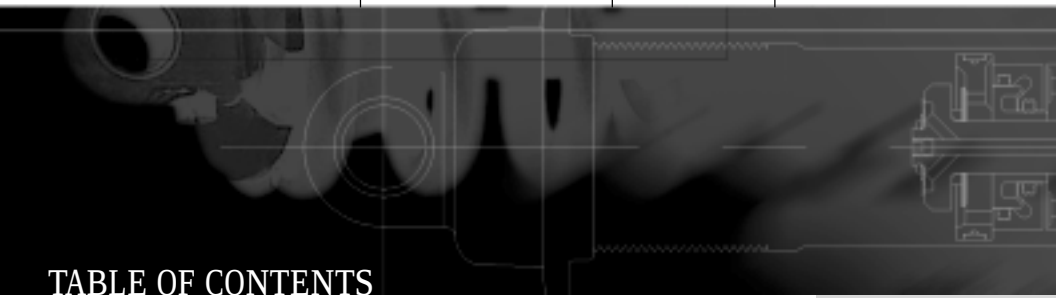


TABLE OF CONTENTS

Welcome to the Progressive Suspension Family

To all of our new mountain bike customers, our most sincere thanks for purchasing a new 5th Element shock by Progressive Suspension Inc, USA.

Progressive Suspension has been in business since 1982 when Jay Tullis and Donn Rickard opened a motorcycle suspension business in Jay's garage in Lakewood California. 20 years later, Progressive is the largest aftermarket motorcycle suspension company in the United States.

Our new bicycle suspension project started in early 2001, as a race development collaboration between Roy Turner (former Kawasaki MX team manager & Director of RockShox product development), Jeff Stieber (Racing development guru & owner of Intense Cycles) and Eric Carter (Dual Slalom and Downhill Champion).

At the onset of the project, we had no intentions of offering the technology to the retail consumer before 2003. It was also planned that any offering of the technology would be a simplified version of our mega-featured prototype race units.

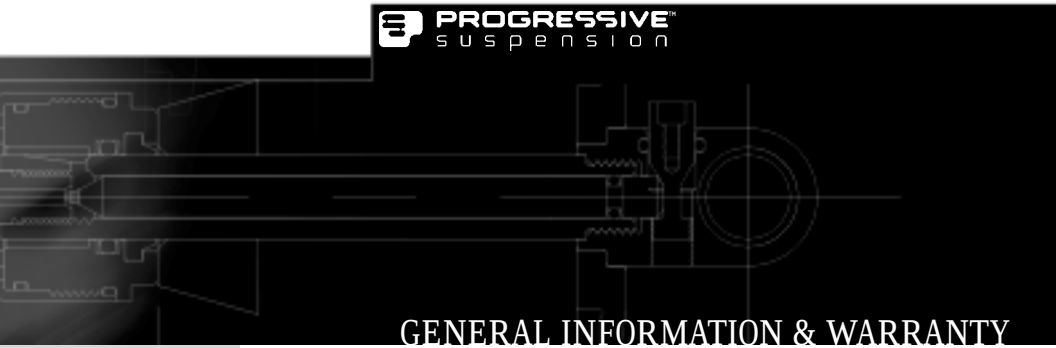
We developed & race tested the innovative new shock technology during the 2001 UCI World Cup & NORBA race tours. Race tested by Dual Slalom Champion Eric Carter, UCI World Cup winner Chris Kovarik, & top ten World Cup competitor Michael Ronning, the 5th Element technology provided incredible new performance benefits without one failure during the entire race season!

With the 2001 race season finished, everyone involved in the project agreed that it was important to launch the incredible benefits of the technology.

A year ahead of plan, a commitment & partnership between Progressive Suspension, Intense Cycles & Santa Cruz Bicycles launches an original equipment replica of this exciting patented technology for 2002! Aftermarket sales of the 5th Element are also currently scheduled for Spring of 2002.

From the entire staff at Progressive, we are genuinely proud and excited to launch a new era of suspension technology for the mountain bike community. We hope you share in our excitement of the many new performance benefits of the 5th Element technology.

