

OWNERS MANUAL FOR

WHITE BROTHERS UD-150



DOWNHILL

WHITE BROTHERS CYCLING
A DIVISION OF EKO SPORT, INC.
580 NORTH WESTGATE DR.
GRAND JUNCTION, CO 81505
WWW.WHITEBROTHERSCYCLING.COM

Owners Name: _____

Address: _____

Phone: _____

Purchase Date: _____

Purchase Location: _____

Serial # _____

(Located on the backside of the right axle clamp)

SAFETY

1.) NEVER REMOVE STEER TUBE FROM CROWN. THIS IS A PRESSED IN PART, REMOVING IT WILL RENDER BOTH CROWN AND STEERER INOPERABLE*. MAKE SURE YOUR FORK CAPS AND ALL FORK HARDWARE (brake studs, pinch bolts, etc.) ARE TIGHT.

2.) DO NOT PERFORM ANY MODIFICATIONS OR ADJUSTMENTS THAT ARE NOT OUTLINED IN THIS MANUAL. SEE THE TUNING SECTION OF THE MANUAL FOR MORE DETAILS.

3.) INSPECT YOUR FORK BEFORE EVERY RIDE. INSPECT THE CROWN, TUBES AND AXLE SEAT AREAS FOR ANY SIGNS OF FATIGUE, BENDING, CRACKING OR OTHER DAMAGE. IF YOU NOTICE ANY TYPE OF DAMAGE, DO NOT RIDE ON YOUR FORK.. RETURN IT TO YOUR DEALER FOR A COMPLETE INSPECTION AND NECESSARY REPAIR OR WARRANTY STEPS. PLEASE REFER TO THE WARRANTY SECTION OF THIS MANUAL.

4.) PERFORM ALL RECOMMENDED MAINTENANCE ACCORDING TO THE MAINTENANCE SECTION OF THIS MANUAL. FAILURE TO PERFORM MAINTENANCE COULD DRASTICALLY REDUCE YOUR FORK'S LIFE AND PERFORMANCE.

5.) WHITE BROTHERS RECOMMENDS THAT YOU WEAR PROPER SAFETY EQUIPMENT EVERY TIME YOU RIDE, INCLUDING AN APPROVED BICYCLE HELMET. NEVER RIDE AT NIGHT WITHOUT LIGHTS!

*** IF SERVICE BECOMES NECESSARY OR REMOVAL OCCURS, PLEASE CALL WHITE BROTHERS CUSTOMER SERVICE FOR PRODUCT EVALUATION AND DIAGNOSIS.**

APPLICATIONS

Thanks for purchasing your new White Brothers Pro Forx. You are in for the best ride of your life. Our forks are designed to give you the level of performance you need to ride at your absolute peak.

The White Brothers Pro Forx UD150 features a lightweight coil spring and a sealed, externally adjustable cartridge damper. This technology is borrowed from motorcycling and offers the best possible suspension action. Steering accuracy is improved over conventional MTB forks by utilizing dual billet aluminum steering crowns, oversized 31.75mm fork tubes, inverted stanchion/slider design and large 20mm axle. Fork travel has been set at 6" to offer the best performance for downhill racing terrain. High-cushion bottom bumpers are used to minimize hard bottoming.

Every possible effort has been made to make the White Brothers Pro Forx very light in weight and perform at a level superior to other forks on the market. To insure peak performance, proper installation and periodic maintenance is required. Please read this manual in its entirety to familiarize yourself with the fork and insure your satisfaction with this product.

White Brothers Pro Forx are designed for off-road use only. They are not equipped with proper reflectors for on-road use. If you are going to use your forks for road use, have your dealer or mechanic install reflectors that meet the Consumer Product Safety Commission's (C.P.S.C.) requirements for bicycle standards. If you have any questions concerning C.P.S.C. Standards, please talk to your dealer.

When using your forks on public land and trails, please respect the rights of other users and stay on established paths and trails. By mounting biking responsibly, you help to insure the future of our sport.

FORK INSTALLATION

White Brothers Pro Forx UD150 feature a 1 1/8" threadless steerer tube. If you have a threaded type fork on your bicycle, consult your dealer for the appropriate upgrade parts necessary to convert to a 1 1/8" threadless steerer tube.

