Cognito Standard Upper Control Arm Kit for 2019-2020 GMC Sierra 1500, Chevrolet Silverado 1500, 2WD/4WD Trucks

INSTALL INSTRUCTIONS:

Cognito Standard Upper Control Arm Kit for 2019-2020 GMC Sierra 1500, Chevrolet Silverado 1500, 2WD/4WD Trucks
SKU: 110-91207



PARTS LIST FOR SKU: 110-91207

QUANTITY	PART #	DESCRIPTION
1	8693	2019 GM 1500 Tubular Bolt-In Arm, Driver
1	8694	2019 GM 1500 Tubular Bolt-In Arm, Passenger
4	6468	UCA Bushing Thrust Washer
4	6878	Pivot Bushing Assembly
1	**HP9274**	Ball Joint Installation Hardware - Includes hardware for 2 ball joints.
1	**HP9327**	Self-tapping screw hardware pack
2	199-90722	Ball joint, bolt in, application for Cognito upper arm, 2019 GM 1500

PARTS LIST FOR SKU: HP9274

QUANTITY	PART #	DESCRIPTION
16	HARDWARE-33080	5/16” SAE Zinc Flat Washer
8	HARDWARE-37262	5/16”-18 Grade C Zinc Top Lock Nut
4	HARDWARE-15057	5/16”-18 X 1-1/4" Grade 8 Yellow Zinc Hex Head Cap Screw

PARTS LIST FOR SKU: HP9327

QUANTITY	PART #	DESCRIPTION
2	HARDWARE-M6X1.0X10-HEX	M 6-1.0 x 10 Hex Head Thread Forming Screw Steel, Zinc Din 7500D

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 Motorsports Standard Upper Control Arm Kit is a direct replacement of the factory upper control arms and can be used with a Cognito spindle/knuckle replacement lift kit. This kit is built with a modified ball joint angle to eliminate travel limitations of the ball joint in lifted applications. This design also eliminates the need to cut the service perch off of the truck if they are used as part of our Cognito package or as a stock replacement. Upgrade your stock upper control arms with Cognito for better performance, style and function. Bolt in, high angle, heavy duty ball joints are included as well as new maintenance free pivot bushings. Ample droop travel is required for good ride quality and all suspension components to last and work properly. The allowable droop travel is also improved with the design of these arms.

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.

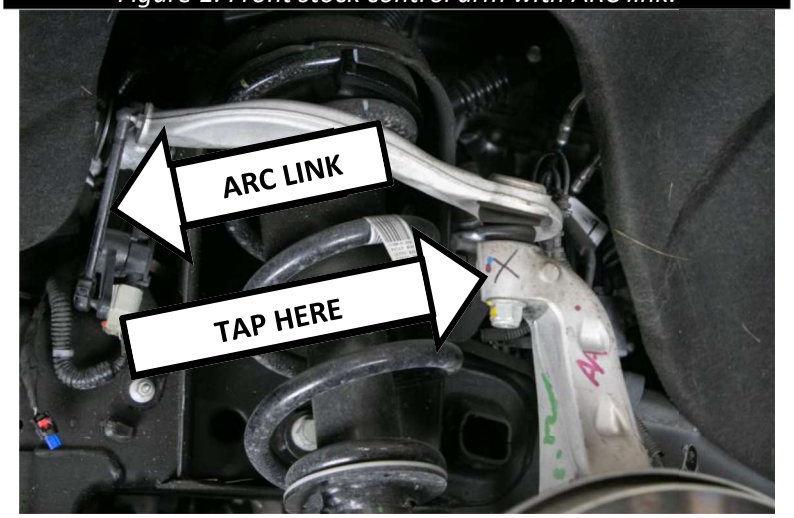
TECH NOTES

- 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.
- **Cutting off the service perch on the frame under the front upper arm pivot is not required for vehicles with stock suspension. If this product is used in conjunction with any other suspension modification, ensure that the arm does not contact the service perch when at full droop.**

INSTALLATION

1. Remove the factory upper control arms by supporting the lower control arms with a floor jack or in a safe fashion. Loosen the ball joint nut of the upper control arm until you can spin the nut with your fingers, but do not fully remove it. Use a pickle fork to separate the ball joint from the spindle; or tap the side of the spindle next to the ball joint stud with a hammer (see figure 1). When the tapered seat of the ball joint breaks loose, you may then remove the ball joint nut, and separate the factory upper control arms from the spindles.

Figure 1: Front stock control arm with ARC link.



2. Use a 21mm wrench to remove the factory bolts that connect the control arm to the frame, but retain them for future use. Place them aside in order so they can be re-installed in the same place they came off.