"Launching a new Suspension Technology for the 21st Century"



GENERAL INFORMATION & WARRANTY

Progressive Suspension, Inc USA
11129 G Ave
Hesperia, CA 92345
Ph (760)948-4012 Fax (760)948-4307
E-Mail: info@progressivesuspension.com
Web Site: www.progressivesuspension.com
Business Hours: 7 am to 4:30 pm Mon thru Fri PST

Warranty

Your 5th Element shock carries a one-year warranty from the date of purchase. Where required by law, a two-year limited warranty applies from the date of purchase. Proof of performing scheduled maintenance is required to maintain this warranty. Failure to do so may void this warranty coverage. A copy of the original receipt and proof of all performed scheduled maintenance must be sent with any warranty service. Warranty will cover only defective materials or workmanship. It does NOT cover damage to the shock which has occurred from, abuse, unauthorized disassembly, improper installation, improper or lack of service, modifications, improper cable routing, low seat post damage, unauthorized oil changes or shipping damage or loss.

Service & Warranty Work

For Warranty or service work, please contact Progressive Suspension Customer Service at 760 948-4012 or e-mail for a Return Goods Authorization Number (RGA). This number must be written on the package.

When returning your shock for any warranty or service work, include a note with the RGA number, name, address and phone number where we can reach you during the day along with a description of the problem with the shock (or request for service) and information about the bicycle (manufacturer, model, year) and the type of shock you are sending. Mark your return address clearly on the outside of the package. Note: Your warranty is void if you have service performed by anyone other than an authorized Progressive Suspension Service Center.

Authorized Progressive Suspension Service Centers

(more will be added soon):

USA

Progressive Suspension
11129 G Ave • Hesperia, CA 92345
(760)948-4012
info@progressivesuspension.com
www.progressivesuspension.com

Methods of payment:
Visa • Master Card • Cashiers check

Method of Shipping:
We use UPS ground service within North America

Europe

TF Tuned Shox
Highchurch Farm • Hemington, Radstock • BA3 5XT UK
+44 0 1373 834455
+44 0 1373 831123 Fax
service@tftunedshox.com

Bike Suspension Center
Via Monte Leone 4 • 39010 Cermes (BZ), Italy
+39 0473 563107
+39 0473 559630 Fax
info@pepi.it

DETAILED SET-UP

The following information will guide you through the set-up of your 5th Element Shock. The 5th Element provides the highest level of tuning & performance features of any bicycle shock on the market. After referring to the consumer safety tips, the quick start guide will help you find a recommended default setting for your weight range & bike model so you can hit the trail & become familiar with your bike. After your initial riding experience, the following set-up and tuning guide will help you to customize your shocks performance for your riding preferences. You should allow a one hour break-in period before determing your preferred settings. Always remember, what might be your perfect set-up may not be the same for someone else with the same bike and weight. We, like our bikes, are individuals!

1. Air Pressure Settings –The shock depends on air pressure to function properly. Use of the shock with improper air pressure will cause damage & failure of the shock that is not covered by the warranty. The air pressure settings control the first position sensitive damping feature of the shock. Air pressure adjustments vary the starting compression force that affects the pedaling platform & hi-speed blow-off. The air pressure range is 50-175 psi. Never use a pressure outside of this recommended pressure range. You can refer to the quick-start guide for accurate pressure ranges matched to your bike model & weight. You can also use an average starting pressure that's 50-70% of your weight. The air pressure also affects the sag, so you should set the air pressure before setting the spring preload & sag. The air-pressure settings will vary according to rider weight, spring rate, your bikes leverage ratio & your personal preferences. Lower pressures will provide a softer ride & lower blow-off threshold for sharp hi-speed bumps. Higher pressures will provide a firmer ride control, firmer pedaling & a higher blow-off threshold for sharp hi-speed bumps.

2. Installing Air Pressure – Remove the air cap from the Schrader valve on the end of the reservoir. Attach the pump* to the Schrader valve. Some people damage their pumps by screwing them on too far. As soon as the gauge registers pressure, screw 1/2 turn more and pump to the desired level. Use the release button on the pump to reduce air pressure. The hiss you hear when unscrewing the pump is only the air from the pump and not from the shock! Likewise, when you install the pump again, you will also hear a hiss as air from the shock fills the pump and reduces the registered pressure you previously installed. All perfectly normal when pressurizing the shock! After removing the pump, be sure to reinstall the Schrader valve cap. If the shock does not dampen properly after pressurizing, the air pressure was lost during pump removal as a result of a worn pump fitting o-ring that needs replacement. Do not ride the bike until the shock is properly pressurized.

