DORADO
OWNERS MANUAL

MANITOU

# DORADO

## MANITOU

5800 W Donges Bay Rd
Mequon, WI 53092

manitoumtb.com

888.686.3472

Support: manitoumtb.com/support

## WARRANTY

For full warranty information please visit
hayesbicycle.com/warranty

# INTRODUCTION

Congratulations on choosing the latest in suspension technology. The Dorado is full assembled and ready to be installed on your bicycle. This guide is written to aid with the installation and fitment of the fork.

**⚠ WARNING ⚠**

We highly recommend that service be performed by a certified bicycle mechanic. Failure to follow instructions presented in this manual could lead to serious injury or death. Any questions about the servicing of this fork or the manual itself should be directed to Hayes Customer Support at:

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| **Hayes Bicycle USA** | 5800 W Donges Bay Road Mequon WI 53092 |
| | Phone: 888.686.3472 |
| | Email: techsupport@hayesbicycle.com |

| | |
|---|---|
| **Hayes Bicycle Europe** | Dirnismaning 20 a 85748 Garching (b. Munich) Germany |
| | Phone: +49 89 203237450 |
| | Email: techsupportEU@hayesbicycle.com |

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|---|---|
| **Hayes Bicycle Asia** | 16F, No. 37, Sec. 3 Mincyuan E. Rd. Zhongshan District Taipei City 10476 Taiwan ROC |
| | Phone: 886-2-2518-1108 |

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# WARNINGS

**WARNING**

## GENERAL CONSUMER SAFETY INFORMATION

BICYCLING IS A HAZARDOUS ACTIVITY THAT REQUIRES THAT THE RIDER STAY IN CONTROL OF HIS OR HER BICYCLE AT ALL TIMES. ANY FALL FROM YOUR BICYCLE CAN RESULT IN SERIOUS INJURY OR EVEN DEATH. READING THIS MANUAL ENTIRELY, AND PROPERLY MAINTAINING YOUR BICYCLE AND SUSPENSION FORK, WILL REDUCE THE POSSIBILITY OF INJURY OR POSSIBLE DEATH. PRIOR TO EVERY RIDE, YOU SHOULD CLOSELY EXAMINE YOUR SUSPENSION FORK (AFTER CLEANING) IN BRIGHT SUNLIGHT TO ENSURE THAT NO DAMAGE HAS OCCURRED DURING THE COURSE OF RIDING, TRANSPORTING, OR AFTER A FALL. PAY PARTICULAR ATTENTION TO THE CROWNS, INNER LEGS, OUTER LEGS, DROPOUTS, BRAKE MOUNT AREAS, AND "STRESS POINTS" (SUCH AS WELDS, SEAMS, HOLES, AND POINTS OF CONTACT WITH OTHER PARTS ETC.) DO NOT RIDE YOUR BICYCLE IF THE FORK SHOWS ANY SIGNS OF BENDING, LEAKING, CRACKING, CREAKING, SQUEAKING, CLUNKING, OR ANY OTHER UNFAMILIAR NOISES, OR IF IT IS MISSING ANY OF THE ORIGINALLY SUPPLIED COMPONENTS. CONTACT YOUR DEALER OR MANITOU CUSTOMER SERVICE AT 888/686-3472 IF YOU HAVE ANY QUESTIONS CONCERNING THE FUNCTION, INTEGRITY OR CONDITION OF YOUR FORK. ANY MODIFICATIONS NOT AUTHORIZED IN THIS MANUAL SHOULD BE CONSIDERED UNSAFE. IF YOU ARE A MODERATE OR AGGRESSIVE OFF-ROAD RIDER, OR RIDE AT LEAST THREE TIMES A WEEK OVER ROUGH TERRAIN, MANITOU RECOMMENDS RETURNING YOUR SUSPENSION FORK TO MANITOU EVERY 2 YEARS FOR A THOROUGH INSPECTION. TAKE YOUR FORK TO A MANITOU AUTHORIZED DEALER WHO CAN ARRANGE FOR SHIPMENT TO THE NEAREST AUTHORIZED SERVICE CENTER.

**WARNING**

## REFLECTORS

MANITOU FORKS ARE DESIGNED FOR OFF-ROAD USE, AND AS SUCH, THEY DO 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 YOUR FORK IS GOING TO BE USED ON PUBLIC ROADS AT ANY TIME. IF YOU HAVE QUESTIONS REGARDING C.P.S.C. REFLECTORS, PLEASE CONTACT YOUR DEALER.

