



## **Cognito Motorsports, Inc. Upper Control Arm Leveling Kit for 2001-2010 GM 8-Lug #UCAK100010 (Boxed Style)**

### **Introduction**

- These control arms will not affect the height of the truck, the height is determined via the torsion bars and torsion bar keys, and adjusters.
- Installation requires a qualified mechanic.
- 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.
- Always wear safety glasses when using power tools.
- Recommended max tire size-33"x11.5" on 8" wide rim with 4 5/8" backspace. Max tire size on stock rim 285/75/R16 or equivalent depending on rim diameter.

### **Parts List**

- (1) #8302 Driver upper control arm
- (1) #8303 Passenger upper control arm
- (2) #6292 Heavy duty ball joint
- (1) #9124 Hardware package

### **Alignment Specifications**

Caster, +4.0 to +6.0 degrees with .8 degree caster split optimal for average road crown.

Camber, 0.0 to +.2 degrees, with both sides equal.

Toe, 1/16" to 1/8" toe in, or stock toe setting.

## **Installation Instructions**

1. Rack the vehicle and hoist it off the ground, or if no hoist is available then jack front of truck off of ground and support properly with jack stands. NEVER WORK ON AN UNSUPPORTED VEHICLE.
2. The Cognito Motorsports Upper control arm kit is a direct replacement of the factory upper control arms on vehicles with stock suspension. If you have purchased and are replacing the torsion bar adjuster keys along with the Cognito leveling kit, unload the torsion bars now, and remove the factory torsion adjuster keys from the vehicle. Replace with the new torsion bar keys and reload the torsion bars lightly.
3. Remove the factory upper control arms by supporting the lower control arms with a floor jack or some kind of stand used in a safe fashion. Loosen the ball joint nut of the upper control arm enough until you can spin the nut with your fingers, but do not remove totally, and use a pickle fork to separate the ball joint from the spindle, or tap on the side of the spindle next to the ball joint stud. 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. **See figure 1**

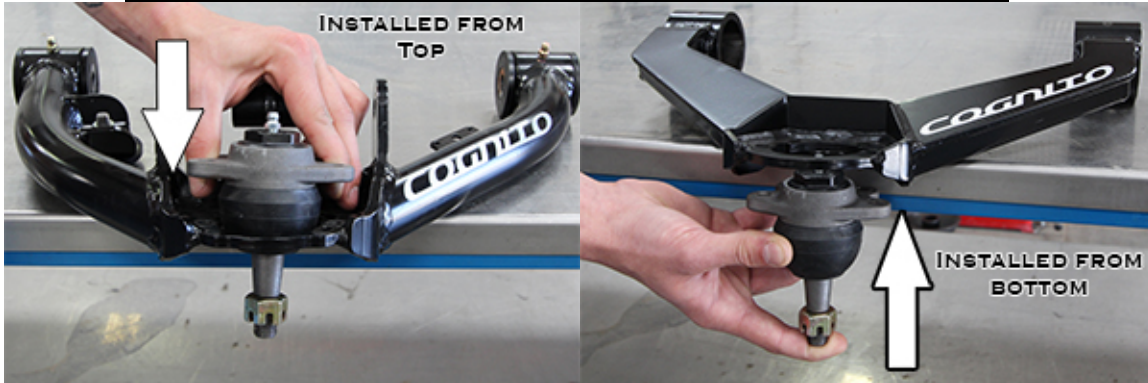


**Figure 1: breaking ball joint loose from spindle**

4. Remove the factory bolts and eccentric washers 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. The plastic inserts will need to be removed and discarded from the eccentric washers.

