



## K30-PL1021-0 Spring Kit

If your Zbroz Racing product has a damaged or is missing parts, please contact customer service directly and a new replacement part will be sent to you immediately. Warranty inquiries, please supply photos and description that resulted in failure to [customerservice@zbrozracing.com](mailto:customerservice@zbrozracing.com)

**(435) 753-7774**

Mon-Fri 8am-5pm (MST)

**[customerservice@zbrozracing.com](mailto:customerservice@zbrozracing.com)**

**[www.zbrozracing.com](http://www.zbrozracing.com)**

**\*\*Please keep these instructions for future reference.\*\***

### Limited Lifetime Warranty

Zbroz Racing will warranty to the original purchaser any failed Zbroz Racing suspension product in the event of failure due to construction or material failure of the product. You will be required to contact Zbroz Racing customer service with description and photos that resulted in failure.

Zbroz Racing builds suspension products to meet and exceed your expectations in quality, performance and durability. All Zbroz Racing suspension products are rigorously tested during development and prototype parts are pushed to the limit by professional industry athletes, backcountry athletes and race teams.

Zbroz Racing Limited Lifetime Warranty excludes the following wear parts as these parts are considered defective when worn: Ball Joints, Bushings, Bump Stops, Tie Rod Ends, Heim Joints, Shock Absorbers

**This product warranty is voided if the vehicle is not aligned after kit installation and proper maintenance is routinely done.**

Product purchased directly from Zbroz Racing has a 90 day return policy on uninstalled products from the date of purchase (may be subject to restocking fee). Uninstalled product returns must be in the original Zbroz Racing packaging. Please call (435) 753-7774 to get an RGA# for any return. Customer is responsible for shipping costs back to Zbroz Racing. Returns without RGA# will be refused. Contact Zbroz Racing directly about any potentially defective parts prior to removal from vehicle.

Zbroz Racing is NOT responsible for any subsequent damages to any related vehicle parts due to misuse, abuse, improper installation, or lack of maintenance. Furthermore, Zbroz Racing reserves the right to change, modify or cancel this warranty without prior notice.



Read instructions thoroughly and completely before beginning installation.

Zbroz Racing is not responsible for damage or failure resulting from improper installation.

## Safety Warning

Misuse of this product could lead to injury or death.

Suspension systems or components that enhance the on and off-road performance of your vehicle may cause it to handle differently than it did from the factory. Extreme care must be used to prevent loss of control or vehicle rollover during abrupt maneuvers.

Always operate your vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Failure to drive safely may result in serious injury or death to driver and passengers.

Driver and passengers must ALWAYS wear your seat belts, avoid quick sharp turns and other sudden maneuvers.

Zbroz Racing does not recommend the combined use of suspension lifts, body lifts, or other lifting devices.

You should never operate your vehicle under the influence of alcohol or drugs.

Constant maintenance is required to keep your vehicle safe. Thoroughly inspect your vehicle before and after every off-road use.

It is the responsibility of the retailer and/or the installer to review all state and local laws, with the end user of this product, related to bumper height laws and the lifting of their vehicle before the purchase and installation of any Zbroz Racing products.

It is the responsibility of the driver/s to check their surrounding area for obstructions, people, and animals before moving the vehicle.

All raised vehicles have increased blind spots; damage, injury and/or death can occur if these instructions are not followed.

## Installation Warning

All steps and procedures described in these instructions were performed while the vehicle was properly supported on a two post vehicle lift with safety jacks. Use caution during all disassembly and assembly steps to insure suspension components are not over extended causing damage to any vehicle components and parts included in this kit. Included instructions are guidelines only for recommended procedures and are not meant to be definitive.

Installer is responsible to insure a safe and controllable vehicle after performing modifications. Zbroz Racing Suspension recommends the use of an OE Service Manual for model/year of vehicle when disassembly and assembly of factory and related components. Unless otherwise specified, tighten all bolts and fasteners to standard torque specifications listed within the OE Service Manual.

