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INSTALL INSTRUCTIONS:
OE Replacement Front Upper
Control Arm Kit for 2017-2024
Can-Am X3 (and MAX) X RS,
RC, MR UTVs

PARTS LIST FOR SKU: 370-90350

QUANTITY	PART #	DESCRIPTION
1	8471	Driver Upper Arm
1	8472	Passenger Upper Arm
1	HP9186	Bushing and Crush Sleeve Hardware Pack
1	HP9170	Brake Line Clamp Kit

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.



REQUIREMENTS

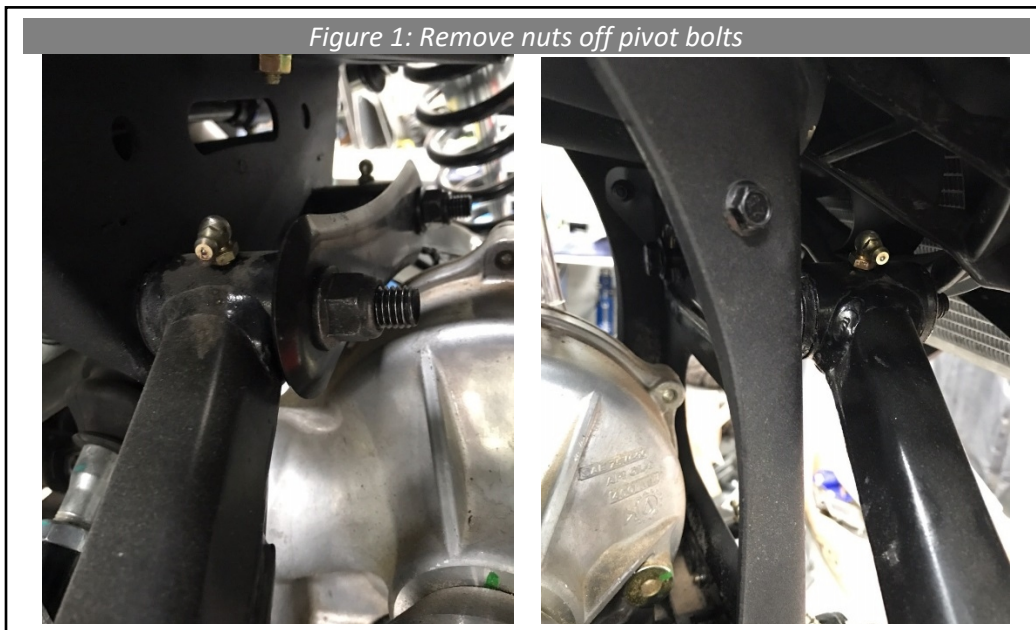
- Installation requires a qualified mechanic.
- Read instructions carefully and study the pictures before attempting installation.
- Requires the use of OEM ball joints. New ones can be purchased or the ball joints out of the stock upper arm can be used. Use of a press is recommended to remove and install ball joints into new Cognito arms.

TECHNICAL INFORMATION

- Check the parts and hardware packages against the parts list to assure that your kit is complete.
- In 2019, Can-Am changed the sway bar end link bolts to 12mm from previously being 10mm. If you have a 2019 model you will have to check the end link stud size first, and if larger then drill the sway bar mounting hole on each of the upper control arms to 12mm. If you do not have a 12mm drill bit, start with a 15/32" drill bit which is just .0035" under 12mm. If that is a little too small to fit the end link stud into the hole, use a 31/64" drill bit which is .012" over 12mm. Other than this, the control arms are the same for 2017-2018 models and 2019 models.

INSTALLATION

1. Raise the front of the X3 up by the frame so that the suspension droops out and tires are off the ground and secure with jack stands. Remove front wheels using a 19mm socket.
2. Remove the front shocks from the upper arm using an 18mm wrench and socket and tie the arms up out of the way.
3. Drill the rivets holding on the brake line clamps from the arm and the ones on the frame. Use a 10mm socket to remove the brake line bracket bolt from the arm by the ball joint.
4. Using an 18mm socket and wrench, remove the nuts off the pivot bolts of the upper arm as shown in Figure 1. Do not remove the bolts at this time.



5. Using a 15mm deep socket and adjustable wrench, remove the sway bar end links from the upper arms and rotate out of the way. If a 15mm socket is too small to fit this nut, you might have a 2019 model that changed from 10mm sway bar end link hardware to 12mm. Double check this, and you may need to drill out the sway bar end link mounting hole in the Cognito arms, see later step.

