



Photo by Sabine Martens

(Top left) ITP Holeshots tires on Douglas Ultimate wheels, plus a gaggle of controls upgrades, give this machine precision steering. (Bottom left) The heart of the beast, and my only real chance of pulling off this impersonation, is the Duncan-modified stock cylinder. (Above) Who am I? Will the real race champion please sit down.

The Perfect Plan

I Impersonate A World Champion!

As Round 4 of the Big 6 Grand Prix series loomed on the horizon, I was all revved up with nowhere to go. Why? While the *ATV Sport* project Raptor was getting a makeover, I was quadless.

Thinking like a true motojournalist, I hatched the perfect plan. It went something like this:

Me: Hey, Loren, do you have anything I can 'race test' in the Viewfinders Grand Prix?

Loren Duncan: Well, let me see, I've got this 400EX gathering dust in a back corner of

the shop. Maybe I can get it prepped for you. When do you need it?

Me: I'd like to pick it up a week from today, so I can ride Glen Helen's Thursday practice. (Now, I throw the curveball.) And, by the way, Loren, it needs to do an honest 65 MPH because one part of the GP track circulates the adjacent road course where local law enforcement officers learn how to catch the bad guys.

Duncan: (Without flinching): Okay, I'll have it ready by Wednesday, come on down. And so it went.

Duncan Racing

A two-hour drive to Santee, Calif., in my trusty SlowRunner found me at the world headquarters of Duncan Racing International, set in a virtual ATV industrial park. Rolling up the door to the family shop, Lenny Duncan unveiled a certain pristine, yellow 400EX — the very one that took Doug Eichner to the White Brothers Four-Stroke World Championship five months earlier.

Quickly loading the quad on my dilapidated yet dependable three-rail motorcycle trailer, I hightailed it out of there before the Duncan boys sensed my trepidation and repossessed my ride. I hadn't ridden a quad in two months, but, somehow, I was going to enter this four-wheeled thoroughbred in a grueling grand prix.

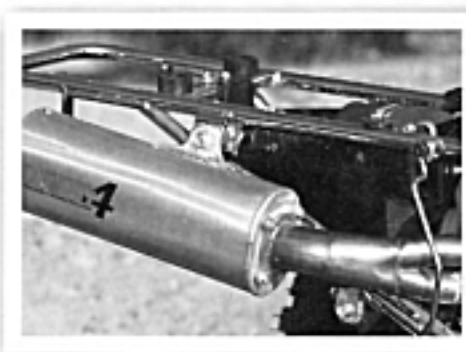
Duncan's reputation — not to mention my own — was on the line. The pressure was on.

While shooting detail photos in a sand wash near Glen Helen, I got a good chance to admire Duncan's handiwork and attention to detail on this \$15,000 quad. From the welded-on engine guards and the frame's thick, red powder coat to the chrome oil tank and quick-change Hinson clutch cover, the pristine machine bristled with trickness in the crisp morning light.

Once at the track, I dropped the quad off my trailer and jumped on to check the ergonomics. Miraculously, Eichner and I have nearly the same setup preferences. All I did was move the brake lever up 5mm — that's it!

The stock-looking motor started up and idled like it just came off the showroom floor, albeit with a sharp, raspy bark from the Fat Boy 4 hurking out back. Taking off, I found a super-light clutch pull and a reasonable amount of bottom-end power. I quickly gelled with Glen Helen's current layout and focused on becoming one with Duncan's jewel. After getting the GPR steering damper set to a happy medium of straight-line

stability and handlebar-turning ease, I slowly worked my way up to speed — this is a relative term, of course, as Eichner and other fast guys were nowhere in sight.



Duncan is a master of combining engine work and exhaust systems.

Once I got going, all the hours Duncan poured into developing the motor and the painstaking work Roll Design put in getting the chassis dimensions spot-on clearly made sense. Coming off a 50-horsepower Raptor, the versatile, forgiving 440EX mill didn't feel fast, but built good thrust from a meaty midrange and climbed cleanly — if not quickly — to

redline with a healthy top-end push.

This wasn't a fast-revving, fire-breathing TT-style motor tuned within an inch of its life. No, it was a well-developed MX mill that developed power over a broad spectrum, carbureted cleanly, shifted positively and plain got with the program. In other words, perfect for the confines of a motocross track.

The agile Duncan/Roll 440 clearly out-handled and out-suspended the heavy, Lone Star-armed, TCS-shocked Raptor. The EX's Custom Axis shocks, Lobo front end and Roll swingarm smoothed rolling and sharp-edged bumps like nothing I'd ridden since I took Roll's personal FourTrax 250R desert racer for a spin 15 years ago! Even though it felt a tad front-end heavy, the 440EX flew straight when launched properly. It landed plush, even when I got it all catawampus in the air due to uneven takeoffs. It changed direction accurately with a little body English as the ITP Holeshot MX tires tracked well, offered great sidebite and good forward momentum. More importantly, the lightweight 440 let me go faster for longer. And that's exactly what I'd need for the Viewfinders Grand Prix.

