



**ATV**  
**PODIUM X**  
OWNER'S MANUAL



**NOTICE: THE ATVS PICTURED IN THIS MANUAL MAY NOT RESEMBLE YOUR ACTUAL ATV. IN ANY CASE, THE PROCEDURES OUTLINED IN THIS MANUAL WILL CORRECTLY ENABLE YOU TO MOUNT, SETUP, AND TUNE THE FOX PODIUM X ON YOUR PARTICULAR ATV MODEL.**



**DENOTES INFORMATION THAT, IF NOT FOLLOWED, CAN CAUSE DAMAGE TO YOUR SHOCK OR LEAD TO SERIOUS INJURY OR DEATH.**



**DENOTES INFORMATION THAT MAY NOT BE OBVIOUS, OR THAT CAN HELP THE RIDER OUT WITH A DIFFICULT SITUATION.**

# TABLE OF CONTENTS

<b>CONGRATULATIONS!</b>	<b>1</b>
<b>CONSUMER SAFETY</b>	<b>1</b>
<b>UNDERSTANDING THE PODIUM X</b>	<b>2</b>
READING THE SPRING RATE	4
SPRING ORIENTATION	4
CHANGING SPRINGS (SINGLE SPRING)	5
CHANGING SPRINGS (DUAL SPRING)	6
<b>MOUNTING THE PODIUM X</b>	<b>8</b>
MOUNTING A REMOTE RESERVOIR	8
<b>SETTING UP THE PODIUM X</b>	<b>9</b>
ADJUSTING SPRING PRELOAD (SINGLE AND DUAL SPRING)	11
ADJUSTING SPRING CROSSOVER (DUAL SPRING ONLY)	12
<b>TUNING THE PODIUM X</b>	<b>15</b>
GENERAL GUIDELINES	15
TUNING RECOMMENDATIONS	15
SPRING FORCE	16
CROSSOVER POINT	16
REBOUND DAMPING	17
COMPRESSION DAMPING	19
HOW THE DSC WORKS	20
WHAT THE COMPRESSION ADJUSTMENTS DO	21
<b>MAINTAINING THE PODIUM X</b>	<b>22</b>
SHOCK REBUILD	22
<b>QUICK REFERENCE GUIDE</b>	<b>24</b>
<b>TUNING NOTES</b>	<b>26</b>

## PODIUM X

### FEATURES

- Lightweight aluminum body
- DLC coated shaft for reduced friction
- Position-Sensitive Damping on some models
- Piggyback body caps on some models
- Race-proven oil damping system
- External rebound damping adjuster
- External Dual Speed Compression (DSC) damping adjuster
- 100% rebuildable and revalveable
- 1-year factory limited warranty
- Spherical bearing ends
- 90-day valving guarantee

### DUAL SPEED COMPRESSION (DSC) ADJUSTER

### PIGGYBACK BODY CAP

### SHOCK BODY

### PRELOAD RING

### RESERVOIR

### CROSSOVER RING

### TENDER COIL SPRING

### SPRING COUPLER

### MAIN COIL SPRING

### SHAFT

### BOTTOM-OUT BUMPER

### SPRING RETAINER

### REBOUND ADJUSTER

### LOWER EYELET/CLEVIS MOUNT (EYELET SHOWN)



Single spring version used on certain applications

Remote reservoir required for certain applications

## CONGRATULATIONS!

Thank you for choosing the FOX PODIUM X for your ATV. In doing so, you have chosen one of the finest suspension shocks in the world. FOX Racing Shox products are designed, tested and manufactured by professionals in the industry in Santa Cruz County, California, USA.

As a consumer and supporter of FOX Racing Shox products, you need to be aware of the importance of setting up your shock correctly to ensure maximum performance. This manual provides step-by-step instructions of how to setup and maintain your shock. It is a good idea to keep your receipts with this manual, and refer to it for service and warranty issues.

This manual does not contain step-by-step detailed service instructions for a reason: FOX recommends that detailed service be performed by FOX Racing Shox or a qualified suspension professional.

For service and warranty information, refer to the **Quick Reference Guide** on page 24.

## CONSUMER SAFETY



**RIDING AN ATV CAN BE DANGEROUS AND CAN RESULT IN DEATH OR SERIOUS INJURY.**

Take your responsibility to yourself and others seriously, and heed the following safety tips:

- Keep your ATV and suspension system in optimal working condition.
- Wear protective clothing, eye protection and always fasten your helmet before you ride.
- Know and ride within your limits.

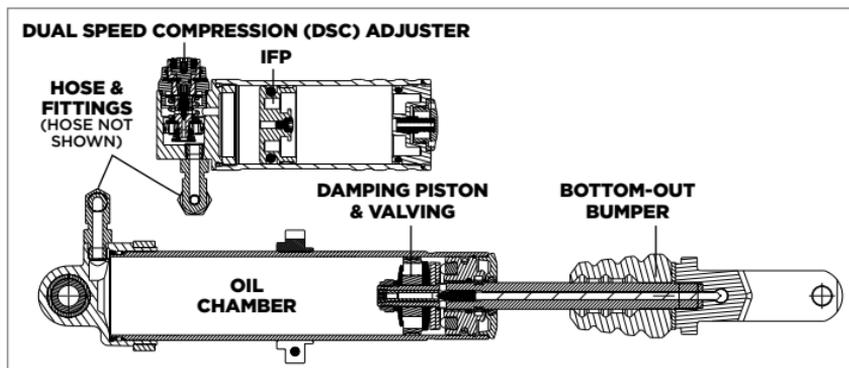
PODIUM X shocks contain a high-pressure nitrogen charge. The charged portion of the shock should only be opened by a FOX Racing Shox technician or a qualified suspension professional.



