Rough Country 381.20 Installation Instructions

381.20

Part number: 381.20

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Scan for fitment, price and install help

ROUGH COUNTRY
SUSPENSION SYSTEMS®

2002-05 Dodge Ram 1500 4” - 5.5” Kit

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. Be sure you have all needed parts and know where they go.

PRODUCT USE INFORMATION

⚠WARNING As a general rule, the taller a vehicle is, the easier it will roll. Offset, as much as possible, what is lost in rollover resistance by increasing tire track width. In other words, go "wide" as you go "tall". Many sportsmen remove their mud tires after hunting season and install ones more appropriate for street driving; always use as wide a tire and wheel combination as possible to enhance vehicle stability.

⚠WARNING Braking performance and capability are decreased when significantly larger/heavier tires and wheels are used. Take this into consideration while driving.

⚠WARNING Do not add, alter, or fabricate any factory or after-market parts which increase vehicle height over the intended height of the Rough Country product purchased. Missing component brands, lifts, and/or combining body lift with suspension lifts voids all warranties. 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.

⚠NOTICE This suspension system was developed around a 35x12.50R17 tire on a 9” wide wheel. Before installing other combinations, please consult your local tire and wheel specialist.
If 37” tires are being used the torsion bars will need to be turned up giving the truck 1.5” more lift. This is done by measuring the center of the front wheel to fender. This number should never exceed 27”’s, adjust the torsion bars one turn at a time on each side until the lifted height is achieved. After 500 miles recheck and adjust torsion bars to alignment height.

⚠WARNING **On some Hemi models the exhaust pipe may need to be reshaped or rerouted. The pipe may be slightly reshaped using a ball hammer although professional exhaust modification is recommended to clear the driveshaft**.

⚠NOTICE **DEALER AND VEHICLE OWNER**

Any vehicle equipped with any 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.

INSTALLING DEALER - it is your responsibility to install the warning decal and forward these installation instructions on to the vehicle owner for review. These instructions should be kept in the vehicle for its service life.

Tool List

Torsion Bar Adjuster Tool	7/32 Allen Wrench
1/2” Ratchet	Floor Jack
Ball Hammer	19mm Socket
Pry Bar	15mm Socket
4” 1/2” Socket Extension	24mm Deep Socket
T-60 Torx Socket	19mm Deep Socket
Torque Wrench	21mm Wrench
T-30 Torx Socket	Tape Measure
26mm Socket	2 Jack Stands
13mm Socket	14mm Socket
16mm Socket	24mm socket
Cutting Wheel	
Thread Locker	

Front Installation

1. The tools needed for this installation are on the front cover. A list of all the parts in this kit are under the tool listing. Make sure you have all of the proper tools and a understanding of these directions before you proceed.
2. Place the truck on a clean level surface and set the parking brake. Chock the rear wheels and using a floor jack raise the front of the truck and support the frame rails with approved jack stands. Remove the front wheels. **NEVER WORK UNDER AN UNSUPPORTED VEHICLE**
3. Measure the threads showing on the torsion bar adjuster bolt. **See Photo 1.** Mark the torsion bars on the A-Arm and Torsion bar key. Mark the drivers side and passenger side. **See Photo 2.**


Photo 1


Photo 2

4. Using a torsion bar tool relieve the pressure from the torsion bar adjuster bolt and remove the bolt and swivel nut.
5. Remove the torsion bars from the vehicle.
6. If equipped remove the factory skid plate.
7. Starting on the drivers side of the truck use a 16mm deep well sock remove the sway bar bushings from the top of the sway bar and remove the sway bar link from the lower control arm using a 15mm wrench.
8. Using a 13 mm socket remove the caliper and secure it to the frame rail. Do not let the caliper hang from the brake line.
9. Using a 18mm socket remove the caliper hold down bracket and set aside.
10. Using a 36 mm socket remove the CV shaft nut and set aside.
11. Using a 21 mm deep well socket loosen the upper ball joint nut. Using a hammer hit the knuckle as shown in **Photo 3** until the ball joint breaks free. NEVER HIT THE BALL JOINT THREADS OR THE BALL JOINT.
12. Using a 21 mm deep well socket remove the tie rod end nut. Using the hammer hit the knuckle as shown in **Photo 4** until the tie rod pops out. NEVER HIT THE TIE ROD THREADS OR THE TIE ROD.


