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A Trailbike Speedster

The Pivot Mach 5 *R. Cunningham*

Pivot's Mach 5 represents over a decade of knowledge acquired by Chris Cocalis, one of the long-travel trailbike movement's earliest pioneers. The founder of Titus designed the now-famous QuasiMoto, Switchblade and Moto Lite. Chris left Titus to start Pivot Cycles and set out to rewrite the long-travel trailbike dictionary. The Mach 5 does exactly that. Its Cocalis-designed dw-link, dual-link suspension gives its 5.5-inch-travel rear suspension a hardtail-like jump under acceleration; and a wild-looking, widely spaced bottom bracket/swingarm pivot design insures that lateral flex, the bane of dual-link systems, is arrested before it even becomes a thought.

In profile, the Mach 5 is deceptively simple-looking, which suits Chris fine, because the king of mountain bike minutiae candidly admits that the primary reason that he chose the dw-link, and then reinvented every detail of the Mach 5's frame design, was to simplify the owner's riding experience. The idea is to set the suspension and go. Let the Mach 5 provide firm pedaling when you want it, smooth the terrain when you need it, and corner like it is on rails, all without twisting travel dials, pushing platform buttons, or flipping remote lockout devices.

MACH 5 WALK-AROUND

Pivot bicycles are designed and prototyped here in the USA at the Tempe, Arizona, headquarters. This means that Pivot can test and perfect its designs well before committing to production. When the moment arrives, the design is transferred to Pivot's subcontractor in Asia, where a second round of pre-production prototypes are constructed using factory tooling. When Chris gives the okay, the bicycle goes into final production. The extra steps that Pivot takes to get its bicycles right are massively time-consuming, but Chris knows from experience that there is no other way to produce truly innovative designs while using outside contractors. A walk-around inspection of the Mach 5 reinforces this fact.

The workmanship on the Mach 5 frame is at the level that most attribute to custom-only frame shops. The custom-butted tubes are shaped to counter lateral flex, then curved to clear long-travel forks up front and provide extra stand-over clearance in the cockpit. Under-the-top-tube cable routing looks clean, and up front, a zero-stack, internal headset minimizes the height of the head tube and handlebar. A carbon fiber upper link adds tech appeal and shaves a



Where it all happens: Two forged aluminum halves are welded together to form the Mach 5's bottom bracket area and linkage mount. The 95-millimeter wide shell houses a special press-in Shimano XTR bottom bracket bearing assembly.

few ounces from the frame. A super-wide, 95-millimeter bottom bracket forging doubles as a wrap-around reinforcement for the lower swing-link pivot (red-anodized hardware highlights the highly engineered aspects of the Mach 5's sealed bearing linkage, so you won't miss the action). There is enough room in the swingarm for wide, 2.35-inch tires, but as with all dual-link rear suspension types, space is cramped, so run narrower tires during the muddy months.

ABOUT THE BUILD

The Mach 5 is designed around a 5.5-inch-travel fork and optimized for Fox suspension, so it is no surprise to find a custom-valved Fox RP23 shock and a version of the Fox 32 TALAS fork as standard equipment in all three of the Pivot build kits.

Our Mach 5 used Pivot's top-of-the-spec XTR Ultralite build kit. There are two less-expensive build options and a frame kit that includes the shock, a zero-stack headset, front derailleur, XTR integrated bottom bracket and Fox fork. The frame and shock alone sell for \$1995. Four sizes (extra small, small, medium and large) are available, and the shock valving varies between models. You can choose between two anodized finishes and three powdercoat paint colors. Our size small frame reportedly weighs six pounds.

BEFORE YOU RIDE

Pivot insists that the shock be set with a good deal of sag, 30 percent to be exact. The reason is that the dw-link suspension will ride too high if the shock is overpressured. Take heed, because the "anti-squat" action of the dual-link suspension automatically prevents the suspension from compressing under power, and the Mach 5's linkage geometry makes for a rougher ride with a minimal sag setup. Up front, run Fox's recommended pressure for your weight, and turn in the low-speed compression a few clicks to keep the fork riding level with the rear suspension.

RIDING THE MACH 5

Pivot intended the Mach 5 to have the feel of a cross-country racer, to the extent that it could

Cross-country-plus: While the Mach 5 has a decidedly cross-country feel under power, its secure handling and ample suspension will encourage its rider to step it up a notch through the technical sections of the trail.