**OPENING A NITROGEN PRESSURIZED SHOCK CAN BE DANGEROUS AND CAN RESULT IN SERIOUS INJURY OR DEATH.**

## UNDERSTANDING THE PODIUM X

Your PODIUM X shock absorber sets the industry standard for performance and durability. The PODIUM X has external compression and rebound damping adjusters, as well as spring preload and crossover location adjustments (dual spring only). The PODIUM X contains a high strength 2-inch bore aluminum body, and a 5/8" steel damper shaft that is super finished for low-stiction and long seal life. The springs that come on your PODIUM X are customized for your weight, riding style and terrain.

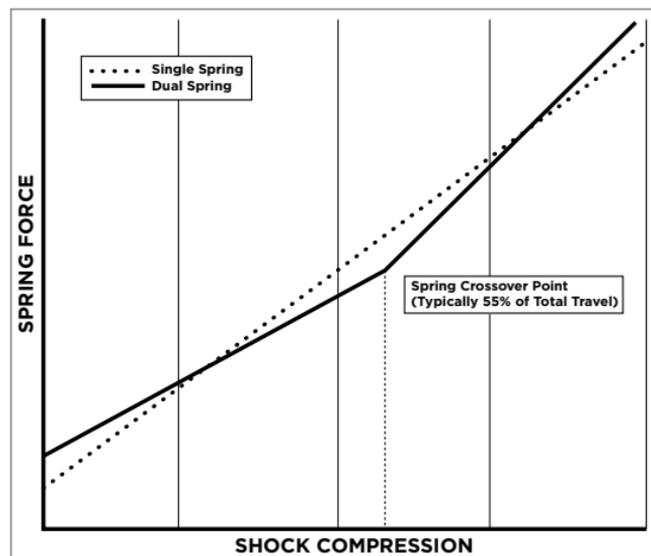


PODIUM X Cross-Section

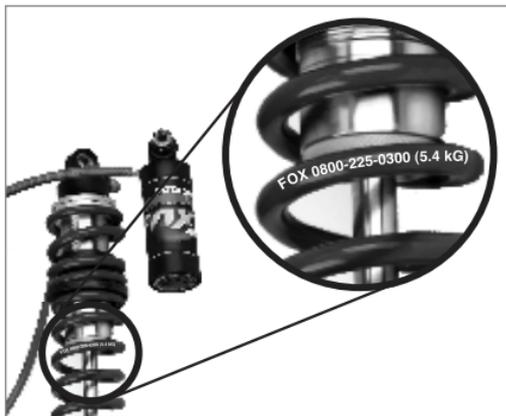
Your PODIUM X shock will either be fitted with dual springs or a single spring, depending on your particular application. To maximize performance, different swingarm and linkage combinations require different springs.

A single spring shock has a linear spring rate throughout the shock travel. Ride height (sag) adjustments are made by adjusting the spring preload.

A dual spring shock has a main spring (long) and a tender spring (short), which combine to give a softer initial spring rate with a stiffer spring rate deep into travel. The vehicle ride-height (sag) adjustments are made by varying spring preload, similar to the single spring shock (see **Adjusting Spring Preload** on page 11). The shock bottoming resistance can be tuned by adjusting the spring “crossover.” The spring crossover is the point in the shock travel where the spring rate increases. The default setting is 55% of total shock travel. For information on changing your spring crossover, refer to **Adjusting Spring Crossover** on page 12.



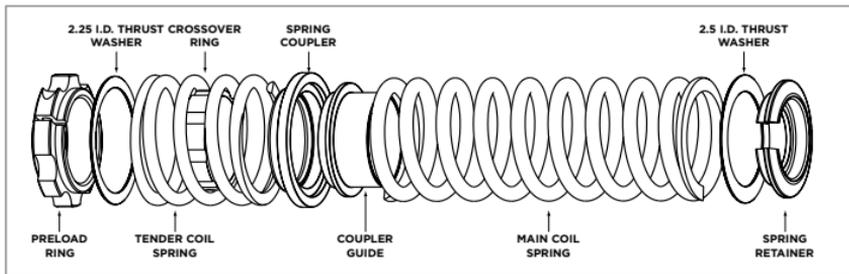
## READING THE SPRING RATE



The spring rate is printed directly on the shock spring. The spring to the left has an 8" free length, a 2.25" ID, and a 300 lbs/in spring rate.

## SPRING ORIENTATION

When placing the spring(s) back on the shock body, it is important that the components are assembled in the correct order, especially on the dual-spring model (see picture below).



## CHANGING SPRINGS (SINGLE SPRING)

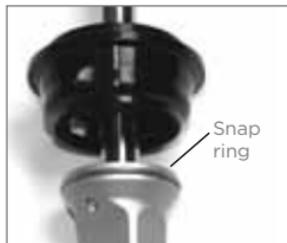
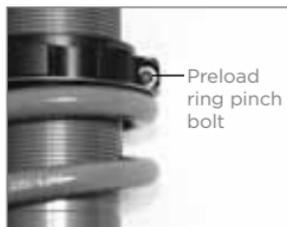
**STEP 1** Remove the shock from your ATV following the procedures outlined in your service manual.

**STEP 2** Loosen the pinch bolt on the spring preload ring and unthread the preload ring until the spring freely moves up and down on the shock body.

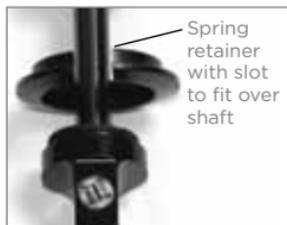
**STEP 3** Lift up the spring and remove the spring retainer. Your spring retainer will either have a slot to fit over the shaft, or will be held in place by a snap ring. If your spring retainer is held in place by a snap ring, the snap ring must be removed first to allow the spring retainer to fit over the eyelet or clevis.



