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INSTALL SUMMARY SHEET:

**Cognito Heim Joint Tie Rod Kit
for 1999-2006 GM 1500 4WD
Trucks and 2WD/4WD SUVs**

SKU: 110-90282



PARTS LIST FOR SKU: 110-90282

QUANTITY	PART #	DESCRIPTION
2	5295	ADJUSTER TUBE 9"
2	8063	STEERING ADAPTER
1	HP9116	HARDWARE PACK HEIM JOINT TIE ROD KIT
2	HP9236	HARDWARE PACK PIN KIT

PARTS LIST FOR SKU: HP9116

QUANTITY	PART #	DESCRIPTION
2	HARDWARE-33618	1/4" LOCK WASHER
6	HARDWARE-33078	1/4" FLAT WASHER
4	HARDWARE-33090	5/8" FLAT WASHER
2	HARDWARE-37272	5/8"-11 LOCK NUT
2	HARDWARE-40388	18-MM LOCK WASHER
2	HARDWARE-36266	3/4"-16 JAM NUT
2	HARDWARE-18752	1/4"-28 x 5/8" BOLT
2	5520	18-MM – 1.5 x 22-MM BOLT
2	HARDWARE-15316	5/8"-11 x 3-1/4" BOLT
2	JAM-NUT-SJNL12	3/4" LEFT HAND THREAD JAM NUT
2	RODEND-JMX12T	JMX12R ROD END
2	RODEND-RSML10T	RSML10T ROD END
4	5001	1.00 x .180 x .480 CRUSH SLEEVE

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. Failure to properly follow these instructions can also lead to severe frame, suspension, tire, or other vehicle component damage.

PARTS LIST FOR SKU: HP9236

QUANTITY	PART #	DESCRIPTION
1	5488	ROD END SPHERICAL WASHER
1	5563	TIE ROD STUD
1	HARDWARE-0161339	3/8"-24 x 0.75 12-POINT SCREW
1	HARDWARE-33622	3/8" LOCK WASHER
1	HARDWARE-33086	1/2" FLAT WASHER
1	HARDWARE-NYLOCK-1/2-20	1/2-20 LOCK WASHER

REQUIREMENTS

- 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

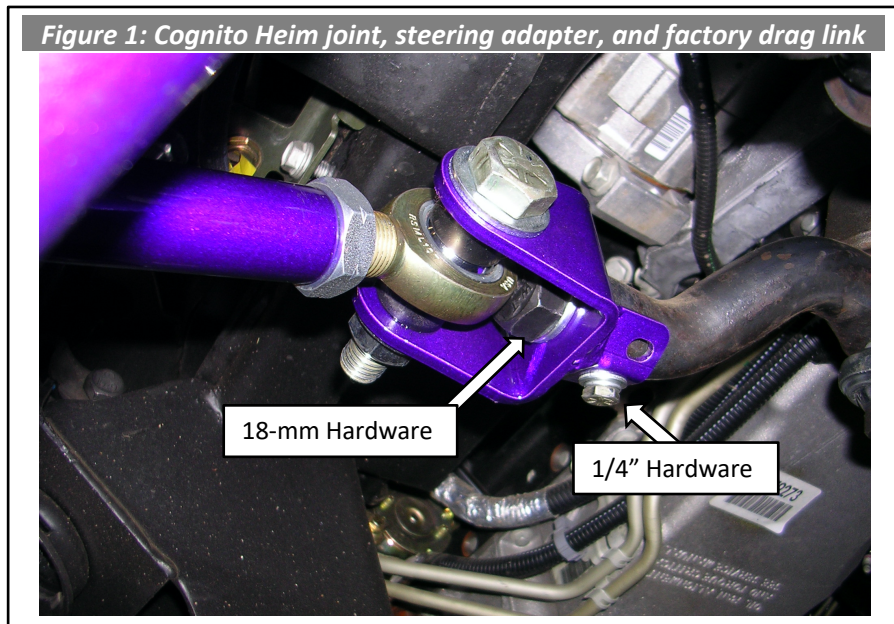
- Read instructions carefully and study the pictures before attempting installation.
- Check the parts and hardware packages against the parts list to assure that your kit is complete.
- Work through these instructions on both sides of vehicle at the same time to completion. The order of the steps is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

