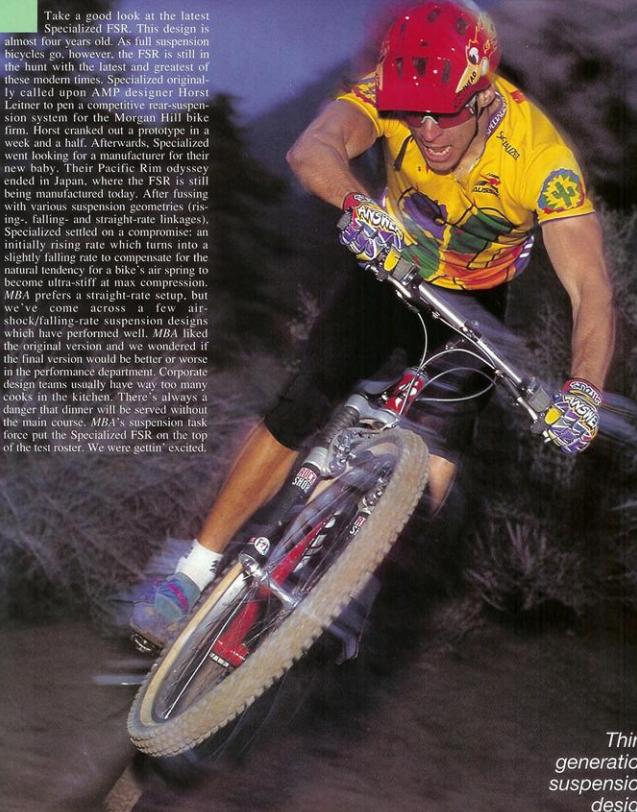


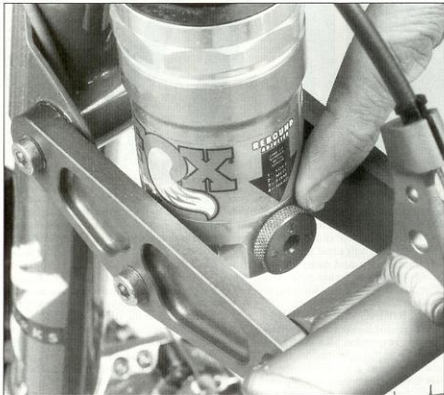
Take a good look at the latest Specialized FSR. This design is almost four years old. As full suspension bicycles go, however, the FSR is still in the hunt with the latest and greatest of these modern times. Specialized originally called upon AMP designer Horst Leitner to pen a competitive rear-suspension system for the Morgan Hill bike firm. Horst cranked out a prototype in a week and a half. Afterwards, Specialized went looking for a manufacturer for their new baby. Their Pacific Rim odyssey ended in Japan, where the FSR is still being manufactured today. After fussing with various suspension geometries (rising-, falling- and straight-rate linkages), Specialized settled on a compromise: an initially rising rate to compensate for the natural tendency for a bike's air spring to become ultra-stiff at max compression. *MBA* prefers a straight-rate setup, but we've come across a few air-shock/falling-rate suspension designs which have performed well. *MBA* liked the original version and we wondered if the final version would be better or worse in the performance department. Corporate design teams usually have way too many cooks in the kitchen. There's always a danger that dinner will be served without the main course. *MBA's* suspension task force put the Specialized FSR on the top of the test roster. We were gettin' excited.



Third
generation
suspension
design

SPECIALIZED TEAM
FSR

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Hidden pleasures: The extra beef in the FSR's linkage is a testament to Specialized's designed-in reliability. Tucked between the FSR's moving parts is the Fox ALPS rebound adjustment knob. The entire bike had a purposeful look to it.

FSR UNDER THE MICROSCOPE

On the whole, Specialized has really put some effort into the FSR to make its flagship cross-country-worthy. The cockpit is sensibly outfitted with a cast titanium, zero-rise, 135mm stem, Ti-rail racing saddle, and arch-top seatpost. The top tube is lowered to compensate for the bike's tall-ish bottom bracket. Astride the FSR, in true Specialized fashion, everything feels where it should be. Even the

bike's tires fit the bill: Ultra-aggressive Team Masters, front and rear. The FSR even comes standard with Shimano SPD pedals. Drivetrain? No funky compact drive here. The FSR gets life-sized, Shimano XTR cranks, chainrings, and cogs—a relief from the low-buck land of Lilliput.

