TRAIL FORTRESS

BUILT FOR THE TRAIL. CHECKED FOR YOUR TRUCK.

Rough Country 501168 Installation Instructions

Loaded Strut Pair: OE Replacement Front Struts

Part number: 501168

trailfortress.com/rough-country-loaded-strut-pair-501168

Scan for fitment, price and install help

ROUGH COUNTRY
SUSPENSION SYSTEMS®

GM 2007-20 1500 Loaded Strut

Thank you for choosing Rough Country for your suspension needs.

Rough Country recommends a certified technician install this system. In addition to these instructions, professional knowledge of disassemble/reassembly procedures as well as post installation checks must be known. Attempts to install this system without this knowledge and expertise may jeopardize the integrity and/or operating safety of the vehicle.

Please read instructions before beginning installation. Check the kit hardware against the parts list on the rear cover of these instructions. Be sure you have all needed parts and know where they go. Also please review tools needed list and make sure you have needed tools.

PRODUCT USE INFORMATION

⚠WARNING As a general rule, the taller a vehicle is, the easier it will roll. Seat belts and shoulder harnesses should be worn at all times. Avoid situations where a side rollover may occur. Generally, braking performance and capability are decreased when larger/heavier tires and wheels are used. Take this into consideration while driving. Do not add, alter, or fabricate any factory or after-market parts to increase vehicle height over the intended height of the Rough Country product purchased. Mixing component brands is not recommended.

Rough Country makes no claims regarding lifting devices and excludes any and all implied claims. We will not be responsible for any product that is altered. If question exist we will be happy to answer any questions concerning the design, function, and correct use of our products.

⚠NOTICE The electric power steering must be unplugged before any of the steering components are removed. Failure to do so may cause damage to the electric power steering.

DEALER AND VEHICLE OWNER

⚠NOTICE

Any vehicle equipped with a Rough Country product should have a “Warning to Driver” decal installed on the inside of the windshield or on the vehicle’s dash. The decal should act as a constant reminder for whoever is operating the vehicle of its unique handling characteristics.

Tools Needed:

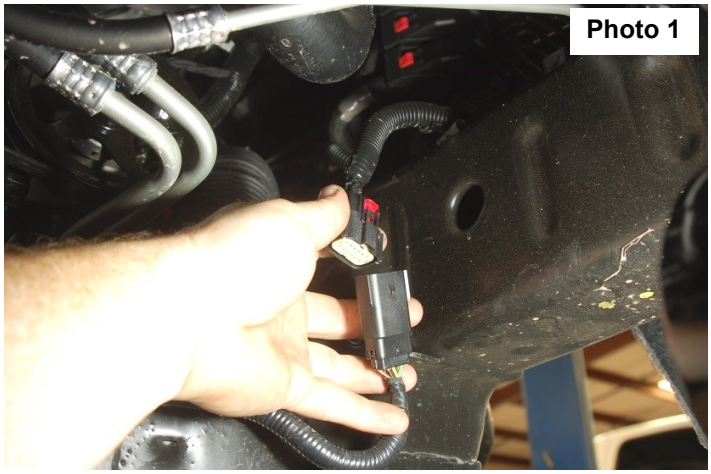
Floor Jack /Jack Stands
8mm Allen Socket
10mm socket /wrench
11mm socket /wrench
13 mm socket/wrench
15mm socket / wrench
17mm socket/wrench
18mm socket /wrench
21mm socket /wrench
22mm socket /wrench
24mm socket /wrench
19mm socket /wrench
35mm socket
1/2” socket/wrench
9/16” socket /wrench
#30 Torx bit
Reciprocating Saw
Drill
9/16” Drill Bit
Hand Grinder
Strut Compressor

