MT AND OTHER TERRORS

Life Beyond the Berm, Part II, wherein we examine the Honda MT125R3 and discover that it's fast, reliable and fun. And still a motocrosser at heart.

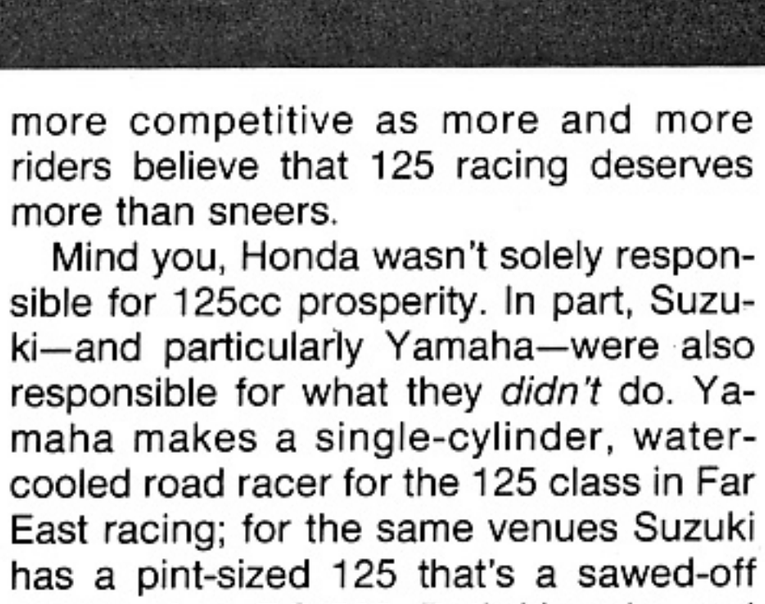
By Phil Schilling

IN RACING, THE PRESENT ALWAYS ENDANGERS the past, and neither are safe from the future. As the 1979 racing season opens, however, it appears that Honda's MT125 road racer has a secure place in the 125GP club racing. *Cycle* enthused over Honda's original MT/R back in August 1977; the 1977 and '78 racing seasons demonstrated that our enthusiasm was not misplaced.

In '77 new MTs began replacing the tired fleet of TA-125 Yamahas, which had been the basic battleware of the tiddler class since the early 1970s. Because Yamaha never built a continuing series of TAs, and because aspiring KR-types believed 125 GP was about as serious as kindergarten mud-pies, the 125 class—at least in California's AFM—teetered somewhere between stagnant and moribund.

New equipment often generates its own excitement, and indeed the new Hondas re-established and re-created the 125GP class. Certainly there wasn't an avalanche of new competitors; you didn't see 60-year-old grandmothers dropping their knitting needles or tennis racquets to join the in-crowd at the start line. Nevertheless the 125 GP starting fields have grown in the last couple years; in 1978 the 125s made up the AFM's second largest individual class. And the racing is becoming more competitive as more and more riders believe that 125 racing deserves more than sneers.

Mind you, Honda wasn't solely responsible for 125cc prosperity. In part, Suzuki—and particularly Yamaha—were also responsible for what they *didn't* do. Yamaha makes a single-cylinder, water-cooled road racer for the 125 class in Far East racing; for the same venues Suzuki has a pint-sized 125 that's a sawed-off corner of an RG-500. Both Yamaha and Suzuki kept their liquid-cooled rockets on the far side of the Pacific, and thanks to their non-appearance an American rider could buy a 125 Honda with some assurance that the bike would be reasonably competitive for a couple of seasons. He also knew the price of winning equipment would not double in 12 months. As for the exotics, the sheer cost has prevented a Morbidelli flood in a Honda pond; Morbo money buys TZ250 Yamahas.



PHOTOGRAPHY: ROBIN RIGGS, JIM COOK

One-two-five buffs will recall *Cycle's* shock in 1977, caused by a brief exposure to the MT/R's price list. The basic bike cost a stiff $1764. We're not gasping nearly so hard at Honda's price structure in 1979: about $2000 buys a MT125R3 today. Two years ago, about $850 separated a new 125cc Honda from a Yamaha TZ250. Today, the price spread amounts to more than $2000—though 1979 TZ250s are delivered with substantial spares kits. Outside of running a box-stock lower class production bike, the Honda 125 is probably the least expensive way to arrive at the starting line with a competitive machine that's fast enough to be called a real racer.

