



INSTALLATION GUIDE

PART NUMBER: 28020
FRONT LIFTING STRUT
RAM 1500 2WD / 4WD | 2019+

****NEW GENERATION MODELS ONLY****

6" TO 8" ADJUSTABLE RIDE HEIGHT

300 W. PONTIAC WAY. CLOVIS, CA 93612
PHONE: 800-445-3767 | EMAIL: INFO@BELLTECH.COM

THANK YOU

Thank you for choosing our high quality Belltech product. We have spent a great deal of time developing our line of products so that you will receive maximum performance with minimal difficulty during installation. Soon your vehicle will be on the road looking and feeling much improved.

Please take a moment to read all instructions and warnings prior to the installation of your new Belltech product and before operating your vehicle. For any questions or concerns regarding the steps in the installation process, please do not hesitate to call or email our customer support team who are trained to help you through any portion of this process.

Before You Begin:

It is of the utmost importance that you confirm all of the components listed on the parts list is in the kit. You can find this list located on the last page(s) of your instructions. Do not begin installation if any part is missing. Instead, please call our Belltech customer service specialists.

Belltech Customer Support:

Phone: 1-800-445-3767

Email: info@belltech.com

Safety Information:

Warning: Do not work under a vehicle supported only by a jack. Place support stands securely under the vehicle in the manufacturer's specified locations unless otherwise instructed.

Proper use of safety equipment and eye/face/hand protection is absolutely necessary when performing any of the following instructions.

We strive for an exceptional experience for all our valued customers. If for any reason you need assistance with your Belltech products, please do not return the product to the store you purchased from, but rather call our dedicated customer service experts, from 7am to 5pm PST.

We recommend that a qualified mechanic, at a properly equipped facility, perform this installation.

It is very helpful to have an assistant available during installation.

Before Driving Your Vehicle:

It is important to double check all brake hoses, cables, and other components to be sure there is no interference. You must also check for wheel/tire to chassis/body interference. If any issues are found, review your installation instructions to be sure no steps were missed and any problems are corrected.

Make sure your vehicle is aligned immediately following installation.

Check all hardware and torque at intervals for the first 10, 100, and 1000 miles.

Some of Belltech's products are designed to improve your vehicle's off-road performance. Leveling/lifting your vehicle may result in an altered center of gravity. It is crucial to use extreme care when operating your vehicle to prevent rollover and/or loss of control.

Any changes in your vehicle's suspension may result in transformed handleability. Please test-drive your vehicle in a remote location so you can become accustomed to the revised driving characteristics.

Perform headlight check and adjustment.

Failure to drive any modified vehicle in a safe manner may result in harm or death.

Never operate your modified vehicle under the influence of drugs, alcohol, or lack of adequate sleep.

Always wear your seatbelt.



DIFFICULTY:



INSTALLATION TIME:

1-2 Hours Per
Strut +Alignment

RECOMMENDED TOOLS:

- Properly rated floor jack
- Wheel chocks
- Metric socket wrench set
- Metric wrench set
- Tape measure
- Marking Pen
- Dead blow hammer

SPECIALTY TOOLS:

- Torque wrench up to 200 ft lbs.
- Spring compressor
- Panel popping tool

FITMENT NOTE:

*** Belltech strut 28020 is designed to be used with lift kit 153712. If you are utilizing this strut with an alternate or competitor brand lift kit, use the provided ring chart on page 7 as a reference only***

INSTALLATION PREPARATION:

Before beginning the installation process, measure the hub to fender heights for your vehicle and record them in the “Before” section. After your vehicle has been modified, record the new measurements in the “After” section. This way you can compare the resulting height to the original. When taking the measurements, measure vertically from the center of the wheel to the inner edge of the fender.

Before:

LF: _____

RF: _____

LR: _____

RR: _____



After:

LF: _____

RF: _____

LR: _____

RR: _____

JACKING, SUPPORTING, AND PREPARING THE VEHICLE

1. Park your vehicle on a smooth, level, concrete or seasoned asphalt surface.
2. Block the rear wheels of the vehicle using wheel chocks. Make sure the vehicle's transmission is in "PARK" (automatic) or 1st gear (manual).
3. Activate the parking brake.
4. Break loose, but do not spin the wheel lug nuts to ease in removal when the wheels are in the air.
5. Lift the front of the vehicle off the ground using a properly rated floor jack. Lift the vehicle so the front tires are approximately 6-8 inches off the ground.
6. Place support stands rated for the vehicles weight. The stands should be positioned in the factory specified locations. (Refer to the owners manual). Prior to lowering the vehicle onto stands, make sure the support stands will contact the chassis. It is very important that the vehicle is properly supported to prevent any harm to ones self or to the vehicle.
7. Lower the vehicle slowly onto the support stands.
8. Remove the front wheels.



