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HOT TECATE KX250

Ripping around the Sierra Vista, Arizona, area is one of the coolest three-wheelers we've seen in years. This immaculate Kawasaki Tecate three-wheeler is owned by David Moore. It's not powered by the original Tecate 250cc two-stroke motor, but rather features an engine from a modern KX250 motocross bike, complete with a KIPS power valve. The engine features motor work by CT Racing as well as a chrome CT exhaust. The complete rear end and swingarm is made by Lone Star Racing and the suspension is by PEP. We wouldn't want to be the buddy who asks David for a spin and then tips this one over!

GNC SEASON FINALE JAMBOREE

Sam Gammon, the affable promoter of the Victory Motorsports Raceway near Greenville, Tennessee, says "We're planning an official AMA-sanctioned ATV jamboree in conjunction with the final GNC TT race of the year. Since we have over 400 acres of land to work with here, we thought we'd put on a few other events to make it a big season-ending finale. We plan on having trail rides, manufacturer demo rides, poker runs, dirt drags, mud-pulls, what-have-you, lots of fun stuff," says



Gammon. "This will be an annual event and will be exclusively aimed at ATV riders and their families. It will be held over three days, Sept. 1-3, and we want people who ride utility and work-type quads to come out and enjoy the Tennessee sun and see some good racing." Sam also told us that the TT Pro National will run Sept. 2, under the lights, with all the other events being held over the course of the three-day jamboree. For more information contact Victory Sports at (423) 323-5497 or check out their website at (www.victory-sports.com).

NEW POLARIS SPORT & MINI QUADS SET TO DEBUT

A hot rumor making the rounds is that Polaris is burning the midnight oil working to develop a "for real" high performance quad to match or surpass rival Bombardier's DSE50 thumper. Besides an all-new performance ATV, the company is also rumored to be hard at work on a new mini-sized Polaris for the expanding youth quad market. While there is no definite word on the engine type, size, or horsepower on the proposed monster four-wheeler, we do know that Fuji motors (the makers of the engines for Polaris watercraft and ATVs) has a stable of high-horsepower two and four-stroke engines to choose from. The new mini quad is a machine Polaris sorely needs to fill out its extensive 4x4 and 2x4 lineup, so we can look for it possibly later this year. Expect to see something spectacular from the Minnesota-based manufacturer in the high-performance ranks early in 2001 or even possibly later this year if we're lucky. Remember, you heard it here first.

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POWERVERVALVE FOURTRAX 250R

CT Racing brings in motocross technology

Several years ago, CT Racing developed the first aftermarket aluminum cylinder for the Honda 250R engine. Called the Pro-Cross (originally Pro-X), this new cylinder allowed ATV racers much more leeway with motor modifications than the stock 250R offered.

In the motorcycle motocross world, engines with various types of power valves have been standard equipment for well over a decade. Virtually every 250cc and 125cc race bike has some sort of power valve now, but never has there been a production ATV with one (when the Gas Gas 300 [see page 100] hits the showroom floors, it will be the first).

The next step for CT Racing was obvious—develop a power valve modification for their Pro-Cross cylinder. Power valves in the various motocross bikes all accomplish the same goal, but have different designs; for example, Kawasaki's KIPS is different from Honda's Powerport which also differs from Yamaha's Powervalve.



The black round thing you see sticking out of the front of the top of the cylinder is the diaphragm cover for the RAVE valve. CT Racing machines the cylinder (with no welding) to accept the RAVE valve. It is the same system used in Bombardier's Sea-Doo watercraft and Ski-Doo snowmobiles.

◀ This particular machine is CT Racing's pre-season Research & Development race quad. It utilizes the Arens FourTrax chassis which is built in Michigan and has already proven itself to be competitive on the National circuit. CT's next racer will feature a Lone Star Racing motocross chassis.

ROTAX-BASED

CT Racing has adapted a power valve system used on Rotax watercraft and snowmobiles motors, called a RAVE. Before we get into any details, let's first talk about what a power valve is.



◀ *Utilizing the lower end of a Honda FourTrax 250R engine, this CT racer is prepped to the hilt with a Pro-Cross cylinder, CT National pipe, RAVE power valve and custom porting.*

vantage to a Nikasil motor is it cannot be bored—if you damage the bore it has to be re-nikasilled or sleeved.

TRICK CYLINDER

There are many other upgrades associated with the Pro-Cross cylinder, compared with the stock Honda cylinder. Again, the Pro-Cross cylinder draws several features from current MX motorcycle technology. The cylinder does not use a head gasket, but instead utilizes an O-ring. The cylinder has two auxiliary exhaust ports which allows for more port area without sacrificing durability. A super-wide exhaust without auxiliary ports causes the rings and piston to wear faster.