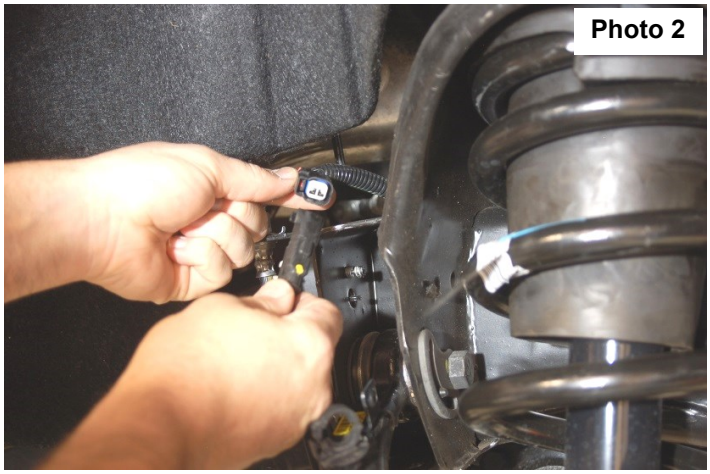
Torque Specs:

Size	Grade 5	Grade 8
5/16”	15 ft/lbs	20 ft/lbs
3/8”	30 ft/lbs	35 ft/lbs
7/16”	45 ft/lbs	60 ft/lbs
1/2”	65 ft/lbs	90 ft/lbs
9/16”	95 ft/lbs	130 ft/lbs
5/8”	135 ft/lbs	175 ft/lbs
3/4”	185 ft/lbs	280 ft/lbs

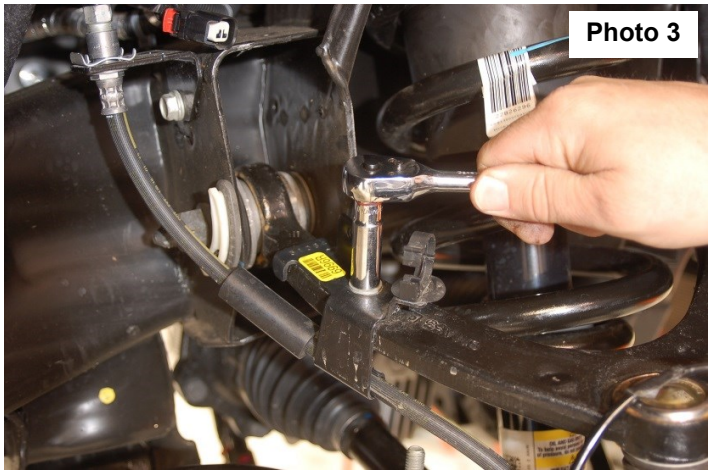
Size	Class 8.8	Class 10.9
6MM	5 ft/lbs	9 ft/lbs
8MM	18ft/lbs	23 ft/lbs
10MM	32ft/lbs	45ft/lbs
12MM	55ft/lbs	75ft/lbs
14MM	85ft/lbs	120ft/lbs
16MM	130ft/lbs	165ft/lbs
18MM	170ft/lbs	240ft/lbs

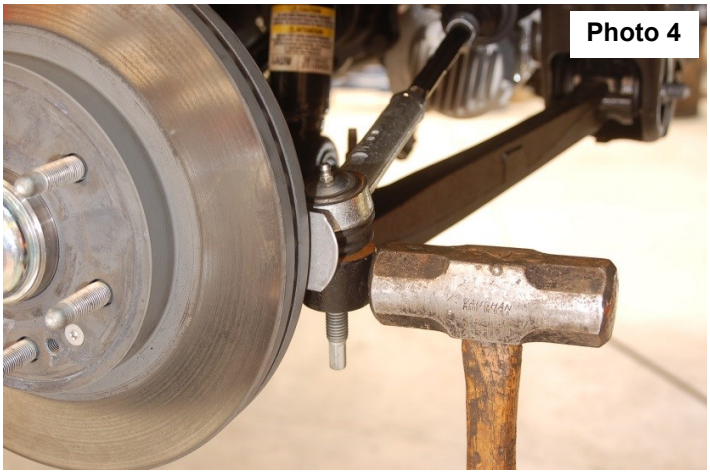
1. Park the vehicle on a level surface and chock the rear wheels. Raise the hood and disconnect the battery using a 10mm socket. Lock the steering wheel in the straight position.
2. Jack up the front of the vehicle. Place jack stands under the frame rails and lower onto jack stands letting the front suspension hang.
3. Remove the tires and wheels. Remove the 6 bolts holding the factory skid plate using a 15mm socket. Unplug the two connectors going to the electric power steering wiring harness behind the front skid plate. **See Photo 1**.
4. Remove and unplug the ABS sensor wire from the frame as shown in **Photo 2.**