Technician reminder:

Never work under a vehicle supported only by a jack. It is necessary to place support stands securely under the vehicle in the manufacturer's specified locations unless otherwise instructed.

OEM STRUT REMOVAL

9. Use an 18mm socket to remove the lower sway bar end link nut from the lower control arm.



10. Remove the tie rod nut from the spindle. Strike the side of the mount with a dead blow hammer or use a puller to dislodge the tie rod end.



11. Remove all mounting points for the brake line and ABS sensor wire from the upper control arm and spindle.
12. Remove the brake caliper mounting bolts located at the back of the spindle. Hang the calipers on the frame using large zip ties or hangers to prevent over stretching the lines.



OEM STRUT REMOVAL CONTINUED

- Loosen but do not fully remove the upper ball joint 21mm nut. Strike the spindle at the designated bosses to help separate the upper control arm from the spindle.



- Remove the bottom OE strut fork bolt using both a 21mm and a 24mm wrench.



- Using a panel popping tool, detach the harness clip front the top mount studs.



- Remove the three upper strut nuts using a 15mm wrench.
- Hold the spindle assembly while pushing down on the lower control arm, dislodging the bottom strut assembly from the lower control arm and remove it from the vehicle.



Technician reminder:

Ensure the brake lines and ABS wires are not over extended or damaged during the removal of the strut.

OEM STRUT DISASSEMBLY

18. Mount the strut assembly in a spring compressor fixture. To ease the installation of the new strut, mark the position of the top mount in relationship to the upper spring isolator and strut body.



Technician note:

The installation photograph shown was taken at a professional installation shop. It is important to use a spring compressor to compress the spring before removing the top mount bolt. Failure to do so may result in serious injury.



19. Compress the spring until tension is relieved from the strut.
20. Hold the strut shaft from spinning and remove the top center nut from the strut. Support the shock as the nut is removed as it will fall if not supported.
21. Remove the top mount and upper spring seat to use with your new Belltech strut later.
22. Remove the OEM strut from the compressed spring fixture.
23. Remove the bump stop if stuck in the dust boot.



BELLTECH STRUT ASSEMBLY

24. The strut is delivered as shown below. Remove the Nyloc nut from the top of the Belltech strut to proceed.



Technician note:

When lifting your vehicle more than 1", OE camber may not be achievable. After installation a final shop alignment procedure is recommended to minimize tire wear.

25. Using the tables below as reference, add the needed lift rings to reach the desired height.

2019+ RAM 1500			
Lift (Inches)	8mm Ring	16mm Ring	15mm Packer
8"	2	2	2
7"	2	1	1
6"	2	0	0
0"	0	0	0



Technician note:

Strut 28020 may include an extra 10mm ring, if so, place it on the strut housing first, then use the following chart to set the desired ride height. If a half inch lift height increment is desired, add one 8mm ring from the next lowest increment in the table above.

26. Install the spring perch onto the strut. Do not install the spring perch upside down.

BELLTECH STRUT ASSEMBLY CONTINUED



Ventilation Disk Installation Warning:

When assembling the Belltech shock/strut, make note of the orientation of the supplied Belltech ventilation disk. It has two sides: a flat side and an air-channeled side. The air-channeled side **MUST** be facing downward toward the shock/strut and the flat side toward the bump stop (See figures 1A and 1B).

Failure to do this, will result in shock/strut damage.