According to Honda, the current MT125R3 is two horsepower stronger than our 1977 test bike. There's no way to confirm this claim, since *Cycle* did not have the original test bike long enough to complete a dyno run. We can tell you that

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the R3 makes 24.42 horsepower at 10,500 rpm, and at this level the motorcycle has an edge over earlier Hondas at the racetrack.

The R3 cylinder is different. The port timing has been altered, but the exact timing figures escaped us by a curious turn of events. When the motorcycle was in our possession and apart, we didn't degree/measure the barrel; we figured that it would be easier and more efficient to get the figures from American Honda. That's standard operating procedure; normally they have the blueprint figures for all products at hand. After the motorcycle was returned, we discovered that the figures weren't available at American Honda from our normal sources. Their channels cover products of the parent Honda company—but the MT125R3 is a creation of Honda Racing Services, Ltd, a subsidiary of the parent. Moral: if it's a racing part from RSC, measure it while you've got it.

You cynics out there probably suspect that, had the specs appeared in print, everyone would have ported their own CR125 motocross barrel to R3 figures, whereupon the demand for the genuine RSC parts would have dropped. We don't know that's the case; we do know that tight lips make the American consumer suspect the worst.

The first 125 Hondas had CR125 motocross pistons with two thick (.060-inch) rings. The current piston has two .040-inch rings which will be far less likely to chatter and break. Upstairs, the cylinder head remains unchanged, but it rests on a thicker .028-inch (rather than .020-inch) copper gasket.

A straight-bore 34mm Mikuni carburetor replaces the previous 34mm taper-bore unit. The R3 carburetor has been remetered. And, even though the ignition unit has not been changed to our knowledge, the R3 engine will stand considerably more ignition timing—2.5mm rather than 2.3mm. We suspect that this reflects the fact that the R3 has slightly less compression than its predecessors.

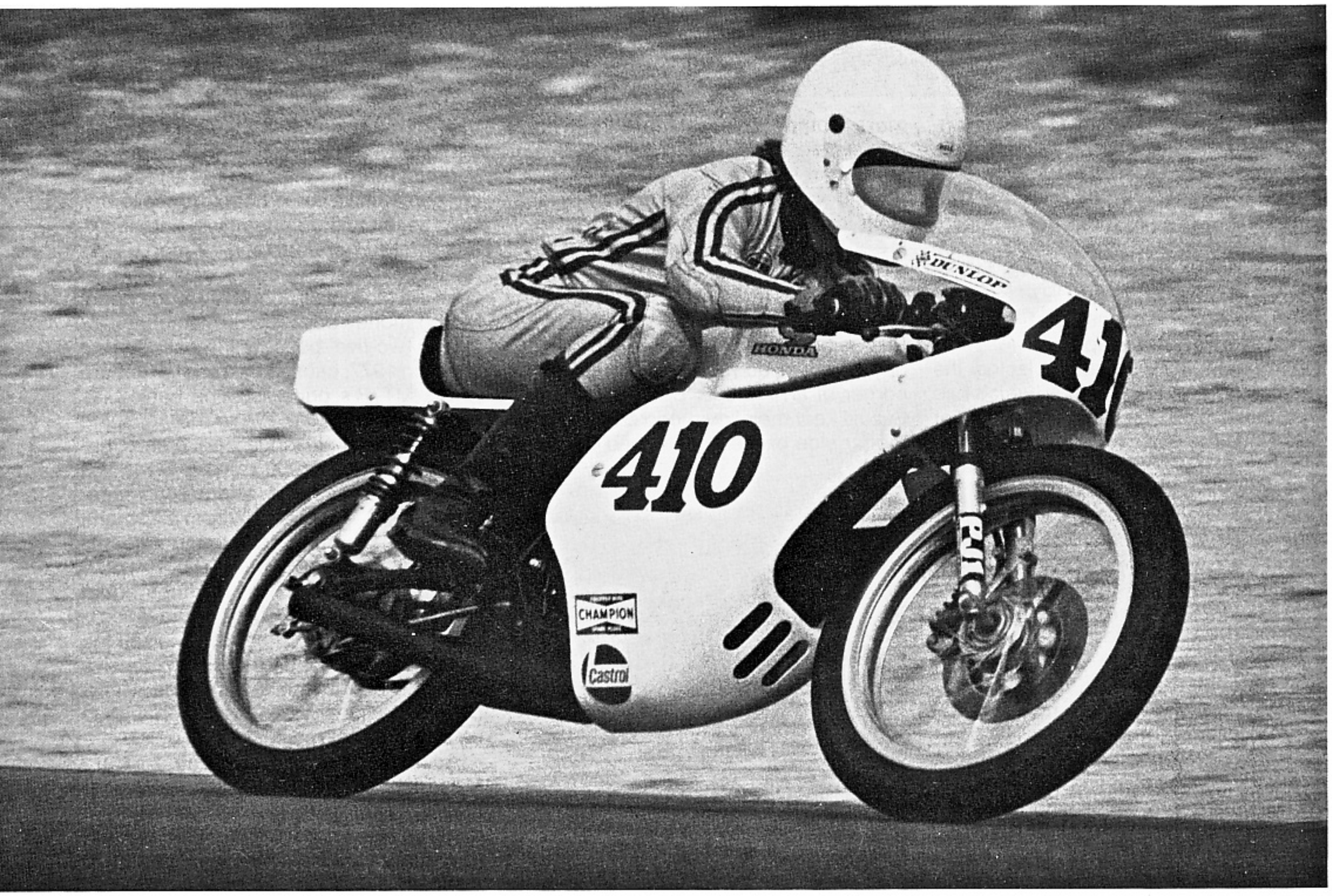
Earlier Hondas can be updated with a "Power-Up Kit" according to Honda's RSC Parts News Bulletin No. 78001. This kit includes cylinder, carburetor assembly, carburetor metering parts, head gasket, piston and rings, together with relevant tuning information. These Power-Up Kits were widely sought during 1978, but they proved to be next to nonexistent. The best way to get the Power-Up Kit seemed to be with a brand new R3!

