CYCLE ROAD TEST

HONDA MT-125 ENDURO

• When Honda debuted the 250 Elsinore MX it was a total success, outpowering most every other 250 on the market and handling with the best. They proved that the two-stroke was no mystery to them even though they'd never marketed one before. The Elsinore's superior handling also implied that Honda had at last discovered the elusive combination of geometry, frame strength and suspension that makes an off-road motorcycle steer accurately. Surely the other two-strokes awaiting final release by Honda would be as satisfying as the CR-250M Elsinore. Many riders were banking on one of them to end their search.

Scheduled for '73 besides the 250 MX were three other Elsinores—the MT-250 Enduro, the CR-125M Motocross and the MT-125 Enduro. If you are a motocrosser, either the 250 or 125 would be a good choice. *Cycle* has not yet ridden the 250 Enduro, so we can't comment on it. If you were waiting for the 125 Enduro, you should have taken advantage of winter prices on a Kawasaki or Penton or DKW or even a Honda SL-125 four-stroke, because the new MT-125 is sadly lacking in power. Sometimes Ford outsells Chevy. Occasionally Honda blows it. These things happen.

The engine simply doesn't have enough horsepower and torque to climb reasonably tough trails off-road. The problem is lack of low-end power compounded by a relatively high gear ratio. On the Webco dynamometer the Honda has 3.47 hp at 4,500 revs (the low-end of a small two-stroke), a Suzuki TS-125K Duster has 4.80, a Hodaka Wombat has 5.63 and the Kawasaki F-6 has 5.92. All of these other bikes also have lower overall gear ratios, so with more power and tighter gearing, they can go almost anywhere. Their torque figures at 4,500 rpm are similarly above the Honda's 4.66 ft/lb. rating: Suzuki 5.60, Hodaka 6.58 and Kawasaki 6.91.

Even when spinning high on its powerband, the Honda won't go places wide-open in first gear that other 125s can go at three-quarters throttle. In comparison with a 1973 Kawasaki F-6 125 at Muntz Cycle Park in Simi Valley, California, the Honda would pull about two-thirds of the way up every hill the Kawasaki could barely make, and then the Honda would bog to a halt—out of steam. On the Webco dynamometer Honda's 125 produced a maximum of 9.61 hp and 7.12 ft/lbs. of torque; Kawasaki's 125 put out 12.15 hp and 8.83 ft/lbs. of torque, so the difference in the field is confirmed on the dyno. There is no question that the MT-125 would be hard-pressed to finish a moderately tough enduro because the first steep hill the rider couldn't push over would end his efforts for the day. And so would the first long stretch of deep mud.

What is confusing is that Honda uses the same basic engine design and many of the same components in the MT that they do in their CR motocrosser also tested in this issue. But the MT puts out only about half the

MT-125 has 24mm Keihin; the alloy carb has closed-cell foam floats.

PHOTOGRAPHY: DALE BOLLER

When the going gets tough, or muddy, or goes uphill, then the MT-125's lack of power really shows.

Avoid all the tough going and the MT-125 is okay.
But Honda's SL-125 is a much better trail bike.

dyno-rated horsepower of the motocrosser—9.61 to 16.93, a full 7.32 hp less, or a 44 per cent drop. No one can expect equivalent power because porting, carburetion, etc. must be altered to widen the powerband and bring in more low-end pull for enduro-type riding. At least we can assume that's why the engine's potential was reduced by nearly half. This brings up the question of why the MT-125 itself is—believe it or not—peaky. Gassing it at anything below 5,000 revs doesn't do much more than lower the exhaust tone, and at 5,000 speed builds up very slowly. Nothing really starts happening until 6,000 revs, and then it wants to happen right past the redline. In fact, normal around-town riding on pavement, let alone the dirt, finds the tach needle eagerly slipping past the redline. Again the dyno substantiates road characteristics by recording peak power at 7,500 revs—the redline.