Photo 1

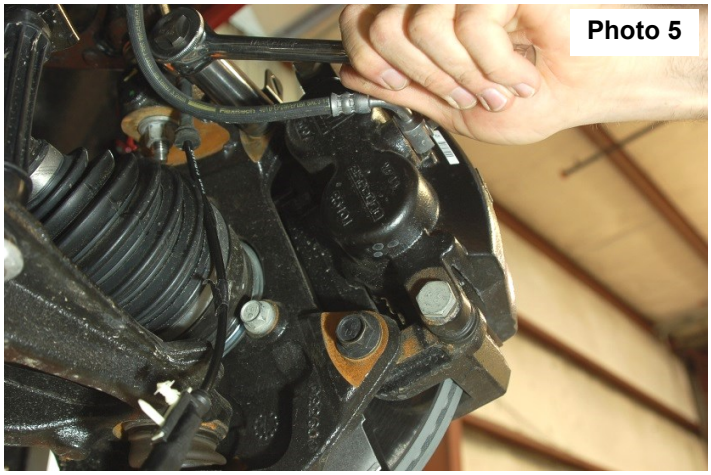

Photo 2

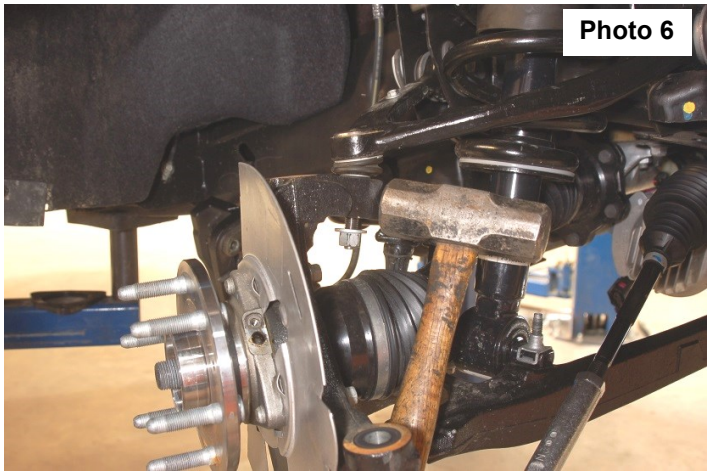
5. Remove the sensor wire from the plastic clip. Remove the brake line bracket from the control arm using a 10mm wrench. **See Photo 3.** Next remove the bracket line bracket from the control arm pocket with a 13mm wrench.
6. Using a 21mm wrench, remove the tie-rod nut as shown in **Photo 4**. Strike the front of the mount to dislodge the tie rod end. Remove from the knuckle.


