2003

MANITOU

BLACK

SPORT COMP ELITE SUPER

OWNER'S MANUAL

P/N 042099

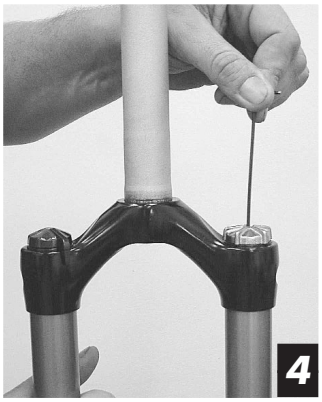
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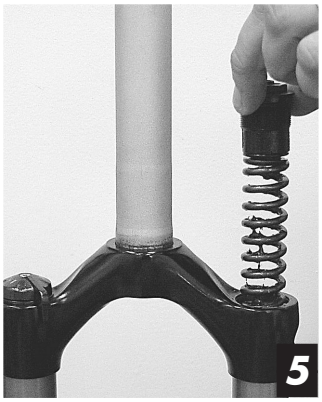
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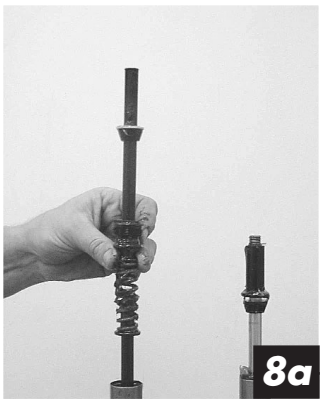

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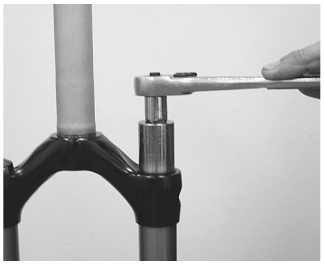

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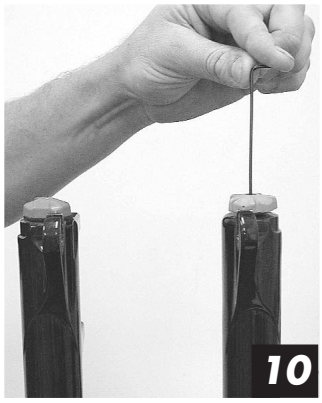

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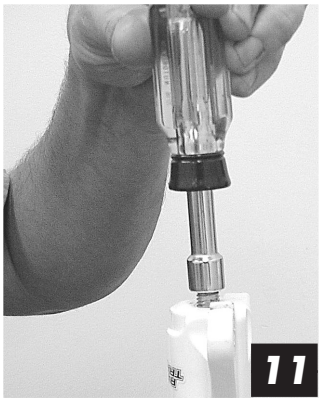

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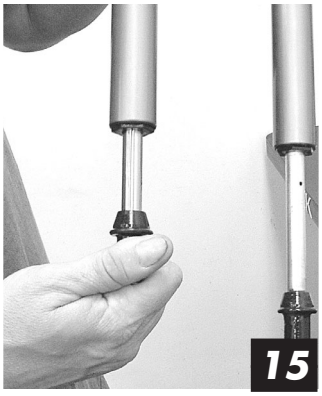
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SERVICE PARTS KITS

BLACK SPORT 80/100	
Compression Damping Assembly	85-5135
Rebound Damping Assembly	85-5136
Preload	85-5137
Crown/Steer Tube Assembly	85-5082
Sticker Kit	85-5165
Ride Kits - X-Soft	85-4970
Soft	85-4971
Medium	85-4972
Firm	85-4973
X-Firm	85-4974
Convertible Travel	85-5052
Knob Kit	85-5051

BLACK SPORT 100/120	
Compression Damping Assembly	85-5138
Rebound Damping Assembly	85-5139
Preload	85-5140
Crown/Steer Tube Assembly - Steel	85-5083
Alloy	85-5085
Sticker Kit	85-5165
Ride Kits - X-Soft	85-4975
Soft	85-4976
Medium	85-4977
Firm	85-4978
X-Firm	85-4979
Convertible Travel	85-5053
Knob Kit	85-5051

