

- Use your hands in order to lift up and push down on each corner of the vehicle 3 times. Remove your hands from the vehicle. If the corner motion exceeds 2 cycles, replace the strut. If the strut does not exceed 2 cycles, NO repair is necessary.

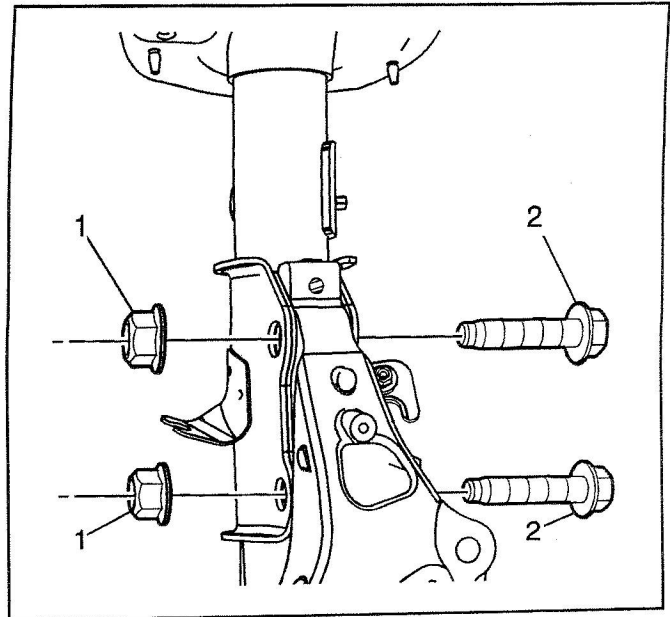
Strut Assembly Replacement

Removal Procedure

- Raise and support the vehicle. Refer to *Lifting and Jacking the Vehicle* on page 1-40.
- Remove the tire and wheel assembly. Refer to *Tire and Wheel Removal and Installation* on page 16-66.
- Remove the stabilizer shaft link from the strut. Refer to *Stabilizer Shaft Link Replacement* on page 16-5.

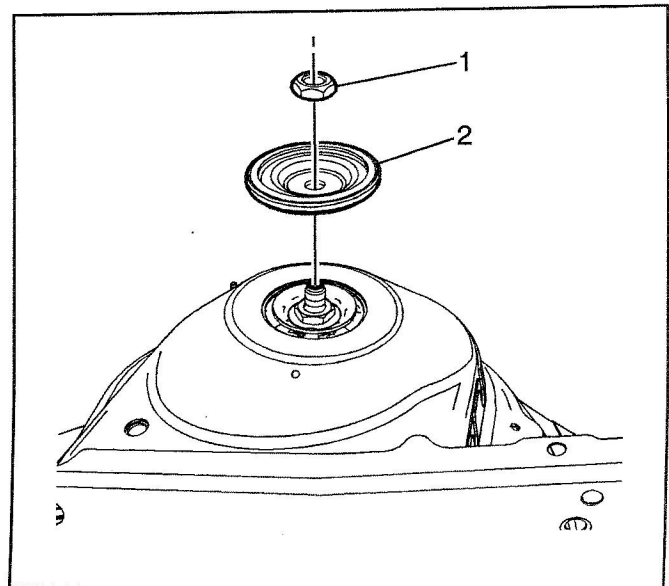
Note: It is NOT necessary to completely remove the wheel speed sensor from the vehicle. Relocate the wheel speed sensor to the side and secure it.

- Remove the wheel speed sensor from the strut and the steering knuckle. Refer to *Front Wheel Speed Sensor Replacement* on page 5-37.
- Remove the front disc brake hose from the strut. Refer to *Front Brake Hose Replacement (LLT)* on page 5-159 or *Front Brake Hose Replacement (LS3, L99)* on page 5-161.



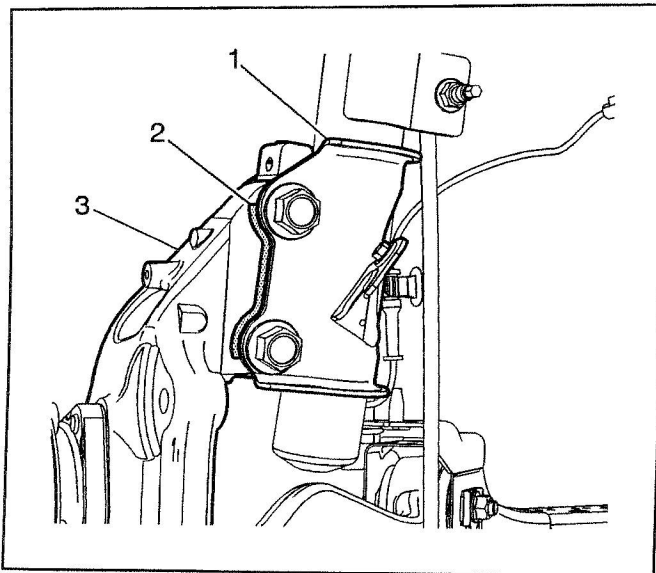
2195813

- Remove the front strut nuts (1) and the bolts (2).



