

**SHOCK OWNER'S MANUAL** **FLOAT X EVOL**  
SNOWMOBILE APPLICATIONS

**FOX**





# TABLE OF CONTENTS

<b>CONGRATULATIONS!</b> .....	<b>1</b>
<b>CONSUMER SAFETY</b> .....	<b>1</b>
<b>UNDERSTANDING THE FLOAT X EVOL</b> .....	<b>2</b>
ADJUSTABLE PROGRESSIVE DUAL-STAGE AIR SPRING .....	3
TEMPERATURE DEPENDENCY .....	4
<b>USING THE FOX PUMPS</b> .....	<b>5</b>
<b>MOUNTING THE FLOAT X EVOL</b> .....	<b>8</b>
<b>SETTING UP THE FLOAT X EVOL</b> .....	<b>11</b>
<b>TUNING THE FLOAT X EVOL</b> .....	<b>13</b>
GENERAL GUIDELINES .....	13
TUNING RECOMMENDATIONS .....	13
SPRING FORCE .....	14
REBOUND DAMPING .....	14
COMPRESSION DAMPING .....	16
<b>MAINTAINING THE FLOAT X EVOL</b> .....	<b>17</b>
SHOCK REBUILD .....	18
<b>QUICK SETUP CHECKLIST</b> .....	<b>19</b>
<b>TUNING NOTES</b> .....	<b>22</b>
<b>QUICK REFERENCE GUIDE</b> .....	<b>26</b>

**NOTICE: THE SNOWMOBILES'S PICTURED IN THIS MANUAL MAY NOT RESEMBLE YOUR ACTUAL SNOWMOBILE. IN ANY CASE, THE PROCEDURES OUTLINED IN THIS MANUAL AND THE ENCLOSED SUPPLEMENTAL SETUP SHEET WILL CORRECTLY ENABLE YOU TO MOUNT, SETUP, AND TUNE THE FOX FLOAT X EVOL ON YOUR PARTICULAR SNOWMOBILE 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.**

## FLOAT X EVOL

### features

- > Infinitely adjustable dual-stage air spring
- > External compression and rebound damping adjust
- > Race-proven oil damping system
- > 100% rebuildable and revalveable
- > 1-Year factory limited warranty
- > 90-day valving guarantee

UPPER EYELET ■

PIGGYBACK BODY CAP ■

COMPRESSION ADJUSTER ■

SHOCK BODY ■

OIL RESERVOIR ■

OIL RESERVOIR END CAP ■

AIR SLEEVE & **MAIN** AIR CHAMBER ■

**EVOL** AIR CHAMBER CAP & ■  
SCHRADER VALVE (**#1** ON DECAL)

**EVOL** AIR CHAMBER ■

**MAIN** AIR CHAMBER CAP & ■  
SCHRADER VALVE (**#2** ON DECAL)

AIR SLEEVE BODY CAP ■

REBOUND ADJUSTER ■

LOWER EYELET ■



## CONGRATULATIONS!

Thank you for choosing FOX FLOAT X EVOL AIRSHOX for your vehicle. In doing so, you have chosen the finest suspension shocks in the world. FOX Racing Shox products are designed, tested and manufactured by the finest 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 qualified service center.

For service and warranty information, refer to the **QUICK REFERENCE GUIDE** on page 26.

## CONSUMER SAFETY



**RIDING A SNOWMOBILE 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 Snowmobile 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.

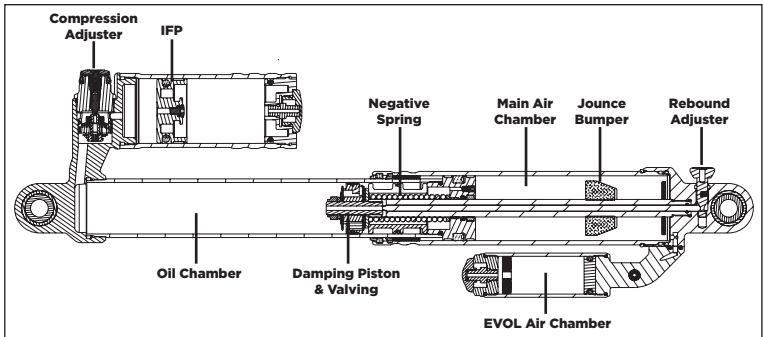
The FLOAT X EVOL shock contains a nitrogen charge. The charged portion of the shock should only be opened by a FOX Racing Shox technician or a qualified suspension professional.



