

# MAMMOTH MOTO MACHINE

*Dialing the WR for the  
Mammoth Motocross*

By Tim Tolleson



◀ **Damon Bradshaw and Doug Dubach will be campaigning the Yamaha WR500 in the 500 Nationals this season. Are they biting off more than they can chew?**

Yamaha's do-it-all WR500 is a little too blunt for the surgical precision of motocross. I raced Goat Breker's San Diego Amateur Supercross on one and didn't die, but I didn't win, either. The San Diego track was blue-groove adobe with huge berms and evenly spaced whoops, all of which made the WR feel decent. It has a mellow low-end, slow steering geometry and decent suspension, so it felt pretty good on the stadium floor.

Trouble is, most motocross tracks aren't found inside baseball stadiums. They have real dirt, off-camber turns and all kinds of nasty bumps placed at the worst spots imaginable. Combine that with a machine that has very little low-end, the rake of a Harley-Davidson and too-soft suspension, and you will quickly find yourself in line for some Grecian Formula gray hair remover. The WR500 is a lot more fun to ride on a motocross track than a YZ490, but it doesn't hold a candle to a CR or KX500, stock.

So when Paul Thede put a porting tool to Ron Lawson's temple and threatened to raise his transfers unless we let him modify our WR500, we accepted. I was planning on racing the Old Timers/Over the Hill Gang Mammoth Motocross, and Mammoth is definitely an Open-class MX track, so the weekend would be a good test of what a dialed and styled WR500 could do.

## MAMMOTH MODS

Thede did some testing on the stock WR and realized right away he had some work cut out for him. First off, the head was the same as any YZ490 head, which explains the

pinging on long straights. He jetted it to eliminate pinging and it blubbered like the bride's mother at a wedding. Also, the porting was very mild, explaining the lack of violence in the low-end. Granted, this was good for all-around riding, but it's anemic when traction is plentiful and you're in a hurry. Both ends were harsh on square-edged acceleration bumps, but both bottomed on G-outs and sand whoops—and it didn't like to shift under a load.

Race Tech matched the squish band to the piston but didn't raise compression (Mammoth is at 7500 feet, but I usually ride at around 3000). Thede ported the cylinder to give the WR more everywhere, especially off the bottom. Boyesen reeds replaced the stockers and Thede cut out some of the supports to make the cage flow better. The air-box was cut down and slotted on the left side. With these mods, Thede found that a #55 pilot, 3.5 slide, 16 needle, Q8 needle jet and 460 main worked best at sea level. For Mammoth, though, he went with a #50 pilot, 430 main and 15 needle, with all else being the same.

Just in case it started pinging at those high elevations, Terry Varner Racing installed a Power Jet, which is externally adjustable (like a Jet-Ski jet), so I could keep it from seizing. The Power Jet was designed to allow crisp jetting for motocross; then, with the twist of the adjuster, you can richen it for high-speed, high-load passes up sand dunes or down sand washes. It sounded like just the thing for a WR, so—why not?

A Race Tech linkage shifter was installed. Thede is also working on a pipe for the WR500 but, for Mammoth, the stock pipe would have to do. A DID non-O-ring chain

was installed to cut power loss through the chain. Motoman Distributing ([714] 391-3278) supplied the chain and the Renthal Honda bend aluminum bars. We've actually had test riders bend stock Yamaha handlebars casing it off of jumps, so the Renthals were more welcome than Twiggy at an all-you-can-eat fish fry. While the bike was apart, I installed a Dunlop K690A sand tire up front and a 120/100×18 K595 on the rear.

With the motor and chassis done, Thede switched his attention to the suspension. The stock springs are good for a rider up to 170 pounds. I beat that by 50 pounds, so Race Tech went to a 5.1-kilogram rear spring. Being the Prince of Plushness, Thede resisted stiffer springs up front and raised the oil level from 110mm to 70mm to fight bottoming. Both ends were revalved to be plush on the square-heads and resist bottoming on G-outs and such.

## MOTO-ING AT MAMMOTH

Jim Holley and I tested for two days before the race weekend. Jetting was a tad rich on top but clean off the bottom, so we left it alone and turned the Power Jet all the way closed. Both ends bottomed on the Mammoth whoops, so I increased the compression five clicks at each end, which brought the settings to 8/12 front and 17/11 rear. The front end skated a bit, so I set sag at 97mm and did a few more laps. The skating got worse. I came in to find that I'd chunked half the side knobs off of the 690, so I swapped front wheels with the WR250 I had along as a spare (last year I completely waded an ATK 604 and a CR500R at Mammoth, so I always carry a spare). The hubs are the same, but the 500 has a smaller-diameter disc, so I had to swap those, too. "Super" Dave Urban, Southern California's traveling Bridgestone distributor and parts salesman, dialed the WR with a Bridgestone M40 sand tire. With that, I was as ready as