6. Remove the nut and washer off the ball joint using a 19mm wrench. See Figure 2

Figure 1: Remove nut and washer off bottom side of ball joint



7. With a hammer, hit the spindle by the ball joint to remove ball joint of the spindle.
8. Now that the ball joint is removed from the spindle, remove the pivot bolts and pull the arm off the car.
9. If you are reusing the factory ball joints, remove the retaining ring from the ball joint. Use a press or vise to remove the ball joint from the stock arm.
10. On the Cognito arm, grease the inside of the ball joint cup and press the ball joints that were just removed into the new Cognito arms as shown in Figure 3. Put the circlips back onto the ball joint.

Figure 3: Ball joint pressed into Cognito arm.

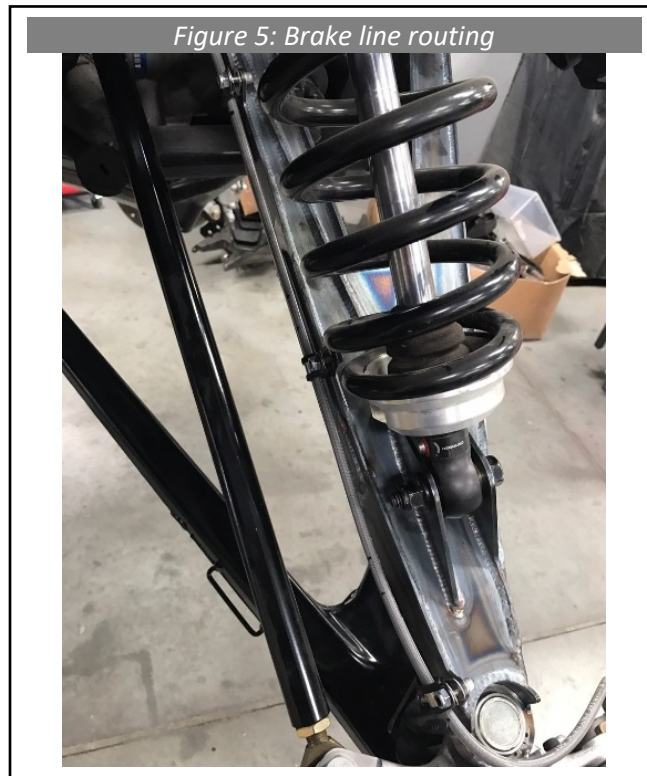


11. At this point, open the included hardware pack containing bushings and crush sleeves. Push the Delrin bushings into each end of the Cognito pivot tubes. Thoroughly grease the inside of the bushings and the outside of the crush sleeves. Push the crush sleeves into the bushings and you are now ready to install the Cognito arms. See Figure 4.



12. In 2019, Can-Am changed the sway bar end link bolts to 12mm from previously being 10mm. If you have a 2019 model you will have to drill the sway bar mounting hole on each of the upper control arms to 12mm. Double check your vehicles end link stud size to make sure before you drill out, If the end link stud does not fit in the Cognito arm and you have a 2019, then you must enlarge the hole. If you do not have a 12mm drill bit, start with a 15/32" drill bit which is just .0035" under 12mm. If that is a little too small to fit the end link stud into the hole, use a 31/64" drill bit which is .012" over 12mm. Other than this, the control arms are the same for 2017-2018 models and 2019 models.
13. Slide the new arms into the frame and put the pivot bolts back through the arms. You can thread the nuts on but do not tighten until told to do so.
14. Slide the ball joint studs into the spindle and install washer and nut onto the stud and tighten. Factory torque spec for this nut is 46 ft.lbs. It not possible to put a torque wrench on it with the axle in the spindle. Firmly tighten the nut and secure with a new cotter pin.
15. Tighten the pivot bolts at this point to 77 ft.lbs.
16. Attach the sway bar end links onto the Cognito arms and torque to 52 ft.lbs. Be sure to route the brake line above the end link before installing.
17. Mount the shock to the arm and fasten hardware to 77 ft.lbs.
18. If you wish to not reuse the factory brake line clamps, remove the install the new supplied clamps around the brake line.

19. Using the supplied brake line mounting hardware, fasten the brake line to the arm as shown in Figure 5.



20. Install tires and torque to 89 ft.lbs.
21. With everything fastened, cycle the steering to check that the brake line clears any moving parts. Adjust if needed.
22. Double check that all bolts are tight before riding. Periodically maintain the pivot bushings by cleaning pivot bushings and crush sleeves and then re-greasing them.

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.