

# OWNERS MANUAL FOR



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## **IMPORTANT** **CONSUMER SAFETY INFORMATION**

**WARNING:** RIDING A BIKE IS DANGEROUS. NOT PROPERLY MAINTAINING OR INSPECTING YOUR BIKE AND IT'S COMPONENTS IS EVEN MORE DANGEROUS. IT IS ALSO DANGEROUS TO NOT READ AND FOLLOW THESE INSTRUCTIONS.

1. NEVER REMOVE STEERER TUBE FROM CROWN. THIS IS A PRESSED IN PART. REMOVING IT WILL RENDER BOTH THE CROWN AND STEERER TUBE INOPERABLE.\* MAKE SURE THE FORK CAPS AND ALL FORK HARDWARE (pinch bolts, etc.) ARE TIGHT BEFORE EACH RIDE.
2. DO NOT PERFORM ANY MODIFICATIONS OR ADJUSTMENTS THAT ARE NOT OUTLINED IN THIS MANUAL. SEE THE TUNING SECTION 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 IT. RETURN IT TO YOUR DEALER OR TO WHITE BROTHERS FOR A COMPLETE INSPECTION AND NECESSARY REPAIR.
4. PERFORM ALL RECOMMENDED MAINTENANCE ACCORDING TO THE MAINTENANCE SECTION OF THIS MANUAL. FAILURE TO PERFORM MAINTENANCE COULD DRASTICALLY REDUCE THE FORK'S LIFE, PERFORMANCE AND CAUSE YOUR FORK TO BE A SAFETY HAZARD.
5. WHITE BROTHERS RECOMMENDS THAT YOU WEAR PROPER SAFETY EQUIPMENT EVERY TIME YOU RIDE, INCLUDING APPROVED BICYCLE HELMET. NEVER RIDE AT NIGHT WITHOUT LIGHTS.
6. ALWAYS USE GENUINE WHITE BROTHERS PARTS. USE OF AFTERMARKET REPLACEMENT PARTS AND UPGRADES VOIDS THE WARRANTY AND COULD CAUSE STRUCTURAL FAILURE.
7. WHITE BROTHERS FORKS ARE DESIGNED FOR OFF ROAD USE ONLY. THEY ARE NOT EQUIPPED WITH REFLECTORS FOR ROAD USE. IF YOU ARE GOING TO USE YOUR FORK ON THE ROAD, HAVE A DEALER OR MECHANIC INSTALL REFLECTORS THAT MEET THE CONSUMER PRODUCT SAFETY COMMISSION'S REQUIREMENTS.

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

## INTRODUCTION

Thank you for purchasing your new White Brothers fork. Our forks are designed to help you perform at your absolute peak. Your new White Brothers fork has oil damping and is coil sprung for light weight performance. The coil spring and damper is set stock to satisfy a wide range of rider weights and riding styles. Fine tuning can be easily accomplished by changing external pre-load and external damper settings. See the tuning section for details. For very heavy or very light riders, replacement springs are available. Steering accuracy is improved over conventional MTB forks by utilizing superior materials and design. Every effort has been made to make White Brothers forks very light and perform at a level superior to other forks on the market. To ensure peak performance, proper installation and periodic maintenance is required. When riding on public land, please respect the rights of others and stay on established paths and trails. By riding responsibly, you are helping ensure the future of our sport.

# FORK INSTALLATION

White Brothers forks 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. Check with your frame manufacturer to ensure your bike is designed for a triple clamp fork. If not, you may void your warranty.