**WARNING**

## APPROPRIATE USE OF PRODUCT

IT IS CRITICAL THAT YOU SELECT AND USE THE SUSPENSION FORK THAT IS APPROPRIATE FOR YOUR ANTICIPATED RIDING STYLE, THAT YOU USE THE FORK PROPERLY, AND FOLLOW THE WARNINGS CONTAINED IN THE OWNER'S MANUAL, REGARDLESS OF THE RIDING STYLE. FAILURE TO PROPERLY MATCH THE FORK TO YOUR FRAME OR RIDING STYLE COULD CAUSE THE FORK TO FAIL, RESULTING IN A LOSS OF BICYCLE CONTROL AND POSSIBLY SERIOUS INJURY OR DEATH TO THE RIDER. IN ADDITION, AN IMPROPER COMBINATION OF FRAME AND FORK FOR THE INTENDED CATEGORY WILL VOID THE FORK'S WARRANTY. VISIT OUR WEBSITE AT WWW.MANITOUMTB.COM/ FOR MORE DETAILED INFORMATION AND GUIDANCE ON FORK SELECTION FOR YOUR RIDING STYLE. YOU SHOULD ONLY ATTACH DISC BRAKES AND ANY OTHER ACESSORIES TO THE DESIGNATED MOUNTING POINTS PROVIDED ON THE FORKS. NEVER MAKE ANY MODIFICATION TO YOUR FORK TO ATTACH ANY EQUIPMENT. THERE IS A HEIGHTENED LEVEL OF VOLUNTARY RISK ASSOCIATED WITH FREERIDING, DIRT JUMPING AND DOWNHILLING. LARGER STUNTS/JUMPS MEAN MORE POTENTIAL FOR EQUIPMENT ISSUES OR PROBLEMS AND THE LIKELIHOOD OF SERIOUS INJURY IS GREATLY INCREASED. LEARN HOW TO PROPERLY RIDE AROUND OBSTACLES ON THE TRAIL OR ROAD. HITTING OBSTACLES SUCH AS CURBS, ROCKS, TREES, ROOTS, HOLES, OR SIMILAR OBSTACLES STRAIGHT ON PUTS FORCES ON YOUR FORK IT WAS NOT DESIGNED TO ABSORB.

# WARNINGS

LANDING IMPROPERLY AFTER A JUMP OR DROP ALSO PUTS FORCES ON YOUR FORK IT WAS NOT DESIGNED TO ABSORB. YOU SHOULD ONLY PERFORM JUMPS OR DROPS WHEN A TRANSITION OR DOWN RAMP IS AVAILABLE TO HELP YOUR BICYCLE AND FORK ABSORB THE IMPACT FORCES GENERATED DURING THE LANDING, AND BOTH WHEELS SHOULD SMOOTHLY MAKE CONTACT WITH THE TRANSITION OR DOWN RAMP AT THE SAME TIME. ANY OTHER TYPE OF LANDING IS DANGEROUS, AS IT COULD OVERLOAD THE FRAME OR FORK AND RESULT IN A COMPONENT PART FAILURE AND AN ACCIDENT OR COULD CAUSE YOU TO LOOSE CONTROL OF THE BICYCLE, EVEN WITHOUT A COMPONENT PART FAILURE. THE STEEPNESS AND LENGTH OF THE TRANSITION OR DOWN RAMP DEPENDS ON THE HEIGHT FROM WHICH YOU JUMP OR DROP. EVERY SITUATION IS DIFFERENT FOR EVERY RIDER; CONSULT WITH AN EXPERIENCED RIDER BEFORE ATTEMPTING ANY JUMP OR DROP.

FAILURE TO PROPERLY RIDE AROUND OBSTACLES ON THE TRAIL, OR FAILURE TO PROPERLY LAND AFTER A JUMP OR DROP COULD CAUSE YOUR FORKS TO FAIL, RESULTING IN A LOSS OF BICYCLE CONTROL AND, POSSIBLY, SERIOUS INJURY OR DEATH TO THE RIDER. RIDE ONLY IN AREAS SPECIFICALLY DESIGNATED FOR YOUR RIDING STYLE. DO NOT MISUSE OR ABUSE YOUR FORKS. LEARN HOW TO RIDE, AND ALWAYS RIDE WITHIN YOUR ABILITIES. OUT-OF-CONTROL RIDING PUTS THE EQUIVALENT OF YEARS OF HARD USE ON YOUR FORKS AFTER ONLY A FEW RIDES. SOMETIMES THE DAMAGE IS NOT OBVIOUS TO THE USER, BUT COULD HAVE FAILED INTERNAL COMPONENTS OR DAMAGED THE LOAD CARRYING ABILITIES OF THE MATERIALS USED IN THE CONSTRUCTION OF THE FORK.