**SOME MODELS MAY REQUIRE AN AUTOMOTIVE SPRING COMPRESSOR TO HELP COMPRESS THE SPRING AND REMOVE THE SPRING RETAINER. IF IN DOUBT, PLEASE SEND YOUR SHOCK TO AN AUTHORIZED REPAIR CENTER OR QUALIFIED SUSPENSION PROFESSIONAL.**



Snap Ring Style Spring Retainer



Slot Style Spring Retainer

**STEP 4** Slide the spring and thrust washers off the shock body over the shaft end (eyelet/clevis end).

**STEP 5** Orient the new spring correctly and slide it onto the shock body. Be sure to reinstall the thrust washers at the same time.

**STEP 6** Place the spring retainer back on the shock and under the spring. If your spring retainer has a slot, ensure the slot is positioned over the flat portion of the spring end (see **Spring Orientation** on page 4). If your spring retainer is held in place by a snap ring, reinstall the ring into its groove after the spring retainer has passed over the eyelet or clevis.

**STEP 7** Tighten the preload ring in order to take up any free play of the spring between the retainer and preload ring. If your spring retainer is the snap ring version, ensure the retainer is seated properly over the snap ring.

**STEP 8** In order to adjust the preload and set the correct ride height or sag, refer to **Adjusting Spring Preload** on page 11.

### CHANGING SPRINGS (DUAL SPRING)

**STEP 1** Remove the shock from your ATV following the procedures outlined in your service manual.

**STEP 2** Loosen the pinch bolt and spring preload ring until the springs freely move up and down on the body.

**STEP 3** Lift up the spring and remove the spring retainer. Your spring retainer will either have a slot to fit over the shaft, or will be held in place by a snap ring. If your spring retainer is held in place by a snap ring, the snap ring must be removed first to allow the spring retainer to fit over the eyelet or clevis.



Snap Ring Style Spring Retainer



Slot Style Spring Retainer



**SOME MODELS MAY REQUIRE AN AUTOMOTIVE SPRING COMPRESSOR TO HELP TO COMPRESS THE SPRING AND REMOVE THE SPRING RETAINER. IF IN DOUBT, PLEASE SEND YOUR SHOCK TO AN AUTHORIZED REPAIR CENTER OR QUALIFIED SUSPENSION PROFESSIONAL.**

- STEP 4** Slide the main spring, spring coupler, tender spring, and thrust washers off the shock body over the shaft end (eyelet/clevis end), taking care to note the order and orientation of the components.
- STEP 5** Orient the new springs correctly (see **Spring Orientation** on page 4) and slide the spring assembly onto the body. Take special care to ensure that the preload ring is not on upside-down. The tender spring should fit snugly over the preload ring.
- STEP 6** Place the spring retainer back on the shock and under the spring. If your spring retainer has a slot, ensure the slot is positioned over the flat portion of the spring end (see **Spring Orientation** on page 4) . If your spring retainer is held in place by a snap ring, reinstall the ring into it's groove after the spring retainer has passed over the eyelet or clevis.
- STEP 7** Tighten the preload ring in order to take up any free play of the spring between the retainer and preload ring. If your spring retainer is the snap ring version, ensure the retainer is seated properly over the snap ring.
- STEP 8** In order to adjust the preload and set the correct ride height or sag, refer to **Adjusting Spring Preload** on page 11.

## MOUNTING THE PODIUM X



**SHOCK FITMENT SHOULD ONLY BE CONDUCTED WHEN THE ATV IS COLD. DO NOT ATTEMPT TO FIT THE SHOCK TO AN ATV THAT HAS BEEN RUNNING OR HAS A HOT ENGINE OR EXHAUST. IF YOU MUST CHANGE THE SHOCK ON A HOT ATV, BE SURE TO USE GLOVES AND PROTECTIVE EQUIPMENT.**

**STEP 1** Place the ATV on a workstand.

**STEP 2** Following the procedures outlined in your service manual, remove the stock shock from the ATV. Keep the stock nuts, bolts, washers, etc., as you will need these to mount the PODIUM X.

**STEP 3** Install the PODIUM X into the upper and lower mounts following the assembly procedures and torques outlined in your ATV service manual.

**STEP 4** Reference the enclosed setup sheet for information relating to the shock orientation and reservoir mounting specific to your ATV.



**IF YOUR SPECIFIC APPLICATION UTILIZES A LOWER CLEVIS MOUNT, A SMALL DROP OF BLUE LOCTITE® ON THE THREAD IS RECOMMENDED DURING INSTALLATION.**

**STEP 5** Set rider sag on the PODIUM X as detailed in the following sections.

### MOUNTING A REMOTE RESERVOIR

Pay careful attention to the routing notes/pictures in the supplemental setup sheet. Care should be taken to make sure the hose does not contact hot exhaust components or any moving suspension parts.

If necessary, use cable ties to hold the hose in place. Excessive heat and/or vibration will damage the hose and its plastic covering.

Avoid sharp bends in the hose—this may cause damage and result in hose failure.

Do not allow the hose fittings to touch any part of the frame. This will cause damage to the fitting and frame due to engine vibration.

## SETTING UP THE PODIUM X

To get the best performance out of your PODIUM X, it is necessary to adjust the vehicle ride-height or “sag.” Sag is how much the shock compresses, or “sags,” when you sit on your ATV. As a general rule, your vehicle’s sag should be 35% – 45% of full wheel travel. There are many factors that will influence your sag setting and ride height preference, including tire diameter, terrain and riding style. Use the following procedure to accurately measure and set the correct ride-height (sag) for your ATV:



### SET THE FRONT AND REAR RIDE HEIGHT (SAG) SIMULTANEOUSLY.

**STEP 1** Position the bike on a flat surface and clear of any obstacles.

**STEP 2** Place pieces of cardboard under each wheel. As the suspension is compressed, the front wheels move outward. This is called “scrub”. Placing the cardboard under the wheels allows the suspension to move more freely.



**STEP 3** While wearing your riding gear, mount the ATV and sit in your normal riding position, with both hands on the bars.