Suspension components that use rubber or urethane bushings should be tightened with the vehicle at normal ride height. This will prevent premature wear or failure of the bushing and maintain ride comfort.

Larger tire and wheel combinations may increase leverage on suspension, steering, and related components. Due to payload options and initial ride height variances, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle ride height. Always measure the vehicle ride height prior to beginning installation.



## Installation Instructions: K30-PL1021-0

Spring Kit For FOX Live Valve Shocks

Application: Polaris RZR XP Turbo S (2018-2020) \*2 Seater Models



BILL OF MATERIALS	QTY
Front Main Springs	2
Front Tender Springs	2
Front Billet Cross Over Rings	2
Rear Main Springs	2
Rear Tender Springs	2
Rear Billet Cross Over Rings	2
Tuned By Reservoir Decals	4

TOOLS REQUIRED
Floor Jack Or Lift
18mm Wrench/Socket Set
3/32" Allen Wrench
Flathead Screwdriver
Rubber Mallet

This spring kit can be installed with shocks on your RZR by using a floor jack or lift. Select a flat install location. If using floor jack, always make sure to block tires - work safely!

If removing shocks for installation. Back OEM Preload rings on all shocks before removing. Use a solid mounted vice for installation.

### Follow These Steps First:

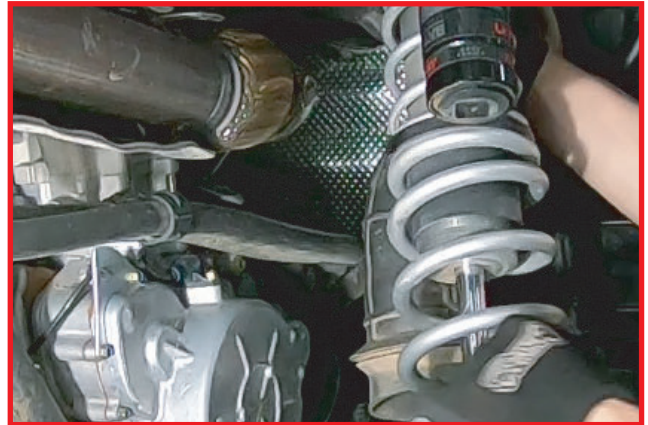
1. Measure current ride height at front center frame point and rear center frame point.
2. Write down these measurements for before and after installation notes.
3. If removing shocks, label each shock to eliminate installation problems with the piggyback reservoirs positioning/clocking when reinstalling.
4. Clean shocks! Remove all dirt and mud.
5. Lift RZR using a floor jack or lift and remove tires.
6. **Make sure RZR ignition is off so that your FOX Live Valve Shocks will fully extend during installation.**

## Rear Shocks Spring Kit Installation:

Move bump stop up 3 inches for removal of OEM lower spring retainer. Use flathead screwdriver as shown.



Rotate OEM spring stack and preload ring counter clockwise to the top of the threaded shock body.

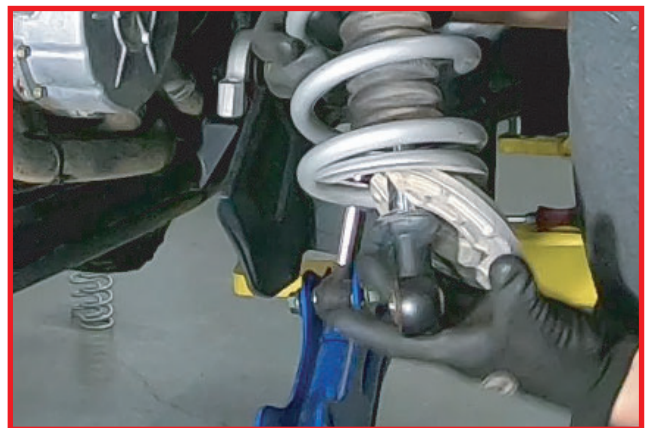


Disconnect lower shock bolt from trailing arm. Swing lower shock rearward and out.