Photo 3

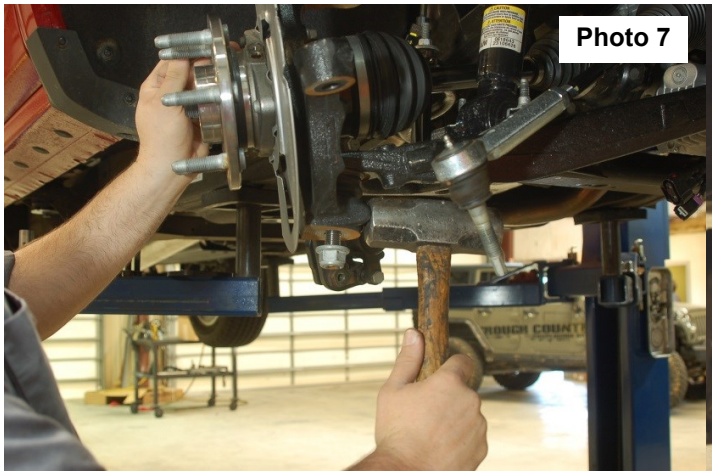

Photo 4

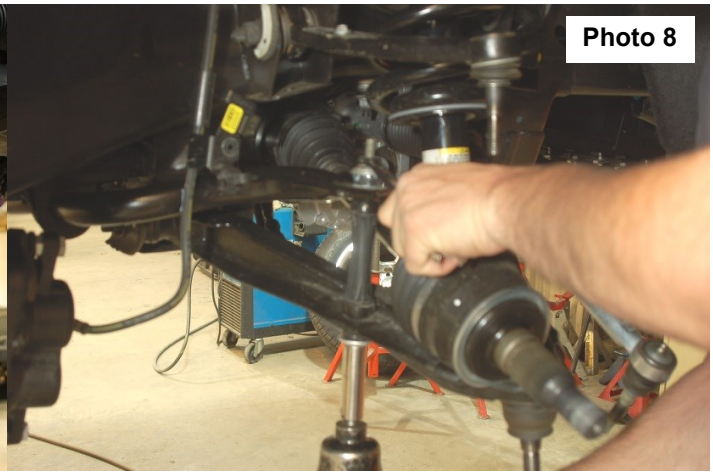
7. Remove the brake caliper using a 18mm socket. Hang the caliper out of the way and remove the rotor using a 30 torx socket. **See Photo 5.**
8. Use a 10mm socket to remove the ABS bracket from the top side of the knuckle.
9. Remove the dust cap and then remove the axle nut using a 35mm socket.
10. Remove the upper ball joint using a 18mm socket and separate using a hammer and striking the knuckle on the side as shown in **Photo 6.**


Photo 5


Photo 6

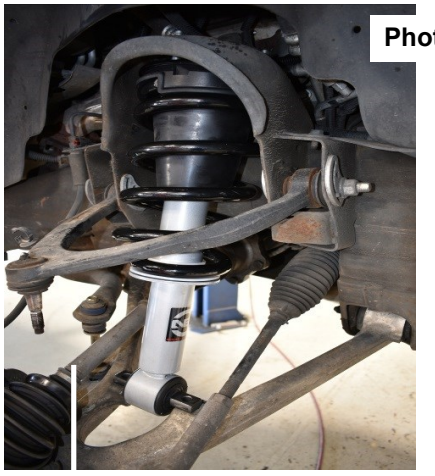
11. Remove the lower ball joint using a 24mm socket and separate with a hammer as shown in **Photo 7**. Next remove the knuckle from the truck.
12. Using a 15mm wrench and socket remove the sway bar links from the truck. **See Photo 8.**



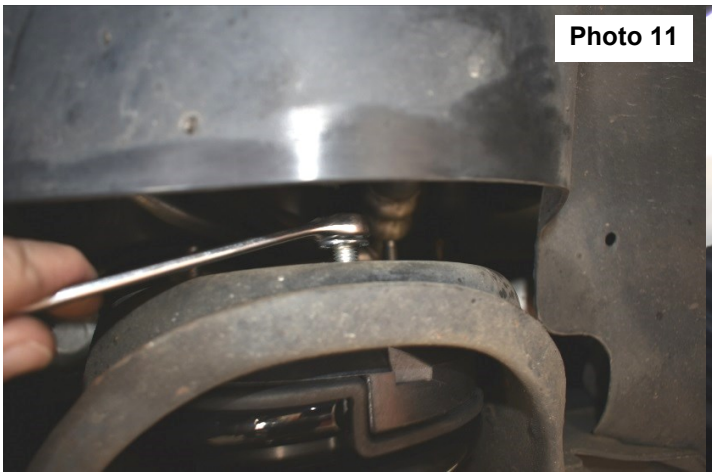


13. Remove the lower strut bolts using a 15mm socket as shown in **Photo 9** and remove the upper strut nuts using a 18mm wrench. Remove the strut from the truck.
14. Install the supplied loaded strut into the factory upper mount. **See Photo 10.**



