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INSTALL INSTRUCTIONS:
Cognito Pitman and Idler Arm Support Kit for 2011-2021 GM 2500HD/3500HD 2WD/4WD Trucks
SKU: 110-90772

PARTS LIST FOR SKU: 110-90772

QTY.	PART #	DESCRIPTION
1	8672	Forged Idler Arm Support Bracket 2020 GM 8-Lug
1	8673	Forged Pitman Arm Support Bracket 2020 GM 8-Lug

HP9290 – HARDWARE PACK

QTY.	PART #	DESCRIPTION
1	5481	Idler Arm Steering Nut Coarse, Short
1	5670	Idler Arm Steering Nut Fine, Short
2	RODEND-CM14T-5/8-18	Rod End CM14T-5/8-18 With F-1 Fit
1	6680	Spacer, 2020+ GM Pitman Arm Support
1	6681	Pitman Arm Steering Nut Fine, Long
1	6682	Pitman Arm Steering Nut Coarse, Long
1	HP9115-1	Hardware Pack Sub Assembly

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.

INTRODUCTION

The Cognito Pitman Idler Arm Support Kit prevents unwanted movement of the steering center link, providing a more stable and accurate steering response. This kit is for stock and lifted applications that use factory steering center link in the factory location. Aftermarket steering stabilizers may interfere with this system.

REQUIREMENTS

- Installation requires a qualified mechanic
- Read instructions carefully and study the pictures before attempting installation.
- Retain the removed hardware for reuse.
- 46mm box end wrench, 24mm open end wrench, qty. 2 of $^{15}/_{16}$" box end wrench, 15mm socket, 21mm deep socket, 21mm end wrench, $^{7}/_{8}$" socket or box end wrench.
- **If you have a 2011-2018 with steering stabilizer installed, it is not needed with this support kit and it interferes so it must be removed, or if you must run both the stabilizer and the support kit, you must add Cognito part # 510-90935, call Cognito and it will be shipped to you free of charge with proof of purchase of the support kit.**

