American Made Manitou Suspension

CONGRATULATIONS ON CHOOSING THE LATEST IN SUSPENSION TECHNOLOGY AVAILABLE, A 2004 MANITOU DORADO FORK. This fork requires some assembly, as the triple clamp and the appropriate disc brake adapter need to be installed onto your bicycle. Please see below for proper triple clamp and fork installation. Dorado forks are sold in two different sizes for bikes with different head tube heights. They come equipped with a 1 1/8-inch threadless steerer tube and 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 DORADO FORK LINE

DORADO MRD X-WORKS	200MM TRAVEL/COIL SPRING/SPV DAMPING
DORADO DH	180MM TRAVEL/COIL SPRING/TPC+ DAMPING

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 to have your fork shipped directly at (800) 423-0273.

IMPORTANT: The Dorado fork is an off-road fork, and as such, does not come with proper reflectors for on road use.

CONSUMER SAFETY INFORMATION

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 steerer from your dealer, on 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, or appear to be, 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 or other aesthetic 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 AND SETUP INSTRUCTIONS

To fit a variety of bike head tube lengths, Dorado forks come in two different and distinct sizes. Dorados that come with a flat upper triple clamp (the steerer tube clamps to the upper crown in the same plane as the fork legs) are sized small and fit bikes whose cup-to-cup measurement (the distance from the bottom of the lower headset cup to the top of the upper headset cup) is between 130mm and 160mm in length. The drop upper triple clamp (the legs are clamped to the upper crown in a plane that is roughly 25mm lower than the plane that the steerer tube clamps to the upper crown) is the large size and fits bikes whose cup-to-cup measurement is between 155 and 185mm in length. Both leg clamps must fully engage the aluminum sleeves on the carbon outer tubes without extending beyond the small taper line at the tops and bottoms of the sleeves [this is applicable to both the upper and lower clamps]. All triple clamp bolts must be torqued to 110-115 in-lbs. (12.4 – 13.0 Nm). **[note: this section has been changed slightly and repositioned from the 2003 manual]**

The steerer tube may also 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. If you are cutting the steerer tube, make sure you leave enough extra room for spacers in order to raise or lower the stem if necessary.

Fork Installation

1. Remove the old fork from your bicycle.
2. Measure and cut the steerer tube to fit your bicycle head tube (SEE NOTE 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 and press onto the 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, upper triple clamp and stem or integrated top handlebar stem clamp.
8. On the Dorado DH, install the stem cap and bolt. Tighten the bolt to headset manufacturer's specifications. Install the handlebars and the torque stem pinch screws or stem clamping system to manufacturer's specifications. For Dorados equipped with the MRD integrated handlebar upper triple clamp system, all handlebar bolts should be torqued to 50-60 in-lbs. (5.7 - .6.8 Nm). All triple clamp bolts and steerer tube bolts should be torqued to 60-75 in-lbs. (7.3 – 8.5 Nm).
9. Install the brakes and adjust per the manufacturer's instructions.
10. 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).
11. Install the brake cable per manufacturer instructions (see warning below.)

There are three disk brake caliper adapters included with the Dorado forks

(1) International Standard
(2) Post Mount – 8" Disk

ATTACHMENTOF THE BRAKE CABLE

Failure to properly route and securely attach the brake cable to the fork can cause serious injury or death. Included with the fork is a small black cable guide that can be attached to the fork guard depending on how you attach the cable. The best method we've found is to attach the cable so that it runs down the outside of the left fork leg. Just make sure that you do not attach the cable to the fork any other place than on the fork guard, as this will cause the cable to bind and possible crimp as the fork is compressed. The cable should be routed through the guides located on the upper carbon tubes but should be free to slide.

Spring Setup - 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 MODEL	TRAVEL	SAG
DORADO MRD X-Works	200 mm	44 – 50 mm
DORADO DH	180 mm	40 - 45 mm

RIDE KITS

Each Dorado fork comes with two medium rate springs installed. Dorado MRD X-Works models come with 2 additional firm springs & 2 additional soft springs. Dorado ride kits can be purchased from Answer with the following rates [note: springs for the Dorado DH are not interchangeable with springs for the Dorado MRD X-Works]:

Spring Rate per spring (2 springs per fork) DH
Soft – 17 lbs/in
Medium – 20 lbs/in
Firm – 24 lbs/in

MRD X-Works
Soft – 10 lbs/in
Medium – 17.5 lbs/in
Firm – 25 lbs/in

DAMPING ADJUSTMENTS:

DORADO MRD X-WORKS

SPV AIR PRESSURE

With SPV damping, your suspension's compression damping characteristics and position sensitivity can be set with a simple shock pump (part #85-4069, or for a more precise reading, 85-4161). 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. Refer to the website for specific tuning information about your SPV suspension.

SPV VOLUME

With a 16mm socket wrench or the SPV 16mm volume adjust socket (part #85-3007), you can adjust the air volume in your SPV suspension. Turning the volume adjuster inwards will create a more progressive damping effect and make the suspension firmer from the middle to bottom out. Turning the volume adjuster outwards will make the suspension more linear in compression damping and have a softer finish.

DAMPING ADJUSTMENTS: DORADO DH

With Dorado forks, since the fork features an upside-down design, the damping system is also reversed. As a result, compression damping adjustment is now located at the bottom of the right leg and rebound damping is on top of the right leg.

COMPRESSION DAMPING ADJUSTMENT-TPC PLUS

For TPC Plus-equipped Dorado forks, a turn of the knob located on bottom of the right leg is all that is needed to adjust compression damping. Turning the knob clockwise (as you are looking at the fork from the bottom) increases compression damping, while turning the counterclockwise decreases compression damping

REBOUND DAMPING ADJUSTMENT

Rebound adjusters on Dorado forks are located on the top of the right fork leg. Turning the knob clockwise (as you are looking from a rider's position) increases rebound damping, while turning the counterclockwise decrease rebound damping.

Before each ride

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

IMPORTANT: Before every ride you should:

1. Ensure that the axle is fully inserted into the dropouts and the pinch bolts are tightened to 40-60 in-lbs. (4.5 – 6.8 Nm.)
2. Wipe the inner legs and clean the fork. Check the 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.

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.

MAINTENANCE

IMPORTANT:

1. Use of dirt guards is recommended to keep your Dorado fork performing at its optimum for extended service cycles, and maintaining maximum life of fork.
2. Use of this fork without dirt guards will require frequent service intervals to maintain performance and normal life of the fork.
3. Warranty will be void if fork is found to show that dirt guards were not in place and frequent service was not performed.

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.