BLACK COMP 80/100	
Compression Damping Assembly	85-4835
Rebound Damping Assembly	85-4836
Preload	85-4837
Crown/Steer Tube Assembly	85-5082
Sticker Kit	85-5165
Ride Kits - X-Soft	85-4970
Soft	85-4971
Medium	85-4972
Firm	85-4973
X-Firm	85-4974
Travel Adjust	85-5056
Knob Kit	85-5051

BLACK COMP 100/120	
Compression Damping Assembly	85-4835
Rebound Damping Assembly	85-4850
Preload	85-4837
Crown/Steer Tube Assembly - Steel	85-5083
Alloy	85-5085
Sticker Kit	85-5165
Ride Kits - X-Soft	85-4975
Soft	85-4976
Medium	85-4977
Firm	85-4978
X-Firm	85-4979
Travel Adjust	85-5057
Knob Kit	85-5051

BLACK ELITE 80/100	
Compression Damping Assembly	85-4855
Rebound Damping Assembly	85-4850
Preload	N/A
Crown/Steer Tube Assembly	85-5084
Sticker Kit	85-5165
Ride Kits - X-Soft	85-4970
Soft	85-4971
Medium	85-4972
Firm	85-4973
X-Firm	85-4974
Travel Adjust	85-5058
Knob Kit	85-5055

BLACK ELITE 100/120	
Compression Damping Assembly	85-4855
Rebound Damping Assembly	85-4850
Preload	85-4837
Crown/Steer Tube Assembly	85-5085
Sticker Kit	85-5165
Ride Kits - X-Soft	85-4975
Soft	85-4976
Medium	85-4977
Firm	85-4978
X-Firm	85-4979
Travel Adjust	85-5061
Knob Kit	85-5055

BLACK ELITE AIR	
Compression Damping Assembly	85-4855
Rebound Damping Assembly	85-4864
Preload	N/A
Crown/Steer Tube Assembly	85-5086
Sticker Kit	85-5165
Ride Kits - X-Soft	85-5176
Soft	85-4980
Medium	85-4981
Firm	85-4982
X-Firm	85-5177
Travel Adjust	N/A
Knob Kit	85-5059

BLACK SUPER AIR 80/100	
Compression Damping Assembly	85-4855
Rebound Damping Assembly	85-4870
Preload	N/A
Crown/Steer Tube Assembly	85-5087
Sticker Kit	85-5165
Ride Kits - Soft	85-4985
Medium	85-4986
Firm	85-4987
Travel Adjust	85-5062
Knob Kit	85-5059

BLACK SUPER AIR 100/120	
Compression Damping Assembly	85-4855
Rebound Damping Assembly	85-4870
Preload	N/A
Crown/Steer Tube Assembly	85-5088
Sticker Kit	85-5165
Ride Kits - Soft	85-4988
Medium	85-4989
Firm	85-4990
Travel Adjust	85-5063
Knob Kit	85-5059

Outer Casting Assemblies	
Black	85-5141
Silver	85-5142
Red	85-5143
White	85-5144
Yellow	85-5145
Orange	85-5146
Blue	85-5147
Candy Red	85-5148
Candy Blue	85-5149
Candy Chrome	85-5150
Black N/B	85-5151
Silver N/B	85-5152
Red N/B	85-5153
White N/B	85-5154
Yellow N/B	85-5155
Orange N/B	85-5156
Blue N/B	85-5157
Candy Red N/B	85-5158
Candy Blue N/B	85-5159
Candy Chrome N/B	85-5160

* Lockout for all BLACK forks except the BLACK ELITE AIR	85-4869
* TPC+ for all Non-AIR BLACK Forks	85-4929
* TPC+ for BLACK Super Air 100/120	85-5065

AMERICAN MADE MANITOU SUSPENSION FORKS

CONGRATULATIONS ON CHOOSING THE LATEST IN SUSPENSION TECHNOLOGY AVAILABLE, A 2003 MANITOU BLACK BUILT IN THE USA. This BLACK 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 RA casting. It is also available in a disc brake only version. A handlebar-mounted reflector must be used for on-road use, which is not included with your fork.

