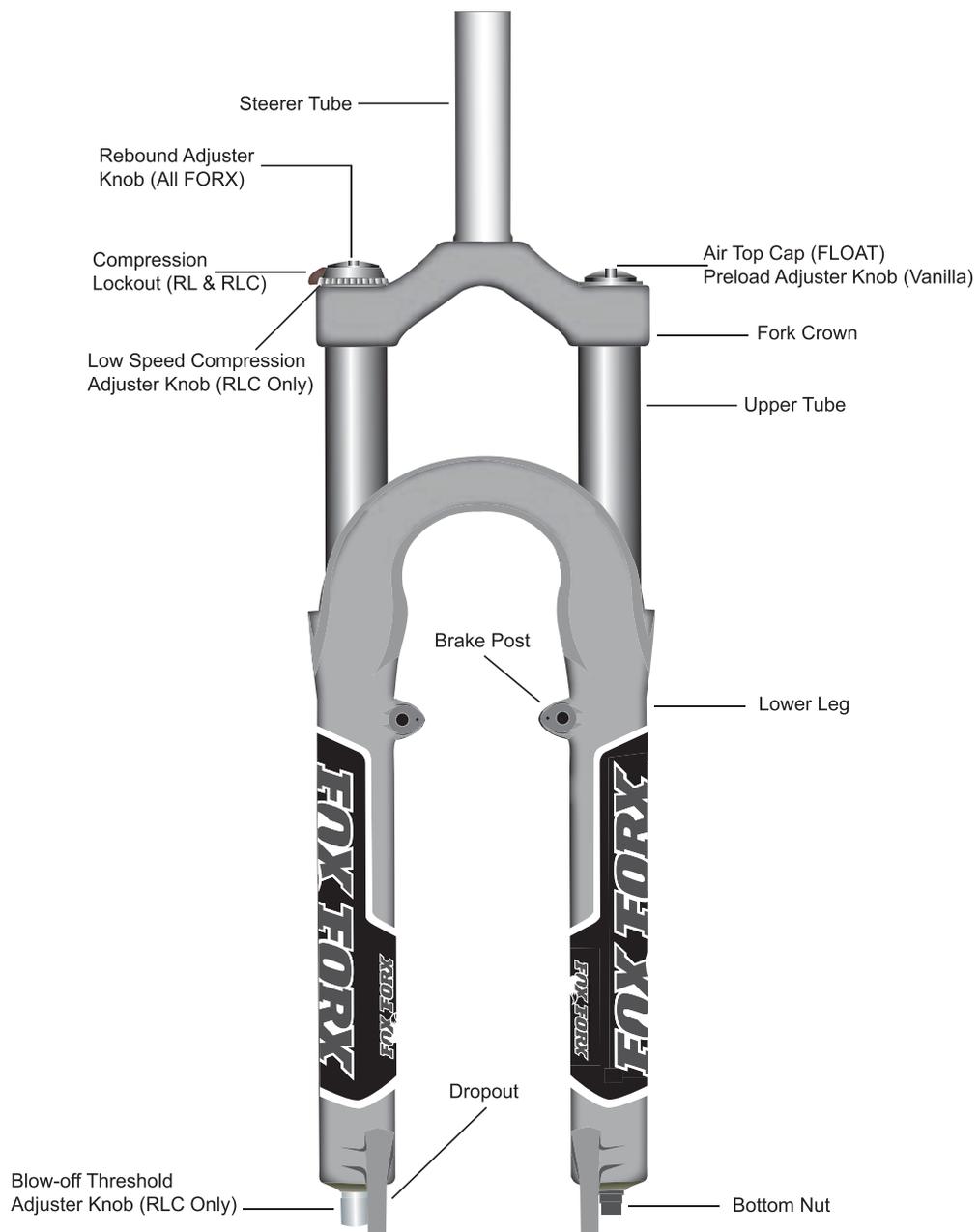




2003 FOX FORX Owner's Manual

FLOAT 80R - FLOAT 80RL - FLOAT 80RLC
FLOAT 100R - FLOAT 100RL - FLOAT100RLC
Vanilla 100R - Vanilla 100RL - Vanilla 100RLC
Vanilla 125R - Vanilla 125RL - Vanilla 125RLC
FLOAT R TALAS - FLOAT RL TALAS - FLOAT RLC TALAS
F80RLT

FOX RACING SHOX
130 Hangar Way,
Watsonville, CA 95076
831.768.1100 FAX 831.768.9312
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FLOAT Forx Features

One-piece Magnesium Lower Leg
 Double butted Aluminum Steerer
 Forged Hollow Aluminum Crown
 PSC - Precision Steering Control
 ILS - Internal Lubrication System
 SDC - Shimmed Damping Control
 SLT - Scraper Lip Technology
 FLOAT Air Spring Technology
 TALAS Air Spring Technology
 F80 Lightweight Chassis

Vanilla Forx Features

One-piece Magnesium Lower Leg
 Double butted Aluminum Steerer
 Forged Hollow Aluminum Crown
 PSC - Precision Steering Control
 ILS - Internal Lubrication System
 SDC - Shimmed Damping Control
 SLT - Scraper Lip Technology
 Vanilla Coil Spring Technology
 Adjustable Travel - 80, 100 & 125mm

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Introduction

Congratulations on choosing FOX FORX for your bicycle. In doing so, you have chosen the best suspension fork in the industry! All FOX Racing Shox products are designed, manufactured and assembled by the finest professionals in the industry. As a consumer and supporter of FOX Racing Shox products, you need to be aware of the importance of setting up your fork correctly to ensure maximum performance. This manual will provide you with the step-by-step instructions of how to set up your fork. It is a good idea to keep your receipts with this manual and refer to it for service and warranty issues.

Contact Information

FOX Racing Shox
130 Hangar Way
Watsonville, CA 95076
Phone: 831.768.1100
North America: 800.FOX.SHOX (369.7469)
Fax: 831.768.9312

E-mail: service@foxracingshox.com
Website: www.foxracingshox.com
Business Hours: Monday-Friday 8:00AM-5:00PM Pacific Time

Method of Payment

Visa, MasterCard and/or Cashier's Check

Method of Shipping

FOX Racing Shox uses UPS Ground service within the USA.

Service / Warranty

FOX Racing Shox is pleased to offer 48-hour* turnaround for product service, provided the following steps are taken.

1. Contact FOX Racing Shox at 800.FOX.SHOX to obtain a Return Authorization (R.A.) Number and shipping address. For International Service Centers, please refer to the list below or contact FOX Racing Shox to determine the Service Center nearest you.
2. Satisfactory proof of purchase receipt is required for warranty consideration.
3. Mark the Return Authorization Number and the Return Address clearly on the outside of the package and send item to FOX Racing Shox or your International Service Center with shipping charges pre-paid by sender.
4. Include a description of the problem, bicycle information (manufacturer, year and model), type of FOX product, spring rate and return address with daytime phone number.

*International Service Centers operate independently. Service and Warranty turnaround times may vary.