TOOLS YOU WILL NEED

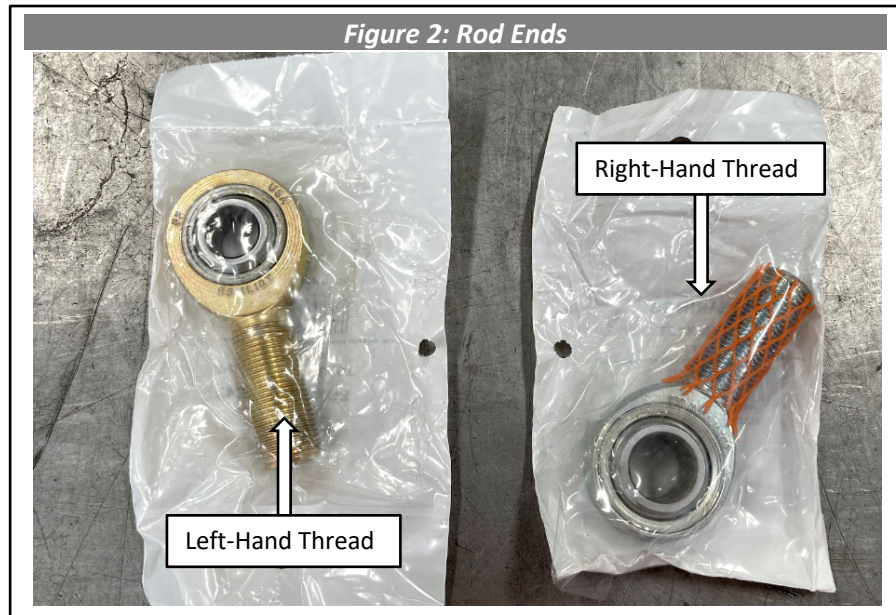
- Impact Driver
- Ratchet
- Ratchet Socket Extensions
- Torque Wrench (ft-lbs.)
- Hammer
- Sockets/Wrenches:
 - 3/8" (12-point)
 - 7/16"
 - 3/4"
 - 15/16"
 - 1 1/8"
 - 27-mm

INSTALLATION

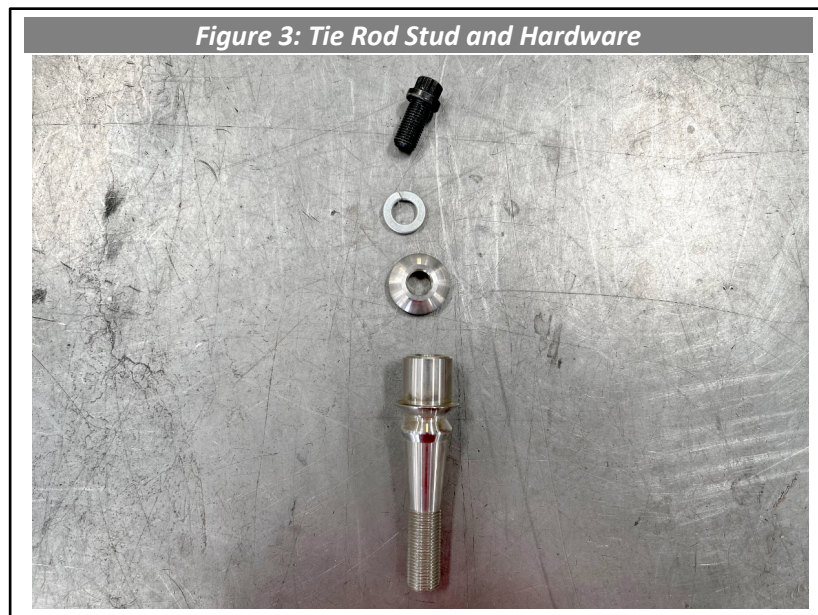
1. Support the vehicle on a lift or on jack-stands. NEVER WORK ON AN UNSUPPORTED VEHICLE.
 2. Remove the front wheels and tires.
 3. Unfasten the factory tie rod end assembly and the grease fitting from the drag link at the inner joint. Clean any grease and old thread locker out of these holes completely. Use contact cleaner and air dry.
 4. Locate the 18-mm bolt and the 18-mm lock washer from inside **HP9131**. Insert the 18-mm bolt through the 18-mm lock washer, and then through the steering adapter bracket.
 5. Place the steering adapter on the drag link with the tab of the adapter on the bottom of the drag link while ensuring the steering adapter bolt hole runs horizontal, see Figure 1.
 6. With the steering adapter in the correct orientation, thread the 18-mm bolt into the end of the drag link where the factory hardware was removed, see Figure 1.
 7. Locate the 1/4" bolt and 1/4" lock washer from inside **HP9131**. Bolt the tab to the drag link using the old grease fitting hole, see Figure 1.
- Note:** You may have to use some of the 1/4" flat washers provided as shims between the tab and the drag link if there are any gaps present.
8. With the steering adapter fastened in place, torque the 18-mm bolt to 90 ft-lbs. and the 1/4" bolt to 10 ft-lbs.



