Owner's manual & Service instruction

1993 FUTURE SHOCK™ SUSPENSION FORK (all models)

Congratulations on your Specialized Future Shock purchase. You'll find Future Shock's suspension technology greatly improves off-road performance, especially on descents and rugged terrain.

Your Future Shock is designed to give many miles of maintenance-free performance, but suspension forks can be more complex than other bicycle components. Read the service guidelines below carefully and familiarize yourself with the procedures to get the most out of your Future Shock.

The Future Shock fork features three different 1993 models. Each of these three models are available as original equipment (OEM) on various Specialized and S Works bicycles. In addition, all three of these forks are available on an individual basis (as an accessory).

This manual applies to all models of 1993 Future Shock suspension forks.

WARNING: If you do not fully understand the service guidelines, contact your dealer before using this product.

SETTING AND ADJUSTING AIR PRESSURE

The heart of your Future Shock is a high-performance pneumatic spring which uses air pressure to adjust spring rate. Adjusting and maintaining proper air pressure is the key to optimum suspension performance.

SETTING AIR PRESSURE. Each Future Shock fork blade contains a separate air spring unit. To set air pressure on the Future Shock SE fork remove the black plastic cap at the top of the fork blade. In the case of all other (adjustable damping threshold) models (Future Shock and FSX), a Philips screw fills the hole in the center of the adjustable knob at the top of the fork leg, remove this Philips screw (and the o-ring installed) to expose the valve.

Use a high quality floor pump with gauge to inflate the fork using the basketball valve needle (included). It is suggested that the end of the floor pump chuck be threaded to accept a schrader valve (same thread as the basketball needle). This will assure a leak proof seal to the basketball needle.

Carefully insert the needle into the valve in fork air cap. As the needle is inserted, air will bleed from the fork to fill the pump hose and

gauge. Hold the needle inserted with one hand (being careful not to bend or break it); use the other hand to operate the pump. Set the pressure air pressure desired according to the pump gauge. The air pressure on the gauge is the pressure left in the fork when you remove the needle.

As an option, you may purchase the Future Shock air gauge/inflator assembly from you authorized Specialized dealer. This will add some convenience to setting the air pressure in your fork.

Average Future Shock pressure range is 36-46 psi. Riders weighing less than 125 pounds will want to start at 36-40 psi; riders weighing more than 160 pounds, 42-46 psi. You may also want to vary air pressure to suit terrain and riding style. A little on-the-bike experimentation will quickly determine the best air pressure for you. More air pressure makes a stiffer spring, which provides a firmer ride. Less air pressure softens the spring for a smoother ride, but may allow the shock to bottom out on large, sudden bumps.

	AIR PRESSURE SETTING (PSI)		
RIDER WEIGHT	**SOFT**	**STD.**	**FIRM**
100-125 LBS.	**36**	**37**	**38**
125-150 LBS.	**37**	**38-39**	**40**
150-175 LBS.	**39**	**40-41**	**42**
175-200 LBS.	**41**	**42-43**	**44**
200 + LBS.	**43**	**44-45**	**46**

CAUTION: Be sure to set the valves to exactly the same air pressure on both fork legs.

CHECK AIR PRESSURE periodically, about once a month. Remember that inserting the basket ball needle will bleed air from the fork. Other than this, air should not need to be added after every ride. A large drop in air pressure may indicate internal problems with the fork. Return it to your dealer for inspection in this case.

DAMPING THRESHOLD ADJUSTMENTS

The damping threshold may be adjusted on the Future Shock and FSX models only - this does not apply to the Future Shock SE model, which features a factory calibrated damping threshold setting. Use the knobs located at the top of each fork leg to set the damping threshold that best suits your riding. Softer settings are achieved by turning the knob counter clockwise (this is true for both right and left fork legs). Firm settings are located by turning in the clockwise direction. Clicks or detents will help to locate the knob in the position you desire. The decal on the fork crown shows a plus (+) sign in the clockwise direction (firm settings) and a minus (-) sign in the

counterclockwise direction (soft settings). Do not force the knob to rotate past a single turn.

A rider will find the most suitable setting after experimentation. The softer positions will allow a more active fork, which will allow better suspension action, especially on the smaller bumps. The firmer settings of the damping threshold knobs will help prevent movement of the fork from pedaling of the bike. The firm settings will be particularly helpful for larger riders or aggressive riding styles. In general, the soft settings will be best for downhill situations, while the firm settings will be best for hill climbs or road riding.

The damping threshold knob is actually adjusting the quantity of force required to start the fork moving. In other words, the firm setting of the knobs (clockwise positions) creates a higher load input requirement in order to start the fork moving. This adjustment only effects the compression circuit of the fork. The best setting is the softest setting possible, given the rider's weight, riding style, and terrain. Many riders have adjusted their riding style so they stay seated on the bike for most climbing situations. This allows a relatively soft damping threshold setting (for more active suspension) with out much bobbing of the fork due to climbing while standing.

CLEANING & MAINTENANCE

AFTER WET OR MUDDY RIDING, clean and dry the fork thoroughly. Inspect underneath the rubber boots for moisture. If water is present, pull the boot away from the fork leg and allow it to drip out. Air dry. Dirt or mud should be removed with a soft cloth and a mild cleaner. DO NOT USE SOLVENTS. Be sure to reposition boots before riding.

Should your Future Shock need maintenance beyond routine cleaning, take your bicycle to an authorized Specialized dealer for servicing. There are several options for service of the fork. The authorized Specialized dealer many service the fork if he is equip to do so, or the fork may be returned to Specialized for factory service. This applies to all service needs. The Specialized Future Shock Factory Service Center can repair or service your Future Shock fork and return it to your dealer.