Australia Dirt Works 011 612-9679-8400 dirtworks@dirtworks.com.au	Germany Shock Therapy 011 49 6126 226770 support@shock-therapy.com	Philippines Dan's Bike Shop 011 63 34 435 3633 dansbike@WBl.ph
Belgium Sabma 011 32 87-631980 sabma@skynet.be	Germany Toxoholic's 49 6331-258160 toxoholics@t-online.de	Spain Dirt Racing 011 34-91-663-71-25 mrojo.dirt@nexo.es
Brazil Plimax 2 Fast 011 5511-251-0633 astec@plimax.com	Israel DAA Sport Marketing 972-(0)9-865-6960 dan@daa.co.il	Switzerland FOX Racing Shox Europe 011 41-31-809-30-20 frs-europe@bluewin.ch
Canada (West) Cycle Works 780 440-3200 mail@cycleworks.com	Italy Pepi Innerhofer 011-39-0473-56-3107 info@pepi.it	Thailand Uniwave Limited & UWC Co. Ltd. 011 66 2 367 3470 kanate@uniwave.net
Canada (East) Velocycle, Inc. 514 849 5299 velocycle@primus.ca	Japan Mom & Pop's 011 81-586-43-6810 mamapapa@mtg.biglobe.ne.jp	The Netherlands Cannondale Europe BV 011 315 4158 9898 repair@cannondale.com
Czech Republic Racebike 00420 653 66 12 40 rb@racebike.cz	Korea Xenon Sports International 011-82-31-555-0077 xenon@netsgo.com	United Kingdom Mojo Suspension 011 44-1633-615-815 chris@mojo.co.uk
France FMF Sport Group 011 33-494-541950 fmfsportgroup@wanadoo.fr	New Zealand Blue Shark Enterprises 011 64-4-589-4535 alastair@mountainbikes.co.nz	United States FOX Racing Shox 831-768-1100 service@foxracingshox.com

Warranty Policy

The factory warranty period for your fork is one year from the original date of purchase of the bicycle or fork. A copy of the original purchase receipt must accompany any fork 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.

General Exclusions from this warranty shall include but are not limited to any failures caused by:

Installation of parts or accessories that are not qualitatively equivalent to genuine FOX Racing Shox parts.

Abnormal strain, neglect, abuse and/or misuse.

Accident or collision damage.

Modification of original parts.

Lack of proper maintenance.

Shipping damages or loss (purchase of full value insurance is recommended).

Damage to interior or exterior caused by improper cable routing, rocks, crashes or improper installation.

Oil changes or service not performed by FOX Racing Shox or an Authorized Service Center.

Specific Exclusions from this warranty shall include:

Parts replaced due to normal wear and tear and/or routine maintenance.

Parts subject to normal wear and tear and/or routine maintenance:

Bushings

Seals

Suspension fluids

Drop-outs

FOX Racing Shox makes no other warranty of any kind, expressed or implied. All implied warranties of merchantability and fitness for a particular purpose which exceed the obligations and time limits stated in this warranty are hereby disclaimed by FOX Racing Shox and excluded from this warranty.

Warranty Q & A

Q. What costs are my responsibility during the warranty period?

A. The customer is responsible for all costs of maintenance services, non-warranty repairs, accident and collision damages, oil, seals, bushings and reducers, and mounting hardware.

Q. What are some examples of "abnormal" strain, neglect or abuse?

A. These terms are general and overlap each other in areas. Specific examples are: Hucking, ghost riding, big drop, stunt / dare-devil riding, riding with broken parts, riding without oil in fork, wrong spring rate, etc.

Q. Does the warranty cover incidental costs such as shipping or transportation?

A. No. The warranty is limited to repair of materials and/or workmanship.

Q. May I perform any or all of the recommended maintenance shown in the owner's manual?

A. You may perform seal and suspension fluid maintenance as well as bushing and drop-out inspections. If bushings or drop-outs are worn, they should be replaced by FOX Racing Shox or an Authorized Service Center.

Q. May I perform service and repairs on my fork?

A. FOX FORX are mostly end user serviceable. Oil and travel changes and damper or spring replacement can be performed by the consumer. To ensure peak performance, extensive repairs and service to the fork should be performed by a qualified bicycle suspension mechanic, FOX Racing Shox or an Authorized Service Center. If in doubt as to whether or not you are capable of fixing your fork, contact FOX Racing Shox or an Authorized Service Center.

Disclaimer

FOX Racing Shox is not responsible for any damages to you or others arising from riding, transporting, or other use of your fork or bicycle. In the event that your fork breaks or malfunctions, FOX Racing Shox shall have no liability or obligation beyond the repair or replacement of your fork pursuant to the terms outlined in the warranty provisions of this manual.

Consumer Safety

RIDING A BICYCLE IS DANGEROUS AND CAN RESULT IN DEATH OR SERIOUS INJURY. TAKE YOUR RESPONSIBILITY TO YOURSELF AND OTHERS SERIOUSLY.

- Maintain your bicycle and suspension
- Always wear a helmet, protective clothing and eye protection
- Ride within your limits
- Tread lightly

Your bike is equipped with FOX Racing Shox suspension. Before riding, take the time to read the FOX Racing Shox manual on setup, use, and service of your fork. If you have questions, call your Authorized FOX Racing Shox Service Center or call FOX Racing Shox directly at 831.768.1100.

Important Safety Information

1. Verify that the brakes are installed and adjusted properly before riding the bicycle. Improperly installed or adjusted brakes can cause loss of control and serious or fatal injuries to the rider. Use only "V" - style or hydraulic cantilever brakes or disc brakes designed by the manufacturer for use on FOX FORX. Do not use brace mounted cable leverage devices. Do not route brake cables or housing through the stem.
2. If your fork loses oil, tops out excessively or makes unusual noises, immediately stop riding and contact FOX Racing Shox or an Authorized FOX Racing Shox Service Center for inspection. Unusual noises would be loud and pronounced clunks and clanks. Some noises such as spring rattle, oil flow and minor clicks are normal. Continued use of the fork could cause loss of control and serious or fatal injuries.
3. Use only FOX Racing Shox replacement parts. Using aftermarket parts on FOX FORX will void the warranty. Aftermarket replacement parts could also cause structural failure resulting in loss of control and serious or fatal injuries.
4. If mounting the bicycle in a carrier designed to hold a fork by its drop-outs, use caution to not tilt the bicycle to either side. Tilting the bike with the drop-outs in the carrier can cause structural damage to the fork. Ensure that the fork is fastened securely with the quick release and that the rear wheel is properly held. If the bicycle ever tilts or falls from a bicycle carrier, do not ride it until it is examined by a qualified dealer, Service Center or FOX Racing Shox. A fork leg or drop-out failure could cause loss of control and serious or fatal injuries.
5. FOX FORX do not include reflectors for on-road use. FOX FORX are designed to be used in competitive off-road riding and racing. Proper reflectors meeting the Consumer Product Safety Commission's (CPSC) requirements should be installed if the fork will be used on public roads.
- 6. FOX FORX have a crown / steerer / upper tube assembly. These parts are pressed together in a one-time, precision press-fit operation. Replacement of any of these parts requires a complete new assembly. Do not attempt to remove or replace the steerer or upper tubes independently of the crown. DO NOT ATTEMPT TO ADD THREADS TO THREADLESS STEERERS. Modifying the crown / steerer / upper tube assembly as described here could cause the rider to lose control of the bicycle resulting in serious or fatal injuries.**

Installation

Step 1 - Your FOX FORX should be installed by a qualified bicycle mechanic. Forks installed improperly are dangerous and can cause loss of control and serious or fatal injuries.

Step 2 - Remove existing fork from the bicycle. Remove the crown race from the fork. Measure the steerer tube length of the existing fork. Transfer this measurement to the FOX FORX steerer. Refer to stem manufacturer's instructions to be sure there will be enough clamping surface for the stem. If it is necessary to cut the steerer tube, measure twice and cut once. It is also recommended that a cutting guide be used while cutting the steerer tube.

Step 3 - Use a crown race setter to install the crown race firmly against the top of the crown. Install the star fangled nut in the steerer tube. This should be done with a star fangled nut installation tool.

