

Steering Knuckle Replacement (4WD, SRW)

[Single Use Fasteners and Components](#)

- Front Wheel Drive Shaft Nut

[Special Tools](#)

Disc Brakes

- *CH-41013* Rotor Resurfacing Kit
- *CH-42450-A* Wheel Hub Resurfacing Kit

Equivalent regional tools: [Special Tools](#)

Front Suspension

- *CH-42188-B* Ball Joint Separator
- *CH-43631* Ball Joint Separator
- *J-45851* Ball Joint Separator Protector Adapters

Equivalent regional tools: [Special Tools](#)

Steering Linkage

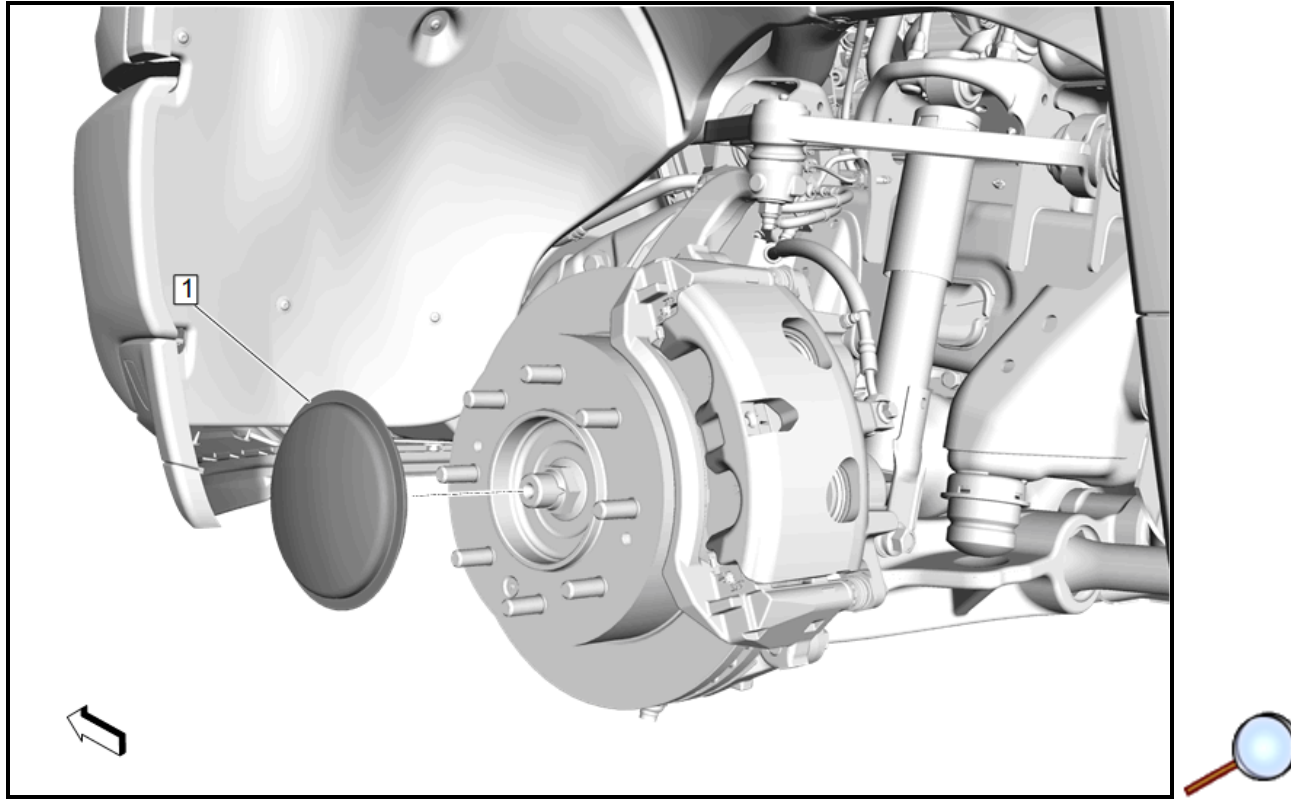
- *CH-24319-B* Steering Linkage and Tie Rod Puller

Equivalent regional tools: [Special Tools](#)

Warning: [Brake Dust Warning](#)

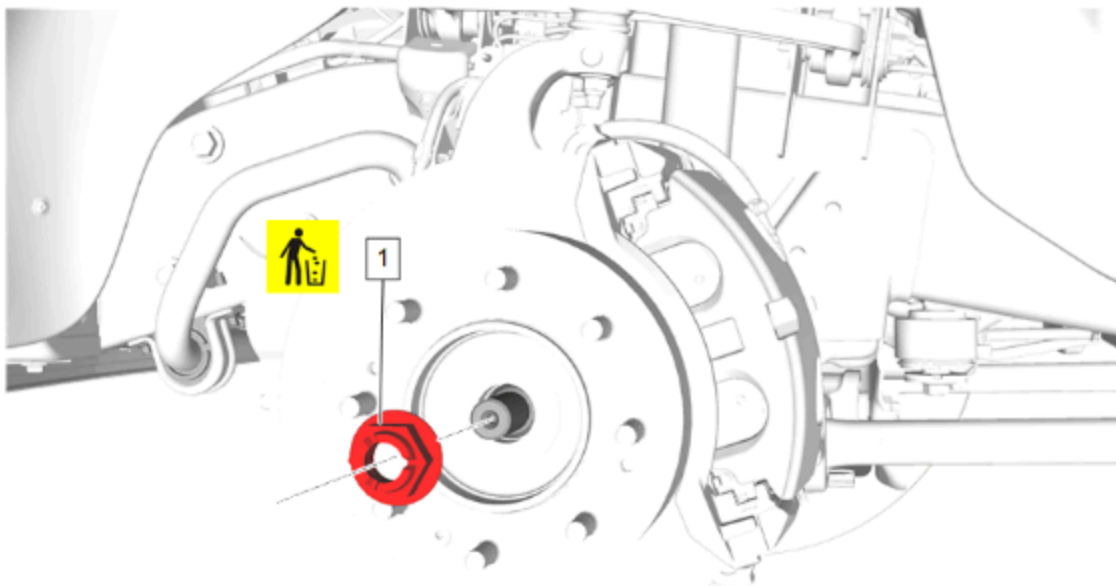
[Removal Procedure](#)

1. Remove the front tire and wheel assembly. [Tire and Wheel Removal and Installation](#)



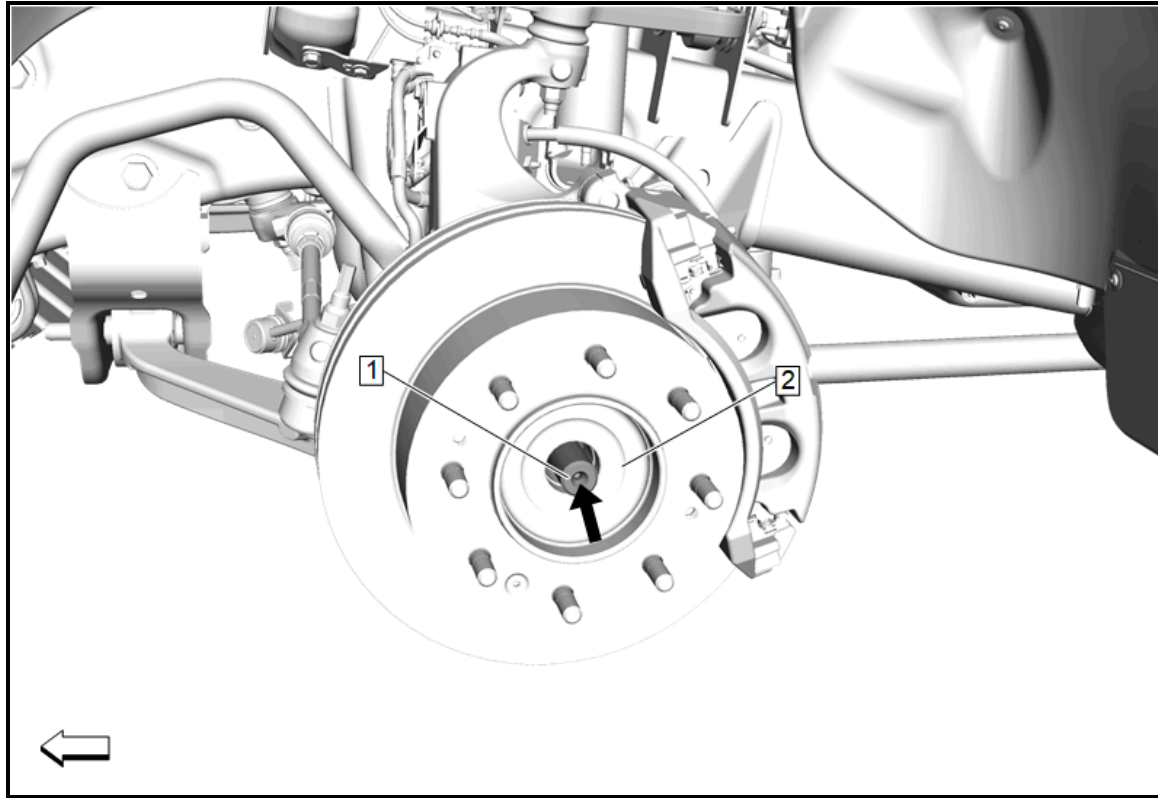
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2. Front Axle Hub Cap (1) » Remove
3. Have an assistant apply the brakes.

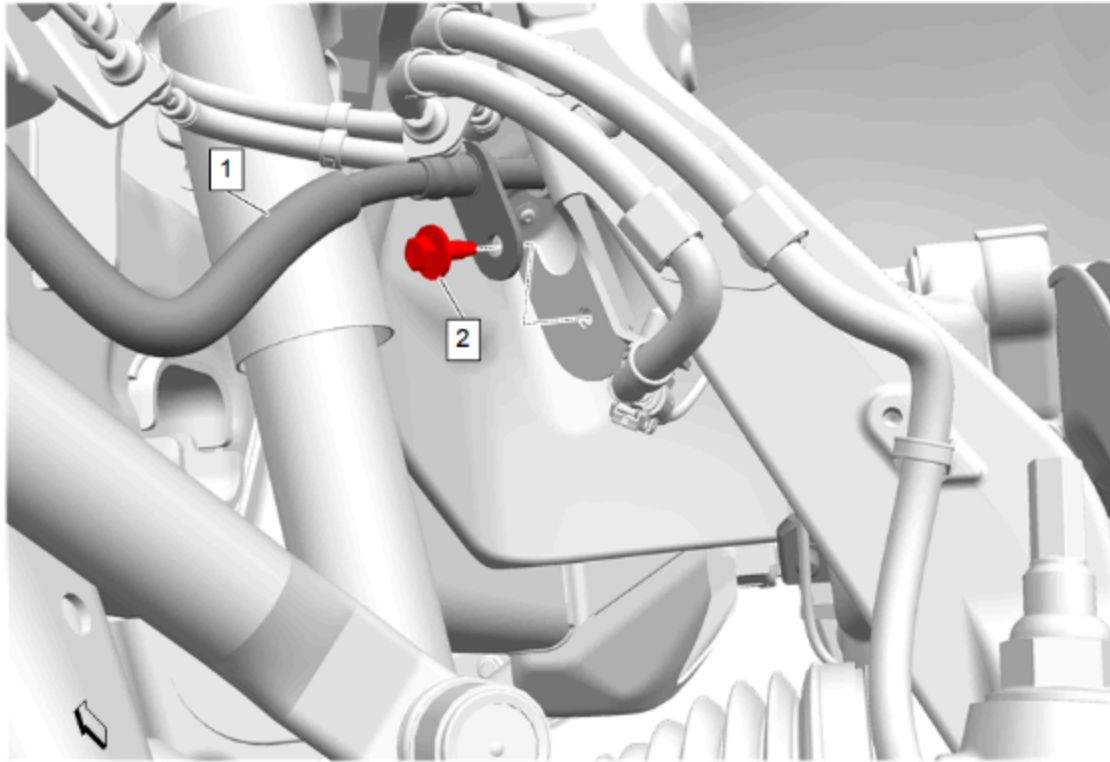


Caution: DO NOT use air tools to remove the wheel drive shaft nut. Damage to the wheel drive shaft threads could occur. Use hand tools only.

4. Front Wheel Drive Shaft Nut (1) » Remove and DISCARD

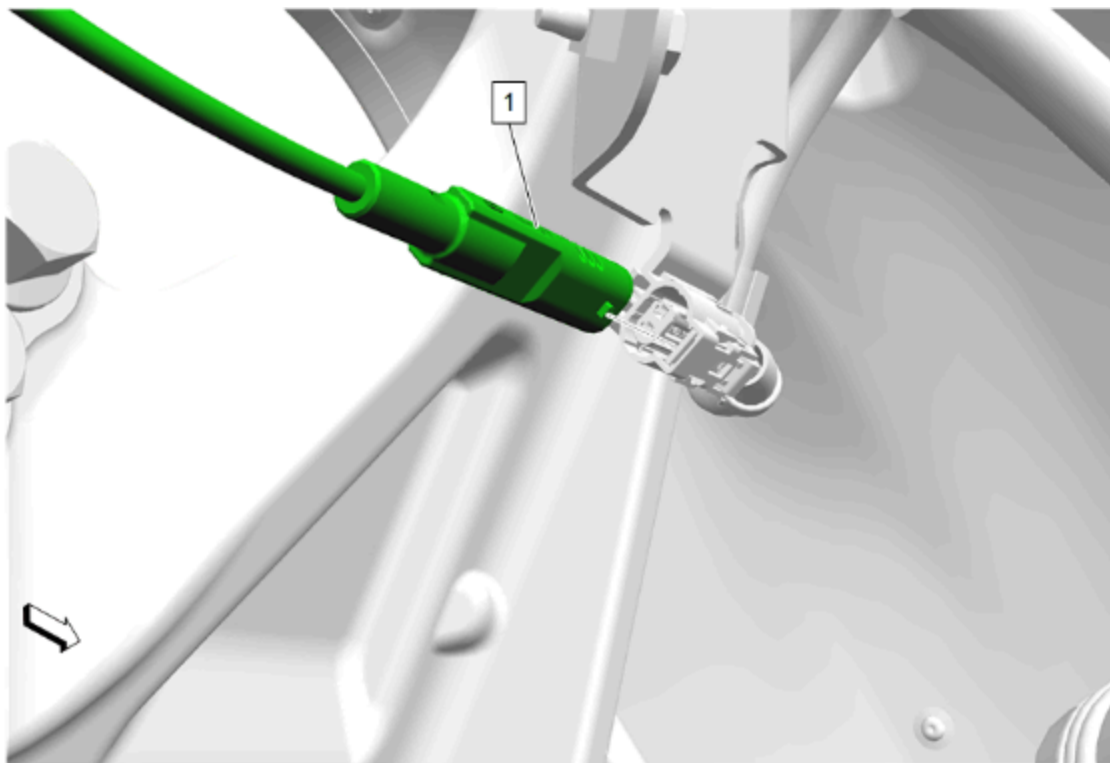


5. Using an appropriate tool, release the front wheel drive half shaft (1) from the front wheel hub (2).
6. Have an assistant release the brakes.

