

P/N 042116



MINUTE

2004 OWNERS' MANUAL

Minute One

Minute Two

Minute Three



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AMERICAN MADE MANITOU SUSPENSION FORKS

CONGRATULATIONS ON CHOOSING THE LATEST IN SUSPENSION TECHNOLOGY AVAILABLE, A 2004 MANITOU FORK. This fork is fully assembled and ready to be installed onto your bicycle. It comes equipped with a 1 $\frac{1}{8}$ -inch threadless steerer tube and may also be 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.

2004 MANITOU MINUTE FORK LINE

MINUTE ONE	100-130 MM RAPID TRAVEL WIND-DOWN / COIL SPRING / STABLE PLATFORM VALVE DAMPING / HOLLOW CROWN / RA CASTING
MINUTE TWO	100 OR 130 MM TRAVEL / AIR-COIL SPRING / STABLE PLATFORM VALVE DAMPING / HOLLOW CROWN / RA CASTING
MINUTE THREE	100/130 MM RAPID TRAVEL ADJUST / AIR-COIL SPRING / STABLE PLATFORM VALVE 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 PREVIOUS RIDING OR ASSEMBLY. 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 TO HAVE YOUR FORK SHIPPED DIRECTLY AT (800) 423-0273.

IMPORTANT: The Manitou 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 (800) 423-0273. 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 fork if any parts are broken, bent, cracked, or you suspect may be damaged. Contact your dealer or Answer Products Customer Service at (800) 423-0273 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, dropouts 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

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 INCREASE STEERER TUBE LENGTHS OR CHANGE 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 adjustments (where 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 (see **WARNING** above). 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.
4. Install headset and fork per headset manufacturer's instructions.
5. Install the handlebars and stem to the stem and handlebar manufacturer's instructions.
6. Install the brakes per the brake manufacturer's instructions.
7. To install the front wheel adjust the front wheel quick release to clear the secondary dropout safety tabs. Secure wheel per quick release manufacturer's instructions.
8. Install the brake cable per brake manufacturer instructions. Ensure that the front brake cable is properly routed. Make sure the brake line is not crimped or contacts the tire as the fork moves through its travel.

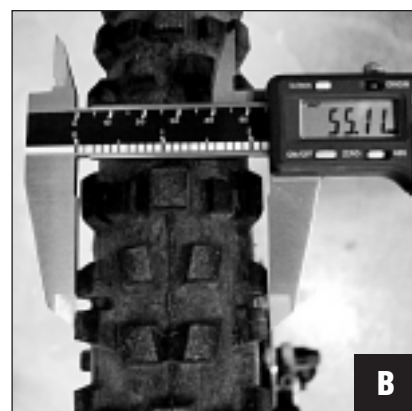
! WARNING WHEN INSTALLING THE WHEEL WITH A PROPERLY INFLATED TIRE, CHECK TO MAKE SURE THE FORK ACHIEVES MINIMUM TIRE CLEARANCE.

1. MEASURE FROM THE HIGHEST POINT ON THE TIRE TO THE BOTTOM OF THE BRAKE ARCH, SEE FIGURE A. SEE TABLE 1 FOR MINIMUM BRAKE ARCH CLEARANCE.
2. MEASURE THE TIRE AT MAXIMUM WIDTH, SEE FIGURE B. SEE TABLE 1 FOR MAXIMUM TIRE WIDTH.

TABLE 1: WHEEL CLEARANCE

MINIMUM BRAKE ARCH CLEARANCE (See Figure A)	MAXIMUM TIRE WIDTH (See Figure B)
8.5 mm	60 mm

IMPORTANT: Failure to properly route and securely attach the front brake cable to the fork can cause serious injury or death. This fork should not be used if any parts appear to be or are damaged. Contact your local dealer or Answer Products for replacement parts.



INITIAL SET-UP

MEASURING TRAVEL

To determine which travel your 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 Table 2 to determine travel.