ALL SUSPENSION FORKS REQUIRE REGULAR MAINTENANCE AND REPAIR. THE HARDER YOU RIDE, THE MORE OFTEN YOU MUST INSPECT AND MAINTAIN YOUR FORKS. IF YOUR FORKS START MAKING ANY STRANGE NOISES, CLUNKS, CREAKS, CLICKS, OR FEEL “LOOSE” OR DIFFERENT IN ANY WAY, THEY SHOULD NOT CONTINUE BEING USED, BUT IMMEDIATELY HAVE A CERTIFIED MANITOU SERVICE CENTER INSPECT AND REPAIR THE FORKS BEFORE YOU RIDE AGAIN. INSPECT YOUR FORKS REGULARLY TO SEE THAT THEY ARE NOT BENT, DEFORMED, CRACKED, or CHIPPED. If any of these conditions exist the fork SHOULD NOT BE USED. A CERTIFIED MANITOU SERVICE CENTER should INSPECT AND REPAIR THE FORKS BEFORE they are USED AGAIN.

**⚠ WARNING ⚠**

## “DOWNHILL”, “FREESTYLE” OR COMPETITIVE RIDING

TO RIDE DOWNHILL AT HIGH SPEED OR IN COMPETITION IS TO VOLUNTARILY ASSUME A VERY HIGH RISK, AND DOWNHILL OR FREESTYLE RIDING CAN LEAD TO SERIOUS ACCIDENTS. “DOWNHILLING” SPEEDS CAN APPROACH THOSE SEEN ON MOTORCYCLES WITH SIMILAR HAZARDS AND RISKS. WEAR APPROPRIATE SAFETY GEAR, INCLUDING A FULL-FACE HELMET, FULL- FINGER GLOVES, AND BODY ARMOR. HAVE YOUR BICYCLE INSPECTED BY A QUALIFIED MECHANIC BEFORE EVERY EVENT, AND BE SURE IT IS IN PERFECT WORKING CONDITION. ROUTINE AND THOROUGH MAINTENANCE IS EVEN MORE CRITICAL THAN WITH A BIKE NOT USED FOR DOWNHILLING OR FREESTYLE RIDING. CONSULT WITH EXPERT RIDERS AND RACE

# WARNINGS

**⚠ WARNING ⚠**

OFFICIALS ON CONDITIONS AND EQUIPMENT ADVISABLE AT THE SITE WHERE YOU PLAN TO RIDE DOWNHILL OR FREESTYLE. SUSPENSION AND DISC BRAKES MAY INCREASE THE HANDLING CAPABILITIES AND COMFORT OF YOUR BICYCLE AND MAY ALLOW YOU TO RIDE FASTER, BUT DO NOT CONFUSE THE ENHANCED CAPABILITIES OF A SUSPENSION BIKE WITH DISC BRAKES WITH YOUR OWN CAPABILITIES. INCREASING YOUR SKILL WILL TAKE TIME AND PRACTICE. PROCEED CAREFULLY UNTIL YOU ARE SURE YOU ARE COMPETENT TO HANDLE THE FULL CAPABILITIES OF YOUR BIKE. WHILE THE RUGGED APPEARANCE OF MOUNTAIN BIKES AND DISC BRAKES MIGHT SUGGEST THEY ARE INDESTRUCTIBLE, THEY ARE NOT. CERTAINLY THEY ARE TOUGH AND STURDY. DOWNHILL OR FREESTYLE RIDING OR RACING PLACES EXTREME STRESS ON BICYCLES AND THEIR COMPONENTS (LIKE IT DOES RIDERS). REPEATED USE OF A FORK IN DOWNHILL RIDING MAY RESULT IN SUDDEN OR PREMATURE FAILURE OF A BICYCLE OR COMPONENT RESULTING IN SEVERE INJURIES. IF YOU PARTICIPATE IN THESE TYPES OF EVENTS, THE LIFETIME OF THE PRODUCT MAY BE SIGNIFICANTLY SHORTENED DEPENDING UPON THE LEVEL AND AMOUNT OF RACING. THE “NORMAL WEAR” OF A COMPONENT MAY DIFFER GREATLY BETWEEN COMPETITIVE AND NON-COMPETITIVE USES, WHICH IS WHY PROFESSIONAL LEVEL RIDERS OFTEN USE NEW BIKES AND COMPONENTS EACH SEASON AS WELL AS HAVE THEIR BIKES SERVICED BY PROFESSIONAL MECHANICS.

