

CT RACING SUZUKI LT-R450

Improving on Japan's best motocross sport quad

With a couple of European exceptions, the Suzuki LTR 450 is arguably the best production MX quad ever produced. It has the width, suspension, engine and innovations like EFI to rewrite the history books. But as good as the LTR is and as fast as it can be ridden, there is a lot of room for improvement. CT Racing set this LTR up to be a very universal race quad, something that is certainly capable of Pro level racing in MX, GP and WORCS style racing. The quad is really to be used for WORCS racing with the emphasis on durability, making it easy to ride and cutting fatigue.

CT CHASSIS MODIFICATIONS

From the factory, the front end is as wide as it needs to be and close to the maximum legal race width of 50 inches. CT Racing changed the front end to Laeger Pro Trax A-arms for a several reasons. The shock mounting position is in a better location, giving better shock leverage ratio; Laeger also has the shock mounted lower in

the A-arm, allowing the use of a longer shock, which gives a higher quality travel. The Pro Trax front end also allows for more wheel travel, and the unique design of the Pro Trax doesn't have ball joints to bind.

Laeger's front end pivots on the spindles and can achieve significantly more swing than can be run with ball joints. With the shocks removed, the front end will actually will swing over 20 inches, so the shock can be set up to get the travel where and how the suspension builder wants to set it up. The stock front end, like many aftermarket arms, binds and delivers much less than 12 inches of travel. The Pro Trax front end also spins on bearings and has no ball-joint misalignment, so it steers significantly easier than a normal spindle setup.

CT Racing used Custom Axis shocks to give the LTR a plusher ride. The shocks are compression and rebound adjustable, so there is a fair bit of easy tuneability. The shocks are Multi-spring, cross-over type setup. There is also a significant amount of

tuning that can be done on the spring rates to dial the shocks for different types of tracks.

MORE SHOW AND GO

The LTR also needs a steering stabilizer in stock form, and more so with the Pro Trax front end. It is so free-steering that you actually get a little more bump back into the bars, so CT used an Elka System three adjustable damper. Out back, a Dura blue Eliminator 2+2 axle is used, so it can actually be narrowed two inches from stock. This is a really important setup for low traction situations; if you narrow the back you will get more hook-up in corners. Streamline stainless steel brake lines and pads were fitted all the way around for more pucker power.

Bling Star's line of products was used including front bumper, Pro Series nerfs and a Pro Peg built in along with heel guards. Bling Star also manufactures the weight-saving aluminum subframe and makes a wide range of products in several dif-



ferent styles and finishes, from polished to wrinkle black.

OMF Beadlocks keep the Maxxis Quadcross tires seated firmly to the rim. The Quadcross is the Maxxis' hard-terrain tire; it hooks up as good as anything can in California's hard, low-traction situations. Beadlocks actually bolt the tire to the rim so the bead can't be popped off. This is a common problem with eight-inch tires in MX. To get the tire to hook up you run low tire pressure, so it's easy to pull the tire off the rim. That's not really necessary on nine-inch and larger diameter rims with 20-inch and larger tires. Beadlocks on larger diameters (like the front of this quad) let you race hard even with a flat. OMF also puts a reinforcement ring on the backside of the wheel, which also allows the use of low tire pressure. Without the ring, you would collapse the inside of the rim when jumping.

BARS, BILLET AND BRAKE-PLATE

Fasst Flexx bars were clamped on to help eliminate rider fatigue. The Fasst bars are pricey but well worth it for endurance racing like WORCS. ASV levers have a lot going for them; they are resistant to breaking as they flex forward, and are adjustable for reach. ASV's clutch perch offers an easy pull, further reducing ampump. Spider grips are long-lasting and offer a good grip, but not so grabby as to cause blistering, as some do.

There are quite a few nifty little billet pieces found on the CT LT, which has a host of RIS Design covers, from the billet front master cylinder cover, oil filter cover, oil fill plugs, to the cool vented battery box cover. RIS also made the billet shifter, gas cap and parking brake block-off.

MONSTER MOTOR MADNESS

Suzuki's LT-R motor is highly developed from the factory. CT Racing was able to develop over 50 rear-wheel horsepower with just their pipe, M-80, and the lid removed from the airbox. This is good enough for most local racing and great power for recreation. But, as the saying goes, more is better. CT kicked up the hp by doing a complete overhaul to the head. They started off with a high-flow port layout and then did a radius valve job that blends the valves to the ports. Kibblewhite +1mm oversize titanium valves and Kibblewhite performance valve springs to keep the oversize valves from floating at high rpm. The valve job is especially critical when going to oversize valves. We've seen a lot of shops just move the 45 and

60 degree angles of the valves out, essentially leaving the seat bore identical to stock. In that case, you really don't take advantage of the big valves.

CT Racing has a CNC valve machine that profiles the seat all the

way down into the aluminum head, again blending to the port work, which really increases flow. CT uses a Web Cam to open the valves, and, to make sure the cam is doing exactly what it is supposed to, CT degreed the cam in. Normally, when you install

Bling Star Pro Series nerfbars and aluminum Pro pegs, along with the aluminum Notorious heel guards, provides rider confidence at speed. Bling Star's aluminum subframe also lightens the LT-R.



CT's Sonic exhaust has a SuperTrapp disc/SA setup and comes set up for maximum horsepower. If you're riding on public lands, remove about half the discs to lower sound output.



Suzuki's R450 has been the benchmark production MX ATV, but the new Austrian-powered KTM 450SX and Can-Am DS450X-MX challenge the innovative LT-R. CT Racing knows how to make the Suzuki out-run and out-handle the challengers.



a cam, you set the motor at TDC and set the cam to the marks. The cam is designed to open and close the valves at a certain time, and the likelihood of that happening on a DOHC motor is about zero, so the cam is actually checked and set exactly as designed. It's a lot of extra work but it can be a few extra ponies.