NOTE: Some frames are not adequately reinforced to handle loads applied by stiffer dual crown forks. Check with your frame manufacturer to verify dual crown fork compatibility

- 1.) Remove old forks from the bicycle. See your bicycle's owners manual. Measure the diameter and length of your old forks steerer tube to insure that the White Brothers Pro Forx steerer tube is the correct diameter and has sufficient length for the installation.
- 2.) Remove the crown race from your old forks. Note: Replace the bearings if there are any signs of wear or corrosion
- 3.) Press the crown race onto the steerer of your White Brothers Pro Forx (figure 1).
- 4.) Preassemble headset by: Sliding fork steerer tube through headset bearings. Then install top headset, top crown, stem spacer (optional), and steering stem onto fork steerer tube. Refer to headset owners manual if you have any questions about this preassembly.
- 5.) Mark steerer tube at top of steerer stem. Steerer must then be cut 3mm (1/8") below this mark. Consult a dealer or mechanic if you do not have the proper tools for cutting the steerer tube.
- 6.) The special star fangled nut must now be installed into the steerer. We recommend dealer installation of this nut since a special tool is required.
- 7.) Clean and grease all headset bearings and races to prepare them for assembly.
- 8.) Now assemble headset as done in Step 4 (figure 2).
- 9.) Install the top steering crown. Install the steering stem (threadless type is required) and handlebars. Set your bars to your desire height.
- 10.) Install the threadless mounting cap. Tighten the top threadless stem bolt until there is no play in the fork tube. The forks should rotate freely in the head tube. Secure the pinch bolts on the steering stem. Consult the installation instructions for your threadless bearing set to insure correct installation and tension of the headset.
- 11.) **TIRE CLEARANCE:** The fork tubes can be adjusted up or down in the fork crowns to adjust ride height and steering geometry. **NOTE:** At full extension of the fork, a minimum of 6" (152mm) clearance must exist between the tire and the bottom of the steering crown. **DANGER:** Any less clearance than this will allow the tire to contact the bottom of the crown when the forks are fully compressed. Next check to make sure the top of the fork tubes fit all the way through the top steering crown. If insufficient clearance exists, you must switch to a smaller diameter front tire.
- 12.) Install your front brakes and adjust following the manufacturers specifications. See additional instructions below. **NOTE:** Only disc type brakes can be used with the White Brothers Pro Forx UD150.
- 13.) **WHEEL/BRAKE INSTALLATION:** The White Brothers Pro Forx UD150's are designed for a downhill type hub utilizing a 20mm axle. Install front wheel with disc rotor next to left side of fork. Slide axle all the way through. Make sure disc rotor doesn't contact left fork axle seat when axle is tightened fully. If it does, a custom spacer will have to be fabricated to space hub/rotor away at least 3mm from left fork axle seat. At this time the brake caliper should be mounted and alignment checked with the disc rotor. Follow the disc brake manufacturers installation instructions to insure correct brake rotor brake caliper alignment
- 14.) **RIM CENTERING:** See your dealer or professional wheel builder to have the rim of your choice laced to your downhill hub. The wheel builder will need to lace the rim so that it is directly centered between the fork legs.
- 15.) **FINAL WHEEL INSTALLATION:** Lightly grease front axle and install front wheel to forks. Tighten axle completely. Now tighten both left and right fork axle seat pinch bolts. Follow the disc brake manufacturers installation instructions and recommended torque for mounting brake caliper to left fork leg.
- 16.) Route hydraulic brake cable up to the brake lever. Make sure that the cable is routed so that it cannot foul on tire, fork crowns, or steering stops through full up and down fork travel and side to side steering radius.
- 17.) Check to see that your brakes are adjusted and working.
- 18.) **STEERING CLEARANCE:** Due to the White Brothers Pro Forx double crown design, the fork tubes or fork steering crowns will contact the bicycle frame at full steering lock to the left and right. To eliminate the chance of damage to the fork or frame, a cushion stop must be fabricated to eliminate metal to metal contact. For bumpers, elastomers or thick pieces of rubber will work fine. Secure cushion stop to the frame or fork

TUNING

To get the most from your White Brothers Pro Forx it is important that you tune the forks to fit your style of riding and the conditions in which you ride. **Initial break-in period.** Your new fork is designed to break-in over a period of 10 hours or more of riding. As all of the parts bed into each other, the stiction (friction) of the forks will reduce and the forks will absorb the bumps better. After this initial break-in, fine tuning the spring preload and cartridge damper may be beneficial to achieve the best possible fork performance for your weight and riding style.