The R3 has more power, and it also stops better, thanks to its hydraulic disc brake that supercedes the old mechanical disc binder. Once again, the new brake can be bought to update the earlier bikes, and Honda's RSC Parts News Bulletin No. 78002 carries a list of the needed parts and their part numbers.

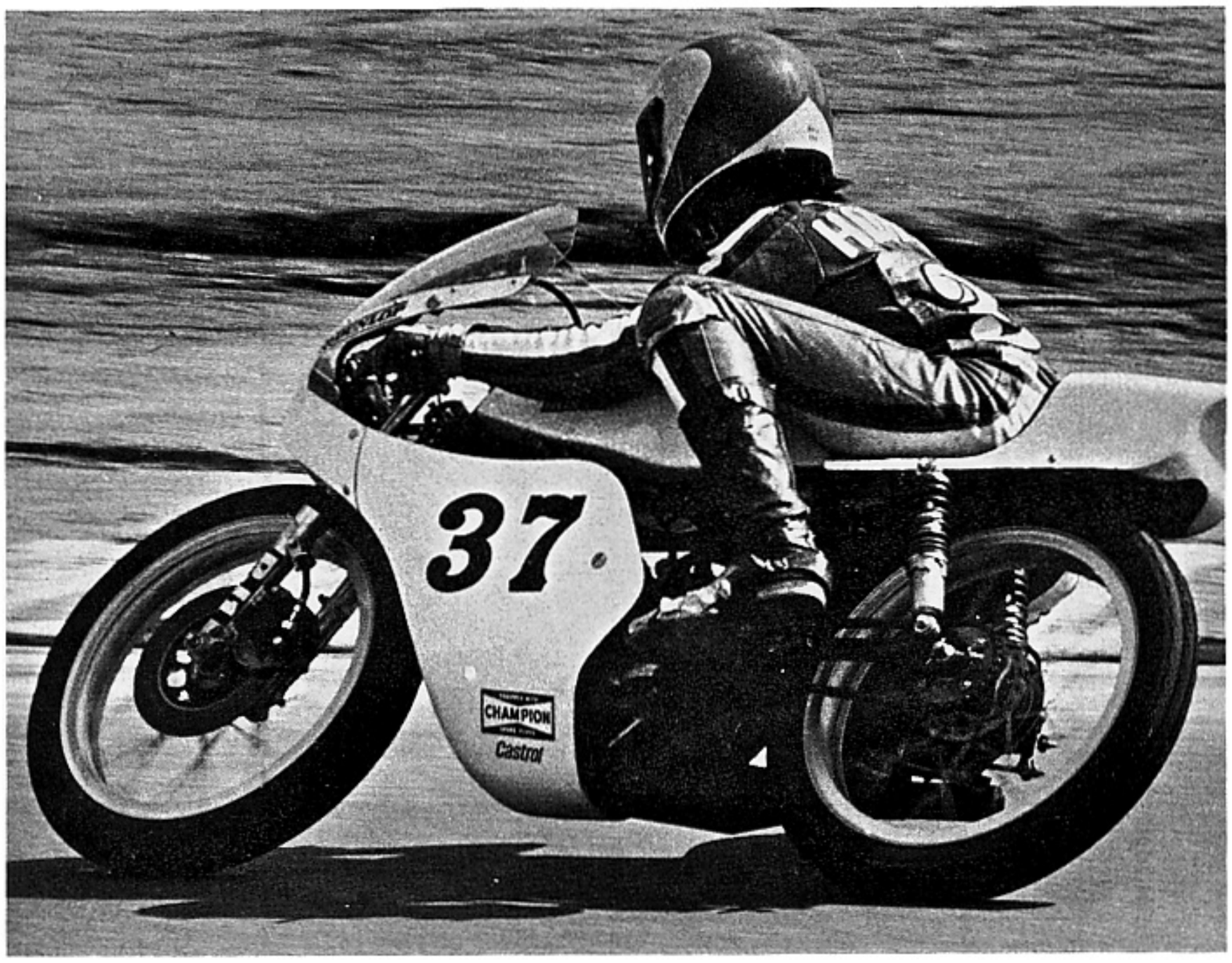
With these engine and brake parts the first Honda 125s can be turned into the latest things. In fact, that's exactly what our test bike was—a veteran test/race bike that had been refreshed and regroomed. And we lost little time in reintroducing it to the racetrack.

