

aFe Control

3.0" Leveling Kit P/N 416-20T003-R

RAM 1500 RHO 25-27

Product Number: 416-20T003-R

Install Time: 3 hours.



Full Kit Contents	Front Leveling Spacer Kit	Qty.
416-20T002-R-1	Spacer, Spring Pre-Load	2
416-20T002-R-2	Spacer, Top Shim	2
05-61761	Bracket, Ride Height Sensor Relocation (Left)	1
05-61762	Bracket, Ride Height Sensor Relocation (Right)	1

Recommended Tools:

Sockets: 10mm Deep, 13mm, 16mm, 20mm Deep, 21mm, 22mm, 1-3/16"

Wrenches: 16mm, 21mm, 1-3/16"

Hand Tools: T-20 Torx, Panel Popper Tool, Pry Bar, Torque Wrench, Torque-Angle Gauge

Other: Ball Joint/Tie Rod Separator, Spring Compressor, Floor Jack, Jack Stands, Paint Marker

Preferred Equipment:

- 2-Post Lift
- Screw Jack

Spacer Installation:

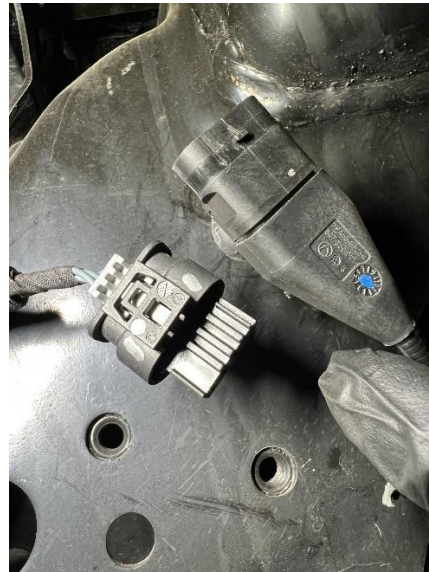
1. Raise the vehicle with a 2-post lift (preferred), or a floor jack. If using a floor jack, place jack stands at the factory-designated jack points.
2. Using a 22mm socket, remove the front wheel lug nuts, then remove the front wheels and tires.
3. Using a 16mm socket, remove the six skid plate bolts, then remove the skid plate.



4. Using a 13mm socket, remove the Shock Absorber Reservoir mounting bolts, then open the reservoir mounts to free the Shock Absorber Reservoirs.



5. Using a Panel Popper Tool, remove the shock absorber wiring harness push clip from the mounting hole. Press the connector locking tab and disconnect the electrical connector.



6. Using a 21mm impact socket, loosen the Outer Tie Rod Ball Joint nut, but do not remove it. Once loosened a few turns, break the Outer Tie Rod Ball Joint stud free from the steering knuckle using a suitable separator. Remove the nut and separate the tie rod from the steering knuckle.



7. Using a 21mm impact socket, remove the Sway Bar End Link nut, then remove the lower sway bar link joint from the lower control arm.



8. Using a 21mm wrench, loosen the Upper Control Arm Ball Joint nut, but do not remove it. Once loosened a few turns, break the Upper Control Arm Ball Joint stud free from the steering knuckle using a suitable separator.



9. Using a 1-3/16" impact socket and wrench, remove the Lower Shock Eyelet bolt.

10. Using a pry bar and soft rag, carefully pry the Lower Shock Mount spacer outward from the lower control arm just enough to free the Lower Shock eyelet.



WARNING: Support the lower control arm and steering knuckle before separating the upper ball joint. Do not allow the knuckle to fall outward or hang unsupported, as this may overextend or damage the CV axle, brake hose, ABS wiring, or shock absorber wiring.

11. Remove the Upper Control Arm Ball Joint nut and separate the Upper Control Arm from the steering knuckle. Remove the wire clips from the top of the shock studs, then remove the Upper Shock Absorber Stud nuts using a 16mm wrench. Remove the Shock Absorber assembly from the vehicle.