Step 4 - Install the fork on the bicycle. The headset should be adjusted so it turns freely without drag or free play.

Step 5 - Re-install the brakes and adjust the brake pads. Refer to the brake manufacturer's instructions.

Step 6 - Mount the front wheel being sure that the quick release nuts sit in the fork drop-out counter bores. The quick release should engage four (4) or more threads. Close the quick release with the lever in front of and parallel to the left fork leg.

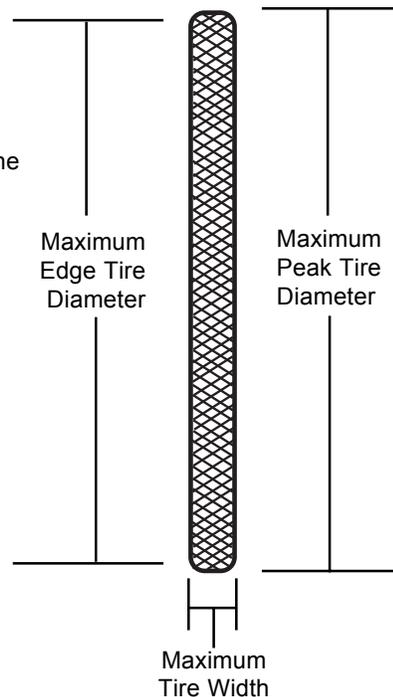
Tire Sizes

FOX FORX will accept tires sizes up to 2.40 inches wide (e.g. WTB MotoRaptor 55/60, 26 x **2.40**). Any tire larger than 26 x 2.30 must be checked for clearance by the following method.

Determining Tire Size - With the tire installed and inflated on the rim, measure the following three dimensions.

Maximum Peak Tire Diameter = 343mm = 27.00 inch
Maximum Edge Tire Diameter = 326mm = 25.67 inch
Maximum Tire Width = 61mm = 2.40 inch

Do not use a tire if ANY measurement exceeds the maximum dimensions shown above. Using tires larger than the dimensions shown above is NOT RECOMMENDED and can cause serious or fatal injury.



Brakes

Linear-pull Brakes

Linear-pull brakes (i.e. V-brakes) can be used on FOX FORX. Use only the FOX brake posts supplied with the fork. Install brake posts and torque to 80 in-lbs. Install and adjust linear-pull brakes according to the manufacturer's recommendations. Test brakes for proper operation on flat land. FOX FORX use a **hangerless lower leg** design and cannot use any cantilever style brakes.

Disc Brakes

Disc brakes with 160-180mm rotors can be used on FOX FORX. **Do not use DH rotors larger than 180mm.** Install disc brakes and torque all fasteners according to manufacturer's recommendations. Install, route and check that all cables or hydraulic hoses are securely fastened to the lower leg and will not move during compression of the fork. It is recommended that new disc brake pads be installed to ensure proper alignment and to minimize drag. Test brakes for proper operation on flat land.

Maintenance

Performance, safety and the life-span of your FOX FORX depend on maintenance. If you ride in extreme conditions, service and maintain your FOX FORX more frequently.

NOTE: In this manual, reference being made to the left and right side of the fork is from the seated rider's perspective.

Important Check Before Every Ride

1. Check that quick release skewer is properly adjusted and tight.
2. Clean the outside of your fork with soap and water and wipe dry with a soft dry rag. Do not spray water directly on the Seal/Uppertube junction. **DO NOT USE A HIGH PRESSURE WASHER ON YOUR FORK.**
3. Inspect entire exterior of fork for damage. The fork should not be used if any of the exterior parts appear to be damaged. Please contact your local dealer or FOX Racing Shox for further inspection and repair.
4. Check headset adjustment. Adjust headset if loose according to manufacturer's recommendations.
5. Check that brake cables or hoses are properly fastened.
6. Check that the front and rear brakes operate properly on flat land.

Service Intervals

Your FOX FORX will require service at the regular intervals shown below.

Item	After Each Ride	Every 25 Hours	Every 100 Hours	Annually	Instructions found on:
Wash and Dry Exterior of Fork	X				page 7
Clean Fork Seals & Inspect / Lube Foam Rings		X			page 16
Clean and Refill FLOAT Fluid in Air Chamber (FLOAT Forx Only)			X		page 17
Bushing Wear Inspection				X	page 9
Dropout Thickness Inspection			X		page 9
Change Fork Oil				X	page 16

Required Tools and Supplies

Torque Setting

Used for:

Safety Glasses	n/a	Protecting Eyes
Bucket or Drain Pan	n/a	Changing Oil / Travel
Paper towels and/or rags		Absorbing oils & fluids
Plastic Faced Mallet	n/a	Tap loose bottom shafts
Torque Wrench	n/a	Torque fasteners
FOX Suspension Fluid	n/a	Travel change (FLOAT Forx)
		Oil change (All Forx)
FOX FLOAT Fluid	n/a	Travel & Oil change (FLOAT Forx)
FOX High Pressure Air Pump	n/a	Setting air pressure (FLOAT Forx)
26mm 6 point socket	165 in-lbs (1864 N-cm)	All Topcaps
10mm open-end or socket wrench	50 in-lbs (565 N-cm)	All Bottom Nuts
8mm Crowfoot wrench	80 in-lbs (904 N-cm)	Brake Posts
3/8" Deep socket wrench	75 in-lbs (847 N-cm)	Air Tank Valve (FLOAT Forx)
Schrader valve core wrench	4 in-lbs (45 N-cm)	Schrader Valve Core (FLOAT Forx)
2mm Hex-key wrench	11 in-lbs (124 N-cm)	Rebound Knob (R, RL, RLC)
	4 in-lbs (45 N-cm)	Blow-off Threshold Knob (RLC)
1.5mm Hex-key wrench	Seated, back-off 1/4 turn	Lockout Lever (RL, RLC)

Pump

A FOX high pressure air pump is available for FLOAT Forx. It is used to make changes in air pressure on your fork.

1. Remove the air topcap from the top of the left fork leg.



2. Thread the pump's valve chuck onto the fork's air-valve until pressure registers on the pump gauge. This takes approximately 6 turns. Do not over-tighten pump on air-valve as this will damage the pump chuck seal.
3. **To increase the pressure**, stroke the pump a few cycles. The pressure should increase slowly. If pressure increases rapidly check to make sure the pump is properly fitted and tightened onto the air valve.

Note: If the fork has no air pressure, the gauge will not register pressure.

4. To decrease the pressure push the black bleed-valve. Pushing the bleed-valve halfway down, and holding it there, will allow pressure to escape from the pump and fork. Pushing the bleed-valve all the way down and releasing it will release a small amount of pressure (micro-adjust). When unthreading the pump from the air-valve fitting, the sound of the air loss is from the pump hose, not the fork itself.

Note: When attaching the pump to the fork, the hose will need to fill with air. This will result in a lower pressure registering approximately 10 to 20 PSI on the gauge.

Note: Average setting range is from 45 to 125 PSI. DO NOT EXCEED 200 PSI.

5. Replace the air topcap before riding.

Bushings Technology and Inspection

FOX FORX use hydrodynamic lubrication. In our system, oil is force fed into the tall slotted bushings during the compression stroke. When the fork cycles up and down the oil is trapped between bushings, upper tubes and seals.

Thermal expansion rates can cause the bushings to close in on the upper tubes causing high friction and binding during normal operation. Correct bushing clearance is critical to prevent binding of fork during normal operation.

Geometric dimensioning and tolerancing is a design practice used to insure parts will work / fit during the manufacturing process. Bushings are sized before installation and rechecked for size after installation. Correct bushing tolerance is a diametric clearance of .0015"-.0090".