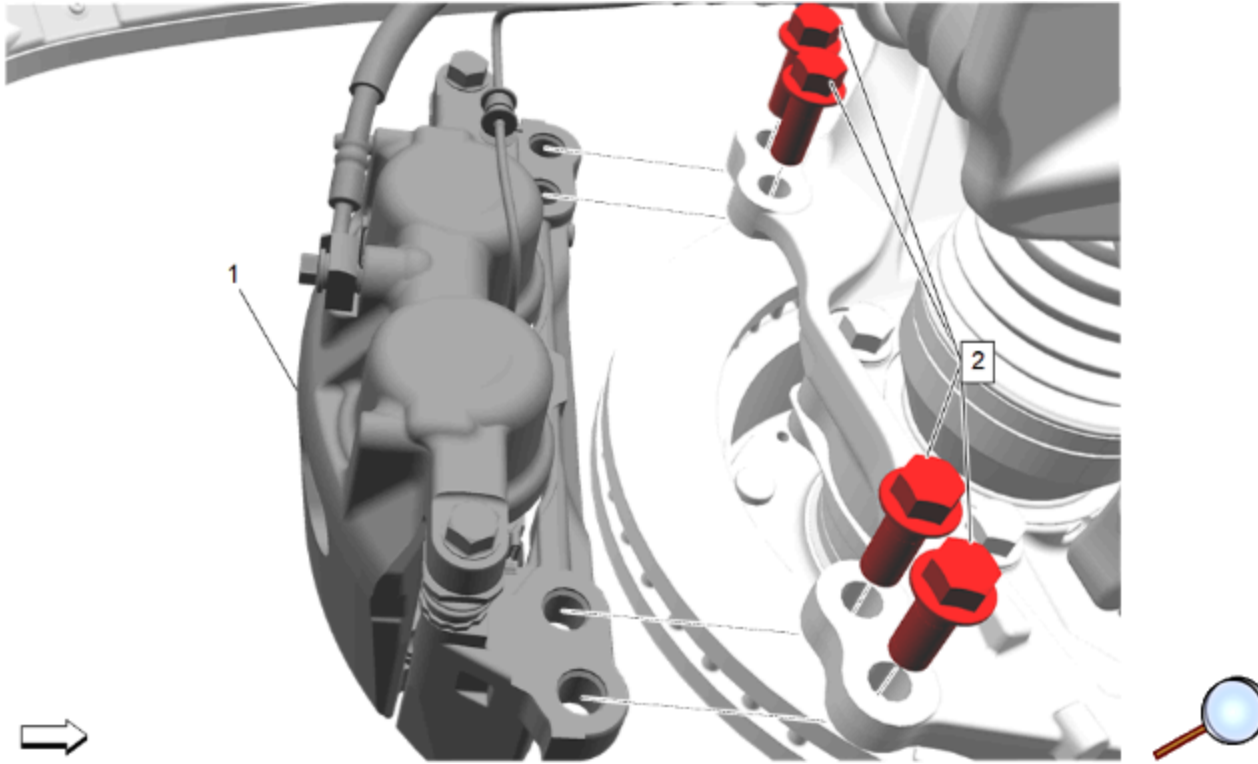


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- 7. Front Brake Hose Bracket Bolt (2) » Remove
- 8. Front Brake Hose (1) » Position aside



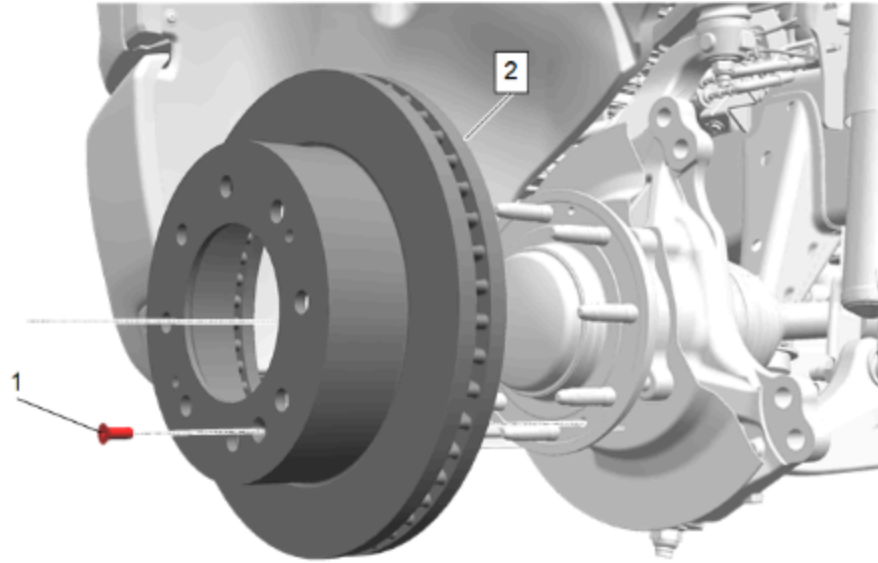
9. If equipped, disconnect the front disc brake pad wear sensor electrical connector (1).



10. Front Brake Caliper Bracket Bolt (2) » Remove [4x]

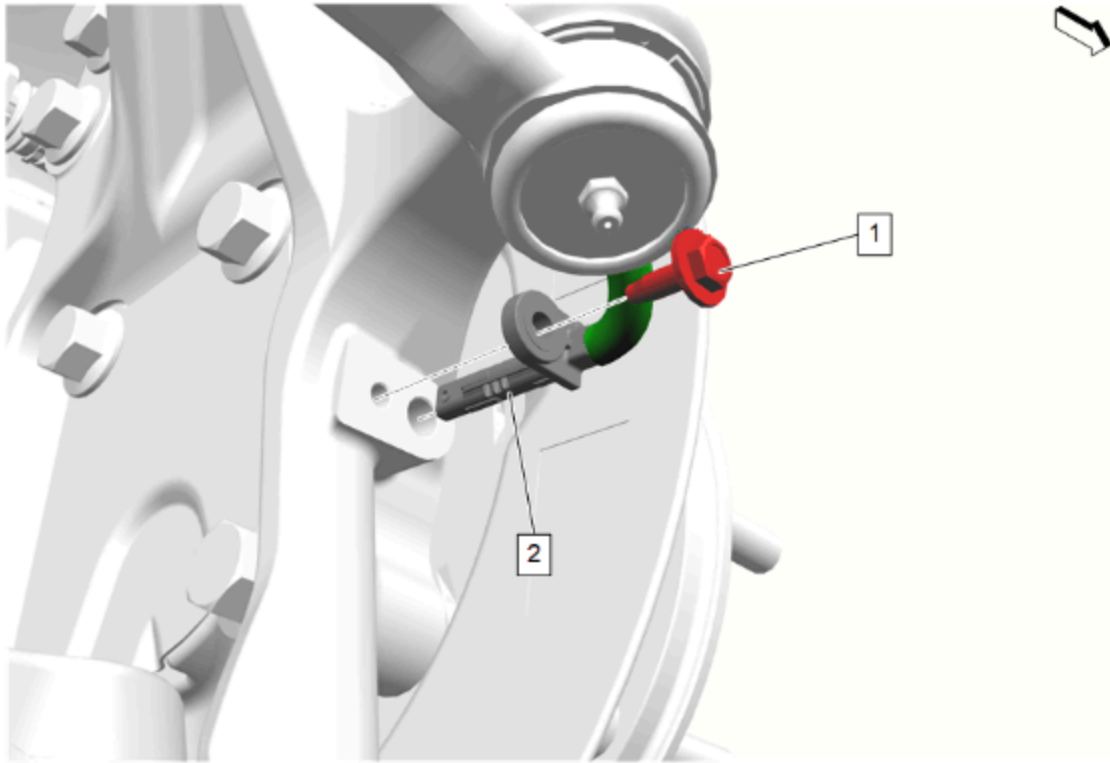
Caution: Support the brake caliper with heavy mechanic wire, or equivalent, whenever it is separated from its mount and the hydraulic flexible brake hose is still connected. Failure to support the caliper in this manner will cause the flexible brake hose to bear the weight of the caliper, which may cause damage to the brake hose and in turn may cause a brake fluid leak.

11. Remove the brake caliper and bracket assembly (1) and support with heavy mechanics wire.



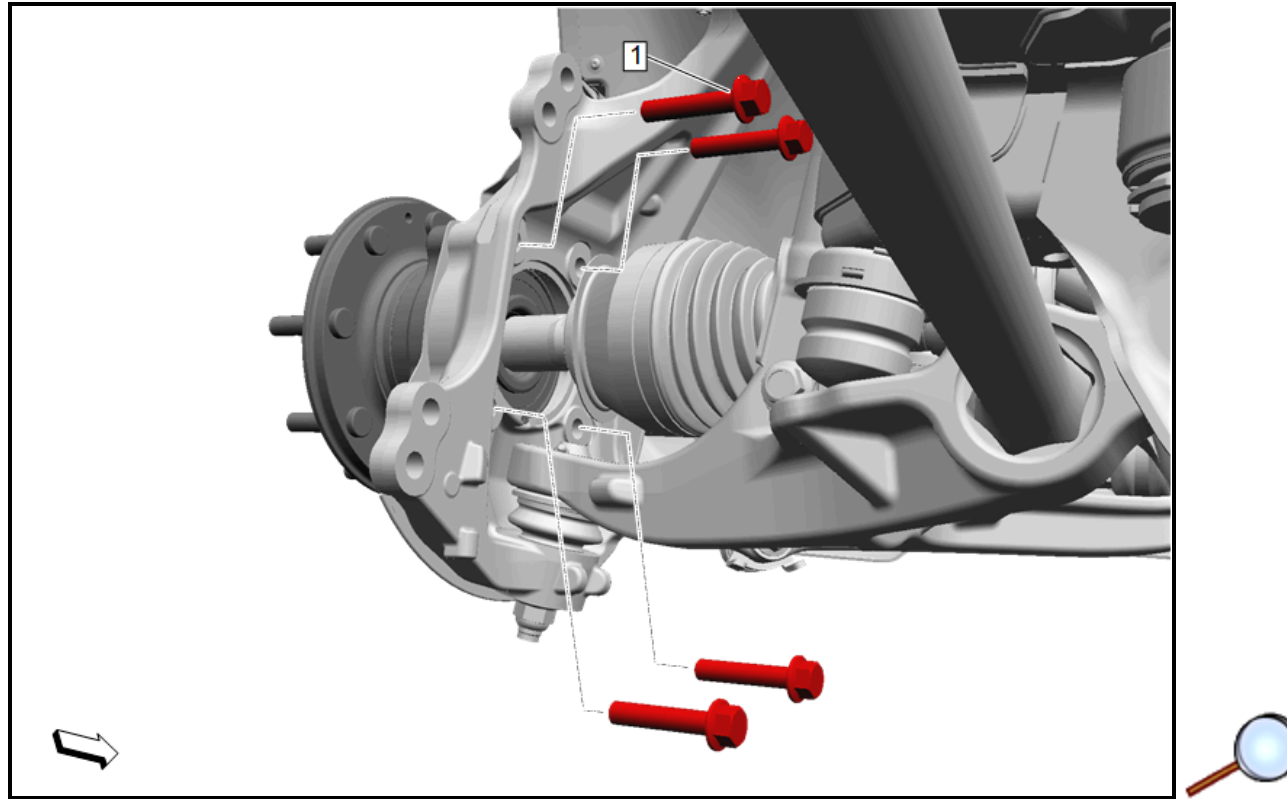
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- 12. Front Brake Rotor Bolt (1) » Remove
- 13. Front Brake Rotor (2) » Remove



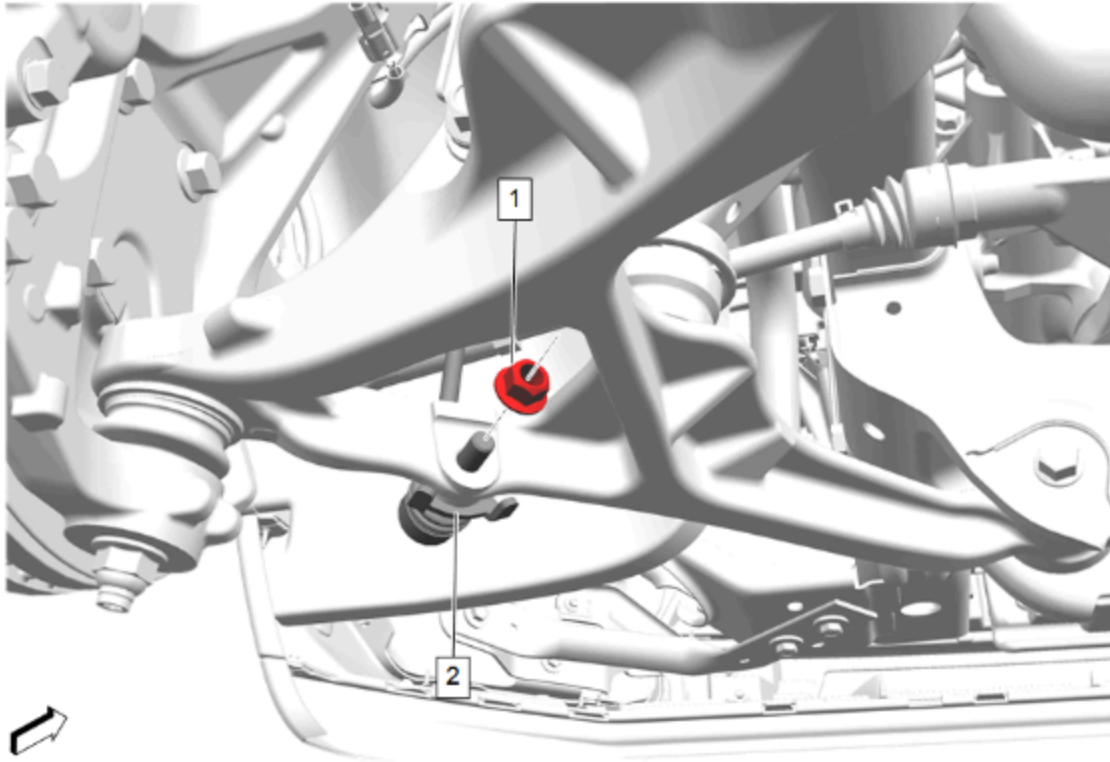
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- 14. Front Wheel Speed Sensor Bolt (1) » Remove
- 15. Front Wheel Speed Sensor (2) @ Steering Knuckle » Remove



