Cognito Rear Lift Block and U-Bolt Kit

INSTALL INSTRUCTIONS:

Cognito Rear Lift Block and U-Bolt Kit

PARTS LIST

QUANTITY	PART #	DESCRIPTION
2	Axle Block	Rear lift blocks
4	U-Bolt	Extended length U-bolts w/ washers and nuts

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.

WARNING: GM VEHICLES WITH SUPER CRUISE SYSTEM

If your vehicle came equipped with the Super Cruise, hands free driving system, the vehicle ***should not be modified***. The Super Cruise system relies on many sensors that must be calibrated by the manufacturer to ensure proper function and safety. If the vehicle is modified by changing the height or rake of the vehicle these sensors are no longer calibrated. At that point the system will no longer work properly and safety or function of the system cannot be guaranteed.

WARNING: FORD VEHICLES WITH BLUE CRUISE SYSTEM

If your vehicle came equipped with the Blue Cruise, hand free driving, system, the vehicle ***should not be modified***. The Blue Cruise system relies on many sensors that must be calibrated by the manufacturer to ensure proper function and safety. If the vehicle is modified by changing the height or rake of the vehicle these sensors are no longer calibrated. At that point the system will no longer work properly and safety or function of the system cannot be guaranteed.

REQUIREMENTS

- Exhaust modification may be necessary.
- Drive line modification may be necessary.
- Installation requires a qualified mechanic.
- Follow the OE specifications when replacing or re-installing OE fasteners, retainers, and hardware specified in the OEM manual.
- Always wear safety glasses when using power tools.
- When a lift is required to perform the installation of these products and always ensure the vehicle is properly supported before attempting installation or serious injury may occur.

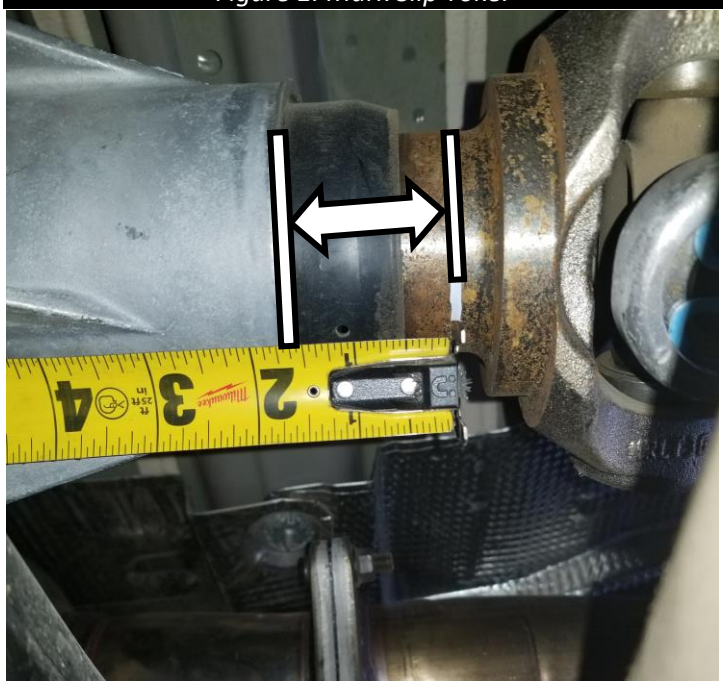
TECH NOTES

- Read instructions carefully and study the pictures (if included) before attempting installation.
- If this product was purchased as part of a kit each kit, and options to kits, are packaged separately. Therefore installation procedures are covered in separate instructions. Familiarize yourself with each specific set of instructions before beginning.
- Check the parts and hardware packages against the parts list to assure that your kit is complete before starting.
- Foot-pound readings are listed on the Torque Specification Chart at the end of the instructions.

INSTALLATION

1. Park vehicle on level ground. Mark the slip yoke on the drive shaft where it comes out of the tail housing and measure how far it is from the tail housing (Figure 1). This mark will be needed later to determine how long to lengthen the drive shaft if needed. Record measurement here: _____.

Figure 1: Mark Slip Yoke.