INSTALLATION AND ASSEMBLY

We recommend that you take your bicycle and Future Shock to your authorized Specialized dealer for proper installation and assembly. The dealer has the training and equipment to the job correctly.

WARNING: Improper installation or assembly can result in a loss of control during riding or an unstable condition while riding. At the very

least the result can be unsatisfactory product performance. You must have your authorized Specialized dealer install and adjust your new Future Shock.

STEERER TUBE LENGTH

The Future Shock comes in five available steerer lengths, a range allowing for fit with most bicycles. The "steerer tube" is another word for steering column, the tube that goes inside the head tube of the bicycle frame. To determine the proper length steerer for the Future Shock, simply measure the steerer on your bike's original fork. This is the distance from the crown race seat to the end of the steerer tube. Another way to calculate steerer length is to add the head set stack height to the bike's head tube length.

Depending on the size of your bike and the headset you use, additional threads may need to be cut in the Future Shock steerer tube (the 1/8" oversize steerer can only be threaded one inch below the factory threads). We do not recommend threading or cutting the steerer yourself. These modifications require skill, experience and the proper tools. They should only be done by a trained bicycle mechanic at an authorized Specialized Future Shock dealer.

CAUTION: Attempting to thread steerer tube with out proper tools or training can result in damage to the steerer tube and threads.

HEADSET

The standard diameter steerer tube (1.0") fits headsets with 26.4mm crown race The oversize diameter steerer tube (1 1/8") fits head sets with the 30.0mm crown race. Crown race parts for many popular head sets are available from Specialized in the 26.4mm diameter, to allow compatibility with the other standard size of head sets. Consult your authorized Specialized dealer for parts availability or service.

The Future Shock utilizes the usual manner of headset installation. Again, we recommend having your dealer do the work to assure optimum adjustment and proper installation.

Mountain bike headsets take a lot of abuse, so be sure to keep your headset adjusted for proper function and wear. It is wise to check the headset adjustment periodically, especially after the first month or so of riding on a new headset.

FRONT BRAKE

The brake from your original fork may be used on the Future Shock. However, we don't recommend using the self-energizing type brakes,

due to the additional twisting loads those types of brakes may transmit to the fork legs.

Lubricate the brake pivot bosses with grease for smooth brake action. It's wise to use thread locking compound on the brake pivot fixing bolts (we recommend purple Loctite 222).

SPECIFICATIONS

TRAVEL: 1.85 inches (47 mm)

TORQUE SPECIFICATIONS:
TORQUE VALUES
Torque values can not be properly set with out a quality torque wrench, use of a "click-type" wrench is recommended. This type of wrench can be obtained through tool distributors (such as Snap-On), an auto supply, a hardware store, Sears Craftsman tools also offers a suitable set up.

WARNING: If you are not certain how to evaluate torque on the bolts of your Future Shock fork or do not have the correct equipment, then do not proceed. Take your bicycle to your authorized Specialized dealer for service. Improper torque values on any hardware of the Future Shock fork could contribute to a dangerous condition for the rider.

Fork crown bolts:

first pass on both bolts	35	inch-lbs. (4 N-m)
second pass on both bolts	65	inch-lbs. (7.3 N-m)

NOTE: *Use 4mm Allen with a torque wrench. The bolts on each fork leg should both be tightened a little at time to achieve even torque settings. Both bolts for one fork leg should be double checked.*

WARNING: Do not overtighten. Improper torque values on the fork crown bolts can result in a unstable riding condition or unintended release of the fork legs from the fork crown. This can create a dangerous condition for the rider. Consult your authorized Specialized Dealer.

Fork Brace (5mm Allen):	85	inch-lbs. (10 N-m)
Brake Post:	85	inch-lbs. (9.5 N-m)

OIL: ATF (Automatic Transmission Fluid) (SAE 10w)

THREAD LOCKER: Locktite™ Threadlocker 222 (purple--for small fasteners)

ONE YEAR LIMITED WARRANTY

Specialized Bicycle Components, Inc. warrants to the Original Purchaser of this product that the product is free from defects of material and workmanship under normal use and service for a period of one (1) year from the date of the original purchase. If within one (1) year from the date of the original purchase, this product is found to be defective in material or workmanship under normal use or service, Specialized Bicycle Components, Inc. will, at its sole option, repair or replace the product without charge; provided that the Original Purchaser returns the product for inspection and evaluation to an authorized Specialized dealer. **This service is only available through you Specialized Dealer.** The service center can offer normal service (fork rebuilds and crash repairs) of the Future Shock, as well as the warranty repair, should it be necessary.

THIS WARRANTY DOES NOT APPLY TO, AND IS VOID AS TO , DEFECTS OR PHYSICAL DAMAGE RESULTING FROM ABUSE, NEGLECT, IMPROPER REPAIR, IMPROPER FIT, ALTERATIONS, MODIFICATIONS, OR USE CONTRARY TO THAT INTENDED BY THE MANUFACTURER. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE IS LIMITED IN DURATION OF THIS LIMITED WARRANTY. SPECIALIZED BICYCLE COMPONENTS, INC. SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM ANY BREACH OF ANY EXPRESSED OR IMPLIED WARRANTY ON THIS PRODUCT. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND ALL OTHER REMEDIES, GUARANTEES OR LIABILITIES ARISING BY LAW OR OTHERWISE.

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