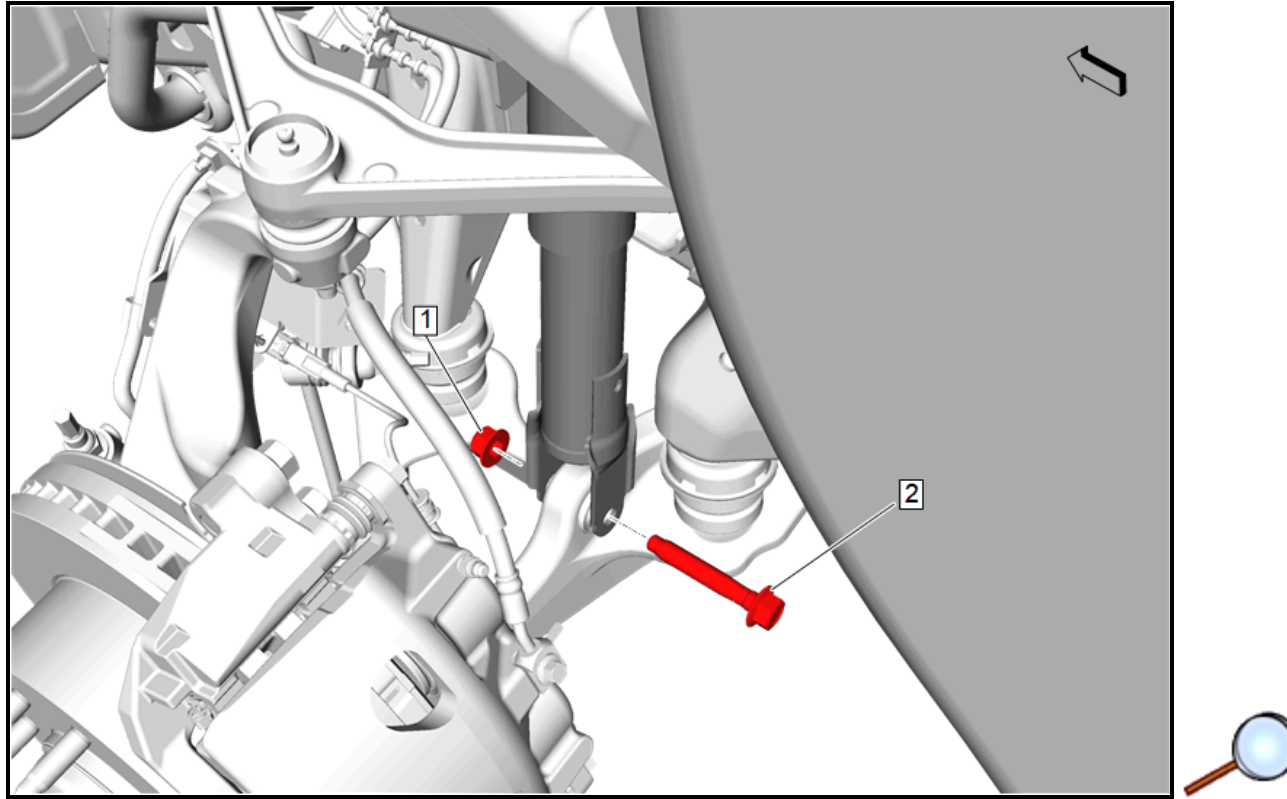
Note: Support the lower control arm to prevent over-articulation of the front lower control arm ball joint and to allow for the removal of the front shock absorber bolt.

16. Support the lower control arm with a suitable jack stand.
17. Front Shock Absorber Nut - Lower (1) » Remove
18. Front Shock Absorber Bolt (2) » Remove

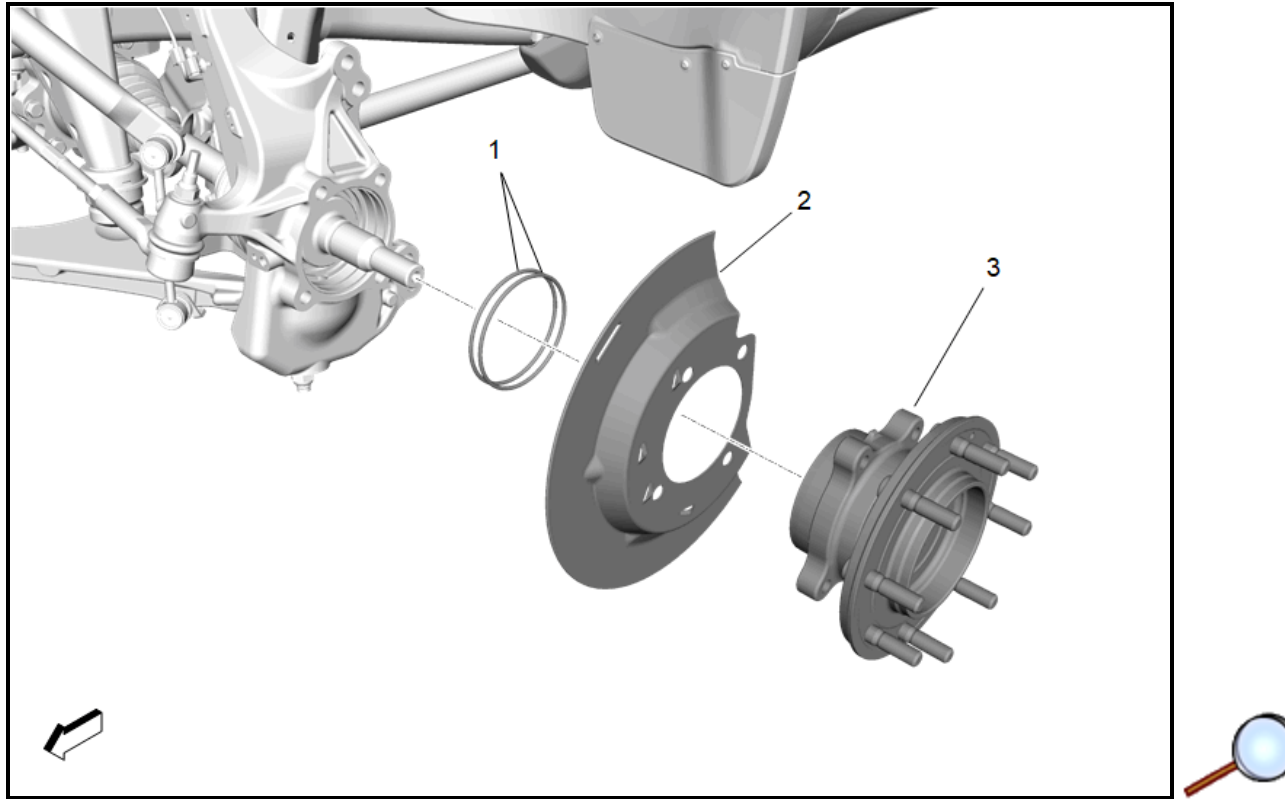


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19. Front Stabilizer Shaft Link Nut (1) » Remove
20. Front Stabilizer Shaft Link (2) @ Front Lower Control Arm » Remove

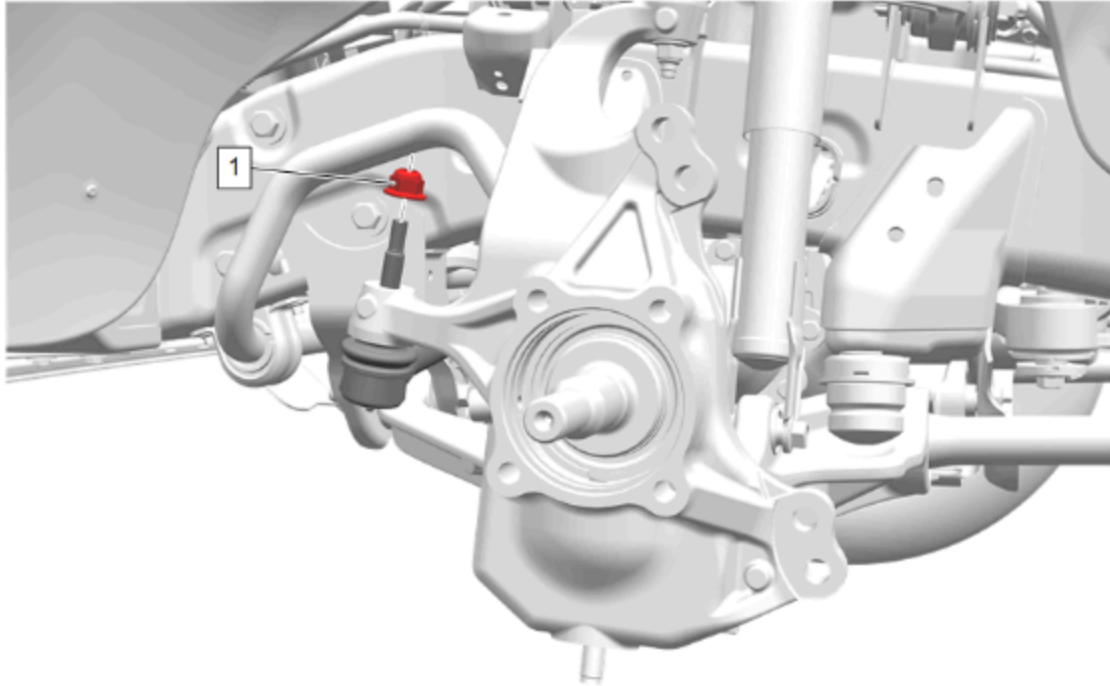


21. Front Wheel Hub Bolt (1) » Remove [4x]



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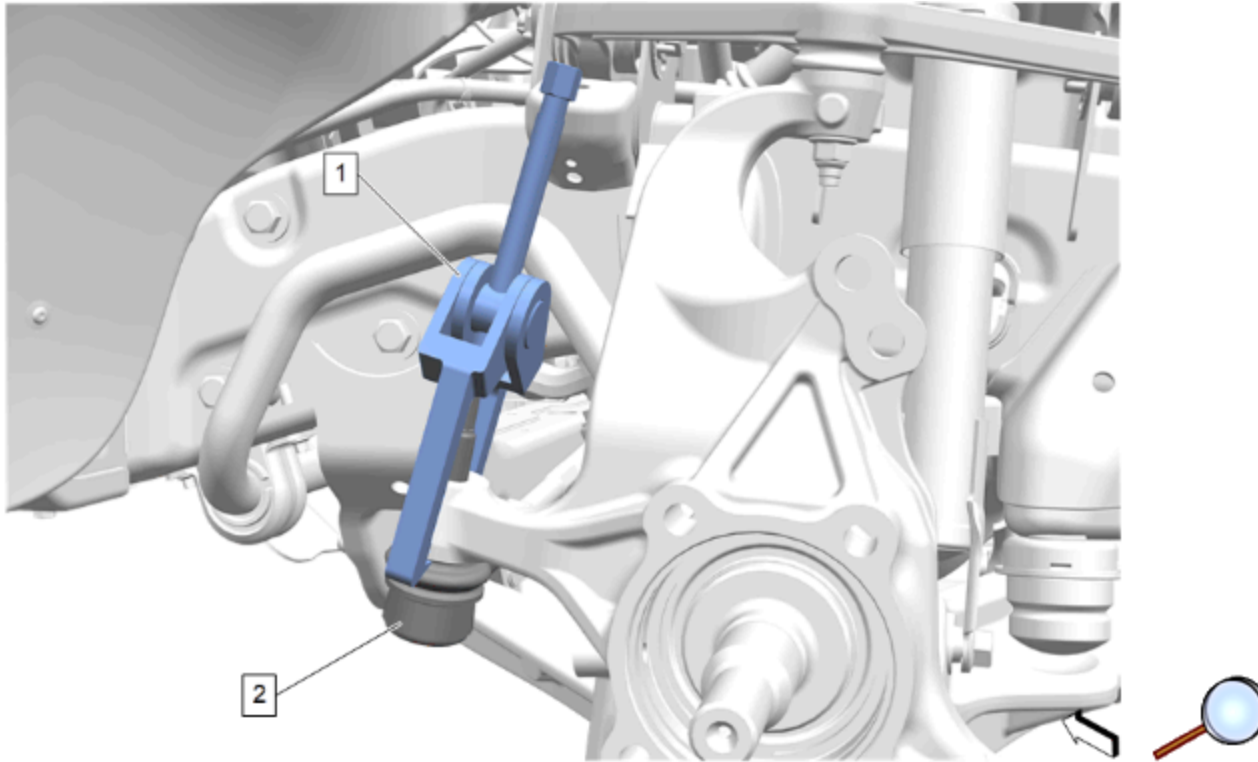
22. Front Wheel Hub (3) » Remove
23. Front Brake Shield (2) » Remove
24. Front Wheel Hub Seal (1) » Remove [2x]



