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CT RACING LTR 500

DW PROJECT

Showcasing what Suzuki's legendary LTR can really do

By the staff of *Dirt Wheels*

□ The Suzuki LTR450 has proven to be one of the best performance quads in the 450 class, as it has won countless 450cc titles in many disciplines of racing. Southern California's CT Racing put together an LTR specifically for the Open class; many race series are back to offering an Open class, which is a 451cc-and-up class. CT Racing won that class in 2010 with Jason Dunkleburger on a YFZ-R, so they changed it up and went after the big horsepower with an LTR. You can make the quad legal by just slipping a big-bore kit on, such as the Cylinder Works 480cc kit. This is going to get you a slight bump in horsepower, but not a race-winning fire-breather. For this project, CT went big with a 500 cc motor. CT did run the cylinder Works Cylinder, but also added a Hot Rods stroker crank to increase the cc's. CT Racing gets 58 rear-wheel horsepower out of their national 450cc package, so it's more important to do all the other stuff correctly and then add the cc's.

CT Racing starts with the head and does a high-flow CNC Race port, then they do a CNC Radius five-angle valve job, setting up either standard or +1mm Del West valves. Del West is one of the top titanium valve makers in the U.S., and a significant number of NASCAR, F1 and Supercross teams use Del West's valves. CT Racing uses CV4 valve springs to control the valves at high rpm. An important part of setting up valve springs is getting them to control the valve float. However, for it not to be any stiffer than needed, any extra pressure is lost horsepower, as it takes power to open the spring. CT Racing does a lot of testing and evaluating on springs with their Data Acquisition valve-spring tester. They will also float valves on the dyno to see what the point is for reference, and then bring the pressures back up. The base washer is part of the CV4 valve-spring kit, and having the correct thickness of the base washer for correct seat pressure is a large part of a dialed valve-spring setup. All of that is part of CT Racing

CT RACING LTR 500



R&D setup. CT Racing worked on and built heads for the Suzuki RM-Z450 for the factory team in Australia, as well as developed and worked on the heads for MotoConcepts' rider Mike Alessi. Mike finished second for the 2012 National Outdoor season behind KTM's Ryan Dungey.

Much of the development, testing and parts for the two-wheeler are very similar to the quad motor. CT Racing utilizes the Cylinder Works cylinder, but changes the compression ratio with an LAPC piston. LAPC is a new name in pistons but an old face. LAPC is a division of L.A. Sleeve. L.A. Sleeve introduced and marketed the Pro-X pistons to the U.S., and L.A. Sleeve has been having custom pistons made for years, such as all of the pistons for the big-

bore Pro-X cylinders—from 265cc to 410cc packages. They also had their own line of big-bore Blaster and Banshee kits, plus numerous big-bore motorcycle cylinders made, so now they have gone about manufacturing a complete line of performance pistons under the LAPC banner.

TUNING

CT Racing used the Power Commander 5 for the chore of tuning the fuel map. The new Power Commander 5 now comes with ignition-tuning capabilities, along with Rev Extend, so you can add a few rpm to the rev limiter. The PC 5 is also auto-tune-capable. You can purchase the Auto Tune kit for a couple hundred extra dollars, and it will build you your own map. If you don't have a dyno nearby, this is a nice add-on feature. With the

PC 5, you can get a map from your engine builder, or there are many base maps to choose from on the Dynojet website, which you can simply download and test. If you purchase this package from CT Racing, they will download a map for you. Or, if you're buying the PC 5, they will ship it with the tune.

CHASSIS

The LTR comes from the factory at the full-AMA-legal width of 50 inches. Stock A-arms are great for recreational riding, local racing and so forth, but Laeger Racing offers a long-travel, long-shock front end for the LTR. The long-travel A-arms offer higher-quality travel, along with better shock-leverage ratios and more wheel travel. To increase rear width, we added the Duro Blue Eliminator 242 axle. It is both lighter and



ASV's Unbreakable levers grace the Flexx bars and give the machine a trick look.



We love the Flexx bars for their comfort factor. If it were our machine, we would select a flatter bar bend; however, the bars perform flawlessly.



CT's Sonic exhaust system makes great power and is durable, but it is loud.

◀CT's huge engine (around 500cc) puts out massive horsepower. On the dyno, it was pulling 63-64-horsepower passes all day; stock is 36.



The stock swingarm was used in conjunction with the Race Tech shock. It handled whoops and jumps with aplomb.



Here you can see the Pro Design filter and Power Commander 5.

stronger than stock, and it is adjustable and able to narrow the back end for trail or more traction on slick surfaces. The stock swingarm was retained, as it is the correct length and plenty strong.

Race Tech has been working on ATV shocks since Gary Denton

worked there as a tech back in 1985, during the introduction of the original 250cc QuadraCruiser. Paul Theede, the head guru at Race Tech, worked with Gary back then and worked with CT Racing's Allen Knowles developing the long-travel Ohlins Big Body shocks for "Chargin'" Charlie

Shepherd back in the Micky Thompson days. Race Tech has been offering shock revolve kits (Gold Valve) to the ATV industry all along, but just a few years back, Race Tech started building their own complete line of ATV shocks. Race Tech brought in Todd Davis, former owner of TCS



The one thing we wished for on the CT LTR was a nice set of heel guards.

Suspension, to help them develop the ATV and UTV lineup with very impressive results.

