TRACK TEST:

Honda CR125R-80 Elsinore

Something the other riders really can get behind.

BY PAUL DEAN

It takes a big man, and an even bigger company, to admit a mistake. And if there's any truth to that adage, Honda must be an absolutely *immense* company, not just because of its unit sales and net profits, but because it has admitted a sizable design faux pas. The miscalculation was last year's CR125R; the admission comes in the form of the motorcycle you see here, *this* year's CR125R. It is an entirely different motorcycle in most respects, and if you knew the expense involved in doing that on a machine that's less than one year old, you'd understand why it constitutes an admission of error.

Not that the '79 CR125R was an engineering disaster, because it certainly was not. It was, in many ways, one of the most congenial 125cc motocrossers in years. But a two-wheeled welcome wagon is not what's needed to win 125-class motos; big horsepower and aggressive handling are. And packing more of those all-important elements into the CR and shaking a few unwanted ones out of it was best accomplished by a serious rethink.

Before you start booing and hissing in the direction of Asaka, however, understand one thing about Honda's 1980 reaction to its 1979 miscue: You win. Because what you get for all of Honda's R&D trouble is one of the very best 125 motocrossers ever. You certainly get the *fastest* stock 125 in history, and one whose handling is right on the bubble and still has most of last year's easy-to-ride personality. You also get a price tag that hasn't been upped as much as the competition's, despite the tremendous expense that Honda incurred in redesigning the bike before its time.

Honda's problem with last year's CR was not in its construction of the bike, but

PHOTOGRAPHY: GEORGE WEGNER

in its assessment of what a 125 rider wants and needs. The engineers felt that an unusually wide powerband was essential, even if it meant less power at high revs. They also thought that a chromed cylinder bore, a 23-inch front wheel and un-knobby "Claw Action" tires would be perceived by 125cc riders as "advantages."

But they weren't. Because something is only an advantage to a motocrosser if it helps him ride faster. And none of the above did that. Last year's CRs were the slowest of the 125s from Japan, and the Claw Action tires didn't work as well as conventional knobbies. Furthermore, the 23-inch front wheel gave rise to turning quirks and front-end twitches, and there wasn't a decent selection of 23-inch knobbies available as replacements. And although the chrome-plated cylinder *did* offer better heat transfer than a cast-iron liner, it couldn't be repaired or easily ported, thereby discouraging any engine modifications that might have made the CR competitive. Advantages? No way.

That's all water under last year's bridge, though, for those features haven't been carried over for 1980. The CR now has more-radical porting and a cast-iron liner, and its 21-inch front wheel (as well as the 18-inch rear) wears a conventional knobby. A few other bitched-about items didn't make it through the CR's model-year rethink, either, including the easy-dent aluminum gas tank (replaced by Honda's first plastic tank) and the non-reservoir gas-emulsion rear shocks (superseded by attached-reservoir gas-bag Showas with two-position adjustable rebound damping).

Surprisingly, the engine changes aren't all that drastic. The exhaust port is slightly wider and taller, the transfers are slightly *narrower* and taller and the intake is fractionally shorter. And to insure that the displacement won't exceed the class limit when the liner is bored to accommodate the larger of the CR's two oversize pistons, the cylinder bore was *reduced* from 56mm to 55.5mm. Those pistons now have two rings and a higher cutaway on the rear skirt, and there's a two-millimeter larger venturi (34mm vs. 32mm) in the Keihin carb for better high-rpm breathing. The reed-valve block is also slightly different, with Honda's patented Grid Pattern design stamped only on one side of thinner reed petals, supposedly to allow easier opening. Altogether, with a new exhaust system tuned for more top-end kick, those modifications make a performance difference between the '79 and '80 CRs that is like night and day—or, if you will, like ahead of the pack instead of behind it.

That's welcome news to the legions of Honda riders who were disappointed when last year's CR failed to transform 125 motos from the Yellow River into the Red Sea. But that crimson tsunami could materialize this time around, because no stock 125 is as fast as the new CR.

We learned that by spending a couple of days racing our CR test bike against a new Suzuki RM125T, the bike that currently owns the 125 class. Reputation notwithstanding, though, the Suzuki couldn't quite accelerate with the CR. The RM was, admittedly, a hair stronger at the very bottom of its powerband; and the Suzuki seemed more willing to move back up into that powerband if the revs accidentally got too low. But from there up to about the middle of the powerband, the two bikes were even. And after that, it was the Honda's show all the way. The CR continued to pull more strongly once the power peak was reached, resulting in enough acceleration to more than offset what it may have lost to the RM at lower revs.