2195831

- Remove the front suspension nut (1) and washer (2).

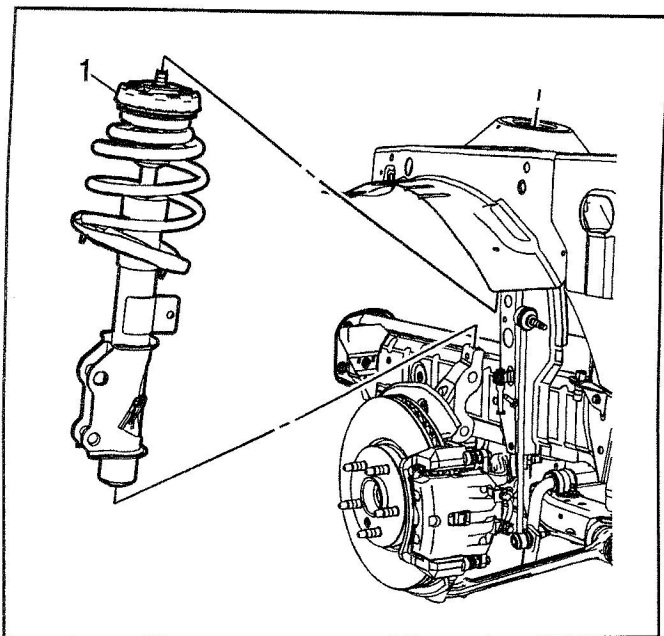


2195609

- Paint a reference mark (2) of the strut (1) to the steering knuckle (3).

Note: Adjust the hydraulic floor jack so that the front strut has a small amount of pressure on it.

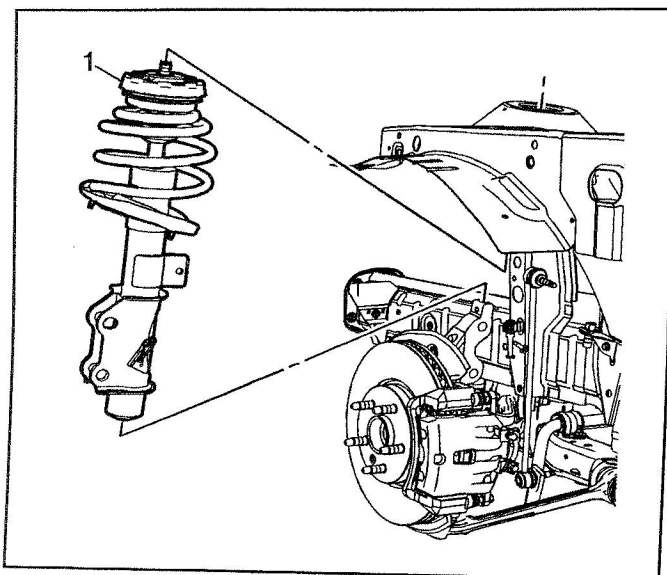
- Using an hydraulic floor jack, support the steering knuckle.
- Remove the dust cover, if equipped.



2195888

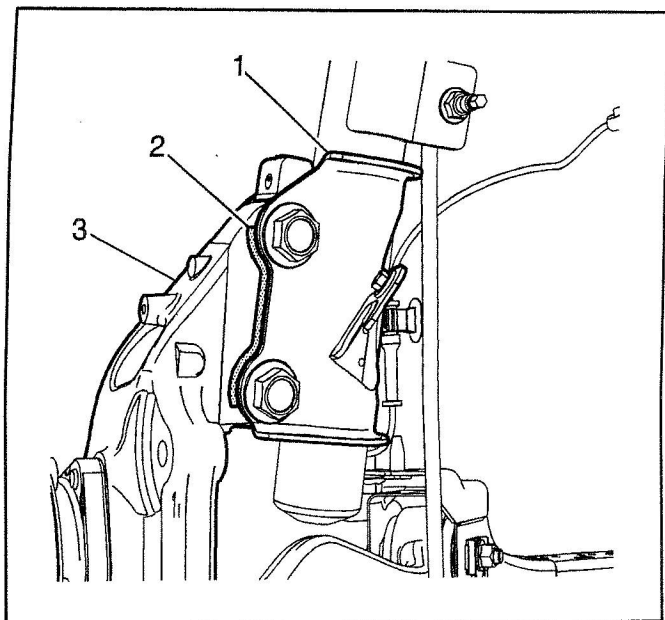
11. Remove the front suspension strut (1) from the vehicle.