**STEP 4** Aggressively bounce up and down on the quad several times and allow the quad to settle.



**DUE TO THE NATURE OF HIGH-PRESSURE SEALS IN THE FRONT AIR SHOCKS, THE SHOCKS MAY REQUIRE AN INITIAL COMPRESSION STROKE TO FULLY LUBRICATE INTERNAL SLIDING SURFACES TO ALLOW FOR SMOOTH OPERATION. THIS IS MOST APPARENT AFTER THE ATV HAS BEEN SITTING FOR A WHILE.**

**STEP 5** Gently assume a seated position.

**STEP 6** Have a friend push down on the front end of the vehicle. While the suspension is compressed, turn the bars back and forth. Turn the bars back straight and have the friend release the front suspension.

**STEP 7** While still seated on the ATV, have a friend measure the vertical distance from the ground plane to the chassis, under the foot pegs (rear frame height) and the distance from the ground plane to the chassis at the front engine mount (front frame height). If your vehicle has a skid plate, measure to the bottom of that.



Measuring the front frame height just under the front motor mount.



Measuring the rear frame height just in front of the foot peg.

**STEP 8** The frame heights should follow the recommended guidelines outlined in the table below.

TERRAIN / RIDING DISCIPLINE	FRONT TIRE DIAMETER	REAR TIRE DIAMETER	REAR FRAME HEIGHT	FRONT FRAME HEIGHT
MOTOCROSS	20"	18"	7"	7 1/4"
CROSS COUNTRY	21"	20"	7 1/2"	7 3/4"
WORCS	21"	20"	7 3/4"	8"
DESERT	23"	22"	9"	9 1/4"
SUPERMOTO	19"	18"	5 1/2"	5 3/4"

If your ATV is sitting too low in the rear, increase the PODIUM X spring preload (See **Adjusting Spring Preload** below), and repeat all the steps above until the desired sag is reached.

### **ADJUSTING SPRING PRELOAD (SINGLE AND DUAL SPRING)**

**STEP 1** Using a 4mm hex key, loosen the pinch-bolt on the preload ring.

- STEP 2**
- a) Turn the preload ring clockwise (when viewed from above) to increase the preload.
  - b) Turn the preload ring counter-clockwise (when viewed from above) to decrease the preload.

**STEP 3** Once you have reached the desired setting, torque the pinch-bolt to lock the ring.



**IF YOU ARE ADJUSTING SPRING PRELOAD WITH THE SHOCK NOT MOUNTED ON THE ATV, BE SURE TO TURN THE PRELOAD RING A WHOLE NUMBER OF COMPLETE TURNS, MAINTAINING THE SAME ANGULAR ORIENTATION. THIS WILL ENSURE THAT YOU WILL STILL BE ABLE TO ACCESS THE PINCH-BOLT WHEN THE SHOCK IS INSTALLED ON THE ATV.**



**IF YOU ADJUST YOUR SPRING PRELOAD YOU WILL ALSO NEED TO ADJUST YOUR CROSSOVER RING LOCATION (DUAL SPRING ONLY) TO MAINTAIN THE SAME CROSSOVER POINT. SEE THE SECTION **SETTING THE CROSSOVER POINT** ON PAGE 13 FOR DETAILS.**



**DO NOT ADD MORE THAN 1/2" OF PRELOAD TO THE SPRING. EXCESSIVE SPRING PRELOAD MAY RESULT IN COIL-BIND, WHICH COULD POTENTIALLY BE DAMAGING TO THE SHOCK AND SPRINGS. IF YOU REQUIRE MORE THAN 1/2" PRELOAD TO REACH THE DESIRED SAG POINT, YOU WILL NEED TO EXCHANGE THE SPRING(S) FOR A HIGHER RATE BY CONTACTING FOX RACING SHOX OR YOUR LOCAL FOX RACING SHOX DEALER.**

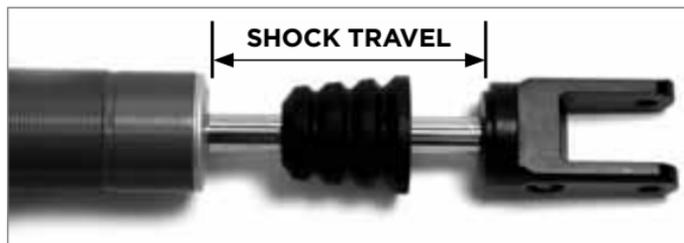
## ADJUSTING SPRING CROSSOVER (DUAL SPRING ONLY)

The spring crossover point is an important tuning parameter. A softer initial spring rate offers improved traction and hook-up while a higher spring rate deep into travel helps to resist bottoming on jump landings. As a rough guideline, the spring crossover point should be as deep into travel as possible without experiencing excessive bottoming. The crossover point is defined as a percentage of the total shock travel. The factory setting for the spring crossover point is 55%. This means that a 5" travel shock would have the crossover point at 2.75" (5.0" x 0.55) into the shock travel.

In order to calculate your spring crossover ring placement, you need to know four important pieces of information:

1. Metal to metal shock travel in inches (measure before spring installation).
2. Main Spring Rate (lb/in) — marked on spring (see **Reading the Spring Rate** on page 4).
3. Tender Spring Rate (lb/in) — marked on spring (see **Reading the Spring Rate** on page 4).
4. Desired crossover point (as a percentage).

The shock travel is the exposed length of the shaft (including the bumpstop) when the shock is fully extended. It may be easiest to measure before you install the shock.



