

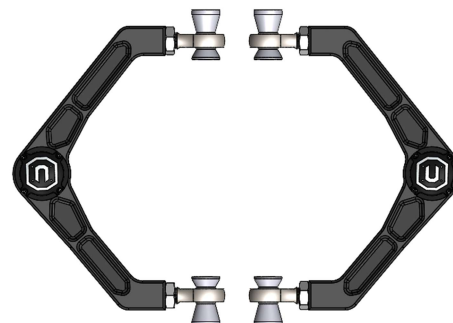
## 20-24 GM HD 2500/3500 BILLET UCA AJ PRO KIT

**INSTALL INSTRUCTIONS:**

20-24 GM HD 2500/3500 BILLET UCA AJ PRO KIT  
SKU: 110-91365

**COMPONENTS INCLUDED:**

QUANTITY	PART #	DESCRIPTION
1	CMS-7049	COGNITO 20+ GM HD BILLET UCA DRVR
1	CMS-7050	COGNITO 20+ GM HD BILLET UCA PASS


**HARDWARE INCLUDED:**

QUANTITY	PART #	DESCRIPTION
4	177522	HEIM SPACER JM12 X 16mm X 1.965 CZINC
4	177523	HEIM SPACER JM12 X 16mm X 3.275 CZINC
2	CMS-91354	COGNITO 20 GM HD ALPHA JOINT PRO
4	295514	RSMX12T ROD END F1 FIT
2	295570	RETAINING RING WHT-237 SS
4	605740	7/8-14 JAM NUT GR5 CZINC
1	605968	VIBRATITE BLUE 2ML BULLET
1	CMS-HP9360	COGNITO BILLET UCA LARGE CAP KIT

**TOOLS REQUIRED:**

Floor Jack	Welder (Optional)
Jack Stands	Plastic Push Pin Removal Tool
Abrasive Cutting Wheel	10mm Socket/Wrench
Sander	13mm Socket/Wrench
Large Adjustable Wrench	18mm Socket / Wrench
Torque Wrench	21mm Socket / Wrench
Ball Joint Separator	24mm Socket / Wrench
Hammer	

**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.

Modification of vehicle suspension can interfere with ride-height sensors, active suspension, lane departure features, semi-autonomous, and autonomous driving features. It is the responsibility of the installer to determine feature compatibility prior to installation. Recalibration of sensors may be required in the event of any modification.

**REQUIREMENTS:**

- Installation requires a qualified mechanic.
- Follow the OE specifications when replacing or re-installing OE fasteners, retainers, and hardware specified in the OEM service manual.
- Always wear safety glasses when using power tools.
- When a lift is required to perform the installation of these products ensure the vehicle is properly supported before attempting installation or serious injury may occur.

## TECH NOTES:

- All COGNITO Upper Control Arms have been engineered to allow for the most possible caster while still allowing the vehicle to be properly aligned. Notify your professional alignment shop of this information so that maximum ride quality can be achieved.
- COGNITO Alpha Joints are pre-greased from the factory. COGNITO recommends greasing the Alpha Joint every 3,000 miles (or every oil change). Add new grease until all of the old grease is expelled from the bottom of the Alpha Joint assembly, wipe away excess grease with a rag or shop towel.
- When installed on the AT4X extend the rod ends an additional .250" before install.
- Do not exceed 2.5" adjustment from the center of the rod end to the edge of the billet upper control arm. Failure caused by excessive adjustment will not be covered under COGNITO's warranty policy. Refer to tech note photo.
- Estimated install time: 2-3 hours.

