





MANTIS PRO FLOATER

A Formula 1 mountain bike

Mountain bike framebuilders have always had a reputation as rebels. Unfortunately, the revolutionary and rebel of ten years ago is the bureaucrat of today. We have seen many of the pioneers of mountain biking become tired-out broken records, defending the past, fighting the future and trading off of their names. There are no old revolutionaries, just boring ones, dead ones or rich ones, with one notable exception—Richard Cunningham of Mantis fame.

Mantis has continuously nudged the envelope over the last ten years. It was Mantis that pushed top tube lengths out beyond the stubby road bike lengths that they originally came with. It was Mantis that developed the XCR composite frame that combined an aluminum front triangle

with a bolt-on chromoly subframe (a concept that was mimicked by many makers). It was Mantis that popularized the widely copied elevated chainstay bike (Cunningham designed the Nishiki Alien in '88). It was Mantis that built the Maserati bird-cage-style X-frame that used small-diameter chromoly tubing. It was Mantis that made the most successful aluminum monocoque on the trail—the Flying V.

While the other pioneers shrank from suspension, built weird contraptions to try to stay hip or took a wait-and-see attitude, Mantis built the first aftermarket long-travel kit for Rock Shox. Mantis tracked down the American arm of Swedish suspension giant Ohlins and talked them into building a high-tech mountain bike shock (which is now used on GT, Nishiki, Rad

Mantis Pro Floater: Designed by Richard Cunningham, the Pro Floater has that utilitarian, workhorse, off-road warrior look combined with the pizzazz of high technology. Offered as a frame kit only, the bike comes with frame, swingarm, shock and titanium bottom bracket.

One, Mantis and other bikes). Mantis designed the Nishiki PS-2 and PS-3 suspension bikes under contract from the Derby Corp. (which owns Nishiki, Haro and Raleigh). Mantis is building John Tomac's '93 full-suspension downhill prototype bike—and it is Mantis that builds the fabled Pro Floater full-suspension bike.

WHAT IS THE PRO FLOATER?

Rated by most test riders as the best suspension bike made, the Mantis Pro

MANTIS

Floaters earns its deserved reputation by combining finely tuned off-road geometry, proven suspension design, a quality shock absorber and legendary bike design in one package.

Off-road geometry: Mantis geometry is considered by many riders to be the ultimate combination of high-speed stability, light steering and neutral handling. Mantis doesn't use off-the-shelf frame builders. The head angle is a relaxed 70.5 degrees combined with a 73-degree seat angle. The frame's unique bent top tube serves two functions: (1) it increases standover height to allow the rider more freedom of movement under all extreme situations, and (2) it aligns the top tube with the shock absorber to direct stress away from the crown.

The oversize 6061 aluminum tubes, in both the main triangle and beefy swing-arm, produce one of the most rigid full-suspension bikes on the planet. Oversize aluminum is the perfect material for use on full-suspension bikes. It is incredibly strong, relatively light and provides a stable base for the suspension components to work from. The strut-like seat stay is made gauge chromoly (chromed) and the unique "dropped" dropouts eliminate stress clatter on the right stay.



◀ **Combo deluxe:** Our 17" test frame was combined with a Shimano XTR groupset, Bontrager bars, saddle and rims; Specialized tires; Onza bar ends and Yeti grips to tip the scales at 26.75 lb.



◀ **Swedish connection:** The Noleen shock, built by the American division of Ohlins, is the best-performing shock in mountain biking today. Cunningham's mixture of fabbed XCR-style geometry, nitrogen-charged shock, MacPherson Strut suspension and clean lines works almost flawlessly.

MANTIS

Proven suspension design: The MBA test riders have only found a handful of suspension bikes that live up to the promise. Not surprisingly, four of the five best full-suspension bikes utilize the same basic design elements. Called "MacPherson Strut" systems because they make the shock and seat stays act as one integrated unit, all four of these bikes share a generational gap that is one stage ahead of most of the competition. The Mantis Pro Float-

er, Mongoose Amplifier, Pro-Flex 953 and Rocky Mountain Edge all share the MacPherson Strut-type seat stays, "Hors Link" pivot at the rear dropout and the most active suspension on the trail.

Quality shock absorber: The Noleen shock on the Pro Floater is essentially a miniature version of a wave-washer, internal-piston, nitrogen-charged, coil-spring motorcycle shock. Weighing in at 12 ounces, the aluminum-bodied shock has

the best compression damping of any shock on the market. Test riders felt that rebound was on the light side. It is more complex than the microcellular foams of the Pro-Flex or the thru-shaft oil shocks on the Mongoose or Rocky Mountain, but that complexity returns a Grand Prix-level of performance. We sent our test shock back to Noleen's Ontario, California, factory to have the valving changed and the shock spring rate increased. Mantis is plan-

MANTIS

ring on making these valving and spring changes standard.

The bike: Our test Mantis Pro Floater came with Rock Shox Mag 21s equipped with a 2.5-inch long-travel kit and 2.5 inches of rear wheel travel. Rolling weight was 26.75 pounds (with only modest weight-saving efforts—no titanium). Mantis doesn't make complete bicycles, but it makes three different framesets: the custom-made, rigid XCR (which is available only to NORBA racers on special order), the aluminum monocoque Flying V (which is also handmade at the Mantis factory) and

the production-built Pro Floater full-suspension bike.

WHAT WE DON'T LIKE

The hardest thing about owning a Mantis is getting one. Production at Mantis is limited to how many they feel like making in a year, which can be as few as 200 bikes. The success of the Pro Floater, the underground's worst-kept secret, has forced Mantis to actually find ways to fill the demand. To achieve the semblance of supply and demand, Mantis forged an agreement with Liam Kazan (of Redline fork fame) to set up a production line at his facility to build the Pro Floater's main triangle and swingarm, while Mantis concentrated on the fittings, machining, bushings, milling, heat treating and assembly (along



Going up: Although Mantis is building John Tomac's fully suspended downhill bike, the Pro Floater is designed, tuned and capable of being an all-around, cross-country, off-road bike. Riding a suspension bike takes some adapting, but it is a plush ride.