Photo 3


Photo 4

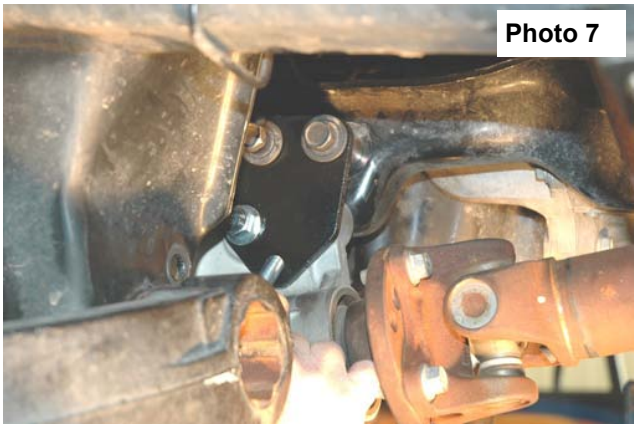
13. Using a 24 mm deep well socket remove the lower ball joint nut. Using a hammer hit the knuckle until the ball joint pops out. NEVER HIT THE BALL JOINTTHREADS OR THE BALL JONT.
14. Remove the upper ball joint nut and set the knuckle aside.
15. Using a T60 Torx bit and 24 mm deep well socket remove the rear lower back control arm. Using a 24 mm deep well socket and 24 mm wrench remove the lower control arm bolt.
16. Set the lower control arm aside.
17. Repeat steps 7 through 17 on the passengers side.
18. Remove the cross member that connects the rear frame brackets of the lower control arms. The four bolts will be reused.
19. Using the bolts just removed, install the rear cross member with the ears of the kickers facing to the back of the truck.
20. Using the 5/8” x 5 1/2” bolts from 1380Bag4 install the front cross member, do not tighten at this time
21. Using factory hardware install both of the lower control arms.

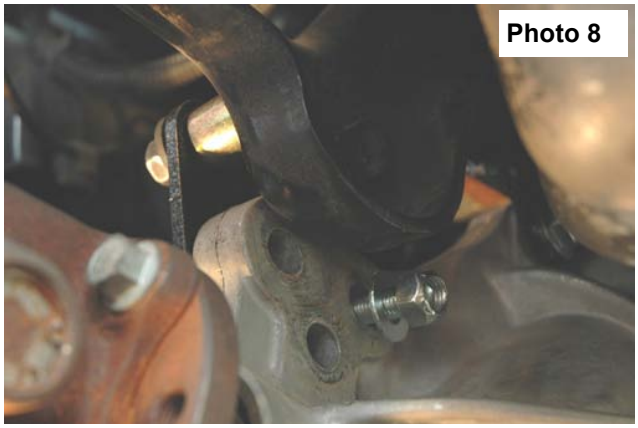
22. Support the front differential. Remove the drivers side rear mounting bolts, front drivers side bolts, and the passenger side bolts. Lower the differential about 4 inches.
23. Using the 12mm x 65mm bolts and hardware from 1380Rbag8 install the drop brackets on the drivers side front as shown in **Photo 5 & 6**. Do not tighten at this time.