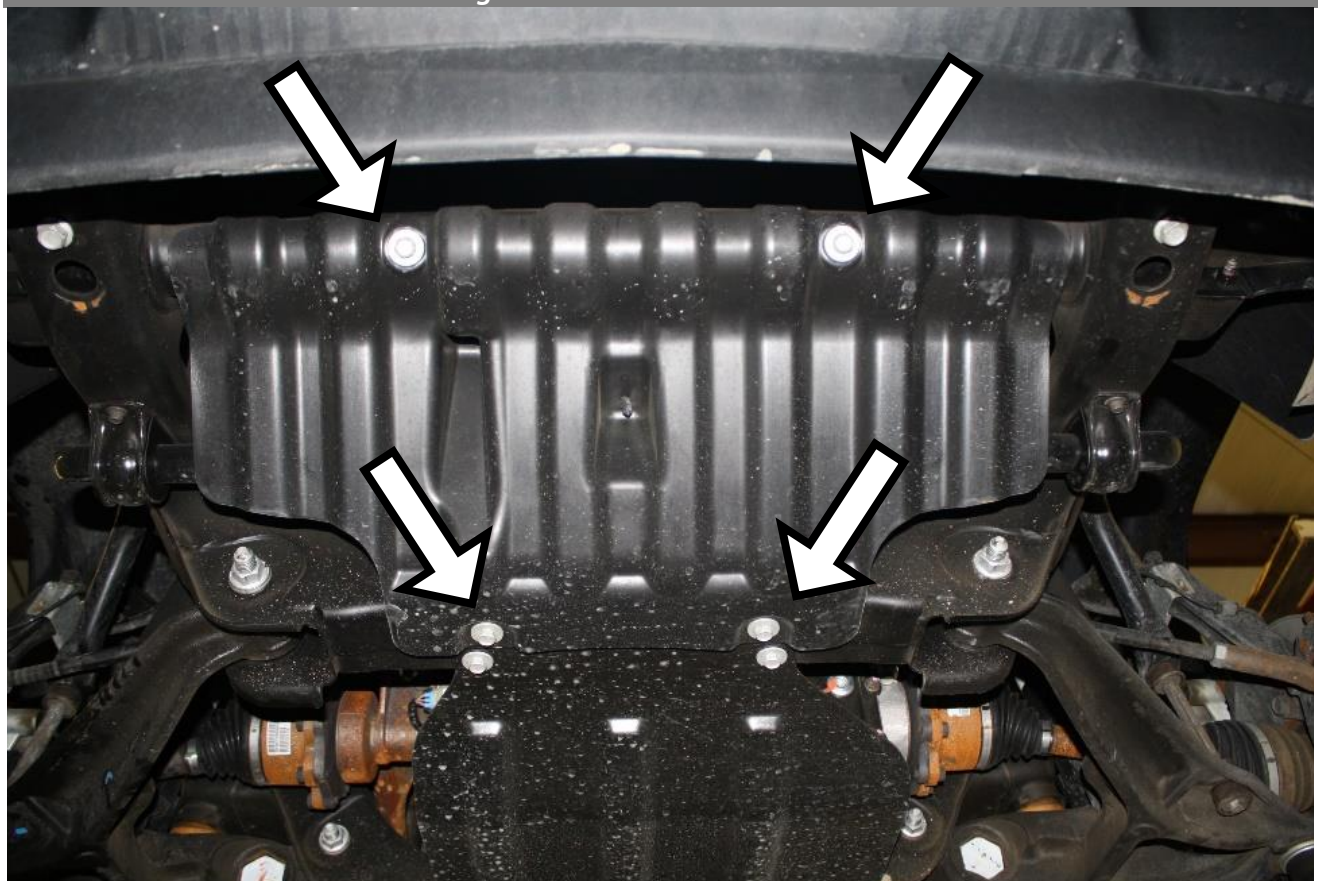
TECHHNICAL INFORMATION

- Check the parts and hardware packages against the parts list to assure that your kit is complete before starting
- Familiarize yourself with instructions before beginning.
- It is necessary to raise the vehicle to perform installation of these products. A hoist or installation bay is recommended. Always ensure the truck is properly supported before attempting installation as serious injury could occur.

INSTALLATION

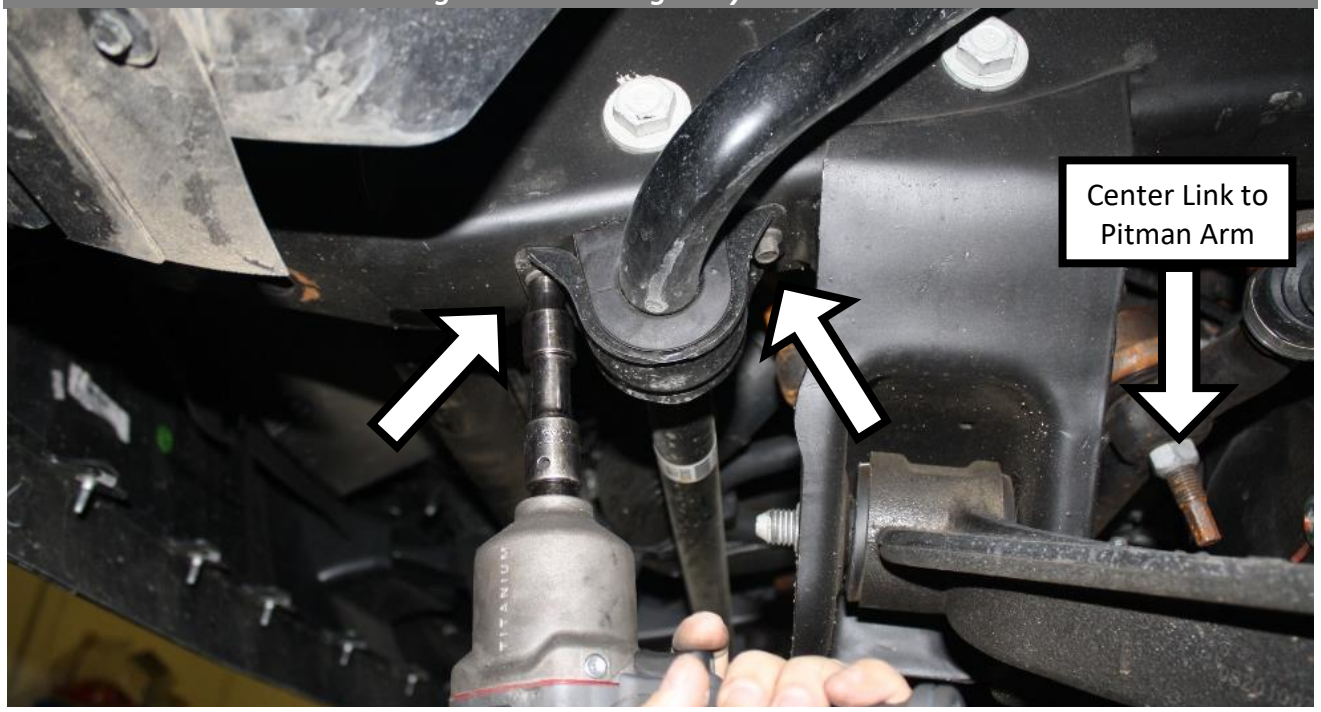
1. If there is an existing skid plate and shroud at the front cross member of the vehicle, underneath the front of the engine, they should be removed with a 15mm socket to access the pitman and idler arms and set aside for re-installation later.

