


2002

A large, stylized 'X' logo composed of thick, blue-outlined geometric shapes. The 'X' is positioned to the left of the word 'FUSION'.

# FUSION

*VELVET R*  
*OWNER'S MANUAL*

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## *VELVET R EXPLAINED...*

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REBOUND KNOB.....

FORGED ALUMINUM CROWN.....

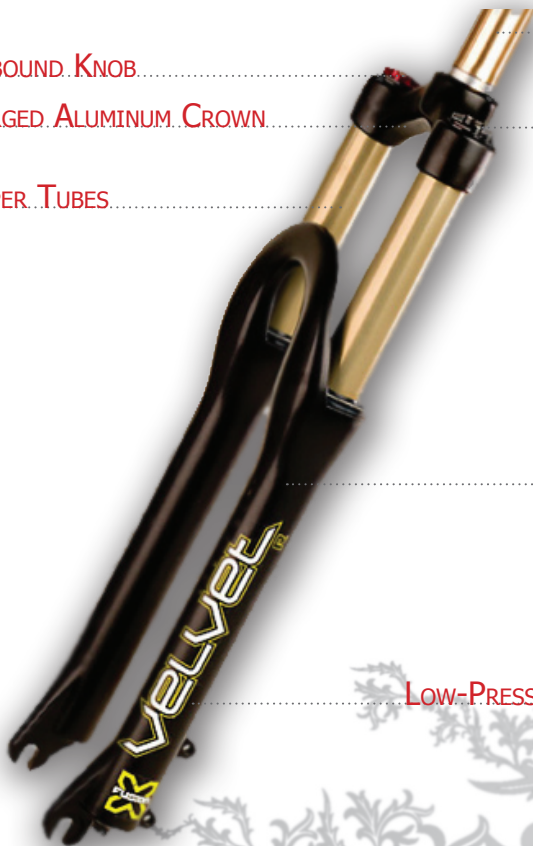
UPPER TUBES.....

ALUMINUM STEERER.....

AIR PRESSURE ADJUST.....

MAGNESIUM LOWERS.....

LOW-PRESSURE AIR SPRING SYSTEM.....




## *WELCOME TO X-FUSION*

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In your possession is the culmination of hard work, dedication and a promise to provide you with the best suspension fork in the world.

As a manufacturer and designer of innovative, high-end mountain biking products, X-Fusion's reputation for quality and performance is built upon thorough testing of every product to ensure its function and durability. We can't guarantee trips to the podium, but we'll guarantee that we'll hold up our end of the suspension fork part of the formula. You ride hard and our VELVET R will work hard for you. Deal?

Please read this manual thoroughly and carefully as it contains important information about the proper installation, use, care and maintenance of your **VELVET R** fork. Don't be that one person on the mountain bike forums who didn't  read the manual; do your part and learn how to use our product. It'll save you time and frustration, not to mention a few bucks.

## *IMPORTANT SAFETY INFORMATION*

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Before riding, please read INITIAL SETUP (QUICKSTART) for proper setup and use of your new X-Fusion fork. If you are unsure of the proper use or function of your new fork, please call your nearest X-Fusion Service Center for further information.

Should your fork show signs of air and/or oil leakage, or make any unusual noises during use, please stop using the product immediately and return it to your dealer or authorized X-Fusion Service Center for inspection. Riding with an incorrectly installed, malfunctioning or damaged fork can be dangerous and could cause serious rider injury or damage to the product.

Also, please keep in mind the following important safety points:

- ◆ Verify that the brakes are installed and adjusted properly before riding your bicycle.
- ◆ If your fork tops or bottoms out excessively or makes unusual noises, immediately stop riding and contact an X-Fusion Service Center for inspection.
- ◆ Use only X-Fusion replacement parts. Using aftermarket parts on X-Fusion products will void its warranty.