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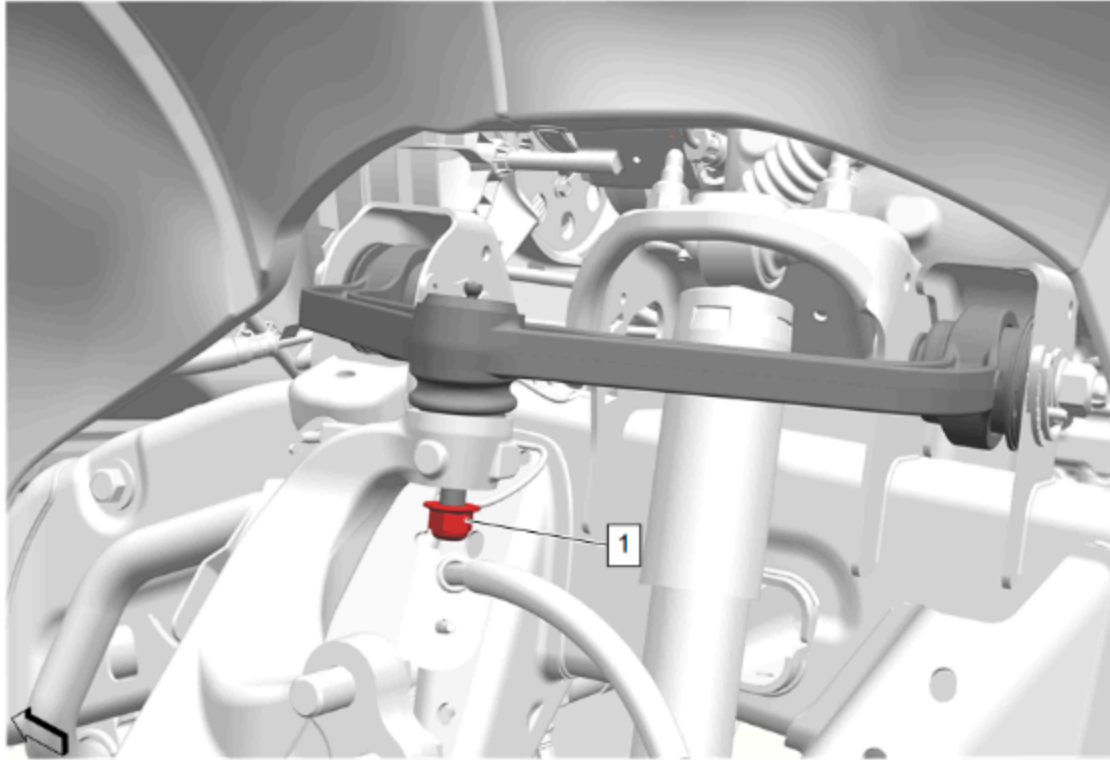
25. Steering Linkage Outer Tie Rod Nut (1) » Remove



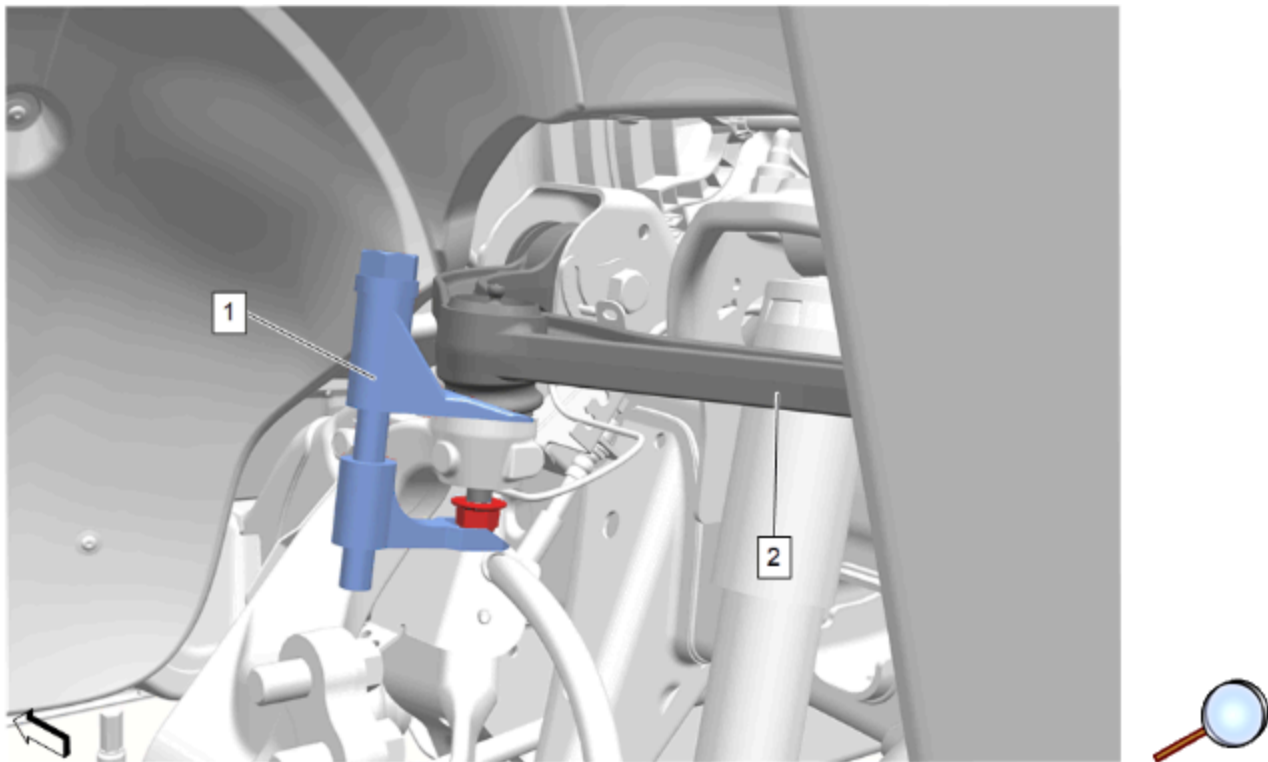
Caution: Do not attempt to disconnect a steering linkage joint by driving a wedge between the joint and the attached part. Seal damage may result which will cause premature failure of the joint.

Caution: When removing or installing suspension or steering components, ensure the tool used for removal/Installation does not come into contact with the component boot. If damage to the component boot has occurred the component must be replaced.

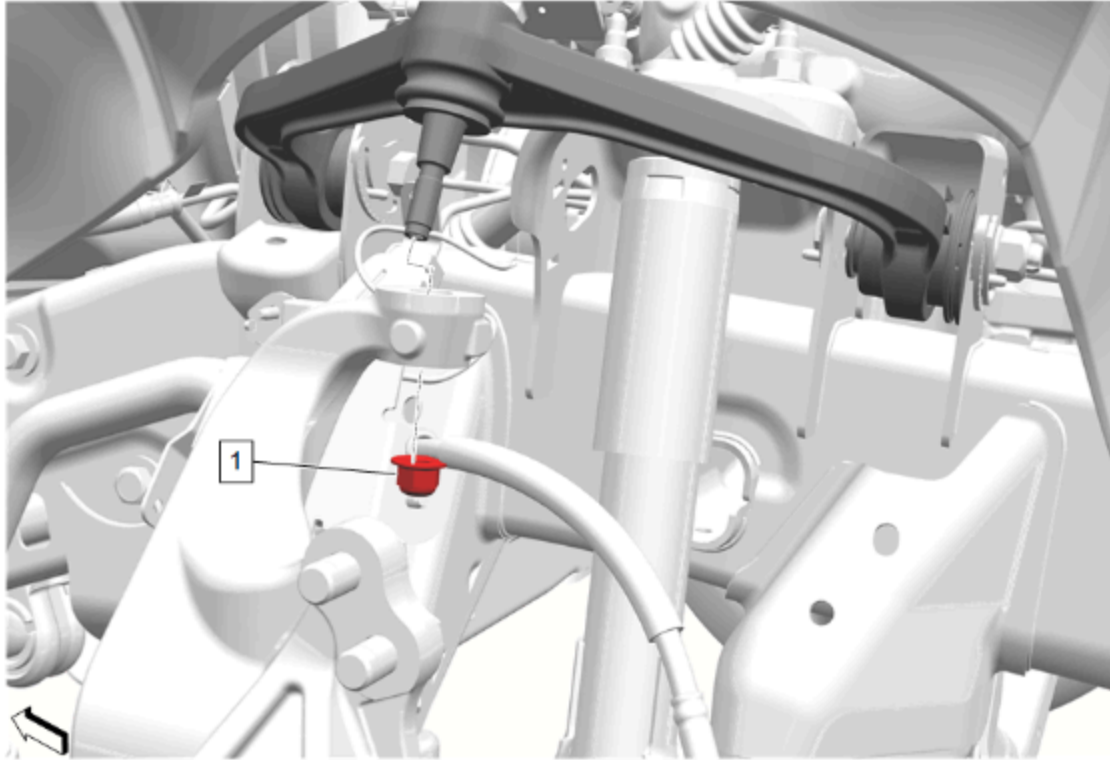
26. Use the *CH-24319-B* Steering Linkage and Tie Rod Puller (1) to separate the steering linkage outer tie rod (2) from the steering knuckle.



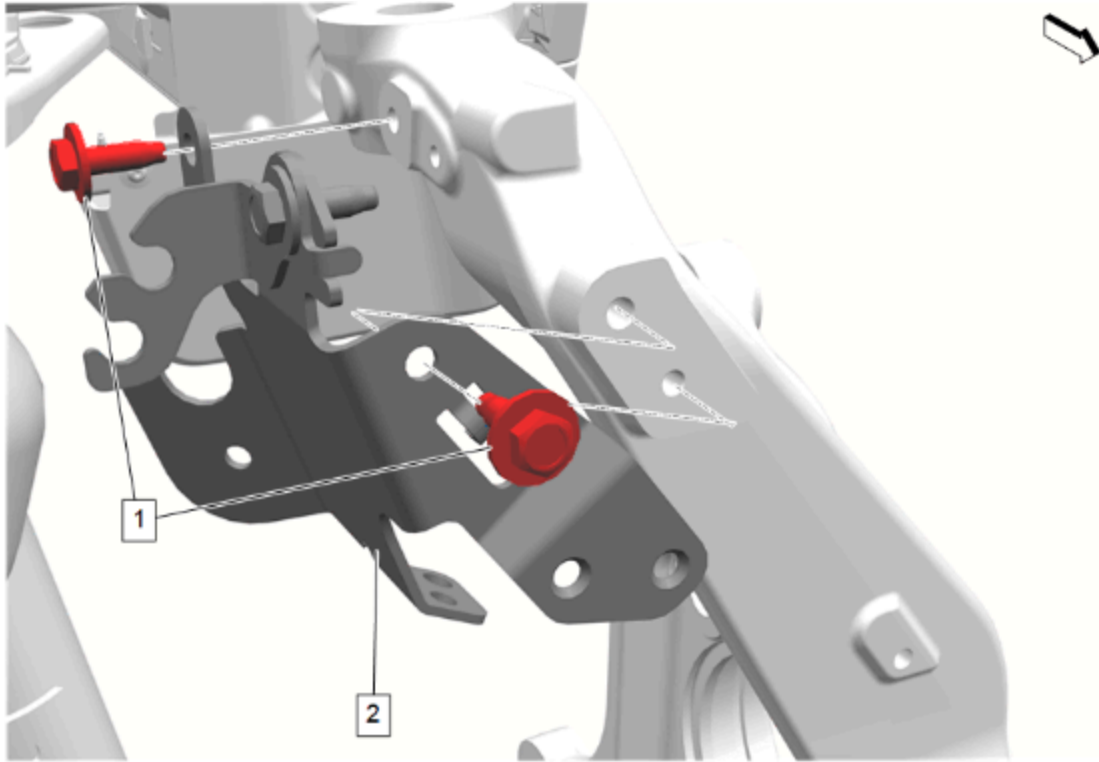
27. Front Upper Control Arm Ball Stud Nut (1) » Loosen



28. Using the *CH-42188-B* Ball Joint Separator (1), separate the front upper control arm (2) from the steering knuckle.
29. Remove the *CH-42188-B* Ball Joint Separator (1) from the front upper control arm (2) and the steering knuckle.



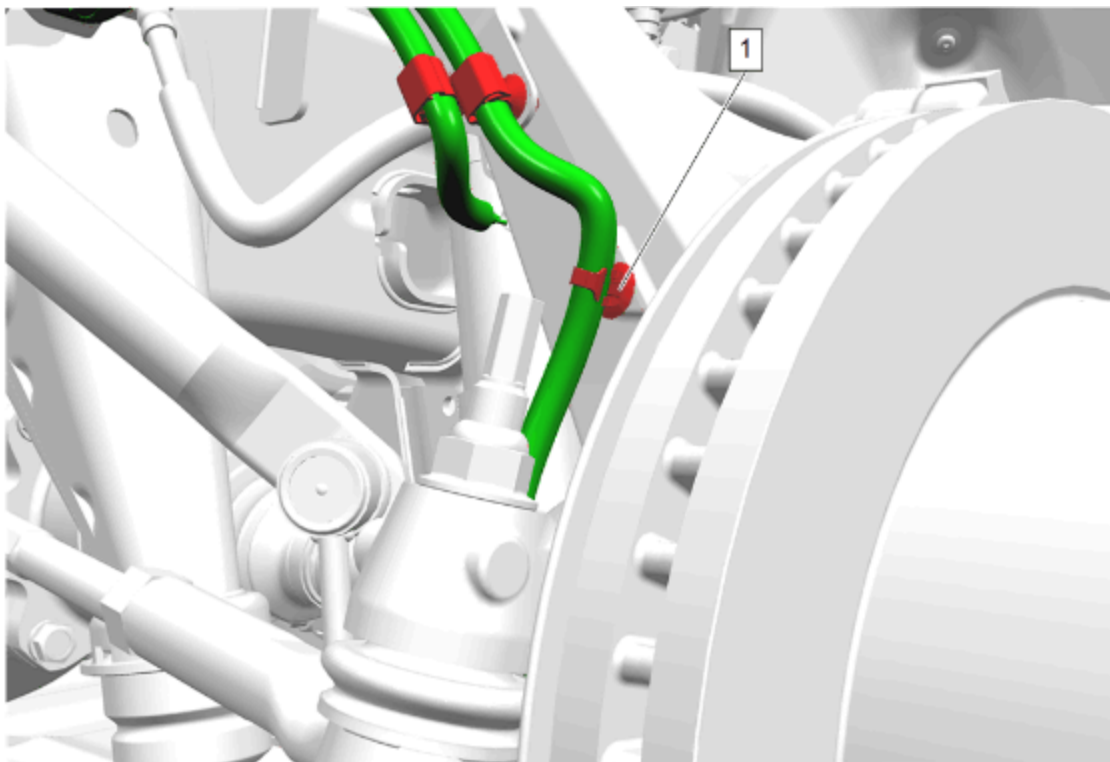
30. Front Upper Control Arm Ball Stud Nut (1) » Remove



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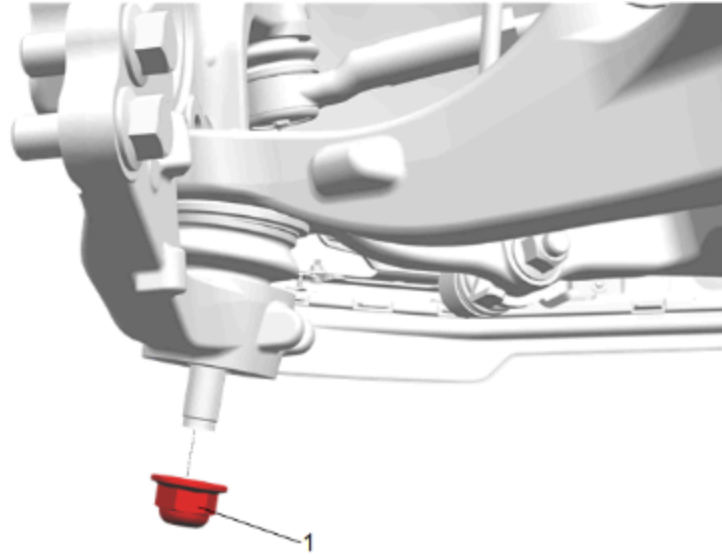
Note: Some components not shown for graphic clarity.

