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INSTALL INSTRUCTIONS:

Comfort Ride Torsion Bar Kit
for 2020 GM 2500/3500
2WD/4WD Trucks
SKU: 510-90887

PARTS LIST FOR SKU: 510-90887

QTY.	PART #	DESCRIPTION
1	6550	GM 2020 8-lug torsion bar, soft rate, left hand side
1	6551	GM 2020 8-lug torsion bar, soft rate, right hand side

TOOLS YOU WILL NEED

- 21mm
- 24mm
- Hammer
- Punch
- Measuring Tape



WARNING

Please read this entire instruction sheet before beginning installation. Proper installation of these components requires a qualified mechanic. Always wear safety glasses when using power tools, and take appropriate precautions when working under a vehicle. If these instructions are not properly followed you may jeopardize your, and your passenger's safety, and severe frame, suspension or tire damage may also result from improper installation.

REQUIREMENTS

- A minimum amount of droop travel is required for proper ride quality and component life.
- Installation requires a qualified mechanic.
- Torsion bar unloading tool is required.

TECHNICAL INFORMATION

- Read instructions carefully and study the pictures before attempting installation.
- Check the parts and hardware packs against the parts list to make sure your kit is complete.
- Work through these instructions on both sides of vehicle at the same time to completion. The order of the steps is important.

INSTALLATION

1. Rack the vehicle and hoist it off the ground lifting by the frame so that the front wheels are in the full droop position. If no hoist is available, then jack the front of the truck off the ground and support the frame properly with jack stands. **NEVER WORK ON AN UNSUPPORTED VEHICLE.**
2. Remove the front wheels.
3. First measure and record the length of the torsion bar adjuster screw and how many threads are visible and record it here: Driver (_____) Passenger (____). This will be used for reassembly. Now remove the torsion bar adjuster screw with a 21mm socket. (See Figure 1).

Figure 1: Measure and Remove Torsion Bar Adjuster Screw



4. Using a torsion bar loading tool, load torsion bar (See Figure 2) and remove adjuster nut (See Figure 3), then unload torsion bar and remove tool. Do this on both sides of the vehicle.

