link Outer Bolt (2).

8. Install Rear Suspension Lower Trailing Link Outer Nut (1).

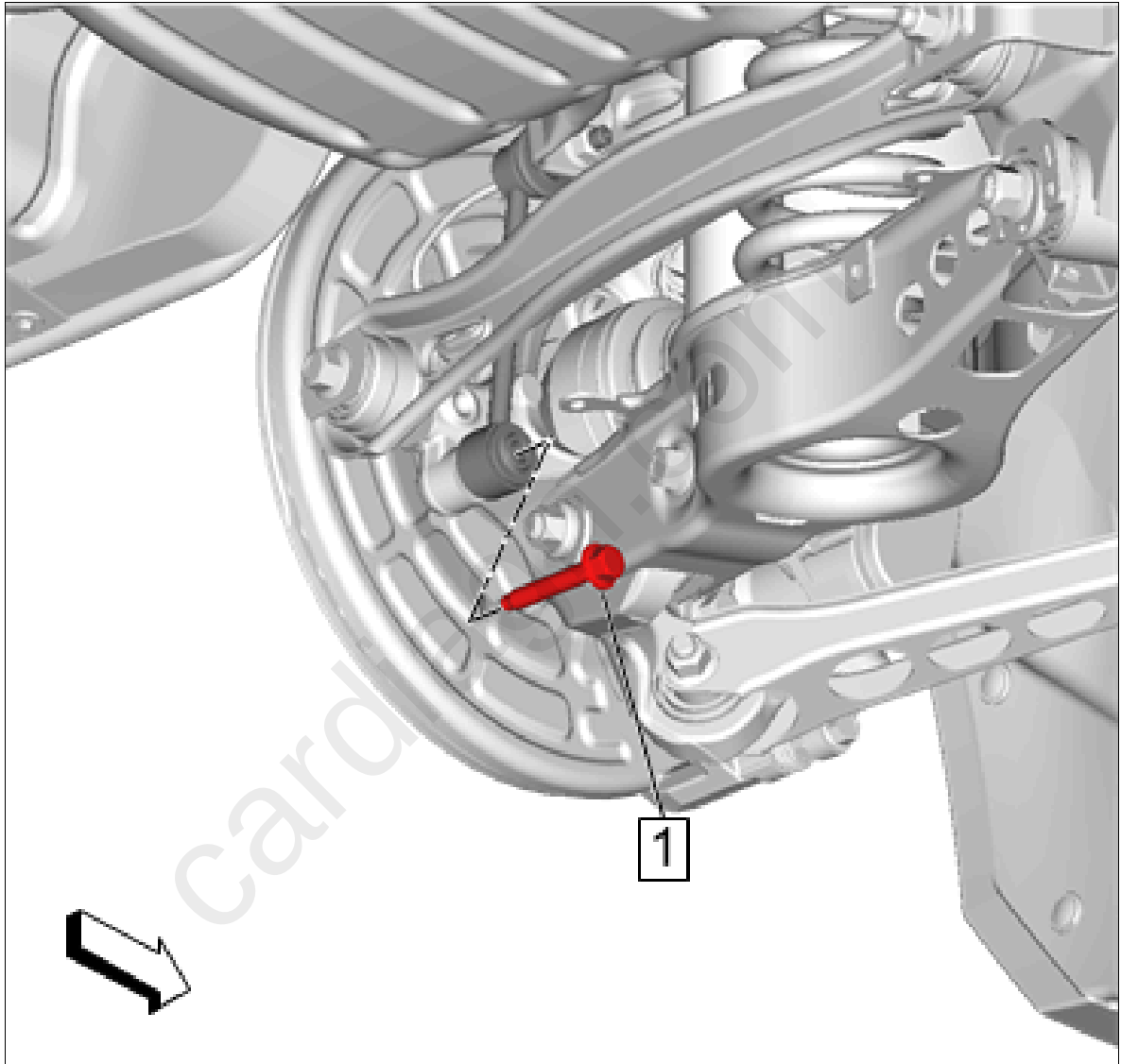
 **NOTE:**

Tighten the bolt and hold the nut.