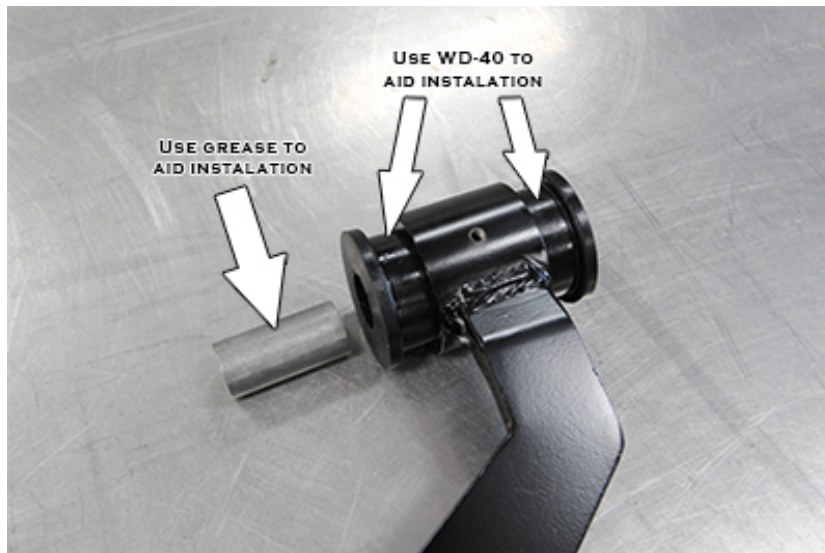
5. Mount the supplied ball joints (**#6292**) with the 5/16” bolts, flat washers, and locknuts provided in **Hardware Package 9124**, to either the top or bottom of the ball joint pocket of the Cognito upper control arms depending on your application, see the chart below to determine (**Figure 2**). \*If installing with a Cognito lift kit (i.e. 4”-6” lift kit) the low point of the lift kit is 4”-4.75” of lift, and the high point of the lift kit is 5”-6” of lift. Use anti-seize lubricant on the threads. Tighten all hardware in this step to 22 ft-lbs. of torque.

Vehicle	Stock	Leveling Kit	*Low Point of Lift	*High Point of Lift
01-10 HD	Top	Bottom	Top	Bottom



**Figure 2: ball joint installation**

6. From the **Hardware Package #9124**, insert the polyurethane bushings, crush sleeves, and grease fittings into the ends of the Upper control arms. Use WD-40 to aid installation of the polyurethane bushings into the control arm pivots (not grease), then grease the inside of the poly bushing and push in the steel crush sleeves. Push the bushings into the arms first, then the sleeve through the bushings. Do not over tighten the grease fitting; tighten until it is snug (**Figure 3**).



**Figure 3: bushing and crush sleeve installation**

7. THE CONTROL ARMS ARE NOT THE SAME. They are marked on the bottom side right at the ball joint mounting face, be sure to mount **#8302** to the driver



side, and #8303 on the passenger side. Mount the Cognito upper control arms to the frame with the factory nuts, bolts, and eccentric washers as previously removed. Set the bolts in the middle of the adjustment swing to be close enough to drive to an alignment shop. Torque alignment nuts to 90 ft-lbs.

8. Mount the ball joint to the spindle with supplied hardware. Use the 9/16" flat washers supplied if the castle nut needs to be spaced in order for the cotter pin to engage, and tighten to no more than 50 ft-lbs. of torque, making sure the cotter pin hole will line up with the castle nut notch. You may have to chase the small end of the tapered hole in the spindle with a 9/16" drill bit due to the slightly larger ball joint stud. Insert the cotter pin and bend ends around the nut to secure **(Figure 4)**.
9. Grease the ball joint until the dust boot starts to swell. Grease the a-arm pivot bushings also. If you do not grease these items, premature wear will result on these items!
10. The ABS and brake line must be remounted as to avoid binding and contact with any moving parts of the vehicle. Use the 1/4" hardware provided to fasten the factory brake line bracket to the Cognito upper control arm. The bolts are self tapping, and there is a pilot hole in the front of the arm on the underside. If necessary, slide the brake line through the bracket to obtain a suitable mounting situation. In some cases it may be necessary to bend the factory mounting bracket to clear the sway bar. **(Figure 4)**.
11. The abs line clip will install back into the control arm in the same area as factory control arm as shown in **Figure 4**. Double check the clearance of both the brake lines and the abs lines after the install with tires and wheels installed and at full droop and while the truck is on the ground through the complete steering cycle. Be sure there is no rubbing or loose cables anywhere.



**Figure 4: Passenger side Cognito control arm installed**

12. Install front wheels, torque lugs to manufacturers' specification. While the truck is still supported with the wheels and tires hanging at full drop measure the distance between the top of the tire and fender lip (A) as shown in **Figure 5**.



**Figure 5: Distance between top of tire and fender lip.**

13. Record measurement (A) in chart below. Subtract 2” from (A) to determine maximum ride height (B). This will insure the proper amount of available down travel. **NOTE:** Maximum ride height is not required if you reach desired ride height below measurement (B). It is a good idea to record your final ride height after adjustments (C).

