Level 4 Spring Kit
Fox Edition

Thank you for purchasing the Shock Therapy Level 4 spring kit. This kit will convert the factory spring system into a true dual rate spring system using our “silent” cross over rings and new custom rate springs. Included in the kit: four “silent” cross over rings with hardware, four O-rings and 8 new springs with 8 spring adaptors. Other than basic hand tools you will need a jack, spring compressor (optional) and preferably a bench vice.
Step one: Remove the rear shocks from your RZR. This is best done by jacking up your RZR until the tires are barely off the ground. By using 18 mm tools, you can remove the bottom and top bolts holding the shock to the chassis. If you lift up a bit on the tire while you remove the bolts it will make sliding the bolt out easier. Once the shock is off the RZR, remove the mounting spacers and O-rings on each end of the shock so they are not lost.

Step two: Remove the factory springs. Place the shock upside down in a vice so it is tight in the vertical position. Next, spin pre-load collars (two black tooth rings on the top spring) toward the top of the shock loosening the tension on the springs. Remember, the shock is upside down in your vice. After a few inches the springs will become loose. Next, push the bump stop inside the lower spring retainer down the shock shaft and out of the way of the spring retainer. With the springs loose, remove the lower spring retainer from the bottom shock mount. You can now remove the springs and the plastic spring divider from the shock.

Step three: Install the “silent” cross over nut. Grab a tape measure to locate the pre load and “silent” cross over ring locations. All measurements are taken from the point where the round, threaded shock body ends and the top, billet cap starts. From this point, measure down 11” and make a mark for the location of the BOTTOM of the “silent” cross over ring. Now, remove the Allen bolts from the two piece ring and bolt it to the shock body with the bottom of the ring at your mark. Use a 7/64 Allen tool. The bottom of the cross over ring has a recessed groove in it for the O-ring to sit. The top of the ring is flat. If you have the ring on upside down the O-ring will fail prematurely. Now slide the O-ring on the shock and roll it all the way to the “silent” cross over nut. Try to have the hardware for the cross over nut facing outward (as the shock mounts on the car) so that you will have easy access to it if you would like to adjust the position in the future. Now, install the first spring adaptor so the flat surface touches the pre-load collar and the raised side touches the new upper spring. Install the new upper spring. Now, install the second spring adaptor ring. Next, install the factory plastic spring divider. Make sure the plastic divider has the long
portion facing the bottom of the shock. Also, there are 2 arrows on the plastic divider. This is where the end of each spring should sit. The top spring ends on one arrow and the bottom spring on the other arrow. If you do not have the orientation correct, the plastic divider will be very noisy as it slides up and down the shock body. If you don’t have arrows on your divider then place the ends of both springs 180 degrees apart from each other where they touch the plastic divider. Compress the new springs and install the lower spring retainer and spin the pre load collar tighter to re-establish your pre load on the springs. The pre-load setting is 5” to the top of the upper spring. Install the mounting spacers and O-rings again. You may want to use a little grease on the O-rings because if they get dry they will squeak when you are driving.

Step four: Install the shock on the RZR lifting the tire slightly to get the bolts started. Go back to step one and repeat the steps on the second shock. Once both shocks are back on the RZR, let the jack down and set the RZR on the ground.

Step five: Remove the front shocks with 15 mm tools. Place the shock upside down in the vice and loosen the pre-load collars until the springs are loose. Lower the bump stop and remove the lower spring perch. Remove the springs and plastic divider. Grab your tape measure and mark the location of the cross over ring at 5.75”. Install the cross over ring with the O-ring groove facing the bottom of the shock. Install the O-ring. Install the new upper spring. Install the plastic divider and the lower spring with the springs clocked 180 degrees apart where they touch the divider. Compress the springs and install the lower spring perch. Lower the pre load collars down to 2.75”. Install the shock on the front of your car and repeat with the other shock. Lower the car on the ground and get ready to set your ride height.
You must drive it 100 yards or so to get the springs and suspension to settle properly for an accurate measurement. Stop the RZR slowly without much brake on a level spot. The FRONT ride height should be between 13.5” and 14” with noone in the RZR. This measurement is taken from the bottom of the frame where the lower control arm bolts to the chassis next to the fire wall. If you are low or high jack up the RZR and adjust the pre-load collar up to lower the RZR or down to raise it. Pre-load collar adjustments are about half of what you need in ride height. Example, if you need ½” more ride height you should lower the collar about ¼”. The rear should be about 1” lower than the front or between 12.5” and 13” of ground clearance. This is measured in the center of the RZR, from the bottom of the chassis just below the rear tow hook. Always drive the RZR between adjustments. You are done!

The “silent” cross over ring is designed to bring the higher spring rate of the lower spring into play as you compress the suspension. The lower spring is much stiffer than the upper springs are. The combined spring rate of both the upper and lower springs together is considerably lighter than the lower spring rate. By adjusting the cross over up on the shock further away from the plastic spring divider, you can produce a much more plush ride longer. However, by doing so, you affect the timing in which the lower spring would come into play giving you less assistance from bottoming out. Since the RZR’s are under sprung in the front from the factory they react well with the “silent” cross over ring lower and fairly close to the spring divider in front. With one person in the car you are good with ½” to 1” of space between the divider and the bottom of the cross over ring. Another thing to consider is that the lower you run the cross over the sooner the bottom spring comes in which will limit front end dive under braking and front end roll in turns. Feel free to adjust the “silent” cross over rings and find out what you prefer. Our starting point is an all-around good place to be for most drivers. In the rear, you need a little more space between the cross over nut and the spring divider so that the rear stays plush and softer for longer. This keeps the rear settled down in the whoops as well as less kicking and lower when jumping. Start with the compression adjusters all the way loose which is turned counter clock wise. This will be the plushest ride possible. Only adjust the compression adjusters on the shocks stiffer (clockwise) if you bottom the RZR out in big hits routinely. If you only bottom it out once or twice on an hour long ride that is just about perfect. If you bottom it out 10 times on the same ride you need to stiffen it up. Only adjust what is bottoming out. If it is just the front that hits then turn just the front shocks up 2-3 clicks (clockwise). If the bottoming is cured then leave it alone. If it continues then turn another 2-3 clicks into it until it stops. Once you find a happy place
for the adjusters and your driving style, then and only then should you play with the height of the “silent” cross over rings to further tune your suspension. The order in which you NEED to proceed with tuning is:

1. Ride Height
2. Compression adjusters
3. “Silent” cross over rings (maybe)

The cross over rings are designed to be rubbed by the coil springs in the rear. As the spring compresses it vibrates side to side and can rub the cross over ring. This is normal. Sometimes the factory lower spring isn’t very flat on top and can cause the upper spring to bow. You will notice this by looking at the plastic spring divider when the car is on the ground. If it is fairly straight with the shock body you’re good to go. But if it is sitting sideways a bit then your lower spring is causing this. Jack the car up and clock the upper and lower springs 90 degrees apart from each other by twisting them by hand instead of 180 degrees apart like the arrows on the divider want them to be. This may get the divider to sit straighter and allow the upper spring to rub the cross over ring less.

Now don’t think about it anymore. Go drive it!