Photo 5


Photo 6

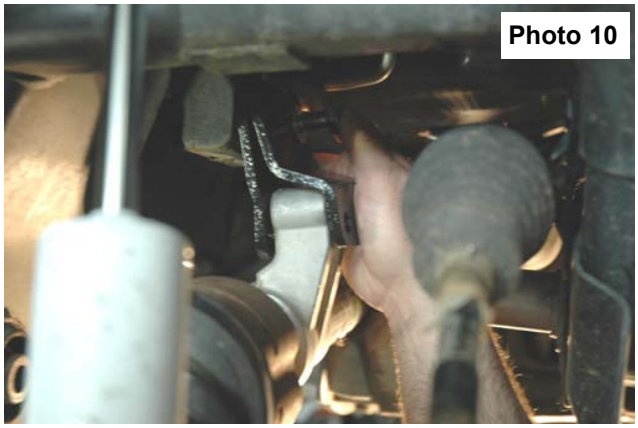
24. Install the drivers side rear bracket and spacers as shown in **Photo 7 & 8** using the 12mm x 65mm bolts/ hardware in the upper and the 12mm x 50mm bolts/hardware in the lower part of the bracket**.** Do not tighten at this time. See Below.


Photo 7


Photo 8

25. Using the remaining 12mm x 65mm bolts/hardware from the 1380Rbag8 install the passengers side drop brackets as shown in **Photo 9**. The angle of the brackets must match at the top and fit on the differential as shown in **Photo 10.**


Photo 9


Photo 10

26. Before tightening the bolts slightly shake the differential. Starting on the passengers side bracket torque all the bolts to 70 ft lbs.
27. On some Hemi models if interference occurs between the exhaust pipe and the drive shaft, the exhaust pipe may need to be reshaped or rerouted. The pipe may be very slightly reshaped using a ball hammer although professional exhaust modification is recommended to clear the driveshaft.
28. One side at a time remove the dust shield, wheel bearing assembly, and ABS bracket from the stock knuckles. Install them on the new knuckles and torque to 120 ft lbs.
29. Support the lower control arm with a jack, install the CV spline into the knuckle and install the knuckle on the lower control arm. Lift the knuckle upwards and install the upper control arm on the knuckle. Lower ball joint and torque to 60 ft lbs, upper ball joint to 50 ft lbs, and CV shaft to 170 ft lbs.
30. Install the tie rod into the knuckle and torque to 50 ft lbs.
31. Install the supplied sway bar bracket on the lower control arm with the supplied 12mm x 35mm bolts/ hardware. Tighten using a 18mm & 19mm wrench. **See Photo 11.**
32. Install the sway bar bracket to the sway bar using supplied hardware. Turn the upper bracket 90 degrees from the lower bracket. Tighten lower using an 18mm & 19mm wrench using supplied 12mm x 65mm bolts and flange nuts. NOTE:Hardware for these sway bar brackets are included in the 1003 kit. **See Photo 12.**


Photo 11


Photo 12

33. Remove the rubber bump stop from the bump stop cup and remove the mounting cup from the frame using a cutting wheel as shown in **Photo 13**. Reinstall the factory bump stop cup on the bump-stop spacer bracket as shown in **Photo 14** with the supplied 3/8” x 1 1/4” bolts, washers & flange lock nuts located in 1380BAG6.

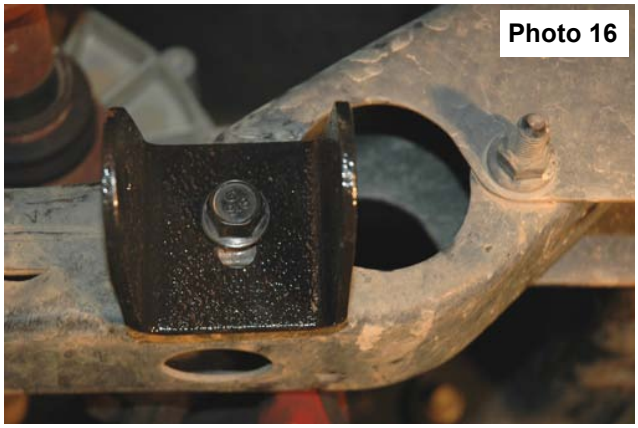

Photo 13


Photo 14

34. Mount the assembly in the factory location on the frame using the supplied 3/8” x 1 1/4” bolts, washers/nuts located in 1380BAG6. Reinstall the factory rubber bump stop in the cup.
35. Install the front shock with the factory hardware
36. Install the rear stinger brackets on to the stock frame cross member using the stock hardware. Turn the bolt around as shown to clear the stinger.
37. Install the supplied front stinger brackets to the new cross member with the supplied 1/2” x 2 1/2” bolts & nuts located in 1380BAG7. Tighten hardware.

