

DUNCAN RACING RAPTOR 350 DUNER

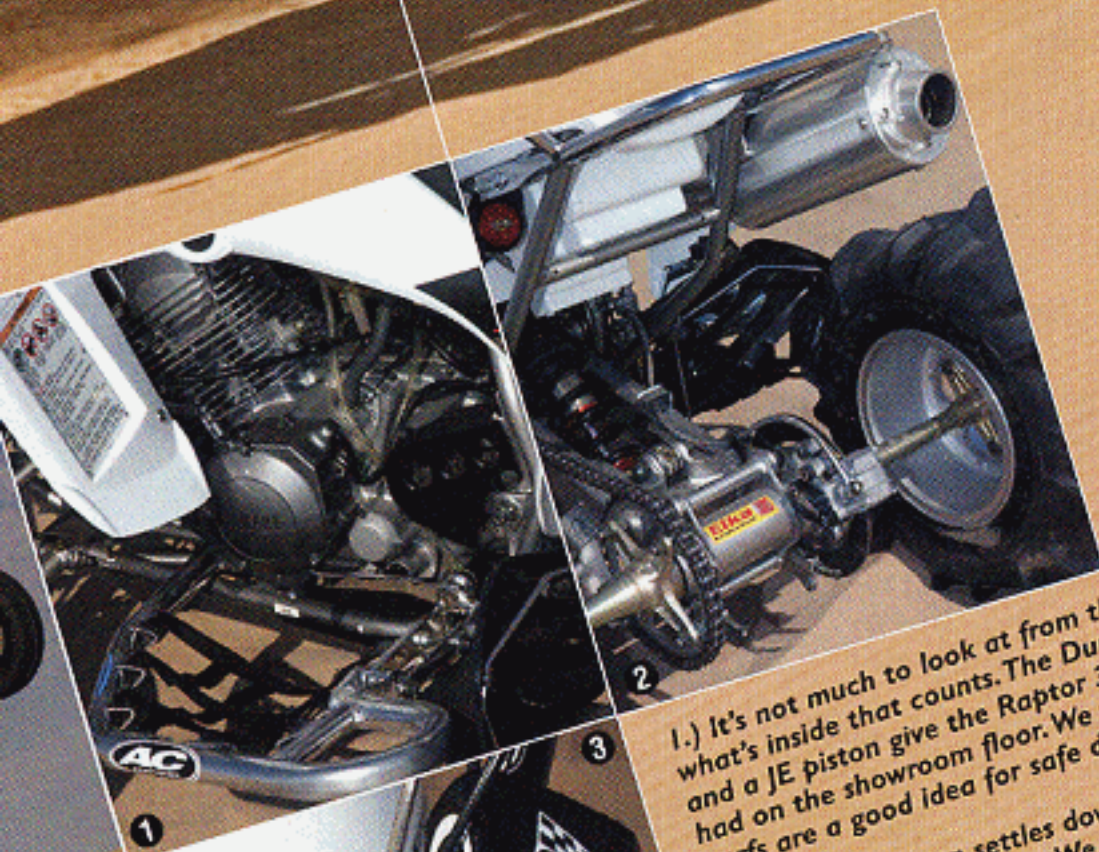
Fun in the sun

When Yamaha morphed the venerable Warrior 350 into the Raptor 350 a couple of years ago, they made some big changes in the ergonomics, and some small changes elsewhere in the quad. We have liked some of the changes (superior ergonomics) and not impressed with others (cheaper suspension).

Duncan Racing International took on our challenge to produce a Raptor 350 that was the ultimate fun dune machine, and then they challenged us to take the DRI Raptor 350 out for a summer ride at Glamis! ATV Action editor DJ Williams showed up at a deserted Gecko Campground in his high-airflow Fly Racing riding gear and went duning in the blistering heat. Afterwards, DJ talked about the machine with DRI's Leonard Duncan.

With Elka suspension all around, you can get serious about jumping the Raptor 350. The manners of this machine in the air are impeccable





1.) It's not much to look at from the outside, but it's what's inside that counts. The Duncan Racing HP4 kit and a JE piston give the Raptor 350 far more kick than it had on the showroom floor. We think the AC Racing nerfs are a good idea for safe duning.

2.) Elka suspension settles down the rear end, especially on jumps and in whoops. We also liked the wider Team Axle, which added three inches of width. The Fat Boy 4 exhaust wasn't unreasonably loud at Glamis.

3.) Because the Sand Star tires give the Raptor more precise steering and the pumped up motor makes everything happen more quickly, a GPR steering damper kept the Raptor highly controllable. If you ride in high-speed dunes, this is a bolt-on worth seriously considering. The Tag bars improved on the Raptor's already excellent ergonomics by giving the rider more room.

The Sand Stars aren't just good for paddling up hills—they also slide nice and predictably.

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ATV Action's DJ Williams: What is the first thing the Raptor 350 needs for good dunin'?

Leonard Duncan: It needs a freer-flowing exhaust, plus an air filter and no airbox lid so it can flow more air. For us, that meant a Fat Boy 4 exhaust and a Pro Design K&N Pro Flow kit.

DJ: So, power is the main short-coming?

LD: Yes. Once you put a pipe and filter on it, you can decide what way you want to go. Do you want a better ride, or more power for going up the hill?

DJ: As usual, we want both!

LD: You can have both. For more power, we gave the Raptor 350 our HP4 kit, which includes head porting, a billet camshaft, heavy-duty valve springs, valve guides and an oversized intake valve. For even more power, we also installed a JE piston and Edelbrock Quicksilver carb. Even though the motor design is a million years old, it really wakes it up.