**Record Measurement**

<b>Full Drop Out (A)</b>	
<b>Subtract 2”</b>	<b>-2”</b>
<b>Max Ride Height (B)</b>	
<b>Finished Ride Height (C)</b>	

14. Check wheel and tire clearance one last time through the steering cycle. Make adjustments as needed.
15. Have the vehicle's front end professionally aligned. Adjust headlights per owners manual. See “Alignment Specifications” on page 1.



## **Cognito Motorsports**

### **Limited Lifetime Warranty**

Cognito Motorsports warrants, to the original retail purchaser, that its suspension products are free from defects in workmanship and material for as long as the purchaser owns the vehicle on which the product was originally installed. Cognito Motorsports does not warrant the product for finish, alterations, modifications, and/or original installation contrary to specifications of Cognito Motorsports. Cognito Motorsports suspension products are not designed nor intended to be installed on vehicles used in race applications or for racing purposes or for similar activities involving abnormal abuse other than the vehicle was originally designed to handle or endure. (A "RACE" is defined as any contest between two or more vehicles, and/or contest of one or more vehicle against the clock, whether or not such contest is for a prize.)

This warranty does not include coverage for police or taxi vehicles, race vehicles, or vehicles used for government or commercial purposes. Also excluded from this warrant are sales outside of the United States of America. Alterations to the finish of the parts including but not limited to painting, powder coating, plating, and/or welding will void all warranties. Cognito Motorsports obligation under this warranty is limited to the repair or replacement, at Cognito Motorsports option of the defective product. Any and all costs of removal, installation or re-installation, freight charges, incidental or consequential damages are expressly excluded from this warranty.

This warranty excludes the following items: bushings, bumpstops, tie-rod ends, limiting straps, and heim joints. These parts are subject to wear and are not considered defective when worn. They are warranted for 60 days of purchase for defects in workmanship. Cognito Motorsports suspension components must be installed as a complete system. Any substitutions or exemptions of required components will immediately void the warranty. Some finish damage may happen to parts during shipping and is not covered under warranty. This warranty shall not apply to any product that had been subject to accident, negligence, alteration, abuse, or misuse. Cognito Motorsports does not warrant products not manufactured by Cognito Motorsports. Cognito Motorsports reserves the right to supercede, discontinue, or change the design, finish, part number and/or application of parts when deemed necessary by Cognito Motorsports without written notice.

### **Return Policy**

Cognito Motorsports has a no refund return policy. Under special circumstances, returns might be accepted with prior written approval. All returned product will be shipped freight prepaid. Product returned is subject to a 25% restocking fee. No returns will be accepted after 30 days upon receipt of product.

### **Product Consumer Safety and Warning**

The installation of this kit will modify the suspension of your vehicle and may cause it to handle significantly different than a factory equipped vehicle. Installing larger tires with modified suspension and increased ground clearance will significantly alter the handling characteristics of the vehicle, and may result in increased braking distances as well as changes in vehicle maneuverability and handling compared to the factory equipped vehicle. As with any vehicle, extreme caution and care must be used to prevent loss of control or roll-over during sharp turns or abrupt maneuvers. Always wear seat belts and drive safely, recognizing the reduced speeds and specialized driving techniques is required.

This suspension system will not strengthen nor reinforce the stock frame of the vehicle, nor will it increase rollover protection. It is necessary to periodically inspect all suspension and drive train components for tightness of fit or any damage. Installation of these parts will modify the height of the vehicle and will raise the center of gravity. Altered height modifications and off-road operation may increase your vehicle's susceptibility to roll over conditions and may cause serious injury or death. Many states regulate the height modification to each vehicle. Check the laws in your state for exact specifications. Height modifications may effect the reaction, ride, handling, and wear factor of your vehicle's components.

**Failure to drive this vehicle safely may result in injury or death!** Do not drive this vehicle unless you are familiar with its unique handling characteristics and are confident of your ability to maintain control under all driving conditions. Some modifications and combinations of modifications are not recommended, unsafe, and may not be permitted in your state. Consult your vehicle owner's manual, the instructions accompanying this product, and your state laws before undertaking these modifications. The owner of the modified vehicle and the qualified mechanic required to install this product are responsible for the legality and safety of the vehicle being modified.