Tuning Your Springs

There are two ways to adjust your forks. The first is by changing the spring pre-load or changing the spring for a completely different rate. The spring basically controls the quality of the ride. Stiff springs handle major obstacles and drops better, but don't give as smooth of ride over braking bumps and other small obstacles. Your White Brothers Pro Forx comes with a standard rate spring installed, with the preload adjusted to zero. Note: Zero spring preload means the preloader is just touching the spring, and the spring is under no tension (at full fork extension). For the majority of riders, this should give a compliant ride, yet remain resistant to bottoming. Pre-load should be set, then left alone. If you feel your forks are bottoming too easily, then switch to the heavier spring supplied with your forks. Your pre-load should be set with 1/4" to 1/8" of free sag. This means that with no load on the bike, the forks should come within 1/4" to 1/8" of returning to full extension after compressed. If forks are too stiff or too soft with either of the springs supplied, WB offers an optional Soft and X-Heavy Fork Spring (see Spring Rate Chart on page 12). Contact your WB dealer to order these.

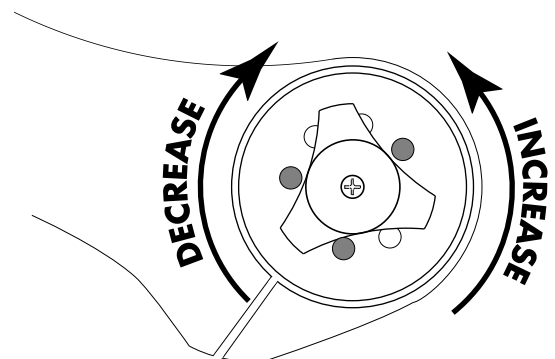
Tuning Your Cartridge

Because of your forks coil spring, you will notice the forks have far better action than other mountain bike forks you might have used. Adjusting the cartridge should only be done after you are completely happy with your spring choice, and the proper sag has been set. Your White Brothers Pro Forx UD150 comes with the cartridge adjusted in the middle of its' range. The standard setting is 8 clicks out from all the way in (clockwise). Use the following guide lines to determine if further adjustment is needed.

A) If your forks rebound too slowly, turn the adjustment knob on the top of the right fork leg all the way counter-clockwise (10 turns out is the maximum). The forks should absorb and return fast enough to absorb the next major obstacle. A sign that your forks are rebounding too slowly is if they feel like they pack-up or continue to compress as you go through rough sections.

B) If your forks are rebounding too fast, turn the adjustment knob on the top of the right fork leg clockwise two clicks at a time. A sign of too fast of rebound is if the forks deflect and the bicycle is hard to hold in lines. The front wheel will also bounce and appear "busy" ie. You get an additional bounce after landing from a drop.

NOTE: The damper adjuster also has some affect on compression damping. As you turn in (clockwise) the damper adjuster, both the compression and rebound damping will become slower. If a stiffer spring is installed, your standard setting should be two positions stiffer (clockwise). A light rider that has installed a softer spring will usually be most satisfied with the damping set at the lightest position (10 turns out).



Trouble Shooting

Problem:	The fork has "striction" (moves up and down in jerky movements). See Tuning section for break-in notes
Cause:	This is normally caused by lack of lubrication or dirt in the seals and/or bearings, or forks are not sufficiently broken in
Solution:	Clean and lubricate the fork as described in the maintenance section
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Problem:	The fork does not return to it's full extension
Cause:	This is normally caused by a lack of spring preload
Solution:	Increase the spring preload
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Problem:	The fork returns to it's full height too aggressively, feels like an air fork or "tops out"
Cause:	Too much spring preload
Solution:	Reduce the spring preload
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Problem:	The fork bottoms too easily
Cause:	Incorrect spring choice
Solution:	Install stiffer option spring and re-adjust damper setting
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Problem:	The fork doesn't use it's full travel
Cause:	Incorrect spring choice
Solution:	Install softer option spring and re-adjust damper setting
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Problem:	The fork bounces up and down rapidly
Cause:	Insufficient rebound damping
Solution:	Increase damping by adjusting clockwise (2) clicks at a time
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Problem:	The fork has heavy feel, doesn't return quick enough for consecutive bumps
Cause:	Too much rebound damping
Solution:	Decrease damping by adjusting counterclockwise (2) clicks at a time