TABLE 2: TRAVEL MEASUREMENT	
FORK TRAVEL	SEAL TO CROWN MEASUREMENT
100 mm	Around 112 mm
130 mm	Around 142 mm

MEASURING SAG

You'll need a tape measure, a pencil, a piece of paper and a helper.

1. Start by removing the red air cap located on the top of the right leg (from the rider's perspective) and, using a dedicated SPV pump (Manitou Part #85-4161), inflate the fork to 50 psi.
2. 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.)
3. 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.
4. Subtract the second measurement from the first. The resulting measurement is the static sag (See Table 3).
5. On air-coil forks, remove the air cap located on the top of the left leg and, using a dedicated shock pump (Manitou Part #85-4069), inflate the fork with the desired pressure (75% of rider weight for 80 mm travel forks, or 50% of rider weight for 100 mm and above). 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 pressure.
6. If adjusting the fork does not provide the proper sag you may require a new ride kit. Please see recommended ride kits below.

TABLE 3: SAG MEASUREMENT	
FORK TRAVEL	SAG
100 mm	18-24 mm
130 mm	27-30 mm

REBOUND DAMPING ADJUSTMENT

Blue 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 the knob counterclockwise decreases rebound damping.

SPV DAMPING ADJUSTMENT

With SPV damping, your suspension's compression damping characteristics and position sensitivity can be set with an SPV pump (Manitou part #85-4161). For proper function of your SPV damping system use the following procedure.

1. Start by removing the red air cap located on the top of the right leg (from the rider's perspective) and, using a dedicated SPV pump (Manitou part #85-4161), inflate the fork to 50 psi.
2. Check sag per procedure above.
3. Fine tune SPV pressure to preference. More pressure will create more compression damping, hold the bike up more and pedal better. Less pressure will create less compression damping, allow more sag, and be more responsive and supple. **Do not run SPV pressure below 30 psi or above 100 psi.**
4. Fine tune SPV volume to preference. With a 16 mm socket wrench or the SPV 16 mm volume adjust socket (part #85-3007), you can adjust the air volume in your SPV suspension. The volume adjust hex is colored red and located on top of the right leg. Turning the volume adjuster inwards will create a more progressive damping effect and make the suspension firmer from mid-stroke to bottom out. Turning the volume adjuster outwards will make the suspension more linear in compression damping and have a softer finish.

Refer to the website for additional information about your SPV suspension.

RAPID TRAVEL ADJUST: MINUTE THREE

To change the travel with Rapid Travel Adjust, just turn the knob located at the bottom of the left leg (from a rider's perspective) forward for the longer travel position and rearward for the shorter travel position. Compressing the fork slightly is required to release or lock the fork into a different travel position. **Do not attempt to activate this travel adjust feature while riding.**

RAPID TRAVEL WIND DOWN: MINUTE ONE

To change the travel with Rapid Travel Wind Down, just turn the knob located at the top of the left leg (from a rider's perspective) clockwise for shorter travel and counterclockwise for longer travel. There is a dial indicator to determine the travel you are in. The number that is at the back of the crown indicates your current travel setting. **Do not attempt to activate this travel adjust feature while riding.**

MAINTENANCE

Your 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 re-lubricated. You can download service and tuning instructions on the web at www.answerproducts.com.

SUGGESTED SERVICE INTERVALS FOR MINUTE FORKS	
Short, Sporadic Rides	Long, Frequent Rides
Normal Conditions	
Disassemble fork per Service Manual; clean out casting and replace Semi Bath oil every 6 months. Service SPV damping systems by changing the damper oil every year. Grease spring stack as needed. On air fork models, check the oil level sitting on top of the air piston every 2 months per directions found on web site.	Disassemble fork per Service Manual; clean out casting and replace Semi Bath oil every 4 months. Service SPV damping systems by changing the damper oil every year. Grease spring stack as needed. On air fork models, check the oil level sitting on top of the air piston every 6 weeks per directions found on web site.
Severe Conditions	
Disassemble fork per Service Manual; clean out casting and replace Semi Bath oil every 4 months. Service SPV damping systems by changing the damper oil every year. Grease spring stack as needed. On air fork models, check the oil level sitting on top of the air piston every 6 weeks per directions found on web site.	Disassemble fork per Service Manual; clean out casting and replace Semi Bath oil every 3 months. Service SPV damping systems by changing the damper oil every year. Grease spring stack as needed. On air fork models, check the oil level sitting on top of the air piston every 4 weeks per directions found on web site.