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

## UNDERSTANDING THE FLOAT X EVOL

Your FOX FLOAT (FOX Load Optimizing Air Technology) X EVOL Airshox are high performance shock absorbers that use air as springs, instead of heavy steel coil springs or expensive titanium coil springs. Hey, there's not too many things that are lighter than air, right? Underneath that air sleeve is the same high performance, velocity sensitive, shimmed damping system that you'd expect in a FOX Shox. FLOAT X EVOL AirShox dampers contain high pressure nitrogen gas and FOX synthetic shock oil separated by an internal floating piston system. This ensures consistent, fade-free damping in all riding conditions.



**CROSS-SECTION OF FLOAT X EVOL**

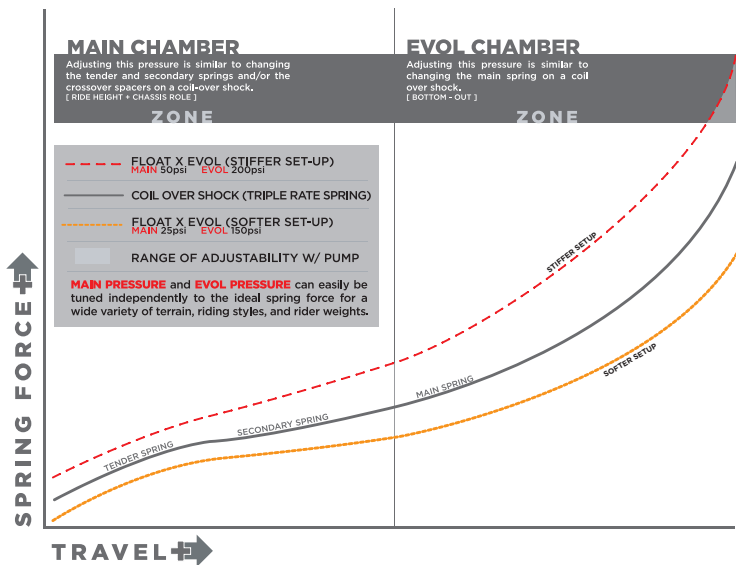
FLOAT X EVOL Airshox are built using 6061-T6 aluminum impact forgings for light weight and strength. The chromed damper shaft is super-finished for low stiction and long seal life. All of the seals and wipers are engineered specifically for FLOAT X EVOL AirShox. The damper shaft and seals are contained within the air sleeve, protecting them from mud, water, ice and whatever else Mother Nature throws at them during the course of a ride.

## ADJUSTABLE PROGRESSIVE DUAL-STAGE AIR SPRING

Air springs are not just lightweight, they are also progressive. What does that mean? As the graph below shows, during the second half of shock travel, the spring force builds rapidly. This virtually eliminates any harsh bottoming of the suspension and provides a “bottomless” feel.

With just two pumps you can make quick, easy changes to your setup to fine-tune your shock’s spring curve. Using air, there is an infinite number of spring rates available.

The graph below shows a spring curve comparison of a standard triple-rate coil-over shock to a FLOAT X EVOL shock.

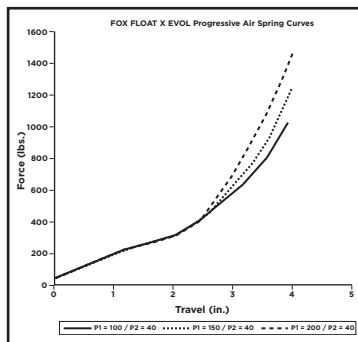


As you can see, by changing the pressures in the **MAIN** air chamber and the **EVOL** air chamber, you can get much softer or much firmer than a coil-over shock without ever having to change out a spring.

