

After photographing top racer Doug Eichner on the 470R, we spent almost an hour ripping around the dunes on it. Doug calls this his favorite dune quad.



# Everyday Duner

## Duncan Makes A Wild 470R

Story and photos by Bill "WBGO" Lanphier

**D**o you know anyone who doesn't like sand dunes? I sure don't! And of all the people tearing around the sand, motocrossers use the dunes to the absolute fullest. You're not going to see many hill racers scouting around for 80-foot doubles. Or jumping all the way to the bottom of a 60-foot slipface. Or slamming head on into a two-footer just to see how much sand can be displaced and how much airtime is possible.

This is why motocrossers love sand. And, after doing all the things just mentioned, they're likely going to head to comp hill to beat up on some full-time hill racers, not with just sheer horsepower, but a great clutch hand and the kind of bike that can power through whoops at warp speed.

To see just what kind of motocrossing dune machine Honda's 450R can become, we hooked up with Duncan Racing at California's Pismo Dunes. "This is the ultimate dune bike," Loren Duncan proudly states as the gleaming ATV was rolled from Duncan's race van.

"It's probably too much machine for a guy who's been riding for just a year or two. It's for an advanced rider who wants to do everything, like run with CR500 two-wheelers through the dunes. The harder you ride this Honda, the happier it is. But the power curve is very wide and it's not all about being a racer. It's a fun bike, too," he says.

### National-Caliber Power

Powering this fun machine is Duncan's 470 national kit with a 12:1 piston and Fat Boy 4 exhaust. After boring, the cylinder walls are replated with



A mean little monster just got meaner, thanks to Duncan Racing.

Nikasil for durability. Duncan says this kit gives a 15-hp gain, but it's very reliable and will run for an entire season without needing a whole lot of attention.

Duncan's HP4 head kit includes porting, an X11 billet midrange cam, 1mm larger intake and exhaust valves, heavy duty valve springs, shortened valve guides and titanium retainers matched to the cam. The really high-tech part of the head work is a \$50,000 Serdi machine that is used to cut the valve seats. "People talk about a three-angle valve job," Loren says. "This is more like a 10-angle. We gain over five horsepower with head mods alone."

A 40mm FCR carb provides good airflow and a twist or thumb throttle can be used. The stock airbox is the best, Loren says, and a Pro Design Pro Flow adapter is used inside. A Vortex ignition allows programming different power curves.

Duncan says that, unlike on Yamaha's YFZ, the stock tranny and connecting rod are fine for use on a modified Honda. But a Duncan

Racing C145 clutch kit (fibers, steels and springs) resides inside a Hinson basket.

### National-Caliber Chassis

The stock Honda chassis works well, but really aggressive dune riders want a little more. Elka makes shocks for sand only, but the fast guys go with Elka's Elite shocks, in this case valved for the dunes. To keep the too-light front end from popping up too easily under acceleration, the rear end gets a Roll Design +1.25 swingarm. In front, a Lobo 2 suspension kit provides even more stability.

Stock Honda tires always work really well in the dunes, but the added horsepower here results in too much wheelspin. "The Sand Star is a really good all-around dune tire," Loren says. "You can jump hard and land sideways without it coming off the rim. Plus, it's durable enough to ride on hardpack when necessary."

How does the Honda compare to Yamaha's YFZ for duning? "When

**The combination of great suspension components and Sand Star tires makes for an extremely stable slider.**



we build them both up, they're pretty close," Loren says. "But the Honda is more rider friendly. It's more forgiving if you make a mistake. It's easier to ride if you get tired. I get that feedback from duners and pro-level racers."



# ATV Sport Rides Red

## Sand slinging on the 470R

Testing any modified machine from a leading aftermarket company is a blast. Then, when you learn that the machine is basically identical to that ridden by a top racer like Doug Eichner (titles in the GNC Open class, Mickey Thompson stadium series, Pont de Vaux and the desert) you know you're in for a big treat. Boy, this job is rough sometimes.

As Loren Duncan says, the Honda is easy to ride. Even with the additional horsepower, the delivery is very smooth. No unexpected hits. Open up the tap and the power just keeps on coming. After several drags, the clutch slipped a little, but we later learned that it was getting toward the end of its 30-50 hours of life in a racing quad. Big four strokes put big demands on clutches.

The shock action is great. The bottoming we noticed on nasty G-outs (like flying off a drop off into the flats) can be adjusted easily out, Duncan told us. "Those Elka shocks are super adjustable. Just two or three clicks is noticeable," he says.

The shock performance over rough, choppy stuff is totally responsive. The settings for a fast, 150-pound duner just happened to be really close. If you make a mistake and let the nose drop in whoops, the setup is very forgiving.

While we like to run a steering stabilizer, even in the dunes, Eichner likes quite a bit more damping than we do. We backed off one notch to position 1 or 2 on the GPR stabilizer and felt very comfortable charging through rough stuff that wants to pull the quad from side to side. Likewise, we also dug the Sand Stars. They slide well, steer well and don't flex too much in turns.