**⚠ WARNING ⚠**

## REDUCED FORK LIFE

THE LIFE OF THIS FORK WILL BE REDUCED IF (1) YOU USE IT MORE THAN THE AVERAGE USER, (2) YOU ARE HEAVIER THAN THE AVERAGE RIDER, (3) THE TERRAIN YOU RIDE ON IS ROUGHER THAN AVERAGE, (4) YOU TEND TO BE HARDER ON COMPONENTS THAN THE AVERAGE RIDER, (5) IT IS INSTALLED OR MAINTAINED IMPROPERLY, (6) IT MUST ENDURE MORE ADVERSE ENVIRONMENTAL CONDITIONS THAN THE AVERAGE FORK (I.E. SWEAT, CORROSIVE MUD, SALTY BEACH AIR ETC.), AND/OR (7) YOU DAMAGE IT IN A CRASH, JUMP, OR THROUGH OTHER ABUSE. THE MORE FACTORS YOU MEET, THE MORE ITS LIFE WILL BE REDUCED; HOWEVER IT IS IMPOSSIBLE TO SAY HOW MUCH.

**⚠ WARNING ⚠**

## PRESS FIT CROWNS

THE STEERER TUBE AND STANCHION DROPOUTS ARE PRESS FIT AT THE FACTORY AND SHOULD NEVER BE REMOVED FROM THE CROWN OR DROPOUTS RESPECTIVELY. 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. OBTAIN THE CORRECT CROWN/STEERER FROM YOUR DEALER, OR CONTACT MANITOU CUSTOMER SERVICE AT 888/686-3472.

REPLACEMENT OF THE ENTIRE CROWN/STEERER ASSEMBLY MUST BE DONE TO INCREASE STEERER TUBE LENGTH. REMOVING AND REPLACING THE STEERER TUBE WILL RESULT IN AN UNSAFE CONDITION AND SHOULD NEVER BE DONE.

# INSTALLATION INSTRUCTIONS

**⚠ CAUTION ⚠**

Ensure that the proper steerer tube has been delivered on your fork. 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 the installation. When cutting a steering column of a fork make sure to measure twice before cutting; forks cut too short during installation are NOT covered by the warranty.

**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.

**⚠ WARNING ⚠**

WHENEVER YOU INSTALL ANY NEW COMPONENT ON YOUR BIKE, MAKE SURE YOU THOROUGHLY TRY IT OUT CLOSE TO HOME (WITH YOUR HELMET) WHERE THERE ARE NO OBSTACLES, TRAFFIC OR OVERLY CHALLENGING TERRAIN. MAKE SURE EVERYTHING IS WORKING PROPERLY BEFORE GOING OFF ON A RIDE OR TO A RACE.