**SOME SHOCKS USE EXTERNAL SPACERS BELOW THE BUMP-STOP TO LIMIT TRAVEL. DO NOT INCLUDE THE SPACER LENGTH AS PART OF THE TRAVEL.**



**THE CROSSOVER POINT IS A TUNABLE PARAMETER. IT SHOULD BE BETWEEN 45% TO 65%.**

## SETTING THE CROSSOVER POINT

- STEP 1** Set the spring preload as described in **Adjusting Spring Preload** on page 11.
- STEP 2** Once you have established the correct preload, mount the ATV on a stand to keep the rear wheels off the ground. The shock should be fully extended.
- STEP 3** Using a 2.5mm hex key, loosen the set screw retaining the crossover ring.
- STEP 4** Determine the **Spring Correction Factor** using the following table:

SPRING CORRECTION FACTOR		Main Spring Rate (lb/in)												
		200	225	250	275	300	325	350	375	400	425	450	475	500
Tender Spring Rate (lb/in)	500	0.286	0.310	0.333	0.355	0.375	0.394	0.412	0.429	0.444	0.459	0.474	0.487	0.500
	600	0.250	0.273	0.294	0.314	0.333	0.351	0.368	0.385	0.400	0.415	0.429	0.442	0.455
	700	0.222	0.243	0.263	0.282	0.300	0.317	0.333	0.349	0.364	0.378	0.391	0.404	0.417
	800	0.200	0.220	0.238	0.256	0.273	0.289	0.304	0.319	0.333	0.347	0.360	0.373	0.385
	900	0.182	0.200	0.217	0.234	0.250	0.265	0.280	0.294	0.308	0.321	0.333	0.345	0.357
	1000	0.167	0.184	0.200	0.216	0.231	0.245	0.259	0.273	0.286	0.298	0.310	0.322	0.333

- STEP 5** Use the following formula to calculate crossover ring placement:

**Crossover Ring Placement = Shaft Travel (in.) x Crossover Point x Spring Correction Factor**

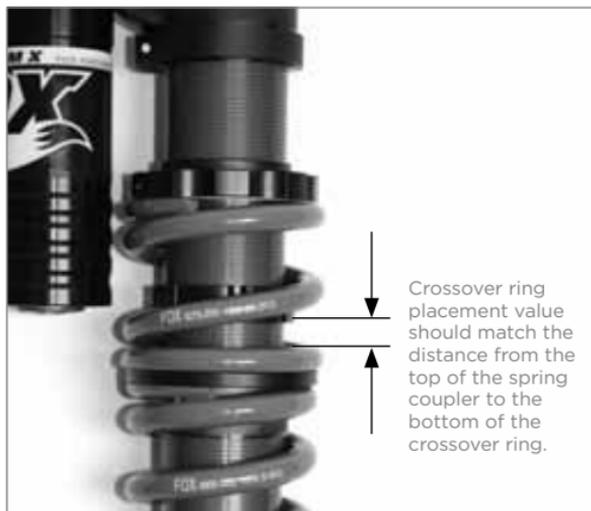
### EXAMPLE

- A 5.2" travel shock with a 375 lb/in main spring and a 800 lb/in tender spring.
- The crossover point is set at 55%.
- From the table above, the spring correction factor is 0.319.
- From the above formula, the crossover ring placement value is = 5.2 x 0.55 x 0.319 = 0.912 inches



**IN THE ABOVE EXAMPLE, 55% IS WRITTEN AS 0.55.**

**STEP 6** Adjust the crossover ring (as shown below) so that its distance from the spring coupler is equal to the crossover ring placement value calculated in Step 5. Torque the crossover ring set-screw once complete.



**STEP 7** Remove the ATV from the stand.



**YOU MAY NEED A SMALL, FLEXIBLE RULER OR MEASURING DEVICE TO ACCURATELY DETERMINE THE CROSSOVER RING LOCATION. ANOTHER USEFUL WAY OF MEASURING IS TO COUNT THE THREADS ON THE BODY (THE THREAD PITCH ON THE BODY IS 14 THREADS PER INCH). IF YOU KNOW THE CROSSOVER RING LOCATION, MULTIPLY BY 14 TO GET THE NUMBER OF THREADS BETWEEN THE SPRING COUPLER AND CROSSOVER RING. IN THE EXAMPLE ABOVE,  $0.912 \text{ INCHES} = 0.912 \times 14 = 12.8 \text{ THREADS}$ .**



**APPLYING EXCESSIVE TORQUE TO THE CROSSOVER RING SET SCREW WILL RESULT IN DEFORMATION OF THE SHOCK BODY AND CROSSOVER RING. THIS SET SCREW ONLY NEEDS VERY LIGHT (TWO-FINGER) TORQUE.**



**CHANGING THE SPRING PRELOAD, TENDER OR MAIN SPRING FREE-LENGTH OR RATE WILL MEAN THAT YOU NEED TO RESET THE CROSSOVER RING PLACEMENT.**

# TUNING THE PODIUM X

## GENERAL GUIDELINES

Go out and ride. Tune your senses to what the ATV's rear end is doing. Sometimes you know the ATV isn't handling quite right, but it may be hard to tell whether the problem is too little rebound damping or too much compression damping. Sometimes the difference in "feel" is subtle.

Some of the distinctions are minute. If the damping doesn't seem quite right, make your best guess as to what change will help, then try it. If handling doesn't improve, make another change in the opposite direction. Keep experimenting like this until the ride feels best.

It is common practice for riders to "test" shock absorber damping by pushing down on the back of the ATV and observing the shock response. This test is useful, but very limited. You should be aware that this test only involves low-speed damping action. It will tell you nothing about shock response at medium and high shaft speeds.

## TUNING RECOMMENDATIONS

The percentage change in damping when going from one click to the next click is fairly small. This is so you can really fine tune your shock. A one click change is hard to notice. Therefore, FOX recommends making changes of two clicks at a time. For example, if after testing you feel compression is too soft, try a two-click change (clockwise on compression adjuster). If that feels just right, then you've got it. On the other hand, if that now feels a little too stiff, then you've got it "bracketed". Go back one click (counter-clockwise) and it should now feel just right.

These recommendations apply to both rebound and compression damping.



