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## **AM SNOW FLOAT 3 AND ZERO SERIES OWNERS GUIDE**

- 1. Read all instructions carefully before installing this kit. Use your factory authorized service manual as reference while installing this kit.**
- 2. To be used with FLOAT 3/ZERO SET - UP GUIDES**
- 3. Torque all fasteners to the manufacturers specifications.**
- 4. If you do not possess the tools or the technical knowledge to install your FOX shocks, have it performed by an authorized dealer.**




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# FOX FACTORY

## QS WITH COMPRESSION



Quick Switch Compression Knob

### QUICK SWITCH WITH COMPRESSION EXPLAINED

The Quick Switch Compression adjust feature gives you the ability to easily adjust the shock's compression damping with three easy clicks. Adjustments are made by turning the adjuster knob on the body cap located on the end of the shock absorber.

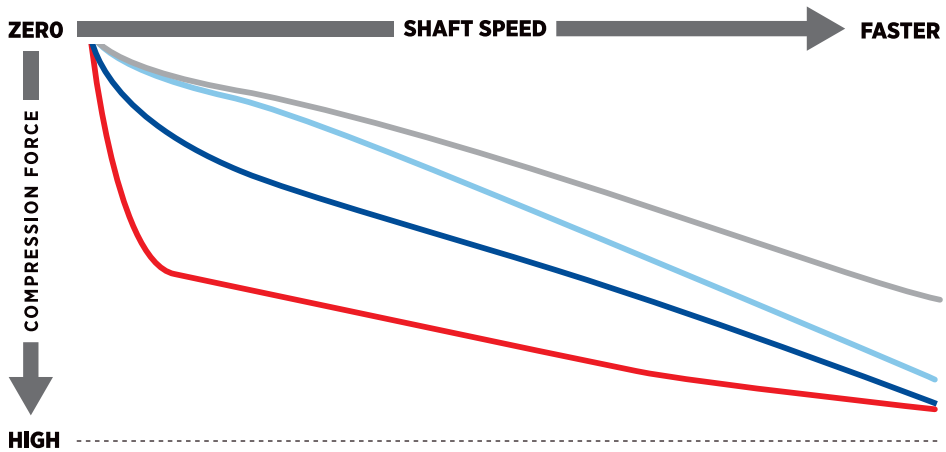
The Quick Switch Compression adjuster has three clicks of adjustment. The factory setting is in the second, middle click. The performance of the shock at this setting is close to the performance of the non-adjustable shock and is a good all-around setting. For firmer compression, turn the knob clockwise. For softer compression, turn the knob counter-clockwise.

Compression damping affects how quickly the shock reaches full bottom-out. Adjusting the compression affects how quickly the shocks compress when bumps or corners are encountered.

The optimum compression setting usually requires the least amount of damping possible without bottoming out the shock. Firmer compression damping will typically be felt as harsh at slow speeds but plush at high speeds, large g-outs, and jumps. Firmer compression damping on ski shocks may provide more stability when cornering on the trail but can also make it more difficult to get the sled leaned over when boon docking. Switching a rear shock to Lockout mode (if equipped) will increase ski pressure, improve traction in deep snow, and improve transfer on top of the snow. The benefits of Lockout mode can provide superior stability when riding deep off-trail snow, hill climbing, and boon docking.

**NOTE:** *Do not leave the rear track shock in Lockout mode when riding on the trail. This can create extremely high internal pressures.*





**QUICK SWITCH DAMPING FORCE**  
 Significant change in damping forces between the three positions allow for large changes in vehicle ride and handling characteristics.

**QUICK SWITCH WITH LOCKOUT DAMPING FORCE**  
 The lockout setting for the rear suspension improves traction, increases ski pressure, and improves transfer on top of the snow.



