

# OWNERS MANUAL FOR



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A division of  
**Eko Sport, Inc.**

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## SAFETY

**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 INOPERABLE.\* MAKE SURE THE 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 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 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 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 A 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.

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

## INTRODUCTION

Thanks for purchasing your new White Brothers fork. Our forks are designed so you can perform at your absolute peak. Your new White Brothers fork has oil damping and is coil and air sprung for light weight performance. The coil /air 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 air pressure. See the adjustment and maintenance section. For very heavy or very light riders the external damper can be adjusted to give a wide range of compression and rebound damping. Steering accuracy is improved over conventional MTB forks by utilizing superior materials and design. These include oversized 32mm fork tubes, a torsion box design steering crown, a one piece billet brake arch and extra thick drop-outs. The WB forks bootless design allows a considerable amount more slider/stanchion overlap than competitor forks which contributes to fork steering accuracy. Fork travel has been chosen to offer the best performance possible for each fork's intended use. Every effort has been made to make the White Brothers forks very light and perform at a level superior to other forks on the market. To insure peak performance, proper installation and periodic maintenance is required. White Brothers forks are designed for off road use only. They are not equipped with reflectors for on road use. If you are going to use your fork on road, have a dealer or mechanic install reflectors that meet the Consumer Product Safety Commission's requirements. 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 insure 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 fork's steer tube to insure that the White Brothers steer 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 sets 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**) Refer to the head set owners manual if there is any questions about the preassemble.
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 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.