Size: 18mm

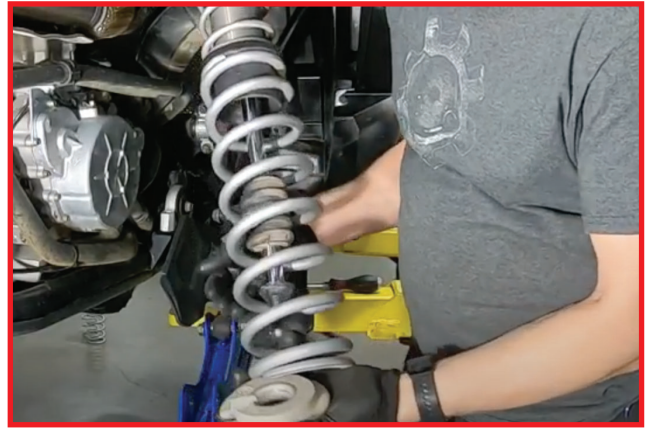


Push up on spring stack to remove OEM lower spring retainer.

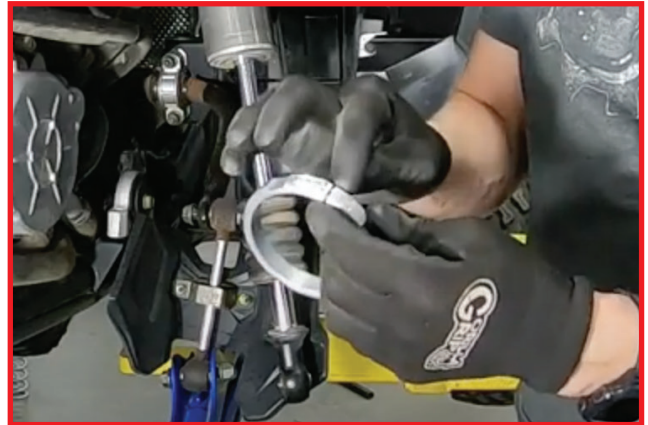


## Continued Rear Shocks Spring Kit Installation:

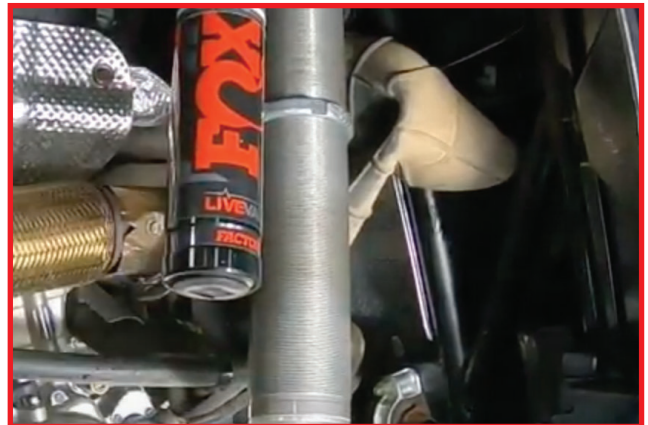
Remove OEM spring stack. Reuse OEM spring divider, OEM lower spring retainer.



Install new rear billet cross over ring. Loosen the allen screws with a 3/32" allen wrench. Do not loosen allen screws all the way out.



Starting at the bottom of the threaded shock body, rotate the cross over ring counter clockwise up the threaded shock body. Be careful not to cross thread and damage cross over ring or threaded shock body. Set cross over ring 6" from shock body cap. Do not tighten cross over ring , it will need to be moved once preload is set.



Install new rear tender spring.



## Continued Rear Shocks Spring Kit Install:

Install OEM spring divider with long end pointing down.



Install new main spring and OEM lower spring retainer.



Reconnect shock to trailing arm.