**POSITION 1**  
**BOTH QS WITH COMPRESSION & QS WITH LOCKOUT**  
 Small amount of compression damping = Softest setting. Ride condition: Comfort



**POSITION 2**  
**BOTH QS WITH COMPRESSION & QS WITH LOCKOUT**  
 Medium amount of compression damping = Medium setting  
 Ride condition: Comfort/Aggressive



**POSITION 3**  
**QS WITH COMPRESSION**  
 Large amount of compression damping = Firm setting  
 Ride condition: Aggressive

OR



**POSITION 3**  
**QS WITH LOCKOUT**  
 Maximum amount of compression damping = Lockout  
 Ride conditions: Deep snow off trail, freeriding/climbing





## QS WITH REBOUND



Rebound Knob

### QUICK SWITCH WITH REBOUND EXPLAINED

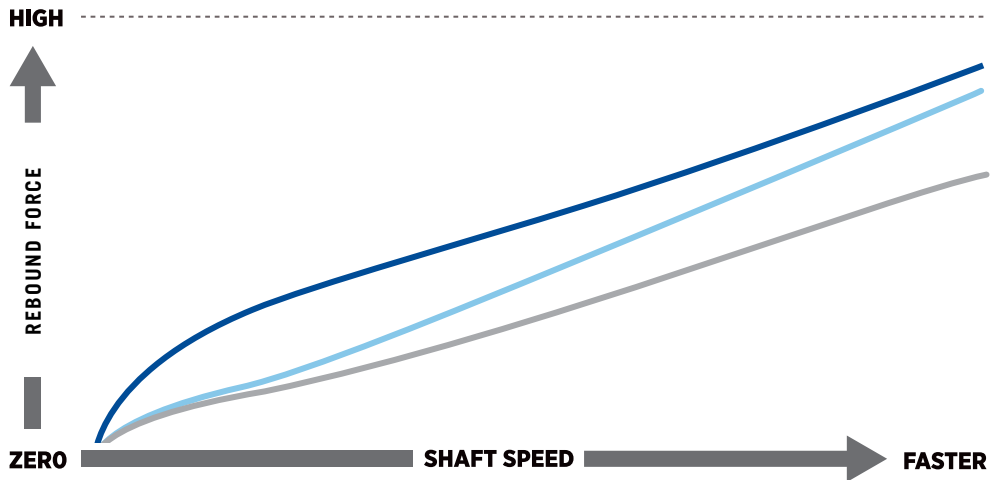
The Quick Switch Rebound adjust feature gives you the ability to easily adjust the shock's rebound damping with three easy clicks. Adjustments are made by turning the adjuster knob on the air sleeve body cap located on the end of the shock absorber.

The Quick Switch Rebound adjuster has three clicks of adjustment. The factory setting is in the second, middle click. The performance of the shock at this setting is close to the performance of the non-adjustable shock and is a good all-around setting. For slower rebound, turn the knob clockwise. For faster rebound turn the knob counter-clockwise.

Rebound damping affects how quickly the shock extends (rebounds). Adjusting the rebound affects how quickly the skis rebound when traveling through a series of bumps and also determines how quickly the front end responds in corners.

The optimum rebound setting usually requires the least amount of damping possible without the sled feeling like it is bouncing off of every obstacle. Excessive rebound damping will typically be felt as harsh "suspension packing". This can often be seen or felt as the vehicle travels through a series of similar-sized, successive bumps. It works well for the first two or three bumps and then bottoms hard on the third or fourth. This is because the shock has not rebounded quickly enough and continues to "pack" further into compression stroke before it can fully extend.





### POSITION 1 QS WITH REBOUND

Small amount of rebound damping = Softest setting.  
Ride condition: Comfort



### POSITION 2 QS WITH REBOUND

Medium amount of rebound damping = Medium setting  
Ride condition: Comfort/Aggressive