**Progressive pump # GP2-0-200, Fox or RockShox pumps are recommended*

DETAILED SET-UP

3. Air-Volume Adjuster Settings - The air volume settings control the second position sensitive compression damping feature of the shock. The air chamber volume adjuster is a blue 16mm nut that is also located on the end of the reservoir. The volume adjuster controls the shocks bottoming resistance by varying the rise in compression force during the last one half of the shock stroke. We recommend a 1/4" drive ratchet with a 16mm six point socket to adjust the volume adjuster. The volume adjuster has six turns of adjustment range. Turning the adjuster out (counterclockwise) decreases the bottoming resistance & turning the adjuster in (clockwise) increases the bottoming resistance.

Refer to the quick-start guide for suggested volume adjuster settings that match your bike model, rider weight and recommended air pressure. As a general rule, you will use a smaller air volume (clockwise) adjustment with lower pressures and a larger air volume (counterclockwise) adjustment with higher pressures. The air pressure will change when adjusting the volume adjuster, so always readjust your air pressure to your preferred setting after adjusting the air volume. When the volume adjuster assembly has reached its counterclockwise stop limit, continued force on the adjuster may cause damage to the adjuster mechanism that is not covered by warranty.

4. Spring Preload & Sag Adjustments – Spring preload adjustments are done with the spring preload adjuster ring. Because your air pressure adjustment (outlined above) also affects your starting spring force, you should always adjust your air pressure before adjusting the spring preload & sag. You can refer to the quick-start guide for accurate preload & sag settings matched to your bike model & weight. Preload & sag adjustments will vary according to a riders weight, the bikes leverage ratio, the type of bike, the type of riding, the riders ability level and personal preferences. As a general rule, the 5th Element shock works best with slightly more sag than conventional shocks. The recommended amount of sag is 30-40% for downhill, 30-40% for free-ride and 25-35% for cross-country. Never exceed 8mm/.325" preload of the spring.

5. Measuring Preload & Sag Adjustments – Refer to the quick start guide for sag settings that best match your bike model, weight, riding preferences & type of riding. Measure the distance between the centers of each shock mounting bolt (eye-to-eye length of your shock) & record the first measurement. Next, sit on the bike in a normal riding position near a wall to steady yourself. Without bouncing on the

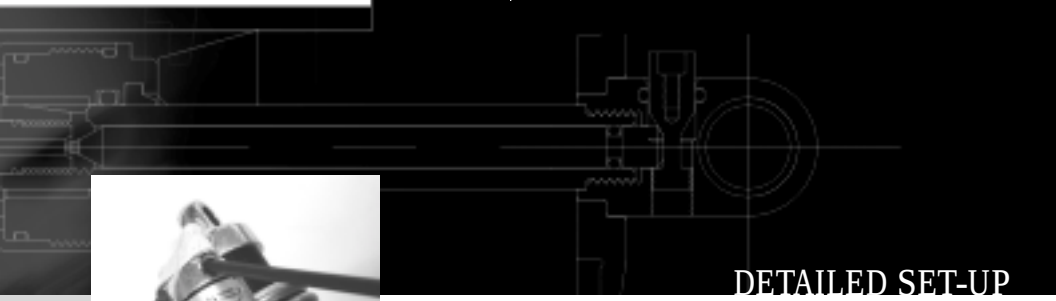
DETAILED SET-UP

saddle, distribute your weight on the saddle & pedals in a normal riding position while holding the handgrips. Have a friend measure the distance between the centers of each shock mounting bolt & record the second measurement. The difference between the first and second measurements is the your sag. Adjust the spring preload adjuster up or down to achieve the desired amount of sag. If you reach the maximum spring preload (8mm) & the sag is too much, then go to the next higher spring rate.