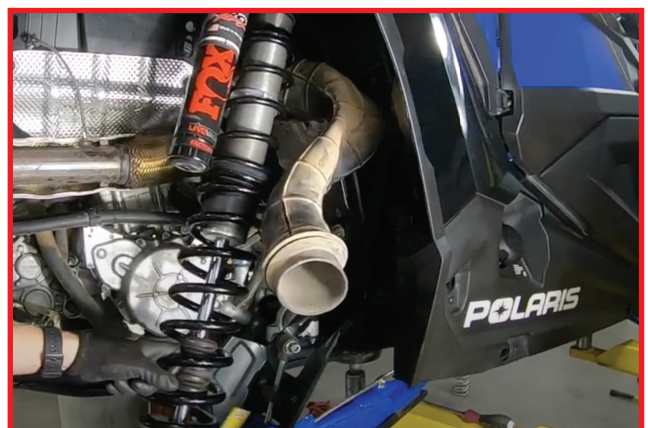
Size: 18mm

Torque shock bolt at 42ft-lbs.



Set "zero Preload" by pressing down on trailing arm and holding to fully extend internal bump stop spring. Rotate preload ring clockwise until spring stack contacts preload ring.

Rotate billet cross over ring clockwise to OEM spring divider at the same time. Do not tighten allen screws on cross over ring at this point.



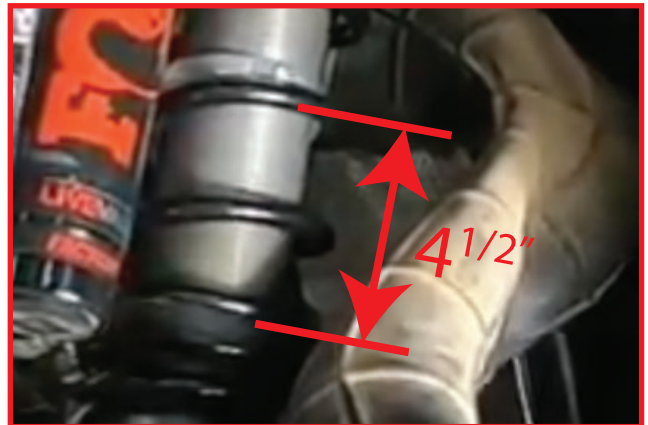
## Continued Rear Shocks Spring Kit Installation:

Set "Preload" by rotating Preload ring clockwise 6 full rotations. Use 3/8" punch if difficult to rotate by hand.

\*Additional Preload may be needed depending on after-market accessories (bumper, cage, tire carrier, stereo system).



Set cross over ring by measuring 4 1/2" from top of spring divider. Then tighten cross over ring screws.



Align or clock lower coil end of new tender spring to upper coil end of new main spring. This reduces spring deflection.



Install "Tuned by Zbroz" reservoir decals.

Repeat steps to install spring kit to other rear shock.



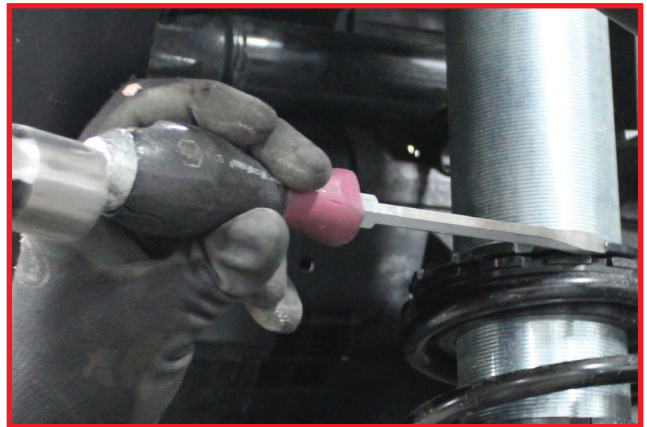
## Front Shocks Spring Kit Installation:

Optional: Disconnect And Remove Front Sway Bar. Due to this progressive dual rate spring setup, your front sway bar is no longer necessary for most riding terrain applications.

