



DOUG EICHNER'S DUNCAN RACING 450R

At the top level of any sport, change comes slowly. Doug Eichner took the World Championship Off-Road Series title in 2005 and 2006 on his 2005 Duncan Racing Honda TRX450R. That's right, he raced a 2005 quad in '06 and repeated his results—four race wins and the championship each season. He, mechanic Lenny Duncan and the whole Duncan Racing crew knew what to do to the '05 450R to make it last and win, and Doug's completely in tune with that machine's power and handling characteristics. So, why change? After all, Jeremy McGrath took a 1993 CR250R to Supercross championships in '93, '94 and '95, and the top-fuel and funny car guys are still using two-valve heads from the '60s. You go with what you know.

However, after testing the '06 production 450R, Doug decided to change for this season to get better steering. Eichner had only ridden the new race quad two times before going to the 2007 WORCS season opener at the Phoenix Motorsports Complex. He won his warmup race on Saturday (Pro Production), then we got to scope out his race 450R after it had been pressure-washed. Eichner easily won that race and said he liked the course, which was tighter and not as wide-open as the 2006 event. The better turning would no doubt come in handy for the points-paying Pro National on Sunday.

DIALLING THE NEW MOTOR

"We like to keep it simple," says Lenny. "You don't want to re-invent the wheel, just make it last."

Boosting power is done with extensive headwork, including the Duncan Racing International oversized valve kit, porting and a 470cc JE 12:1 piston. It breathes through a Keihin FCR pumper carb from

the CRF450R two-wheeler, which uses the push-pull twist throttle for durability, a Pro Design Proflow airbox with K&N filter, and the Paul Turner/DRI Fatboy 4 HQ muffler. WORCS has a 98 dB sound limit, with sound testing of the top five machines immediately after each race, and this muffler tested at 95 dB before the first round. It's good to have a safety margin rather than risk losing points in post-race inspection.

Lenny is all about not losing points to DNFs (or DQs), so Eichner's 450R runs two CDIs just in case. The Vortex ignition has ten different power curves, and Doug chooses between his favorite two via a handlebar-mounted toggle switch. "If it's a long start, I'll go with a setting that has a lot of over-rev," says Doug. "Then I'll switch to one with more midrange power for the race."

There are no special transmission ratios in the gearbox, nor has Doug gotten on the slipper-clutch bandwagon. The clutch is factory Honda/DRI with Hinson components, and it has big loads put on it. Doug's 450R had 15/38 gearing for the Arizona WORCS round, while stock is 13/38. A Tsubaki Omega O-ring chain transmits the extra boost to the ground. "The '06 doesn't have as much low-end as my '05, but it has more on top," says Eichner. "I just have to get used to it."

STRETCHING ITS LEGS

If you're going to put all of that extra power to the ground, you'll need to modify the stance and suspension to match. Eichner digs his new Fox Floater XI front and Podium XI rear shocks; without a lot of fiddling, the team got them working really well. The front air shocks work with Roll Designs' +2-inch front A-arms, while the rear mates with a stock length Roll link. The rear axle is a Team +4-inch swingarm with a long-travel Elka dual-link. The rear axle is a Team +4-inch with a Team carrier. Doug runs his machine high to keep it out of the ruts



A Works Connection clutch perch, PowerMadd handguards, the required tether killswitch, a toggle for the Vortex two-curve ignition and a twist throttle belly up to the bars.



Roll Designs A-arms widen the DRI 450R by four inches, and the Fox Float XI airshocks provide practically infinite tuning adjustments.



Eichner is an ace fabricator and beefs up the 450R chassis himself; he switched to the '06 450R to get a bit better steering for tight WORCS sections.

where rock damage can occur, and the extra width increases bump steer, so Doug uses a GPR steering stabilizer on his Roll Designs steering stem. Eichner prefers a CR-Hi Universal handlebar, and he uses a Works Connection clutch perch and hot-start lever and PowerMadd handguards.

ARMING THE CHASSIS

"Doug's a great fabricator," Lenny boasts, "so he does all of the frame modifications [rewelds, gussets, etc.] himself." The main thing is to make the Honda as bulletproof as possible for a three-peat. "We use the stock plastic swingarm skidplate, but we modify it and then replace it. If you strengthen the skidplate too much, it can create problems if it gets bent."