If you reach the minimum spring preload (1mm) & the sag is not enough, then go to the next softer spring rate. Optional spring rates are available from Progressive Suspension. Part numbers and rates are stamped on the outside of the spring coils. Please note the make, model & year of your mountain bike, along with the shock eye-to-eye length, travel, rider weight & type of riding.

6. Beginning & Ending Stroke Compression Adjustments - The beginning & ending stroke adjustments control the velocity/speed sensitive compression damping forces of the shock. When the shock compresses, these damping forces are basically constant throughout the stroke for a given shaft velocity/speed. Adjustments that are too firm for your bike model are easily identified if spiking occurs. If you experience spiking, then slightly reduce/lighten the specific adjustment until any spiking is eliminated. This adjustment position will provide the optimal motion/attitude stability for your model application. Adjustments that are softer or firmer are an individual rider preference. Found on the shock head, these adjusters are blue knobs with inset 4mm hex. Adjustment can be performed with a 4mm ball-allen driver, which provides 30 degrees of angle for insertion of the driver, or a standard 4mm allen wrench. Adjustment only requires a light force to turn the adjusters. Turning the adjusters clockwise increases the compression damping force & turning the adjusters counterclockwise decreases the compression damping force. When reaching the minimum & maximum stops of the adjuster range, do not apply excessive force to continue turning the adjuster, or damage to the adjuster will occur that is not covered by the warranty.

6a. Beginning Stroke Compression Adjustment – This adjustment controls the general ride firmness & attitude stability of the bike. Lighter (counterclockwise) adjustments provide a more supple/active ride but less chassis motion stability. Firmer (clockwise) adjustments provide a less supple/active ride, but much greater chassis motion stability & control for aggressive riding or racing conditions. A general starting point is a minimum (counterclockwise) adjustment until you have established a preferred air pressure & volume adjuster setting. Once you have determined your preferred air pressure/volume settings, you can start the tuning of the beginning stroke compression adjustment for your riding preferences. As a general rule, firmer settings of the beginning stroke compression will allow lighter settings of the air pressure/volume settings. The optimal performance will be achieved by balancing this adjustment with the pressure setting.



6b

6b. Ending Stroke Compression Adjustment - This adjustment controls the general ride firmness in higher speed, sharp edge or big hit conditions. The effect of this adjustment has more impact during the last half of the shock stroke. Firmer (clockwise) adjustment of the ending stroke adjuster will also broaden the total range of the beginning stroke adjustment. A general starting point is a minimum (counterclockwise) adjustment until you have established a preferred air pressure & volume adjuster setting. Once you have determined your preferred air pressure/volume settings, you can start the tuning of the ending stroke compression adjustment for your riding preferences. As a general rule, firmer (clockwise) adjustments will provide more hi-speed bottoming resistance and accommodate lighter adjustments of the volume adjuster. The optimal performance will be achieved by balancing this adjustment with the volume adjuster setting.

7

7. Rebound Damping Adjustment – The rebound damping controls the return rate of the shock & rear wheel after it has compressed to absorb as bump. The rebound adjustment will vary for different spring rates, rider weights, leverage ratios, type of riding & individual rider preferences. As a general rule, adjustments that are too fast (counterclockwise adjustment) will produce a springy ride with excessive pedal bobbing & kickup of the rear end during aggressive riding or racing. Adjustments that are too slow (clockwise adjustment) will cause packing of the rear wheel that is identified by a low ride height & stiff ride feeling when the rear wheel can't return fast enough to absorb the next bump. An average starting adjustment will achieve a return movement of the shock somewhere between a "snap-back" and "sluggish" motion. You can refer to the quick start guide for an average starting setting for your bike model, spring rate & rider weight. The rebound adjuster is a red knob found on the shaft eyelet mount. Some models are fitted with a finger grip knob & other models are fitted with an inset 4mm hex allen knob.

For models fitted with the inset 4mm hex allen knob, you can use the same ball driver or allen wrench used to adjust the beginning & ending stroke adjusters. When using the 4mm ball driver, adjustment only requires a **light force** to turn the adjuster. Turning the knob clockwise will increase (slow down) the rebound damping & turning the knob counterclockwise will decrease (speed up) the rebound damping.

When reaching the minimum & maximum stops of the adjuster range, do not apply excessive force to continue turning the adjuster, or damage to the adjuster will occur that is not covered by the warranty.