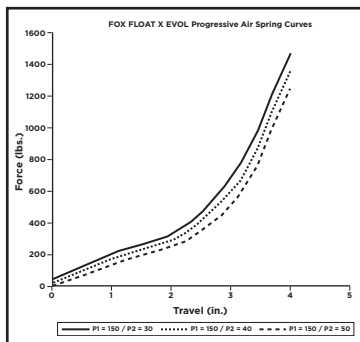
Your FLOAT X EVOL shocks come in the box ready-to-ride, but we encourage you to follow the procedures outlined in this manual to optimize their performance.

The pressure in the **EVOL** air chamber is adjusted to control the bottom-out characteristics of the shock; the pressure in the **MAIN** air chamber is adjusted to change ride height and roll/pitch stiffness of the snowmobile.

The effects of changing the **EVOL** air chamber pressure and **MAIN** air chamber pressure are shown in the graphs below:



**CHANGING EVOL AIR CHAMBER PRESSURE ADJUSTS THE BOTTOM-OUT RESISTANCE OF THE SHOCK**



**CHANGING MAIN AIR CHAMBER PRESSURE STEADILY ADJUSTS THE SPRING CURVE**

## TEMPERATURE DEPENDENCY

The air pressures (**EVOL** and **MAIN** air chambers) in the FLOAT X EVOL Airshox are slightly temperature dependent with roughly a 10 PSI air pressure change over a 100-degree temperature change. Because of this, it is best to set the pressures in temperature conditions close to the ambient temperature anticipated during riding. When temperatures change by more than 30 degrees Fahrenheit—or 17 degrees Celsius—it is recommended that the pressure settings be reset.

For example, if the temperature outside is 40°F (4°C) and the pressures are set while the ATV is in a garage in which the ambient temperature is 70°F (21°C), the shocks will be under-pressurized when taken outside due to the cold air temperature. Therefore, it is imperative that the pressures are re-adjusted when the snowmobile/shocks are taken from extreme warm to cold temperatures, and vice-versa.

Once the pressures are set for a given temperature, they will remain stable throughout the ride.

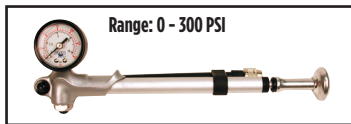


## USING THE FOX PUMPS

Your FLOAT X EVOL shocks ship with two FOX air pumps, shown bellow.

### Air Chamber #1 (EVOL Air Chamber)

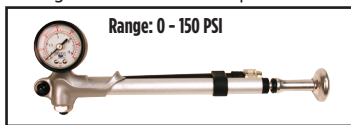
0 - 300 PSI high pressure pump for setting the **EVOL** air chamber pressure.



**High Pressure Pump (EVOL Air Chamber #1)**

### Air Chamber #2 (Main Air Chamber)

0 - 150 PSI pump for setting the **MAIN** air chamber pressure.



**Standard Pump (Main Air Chamber #2)**



Use the high pressure pump to set the pressure in the **EVOL** air chamber. In order for the shock to function properly, the **EVOL** air chamber pressure must be set before setting the **MAIN** chamber pressure.



Use the standard pump to set the pressure in the **MAIN** air chamber. Using the lower pressure pump on the **MAIN** air chamber will allow you to set the pressure more accurately as the gauge has better resolution.

To pressurize your shock:

**STEP 1** Remove the **EVOL** air chamber cap to access the Schrader valve.

**STEP 2** Thread the high pressure pump (300PSI) chuck valve onto the Schrader valve until pressure registers on the pump gauge. This takes approximately six turns. Do not over-tighten the pump on the air valve as this will damage the chuck pump seal.