Installation Procedure



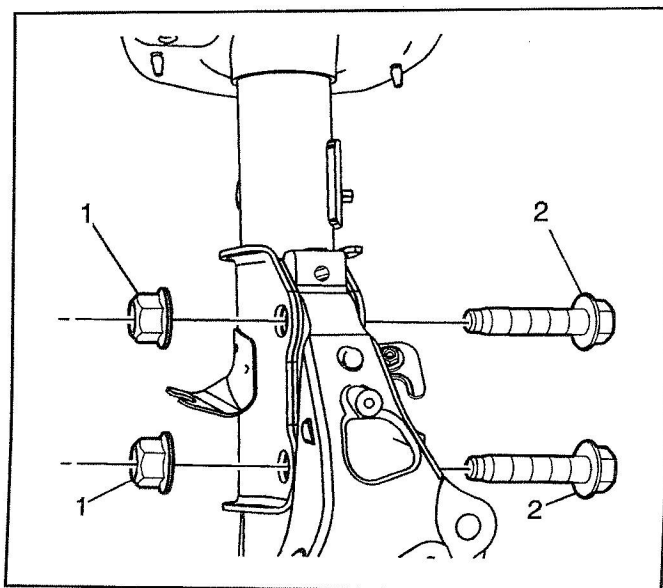
2195888

1. Position the front strut assembly (1) in the vehicle.



2195609

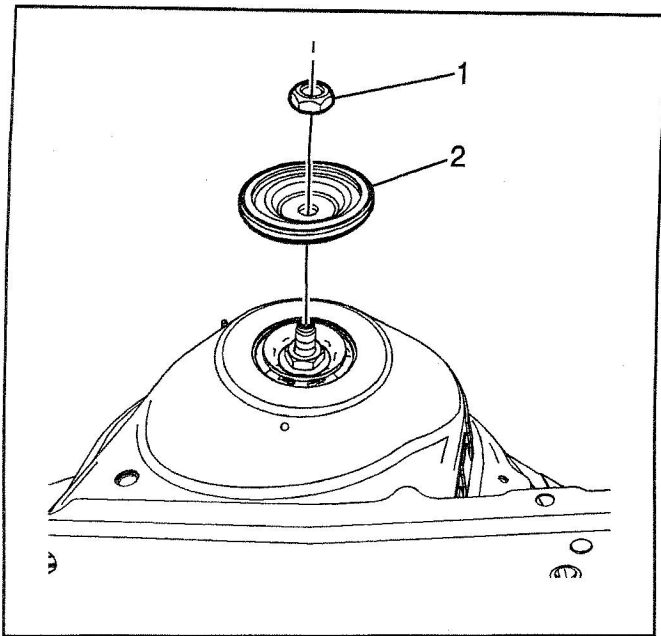
2. Align the front strut (1) with the alignment mark (2).



2195813

3. Install the front strut bolts (2).
4. Install the nuts (1) and tighten to **80 N•m (59 lb ft) plus an additional 180 degrees.**

Caution: Refer to *Fastener Caution* on page 0-7.



2195831

Strut, Strut Component, or Spring Replacement

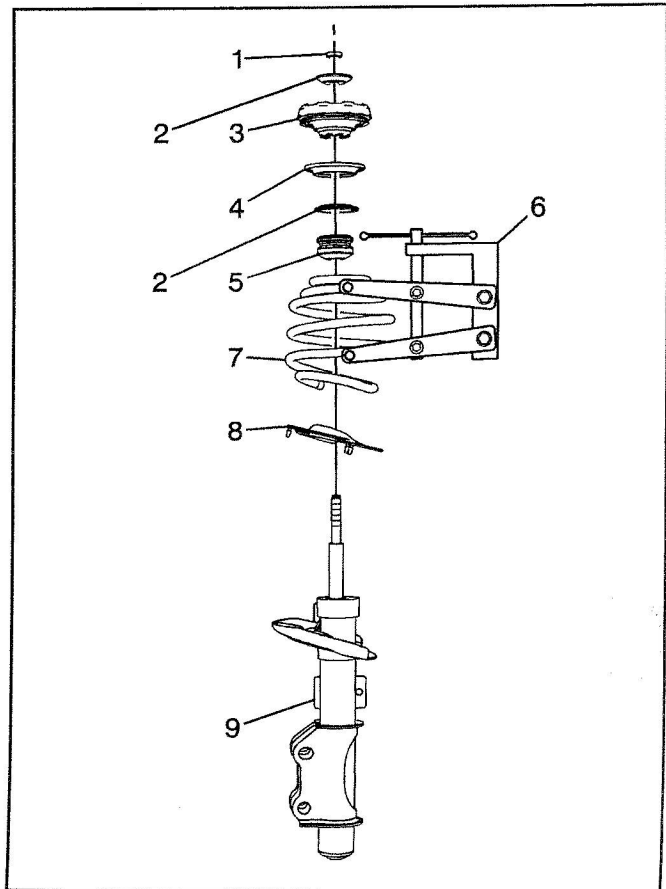
Special Tools

CH-48845 Spring Compressor

For equivalent regional tools, refer to *Special Tools* on page 16-19.