So, since this engine has the peaky mannerisms of a track bike anyway, where is the power we know can be there?

Besides the actual size and position of the ports, there are only a few differences between the CR motocross and the MT enduro engines. Both have a steel rod with needle bearings top and bottom, ball bearing mains, a cast-in steel liner, two-ring piston, and similar carburetors differing only in throat size—24 to 28mm. On the CR the exhaust port is bridged and widened at the top; there is no bridge on the MT and port shape is symmetrical. Compression is 0.7 less on the MT. Electronic ignition on the CR replaces the MT's flywheel magneto, lighting and charging coil. Automatic oiling on the MT eliminates premixing chores on the CR. Exhaust exits high and through a spark-arrester/silencer on the enduro and through a low expansion chamber on the motocross. Finally a sixth speed in the CR gearbox is needed to utilize the more narrow power curve, while the MT survives with its five ratios.

Does a race engine have to be 44 per cent detuned to make an enduro? Not really. The 125 Penton, perhaps the most successful one-two-five in enduro and ISDT competition, has the exact same engine as the Penton 125 motocrosser. Also using the same engines for their 125 enduros and motocrossers are DKW, Puch, Rickman and Zundapp. Honda's motocross engine is definitely too narrow on the powerband to slip into the MT chassis as is, so a swap wouldn't solve the problem. Honda will have to upgrade the MT's power output by 15 to 20 per cent to be competitive with other 125s and at least 30 per cent to have an edge on the entire field of enduros. The stock bike feels like a good-running 100, not a new two-stroke 125 from Honda.

In its favor the MT *feels* like a 100 also because of its extremely light wet-weight of 220 pounds. This is no exclusive accomplishment—the Suzuki Duster weighs 221 pounds and the Hodaka Wombat scales 223—but avoiding really heavy weight (such as the Yamaha 125 at 243½ pounds) gives the MT engine a break it sorely needs. The MT is not spacious or posh in feel. A narrow, hardish seat, skinny handgrips, close-in pegs and a light front end which gets bounced around by terrain are responsible for the flimsy impression. The bike is not small in height or wheelbase, and doesn't cut corners in quality, but it *feels* small and extremely light.

One of the reasons for the Honda's feathery scaling is a tiny 1.7-gallon steel tank which is far too small for a trailbike since it goes on reserve after only 50 to 55 miles. There's another .4-gallon left, or about 17 miles based on average mileage of 44 mpg, but that capacity and range is unsatisfactory for off-road use. The tank should be three gallons minimum and its cap should be at least twice as big in diameter so you can watch the gas level rise while filling. At present, every pump jockey who gasses up the MT-125 will spill fuel on the tank because it's suddenly full and overflowing with no warning. The cap's breather tube is also an aggravation to remove and reinsert every time the gas is checked.