Maintenance

Your White Brothers Pro Forx requires periodic maintenance to insure peak performance and long life. Moisture and contamination may build up inside the fork. We suggest you disassemble your forks, inspect, clean and re-grease them after 30 hours of use. If the forks appear to be relatively clean, you can probably go 40 hours between servicing. If the forks appear dirty, you should service them every 20 hours. The three things that will most effect the service interval and performance of your forks is water, mud and dust. Depending on how much time you use your forks in those conditions will determine how much service they require.

NOTE: When cleaning the fork, it is not recommended to direct water spray at the seals.

NOTE: Neglecting proper fork maintenance will reduce the forks life. Internal build up of water and dirt, or a lack of lubrication will cause excessive wear to the forks.

Basic service should include disassembly the forks, cleaning and re-greasing all shafts and seals. At this time, the forks should be carefully inspected for wear and damage before reassembly. Disassembly of the damper cartridge should be left for a dealer who is familiar with servicing the WB Pro Forx cartridge damper.

Basic Fork Disassembly

1) Disconnect from brake caliper. Remove wheel assembly by loosening fork axle seat pinch bolts loosening and removing front axle.

2) Loosen pinch bolts in steering crowns and slide each fork leg down and out of steering crowns. If cap gets stuck out of top clamp, use a flat screw driver to create separation.

3) Beginning with the right fork leg assembly, turn damp adjuster knob to farthest out position (counterclockwise) then loosen small 1.5mm allen set screw in cap and remove adjuster knob by pulling upward. **NOTE:** Measure height of brass adjuster protruding from the top of it to the face of the fork cap. (should be about 4.7 mm) This dimension is crucial at reassembly to maintain the forks adjustment range.(see step 15 of reassembly)

4) Unthread top fork cap (counterclockwise) utilizing a WB spanner tool part no.97-714. If fork stanchion is vise during this procedure use jaw pads to prevent damage to fork. Also avoid excessive clamping force to avoid crushing fork stanchion (figure 1).

5) Once top fork cap is loosened sufficiently that it is no longer attached to fork stanchion, grasp lower fork leg at axle seat and compress fork approximately 3". Loosen 14mm nut on cartridge shaft while holding top cap from rotating with the WB spanner tool (figure 2). **NOTE:** Carefully remove top cap from cartridge rod while holding over a box or bin. A small ball bearing will fall out and it is very easy to lose. (figure 2a).

6) Remove nut from cartridge shaft, nylon bottom out spacer and coned bottom out bumper. Lower fork leg can now be removed from right fork stanchion by sliding downward (figure 3). No further disassembly of right fork leg is necessary unless cartridge damper service is required. If so, use adjustable wrench and grip large flats on cartridge damper and unthread counterclockwise from lower fork leg (figure 3a). **NOTE:** Do not

Figure 1

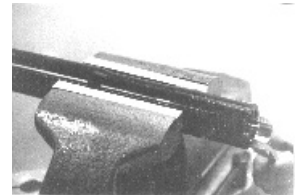


Figure 2



Figure 2a

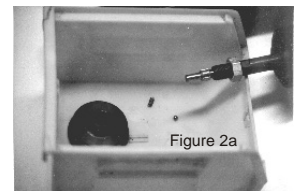


Figure 3

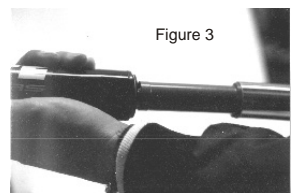
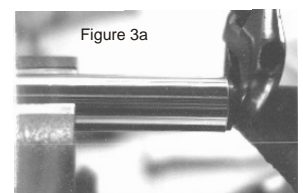


Figure 3a



remove brass damping adjust needle from cartridge. Oil can be lost from cartridge if this needle is removed. Place all parts to the side carefully noting order of which they are assembled. Remove fork seal and foam wiper from fork stanchion.

