





SPORT TEST

2011 YAMAHA RAPTOR 250R

Competition finally comes
to the 250 sport class

By the staff of Dirt Wheels

RAPTOR 250R



With the Raptor 250R, Yamaha has found a rare combination that appeals to beginners and experts.



In stock form, the 250R makes about 15 horsepower. That's not much, but handling and light weight are the traits that make the machine a hit. Most riders only complain about the lack of reverse.



*We installed a DR.D pipe, removed the airbox lid and rejetted the Raptor for an **amazing horsepower gain**. The slip-on pipe sells for \$320, and the head pipe is another \$200 through www.dubachracing.com.*

With the new 250R, Yamaha might be testing the waters for a more advanced sport machine. The R's only real improvements over the standard Raptor are the shocks and the new adjustable brake lever. That makes sense, because the standard model's shocks are not nearly as advanced as the rest of the chassis. With KYB reservoir shocks attached to the double A-arms in front and the swingarm in the rear, the chassis of the Raptor is as good or better than that of, say, a Honda 450R. It just looked like it was washed in hot water and suffered slight shrinkage. Most of the Raptor's measurements are about 15 percent shy of a full-size 450, from the wheelbase to the width to the suspension travel. The addition of more serious suspension brings a \$500 price increase. That's a bargain if you look at the cost of aftermarket shocks, which sell for three or four times as much.

THAT RAPTOR MAGIC

You have to understand that the Raptor 250 is the most universally liked sport quad on the market. Ask any top racer what he thinks of the machine and you get a huge grin followed by a long session of story telling. The magic formula seems to be light weight and handling. Horsepower isn't really mentioned. That means that talented riders can get on and hold it wide open, free of fear and intimidation. Sure, racers usually do their thing on 50-horsepower 450s, but having fun doesn't require nearly so much power.

We don't mean to say that the Raptor is slow. It could hold its own against a Raptor 350, which makes about 3 more horsepower but weighs 70 pounds more. The Raptor 250's effectiveness doesn't come from horsepower as much as its lack of weight. The motor produces about 15 horsepower in absolutely stock form, but the whole machine weighs about 315 pounds. That's why riders love it so much—great handling matched with modest power. That's how heroes are made.

The history of the Raptor 250 motor starts with a domestic Japanese dual-sport motorcycle. There's nothing high-tech or expensive about it. It's an air-cooled motor with two valves and a single overhead cam. It doesn't have reverse, which is the most common complaint about the machine, but it makes good torque. As a result, it has a smooth, easy-to-use power. Beginners like it because it's hard to

RAPTOR 250R

mess up once they grasp the basics of using a manual clutch and gearbox. Experts love it because it's still the most powerful 250 quad. Racers are defined by their competition. If everyone is forced to race with no more than 15 horsepower, then that's fine; the battleground is suddenly handling. And the Raptor handles.

Of course, as soon as some wise guy shows up with a 16-horsepower Raptor, the game changes. Yamaha left a lot of horsepower on the table.

Adds 4 horsepower from stock! 16 - 20hp



Yamaha actually uses much of the same chassis in the new Raptor 125. The 125s wheels are smaller, but might suit the 250 well on the track.

◀ Most of the Raptor's dimensions are about 15 percent smaller than those of a full-size 450. That spells hero time.

pression and rebound all the way around. So if you start flying a little farther off the jumps, you can compensate, to a point.

TEST LAPS

If you actually go racing, you eventually run into the limitations of the new shocks. They don't increase travel at either end, and the adjustability only goes so far before you have to have to visit the suspension man. The new shocks are fully rebuildable, but increasing travel is difficult without new shocks and A-arms. The width of the machine will be the next limitation. The Raptor is about 8 inches shy of full track width, so a big rider gets things tippy in a hurry.

Of course, there's a whole cult devoted to Raptor 250 racing. We tested one built by CT Racing ([562] 945-7006) that produced over 30 horsepower. They have a motor kit that includes head work, a cam, piston and pipe, and sells for around \$2000.

But for us, formal racing is missing the point with the Raptor. There are lots of bigger machines that go faster and turn quicker laps. For the most part, the little Raptor is more fun. It's a rare machine that appeals so universally to beginners and experts. We know that eventually the 250 class will get more serious and that more expensive liquid-cooled machines will appear. But until then, the Raptor 250R is the king of the class, and that suits us just fine. □

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Engine type	Air-cooled, two-valve, OHC four-stroke
Displacement	249cc
Bore x stroke	74.0mm x 58.0mm
Compression ratio	9.5:1
Carburetion	29mm Mikuni
Starting	Electric
Transmission	5-speed
Final drive	Chain
Suspension/wheel travel:	
Front	Double A-arm, piggyback KYB shocks/7.5"
Rear	Swingarm, remote reservoir KYB shock/ 7.9"
Brakes:	
Front	Dual-disc
Rear	Disc
Tires:	
Front	20x7-9
Rear	19x10-9
Length/width/height	64.0"/42.1"/40.9"
Wheelbase	43.7"
Seat height	28.7"
Fuel capacity	2.4 gal.
Ground clearance	3.9"
Wet weight	330 lb.
Colors	Blue, white
Price	\$5099
Manufacturer	www.yamaha-motor.com

With just a pipe, rejetting and more open airbox, the Raptor climbs up to somewhere around 20 horsepower.

We tried a DR.D pipe with a Dynojet needle, a 155 mainjet and 27.5 pilot. It brought the little motor to life. With just a little more power, you can suddenly go more places and do more things. The stock Raptor's world is fairly flat and hardpacked. With more power it suddenly includes fairly steep hills and deep sand. At that level, the Yamaha's handling is still magic. And you come to appreciate the upgraded suspension on the R version. Once you start hitting the rough stuff faster, the KYB reservoir shocks come in handy. They don't fade until you ride really really hard, and beyond that they have much more adjustability. The original shocks give you nothing more than five steps of adjustable preload in front. The reservoir shocks have threaded adjustable preload, com-