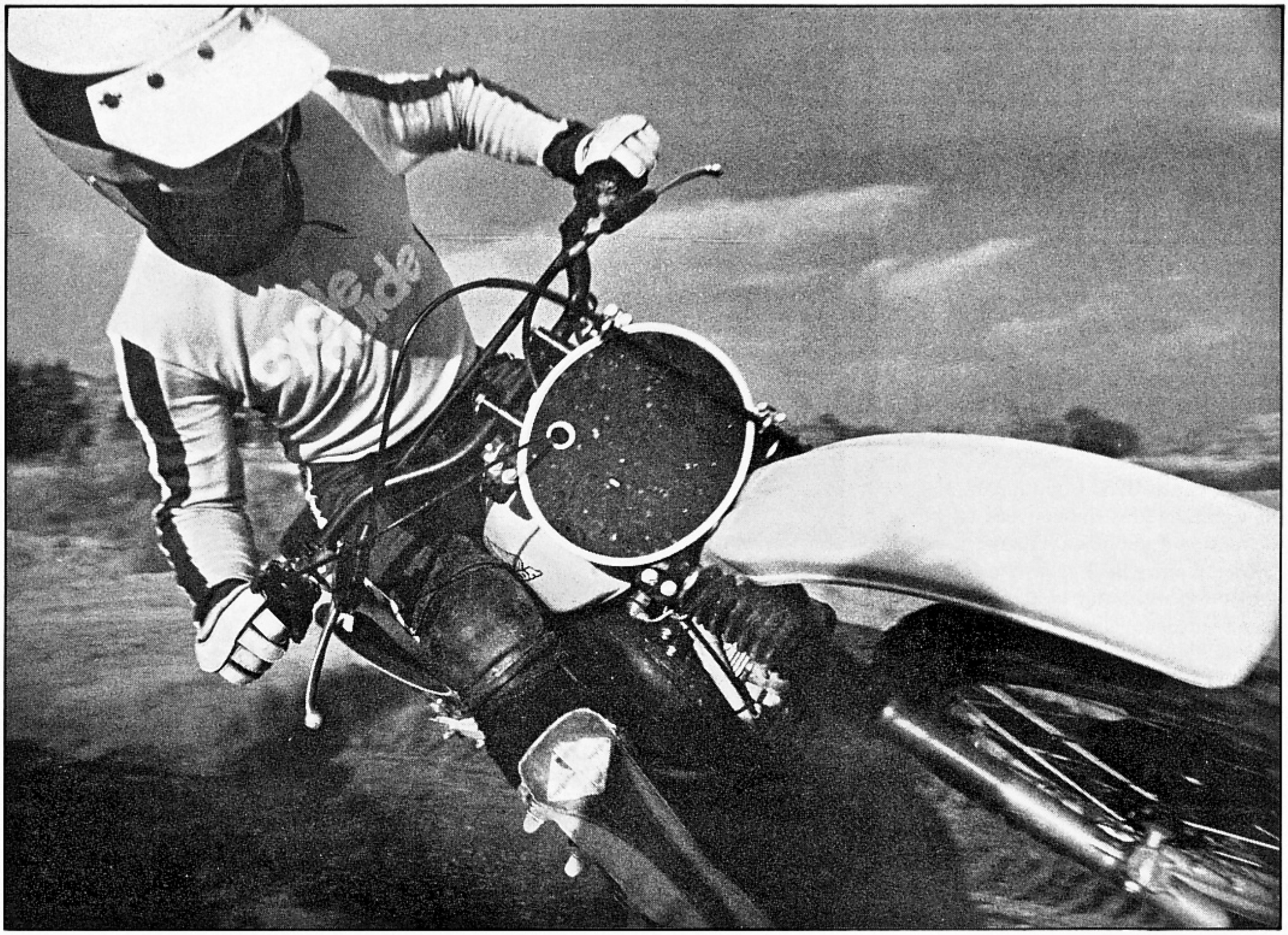
All of that newfound high-rpm punch is a product of the reworked top-end pieces, since everything below the cylinder is as before. So the designers can get some consolation from knowing that, if nothing else, the CR's engine was and is quite sound. That's why the cases have the same part numbers as before, why the six-speed gearbox was left untouched and why the CDI's spark follows the same advance curve. Those are items that no one complained about on last year's CR.

No one complained about the chromoly single-downtube frame, either, but that didn't stop the '80 CR from getting an all-new one anyway, complete with double front downtubes and a matching "banana" swingarm. One reason for the change was that reverting to a 21-inch front wheel forced an entirely different angle and location of the steering head. And to add lateral rigidity to that relocated head, R&D opted for the twin-downtube arrangement used on the Team Honda works bikes. Honda's technical people also were quick to point out that it was the frame's dual downtubes that forced the relocation of the exhaust port outlet to the middle of the cylinder, *not*, as most people have speculated, the other way around.

Whatever the strategy, the new chassis works magnificently. The steering is far more precise and predictable, and—thanks to the disappearance of the 23-inch front wheel—the side-to-side oscillations that bothered last year's CR never happen.

There is, in fact, nothing about the new chassis geometry that's the same as the old. The operative word this year is *quick*, with the new CR having a steeper steering angle, less front-wheel trail and a shorter wheel-

Continued



base than any other 125 MX bike on the market. The new CR does steer more quickly than the last one, yet it often doesn't seem to steer as quickly as the RM125T, which has slower steering numbers.

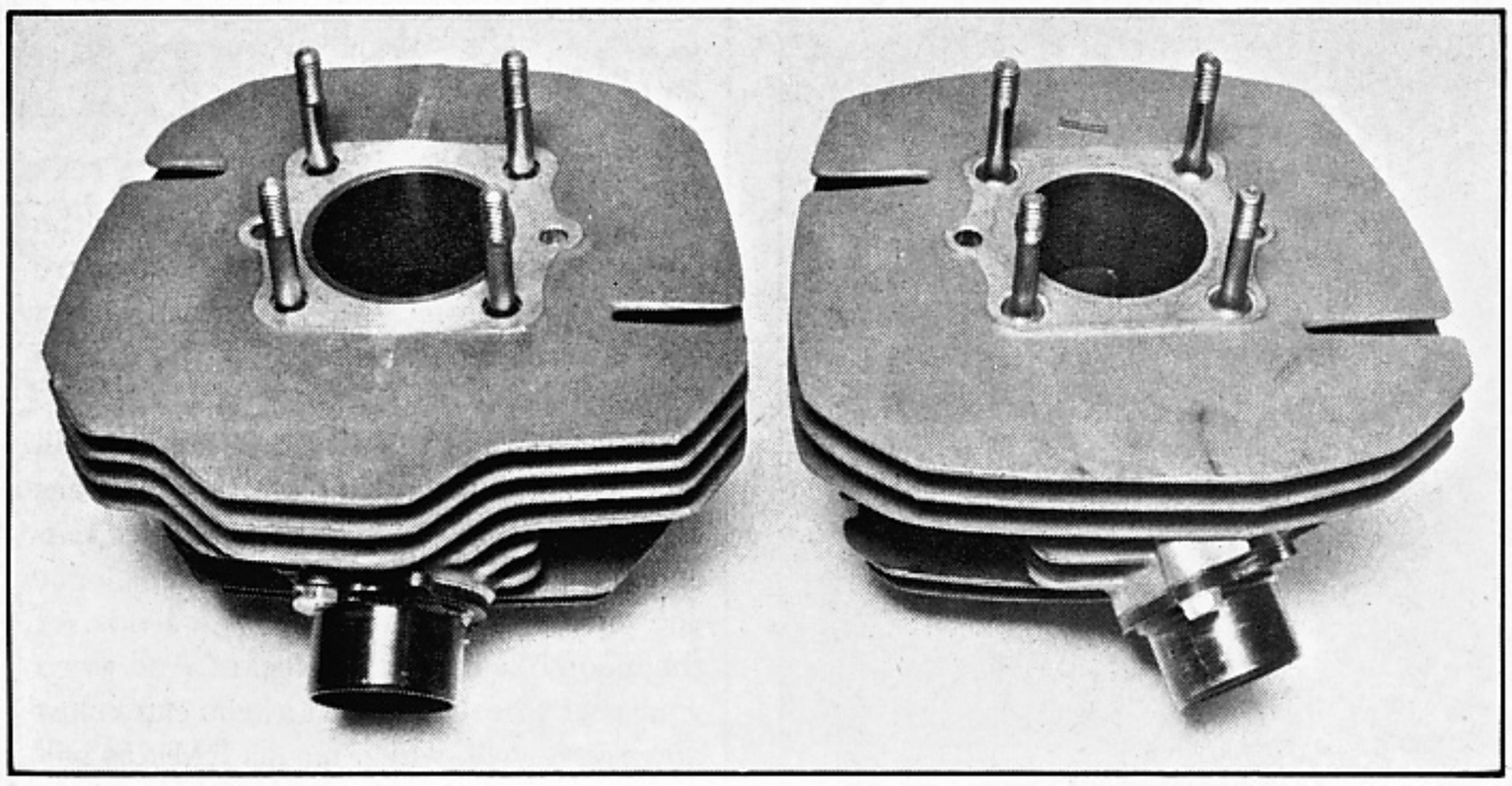
Our side-by-side comparison between the CR and RM confirmed that assumption, showing the Suzuki to have a very small edge in steering precision when ridden at ten-tenths. But the Honda earned points for being easier to ride at any speed. The Suzuki demanded a lot of concentration from its rider during cornering and rewarded him for a job well done by going exactly where he pointed it. The Honda wasn't always that deadly accurate when turning, tending to run wider than the RM by mere inches on slow, flat corners unless deliberately made to do otherwise. Still, the Honda didn't require the concentration that the RM did just to get through a corner cleanly. No one complained about either one, though, because despite their small differences, the steering on both bikes is world-class stuff.