FEATURES

Design Features

Piggy-back Reservoir

Internal Floating Piston (IFP)

Large Oil Capacity

Precision honed steel 1.125" cylinder provides durability that outlasts aluminum cylinders

Durable half-inch nitro tech main shaft provides toughness & corrosion resistance

O-ring backed piston ring extends the life of consistent damping performance

New durable DU bushing material & precision ground stainless pins minimize bushing wear

Performance Features

Micro Cellular Foam bottoming bumper

Position sensitive compression damping

Speed sensitive compression damping

Hi-speed compression blow-off

Rebound Damping adjustment

Platform Damping Control

Titanium Springs available

Hydraulic Top-out

Pre-load adjustment

INSTALLING, REMOVING SPRINGS AND MAINTENANCE

1. Loosen the preload adjuster ring until the spring retainer can be removed from the shock.

2. Slide the spring off of the shock.

Note: If the spring will not clear the mounting pin, the pin must be removed (it is pressed in) and replaced after the new spring is installed. Care should be taken when removing or installing the mounting pin to eliminate damage to the DU bushing or eye.

3. Slide the new spring onto the shock. Install the spring retainer.

4. Tighten the preload adjuster ring until 1mm of spring preload is achieved.

5. Adjust the spring preload according to the spring preload & sag adjustment sections of this manual.

Note: Always refer to your bicycle manufacturer recommendation for appropriate torque specifications of your mounting hardware.

Maintenance Schedule	New	Every Ride	Every 8 hrs	Every Year or 200 hours
Set/Check shock sag/preload	X		X	
Check Air Pressure	X	X		
Check Mounting Hardware Torque	X		X	
Set Damping Adjustment to Desired Setting	X			
Clean Shock, Check for Wear, Oil Leakage			X	
Send to Service Center for Oil Change & Inspection				X

DISCLAIMER, CONSUMER WARNINGS & SAFETY

Disclaimer

Progressive Suspension Inc., USA is not responsible for any damages to you or others from riding, transporting or other use of your 5th Element Shock or mountain bike. User fully understands that mountain bike riding and/or racing is dangerous and hard on equipment. In the event your 5th Element shock breaks or malfunctions, Progressive Suspension, Inc USA will assume no liability or obligation beyond the repair or replacement or your shock, pursuant to the terms outlined in the Warranty provisions in this manual.

Consumer Safety & Warnings

Before riding, take the time to read the sections in this manual on set-up, use, adjustments and service of your 5th Element Shock. If you have any questions please do not hesitate to call our customer service dept at (760) 948-4012 or e-mail at info@progressivesuspension.com.

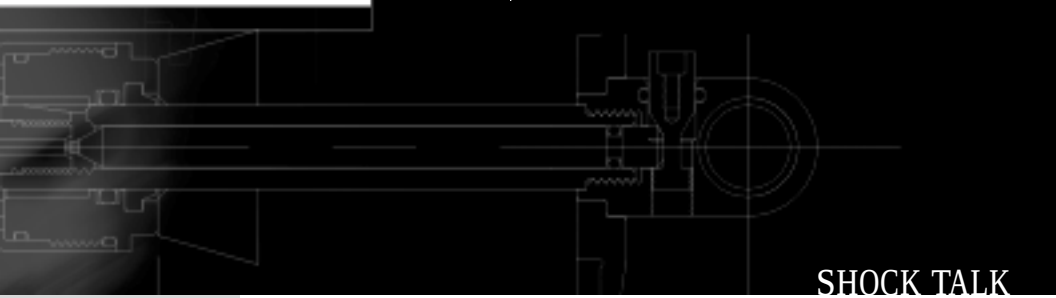
The 5th Element Shock relies on air-pressure to function properly! The air-pressure range is 50-175 psi. This setting **MUST** be checked before each ride. Use of the shock with improper air pressure can cause a total loss of damping and total malfunction of the shock. **RIDING YOUR BICYCLE WITH IMPROPER SHOCK AIR PRESSURE CAN RESULT IN LOSS OF CONTROL AND POSSIBLE SERIOUS INJURY OR DEATH.**