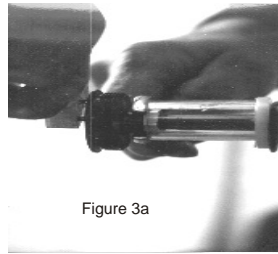


Figure 3a

7) Unthread top fork cap (counterclockwise) on left fork utilizing a WB spanner tool part no. 97-714. If fork stanchion is clamped in vise during this procedure use jaw pads to prevent damage to fork. Also avoid excessive clamping force to avoid crushing fork stanchion.

8) Once top fork cap is loosened sufficiently that it is no longer attached to fork stanchion, grasp lower fork leg at axle seat and compress fork approximately 3". Spring spacer must be pulled downward to compress spring to access the 9/16mm hex nut on neutral shaft. Loosen 9/16mm nut on neutral shaft while holding top cap from rotating with the WB spanner tool (figure 4). Remove fork cap.

9) Remove nut from neutral shaft, spring spacer, nylon bottom out spacer and coned bottom out bumper. Hold neutral shaft so that it doesn't fall inside of fork. Next remove spring, spring seat guide, and spring preload spacer (if any). At this time install the 9/16" nut on the neutral shaft to keep it from falling inside of lower fork leg. Lower fork leg can now be removed from left fork stanchion by sliding downward (figure 3). No further disassembly of left fork leg is necessary unless neutral shaft fell down inside of lower fork leg. If so use small adjustable spanner tool to unthread neutral shaft nylon guide bearing counterclockwise. At this time neutral shaft with top out bumper can be removed. Place all parts to the side carefully noting order of which they are assembled. Remove fork seal and foam wiper from fork stanchion.

10) At this point clean all parts with a clean, non-abrasive rag. A mild grease cutting cleaner or solvent might make this an easier task. Once cleaner, inspect seals for tears or cracks. If okay, regrease them with White Brothers Suspension Lube or other suitable, non-lithium grease. If your seals are no longer serviceable, check the General Disassembly Parts Table section of this manual for the proper replacement part numbers. Your dealer will be able to order any replacement parts you might need.

11) Next, inspect the fork tubes for wear, nicks or scrapes. If there is noticeable play between fork legs and fork tubes, the DU bushes located inside the upper fork stanchion may require replacement. Consult your dealer for service options. Finally inspect the cartridge damper for any signs of leakage or scratches and wear on the protruding cartridge shaft. The cartridge damper is a sealed unit that is threaded into the right fork. It requires only occasional maintenance (oil and seal change every 80 to 120 hours of use). Consult White Brothers or your dealer if servicing or repair is necessary.

12) If everything is free of problems, coat all parts with a light coating of White Brothers Suspension Lube or other suitable, non-lithium grease. Also lube the DU bushings that are located inside fork stanchions by dipping a socket extension in grease and applying the grease into the inside of the fork stanchion on the DU bushings.

13) Slide fork seals and foam wipers over both fork lower legs. Seals should be greased and wipers should be oiled prior to assembly. Slide both fork stanchions over fork lower legs and fully compress. Make sure that both the neutral shaft (w/nut installed to keep it from falling inside of lower fork leg) and cartridge damper are installed in lower fork legs prior to assembly.