IMPORTANT: Before every ride you should:

1. Ensure that quick release skewers are properly adjusted and tight per quick release manufacturer's instructions.
NOTE: Forks with standard dropouts are equipped with dropout safety tabs to retain the wheel in the fork in the event the quick release comes loose.
2. Wipe the inner legs and clean the fork. Check the entire fork for any obvious damage. Do not use the fork if any parts are broken, bent, cracked, or you suspect may be damaged.
3. Check the headset for proper adjustment per headset manufacturer's instructions.
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 damped suspension fork is critical. The damping is located in the right leg of your 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. Refer to www.answerproducts.com for up to date information on checking and setting oil levels.

NOTE: We recommend Motorex SAE 5WT suspension fork oil.

If you have any questions regarding your 2004 Manitou suspension fork in the U.S., contact the Answer Customer Service Department at (800) 423-0273. For information outside of the U.S., contact your authorized Manitou dealer or distributor.

You can also log on to www.answerproducts.com and download this manual or see detailed instructions on how to service your suspension fork.

2004 MINUTE SERVICE PART KITS		
04 MINUTE Damping Assemblies		
85-5871	MINUTE Compression Damping Assembly	
85-5872	MINUTE Rebound Damping Assembly	
04 MINUTE Air Cap Assemblies		
85-5873	MINUTE Two/Three Air Cap Assembly	
04 MINUTE Crown Steer Leg Assemblies		
85-5874	26" MINUTE One/Two (130)/Three Crown/Steer Assembly – Blk Alloy	
85-5875	26" MINUTE Two (100) Crown/Steer Assembly – Blk Alloy	
04 MINUTE Outer Leg Assemblies		
85-5876	26" MINUTE Outer Leg Assembly – Matte Black	
85-5877	26" MINUTE Outer Leg Assembly – Matte Silver	
85-5878	26" MINUTE Outer Leg Assembly – Matte Black, No Boss	
85-5879	26" MINUTE Outer Leg Assembly – Matte Silver, No Boss	
04 MINUTE Sticker/Knob/Seal/Bumper/Air Piston/O-Ring Kit		
85-5861	MINUTE Sticker Kit – Silver	
85-5862	MINUTE Sticker Kit – Black	
85-5893	MINUTE Knob Kit	
85-5281	MINUTE/BLACK Seal Kit	
85-5266	Air Piston Kit	
85-5984	MINUTE Bumper Kit	
85-5895	MINUTE O-Ring Kit	
04 MINUTE Ride Kits		Rider Weight Range
85-5880	MINUTE One Ride Kit – X-Soft	130-150 lbs.
85-5881	MINUTE One Ride Kit – Soft	150-170 lbs.
85-5882	MINUTE Two (130)/MINUTE Three Ride Kit – Soft	150-170 lbs.
85-5883	MINUTE Two (100) Ride Kit – Soft	150-170 lbs.
85-5884	MINUTE One Ride Kit – Medium	170-190 lbs.
85-5885	MINUTE Two (130)/MINUTE Three Ride Kit – Medium	170-190 lbs.
85-5886	MINUTE One Ride Kit – Firm/ MINUTE Two (100) – Medium	170-190 lbs.
85-5887	MINUTE Two (130)/MINUTE Three Ride Kit – Firm	190 lbs. & above
85-5888	MINUTE Two (100) Ride Kit – Firm	190 lbs. & above
04 MINUTE Compression Rods		
85-5889	MINUTE Two (100) Compression Rod Assembly, 100 mm	
85-5890	MINUTE Two (130) Compression Rod Assembly, 130 mm	
85-5891	MINUTE Three Compression Rod Assembly, 100/130 mm	
85-5892	MINUTE One Compression Rod Assembly, 100-130 mm WD	