After Doug does his frame magic, an AC Racing chassis skid protects the front of the undercarriage, and they add a Joker shield to deflect rocks and mud. The radiator is an oversized PWR

for extra cooling, and the Joker shield keeps it from getting dinged by rocks. In fact, many of the components are chosen or designed specifically to prevent rock-induced problems or DNFs. The front Douglas aluminum wheels were designed exclusively for Eichner to prevent rocks from getting in and fouling up the works.

Brakes are standard Honda 450R with wave rotors, DRI braided-steel brake lines and a DRI parking-brake eliminator plate. The defending WORCS champion also runs a DRI chrome front bumper, IMS/Roll heel guards, pegs, nerfs and nets and a DRI anodized countershaft guard. Nothing is left to chance, so the team uses a solid swingarm-pivot bolt. An oversized IMS fuel tank uses a dry-break system for fast pits during two-hour Nationals. As for style, the Quad Tech 450R hood is made in red especially for the team, and a Quad Tech seat cover and team graphics cover a lowered seat and cut-down fenders.

New for 2007, Lenny arms some tire combos with Tire Balls. "A six-ply tire doesn't need flat protection, but we'll run Tire Balls with some combinations of ITPs." The team has had three races ruined by rocks over the years, and they don't want there ever to be a fourth.

READY TO TRIPLE

Throw in a restart to the round-one Pro main, and Eichner holed out three out of three gates, so you know his Duncan Racing 450R is potent and dialed. Eichner led every lap but two on the weekend but lost the first Pro round to Josh Frederick, his main competition in 2006. Not to worry, though, as the five-time WORCS champion didn't win the opener either year but came back to win both titles. If he doesn't pull off the three-peat, it's not the ATV. At 42, Eichner was older than the two riders he shared that podium with put together. □



A solid swingarm pivot, countershaft sprocket guard, rock deflectors and full skidplate arm the beast for battle.



A two-tooth taller countershaft sprocket increases top speeds for WORCS desert sections, and Doug runs two CDIs and a PWR radiator for DNF prevention.

DOUG EICHNER'S DUNCAN RACING 450R

Bigger valves and piston boost power, and a factory Honda/Hinson/DRI clutch transfers the power to the gearbox. DRI uses and sells Turner Fat Boy 4 exhausts.



DUNCAN RACING LTR450 PARTS PRICE LIST

- Head porting, cams, piston, Big Valve Kit, Exhaust: \$2495
- Clutch: \$199.00
- Tsubaki chain: \$155.66 (120 Link)
- Sprockets: FR \$14.99 RR \$27.99 (Sunstar)
- M/C FCR carb (push-pull cables): \$699.00 (40MM)
- Pro Design Proflow box & K&N Filter, Vortex Ignition: \$400.00
- DRI Case saver: \$29.95
- PWR Radiator: \$449.00
- Works Conn. clutch & hotstart perch: \$179.95

- Fox Floater XI shocks: \$1295.00
- Fox Podium XI rear shock: \$795.00
- Elka Dual-Pro link: \$400.00
- Roll +2" A-arms: \$1395.00
- Team +4" axle: \$399.00
- Team carrier: \$249.00
- Solid swingarm-pivot bolt: \$100.00
- Roll steering stem: \$349.95
- IMS/Roll nerfs: \$199.95
- IMS/Roll Pegs: \$199.95
- IMS/Roll heel guards: \$159.95
- Pro Design kill switch: \$34.95
- Universal CR-Hi bars: \$89.95
- PowerMadd handguards: \$54.95

- Douglas beadlock front wheels: \$265.00 each
- Douglas beadlock rear wheels: \$217.00 each
- ITP Holedshot GNCC fronts: \$69.95 ea.
- ITP Holedshot GNCC rears: \$79.95 ea.
- ITP Holedshot XCR rears: \$82.99 each
- Tire Balls: \$169.95 per wheel
- Gaffer wave rotors: \$130 each
- DRI brake lines: FRONT-\$109.50 REAR-\$39.95
- DRI parking brake eliminator: \$14.95
- IMS tank w/dry brake: \$425.00