**⚠ CAUTION ⚠**

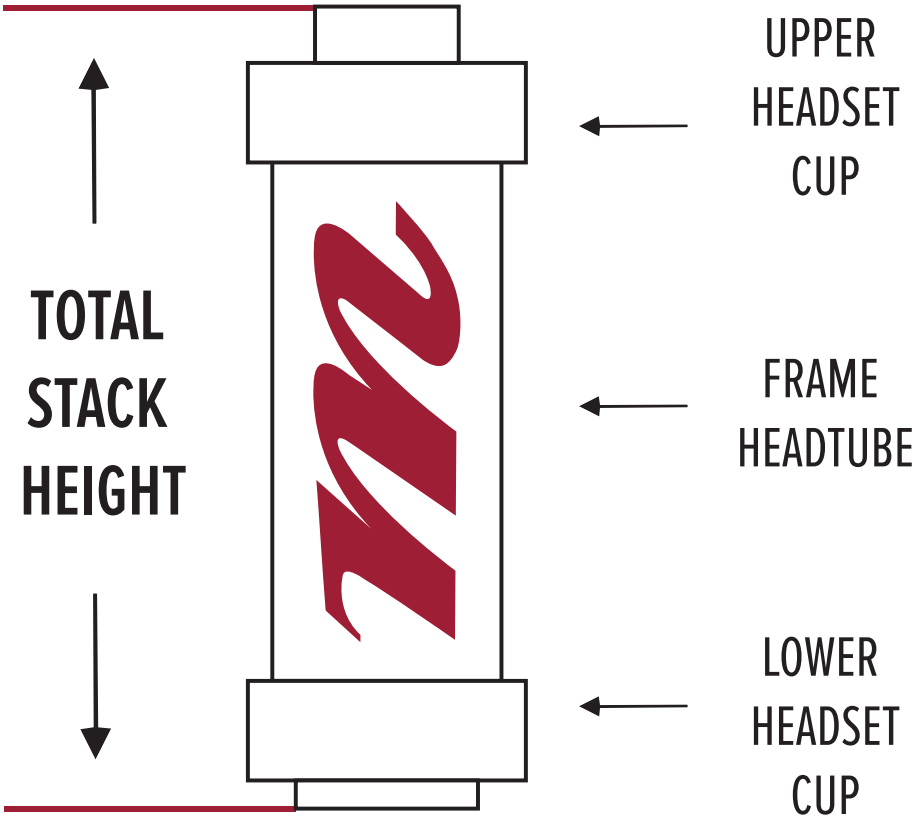
USE RECOMMENDED TORQUES AT ALL TIMES! TORQUE SPECS ARE OPTIMIZED FOR SAFETY AND LIFE OF PRODUCT. THE DORADO FORK USES A SPACER IN THE LOWER CROWN CLAMP JOINT TO OPTIMIZE CLAMP FORCE. MAKE SURE THESE ARE IN PLACE! YOU SHOULD SEE EITHER TWO WASHERS IN THE SLOT ON EACH BOLT OR 1 RECTANGULAR PLATE SPANNING BOTH BOLTS.

# CROWN FITMENT

The 37mm Dorado is available with two different offset crowns, 470S flat upper crown that is optimized for 27.5” wheels and axle to crown height. The 570S drop upper crown is optimized for 29” wheels and axle to crown height. 2 bolt crowns share the same drop that are optimized for 29” wheels, they are available in both 47 and 57mm offset to allow riders to choose the optimal offset for their bikes geometry and riding intentions. To confirm fitment of the crown and wheel size for the desired frame consult the table below. First measure the total stack height of the frame, if it falls between the range for the desired offset and wheel size the crown will fit.

All forks to be assembled at the 29” wheel line. 470S forks incude both single and two bolt crowns.

| CROWN FITMENT MEASUREMENTS | | |
|---|---|---|
| **27.5”** | **29”** | **DESCRIPTION** |
| 106-140mm | 87-121mm | Total stack height range 470S single bolt |
| 139-162mm | 119-143mm | Total stack height range 470S two bolt |
| 124-158mm | 104-138mm | Total stack height range 570S single bolt |
| 139-162mm | 119-143mm | Total stack height range 570S two bolt |
| *Total stack height is the distance from the bottom of the lower headset cup to the top of the upper headset cup or any spacers used. | | |



# 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. To determine which upper triple clamp your frame will need.

3. Remove the headset crown race from the old fork and press onto the fork steerer until the race is seated snugly against the top of the crown per the headset manufacturer's instructions.

4. Clean and grease the headset bearings and races per the headset manufacturer's instructions.

5. Install the lower bearings (if applicable) on fork crown race per the headset manufacturer's instructions.

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 upper handlebar stem clamp.

8. Install the stem cap and bolt. Tighten the bolt to headset manufacturer's specifications.

9. Install the handlebars and torque the stem pinch screws or stem clamping system to stem manufacturer's specifications.

10. Install the brake levers and adjust per the brake manufacturer's instructions.

# FORK INSTALLATION

11 First identify the wheel size to be used and confirm tire size fitment. (See section on crown fitment on page 9 or 18.) Then align wheel size line with the bottom of the lower crown. Torque crown bolts to specs found on page 18.

12 To install the hex axle, first lightly grease the threads on the end of the axle. Slip the axle into the drop out, round side first through the drive side drop out hex. Thread the integrated preload bolt into the axle and torque to spec. Push the fork up and down a few times to center the axle and hub.