Show Room Testing - As you rock the fork back and forth while stopped with the front brake applied, the bushings have only a small amount of lubricant separating the bushing / upper tube. At this time you may notice a small amount of bushing play. Fork bushings must have clearance to perform correctly. Too little clearance will cause high friction, binding or bushing seizure when hot.

Real World Testing - During normal riding conditions, hydrodynamic lubrication occurs when there is a complete separation of the upper tube from the bushing by a thin film of oil. Hydrodynamic lubrication is characterized by very low friction and no wearing of the bushings or shaft since there is no metal to bushing contact. During hydrodynamic lubrication normal bushing clearance will not be noticeable.

Bushings should be checked annually for excessive wear. If excessive fore and aft movement is detected between the upper tubes and lower legs, contact an Authorized FOX Racing Shox Service Center or FOX Racing Shox for further instructions. Grasp the lower legs at the drop outs (axle). Push the fork straight back towards the rear wheel. Then pull it towards you. Next grasp the fork near the upper tube/seal junction and try the same thing. If excessive movement is noticed, refer to page 4 of this manual and contact FOX Racing Shox or an Authorized FOX Racing Shox Service Center.

Drop-out Thickness Inspection

Over time the knurled surfaces of the hub on the front wheel and quick-release skewer wear the drop-out region of the lower leg. (Fig.1)

Inspect and measure the thickness of the dropouts every 6 months or 100 hours that any point on the surface is above the minimum specification of 6.20mm. (Fig. 2)

Replace the lower leg assembly if the drop-out thickness is at the minimum specification or smaller.



Fig. 1 Drop-out



Fig. 2 Measure Drop-out

General Set-Up Instructions

Fork Terminology

Travel: The total amount the fork compresses.

Sag: The amount the fork compresses with the rider sitting on the bike in a normal riding position.

Compression Damping: This controls the rate at which the fork compresses

Rebound Damping: This controls the rate at which the fork extends.

Preload: The initial force placed on a spring.

Spring Rate: The amount of force required to compress a spring one inch.

FLOAT: This is FOX air spring technology.

Vanilla: This is FOX coil spring technology.

Vanilla Forx

Setting Sag on Vanilla Forx

To get the best performance from your FOX Vanilla fork, it is necessary to set and adjust sag. Sag is how much the fork compresses or “sags” when the rider sits on the bicycle. Generally, this is 15-25% of the total travel.

Measuring and adjusting sag

1. Install a zip tie on the upper tube and push it down until it contacts the fork seal. Carefully sit on the bike and assume a normal riding position. The fork should compress slightly. Being careful not to further compress the fork, dismount the bicycle. Measure the distance between the seal and the zip tie. This distance is the sag.

2. Compare your sag measurement to the table.

If your sag is lower than on the table, turn the preload knob counter-clockwise one (1) full turn. Measure sag again and repeat adjustment if necessary.

If your sag is higher than on the table, turn the preload knob clockwise one (1) full turn. Measure sag again and repeat adjustment if necessary.

If correct sag cannot be achieved by adjusting the preload knob, see the Spring Tuning Guide below.

Vanilla Forx Sag Table	
Travel	Sag
80mm	16mm (5/8")
100mm	20mm (13/16")
125mm	25mm (1")

Spring Tuning on Vanilla Forx

Read the Vanilla Spring Tuning Guide chart below to see if you need to change your spring rate. **Vanilla Forx are tuned by changing only the left side coil spring.**

The coil spring has a painted color code stripe on one end of the spring.

Refer to the chart to select the optimum spring.

Vanilla Spring Tuning Guide

Symptom	Do the following:
Too much sag and Preload Knob is adjusted fully counter-clockwise.	Increase spring rate
Excessive bottoming of travel during riding.	Increase spring rate
Too little sag and Preload Knob is adjusted fully clockwise.	Decrease spring rate
Ride is too harsh and never use full travel.	Decrease spring rate

Vanilla Forx Coil Spring Guidelines					
FOX Part #	Spring Rate	Color Code	Travel Range	Rider Weight Lbs / Travel	Notes
039-05-000-A	10 lb/in	Black	80-125	<90-115 / 125 <90-110 / 100 <90-105 / 80	
039-05-007-A	18 lb/in	Purple	80-125	115-155 / 125 115-135 / 100 105-125 / 80	
039-05-001-A	25 lb/in	Blue	80-125	150-180 / 125 130-155 / 100 120-135 / 80	Standard on Vanilla 125
039-05-002-A	35 lb/in	Green	80-125	175-210 / 125 150-180 / 100 130-155 / 80	Standard on Vanilla 100
039-05-003-A	45 lb/in	Yellow	80-125	205-240+ / 125 175-200 / 100 150-180 / 80	Standard for 80mm travel
039-05-004-A	60 lb/in	Orange	80-100	195-225 / 100 175-205 / 80	100mm Maximum
039-05-005-A	75 lb/in	Red	80-100	220-245+ / 100 200-225+ / 80	100mm Maximum

Changing your Coil Spring

1. With a 26mm 6-point socket wrench, loosen and remove the preload topcap. Remove the black spring spacers (two spacers for 125mm travel, 1 for 100mm travel, none for 80mm travel). Compress the fork slightly and remove the coil spring. You may need to firmly pull up on the spring to disengage it from the plunger shaft. Wipe the spring dry with a rag and check the color code.
2. Install the new spring by dropping it into the upper tube. Install the spacer(s). Install and torque the topcap to 165 in-lbs (1864 N-cm).
3. Measure and adjust sag as described on page 10. Happy Trails!

FLOAT Forx

Setting Sag on FLOAT Forx

To get the best performance from your FOX FLOAT fork, it is necessary to set and adjust sag. Sag is how much the fork compresses or “sags” when the rider sits on the bicycle. Generally, this is 15-25% of the total travel.

Measuring and adjusting sag

1. Install a zip tie on the upper tube and push it down until it contacts the fork seal. Carefully sit on the bike and assume a normal riding position. The fork should compress slightly. Being careful not to further compress the fork, dismount the bicycle. Measure the distance between the seal and the zip tie. This distance is the sag.

2. Compare your sag measurement to the table.

If your sag is lower than on the table, remove the air topcap, screw on the FOX High Pressure Air Pump fitting, note the current air pressure setting and depress the black bleed-valve to reduce the gauge pressure by 5 psi. Measure sag again and repeat adjustment if necessary.

If your sag is higher than on the table, remove the air topcap, screw on the FOX High Pressure Air Pump fitting, note the current air pressure setting and pump to increase the gauge pressure by 5 psi. Measure sag again and repeat adjustment if necessary.