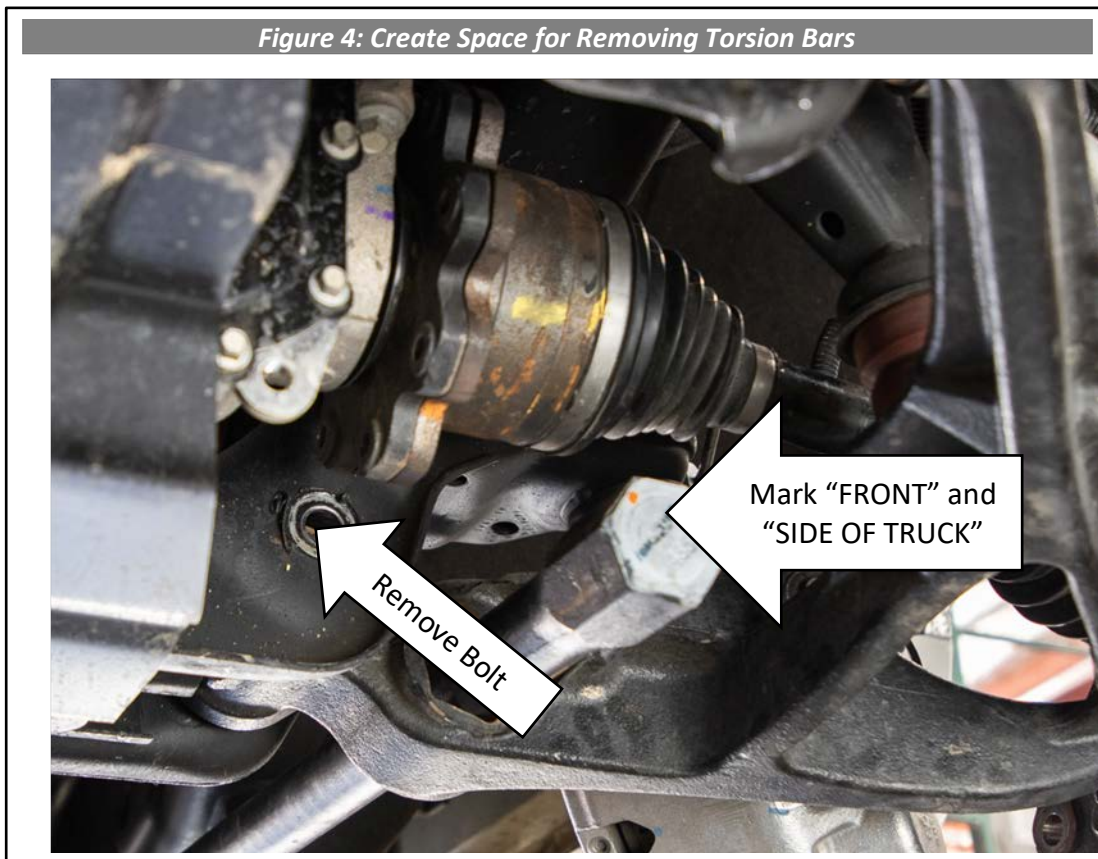
Figure 2: Load Torsion Bar



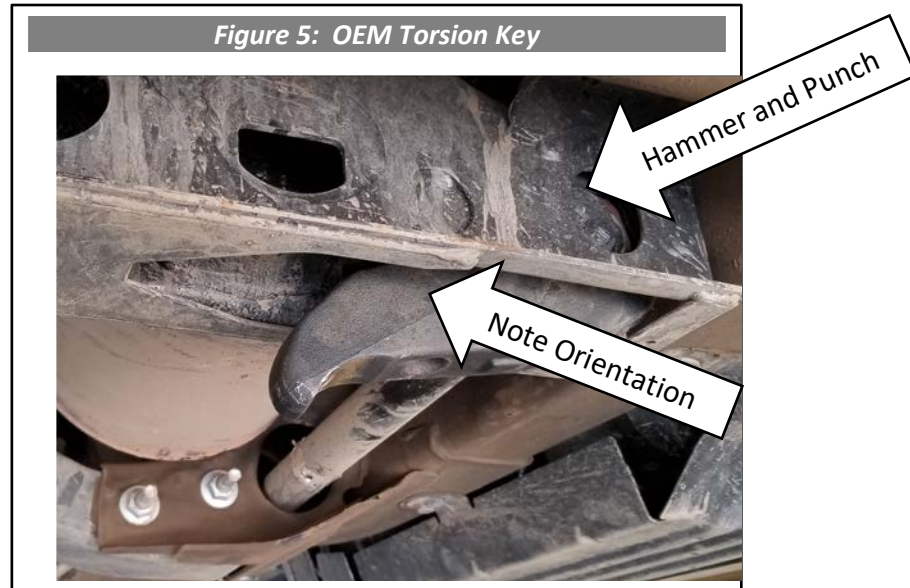
Figure 3: Remove Adjuster Nut



5. Suspension torsion bars hold a lot of energy and both sides of the front suspension are connected through the sway bar. If one torsion bar is loaded, it will affect both sides of the suspension. Unloading them both first is safe practice if other components effected in the front suspension are being worked on or replaced at this time.
6. After both torsion bars are unloaded, remove the rear lower control arm bolt using a 21mm and 24mm wrench and note the orientation for reinstallation. This will allow the arm to drop down slightly in the rear create the necessary room needed to remove the torsion bar without removing the axle (See Figure 4). If your truck is lifted and is equipped with non-torsion bar drop brackets, unbolting the axle flange at the differential might be required.