So are both suspensions, although point for point, they're not quite equal. On rolling terrain, big whoops and the like, the CR's superb air/spring Showa fork and non-fade rear shocks cushion the blows just as well as the RM's Kayaba equipment, which is to say that both are outstanding. But on smaller bumps, the CR's springing and damping feel slightly stiffer than the Suzuki's, despite Showa's use of anti-stiction rings in the fork and shocks. The difference is most noticeable in the rear when accelerating or braking over stutter-bumps and other choppy terrain. And while the minor wheel hop that results usually does not adversely affect the CR's lap times, it could take its toll by the end of a long moto. Besides, the RM's rear-wheel action on the same bumps is better. Adjusting the shock damping doesn't help the Honda, either, for although excellent overall results are obtained on the stiffest of the two settings, only the rebound damping is affected. But, once again, we're splitting hairs, for only the RM and the Husky 125 have a better suspension system than the CR, and not by all that much.

Aside from that mild choppiness on certain small bumps, the CR offers one of the most undemanding, non-tiring rides in the 125 class. Our bigger testers fell in love with the bike's full-scale ergonomics which—unlike those of the compactly laid-out RM—don't contort anyone over 5-foot-7 into a roadracing crouch. Yet the smaller riders appreciated Honda's lowering of the seat by three-quarters of an inch despite an increase in wheel travels.

Some credit for the lowered seat must be given to the bend in the new swingarm, which allows the use of longer shocks without raising the chassis. And the swingarm also played a key part in keeping the CR's retail price comparatively low by being made of chromoly and not aluminum. Honda R&D's test results indicate that although the arm is heavier than an alloy one, it's just as strong; but because of the currently inflated price of aluminum, the use of chromoly reduces the overall price of the CR by a considerable amount.

So did economics encourage Honda's switch from aluminum to urethane as the material for the three chain-control rollers. But in this case, that may have been a step backward. Two of the soft, low-buck rollers on our test bike either seized or melted, and one even slid sideways as it self-destructed, milling a wide hole in the plastic airbox. The problem is that the rollers spin only on plain steel bushings instead of bearings. Lubing those bushings during

