



HONDA FOURTRAX 500R

What if . . .

By the Futurists at DIRT WHEELS

□ Suppose for a moment that Honda, in its infinite wisdom, decided to go against all the smug corporate advice the lawyer types have been giving them lately. Suppose they were to come out with a state-of-the-art, racer-sharp, big-bore, two-stroke, high-performance quad? Wouldn't that just rattle your shorts? You bet it would.

Well, don't hold your breath, pal. The powers that be at all the major Japanese ATV manufacturers have already determined that big-bore two-strokes are headed for extinction. It won't be long before any big-bore ATV two-stroke will be rarer than those dinosaurs in *Jurassic Park* used to be before they were cloned from that mosquito—and hey, how many mosquitoes can penetrate the chronology of a FourTrax chassis, anyway?

DON'T COUNT AMERICA OUT, BUDDY

Alas, the performance-starved American public has resorted to manufacturing its own version of what Honda refuses to make. Doug Roll, the man behind Doug Roll Design and Development—or DRD&D as he likes

to refer to it—is a man with a mission. His mission? To give the American public what it wants and needs: a big-bore FourTrax 500R. First job? Find someone with a CR500 motocrosser.

Luckily, in stepped Carmen Cafro, who just happened to have a CR500 motocross bike that was gathering dust in his garage. "I loved that CR500 motor, but my heart has always been in quads and I finally decided to see if there was a way to make my CR500 engine fit inside a FourTrax chassis," said Cafro. Advised that the added horsepower and vibration of a big-bore two-stroke could soon hand-grenade a stock Honda FourTrax chassis, Cafro sought out Doug to hand-make a frame that could comfortably house the big-bore Honda mill.

"I told Carmen that the key to making a relatively vibration-free big-bore is in how the engine develops its horsepower and whether or not it resonates in the frame mount and creates a harmonic distortion that leads to eventual cracking," said Roll. "By utilizing a Duncan Racing-tuned CR500 engine, tuned to Loren Duncan's exacting

specs, we were able to dampen the vibration to where it doesn't pose the problems most people associate with non-counterbalanced two-strokes."