THE LESS ENERGY YOU WASTE THE MORE ENERGY YOU HAVE. PERIOD.

On road or off, Triflow makes pedaling easier and shifting smoother. Rich in premium oils and TEFLON, its unique formula fights friction for the U.S. Cycling Team and NORBA Mountain bike team. In fact, Triflow is lubrication that gives better than the name. Better than the leading brand, so now that you know Triflow provides superior lubrication, you don't have to waste energy looking for anything else. Period.

TRIFLOW
SUSPENSION LUBRICATE
with Viton O-Rings
Available in 1 Gallon

with hand-building the XCR and Flying V). Don't think of Pro Floater production in the same terms as you would with a Taiwanese-built Fisher, Ritchey or other bike. To Mantis, a production quantity is only 100 bikes. The combined production of Mantis XCRs, Flying Vs and Pro Floaters is less than 400 a year. Getting a Full Floater in '93 isn't impossible—just damn near it.

At 26.75 pounds, the Pro Floater is not as light as the rigid XCR or some other full-suspension bikes. We would like it a pound lighter, but can easily live with an under-25-pound suspension bike (when many showroom-stock rigid bikes weigh more).

IS IT THE BEST?

Is it the best suspension bike made? When it comes to active suspension bikes, the MBA test crew thinks it is. The blending of Mantis' oft-heralded handling with the state-of-the-art MacPherson Strut-style rear suspension produces one sweet ride. There is no wiggle, no wag, no twitch, no shim and no shudder at speed. This bike flat-out flies. Unlike most full-suspension bikes, the Mantis Pro Floater is designed as a cross-country bike, an everyday training bike and a do-it-all off-road warrior. Mantis did not want to make a downhill-only bike. By suspension standards the Pro Floater is stiff and rigid. The MacPherson Strut-style shock arrangement mitigates the nagging flex that many shocks have when they are bolted via Heim joint to the stays. The one-piece shock-and-strut pivots just above the rear dropout to isolate braking forces from the suspension and lessen torsional flex.

Mantis' goal was to produce an active-suspension system that tied every second

MANTIS



The link: To increase overall frame rigidity, especially for a suspension bike, the Pro Floater uses massive aluminum chainstays linked, via a pivot, to a chromoly strut that attaches directly to the shock. The rear pivot aligns the shock through its arc, lessens bumping and reduces brake input into the suspension system. Very trick.

generation suspension trick in the book: (1) The stiff oversize aluminum swingarm uses straight tubes for additional strength. (2) The swingarm pivots in line with the big ring to provide a neutral non-bispacing pedal stroke at speed. (3) The "Hors Link" allows the shock to be self-aligning throughout its stroke (Cunningham is close friends with Specialized FSR, Mongoose Amplifier, Univega Concept forks, and Rocky Mountain Edge suspension designer Hors Leimer). (4) The wave-washer nitrogen shock benefits from the linear compression of an Eibach coil spring. (5) The key ingredient of the Pro Floater is that this suspension system (MacPherson-style) has been proven on the NORBA circuit for the last three seasons. It works, it's going to be around and it will be the standard-bearer of suspension systems for the foreseeable future.

WHAT IT'S REALLY LIKE

Designed as an all-around cross-country bike, the Pro Floater is a revelation. The handling is crisp, clean and reassuring. It goes where you point it, with an automatic pilot style of steering, and it stays on a line. If you removed the shock and put a steel tube in its place, the Mantis Pro Floater would be identical to the fabled Mantis XCR. That's something that most suspension bikes can't claim—they weren't mythical bikes to begin with. As a rigid bike, the Mantis XCR package has been on the leading edge of mountain bike development for years. Even if you took the suspension off the Pro Floater, would be great.

MANTIS

However, you would be a fool to lock out the suspension on the Pro Floater, especially after paying for it. Of the MacPherson Strut-style suspension bikes (which make up four of the top five suspension bikes made—linkage-activated systems are vying for the fifth spot), the Mantis is clearly the most fully developed. Its high-tech, hard-anodized, aluminum shock delivers the utmost in damping capability, while the finely honed Mantis handling is almost without flaws. The chassis gobbles up bumps, ruts, humps and jumps like it has twice as much travel as any other bike, and still holds a tight line through a hard-packed sweeper.

IS IT FOR YOU?

Suspension bikes aren't for everybody, and learning the tricks of riding an active suspension bike takes an experienced rider a couple of weeks, but if you ever wondered what the full expression of full-suspension is—it's the Mantis Pro Floater.

The complete frame with swingarm and Noleen shock, cartridge bottom bracket (your choice of steel or titanium spindle, seat clamp and frown paint details) for \$1450. We would recommend running the Pro Floater with long-travel kitted Rock-Shox Mag 21s. For more info contact Mantis Bicycles at (714) 993-4621. ☺



WOOD, 21" x 21" x 1.25"
WOOD, 21" x 21" x 1.25"



WOOD, 21" x 21" x 1.25"
WOOD, 21" x 21" x 1.25"
WOOD, 21" x 21" x 1.25"
WOOD, 21" x 21" x 1.25"



WOOD, 21" x 21" x 1.25"
WOOD, 21" x 21" x 1.25"
WOOD, 21" x 21" x 1.25"

YANAGIHARA INDUSTRIAL CO., LTD.
1000 W. 10th St., Suite 100, Portland, OR 97201
(503) 241-1111