If your 5th Element shock loses oil or makes unusual noise, stop riding immediately! Have the shock inspected by an authorized service center or contact Progressive Suspension. **RIDING WITH A BROKEN OR MALFUNCTIONING SHOCK CAN RESULT IN LOSS OF CONTROL AND POSSIBLE SERIOUS INJURY OR DEATH!**

When the shock compresses, its position within the frame will change. Always check for adequate clearance between the shock and frame/seat post for the entire stroke/motion of the shock. Do not lower the seat post below the bottom of the seat tube. Periodically inspect your frame, as extreme riding may cause frame tubes to bend and contact the shock. Some bicycle models have more than one shock mounting position to achieve different bottom bracket heights and different rear wheel travel options. Even though the 5th Element shock may statically bolt onto various bicycle models in various mounting positions, the shock may not have adequate frame clearance when the shock compresses and its position changes within the frame. It is the users responsibility to check for adequate clearance between the shock and frame/seat post for the entire stroke/motion of the shock. **DO NOT USE THE SHOCK IN A MOUNTING POSITION OR RIDE YOUR BICYCLE IF ANY PORTION OF THE SHOCK CONTACTS THE FRAME OR SEAT POST DURING NORMAL OPERATION OF THE SHOCK. IF THE SHOCK TOUCHES THE FRAME OR SEAT POST, IT MAY BREAK OR TOTALLY MALFUNCTION AND CAUSE LOSS OF CONTROL AND POSSIBLE SERIOUS INJURY OR DEATH!**

Your 5th Element shock is pressurized. The shock should never be opened, disassembled or serviced, except by an authorized service center. **OPENING A PRESSURIZED SHOCK CAN BE DANGEROUS AND CAN RESULT IN INJURY!**

Do not attempt to pull apart, open, disassemble or service a shock if it is compressed or has not returned to its original free length. **DISASSEMBLY OF A SHOCK THAT WILL NOT RETURN TO ITS ORIGINAL FREE LENGTH IS DANGEROUS AND CAN RESULT IN INJURY!**



SHOCK TALK

Suspension Balance: Is the matching of adjustments between your front & rear suspension to achieve the best suspension performance for a riders weight, ability level, riding style, type of riding & terrain conditions.

Bobbing: Is the up and down (power loss) movement of your suspension that occurs from weight shifts of the rider during pedaling.

Attitude & Rider Stability: Is created by a controlled damping (not spring) action that manages excessive dive, squatting, bobbing, chassis motion and the springy ride of conventional shocks that can throw a rider off-line in aggressive riding or racing conditions.

Platform Damping: Is a new damping characteristic of the **5th Element Control Valve Technology** that improves pedal bobbing & attitude/ride stability.

Spike: Is the harsh feeling that occurs when riding over hi-speed bumps if the shock cannot compress fast enough to absorb the size or sharpness of initial bump contact.

Blow-Off: Is the shocks ability to absorb the spike of hi-speed bumps, separately from other compression force & position sensitive functions.

Eye-to-Eye: Is the shock length between the two mounting points of the shock.

Travel: Is the distance the shock can compress. Travel may also be referred to when talking about the distance of wheel movement.

Spring Rate: Is the pounds or kilograms of force needed to compress the spring one inch.

Spring Preload: Is the difference in length between the free length and the installed length of the spring.

Sag: Is the amount of shock (& rear wheel) compression caused by the riders weight while sitting on the bike in a normal riding position.

Compression Damping: Is the amount of resistance produced by the shock during the bump induced movement of the shock & rear wheel. The **5th Element Control Valve Technology** is the first production bicycle shock to offer both **Position Sensitive & Velocity/Speed Sensitive** compression damping characteristics that separately manage a variety of riding conditions such as (a) bobbing (platform damping), (b) ride, attitude & corning stability, (c) hi-speed bump absorption (blow-off), (d) low-speed bump absorption, (e) bottoming control, (f) improved traction.

Rebound Damping: Is the amount of resistance produced by the shock during the return movement of the wheel. Rebound damping controls the speed at which the shock (and rear wheel) returns after being compressed. Rebound damping is typically adjusted faster (less damping) for soft spring rates and slower (more damping) for stiff spring rates to provide similar wheel movement rates.