2003 MANITOU BLACK FORK LINE

BLACK SPORT 80/100 . . . . . 80/100 MM CONVERTIBLE TRAVEL / COIL SPRING / FLUID FLOW DAMPING / SINGLE CROWN / RA CASTING

BLACK SPORT 100/120 . . . . . 100/120 MM CONVERTIBLE TRAVEL / COIL SPRING / FLUID FLOW DAMPING / SINGLE CROWN / RA CASTING

BLACK COMP 80/100. . . . . 80/100 MM RAPID TRAVEL ADJUST / COIL SPRING / FLUID FLOW DAMPING / SINGLE CROWN / RA CASTING

BLACK COMP 100/120. . . . . 100/120 MM RAPID TRAVEL ADJUST / COIL SPRING / FLUID FLOW DAMPING / SINGLE CROWN / RA CASTING

BLACK ELITE 80/100 . . . . . 80/100 MM RAPID TRAVEL II / COIL SPRING / TPC DAMPING / HOLLOW CROWN / RA CASTING

BLACK ELITE 100/120 . . . . . 100/120 MM RAPID TRAVEL II / COIL SPRING / TPC DAMPING / HOLLOW CROWN / RA CASTING

BLACK ELITE AIR . . . . . 80 MM TRAVEL / AIR-COIL SPRING / TPC DAMPING / HOLLOW CROWN / RA CASTING

BLACK SUPER AIR 80/100. . . 80/100 MM RAPID TRAVEL ADJUST / AIR-COIL SPRING / TPC DAMPING / HOLLOW CROWN / RA CASTING

BLACK SUPER AIR 100/120. . 100/120 MM RAPID TRAVEL ADJUST / AIR-COIL SPRING / TPC DAMPING / HOLLOW CROWN / RA CASTING

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 Manitou BLACK 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, contact your dealer.

CONSUMER SAFETY INFORMATION

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. 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 Customer Service at (661) 257-4411. Any other alteration or modification to your fork should be considered unsafe. Contact Answer Customer Service prior to modifying your fork in any way for safety information.

Do not use the BLACK fork if any parts are broken, bent, cracked, or you suspect may be damaged. Contact your dealer or Answer Products Customer Service at (661) 257-4411 if you have any questions concerning the integrity or condition of your fork.

Answer Products recommends that you periodically inspect your fork 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 (or two years in EU countries) will be repaired or replaced at the option of the manufacturer, free of charge, when received at the factory, 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 with original purchase receipt 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.

INSTALLATION INSTRUCTIONS

Ensure that the proper steerer tube has been delivered on your BLACK fork first. 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 feels tight and slightly 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 compression, rebound and preload adjustments (when applicable) to fine tune the fork completely.

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 BLACK fork steerer 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 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 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 BLACKS, adjust the front wheel quick release to clear the 0.374"(9.5 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).
12. Install the brake cable per manufacturer's instructions.

NOTE: 2003 BLACK 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 AT LEAST 9 MM FOR ALL BLACK FORKS. (FIGURE 1)

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

MAINTENANCE

Your BLACK fork requires periodic maintenance, cleaning and inspection. This is because moisture and contamination may build up inside the fork depending on the severity of riding conditions. To maintain top performance, it is recommended that the fork be periodically disassembled, cleaned, dried and relubricated. You can download service and tuning instructions on the web at www.answerproducts.com.

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 TPC or FFD equipped fork is critical. TPC or FFD is located in the right leg of your BLACK 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, 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 (Figure 2). The oil level should be per the following table.

FORK MODEL	OIL LEVEL
BLACK SPORT 80/100	115-125 mm (4.5-4.9") in 100 mm travel
BLACK SPORT 100/120	115-125 mm (4.5-4.9") in 120 mm travel
BLACK SPORT W/TPC+ 100/120	86-91 mm (3.4-3.6") in 120 mm travel
BLACK COMP 80/100	115-125 mm (4.5-4.9") in 100 mm travel
BLACK COMP 100/120	115-125 mm (4.5-4.9") in 120 mm travel
BLACK COMP W/TPC+ 100/120	86-91 mm (3.4-3.6") in 120 mm travel
BLACK ELITE 80/100	115-125 mm (4.5-4.9") in 100 mm travel
BLACK ELITE 100/120	115-125 mm (4.5-4.9") in 120 mm travel
BLACK ELITE W/TPC+ 100/120	86-91 mm (3.4-3.6") in 120 mm travel
BLACK ELITE AIR	115-125 mm (4.5-4.9")
BLACK SUPER AIR 80/100	105-110 mm (4.1-4.3") in 100 mm travel
BLACK SUPER AIR 100/120	105-110 mm (4.1-4.3") in 120 mm travel
BLACK SUPER AIR W/TPC+ 100/120	86-91 mm (3.4-3.6") in 120 mm travel

NOTE: Use SAE 5WT suspension fork oil only.