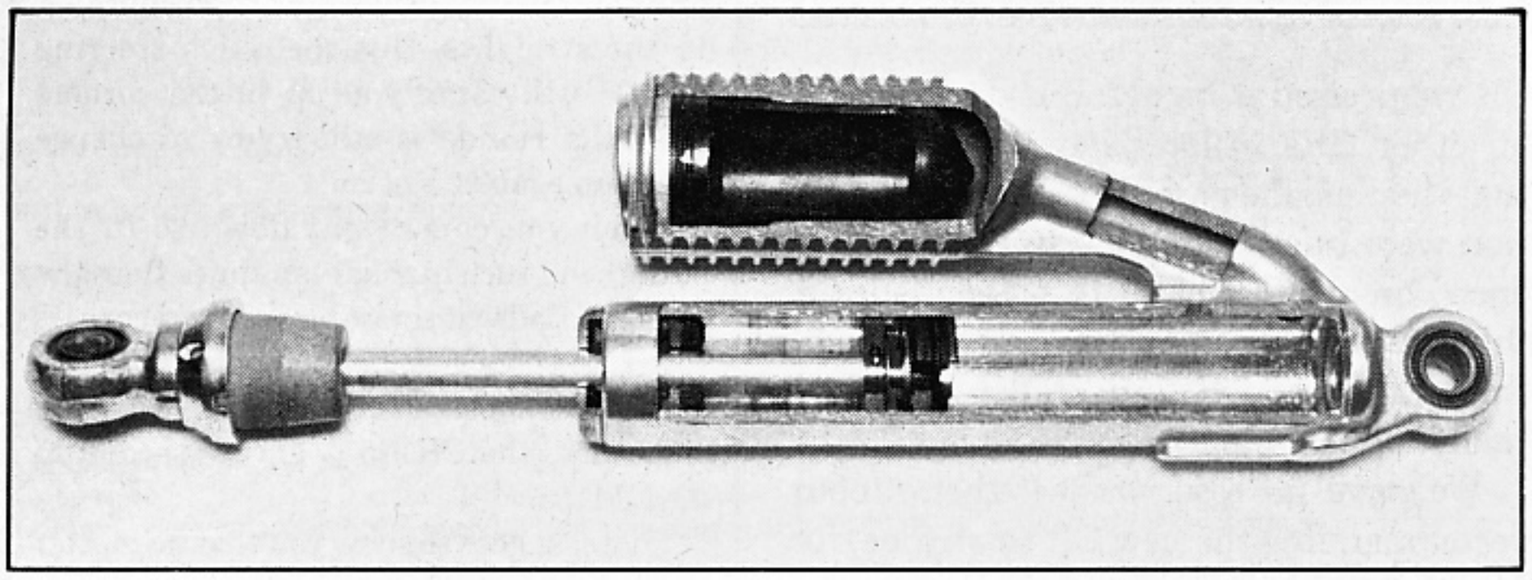


New downtube-clearing center-port cylinder (left)

More finning for improved cooling, cast-iron liner for easier repair.

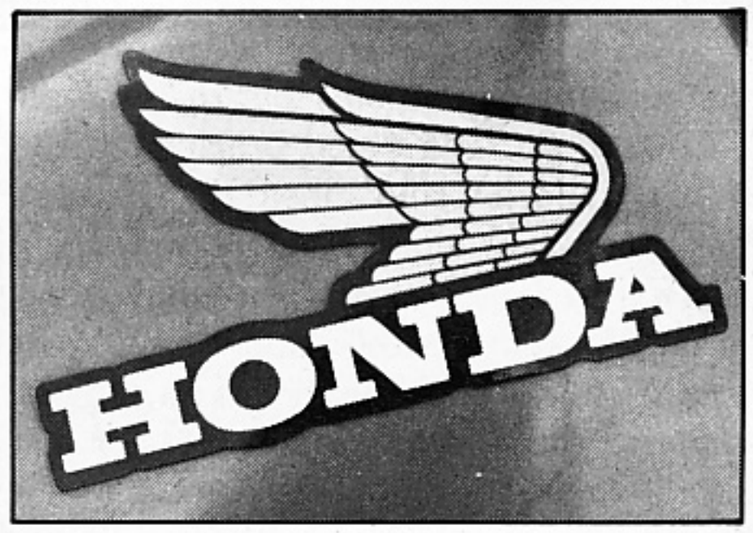
New CR's two-ring piston (left)

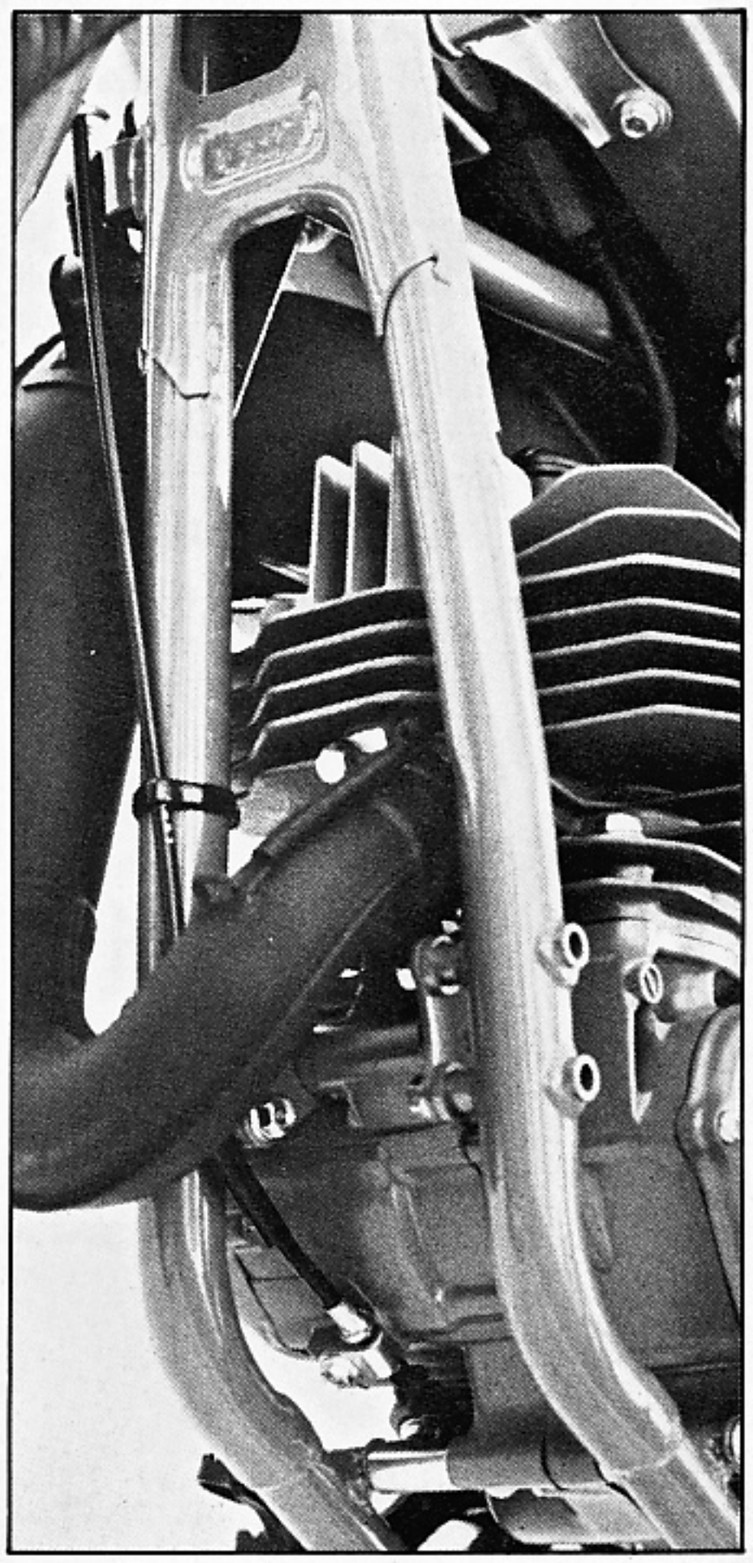
Better sealing, better breathing.