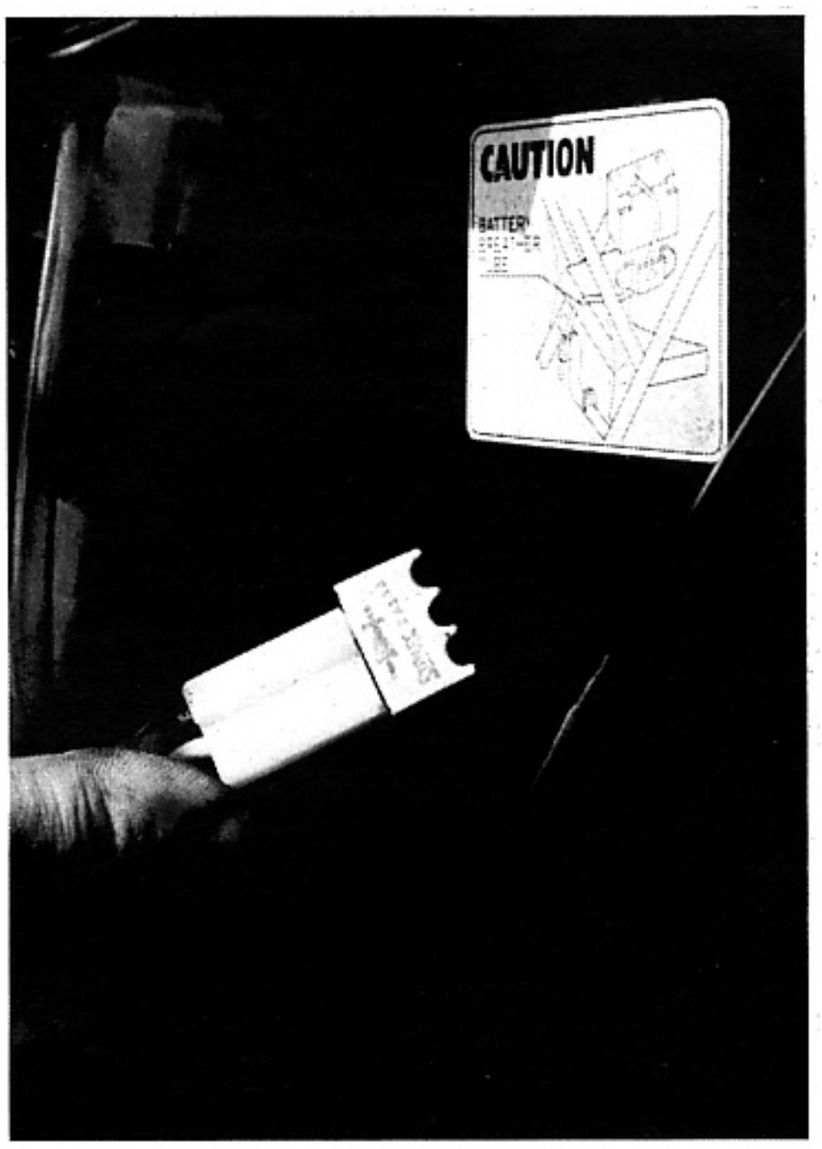
While on the subject of small aggravations, why hasn't Honda followed Yamaha and Kawasaki by locating their ignition switch up between the tachometer and speedometer instead of hiding it below the tank where emergency access is impaired and branches tend to break off the key in the lock? And why isn't the key the handy reversible type? There are also no rim locks, an aggravating oversight on an off-road bike which has to run tire pressures often as low as 8 to 10 pounds. The usual too-skinny 2.75 x 21 front trials tire should be changed to at least a 3.00 or replaced with a knobby for more protection against rocks, better downhill braking control and superior street traction. And what's with the color of the engine? Brown. A brown engine in a black frame with a big black pipe loses every styling award ever conceived.

Certain other features on the MT-125 are superb. Both brakes are extremely strong, progressive and fade-free, although not waterproof. A nylon-lined heavy-gauge rear brake cable is easily adjustable and partly responsible for minimal hop and clatter when braking on rough downhills. The rear brake lever is serrated, tucked close to the engine and routed above the footpeg away from rocks.

