

P/N 042117



SHERMAN

2004 OWNERS' MANUAL

Sherman Slider Plus

Sherman Slider

Sherman Breakout Plus

Sherman Breakout

Sherman Firefly

Sherman Flick



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AMERICAN MADE MANITOU SUSPENSION FORKS

CONGRATULATIONS ON CHOOSING THE LATEST IN SUSPENSION TECHNOLOGY AVAILABLE, A 2004 MANITOU SHERMAN FORK. This fork is fully assembled and ready to be installed onto your bicycle. It comes equipped with a 1 1/8-inch or 1 1/2-inch threadless steerer tube, standard or through axle, and disc brake only casting. A handlebar-mounted reflector must be used for on-road use, which is not included with your fork.

2004 MANITOU SHERMAN FORK LINE

SHERMAN FLICK	90/130 MM RAPID TRAVEL II / COIL SPRING / TPC DAMPING / SINGLE CROWN / RA CASTING
SHERMAN FIREFLY	90/130 MM RAPID TRAVEL II / TI COIL SPRING / STABLE PLATFORM VALVE DAMPING / HOLLOW CROWN / RA CASTING
SHERMAN BREAKOUT	110/150 MM RAPID TRAVEL II / COIL SPRING / STABLE PLATFORM VALVE DAMPING / HEX LOCK THROUGH-AXLE / OnePointFive STEERER SYSTEM / HOLLOW CROWN / RA CASTING
SHERMAN BREAKOUT PLUS	130/170 MM RAPID TRAVEL II / COIL SPRING / STABLE PLATFORM VALVE DAMPING / HEX LOCK THROUGH-AXLE / OnePointFive STEERER SYSTEM / HOLLOW CROWN / RA CASTING
SHERMAN SLIDER	152 MM TRAVEL / COIL SPRING / TPC+ DAMPING / HEX LOCK THROUGH AXLE / DOUBLE TRIPLE CLAMP / RA CASTING
SHERMAN SLIDER PLUS	170 MM TRAVEL / COIL SPRING / STABLE PLATFORM VALVE DAMPING / HEX LOCK THROUGH-AXLE / DOUBLE TRIPLE CLAMP / 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. For forks with standard dropouts (non through axle) install the front wheel and adjust the front wheel quick release to clear the secondary dropout safety tabs. Secure wheel per quick release manufacturer's instructions.
8. To install the hex axle, simply slip the axle into the drop out, small axle hex side first into the large dropout hex. Thread in the set bolt into the small hex side and snug slightly. Push the fork up and down a few times to center the axle and hub and then tighten all pinch bolts to 40-60 in-lbs. (4.5 – 6.8 Nm).
9. 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.

UPPER TRIPLE CLAMP SIZING

To fit a variety of bike head tube sizes, there are two distinct upper triple clamps for different dual clamp forks. The flat upper triple clamp is the small size and fits head tubes between 125 and 145 mm in length. The drop upper triple clamp is the large size and fits head tubes between 145 and 165 mm in length. The distance from the center of your front wheel axle to the bottom of the lower triple clamp should be a minimum of 495 mm for SHERMAN Slider and 515 mm for SHERMAN Slider Plus.

WARNING DISTANCES LESS THAN THIS MEASUREMENT WILL RESULT IN THE LOWER CROWN CONTACTING THE TIRE UNDER SEVERE COMPRESSION. EVEN AFTER CONFIRMING THIS MINIMUM DISTANCE, YOU MUST STILL REMOVE THE MAIN SPRING, COMPRESS THE FORK, AND VERIFY MINIMUM TIRE CLEARANCE. REFER TO TABLE BELOW. ALL TRIPLE CLAMP BOLTS MUST BE TORQUED TO 40-45 IN-LBS. (4.5 - 5.1 Nm).

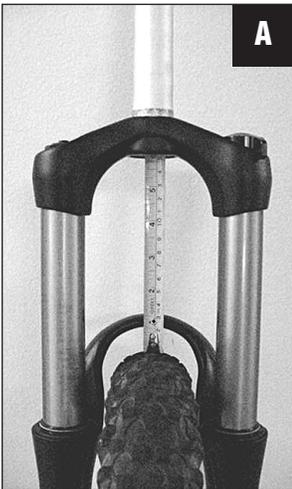
WARNING WHEN INSTALLING THE WHEEL WITH A PROPERLY INFLATED TIRE, CHECK TO MAKE SURE THE FORK ACHIEVES MINIMUM TIRE CLEARANCE.

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)
12 mm	65 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
90 mm	Around 127 mm
110 mm	Around 147 mm
130 mm	Around 167 mm
150 mm	Around 187 mm – SINGLE CROWN
150 mm	Around 200 mm – TRIPLE CLAMP
170 mm	Around 207 mm – SINGLE CROWN
170 mm	Around 220 mm – TRIPLE CLAMP

MEASURING SAG

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

1. For forks with SPV, 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. If you are unable to achieve proper sag, you may require a new ride kit. Please see recommended ride kits at the end of this manual.

TABLE 3: SAG MEASUREMENT

FORK TRAVEL	SAG
90 mm	19-22 mm
110 mm	23-26 mm
130 mm	27-30 mm
150 mm	31-34 mm
170 mm	36-39 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.

COMPRESSION DAMPING ADJUSTMENT – TPC and TPC PLUS

For TPC or TPC Plus forks, a simple turn of the knob located on top of the right leg is all that is needed to add or decrease compression damping. Turning the knob clockwise (as you are looking from a rider's position) increases compression damping, while turning the knob counterclockwise decreases compression damping.