Bladder-type reservoir shocks with two rebound damping adjustments

It will take big-buck aftermarket shocks to do better.

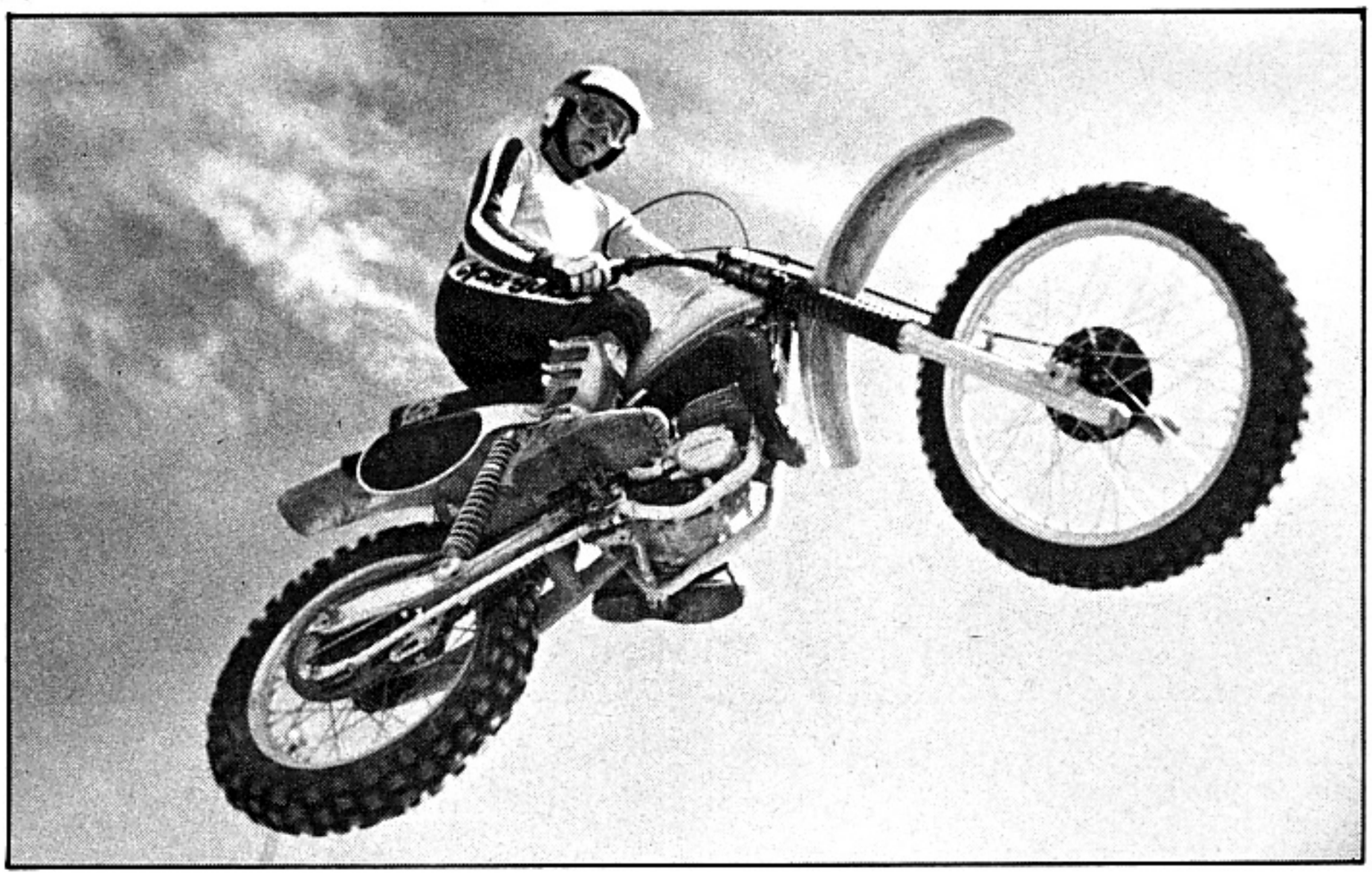




All-new-for-'80 CR125R frame

Honda doubles the downtube ante.