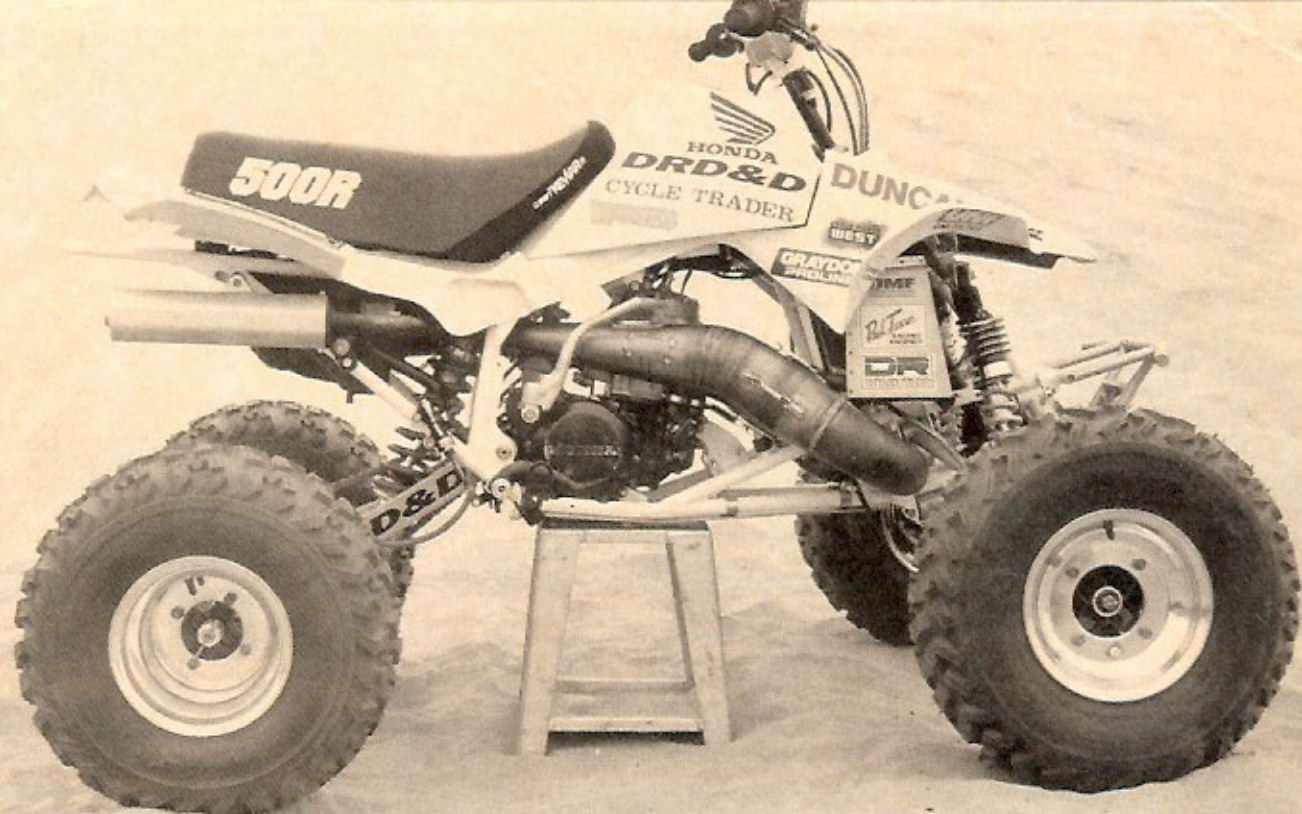
AMERICAN INGENUITY

"I especially designed this particular frame to house the CR500 engine," says Roll. "We're using Answer Pro-Taper CR500 bars and rubber handlebar mounts to further soak up any vibration the motor might give out. The

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What would it cost to buy your own 500R QuadRacer? Doug Roll won't quote individual parts prices, but you would probably be looking at spending from \$10,000-\$12,000 to recreate this high-performance racer! If you've got the dough call (619)728-4926

motor has been custom-ported and modified by Duncan Racing to be as smooth-running as possible. We use a Keihin 39mm PWK to keep the carburetion crisp and spot-on. The motor is designed to give optimum throttle response at three-quarters throttle opening. That's exactly where you want to ride it, at three-quarters throttle. Any more or less and you're prone to vibration with a big-bore mill like this," claims Roll.

"Our frame uses a geometry similar to the FourTrax geometry. I think ours is a bit better for the application we designed this particular machine for, and that is desert racing. We're running long-travel Works Performance suspension front and rear. The fronts are experimental units from Works that we're trying for the first time on an ATV. They offer adjustable compression and rebound damping and have a proportional valve that makes them the easiest-to-adjust front shocks we've ever tried.

"On the rear we're using a conventional Works Ultracross remote-reservoir rear shock valved to my specs. On the front end I've installed my A-arms, which are one inch farther forward than a stock FourTrax's and 3.5 inches

longer on each side. That gives us a much more stable high-speed ride than a regular Trax in the desert. The shocks are set up much softer than they'd be for conventional motocross use. We're getting right around 13.6 inches of travel on the rear end and over 12 inches on the front."

BITS & PIECES

It is in the area of detailing that the DRD&D 500R really shines, though. Doug Roll is well known for his attention to detail, and the 500R is no exception. Everything that could possibly be a problem has either been safety-wired, Loctited or reinforced. A large-capacity Lance Schoonmaker desert tank holds an amazing six gallons of premix for the thirsty 500cc motor. A DRD&D +1" longer-than-stock swingarm uses a non-linkage Works Performance shock to get all that horsepower to the ground. A massive DRD&D front bumper graces the front end of the sleek 500R and looks like it could ward off a gaggle of VW bugs.

Dunlop Rover AT tires, Douglas Red Label aluminum rims, Sunstar steel sprockets, Graydon Proline axle carriers, Graydon steel-braided brake lines, OMF skids and radiator louvers and seat brackets grace the mighty 500R chassis.

RIDE REVIEW

When we got our chance to try out the 500R for ourselves, we were in awe of its rocket-propelled perfor-

mance. In a straight-line drag race the engine doesn't sound as if it's working hard at all. It's only when you look around at how quickly the terrain features are passing you by that you realize how fast you are going. This is one incredibly fast quad, and with the desert gearing it currently has, the top-speed potential of this machine must be over 100 mph!

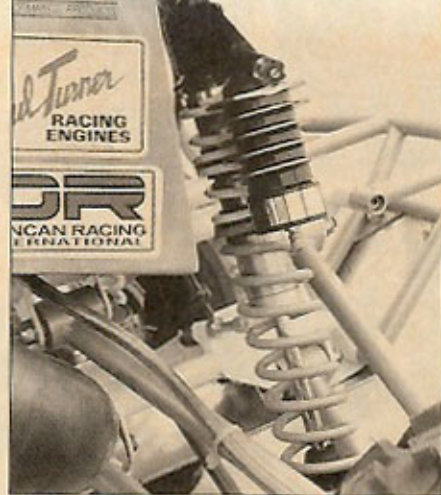
Not that we got it up to that insane speed, but the capability is certainly there. The supple Works Performance suspension gave a cushiony ride that was immune to all but the severest G-out bumps. There is little to no bump steer with the DRD&D chassis, and straight-line predictability is precise. For motocross use where G-outs and dropaway jumps are the rule rather



Performance buffs have long drooled over the prospect of Honda releasing a 500cc two-stroke FourTrax. Thanks to the efforts of the American cottage industry, such a vehicle is available—at a price!