2. Rack the vehicle and lift it off the ground, or if no hoist is available then jack rear of truck off the ground and support properly with jack stands. Remove the rear tires and set them as side.
   - ***<u>NEVER WORK ON AN UNSUPPORTED VEHICLE.</u>***

3. If using OEM brake lines, check to make sure they will not be overextended when the suspension reaches full droop. Modifications to the OEM brake line brackets might be necessary. If aftermarket extended brake lines were purchased, install them now. Make sure to bleed the brakes, purging any air from the system and checking for leaks.
   - **NOTE:**
     If brake line length is needed, remove any clamps or brackets holding the OEM brake lines in place.

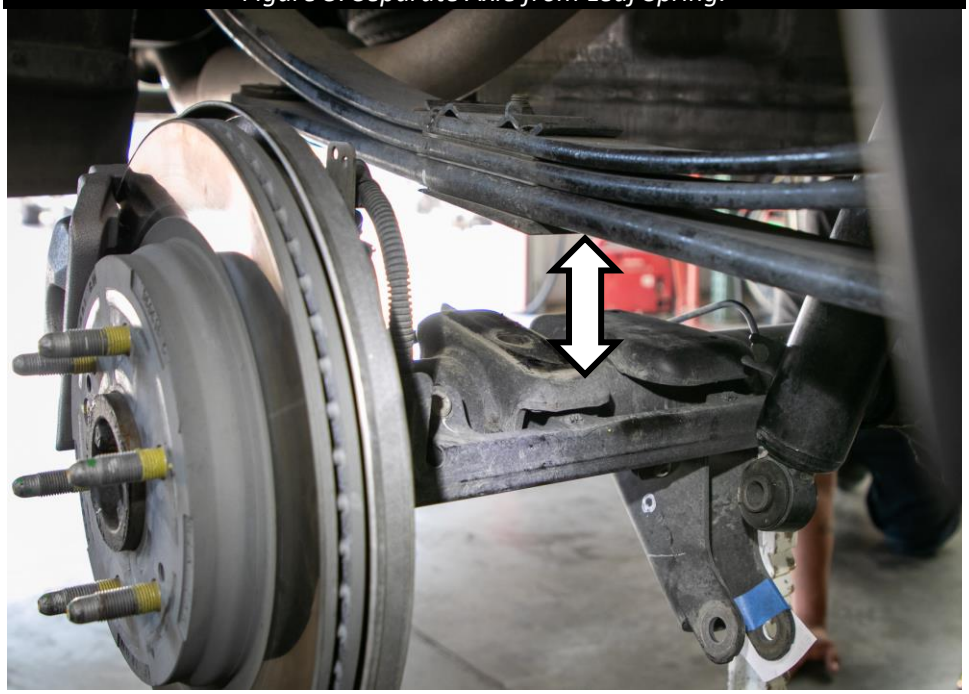
4. Remove the lower shock mount bolts holding the shocks to the axle on both sides of the vehicle.

5. Support one side of the rear axle and remove the U-bolt nuts from that side of the vehicle. Remove the factory U-bolts and discard them with the nuts (Figure 2).

Figure 2: Remove Factory U-bolts.

6. Lower the support under the axle until there is enough room to install the lift block (Figure 3).

Figure 3: Separate Axle from Leaf Spring.