9. Locate the left and right-hand jam nuts, the four rod ends from inside **HP9131**, and thread the jam nut onto the appropriate rod end, see Figure 2.

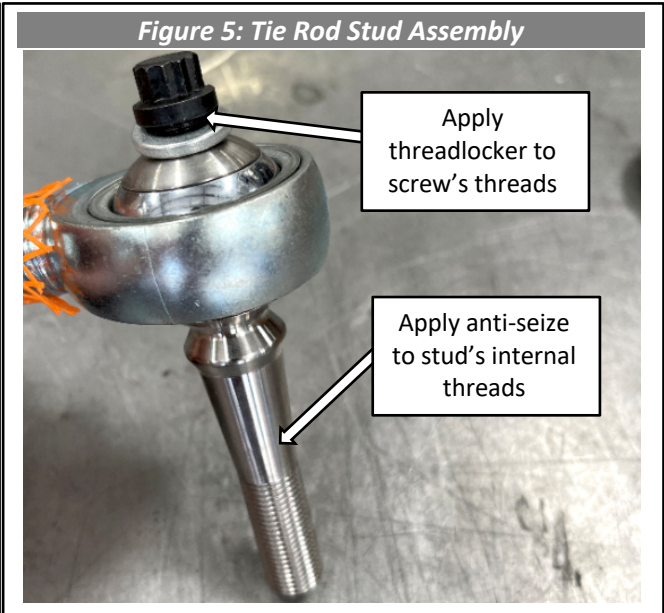
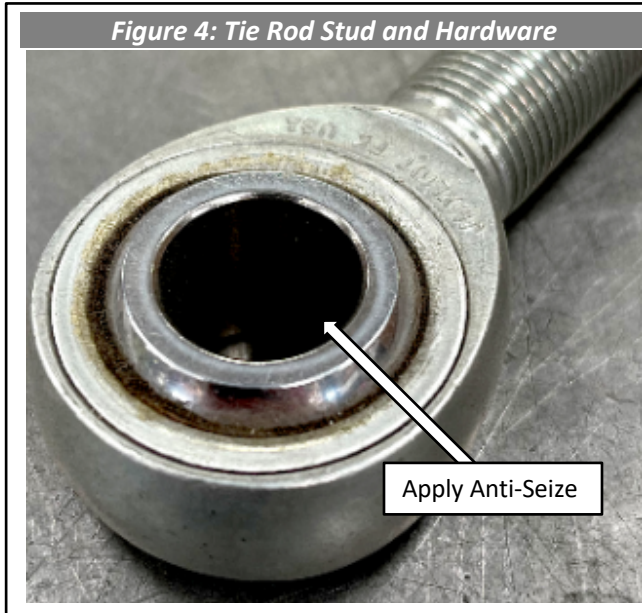