13 Tighten all pinch bolts to recommendations found in the torque table on page 18. Proper tightening technique is to tighten bolts uniformly by alternating back and forth between bolts so as to bring then up to torque simultaneously. This ensures the best alignment and uniform distribution of torque loads.

**NOTE:** Axle is designed to use a 20mm x110mm hub. All other hub sizes are unsafe, will cause the fork to fail and may lead to potential injury of the rider.

# BRAKE CALIPER INSTALLATION

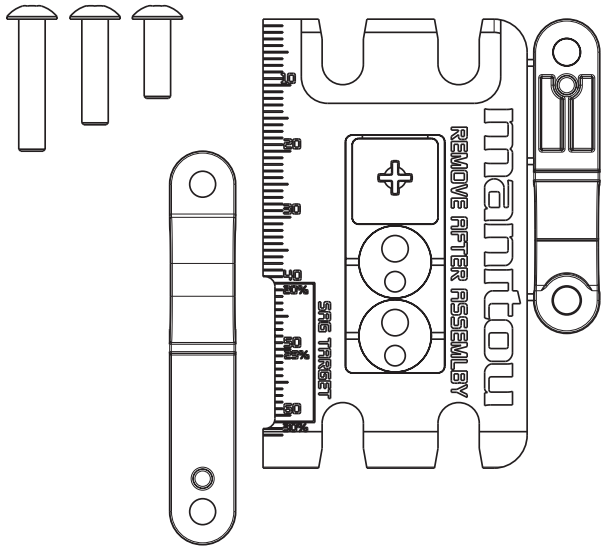
The 37mm Dorado uses a 203mm [8”] post mount style brake mount. Up to a 223mm [9”] rotor can be used on this fork with proper adapter. The fork is designed around a 20x110mm Boost hub. If using a 20x100mm non boost hub a disc brake rotor adapter is included. Please follow the disc brake and rotor manufacture installation instructions to for installation of rotor and caliper.

# BRAKE HOSE INSTALLATION

**⚠ WARNING ⚠**

FAILURE TO PROPERLY ROUTE AND SECURELY ATTACH THE FRONT BRAKE HOSE TO THE FORK CAN CAUSE SERIOUS INJURY OR DEATH.

Included with your fork is a small black brake hose guide with 2 spacers. These parts can be found connected to the sag guide tool which is included in the box. The brake hose guide can be attached to the lower crown in one of three holes (hose guide can be mounted inboard or outboard at various angle as needed to ensure free-running hose thru the guide). The two spacers can be used to move the hose guide away from the crown if needed for a cleaner front brake hose routing. Also included is a standard zip tie to secure the hose to the leg guard. The preferred method is to route the hose so that it runs inside the spring leg, secured to the bash guard, then through the brake hose guide. The hose should be loose through the lower crown hose guide so the hose is free to translate up and down. Make sure the brake line is not crimped and does not touch the tire as the fork moves through its range of travel.



# MEASURING TIRE CLEARANCE

**⚠ WARNING ⚠**

Measure minimum tire clearance from any point on the profile of the tire upward to the bottom of the crown. Compare to the table below for minimum tire clearance. Measure the tire at maximum width. Compare with the table for maximum tire width.

| DORADO TIRE INFORMATION | | | |
|---|---|---|---|
| **WHEEL SIZE** | **MAX TIRE DIAMETER** | **MAX TIRE WIDTH** | **MIN TREAD DROP** |
| 27.5" x 2.6" | 717mm | 72mm | 13.25mm |
| 29" x 2.6" | 756mm | 72mm | 13.25mm |

# MEASURING SAG

Sag is the amount the suspension compresses with the weight of the rider and gear in their riding position on the bike. This is typically measured as a percentage of the travel used. Typical sag ranges for the Dorado is 20-30% Included with the Dorado is a sag measuring tool. Along the left edge of the tool is a metric ruler with a gradient for 20%, 25%, and 30% sag. (Note: this sag gradient it based on a 203mm travel Dorado, if adjusting sag for a Dorado set to a shorter travel the metric ruler may be used, but sag percentages will not be correct)

Place the bike on a flat smooth surface, reset both the fork and shock travel indicator rings, by sliding them flush to the seal. This is best done next to a wall, so the rider can use the wall to hold themselves up. An experienced friend can also provide support.

1. Mount the bike, assume the attack position. (This is the standing position a rider should be in while riding aggressively. A deep bend in knees and elbows with heavy feet, light hands. The head and eyes up scanning the trail ahead.)