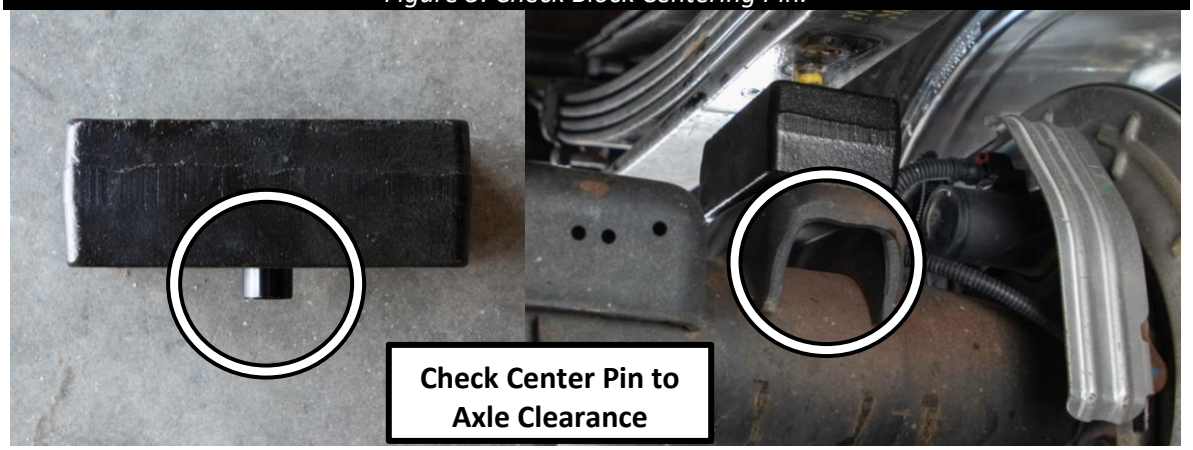


7. New U-bolts may be larger in diameter than the factory ones depending on the vehicle. Make sure the new U-bolts fit through the U-bolt plate. Drill the 4 holes in the U-bolt plate out to the proper size if needed (Figure 4)
   - **NOTE:**
     Always use safety glasses when using power tools.

Figure 4: Check U-Bolt Clearance & Drill if Necessary.

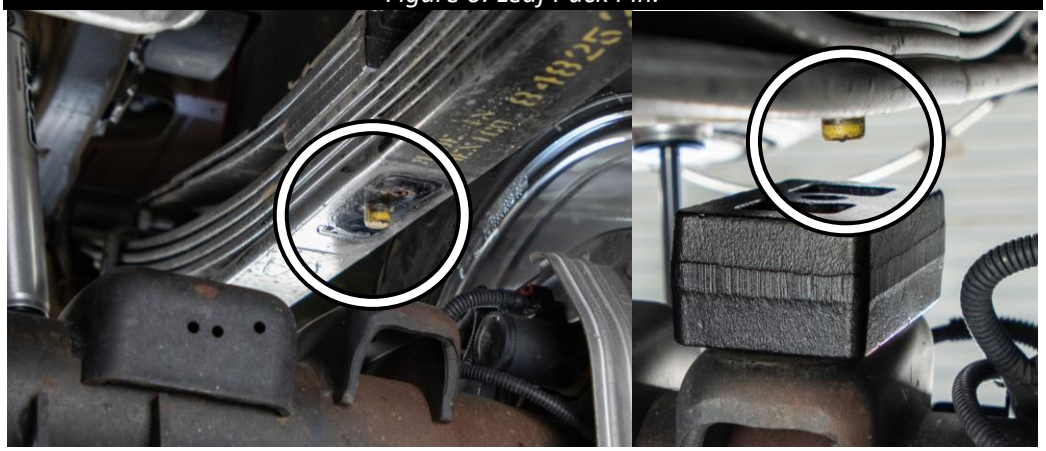
8. The centering pin on the block should fit snugly into the hole on the spring perch which is welded to the rear axle housing. Be sure that the pin is not too long and touching the axle housing tube. If necessary, trim the length of the pin to prevent this (Figure 5).

Figure 5: Check Block Centering Pin.



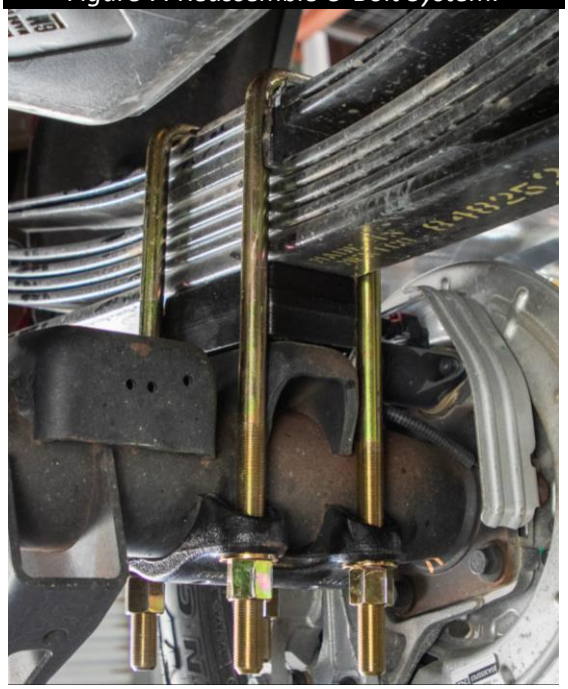
9. If the block is tapered, the tall end needs to be towards the rear of the vehicle. This will pitch the pinion angle up toward the transmission. If the block is straight, the hole on the top of the block may be offset from the centering pin on the bottom. If this is the case, orient the block so that the pin is offset forward of the pin in the leaf pack. The centering pin on the leaf pack should fit snugly into the hole in the top of the block (Figure 6).