Removal Procedure

1. Remove the front suspension strut assembly from the vehicle. Refer to *Strut Assembly Replacement* on page 16-15.



2196139

5. Install the front suspension strut mounting plate (2).
6. Install the front suspension strut nut (1) and tighten to **70 N•m (52 lb ft)**.
7. Remove the hydraulic floor jack.
8. Install the dust cover, if equipped.
9. Install the stabilizer shaft link. Refer to *Stabilizer Shaft Link Replacement* on page 16-5.
10. Install the wheel speed sensor. Refer to *Front Wheel Speed Sensor Replacement* on page 5-37.
11. Install the front brake hose. Refer to *Front Brake Hose Replacement (LLT)* on page 5-159 or *Front Brake Hose Replacement (LS3, L99)* on page 5-161.
12. Install the tire and wheel assembly. Refer to *Tire and Wheel Removal and Installation* on page 16-66.
13. Lower the vehicle.
14. Check and adjust the front wheel alignment, if needed. Refer to *Front Camber Adjustment* on page 16-75.

Note: Ensure that the front suspension strut assembly is properly seated in the CH-48845 compressor.

2. Position the front suspension strut assembly in the CH-48845 compressor(6)

Note: Use only hand tools when using the CH-48845 Spring Compressor.

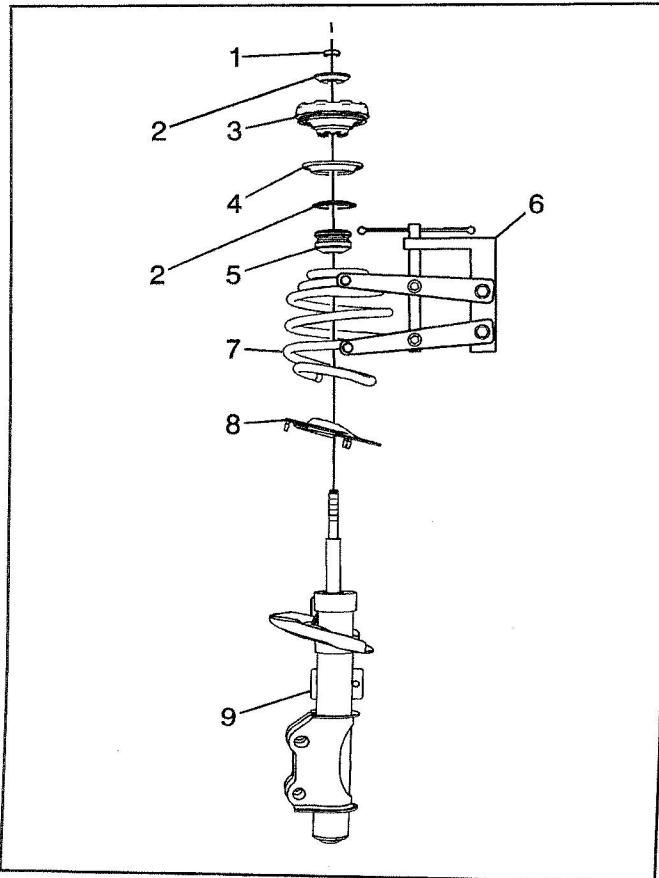
3. Using the CH-48845 compressor(6) and hand tools, compressor the front spring until the front suspension strut moves freely.

16-18 Front Suspension

Note: Have an assistant hold the front suspension strut while removing the other front suspension strut components.

4. Remove the front suspension strut nut (1), front suspension strut mount retainer (2), front suspension strut mount (3), front suspension strut insulator (4), front suspension strut mount retainer (2), front suspension strut bumper (5), front spring (7), front spring insulator (8), and the front suspension strut (9).
5. Replace any of the front suspension strut components that are found to be excessively worn or that are damaged.

Installation Procedure



2196139

Note: Have an assistant hold the front suspension strut while installing the other front suspension strut components.

1. Position the front suspension strut (9) in the CH-48845 compressor (6).

Note: Install the front suspension strut nut so that there are 3 threads showing

2. Install the front spring insulator (8), front spring (7), front suspension strut bumper (5), front suspension strut insulator (4), front suspension strut mount retainer (2), front suspension strut mount (3), front suspension strut mount retainer (2), and the front suspension strut nut (1).
3. Using hand tools, slowly release the CH-48845 compressor until the front spring contacts the upper front suspension strut insulator (4), and the lower front spring insulator (8).