**IF THE SHOCK HAS NO AIR PRESSURE, THE GAUGE WILL READ ZERO.**



**WHEN YOU ATTACH THE PUMP TO THE SHOCK, THE HOSE WILL NEED TO FILL WITH AIR. THIS MAY RESULT IN A PRESSURE READING THAT CAN BE LOWER BY AS MUCH AS 10 TO 20 PSI.**

**STEP 3** Stroke the pump a few times. The pressure should increase slowly. If pressure increases rapidly, check to make sure the pump is properly fitted and tightened onto the air valve.

**STEP 4** Pump to the desired setting. The **EVOL** air chamber pressure is application specific, but typically ranges from 100 PSI to 200 PSI. **DO NOT EXCEED 300 PSI** in the **EVOL** air chamber. You can decrease pressure by pushing the black bleed valve on the pump. Pushing the bleed valve half-way down and holding it there will allow air to escape from the pump and shock. Pushing the bleed valve all the way down and releasing it will allow only a small amount of pressure to escape (micro-adjust). When unthreading the pump from the Schrader valve, the sound of air loss is from the pump hose, and not the shock.

**STEP 5** Re-install the **EVOL** air chamber cap.

**STEP 6** Ensure that your snowmobile is safely supported on a stand with the front wheels off the ground and the suspension fully extended.



**STEP 7** Remove the **MAIN** air chamber cap to access the Schrader valve and attach the low-pressure pump (150 PSI), following the same procedure as above.

**STEP 8** Set the desired **MAIN** air chamber pressure. Typical **MAIN** air chamber pressure is between 20PSI and 100 PSI. DO NOT EXCEED 150 PSI for the **MAIN** air chamber pressure.

**STEP 9** Remove the pump and re-install the **MAIN** air chamber cap.



**YOU MUST SET THE EVOL AIR CHAMBER (MARKED '#1' ON THE DECAL) PRESSURE BEFORE SETTING THE MAIN AIR CHAMBER (MARKED '#2') PRESSURE. THIS ENSURES THAT THE FLOATING PISTON SEPARATING THE TWO AIR CHAMBERS IS CORRECTLY LOCATED IN THE EVOL AIR CHAMBER. FAILURE TO DO SO WILL RESULT IN POOR SHOCK PERFORMANCE AND A POTENTIALLY UNSAFE VEHICLE.**



**IF ADJUSTING THE PRESSURES WITH THE SHOCKS INSTALLED ON YOUR SNOWMOBILE, YOU MUST MAKE SURE THAT THE SNOWMOBILE IS SAFELY SUPPORTED ON A STAND WITH THE FRONT SKIS OFF THE GROUND AND THE SUSPENSION FULLY EXTENDED. THE AIR PRESSURES SHOULD ONLY BE SET WITH THE SHOCKS IN THE FULLY EXTENDED POSITION. THIS WILL ENSURE ACCURATE, REPEATABLE PRESSURE SETTINGS.**

## MOUNTING THE FLOAT X EVOL



IF YOU DO NOT HAVE CONFIDENCE IN YOUR ABILITIES TO CORRECTLY INSTALL YOUR FLOAT X EVOL AIRSHOX, HAVE THEM INSTALLED BY A TRAINED PROFESSIONAL MECHANIC.

Your FLOAT X EVOL AirShox should bolt onto your vehicle with no modification to the frame, control arms or A-arms. Follow these steps to mount your shocks:

**STEP 1** Mount the optional roost guards on the shock body using the supplied clamps.



- STEP 2** Align the top edge of the roost guard against the piggyback body cap. The bottom of the roost guard should overlap the edge of the air sleeve by a minimum of 1/8". If the guard does not overlap the edge of the air sleeve by the minimum requirements, slide it down the shock body until it does. The guards should be mounted on the fronts of the shocks taking into account left and right orientations.