2. Without activating either brake the rider should gently bounce up and down a few times to settle the suspension.

3. Without the rider shifting their weight or activating the brakes reset both the fork and shock travel indicator rings, by sliding them flush with the seal. (Best done by the helper as they steady the bike)

4. The rider must now dismount the bike without pressing the fork or shock down further. (The helper can gently lift up on the frame to minimize the effect on the weight shift while dismounting.)

5. Place the sag guide with 0 side flush with the seal. The travel indicator o-ring should be located near the desired sag.

6. If there is more sag than desired adjust the air pressure higher and repeat until desired result.

7. If there is less sag than desired adjust the air pressure lower and repeat until desired result.

   **NOTE:** The pressures of the fork and shock affect each other. As air pressure increases in the fork (or shock), the sag will decrease. This will cause more force on the rear shock (or fork), increasing rear sag. Because of this, this procedure should be repeated after every adjustment.

8. Note your pressures and Go ride!

# ADJUSTING MAIN SPRING AIR PRESSURE

The Dorado's air spring is performance tuned to be high-volume, low-pressure for quick, linear break-away and progressive bottoming ramp-up. The negative and positive air chambers are linked with a poppet valve; the chambers auto-equalize when set-up properly. Manitou recommends using a pump equipped with a pressure bleed valve to accurately adjust air pressure. Recommended air pressure is 35-89psi, but is not to exceed 120psi.

# INCREASING AIR PRESSURE

Dorado Pro and Expert forks feature the Dorado Air system. To adjust main air pressure remove the cap located on the top of the left leg, firmly tighten a shock pump onto the main air spring end fitting. The shock pump should automatically open the balancing valve. The fork should now be able to be cycled easily through most of its travel because the open balancing valve allows air to freely move between the positive and negative air chambers. Please note that the shock pump head must be hand tight to the air spring fitting and the pump head must be in good working condition; a partially-seated and/or worn pump head can cause the balancing valve to remain closed. If air is added when the balancing valve is closed, the fork may either compress itself as air is added from the shock pump (air only filling the negative chamber) or feel overly stiff in its initial travel and sound harsh at top out (air only filling the positive chamber). After cycling the fork and confirming a properly attached shock pump, lightly pull the fork to its full extension, adjust the air pressure to the desired setting, and remove the shock pump. Unthread the shock pump valve head rapidly to ensure there is no excess pressure loss during removal. Pressure loss during pump removal may result in underpressurized negative chamber and stiff off-the-top feeling. We recommend using a "zero-loss" shock pump for best results. Replace the valve cap and note the pressure.

# RELEASING AIR PRESSURE

Firmly tighten a shock pump on the main air spring end fitting. Note your pressure, then use your pump's release valve until all air is released. Remove shock pump. (If servicing your fork or changing IVA setting use a 3mm allen key to gently depress the air shaft which is visible at the tip of the spring end fitting, ensuring all air is released)

# IRT (INFINITE RATE TUNE)

Dorado Pro forks are equipped with the IRT air spring system. The IRT is located on the bottom of the spring side (left) leg. Infinite Rate Tune (IRT) allows for advanced spring tuning by independently modifying air pressures in the beginning and end stroke. IRT technology created a secondary air spring that effects on the middle to end strong of the fork. This allows the main air spring to be set to lower pressures for improved small bump sensitivity while maintaining mid stroke support and moderate to aggressive end strong ramp up. For initial setup information see the Dorado Pro setup guide. For more advanced tuning information see the IRT advanced tuning guide.

# IVA

Dorado Expert forks are equipped with Incremental Volume Adjust (IVA). The IVA is located on the bottom of the spring side (left) leg. IVA is a self-contained air volume adjustment system that allows the user to customize ramp up for specific conditions. The self contained spacers can be moved on either side of the air piston to change the positive air volume. For initial setup information see the Dorado Expert setup guide. For more advanced tuning information see the IVA advanced tuning guide.

# COMP COIL SPRING SYSTEM

The Dorado Comp uses a coil spring system with external preload located on the bottom of the spring side (left) leg. See the Dorado Comp setup guide for spring rate information and initial setup. Consult the service guide for changing spring for the rider weight.

# MAINTENANCE

Your fork requires periodic maintenance, cleaning, and inspection. Torque values of bolts and fasteners must be checked periodically, more often if riding in extreme conditions. To maintain top performance, it is recommended that the fork be periodically disassembled, cleaned, dried and re-lubricated. Visit www.manitoumtb.com for the specific service guide for your product.