1. Remove your old fork from the bicycle. Measure the diameter and length of your old forks steerer tube to ensure that the White Brothers steerer tube is the correct diameter and sufficient length for the installation.
2. Remove the crown race from your old fork.
3. Press the crown race onto your new White Brothers fork. (see **Figure #1**)
4. Preassemble the headset by sliding the fork steerer tube through the bearings. Then install the head set upper race, upper triple clamp, headset spacer (optional), and stem onto the fork steerer tube. Adjust with optional spacers to your preferred height. (See **Figure #2**) **WARNING:** Refer to the head set owners manual if there are any questions about the installation of the headset.
5. Mark the steerer tube at the top of the stem. The steerer tube will now need to be cut to the correct length. Disassemble and cut 3mm (1/8") below the mark. Consult your dealer or mechanic if you don't have the proper tools to cut the steerer tube.
6. The star fangled nut must now be installed into the steerer tube. If you don't have the set tool we recommend dealer installation of this part. (See **Figure #3**)
7. Clean and grease all headset bearings and races to prepare them for assembly. **Note:** Replace the bearings if there is any sign of wear or corrosion.
8. Now loosely assemble the headset, stem and handle bars as done in step four. (See **Figure #2**)
9. Install the headset top cap into the star fangled nut. Tighten until there is no play in the steering. The fork should rotate freely in the head tube. Straighten the stem in relation to the front tire and tighten the pinch bolts on the stem. Tighten the pinch bolts on the upper clamp and double check that the lower clamp bolts are tight. These can easily be over tightened. We recommend tightening to 5 foot pounds. If there are any questions consult your dealer or mechanic.