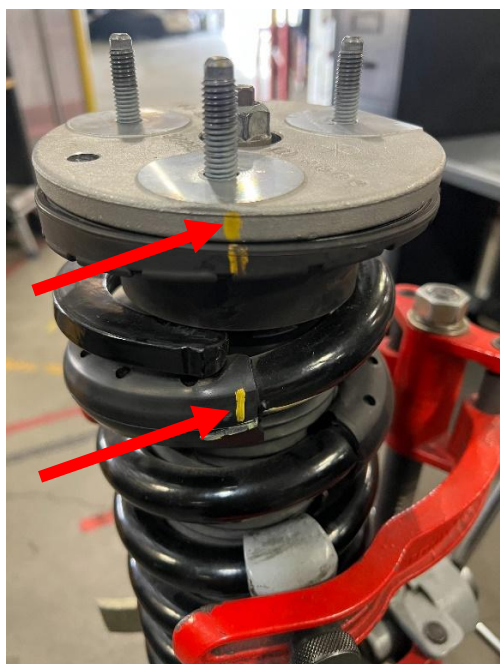


12. Repeat Steps 5–11 for the opposite side of the vehicle.

WARNING: Always use an approved spring compressor and make sure the coil spring is securely captured before removing the Shock Absorber Top Shaft nut. Do not remove the top shaft nut while the spring is under load.

13. Secure the Shock Absorber assembly in a spring compressor and compress the spring until spring tension is removed from the upper mount. Remove the Shock Absorber Top Shaft nut using a deep 20mm socket.

NOTE: Before removal, mark the spring, spring isolator, and Top Mount with a paint marker to aid in reassembly alignment.



14. Remove the Shaft Boot and cut the lip off at the designated location.



15. Install the Leveling Kit Preload Spacer between the Coil Spring Isolator and the Top Hat of the Shock Absorber.

NOTE: Align the locating feature on the Coil Spring Isolator with the corresponding indexing hole in the Preload Spacer.



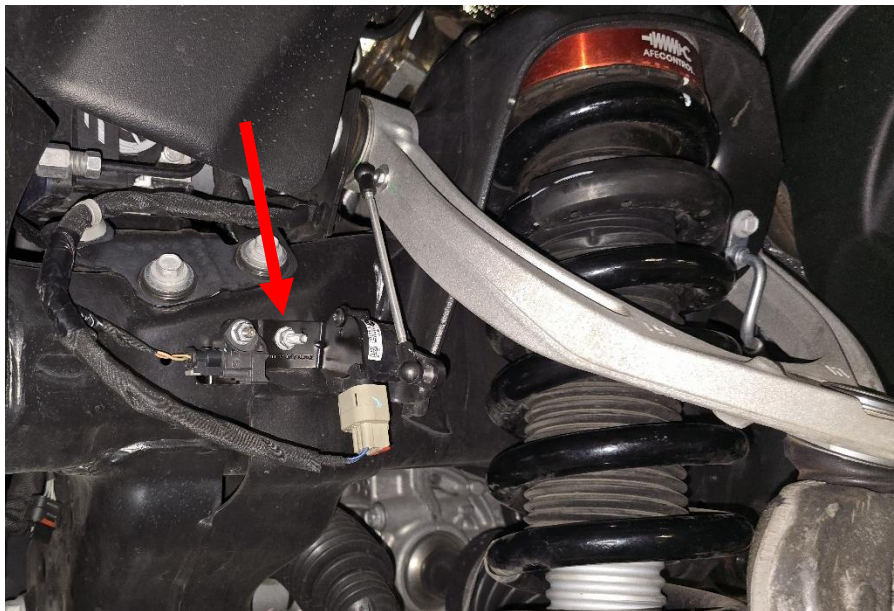
16. Compress the coil spring as required, align the spring, isolator, and Top Mount with the marks made during disassembly, then torque the Shock Absorber Top Shaft nut to 88 LB-FT. Slowly unload the spring and remove the Shock Absorber assembly from the spring compressor. Install the Leveling Kit Top Spacer between the Shock Absorber assembly and the vehicle frame.



