



P/N 042113

# AXCEL

## 2004 OWNERS' MANUAL

Axel Super

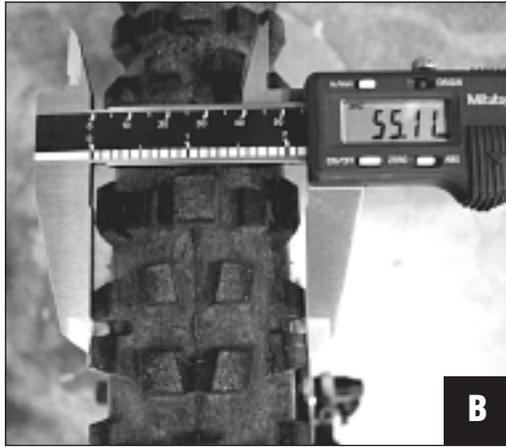
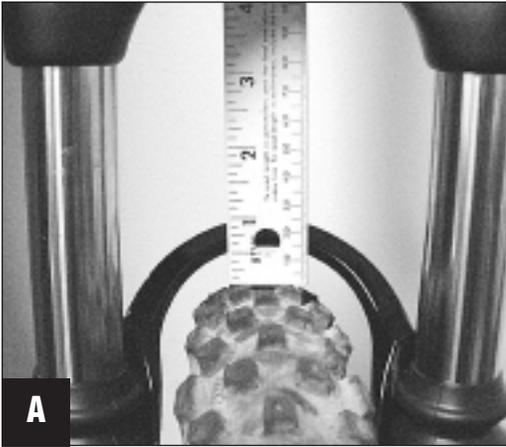
Axel Elite

Axel Comp



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## MANITOU SUSPENSION FORKS

**CONGRATULATIONS ON CHOOSING A 2004 MANITOU FORK.** This 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 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 AXEL FORK LINE

- AXEL COMP .....80 OR 100 MM TRAVEL\* / COIL SPRING / FLUID FLOW DAMPING / SINGLE CROWN / RA CASTING
- AXEL ELITE .....80 OR 100 MM TRAVEL\* / COIL SPRING / FLUID FLOW DAMPING (REBOUND ADJUST) / SINGLE CROWN / RA CASTING
- AXEL SUPER .....70-100 MM RAPID TRAVEL WIND-DOWN / COIL SPRING / FLUID FLOW DAMPING (REBOUND ADJUST) / SINGLE CROWN / RA CASTING

\*Preset from the factory, but changeable.

You can also download this manual at [www.answerproducts.com](http://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)
5 mm	55 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
80 mm	Around 110 mm
100 mm	Around 130 mm

### 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 (See Table 3).
4. Preload adjusters on Manitou forks are located on the top left of the crown (as you are looking at the fork from the rider's perspective). Turning the knob clockwise increases spring preload and decreases sag, while turning the knob counterclockwise decreases spring preload and increases sag.
5. If adjusting the preload 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
80 mm	12-16 mm
100 mm	18-24 mm

### REBOUND DAMPING ADJUSTMENT

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.

### RAPID TRAVEL WIND DOWN

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. **Do not attempt to activate this travel adjust feature while riding.**

### COMPRESSION DAMPING ADJUSTMENT – TPC LOCKOUT

For TPC with lockout forks, a simple turn of the knob located on top of the right leg is all that is needed to add compression damping and activate the lockout. Turning the knob clockwise (as you are looking from a rider's position) increases compression damping and activates the lockout, while turning the knob counterclockwise decreases compression damping and deactivates the lockout. The last 1/2 turn of the knob activates the lockout, while the initial part of the knob's travel increases or decreases compression damping.