Preparing to encounter unknown obstacles on the GP course (there's no such thing as practice, or even a sighting lap), I chose to run taller, 20-inch Holeshots XCR rear tires because this motocrosser didn't have a swingarm skid plate. For my final practice session, I mounted the tires and tweaked the fully adjustable shocks to suit these heavier meats by quickening up the rebound and stiffening up the compression damping circuits. With the big tires, the front end felt a little vague and pushed a bit, but not enough to cause great concern. I deemed my get-acquainted session a success after pulling off a dozen practice starts and burning up nearly three gallons of race gas.

Between practice and the race, I had to do only light maintenance, a thorough inspection and a couple small tweaks. I lubed and adjusted the chain, banged a bit of dirt out of the Outerwear-wearing K&N air filter, checked the oil (didn't burn a drop), topped off the fuel tank, aired up the tires and looked for loose fasteners all around the quad (not a one). I re-wired the Scott grips to the handlebar and affixed a matching yellow wire tie to the Pro Design kill switch. This took all of an hour. Then, I put the quad back on my trailer, set up my gear and began drinking lots of water in preparation for race day.

The next early-October morning broke clear and warm. I was relaxed and confident after a good night's sleep. My quad was race-ready; my riding gear was bagged, the cooler was full of race food and my hydration pack was filled with ice. Chewing on a scrumptious peanut butter and banana sandwich and downing as much water as I could (a normal pre-ride ritual), I arrived a leisurely two hours before my 1 p.m. race. I cringed as I mounted my race numbers over the gigantic "1" tattooed on the 440's nose and fender. In a tribute to my fellow New Yorkers who lost their lives on September 11, I pasted American flags on the Duncan quad and my AXO chest protector.

Some 20 minutes before game time, the starter got on his bullhorn to announce that the course had been shortened — the big hills and entire backcountry section were cordoned off. Then, he asked us how many laps we wanted to go. Incredulously, I sputtered out, "How about we go for the entire 50



Doug Eichner, the real champ, shows how it's done.

minutes as promised?" With a bit of cajoling, he deemed it a four-lap race. Armed with electric starting, I was looking for a dead-engine holeshots against the field of kick-starters. No luck. We were instructed to light the motors and put our clutch hands on our helmets until the green flag fell.

Race faces on and motors revving needlessly, we were in battle position as the flags fell. First wave. Second wave. Third wave. Fourth wave. Knowing that the 440 mill would bog off the line if I didn't sit up on the fuel tank to let the rear tires break traction while the revs built, I let out the clutch and fed it some throttle when the flag dropped for my row. Once the motor built some steam, I sat back, giving the Holeshots enough ballast

to hook up. In spite of a perfect launch, the 440EX and I got beat to the sweeping, wide-open first turn by that howling black Banshee.

We quickly passed a gaggle of stragglers from the prior wave on the motocross track and down a thickly dusted fire road. Although my game plan was to rush out front and ride like a man possessed on the initial lap before settling in, I decided to play it cool and force my hot-headed nemesis into a mistake. Pounding down the rocky, whooped-out straight leading to the sheriff's road course, he was on the gas and a bit out of shape trying to make a run for it. Hitting the twisting pavement he continued to screw it on — straight into the two-foot-deep water crossing. Making a big splash, his Banshee stopped dead in its tracks.

Traversing with just a bit less intensity, the 440EX bogged momentarily, caught its breath and powered on. The engine ran okay down low and in the midrange for the next two laps, but sputtered up top. Still able to keep a respectable pace, I concentrated on going all-out where possible and being cautious where necessary to save the quad and my body. Clear of my main competition, I was now motivated to climb the score sheets into the other classes; determined to give myself and the 440 a thorough race test by passing every 250R, Banshee, or Raptor I could catch.

We both came through with flying colors. Water hole judgment aside, the world champion beneath me ran impeccably and my 37-year-old body was ready to do another lap or two when the checkered flag flew. After 41 minutes in the saddle, we topped the Vet Novice class and — more importantly — placed 14th out of 42 quads entered.

The underdog 440EX was the key to my success on this medium-speed course. It gave up a little top speed, but allowed me to ride harder for the duration, catching and passing much faster machines.

Not bad for a one-week effort.