Continued

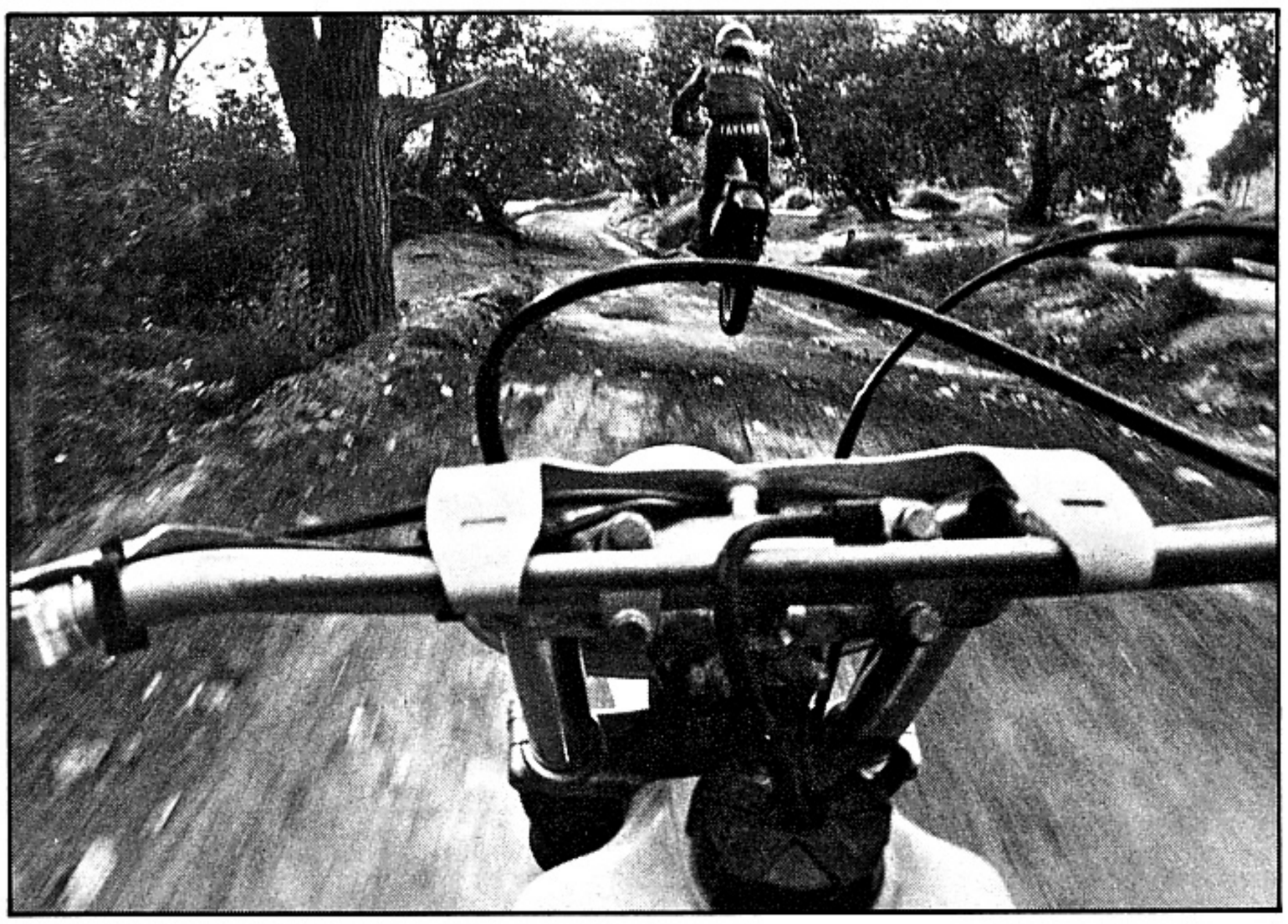


chain maintenance helps, but the ultimate fix would be to use sealed-bearing rollers.

In the end, it would appear that Honda's designers know a *lot* about ultimate fixes, since they have taken the wholly unremarkable and turned it into the fiercely competitive. And while there's no denying that they also were responsible for last year's bike in the first place, you can't fault their motives in designing it. They simply were trying to innovate, to implement new ideas that looked terrific on the drawing board. The problem was that where it counted—in the showroom and on the racetrack—those ideas didn't work. If you're going to bad-rap Honda for that mistake, though, you have to applaud it for making things right so quickly.

Furthermore, we were after-the-fact accomplices in the controversy, for in our March '79 test of a very early production CR we praised it highly. But during rides on other CRs in later months we found that their engine performance and suspension were inferior to what we had experienced on our test bike. To prevent such a thing from happening this time, we rode three different CR125Rs. They were virtually identical in performance.

We have no reservations, then, about recommending the new CR to anyone, for Honda has indeed made it a far better motorcycle this time around. Unquestionably, it is the fastest stocker in its class and one of the better handlers as well. It's a bike that we could criticize only in the design of its chain roller wheels and the degree of difficulty required in servicing its two-stage foam air filter element. If that's the asking price for admission to a class motocross act like the CR's, we would gladly pay it. And we think you would, too. •



Ride Review

• If you think the new Honda CR125 is the best 125 motocrosser on the market, you're not far from wrong. But you're still wrong. The differences are subtle, but the Suzuki RM125T is the better racer.

In most ways the Honda's suspension matches up to the Suzuki's, although it has a harsher feel. Yet while the Honda's rear end works good on King Kong jumps, once you encounter braking ripples it leaps for the moon like a Saturn V rocket. And when your rear wheel is in the air, you can't slow down very well, which means RM125s will outbrake you every time.

The Honda does have the advantage of the most powerful one-eigth-liter MX engine you can buy. You'll look good churning up the straights. But the quick-steering RM125 will carve you up in the corners while the Honda is still trying to change direction against a berm.

When you come right down to it, the Suzuki will turn quicker lap times than the Honda because it scrambles around corners better and converts its horsepower into forward motion instead of wheelspin. So at the finish line, the CR125 is always second to the RM125.

That just goes to show you that no matter how small the differences between two motorcycles, having the fastest bike means owning the quickest lap times, not the most horsepower. —*Dean Taylor*

• No matter how tight my racing line with the CR125 happened to be, Taylor could still tuck the RM125 underneath me and turn inside while I was still looking for a berm. Yet even so, the CR125 is my choice for motocross, every day in every way.