**SUGGESTED SERVICE INTERVALS FOR DORADO**
(Extreme riding and harsh conditions may require more frequent service)

| SERVICE INTERVALS | | |
|---|---|---|
| **EVERY RIDE** | **EVERY 50 HOURS** | **EVERY 200 HOURS / YEARLY** |
| CLEAN DIRT FROM WIPERS, WIPE LEGS | REPLACE CASTING SEMI BATH OIL | REPLACE CASTING SEMI BATH OIL |
| INSPECT FOR SCRATCHES ON LEGS | LUBRICATE LEG SEALS | REPLACE LEG SEALS & FOAM RINGS |
| CHECK AIR PRESSURE AND SAG | CLEAN AND INSPECT BUSHINGS | REPLACE DAMPER OIL |
| CHECK AXLE TORQUE | CHECK FASTENER TORQUES | CLEAN AND INSPECT BUSHINGS |
| RELEASE BUILT UP CASTING PRESSURE USING THE TSR BUTTONS OR SCREWS | CLEAN AND RE-LUBRICATE AIR PISTON(S) | REPLACE AIR SPRING SEALS AND RE-LUBRICATE |
| | | CHECK FASTENER TORQUES |

**⚠ WARNING ⚠**

**BEFORE EVERY RIDE YOU SHOULD:**

- Ensure that the Hex Axle is properly installed per instructions.
- Ensure that all bolts are tightened to the appropriate torque recommendations by the parts' respective manufacturers.
- Wipe the inner legs and clean the fork. Check the entire fork for any obvious damage.
- Check the headset for proper adjustment. To check for a loose front headset apply the front brake with both wheels on level pavement and push the bike forwards and backwards rapidly to see if you hear the headset rattling. If it is then it is too loose. Follow headset manufacturer's instructions to tighten.
- Ensure that the front brake cable is properly routed and check brake adjustment. Follow brake manufacturer's instructions.

# TABLES

All forks to be assembled at the 29” wheel line.  470S forks incude both single and two bolt crowns.

| CROWN FITMENT MEASUREMENTS | | |
|---|---|---|
| **27.5”** | **29”** | **DESCRIPTION** |
| 106-140mm | 87-121mm | Total stack height range 470S single bolt |
| 139-162mm | 119-143mm | Total stack height range 470S two bolt |
| 124-158mm | 104-138mm | Total stack height range 570S single bolt |
| 139-162mm | 119-143mm | Total stack height range 570S two bolt |
| *Total stack height is the distance from the bottom of the lower headset cup to the top of the upper headset cup or any spacers used. | | |

| AXLE TO CROWN | | |
|---|---|---|
| **27.5”** | **29”** | **DESCRIPTION** |
| 582mm | 602mm | Axle to Crown |

| DORADO TIRE INFORMATION | | | |
|---|---|---|---|
| **WHEEL SIZE** | **MAX TIRE DIAMETER** | **MAX TIRE WIDTH** | **MIN TREAD DROP** |
| 27.5" x 2.6" | 717mm | 72mm | 13.25mm |
| 29" x 2.6" | 756mm | 72mm | 13.25mm |

| RECOMMENDED TORQUE SPECIFICATIONS | |
|---|---|
| **ITEM** | **TORQUE SPECIFICATIONS - NM (IN-LBS)** |
| CROWN PINCH BOLTS | 10.7-12.4 NM [95-110 IN-LB] |
| DROP OUT PINCH BOLTS | 10.7-12.4 NM [95-110 IN-LB] |
| AXLE TENSION BOLT (WITH WHEEL INSTALLED) | 12.0-15.0 NM [106-133 IN-LB] |
| FENDER SCREWS | .5-.7 NM [4-6 IN-LB] |
| CABLE GUIDE SCREW | .5-.7 NM [4-6 IN-LB] |
| BRAKE CALIPER SCREW | 8.5-9.5 NM [75-84 IN-LB] |

| TRAVEL MEASUREMENT | |
|---|---|
| **FORK TRAVEL SETTING** | **SEAL TO DROPOUT MEASUREMENT** |
| 180MM | 185MM |
| 203MM | 208MM |

| SAG MEASUREMENT | |
|---|---|
| **FORK TRAVEL SETTING** | **RECOMMENDED SAG** |
| 180MM | 38-57MM |
| 203MM | 40-60MM |

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