FLOAT Forx Sag Table		
Travel	XC/Race Firm	Freeride Plush
FLOAT 80 & F80	12mm (1/2")	20mm (13/16")
FLOAT 100 & TALAS	15mm (9/16")	25mm (1")

Air Spring Tuning on FLOAT Forx

Read the FLOAT Air Spring Tuning Guide chart below to see if you need to change your air pressure. FLOAT Forx are tuned by changing air pressure at the left topcap. (See page 8 for instructions for the FOX High Pressure Air Pump)

FLOAT Air Spring Tuning Guide

Symptom	Do the following:	FLOAT Air Spring Guidelines			
		Rider Weight	Air Pressure F80	Air Pressure FLOAT 100	Air Pressure TALAS
Too much sag	Increase air pressure in 5 psi increments	Under 125 lbs	40 psi	45 psi	50 psi
		125 - 135 lbs	45 psi	50 psi	55 psi
Excessive bottoming during riding	Increase air pressure in 5 psi increments	135 - 145 lbs	50 psi	55 psi	60 psi
		145 - 155 lbs	55 psi	60 psi	65 psi
Too little sag	Decrease air pressure in 5 psi increments	155 - 170 lbs	60 psi	65 psi	70 psi
		170 - 185 lbs	65 psi	70 psi	80 psi
Ride is too harsh and never uses full travel.	Decrease air pressure in 5 psi increments	185 - 200 lbs	70 psi	75 psi	90 psi
		200 - 215 lbs	75 psi	80 psi	100 psi
		215 - 230 lbs	80 psi	85 psi	115 psi
		230 - 250 lbs	85 psi	90 psi	125 psi

Travel Adjustable Linear Air Spring - TALAS

TALAS is an acronym for Travel Adjustable Linear Air Spring. TALAS is a revolutionary FOX air-spring system that allows on the fly travel adjustment and a linear air spring for the Ultimate Lightweight Freeride bike. The TALAS knob changes the travel 3mm per click which allows the rider to change the travel while riding from 85mm to 125mm. The TALAS air-spring system automatically changes the air pressure and spring rate when the travel is adjusted ensuring consistent ride performance for the bike in all settings. TALAS also has an IFP and secondary air chamber which makes the air-spring curve linear so it has an exact coil-spring feel throughout the travel which provides the best bump absorption. The TALAS knob can change travel on the fly and requires no tools nor disassembly - simply turn the knob and compress or unweight the fork.

Travel Adjust Guidelines for TALAS Forx

Travel can be changed either on or off the bike.

Decreasing Travel

From 125mm (full extension) travel, turn the TALAS knob (Fig. 1) clockwise to shorten the travel.

Each click represents 3mm of travel change. There are 15 positions in 3.5 rotations.

Turn knob desired number of clicks, then compress and hold down the fork for a few seconds.

Cycle the fork a few times and it will hold down at its new shorter travel.

Increasing Travel

From shorter travel turn the TALAS knob counter-clockwise to increase travel.

Turn knob desired number of clicks and unweight the fork for a few seconds to allow the fork to extend.

If riding, it will be necessary to pop a wheelie a few times in order to sufficiently unweight the fork.

Maintenance Guidelines for TALAS Forx

TALAS Forx feature proprietary seals that make the TALAS system virtually maintenance free.

It is recommended that the TALAS system be rebuilt every eighteen (18) months.

TALAS Forx Seal kit part number is 803-00-090.

FLOAT Fluid part number is 025-03-003-A (8 oz. bottle).

Please note that the slot at the bottom of the left fork leg is NOT an adjustment. It is used when loosening the bottom nut from the TALAS Base Stud.

Warning: Do not remove the TALAS topcap unless you are an Authorized FOX Racing Shox Service Center with the appropriate pressurization tools.

Set-up Guidelines for TALAS Forx

Air pressure on TALAS Forx can be set at any travel. For simplicity the TALAS Air Spring Guide is for a 125mm travel setting. Use these air pressures as a starting point to set up your TALAS fork.

- 1) Turn the knob all the way counter-clockwise to achieve 125mm of travel.
- 2) Unscrew the center TALAS Air Top Cap knob (Fig. 2) from the TALAS knob to access the schrader valve.
- 3) Attach a FOX Racing Shox high pressure pump to the schrader valve.
- 4) Pump to desired pressure (refer to chart below for TALAS Air Spring Guidelines).
- 5) Remove pump. Check for proper sag before replacing air cap.
- 6) Check sag on TALAS Forx according to the instructions on page 11 and adjust air pressure as needed.



Fig. 1 TALAS Knob



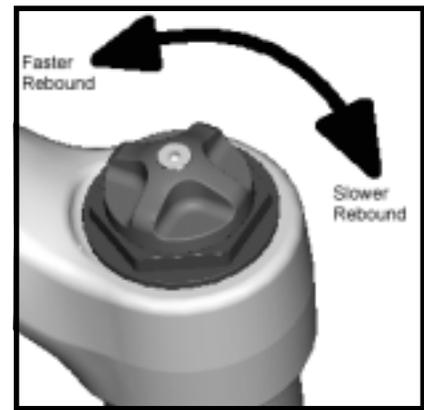
Fig. 2 TALAS Air Top Cap Knob & Schrader Valve

TALAS Air Spring Guidelines (with fork at 125mm)	
Rider Weight	Air Pressure
Under 125 lbs	50 psi
125 - 135 lbs	55 psi
135 - 145 lbs	60 psi
145 - 155 lbs	65 psi
155 - 170 lbs	70 psi
170 - 185 lbs	80 psi
185 - 200 lbs	90 psi
200 - 215 lbs	100 psi
215 - 230 lbs	115 psi
230 - 250 lbs	125 psi

Damping Adjustment Guidelines

Rebound Adjustment (R, RL, RLC & RLT)

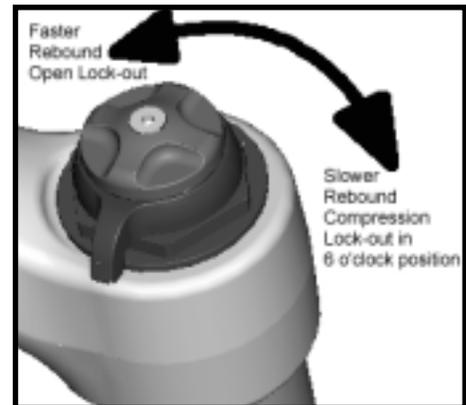
FOX FORX feature a rebound adjuster. This allows the rider to control the speed at which the fork extends after compression. The Rebound Adjustment Knob is the red knob located on top of the right fork leg. Turn it clockwise for slower rebound and counter-clockwise for faster rebound. There are 12 clicks of adjustment in the full range of motion. The proper rebound setting is a personal preference and varies depending upon spring preload, spring rate and riding style. Rebound should be as fast as possible without kicking back. If the rebound is too slow the suspension will not function properly and the wheel will not follow the changing terrain. Determining the proper rebound setting may take a few rides to fine tune. On those first few rides adjust the rebound and note the different ride characteristics. Your rebound adjustment may change for different riding conditions. *As a starting point for tuning your rebound adjustment, turn the rebound adjuster knob all the way clockwise until it stops, then turn counter-clockwise 6 clicks.*



R

Compression Lock-out Lever (RL, RLC & RLT)

The blue compression lock-out lever is located below the red rebound adjuster knob. It allows the rider to close the compression damping in the fork. This keeps the fork at the top of its travel and it will be hard to compress. The fork is said to be "locked-out" in this position. Rotate the lever clockwise to the six o'clock position to achieve lock-out. This position is useful in climbing and sprinting situations. The fork will "blow-off" in the event that a big hit is encountered with the fork locked-out. To unlock the fork, simply rotate the lever counter-clockwise to the three o'clock position. This puts the cartridge in "open" mode and you will have normal compression damping. The lock-out lever will rotate past the three o'clock position. This is normal and does not affect performance.



RL & RLT

Note: The fork may cycle a couple times after activating the lock-out. Once complete lock-out is achieved, the fork may continue to move 3-5mm. This is normal and does not affect performance.