**IF YOU WANT TO KNOW YOUR CURRENT SETTING, BOTH ADJUSTERS SHOULD BE BASELINED BY TURNING THEM CLOCKWISE AND COUNTING THE NUMBER OF CLICKS UNTIL THE ADJUSTER LIGHTLY BOTTOMS. DO NOT OVERTIGHTEN. COMPRESSION AND REBOUND ADJUSTMENT SETTINGS ARE COUNTED AS CLICKS OUT FROM FULL IN OR FULL CLOCKWISE POSITION.**

## SPRING FORCE

At this point you have set the sag of your vehicle by adjusting the preload ring. If you feel that the rear of the vehicle is too low as you are riding, increase preload. If the vehicle is too high, decrease preload.



**NEVER INCREASE PRELOAD MORE THAN 1/2". IF YOU NEED MORE SPRING FORCE, YOU WILL NEED TO GO TO THE NEXT HIGHER SPRING RATE.**



**IF YOU NEED TO DECREASE THE SPRING PRELOAD TO THE POINT WHERE THE SPRING IS LOOSE WHEN THE VEHICLE IS ON A STAND AND THE SHOCK IS FULLY EXTENDED, IT IS NECESSARY TO OBTAIN A LOWER RATE SPRING.**

## CROSSOVER POINT

The crossover point should be between 45% and 65% of travel. The default setting is 55%.

If you want increased bottoming resistance, decrease the crossover point towards 45% (the crossover ring will move closer to the spring coupler).

If you are not bottoming and want decreased bottoming resistance, increase the crossover point towards 65% (the crossover ring will move away from the spring coupler).



**SETTING A CROSSOVER POINT OUTSIDE OF THE RECOMMENDED RANGE (45% - 65%) MAY RESULT IN SPRING COIL-BIND AND DAMAGE TO THE SHOCK AND/OR SPRINGS.**



**IF YOU FEEL THAT YOU ARE CRASHING THROUGH YOUR AVAILABLE TRAVEL TOO QUICKLY ON BIG BUMPS, TRY DECREASING THE CROSSOVER POINT. CONVERSELY, IF YOU FEEL THAT YOU ARE NOT FULLY UTILIZING YOUR AVAILABLE TRAVEL, TRY INCREASING THE CROSSOVER POINT.**



**APPLYING EXCESSIVE TORQUE TO THE CROSSOVER RING SET SCREW WILL RESULT IN DEFORMATION OF THE SHOCK BODY AND CROSSOVER RING. THIS SET SCREW ONLY NEEDS VERY LIGHT (TWO-FINGER) TORQUE.**

## REBOUND DAMPING

Rebound damping controls the rate at which the shock returns after it has been compressed. The proper rebound setting is a personal preference, and changes with rider weight, riding style and conditions. A rule of thumb is that rebound should be as fast as possible without kicking back and pushing the rider off the saddle.

The rebound screw (see picture below) is located on the shaft end of the shock, and is adjusted using a screwdriver.

**For slower rebound** — turn the rebound adjuster knob clockwise.

**For faster rebound** — turn the rebound adjuster knob counter-clockwise.

### REBOUND DAMPING TROUBLESHOOTING

#### SYMPTOM

#### REMEDY

- Bucking
- Tops out too hard

Set slower rebound

- Packing in repetitive bumps
- Chatter

Set faster rebound

#### SYMPTOMS OF TOO MUCH REBOUND DAMPING

- Rear end tends to wash out or slide out on hard-packed sweeper turns with small bumps, especially on off-camber “washboard” turns.
- Rear end skips too much when braking on “washboard” sections and does not develop good braking power.
- Poor rear wheel traction when accelerating over small repetitive bump sections.
- Rear end gets harsh and hard to control when hitting a series of medium or large rolling bumps at high speed. The first few bumps in the series don’t seem bad, but after that, the rear end gets harsh and starts jumping around.



Rebound Adjuster Screw



**TOO MUCH DAMPING PREVENTS THE WHEEL FROM EXTENDING QUICKLY ENOUGH BEFORE HITTING THE NEXT BUMP. AFTER THE FIFTH OR SIXTH BUMP, YOU MAY HAVE MINIMAL TRAVEL LEFT. THIS SITUATION IS CALLED “PACKING”.**

## SYMPTOMS OF TOO LITTLE REBOUND DAMPING

- The tendency to wash out or slide out on washboard sections is also possible with too little rebound damping. The critical difference in this case is that the back of the ATV is bouncing up and down too much because there isn't enough control on the extension stroke.
- Too much kicking up when braking on downhill sections with small bumps or washboard surfaces.
- Rear end kicks up when hitting large rolling bumps at high speeds. Kicking is especially noticeable on steep downhills with deep rolling bumps or after landing a large jump.



**THE SHOCK WILL EXTEND TOO QUICKLY IF THERE IS NOT ENOUGH DAMPING TO CONTROL THE SPRING EXTENSION FORCE.**

## TUNING SUGGESTION

Once you are comfortable riding the ATV and would like to fine tune the rebound damping setting, find a table-top jump that you can hit consistently and safely, landing as flat as possible. As a general rule you want as little rebound damping as possible so that the suspension returns quickly, but still enough rebound damping that the rear of the ATV does not oscillate upon landing. After the jump landing, the rear of your ATV should return quickly to ride-height and then remain still. If the rear suspension continues to oscillate several times after landing, try increasing rebound damping (slower). If the suspension does not oscillate after landing, try decreasing rebound damping (faster). This procedure should allow you to close in, or bracket, on the desired rebound damping setting.

## COMPRESSION DAMPING

Compression damping controls the rate at which the shock compresses when it encounters a bump. The proper compression setting is a personal preference and changes with rider weight, riding style and conditions.

The Dual Speed Compression (DSC) knob (shown on page 20) is located on the oil reservoir.