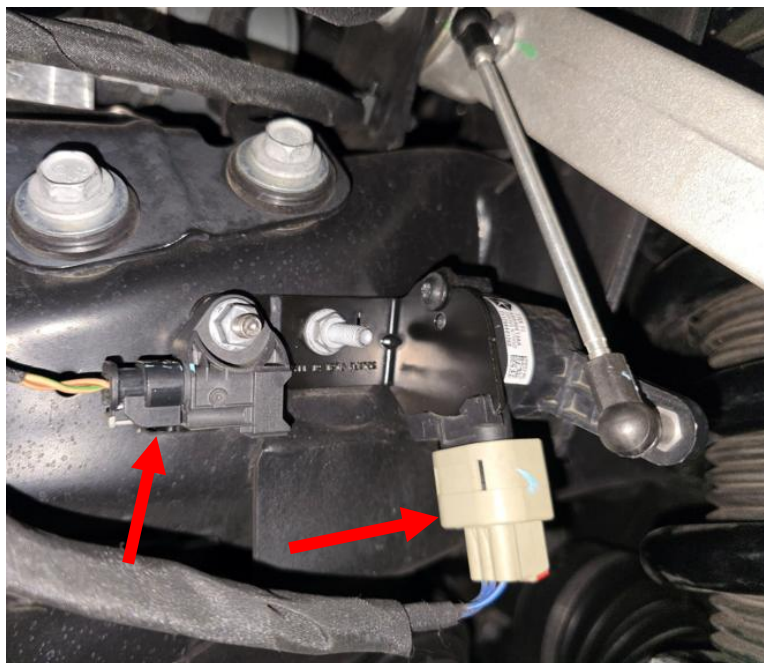
17. Reinstall the Shock Absorber assemblies as follows:

- a. Position the Shock Absorber assembly into the vehicle with the Leveling Kit Top Spacer installed between the Shock Absorber assembly and the vehicle frame. Start the Upper Shock Absorber Stud nuts by hand.
- b. Align the Lower Shock Eyelet with the lower control arm and reinstall the Lower Shock Eyelet bolt.
- c. Reconnect the Upper Control Arm Ball Joint to the steering knuckle and install the ball joint nut. Keep the lower control arm and steering knuckle supported during installation.
- d. Reinstall the Sway Bar End Link into the lower control arm and install the retaining nut.
- e. Reinstall the Outer Tie Rod Ball Joint into the steering knuckle and install the retaining nut.
- f. Reconnect the shock absorber electrical connector and reinstall the wiring harness push clip into its mounting hole.
- g. Reposition the Shock Absorber Reservoir into its mount and reinstall the reservoir mounting hardware.
- h. Torque all reinstalled hardware to the specifications listed in the Torque Table (Page 12)

18. Install the aFe Control Sensor Relocation Brackets one side at a time.



- a. Locate the correct aFe Control Sensor Relocation Bracket for the side being serviced. Match the identification mark on the OE bracket to the corresponding aFe Control bracket. The OE bracket marked "L" must be matched with the aFe Control bracket marked "L."
- b. Disconnect the electrical connectors from the Active Damping Sensor and Ride Height Sensor by depressing the locking tabs and carefully pulling the connectors free.



