



The Mantis Pro Floater was one of the first MacPherson Strut full-suspension designs to hit the mountain bike scene. From the beginning, the Mantis Pro Floater was well-received by cross-country riders. Like all early MacPherson Strut rear-suspension systems, the Pro Floater suffered in two performance

new rear end gives the bike a distinct "factory racer" appearance.

Up front, the head tube has been enlarged to accept a 1.125-inch headset. Below, the earlier pressed-in, sealed-bearing bottom-bracket setup has been changed to a conventional threaded unit. The 1.5-inch-diameter down tube was enlarged to

wall, straight-gauge, 6061 T-6 aluminum tubing and gusseted at high stress points.

ABOUT THAT SUSPENSION

The Mantis Pro Floater breaks ranks with most MacPherson strut designs by having a slightly elevated pivot location. This feature was originally built-in as a cross-country compromise (to keep the

MANTIS PRO FLOATER

Under new management

areas: it was laterally flexible under power and its long seat stays flexed under braking (which caused the cantilevers to feel mushy). Mantis, like all those that jumped into the suspension movement with the first wave, had the advantage of having lived with, worked with, struggled with and fiddled with suspension for a longer period of time than the Johnny-come-latelys. The '95 Mantis Pro Floater is an update of one of the suspension world's most highly regarded designs. With new owners, Mantis wanted to update the popular Pro Floater before focusing its attention on a clean-sheet-of-paper design for a future replacement.

WHAT'S NEW, WHAT'S NOT

To strengthen the rear end and bolster its braking power, Mantis totally re-designed the swingarm and compression strut. Gone is the round alloy swingarm, replaced by ultra-stiff rectangular alloy tubing. In place of the early, chromoly seat stays are oversized tubular alloy units. All the fittings are CNC'd alloy items, reinforced by machined ribs at all high-stress areas. The entire rear section is hand-polished. The original Pro Floater had a purposeful, utilitarian look, but the

a 1.625-inch-diameter tube with a thinner wall to add rigidity. For the same purpose, the seatpost diameter has been enlarged from a conventional 26.8mm to an oversized 28.6mm diameter (a 20-gram, CNC-machined, external clamp fixes the post instead of the previous welded boss).

What the new Manti-men didn't change was the basic geometry of the original design. The swingarm pivot location stayed between the large and middle chainrings, while the frame angles, bottom-bracket height, chainstay length and other key frame factors remained virtually the same. Mantis has been around the off-road world since before hair—and were among the best-handling rigid bikes ever made. The new Mantis owners wanted to stamp their own mark on the brand, but not throw out the baby with the bathwater.

The rear suspension depends on the venerable Noleen NR-1 gas-charged, hydraulic unit suspended by a coil spring (our test bike had the optional titanium spring). Mantis was, not coincidentally, the first bicycle builder to ever use a Noleen shock. In the tradition of most Southern California mountain bike builders, the Mantis frame is TIG-welded from thin-

suspension active under power except in the small chainring). In the granny gear, chain torque is allowed to stiffen the rear suspension, which resists bobbing when the rider hammers up technical sections. The strut-mounted cantilevers ensure that the rear end remains active under braking. In truth, the Mantis suspension is in some ways a "semi-active" design (largely because of the relatively high pivot).

The Pro Floater had a touch more than 2-1/2 inches of rear travel—well-balanced by the bike's 2.5-inch-travel Rock Shox Judy SL fork. The Noleen NR-1 shock came with a stiff, 750-pound, titanium spring that suited aggressive riders from 150 to 175 pounds or trail riders in the 165- to 200-pound range. The NR-1 is adjustable for spring preload via a threaded collar (its internal valving can be tuned by any competent suspension mechanic). We ran the shock preload at the minimum set-

Versatility in action: Whether we were foisting on fire roads or ripping single-track, the Pro Floater was a treat. We appreciated the rigidity of the new rectangular-tube swingarm under power. Definitely a cross-country mount. ▶

MANTIS



MANTIS PRO FLOATER

Frame type: Full suspension; TIG welded, straight-gauge 9061 T-6 alloy tubing with gusset reinforcements; H2O mounts on upper and lower side of down tube; rectangular tube swingarm with CNC-machined pivot locations.

Suspension type: Semi-active MacPherson strut.

Frame geometry: Size tested—18" (center to top); Top tube—23"; Wheelbase—41.625"; Chainstays—16.625"; Bottom-bracket height—12"; Head angle—70.5"; Seat angle—73".

Fork: Rock Shox Judy SL; micro-cell spring; oil damped.

Shock: Noleen NR-1; Titanium coil spring; oil damped.

Suspension travel: Front—2.5"; rear—2.5".

Weight: 24 lb.

Sizes available: 16", 18", 20", 22"

Components: Front derailleur—Shimano XTR (top pull); rear derailleur—XTR; Shift controls—GripShift X-Ray twisters, Brake levers—Machine Tech (CNC'd alloy), Crankset—Hershey (26/38/46); Hubs—Hershey (22-hole); Cogs—XTR (12 x 32, eight-speed); Wheels—Mavic 217 rims, Wheelsmith 15/17-gauge spokes, alloy nipples; Tires—Specialized 2.1" Team Master (rear) and 2.1" Team Control (front); Stem—Critical Racing CNC alloy 130mm x 5" rise; Handlebar—Critical Racing alloy; Brakes—Critical Racing cantilevers; Saddle—Selle San Marco Concor leather, carbon rail; Seatpost—Ringle Moby, alloy (28.6mm); Goodies—Control Tech, Tri-quick releases; Curve rear-brake booster; Droa alloy bar ends; Gore-Tex cassettes; Chris King threadless headset.

