• ENGLISH

MANITOU

02 OWNER'S MANUAL



• Betriebsanleitung • Manual del usuario
• Manuel de l'utilisateur • Manuale del proprietario
• Handleiding • Manual do proprietário • オーナーズマニュアル

P/N 042034

answer products incorporated

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MANITOU SUSPENSION FORKS

CONGRATULATIONS ON CHOOSING A 2002 MANITOU SIX FORK. This Manitou SIX fork is fully assembled and ready to be installed onto your bicycle. It comes equipped with a 1 1/8-inch threadless steerer tube and is available with a V-brake-style hangerless arch (or there's an optional attachable cable hanger which is available through your dealer). SIX forks are also available in a disc brake only version.

2002 MANITOU SIX FORK LINE

SIX ELITE.....80 OR 100 MM TRAVEL* / COIL SPRINGS / FLUID FLOW DAMPING / SINGLE CROWN
SIX SUPER .....80 OR 100 MM TRAVEL* / COIL SPRINGS / FLUID FLOW DAMPING (REBOUND ADJUSTABLE) / SINGLE CROWN

*Preset from the factory, but changeable. See the Convertible Travel section in the Dealer Service Addendum for details.

You can also download this manual at www.answerproducts.com.

⚠ GENERAL WARNING **BICYCLING IS A HAZARDOUS ACTIVITY THAT REQUIRES THAT THE RIDER STAY IN CONTROL OF HIS OR HER BICYCLE AT ALL TIMES. READING THIS MANUAL ENTIRELY, AND PROPERLY MAINTAINING YOUR BICYCLE AND SUSPENSION FORK, WILL REDUCE THE POSSIBILITY OF INJURY OR POSSIBLE DEATH. PRIOR TO RIDING YOUR BICYCLE, YOU SHOULD INSPECT YOUR SUSPENSION FORK TO ENSURE THAT NO DAMAGE HAS OCCURRED DURING THE COURSE OF RIDING. DO NOT RIDE YOUR BICYCLE IF THE FORK SHOWS ANY SIGNS OF BENDING, CRACKING, CREAKING, LEAKING, OR IF IT IS MISSING ANY OF THE ORIGINALLY SUPPLIED COMPONENTS. ANY FALL FROM YOUR BICYCLE CAN RESULT IN SERIOUS INJURY OR EVEN DEATH. FOLLOWING THESE INSTRUCTIONS CAN HELP YOU REDUCE THE RISK OF BEING INJURED. IF YOU ARE A MODERATE OR AGGRESSIVE OFF-ROAD RIDER, OR RIDE AT LEAST THREE TIMES A WEEK OVER ROUGH TERRAIN, ANSWER RECOMMENDS RETURNING YOUR SUSPENSION FORK EVERY 2 YEARS FOR A THOROUGH INSPECTION AND UPDATE. TAKE YOUR FORK TO A MANITOU AUTHORIZED DEALER WHO CAN ARRANGE FOR SHIPMENT TO ANSWER PRODUCTS, OR YOU MAY CALL ANSWER AT (661) 257-4411 TO HAVE YOUR FORK SHIPPED DIRECTLY.**

IMPORTANT: **The SIX fork is an off-road fork, and as such, does not come with proper reflectors for on-road use. Have your dealer or mechanic install proper reflectors to meet the Consumer Product Safety Commission's (C.P.S.C.) Requirements for Bicycles if the fork is going to be used on public roads at any time. If you have questions regarding C.P.S.C. Standards, or would like to purchase a reflector bracket kit (Part #85-3674), contact your dealer.**