Having auxiliary ports also allows motor builders to stagger the port timing to develop a broad power curve. Larger transfer ports with flatter rooftop angles are also featured in the Pro-Cross cylinder. The intake has CT boost ports and large Boyeson holes. Compared to the stocker, the Pro-Cross cylinder has double the water capacity, and most

POWERVALVE

linkage. Like other modern high-performance racing shocks, these TCS units run with no pre-load. If you move the pre-load adjusters it just raises or lowers the quad ride height. With this system you can get maximum wheel travel without having your quad sitting high up in the air. The TCS fronts have adjustable compression damping and just two springs. The rear features adjustable

compression and rebound damping. TCS only uses two springs where some companies use more. They use the soft spring for ride height and a main spring for stiffness and roll control. They also use an internal valve that has a shim stack for tuning. With this system, hydraulics control the shock's performance. With a shim stack they have internally tunable low- and high-speed compression damping; rebound damping is controlled the same way. Many of the high-performance shocks on the market don't have the internal tuneability

so they use springs to do the work. With low- and high-speed dampening and the SCS spring setup, you end up with a quad that offers maximum travel with a low ride height, very plush performance in the small, braking bumps as well as handling the big Pro-level jumps.

Even though the plastic is stock Honda, this machine gets its good looks from the Zing graphics and seat cover. CT now offers the Zing graphics kit for the R in both red and blue.

RACE TRACK TEST

We did our testing at the Glen Helen motocross track in southern California on a day when not much was going on. The good part about this is we had the place to ourselves. The downside is they don't water the track so it gets pretty dry and slick. In these conditions you don't get to hammer the throttle in the turns to take advantage of the awesome power; you've got to use finesse. This motor has such a useable powerband it was an easy task. But when you get off the corner and onto the straights is when the fun begins. Pin the throttle and this thing hauls! Craig Peterson from ITP was out when we were testing and without riding—only seeing and hearing—claimed he had to have one. Craig said "the tone of the exhaust does not sound like a normal national motor, it sounds like a factory works motorcycle". We had several test riders, including White Bros. R&D technician and four-time National MX champion Gary Jones. Gary said, "This thing's got power everywhere, and it's easy to go fast."

Dirt Wheels test rider Adam Campbell said, "This motor has the broadest powerband I've felt on a race quad. It comes on strong right from the bottom and just keeps on pulling to a top-end that I could never open up fully on this track. This should be the motor to beat at next year's Nationals. The chassis and suspension were also top-notch, certainly ready for pro-level action. It turned great, fit my style great and landed super-smooth off the jumps. There's not much else you could ask for from a racing quad."

Our test session went flawlessly with no problems and lots of laps run by everyone who wanted to ride.

The bottom line is, CT Racing has upped the technology bar and we'll probably see a lot of scrambling in the race industry to follow suit. The Pro-Cross cylinders have already proven to be a dominant force in some types of racing, and it looks like we may see it invade the National Pro 250 class. **Q**

	Size	1 Size	2 Size & 3 Price
Hard Shell - 2	2111-14	\$65.00	\$175.00
Hard Shell	2111-15	\$65.00	\$200.00
	2111-16	\$65.00	\$240.00
7 Edge	2211-09	\$67.50	\$205.00
8 Edge	2211-10	\$68.00	\$210.00
4 Edge	2111-04	\$64.00	\$195.00
5 Edge	2211-11	\$65.00	\$200.00
7 Edge	2211-12	\$65.00	\$200.00
8 Edge	2211-13	\$65.00	\$200.00
9 Edge	2211-14	\$65.00	\$200.00
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13 Handle	2211-18	\$75.00	\$200.00
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16 Handle	2211-21	\$75.00	\$200.00
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27 Handle	2211-32	\$75.00	\$200.00
28 Handle	2211-33	\$75.00	\$200.00
29 Handle	2211-34	\$75.00	\$200.00
30 Handle	2211-35	\$75.00	\$200.00
31 Handle	2211-36	\$75.00	\$200.00
32 Handle	2211-37	\$75.00	\$200.00
33 Handle	2211-38	\$75.00	\$200.00
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83 Handle	2211-88	\$75.00	\$200.00
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86 Handle	2211-91	\$75.00	\$200.00
87 Handle	2211-92	\$75.00	\$200.00
88 Handle	2211-93	\$75.00	\$200.00
89 Handle	2211-94	\$75.00	\$200.00
90 Handle	2211-95	\$75.00	\$200.00
91 Handle	2211-96	\$75.00	\$200.00
92 Handle	2211-97	\$75.00	\$200.00
93 Handle	2211-98	\$75.00	\$200.00
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95 Handle	2211-100	\$75.00	\$200.00

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