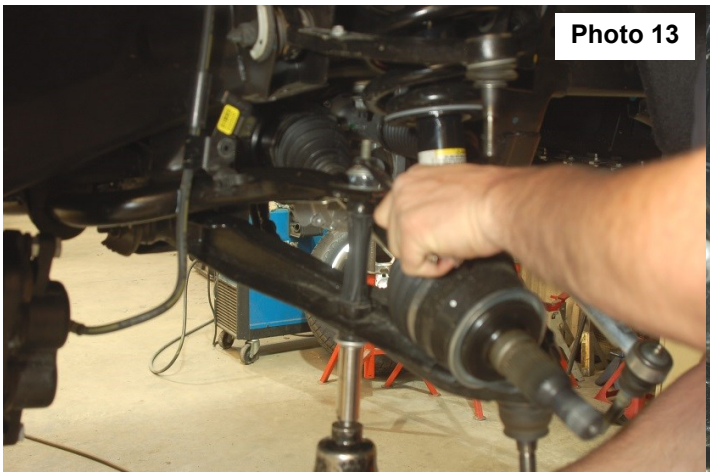


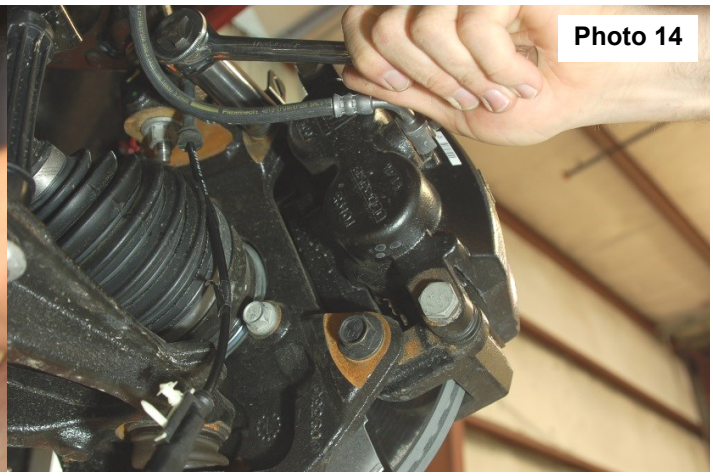
15. Using an 18mm wrench install the OE hardware on the upper strut studs and tighten. **See Photo 11.**
16. Install the lower strut hardware that was removed in step 13 or new hardware if supplied with the strut. **See Photo 12.**