**ENSURE THAT ROOST GUARDS ARE INSTALLED SUCH THAT THEY DO NOT TOUCH THE EVOL AIR CHAMBER OR INHIBIT TRAVEL.**



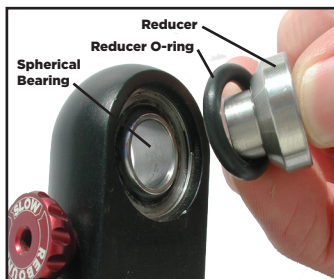
- STEP 3** Place a block or a jack under the front of the frame so that both skis are off the ground.

- STEP 4** Remove stock shocks from the vehicle. Note location of spacers, etc. Save the bolts, nuts, washers, etc., as you will use these with your new FLOAT X EVOL Airshox.



**THE PART NUMBER FOR YOUR PARTICULAR FLOAT X EVOL SHOCK IS ENGRAVED ON THE BACK SIDE OF THE BODY CAP EYELET. ADDITIONAL SETUP INSTRUCTIONS SPECIFIC TO YOUR VEHICLE ARE INCLUDED ON A SUPPLEMENTAL SHEET INCLUDED WITH THIS MANUAL. THE MOUNTING ORIENTATION SPECIFIC TO YOUR VEHICLE IS ALSO INCLUDED WITH THE SUPPLEMENTAL SETUP SHEET.**

- STEP 5** Remove the reducers and o-rings from the supplied bag. Install an o-ring on each reducer.



- STEP 6** Install the upper and lower reducers in the spherical bearings. Make sure that the upper and lower reducers are installed correctly per the supplemental setup sheet.



**IN ORDER TO INSTALL, YOU MAY NEED TO SQUEEZE THE REDUCERS TOGETHER TO SLIGHTLY COMPRESS THE O-RINGS.**

- STEP 7** Using the stock hardware, bolt the FLOAT X EVOL shocks into the bottom mount first. With the bottom bolt in, lift the suspension until the holes in the top shock reducers and the top shock mount align. Install the top bolt.
- STEP 8** Properly tighten all mounting hardware per the snowmobile owner's manual.

## SETTING UP THE FLOAT X EVOL

Follow these steps in order to setup your FLOAT X EVOL shock:

- STEP 1** Ensure that your snowmobile is safely supported on a stand with the front skis off the ground and the suspension fully extended.



- STEP 2** Set the desired pressure in the **EVOL** air chamber using the FOX high-pressure pump (see **USING THE FOX PUMPS** on page 5). The supplemental setup provides a good starting point.



**WHEN MAKING AIR PRESSURE ADJUSTMENTS, ALWAYS ADJUST THE EVOL AIR CHAMBER FIRST.**



**STEP 3** Set the desired pressure in the **MAIN** air chamber using the FOX standard pump (see **USING THE FOX PUMPS** on page 5). The supplemental setup also provides a good starting point.



**STEP 4** Lower the vehicle off the stand. Measure and set rider sag, as described in your owners manual. To increase the ride height increase the air pressure in the **MAIN** air chamber using the FOX standard pump. To lower the vehicle ride height decrease the pressure in the **MAIN** air chamber using the FOX standard pump.



**YOU SHOULD BE ABLE TO SEE A SMALL LINE OF OIL ON THE OUTSIDE OF THE SHOCK, WHICH INDICATES THE MAXIMUM COMPRESSION OF THE SHOCK. YOU CAN MEASURE THE LOCATION OF THIS LINE AS A USEFUL REFERENCE OF MAXIMUM COMPRESSION TRAVEL.**



# TUNING THE FLOAT X EVOL

## GENERAL GUIDELINES

Go out and ride. Tune your senses to what the snowmobiles front end is doing. Sometimes you know the snowmobile 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 front of the snowmobile and observe 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 (counterclockwise) 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 CLOCKWISE, POSITION.**

## SPRING FORCE

At this point you have set the sag of your vehicle by adjusting the **MAIN** air chamber pressure and you have set the **EVOL** air chamber pressure, per the supplemental setup sheet. Consequently, your spring force should be near its optimal setting. If you feel that the front of the vehicle is too low as you are riding, increase the **MAIN** air chamber pressure by 2 PSI; if the vehicle is too high, decrease the **MAIN** air chamber pressure by 2 PSI.