- ◆ If mounting the bicycle in a carrier designed to hold a fork by its dropouts, use caution not to tilt the bicycle to either side. Tilting the bike with the dropouts 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 X-Fusion or an Authorized X-Fusion Service Center. A fork leg or dropout failure can cause loss of control and serious or fatal injuries.
- ◆ X-Fusion forks do not include reflectors for on-road use. Proper reflectors meeting the Consumer Product Safety Commission's (CPSC) requirements should be installed if the fork will be used on public roads.
- ◆ Do not attempt to modify the components of an X-Fusion fork. Altering the components can seriously sacrifice the reliability and strength of the fork, which can lead to serious injury or death.
- ◆ Adhere to the maintenance interval specified in the Maintenance section of this owner's manual. Not only will you lengthen the life of your fork, it will enable you call the podium your home away from home.
- ◆ Your VELVET R fork contains are that are filled to high pressures. Make sure all air chambers are empty before attempting to take apart the fork. Better yet, have all service and maintenance performed by an X-Fusion Service Center.

X-Fusion recommends the following to ensure your safety and make you a popular figurehead on the trails:

- ◆ Keep your bicycle and suspension in supreme working condition.
- ◆ Wear protective clothing, eye protection and helmet every time you ride.
- ◆ Know and ride within your limits.
- ◆ Follow IMBA's Rules of the Trail. For more information, go to **[www.imba.com](http://www.imba.com)**:
  1. Ride on open trails only
  2. Leave no trace.
  3. Control your bicycle.
  4. Always yield trail.
  5. Never scare animals.
  6. Plan ahead.

## *SUSPENSION TERMINOLOGY*

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**Shock Sag** The amount by which the shock compresses with the rider seated in the normal riding position. The recommended amount of sag is generally 20-30% of the total shock travel.

**Compression Damping** The damping force generated by the shock as it is being compressed. Generally, compression damping is speed sensitive, meaning the faster the shock travels the higher the force of compression damping it produces.

**Rebound Damping** The damping force generated by the shock as it returns to full extension.

**Spring Rate** Defined as the amount of force required to compress the spring a given amount. Generally it is referred to in pounds per inch (lbs./in.).

## *INSTALLATION*

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It is extremely important that your VELVET R is installed correctly by a qualified bicycle mechanic. Improperly installed forks are extremely dangerous and can result in severe and/or fatal injuries. Please support your local bike shop and have them properly install your fork. If you must do it yourself:

1. Remove the existing fork from the bicycle and the crown race from the fork.
2. Measure the length of the fork steerer tube against the length of the steerer tube. The steerer tube may need cutting to the proper length. Make sure there is sufficient length to clamp the stem.
3. Install the headset crown race firmly against the top of the fork crown.
4. Install the fork assembly on the bike. Adjust the headset until no play or drag is felt.
5. Install disc brakes according to the manufacturer's instructions.
6. When changing tires, always make sure there is at least 5 mm between the tire and the bottom of the fork brace with the air in the fork completely discharged and the fork completely compressed.

## *INITIAL SETUP (QUICKSTART)*

Your VELVET R is simple to use and setup. X-Fusion recommends that you consult the AIR PRESSURE SETTINGS TABLE on the next page and fill the air chamber with the air pressure corresponding to your body weight, and set the REBOUND knob to 6 clicks IN from FULL OPEN.

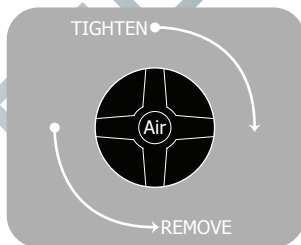
Ride your bike around a little bit and let the VELVET R take in a few bumps and hits before commencing adjustment. This allows the oil, seals and other systems to get primed, get adjusted, and prepare for world-dominating performance.

### **Air Pressure Settings Table**

Rider Weight in lbs. (kg)	Pressure Setting in psi (bar)
< 155 lbs. (< 70)	70 (4,83)
155 - 170 (70 - 77)	75
170 - 185 (77 - 84)	80
185 - 200 (84 - 91)	85
200 - 215 (91 - 97)	90
215 - 230 (97 - 104)	95
230 - 245 (104 - 111)	100
245 - 260 (111 - 118)	105
260 > (118 >)	110
For every 15 lbs. (7 kg)...	Add 5 psi (0,34 bar) up to a maximum of 300 psi (20,68 bar)

To add or remove air from the air chamber:

1. Remove the aircap from the top of the left fork leg.



2. Attach an X-Fusion High Pressure Pump the Schrader Valve on the aircap.
3. Pump the air chamber to the desired setting. If you need to bleed air from the air chamber, use the bleed button on the Pump.
4. Remove the Pump, and replace the aircap.

