

MANITOU MOUNTAIN BIKES

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TO:

**builder of fine, handcrafted,
custom, aluminum
mountain bikes and
components...**



MANITOU MOUNTAIN BIKES

First off, I want to thank you for inquiring about my bikes. I started building bikes three years ago, after realizing the bikes on the market were not designed or constructed for the use I wanted to give them. I have an extensive background in motorcycle competition ranging from observed trials, I.S.D.E. and enduros, to motocross and desert racing all of which are done on the same terrain that bicycles are ridden over today. So, instead of taking road bikes with their inherent geometry and construction methods, and putting fat tires on them, I decided to design a bike for hard off-road use, incorporating ideas gleaned from years of riding on even more difficult terrain at three times the speed. I chose aluminum for its intrinsic dampening qualities, its ability to be used in large diameters, and to minimize frame flex while maintaining as light a weight as possible.

I chose to build custom bicycles instead of one or two standard models because a rider, on top of having to drive the bike, must also act as the suspension unit and power supply. Therefore, a bike must fit the physical dimensions and needs of the rider, as well as being responsive and well handling.

I design and build my components out of my own shop with talented help. I am constantly improving my existing components and developing new ones. This, plus being a custom bike builder, ideally prevents any form of mass production. Consequently, my production is limited. I am building bicycles and components for my livelihood and, obviously, build them as quickly as possible, but it does take time to build them right. Patience on the part of the owner is greatly appreciated and is reflected in the highest quality of the product.

Although I must limit my phone time, I am very interested in reading any comments and feedback you have on my components. The more I know of what you want from my components, the closer I can build them to your needs.

I guarantee all my components to the owner they are designed and built for, and purposely overbuild them to insure greater strength and longevity.

Again, thanks for your interest and I hope to hear from you.

FRAMES

My frames are constructed of large diameter 6061-T6 aluminum tubing which is tig welded and aligned before heat treatment. The final alignment and machine work is completed after heat treatment. Your physical stature, riding style, and use of the frame all determine the diameter and wall thickness of the main frame members.

Each frame comes with gussets at the head tube, plus machined cable stops which are welded to the frame. The brake pivots are located either on the seat or chain stays. The bottom bracket shell is machined to accept all standard bottom brackets or pressed in bearings.

My theory on the frame geometry is to build an aggressive, responsive, and at the same time, very stable frame. My theory includes a chain stay length of 17" or under, combined with a steep seat angle (72° , 73° , 74°) and very stiff bottom bracket which all make for an excellent climber. High speed stability is enhanced by using a top tube length that is longer in proportion to the rider than usual. All these factors combined allow for the use of a steep head angle (70° , 71° , 72°) to enable quicker steering. This is the design I feel works very well. As I've mentioned though, I am a custom frame builder and will build a frame to the dimensions and geometry you wish within certain physical boundaries.

My frames accept standard 130 mm rear axle spacing along with standard bottom bracket spindle length (117.5 mm with Shimano Deore XT or Specialized cranks) which maintains centered chain alignment. Both these design concepts were developed for road bikes and not for the forces generated by hard off-road use. The dished rear wheel is particularly susceptible to damage. To alleviate these problems, I offer an asymmetrical rear triangle design, allowing for the use of a dishless rear wheel and a chain line that is biased to the inside gears. This is accomplished by moving the right chain stay/seat stay outward 15 mm. I produce Manitou hubs to fit the 145 mm dropout spacing by moving the right spoke flange 15 mm, allowing again for the dishless rear wheel. The benefits are threefold: the resistance to lateral and torsional loads are far greater, the rim remains much straighter, and the stiffer wheel transfers pedal pressure to the ground more efficiently. The chain line is biased to the inside gears 5 mm. This produces a straighter chain line for the lower gears which are under greater loads at a slower cadence than road bikes. Other benefits of this design include moving the chain away from the tire, improving tire clearance when used with short chain stays.

The price of my frame sets (frame, fork and stem) start at \$1195.00. Add \$200.00 for the asymmetrical frame design, 115mm fork spacing and set of Manitou hubs.



FORKS

My forks are a composite design, consisting of straight, nontapered 1 1/8" chromemolly fork blades, billet aluminum gullwing crown, and thick wall steerer tube. In using these three design elements, the forks resist torsional flex which substantially reduces wheel deflection and auto steer. These forks have standard 100 mm dropout spacing and they accept standard headsets and stems. Either the Shimano three-hole cantilever or roller cam/u-brake bosses are supplied. The fork rake is built into the crown according to your specification.

These forks resist flexing extremely well. They accentuate the inherent weakness of standard front wheels that were designed and built for pavement not for the impact, torsional loads and deflection that comes with hard off-road use. To build a wheel to accept the added loads and forces that the forks allow you to produce, I offer a fork with 115 mm dropout spacing and a Manitou hub that I produce to widen the spoke flanges as far as possible. The increased spoke angle greatly enhances the strength and steering precision of the wheel.

The price of my forks is \$195.00.



STEMS

My stems are made of 7075 billet and 7075 steer tube insert. The bore for the handlebars is 1" diameter and accepts 7/8" bars with shims. Two pinch bolts under the stem secure the bars. The stem acts as the front brake cable

stop. The stems are made to your specifications on reach and rise. Stem dimensions are always a compromise. The longer and lower they are the better they climb. The higher and shorter they are the better for down hills.

I have found that 120 mm reach and 25.4 mm rise is a good middle ground that is accentuated by excellent steering precision. These stem dimensions are what I have found work best along with a top tube length and head tube height that has been fitted to your physical dimensions, riding position, and style.

The price of my stems is \$95.00.



COMPLETE BIKES

Although Manitou components are my main speciality, I do build complete bikes. But, because I am small with a low volume output, I'm not able to get the best prices on standard components. It is getting better though, and by using different companies, I try to keep the prices as low as possible.

All my standard products accept and interchange with over-the-counter components. Again being a custom builder means building to your specifications and this includes component selection. I can fit my frame, fork, and stem with top of the line components from Specialized, Interloc, and Shimano. Unlike many frame builders, I enjoy building complete bikes. Initial set up, road test, and fine tuning are crucial to the performance and reliability of the bike. This is something I put a lot of time and effort into. It is also when I derive my greatest satisfaction in knowing I have built the best complete bike possible.

Complete bikes range in price from \$1995.00 to \$2595.00, depending on options and choice of components.

Please write or call if you have any questions or would like to order a bike and/or components. Again thanks for your interest.

Doug