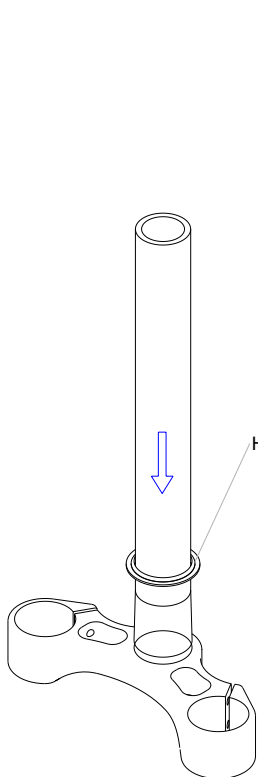


Figure #1

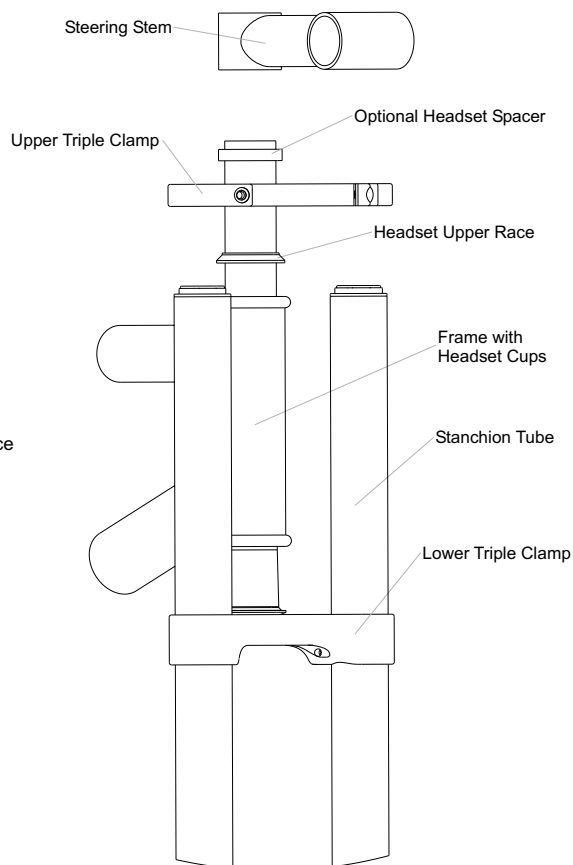


Figure #2

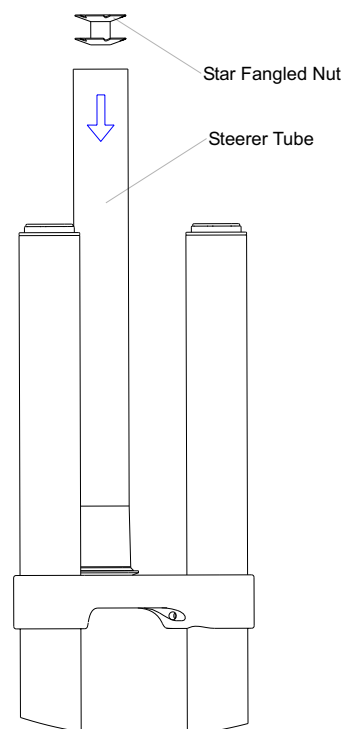


Figure #3

10. Install your front brake and adjust according to the manufacture's instructions.
11. Install and tighten the wheel in the front fork. Ensure that there is sufficient thread engagement (5 or more threads with the quick release in the lock position) due to the thicker White Brothers drop-outs or on the 20 mm thru axle, the pinch bolts and axle nut are tight. Install the front wheel per manufactures specifications.
12. Check to see that the brakes are adjusted and properly working. Make sure the brake cable doesn't interfere with any part of the bike when the fork is compressed and released.

**Warning:** When installing the wheel or a new tire, check for minimum clearance. Measure from the highest point on the tire to the under side of the crown. There must be 1/8" or 3mm more clearance than the fork's travel to ensure adequate clearance in all riding conditions. Any less clearance can cause the tire to hit the crown resulting in serious injury or death.

## TUNING

To get the most from your White Brothers fork, it is important that you tune the forks to fit your style of riding and the conditions you ride in.

### INITIAL BREAK-IN PERIOD

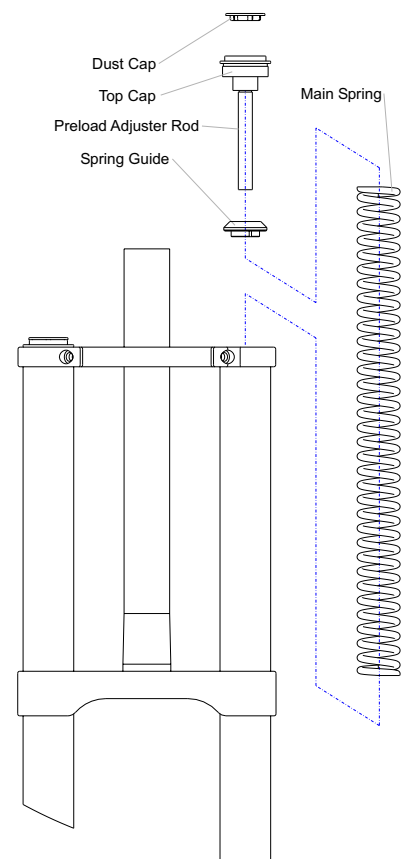
Your new fork is designed to break-in over a period of 10 hours or more of riding. As all the parts bed into each other, the stiction (friction) of the fork will diminish and the fork will absorb the bumps better. After this initial break-in, fine tuning may be beneficial to achieve the best possible fork performance for your weight and riding style.

### TUNING YOUR DAMPER

1. **Rebound damping** is adjusted by turning the knob on the bottom of the right leg. Turn the knob clockwise for slower rebound. To speed up rebound, turn the knob counter-clockwise. The rebound knob has 8 turns of adjustment. Start with a middle setting and fine tune the rebound from there. Proper rebound will allow the tire to track the ground over consecutive bumps. Rebound that is set too slow will pack-up (feel harsh over consecutive bumps) while rebound set too fast will cause the fork to top out harshly.
2. **Compression damping** can be changed by adding or removing air pressure from the air chamber on the top of the right leg. Adding air will increase the compression damping (slow it down) and removing air will decrease compression damping (faster compression). Air pressure should be between 50 psi min. to 150 psi max. Less compression damping will increase the fork dive but will feel smoother over small bumps. More compression damping will feel harsh over small bumps but will be more resistant to bottoming.