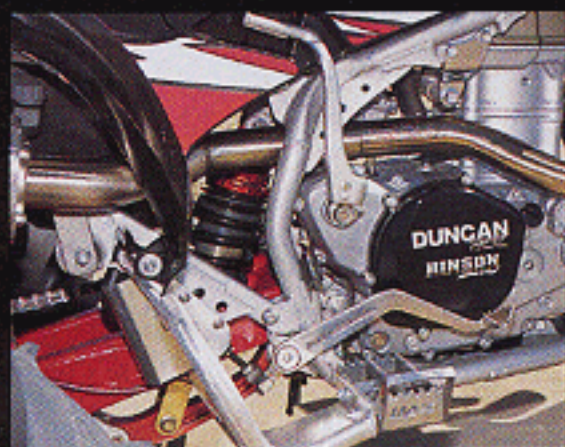
Hey Doug, can we have another ride at Glamis this Thanksgiving?

Any changes for the Honda in 2006? "I've heard it might have an electric starter. That's certainly an issue with buyers. Overall, that Honda has turned into one heck of a machine. If you invest and make some changes, you can't get a better ATV. Our team rider Doug Eichner has won several titles and he says that's the bike he's taking to Glamis for Thanksgiving. That tells you a lot right there," says Duncan. **ATVS**

**The new Douglas Quad-Rok aluminum wheels, with magnesium and titanium elements are very strong. A clear coating keeps them looking great for a long time — particularly in sometimes nasty environments like California's central coast.**



## Duncan Racing Honda 470R



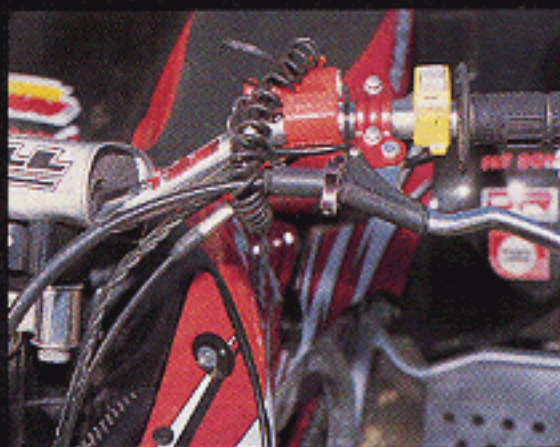
We rode the Honda with the single-shock linkage in the rear and were impressed. Since this photo shoot, Elka has released a dual-link setup for even more travel and more resistance to shock fade under race conditions.

### Engine

Bore and stroke: 96 x 64.8  
 Type: Duncan 470 national kit  
 Porting: Duncan HP4 head kit  
 Valves/cam/springs: Duncan  
 Carburetor: Keihin 40mm FCR  
 Airbox: Stock w/Pro Flow kit  
 Exhaust: Duncan Fat Boy 4  
 CDI: Vortex programmable ignition

### Drive System

Clutch basket/plates/springs: Duncan  
 DR-C145 clutch kit  
 Transmission: Stock



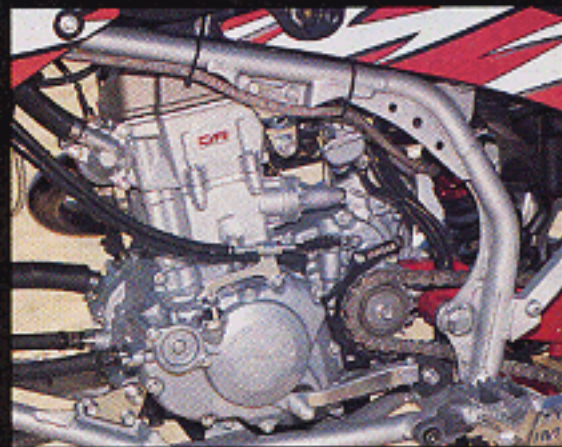
We loved the ergos on the Honda and we like the GPR stabilizer for any type of riding. The Vortex thumbswitch just inside the handgrip selects between two ignition curves.

### Front End

A-arms (width, in.): Roll Design  
 LOBO 2 (+2)  
 Spindles: Stock  
 Front shocks: Elka Suspension Elite  
 Steering stem (length, in.): Roll Design (+1)  
 Wheels: Douglas Quad-Rok  
 Tires: ITP Sand Star

### Rear End

Swingarm (length, in.): Roll Design  
 LOBO 2 (+1.25)  
 Rear shock: Elka Suspension Elite  
 Linkage: Elka Suspension  
 Wheels: Douglas Quad-Rok  
 Tires: ITP Sand Stars



That little "DR" only hints at all the great mods lurking inside and outside the engine: piston, bore, cam, valves, porting, carb, clutch kit, ignition and exhaust.

### Handlebars And Details

Handlebars: TAG CR-hi  
 Damper: GPR  
 Bumper: Duncan  
 Motor mounts: Duncan  
 Graphic kit: Duncan

### Contact:

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