



## INSTALLATION AND TUNING INSTRUCTIONS FOR POLARIS RANGER

Congratulations on your purchase of 814 UTV shocks. You can Rest assured that you are getting the best value for your dollar with 814 UTV shocks.

Please visit [www.814utvsuspension.com](http://www.814utvsuspension.com) for assembly and installation videos.

It is important to note that your shocks should NEVER be used as a travel limiter. Straps or cables made for travel limitation must be used to prevent topping out. The use of these shocks without limiting straps will void any warranty policies.

Part# UTV13A will be the front shocks with the corresponding sleeves to accept the 10mm front bolts.

Part# UTV15A will be the rear shocks with the corresponding sleeves to accept the 10mm rear bolts

Shock Part #'s are on the shock package and not on the shocks themselves

### INSTALLATION

1. Verify that your shocks are the correct lengths and mount style before beginning installation. Contact 814 UTV Suspension if you have any questions. Products that are used, installed or modified in any way are not eligible for return.

\*\*\* Rubber Shock bumpers will need to be pulled down the shock shaft approx. 2" to allow the spring retainer hat to be installed above the shock bumper ( shock bumper is at the top of the shaft to allow shocks to fit in the packaging for shipping) \*\*\*

2. Install snap ring into groove of shock eye, insert spherical bearing until it seats against snap ring

3. Apply anti-seize to the threads on the nuts and the shocks. The warranty is void and does not cover damage to the shock resulting from failure to apply anti-seize prior to making ride height adjustments.

4. Jack your vehicle up until the tires do not touch the ground and the suspension hangs freely and remove the wheels/tires. Remove the shocks/springs and retain all mounting hardware.

5. **On Polaris Ranger Models the shocks will be mounted with adjuster knobs down.** On some model Rangers with aftermarket components clearancing could need to be done to the shock mounts to allow fitment and articulation of the shocks. Test fit your shocks ( with no springs) onto the chassis and move the suspension through the entire travel range to ensure that it does not come into contact with a mount causing the shock to bind.

**\*\*\* Shock mounts can be “smashed” from the factory requiring the mounts to need spread for proper shock fitment\*\*\***

**In some cases extra washers are provided to take up any extra space between shock and mount if needed**

**If you are unsure of proper clearance contact 814 UTV suspension. Any shock damage due to contact or binding will void any warranty.**

6. Install lock nut, adjuster nut and thrust washer like shown in the video at [www.814utvsuspension.com](http://www.814utvsuspension.com). **\*\*\* Shock Bumper will need pulled down on the shaft far enough that the spring cap can be installed above it\*\*\*** Install spring and spring cap. (Adjuster and lock nut will need to run to the bottom of threads for shock to be installed to a-arms)

7. Install complete coil-over shock. Turn adjuster nut up by hand until there is tension against the spring (spring should not be loose at this point), with limiter straps installed turn both spring and adjuster nut with both hands and apply pre-load to the point you feel resistance and can't preload the spring anymore ( this is a good starting point to set the machine on the ground and measure).

8. Reattach the wheels/tires, Remove the jack stands and place the vehicle on the ground to check clearances again. Bounce the vehicle at all 4 corners to verify that there are not any clearance issues .

#### ADJUSTING SPRING PRE - LOAD/RIDE HEIGHT

The warranty is void and does not cover damage to the shock(s) due to incorrect ride height or by making ride height adjustments without the wheels/tires raised off the ground.

Ride height defined is the measurement from center of upper shock bolt to center of lower shock bolt with the machine sitting on the ground.

On a Polaris Ranger with limiter straps installed an **initial** ride height measurement of 17" - 17.5" front / 21" - 21.5" rear is trying to be achieved with the machine sitting on the ground.

**After the first 10 -20 miles on the springs they will cycle and settle approx. .5" to 17" front / 21" rear, this is where the ride height will need to be after the initial cycling of the springs and there may be no need to re pre-load the springs.**

1. To achieve a greater ride height jack the vehicle up so tires are off the ground and suspension hangs freely, using both spanner wrenches (1 on each adjuster/loc nut) turn the aluminum nuts in opposite directions to free the loc nut from the adjuster nut. NEVER try and pre-load a spring while the loc nut is against the adjuster nut. This can result in shock damage and voids any and all warranty.
2. Using spanner wrench turn the adjuster nut adding pre-load to the spring.
3. Set the vehicle back on the ground and recheck ride height measurement (bolt to bolt).
4. Repeat this process until proper ride height is achieved.

#### TUNING AND ADJUSTMENT INSTRUCTIONS

Viking shocks have a total of 19 positions (18 clicks plus a zero position) of adjustment per knob, for a total of 361 different valvings. Compression and rebound are independently controlled on the Viking shocks. The "C" knob adjusts compression The "R" knob adjusts rebound.

Position zero is the softest setting and is found by turning the knob full counterclockwise until the positive stop is located. Position 18 is the stiffest setting (full clockwise). Only very light force is needed to adjust the knobs, do not ever force the knob past it's intended stop as doing so will damage the shock.

Shock settings are based on spring rates, type of terrain, speed and cargo hauled

To properly tune 814 shocks to your riding style start by setting all 4 compression knobs on full soft & all 4 rebound knobs on 7 as you ride stop the machine and click **JUST THE FRONT** compression knobs 2 clicks stiffer, continue riding a distance then stop and increase compression 2 more clicks stiffer, continue doing this until the ride is too stiff then go back to what setting felt the best. At this point go to the rear compression knobs and do the exact steps as you did to the front. Tuning in this manner will allow you to go through the spectrum of soft/stiff and help you adjust to the proper setting for your riding style.

As speed and cargo being hauled increases you will want to adjust the knobs to a stiffer setting.

Compression should be increased immediately by 1-2 clicks if bottoming out occurs.

Continuous bottoming of a shock will lead to shock damage/failure

If you are on the upper end of the compression settings it could be possible that you need stiffer springs for your type of riding.

Increasing rebound controls the amount of body roll you will experience. Take into account as rebound rate is increased it slows the extension speed of the shock and it's ability to set-up for the next "hit". It's possible to get too stiff of a rebound setting causing the shock to bottom out on compression due to lack of compression stroke available.

### SHOCK TUNING TIPS

Bottoms out/soft throughout travel – Increase compression dampening

Harsh over small bumps – reduce compression dampening

Takes first bump in a series well but harsh over later bumps – Reduce rebound dampening

Chatters over small bumps during braking or down hill – Reduce preload/ decrease compression

Front/Rear end springs back too quickly after bumps / poor traction in bumpy corners – Increase rebound

If you need assistance installing or tuning your shocks please give us a call

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