### TUNING YOUR SPRINGS

3. There are two ways to adjust your forks spring action. The first is by changing the spring pre-load and the second is changing the springs for a completely different rate. Your White Brothers fork come stock with a medium rate spring adjusted with a minimum of pre-load. Minimum pre-load means that at full extension, the spring guide just touch the top of the springs. This setting usually gives the best ride characteristics.
4. Though the medium rate springs that are fitted in your White Brothers forks should satisfy most rider weights and conditions, for very light or very heavy riders, a spring change may be necessary. If you are a lightweight rider and feel you are not getting the full travel out of your fork, ordering the optional light fork spring for your fork would be recommended. For heavier weight riders that feel they are constantly using too much fork travel, the optional heavy fork spring would be recommended. A good way to test the travel you are using with your fork is to tie a zip tie around the fork stanchion and slide it down on top of the forks wiper seal. Go and ride a variety of conditions you normally experience, including some conditions that you feel should use the full fork travel. After the ride, inspect the position of the zip tie. Measure that position from the steerer crown. Next remove the left side fork cap and compress the fork to full bottom out. If the zip tie moves more than 1/4", your spring is probably too stiff and a change to a softer spring may improve your ride. Very heavy riders may note that the zip tie slides up the fork stanchion quite far even over minor bumps and this could indicate the need for the heavy spring.
5. **Replacing the Spring: (See Figure #4)** Contact White Brothers for a replacement spring. Remove the dust cap and remove all pre-load by backing out the adjuster. Remove the top cap using a 15/16" socket to expose the springs. Note there is two springs and the longer of the two is the main spring. Turn the fork upside down and dump the main spring out and replace with the correct spring. Re-install the top cap with the pre-load adjuster.
6. **Adding Pre-load** is done by popping off the dust cap and inserting a 4 mm allen key into the adjuster rod. You can add up to 3/4" of pre-load to stiffen the feel of the fork. Excessive pre-load will cause the fork to top out and may indicate that you need a stiffer spring. By slowing rebound damping you can stop the fork from toping out. See TUNING YOUR DAMPER.



**Figure #4**

# MAINTENANCE

Your White Brothers fork requires periodic maintenance to ensure peak performance and long life. Neglecting proper maintenance will reduce the fork's life. Internal build up of water and dirt or a lack of lubrication will cause excessive wear and void the warranty.

**BEFORE EVERY RIDE:** Visually inspect your fork for bent or broken parts, loss of oil, abnormal sounds or other indications of possible fork failure. Compress you fork to verify proper function. Check all other bicycle components to ensure proper working order.

**AFTER EVERY RIDE:** Clean and dry the exterior of your fork. When cleaning the fork, do not direct the water spray at the seals. Visually inspect your fork for damage.

**\*EVERY 30 HOURS OF RIDING:** Your fork should be disassembled, inspect, cleaned and re-grease. If the fork appears to be relatively clean, you can go 40 hours between servicing. If the fork appears excessively dirty you should service it every 20 hours. The three things that will effect the service interval and performance of your fork are water, mud and dust. How much you use your fork in those conditions will determine how much service it requires.

**\*EVERY 100 HOURS OF RIDING:** Complete service should include removing the upper fork legs cleaning and re-greasing all shafts, bushings and seals. Check damper leg for proper function. See basic fork disassembly. NOTE: Disassembly of the hydraulic damper should be left for the White Brothers factory. At this time, the fork should be carefully inspected for wear and damage before reassembly. Contact White Brothers for replacement parts and service. We recommend that this service be performed by a qualified dealer or at the White Brothers factory.