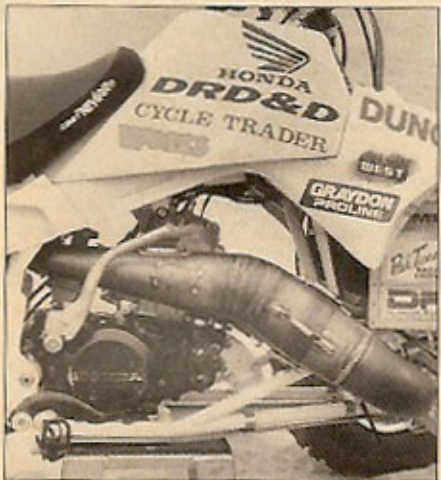
Honda's CR500 engine puts out tons of torque but lacks an engine counterbalancer to soothe the engine vibes. DRD&D solved the engine vibration problems by having Duncan Racing tune the motor to hit hardest in the 3/4 throttle position rather than rev out and vibrate on the top-end.



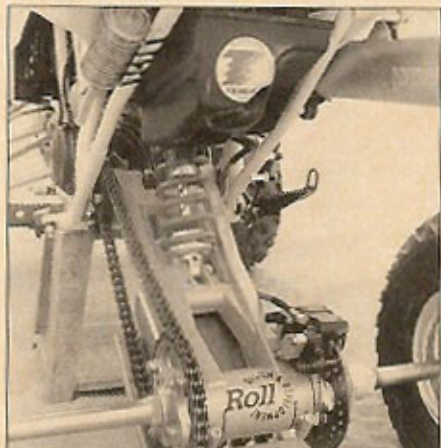
Works Performance supplied Roll with a set of shocks they are currently experimenting with for off-road racing applications. The piggyback-style Works shocks are both rebound- and compression-adjustable and feature a more progressive valving curve than earlier units.



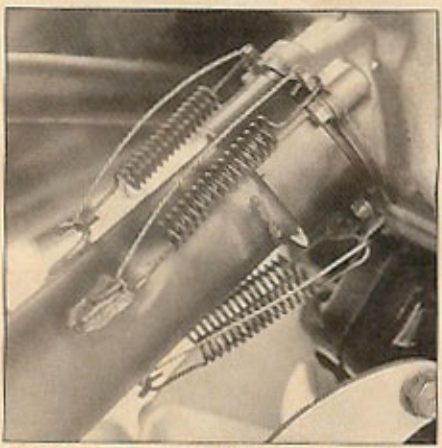
Answer Racing Pro Taper aluminum bars and rubber handlebar mounts help inhibit engine vibration on the big-bore two-stroke.



A custom-made Paul Turner exhaust pipe allows the CR500 engine to lug down in the powerband, yet still offer mind-warping acceleration when you nail the throttle. Short-shifting the engine and letting it pull off the bottom-end works best with this type of motor package.



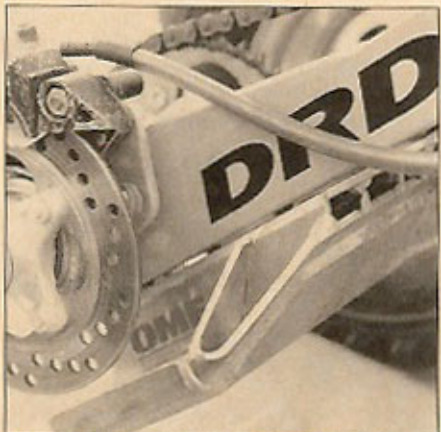
Roll prefers to use a Works Performance shock on his no-link DRD&D swingarm to get up to 14" of rear wheel travel on the 500R QuadRacer.



The 500R abounds with typical DRD&D fine touches such as an abundance of safety-wired and secured engine and frame parts.



A Lance Schoonmaker large-capacity aluminum gas tank holds up to six gallons of fuel for the thirsty big-bore two-stroke. A quick-fill "dry break" gas cap makes filling it less time-consuming.



In long-distance desert racing, sturdy skid plates are a necessity. OMF has a reputation for making some of the best, and it supplied the swingarm and engine skid plates for the mighty 500R.

than the exception, we felt the suspension was overly soft, but for smoother, higher-speed desert racing we would say it was spot-on.

Jumps were predictable and stable, with the longish chassis posing no problems in the air. Overall, we would rate the DRD&D 500R an unqualified success. We didn't notice any appreciable vibration problems, other than a fatiguing right wrist when we got overly aggressive with the twist throttle. The 500R is not a machine you want to wind out and ride like a high-revving Banshee. It pulls best in the three-quarter-throttle application that Roll designed it to be ridden in. As long as you pay attention to where the throttle is and stay on top of the breathtaking power this quad churns out, you will be pleasantly surprised at how well it works. We certainly were. □