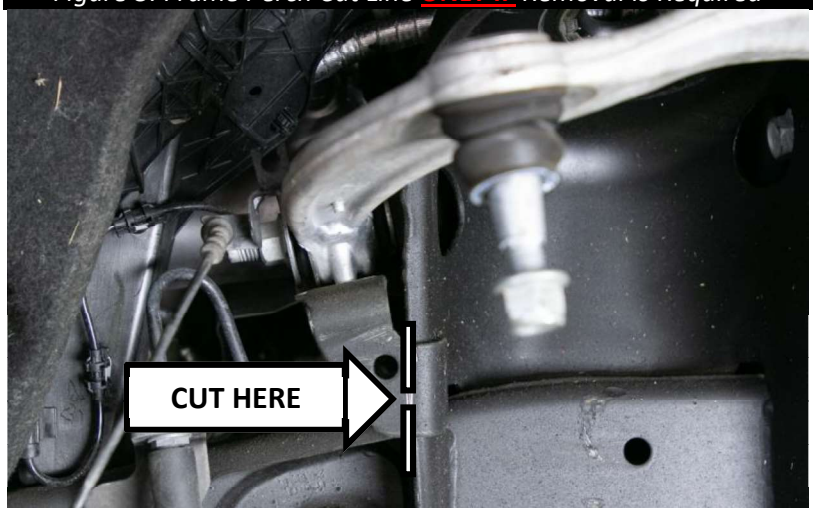
3. Bolt the ball joint to the bottom of the control arm as shown in figure 2 using the included 5/16” hardware. You can determine which side is the bottom and which is top by the logo. Tighten to 22 Ft.-lbs.

Figure 2: Bolt-in Ball Joint Installation



4. **Cutting off the service perch on the frame under the front upper arm pivot <u>is not required for vehicles with stock suspension, or with specific Cognito products</u>. If this arm is purchased from Cognito as part of a kit, consult the instructions for the combined kit which will tell you if you need to cut the perch. If this product is used in conjunction with any other suspension modification, ensure that the arm does not contact the service perch when at full droop. <u>*Warranty on Cognito products will be void if damage occurs due to collision with the factory service perch.*</u>** If removal is required, a powered short blade reciprocating saw is recommended as the easiest and cleanest method of removal. Make sure all brake lines and wires are clear of the cutting area and as always, use proper safety gear when using power tools. The perch is located on the rear side of the shock tower on both the passenger and drivers side. Cut the perch on a line paralell with the shock tower (see figure 3). It is recommened that the exposed raw metal edge be coated or painted to prevent corrosion.

*Figure 3: Frame Perch Cut Line **ONLY IF** Removal is Required*



5. **For ARC equipped models:** Locate HP9327 and remove the M6 thread forming screws. Use a socket to drive the screw into the ARC tab located on the Cognito upper control arms.

6. Mount the Cognito upper control arms to the frame using the factory nuts and bolts using the thrust washers on the exposed side of each bushing. Torque to **90 ft-lbs**. See figure 4. **For ARC equipped models:** Re-install the ARC link ball stud into the Cognito UCA where the M6 screw was removed from. Torque the ARC link to **7.5 ft-lbs**.

Figure 4: Thrust Washer Installation Location



7. Mount the ball joint to the spindle with supplied hardware. Use the 1/2” flat washers supplied if the castle nut needs to be spaced down for the cotter pin to engage with its castellations, then torque the nut to 60 ft-lbs. Install cotter pin and bend to lock into place.
    - If the castellations in the castle nut and the hole in the ball joint pin do not align once torqued to 60 Ft.-lbs continue tightening the nut until the two are aligned and the cotter pin can be installed. ***NEVER LOOSEN THE NUT TO GET THE CORRECT ALIGNMENT!***

8. If there were factory lines mounted to the factory upper control arms such as ABS or brake lines, they must be restrained as to avoid binding and contact with any moving parts of the vehicle. Use cable ties to restrain the ABS line to the brake line on the passenger side. The driver side may have an additional line for the brake pad wear sensor and can be tied to the brake line as well. Make sure the Cognito arm and shock (if replaced) is fully installed and with a jack stand under the frame, lower the truck so that the suspension reaches full droop. Check that all tied lines are free of stress durring the complete steering cycle. Ater the wheels are back on and the truck is sitting on the ground, check this again.

9. Ensure that all bolts are properly torqued. Ensure there are no rubbing or loose cables anywhere after the Cognito UCA installation. Use cable ties to restrain any cables from interfering with any other part. Check that all lines are free of stress or interference while the vehicle is in full droop, full bump, and throughout the complete steering cycle.

10. Install front wheels and tires and torque lug nuts to factory manufacturer’s specifications.

11. Adjust headlights per owner’s manual.

12. Setting ride height and checking for proper shock/spacer lengths (reference figure 5 and Table 1).

Lift the truck so that the front wheels are off the ground ensuring the suspension is at full droop. Put a piece of painter's tape at the top of the wheel well directly above the center line of the wheel. Take a measurement from the taped mark to the top of tire and record it as (A) in table 1. Subtract 3 inches from A and record this number as (B). Set the truck back on the ground and roll a minimum of 20 feet in any direction and then back to the starting point so the suspension settles out. Record this measurement from the same point on the tape to the top of tire again and record it as (C).

