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SWIFT KICK IN THE PANTS

Yamaha squeezes even more performance out of the granddaddy of two-stroke street demons.

Sometimes the rumors that circulate before the official introduction of a new model tend to make the unveiling itself an anticlimax—especially if the new model turns out to be not nearly as exciting as the rumors were.

Some of us suspected that Yamaha would pull out the stops in '86 and unleash a wild grand-prix replica of the RZ350, complete with aluminum frame and a V-twin engine modelled after the racer. Nope. Instead, the RZ continues its steady development, shedding weight, adding power and mechanical strength and improving comfort and convenience.

The rumors of an exotic '87 update continue to swirl, reinforced by Yamaha's TZR250 GP replica for the Japanese market, and a few of the RZ faithful wait impatiently for an NS400R-eater.

Meanwhile, some of us are just as happy with the prospect of an RZ that maintains its remarkable all-round usefulness, and the promise of 10 per cent more horsepower this year suggests the NS400 may already have its hands full in keeping the Yamaha strokers to the rear.

When Yamaha Motor Canada mentioned that a prototype '86 RZ350 had entered the country, we were quick to cadge a ride in the hope of determining how effective the engine modifications

were in boosting output. After promising not to crash the sole prototype in Yamaha Motor Canada's possession, we picked up the bike and headed straight for the drag strip.

Our results, unfortunately, aren't as conclusive as we'd have liked. This particular prototype had just been pried out of a crate from the Hamamatsu factory, and was hardly a sharp-running example of the RZ breed. It pulled cleanly and well at lower revs in the same manner as previous RZs, but the power would cut out suddenly as the revs reached the 9,000 rpm mark, seriously limiting its quarter mile potential. And yet, even with a sick-feeling engine, the prototype turned a 12.93 second quarter, exactly the same time as our well set-up '85 long-term test machine. The terminal speed was 164.18 km/h (102.04 mph), compared with 165.67 km/h (102.97 mph) for the '85 version, but this figure suffered in particular as a result of the top-end collapse through the traps. Our seat-of-the-pants impression suggested a significant boost in power between 7,000 and 9,000 rpm, and we were left wondering what a proper-running example might do.

We'll just have to wait to find out, though. Yamaha somewhat regretted letting us have an ill-running prototype, and we didn't have another chance to see how this model might run with its problems sorted out. But the perform-

ance potential seems promising to say the least.

Yamaha obtained the power boost with traditional two-stroke tuning techniques: the combustion-chamber shape, porting and expansion chambers have all been altered, and significant components strengthened.

Previous RZ's have had a modified dome-shaped combustion chamber with squish-band, but the '86 has a regular conical shape that's claimed to increase power. Combustion-chamber volume is still the same.

The cylinder sleeves have been "Parkerized," a special phosphate treatment that helps speed break-in of the piston and cylinder. The sleeves are still cast-iron, and can be rebored.

The shape and timing of the cylinder ports have changed, with the exhaust ports enlarged top and bottom half a millimetre, and small adjustments made to the size and timing of the transfer ports. Yamaha's initial plans to include boost ports between the reed cages and transfer ports have been stymied by patent conflicts. At the time of writing the exact porting specifications remain unclear, but Yamaha has several options in meeting the performance target.

With more power has come the need to retard ignition timing at higher revs to prevent detonation. The ignition coil and rectifier are now the same parts used on the RZ500, to simplify parts stocking.

The battery capacity is reduced this year, from 5.5 amp-hours to 4.0, in order to reduce the battery's weight by



close to half a kilogram.

Redesigned expansion chambers are tuned to match the porting changes, and have new canister-style mufflers that are claimed to be quieter, but weren't noticeably so on the prototype we rode.

An increase in piston-crown thickness of 1.3 mm strengthens the pistons and helps them cope with additional heat. The piston skirts are lengthened by 3 mm to reduce piston rocking in the bores, and a new expander material for the second piston ring also helps to keep the pistons centred to improve compression and reduce noise. The material of both piston rings has been changed from steel to cast iron to prevent the rings from sticking in their grooves, but the ring faces are chrome plated.

The only change to the bottom end is greater clearance between the balls and races of the crank journal bearings, and the bearing retainers are Tuftride-treated for better lubrication.

For quieter clutch operation, a conical spring plate made of carbon steel

replaces the rubber dampers that tended to wear on the RZ and cause noisy engagement.

The eye-catching red wheels have been lightened slightly by removing more material from the cast spokes; there's now a parallelogram opening rather than two large holes, and total weight loss for the wheels is about 800 grams. The brake discs have also been shaved in thickness half a millimetre to decrease weight.

Yamaha has abandoned the RZ's fiddly remote belt-driven preload adjuster, which tended to slip on its wheels. A hook wrench is supplied to turn the shock collar.

Dressing up the new RZ350 are components lifted from the RZ500: the cast aluminum footpegs and brackets, and the larger bike's taillight assembly. The plastic sidecovers run from the tank to the taillight in one piece instead of two.

Fuel capacity has decreased from 20 litres to 17, which is unfortunate news for touring riders, but the reward is a

narrower tank that allows a better riding position. The seat is reshaped as well, with more comfortable padding, so the RZ's comfort range should exceed its fuel range. The new aircraft-type fuel cap fits flush with the tank surface.

Completing the '86 revisions are a new white and red paint scheme for the bodywork, while the frame returns to a more subdued black.

Although the '86 edition of the RZ350 lacks the stunning technological leap some were expecting, it remains king in the performance-for-dollar rating. The reduction in weight, particularly of the wheels and discs, will help handling, and the increase in power promises this year's model will be the hottest yet. Considering the refinements of the latest RZ350, its suggested list price of \$3,499 is a bargain, only \$100 more in a year of large price increases for other models.

The RZ350 still offers the least-expensive route to genuine thoroughbred performance on the street. How good is the '86 bike? We'll tell you the whole story as soon as we can. □

PHOTO BY CHRIS KNOWLES