INSTALL INSTRUCTIONS:

Cognito Pitman and Idler Arm Support Kit for 2011-2025 GM 2500HD/3500HD 2WD/4WD Trucks
SKU: 110-90772



This Cognito product is protected by Utility Patent # US 7,475,891 B2 - *All Rights Reserved*

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.

PARTS LIST FOR SKU: 110-90772		
QTY	PART #	DESCRIPTION
1	8672	Forged Idler Arm Support Bracket
1	8673	Forged Pitman Arm Support Bracket
2	RODEND-FRGD-CM14T-5/8-18	Rod End, Forged CM14T-5/8-18 With F-1 Fit
1	HP9328	Hardware Pack

PARTS LIST FOR SKU: HP9328		
QTY	PART #	DESCRIPTION
1	5481	Idler Arm Shank Nut Coarse, Gold, Short
1	5670	Idler Arm Shank Nut Fine, Silver, Short
1	6680	Spacer, GM Pitman Arm Support
1	6681	Pitman Arm Steering Nut Fine, Silver, Long
1	6682	Pitman Arm Steering Nut Coarse, Gold, Long
2	-	5/8 –18 Jam Nut
2	-	M16 Split Washer

INTRODUCTION

The Cognito Pitman Idler Arm Support Kit prevents unwanted movement of the steering center link, providing a more consistent and accurate steering response. This kit is for stock and lifted applications that use factory steering center link in the factory location. Steering stabilizers may interfere with this system, consult Cognito if a steering stabilizer is desired to be used.

REQUIREMENTS

- 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.
- Retain the removed hardware for reuse.
- Use of a medium/high strength non-permanent thread locking compound is required (not included) on the pitman arm support shank nut, such as Loctite

REQUIREMENTS (CONTINUED)

- **If you have a 2011-2016 with steering stabilizer installed in the factory mounts, it is not needed with this support kit. The steering stabilizer interferes with this support kit and may be removed. If you wish to run both the steering stabilizer and this support kit, Cognito part number 510-90935 must be obtained from Cognito. Contact Cognito to have this part shipped. Shipping charges may apply.**

TECH NOTES

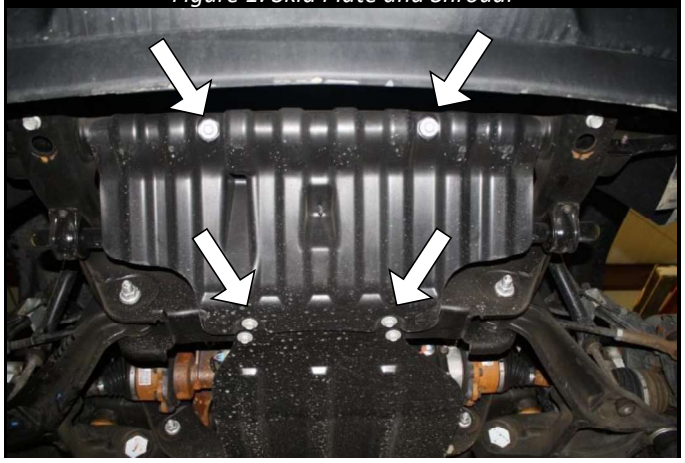
- Read instructions carefully and study the pictures (if included) before attempting installation.
- Check the parts and hardware packages against the parts list to assure that your kit is complete before starting.
- Tools: 46mm wrench, 30mm wrench, 21mm deep socket, 21mm wrench, 15mm socket, 10mm socket, qty 2 of $^{15}/_{16}$" box end wrenches, 1" socket.

INSTALLATION

1. Set the front wheels straight. Using a chassis hoist or a suitable jack, raise the front of the vehicle. ***Never work under an unsupported vehicle!***