**\*White Brothers recommends that you consult with a qualified technician before performing the following:**

## BASIC FORK DISASSEMBLY

1. Disconnect front brake and remove the wheel as outlined in you bicycles owners manual.
2. Remove allen head bolts at the bottom of the fork using a 6mm allen wrench (**figure #5**) on both QR and 20mm axles. A light tap may be need to free the control rod from the lower assembly.
3. Simply slide the lower fork legs off the end of the inner stanchion tubes. Be careful not to damage the seals as they come off the inner legs.
4. 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 clean, inspect seals for tears or cracks. If in good condition, re-grease them with Suspension Lube or other non-lithium grease. If your seals are no longer serviceable, check the exploded parts table section of this manual for the proper replacement part numbers. Also, check carefully the DU bushings for wear. This is done by looking at the color of the clean bushings. If they are dark grey, they are in good condition. If they are bronze/gold in areas, they are worn and can cause fork stanchion damage. Your dealer will be able to order any replacement parts you might need. The DU bushings require special tools to remove and reinstall. If DU bushing replacement is necessary, send your complete fork to White Brothers or take it to a dealer that is experienced in this type of service.
5. The damper is the right fork stanchion, sealed and backed with nitrogen. **Caution:** Do not remove the stanchion plug. The right side leg is a sealed damper system and if opened, air will enter the damper, resulting in loss of damping. Inspect it for visible leakage. If none, grasp the shaft and operate back and forth to insure smooth action and adequate damping. If the leg has visible leakage and/or the damping feels inconsistent as it is stroked, return the leg to White Brothers or a dealer familiar with servicing the damper.
6. Next, inspect the fork stanchion tubes for wear, nicks or scrapes. If there is noticeable play between lower fork legs and fork stanchions, the DU bushes located inside the lower fork legs may require replacement. Consult your dealer for service options.
7. If everything is free of problems, coat all parts with a light coating of Suspension Lube. Also lube the DU bushings that are located inside lower fork legs.

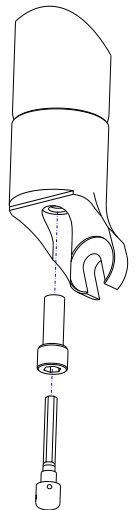


Figure #5

## BASIC FORK ASSEMBLY

8. Make sure all the spacers and bottoming bumpers are installed on the control rods (see exploded views for proper installation). With all parts cleaned and reinstalled with new grease, fit the lower assembly over the stanchion tubes and gently rock and slide together until the control rods are touching the bottom of the lower assembly. **Note: Do not tap the lower assembly onto the stanchion tubes. The DU bushings can be dislodged.** Thread the compression screws into the control rods and firmly tighten. Downward pressure on the fork will help hold the control rods from rotating until the compression screws become tight. **Note: Ensure the compression screws are fully tight before riding.**
9. Make sure the fork caps are fully tightened into the stanchion tubes. Connect the front brake and wheel as outlined in you bicycle owners manual. Ensure the QR or thru axle nut and pinch clamps are tight before riding.
10. Compress the fork to make sure it works smoothly and the brake cable doesn't foul on the fork in anyway.

