

Top Shock by Cognito Long Travel Shock Kit for 2009 – 2021 Polaris RZR 170 with Cognito long travel suspension kit

### INSTALL INSTRUCTIONS:

Top Shock by Cognito Long Travel Shock Kit for 2009 – 2021 Polaris RZR 170 with Cognito long travel suspension kit  
SKU: 460-91160

### PARTS LIST FOR SKU: 460-91160

QUANTITY	PART #	DESCRIPTION
2	6732	TOP Shock by Cognito Remote Reservoir Shock, Rear
2	6733	TOP Shock by Cognito Piggyback Reservoir Shock, Front
2	SRC-2X1.1/4	Shock Reservoir Clamp
1	HP9180	Hardware Pack



### PARTS LIST FOR SKU: HP9180

QUANTITY	PART #	DESCRIPTION
1	2241	2009-2021 Polaris RZR 170 Brake Line Relocation Bracket
1	HARDWARE-0708765	1/2" Vinyl Cushion P-Clamp
1	HARDWARE-1/4-20X3/4-BH	1/4"-20 X 3/4" 316SS Button Head Cap Screw
1	HARDWARE-33078	1/4" SAE Zinc Flat Washer
1	HARDWARE-37260	1/4"-20 Grade C Zinc Top Lock Nut

### 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.



## INTRODUCTION

Thank you for purchasing the Top Shock by Cognito Long Travel Shock Kit for the 2009 – 2021 Polaris RZR 170. This shock package is calibrated for Cognito long travel front arms, and the rear for stock or wider. This shock kit will fit also on a RZR170 with stock suspension, but best performance is obtained when using the Cognito long travel arm kit. Adding a second child in the car will affect ride height, setup the shocks for the best all-around use for your application.

## REQUIREMENTS

- Must use stock exhaust or an aftermarket that will not interfere with larger shocks of this kit.
- Installation requires a qualified mechanic.
- Follow the OE specifications when replacing or re-installing OE fasteners, retainers, and hardware specified in the OEM manual.
- Always wear safety glasses when using power tools.
- When a lift is required to perform the installation of these products and always ensure the vehicle is properly supported before attempting installation or serious injury may occur.

## TECH NOTES

- Ride height must be setup on each car, as well as the crossover location and the compression adjusters. The shocks come preset to a setting that will be close for the average car weight with the driver and no passenger
- Read instructions carefully and study the pictures (if included) before attempting installation.
- If this product was purchased as part of a kit each kit, and options to kits, are packaged separately. Therefore installation procedures are covered in separate instructions. Familiarize yourself with each specific set of instructions before beginning.
- Check the parts and hardware packages against the parts list to assure that your kit is complete before starting.

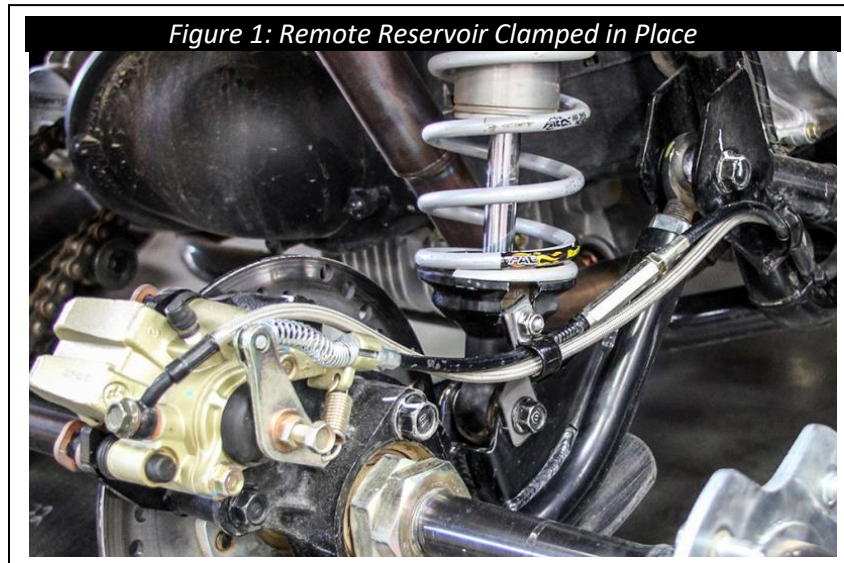
## INSTALLATION

1. Rack the vehicle and lift it off the ground, or if no hoist is available then jack front of vehicle off the ground and support properly with jack stands.
  - **NEVER WORK ON AN UNSUPPORTED VEHICLE.**
2. Remove the OEM front shocks but retain the mounting hardware for re-use.
3. Locate **6733**, TOP Shock by Cognito front shocks with piggyback reservoirs. Mount them onto the vehicle with the piggyback reservoir pointing to the outside the vehicle, closest to the tire, re-using the stock hardware. Torque hardware to **37 ft-lbs.**
4. If the vehicle was not racked and lifted with a hoist, then at this time set the front of the vehicle back down and lift the rear of the vehicle. Support the vehicle properly with jack stands.
  - **NEVER WORK ON AN UNSUPPORTED VEHICLE.**
5. Remove the rear tires and set them as side.
6. Remove the OEM rear shocks but retain the mounting hardware for re-use.
7. Locate **6732**, TOP Shock by Cognito rear shocks with remote reservoirs. Mount them onto the vehicle re-using the OEM hardware, only install the shocks onto the upper chassis mount at this time. The hose fitting for the remote reservoir is on the top of the shock and should point to the rear of the vehicle when installed. Torque hardware to **37 ft-lbs.**
8. Locate **SRC-2x1.1/4**, the remote reservoir clamps. Route the reservoir hose as seen in Figure 1 and then mount the reservoir to the chassis using one of the clamps. It is recommended, for ease of adjustment, to slightly angle the compression adjuster down when securing the reservoir with the clamp.