SPV DAMPING ADJUSTMENT

With SPV damping, your suspension's compression damping characteristics and position sensitivity can be externally adjusted. 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. Adjust SPV pressure. 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. Adjust SPV volume. 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 Answer Products website (www.answerproducts.com) for more information about your SPV suspension.

RAPID TRAVEL II

To change travel with Rapid Travel II, just turn the knob located at the top of the left leg (from a rider's perspective). Forward changes the fork into the longer travel position and rearward is the shorter travel position. Compressing the fork slightly is required to release or lock the fork into a different travel position.

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 SHERMAN 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 TPC, TPC+ and SPV damping systems by changing the damper oil every year. Grease spring stack as needed.	Disassemble fork per Service Manual; clean out casting and replace Semi Bath oil every 4 months. Service TPC, TPC+, and SPV damping systems by changing the damper oil every year. Grease spring stack as needed.
Severe Conditions	Disassemble fork per Service Manual; clean out casting and replace Semi Bath oil every 4 months. Service TPC, TPC+, and SPV damping systems by changing the damper oil every year. Grease spring stack as needed.	Disassemble fork per Service Manual; clean out casting and replace Semi Bath oil every 3 months. Service TPC, TPC+, and SPV damping systems by changing the damper oil every year. Grease spring stack as needed.

IMPORTANT: Before every ride you should:

1. Ensure that quick release skewers are properly adjusted and tighten 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. For through-axle forks, refer to hex axle installation in the FORK INSTALLATION section.
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 SHERMAN SERVICE PART KITS		
04 SHERMAN Damping Assemblies		
85-5897 85-5898	SHERMAN Flick Compression Damping Assembly SHERMAN Firefly/Breakout/Breakout+ Compression Damping Assembly	
85-5129 85-5899 85-5126 85-5900	SHERMAN Slider Compression Damping Assembly SHERMAN Slider+ Compression Damping Assembly SHERMAN Flick/Slider Rebound Damping Assembly SHERMAN Firefly/Breakout/Breakout+ Rebound Damping Assembly	
85-5901	SHERMAN Slider+ Rebound Damping Assembly	
04 SHERMAN Crown Steer Leg Assemblies		
85-5091 85-5902 85-5904 85-5905 85-5906 85-5903	26" SHERMAN Flick Crown/Steer Assembly - Steel 26" SHERMAN Firefly Crown/Steer Assembly - Blk Alloy 1.5 SHERMAN Flick/Firefly Crown/Steer Assembly - Alloy 1.5 SHERMAN Breakout Crown/Steer Assembly - Alloy 1.5 SHERMAN Breakout+ Crown/Steer Assembly - Alloy SHERMAN Slider/Slider+ Crown/Steer Assembly - Alloy (triple clamp)	
04 SHERMAN Outer Leg Assemblies		
85-5161 85-5162 85-5130 85-5131 85-5163 85-5132	26" SHERMAN Outer Leg Assembly - Matte Black, Standard 26" SHERMAN Outer Leg Assembly - Matte Silver, Standard 26" SHERMAN Outer Leg Assembly - Matte Black, Thru axle 26" SHERMAN Outer Leg Assembly - Silver, Thru axle 26" SHERMAN Outer Leg Assembly - Camo, Standard 26" SHERMAN Outer Leg Assembly - Camo, Thru axle	
04 SHERMAN Sticker/Knob/Seal/Bumper/O-Ring Kit		
85-5907 85-5908 85-5924 85-5293 85-5294 85-5895	SHERMAN Sticker Kit - Silver SHERMAN Sticker Kit - Black SHERMAN Knob Kit SHERMAN Seal Kit SHERMAN Bumper Kit SHERMAN O-Ring Kit	
04 SHERMAN Ride Kits		Rider Weight Range
85-5909 85-5178 85-5910 85-5911 85-5179 85-5183 85-5192 85-5913 85-5180 85-5184 85-5914 85-5915 85-5181 85-5916	SHERMAN Breakout/Slider Ride Kit - X-Soft 130 lbs & below SHERMAN Flick/Firefly Ride Kit - Soft 130-150 lbs SHERMAN Breakout/Slider Ride Kit - Soft 130-150 lbs SHERMAN Breakout+/Slider+ Ride Kit - Soft 130-150 lbs SHERMAN Flick Ride Kit - Medium 150-170 lbs SHERMAN Firefly Ride Kit - Medium 150-170 lbs SHERMAN Breakout/Slider Ride Kit - Medium 150-170 lbs SHERMAN Breakout+/Slider+ Ride Kit - Medium 150-170 lbs SHERMAN Flick Ride Kit - Firm 170-190 lbs SHERMAN Firefly Ride Kit - Firm 170-190 lbs SHERMAN Breakout/Slider Ride Kit - Firm 170-190 lbs SHERMAN Breakout+/Slider+ Ride Kit - Firm 170-190 lbs SHERMAN Flick/Firefly Ride Kit - X-Firm 190-215 lbs SHERMAN Breakout+/Slider+ Ride Kit - X-Firm 190-215 lbs	
04 SHERMAN Compression Rods		
85-5919 85-5917 85-5918 85-5921 85-5922	SHERMAN Flick/Firefly Compression Rod Assembly, 90/130 SHERMAN Slider Compression Rod Assembly, 152 mm SHERMAN Slider+ Compression Rod Assembly, 170 mm SHERMAN Breakout Compression Rod Assembly, 110/150 SHERMAN Breakout+ Compression Rod Assembly, 130/170	