If you have any questions regarding your 2003 Manitou BLACK suspension fork, contact the Answer Customer Service 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 2003 Manitou BLACK suspension fork.

DEALER SERVICE ADDENDUM

This section is designed to help a qualified bicycle mechanic tune and maintain your Manitou suspension fork.

MEASURING 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's 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's important to be in the normal riding position (weight centered) with your feet on the pedals.
3. Subtract the second measurement from the first. The resulting measurement is the static sag.

SAG MEASUREMENT CHART

Fork Travel	Sag
80 mm	12-16 mm
100 mm	18-24 mm
120 mm	25-28 mm

TRAVEL MEASUREMENT To determine which travel your BLACK 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 (Figure 3).

TRAVEL MEASUREMENT CHART

Fork Travel	Seal to Crown Measurement
80 mm	Around 4 inches or 101 mm
100 mm	Around 4.8 inches or 121 mm
120 mm	Around 5.6 inches or 141 mm

SPRING KITS

BLACK SPORT 80/100, COMP 80/100, ELITE 80/100

Rider Weight	Recommended Spring Kit
130 lbs & below	XS ride kit (Part #85-4970)
130-150 lbs	Soft ride kit (Part #85-4971)
150-170 lbs	Medium ride kit (Part #85-4972)
170-190 lbs	Firm ride kit (Part #85-4973)
190 to 215 lbs	Extra firm ride kit (Part #85-4974)

BLACK SPORT 100/120, COMP 100/120, ELITE 100/120

Rider Weight	Recommended Spring Kit
130-150 lbs	Soft ride kit (Part #85-4976)
150-170 lbs	Medium ride kit (Part #85-4977)
170-190 lbs	Firm ride kit (Part #85-4978)
190 to 215 lbs	Extra firm ride kit (Part #85-4979)

BLACK ELITE AIR

Rider Weight	Recommended Spring Kit
100-150 lbs	Soft (DIVA) coil spring (Part #85-4980)
150-190 lbs	Stock ride kit (Part #85-4981)
190 to 215 lbs	Firm coil spring (Part #85-4982)

*Air pressure setting should equal 75% of body weight

BLACK SUPER AIR 80/100

Rider Weight	Recommended Spring Kit
100-150 lbs	Soft coil spring (Part #85-4985)
150-190 lbs	Medium ride kit (Part #85-4986)
190 to 215 lbs	Firm coil spring (Part #85-4987)

BLACK SUPER AIR 100/120

Rider Weight	Recommended Spring Kit
100-150 lbs	Soft coil spring (Part #85-4988)
150-190 lbs	Medium ride kit (Part #85-4989)
190 to 215 lbs	Firm coil spring (Part #85-4990)

*Air pressure setting should equal 75% of body weight in 80 to 100 mm travel forks.
*Air pressure setting should equal 50% of body weight in 100 to 120 mm travel forks.
*Maximum air pressure is 190 psi.

NOTE: In forks with the Rapid Travel Adjust feature, the preload should be adjusted when the fork is in the longer travel position (for example, 120 mm for the 100/120 mm fork).

CHANGING COIL SPRINGS – BLACK SPORT 80/100, BLACK SPORT 100/120, BLACK COMP 80/100, BLACK COMP 100/120, BLACK ELITE 80/100, BLACK ELITE 100/120

1. Start by removing the preload adjuster knob by unscrewing the 2 mm hex bolt from the top of the crown/leg assembly. Then remove the adjuster assembly. A 20 mm socket may be necessary. Remember: The springs are housed only in the left leg on 2003 Manitou suspension forks (as you are looking at the fork from the rider's perspective). (Figure 4)
2. With the adjuster assembly removed, the spring stack is now accessible (Figure 5).
3. Select the appropriate coil spring for your weight and riding style (refer to the above spring chart for recommended rates).
4. Reinstall the preload adjuster assembly, then the knob, taking care not to cross-thread the cap (on firm and x-firm kits, replace preload adjuster with aluminum preload cap). It should thread in by hand and be snug tightened with a wrench.