Figure 1: Skid Plate and Shroud



2. Unbolt the sway bar mounting clamps from the frame with 10mm socket and let the sway bar hang from the end links. See Figure 2.

Figure 2: Unbolting Sway Bar Mounts



3. Unscrew the factory lock nuts that hold the center link to the pitman and idler arms, using a 21mm deep socket, and discard them. See Figure 2.

4. Unscrew the large nut holding the pitman arm to the steering box using a 46mm boxed end wrench. Remove it and the large lock washer. See Figure 3.

Figure 3: Unbolting Idler Arm Bracket [left], Pitman Arm Bracket [Right]

5. Support the steering box with a jack, then remove the 3 bolts holding the steering box to the frame using a 21mm socket. The steering box can then be jacked up to give more room to work above the crossmember. See Figures 4 and 5.

Figure 4: Support the Steering Box with a Jack

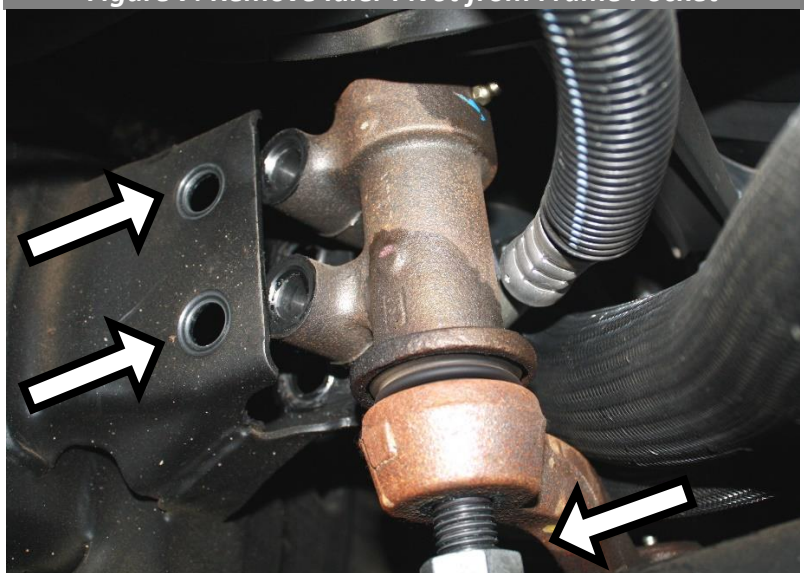
Figure 5: Removing Bolts Holding Steering Box to Frame

6. **(Optional)** To aid in moving the idler arm and pivot, the passenger side tie rod can be removed from the spindle. To do this, remove the nut holding the outer tie rod end to the spindle, then, while prying the tie rod end away from the spindle, hit the spindle with a hammer as shown in the figure below.

Figure 6: (OPTIONAL) Remove Tie Rod from Passenger Spindle

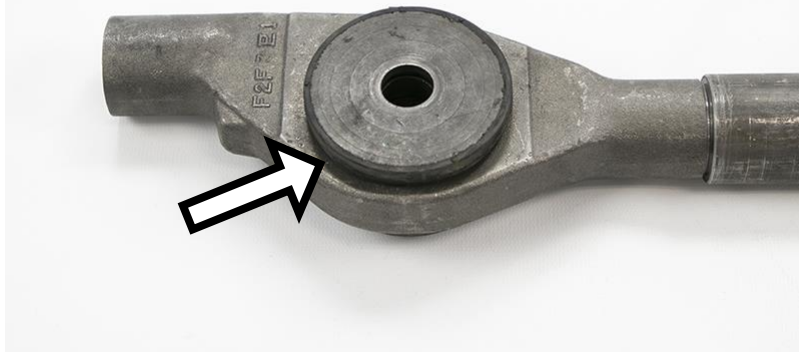
7. Loosen the nut holding the idler arm to the idler arm pivot with a 30mm wrench. Then unbolt the idler pivot from the frame using a 21mm socket and pry it out of the mounting pocket. See Figure 7.

