



Front Long Travel Arm Kit (+3" Per Side), Polaris RZR 170

SKU#360-90075

Introduction

- Installation requires a qualified mechanic.
- 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.
- Always wear safety glasses when using power tools.
- Some installation instruction pictures show part raw. Part can be optionally powder coated.
- This instruction set available in color on www.cognitomotorsports.com
- The OEM shocks will work with the Cognito control arms, but are not recommended since calibration is not correct for this application. Purchase the Cognito spec Fox shocks for optimal suspension travel and performance.

Requirements

- Ability to drill 1/2" hole into OEM equipment if using Cognito RZR170 Tie Rod Kit.
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Parts List

ITEM NO.	PartNo	DESCRIPTION	QTY.
1	8454	RZR170 Driver Control Arm	1
2	8455	RZR170 Passenger Control Arm	1
3	8456	RZR170 FCA Clevis Driver	1
4	8457	RZR170 FCA Clevis Passenger	1
5	5035	RZR170 Crush FCA Crush Sleeves	4
6	5037	RZR170 Crush Sleeve 1.835 X 0.625	2
7	5946	RZR170 Camber Adjuster Rod	2
8	CM6-T	Heim Joint CM6 (RH) Teflon Coated	2
9	CML6-T	Heim Joint CML6 (LH)Teflon Coated	2
10	5952	RZR170 0.635 Spacer	4
11	5953	RZR170 0.360 Spacer	4
12		3/8"-16 x 1" LG Bolt	4
13		3/8"-16 x 2" LG Bolt	2
14		3/8"-16 x 2.75" LG Bolt	2
15		3/8"-16 x 3.25" LG Bolt	2
16		3/8"-24 Steel Thin Hex Jam Nut	2
17		3/8"-24 Steel Thin Hex Jam Nut LH	2
18		3/8"-16 Lock Nut	10
19		3/8" Flat Washer	20

Installation

1. Remove the front wheels by jacking the front end of the car up and removing the four (4) lug nuts on each wheel.
2. Remove the OEM tie rods by removing the cotter pins and nuts on the pitman arm, and the steering knuckle.
3. Remove the bolt that secures the shock to the lower control arm, retain for re-use. If changing the shocks, then go ahead and remove the stock shocks now and retain mounting fasteners for reuse.
4. Remove the OEM brake lines at the calipers and the master cylinder. These will hold brake fluid so be cautious while removing them. Be ready to bolt on the new extended brake line kit sold separately, so that you can prevent a larger mess of brake fluid leaking. Be sure to use the copper crush washers just like it was stock.
5. Remove the steering knuckle from the OEM control arm.

5) a) If you are using the Cognito RZR 170 tie rod kit. Remove the pitman arm from the car by removing the pinch bolt that secures the pitman arm to the steering box shaft, retain for later use. The holes on pitman arm and the steering knuckle where the tie rods connect need to be drilled out to straight 1/2" (0.500") holes for the Cognito tie rod kit to fit the OEM spindle and pitman arm (Figure 1). The OEM holes are tapered, but the Cognito heim joints require a straight through hole.

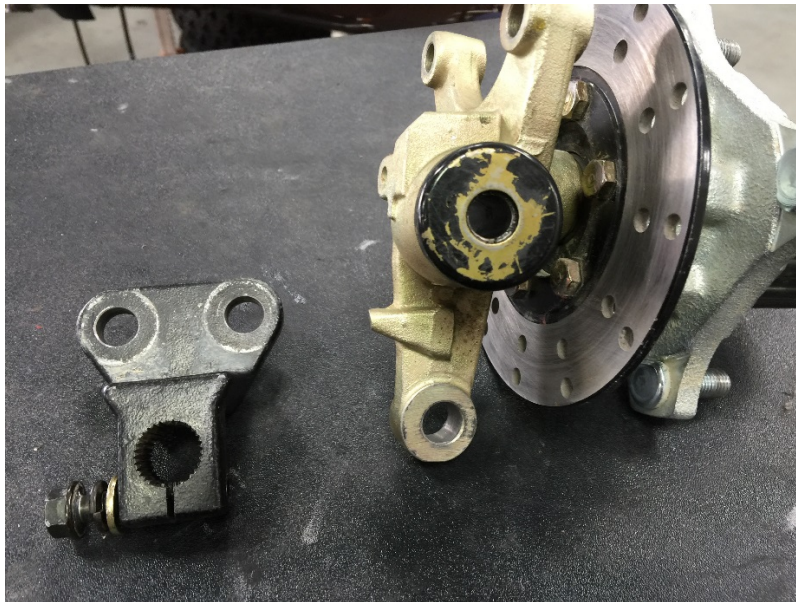


Figure 1: Stock knuckle and pitman arm drilled out to 1/2".

6. Remove the OEM control arm from the car by removing the two bolts that secure the arm to the frame mounts.

7. Assemble the new control arms by putting the polyurethane bushings and crush sleeve in the control arms. Install poly bushings in control arm pivot tubes, no grease. Then grease the inside of the poly bushings, then install the sleeves onto the greased bushings. Figure 2 shows the bushings and crush sleeve pressed into the pivot tubes of the control arm.



Figure 2: Picture showing bushings and crush sleeve properly pressed into pivot tube of the control arm.