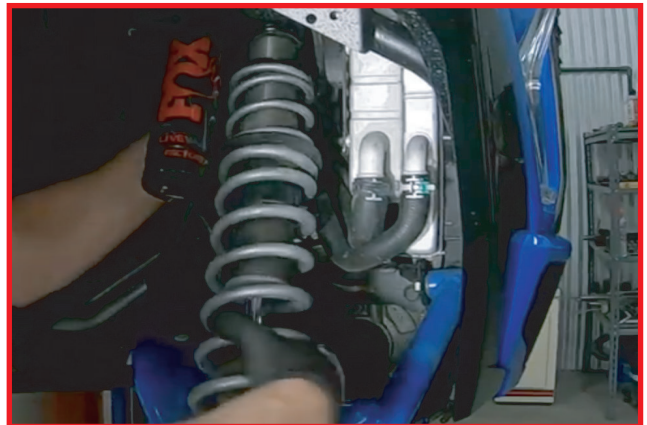
Move bump stop up 3 inches for removal of OEM lower spring retainer. Use flathead screwdriver.



Loosen OEM upper preload ring from OEM lower preload ring. Use flathead screwdriver and hammer or mallet.



Rotate OEM preload rings counter clockwise all the way to top of threaded shock body. OEM spring stack is now loose.



Disconnect lower shock bolt from upper a-arm.

Size: 18mm



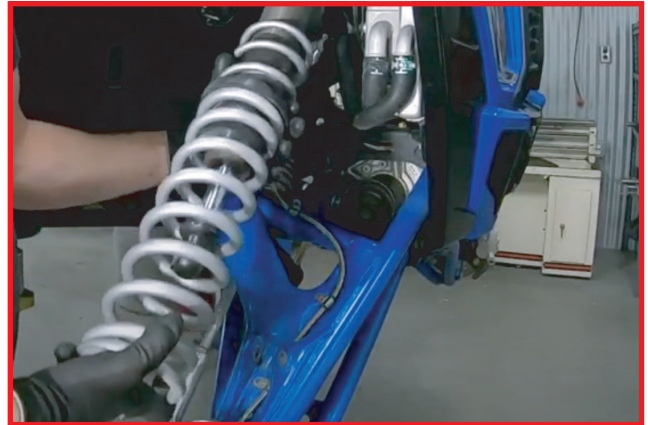


## Continued Front Shocks Spring Kit Installation:

Push up on spring stack to remove OEM lower spring retainer.



Remove OEM spring stack. Discard OEM springs. Keep and reuse OEM spring divider and OEM lower spring retainer.



Install new front billet cross over ring. Loosen the allen screws with a 3/32" allen wrench. Do not loosen allen screws all the way out.



Starting at the bottom of the threaded shock body, rotate the cross over ring counter clockwise up the threaded shock body. Be careful not to cross thread and damage cross over ring or threaded shock body. Set cross over ring 6" from shock body cap. Do not tighten cross over ring, it will need to be moved once preload is set.



## Continued Front Shocks Spring Kit Installation:

Install new tender spring with progressive or tighter coils towards top. This allows room for adjusting billet cross over ring. Install OEM spring divider with long end pointing down.



Install new main spring.



Install lower OEM spring retainer by reconnecting lower shock bolt to a-arm. Push down and hold a-arm to fully extend internal bump stop spring.

Size: 18mm

Torque shock bolt at 42ft-lbs.



Set "zero Preload" by pressing down on a-arm and holding to fully extend internal bump stop spring. Rotate preload ring clockwise until spring stack contacts preload ring.

Rotate billet cross over ring clockwise to OEM spring divider at the same time. Do not tighten allen screws on cross over ring at this point.



## Continued Front Shocks Spring Kit Installation:

Without pressing down on a-arm, set "preload" by rotating OEM lower preload ring 4 to 6 full clockwise rotations. Mark or scratch a line on the OEM preload ring so that you can count full rotations. Then rotate OEM upper preload ring clockwise. Use flathead screwdriver and hammer/mallet to tighten preload rings.



Align or clock lower coil end of new tender spring to upper coil end of new main spring. This reduces spring deflection.