The FSR's frame is TIG-welded Tange Prestige chromoly up front. The rear suspension is 0.875" diameter 7005 alloy

● **Frame construction:** Fully-active, linkage-type rear suspension; TIG-welded Tange Prestige front section; TIG-welded 7005 alloy rear section; one down tube and one seat tube bottle mount.

Frame geometry: Size tested—18"; head angle—71.5"; seat angle—73.5"; top tube length—22.5"; bottom bracket height—13"; wheelbase—42"; stem—135mm extension, 5" rise.

Shock: Fox ALPS air/oil; rebound adjustable; 1.25" stroke; alloy body.

Fork: Specialized FSX Judy (elastomer/cartridge-type with carbon legs).

Suspension travel: (front) 2.5"; (rear) 3".

Components: Drivetrain—Shimano XTR Crankset (26, 36, 46), Shimano XTR cogs (12X32, eight-speed); XTR front and rear derailleurs; brakes—Shimano XTR with cartridge pads; cockpit—Specialized Ti-rail leather saddle; Specialized arch top seatpost (29mm); Specialized S-Works 6/4 titanium 2-bolt stem; GripShift X-Ray shifters with Dia-Compe PC 11 levers; Specialized alloy handlebar; wheels—Hugi front and rear hubs (32 spokes); Specialized Z-21 Pro rims; 15/17-gauge spokes; black alloy nipples; Specialized Team Control (front) and Team Master (rear) tires (2.1"—Kevlar bead); goodies—Specialized Ti quick releases; Specialized Ti crank-bolts and SPD 535 pedals.

Sizes available: 16.5", 18", 19", 20", 21.5" (center to top).

Weight: 26.6 lb.

Price: \$3500. ●

tube with CNC-machined alloy link plates. The swingarm is the classic Horst Leitner design: its main pivot is about an inch above the bottom bracket center to counter chain torque in the small chain ring. The rear dropout is attached to the seat stays. The seatstays form a rectangular monostay setup which drives the suspension's lower link. A one-inch stroke Fox ALPS air/oil shock is mounted between the linkage and the top of the seat



Well-rounded gentleman: The FSR was adept in any terrain. This bike disappeared underneath the rider. We didn't like the gray, "Umma Gumma" version of the Team Master tires as much as the black versions. The black rubber seemed to hold an edge in the rocks better.

tube on reinforced steel tabs. To keep things running smoothly, all the pivot locations on the FSR are drilled to accept a WTB-style grease gun.

In reality, the Specialized design is essentially the same as GT's LTS-1 rear end. Rather than fuss with a complicated scissor linkage, however, the Specialized FSR incorporates the upper part of the seat tube into the suspension. Sweet simplicity? Almost. The FSR's rear suspension still requires seven pivots. A MacPherson-strut type only requires four, and a floating drivetrain has three. The FSR was built for the long haul, however, and we'd expect the Specialized "a little stronger, rather than lighter" axiom to apply in all aspects of their suspension bike.

Up front, the FSR features Specialized's version of Rock Shox's Judy, complete with carbon-fiber sliders, CNC'd dropouts and a custom fork brace. The internals are the same as a Judy SL, and

we'd expect similar performance. We liked the fact that the travel for both front and rear suspension on the FSR was nearly matched at two and a half inches. Theories about mega rear travel or grossly different spring and damping qualities between front and rear suspension are bunk. Balance is the key for great monkey motion.

RIDING IMPRESSIONS

Specialized has put some serious effort into this suspension bike. The FSR is not cheap by any means, and its design isn't new. This puts a burden on the Morgan Hill firm to make their flagship perfect in every detail. This is one brand that isn't short on fat-tire knowledge or a design staff.

We all gave the FSR high marks for handling and fit. Like all top Specialized mountain bikes, the cockpit is race-ready. The only glitch in the driver's seat was the gray, mushy rubber grips. We hated them. If you use demi-gloves and have your nails done frequently, the too-soft grips will suit you fine, but no suspension bike needs more mush, especially if the grips slowly work off the ends of the handlebar. The geometry of the Specialized felt quick—and it was. It seems that a

longer-travel shock was installed on our FSR. The extra quarter-inch cranked up the rear end of the bike, increasing its head and seat angle to a bit under 72 and 74 degrees respectively. To be honest, we liked the change.