Figure 6: Leaf Pack Pin.



10. Use the extended length U-bolts and re-assemble the U-bolt system with the U-bolt plate on top of the spring pack and the U-bolt lower plate under the rear axle just as they were before disassembly. Apply anti-seize to the threads of the U-bolts before installing the nuts (Figure 7).

Figure 7: Reassemble U-Bolt System.

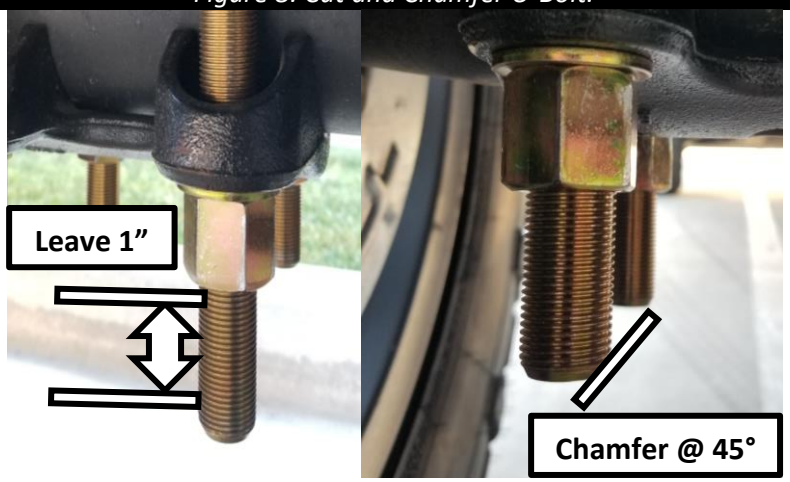


11. Repeat the steps above for the opposite side of the vehicle.

12. Some kits may have U-bolts that are long and will extend too far past the nut after installation and will need to be trimmed to get a socket on them to torque or to maintain max ground clearance. If this is the case, cut the bottom of the U-bolt leaving approximately **1”** of threads extending past the nut (Figure 8). Make sure the nut is threaded on past the cut line if the bolt is removed from the install position to cut it. This will help straighten out the threads on the cut edge and make reinstalling the nut easier. Use a grinder/sander to add a **45°** chamfer to the cut edge before removing the nut (Figure 8).

- **NOTE:**
  Always use safety glasses when cutting or grinding.

Figure 8: Cut and Chamfer U-Bolt.



13. Torque the U-bolt nuts to the specified torque spec in the chart at the end of these instructions (Table 1). Be sure to tighten the nuts evenly and in a star pattern on all the U-bolts so that the amount of thread protruding is about the same.

14. Install rear shocks, torque OEM hardware to OEM specs.

15. Ensure that all bolts are properly torqued. Ensure there are no rubbing or loose cables anywhere after the Cognito lift block installation. Use cable ties to restrain any cables from interfering with any other parts. Check that all lines are free of stress or interference while the vehicle is in full droop and full bump.

16. If the lift block is tapered, add **1** extra quart of gear oil to properly oil the pinion gear.

17. Re-install rear wheels and set the vehicle back on the ground.

18. Retake the measurement from step **1** and record it here: _____. Subtract the first measurement from this one. If the difference is more than **1.5”**, it will be required to have the driveline lengthened by that amount.

TORQUE SPECIFICATION

Table 1

Bolt Size	Torque (ft-lb)
9/16”	90
5/8”	120
3/4"	150

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 warrantied 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.

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