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Offroad Design Lift System Instructions For '67-87 ('91) GM Fullsize Trucks

Torque Specifications

5/8" Diameter u-bolts	135 ft. lbs.
9/16" Diameter u-bolts	100 ft. lbs.
Main eye bolt, front of the front spring	75 ft. lbs.
Front leaf spring bolt, stock 7/16"	44 ft. lbs.
Front leaf spring bolt, 1/2" (ORD HD front shackles)	50 ft. lbs.
Rear leaf spring bolt, 9/16"	75 ft. lbs.
Shock bolts	67 ft. lbs.
Sector shaft bolt, for 4WD pitman arm	115 ft. lbs.
Sector shaft nut, for 2WD steering box (for crossover steering)	197 ft. lbs.
	Most any grease is appropriate for our polyurethane spring bushings. Typically, the same grease used in ball joints or tie rod ends is fine.

When you get your springs, the first thing you should do is put them on flat, smooth ground standing up with the spring eyes touching the ground. **Verify that the spring arch is within ¼” between the two springs**, this step can save you a lot of time down the road if there’s questions on lift height side to side.



Compare the size of the head of the center pin in the spring with the hole in the spring perch. These vary in size, you’ll save yourself some headache if you find discrepancies now before you try to install the spring. If the center pin is bigger or the hole in the perch is smaller, you can either drill out the spring perch or make the head of the center pin smaller by removing and grinding it or using a file with the center pin installed. Replacement center pins are also available at parts stores and an allen head bolt or a standard hex bolt with the head ground into a circle can sometimes work well too if a replacement is needed.

If one of your spring eyes is larger than the other, the larger spring eye is installed towards the front of the truck.

If you ordered ORD Custom Springs, the military wrap (the double wrapped spring eye) always goes towards the front of the truck.

Tighten the nuts on the u-bolts evenly and torque to spec. U-bolt torque is a maintenance item, you’ll want to check them often especially if the truck sees offroad use.

If you're using the factory tension shackle in the rear suspension (i.e. not using a shackle flip), at the back of the rear spring you'll want the nut closest to the frame and the bolt head furthest away from the frame. If it looks like it may make contact, cut the bolt off flush with the nut.

If you ordered Tuff Country SX8000 shocks, the body of the shock needs to be pointed down and the shaft needs to be pointed up or they will not work correctly. If you ordered Bilstein or Fox shocks, they work equally well mounted either way.

Driveshafts

Once your springs are installed, with the truck still supported by jack stands under the frame (so both axles drooped all the way out), make sure that both driveshafts are the right length and have enough travel in the splines.

Also, make sure that none of the universal joints are binding and that the driveshafts can spin freely at full droop. If the driveshafts won't turn, figure out which pieces are hitting. Often times (especially on front driveshafts) there is a lot of angle capacity to be gained with some grinder work on the pieces that limit angle on a driveshaft.

The front suspension uses 5" long bolts that run through 3-1/2" long sleeves. The rear suspension uses 4-1/2" long bolts that run through 3" long sleeves.

With the factory push/pull steering system, it's a common misconception that the draglink needs to be parallel with the ground. The draglink angle truly needs to match the angle of the arch in the spring, a draglink that's level with the ground with a positive arch spring will induce bump steer.

You will need to adjust the length of the draglink once the truck is lifted to make the steering wheel straight again. Driving with the steering wheel crooked can cause odd driving characteristics due to the variable ratio in the steering gear.

If you replaced brakelines, don't forget to bleed your brakes and take it really easy until you're sure that the brakes are 100%. Bleeding rear systems is often difficult.

It's important to tighten all of the leaf spring bolts to the torque specs included in these instructions. The bolt should clamp the sleeve within the spring hanger, you want the sleeve to stay stationary and the bushing to rotate around it. Leaving the bolts loose ("to get more articulation") doesn't work and is a bad idea

that ovals the holes in the spring hangers. With polyurethane bushings, you can tighten the spring eye bolts with or without the weight of the truck on them.

Pre-grease all suspension bolts/bushings/sleeves, even if they're greasable. You might as well get as much grease everywhere you can while things are apart.

If your project doesn't have a cab/body, engine, etc., don't be surprised if it sits taller than expected. Things change a lot with the extra weight, especially with custom springs. Shackle angles will also look wrong until all the weight is set on the springs.

Bumpstops:

Bumpstops must be set to prevent travel beyond the springs limits. Overtravel will cause the springs to settle. We're talking full compression of the bumpstop here. Polyurethane and rubber bump stops will compress and it needs to be accounted for. Your stop may engage initially at 3" of bump travel and not fully stop the suspension for another 2" of travel (for 5" total), for example.

The amount of bump stop compression depends on the bump stops you're using, this is something that you can test by driving the truck up on something that articulates the suspension and measuring how much the bump stop compresses. Then adjust height up or down as necessary.

For Tuff Country springs, you don't want the spring to compress further than 3-1/2" total from ride height, measured at the spring.

We have a separate instruction set for Offroad Design custom springs that covers bump stop clearance for those springs.