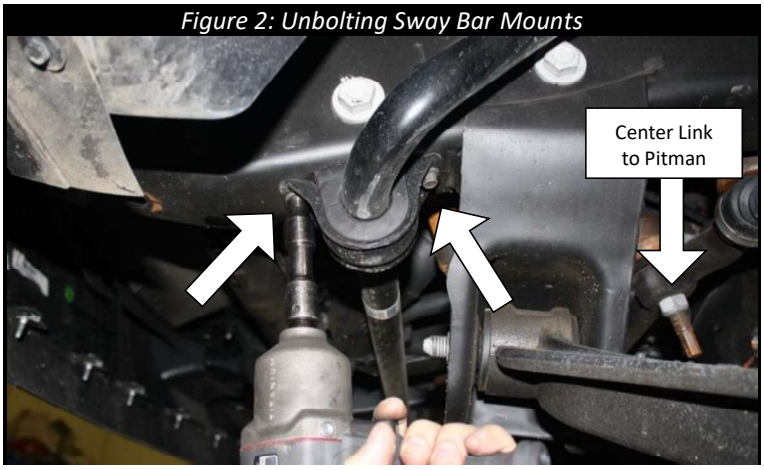
2. Remove the splash guard at the front cross member of the vehicle, underneath the front of the engine, typically there are four bolts to be removed with a 15mm socket to access the pitman and idler arms. Set aside for re-installation later.

Figure 1: Skid Plate and Shroud.



3. Unbolt the sway bar mounting clamps from the frame with a 10mm socket and let the sway bar hang from the end links. These will be reinstalled later. See Figure 2.

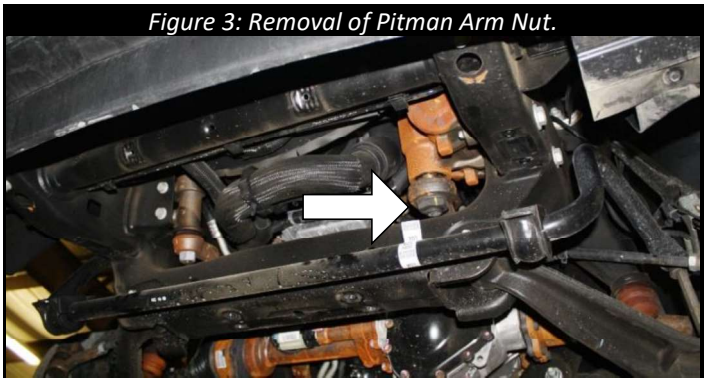
Figure 2: Unbolting Sway Bar Mounts



4. Remove 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.

5. Loosen the large nut holding the pitman arm to the steering box using a 46mm open end wrench. There will not be enough room to remove the nut at this step. See Figure 3.

Figure 3: Removal of Pitman Arm Nut.

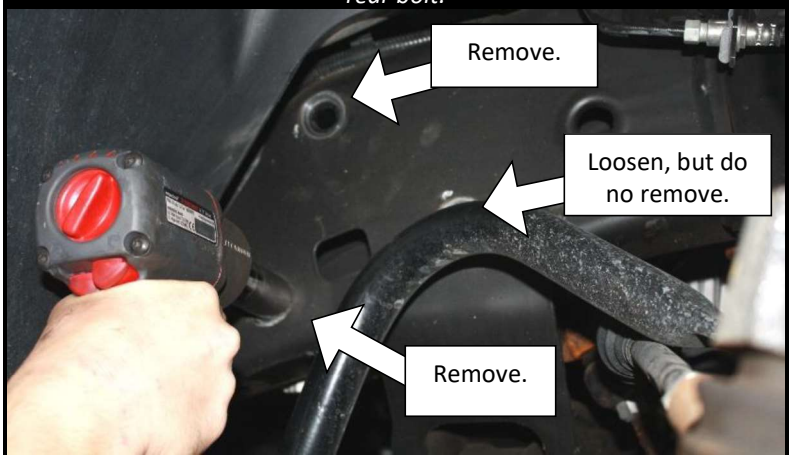


6. Support the steering box with a jack, then remove the 2 forward bolts holding the steering box to the frame using a 21mm socket. Loosen, but do not fully remove, the rear bolt. This allows the steering box to rotate about the rear bolt, and will aid in reassembly. The front of the steering box can then be jacked up to give more room to work above the crossmember. There is now enough room to remove the large hex nut and lock washer. See Figures 4 and 5.