Compression Adjustment (RLC Only)

Low-speed compression damping is adjusted with the blue bezel ring below the blue lockout lever. Compression damping controls the quickness with which the fork moves through its travel. Rotate the bezel clockwise for slower (harder) compression and counter-clockwise for faster (easier) compression. There are 9 clicks of adjustment. The proper setting is a personal preference and varies depending on your weight and riding style. Determining the proper compression setting may take a few rides to fine tune. On those first few rides adjust the compression and note the different ride characteristics. Your compression damping setting may change with different riding conditions. *As a starting point for tuning your compression, turn the bezel clockwise until it stops, then back off 5 clicks.*



RLC

Blow-off Threshold Adjustment (RLC & RLT)

FLOAT RLC, Vanilla RLC and F80RLT feature Blow-off Threshold Adjustment capabilities. It is adjusted with the blue knob located at the bottom of the right fork leg. This gives the rider the ability to adjust the force required to cause the fork to blow-off when it is in the locked-out position. Turn the knob clockwise to make it harder to blow-off and counter-clockwise to make it easier. There are twelve (12) clicks of adjustment in the full range of motion. *As a starting point for tuning your blow-off threshold, turn the knob all the way clockwise until it stops, then back off one click.*

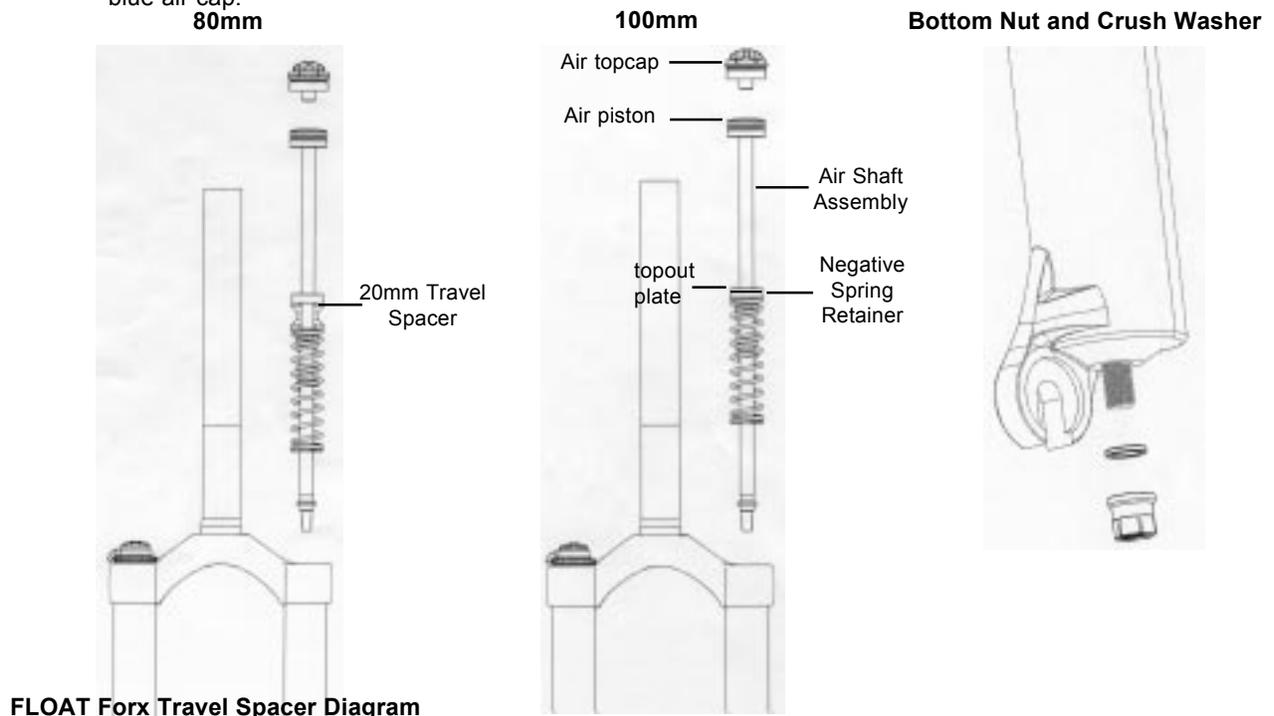


RLC & RLT

Changing Travel - FLOAT Forx

FOX FORX travel can be changed by rearranging the travel spacers as shown in the drawings below. After changing travel check the fork for proper operation before riding. If there is free movement in the fork or if it makes strange noises disassemble the fork and check for complete number and correct orientation of spacers. **(Note: F80 Forx are 80mm specific. Travel cannot be increased on F80 Forx.)**

- Step 1** - Remove the blue air cap from the top of the left fork leg. Let the air out of the fork. Refer to Pump Instructions for details about letting the air out with a pump. Remove left top cap with a 26mm socket 6-point socket wrench.
- Step 2** - Loosen the bottom nut 3-4 turns with a 10mm wrench. With a plastic mallet, gently tap the bottom of the shaft to disengage it from the lower leg. Allow oil to drain into a bucket. Remove the bottom nut and crush washer.
- Step 3** - Compress the fork as much as possible. The air piston will be visible about one inch below the top of the upper tube. Push the bottom of the shaft upwards to push the air piston out of the top of the upper tube. If necessary, use a small screwdriver to push the bottom of the shaft up through the hole in the bottom of the lower leg.
- Step 4** - Pull the air-shaft assembly from the fork. Refer to the drawings below and add or remove the appropriate spacer(s) to achieve the desired travel. NOTE: FLOAT FORX can be configured for 80 or 100mm of travel. Do not exceed 100mm of travel. Spacers snap on to the air shaft between the Spring Guide and the Topout Plate.
- Step 5** - Lubricate the o-ring on the air piston with FOX FLOAT Fluid and re-install the air shaft assembly into the upper tube. Push the shaft until it approaches the bottom hole of the fork. Do not push the shaft all the way through the bottom hole.
- Step 6** - Turn the fork upside down. Pour 30cc of FOX Suspension Fluid through the bottom hole.
- Step 7** - Push the air shaft assembly up until the shaft comes through the bottom hole. Install the crush washer and bottom nut. Torque to 50 in-lbs.
- Step 8** - Turn the fork right side up. Pour 5cc of FOX FLOAT Fluid on top of the air piston.
- Step 9** - Lubricate the o-ring on the air topcap with FOX FLOAT Fluid. Re-install the topcap and torque to 165 in-lbs.
- Step 10** - Air up the fork to the desired pressure and cycle it several times to check for proper operation. Re-install the blue air cap.



Changing Travel - Vanilla Forx

FOX FORX travel can be changed by rearranging the travel spacers as shown in the drawings below. After changing travel check the fork for proper operation before riding. If there is free movement in the fork or if it makes strange noises disassemble the fork and check for complete number and correct orientation of spacers.

The following tools and supplies will be needed: 26mm 6-sided socket, 10mm wrench, 2mm hex wrench, 1.5mm hex wrench, torque wrench, plastic faced hammer, small screw driver, drain pan, FOX Suspension Fluid.

Step 1 - Step 1a -Remove the left (spring side) top cap with a 26mm 6-sided socket.

Step 1b -On R models, simply remove the right (cartridge) side top cap with a 26mm 6-sided socket.

Step 1c -RL and RLC models require that the adjuster knobs be removed as shown in the drawing (see page 14). Remove the red rebound knob by firmly holding the red knob from turning and loosen screw with a 2mm hex wrench.

Step 1d -Remove the lock-out lever with a 1.5mm hex wrench by loosening the three set screws and carefully lifting the lever. *Do not remove the set screws. The 3 balls are held in place by grease. Do not lose the three balls in the lock-out lever.*

Step 1e -Remove the low-speed compression knob on RLC models. Below the low-speed compression knob is a detent ball and spring which sit in a counterbore in the topcap. Check that the ball is positioned in the hole by pressing on it with a small screwdriver and feeling for the force of the spring.

Step 1f - Loosen and unscrew the damper topcap with a 26mm 6-sided socket.