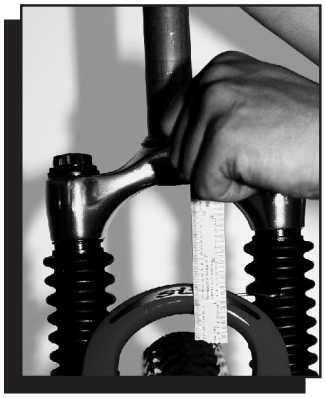
CONSUMER SAFETY INFORMATION

1. Never remove or have the steerer tube or stanchions removed from the crown. The steerer tube and stanchions (inner legs) are press fit at the factory. Press fit inner legs have higher performance versus bolt-in inner legs, but can not be pressed out. Pressing them out will permanently damage the crown beyond repair and render it unsafe for any continued use.
2. Never attempt to thread a threadless steerer tube. Cutting threads will weaken the steerer tube and cause an unsafe condition. The only safe thing to do is to obtain the proper crown/steerer from your dealer, or contact Answer Warranty Department at (661) 257-4411.
3. Any other alteration or modification to your fork should be considered unsafe. Contact Answer Warranty Department prior to modifying your fork in any way for safety information.
4. Do not use the SIX fork if any parts are broken, bent, cracked, or you suspect may be damaged. Contact your dealer or Answer Warranty Department at (661) 257-4411 if you have any questions concerning the integrity or condition of your fork.
5. Answer Products recommends that you inspect your fork before every ride for wear and damage. Inspect the crown, inner legs, outer legs dropout and brake arch areas for cracks or damage.

WARRANTY INFORMATION

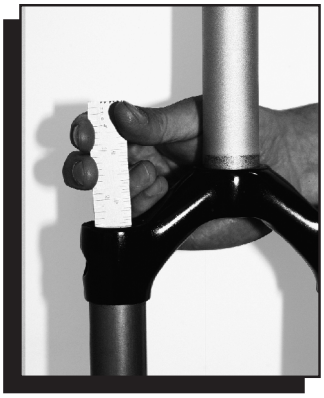
Any Answer Products fork found by the factory to be defective in materials and/or workmanship within one year from the date of purchase will be repaired or replaced at the option of the manufacturer, free of charge, when received at the factory with proof of purchase, freight prepaid. This warranty does not cover breakage, bending, or damage that may result from crashes or falls. This warranty does not cover any fork that has been subject to misuse or whose serial number has been altered, defaced or removed. This warranty does not cover paint damage. Any modifications made by the user will render the warranty null and void. This warranty is expressly in lieu of all other warranties, and any implied are limited in duration to the same duration as the expressed warranty herein. Answer Products shall not be liable for any incidental or consequential damages.

If for any reason warranty work is necessary, return the fork to the place of purchase. At that time, instructions for repair, return, or replacement shall be given. Customers in countries other than USA should contact their dealer or local distributor.



1

Tire Clearance
Reifenabstand
Espacio libre de la cubierta
Distance arceau/pneu
Spazio libero del pneumatico
Bandspeling
Folga do pneu
タイヤクリアランス



2

Checking Oil Level
Kontrolle des Ölstandes
Verificación del nivel de aceite
Vérification du niveau d'huile
Controllo del livello dell'olio
Oliepeil controleren
Verificação do nível de óleo
オイル量のチェック



3

Travel Measurement
Messung der Auslenkung
Cómo medir el recorrido
Mesure de la course
Misurazione della corsa
Meting van loop
Medição do curso
トラベル量の測定



4

Convertible Travel
Umstellbare Auslenkung
Cómo cambiar el recorrido
Changement de la course
Corsa convertibile
Variabele loop
Curso conversível
トラベル量の変更

INSTALLATION INSTRUCTIONS

Ensure that the proper steerer tube has been delivered on your Manitou SIX. The steerer tube may need to be cut to length to fit your bicycle head tube. If you are not familiar with this procedure, or do not have the proper tools to cut the steerer tube, it is recommended that you seek a dealer with a qualified bicycle mechanic to perform installation.

⚠ WARNING THE STEERER TUBE AND STANCHIONS (INNER LEGS) ARE A ONE-TIME PRECISION PRESS FIT AT THE FACTORY AND CANNOT BE REMOVED FROM THE CROWN. REPLACEMENT OF THE ENTIRE CROWN/STEERER ASSEMBLY MUST BE DONE TO CHANGE STEERER TUBE LENGTHS OR DIAMETERS. REMOVING AND REPLACING THE STEERER TUBE OR STANCHIONS WILL RESULT IN AN UNSAFE CONDITION AND SHOULD NEVER BE DONE.