Figure 5: Setting Ride Height

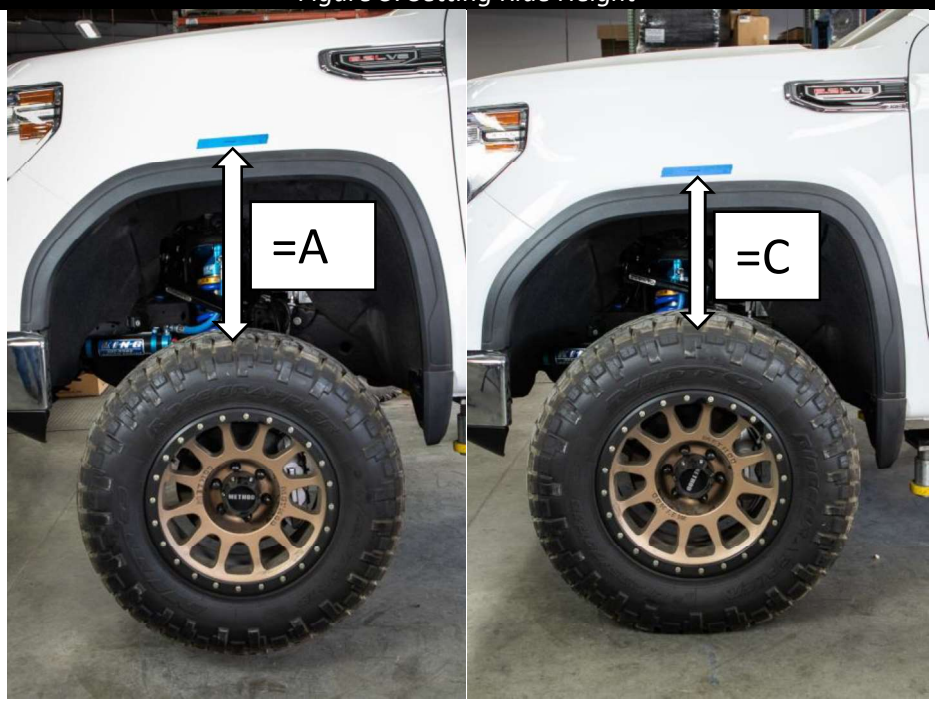


Table 1

Full Droop	**A**	
Max Ride Height	**B** = A - 3	
Current Ride Height	**C**	

If (C) is larger than (B), the ride height is too tall. This can be caused by shocks that are too long, too tall of a shock spacer, stacked shock spacers, spring preload devices, or any combination of the above.

Failure to use compatible shocks to limit the vehicles front suspension may cause over-extension, which as a result can cause damage to ball joints, uniballs, tie rods, and/or CV axles, along with other related safety issues. ***Warranty on Cognito products will be void if the vehicles front suspension is not properly limited to the above max ride height calculation.***

13. Using a shock that is too long will cause the upper ball joint to bind and break. Therefore, the correct length shock must be used. For this kit, the maximum shock length that can be used is 23.75" from the center of the lower eyelet to the mounting face at the top of the strut hat. Any spacers added to the shock must be included in this measurement (see figure 6). If this UCA kit is used with any other parts then specified, warranty will be void on this arm kit, and damage may occur to arms, ball joints, tie rods, cv axles and possibly more.

Figure 6: Shock Length Measurement



14. Have the vehicle's front end professionally aligned using these front-end alignment guidelines:

Some Cognito upper control arms have added caster built into them to increase drivability performance, therefore it's important to be sure the correct control arm is installed on the correct side of the vehicle. 8694 is the passenger side and 8693 is the driver side (the badge will be towards the front of the vehicle). It's also important to make your alignment shop aware that if caster is higher than normal for OEM, that is the intention by design.

Cross caster is important in making your vehicle track straight down the road. Most roads have crown to them, high in the middle for water runoff. This crown will make your vehicle want to pull to the right. Vehicles with stock tires on them have a narrow contact patch on the ground and are not as affected as a vehicle having larger wider tires. With larger wider tires it's important to have cross caster proper in order for the vehicle to track straight on these roads. Trucks with dual rear wheels have more tire on the ground and require more cross caster. The length of the wheelbase will also affect cross caster needed.

Generally, crew cab short and long bed trucks like .8 degrees of cross caster. For example, the driver side would have 2° while the passenger side would have 2.8° of caster. Dual rear wheel trucks like .9-1.0 degrees of cross caster. Your area might have roads that are crowned more or less than average therefore these numbers may need to change and your alignment shop should understand this. If your alignment tech is stating they can't align the truck, that typically means they can't get the alignment to OEM spec, and that's fine because your vehicle is no longer OEM. A good tech will understand this and the numbers and let caster run slightly out of OEM spec (Caster should always be above 2 degrees positive) while maintaining cross caster needed for the vehicle and roads so you enjoy your vehicle with aftermarket Cognito parts and your driving experience. Camber should always be from -.1° to +.1° and toe should always be .125" to .250" toe in for best tire wear.

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.