38. Install the stingers using the 1/2” x 3 1/2” bolts/hardware in 1380BAG7. Do not tighten at this time. **See Photo 15 & 16.**


Photo 15


Photo 16

39. Place the rotor on the knuckle, install brake pads, and caliper hold down, and caliper.
40. Install the new skid plate and tighten to 35 ft lbs. If the upgraded front skid plate was purchased install this with the lower skid plate with the 3/8” x 1 1/4” bolts in 1380BAG4.
41. Tighten the front cross member to 130 ft lbs, the rear to 70 ft. lbs, stinger brackets to 70 ft lbs, and stingers to 70 ft. lbs.
42. Remove the two bolts that hold the torsion bar cross member and remove.
43. Install the cross member drop bracket using the stock bolts. **See Photo 17.** Using a ratchet install the four 5/16” self tapping bolts as shown in **Photo 18** from 1380BAG6 through the drop bracket and onto the frame. Install the torsion bar cross member using the 12mm x 100mm bolts/hardware from 1380BAG6. Torque the upper and lower bracket bolts to 55 ft lbs.


Photo 17


Photo 18

44. Install the torsion bars into the lower control arms and back into the cross member aligning the marks made during disassembly.
45. Using the torsion bar tool apply pressure to the torsion key until the swivel nut can be inserted. Install the torsion adjusters and set them to the same amount of thread showing before disassembly.
46. **If the truck has the Off Road package skid plate install it reusing the factory bolts. The 2005 skid plate can not be used**.
47. Install the wheels, raise the truck, remove the jack stands, and lower to the ground.

Rear Installation

1. Chock the front wheels, raise the rear of the truck, support the frame rails, with approved jack stands, and remove the wheels.
2. Remove the factory shocks.
3. Support the axle with a floor jack.
4. Using a 22 mm remove the u-bolts. Lower the axle about 4 inches.
4. Install the lifted block with the taper facing to the front of the truck and center pin facing down into the axle. Raise the axle until the center pin goes into the block. Install the new u-bolts and torque to 110 ft lbs. The u-bolts must have an even number of threads showing.
5. Install the new rear shock with supplied hardware.
6. Install the wheels. Raise the truck remove the jack stands, and lower the truck to the ground.
7. Torque all lug nuts to 140 ft lbs.
8. Vehicle will need an alignment. Recommended specs caster 4.4deg +/- 1 deg., camber 0 deg. to -.3 deg, Toe .1 +/-.1 deg.

Post Instructions

1. Turn the wheels fully to the right and left to insure all components clear and do not interfere. Inspect for tire, wheel, and brake hose clearance.
2. Inspect steering and suspension for tightness and proper operation .
3. The headlights will need to be adjusted to compensate for the lift.
4. It is the ultimate buyers responsibility to have all bolts and nuts checked for tightness after the first 500 miles and then every 1000 miles. Wheel alignment steering system, suspension and driveline systems must be inspected by a qualified professional mechanic at least every 3000 miles.

KIT COMPONENTS



Kit Contents

Driver & Passenger Knuckles
Torsion Bar Drop Bracket (2)
Bump Stop Extensions Brackets (2)
Sway Bar Links (2)
Differential Drop Bracket Pass/Side
Differential Drop Bracket Drivers/Front
Differential Drop Bracket Drivers/Rear
Kicker Braces (2)
Kicker Brace Brackets (4)
Front Shock **658699**
Front/ Rear Cross Member
Cross Member Skid Plate
Hardware Bags
Lift Blocks (2) and U-Bolts (4)
Rear Shock **658694**

Thank you for choosing Rough Country for your suspension needs.

By purchasing any item sold by Rough Country, LLC, the buyer expressly warrants that he/she is in compliance with all applicable Federal, 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.