Tighten

1. First Pass: 100 N.m (74 lb ft)
2. Final Pass: plus 90-105 degrees

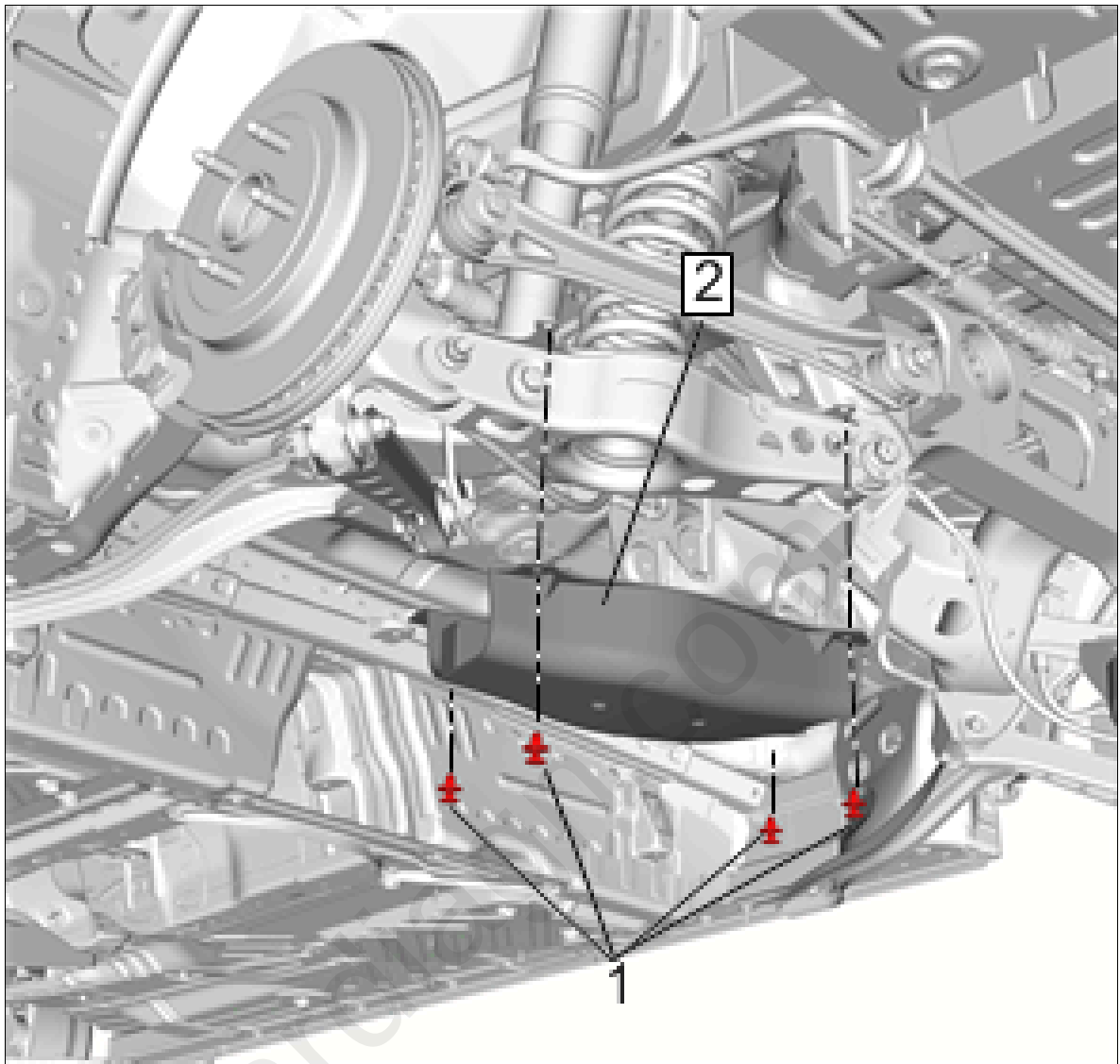
Fig 6: Stabilizer Shaft Link Bolt



Courtesy of GENERAL MOTORS COMPANY

9. Install Stabilizer Shaft Link Bolt (1) and tighten 58 N.m (43 lb ft)

Fig 7: Rear Suspension Lower Control Arm Cover

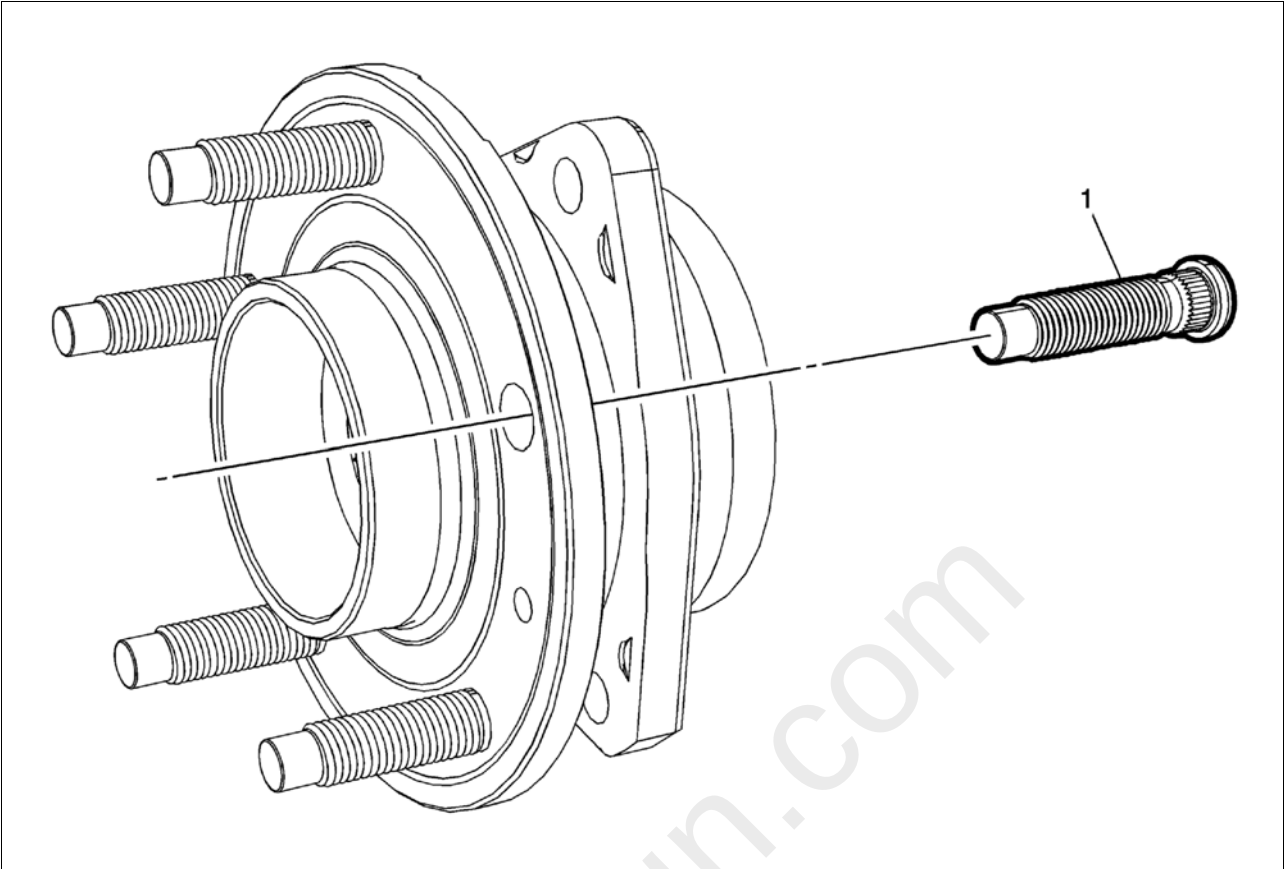


Courtesy of GENERAL MOTORS COMPANY

10. Install Rear Suspension Lower Control Arm Cover (2).
11. Install the rear suspension lower control arm cover push pins (1) (Qty: 4).
12. Install the rear wheel. Tire and Wheel Removal and Installation
13. Remove the safety stands.
14. Lower the vehicle to the ground.
15. Perform rear camber adjustment. Rear Camber Adjustment