DJ: Your Raptor definitely had enough power for fun cruising. It wasn't rip-your-arms-out-of-their-sockets power. It was power-from-idle-to-redline power, which is

more to my liking. I think I could put it in fourth and ride almost all day at Glamis without shifting, even though I did hit sixth in a couple of big bowls. Most impressive about the power was the Raptor's ability to climb the steepest dunes without a run. It didn't fly up the hills, but it chugged up confidently. Riding the DRI Raptor 350 isn't intense—it's just fun. So, can you make the exact same mods to an older Warrior?

LD: Yes, but not using the exact same parts. You can't put a Raptor 350 cam in a Warrior or vice versa. You wouldn't realize this until you have both service manuals together. The change didn't make the Raptor faster, lighter or more reliable than the Warrior, so I'm not sure why the changes were made. Maybe it was emissions-related.

DJ: Do the DRI mods make the Raptor 350 less reliable?

LD: The Raptor 350 is super, super durable, even if I got to the extreme on getting power out of it. It's a well-engineered and over-engineered machine, like the '87 Warriors out there that have never been apart!

Elka's Sport Series shocks are a great investment in Raptor 350 performance, as the stockers are marginal. The dual razorback pattern on the new ITP Sand Stars gives the Raptor excellent turning manners in the dunes.



RIDER/BUILDER

Photo rider.....Leonard Duncan
 Builder.....Duncan Racing International
 Approximate value.....Stocker price,
 plus \$5300

Hours invested50+

MACHINE

Quad2005 Yamaha Raptor 350

FrameStock

MOTOR

Motor2005 Yamaha Raptor 350

BoreStock

StrokeStock

Compression ratio.....11:1

Porting.....DRI Head Porting

HeadDRI HP4 Kit (Includes: DRI Head
 Porting, Billet Camshaft, HD Valve Springs,
 Guides, and Oversized Intake Valve). \$770

PistonJE Pistons. \$225

RodsStock

CamsSee HP4 Kit

ValvesSee HP4 Kit

CrankStock

Ignition/timingStock

Spark plug/gap.....Stock

CarburetorEdelbrock Quicksilver. \$522

Airbox/filter/oilPro Design K&N Pro
 Flow Kit \$150

Pipe/silencerFat Boy 4
 Complete Exhaust \$499

FuelPremium

DRIVE SYSTEM

ClutchDR Clutch Kit. \$119

Clutch basketStock

Motor oilMaxima Premium 4

Chain/lubeMaxima

SprocketsSunstar. \$65

GearingStock

FRONT END

A-armsStock

SpindlesStock

Steering Stem.....Roll Design. \$350

Front shocksElka Sport Series
 (Dual Rate). \$515

REAR END

Swingarm/length.....Stock

Rear axle/width.....Team Axle/+3" \$399

Rear shock/wheel travel.....Elka

TIRES/WHEELS/HUBS

TiresITP Sand Star. \$200

Tire sizes f/r21x7-10/20x11-9

Tires pressure f&r4 psi

WheelsDouglas Quad-Rok rims. \$65/each

Hubs f/rStock/TEAM \$99

BRAKES

Calipers, pads and discs f&r.....Stock

Front brake lines..Crown steel-braided. \$110

Rear brake lines ...Crown steel-braided. \$40

Brake fluidMaxima

HANDLEBARS/CONTROLS

Handlebars.....Tag T2 (CR HI Bend) \$95

ThrottleVortex \$35

Steering StabilizerGPR \$425

Clutch lever.....Stock

Cables.....Motion Pro \$29

Grips.....Tag \$13

MISCELLANEOUS

Nerf barsAC Racing. \$190

Front bumperDuncan Racing
 Chrome Bumper. \$170

Chromed by Pacific PlatingFootpegs,
 shift lever, brake lever, grab bar

Polished.....Reverse lever bracket

DJ: We ran it all day in 100-degree-plus heat and it never pinged once, even though we had pump gas in it. The power didn't fade and neither did the clutch. I guess the DR clutch kit and Maxima Premium 4 oil were doing their job. Man, that was a hot day. It was 109 in the shade at one point, and we weren't riding in the shade! Another thing that was nice about it was that the handling and suspension were up to the level of the engine.

LD: The shocks are the biggest single change in the handling. The stockers are set up for a general, easy ride. They aren't set up for anyone who's going to try to jump or hit whoops on it. The Elkas instantly give it a stability in the whoops, when turning or on jumps. It just gives you more confi-

dence. Remember that kicker we were hitting? On the stocker you would have been thrown over the bars. The Elkas just put you over smoothly every time.

DJ: Without a doubt, the suspension was awesome. I kept looking for something to hit that would make it spike or kick—it just didn't happen. On more typical dune terrain, the Raptor felt incredibly smooth and plush. Even on the non-virgin sand, it felt flawless.

LD: Another important mod for fast, smooth duning is the GPR steering stabilizer.

DJ: That's right. Not only didn't the suspension kick me around, but even when hitting witches eyes with one wheel, the bars didn't get wrenched

out of my hands. Everywhere I rode, I felt both comfortable and completely in control of the proceedings. I also noticed the ergonomics were a bit roomier, with the taller Roll Design steering stem and Tag CR-Hi bars. I'm 5'10", and it felt just right for cruising.

Also, the ITP Sand Star tires were perfect. They dig in well enough for getting up the big hills, yet they're willing to get sideways for some roost throwing. Oh, and what's the deal with those cool Douglas wheels?

LD: The Quad-Rok wheels are a new item from Douglas. They're heat-treated cast aluminum alloy, rather than billet. They can be polished or powder-coated. You can powdercoat the middle and polish the outer or vice versa. It gives it a different look! □