**For more compression** — turn the compression adjusters clockwise.

**For less compression** — turn the compression adjusters counter-clockwise.

### COMPRESSION DAMPING TROUBLESHOOTING

#### SYMPTOM

#### REMEDY

• Rigid, harsh ride	Set less compression
• Bottoms-out easily	Set more compression

### SYMPTOMS OF TOO MUCH COMPRESSION DAMPING

- The rear end is harsh over small bumps. Shock seems to stay almost rigid instead of absorbing bumps.
- The rear end is harsh at high speeds over large or medium square-edged bumps. The shock stays too rigid and does not use enough travel to absorb bumps.
- The shock rarely or never seems to bottom-out, even off the biggest jumps.

### SYMPTOMS OF TOO LITTLE COMPRESSION DAMPING

- The shock bottoms-out on medium-sized bumps and the bottom of deep, smooth gullies, or rising portions of deep, rolling sand whoops.
- At high speed the rear end takes medium square-edged bumps smoothly, but bottoms out too easily on larger bumps.
- Bottoms out too easily on large jump landings.



DSC Knob

**LSC Adjuster (Low-Speed Compression)**

Turn LSC clockwise with a flat screwdriver to increase low-speed compression damping. LSC setting is denoted as 'clicks' out from fully closed (full clockwise).

**HSC Adjuster (High-Speed Compression)**

Turn clockwise with a wrench or socket to increase or add high-speed compression damping. HSC setting is denoted as 'clicks' out from full firm (full clockwise). *Tech note: When the HSC adjuster is turned clockwise, it will actually back out of the housing. This is due to a left-hand-thread arrangement.*

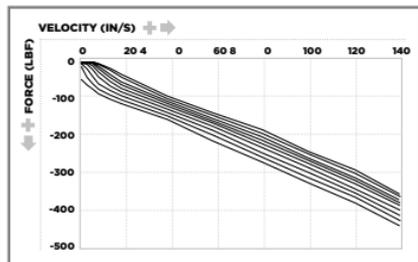
## HOW THE DSC WORKS

The DSC valve has two parallel paths through which oil flows. The low-speed circuit is an adjustable needle and jet seat. The high-speed circuit is a valve stack backed by a compression spring. The preload in this spring controls the point at which the valve stack opens. These two independent adjusters are shown in the diagram above.

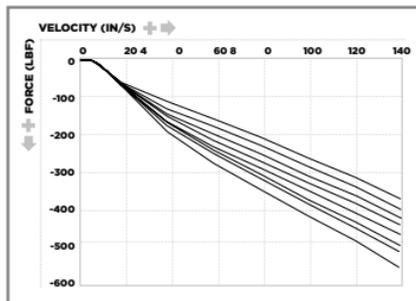
## WHAT THE COMPRESSION ADJUSTMENTS DO

The LSC (low speed compression) adjuster primarily affects the compression damping during slow suspension movements such as g-outs or smooth jump landings. It also affects wheel traction and the harshness or plushness of the vehicle (note that low-speed has nothing to do with the speed of the vehicle!). Choose a LSC setting that gives good body control (roll in corners, dive under braking, squat under acceleration, etc.) without causing excessive harshness or loss of traction. The graph below (left) shows the typical range of adjustability for the LSC adjuster from full firm to full soft with the HSC adjuster held constant at 10 clicks out.

The HSC (high speed compression) adjuster mainly affects the compression damping during medium to fast suspension movements such as steep jump faces, harsh flat landings and aggressive whoops. The goal is to run as little high-speed compression damping as possible without bottoming. The graph below (right) shows the typical range of adjustability for the HSC adjuster from full firm to full soft with the LSC adjuster held constant at 10 clicks.



Characteristic graph showing the effect of changing the LSC Adjuster.



Characteristic graph showing the effect of changing the HSC adjuster.

## MAINTAINING THE PODIUM X

Proper inspection and maintenance procedures are crucial to maintaining the high performance and durability of your PODIUM X shock. Proper inspection and maintenance prevents headaches and equipment failure, not to mention lackluster performance at the races and your absence from the podium.

You should clean your PODIUM X before and after every ride for optimal performance. Use a mild detergent and rag to clean off any and all debris from your shock. Be sure to clean the area located under the bottom-out bumper. Avoid using a pressure washer directly on the shock as this can drive dirt past the seals.

Along with properly cleaning your shock, you should also inspect the following areas before every ride. **Consult the shock image at right** for the location of each inspection location:

1. Check the reservoir and hose (if applicable) for any signs of damage.
2. Check the shaft for any signs of leakage or damage.
3. Check the spring and shock body for any signs of damage.
4. Check the shock's mounting points and make sure all bolts are properly fastened.

### SHOCK REBUILD

Just as the oil in your engine breaks down with time and must be replaced, the oil in your PODIUM X shock must be serviced periodically. The service interval depends on how frequently and severely the ATV is ridden. As a guideline, if you race hard every weekend you may want to change the oil in your shock at least once mid-season. Otherwise, it is generally recommended to service the shock in the off-season. **Only FOX Racing Shox or an Authorized Factory Service Center should perform this procedure.**