REPAIR INSTRUCTIONS > WHEEL STUD REPLACEMENT

Fig 1: Wheel Stud



Courtesy of GENERAL MOTORS COMPANY

Callout	Component Name
Preliminary Procedure 1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle (Base)Lifting and Jacking the Vehicle (HP) . 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 .	
1	Wheel Stud Procedure 1. Position the wheel bearing and hub assembly in a suitable vise. 2. Using the CH-43631 remover, remove the wheel stud. 3. Position NEW wheel stud in the wheel bearing and hub assembly. 4. Using 3 or 4 washers and an old wheel nut, tighten the wheel nut until the NEW wheel stud is fully seated in the wheel bearing and hub assembly.

5. Remove the washers and the wheel nut.

Special Tools

CH-43631 Ball Joint Remover

For regional equivalent tools, refer to Special Tools .

DESCRIPTION AND OPERATION > REAR SUSPENSION DESCRIPTION AND OPERATION > DESCRIPTION AND OPERATION

The Camaro has a 5 link independent rear suspension. The stamped steel suspension links attach to a steel rear cradle assembly and cast aluminum knuckle assemblies. The cradle assemble includes hydro-formed side rails and rubber body mounts for isolation. The coils springs work between the lower control arms and underbody and are isolated to the with urethane upper spring seats. The direct-acting solid steel stabilizer bar provides additional body roll stiffness. The base suspension package (FE2) also includes twin-tube passive damping shock absorbers.

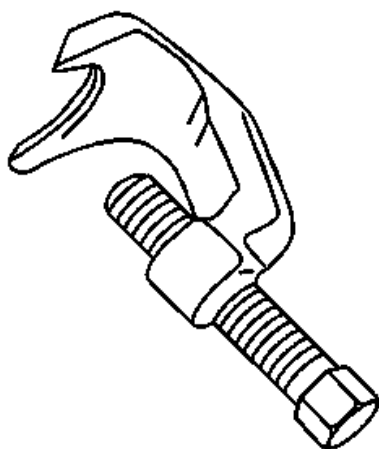
The Camaro sport suspension package (FE3) includes Magnetic Ride Control (MRC). MRC is an electronic real-time damping system that responds to road inputs within milliseconds to deliver precise body contact.

The Rear Suspension Assemblies are:

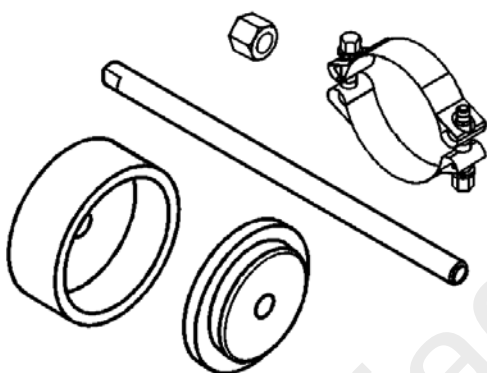
- Upper Trailing Arm Link Assembly
- Lower Trailing Arm
- Upper Lateral Link Assembly
- Toe Link
- Lower Control Arm
- Rear Cradle Assembly
- Coil Springs & Isolators
- Rear Stabilizer Bar, Links, Clamps and Bushings
- Twin Tube Shock Absorbers
- Rear Knuckle Assembly

SPECIAL TOOLS AND EQUIPMENT > SPECIAL TOOLS

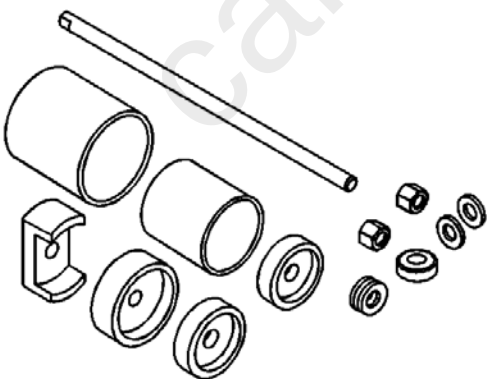
Illustration	Tool Number/ Description
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CH-43631
CH-49455
J-43631
Ball Joint Remover



CH-45725
J-45725-2
Cradle Bushing Replacer



DT-50806
Bushing Replacer