If you feel that you are crashing through your available travel too quickly on big bumps, try increasing the **EVOL** air chamber pressure by 10 PSI; conversely, if you feel that you are not fully utilizing your available travel, try decreasing the **EVOL** air chamber pressure by 10 PSI.



**IF YOU ARE NOT SURE OF THE SETTINGS ON YOUR SHOCK AND WOULD LIKE TO “START OVER,” FOLLOW THESE STEPS:**

- STEP 1** Call 1 800 FOX SHOX to get pressure settings for your application and weight.
- STEP 2** Lift the vehicle's front end off the ground.
- STEP 3** Release the air from the **MAIN** air chamber Schrader valve.
- STEP 4** Release the air from the **EVOL** air chamber Schrader valve.
- STEP 5** Fill the **EVOL** air chamber pressure
- STEP 6** Fill the **MAIN** air chamber pressure

## 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 driving the bars into the rider's hands.

The rebound knob (see picture on right) is located on the lower air sleeve body cap.



**REBOUND ADJUSTER SCREW**

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

**For faster rebound**, turn the rebound adjuster knob counterclockwise.

## 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

The rear end tends to washout or slideout (this is called “oversteer”) on hard-packed sweeper turns with small bumps, especially on off-camber “washboard” turns. Poor rear traction when accelerating over small repetitive bumps (washboard) sections.

The front end gets harsh and hard to control when hitting series of medium or large rolling bumps at high speed. First few bumps in the series don’t seem bad, but after that the front end gets harsh and it seems like you run out of suspension travel.



**TOO MUCH REBOUND DAMPING PREVENTS THE SKIS FROM EXTENDING QUICKLY ENOUGH BEFORE HITTING THE NEXT BUMP (THIS IS CALLED PACKING). AFTER THE FIFTH OR SIXTH BUMP, YOU MAY HAVE MINIMAL TRAVEL LEFT.**

## Symptoms of Too Little Rebound Damping

The front end seems harsh, especially on jump landings. The suspension may feel like it is bottoming out, but actually the bars are returning too quickly into your hands. Try to observe how quickly the vehicle bounces back to you after a landing.



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

**TUNING SUGGESTION:** Once you are comfortable riding the snowmobile 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 front of the snowmobile does not oscillate upon landing. The front of your snowmobile should return quickly to ride-height and then remain still. If the front 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 compression knob (see picture on right) is located on the oil reservoir.



**SINGLE COMPRESSION ADJUSTER KNOB**

**For more compression,** turn the compression adjuster knob clockwise.

**For less compression,** turn the compression adjuster knob counterclockwise.

## COMPRESSION DAMPING TROUBLESHOOTING

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

### Symptoms of Too Much Compression Damping

The front end is harsh over small bumps. Shock seems to stay almost rigid instead of absorbing bumps. Especially noticeable on downhill bumps.

The front end is harsh at high speeds over large or medium 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 at the bottom of deep, smooth gullies, or rising portions of deep, rolling whoops.

At high speed the front end takes medium square-edged bumps smoothly, but bottoms out too easily on larger bumps. Bottoms out too easily off jump and at high speeds over large square-edged bumps.

## MAINTAINING THE FLOAT X EVOL

Your FLOAT X EVOL AirShox are designed using the highest quality materials and most advanced coatings to ensure a long operational life. For maximum performance, FOX recommends the following maintenance schedule:

- > Monitor the air pressure in your shock before every race, especially if there has been large fluctuations in temperature.
- > It is normal for grease residue to seep out of the air sleeve and onto the shock body. Wipe this residue off periodically with a rag.
- > Perform a complete shock rebuild once per season.