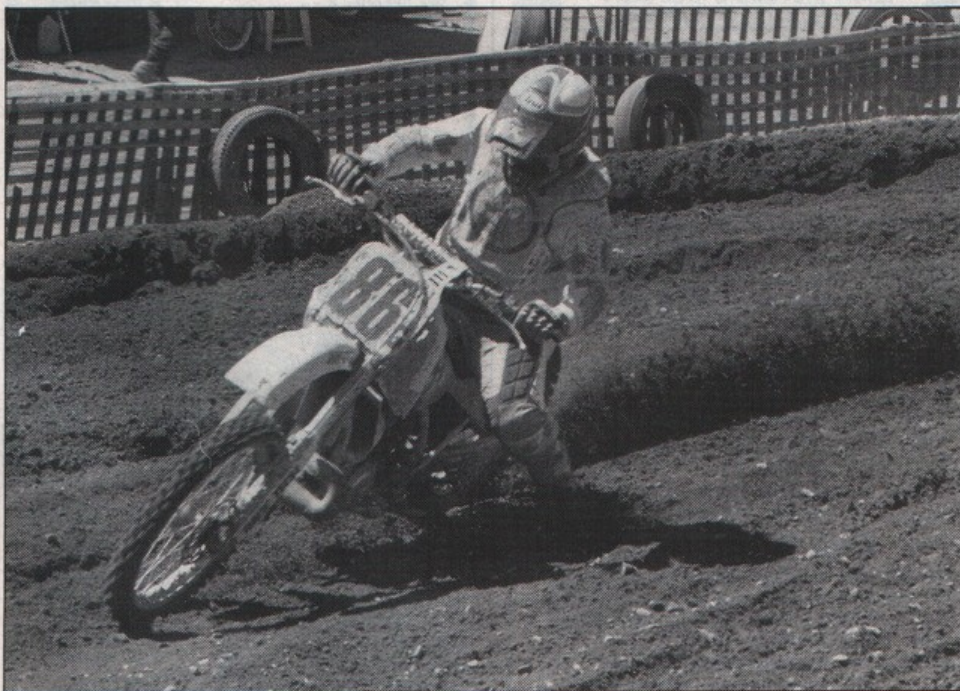
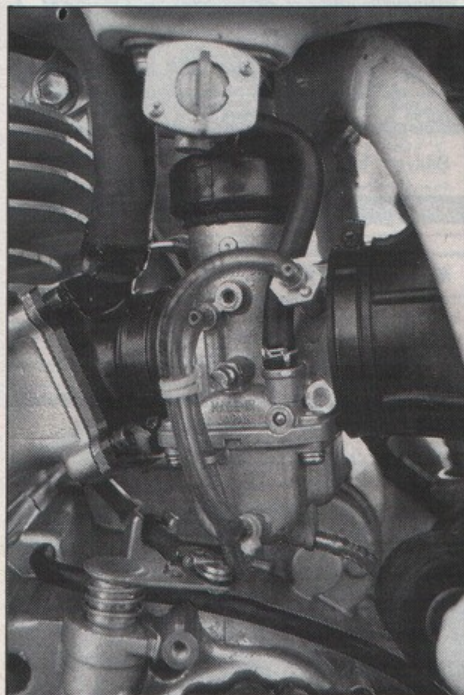


I'd ever be for four long motos on the roughest track in California.

With the Thede suspension and Bridgestone ED-11/M40 tires, I could place the WR500 anywhere I wanted on the high-speed track, although carving to the inside required a lot of effort. Brake-sliding into the loamy berm, then feeding massive throttle and clutch worked best, and the WR snaked several quicker-turning bikes this way. It really shone on the whooped-out straights and sweepers, though. The rougher the section, the more confident I was. Where CRs were shaking the steering head, the WR was rock-steady, so I could drive longer and brake harder.

The Race Tech motor made lots of smooth, predictable power. It would snort out of corners with a dose of clutch, then wheelie into a potent top-end. Shifting was criminally easy with the Race Tech linkage shifter. For sure, the Race Tech WR500 was the best air-cooled Open bike I'd ever ridden but, no matter what you do to the WR, it's still a YZ490. One of the reasons the whole world has gone to liquid cooling is that the head temperature is held more constant, so that you can jet the bike close to optimum. The WR500 isn't like that. It's more of a slave to the weather, so you have to rejet between the morning moto and the hotter second race. Otherwise, it's going to blubber and refuse to clean out, just like a YZ490—a fast YZ490.

Also, the WR vibrates obscenely and generates a ton of engine noise, which makes it not as much fun to ride as a KX or CR. It's still heavy, too. Thede did a great job of smoothing out the rough edges of the WR's suspension and motor, and the bike was fairly competitive on the natural terrain Mammoth track, but I didn't have all that much fun racing it. The vibration, noise,



*The power and suspension were awesome on the Race Tech WR500, but the air-cooler still vibrates like a lawn mower with loose motor mounts.*

**The bottom line:** As good as Race Tech dialed the WR500, it's still more of an off-road sled than a motocross missile. We like the bike, but not necessarily for MX.

◀ **Jetting is critical with our WR500, even after Race Tech reworked the head and ports. Check out the Varner Racing Power Jet; it's an insurance policy against seizure in sandwashes.**

weight and jetting hassles overrode the sweet suspension and National-caliber motor.

The bottom line is that the Race Tech WR500 is a darn good desert, GP and cross-country bike, and it'll go like stink around a motocross track if you stay on top of the changing weather conditions and adapt to the bike's slow steering. It's just not as much fun to motocross as the more snappy WR250. If you're an air-cooler diehard, the Race Tech WR500 is an awesome machine that can be manhandled around a motocross course, but don't expect to look like Jean-Michel Bayle on one.

How did I do? Well, I didn't die, but I didn't win, either. The Over the Hill Gang Experts are so competitive that you can't give up anything and expect to break into the top ten. The WR500 gives up a lot on a motocross track, no matter how well you dial it, but this isn't Race Tech's fault. While I was muscling the 500 around Mammoth, Doug Dubach was winning his first-ever AMA Supercross at San Jose, aboard a YMC/Race Tech YZ250. I picked the right tuner for the weekend, but chose the wrong bike. Yamaha hadn't intended the WR500 to be a motocross bike, and nothing can change that.

**WHAT IT COST**

Porting .....	\$200.00
Head mod .....	70.00
Shifter .....	120.00
Boyesen reeds .....	34.95
Reed cage mods .....	25.00
Power Jet .....	47.00*
Fork mods .....	135.00
Shock mods .....	175.00
DID chain .....	34.95
Renthal bars .....	69.95 □

\*plus \$18 installation.