31. Front Brake Hose Bracket Bolt (1) » Remove [2x]
32. Remove the front brake hose bracket (2).



Note: If retained in a bracket attached to the knuckle, replacement of the wheel speed sensor is necessary due to a design change.

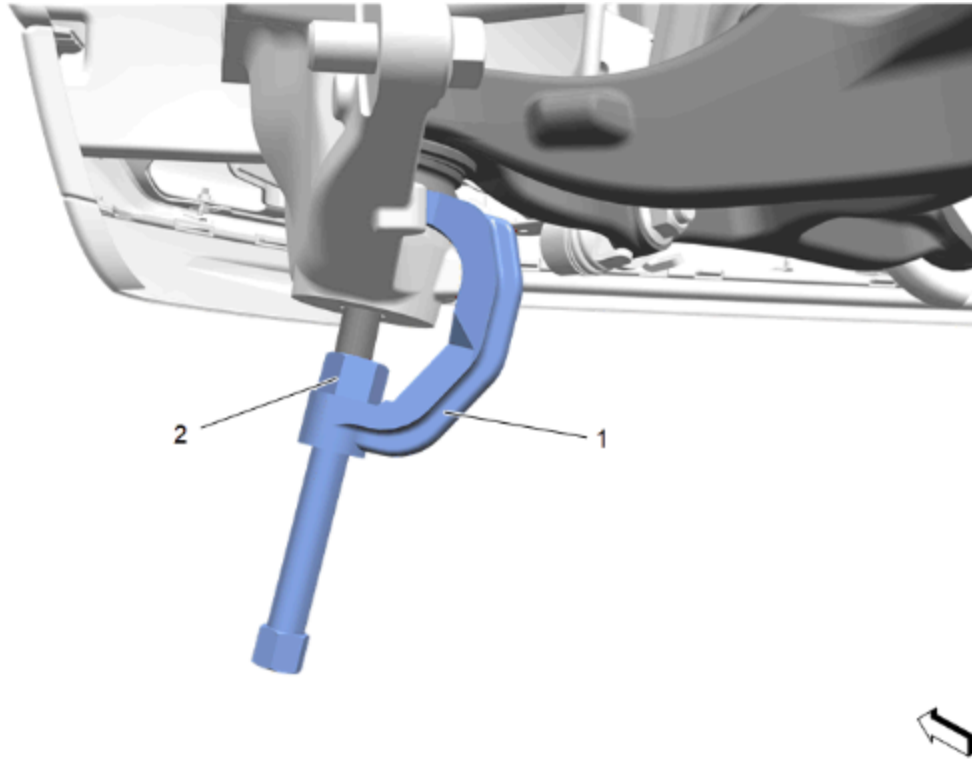
33. Remove retainer (1) from the steering knuckle.



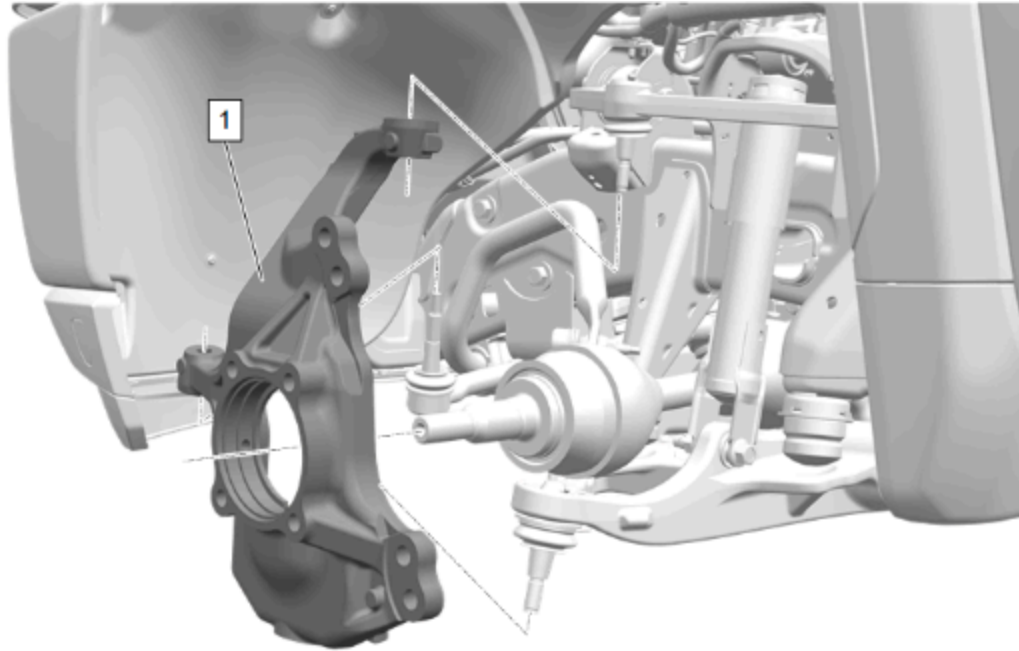
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34. Front Lower Control Arm Ball Stud Nut (1) » Remove



35. Use the *CH-43631* Ball Joint Separator (1) and the *J-45851* Ball Joint Separator Protector Adapters (2) to separate the front lower control arm from the steering knuckle.

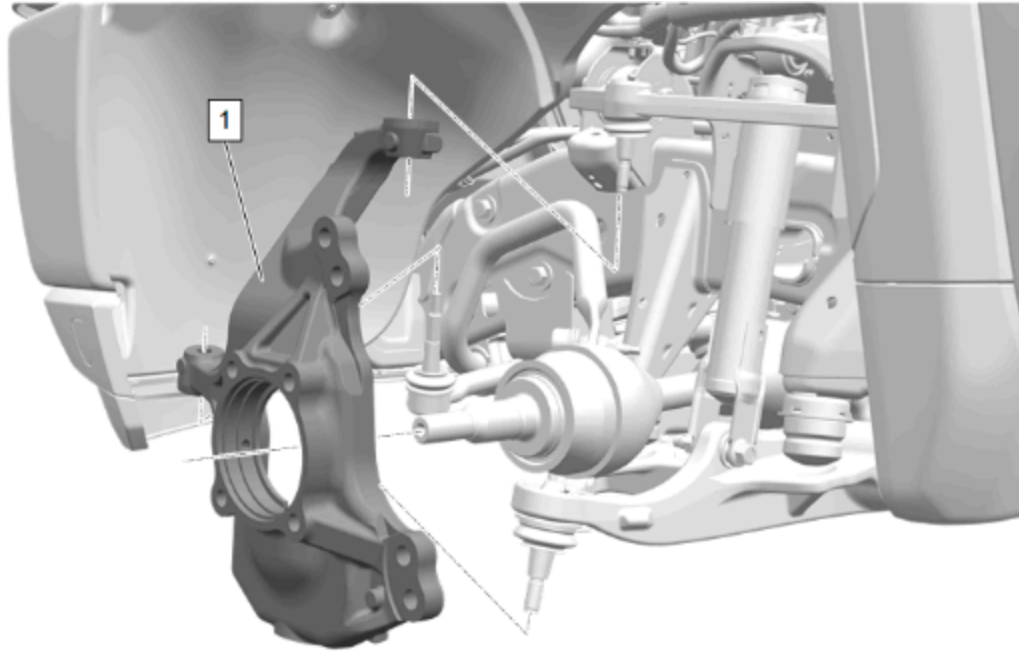


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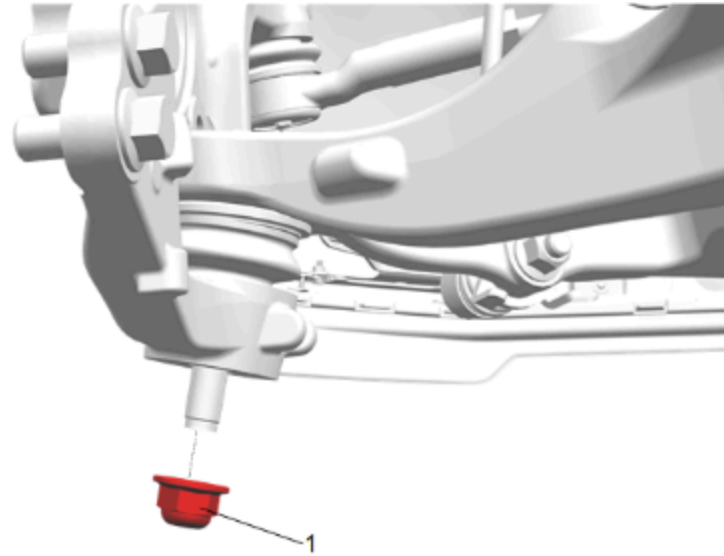


36. Steering Knuckle (1) » Remove

Installation Procedure



1. Steering Knuckle (1) » Install

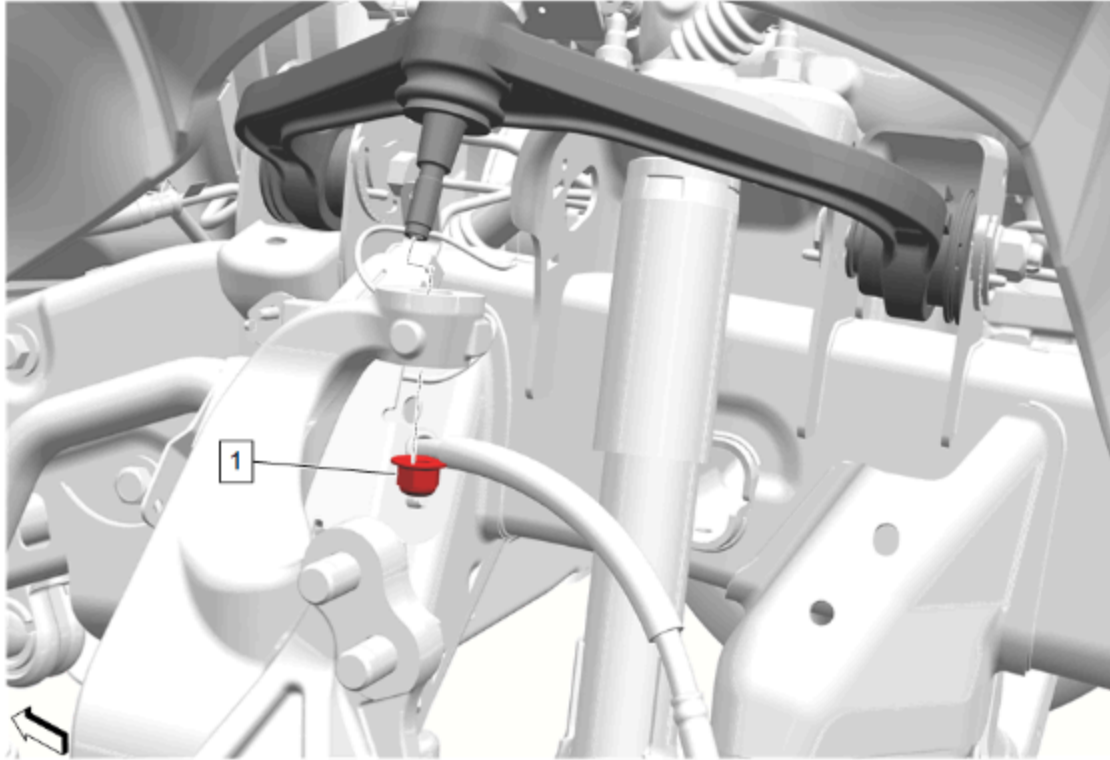


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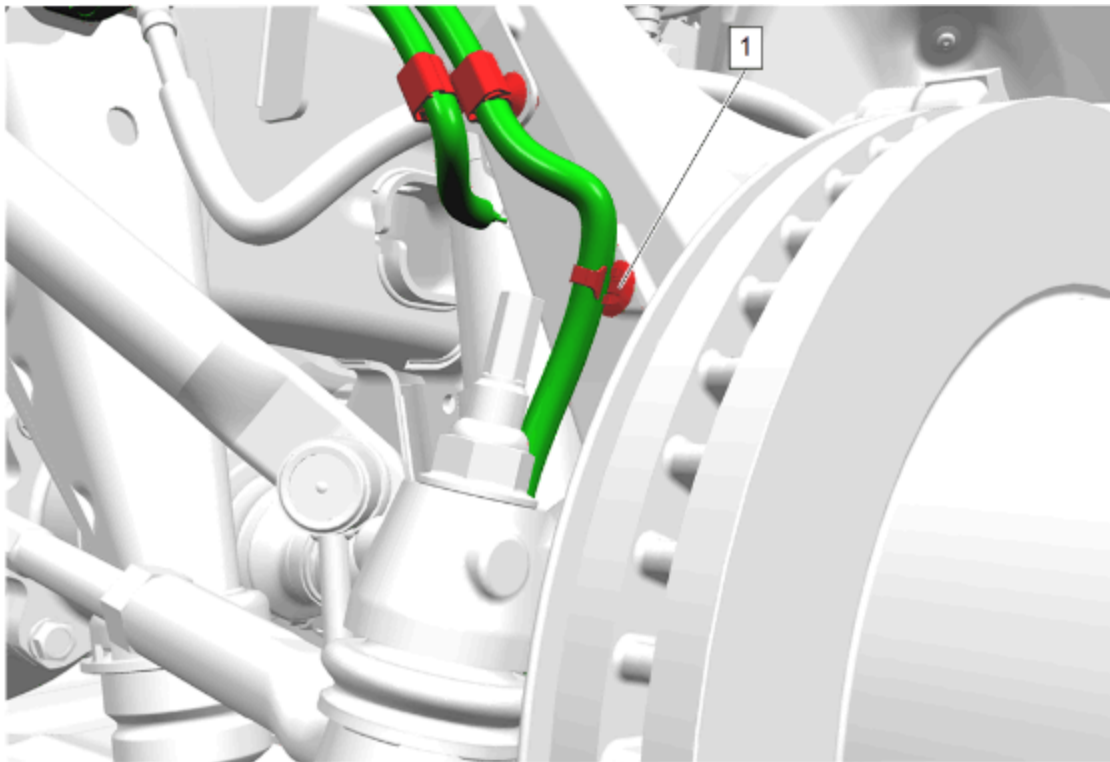