### POSITION 3 QS WITH REBOUND

Large amount of rebound damping = Firm setting  
Ride condition: Aggressive

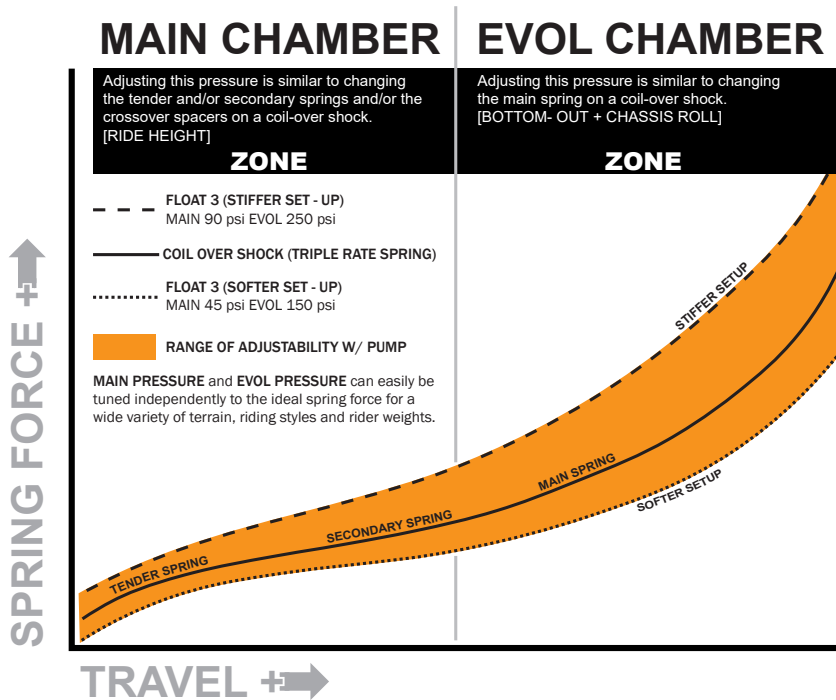




# ADJUSTABLE PROGRESSIVE DUAL-STAGE AIR SPRING

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

With just one pump you can make quick, easy changes to your setup to fine tune your shocks spring curve. Using air, there is an infinite number of spring rates available.



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

Your FLOAT 3 Series shocks come in the box ready-to-ride, but we encourage you to follow the procedures outlined in this manual to optimize their performance.









## INSTALLING SHOCKS AND SETTING SAG

The most important step in setting up snowmobile suspension is setting the “sag” of the front and rear suspension. Sag is the distance the suspension compresses with rider and gear on the machine, otherwise known as ride height. Dialing in your sag will ensure your snowmobile’s suspension is properly balanced.

**Step 1:** Place your snowmobile on a hard, level surface. Ensure the front-end of your snowmobile is safely supported with a floor jack or jack stand with the skis off the ground and no load on the front suspension. The front suspension should be fully extended before removing the stock shocks.

**Step 2:** Remove the stock ski shocks and install your FLOAT 3/ZERO SERIES shock absorbers with the shocks correctly oriented per the supplied SET-UP GUIDE. Torque the original hardware to the manufacturer’s specification.

**Step 3:** Set your pre-load starting point. The recommended starting point pressure or installed spring length can be found in the set-up guide provided with your shocks. See page 12 for pre-load adjustment instructions specific to your shocks.

**Step 4:** Remove the floor jack or jack stand and place the ski’s back on the ground, preferably on a thin piece of card board, plastic etc. to allow the carbides to slide on the hard, level surface. Push up and down on the front bumper 3 times.

**Step 5:** Push up and down on the front bumper 3 times and measure the sag shock length of both shocks WITH RIDER AND GEAR ON THE SNOWMOBILE. When measuring, round length to the nearest 1/16”.

**Step 6:** If the sag shock length is not at 30% of total travel, adjust pre-load to achieve desired 30% sag shock length. The 30% sag shock length for your FLOAT 3/ZERO SERIES shocks can be found in the supplied SET-UP GUIDE. Repeat steps 5-6 until 30% sag shock length is reached.

**Step 7:** Once you have the front suspension sag set at 30% shock travel, lift the rear of the snowmobile off the ground, remove the stock shocks, and install your FLOAT 3/ZERO SERIES shock absorbers with the shocks correctly oriented per the supplied MOUNTING ORIENTATION SHEET. Torque the original hardware to the manufacturer’s specification.

**NOTE:** *Sometimes this step may be easier with the sled rolled over onto it’s side.*

**Step 8:** Lift the rear of the snowmobile so there is no load on the rear suspension but the track is still touching the ground. Measure the distance from the rear bumper to the floor.

**Step 9:** Place the rear of the snowmobile back on the ground. Re-measure the distance from the rear bumper to the floor with the rear suspension completely bottomed.