Step 2 - Compress fork slowly until the travel spacers are exposed on the damper side. Pull the damper topcap up until it stops. Snap on or off the correct length spacers to match the orientation shown in the **Travel Spacer Diagram (see page 14)**. If removing spacers from the cartridge, make sure to keep them in a safe place for future use.

Step 3 - Step 3a - Extend the fork by pulling down on the lower leg. Push down on the damper topcap and carefully thread into upper tube. Torque to 165 in/lbs.

Step 3b -Re-install adjuster knobs. On RLC models, install the low speed compression knob so that the groove on the bottom is positioned over the aluminum pin in the topcap.

Step 3c -On RL and RLC models, install the lockout lever onto the hex and rotate clockwise until it stops. It may take multiple rotations to seat the lockout shaft. Orient the lever so the lockout tab faces approximately the six o'clock position. While pressing the lockout lever down, lightly tighten the three set screws. Back each screw off 1/4 turn.

Step 3d -On all models, install red rebound knob so that the slot feature on the bottom is aligned with the flats on the center of the rebound shaft. Apply blue loctite to screw and tighten with 2mm hex wrench while holding red rebound knob from spinning.

Warning - Damper internals will be damaged if the rebound knob is not held turning while the screw is tightened.

Step 4 - Loosen the left (spring side) with a 10mm wrench or socket 3-4 full turns. Place a clean drain pan under the left leg and tap lightly with a plastic hammer on the nut to loosen the plunger from the lower leg. Unscrew and remove bottom nut and washer. Push up on the shaft and let oil drain.

Step 5 - Make sure all oil is drained from left side leg and right topcap is tight. Turn bike upside down and push out plunger shaft.

Step 6 - Looking at the **Travel Spacer Diagram**, add or remove spacers between the black negativespring guide and the aluminum coil insert. Spacers snap onto the shaft. Slide the black negative spring guide up against the spacers.

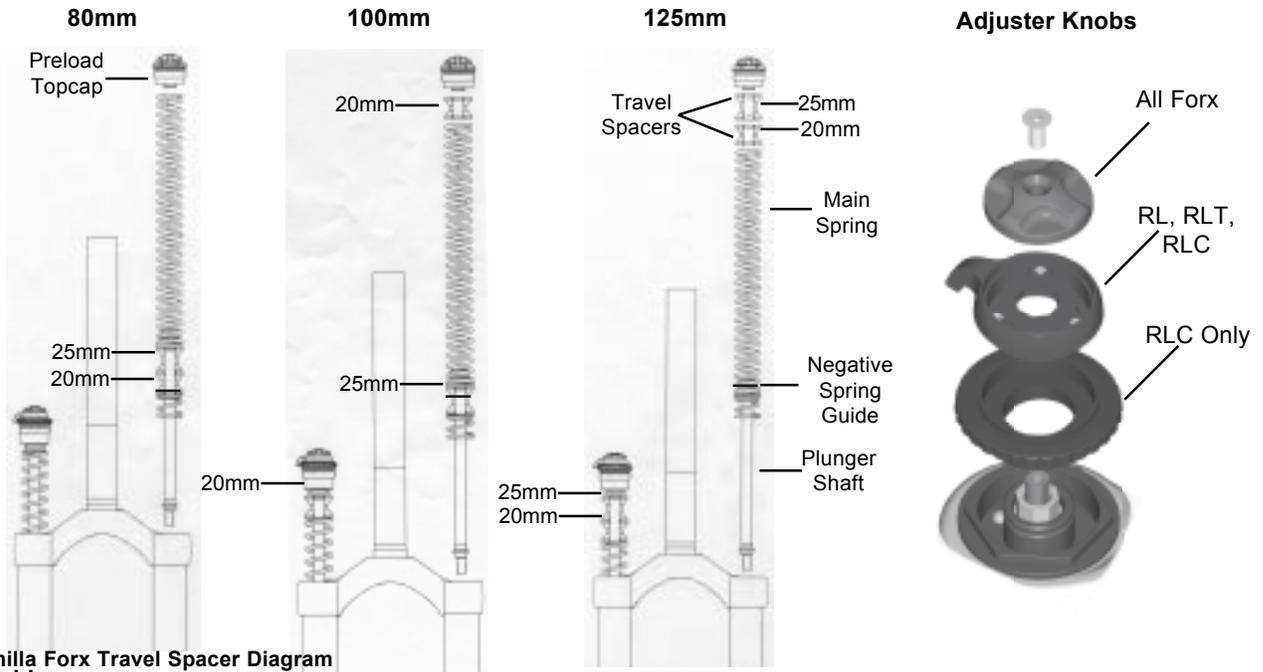
Step 7 - Reinstall the plunger shaft, spring and spacers into the left fork leg and install the crush washer and bottom nut. Torque the bottom nut to 50 in-lbs.

Step 8 - Pour in 30cc of new FOX Suspension Fluid or re-use oil from clean drain pan into the left upper tube.

Step 9 - Install left top cap and torque to 165 in-lbs.

Step 10 - Cycle the fork several times to check for proper operation before riding. If there is free movement in the fork or if it makes strange noises, disassemble fork to check for complete number and orientation of spacers.

Changing Travel - Vanilla Forx con't



Vanilla Forx Travel Spacer Diagram Bushings

FOX FORX use hydrodynamic lubrication. In our system, oil is force fed into the tall slotted bushings during the compression stroke. When the fork cycles up and down the oil is trapped between bushings, upper tubes and seals. Bushings should be checked annually for excessive wear. If excessive fore and aft movement is detected between the upper tubes and lower legs, contact an Authorized FOX Racing Shox Service Center or FOX Racing Shox for further instructions. Grasp the lower legs at the drop outs (axle). Push the fork straight back towards the rear wheel. Then pull it towards you. Next grasp the fork near the upper tube/seal junction and try the same thing. If excessive movement is noticed, refer to page 4 and contact FOX Racing Shox or an Authorized FOX Racing Shox Service Center.

Changing Oil

Vanilla Forks - Left Side

The left leg of FOX Vanilla Forx contain the parts shown on the **Vanilla Travel Spacer Diagram**.

The following tools and supplies will be needed: 26mm 6-sided socket, 10mm wrench, 2mm hex wrench, 1.5mm hex wrench, torque wrench, plastic faced hammer, small screw driver, drain pan, FOX Suspension Fluid.

- Step 1** - Remove the Preload Topcap with a 26mm socket wrench. Remove all of the travel spacers from the top of the main spring.
- Step 2** - Loosen the bottom nut 3-4 full turns with a 10mm wrench. Place a drain pan under the fork leg and then lightly tap the bottom nut with a plastic faced hammer to loosen the shaft from the lower leg. Remove bottom nut and crush washer. Push plunger shaft up into the lower leg with a small screwdriver and let the oil drain from the fork leg.
- Step 3** - With all the oil drained, use the small screwdriver to carefully guide the plunger shaft back down through the hole in the bottom of the lower leg. Install the crush washer and bottom nut. Torque bottom nut to 50 in-lbs. Wipe excess oil from exterior of fork with a towel.
- Step 4** - Pour 30cc of FOX Suspension Fluid into the top of the left upper tube.
- Step 5** - Install travel spacers on top of main spring. Carefully thread Preload Topcap into upper tube and torque to 165 in-lbs.

FLOAT Forks - Left Side

The left leg of FOX FLOAT Forx contains the parts shown on page 12 in the FLOAT Forx Travel Spacer Diagram.