Of course, maintenance intervals depend heavily on the type of riding and riding conditions. The above recommendations are for the average rider. If at any point you feel a degradation of

damping or air spring performance, stop riding immediately and identify the cause of the problem.

## SHOCK REBUILD

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



**THE SHOCK REBUILD REQUIRES SPECIALIZED TOOLS FOR DISASSEMBLY AND RE-ASSEMBLY. IT IS ESSENTIAL THAT THIS SERVICE BE PERFORMED BY FOX RACING SHOX OR A QUALIFIED PROFESSIONAL SHOCK TECHNICIAN. THE FOLLOWING ITEMS ARE REQUIRED:**

ITEMS REQUIRED	
Item	Part Number
Air Sleeve Bullet Tool	398-00-244
Bearing Torque Wrench Pin Tool	398-00-249
FLOAT X EVOL Rebuild Kit	803-00-229
FOX Light Racing Oil	025-06-000
End Cap / IFP Tool	398-00-255

## QUICK SETUP CHECKLIST

FOX recommends that you read and understand this manual COMPLETELY before installing your new FOX FLOAT X EVOL shock and riding your snowmobile.

For operator safety, please follow this important checklist as an absolute minimum BEFORE riding your snowmobile:

### Mounting the **FLOAT X EVOL**:

- Correct reducers, o-rings, bolts and torque settings.
- Remote reservoir correctly positioned and secured (if applicable).
- Shock absorber oriented correctly per supplemental setup sheet.
- Guards mounted correctly and not interfering with full travel.
- See pages 8 - 10 for more detail.

### Adjusting the air spring pressures to give the correct ride-height (sag):

- Measure and set rider sag, as described in your owners manual. To increase the ride height increase the air pressure in the **MAIN** air chamber using the FOX standard pump. To lower the vehicle ride height decrease the pressure in the **MAIN** air chamber using the FOX standard pump.
- See pages 11-12 for more detail.



**SNOWMOBILE SKIS MUST BE OFF THE GROUND AND SUSPENSION MUST BE FULLY EXTENDED PRIOR TO MAKING ANY AIR PRESSURE ADJUSTMENTS.**



**ADJUST EVOL CHAMBER AIR PRESSURE FIRST BEFORE ADJUSTING MAIN AIR CHAMBER PRESSURE.**

### Setting the external **REBOUND** damping adjuster:

- Turn the rebound adjuster fully closed (clockwise) and open the adjuster the correct number of clicks counterclockwise. Check the supplemental setup sheet supplied with your shock(s) for the correct number of clicks.
- See pages 13-15 for more detail.

### Setting the external **COMPRESSION** adjuster:

- Turn the compression adjuster fully closed (clockwise) and open the adjuster the correct number of clicks counterclockwise.
- Check the setup sheet supplied with your shock(s) for correct number of clicks.
- See page 16-17 for more detail.







## TUNING NOTES:







# QUICK REFERENCE GUIDE

## FLOAT X EVOL

### terms used

#### SUSPENSION

- > **Compression:** downward travel of the suspension. Actions that move the endpoints of the shock closer together.
- > **Compression damping:** oil damping resistance felt when trying to compress the shock.
- > **Emulsion shock:** shock without an IFP (Internal Floating Piston) separating the oil and nitrogen.
- > **Frame clearance:** distance between the frame and other moving parts, like the shock.
- > **Negative travel:** distance the suspension or shock extends from the static ride height. Also referred to as 'free sag'.
- > **Preload:** initial force on the spring. Preload is used to adjust rider sag.
- > **Ride height:** with the rider on the bike, the basic stance of the bike. Usually measured from the ground to some point on the bike frame.
- > **Rebound:** force required to extend the shock or suspension. Can also refer to the extending action of the suspension.
- > **Rebound damping:** oil damping resistance that controls the rate at which the shock extends after being compressed.
- > **Rider sag:** amount the shock compresses with the rider sitting on the snowmobile in a normal riding position.
- > **Free sag:** amount that the snowmobile "sits" into travel. Usually measured from the ground to a point on the frame, or as shock stroke, and without a rider on the snowmobile.
- > **Spring rate:** force required to compress a spring one inch. Measured in lb/in. or Kg/mm.
- > **Stroke:** amount of shock travel.
- > **Travel:** total amount the shock compresses, as measured from eye-to-eye.
- > **Valving:** refers to the combination of shims or damping valves on the piston face used to achieve a specific ride characteristic.
- > **Ski travel:** distance the ski moves when the suspension is cycled through its full travel.