One lasting lesson that came from our first MT125R test was: too big is too bad. The uppermost limit for rider size is about five-ten and 150 pounds. There's not much in the way of a lower limit, so long as the person is tall enough to peer over the sign-in table and old enough to write his name. Things other than rider size interested us. We wanted club racers with diverse racing backgrounds to sample the R3. How would previous experience color a rider's impressions of the little Honda? What could they tell riders with similar backgrounds about the Honda? To complete this investigation our test/race 125 Honda did six race days, running the equivalent of about 10 races. This gave us an opportunity to answer some other important questions: How reliable is the MT/R3? Where are its trouble spots? How critical are jetting, timing and gearing with a 125? In what specific ways is the bike sensitive to riders of different statures and weights?

To establish a baseline, the MT125R3 was raced as delivered. This meant using



Danny Coe (opposite) wore the MT like a glove; Mark Homchick (below) fit tighter. Bart Muhlfeld and Coe (above) represented the long and short of *Cycle*'s testers.



the Japanese Dunlop tires (2.50 x 18 KR73 front; 2.75 x 18 KR76 rear) on the standard rims, 1.50 front and rear. Timing, as prepped by Honda, was 2.42mm before TDC. The Mikuni had a 250 main jet; we were advised to bump the jetting to 270. Since Castrol R would be mixed 20:1, as a precaution the jetting went up to 300.

Mark Homchick handled the riding chores first time out at Ontario, California. Not only was Mark a reasonable size for the bike (five-eight, 140 pounds), he also worked closely on our TZ250 racing project. Mark had the riding credentials to evaluate the Honda and the sensitivity to pick up the bike's little problems before they became big ones.

The first problem was big enough that no one could miss it. The clutch refused to disengage; the clutch plates were fried together, the result of Neilson's investigation of the Honda's starting capabilities back at Westlake Village—and the failure to check the clutch's condition before leaving for Ontario. The racetrack remedy included resurrecting the old clutch for practice, and installing new plates and springs for the main event.

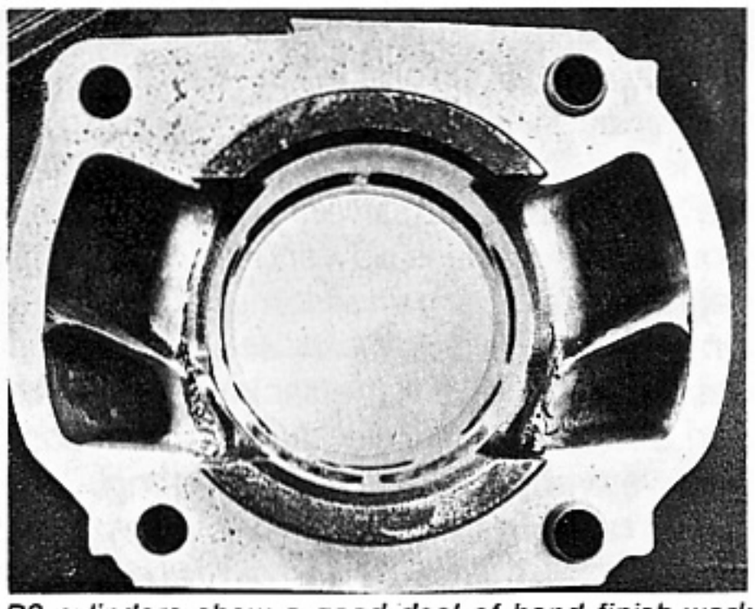
As for the jetting, it proved to be touchy in a way you might not suspect. If jetted abundantly rich the powerband was razor-thin, making things difficult for Mark, who was accustomed to the TZ250's 1500-rpm powerband. Once in the correct range (280 to 290), the Honda showed a 1500-rpm powerband between 9000 and 10,500 rpm. In this range, there was enough fuel to help cool the engine without compressing the powerband. As the dyno would later verify, leaner jetting would produce less power (less fuel, more heat, less power) and some engine rattling at full throttle with service station gasoline. On the racetrack Homchick's ear detected the irregular combustion, and we went back up on the jetting.