Figure 7: Remove Idler Pivot from Frame Pocket



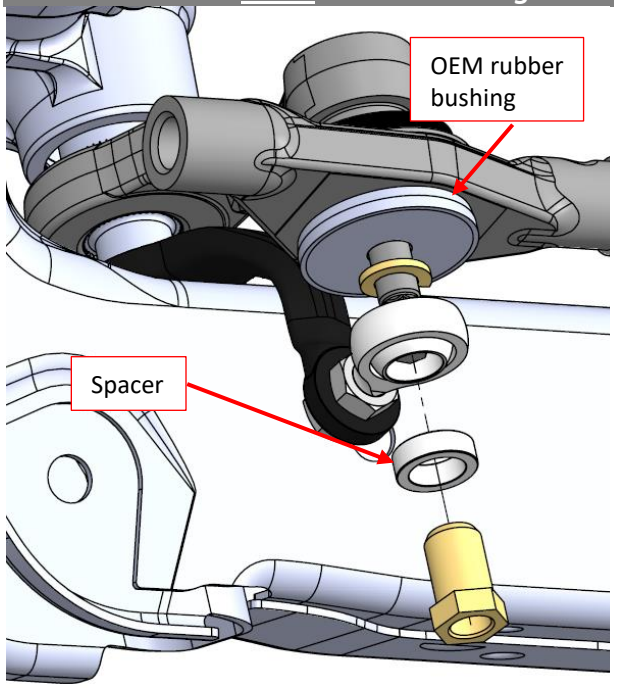
Note: There are two different center link designs used by GM, one with the rubber isolator bushing on the pitman arm connection shown below, and one without. The idler arm connection is the same on both center link designs.

Center Link with Rubber Bushing

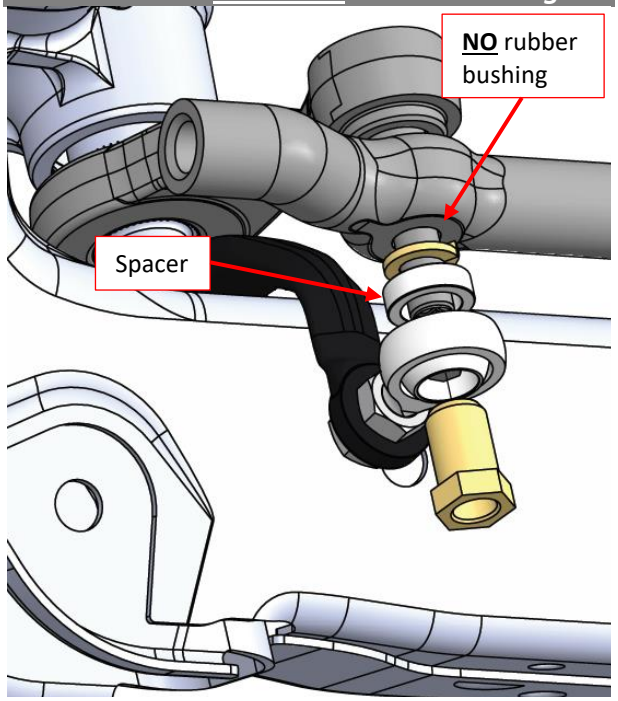


The images below outline the correct order for Pitman Arm support bracket hardware installation for each style of center link.