CT Racing uses a JE 13.5:1 piston in the motor. JE offers very good, very light pistons in many compression ratio options. They also have very good rings, and this is a key factor in setting up a performance motor. The ring end gap needs to be checked and fitted. It's an extra step, compared with some pistons that are more generic, but it's best to have the proper ring end gap to achieve maximum power. CT uses a Nikal Research Titanium Nitrite wrist pin; the coating makes the pin much slicker, so there's less drag on the rod and no chance of galling.

Fuel management is handled by a Dynatek F.I. Controller. The Dynatek is a very good, user-friendly fuel management system. It has three pre-programmed maps in it and it can be fine tuned with just a screwdriver. CT uses its Sonic Series pipe on the LT-R. The Sonic Series uses a disc system to help control noise and has a spark arrester. The WORCS series is requiring a 96 dB limit, and the CT Sonic can meet that.

To keep all those ponies under control and driving hard, CT Racing uses Hinson Slipper Clutch basket. The slipper basket is actually a back slip; it significantly cuts the engine braking. High compression four strokes have so much engine braking that, when you drop the throttle coming into a corner with braking bumps, the rear end chatters and skates. The slipper puts the braking back under the rider's control. It also is better in some jumping situations, as it stops the back end from kicking when you feather the throttle over the jump. Hinson clutch shoes were also fitted inside the basket, and the whole thing is covered up with a cool-looking billet Hinson clutch cover. Hinson offers the regular billet basket for the LT-R for those who don't want or need the slipper.

WHAT'S THE RIDE LIKE?

CT Racing has been building National-winning race machines since the three-wheeler days. CT has won the Baja SCORE Class 24 Championship for the last three years, so they know how to put a quad together and make it work. The CT LT is an example; power is crisp and

snappy and gets you down track at eye-watering pace. The key is chasing bottom-end (torque), not horsepower; a top-end oriented, 60-horsepower machine is useless in race situations. It's all about bottom-end, torque and strong midrange power delivery, and CT claims 57 hp for this LT-R. To post a big dyno number, CT could pop in a bigger cam and make more hp, turning it into a pipey pile, but this quad is all about bottom.

No clutch is needed off the corners; just dial on the throttle, let the tires hook, and pull yourself forward. It's really a fun quad to seatbounce over jumps; snap the throttle off the corner, sit forward, hit the jump and leave the throttle on all the way up the face. It clears stuff other ATVs are clipping. It's deceptively fast but doesn't rip your arms off. Fuel injection keeps the tune perfect as the air density changes with air temp or altitude.

The LTR is different from other quads in corners. Normally, you come in and rail the berm, or square up and pull the trigger. This quad has a tendency to four-wheel drift. It allows you to come in hot, drift into the berm, pivot and go. It's not the way CT set the quad up, as we also see the factory Suzukis of Gust and Wimmer doing the same thing. We think it can be attributed to the low center of gravity and the rigidity of the LT-R frame. It's a little different style to get used to, but, if the quad is set up and suspended correctly, as this one is, you can really take advantage of it. Most other race quads would bicycle if you did this, but this LT-R stays firmly planted.

We're also impressed with the Custom Axis shocks, which are very plush, and yet you can jump it off a building and land smoothly. The first thing that needs to be worked on for the LT-R is the shock, especially on the '06 and '07 models; the rear is so stiff that it doesn't transfer weight and hook up off the corners. With these Custom Axis shocks, you can transfer weight and wheelie off the corners with full throttle. Try the same thing on the stocker and you'll spin out.



The JE Pistons 13.5:1 piston requires race gas and boosts power with the degreed Web cams and Dynatek Power Commander. All the extra braking power is reduced to manageable by the Hinson slipper clutch.

Laeger Pro Trax front A-arms eliminates ball joints for more and smoother travel, and the Elka 3 steering damper cuts out after 20 degrees of turn angle, so you don't fight the damper when cranked sideways in turns.



THE BOTTOM LINE

Suzuki did a great job on the LT-R450, and the Rockstar Yoshimura team dominated this season with first, third and sixth in ATVA GNC-MX Pro points and also won a Pro-Am Production title. CT Racing has been around since the Earth's crust cooled and also knows how to make the LT-R450 way faster yet smoother and easier to ride. CT also makes machines that look good and are reliable in long-distance races. ☐

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www.laegerracing.com

www.maxxis.com

www.omfperformance.com

www.streamlinebrakes.com

www.webcamshafts.com



CT RACING LT-R450 PRICE LIST

CT Sonic pipe.....	\$507.95
SC port and radius valve job....	\$600.00
CT Racing graphics kit w/ seat cover	\$139.95
Laeger Pro Trax front end.....	\$2400.00
JE Pistons 13.5/1 piston kit.....	\$199.95
Kibblewhite Perf. Ti valves (ea)	\$150.00
KP valve springs w/Ti retainers...	\$209.95
Web Billet cams	\$389.95
Hinson Slipper clutch system....	\$1149.00
Hinson Billet Cover	\$200.00
Bling Star ultralite front Bumper....	\$89.56
Bling Star Factory Series nerfs w/footpegs	\$149.00
Notorious heel guard	\$104.95
ASV Levers F-3 Levers	\$199.95
Maxxis Raz'r Cross tires (ea).....	\$59.95
OMF Front Beadlock 10"	\$204.90
OMF Rear Beadlock 8"	\$179.90
Custom Axis Dual-adj. triple spring fronts	\$1395.00
Custom Axis Dual-adj. double spring rear	\$975.00
Streamline Front stainless brake lines.....	\$92.99
Streamline rear stainless brake line.....	\$42.99
Fasstco Flexx bars.....	\$329.99