The tachometer redline on our test bike was set at 11,600 rpm, which corresponded to a real 11,200 rpm; a check proved the tach was 400 rpm hot. Eleven-two was 700 rpm beyond the engine's power peak at 10,500. Had we dynoed the engine earlier, we might have set the redline down a bit. Because the power fell off so abruptly after 10,500 rpm, there was little point in chasing the engine much harder. But the engine would pull with such authority through its 1500-rpm band that—especially in the lower gears—the rider would have been hard pressed to catch the next gear before 11,000 rpm.

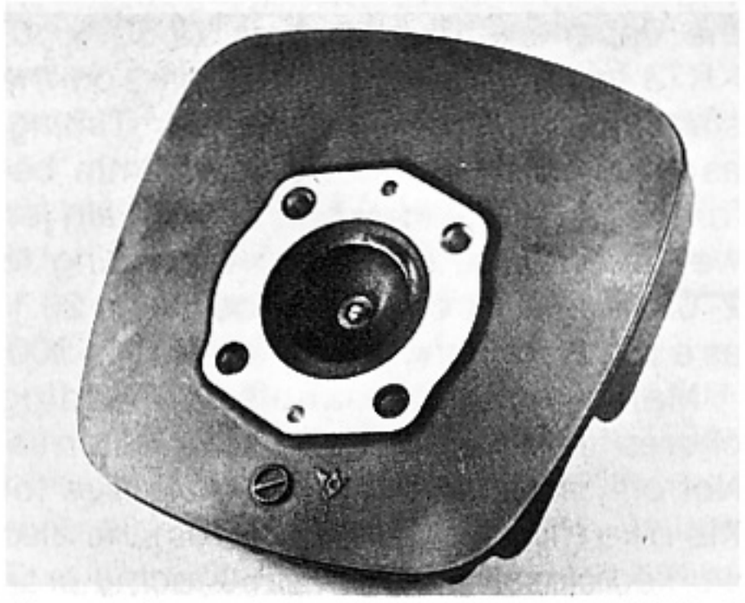
Gearing was problematical. The size of the sprockets dictates the gearing combinations which, at top speeds, could leave 3.5 to 4.0 mph holes in the gearing. For example, 17/34 gearing might produce 106 mph and 17/33 would result in 110.2 mph. One-o-six was too short, and 110 just a tad high. Standard racetrack wisdom with peaky two-strokes holds that the shorter gearing is the better choice. Just the slightest breeze or change in air might prevent the engine from pulling quickly or completely through to its redline in top gear.

After the first race we departed from conventional wisdom and geared the MT on the high side of any gearing hole. One-two-fives spend a great deal of time running at their maximum speeds, or close to them, at places like Riverside and Ontario; consequently you don't want to throw away three or four miles-per-hour without good cause. Only after Homchick had won his first time out at Ontario did we recognize our error. Having traded off some top end for better acceleration, we discovered that, unlike 250s, what you lose off the top with 125s, you don't necessarily get back with significantly better acceleration. Mark barely held off a late-race charge by Steve Sheftel, the class ace on an earlier model MT.