**Step 10 :** Calculate the 30% sag height of your snowmobile. Calculation example below:

Distance "A" : Distance from the rear bumper to the floor with rear suspension un-loaded as measured in step 8.

Distance "B" : Distance from the rear bumper to the floor with rear suspension bottomed as measured in step 9.

$A - B = [\text{TOTAL TRAVEL}]$

$[\text{TOTAL TRAVEL}] \times .30 = [\text{30\% TRAVEL SAG}]$

$A - [\text{30\% TRAVEL SAG}] = [\text{DESIRED 30\% SAG HEIGHT}]$

**Step 11 :** Push up and down on the rear bumper 3 times and measure the sag height of the rear suspension WITH RIDER AND GEAR ON THE SNOWMOBILE. When measuring, round length to the nearest 1/16".

**Step 12 :** Adjust rear shock pre-load to achieve desired 30% sag height . Lift the rear of the snowmobile off the ground so there is no load on the rear suspension and adjust your rear shock pre-load until the desired 30% sag height calculated in step 11 is achieved.

**Step 13 :** Push up and down on the rear bumper 3 times and re-measure the sag height of the rear suspension WITH RIDER AND GEAR ON THE SNOWMOBILE. When measuring, round length to the nearest 1/16". Repeat steps 5-7 until 30% sag shock length is reached.

**Step 14 :** After setting rear SAG, re-check front SAG and adjust accordingly. Repeat as necessary. Increasing rear suspension preload will put more weight on front suspension and vice-versa.



**Torque the original hardware to manufacturer's specifications.**



## FLOAT 3 SERIES PRELOAD ADJUSTMENT:

- Always lift the snowmobile off the ground and ensure there is no load on the shocks you are adjusting prior to making pre-load adjustments.
- Thread the shock pump onto the EVOL air filler valve and adjust the pressure to the recommended starting point pressure shown under the supplied set-up guide.

**NOTE:** *Always set EVOL chamber pressure before your MAIN air chamber pressure.*

### **WARNING: DO NOT EXCEED 300PSI IN THE EVOL CHAMBER**

**NOTE:** *The EVOL chamber does not affect pre-load. Only adjust MAIN air chamber pressure when adjusting preload.*

- Thread the shock pump onto the MAIN air filler valve and adjust the pressure in 10PSI increments. You can decrease air pressure by pushing the BACK-BLEED valve on the pump.

**NOTE:** *When re-checking pressures, the gauge will always read lower. This is due to air pressure traveling from the air chamber to the pump each time the pump is re-attached to the shock. This inherently causes a lower reading on the pump.*

**NOTE:** *Set the air pressure at a temperature as close to the anticipated riding condition as possible. Air shocks are temperature dependent. If the temperature changes by more than 30 degrees Fahrenheit or 17 degrees Celsius, it is recommended that the pressure settings be adjusted to compensate.*

**NOTE:** *When un-threading the pump from the Schrader valve, the sound of air loss is from the pump only and not the shock.*

## ZERO SERIES PRELOAD ADJUSTMENT:

- Always lift the snowmobile off the ground and ensure there is no load on the shocks you are adjusting prior to making preload adjustments.
- Loosen the bolt on the spring preload adjuster ring and rotate the pre-load ring in one-turn increments.
- For rear suspensions equipped with torsion springs, SAG can be adjusted via the OEM adjustment blocks. If desired SAG setting cannot be achieved with the OEM torsion spring, contact your local dealer for an alternate rate torsion spring.

**NOTE:** *Only adjust the spring pre-load on the rear shock when dialing in the rear suspension sag. Front track shock spring preload will effect steering effort, weight transfer, braking, and bump absorption but should not be used to adjust sag height.*

**NOTE:** *Spring pre-load length will increase or decrease .071" per 360° revolution of the pre-load ring.*



## FINE TUNING YOUR SUSPENSION

At this point, you have set the SAG of your vehicle by adjusting pre-load. Dialing in your sag will ensure your snowmobile's suspension is properly balanced, but there may still be a need for some fine tuning. Use the below fine-tuning guide to achieve your preferred suspension setting.