**The air you might hear leaking when removing the pump chuck from the Schrader Valve is air being purged from the Pump's hose, not the fork's air chamber.**



## *SETTING 529*

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Sag is the compression of the fork caused by the rider's weight. A proper sag setting is crucial for the performance of your fork. If sag is not properly set, your fork is not able to follow the contours of the trail.

In the INITIAL SETUP (QUICKSTART) section, you ensured your VELVET R is pumped up to 70 psi. Now, this setting is perfect for most riders. However, after checking your sag setting as instructed below, you might find that the fork is not set for your body weight. Using the AIR PRESSURE SETTINGS TABLE on the previous page, you can more accurately dial in the correct amount of pressure your VELVET R needs for maximum performance, given your body weight.

To set sag:

1. If your fork is travel adjustable, set it to maximum travel.

**It is recommended to have a partner hold the bike up while you sit on the bike with normal riding apparel on. Try to mount and dismount the bike as smoothly as possible so as to not move the zip tie and give an incorrect sag measurement.**

2. Throw on your normal riding gear and carefully mount your bike. Wait about 10 seconds to allow the suspension to settle.
3. Carefully dismount the bike, and measure the distance between the dust wiper and the zip tie. This is sag. The sag should be about 25% of maximum travel. So, for a 130mm VELVET R, the distance between the zip tie and dust wiper should be about 30mm.

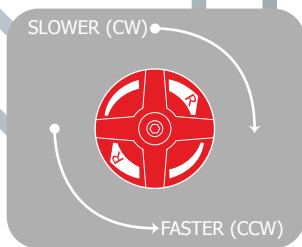
4. If you have more than 30mm of sag, you might need to ADD air to the air chamber; if you have less than 30mm of sag, you might need to REMOVE air from the air chamber.

Sag is determined by rider weight, and is adjusted by setting the pressure in the air chamber on the left leg of the VELVET R. Using an X-Fusion High Pressure Pump, you either add or remove air to obtain the correct pressure setting, and thus sag.

## *SETTING REBOUND*

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Rebound damping controls the speed at which a fork returns after being compressed. Located at the top of the right fork leg is the rebound knob. Turning the knob clockwise (OUT) decreases rebound damping, causing the fork to return to full extension faster. Turning the knob counterclockwise (IN) increases rebound damping, slowing the return of the fork to full extension.



The VELVET R has 16 to 20 clicks of adjustment from full OUT to full IN.

X-Fusion cannot tell you what the “correct” rebound setting is. Rebound is a personal preference. X-Fusion recommends that you play around with your rebound settings to find a setting you like.

Remember that if your rebound is too slow, your VELVET R will have a tendency to “pack up,” as it cannot extend fast enough before encountering the next bump. Your VELVET R will eventually run out of travel to do its job. On the other hand, if your rebound is too fast what you will have on your bike is a glorified pogo stick, providing you nothing more than an out-of-control spring. You definitely don’t want to be “kicked off” the bike by your chaotic rebound setting.

So, try to find a rebound setting that is in between. As stated in INITIAL SETUP (QUICKSTART), X-Fusion recommends that you set your rebound to 6 clicks IN from full OUT. Or put another way, turn your rebound knob fully counterclockwise until it stops; now turn it clockwise 6 clicks. That’s the baseline setting.

Now go out and ride around a bit. Since you know your baseline setting, experiment going 2 clicks out (or in). If you don’t like the new setting, come back in (or out) 1 click. This procedure is called “bracketing,” and will help you find the ride that’s right. You might even change your rebound depending on the type of conditions you’re riding in. Stutter bumps, for example, might necessitate that your fork quickly prepares for the next hit; therefore, you might want a faster rebound.