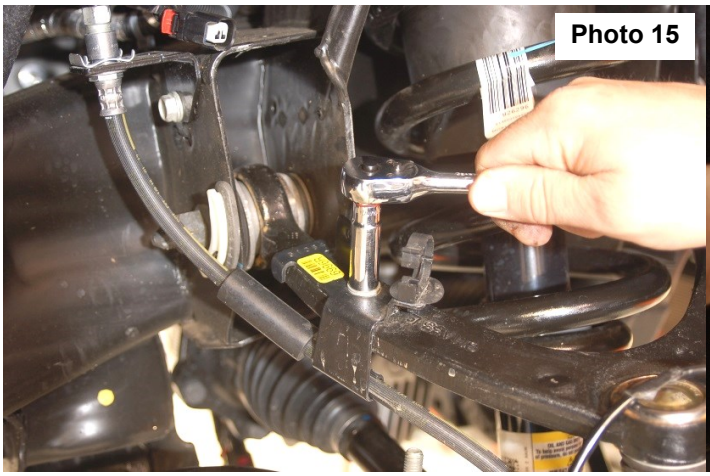


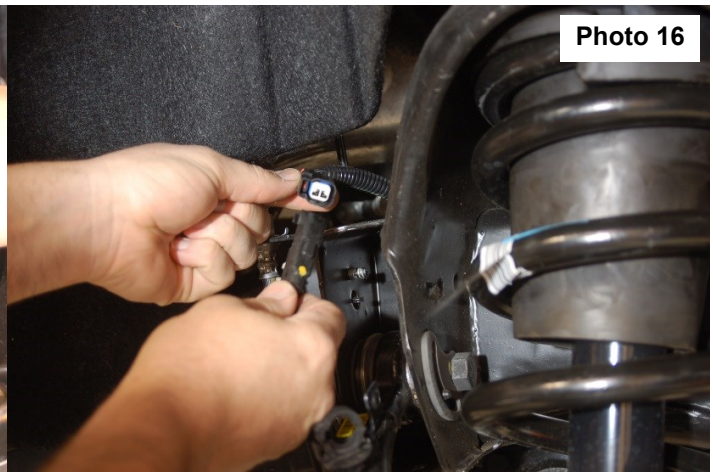
17. Using a 15mm wrench and socket install the sway bar links. Torque to factory specs. **See Photo 13.**
18. Install the knuckle on the upper an lower ball joints. Align the CV axle splines to the spines in the hub while installing the knuckle on the ball joints. Tighten the upper and lower ball joints using an 18mm socket for the upper and a 24mm socket for the lower.
19. Install the brake caliper using the factory hardware. Torque to factory specs using an 18mm socket. **See Photo 14.**



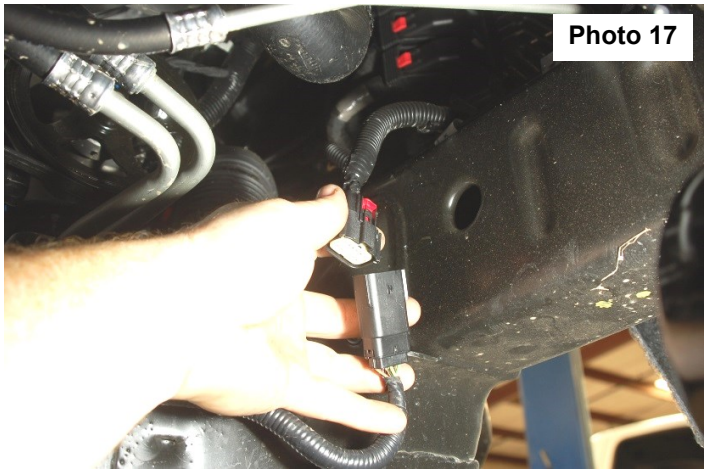


20. Install the tie rod end in the knuckle using the factory hardware. Tighten using a 21mm wrench.
21. Install the sensor wire in the plastic clip. Install the brake line bracket on the control arm using a 10mm socket. **See Photo 15.** Install the bracket line bracket on the control arm pocket using a 13mm wrench.
22. Plug in the ABS sensor wire and reattach it to the frame. **See Photo 16.**





23. Plug in the 2 connectors for the electronic power steering. **See Photo 17.**
24. Install the tires and wheels and lower the vehicle to the ground.



By purchasing any item sold by Rough Country, LLC, the buyer expressly warrants that he/she is in compliance with all applicable , State, and Local laws and regulations regarding the purchase, ownership, and use of the item. It shall be the buyers responsibility to comply with all Federal, State and Local laws governing the sales of any items listed, illustrated or sold. The buyer expressly agrees to indemnify and hold harmless Rough Country, LLC for all claims resulting directly or indirectly from the purchase, ownership, or use of the items.