CHANGING COIL SPRINGS ON AIR FORKS – BLACK ELITE AIR, BLACK SUPER AIR

NOTE: When changing coil springs in air forks, you should also conduct a service on your lubrication system. Please read this section thoroughly before beginning the service section.

1. Start by unthreading the air cap on top of the left fork leg and removing the fork's air pressure via the Schraeder valve. (Figure 6)
2. Next, remove the 2 mm screws and knob and the 11 mm open end wrench and 8 mm hex wrench (clockwise direction to loosen) bolts from the bottom of the casting. Once you do this, you will be able to pull the lowers away from the uppers. (Figure 7)
3. On the left leg (as seen from the rider's perspective), remove the 15/16-inch cap from the bottom of the leg. Remove the entire assembly by pulling the rod lightly. As this point, you will see the coil spring. (Figure 8 and 8A)
4. Select the appropriate coil spring for your weight and riding style (refer to the above spring chart for recommended rates).
5. Reinstall the assembly into the left leg of the fork, taking care not to cross-thread the cap. It should thread in by hand and should only be snug tightened.
6. Reinstall the lowers with the 8 mm and 11 mm bolts and tighten. You may have trouble getting the 8 mm bolt to catch the threads. If this occurs, remove the lowers, pull the rebound damping rod down again, and reinstall the casting. You should be able to now install the 8 mm bolt.

CHANGING AIR SPRING PRESSURE – BLACK ELITE AIR, BLACK SUPER AIR

All you need to change the air pressure is a high-pressure Manitou (Part #85-4069) or other shock pump. Remove the air cap located on the top of the left leg and then inflate the fork with the desired pressure. Be aware that sometimes air systems lose a small amount of pressure when the pump is removed, so you may want to check exactly how much your pump loses by reinstalling it after you have set and checked the pressure.

COMPRESSION DAMPING ADJUSTMENT – QUICK RANGE TPC

For Quick Range TPC forks, a simple turn of the knob located on top of the right leg is all that is needed. Turning the knob clockwise (as you are looking from a rider's position) increases compression damping, while turning the knob counterclockwise decreases compression damping.
BLACK ELITE 80/100, BLACK ELITE 100/120 and BLACK ELITE AIR only.

ADJUSTING COMPRESSION DAMPING WITH A LOCK OUT

The Lock Out on the BLACK SUPER AIR is simply an on-off switch for your fork. To adjust compression damping, do the following: Remove the compression assembly located in the right leg. On the lower piston of the lockout assembly is a small set screw. Turn this in or out to increase or decrease compression damping respectively. Note: a half turn makes a lot of difference, so make small and incremental changes to the set screw.

REBOUND DAMPING ADJUSTMENT – QUICK RANGE TPC AND FLUID FLOW DAMPING (FFD)

Rebound adjusters on Manitou forks are located on the bottom of the right fork leg. Turning the knob clockwise (as you are looking at the fork from the bottom) increases rebound damping, while turning it counterclockwise decreases rebound damping.

RAPID TRAVEL II – ELITE MODELS

To change the travel with Rapid Travel II, simply turn the knob located at the top of the fork's right leg to the 80/100 or 100/120 position as noted by the sticker on the fork. Compressing the fork slightly is required to release or lock the fork in different travel positions.

RAPID TRAVEL ADJUST – COMP AND SUPER AIR MODELS

To change the travel with Rapid Travel Adjust, just turn the knob located at the bottom of the right leg to the 80/100 or 100/120 position as shown on the sticker. Compressing the fork slightly is required to release or lock the fork into a different travel position.

CONVERTIBLE TRAVEL – SPORT MODELS

NOTE: When changing travel, you should also conduct a service on your lubrication system. Please read this section thoroughly before beginning this service section.

Changing the travel from 80 to 100 or 100 to 120 mm or vice-versa requires the removal of the lower legs. Unthread the 8 mm Allen bolt (clockwise to loosen) and 11 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 right leg (as seen from the rider's perspective). Remove the clip and insert it into the upper position (above the rod flange) for 120 mm of travel or the lower position for 100 mm of travel.

