



This Duncan Racing Raptor has an estimated value of \$25,000. Allen White, the owner, says it's worth every penny.

BY BILL "WBGO" LANPHIER

# SANDOSAURUS

**Duncan Racing  
740cc Raptor  
Built To Pound  
The Dunes**



For many ATVers, even the 600cc-plus, large-displacement engines aren't big enough. Allen White is one of these dudes. He races in the desert and loves sweeping through the dunes on an ATV. In those wide-open areas, White says he needed a quad with a monster motor and major mojo. He chose the Yamaha 660R Raptor, but knew — in its stock form — it couldn't feed the power-hungry urges he was having. Enter the Sandosaurus. With the help of Duncan Racing, White's Raptor was transformed from a docile grazer into a 740cc beast with sharp teeth.

"The stock Raptor could be better," says Loren Duncan, whose company is responsible for many of the mods to White's Raptor. "The stock machine is heavy and has a lot of rolling resistance. When you let off the gas in sand, you feel it. But, because it has a larger layout than a Banshee, for example, it's good for a big guy like Allen [White]. And, with some motor and chassis mods, the Raptor can be made to be very good."

First on Duncan's list of mods is the DRI 740cc National kit. This includes stainless exhaust, head porting, valve job, HD valves, big-bore sleeve (installed), high-compression piston and cam. Machining the cases is required, too.

Next up is the single Edelbrock carb, to replace the stock dual carbs, which can be a headache to jet. Why Yamaha went with dual carbs on the Raptor is a mystery to Duncan. "They don't carburet as well and are more expensive than a single carb. Weird," he says.

Several cool, recently released components are also found on White's Raptor, including a Vortex programmable ignition with a dual-position handlebar switch, a Hinson six-spring hub/plate kit and an Ace high-capacity oil tank.

"With the mods," Duncan says,

"horsepower is almost doubled and the powerband is wider than stock. Because the quad is heavy and because of the engine design, it's not a high-RPM screamer and doesn't make that good a hill-racer. But, in dirt drags, a Raptor with these mods is a real runner. Our desert Raptors go more than 100 MPH."

It's not easy to put the Raptor on a diet and trim it down, but the chassis can be modified to greatly improve handling and stability at any speed, according to Duncan. Up front, the Raptor received a Roll Design Lobo front suspension kit, which includes wider A-arms and Elka Suspension long-travel shocks. The Elka rear shock and linkage supplied White's Raptor with 2 additional inches of wheel travel, a lower ride height, more progressive suspension travel and a plusher ride. To keep the front end planted under hard acceleration, the Roll swingarm extends the wheelbase by an inch.

No serious duner would be caught dead riding on stock tires and, as a final touch, White outfitted his Raptor with ITP Sand Star tires, front and rear. On the fronts, a lightweight and ribbed surface was used to supply more bite, according to ITP.



## RIDING IT

When I learned this Raptor duner was set up for White, who races desert, I knew it would be a winner. Racing up and down



the hill is fun now and then but, like most racers, I spend most of my time in the bowls, on jumps and in technical terrain. This Raptor is perfect for that stuff.

First, the machine looks cool. I like the lower ride height, wider stance, aggressive tires and extensive chroming and powdercoating. This ATV also has a near-perfect feel. The Tag handlebar bend is comfortable and gives good leverage.

The Duncan motor sounds impressive and pulls hard in all gears. In tight-and-technical terrain, the power is manageable and strong. Due in no small part to the linkless shifter (the stock Raptor has linkage), shifting is usually positive, although on a few occasions I had trouble fully engaging second when upshifting.

The rear rebound setting was a little too fast in whoops for me, but that's easily fixed on the Elka shocks. In turns and when wide open, this Raptor is stable and doesn't wander. The ITP tires slide well but also supply substantial forward hook up, which is exactly what you want in a sand tire. The aggressive-looking, dual-ribbed front tires may kick up a little sand but also attribute to this quad's sano steering.

First impressions are important when judging an ATV and I refer back to the first entry in my notebook on this Raptor: "Fun machine!"



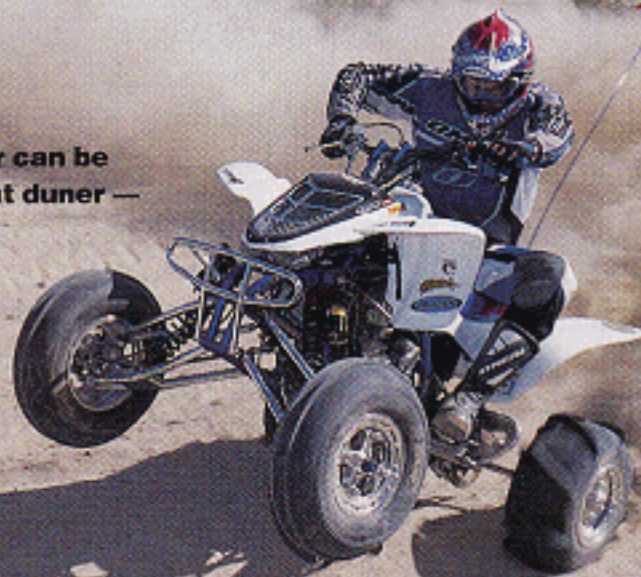
**Not set up as a hill racer, this Raptor has great torque for powering out of corners. We like the ITP Sand Star tires — the rear is also available in a 22-inch size for Kawasaki V Force owners.**