Caution: Refer to *Fastener Caution* on page 0-7.

4. Tighten the front suspension strut nut (1) to **70 N•m (52 lb ft)**.
5. Install the front suspension strut assembly in the vehicle. Refer to *Strut Assembly Replacement* on page 16-15.

- Use your hands in order to lift up and push down on each corner of the vehicle 3 times. Remove your hands from the vehicle. If the corner motion exceeds 2 cycles, replace the shock absorber. If the shock absorber does not exceed 2 cycles, NO repair is necessary.

Shock, Shock Component, and/or Spring Replacement

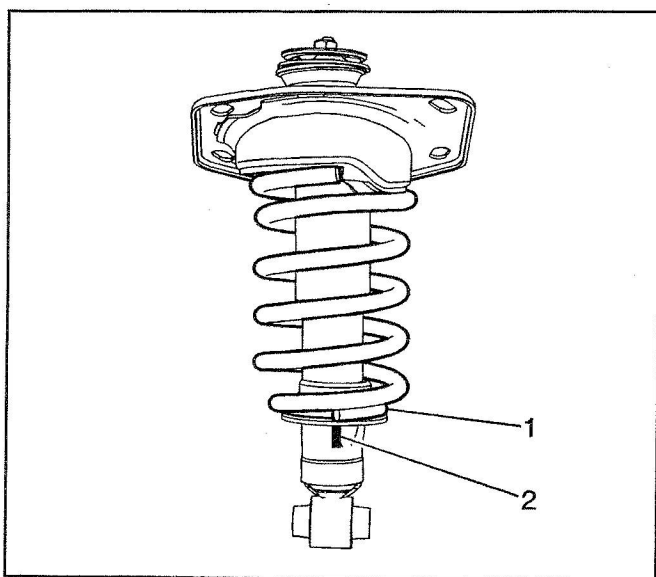
Special Tools

CH 48845 Spring Compressor

For equivalent regional tools, refer to *Special Tools* on page 16-40.

Removal Procedure

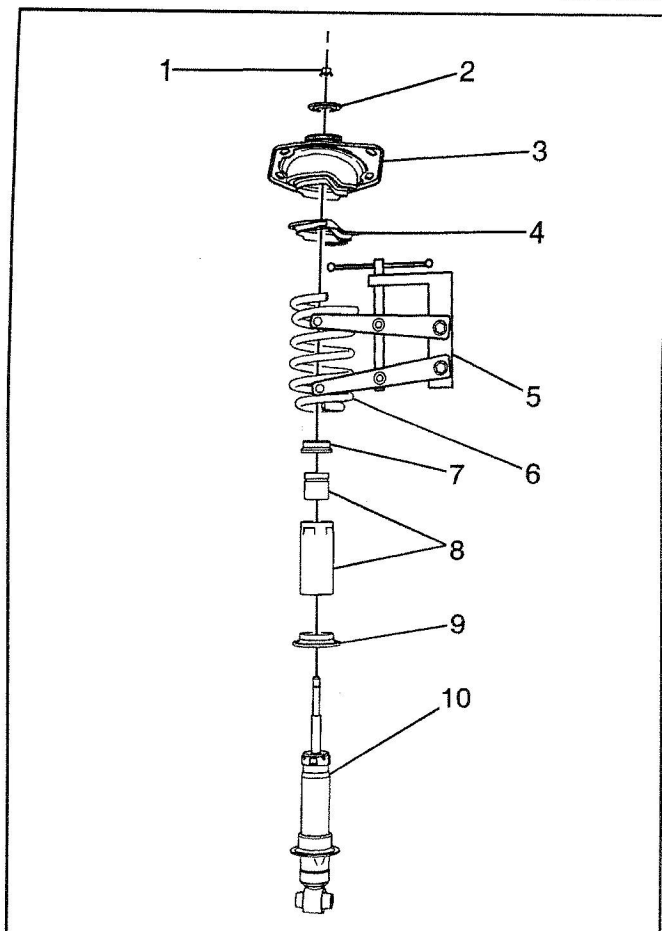
- Remove the shock absorber from the vehicle. Refer to *Shock Absorber Replacement* on page 16-28.



2201497

Note: Note the relationship of the end of the spring to the shock absorber. This will aid in the proper alignment of the spring to the shock absorber.