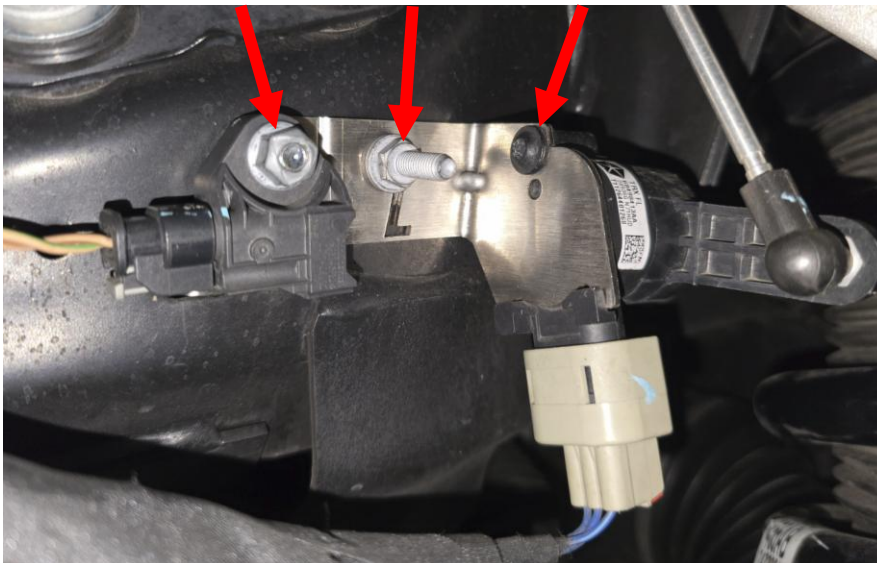
- c. Using a 10mm socket, remove the factory mounting stud securing the OE sensor bracket to the frame, then carefully remove the complete OE bracket assembly.

NOTE: Keep the Ride Height Sensor attached to the OE bracket until it is ready to be transferred to the aFe Control bracket. Do not rotate the Ride Height Sensor arm or linkage during removal or installation.

- d. Remove the OE nut securing the Active Damping Sensor to the integrated stud on the OE bracket. Transfer the sensor to the corresponding stud on the aFe Control bracket and secure it using the original OE nut.
- e. Using a T-20 Torx, remove the OE screw securing the Ride Height Sensor to the OE bracket. Maintaining the sensor and arm in their original orientation, immediately transfer the Ride Height Sensor to the aFe Control bracket and secure it using the original OE Torx screw.
- f. Position the aFe Control Sensor Relocation Bracket on the frame. Align the locating tab on the bracket with the corresponding hole in the frame, then reinstall the factory mounting stud using a 10mm socket to secure the bracket.

NOTE: Make sure the locating tab is fully seated in the frame hole before tightening the factory mounting stud. The locating tab prevents the bracket from rotating.

- g. Reconnect the electrical connectors to the Active Damping Sensor and Ride Height Sensor. Verify that both connectors are fully seated and locked into place.



- h. Verify that the Ride Height Sensor arm and linkage move freely and remain in their proper orientation. Make sure both wiring harnesses are properly routed and are not stretched, twisted, pinched, or contacting any moving suspension components.
 - i. Repeat Step 18 for the opposite side of the vehicle.
19. Verify that all shock wiring, ABS wiring, brake hoses, CV axles, reservoir hoses, and sensor wiring are properly routed and are not stretched, twisted, pinched, or contacting moving components.
20. Reinstall the skid plate and torque the mounting bolts to specification.
21. Reinstall the front wheels and tires. Lower the vehicle and torque the wheel lug nuts to specification.
22. Turn the steering from lock to lock and inspect all wiring, brake hoses, CV axles, shock reservoir hoses, and sensor wiring for proper clearance before driving the vehicle.
23. The vehicle must now be aligned. It is recommended to have the vehicle aligned by a certified alignment technician experienced with lifted vehicles.

Your install is now complete! Thank you for choosing aFe Control!

TORQUE TABLE

PART NAME	TORQUE VALUE
Nut, Wheel Lug	130 LB-FT
Bolt, Skid Plate	41 LB-FT
Bolt, Shock Absorber Reservoir Clamp	13 LB-FT
Bolt, Shock Absorber Reservoir Hose	22 LB-FT
Nut, Outer Tie Rod Ball Joint	41 LB-FT + 180°
Nut, Sway Bar End Link	85 LB-FT
Nut, Upper Control Arm Ball Joint	26 LB-FT + 180°
Bolt, Lower Shock Eyelet	102 LB-FT + 305°
Nut, Upper Shock Absorber Stud	46 LB-FT
Nut, Shock Absorber Top Shaft	88 LB-FT