Figure 4: Support the Steering Box with a Jack

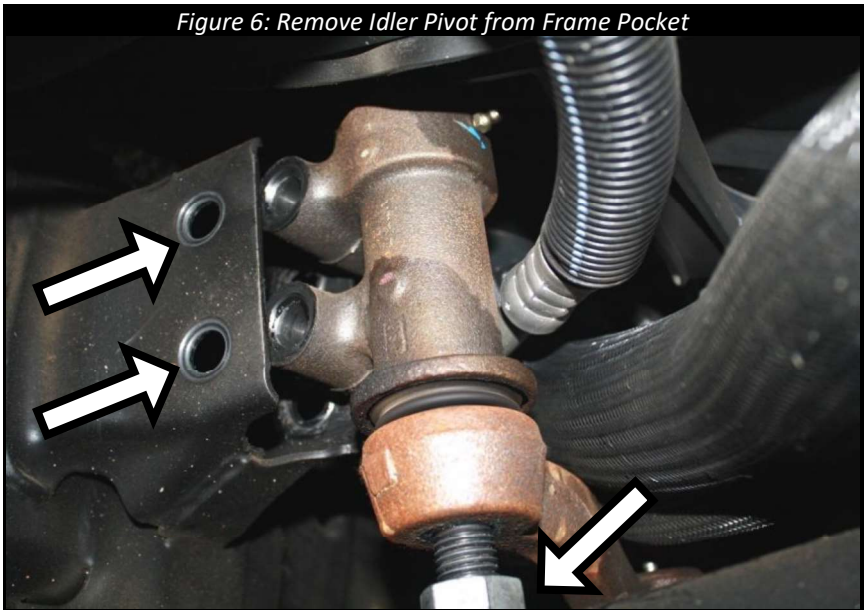


Figure 5: Remove 2 front bolts holding steering box to frame. Loosen rear bolt.



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. This is to allow access to remove the nut and install the support bracket.

Figure 6: 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.

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.

Figure 7: Center Link with Rubber Bushing



Figure 8: Pitman and Idler Brackets



8. Install one rod end onto the pitman arm support bracket **8673** using a jam nut as shown in Figure 9a/9b. Place red thread locker on the threads of the jam nut before installing. Do not fully tighten nut at this time. **Be mindful of the set time for the thread-locking compound. Steps 8 and 9 must be done in quick succession if using a fast-setting compound.**

9. **After identifying which center link you have, follow the steps in 9a or 9b for pitman arm support bracket installation. <u>The use of a medium/high strength non-permanent thread-locking compound is required (not included, such as Loctite 290).</u> Be mindful of the set time for the thread-locking compound. The following steps must be done in quick succession if using a fast-setting compound.**

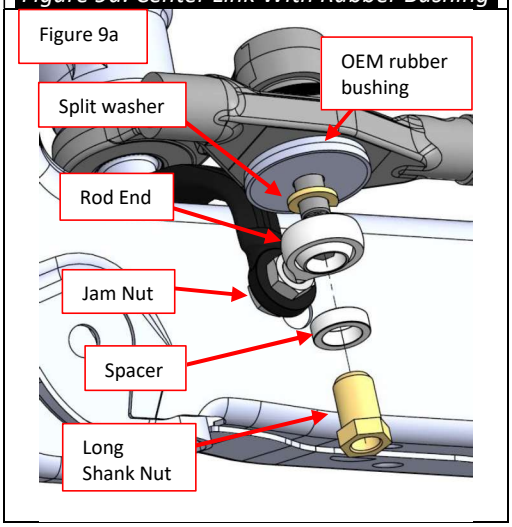
a. Center link <u>with</u> rubber bushing (Figure 9a):

i. Apply thread locker to the inside of the long shank nut, then place the split washer onto the pitman arm stud.

ii. 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.

iii. Tighten shank nuts to 120 Ft.-lbs. Tighten the rod end jam nut to 90 Ft.-lbs., or as tight as possible using a box end wrench, keeping the rod end clocked appropriately.

Figure 9a: Center Link With Rubber Bushing



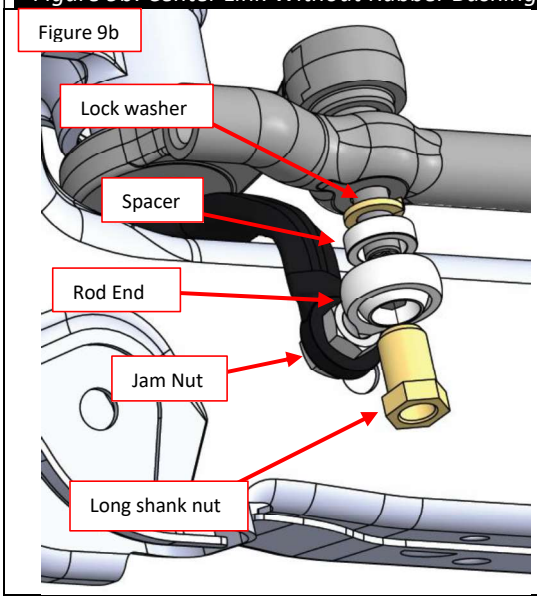
b. Center link <u>without</u> rubber bushing (Figure 9b):

i. Apply thread locker to the inside of the long shank nut, then place the split washer followed by the supplied spacer onto the pitman arm stud.