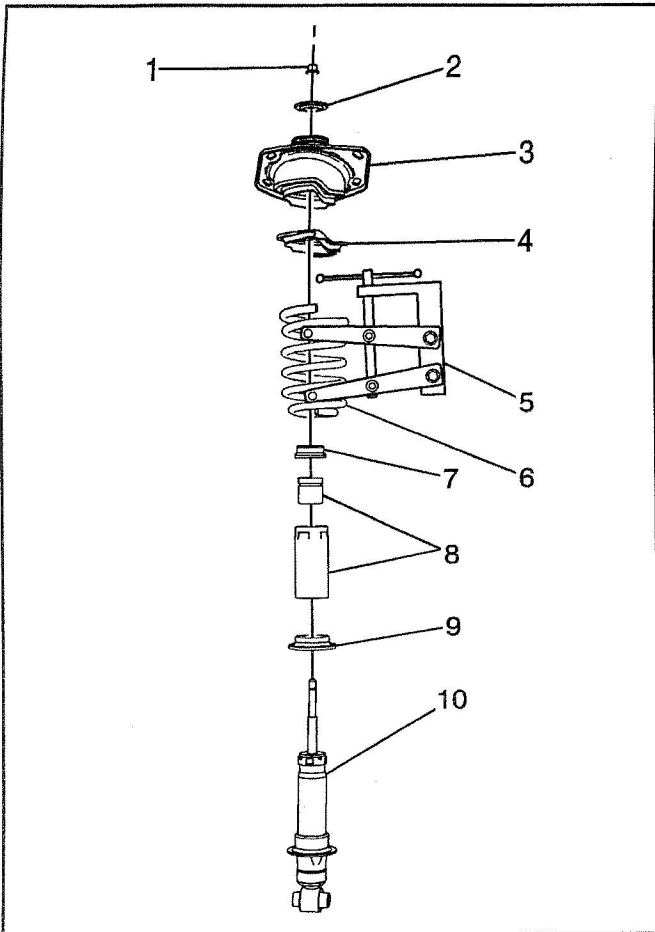
- Mark the rear spring (1) to the shock absorber (2).



2201514

- Using the CH 48845 compressor(5), remove the nut (1), retainer (2), rear shock absorber upper plate (3), rear spring upper insulator (4), spring (6), rear shock absorber bumper seat (7), rear shock absorber bumper and shield (8), lower insulator (9), and the rear shock absorber (10).

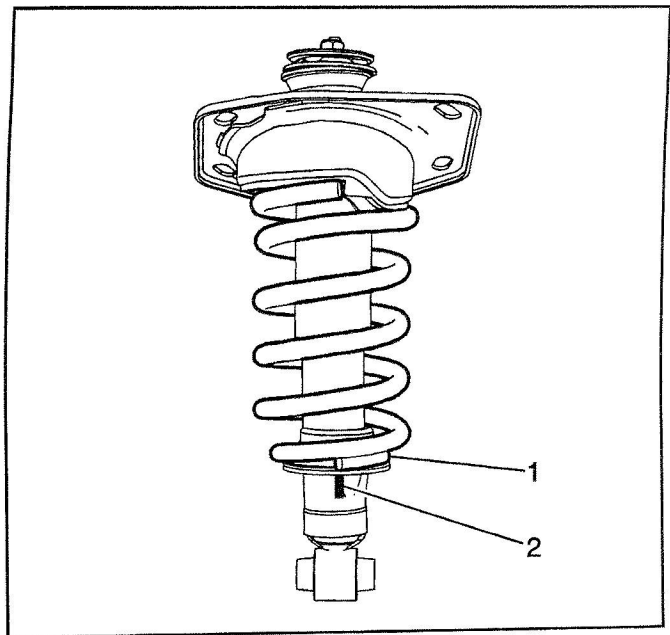
Installation Procedure



2201514

Note: DO NOT tighten the nut for the rear shock absorber until the spring is properly alignment with the reference mark.

1. Using the CH 48845 compressor(5) install the rear shock absorber (10), lower insulator (9), shield, rear shock absorber bumper (8), rear shock absorber bumper seat (7), spring (6), rear spring upper insulator (4), rear shock absorber upper plate (3), retainer (2), and the nut (1).



2201497

2. Align the spring (1) to the reference mark on the shock absorber (2).

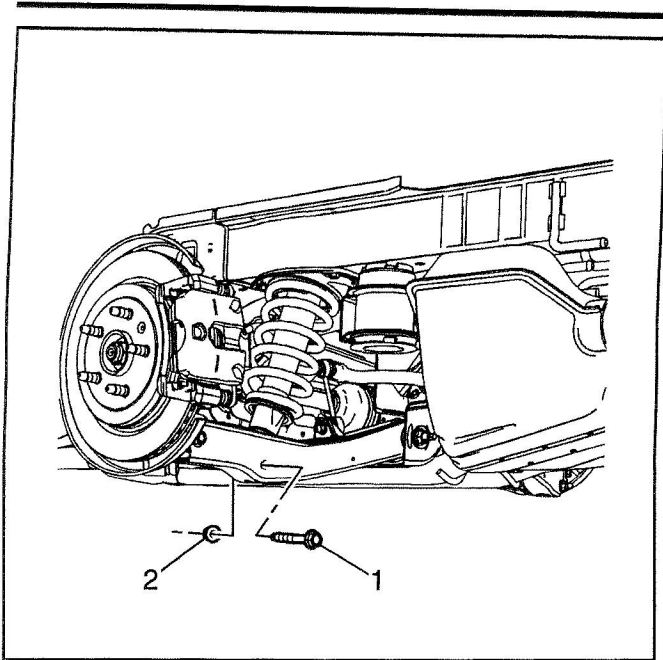
Caution: Refer to *Fastener Caution* on page 0-7.