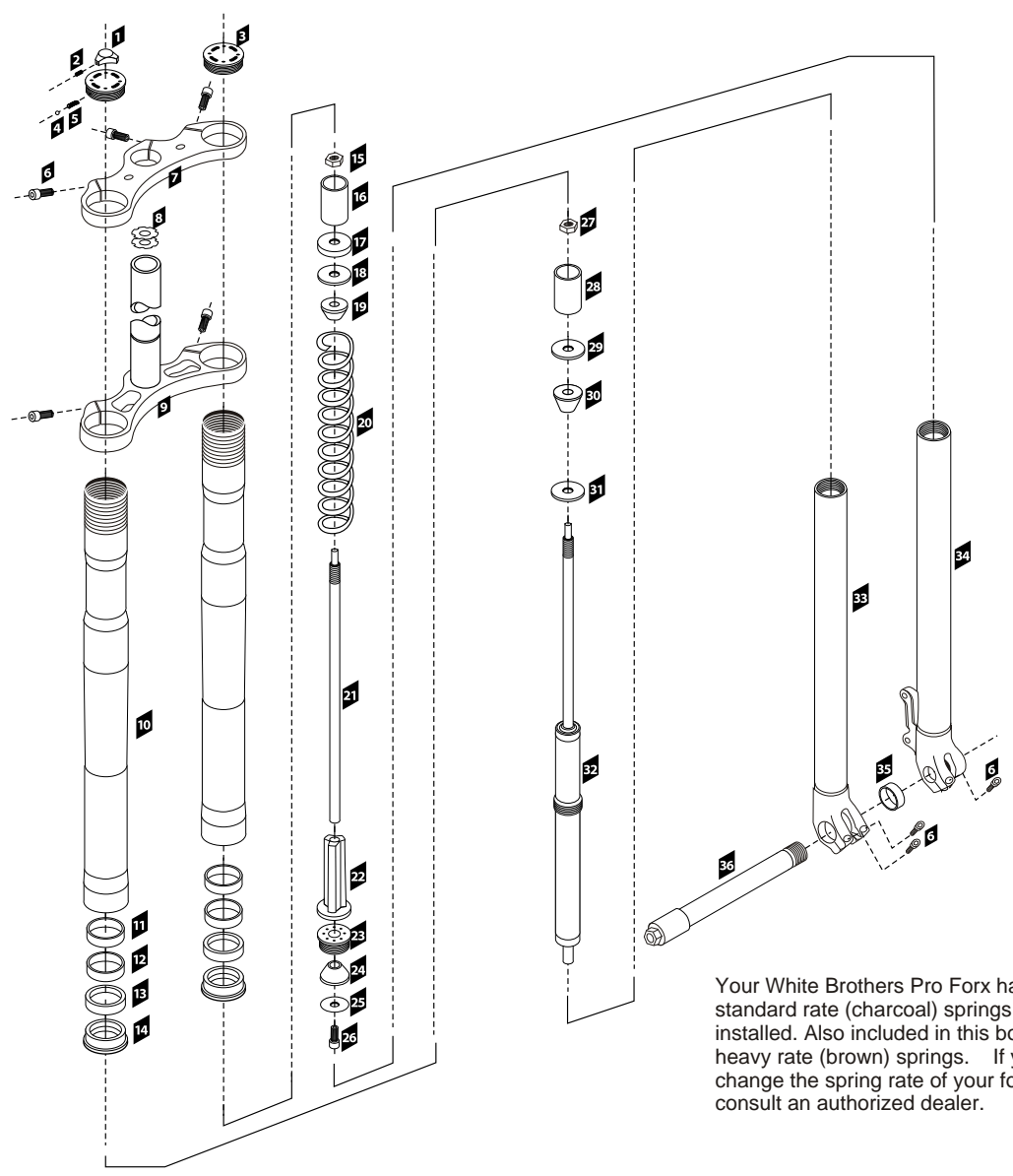
14) Assembly (Left Fork Leg): Remove 14mm nut while holding neutral shaft up. Install preload spacer, spring seat guide, bottom out bumper (tapered end facing down), spring, nylon bottom out spacer, 14mm nut, clear spring spacer, and top cap. Pull down on clear spring spacer to compress spring sufficiently to allow 9mm spanner to hold flats on neutral shaft and full tighten fork cap with WB spanner tool. Next, tighten 14mm nut against fork cap. **NOTE:** Spring preload can be increased or decreased by adding or removing thin nylon preload spacers under spring seat guide. Less preload will offer a softer initial ride and lower ride height. More preload will offer a stiffer initial ride and higher ride height. Finally, fully extend fork and fully tighten fork cap into fork stanchion using the WB spanner tool.

14) Assembly (Right Fork Leg): Install bottom out bumper (tapered end facing down), nylon bottom out spacer and 9/16" hex nut positioned to

bottom of threads. Before the cap is placed on, be sure brass adjuster is fully tightened into shaft of damper. Make (figure 15a) sure detent spring and ball bearing are positioned correctly in fork cap. With fork on its side carefully assemble fork cap over damp adjust needle head making sure ball bearing detent stays in position. Now screw cap clockwise until brass adjuster protrudes from cap face approximately 4.7mm (as measured in step 3 of basic fork disassembly). Now maintain position of cap with spanner tool, and tighten hex nut up to the underside of cap to secure its position. Then place adjustment nob on cap so it rests flush to the caps surface, and tighten the 1.5mm screw. Now check to see if 10 clicks counter clockwise can be made. If not consult a WB Dealer; if yes, fully extend fork and tighten cap into fork stanchion with spanner tool. Next, tighten 14mm nut up against fork cap. Finally, fully extend fork and fully tighten fork cap into fork stanchion using the WB spanner tool.