## ***MAINTENANCE***

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X-Fusion forks are high performance products. The hydraulic dampers are not designed to be serviceable by the end user. DO NOT PUNCTURE, EXPOSE TO HIGH TEMPERATURES or DISASSEMBLE.

Always keep your fork clean. Use warm water, mild soap and a soft scrub brush to clean your fork. NEVER USE A HIGH POWERED WASHER FOR CLEANING YOUR FORK!

## ***SERVICE***

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X-Fusion has Authorized Service Centers located in various countries around the world. Please consult the list of our Service Centers located on the back cover of this Manual or for the most up to date list, please visit us on the web at [www.x-fusion-shox.com](http://www.x-fusion-shox.com).

### **Service Intervals Table**

Procedure	Frequency
Wipe down externals	Every ride
Oil Change	Every 200 hours or 18 months
Replace dust wipers	Every 200 hours or 18 months
Replace air seals	Every 200 hours or 18 months
Replace piston O-ring	Every 200 hours or 18 months

## ***WARRANTY INFORMATION***

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The warranty period for all X-Fusion forks is 24 months starting from the original date of purchase and is valid for all countries of the European Community. A copy of the original purchase receipt must accompany each fork that is sent for repair under these warranty terms.

The acceptance of a warranty claim during the 24 month warranty period is up to the discretion of X-Fusion or any Authorized Service Center acting on its behalf. X-Fusion or its agents will determine if the failure is due to workmanship or product abuse. The warranty will be void if the buyer does not inform the seller of the damage after its discovery within 60 days.

X-Fusion applies only the terms of warranty mentioned in this contract and in the legal bill and reserves the right to judge if the product is subject of the following terms:

X-Fusion and its agents reserve the right to all final warranty or non-warranty decisions.

To maintain valid the general guarantee conditions for all X-Fusion forks, it is absolutely necessary that the buyer executes the periodical maintenance and that cleaning and maintenance are carried out according to the following time table:

**Before each ride:** clean the fork off with water and mild soap. Do not use a high-pressure washer.

**Each 15 hours:** maintenance and cleaning of the fork if used in mud and/or rain.

**All 50 hours:** maintenance and cleaning of the fork if used in dry and dusty conditions.

To maintain valid the general warranty conditions, it is also necessary for all products to be set up and used in accordance with the X-Fusion user manual and the Bicycle Manufacturer's user manual.

At 200 hours or 12 months from original purchase date:

Send fork to an Authorized Service Center for general inspection of the replacement parts To keep your fork performing at its best we strongly recommend using only X-Fusion Authorized Service Centers.

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 X-Fusion parts.
- ◆ Abnormal strain, neglect, abuse and/or misuse.
- ◆ Accident or collision damage.
- ◆ Modification of original parts.
- ◆ Lack of proper maintenance. (See the MAINTENANCE section.)
- ◆ Any attempt to disassemble damper assembly.
- ◆ Shipping damages or loss (purchase of full value insurance is recommended).

- ◆ Damage to interior or exterior caused by improper cable routing, seatpost, rocks, crashes or improper installation.
- ◆ Oil changes or service not performed by X-Fusion 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, such as bushings and reducers, seals, and suspension fluids.

X-Fusion 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 X-Fusion and excluded from this warranty.

## *WARRANTY Q AND A*

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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/daredevil riding, riding with broken parts, riding without oil in fork, too much preload, 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.

## ***DISCLAIMER***

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X-Fusion 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, X-Fusion shall have no liability or obligation beyond repair or replacement of your fork, pursuant to the terms outlined in the warranty provisions of this manual.

Germany  
475 W. Sunnyoaks Avenue  
Campbell, CA 95008 USA  
Phone: 408-866-0188  
Fax: 408-866-0100  
Toll-free: 866-319-SHOX (7469)  
E-mail: usinfo@x-fusion-shox.com

Switzerland  
475 W. Sunnyoaks Avenue  
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Fax: 408-866-0100  
Toll-free: 866-319-SHOX (7469)  
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