CONTROLS

FasstCo Flexx bars were hung onto the Laeger anti-vibration steering stem. The Flexx bars absorb a lot of the impact that would normally be transferred to your arms and hands, saving energy so you can ride hard longer. This is a real positive, especially for any type of endurance racing. Streamline's new Reflex unbreakable brake and clutch lever were used, along with Streamline's stainless steel brake lines, brake-line guides and brake rotors. The brake lines save a lot of hand energy, as the spongy stock lines absorb energy, taking more power to operate the front brakes. The Streamline front lines on the LTR offer very good one-finger braking.

THE RIDE

We took the CT Racing LTR to

CT RACING LTR 500

Milestone MX Park in Riverside, California, where we had some pro-level racers and amateurs alike put some seat time on the bike. First, the machine is aesthetically beautiful, with a unique white-and-candy-red color scheme that is reminiscent of the old Honda 250Rs. The CT motor started up without any issue or fussing and idled smoothly. Right out of the bag, you can tell it isn't a stock 450 engine; the raspy sound of the exhaust note demands respect.

CT Racing retained the stock thumb throttle for our testing, and with the LTR's EFI system, it is light and easily controllable. The FasstCo Flexx bars were a tall, flat bend, which we love, so the ergonomics of the LTR were opened up quite a bit over stock to make taller riders more comfortable in the saddle. Blingstar provided the nerfs, pegs and bumpers, all of which look great and performed well.

We warmed up on the wide-open practice track at Milestone, which is full of long, sweeping turns and some decent-sized doubles and tabletops. The LTR has enough power to pull taller gears out of every corner and blast over jumps, or you can rev it out like a smaller engine. The advantage of the big-bore and stroker kit is the insane power from bottom to top. The engine pulls from idle to redline with-

Hooking a line and pulling out hard are this LTR's strong points. It makes massive power, and thanks to Laegers and Race Tech, it has the suspension to handle it. ▶

out ever giving the rider a chance to release their death grip on the bars. It's wicked fast, brutal and extremely fun.

After our warm-up run, we put in a few laps on the vet and MX tracks, letting the LTR's insane power and Race Tech suspension carry us up and over everything on the two tracks. The shocks are valved stiffly for big landings and pounding whoops, but also offer supple control over small chatter and bumps. The Race Tech G3S shocks are high- and low-speed compression-, rebound-



PARTS LIST

CT Head porting: \$350
 CNC Race Valve Job for oversize valves: \$240
 Web Camshaft: \$389
 Polish Motor: \$400
 Stroker Crank: \$339.95
 Hinson Spring Metal Fiber Clutch Kit: \$199.95
 Cylinder Works 98mm Big Bore Cylinder w/ LAPC piston: \$595.99
 Hot Rods Main Bearings: \$59.95
 Del West +1mm Valves: \$100 ea.
 CV4 Valve Spring Kit: \$137.18
 LAPC 13.5/1 Compression Piston
 CT Racing Sonic Exhaust System: \$485.95
 Dynojet PC5: \$379.95
 CV4 Radiator Hose: \$57.95
 Laeger Long Shock A-arms: \$795
 Chrome upper A-arm: \$100
 Laeger Anti-Vibe Steering Stem: \$250
 FasstCo Flexx Bars: \$329.95

OMF Beadlock Rear Wheels: \$199.95 ea.
 OMF Ringed Front Wheels: \$134.95 ea.
 Maxxis Tires: \$64.95 ea.
 Race Tech Front Shocks
 Race Tech Rear Shock
 DuraBlue Eliminator Axle: \$456.13
 Pro Design Pro Flow Filter: \$151.95
 Blingstar Notorious Nerf Bars: \$194.95
 Blingstar Notorious Pro Peg: \$193.95
 Blingstar Maltese Front Bumper: \$117.95
 Streamline Front Brake Rotor Set: \$179.90
 Streamline Rear Brake Rotor: \$69.95
 Streamline Brake Lines Front: \$89.99
 Streamline Brake Lines Rear: \$39.95
 Streamline Brake Line Guides: \$29.95
 ASV Lever Set: \$180
 Race Tech G3-S Shocks front: \$1,499
 Rear: \$1,049

CONTACTS

CT Racing www.ctracing.com
 FasstCo www.fasstco.com
 Race Tech www.racetech.com
 Web Cams www.webcams shafts.com
 Del West www.delwest.com
 Hinson www.hinsonsports.com
 Dura Blue www.durablue.com
 Blingstar www.blingstar.com
 LAPC www.lasleeve.com
 CV4 www.cvproducts.com/powersports
 OMF Performance www.omfperformance.com
 Streamline www.streamlinebrakes.com
 Cylinder Works www.cylinderworks.com
 Hot Rods www.hotrodproducts.com
 Dynojet www.dynojet.com

and preload-adjustable. We had ours set up with a rebound separator for an extra fee, which keeps the rebound and compression circuits separate for maximum adjustability without compromise. The shocks and Laefer long-travel setup made the LTR feel like a long-travel RZR when jumping and traversing big whoops, as they soak up everything in its path without having to lift off the throttle.

THE VERDICT

CT Racing's LTR500 may no longer be a 450, but it's a fire-breather. The engine package just begs to be ridden hard, and we experienced no issues during our testing. The Laefer long-travel and Race Tech shocks increased the suspension prowess of the LTR by quite a bit, which is saying a lot, as the stock LTR is great out of the box. CT Racing can build any quad engine to its maximum or to your own specifications, and their work is high quality and backed by a ton of R&D. If you're looking to inject some adrenaline into your ATV, check out the fine companies that helped with this stellar Suzuki LTR450 build! □

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YOU WANT TO,
GO AHEAD
AND TREAT
YOURSELF.**



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