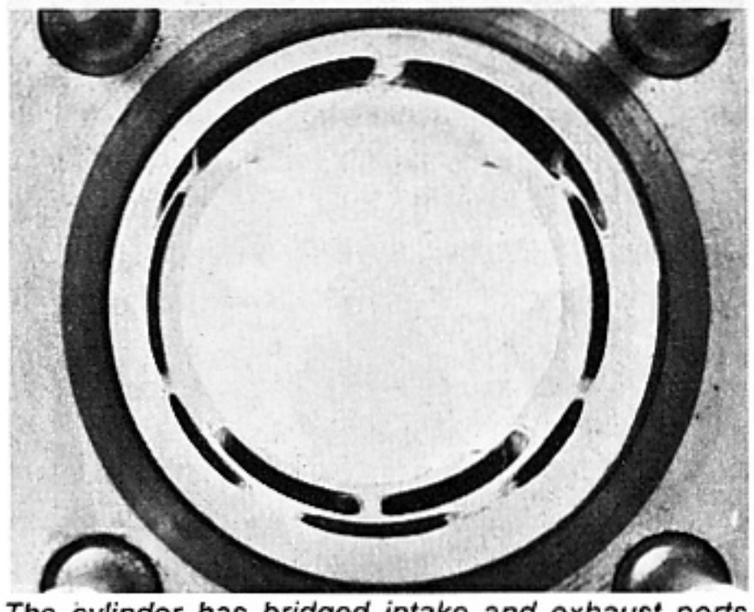
Homchick reported that the standard Japanese Dunlop tires—which no one uses—weren't as bad as their reputation. These highly triangulated tires made the bike feel a little tipsy at transitional lean angles when they have little rubber on the road. That wasn't much of a problem for Mark, who rode the 125 like a 250, snapping the bike into corners late and using lines wider than the 125 norm. When the Japanese Dunlops did lose traction, they did so quickly, though the tires would catch themselves. The stock tires, in Mark's words, made the bike "slidey on



R3 cylinders show a good deal of hand-finish work in the transfers; earlier MTs were motocross stock.



The squish area is too far away from the piston to do much good; the spark plug is a Champion N57-G.



The cylinder has bridged intake and exhaust ports with five transfers; it's too radical for motocross.

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both ends." The bike added nothing to the slippage; the steering stayed neutral, the bike felt stable, and there were no suspension-induced or -aggravated shakes or wobbles.

While competitive, 125 racing has none of the cut-and-thrust, full-desperation intensity of 250cc racing. For Homchick, it was a fun way to spend an afternoon racing. Dealing with the narrow powerband was no problem; braking points seemed miles down the road from those of a 250; there was even time to take in the scenery. "I never realized Ontario was so long," Mark concluded.

After Ontario, the Japanese Dunlops and the narrow rims were shelved. One-eight-five rims, front and back, were fitted; so were French K81s, 18-inch 80/90s, on both ends. These soft-compound K81s have almost become standard issue for 125 racers. The French Dunlop, which has the familiar K81 tread pattern, is a much bigger and heavier tire than either the rib front or the patterned rear offered as standard MT equipment.

Out for his second race, this one at Riverside, Homchick concluded that the French Dunlops gripped better than the Japanese tires. With a rounder profile than the Oriental Dunlops, the French K81s produced no transitional tipsiness, and they would lose traction more gradually in corners and slide with greater predictability. For Mark, who likes to operate at the edge of adhesion, the K81s were great. He could brake much harder (and later) on the K81s, thus utilizing the R3's superior hydraulic caliper and strengthening his rush/snap approach to corners.

Despite his technique, Homchick could not win the 125cc AFM Money Race at Riverside. And it wasn't because his Honda was a toad. He followed a miserable start with a great blitz through the field which brought him within a couple of seconds of Phillip deLespiney's winning Morbidelli at the end. The Honda was a jet, pulling along at 115 mph, but the Morbo was seven to 10 mph faster. Fair enough: superior technology rewarded!

After two races we were already aware that the MT had two maintenance problems: one in the clutch, the second in the piston. The standard springs would collapse more than a millimeter after one or two races, setting the fire for a total roast of the clutch. Characteristically, that transpired about 100 yards beyond the starting flag.

Other circumstances amplified the difficulty. As a GP bike with a close-ratio six-speed, the Honda would barely pull itself forward in first gear under perfect conditions. Even so, this necessitated a lot of clutch slipping, and the launches weren't