# Hot Wheels Sandosaurus

Duncan continues, "Overall, this Raptor is a fast, trouble-free machine. You can lug it and it still has power, you can jump it and it's durable. Once you do all the stuff needed, it's really fun. The Raptor seems to have a cult following and it will probably be around for a long time." **ATVS**

- 1. We were impressed with the Raptor's motor mods. Check out that oversized oil tank, attractive water pump cover and header pipes.**
- 2. Roll's swingarm, designed to accommodate a Millennium round-housing axle carrier, greatly simplifies chain adjustment. Also note Duncan's Fat Boy 4 exhaust and Braking Wave rotor.**
- 3. We loved the Elka suspension. The double-ribbed front tires look cool and work well, too.**
- 4. Ergos on the Duncan Raptor are excellent, particularly for a larger rider.**

**Yamaha's Raptor can be made into a great duner — like this one!**



# DUNCAN SAND RAPTOR

**Engine:** DRI 740cc National Raptor engine kit — \$2,195 (Kit includes: Fat Boy 4 stainless exhaust system, DRI flow-tested porting and three-angle valve job, big-bore sleeve installed and bored for DRI/JE 12:1 piston — available 105mm, 105.5mm, or 106mm — head gasket, camshaft, HD valve springs w/titanium retainers, shortened bronze guides, #280-X3 hard faced camshaft. Kit requires center case machining.)

**Carburetor:** Edelbrock 42mm x 36mm oval bore kit — \$674

**CDI:** Vortex x10 programmable ignition — \$399  
(includes dual-curve handlebar switch)

**Clutch basket:** Hinson billet — \$225

**Spring and plates:** Hinson six-spring inner hub/pressure plate kit — \$455

**Clutch kit:** DRI DR-C36 HD — \$165

**Oil tank:** Ace high-capacity w/steel-braided lines — \$449

**Air filter:** Pro Design Pro Flow air cleaner kit (with K&N filter) — \$150

**Oil:** Maxima premium 4, 10w40

**Fuel:** Trick

## CHASSIS

**Front bumper:** DRI chrome — \$169

**Front hubs:** DRI billet — \$399

**Front suspension:** Roll Design Lobo II kit — \$2,999 (Kit includes: Roll gull-wing A-arms, tie rods, Elka long-travel shocks, Crown series front brake lines)

**Steering stem:** Roll Design (cast stainless head and base) — \$349

**Handlebars:** Tag T-2 (oversized) handlebars w/clamp kit — \$185

**Steering damper:** GBR 2.0 — \$420

**Swingarm:** Roll Design +1-inch (round housing design) — \$1,095

**Axle carrier:** Millennium — \$269

**Axle nut:** DRI stainless — \$100

**Rear shock:** Elka Suspension — \$775

**Rear linkage:** Elka Suspension — \$198

**Axle:** Team Industries — \$360

**Rear hubs:** Team Industries — \$139

**Brake line:** Crown Series steel-braided — \$40

**Brake rotors:** Braking wave — \$130 each

**Bake pads:** Braking — \$30 each

**Foot pegs:** Roll/IMS cast stainless steel — \$239

**Brake pedal:** Roll/IMS cast stainless steel — \$130

**Heel guards:** IMS — \$150

**Shift pedal:** DRI billet aluminum — \$90

**Tires, front:** ITP Sand Star 21 x 7-10 — \$40 each

**Tires, rear:** ITP Sand Star 20 x 11-9 — \$54 each

**Wheels, front:** Douglas Ultimate Shamrock front wheel — \$240 each

**Wheels, rear:** Douglas Ultimate Shamrock rear wheel — \$240 each

**Gearing:** 15/40 or 16/40

**Chain:** Tsubaki Omega O-ring

## ACCESSORIES

**Fuel tank:** IMS oversize — \$225

**Chain guard:** DRI — \$30

**Block-off plate:** DRI — \$16

**Clutch perch:** Works Connection — \$130

**Frame guards:** Works Connection — \$60

**Hand grips:** TAG — \$16

**Clutch cable:** Motion Pro — \$24

**Grab bar:** AC Racing — \$45

**Powdercoating:** Power 1 Powdercoating

**Chroming:** Pacific Plating

**Total cost (Raptor and mods):** — approx. \$25,000