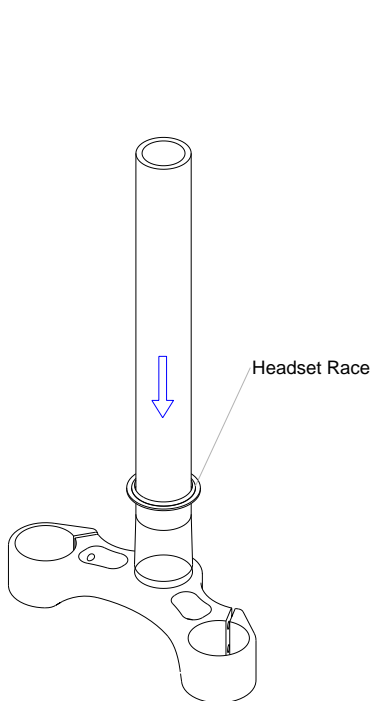


Figure #1

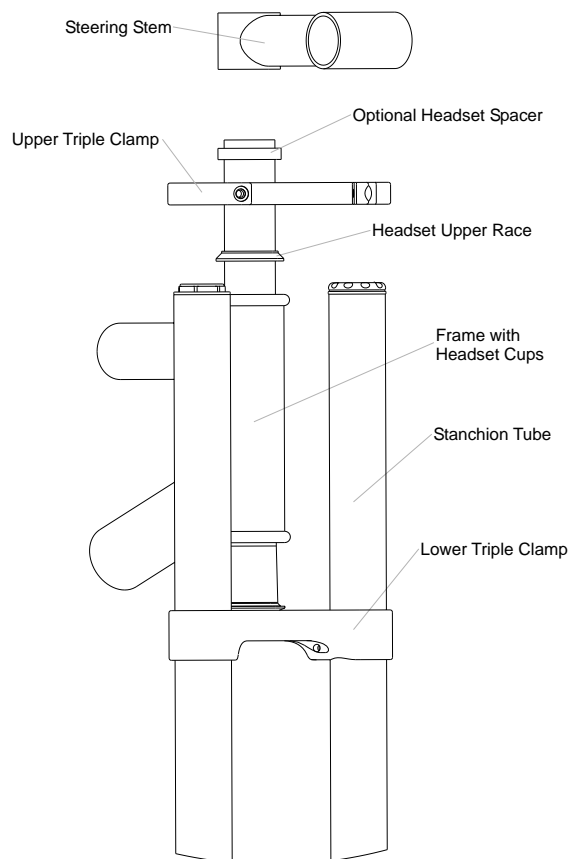


Figure #2

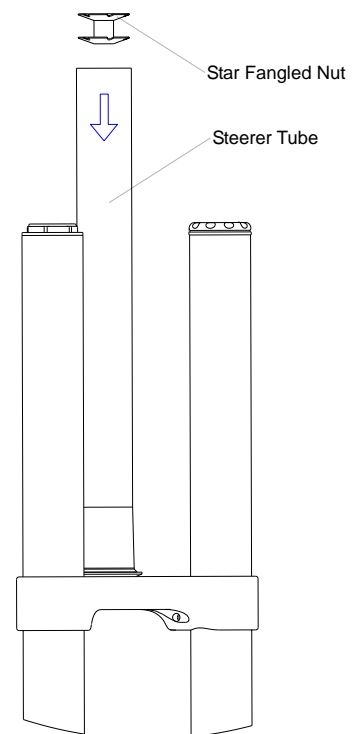


Figure #3

10. Install your front brake and adjust according to the manufactures 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 forks 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 out of your White Brothers fork, it is important that you tune the fork to fit your riding style and the terrain 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 decreases and the sensitivity increases. After the initial break-in period, fine tuning the air pressure and damping adjustments may be beneficial to achieve the best possible performance for your weight and riding style.

## TOOLS NEEDED:

- High pressure air pump (WB 97-725)
- Air Tight adaptor (WB 97-726)
- 15/16" socket with ratchet.
- 4mm Allen Wrench
- 5mm Allen wrench
- 6mm Allen wrench

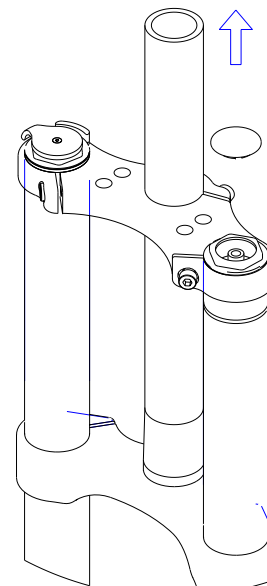


Figure #4

Your new White Brothers fork is designed with a coil spring combined with a air spring and oil cartridge damping. The following guidelines for adjusting and maintaining your fork will enable you to enjoy maximum performance and longevity from your fork.

1. First test ride the fork over easy terrain. If after riding the fork over varied terrain you decide that more tuning is necessary, continue to the next step.
2. The compression or spring of the fork can be changed three ways; by changing the air pressure, adjusting the settings of the damper cartridge and changing the spring for a different rate.
3. To change the air pressure, remove the snap in dust cap (use a finger nail or small screw driver) so that the schrader valve stem is exposed. (see Figure #4)
4. A high pressure shock pump is the best way to inflate cartridges. WB recommends you purchase the High Pressure Air Pump # 97-725. Test ride after each adjustment until the air cartridge is at an adequate pressure. Reinstall the dust cap.
5. **Compression** adjustment is done with the knob on the top of the right leg and is a lockout when turned full clockwise. Turning the knob counter-clockwise from lockout will provide less and less compression damping. 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. Full lockout to full open compression damping happens in 3/4 of a turn.
6. If after adjusting as outlined in steps 3-5 you feel the fork is too soft or too firm, you may need to change the spring out for a proper spring rate. (See Exploded view) Contact White Brothers for a replacement spring. **Important:** Deflate the air from the left leg before disassembly. Pop off the dust cap and release the air from the leg. Remove the top cap using a 15/16" socket to expose the spring assembly. Pull the spring assembly out and replace the main spring with the correct spring rate. (Reference exploded view for part #)
7. **Rebound** adjustment is done with 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. 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. Too slow of rebound will pack-up (feel harsh over consecutive bumps) while rebound set too fast will cause the fork to top out harshly. Adjustment range is 6 turns.

# MAINTENANCE

Your White Brothers fork requires periodic maintenance to ensure 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 after 30 hours of use. If the forks appear to be relatively clean, you can go 40 hours between servicing. If the forks appear dirty, you should service them every 20 hours. The three things that will most affect the service interval and performance of your forks is water, mud and dust. How much time you use your forks in those conditions will determine how much service they require.

**NOTE: It is recommended that, when cleaning the fork, water spray should not be directed at the seals.**

**NOTE: Neglecting proper fork 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.**

Basic service should include removing the lower fork legs cleaning and re-greasing all shafts and seals. At this time, the fork should be carefully inspected for wear and damage before reassembly.