15) Reassemble fork legs in steering crowns and tighten into original position. Install front wheel and brakes and detailed in Fork Installation instructions (pgs. 2-3).

1	ADJUSTER KNOB	97-3953
2	ADJUSTER KNOB SCREW 3M x .5M x 6M	97-9101
3	FORK CAP DUMMY SIDE	97-3653
4	DETENT BALL	97-3950
5	DETENT SPRING	97-3951
6	BOLT 5MM x .07 x 16MM	97-9200
7	UPPER CROWN	97-3693
8	1 1/8" STAR NUT	97-9300
9	LOWER CROWN ASSEMBLY	97-3750
10	OUTER TUBE	97-3339
11	DU BUSH GARLOCK	97-986
12	DU BUSH GARLOCK	97-986
13	FOAM RING	97-1358
14	WIPER SEAL EXTERNAL	97-1350
15	JAM NUT	97-4100
16	PVC COMPRESSION/SPRING SPACER	97-3917
17	5MM SPRING SPACER	97-3914
18	2MM SPRING SPACER	97-3915
19	REBOUND BUMPER	97-3342
20	STANDARD SPRING (CHARCOAL)	97-3509



Your White Brothers Pro Forks have the standard rate (charcoal) springs already installed. Also included in this box is a pair of heavy rate (brown) springs. If you wish to change the spring rate of your forks, please consult an authorized dealer.

21	DUMMY ROD	97-3164
22	SPRING GUIDE	97-3557
23	DUMMY BOTTOM OUT CAP	97-3560
24	REBOUND BUMPER	97-3342
25	UD150 REBOUND WASHER	97-4110
26	CARTRIDGE BOLT	97-852
27	JAM NUT	97-4100
28	PVC COMPRESSION/SPRING SPACER	97-3917
29	2MM SPRING SPACER	97-3915
30	COMPRESSION BUMPER	97-3341
31	2MM SPRING SPACER	97-3915
32	DAMPER ASSEMBLY	97-859
33	RH AXLE CLAMP/TUBE ASSEMBLY	97-3230
34	LH AXLE CLAMP/TUBE ASSEMBLY	97-3231
35	AXLE SPACER 20 x 10	97-3677-1
36	UD 150 AXLE 120MM	97-3677

MAINTENANCE

DATE	SERVICE PERFORMED	DATE	SERVICE PERFORMED

WARRANTY

White Brothers forks are designed to enhance riding pleasure and as such are warranted to be free from defects in materials and workmanship for a period of one year from the date of purchase. On receipt of the fork by White Brothers, if they are found to be defective, White Brothers will determine whether to replace or repair the fork. This warranty is the sole and exclusive remedy. White Brothers shall not be liable for any indirect, special or consequential damages. Warranty does not apply to any product that has been installed improperly or adjusted using methods not outlined in this manual. Warranty also does not cover forks that have been misused, or forks that are missing or have altered serial numbers (located on the backside of the right fork stanchion). The forks are not warranted against damage in the appearance of the fork or for modifications not outlined in this manual. This warranty does not cover breakage, bending, or damage that may result from crashes, falls or abuse. Normal wear (i.e. seals, bushings, slider finish, etc.) and wear and damage caused by lack of proper maintenance is not included. *A copy of your proof of purchase, including your name, address, phone number and fork serial number (located on lower left leg) must be returned within 30 days of purchase to activate and validate this warranty. Customers in the USA please contact your dealer for a Return Authorization Number (RA#) before returning the forks. All forks returned for inspection must be sent freight paid to:

Eko Sport, Inc.
C/O White Brothers Customer Service
580 North Westgate Dr.
Grand Junction, CO 81505
Phone (970) 241-3518
Fax (970) 241-3529
www.whitebrotherscycling.com

*Customers outside the USA please contact the dealer or distributor in your area