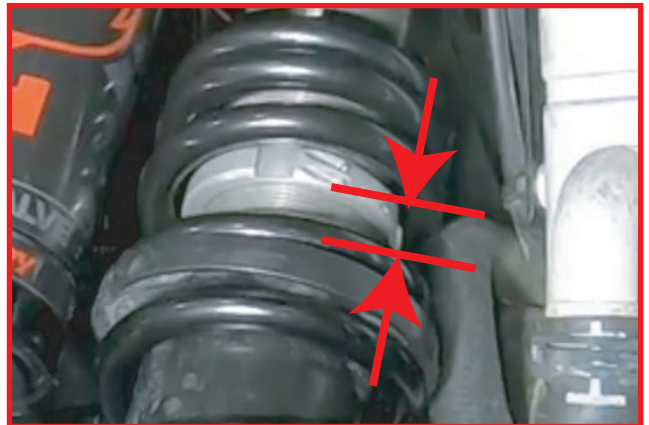


Position cross over ring so that there is a 3/4" to 1" gap between bottom edge of cross over ring and top edge of spring divider. Tighten allen screws.

\*3/4" if you are removing sway bar

\*1" if you are keeping sway bar connected

This is a general starting point and can be adjusted as needed.



Install "Tuned by Zbroz" reservoir decals.

Repeat steps to install spring kit to other front shock.



# Final Spring Kit Installation:

## Optional: Disconnect And Remove Front Sway Bar

Due to this progressive dual rate spring setup, your front sway bar is no longer necessary for most riding terrain applications.

## Install Tires And Torque Lug Bolts As Follows:

Steel Wheels: 30ft-lbs | Aluminum wheels: 27ft-lbs

Torque Wheels to OE specs as shown in your owners manual

## Check Ride Height Setup:

Drive RZR around at slow speed, turning left and right to settle spring kit. Coast to stop, do not apply brakes to ensure spring kit is naturally settled. Measure and compare ride height measurements with pre-install measurements. Adjust by adding or removing Preload.

How to Adjust:

With tires on, use a floor jack or lift so that shocks are fully extended and adjust as follows:

If Ride Height is too TALL:

- Rotate OEM Preload ring 2 full counter clockwise rotations, settle spring kit and check.

If Ride Height is too LOW:

- Rotate OEM Preload ring 2 full clockwise rotations, settle spring kit and check.

## Check Rear Cross Over Ring Setup:

With Preload and ride height set, check measurement of rear cross over rings. The distance between the cross over ring and spring divider determines when the main spring is engaged.

How to Adjust:

With tires on, use a floor jack or lift so that shocks are fully extended and adjust as follows:

General Recreation for Mountain Trail, Desert/Dune and Rock Crawling:

- Set cross over ring at 4 <sup>1</sup>/<sub>2</sub>" from spring divider. This will deliver increased control, plush ride feel, roll stability and bottoming resistance.

Low Speed Mountain Trail and Rock Crawling:

- Move cross over ring away from spring divider to engage main spring slower. This will deliver a plush ride feel and maximum articulation at slow speeds. Do not exceed 5 <sup>1</sup>/<sub>2</sub>".

High Speed Desert/Dune and Mountain Trail Driving:

- Move cross over ring closer to spring divider to engage main spring faster. This will deliver more increased bottoming resistance and G-Out control.

Check Ride Height and Cross Over Setup after the first 200 miles of use and adjust as needed.



## Results of Installing this Zbroz Racing Spring Kit

Ride Height Gain: average ride height increase is 2"

Aggressive Stance: allows fitment of larger tires

Tune-able Progressive Spring Setup: soaks up small bumps better before initiating main springs

Bottoming resistance: increased bottoming resistance with tune-able cross over rings

Reduced body roll: tuned spring setup delivers increased control when turning and cornering

Race inspired durability: premium quality / high tensile / light weight / springs that won't sag

### Typical Result for RZR's with OEM Tires

**BEFORE**



**AFTER**



**BEFORE**



**AFTER**