BREAK-IN

Your new fork is designed to break in during your first few rides (about 20 hours total riding time). Prior to break-in, you may notice your fork binds slightly and feels notchy. Following the break-in period, your fork will feel much smoother and will react to bumps much better than when you first put it on your bike. After 20 hours, you may want to recheck your rebound and preload adjustments (when applicable) to fine tune the fork completely. Between services on your Manitou fork, all you must do is lubricate your fork as needed with Manitou Prep M (part number 85-3810 for the lube and 85-3812 for the injector gun) via the Microlube grease ports located on the back of the fork legs.

FORK INSTALLATION

1. Remove the old fork from your bicycle.
2. Measure and cut the steerer tube to fit your bicycle head tube. You can use your old fork as a guide for cutting the steerer tube length.
3. Remove the headset crown race from the old fork and press onto the Manitou SIX steerer tube until the race is seated over the crown.
4. Clean and grease the headset bearings and races.
5. Install the lower bearings (if applicable) on the fork crown race.
6. Insert the steerer tube into the head tube of the frame.
7. Install the upper bearings, stem spacers, and stem.
8. Install the stem cap and bolt. Tighten the bolt to headset manufacturer's specifications.
9. Install the handlebars to desired height and the torque stem pinch screws or stem clamping system to manufacturer's specifications.
10. Install the brakes and adjust per the manufacturer's instructions.
11. For all SIX, adjust the front wheel quick release to clear the 0.275" (7 mm) thick secondary catch dropout. The quick release must be tightened after it is properly seated into the dropout counter bores to manufacturer's specifications. Ensure that there is adequate thread engagement (4 or more threads with the release adjusted to lock).

NOTE: 2002 Manitou SIX forks are equipped with a secondary catch dropout to retain the wheel in the fork in the event the quick release comes loose.

WARNING **WHEN INSTALLING THE WHEEL OR A NEW TIRE, CHECK TO MAKE SURE THE FORK ACHIEVES MINIMUM TIRE CLEARANCE. MEASURE FROM THE HIGHEST POINT ON THE TIRE TO THE BOTTOM OF THE BRAKE ARCH. THIS MEASUREMENT SHOULD BE 10 MM (FIGURE 1).**

IMPORTANT: The Manitou SIX should not be used if any parts appear to be or are damaged. Contact your local dealer or Answer Products for replacement parts.

MAINTENANCE

IMPORTANT: Use of fork boots is required to keep your Manitou SIX fork performing well and the warranty in effect. Use of this fork without boots will shorten the life of the fork, decrease the time between maintenance intervals, reduce the performance and void the warranty.

IMPORTANT: When lubricating the fork with lubricant through the lubricant ports, it is important to note the lubricant is being forced between the upper and lower bushings. If the area is overfilled, the lubricant may force the upper bushing and dust seal out. You should only insert lubricant to the level at which stiction (stickiness when you compress the fork) is no longer felt.

IMPORTANT: Before every ride you should:

1. **Ensure that quick release skewers are properly adjusted and tight.**
2. **Wipe the inner legs and clean and check entire fork for any obvious damage.**
3. **Check the headset for proper adjustment.**
4. **Ensure that the front brake cable is properly routed and check brake adjustment.**

CHECKING OIL LEVEL

IMPORTANT: Setting the proper oil level in your Fluid Flow damped fork is critical. Fluid Flow damping is located in the right leg of your Manitou SIX Elite or Super fork. Not enough oil will allow foaming and reduce the performance. Too much oil will restrict travel and may cause damage to the system and create an unsafe riding condition. Finish reading this entire section prior to altering the oil level.

To check the oil level on the Manitou SIX, remove the compression assembly located in the top of the right leg (as you are looking at the fork from the rider's position). Leave the left side spring stack in place to keep the fork fully extended. Use a tape measure or "dip stick" to measure from the top of the fork crown down to where the oil sits (see figure #2). The oil level for the Manitou SIX should be per following table.

Fork Model	Oil Level
Manitou SIX Elite/Super	124 - 137 mm (4.9 - 5.4 inches)

NOTE: Use Maxima SAE 5WT fork oil suspension fluid only.