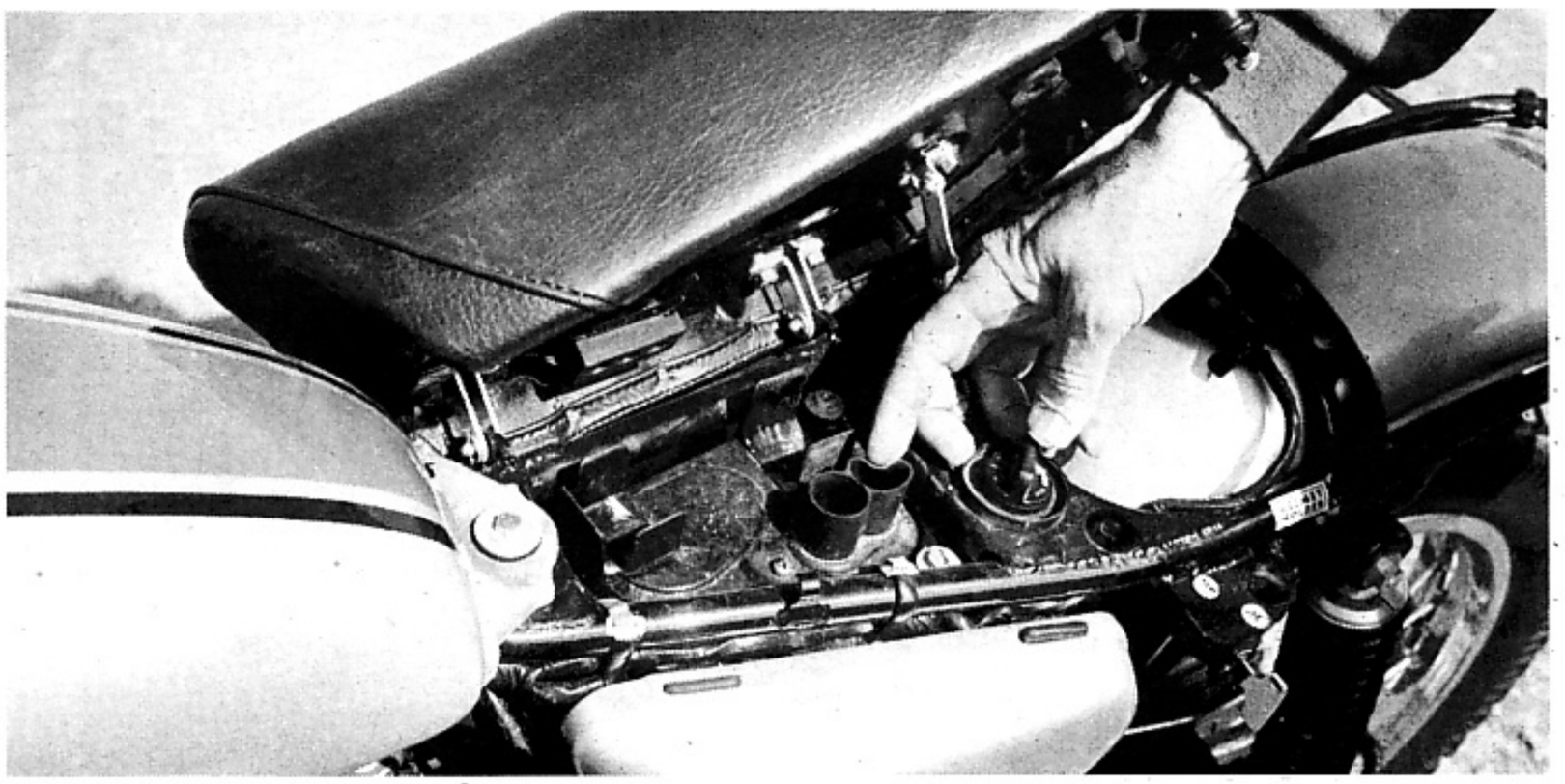
Rear wheel maintenance and chain adjustment is facilitated by rear-facing axle adjusters which thread into a boss beneath the swingarm shock mount. Wheel alignment is more easily restored after wheel removal, and the axle adjusters cannot fall off. Inside the aluminum alloy rear wheel there is a system of rubber cush dampers to absorb the shock of rear-wheel landings so the transmission gears are not overloaded. Up front a full-width alloy hub contains a single-leading shoe brake whose backing plate anchors in a tab on the left fork leg. Both rims are steel with 36 spokes laced cross-three in front and cross-two in back. Both rims are drilled for tire security bolts but they are not fitted; instead a rubber plug fills each hole.