ii. 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.

iii. Tighten shank nuts to 120 Ft.-lbs. Tighten the rod end jam nut to 90 Ft.-lbs., or as tight as possible using a box end wrench, keeping the rod end clocked appropriately.

Figure 9b: Center Link Without Rubber Bushing

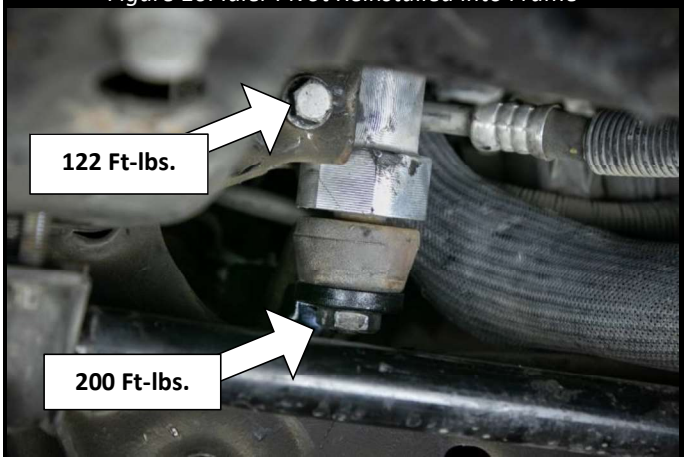


10. Install one rod end onto the Idler Arm Support Bracket **8672** using a jam nut in the same fashion as on the Pitman Arm Support Bracket. Place thread locker on the threads of the jam nut before installing. Do not fully tighten nut at this time. **Be mindful of the set time for the thread-locking compound. The steps 10 and 11 must be done in quick succession if using a fast-setting compound.**

11. Install the Idler Arm Support Bracket with rod end, split washer, and shank nut onto the idler. Tighten shank nuts to 120 Ft.-lbs. Tighten the rod end jam nut to 90 Ft.-lbs., or as tight as possible using a box end wrench, keeping the rod end clocked appropriately.

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. As there is no access for a torque wrench, use a long box-end wrench and tighten this nut as much as possible and use best mechanic's judgement to get as close as possible to 200 ft-lbs.

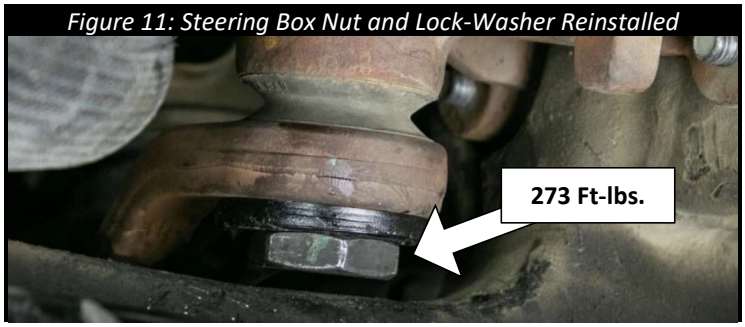
Figure 10: Idler Pivot Reinstalled into Frame



13. Reinstall the two bolts which hold the steering box to the frame, tightening all three 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 wrench and tighten these nuts as much as possible and use best mechanic's judgement to get as close as possible to 273 ft-lbs.

Figure 11: Steering Box Nut and Lock-Washer Reinstalled



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

16. If using a steering stabilizer, be sure to cycle the steering before driving to ensure clearance at the steering stabilizer shock area. Although Cognito recommends not using a stabilizer because this support kit takes care of the need for one, it is realized that some people may still want to use a steering stabilizer. Cognito does offer provisions to relocate or add a stabilizer.

17. Reinstall the splash guard, tightening fasteners to 40 Ft.-lbs.

Note: A toe setting alignment may be needed, as without this steering support kit, the toe alignment typically cannot be held.

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.