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INSTALL INSTRUCTIONS:
Cognito Front Upper and Lower
Control Arm Kit for 2018-2020
Polaris RZR RS1 Long
SKU: 360-90865

PARTS LIST FOR SKU: 360-90865

QTY.	PART #	DESCRIPTION
1	8585	2018 RS1 DRIVER LONG TRAVEL UCA
1	8586	2018 RS1 PASSENGER LONG TRAVEL UCA
1	8587	RS1 LONG TRAVEL DRIVER LOWER ARM
1	8588	RS1 LONG TRAVEL PASSENGER LOWER ARM
2	90610	UTV ADJUSTABLE RODEND KIT, USES 7/8 UNI-BALL
1	HP9170	6PK CUSHION CLAMP HARDWARE PACK 10-32
2	HP9187	2014-2018 POLARIS RZR XP1000 AND XP TURBO UNI BALL PIN AND HARDWARE
2	HP9216	POLARIS RS1 FRONT UCA ARM BUSHING KIT
2	HP9223	2018 RZR & 2017 CANAM X3 SPINDLE PIN KIT FOR WSSX14T



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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.

TECH NOTES

- 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.

INSTALLATION

1. Raise the front of the RZR up by the frame so that the suspension droops out and tires are off the ground. Remove front wheels. Remove necessary front body panels so that the front upper arm pivot bolts can be removed.
2. Unbolt the brake caliper from the spindle, the axle nut from the spindle, and the control arms from the spindle. Then remove the spindle and let the lower arm, caliper, and axle hang. The axle should be removed at this time.
3. The stock spindles must be trimmed to make room for the A arm at full bump and full droop. This trimming has no effect on structural integrity, this is an outside corner that has nothing to do with the strength of the spindle. See figure 1 which shows a stock spindle and figure 2 which shows a modified spindle. The easiest way to do this is install the factory flange bolt and nut as shown in figure 3 and mark the outside of the flange, then grind up to the mark.
4. Sand or grind the corner material as shown in figure 4, take it down to where the edge of the flange bolt and nut would be.
5. Figure 5 shows what the finished edge should look like with the flange bolt there.



Figure 2: Modified Spindle



Figure 3: More detailed note of the trimming, which must be done to both areas shown in Figure 1



Figure 4: Sanding the edge.



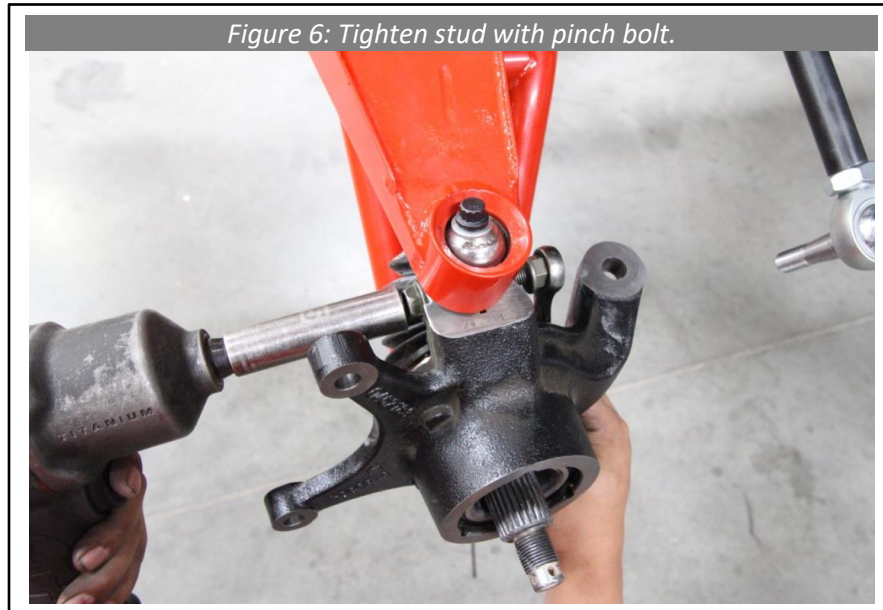
Figure 5: When done, it should look like this