Other items of running gear aren't quite as baffling. Tough, bendable plastic fenders are wide, light and effective. Honda has not copped out with big rubber footpegs. Spring-loaded 45-degree folding steel pegs are serrated so boots don't slip off when wet, and no nuts or bolts are used in securing the peg boss or pivot pin. The boss is welded and the pivot is a cotter-key-retained rivet. Handlebar levers are bendable alloy protected from dust at their pivot-point by contoured rubber gaiters. A kill switch mounts on the right handlebar adjacent to the headlight switch and quarter-turn throttle. Both the throttle and kill switch would be excellent accessory items for other bikes. Tucked around the plastic headlight shell is a fork lock, horn and tidy wiring-loom plug-junction which is part of the first true quick-detachable light, horn, turnsignal and instrument systems ever found on an enduro. Honda has cleverly isolated these components on ears, which are not attached to the stanchions in the conventional manner. Instead the components mount on a clever bracket secured by a tension fit on the lower triple crown and two 10mm bolts on the upper triple crown. Simply unplug the wiring-loom junction, loosen the bolts with a speed handle and the whole octopus lifts off. It's just fantastic.

Instruments include a tachometer whose red zone starts at 7,500 rpm and a speedo with odometer and two-way trip mileage resettable by tenths. Both needles are steady and night illumination is good. Under the seat a tool pouch clips on top of the air cleaner box, which contains an oiled urethane foam filter accessible after unthreading a wing nut. Next to the air cleaner chamber behind a plastic sidecover is a six-volt battery, fuse holder and bank of three spare fuses. A filler tube for the automatic oil injection reservoir snakes behind the air cleaner to the oil tank—which is actually part of the rear fender and attached to the same with the neatest welds ever to come out of Japan. Placing the oil injection reservoir between the frame tubes protects it from damage when the bike falls over, but leaves it vulnerable to puncture from a rock churned up by the rear tire. Such an occurrence is



Some parts of the MT-125 show serious intent: an out-of-the-way brake lever and serrated spring-loaded 45-degree pegs. The lighting equipment is all QD. The fixture is a zener-diode in a plug. Neat!



The MT-125's seat covers the air cleaner intake stacks and the injector's oil filler cap.

The brown engine simply needs 20 per cent more horsepower to get competitive with good 125 enduros.

not likely to happen, but if it does there is a triple danger of losing the oil, blowing the engine and coating the tire.

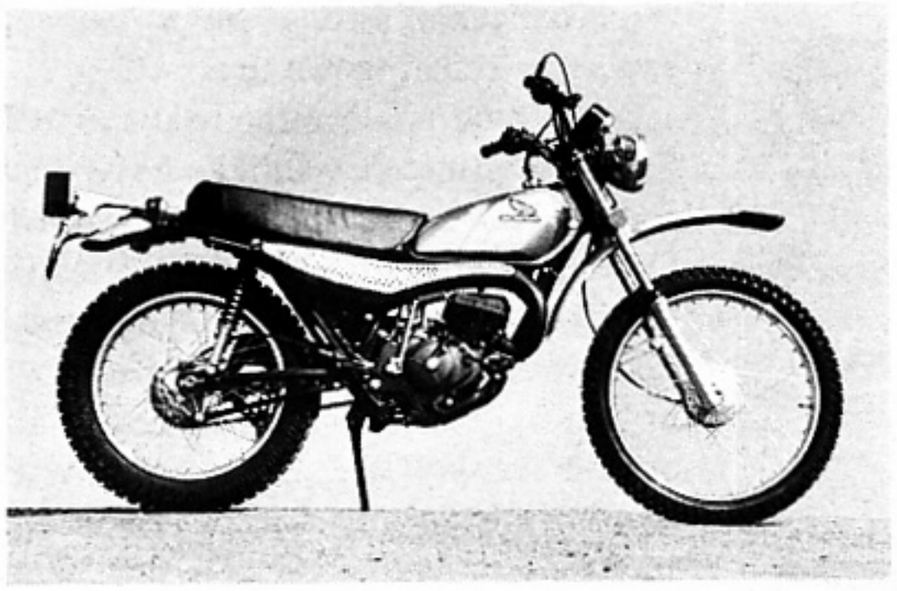
Suspension is more than satisfactory. The five-way adjustable shocks have dual-rate springs and a claimed 4.3 inches of travel. Shock action keeps the tail-end straight on whoop-dee-doos and smooth on washboard roads even at fast speeds, but after sustained higher speeds both compression and rebound strokes become mushy, with too much damping on compression and not enough on rebound. Heat is the likely culprit, but the toll isn't serious enough to recommend a $50 outlay for new shocks. Up front the forks are excellent. Stiffish springs fend off dreadful bumps without using up the 7.1 inches of fork travel; however, the same stiffness allows little ripples to reach the handlebars. Damping is good and the seals don't leak. Offset axle mounting on a boss cast in front of the slider allows considerable damper design leeway inside and gives more than one full inch of extra travel. The forward axle position reduces trail so Honda compensates by locating the stanchions in nearly the same plane as the steering head. A forged aluminum top crown and steel lower crown with double pinch bolts secure the forks. Rake is 30.5 degrees, trail is a long 5.5 inches. Both dimensions are identical to the motocross version. Everything about the MT frame is the same as the CR with respect to tubing size, gussets, bracing, etc., except the MT is mild steel and the CR is chrome-moly.