Center Link <u>WITH</u> Rubber Bushing



Center Link <u>WITHOUT</u> Rubber Bushing

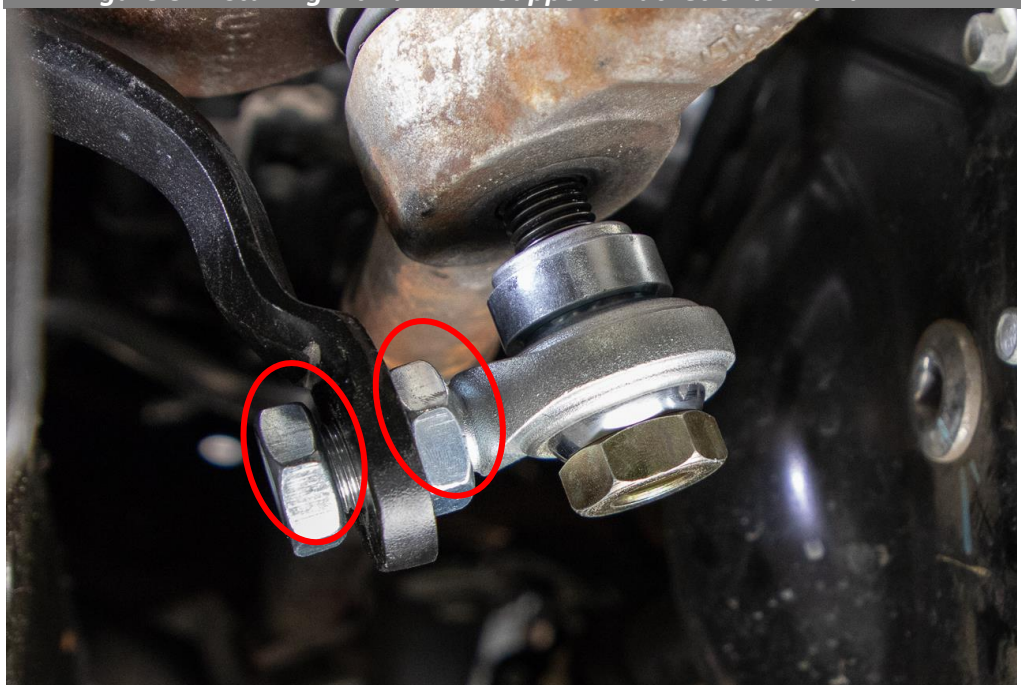


Note: There are two colors of shank nuts included with this kit, Gold and Silver, which have different thread pitches. OEM pitman & idler arms are course thread (Gold Nuts). Aftermarket pitman & idler arms are typically fine thread (Silver nuts). If you are unsure which pitman & idler arms you have, test fit each nut to determine which shank nut is required for your installation.

Pitman and Idler Brackets

8. **Preform these steps quickly, as the nut must be tightened before the thread locker dries (Approximately 15 min).** Apply a small amount of red thread locker (included) onto the threads of the rod end, then thread one jam nut all the way onto the rod end. Install the rod end into the pitman arm bracket and loosely install the second jam nut on the other side of the bracket. See Figure 8.

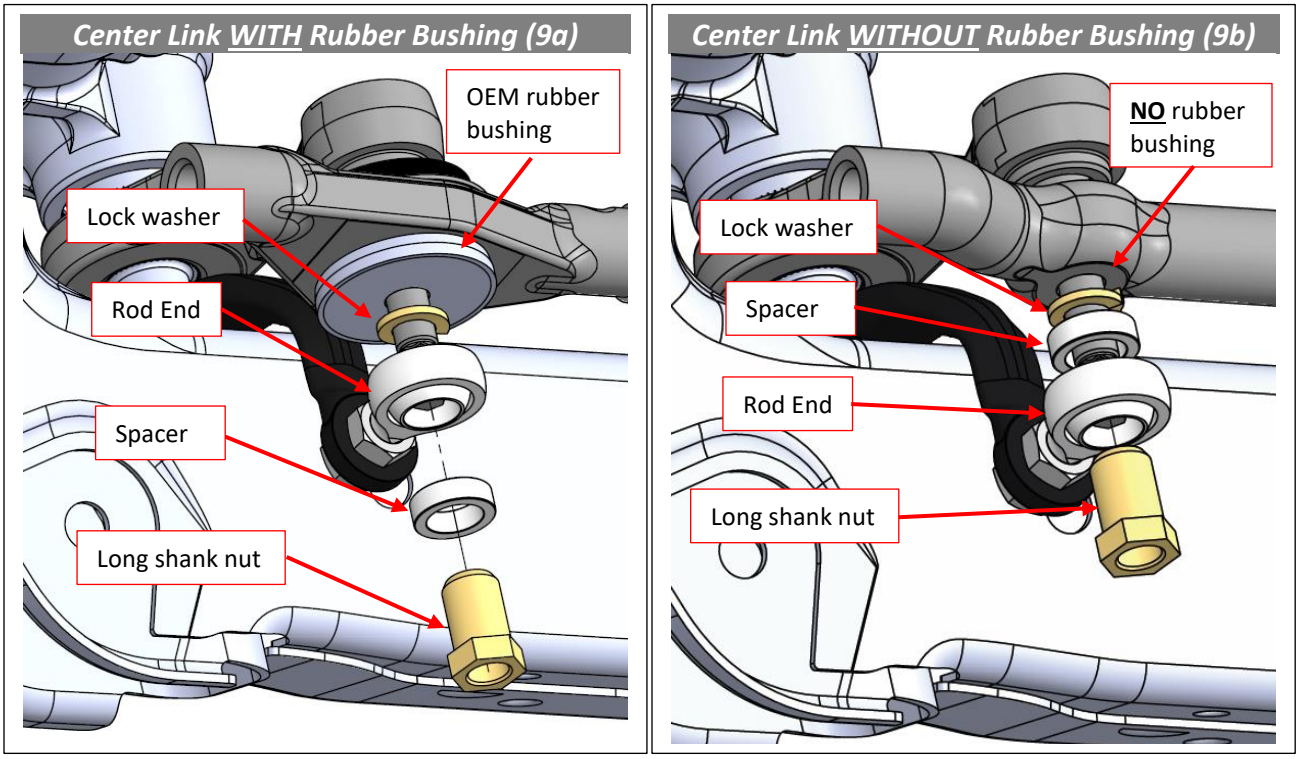
Figure 8: Installing Pitman Arm Support Bracket onto Pitman Arm