SPECIFICATIONS

2001 Duncan Racing Honda 400EX

Engine: 430cc with 2 overbores available
 Bore x Stroke (mm): 88.5 x 70
 Cylinder: Stock 400EX
 Cylinder head: DR porting and three-angle valve job.
 Ignition/Black box: Stock
 Compression ratio: 11:1
 Exhaust pipe: Stainless-steel Fat Boy 4
 Cam: X2 Mid/Top camshaft, w/HO valve springs with titanium retainers
 Carburetor: Edelbrock
 Piston: JE Pistons
 Crank/Rod: Stock
 Airbox: Stock airbox minus lid/ K&N air filter w/Outerwear cover

DRIVE SYSTEM

Clutch plates/springs: DR C-128 B-Plate/ DR
 Clutch basket: Hinson 8-plate basket, inner hub 6 pressure plate
 Clutch cover: DR quick change clutch cover
 Chain (Tsubaki): S20 Omega O-Ring
 Gearing: 16/36
 Brakes (f/r): Stock calipers, Braking rotors
 Lines (f/r): "Crown" series steel braided
 Pads (f/r): Braking
 Front wheels: Douglas Ultimate/aluminum
 Size/offset: 10" 4plus 1
 Rear wheels: Douglas Ultimate/aluminum
 Size/offset: 8" 3 plus 5
 Front mx/gp tires: ITP HoleShot MX
 Size: 19 x 6-10
 Rear mx tires: ITP/ HoleShot MX
 Size: 18 x 11-8
 Rear gp tires: ITP/ HoleShot XCR
 Size: 20 x 11-8

CHASSIS

Front shocks (travel, in.): Axis (10.75)
 A-arms/width: Roll Design LOBO II MX/ 50"
 Spindles: Stock
 Hubs: DR billet
 Steering stem: Roll Design Anti-Vibe
 Steering stabilizer: GPR
 Rear shock (travel): Axis (11)
 Swingarm: Roll Design
 Hubs: Stock
 Axle/width: RPM Dominator/49"
 Axle carrier: RPM Anti-Fade
 Throttle: Motion Pro CR
 Cables: Motion Pro
 Front brake lever: Stock
 Rear brake pedal: Hinson billet
 Kill switch: Pro Design
 Fuel tank: IMS
 Footpegs: Roll Design cast stainless
 Graphics: One Industries
 Estimated worth: \$15,000
 Wet weight: 395 pounds
 Duncan Racing,
 (619) 258-6306,
 www.duncanracing.com

Duncan Speaks

Racing and wrenching run in the Duncan family. A not-so-dirty-little-secret is that Duncan Racing was founded by the Duncan family patriarch and began life as Danny's Machine Works. In for another big surprise? Danny's specialized in building high-performance four-strokes, not two-stroke ring-dingers. In 1986, Danny's oldest son, Loren, took over and christened the shop Duncan Racing International. In that time, Loren claims that Duncan Racing has won more Pro ATV races worldwide than any other company by a 5-to-1 margin — mostly on fine-handling FourTrax 250Rs and blazingly fast Banshees.

Now, things have come full-circle. As four-strokes come back in fashion, Papa Danny is back at the flow bench with his successful son. Most recently, the pair teamed up to produce the World Four-Stroke Championship-winning 440EX on these pages.

For a bit of insight, we quizzed Loren on his ATV philosophy and, more pointedly, on the strengths of Honda's 400EX.

ATV Sport: What is your motor-tuning philosophy?

Loren Duncan: Our main theme is to always strive to find the proper balance between performance and reliability. Our second rule of thumb is to try to enhance the rideability of the machine, helping the user pick the proper engine combination that best suits their application.

A huge advantage that we have over most other companies is that we race competitively in all forms of ATV racing. We test for thousands of miles every year and record all the data that we get. In fact, we have notes going back almost 20 years on some things.

With the resurgence of four-stroke engines we have added a few tuning tools: a Super Flow flow bench and a custom-made water-brake dyno with full data acquisition. We feel these tools will help us get to an even higher level of competence in our tuning endeavors. Very few, if any, ATV engine builders have these tools and fully understand their usage.

ATV Sport: What is your overall race quad strategy?

Duncan: First, one must finish. Second, make the machine compliment the rider's skill and work in their application. Third, we do everything we can before a race. Trying to set up or prep at the event is not the road to success. Fourth, be as professional as possible,

at all times. This concerns equipment, tools, mechanics, pits, etc. fifth, keep things in perspective. We are very serious about all the races we do and always put forth a 100-percent effort. But we also realize that at the end of the day they are only ATV races. If everybody involved with each race effort has done the best job they could, then we can live with the results.

ATV Sport: Why does the 400 make a better race platform than other four-strokes?

Duncan: Compared to other four-stroke sport ATVs, the 400EX is light and nimble. It handles very well, especially in tighter, technical types of terrain. Lack of rider fatigue



The Axis/Roll Design combo is one that works for many of the top pro racers nationwide.

is also another positive. Most riders can go a lot longer on this machine.

ATV Sport: Where is the 400 better than a two-stroke?

Duncan: In stock form, the only thing that makes it better is the electric starter. On our "440 National" the bike excels in tight technical terrain. It also does well in the mud and watery conditions. With a bit of riding skill, the 400EX can have an advantage in very slick conditions and very steep hills. A professionally built 400EX is an outstanding ATV capable of performing solidly almost anywhere.

ATV Sport: What would you change on the 400EX?

Duncan: The biggest thing we would like is the addition of a sixth gear. We have been able to build the 400EX to perform remarkably well for the initial 175 to 200 yards of acceleration. But because the 400EX is only a five-speed, it fades when others find sixth. ■