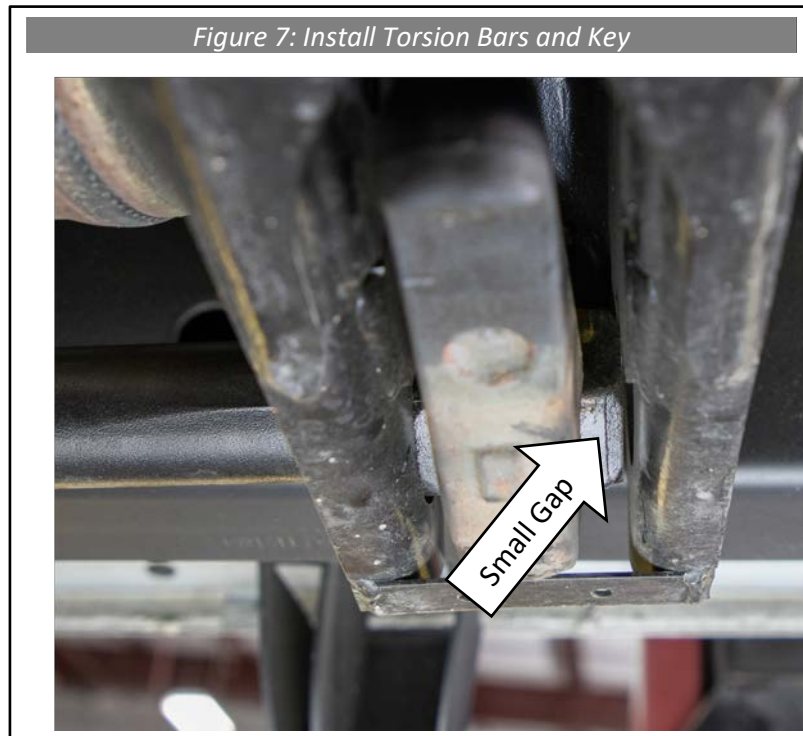
7. Before the OEM torsion bars are removed, mark left or right and the forward direction on both bars (See Figure 4).
8. Remove the torsion bar by first noting the orientation of the OEM key. Next slide the torsion bar forward into the lower control arm. If bar seems lodged, use a punch and hammer to loosen through the hole in the back of the torsion bar crossmember. This will allow the old key to be removed (See Figure 5).



9. After both torsion bars are removed, locate the new soft rate bars Cognito part **6550** and **6551**. The torsion bars are not only side specific, but also direction specific. **6550** is the left (Driver) side and **6551** is the right (Passenger) side.
10. Notice that the new torsion bars have markings on each end. The end that goes towards the front of the vehicle has the letters "L" for Left and "R" for Right stamped into them. There is also an arrow noting the proper loading of the bar stamped on the front face with the "L" and "R". The arrow should be pointing in the counterclockwise direction for the driver side and clockwise direction for the passenger side if you are looking at the front of the truck (See Figure 6).



11. Install the torsion bars the same way the OEM ones were removed. Now install the key in the same position it was removed noted in step 8. Use the hammer and punch to tap the bar in to place until it reaches the end of the torsion key compartment but has a small gap (See Figure 7).



12. After both torsion bars are fully installed, reinstall the lower control arm bolts in the same orientation they were removed and torque to factory spec (133 ft-lb, then an additional 60°).
13. Use the torsion bar loading tool to load the new key. Now you may install the adjuster nut. Remove the loading tool and install the adjuster screw. This is the reverse order of unloading the key in the previous steps (See Figures 1, 2, and 3 for reference).
14. Tighten the adjuster bolt while the truck is still off the ground and leave the same amount of threads exposed as OEM measured in step 3. Turn each one an additional turn. This may need to be adjusted several times in order to achieve the desired ride height.
15. **Do not tighten the adjuster bolt to raise the height of the vehicle while the vehicle is on the ground and the front suspension is holding its own weight.** This will cause the adjuster bolt excess stress and will most likely strip the threads.
16. Before setting the truck back on the ground, while the tires are still at full droop, measure from top of tire to fender well and write the measurement here: Droop Measurement; Left side_____, Right side_____. These should be within 1/4" of one another just FYI.