Caution: [Fastener Caution.](#)

2. Front Lower Control Arm Ball Stud Nut (1) » Install and tighten — [Fastener Specifications](#)

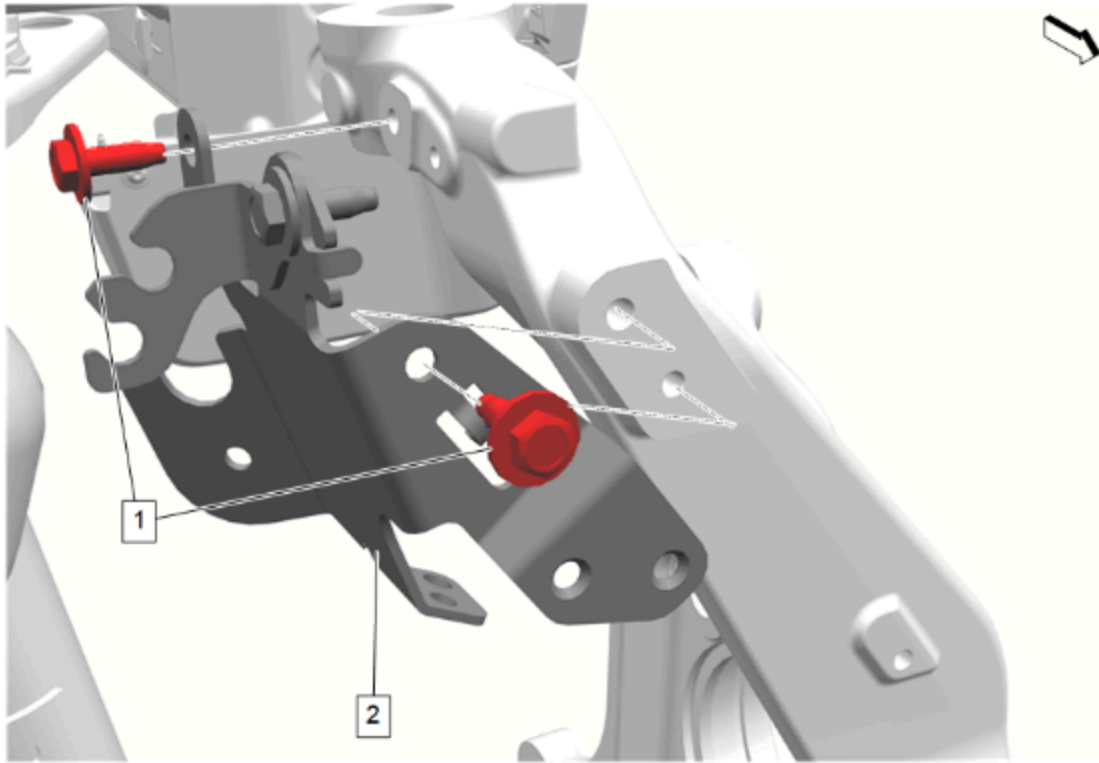


3. Front Upper Control Arm Ball Stud Nut (1) » Install and tighten — [Fastener Specifications](#)



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4. Install retainer (1) to the steering knuckle.



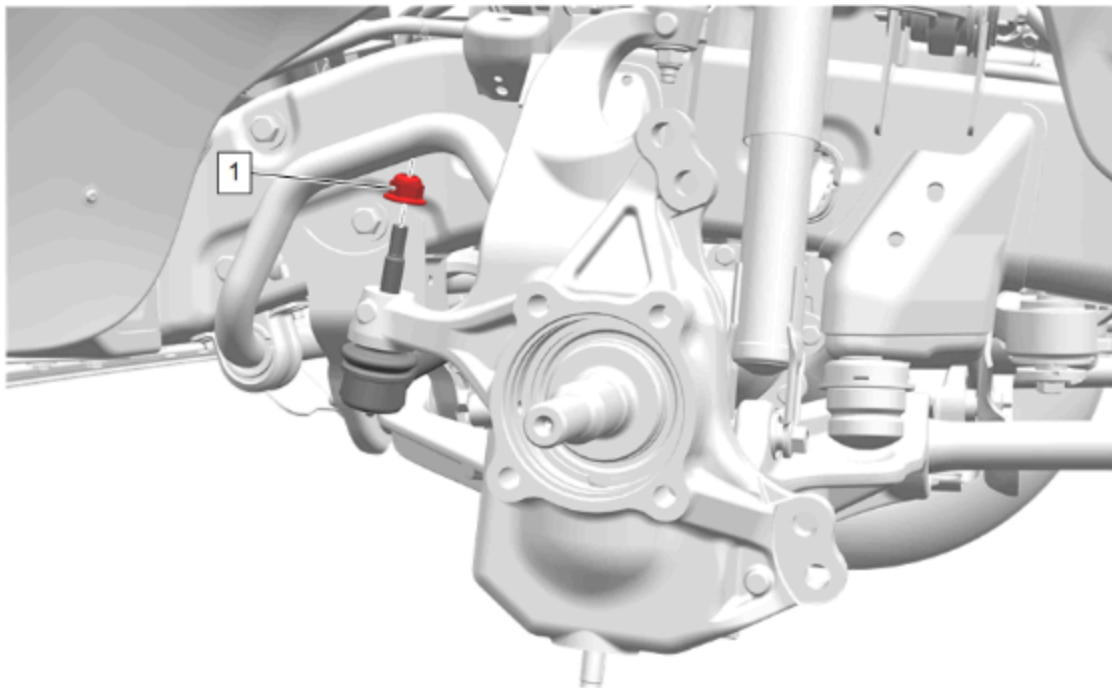
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Note: Some components not shown for graphic clarity.

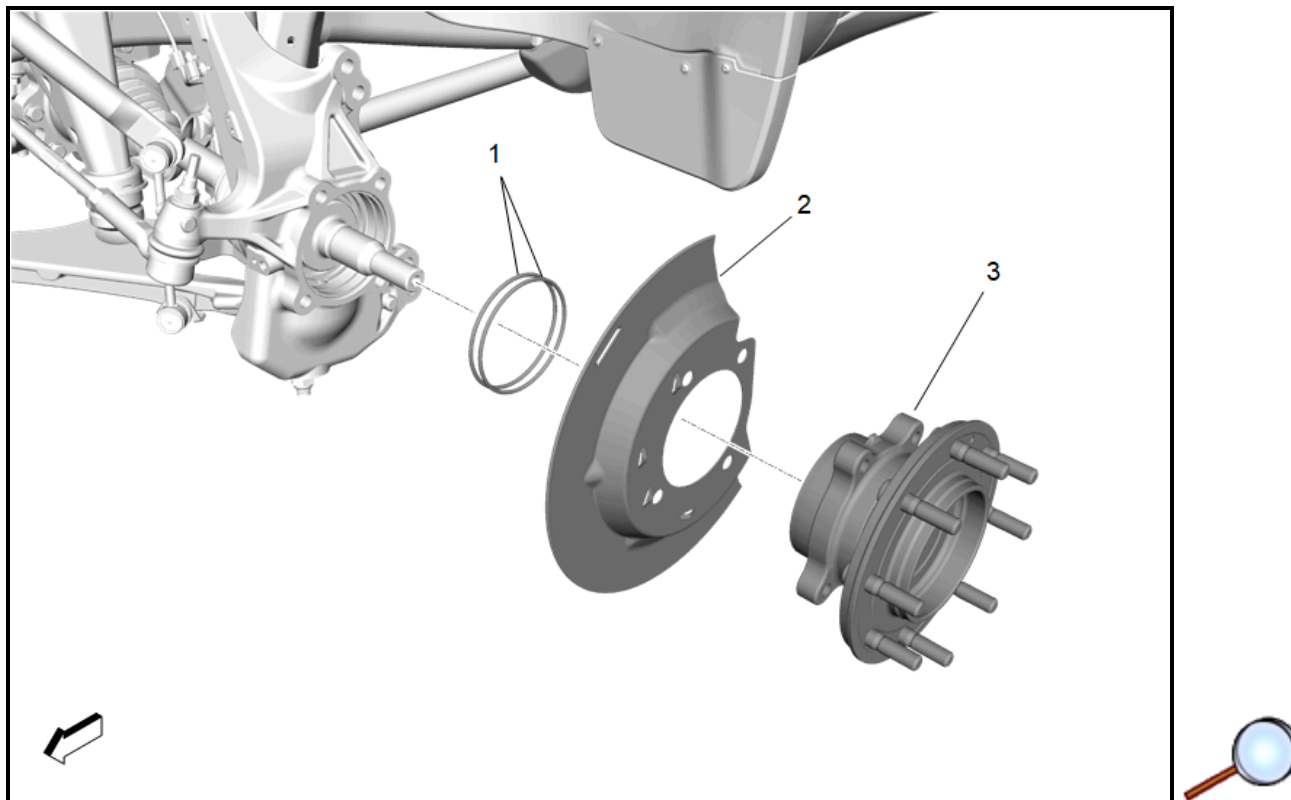
5. Install the front brake hose bracket (2).
6. Front Brake Hose Bracket Bolt (1) » Install and tighten [2x] — [Fastener Specifications](#)

Caution: Ensure the Outer Tie Rod Boot is not twisted or deformed during assembly. If the boot is twisted or deformed, damage to the boot will occur.

7. Steering Linkage Outer Tie Rod » Install @ Steering Knuckle

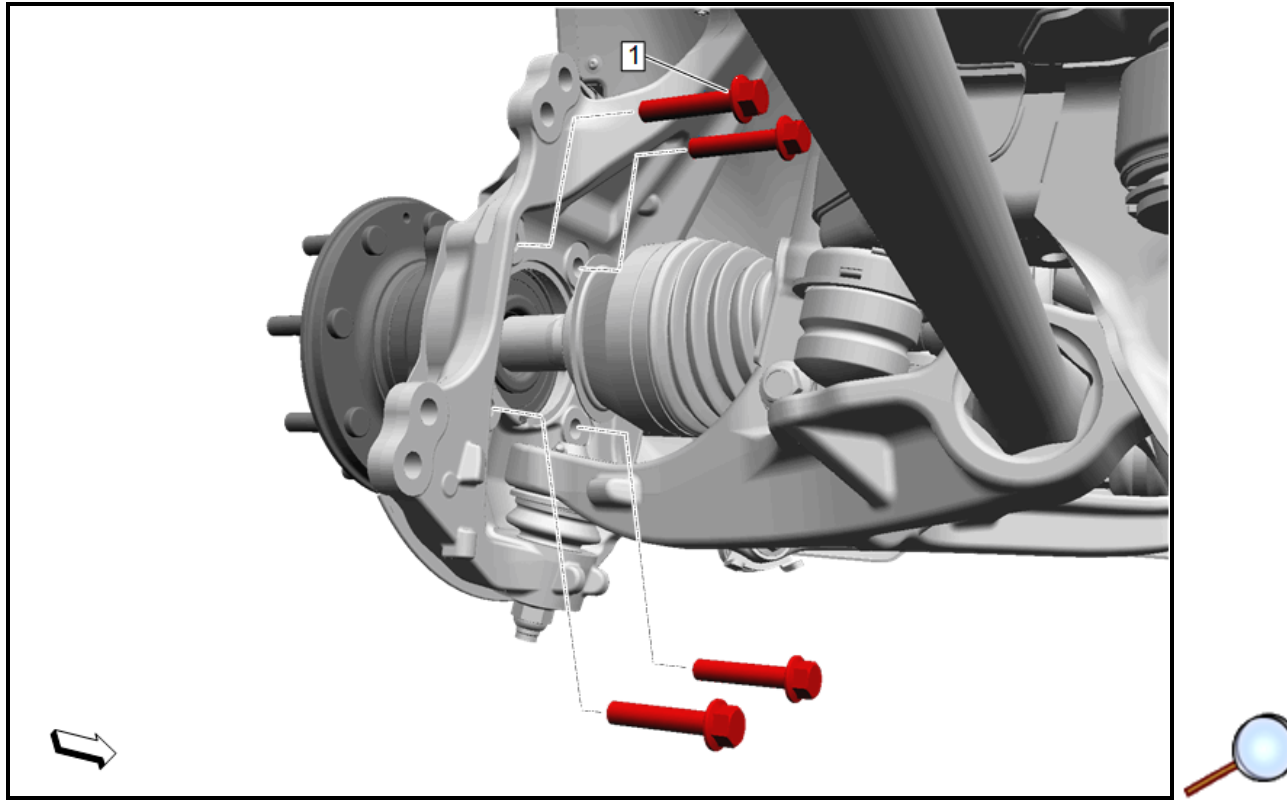


8. Steering Linkage Outer Tie Rod Nut (1) » Install and tighten — [Fastener Specifications](#)
9. Clean any debris and corrosion from the steering knuckle bearing pilot bore.
10. Apply a thin coating of grease evenly ensuring complete coverage of the steering knuckle pilot bore only. [Adhesives, Fluids, Lubricants, and Sealers](#)