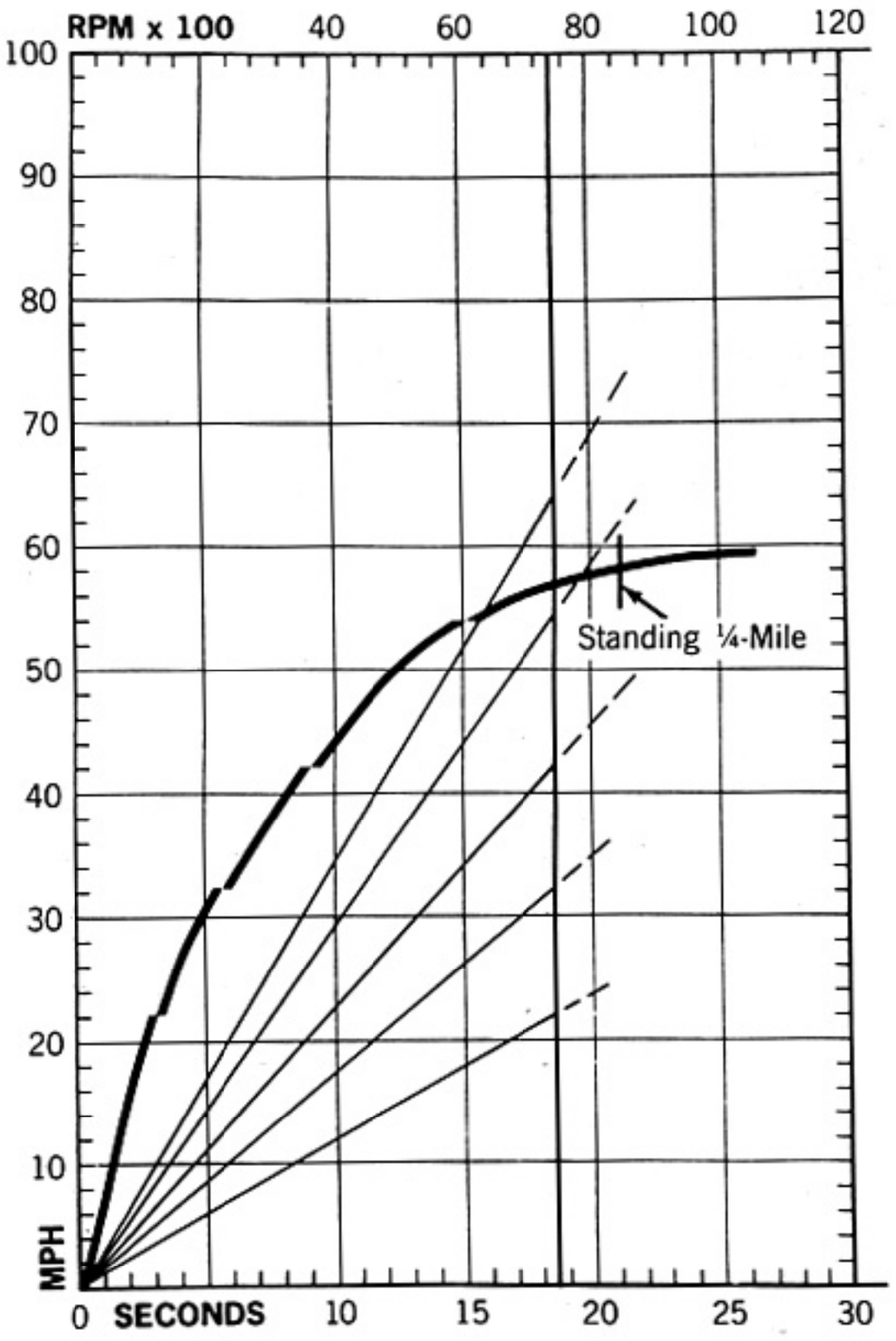
Handling is a tad quick, indicating slight oversteer. Part of the quick feeling goes back to the light front end which is easily bantered about by bumps and the skinny front tire which is at the mercy of sand and rocks. The bike has a remarkable ability to recover from unwanted variations in line caused either by rider error or bumps, so in general its handling both off- and on-road is more than adequate. In fact this is one of the few cases where a Japanese chassis is better than the engine.