<b>FINE-TUNING MAIN SPRING ADJUSTMENTS (AIR OR COIL)</b>	
<b>ADJUSTMENT</b>	<b>RESULT</b>
Increased Ski Preload	Lighter Steering
	Increased Ride Height
	Increased Load Capacity
	Decreased chassis roll at high speeds
Decreased Ski Preload	Heavier Steering
	Decreased Ride Height
	Decreased Load Capacity
	Increased chassis roll in deep powder turns
Increased Front Track Preload	Lighter Steering
	Increased Traction, Braking, Bump absorption
	Increased Weight Transfer
Decreased Front Track Preload	Heavier Steering
	Decreased Weight Transfer
Increased Rear Track Preload	Increased Ride Height
	Increased Load Capacity
	Heavier Steering
Decreased Rear Track Preload	Decreased Ride Height
	Lighter Steering

<b>FINE-TUNING EVOL CHAMBER ADJUSTMENTS (IF EQUIPPED)</b>	
<b>ADJUSTMENT</b>	<b>RESULT</b>
Increased EVOL Air Pressure	Increased bottom-out resistance
	Decreased chassis roll at high speeds
Decreased EVOL Air Pressure	Decreased bottom-out resistance
	Increased chassis roll in deep powder turns





FINE-TUNING REBOUND ADJUSTMENTS (IF EQUIPPED)				
Adjustment			Result	Ride Conditions
Ski	1	Soft	Increased steering response in corners	Slow-speed rough trail
			Decreased harshness/packing over successive bumps	
	2	Medium	Best all-round rebound setting	Variable terrain from medium-speed rough trail to soft pack and powder
	3	Firm	Increased stability over high speed single bumps	Boondocking in deep powder, high-speed groomed trail, and jumping
			Increased control with higher pressure or preload	
	Front Track	1	Soft	Increased traction over successive bumps
Decreased harshness/packing over successive bumps				
2		Medium	Best all-round rebound setting	Variable terrain from medium-speed rough trail to soft pack and powder
3		Firm	Increased stability over high speed single bumps	Boondocking in deep powder, high-speed groomed trail, and jumping
			Increased landing control after big jumps	
Rear Track		1	Soft	Increased traction over successive bumps
	Decreased harshness/packing over successive bumps			
	2	Medium	Best all-round rebound setting	Variable terrain from medium-speed rough trail to soft pack and powder
	3	Firm	Increased stability over high speed single bumps	Boondocking in deep powder, high-speed groomed trail, jumping
			Increased landing control after big jumps	

FINE-TUNING COMPRESSION ADJUSTMENTS (IF EQUIPPED)				
Adjustment			Result	Ride Conditions
Ski	1	Soft	Easier roll initiation	Slow-speed boondocking, sidehilling, and hillclimbing
			Increased comfort at low speeds	
	2	Medium	Best all-round compression setting	Aggressive boondocking and sidehilling
	3	Firm	Increased bottom-out resistance	Jumping
			Increased stability at high speeds	
	Front Track	1	Soft	Increased ski pressure
Increased comfort at low speeds				
2		Medium	Best all-round compression setting	Slow-speed boondocking, sidehilling, hillclimbing and increased floatation
3		Firm	Increased bottom-out resistance	Aggressive boondocking, sidehilling, jumping and increased floatation
			Increased landing control after big jumps	
Rear Track		1	Soft	Easier wheelie initiation
	Increased comfort at low speeds			
	2	Medium	Best all-round compression setting	Constant transitions through various ride conditions
	3	Firm	Increased bottom-out resistance	Aggressive trail riding (trail sled only)
			Increased ski pressure	
	3	Lockout	Increased boondocking maneuverability	Boondocking, sidehilling, hillclimbing and off-trail riding in deep powder
Increased hill climbing stability				





<b>FINE-TUNING LIMITER STRAP ADJUSTMENTS</b>	
<b>ADJUSTMENT</b>	<b>RESULT</b>
Longer Limiter Strap Setting	Increased boondocking maneuverability
	Increased bump absorption
	Better deep snow starts
Factory Limiter Strap Setting	Best all-around setting
Shorter Limiter Strap Setting	Increased track attach angle for hill climbing
	Decreased weight transfer
	Decreased bump absorption