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

## BASIC FORK DISASSEMBLY

1. Disconnect front brake and remove wheel as outlined in your bicycle owners manual.
2. The cartridge damper locks out when the upper damper shaft is screwed down against a brass seat. This provides a very durable and positive lockout that retains its seal over long periods of use, however if the upper damper shaft is unscrewed several turns and detaches from the damper piston, the damper must be torn down and rebuilt. **Warning:** To prevent the upper damper shaft from unscrewing when the fork lowers are removed for lubrication or other maintenance, do not attempt to unscrew the compression screw at the bottom of the right leg without first locking the fork out then removing the lockout knob and the cap and the hex key from the crown on the damper side. After these parts are taken out, the compression screws can be loosened and the lowers detached from the fork stanchions. Remove allen head bolts at the bottom of the fork using a 6mm allen wrench (**figure #5**) on either the QR or 20mm thru axle. A light tap may be needed 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 White Brothers Suspension Lube. 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 bushes for wear. This is done by looking at the color of the bushes. If the bushes 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 bushes 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 on a White Brothers fork.
5. The damper cartridge is threaded into the right fork stanchion. **Do not remove.** Inspect it for visible leakage. If none, grasp the shaft while in the stanchion tube and operate back and forth to insure smooth action. If the cartridge has visible leakage and/or the damping feels inconsistent as it is stroked, return the cartridge to White Brothers or a dealer familiar with rebuilding the cartridge damper for service.
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 White Brothers/England Suspension Lube or other suitable, non-lithium grease. Also lube the DU bushings that are located inside lower fork legs by dipping a socket extension in grease and apply to the inside of the fork stanchion on the DU bushings.

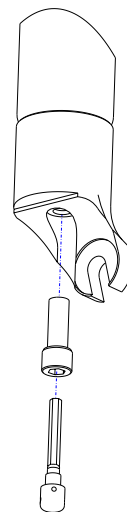


Figure #5

## BASIC FORK ASSEMBLY

8. Make sure all the spacers and bottoming bumpers are installed on the control rods (see exploded views for proper installation)  
To re-attach the fork lowers, first push the lower damper shaft upward so that the hex key on the cap can be inserted into the top damper shaft. Screw down the cap and re-attach the lockout knob by carefully fitting it on the top hex fitting of the key in the cap and replacing the small screw in the center of the knob. Move the knob to the "7 o'clock" or "locked out" position and **HOLD IT THERE**. Pull the lower damper shaft downward as far as it will go and turn it clockwise, still holding the knob in the "locked out" position, until the shaft will not turn. The lock out is now engaged. Make sure the damper cartridge is tight in the stanchion tube. 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 starting with the damper side and once again hold the lock out knob in the locked out position 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 top of the stanchion tubes. Connect the front brake and wheel as outlined in your bicycle owners manual.
10. Compress the fork to make sure it works smoothly and the brake cable does not interfere with the operation of the fork.

# TROUBLE SHOOTING

## Fork Feel Sticky

This is usually caused by:

1. A lack of lubrication. Clean and lubricate the fork as outlined in the maintenance section.
2. Contamination inside the fork. Clean and lubricate the fork as outlined in the maintenance section.
3. Fork is not sufficiently broken in. Contact White Brothers for further technical information.

## The Fork Bottoms too Easy

1. Incorrect air pressure. Add air pressure as outlined in #3 and #4 of the tuning section.
2. Insufficient compression damping. Add compression damping by turning the adjuster on the top of the right leg clock-wise.
3. Too light of spring rate. Change the spring out for a heavier rate as outlined in #6 of the tuning section.