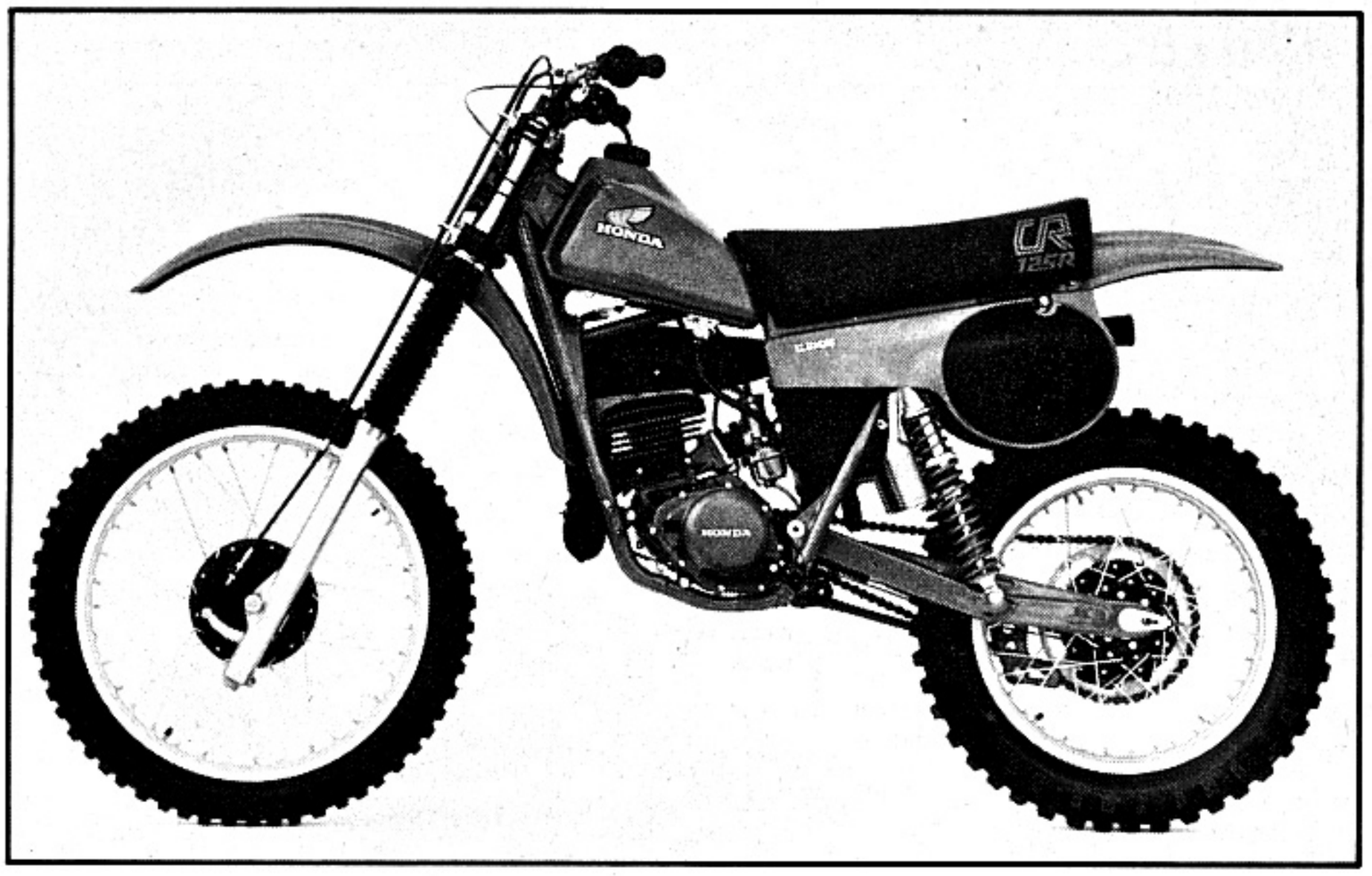
Basically, it takes more finesse to make the RM125 go fast than I have at my disposal. Its handling is intolerant of mistakes. I might slither around corners on the Honda instead of scribing a tidy line, but I won't end up on my head. And I know I can call up a stampede of horsepower from the engine to overcome my lack of skill in the corners.

When I was faced with this confrontation of agility versus horsepower in the RM250–CR250R shoot-out last spring, only the Honda's explosive power dissuaded me from declaring it the winner. You can pull the trigger with Honda's 125 engine the way you can with the 250, but it makes the transition into the powerband more predictably than the 250, so the chassis stays hooked up and moving forward rather than sideways.

I reckon the Honda's edge in horsepower and cornering stability makes it the choice for every rider this side of Dean Taylor. Taylor might be able to coax more speed from the RM, but I can stay closer to him on a Honda than I can on a Suzuki.

—*Michael Jordan*

Honda CR125R Elsinore



SPECIFICATIONS:

IMPORTER: American Honda Motor Co.
100 West Alondra Blvd.
Gardena, California 90247

CATEGORY: motocross

SUGGESTED RETAIL PRICE: $1329

ENGINE

Type ..... two-stroke vertical single
Port arrangement ..... one reed-valve-controlled intake, four transfers, one booster transfer, one exhaust
Bore and stroke ..... 55.5mm x 50.7mm
Displacement 122.7cc
Compression ratio (corrected) 8.0:1
Carburetion ..... one 34mm Keihin slide/needle
Air filter ..... two-stage washable oiled foam element
Lubrication ..... pre-mixed fuel and oil
Starting system ..... primary kick
Ignition ..... internal-rotor magneto CDI
Charging system ..... none

DRIVETRAIN

Primary drive ..... straight-cut gears
Primary drive ratio 3.158:1
Clutch ..... wet, multi-plate
Final drive type ..... #520 chain (⅝-in. pitch, ¼-in. width)
Final drive 13/51: 3.92:1

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	2.54	31.44	2.4
II	1.87	23.23	3.3
III	1.56	19.28	4.0
IV	1.30	16.11	4.8
V	1.14	14.07	5.5
VI	1.00	12.39	6.2

SUSPENSION/WHEEL TRAVEL, IN.

Front ..... air/spring, 37mm stanchion tube diameter/11.5 in. (292mm)
Rear ..... 5-way adj. spring preload, 2-way adj. rebound damping/10.8 in. (275mm)

BRAKES

Front ..... drum; single-leading shoe
Rear ..... drum, single-leading shoe, rod-operated

TIRES

Front ..... 3.00-21 Bridgestone Motocross M23
Rear ..... 4.00-18 Bridgestone Motocross M22

DIMENSIONS AND CAPACITIES

Weight ..... 202 lbs. (91.6kg)
Weight distribution ..... 45.8% front, 54.2% rear
Wheelbase ..... 54.8 to 55.6 in. (139.2 to 141.2cm)
Seat height ..... 36.8 in. (935mm)
Handlebar width ..... 33.5 in. (851mm)
Footpeg height ..... 15.6 in. (396mm)
Ground clearance ..... 13.0 in. (330mm), at frame cradle
Steering head angle ..... 28.3 degrees from vertical
Front wheel trail ..... 4.53 in. (115mm)
Frame ..... tubular chromoly steel, double front downtubes
Fuel tank ..... plastic, 1.7 gal. (6.5l), no reserve
Instrumentation ..... none