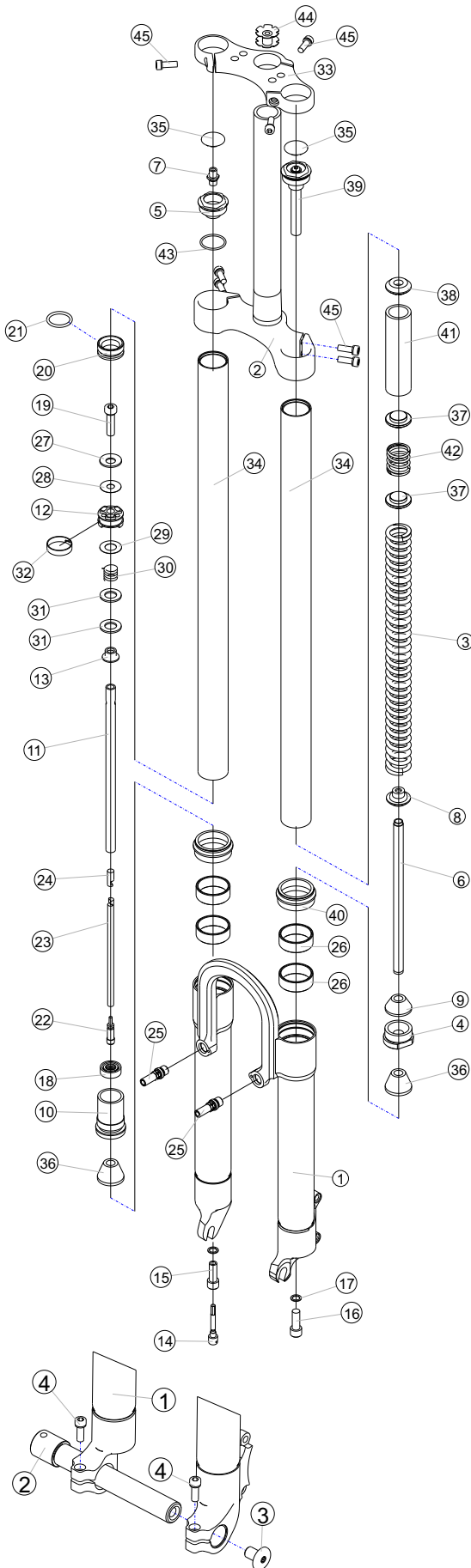


# Exploded Views

The following is an illustration and parts table which gives you the exploded view of your White Brothers fork. The parts table indicates the part numbers for each individual part in the fork.

Reference these numbers when ordering replacement parts. See your local dealer or contact White Brothers to order the parts you require.

## 150MM DUAL CROWN FORK W/ EXTERNAL REBOUND & COMPRESSION



ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	100197	Lower Assembly Black
2	1	100258	Lower Crown Assembly
3	1	100042	Main Spring FR 1.5
4	1	100059	Bottomout Cap for FR 1.5
5	1	100060	Air Cap Triple Clamp Series
6	1	100051	Dummy Rod for FR 1.5
7	1	100054	Schrader Valve Assembly
8	1	100061	Main Spring Seat
9	1	97-3342	Bumper
10	1	P2201-1	2003 DH Seal Head
11	1	100049	Damper Shaft
12	1	P2012	DH Piston
13	1	P2014	Check Valve Guide
14	1	100200	Damper Adjuster
15	1	100063	Compression Screw
16	1	100063S	Compression Screw Solid
17	2	100055	Washer .3125x.4375
18	1	97-1409	Shaft Seal
19	1	P4010	Shim Stack Bolt
20	1	P2010	Floating Piston
21	1	P3021	O-Ring -118
22	1	100064	Adjustment Needle for FR 1.5 Damper
23	1	100065	Damper Adjuster Extension
24	1	100050	Damper Adjuster Part
25	2	97-3668	Tread in Brake Boss
26	4	97-986	DU Bushing
27	1	P2005	Belleville Washer
28	1	P2006	Rebound Shim
29	1	P2004	Compression Shim
30	1	P2015	Check Valve Spring
31	2	P3315-1	Preload Washer
32	1	P3000	Piston Ring
33	1	P1152-1	Upper Crown
34	2	P1146	Stanchion Tube
35	2	P4650	Dust Cap
36	2	P3290	Bumper Soft
37	2	97-3556	Double Sided Spring Guide
38	1	97-3555	Negative Spring Spacer
39	1	100496	Preload Assembly
40	2	97-1351	Wiper Seal
41	1	100069	Preload Spacer
42	1	P3208	Negative Spring
43	1	P3028	O-Ring -021
44	1	97-9300	Star Nut
45	7	97-852	M6 Allen Cap Screw

### Optional 20MM Dropouts

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	100197-20	20mm Lower Assm
2	1	100285	20mm Axle
3	1	100531	20mm Axle Nut
4	2	97-852	6mm Screw

Owners Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Purchase Date: \_\_\_\_\_  
 Purchase Location: \_\_\_\_\_  
 Serial #: Located on lower back side of right axle clamp. \_\_\_\_\_

## MAINTENANCE LOG

Date	Service Performed	Date	Service Performed

## WARRANTY CLAIMS

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, if it is found to be defective, White Brothers will determine replacement or repair of 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 have missing/altered serial numbers (located on the back of the right fork stanchion). The fork is 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, sliders finish, etc) and wear and damage caused by lack of proper maintenance is not included. **\*The warranty registration card must be filled out and returned within 30 days of purchase to activate and validate this warranty.** A copy of the proof of purchase must be included with all warranties. Customers in the US please contact your White Brothers or your dealer for a Return Authorization Number (RA#) before returning the forks. All forks returned for inspection must be sent freight paid to:



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