## The Fork Doesn't use Full Travel

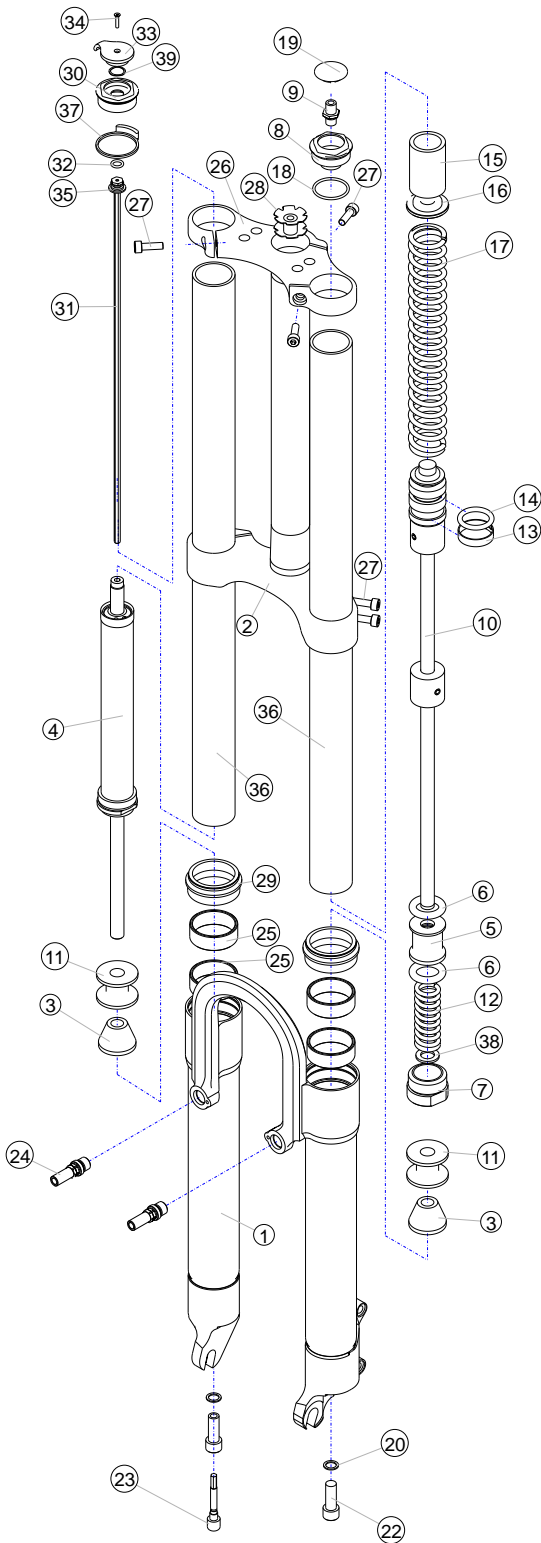
1. Incorrect air pressure. Remove air pressure as outlined in #3 of the tuning section.
2. Excessive compression damping. Reduce the compression damping by turning the adjuster on the top of the right leg counter clock-wise.
3. Too stiff of spring rate. Change the spring out for a lighter rate as outlined in #6 of the tuning section.

## Lockout and/or Damping Adjustments Don't Do Anything

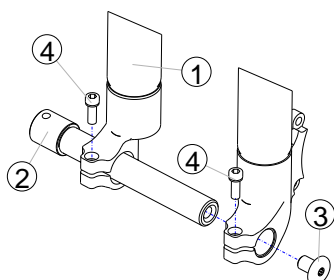
1. Damper may need servicing.
2. Contact White Brothers for technical information.



## Dual Crown 100mm Coil and Air Fork W/ Oil Damper



c	QTY.	PART NO.	DESCRIPTION
1	1	100197	Lower Assembly
2	1	100258	Tandem Upper Assembly
3	2	P3290	Bottom Out Bumper, Soft
4	1	100219	Damper Assembly VT, BW 1.0, TM
5	1	100580	Negative Spring Guide
6	2	F-2402	O-Ring 313
7	1	100235	Stanchion Plug
8	1	100060	Air Cap Triple Clamp Series
9	1	100054	Schrader Valve Assembly
10	1	100259	Control Rod Assembly
11	2	100243	Bottom Out Spacer
12	1	97-860	Negative Spring
13	1	P3000	Piston Band
14	1	100262	O-Ring 211
15	1	100581	Spring Spacer
16	1	P3300	Spring Guide Double
17	1	97-3517	Spring
18	1	P3028	O-Ring -021
19	1	P4650	Air Valve Dust Cap
20	2	100055	Washer .3125x.4375
21	1	100063	Compression Screw
22	1	100063S	Compression Screw Solid
23	1	100200	Damper Adjuster
24	2	97-3668	Brake Stud
25	4	97-986	DU Bushing
26	1	P1152-1	Upper Crown
27	7	97-9200	M5x16mm Screw
28	1	97-9300	Star Nut
29	2	97-1351	Wiper Seal
30	1	100095	Top Cap
31	1	100263	Lockout Hex Key TM 1.0
32	1	100033	O-Ring 010
33	1	100175	Knob Lockout 03
34	1	100195	Flat Head Hex Screw M2.5x.45
35	1	100201	Lockout Hex Adapter
36	2	P1147	Inner Leg
37	1	100505	Lockout Stop
38	1	P3310-1	Washer, Nylon
39	1	100506	Wave Washer



### 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 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 altered/missing 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 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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