PERFORMANCE

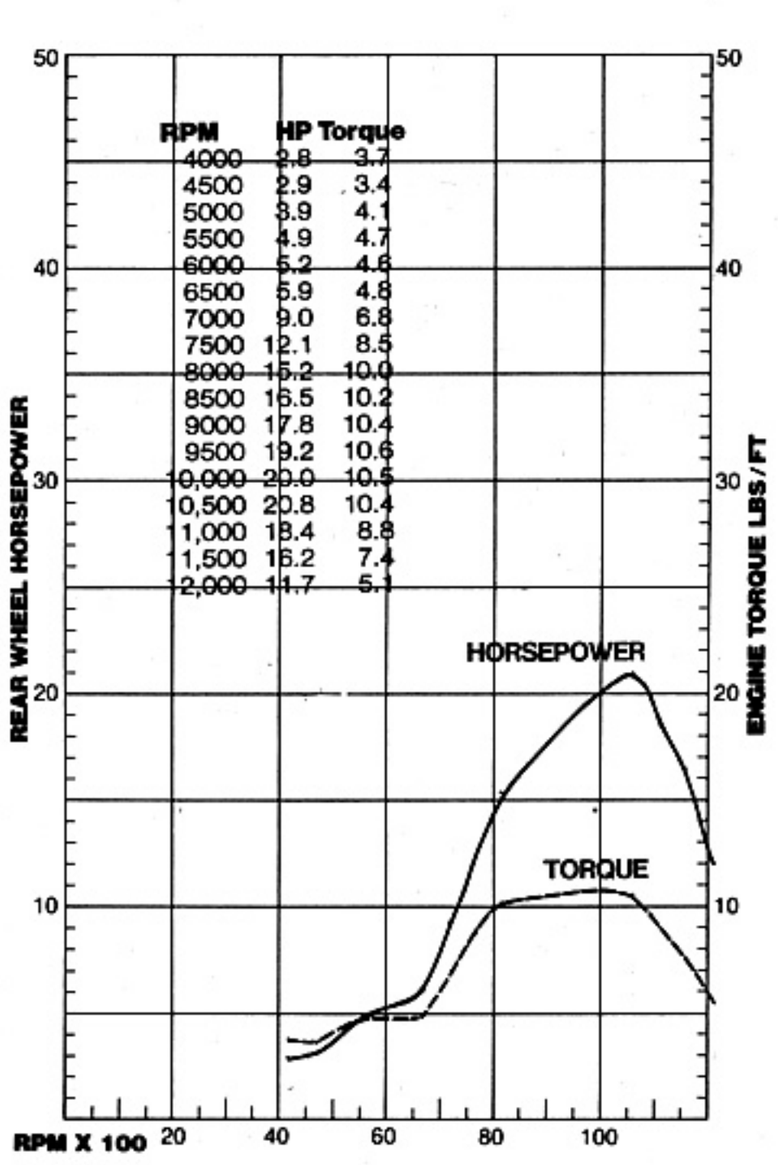
Top speed (calculated) ..... 68 mph (109 kph)

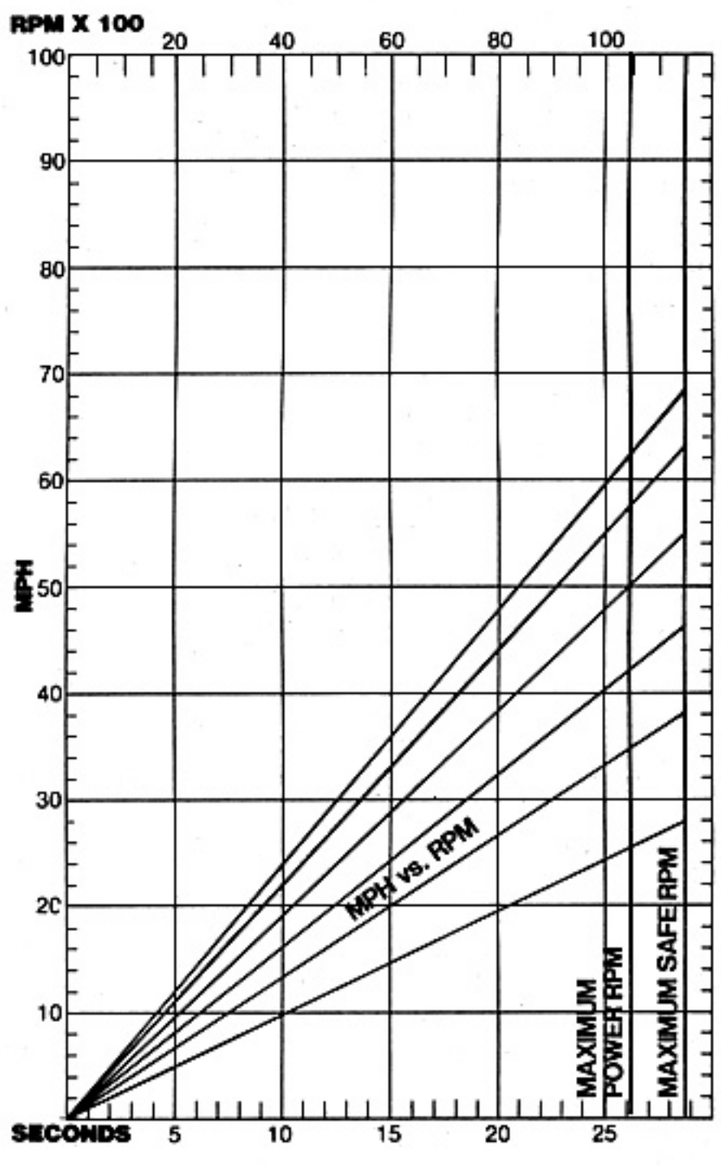
All weights and measurements are taken with machine unladen and fuel tank empty.

COMPARATIVE TEST DATA:

Make & Model	Horsepower	Wheel Travel Front/Rear, in.	Weight (fuel tank empty), lb.	Weight bias Front/Rear percent	Transmission, number of speeds
Honda CR125R-'80	20.8	11.5/10.8	202	45.8/54.2	6
Honda CR125R-'79	19.1	10.8/10.6	197	47.7/52.3	6
Suzuki RM125T	19.8	11.2/11.7	200	47.0/53.0	6
Yamaha YZ125E	15.9	9.3/9.1	198	48.7/51.3	6
Kawasaki KX125 A5	20.0	9.8/10.0	194	46.9/53.1	6
Husqvarna 125 CR-'80	18.8	11.8/11.8	214	43.9/56.1	6

PERFORMANCE:





Continued