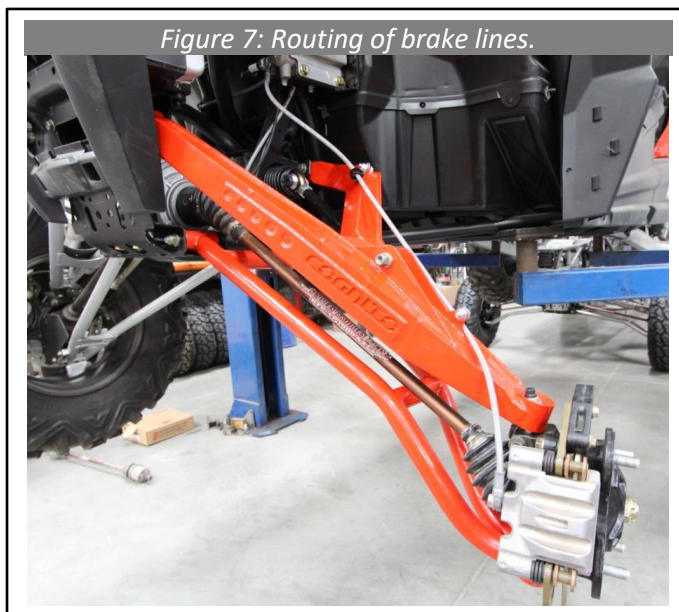
6. Unbolt the lower arm from the car and remove. Unbolt the shock from the upper arm, and the upper arm from the car and remove. Then unbolt and remove the shocks from the car.
7. Locate the Cognito upper control arms. They should already have the spherical bearing and retaining clip installed, please verify at this time.
8. Bolt the uni-ball rod end assembly to the lower control arm with the included $\frac{1}{2}$ " 12 point bolt with a lock washer, and no camber shims, tighten to 80 ft.-lbs. You will notice the rod end will only go into the control arm one way which is designated by the pin and slot. This is there simply to keep the rod end aligned for assembly, once the bolt is tight there is no load on the pin. After we check ride height, we will check camber and shim as needed.
9. Do not use any grease in this step as the poly bushing is supposed to stay fixed with the arm. Press the short bushings into the short pivot tubes and the long bushings into the long pivot tubes. Each arm gets 4 bushings.
10. Now lubricate the inside of the bushings with grease and install the included crush sleeves into the bushings.
11. Mount the control arms in place with the factory pivot bolts. See the parts list above and the part # stamped on each arm to determine proper placement. Torque the pivot bolts to 40 ft.-lbs.
12. Locate the included spindle studs, spherical washers, lock washers, and 12 point bolts. Install the studs in the spherical bearings of the arms now, the lower arms have the stud pointing up and the upper arms have the stud pointing down. Fasten the stud to the spherical bearings with a stainless spherical washer, then a lock washer, then the 12 point bolt and torque to 35 Ft.-lbs. Use a drop of red threadlocker on the threads at the end of the

bolt (farthest from the bolt head) to ensure the threadlocker covers the threads which engage with the spindle pin. Do this on all 4 arms.

13. Install the control arms to the spindles just like stock, torque pinch bolts to 40 ft.-lbs. as shown in Figure 6. Then install the axle and tighten the hub nut to 140 ft.-lbs. Route the brake line like shown in Figure 7 and 8. Then mount the caliper to the spindle and torque to 40 ft.-lbs.



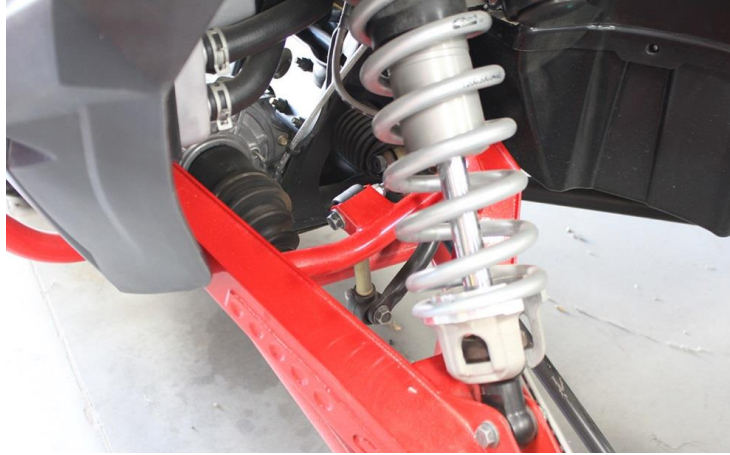
14. Replace the brake lines with the extended brake lines (extending brake lines are required), then use the cushion clamp kit provided and fasten the brake lines to the upper arms as shown in Figure 7 and 8.



15. Bolt the shock in place with stock hardware, tighten to 40 ft.-lbs.

16. Reinstall the sway bar and tighten to 40 ft.-lbs.

Figure 9: Stock sway bar bolts to the upper control arm just like stock.



17. To help brake line clearance with the wheel, see the figures below. In Figure 10, you can see the brake line fitting bolted to the caliper and how far it is from the bleeder. Barely break loose the brake line bolt just enough to rotate the fitting toward the bleeder like shown in Figure 11, then retighten the bolt.

Figure 10: This is stock. The brake line fitting is far from the bleeder screw. This kicks the brake line up close to the wheel.



Figure 11: Brake line is closer to the bleeder but farther from the wheel.



18. Bleed brake system. This process is critical and should be preformed by a qualified mechanic. Failure to bleed the brake system correctly can result in loss of control of the vehicle.
19. Install wheels, make sure everything is tightened appropriately, cycle the steering at ride height and full droop to be sure there are no issues with brake lines.
20. Set ride height, with no passengers and stock height (29") tires, it should be 15.5"-16" for long travel kit. Measure from the ground to the frame gusset underneath the lower control arm rear frame pivot. For larger diameter tires, ride height goes up by the radius change. Must roll the car forward and back ward to get it to settle before measuring.
21. Now that the ride height is set, it is time to look at camber. Start with the left side, get the left front tire heading straight, then look at camber, then get the right front tire heading straight and look at its camber. Whichever side has the most negative camber will be the side that needs no shims. If the other side of the car is leaned over less or has positive camber, you can remove the bolt holding the lower rod end in place and install a shim then fasten back together. 1 thin shim is about .15degrees, 1 thick shim is about .35 degrees. Stack the shims as needed to refine your camber setting.
22. At proper ride height, check front wheel toe measurement, should be 0-1/8" toe in across the tire.

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.