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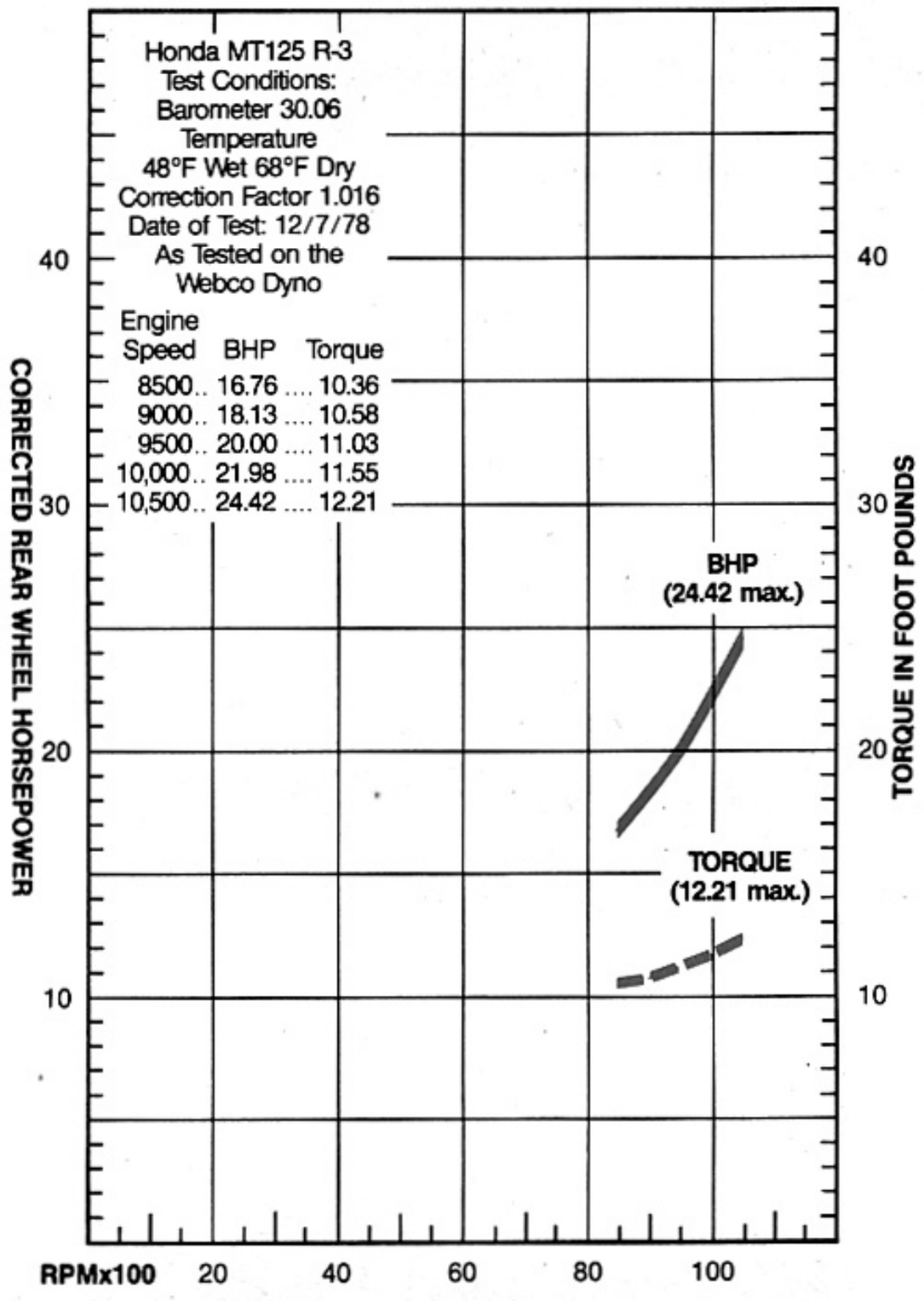
Racetrack wrenching was easy: read the plugs, go to the high side of any gearing hole, and watch the clutch.



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big street bike") you might think the powerband, though more severe than a 125 motocrosser, would give our berm-artist no problem. That wasn't quite true. Compared to pavement traction, a motocross course is always loose. Consequently, when a MX rider drops off the power, he can often get back on the pipe just by fanning the clutch. This allows the engine to jump back into its optimum rev-range; and when the power train locks together again, then the rear wheel spins, squirting the bike forward. Since 125 road racers will not churn their rear wheels, the old fanning technique isn't available to pavement racers. Given his size and weight, getting lost in the gearbox was more damaging to Bart than any other rider; with the added baggage it was easier for the engine to fall out of its power range, located between the ninth and tenth floor.

"If you're a motocrosser," advises Bart, "you'll get a really weird sensation on something like the MT/R. On a motocrosser, you can be all over the bike; it doesn't matter. On the MT/R you must hold very still and keep inside as best you can. It's almost like watching a movie."

As for the handling, Bart couldn't tell exactly where the bike was going to wind up in a corner. He always felt like he was over-correcting the Honda, which was very sensitive to his weight. All in all, Mudflap was impressive at Willow Springs: his times would have put him in a solid third place in the 125 derby, though he rode the Honda, *exo-competitum,* in the 100cc GP class.