Like its predecessors, the FSR is as happy on a fast fire road as it is on scary slick rock. The rider sits between the wheels in just the right place to negotiate most obstacles without excessive body english. Aided by some of the best tires on the dirt, the Team FSR almost corners by itself. Braking was top notch. The feel was firm at the levers, probably because of the short, stiff, alloy seat stays and CNC'd Specialized brake bridge on the FSX Judy fork. Shifting was sensitive to the slightest adjustment. The culprit seemed to be the rear-derailleur housing, which flexed as suspension was actuated. If care was taken to keep the GripShift X-Ray twister properly indexed, it was no problem. Otherwise, the rear derailleur would occasionally switch gears under power, without warning.

At 2.5 inches of travel, Specialized's version of the Rock Shox Judy was well balanced with the three inches of suspension provided by the rear linkage. *MBA's*



◀ **Life insurance loophole:** To keep the FSR out of the shop for an extended period, Specialized incorporated grease ports at all pivot locations. The FSR remained tight throughout a mud-infested test period.



◀ **A fork of a different color:** The Specialized FSX version of the Rock Shox Judy is an identical version internally. Externally, however, the carbon fiber and CNC'd alloy FSX rates much higher in sheer coolness.

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approval of the Judy system is a well-known fact by now, but we must say that the FSR version, with its carbon fiber externals, is far sexier than the "electrical banana" Judy SL it competes with. Specialized had a chance to increase the meager mud clearance of the stock Judy fork brace, but failed to incorporate the necessary improvement when they designed their CNC'd version.

The bottom line on the FSR's linkage rear end is very promising. After dialing in the air pressure setting, we noticed our FSR was equipped with an all-alloy Fox ALPS shock. The clue was its four-way-adjustable rebound valve. This made a world of difference in our ability to dial in the rear end. Because the linkage had a significant mechanical advantage over the shock, stiction was less of a problem on the Specialized bike than others in this test. We could tune a much greater degree of low-end performance into the FSR's suspension.

As all of the Horst-derivative suspensions do, the Specialized FSR was a true active system in braking and acceleration. Because of some friction in the linkage (there is a break-in period for most full-suspension bikes) or the Fox shock's slight reluctance to get going, the FSR's rear end didn't feel like it floated over the

terrain, although it sucked up bumps over the entire speed range without a fuss. When test riders were asked to comment about the FSR's rear suspension, they invariably liked it. All noted however, that the damping felt stiff in compression. The litmus test of how active the rear end was could be seen by the rider: The little Fox unit was constantly working, even at low speed, over relatively smooth surfaces.

Ascending on the FSR was smooth and punctuated by massive amounts of traction. The Team Master rear tread was a real help here, but the star of the show had to be the FSR's rigid-feeling rear stays. Like all active rear suspensions, the Specialized would bob a little with each power stroke, but the effect wasn't unsettling, especially if one considers the trade-off is traction in virtually any cycling position, without the need for butt-balancing over the rear of a skittish hardtail. The FSR could be hammered out of the saddle, if the rider took care to stay smooth. While seated, the bike was a real joy to climb with, even considering its near-27 pound weight.

FSR TEAM GEOMETRY

Size tested: 18". **Sizes available:** 16.5", 18", 19", 20", and 21.5". **Frame material:** Front section—Tange Prestige, double-buttet chromoly, TIG-welded;

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rear section—7005 alloy TIG welded, CNC-machined terminals. **Weight:** (as tested) 26.6 lb. **Shock:** Fox ALPS air/oil, adjustable rebound. **Suspension travel:** (front) 2.5", (rear) 3". **Head angle:** 71.5°. **Seat angle:** 73.5°. **Top tube length:** 22.5". **Chainstay length:** 16.9". **Wheelbase:** 42". Bottom bracket height: 13". **Price:** \$3500.

RATING THE FSR

Considering that our Team FSR was pretty tricked out in stock form, we wouldn't expect that its weight could be drastically reduced. Because of this, the FSR is a tiny bit on the fat side to be truly competitive as a cross-country racer. That said, the FSR would still be fun to compete on. After all, Ned Overend's bikes weighed the same when he was dominating the world mountain bike scene. As is, the FSR is a pretty cool suspension bike. There isn't a lot we would switch. We'd like it to weigh less and have firmer and thinner grips, bar ends, and a less sensitive route for the rear derailleur cable. The rest is as good as it gets without re-designing the entire package.

The FSR is the classic Specialized: a fun-to-ride, all-around handler, that could be hammered at a NORBA event, or happily cruising the back country somewhere. □