Price: Frame only—\$1550

Contact: Mantis Bicycle Co., 758 W. Woodbury, Altadena, CA 91001, (818) 296-1050.



Smooth relationship: Mantis was the first Noleen-equipped suspension bike—and remains loyal to the awesome NR-1 damper. Beefy, widely spaced coils are the sign of a titanium spring. The compression strut—formerly known as seat stays—are made out of oversized 6061 with a machined shock attachment.

railleur and chainrings, the right side of the swingarm arcs over the top of the derailleur. To save weight and add strength, the left side of the swingarm (chainstay) follows a straight path to the swingarm

ting and the Judy SL about a quarter of the way in with the compression clicker one third of the way in from the soft position.

All pivot locations on the Pro Floater are self-lubricating, Teflon-impregnated bushings which can be replaced inexpensively (with simple tools). Noleen offers springs from 600 to 750 pounds in 50-pound increments. Titanium springs and revolving are available upon request.

ABOUT THAT HI-LOW SWINGARM

The Pro Floater has a chain-line swingarm pivot location. To clear the front de-

MANTIS

pivot. The elevated, right chainstay limits the largest chainring option to 48 teeth. The pivot location also works best with standard size chainrings. Compact drive increases the effect of chain torque in the suspension.

BOMBING ON THE BUG

On trail, the Pro Floater was a very business-like handler. The front end went exactly where it was pointed, which took some getting used to for test riders who were used to steeper head angles. The Pro Floater's front end measured 70.5 degrees—a half-degree slacker than the NORBA standard, which paradoxically allows the bike to change directions more readily when the handlebars are moved. The positive feeling was subtle, but noticeable. The Mantis would follow a two-inch ledge on an off-camber singletrack

Mondo machine work: Mantis has joined the ranks of the CNC machining minions. The Pro Floater's swingarm was adorned with handsome aluminum carvings at each terminus. Mantis' rear dropouts were especially cool. The elevated swingarm kept the Mantis quiet in the rough stuff. ▶



SEE OUR FULL SHOWROOM
22718 VENTURA BLVD.
WOODLAND HILLS, CALIF. 91364
10-7/M-TH 10-6/F-SA 11-5/SU

HUBS, SPOKES, NIPPLES AND RIMS

set	\$ 59	A.C. APX Ti Cassette	\$ 299
	\$ 74	A.C. APX front	\$ 99
	\$ 99	Nuke Proof Bombshell RS	\$ 184
	\$ 39	Nuke Proof Bombshell FS	\$ 54
LES	\$ 38	Single Super 8 Rear	\$ 224
		Single Super Dubba F	\$ 84
		White AB Tracker R	\$ 188
		White AB Tracker F	\$ 84
		Woodstock D/H spks.	\$ 18
		Woodstock Alloy Nipples	\$ 14
		Mavic 241 SHF	\$ 34
		Mavic M21TRIP	\$ 50



Hi-tack, Links™
Gripping surface
for positive shifts.

MANTIS

MANTIS



The chain gang: No Compact Drive, please. The Pro Floater's swingarm pivot is located at the big ring of standard sized chainrings or larger. Smaller-diameter, Compact Drive sprockets would cause the suspension to lock out too much under power.

without a fuss, but it would gladly oblige a rider who momentarily pointed the wheel off-trail with equal enthusiasm.

Hard out-of-the-saddle efforts failed to impart any lateral flex into the new Mantis rear end, which was a noticeable improvement over its predecessor. This newfound rigidity, in conjunction with the bike's spacious cockpit, encouraged test riders to rise out of the saddle more often than on fully active Mac-Struts. The Pro Floater was a good overall climber, but felt most at home on long, rough middle-chainring ascents where the suspension's low-end suppleness could be used to carry more speed. Like most active-type suspension bikes, the Mantis favored in-the-saddle climbing, but the new version seemed to be far less fussy about which position the rider chose to put the hammer down. The rear suspension and short, 16.625-inch chainstay length delivered

traction aplenty.

In the saddle, the Pro Floater remained neutral in the curves. If the bike happened to slide around a bit, the rider didn't have to worry about it going off its intended course. If the rider weighted the outside pedal, the rear end would break loose a split second before the front. This held true throughout the speed range. As noted earlier, the bike's no-nonsense steering took some getting used to for some, after which the Mantis became a trusted companion on fast, tricky sections. In deep sand, however, the front end would lose its edge and tend to wander unless the rider put extra weight over the handlebars.

Braking was a less-exciting proposition. True, the new compression strut was much stiffer than the older chromoly version, and while the rear brake stopped reasonably well, it wasn't anything to waste a postage stamp writing home about. Like other conventional MacPherson strut designs, the Pro Floater's brakes felt firm up front and rubbery in the rear. The rear brake was fine for a cross-country mount, but heavy riders or downhillers would be better off with a Magura hy-

draulic unit (the MacPherson strut industry standard). Another option to spruce up the modulation of the rear cant is to use a lever that pulls more cable, like a Grafton or Avid unit.

RATING THE NEW PRO FLOATER

MBA's test staff has taken a long break from testing Mantis bicycles (we were too close for too long), but with new management, new designs and new life we enjoyed becoming reacquainted with the Pro Floater. The new Mantis did a good job of retaining the best attributes and eliminating all but one of the venerable design's headaches. We rate the Pro Floater a very good 8.5 for cross-country use. Because the Floater was intended to be a cross-country ride, there is no provision for chainrings larger than 48 teeth. This and the bike's sub-awesome rear-brake performance added up to a good (but not optimum) 7.5 rating as a downhill mount. At 24 pounds, the Mantis Pro Floater is a raceable cross-country bike, and anyone seeking a full-suspension bicycle that is a gas to ride on dicey singletrack and still be at home in fire-road speeds could find happiness on this bicycle. ☐