#### RIDING

- > **Bottoming:** vehicle has bottomed-out when the suspension reaches the limit of its travel and stops further downward motion.
- > **Bucking:** kicking motion on a rider after a bump or jump landing.
- > **Chatter:** 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.
- > **Fading:** slow loss of shock damping usually due to heat.
- > **Packing:** when the shock does not return quickly enough to adequately absorb the next bump in a repetitive bump sequence.
- > **Spiking:** sharp impact cause by a square-edge bump.
- > **Squat:** when the rear of the vehicle "sits" down either due to weight transfer or driveline forces.
- > **Stiction:** initial force that needs to be overcome to start the suspension stroke.
- > **Topping-out:** when the suspension is fully extended.

### service intervals

- > **Before every ride:** Wipe mud and debris off shock exterior and check air pressures
- > **Monthly:** Clean and inspect your shock. Make sure the air sleeve is threaded on properly.
- > **Annually:** Clean and inspect your shock. See the **MAINTAINING THE FLOAT X EVOL** section on page 17 of this manual.
- > **Every ride season:** Shock rebuild by a FOX Certified Technician or FOX Racing Shox

### tools & supplies

- > Air Sleeve Bullet Tool 398-00-244
- > Bearing Torque Wrench Pin Tool 398-00-249
- > End Cap / IFP Tool 398-00-255
- > FLOAT X EVOL Rebuild Kit 803-00-229
- > FOX Light Racing Oil 025-06-000

### contact info

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 (369.7469)  
E-mail: powersports@foxracingshox.com /  
Website: www.foxracingshox.com  
Business hours: Monday - Friday 8 a.m. - 5 p.m. PST

### method of payment & shipping

Visa,  
MasterCard,  
Cashier's Check

FOX Racing Shox uses  
UPS Ground Service  
within the USA.


### disclaimer

FOX Racing Shox is not responsible for any damages to you or others arising from riding, transporting, or other use of your FLOAT X EVOL 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.

### warranty policy

The factory warranty period for your shock is one year (two years for countries in the EU) from the original date of purchase of the shock or snowmobile. 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 FLOAT X EVOL 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>&gt; FOX Racing Shox offers 5-business day turnaround, which may vary.</li> <li>&gt; 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>&gt; 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>&gt; Proof-of-purchase is required for warranty consideration.</li> <li>&gt; Include a description of the problem, vehicle 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>&gt; Parts replaced due to normal wear and tear and/or routine maintenance</li> <li>&gt; Parts subject to normal wear and tear and/or routine maintenance</li> <li>&gt; Bushings</li> <li>&gt; Seals (after the 90-day seal warranty period expires)</li> <li>&gt; Suspension fluids</li> <li>&gt; Crash damage</li> </ul>
<b>general exclusions from warranty</b>	<ul style="list-style-type: none"> <li>&gt; Installation of parts or accessories not qualitatively equivalent to genuine FOX Racing Shox parts.</li> <li>&gt; Abnormal strain, neglect, abuse and/or misuse</li> <li>&gt; Accident and/or collision damage</li> <li>&gt; Modification of original parts</li> <li>&gt; Lack of proper maintenance</li> <li>&gt; Shipping damages or loss (purchase of full value shipping insurance is recommended)</li> <li>&gt; Damage to interior or exterior caused by rocks, crashes or improper installation</li> <li>&gt; Oil changes or service not performed by FOX Racing Shox or an Authorized Service Center</li> </ul>



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REV A

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