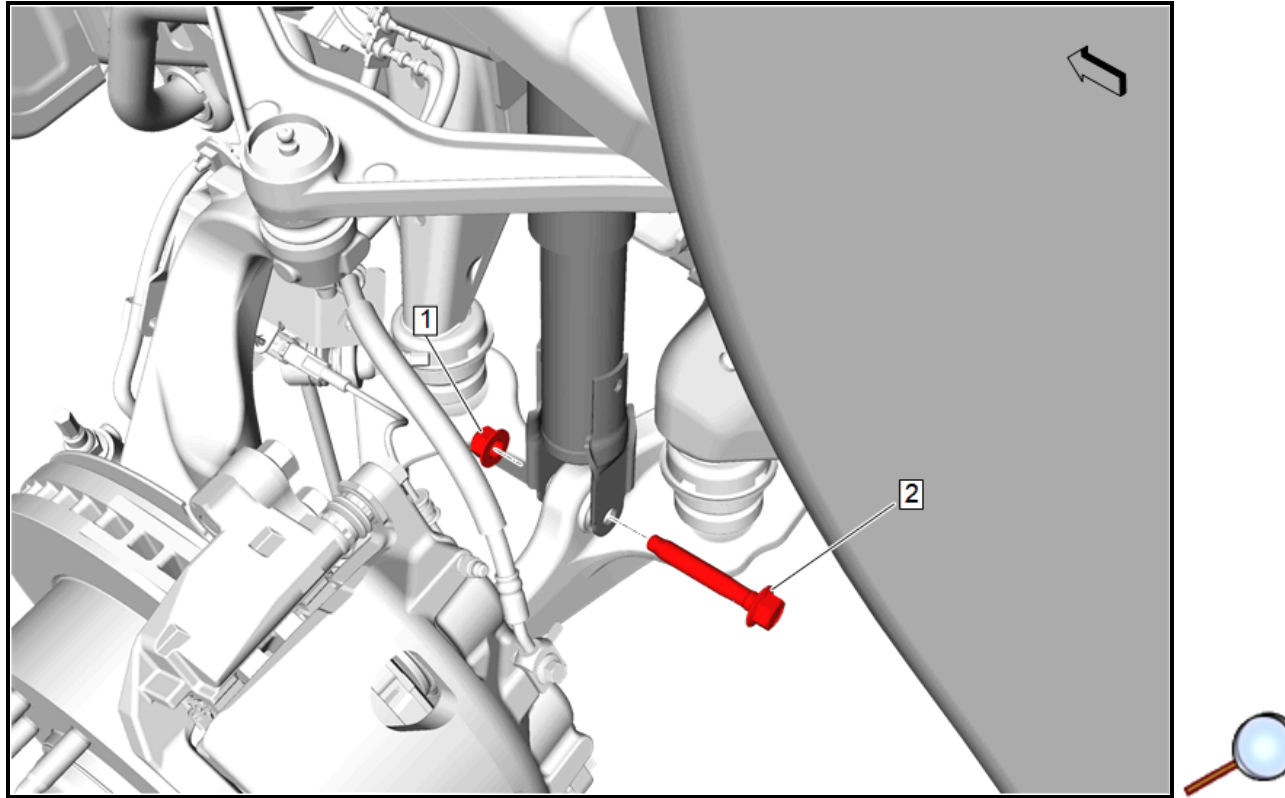


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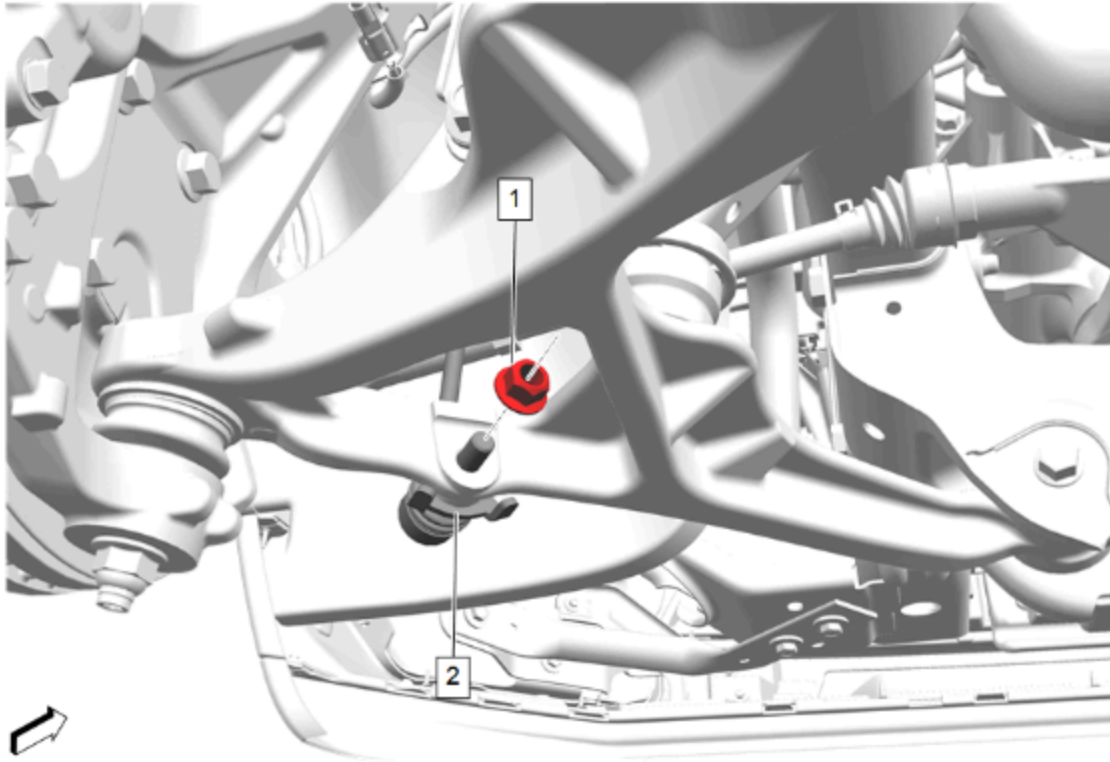
11. Inspect the 2 front wheel hub seals (1) and replace as necessary.
12. Front Wheel Hub Seal (1) » Install [2x]
13. Ensure that the front wheel hub seals (1) are properly seated in the grooves of the steering knuckle.
14. Front Brake Shield (2) » Install
15. Front Wheel Hub (3) » Install



16. Front Wheel Hub Bolt (1) » Install and tighten [4x] — [Fastener Specifications](#)

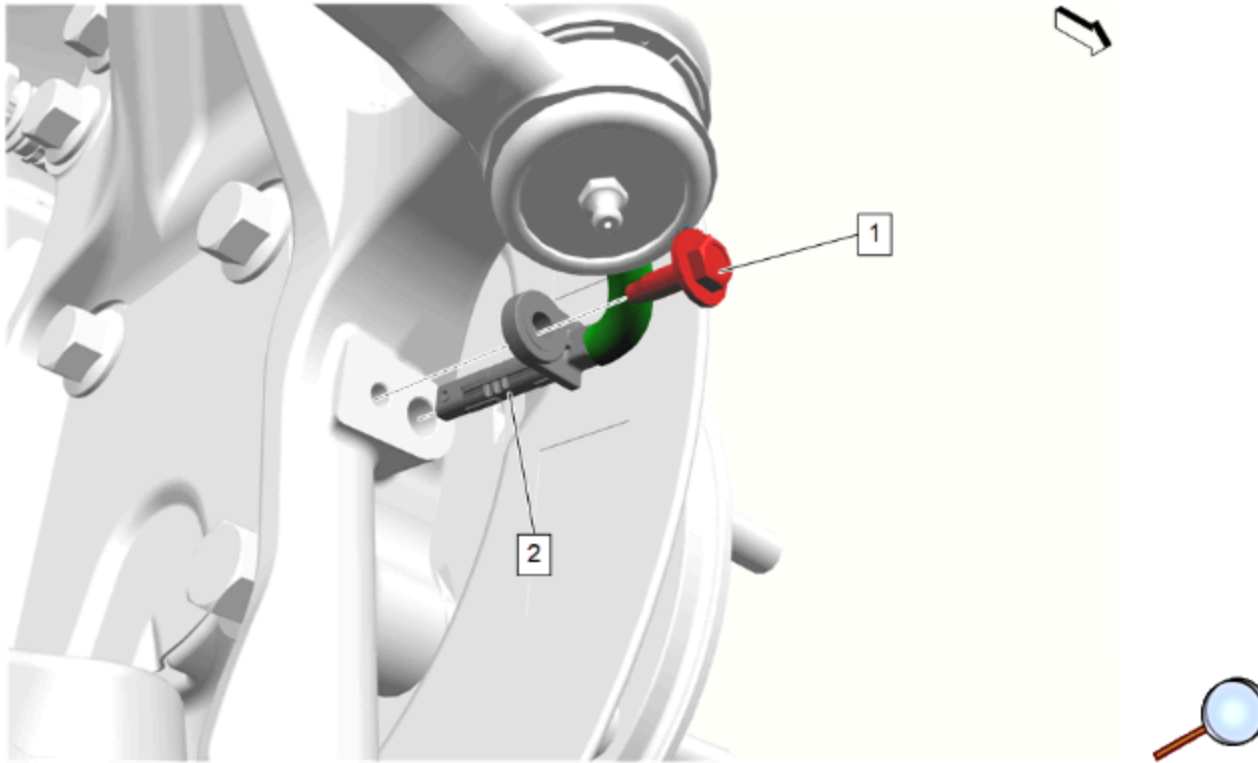


17. Front Shock Absorber Bolt (2) » Install
18. Front Shock Absorber Nut - Lower (1) » Loosely install
19. Front Shock Absorber Bolt (2) » Tighten — [Fastener Specifications](#)
20. Remove the jack stand from the lower control arm.

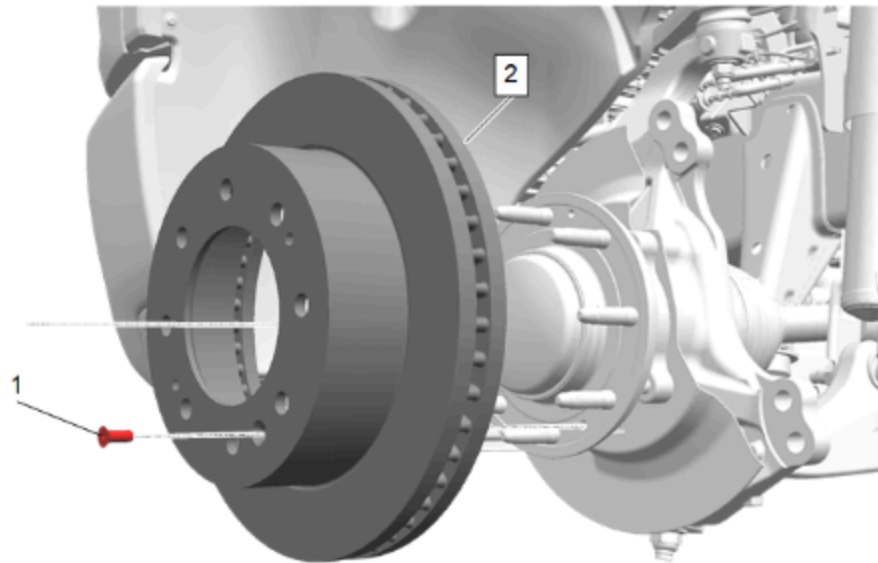


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21. Stabilizer Shaft Link (2) » Install
22. Stabilizer Shaft Link Nut (1) » Install and tighten — [Fastener Specifications](#)

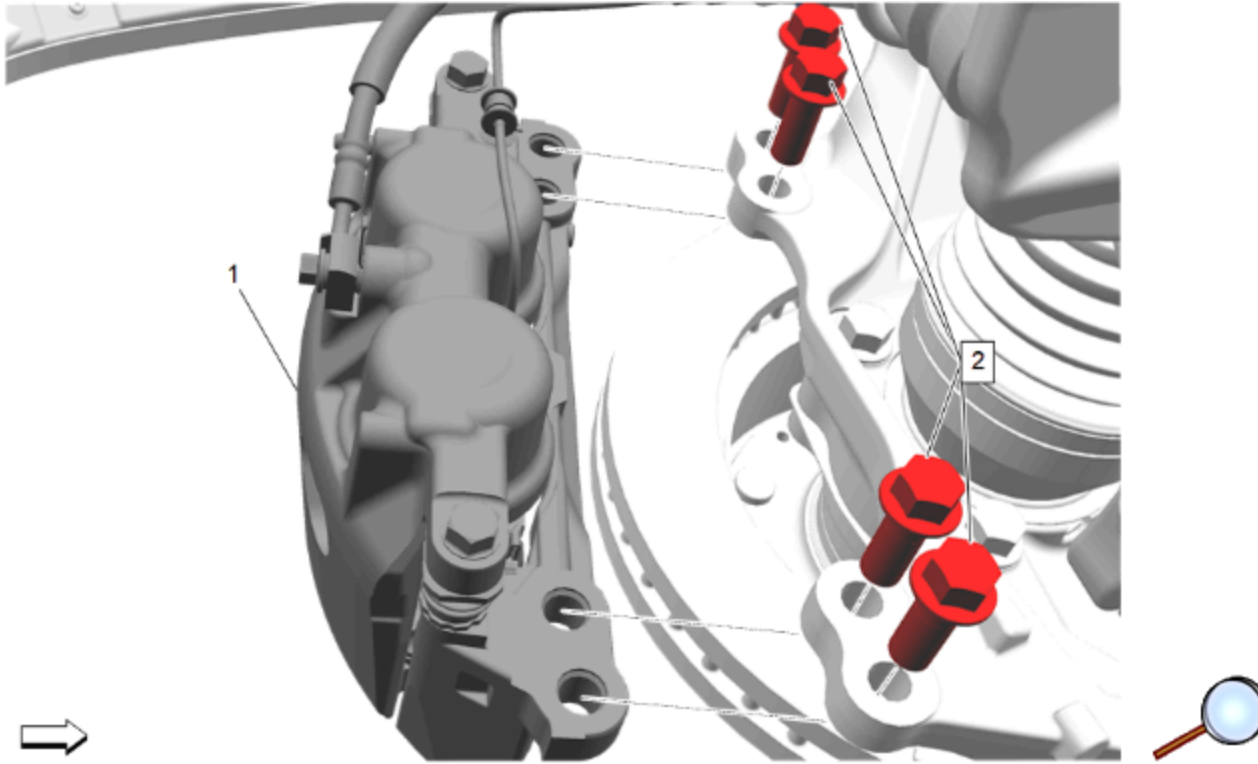


23. Apply a light coat of wheel speed anti-corrosion grease to the front wheel speed sensor (2) and mounting pad on the front steering knuckle. [Adhesives, Fluids, Lubricants, and Sealers](#)
24. Front Wheel Speed Sensor (2) » Install
25. Front Wheel Speed Sensor Bolt (1) » Install and tighten — [Fastener Specifications](#)
Note: Whenever the brake rotor has been separated from the hub/axle flange, any rust or contaminants should be cleaned from the hub/axle flange and the brake rotor mating surfaces. Failure to do this may result in excessive assembled lateral runout (LRO) of the brake rotor, which could lead to brake pulsation.
26. Using the *CH-42450-A* Wheel Hub Resurfacing Kit, thoroughly clean any rust or corrosion from the mating surface of the hub/axle flange.
27. Using the *CH-41013* Rotor Resurfacing Kit, thoroughly clean any rust or corrosion from the mating surface and mounting surface of the brake rotor.
28. Inspect the mating surfaces of the hub/axle flange and the rotor to ensure there are no foreign particles or debris remaining.