AIR PISTON LUBRICATION

For proper function of your fork, it's essential to have a small amount of lubricating oil on top of the air piston in your BLACK ELITE AIR or BLACK SUPER AIR fork. To check this, remove the air cap on the left side of the fork (as seen from the rider's perspective) by simply unthreading it counterclockwise. Release the air pressure from the fork and then use a 20 mm hex wrench to remove the aluminum Schraeder cap (Figure 9). Once you have done this, you can see the top of the air piston and determine if there is a small amount of oil sitting on top of the air piston. If this oil is no longer visible, pour 3cc of 20W-50 weight motor oil directly into the open fork leg, After this, reinstall the Schraeder cap and the valve cover.

MAINTENANCE AND SERVICE – INTRODUCTION

When servicing the fork, take the time to inspect all parts for excessive wear or damage. There are basically five aspects of a fork that will require attention: the stanchions (inner legs), the bushings in the outer legs, the spring stack, lubricating oil, 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.

MICROLUBE LUBRICATION MAINTENANCE

Your 2003 Manitou BLACK fork is designed with the Microlube lubrication system. This system requires periodic maintenance to ensure that your fork is working properly at all times.

1. Remove the rebound damping knob with a 2 mm Allen wrench (clockwise to loosen). (Figure 10)
2. With the fork positioned over an oil catch receptacle, remove the 8 mm Allen and 11 mm socket bolts from the bottom (Figure 11). Note: With Rapid Travel Adjust forks, you must remove the RTA knob with a 2 mm Allen wrench to access the 11 mm socket bolt.
3. Clean the inside of the lowers thoroughly and wipe the inner legs until they are completely free of oil or debris. (Figure 12)
4. Insert the crown/steerer assembly back into the fork. Reinstall the bolts, snugging each tight, and install the rebound adjuster knob.
5. Now insert grease into the fork via the Microlube grease ports. Inject about 15 squirts into each side of the fork. Make sure you use Microlube grease only (Microlube lubricant gun part #85-3812 and Manitou's Prep M part #85-3810).

CHANGING THE OIL IN YOUR FORK Changing the oil in your damped fork is very easy to do. All of the damping systems, FFD, TPC and TPC Plus, house the oil in the right leg.

1. Remove the cap from the top of the right fork leg (20 mm socket). (Figure 13)
2. Rock the compression damping assembly back and forth slightly as you pull up on it to remove.
3. Pour the old oil out of the fork. (Figure 14)
4. Stroke the fork up and down to remove the oil that settles beneath the rebound piston. Pour this oil out as well. (Figure 15)
5. Add oil to the level shown in the Checking Oil Level section of this manual. Cover the leg opening and stroke the fork up and down a few times before the final measurement is taken to ensure that oil has flowed beneath the rebound piston again. (Figure 16)

SERVICE SCHEDULE – Suggested Service for Manitou forks

NORMAL CONDITIONS – Short/Infrequent Rides
- Lube fork as needed with Prep M lubricant via Microlube ports.
- Disassemble, clean and lubricate fork every 4-5 months.
- Lubricate spring stack as needed.
- Service FFD, TPC or TPC Plus by changing damping fluid every year.

NORMAL CONDITIONS – Long/Frequent Rides
- Lube fork as needed with Prep M lubricant via Microlube ports.
- Disassemble, clean and lubricate fork every 10-14 weeks.
- Lubricate spring stack as needed.
- Service FFD, TPC or TPC Plus by changing damping fluid every 6 months.

SEVERE CONDITIONS (MUD, RAIN, SNOW, EXTREME DUST) – Short/Infrequent Rides
- Lube fork as needed with Prep M lubricant via Microlube ports.
- Disassemble, clean and lubricate fork every 6-8 weeks.
- Lubricate spring stack as needed.
- Service FFD, TPC or TPC Plus by changing damping fluid every year.

SEVERE CONDITIONS (MUD, RAIN, SNOW, EXTREME DUST) – Long/Frequent Rides
- Lube fork as needed with Prep M lubricant via Microlube ports.
- Disassemble, clean and lubricate fork every 4-6 weeks.
- Lubricate spring stack as needed.
- Service FFD, TPC or TPC Plus by changing damping fluid every 6 months.