23. Slide the vent disk on the strut rod. Ensure the air-channeled side facing down as shown in the images below.

Air-channels face down toward strut

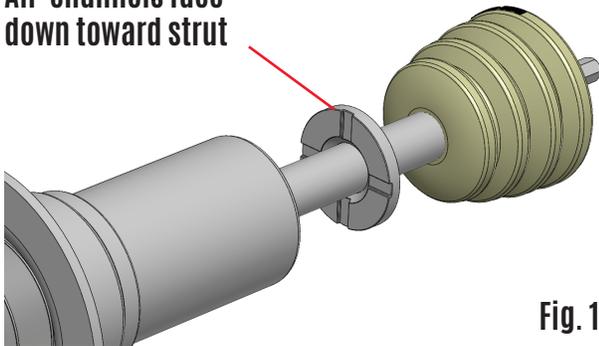


Fig. 1A

Flat surface faces up toward bump stop

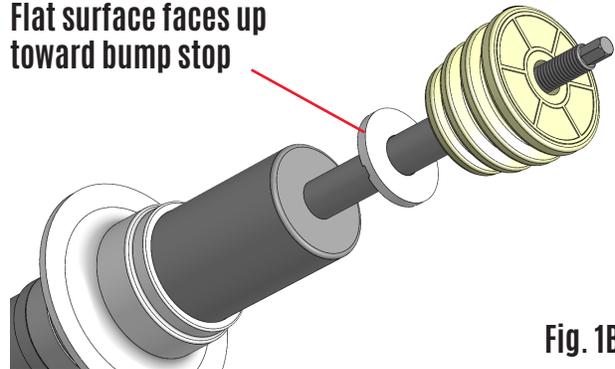


Fig. 1B

24. Slide the required packers onto the strut rod.



Technician note:

Belltech uses packers to maintain the correct bump stop engagement at various height ranges. Using the appropriate packer will prevent excessive body roll. If a packer is needed, according to the chart on the page 7, please place the packer on top of the vent disc, channel side down, as shown by the image to the right of this text box.



25. With the OEM spring still compressed, slide the new Belltech strut into the OEM spring and install Belltech bump stop on the strut rod.
26. Complete the assembly using the OEM spring isolator, top mount, and supplied Nyloc nut.
27. Align the top mount with the spring using the original marking made in step 18. Torque the strut rod nut to 26 ft lbs.

BELLTECH STRUT INSTALLATION

31. Install the new assembly in reverse order of disassembly. Use the OEM nuts and bolts if none were included. Torque to factory specs with the weight of the vehicle on the suspension.



Technician note:

To help with the installation of your new strut, view and reference the photographs from steps 9 through 17. Remember to torque all components with the weight of the vehicle on the suspension.

32. Place the strut assembly into the chassis and secure it using the three OE nuts. Torque to 46 ft lbs.
33. Clip the harness to the original position on strut mount stud.
34. Use a jack or other lifting component to raise the lower control arm back into place with the lower strut mount.
35. Using a 21mm and a 24mm wrench, attach the new Belltech strut with OE strut fork blot and nut. Torque to 124 ft lbs.



36. Attach upper control arm ball joint to the spindle. A jack may help support the weight of the spindle. Torque the upper ball joint nut to 26 ft lbs. + 180° turn.
37. Attach the front brake caliper with the original bolts, torque to 55 ft lbs.
38. Connect the ABS and brake lines, route the ABS line behind the brake backing plate and under the steering arm on the spindle.



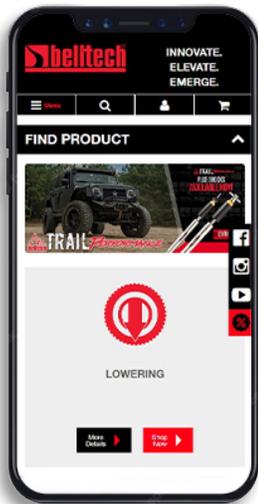
39. Attach the outer tie rods into the spindle. Torque to 41 ft lbs. + 180° turn.
40. Attach the lower sway bar end link to the lower control arm with the original nut. Torque to 81 ft lbs.

FINALIZING THE INSTALLATION

41. Mount the wheels and tighten the lug nuts.
42. Lift the vehicle and remove the support stands.
43. Carefully lower the vehicle onto the flat ground.
44. Torque the lug nuts to 130 ft lbs.
45. Check that all components and fasteners have been properly installed and torqued.
46. Read and perform all tasks in the “Before Driving Your Vehicle” section of page 1 of your instructions.

THANK YOU FOR CHOOSING BELLTECH.

You are now a part of the Belltech family and we are eager to catch a glimpse of your newly modified vehicle. Give us a shout out and let us know how much you love our product. Don't forget, we offer other Belltech related merchandise for you and your vehicle on our website www.belltech.com



belltechsuspension



Belltech Suspension



@belltechsuspension

If you have any questions, concerns, or warranty related issues regarding your Belltech product, please call or email our experienced customer service specialists.

Belltech Customer Support:

Phone: 1-800-445-3767

Email: info@belltech.com

KIT CONTENTS



28020		
Part number	Description	Qty
28020-100	BELLTECH LIFTING STRUT	1
25003-008	8MM LIFT RING	2
25003-016	16MM LIFT RING	2
4935-001	15MM PACKER	3
NUT	M12 x 1.25MM FLANGED NYLOC NUT	1
4926-001	BUMP STOP	1
65210031	VENT DISC	1
26015-001	SPRING PERCH	1