In the MT/R's final outing of the year at Riverside, Homchick returned to ride the 125GP, which he won. Of more immediate interest were the reactions of Kevin Kiel, an AFM racer who tried the Honda in a couple of practice sessions.

Kevin motocrossed five years ago, stopping when he was an Amateur. In 1978 he jumped into production racing, starting with a 125 Can-Am enduro bike outfitted with French Dunlops. His successful Can-Am probably makes 17 or 18 horsepower, and there's useful power over a 4000-rpm range. At five-eight and 140 pounds, Kevin fit right on the Honda, and the gearing which worked for Homchick matched up with Kiel too.

The Honda was a revelation to Kevin. There was no comparison to his production bike: in engine power, handling, braking and weight. His first, and strongest, impression concerned the Honda's weight. "This thing must be about 80 pounds lighter than my Can-Am!" At 177.5 pounds ready to roll to the start line, the MT/R *is* a featherweight compared to any production bike.

Handling was terrific, Kevin reported. "I could get the bike to do anything I wanted." The Honda felt twitchy, but that was directly related to its lightness. Kevin discovered that he had to concentrate on what he was going to do, and then do it precisely. "Since the bike reacts to everything your body does, every shift in weight and so on, you must be smooth and deliberate."

The Honda was at least 25-mph faster than Kevin's Can-Am, but that speed came at a price: a demanding rev-range that was half of Can-Am's. "You don't dare be wrong when you're downshifting; if you are, you're not going anywhere until you get it sorted out." The brakes were as good as the Honda's speed. "There's just no way to compare the hydraulic disc with an enduro bike's drum."

Homchick could compare the old mechanical binder with the new hydraulic R3 brake, since Mark had ridden an early MT/R. "The hydraulic brake is only about a hundred times better. You can stop with a vengeance."

Anyone racing a Honda 125 can expect certain things. They can expect to change the rims and toss out the original tires. They can look forward to racing a season with little maintenance. To be sure, stronger clutch springs should be fitted immediately, and prep-wise tuners will keep a race-by-race watch on the clutch plates—and back up that inspection by taking an extra set of plates and springs to the racetrack. Post-race work will always include a ring job. Periodically, we'd check the frame for vibration cracking. Were we to run a Honda through a 12- or 15-race schedule, the lower end would be pulled apart after eight races, the crank assembly renewed and fresh main bearings fitted. A piston change at mid-season, complete with small-end bearing, would round out our list.

Forget the speed mods. Outside of updating R1 and R2 models with R3 components, we suspect "speed-tuning" MT/R Hondas is time and effort misspent. A five-per-cent gain in reliable horsepower, or 1.22 horsepower, might be tough because this air-cooled piston-port single is already making 195.4 horsepower per liter. There's theoretical room to spin the engine a little harder, but there's no room to narrow the powerband. The best you could hope to do would be to raise the relevant power curve straight up at more elevated engine speeds. Even so, one horsepower isn't as crucial as using the brakes well, keeping inside the streamlining as much as possible, getting geared and jetted spot-on, having fresh rings on a properly clearanced piston, and using the best tires to the best effect. In fact, the season's race-watching persuades us that the best 125 speed-trick to lower elapsed race times lies in getting consistently excellent starts.

Sometime in 1979 water-cooled R4 Hondas may show up at the racetracks. Currently American Honda has no plans to import R4 bikes or R4 kits. We understand that the R4 gear bolts on the present MT/R models; the water-cooled engine is not a version of the new CR125R motocross unit. We hope that Honda will market enough update kits so that MT/R owners will not be victimized by brand new R4 bikes, brought in directly from Japan or through England or Europe. A rapidly growing class needs stability and relative parity in equipment; instant obsolescence and very expensive race-ware could kill off the class in short order. More than one class supporter believes that 125s limited to air-cooled, single-cylinder machines might prevent a future decline which expensive technology seems to promise. Those advocates point to the very successful MT/R-Honda class run by the British ACU in the past couple of years.

This much is certain: one-two-five Hondas are ideal step-one racers, suitable for beginners or climbers. The machines behave like GP bikes, but don't present their owners with GP-bike maintenance hassles. The Hondas are not suited to everyone; size, experience and preference all count. Someone like Mark Homchick, who enjoys riding TZ250 Yamahas, would not switch to 125s. On the other hand, Danny Coe plans to ride the AFM 125 class in 1979: a good 125 GP bike is a better machine than a race-kitted street tooter. Kevin Kiel bought a Honda MT125; for him, it's a logical stepping-stone in his racing program.

That, after all, is what it's all about. ◉