3. Using the appropriate tool to hold the shock absorber shaft, tighten the rear shock absorber nut to **45 N•m (33 lb ft)**.
4. Install the rear shock absorber in the vehicle. Refer to *Shock Absorber Replacement* on page 16-28.

Shock Absorber Replacement

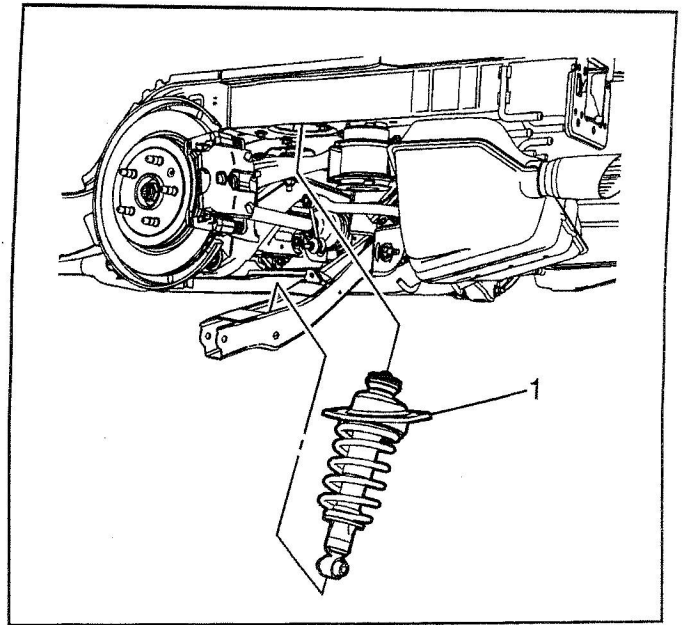
Removal Procedure

1. Raise the vehicle. Refer to *Lifting and Jacking the Vehicle* on page 1-40.
2. Remove the tire and wheel assembly. Refer to *Tire and Wheel Removal and Installation* on page 16-66.
3. Support the rear knuckle with a suitable hydraulic jack.
4. Remove the stabilizer shaft link from the lower control arm, if needed. Refer to *Stabilizer Shaft Link Replacement* on page 16-25.
5. Remove the lower control arm bolt from the knuckle. Refer to *Lower Control Arm Replacement* on page 16-36.



2193490

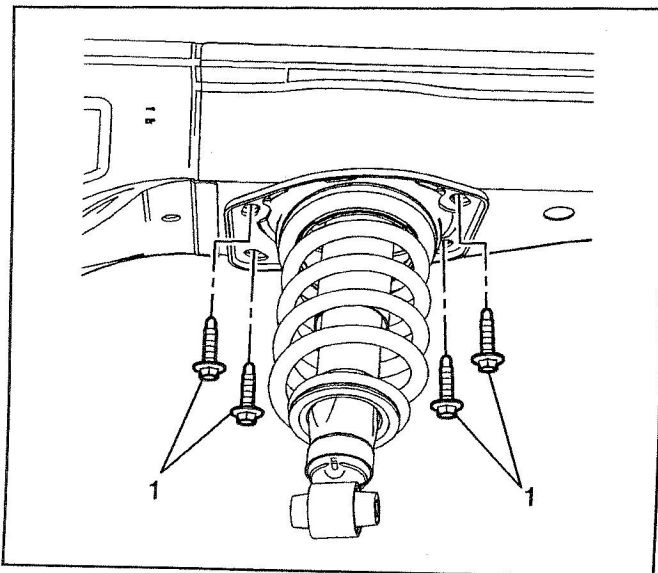
6. Remove the lower rear shock absorber nut (2) and bolt (1).