9. Locate **2241**, brake line relocation bracket, in **HP9180**. On the passenger side, mount the shock to the swing arm with **2241** used as a washer and re-using the OEM hardware. The brake line relocation bracket, **2241**, should be installed so it is sandwiched between the mounting hardware and shock mount, pointing out of the vehicle as seen in Figure 2. Torque hardware to **37 ft-lbs.**

10. Using the remaining hardware in **HP9180**, restrain the two brake lines on the passenger side. Locate the cushioned p-clamp and slide the brake lines into the clamp. Locate the button head bolt and flat washer, place the washer on the bolt and then install the bolt into **2241**, brake line relocation bracket, from the back so the head of the bolt is closest to the shock. Slide the mounting hole of the p-clamp, with the lines inside the clamp, over the bolt and secure it in place with the supplied lock nut. Torque hardware to **12 ft-lbs**.



11. On the driver side, mount the shock to the swing arm re-using the OEM hardware. Torque hardware to **37 ft-lbs**.
12. Ensure that all bolts are properly torqued. Ensure there are no rubbing or loose cables anywhere after the shock installation. Use cable ties to restrain any cables from interfering with any other parts. Check that all lines are free of stress or interference while the vehicle is in full droop, full bump, and throughout the complete steering cycle.
13. Reinstall the rear wheels, torque the lug nuts to factory specifications.
14. Place the rear of the vehicle back on down on the ground.

15. Set the front and rear ride height, for best result set the ride height of the vehicle on flat and level ground. The ride height of the vehicle is adjusted by adjusting the spring preload on the shock. See the shock operation notes at the end of the install procedure for how to adjust spring preload.

**Suggested Ride Height:**

7-inches from ground to bottom of chassis with 20-inch tall tires and no occupants in the vehicle. Adjust ride height up or down as needed based off size of tires and driving conditions.

**Ride Height Adjustment Procedure:**

Settle the suspension by rolling the vehicle backwards and forwards a few times.

Adjust the preload rings on the shocks as needed to raise or lower the vehicle.

Settle the suspension by rolling the vehicle backwards and forwards a few times.

Measure the ride height.

Repeat the process above until the desired ride height is achieved.

Once the desired ride height is achieved lock the preload ring in place with the locking ring, using it like a jam nut.

- **NOTE:**

Due to the design of the front suspension the toe and camber settings will change with ride height. Ride height must be set prior to adjusting the toe and camber to the desired specs.

Due to the design of the rear suspension, it is possible to set the ride height of the vehicle too high which will induce jacking/lifting in the rear end under acceleration. If excessive jacking is experienced, then lower the ride height in the rear of the vehicle. Due to the nature of this vehicles swing arm suspension the rear end will slightly jack/lift even when the ride height is set properly, it is only an issue if excessive jacking is experienced.

***This completes the installation steps, enjoy your new Top Shock by Cognito Long Travel Shock Kit!***

1. Shock Operation Notes:

- **Spring Preload Adjustment:** To adjust the preload the two rings above the springs must be treaded up or down the shock body. The ring touching the spring is the preload ring and sets the preload, the other ring is the lock ring and is only used to lock the preload ring into place once the desired ride height is achieved. To increase the ride height/ spring preload thread the preload ring down the shock, to decrease the ride height/ spring preload thread the preload ring up the shock. Once the desired ride height is achieved lock the preload ring into place with the lock ring like a jam nut.
- **Spring Crossover Adjustment:** The black plastic divider does 2 things, it is the coupler between the 2 springs, but it also locks out when it contacts the crossover rings, thus stiffening the spring rate. The crossover ring is just above the spring divider and it has a locking ring right above it which acts like a jam nut. The crossover ring can be moved closer to or further away from the spring divider to tune the position of the crossover spring rate, getting it to stiffen sooner or later in the stroke.
- **Shock Dampening Adjustment:** The compression adjusters on the reservoir will affect the compression dampening, it is recommended to make changes of 5 clicks at least so that a difference can be easily felt before a fine-tuning adjustment is made. Please note that the inherent nature of the rear suspension on a RZR170 affects the ride comfort while under acceleration, so if the rear ride seems a little harsh while under power, it is because the power transferred from the chain to the rear axle is inherently driving the swing arm down with a lot of force and can make it feel like the rear is harsh. Once up to speed and at a steady speed or under deceleration the rear suspension will work freely. Consider this in your shock adjustments.



## 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.