9. **After identifying which center link you have, follow step 9a or 9b for pitman arm support bracket installation.**

   a. **Center link <u>with</u> rubber bushing (figure 9a):** Apply red thread locker to the inside of the long shank nut, then place the lock washer onto the pitman arm stud. Install the pitman arm bracket and rod end, aligning both ends onto their studs, followed by the supplied spacer and long shank nut. It may be necessary to swivel the ball of the rod end slightly to align both ends. Tighten gold shank nuts to 80 Ft.-lbs. Tighten silver shank nuts to 85 Ft.-lbs. Tighten the rod end jam nuts to 90 Ft.-lbs., or as tight as possible using a box end wrench on the outer jam nut.

   b. **Center link <u>without</u> rubber bushing (figure 9b):** Apply red thread locker to the inside of the long shank nut, then place the lock washer followed by the supplied spacer onto the pitman arm stud. Install the pitman arm bracket and rod end, aligning both ends onto their studs, followed by the long shank nut. It may be necessary to swivel the ball of the rod end slightly to align both ends. Tighten gold shank nuts to 80 Ft.-lbs. Tighten silver shank nuts to 85 Ft.-lbs. Tighten the rod end jam nuts to 90 Ft.-lbs., or as tight as possible using a box end wrench on the outer jam nut.



10. **Idler arm support bracket installation:**
    Preform these steps quickly, as the nut must be tightened before the thread locker dries (Approximately 15 min). Apply a small amount of red thread locker (included) onto the threads of the rod end, then thread one jam nut all the way onto the rod end. Install the rod end into the pitman arm bracket and loosely install the second jam nut on the other side of the bracket. See figure 8 above for reference.

11. Apply red thread locker to the inside of the short shank nut, then place the lock washer onto the idler arm stud. Install the idler arm bracket and rod end, aligning both ends onto their studs, followed by the short shank nut. It may be necessary to swivel the ball of the rod end slightly to align both ends. Tighten gold shank nuts to 80 Ft.-lbs. Tighten silver shank nuts to 85 Ft.-lbs. Tighten the rod end jam nuts to 90 Ft.-lbs., or as tight as possible using a box end wrench on the outer jam nut.

Figure 10: Idler Arm Bracket Installed

12. Reinstall the idler pivot into its frame mounting pocket and reinstall the two bolts, tightening to 122 Ft.-lbs. Then tighten the idler pivot nut to 200 Ft.-lbs.

Figure 11: Idler Pivot Reinstalled into Frame

13. Reinstall the three bolts which hold the steering box to the frame, tightening the bolts to 203 Ft.-lbs.

14. Tighten the pitman arm to steering box nut to 273 Ft.-lbs. As there is no access for a torque wrench, use a long 46mm box-end wrench and tighten these nuts as much as possible.

Figure 12: Steering Box Nut and Lock-Washer Reinstalled

15. If the passenger tie rod was removed, reattach it to the spindle and torque the nut to 26 Ft.-lbs. then tighten an additional 90 degrees.

16. Reinstall the sway bar mounts and tighten to 36 Ft.-lbs.

17. If using a factory or aftermarket steering stabilizer, be sure to cycle the steering before driving to ensure clearance at the steering stabilizer shock area.

18. Reinstall the skid plate and fan shroud, tightening fasteners to 40 Ft.-lbs.

Note: A toe setting alignment may 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 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.