The following tools and supplies will be needed: 26mm 6-sided socket, 10mm wrench, 2mm hex wrench, 1.5mm hex wrench, torque wrench, plastic faced hammer, small screw driver, drain pan, FOX Suspension Fluid plus a FOX High Pressure Air Pump and FOX FLOAT Fluid.

Changing Oil con't

- Step 1** - Remove the blue air cap from the top of the left fork leg. Let the air out of the fork. Refer to Pump Instructions for details about letting the air out with a pump. Remove left top cap with a 26mm socket 6-point socket wrench.
- Step 2** - Loosen the bottom nut 3-4 turns with a 10mm wrench. With a plastic mallet, gently tap the bottom of the shaft to disengage it from the lower leg. Allow oil to drain into a bucket. Remove the bottom nut and crush washer.
- Step 3** - Compress the fork as much as possible. The air piston will be visible about one inch below the top of the upper tube. Push the bottom of the shaft upwards to push the air piston out of the top of the upper tube. If necessary, use a small screwdriver to push the bottom of the shaft up through the hole in the bottom of the lower leg.
- Step 4** - Pull the air-shaft assembly from the fork. Clean and dry assembly.
- Step 5** - Lubricate the o-ring on the air piston with FOX FLOAT Fluid and re-install the air shaft assembly into the upper tube. Push the shaft until it approaches the bottom hole of the fork. Do not push the shaft all the way through the bottom hole.
- Step 6** - Turn the fork upside down. Pour 30cc of fresh FOX Suspension Fluid through the bottom hole.
- Step 7** - Push the air shaft assembly up until the shaft comes through the bottom hole. Install the crush washer and bottom nut. Torque to 50 in-lbs.
- Step 8** - Turn the fork right side up. Pour 5cc of FOX FLOAT Fluid on top of the air piston.
- Step 9** - Lubricate the o-ring on the air topcap with FOX FLOAT Fluid. Re-install the topcap and torque to 165 in-lbs.
- Step 10** - Air up the fork to the desired pressure and cycle it several times to check for proper operation. Re-install the blue air cap.

FLOAT & Vanilla Forx - Right Side

The right leg of FOX FORX contains the damper. The damper is a precision component that controls the compression and rebound of your FOX FORX. If your cartridge ever loses oil, be sure to complete these 9 steps to ensure that you have the proper volume of oil in the damper. Use only FOX Suspension Fluid in your FOX FORX.

NOTE: Too much oil will cause hydraulic lock-out of the fork. This is a serious condition and could lead to loss of control and serious or fatal injury.

The following tools and supplies will be needed: 26mm 6-sided socket, 10mm wrench, 2mm hex wrench, 1.5mm hex wrench, torque wrench, plastic faced hammer, small screw driver, drain pan, FOX Suspension Fluid plus a FOX High Pressure Air Pump and FOX FLOAT Fluid.

- Step 1** - Step 1a -On R models, simply remove the right (damper) side top cap with a 26mm 6-sided socket.
Step 1b -RL, RLT and RLC models require that the adjuster knobs be removed as shown on page 16. Remove the red rebound knob by firmly holding the red knob from turning and loosen screw with a 2mm hex wrench.
Step 1c -Remove the lock-out lever with a 1.5mm hex wrench by loosening the three set screws and carefully lifting the lever. *Do not remove the set screws. There are 3 balls in the lockout lever. The 3 balls are held in place by grease. Do not lose the three balls in the lock-out lever.*
Step 1d -Remove the low-speed compression knob on RLC models. Below the low-speed compression knob is a detent ball and spring which sit in a counterbore in the topcap. Check that the ball is positioned in the hole by pressing on it with a small screwdriver and feeling for the force of the spring.
Step 1e -Loosen and unscrew the damper topcap with a 26mm 6-sided socket.
- Step 2** - On RLT and RLC models, remove the blue blow-off threshold knob with a 2mm hex key wrench.
- Step 3** - Loosen the right side bottom nut with a 10mm wrench or socket 3-4 full turns. Place a clean drain pan under the right leg and tap lightly with a plastic hammer on the nut to loosen the damper from the lower leg. Unscrew and remove bottom nut and washer. Push up on the shaft and let the oil drain.

Changing Oil con't

Step 4 - Carefully pull the damper from the fork. It will still contain oil.

Step 5 - Place the damper upright in a deep bucket and carefully cycle the shaft up and down several times to pump out the remaining oil. Gently shake the damper to check whether it is empty.

Step 6 - When the damper is empty, pull it to its maximum length and install it into the fork. Install the crush washer and bottom nut and torque to 50 in-lbs.

Step 7 - Measure 160cc of fresh FOX Suspension Fluid and pour it into the right fork leg. Add it slowly to avoid overflowing and spillage.

Step 8 - Push down on the damper topcap and thread it carefully into the upper tube. Torque to 165 in-lbs.

Step 9 - Step 9a -Re-install adjuster knobs. On RLC models, install the low speed compression knob so that the groove on the bottom is positioned over the aluminum pin in the topcap.
Step 9b -On RL, RLT and RLC models, install the lockout lever onto the hex and rotate clockwise until it stops. It may take multiple rotations to seat the lockout shaft. Orient the lever so the lockout tab faces approximately the six o'clock position. While pressing the lockout lever down, lightly tighten the three set screws. Back each screw off 1/4 turn.
Step 9c -On all models, install red rebound knob so that the slot feature on the bottom is aligned with the flats on the center of the rebound shaft. Apply blue loctite to screw and tighten with 2mm hex wrench while holding red rebound knob from spinning.
Warning - Damper internals will be damaged if the rebound knob is not held while the screw is tightened.

Step 10 - Cycle the fork several times and run the adjusters through their full ranges of adjustment. You should feel the damper fill with oil after several cycles. Adjust all damper settings to your preferences and head out for a nice ride.

Seals and Foam Rings

FOX FORX feature a sealing system designed to keep your fork moving smoothly in all conditions. There are two parts to the system - the fork seal and the foam ring. The fork seal features a proprietary scraper lip geometry that keeps dirt out and oil in the fork. The foam ring sits just below the fork seal. It is saturated with oil and in turn applies oil to the upper tube as it passes by. This keeps the fork moving up and down smoothly. While FOX FORX are designed to require minimal maintenance, periodic inspection and cleaning of the fork sealing system is required. It is normal on FOX FORX for a small amount of oil and/or grease to accumulate on the upper tubes. This is necessary to keep the fork working smoothly and to keep out dirt. Further, fork seals are grease packed at the factory. This grease tends to migrate out of the seals during the break-in period.

Step 1 - Around the perimeter of the fork seals are small notches. Use a small flat blade screw driver in these slots to gently pry the seal from the lower legs of the fork. Once loose, raise them all the way up to the crown on the upper tubes. It is recommended that the tip of the screwdriver be covered with tape or a piece of material to protect the paint on the fork from being damaged.

Step 2 - Wrap a clean rag around the junction of the upper tubes and the lower legs. This will keep dirt out while the seals are being cleaned.

Step 3 - Use a rag to wipe around the outside diameter of the seal. Wipe until clean.

Step 4 - Remove the rags and check the foam rings which will be visible just inside the lower legs. They should be soaked with oil and should not contain any dirt or debris. If the foam rings are dry, use a few cc's of FOX Suspension Fluid to saturate them.

Step 5 - Wipe the upper tubes and slide the seals down into the lower legs. Carefully press the seals into place. A thin flat bladed screw driver can be used to press in between the upper tube and the fork brace. It is recommended that the blade of the screw driver be covered with tape or a rag to prevent damage to the seal. Inspect that seal is firmly seated against top surface of the lower leg.

Step 6 - Wipe off any excess oil and cycle the fork a few times to check for proper operation.