17. Set the vehicle on the ground and drive the vehicle backward at least 10 feet, and then forward at least 10 feet to allow the suspension to settle into place at ride height. Measure from top of tire to fender well and write the measurement here: Ride Height Measurement; Left side_____, Right side_____. Subtract the measurement from step 16 and write them here: Droop Travel Measurement; Left side_____, Right side_____.
18. The difference should be 3" minimum for proper amount of droop travel to provide good ride quality and longevity of suspension components. On the ground, you may back out the adjuster bolt to lower the vehicle to the desired ride height and to level the vehicle side to side. If you do, repeat step 17 until you reach proper ride height on both sides of vehicle. If the ride height is too low and you have more than 3" of Droop Travel Measurement, then you may lift the truck back up by the frame and turn in the torsion bar adjuster bolts to preload the torsion bars more, then repeat steps above.
19. Do not set the ride height too high for the given application, adverse effects will occur.
20. Set alignment to factory settings and adjust headlight (2-3 turns is about what will be needed).

WARRANTY / RETURN POLICY / SAFETY

Cognito Limited Lifetime Warranty

Cognito Motorsports, Inc. hereinafter “Cognito,” warrants to the original retail purchaser, that its suspension products are free from workmanship and material defects for as long as the purchaser owns the vehicle on which the product(s) were originally installed. This warranty will be void if any modifications are made to the components, including alterations to the surface finish, i.e.; painting, powder coating, plating, and/or welding, or if they are improperly installed. Cognito truck suspension products are not designed nor intended to be installed on “competition” vehicles used in race applications, stunt or for exhibition purposes that are outside of the intended operating conditions specified by the manufacturer. Racing and competition are defined as any contests between two or more vehicles; or vehicles competing individually on off road circuits in timed events (whether or not such contests are for an award or prize).

This warranty does not include coverage for police, taxi, government or commercial vehicles, and the warranty does not cover Cognito products sold outside of the USA. Cognito’s obligations under this warranty are specified and applied at its sole discretion, and warranty coverage is limited to repair or replacement of the defective product(s). Any and all costs of removal, installation or reinstallation; freight charges, incidental or consequential damages associated with the covered products are expressly excluded from this warranty.

The following items are exempt from Cognito limited warranty coverage: bushings, bump stops, tie-rod ends (Heim joints) and limiting straps. These parts are “consumables” and designed to wear as a normal part of their duty cycle, therefore they are not considered defective when worn. The aforementioned products are warranted separately against defects in workmanship, for 60 days from the date of purchase. As a condition of warranty validation, respective Cognito suspension components must be installed as a complete system (not combined with non-Cognito hardware or ancillary parts). Any substitutions or omission of required components will void the warranty. Some minor cosmetic wear and imperfections may occur to parts during shipping, which is not covered under this warranty. This limited warranty does not apply to any components that have been subjected to collision damage, negligence, alteration, abuse, or misuse, and coverage does not extend to products manufactured by third-party companies. Cognito reserves the right to supersede, discontinue, or change the design, finish, part number and/or application of its parts when deemed necessary, without notice.

Return Policy

Product returns will not be accepted without prior written approval from an authorized Cognito representative. All products being returned must be shipped via trackable, prepaid freight. Returned products are subject to a 25% percent restocking fee. The eligible return period for products purchased directly from Cognito is 30 days from the verified date when the product(s) were originally received by the purchaser.

Product Safety Advisory

The installation of Cognito steering and suspension components will modify your vehicle’s original factory equipment and geometry, which may cause it to handle differently than a stock (unaltered) vehicle. Installation of these components is not intended to strengthen nor reinforce the vehicle’s frame, nor are they designed to increase rollover protection. It is necessary to periodically inspect all suspension and drive train components for proper attachment, torque specifications, operation, and for any potential unusual wear or damage. Installation of these parts will modify the height of the vehicle and may raise the center of gravity. Modifying vehicle height combined with off road operation may increase your vehicle’s susceptibility to rollover conditions, which may cause serious injury or death. Many states regulate allowable vehicle height modifications, and it is your responsibility to know and comply with the legal requirements specified by the laws where you reside. Modifications to your vehicle’s ride height may also affect the ride quality, driver input response, trackability and handling, and wear to your vehicle’s suspension components and tires.