This whole package has a projected retail price of $650, about $60 more than Honda's four-stroke 125, $90 more than the Kawasaki F-6, $70 more than a Suzuki Duster, $60 more than a Yamaha AT3, but $300 cheaper than a Penton 125 Six-Day.

Honda might have built a bike that would out-everything a Penton for another hundred dollars above the MT's present $650 suggested retail. Most of the components are already in the MT and the rest are in the motocrosser. Take the CR wheels, tires and shocks, then modify its engine for a wider powerband (it can be done without losing 44 per cent of its power), and poof, there's a one-two-five to make Pentons, Rickmans

(Text cont'd. on p. 92; charts overleaf)





HONDA MT-125 ENDURO

Price, suggested retail	West Coast, POE $650
Tire, front	2.75 in. x 21 in. Trials Univ.
rear	3.50 in. x 18 in. Trials Univ.
Brake, front	4.25 in. x .875 in.
rear	4.25 in. x .875 in.
Brake swept area	23.34 sq. in.
Specific brake loading	16.28 lb/sq. in., at test weight
Engine type	Piston-port two-stroke single
Bore and stroke	2.20 in. x 1.97 in., 56mm x 50mm
Piston displacement	7.5 cu. in., 123cc
Compression ratio	7:1
Carburetion	1; 24mm; Keihin
Air filtration	Oiled polyurethane foam
Ignition	Flywheel magneto
Bhp @ rpm (actual)	9.61 @ 7,500 rpm
Mph/1000 rpm, top gear	7.9
Fuel capacity	1.7 gal.
Oil capacity	3.1 pts.
Lighting	6v, 89 watts
Battery	6v, 6 ah
Gear ratios, overall	(1) 27.65 (2) 18.90 (3) 14.52 (4) 11.73 (5) 9.48
Rake/Trail	30.5°/5.5 in.
Wheelbase	53.5 in.
Standing start ¼-mile	21.11 seconds, 57.55 mph
Ground clearance	9 in., with rider
Curb weight	220 lbs., with full tank of gas
Test weight	380 lbs., with rider
Instruments	Speedometer, Tachometer, Odometer, Trip Odometer
Sound level, (California Standard)	80 dB(A)