## 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](http://www.answerproducts.com).

SUGGESTED SERVICE INTERVALS FOR AXEL FORKS		
	Short, Sporadic Rides	Long, Frequent Rides
<b>Normal Conditions</b>	Lube fork as needed with Prep M grease via Microlube lubrication ports (4-6 squirts every 15 rides). Disassemble fork per Service Manual; clean and grease every 4-5 months, grease spring stack as needed. Service FFD and TPC damping systems by changing fork oil every year.	Lube fork as needed with Prep M grease via Microlube lubrication ports (4-6 squirts every 10 rides). Disassemble fork per Service Manual; clean and grease every 2-3 months, grease spring stack as needed. Service FFD and TPC damping systems by changing fork oil every year.
<b>Severe Conditions</b>	Lube fork as needed with Prep M grease via Microlube lubrication ports (4-6 squirts every 10 rides). Disassemble fork per Service Manual; clean and grease every 6 weeks, grease spring stack as needed. Service FFD and TPC damping systems by changing fork oil every year.	Lube fork as needed with Prep M grease via Microlube lubrication ports (4-6 squirts every 10 rides). Disassemble fork per Service Manual; clean and grease every 4 weeks, grease spring stack as needed. Service FFD and TPC damping systems by changing fork oil every year.

**IMPORTANT:** When lubricating the fork with grease through the Microlube ports, it is important to note that the grease is being forced between the upper and lower bushings. If the area is overfilled, the grease may force the upper bushing and dust seal out. You should only insert grease 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 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. 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 C). For the correct oil level see Table 4.

**TABLE 4: OIL LEVEL HEIGHT**

FORK MODEL	OIL LEVEL
MANITOU AXEL	110-120 mm (4.33-4.72")

**NOTE:** Use 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](http://www.answerproducts.com) and download this manual or see detailed instructions on how to service your suspension fork.

### 04 AXEL SERVICE PART KITS

#### 04 AXEL Damping Assemblies

85-5253	AXEL Compression Damping Assembly
85-5254	AXEL Comp Rebound Damping Assembly
85-5255	AXEL Elite/Super Rebound Damping Assembly

#### 04 AXEL Pre Load Adjuster Assemblies

85-4810	AXEL Comp/Elite Pre Load Adjuster Assembly
85-5396	AXEL Super Wind Down Assembly (Pre Load)

#### 04 AXEL Crown Steer Leg Assemblies

85-5393	26" AXEL Crown/Steer Assembly – Steel
85-5394	26" AXEL Crown/Steer Assembly – Alloy

#### 04 AXEL Outer Leg Assemblies

85-5228	26" AXEL Outer Leg Assembly – Black
85-5229	26" AXEL Outer Leg Assembly – Silver
85-5230	26" AXEL Outer Leg Assembly – Red
85-5236	26" AXEL Outer Leg Assembly – Black, No Boss
85-5233	26" AXEL Outer Leg Assembly – Silver, No Boss
85-5237	26" AXEL Outer Leg Assembly – Red, No Boss

#### 04 AXEL Sticker/Boot/Knob/Seal/Bumper/O-Ring Kits

85-5544	AXEL Sticker Kit – Silver
85-5545	AXEL Sticker Kit – Black
85-5390	AXEL Boot Kit
85-5804	AXEL Knob Kit
85-5391	AXEL Seal Kit
85-5554	AXEL Bumper Kit
85-5555	AXEL O-Ring Kit

#### 04 AXEL Ride Kits

#### Rider Weight Range

85-5239	AXEL Comp/Elite Ride Kit – Soft	130-150 lbs.
85-5240	AXEL Comp/Elite Ride Kit – Medium	150-170 lbs.
85-5241	AXEL Comp/Elite Ride Kit – Firm	170 lbs. & above
85-5546	AXEL Super (WD) Ride Kit – Soft	130-150 lbs.
85-5550	AXEL Super (WD) Ride Kit – Medium	150-170 lbs.
85-5551	AXEL Super (WD) Ride Kit – Firm	170 lbs. & above

#### 04 AXEL Compression Rods

85-5552	AXEL Compression Rod Assembly, 80 or 100 mm
85-5553	AXEL Compression Rod Assembly, 70-100 mm WD