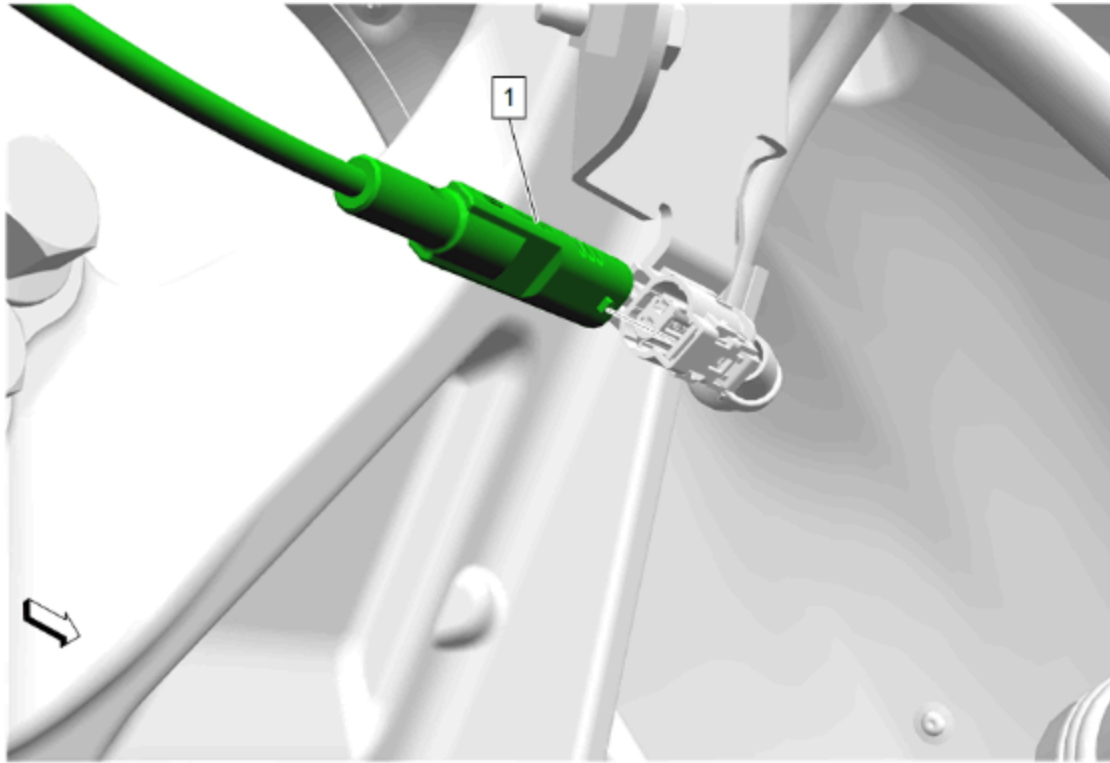


29. Front Brake Rotor (2) » Install

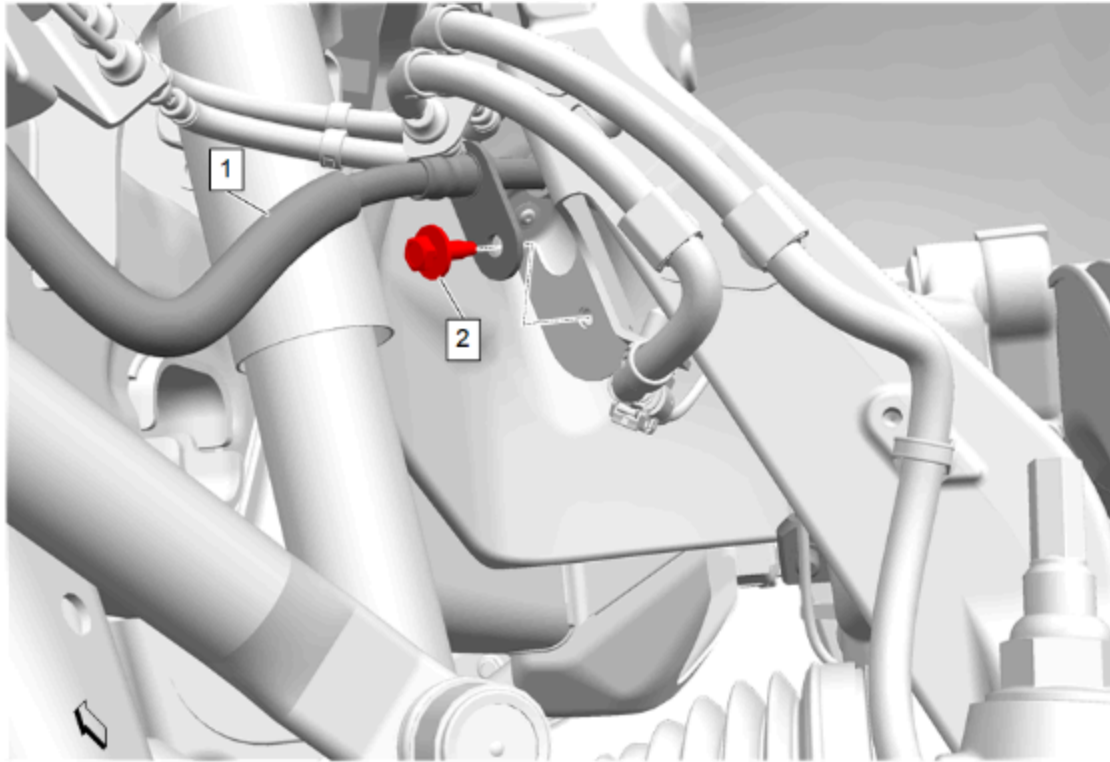
30. Front Brake Rotor Bolt (1) » Install and tighten — [Fastener Specifications](#)



31. If NEW threaded components are being installed, loosen the adhesive using a metal pick or similar tool before proceeding. If threaded components are reused, prepare the threaded components using the following steps:
 - 31.1. Remove any loose cured adhesive from the external threads of the components using a lint free cloth.
 - 31.2. Thread the cleaned components into the internal mating threads and remove to loosen trapped cured adhesive.
 - 31.3. Remove loose debris from internal and external threads using compressed air.
 - 31.4. Apply liquid thread locking adhesive in a strip along half of the length of the external threads, starting at the tip, just prior to installation. [Adhesives, Fluids, Lubricants, and Sealers](#)
32. Install the brake caliper and bracket assembly. (1)
33. Front Brake Caliper Bracket Bolt (2) » Install and tighten [4x] — [Fastener Specifications](#)



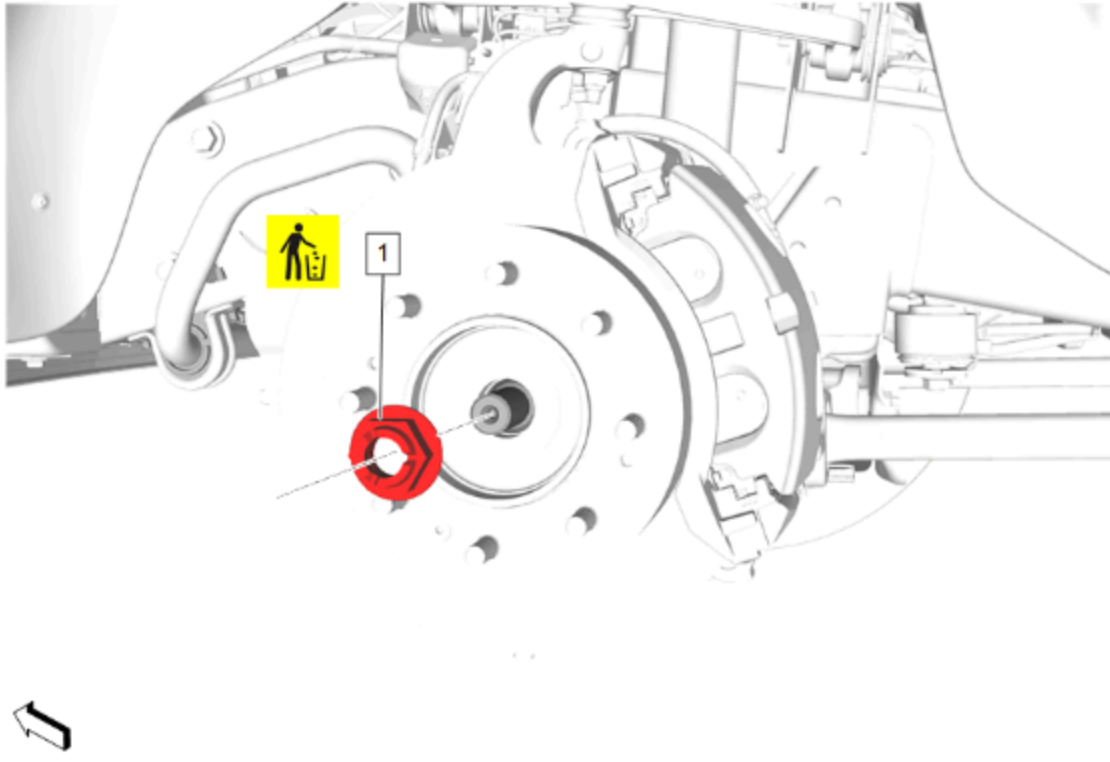
34. If equipped, connect the front disc brake pad wear sensor electrical connector (1).



35. Front Brake Hose (1) » Install

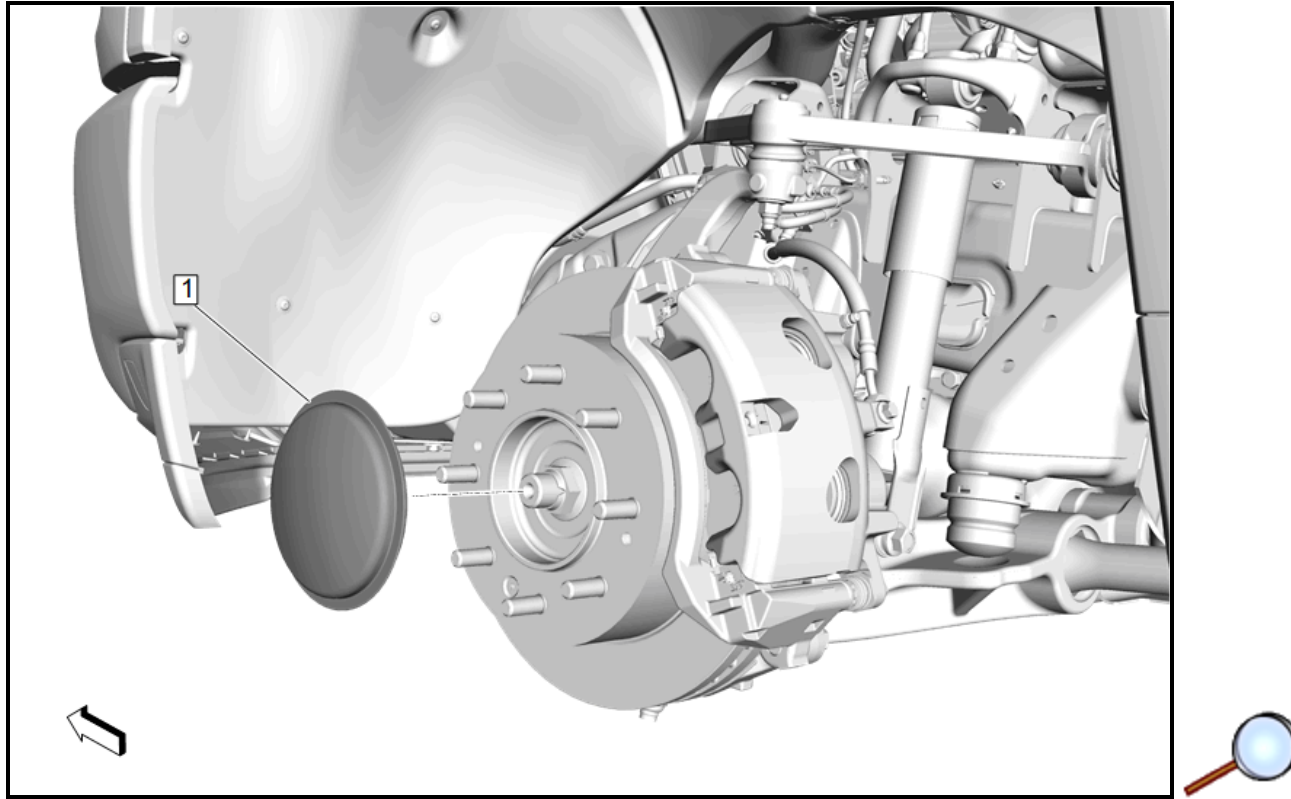
36. Front Brake Hose Bracket Bolt (2) » Install and tighten — [Fastener Specifications](#)

37. Have an assistant apply the brakes.



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.

38. Front Wheel Drive Shaft Nut (1) » Install NEW and tighten — [Fastener Specifications](#)
39. Have the assistant release the brakes.



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40. Front Axle Hub Cap (1) » Install

41. Install the front tire and wheel assembly. [Tire and Wheel Removal and Installation](#)