## INSTALLATION

1. Place the truck on a flat surface with the parking brake engaged, chock the rear tires.
2. Use a suitable floor jack in the manufacturer designated spot on the frame to lift the front of the truck, then place a suitable jack stand under the frame and set the truck down securely on the jack stand. NEVER WORK UNDER AN UNSUPPORTED VEHICLE. Remove the front wheels and tires.
3. Using a 21mm socket/wrench, loosen the torsion bar preload bolt and release tension. **[FIGURE 1]**



Figure 1

4. Using a jack, slightly lift the lower control arm (LCA) to prevent the suspension from being at full droop.
5. Loosen the ball joint nut using an 18mm socket/wrench. **[FIGURE 2]**



Figure 2

6. Support the spindle so that it does not overextend the CV joints when detached.

7. With the upper control arm disconnected from the spindle, loosen the upper control arm from its mounts in the frame using a 24mm socket/wrench. Remove the OEM upper control arm (UCA). Be sure to keep the cam bolts in the same orientation. **[FIGURE 3 & 4]**



Figure 3



Figure 4

8. Disconnect the brake line using a 13mm. **[FIGURE 5 & 6]**



Figure 5



Figure 6

9. With the UCA and brake line out of the way, remove the top droop stop from the front UCA frame pocket by cutting the metal bracket in a straight line. Be careful to cut only enough to free the top droop stop. Once removed, clean up the frame and either paint the exposed metal or for a more finished look weld on the supplied top out plate and then paint. **[FIGURE 7, 8 & 9]**

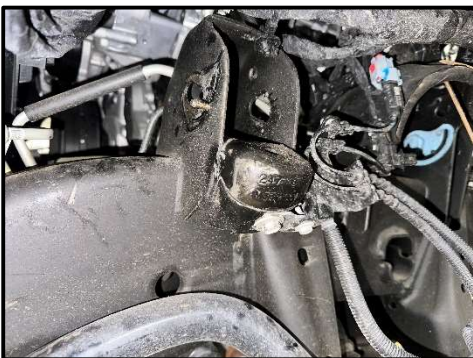


Figure 7



Figure 8

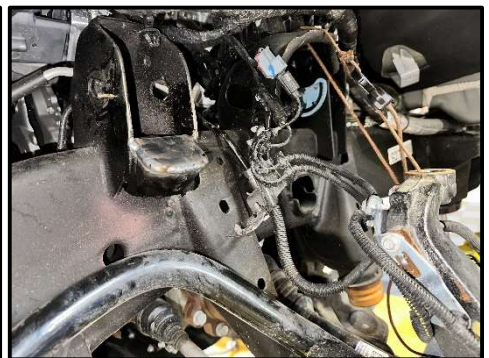


Figure 9

10. Reinstall the factory brake line in place with the OE bolt and torque to factory specs.  
 11. Each arm is labeled for which side it should be installed on. The supplied short spacers go on the inside of the arm and the supplied long spacers go on the outside of the arm.

12. Adjust the rod ends in the arm to measure 2-1/8" from the center of the eyelet to the aluminum arm (when installed on the AT4X adjust to 2-3/8" before install). Tighten the jam nut using a large adjustable wrench. Be sure to keep the rod end vertical when tightening the jam nut. [Torque to 180 ft-lbs]
13. With the control arm completely assembled, slide the arm into the upper mounts and insert the OEM hardware loosely. [FIGURE 10 & 11]

*Figure 10**Figure 11*

14. Rotate the upper control arm and install the stem through the spindle taper. Install the supplied flanged nut on the taper pin. [Torque to 60 ft-lbs] [FIGURE 12]

*Figure 12*

15. Tighten the upper control arm mounts on the chassis using a 24mm socket/wrench. [Torque to factory spec]
16. Install the dust cover. Apply thread locker to the (4) allen head screws. Use a 7/64" allen. DO NOT over tighten. [Torque to 9.6 in-lbs] [FIGURE 13]

*Figure 13*



17. Repeat process on passenger side.
18. Reinstall the wheels and tires, remove the vehicle from the jackstands and lower it back to the ground. [Torque lugs to factory specs]
19. Get vehicle professionally aligned after the install.

***VERIFY ALL FASTENERS ARE PROPERLY TORQUED BEFORE DRIVING VEHICLE.  
RETORQUE ALL NUTS, BOLTS AND LUGS AFTER 100 MILES AND PERIODICALLY THEREAFTER.***



## 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 warranted 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.



34935 Flyover Ct Bakersfield, CA 93308 Phone: (866) 426-4648 Fax: (661) 588-8295

[www.cognitomotorsports.com](http://www.cognitomotorsports.com)