2193504

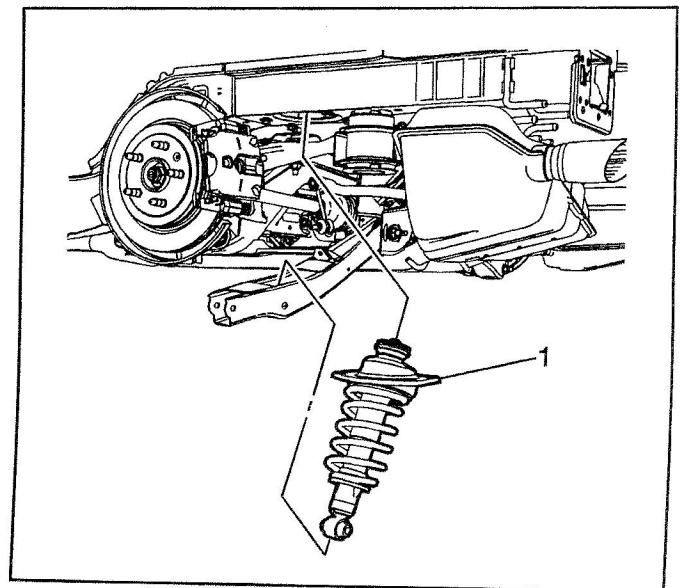
8. Remove the rear shock absorber assembly (1) from the vehicle.

Installation Procedure



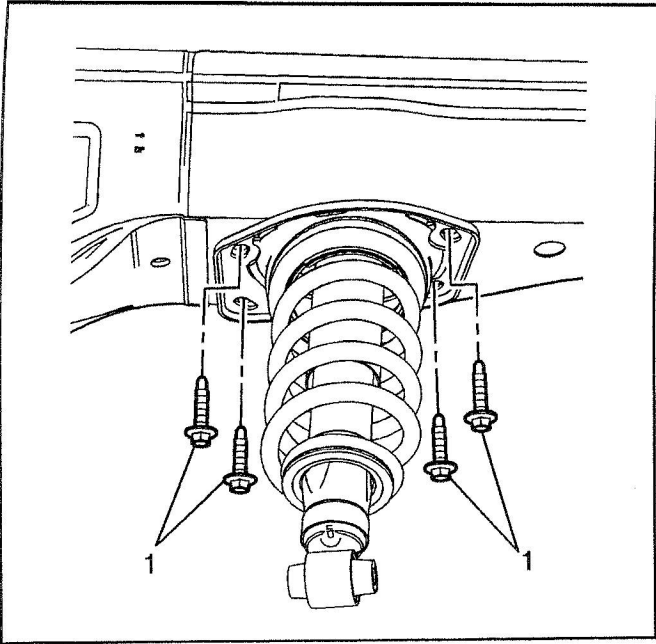
2193510

7. Remove the upper shock absorber bolts (1).



2193504

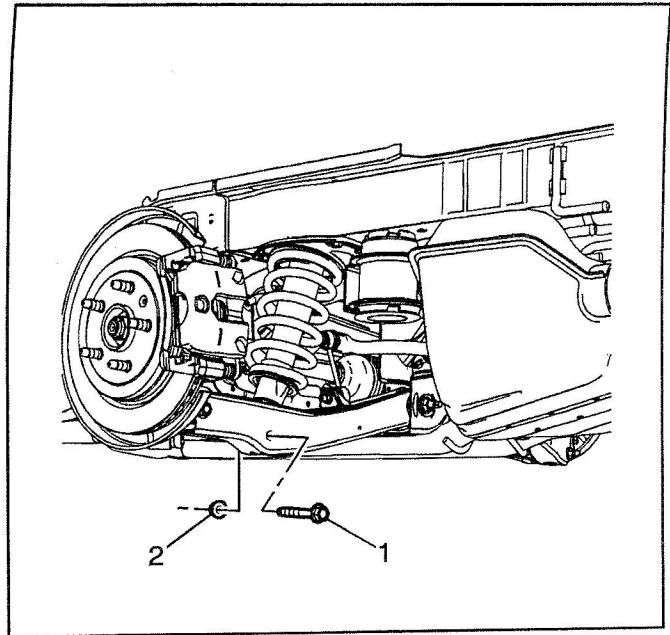
1. Position the rear shock absorber assembly (1) in the vehicle.



2193510

Caution: Refer to *Fastener Caution* on page 0-7.

2. Install the upper shock absorber bolts (1) and tighten the bolts to **58 N•m (43 lb ft)**.
3. If needed, use the hydraulic jack to raise the lower control arm and install the lower control arm bolt. Refer to *Lower Control Arm Replacement* on page 16-36.



2193490

4. Install the lower shock absorber bolt (1) and nut (2) and tighten to **80 N•m (59 lb ft)** plus an additional 120 degrees.
5. Remove the hydraulic jack.
6. Install the stabilizer shaft link from the lower control arm, if needed. Refer to *Stabilizer Shaft Link Replacement* on page 16-25.
7. Install the tire and wheel assembly. Refer to *Tire and Wheel Removal and Installation* on page 16-66.
8. Lower the vehicle.