8. Bolt the appropriate control arm assembly to the appropriate side of the car using OEM fasteners and tighten to 30 ft-lbs. Do not tighten the frame pivot bolts until both arms are in place, since the arms share pivot mounting tabs if you tighten one side before getting the other side in the car, it makes things difficult to install the opposite side. See pictures to double check you are installing proper arms and spindle clevis brackets to the proper side of the RZR.
9. The Cognito control arm has adjustable camber. The steering knuckle clevis should seat inside of the control arm as pictured (Figure 3). Secure the steering knuckle clevis in place by placing the supplied crush sleeve in between the bottom hole on the clevis and running a 3/8"-16 x 3.25" bolt through with flat washers on both sides. Ensure the proper side clevis is on the proper control arm (Figure 3 and 4). The top slotted holes are secured with a two 3/8"-16 x 1" bolts with washers on both sides (Figure 5).



Figure 3: Clevis mounted inside of passenger side arm.



Figure 4: The crush sleeve goes on the bottom side of the control arm.



Figure 5: The 3/8"-16 x 1" bolts running through the camber adjustable slot holes.

10. Assemble the camber adjuster rod as pictured in Figure 6. Place the camber adjuster rod between the clevis and shock plates with the use of the provided spacers and bolts (Figure 7.) Typically the left-handed heim is pointed towards the inside of the car for all tie rods and adjusters. Do not tighten down the camber adjuster jam nuts until the shock is attached later. Camber can be adjusted by loosening the jam nuts on both sides of the adjuster and turning the adjuster with a 5/8" wrench.



Figure 6: Camber adjuster rod assembled. Right and left handed heims, and jam nuts, are utilized so turn accordingly to assemble.



Figure 7: Camber adjuster installed on arm with spacers.

11. Bolt the appropriate control arm assembly to the appropriate side of the car using OEM fasteners and tighten to 30 ft-lbs. Do not tighten the frame pivot bolts until both arms are in place, since the arms share pivot mounting tabs, if you tighten one side before getting the other side in the car, it makes things difficult to install the second side.
12. You should have purchased separately, the Cognito spec Fox shocks, mount the upper end in place now on the frame using the OEM hardware, tighten to 36 ft-lbs. Mount the lower end of the front shocks back onto the arms and reinstalling the pitman arm along with longer tie rods. The tie rods should be ran on the top of the pitman arm to the top of the steering knuckle if using the Cognito kit. (Figure 8).

Note: The OEM tie rod is run on the bottom of the pitman arm. The position of the tie rod was changed to reduce bump steer.



Figure 8: The position of the tie rod should be as pictured if using the Cognito Tie Rod kit.

13. Mount the proper OEM steering knuckle on the proper side of the car. Install new longer brake lines. If you are using the Cognito RZR170 Brake Line Kit, the brake lines should be routed as pictured in Figure 9. Use the included cushion clamps and hardware to route and retain the brake lines as shown. Use standard automotive practice to bleed the brakes and maintain proper brake fluid level in the reservoir.



Figure 9: Brakes lines should be routed as pictured. Drivers side shown.

NOTE: On the 2017+ Polaris RZR170 the position of the T adapter needs to be flipped 180 from the stock position otherwise brake line back to the master cylinder may be too short.

14. Verify all bolts are tightened down. Then put wheels back on the car. Torque wheel lug nuts to factory specifications of 27 ft. lbs. (37 Nm).
15. Lower the car to the ground, roll forward and backward to let the car settle down, and adjust shock preload to preferred ride height front and rear. You can now adjust the toe and camber as needed. Beware that camber and toe will change with ride height, so you must get ride height set and keep notes on where you will be running the ride height. With 20" tall tires we suggest 7" from ground to bottom of frame.

Recommended procedure for setting toe and camber

Toe and camber change dynamically with each other. It is recommended that camber be locked down first then toe adjusted. The easiest way to perform this is to first pick a side (can be drivers or passengers), and turn the steering wheel until the front tire is parallel to the rear tire (your steering wheel may not be straight at this point, that fine.) Set the camber for that side to the desired angle by loosening the two bolts in the slotted holes that hold the clevis bracket and the arm together. Break loose the jam nuts securing the hex camber adjuster and turn the hex adjuster with a 5/8" wrench to adjust the camber. After the desired camber angle is reached, verify that the front and rear tires are still parallel on the side of the car you are working on, then lock all bolts back down. Repeat this process for the opposite side. Now your camber should be set for both sides. Break loose the jam nuts securing the tie rods and turn tie rods by hand to set toe. Verify the steering wheel is straight. Retighten tie rod jam nuts. After toe is set verify that the wheels are aligned properly and make any adjustments if required.

REMINDER: It is important to bleed the brakes and check fluid levels after changing any brake lines or brake components on a vehicle to insure proper function of the brake system. Please follow proper procedure and verify brake system is functioning properly before using vehicle.

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 is for a one-time replacement of each Cognito Motorsports product and does not cover any part that Cognito Motorsports has previously replaced under this warranty. 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 supersede, discontinue, or change the design, finish, part number and/or application of parts when deemed necessary by Cognito Motorsports without written notice, and in the sole and absolute discretion of Cognito Motorsports.

Warranty Claims

All warranty claims must be submitted through the original company of purchase. All claims must be shipped back to the original company of purchase with an approved RMA number listed as a reference on the shipping label and clearly printed on two opposing sides of the package(s); product in question must be inspected by Cognito Motorsports before replacement parts are shipped out.

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 affect 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.