Speedster

be competitive in a 24-hour or similar marathon event. To this end, the front end feels livelier and has quicker steering than one might expect from an aggressive trailbike. Part of this energetic feel stems from the bike's light weight of 26.4 pounds, a good figure in this class of rolling hardware. The obvious explanation for the Mach 5's pedaling firmness is its dw-link rear end, which keeps the bike spurting forward with each push on the pedals, even with the shock's ProPedal lever in the off position. The sensation of being able to pedal effectively in or out of the saddle without flipping levers or lockouts is rare among aggressive trailbikes.

Climbing is made easy by the firm, instant feel at the crankset, which frees up the rider to use the best available mode of pedaling to scratch up surprise climbs or to get over a roller without downshifting. Available traction is very good, but not great when ascending technical climbs. Some care must be taken to weight the rear tire to avoid wheelspin, but the extra energy expended during these moments is more than offset by the Mach 5's efficiency in normal climbing modes.

Where the Mach 5 makes up ground is over rolling, flowing singletrack, where its light weight and energetic acceleration seem to urge the rider to give every rise an extra effort. The Pivot's ride-from-the-center balance and easy feel around corners helps to maintain momentum and encourages its pilot to stay off the brakes. The feel of the Mach 5 on an extended singletrack ride is like skimming the surface of the forest.

Descending is a hoot aboard the Mach 5, especially in moderately technical terrain where the bike's suspension is being taxed to its full travel. Its steering can be trusted, and there is enough residual handling left in the chassis to ease you out of a forced error. When the rocks get unnecessarily large and the bumps measure on the angry side of aggressive, the Pivot's suspension will let you know it's at the end of its travel with a significantly harsher ride. Whereas some long-travel trailbike suspension designs feel bottomless when pushed to their limits, the Pivot seems to exchange some of its ending-stroke plushness for cross-country efficiency. The Mach 5's 5.4 inches of travel feel exactly like 5.4 inches.

Overall, the Mach 5 emerges as a spectacularly fun bicycle to ride hard and fast over a wide range of terrain. Its Magura Marta brakes are assets in that they are powerful enough to serve the role of a hard-and-fast descender, yet sensitive enough to ease down a sensitive hiking trail without leaving a single skid mark. And while we are on the subject of brakes, the Pivot suspension does a good job of staying active while braking. Although the rear end stays pretty high in its travel during significant braking events, the suspension keeps the wheel close to the earth over rough surfaces. Its set-and-forget suspension is a model for any entry into the long-stroke trailbike genre. It is nearly impossible to find fault with Shimano's XTR drivetrain in the cross-country role, and its 26.4-pound weight makes it versatile enough for racing on occasion.

THE IMPOSSIBLE DREAM

If you are cut from cross-country cloth, yet possess the skill set of a master technical rider, the Mach 5 is custom tailored for you. If you fantasize about a lightweight, long-travel bicycle that climbs like a hardtail and descends like a seven-inch-travel all-mountain machine, Pivot's Mach 5 will get you closer to achieving your impossible dream than any other trailbike out there. □



Let 'er rip: Cornering and braking were especially sweet aboard the Mach 5, as the front/rear balance was spot-on. Magura's Marta SL brakes have moved to the front of the disc brake pack—they are smooth and powerful stoppers.

PIVOT MACH 5

Price	\$5899
Country of origin	Taiwan
Weight	26.4 pounds
Hotline	(480) 467-2920
Frame tested	16.5" (small)
Bottom bracket height	13.8"
Chainstay length	17"
Top tube length	22.6"
Head angle	69°
Seat angle	73°
Standover height	28.25"
Wheelbase	43"
Suspension travel (front)	5.5"
Suspension travel (rear)	5.4"
Frame material	Aluminum
Fork	Fox TALAS RLC
Shock	Fox RP 23
Rims	DT Swiss XR 4.20
Tires	Kenda Nevegal, Small Block 8 (r)
Hub	DT Swiss 240s
Brakes	Magura Marta SL
Brake levers	Magura Marta Carbon
Crankset	Shimano XTR
Shifters	Shimano XTR trigger
Front derailleur	Shimano XTR
Rear derailleur	Shimano XTR Shadow
Chainrings	Shimano XTR (44/32/22)
Cassette	Shimano XTR (11-34)
Pedals	None (weighed with Crankbrothers Candy)