If you have any questions regarding your 2002 Manitou SIX suspension fork, contact the Answer Warranty Department at (661) 257-4411. You can also log on to www.answerproducts.com and download this manual or see detailed instructions on how to service your suspension fork.

Thank you again for choosing a 2002 Manitou SIX suspension fork.

DEALER SERVICE ADDENDUM SIX ELITE AND SUPER

This section is designed to help you tune and maintain your Manitou suspension fork.

MEASURING SAG To measure sag, you'll need a tape measure, a pencil, a piece of paper and a helper.

1. Measure the distance from the front axle's centerline to the bottom of the upper crown when no one is sitting on the bike, and write this distance down. Remember the exact locations of the two points because you'll need to use them later.
2. Have the rider sit on the bike and measure the distance between the same two points as in step one. It is important to be in the normal riding position (weight centered) with the rider's feet on the pedals.
3. Subtract the second measurement from the first. The resulting measurement is the static sag or ride height.

SAG MEASUREMENT

Fork Travel	Sag
80 mm	12 - 16 mm
100 mm	18 - 24 mm

TRAVEL MEASUREMENT To determine which travel your SIX Elite or Super fork is in, simply measure the distance from the top of the seal area on the lowers (or the bottom of the fork boot) to the bottom of the crown (see figure #3).

Fork Travel	Seal-to-Crown Measurement
80 mm	Around 4.3 inches or 109 mm
100 mm	Around 5.2 inches or 130 mm

RECOMMENDED SPRINGS

SIX Elite/Super	Rider Weight	Recommended Spring Kit
	100- 150 lbs.	Soft ride kit (Part #85-4826)
Standard Set-up	150-170 lbs.	Medium ride kit (Part #85-4827)
	170 plus lbs.	Firm ride kit (Part #85-4828)

CHANGING COIL SPRINGS Once you have checked sag, you can either preload the spring via the cap on top of the left leg, or even better, make spring changes to accommodate for your riding style and weight.

1. Start by removing the preload adjuster by unscrewing the cap from the top of the crown/leg assembly. A 1-1/16th inch or 27 mm socket will be necessary with the SIX. Remember: The springs are housed only in the left leg on 2002 Manitou suspension forks.
2. With the adjuster assembly removed, the spring stack is now accessible.
3. Select the appropriate coil spring for your weight and riding style (refer to the above spring chart for recommended rates).
4. Apply a liberal amount of grease to the outside surface of the new coil spring. We recommend any thick grease (not light greases like Prep M). Install the new spring stack.
5. Reinstall the preload adjuster assembly, taking care not to cross-thread the cap. It should thread in by hand and does not need to be tightened with a wrench (finger-snug is recommended).

CONVERTIBLE TRAVEL Changing the travel from 80 to 100 mm or vice-versa requires the removal of the lower legs. Unthread the 8 mm and 4 mm bolts on the bottom of the fork and pull the lowers free from the uppers. Then, unscrew the cap on the bottom of the left leg (as seen from the rider's position). Remove the clip and insert it into the upper position (above the rod flange) for 100 mm of travel or the lower position (below the rod flange) for 80 mm of travel (see figure #4).

MICROLUBE All you need is a Microlube lubricant gun (part # 85-3812) and Manitou's Prep M (part # 85-3810) suspension fork lubricant. Brush any dirt from the grease ports, insert the grease gun into the small fitting located at the back of the fork and squeeze a few times. Continue injecting grease and push the fork up and down until stiction is eliminated.

MAINTENANCE AND SERVICE

INTRODUCTION When servicing the fork, take the time to inspect all parts for excessive wear or damage. There are basically four aspects of a fork that will require attention: the stanchions (inner legs), the bushings in the outer legs, the spring stack and the damping fluid. Inspecting any of these parts requires disassembly of the fork. Pay close attention to the bushings, which can be damaged by contamination in severe conditions. Replace any worn or damaged parts that are discovered.