10. Locate the [5295](#) Cognito 10" Adjuster Tube. Apply an anti-seize lubricant to the exposed threads of the rod ends and thread the rod ends into the appropriate ends of the Cognito Adjuster Tube.
11. Locate the Cognito Tie Rod Stud, , the spherical washer, 3/8" lock washer, and 12-point screw from inside [HP9236](#), see Figure 3.



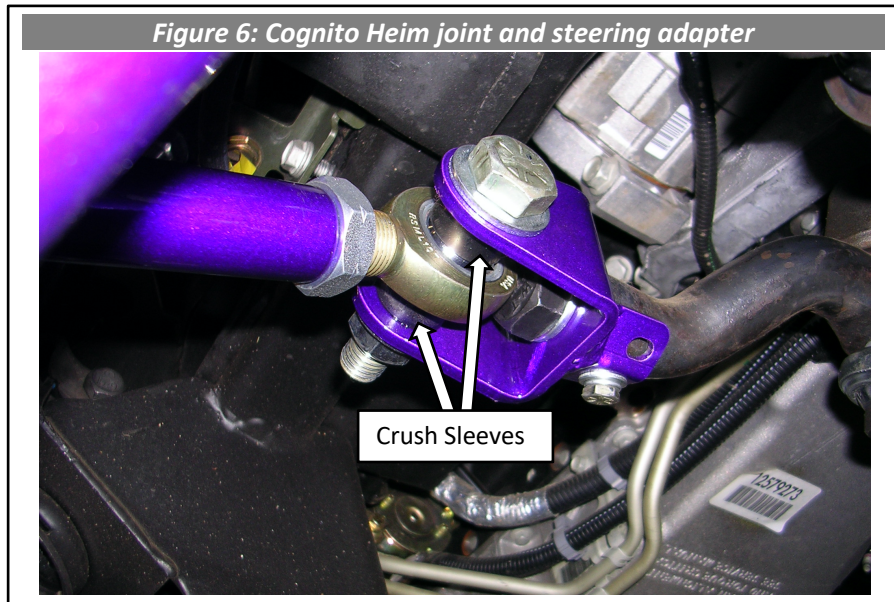
12. Apply anti-seize into the center bore of the right-hand thread rod end and into the internal threads of the stud and apply threadlocker to the 12-point screw's threads. Assemble the components into the rod end, see Figure 4 and 5.

Note: Do not torque the 12-point screw at this step. This screw will be torqued after the stud is inserted into the spindle.



13. Locate the 5/8" x 3.25" length bolt, 5/8" flat washers and lock nut, and the crush sleeves from inside **HP9131**. Insert the bolt into the steering adapter with the head facing towards the front of the truck mounting the rod end to the steering adapter, see Figure 6. Do not fully torque this bolt at this time.

Note: Ensure that there are crush sleeves placed on either side of the rod end prior to inserting the bolt all the way through.



14. Locate the 1/2" flat washer and lock nut from inside **HP9236**. Apply anti-seize to the tapered surface of the tie rod stud, and then insert the stud into the spindle. Fasten the stud to the spindle using the 1/2" hardware and torque to 60 ft-lbs.

Note: The factory spindle's tapered hole may have to be reamed using a 1/2" reamer due to the Cognito stud having a slightly larger standard thread than the factory metric thread.

15. Using a 12-point box end wrench or socket, torque the 12-point screw on the Cognito tie rod stud assembly to 35 ft-lbs.
16. Torque the 5/8" hardware fastening the tie rod kit to the steering adapter to 80 ft-lbs.
17. Tighten the jam nuts up against the adjuster tube to lock in place.
18. Have the front end professionally aligned to factory specifications as the toe settings of the vehicle will have changed after installing this kit.

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.