# QUICK REFERENCE GUIDE

<b>TERMS USED</b>	<b>SUSPENSION</b> <ul style="list-style-type: none"><li>• <b>Compression:</b> downward travel of the suspension. Actions that move the endpoints of the shock closer together.</li><li>• <b>Compression damping:</b> oil damping resistance felt when trying to compress the shock.</li><li>• <b>Frame clearance:</b> distance between the frame and other moving parts, like the shock.</li><li>• <b>Negative travel:</b> distance the suspension or shock extends from the static ride height. Also referred to as 'free sag'.</li><li>• <b>Preload:</b> initial force on the spring. Preload is used to adjust rider sag.</li><li>• <b>Ride height:</b> with the rider on the ATV, the distance from the ground to some point on the frame.</li><li>• <b>Rebound:</b> force required to extend the shock or suspension. Can also refer to the extending action of the suspension.</li><li>• <b>Rebound damping:</b> oil damping resistance that controls the rate at which the shock extends after being compressed.</li><li>• <b>Rider sag:</b> amount the shock compresses with the rider sitting on the ATV in a normal riding position.</li><li>• <b>Free sag:</b> amount that the ATV "sits" into travel. Usually measured from the ground to a point on the frame, or as shock stroke, and without a rider on the ATV.</li><li>• <b>Spring rate:</b> force required to compress a spring one inch. Measured in lb/in. or Kg/mm.</li><li>• <b>Stroke:</b> amount of shock travel.</li><li>• <b>Travel:</b> total amount the shock compresses.</li><li>• <b>Valving:</b> refers to the combination of shims or damping valves on the piston face used to achieve a specific ride characteristic.</li><li>• <b>Wheel travel:</b> distance the wheel moves when the suspension is cycled through its full travel.</li></ul> <b>RIDING</b> <ul style="list-style-type: none"><li>• <b>Bottoming:</b> vehicle has bottomed-out when the suspension reaches the limit of its travel and stops further downward motion.</li><li>• <b>Bucking:</b> kicking motion on a rider after a bump or jump landing.</li><li>• <b>Chatter:</b> small bumps similar to braking bumps prior to a corner or berm. Often refers to the harshness felt when riding over small, closely spaced bumps.</li><li>• <b>Fading:</b> slow loss of shock damping usually due to heat.</li><li>• <b>Packing:</b> when the shock does not return quickly enough to adequately absorb the next bump in a repetitive bump sequence.</li><li>• <b>Spiking:</b> sharp impact cause by a square-edge bump.</li><li>• <b>Squat:</b> when the rear of the vehicle "sits" down either due to weight transfer or driveline forces.</li><li>• <b>Stiction:</b> initial force that needs to be overcome to start the suspension stroke.</li><li>• <b>Topping-out:</b> when the suspension is fully extended.</li></ul>
<b>SERVICE INTERVALS</b>	<ul style="list-style-type: none"><li>• <b>Before every ride:</b> Clean and inspect your shock.</li><li>• <b>Every ride season:</b> Shock rebuild by a FOX Certified Technician or FOX Racing Shox.</li></ul>

<b>CONTACT INFO</b>	FOX Racing Shox 130 Hangar Way, Watsonville, CA 95076, USA Phone: 1.831.274.6500 Fax: 1.831.768.7026 North America: 1.800.FOX.SHOX (1.800.369.7469) E-mail: powersports@FOXracingshox.com Website: www.FOXracingshox.com Business hours: Monday - Friday 8 a.m.-5 p.m. PST	<b>METHOD OF PAYMENT &amp; SHIPPING</b>	Visa MasterCard Cashier's Check  FOX Racing Shox uses UPS Ground Service within the USA
<b>DISCLAIMER</b>	FOX Racing Shox is not responsible for any damages to you or others arising from riding, transporting, or other use of your PODIUM X shock. In the event that your shock breaks or malfunctions, FOX Racing Shox shall have no liability beyond the repair or replacement of your shock pursuant to the terms outlined in the warranty provisions of this manual.		
<b>WARRANTY POLICY</b>	The factory warranty period for your shock is one year (two years for countries in the EU) from the original date of purchase. A copy of the original purchase receipt must accompany any shock being considered for warranty service. Warranty is at the full discretion of FOX Racing Shox and will cover only defective materials and workmanship. Warranty duration and laws may vary from state to state and/or country to country. Parts, components and assemblies subject to normal wear and tear are not covered under this warranty. FOX Racing Shox reserves the right to all final warranty or non-warranty decisions.		
<b>VALVING GUARANTEE</b>	If it is determined that a PODIUM X requires a valving change within the first 90 days of ownership, FOX will perform the re-valve at no charge for the original consumer. The consumer is required to follow the Service Policy procedure below and is responsible for all shipping costs to and from FOX Racing Shox. Unless otherwise specified, FOX Racing Shox will return ship the shock(s) via UPS Ground Service.		
<b>SERVICE POLICY</b>	<ul style="list-style-type: none"> <li>• FOX Racing Shox offers 5-business day turnaround, which may vary.</li> <li>• Obtain an RA (Return Authorization) number and shipping address from FOX Racing Shox at 800.FOX.SHOX. Outside the USA, contact the appropriate International Service Center.</li> <li>• Mark the RA number and return address clearly on the outside of the package and send to FOX Racing Shox (see contact info above) or your International service center with shipping charges pre-paid by the sender.</li> <li>• Proof-of-purchase is required for warranty consideration.</li> <li>• Include a description of the problem, ATV information (manufacturer, year and model), type of FOX product and return address with daytime phone number.</li> </ul>		
<b>SPECIFIC EXCLUSIONS FROM WARRANTY</b>	<ul style="list-style-type: none"> <li>• Parts replaced due to normal wear and tear and/or routine maintenance</li> <li>• Parts subject to normal wear and tear and/or routine maintenance</li> <li>• Bushings</li> <li>• Seals (after the 90-day seal warranty period expires)</li> <li>• Suspension fluids</li> <li>• Crash damage</li> </ul>		
<b>GENERAL EXCLUSIONS FROM WARRANTY</b>	<ul style="list-style-type: none"> <li>• Installation of parts or accessories not qualitatively equivalent to genuine FOX Racing Shox parts.</li> <li>• Abnormal strain, neglect, abuse and/or misuse</li> <li>• Accident and/or collision damage</li> <li>• Modification of original parts</li> <li>• Lack of proper maintenance</li> <li>• Shipping damages or loss (purchase of full value shipping insurance is recommended)</li> <li>• Damage to interior or exterior caused by rocks, crashes or improper installation</li> <li>• Oil changes or service not performed by FOX Racing Shox or an Authorized Service Center</li> </ul>		

## TUNING NOTES