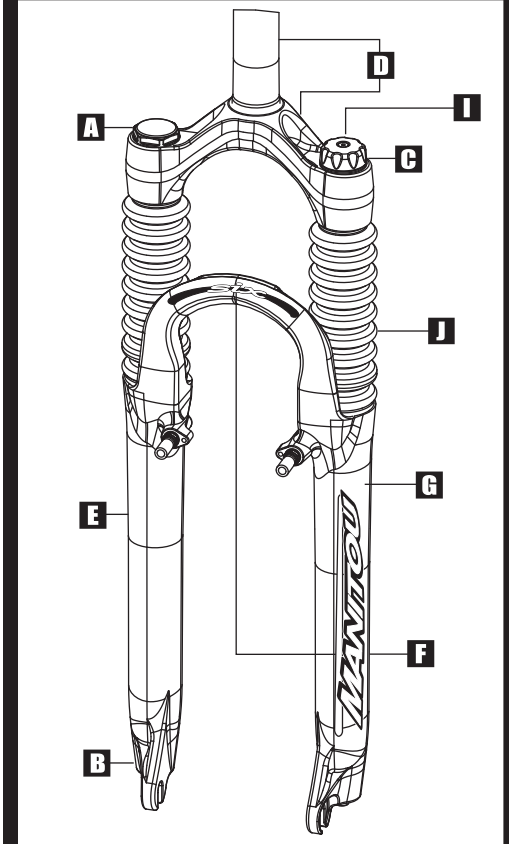
SERVICE SCHEDULE Suggested Service for Manitou Forks

Normal Conditions — Short/Infrequent Rides
- Lube fork as needed with Prep M lubricant via the Microlube ports.
- Disassemble, clean and lubricate fork every 4-5 months.
- Lubricate spring stack as needed.

Normal Conditions — Long/Frequent Rides
- Lube fork as needed with Prep M lubricant via the Microlube ports.
- Disassemble, clean and lubricate fork every 10-14 weeks.
- Lubricate spring stack as needed.

Severe Conditions (mud, rain, snow, extreme dust) — Short/Infrequent Rides
- Lube fork as needed with Prep M lubricant via the Microlube ports.
- Disassemble, clean and lubricate fork every 6-8 weeks.
- Lubricate spring stack as needed.

Severe Conditions (mud, rain, snow, extreme dust) — Long/Frequent Rides
- Lube fork as needed with Prep M lubricant via the Microlube ports
- Disassemble, clean and lubricate fork every 4-6 weeks.
- Lubricate spring stack as needed.



SERVICE PARTS KITS

SIX Elite

A	Compression Damping Assembly	85-4820
B	Rebound Damping Assembly	85-4821
C	Preload Adjuster Assembly	85-4822
D	Crown/Steerer Tube Assembly, Steel	85-4823
E	Outer Casting Assembly, Black	85-4825
F	Sticker Kit, Black	85-4814
G	Ride Kit Assembly, Soft	85-4826
	Ride Kit Assembly, Med.	85-4827
	Ride Kit Assembly, Firm	85-4828
I	Knob Kit	85-4830
J	Boot Kit	85-4824
	Silver Casting	85-4898
	Black Casting, No Boss	85-4905
	Silver Casting, No Boss	85-4906

SIX Super

A	Compression Damping Assembly	85-4820
B	Rebound Damping Assembly	85-4831
C	Preload Adjuster Assembly	85-4822
D	Crown/Steerer Tube Assembly	85-4823
E	Outer Casting Assembly, Red	85-4834
F	Sticker Kit, Red	85-4814
G	Ride Kit Assembly, Soft	85-4826
	Ride Kit Assembly, Med.	85-4827
	Ride Kit Assembly, Firm	85-4828
I	Knob Kit	85-4830
J	Boot Kit	85-4824
	Red Casting, No Boss	85-4907

Answer Products Inc.
Customer Service/Warranty Department
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SPECIAL OFFERS

Spring kits and Prep M lubricant directly from Answer Products at a special introductory price for new purchasers of Manitou forks or Manitou-equipped bikes.

Prep M Grease Gun & Tube: $19.95 **Spring Kits: $12.95**

International orders add a $15 handling charge, credit card only. Shipping and handling in the US included in the $19.95 price.

Call Answer Products at 661-257-4411 to order or visit the website at www.answerproducts.com.