

● Honda has finally done it. The 250cc Elsinore is their first real out-of-the-box racer to be sold in this country. As a motocrosser, it is everything it has to be: light, strong, easily maintained, maneuverable, and blindingly fast. Even so, Honda (who sold over 50 per cent of the bikes purchased in this country last year) was very brave to enter a market occupied by ten vastly experienced competitors. From what we can learn, they did it mainly to bolster their somewhat soft competition image: silky-smooth, four-stroke tourers and combination street/trail bikes don't overly impress young, race-dazzled future buyers. The recurring comment, wherever we took the Elsinore, was the same: "Well, I guess *they* can't laugh at Honda anymore."

Our test bike was one of the final testing prototypes used by American Honda to adapt the Japanese domestic production model to US market specifications. The bikes which will be on sale at Honda dealers in mid-March will be the same as our test unit except for a few small details. The seat will be an inch thicker (resulting in the seat height given on the data page) and two inches longer. A roller-type chain cushion will replace the plain-bottom one in the parallel-sided guide as used on our machine, and the engine cases, cylinder, and head will be die-cast instead of sand-cast. Our bike made a lot of noise. The AMA legal muffler [92 dB(A)] will be shaped differently.

On our first day of testing and familiarization the Elsinore was taken to Muntz Motorcycle Park. Along for the day were Ed Kababa, head of American Honda's Product Testing and Development section, and George Etheridge, who works for Ed as a test rider and development technician. George was a professional motocross rider a few years ago, before joining American Honda.

Muntz's new motocross course is much longer than the old one and has a lot more variance in elevation. The climbs are a series of banked switchbacks, but a couple of downhill plummets, connected by an off-camber sweeping left turn, compensate for the times your eyes might have a chance to focus going up. The entire course had been recently harrowed by a tractor and the surface was a deep layer of loose, hard clods which were about an inch in diameter. Light usage had worn a narrow, hard path through the clods, but the fast way through most of the turns was still rough and deep.

Even during casual warm-up laps we could tell that the Honda was serious. By placing all our weight on the outside footrest (the right peg in a left turn) and applying a judicious bit of throttle, the bike could be aimed very accurately during hard acceleration. Steering response during such cornering is always a compromise, and always relative to the bike's speed and acceleration. There is no certain way to judge the cornering ability of different bikes

CYCLE ROAD TEST

HONDA CR250M ELSINORE

on different courses on different days. But years of experience can allow one to make reasonably sound judgments according to intuitive assessments of the variables at hand. Based on our judgment the Honda CR250M is, among its peers, a nimble-handling rocket.

While no one on *Cycle's* staff is a card-carrying expert motocrosser, a couple of us can get around a cobby track as quickly as anyone who isn't one of those disciplined athletes. Our limit is about fifteen minutes of hard riding at racing speeds. For our level of ability, the Honda functioned perfectly. Our experience has been that high-speed stability and willingness to turn (understeer-oversteer) are at opposite ends of the handling compromise. At Muntz, the Elsinore proved to be very well-balanced in this respect. If the trade-off is tipped in one direction, it leans toward high-speed stability and understeer. The forks never tended to wobble or oscillate from side-to-side on our bike, and there were corners where we would have liked for it to dive for the inside of the turn more eagerly. Some fork adjustment is provided for this purpose. By loosening the fork-tube clamping bolts, the clamps can be lowered up to an inch on the tubes without losing any of the suspension travel. With the clamps lowered, the rake is decreased and the trail shortened, a process which completely changes the feel of the bike when negotiating sharp turns. The front tire gets more traction and you can feel the handlebars pulling toward the inside of the turn. Usually this adjustment is only necessary when a majority of the turns are flat or uphill. On downhill turns, the forks are usually sufficiently compressed to give steering that is at least quick enough.

There was a guy practicing on an MX 250 Yamaha at the same time we were whipping the Elsinore. The Honda was quite a bit faster and seemed to get better traction on choppy surfaces. We were able to pass the fellow and pull away with what appeared to be roughly equal rider ability.

Quite a bit of development has gone into the components to make them crash-proof and functional. We fell off the Honda twice fairly hard, both times on its left side. The clutch lever bent severely twice and the polished aluminum alloy fuel tank received a couple

of sound thumps. The forged aluminum alloy lever was bent back straight both times without a sign of cracking, and the tank was scratched but not dented. That tank is very tough.

Both footrests are bolted to forged lugs which are welded to the frame tubes. If a footrest gets bent in a prang, it can be replaced by removing a single bolt. A dowel on each peg prevents it from rotating about the mounting bolt. The folding rests are the deeply serrated, U-shaped variety which have become universal on MX bikes.

Brake and shift levers are made of forged malleable aluminum alloy; they are as straightenable as the handlebar levers. The shift lever is tucked in so closely to the engine case that it was untouched after our two spills.

Gear selection on the Elsinore is faultless. Even while plowing through turns that were so rough we could scarcely keep our feet on the rests, a boot-tug on the lever would invariably select the desired ratio. Many times the bars were lurching so wildly that reaching the clutch lever was dismissed as folly: simply backing off the throttle a bit and booting the lever brought about the shift. The gearbox ratios are quite close. When traction is good, you stay very busy on the shift lever in order to keep up with the engine power. With the standard sprockets the engine starts pulling really hard at 4500 rpm, where there is 11.15 bhp and 13.02 lbs./ft. of torque available at the rear wheel. At this engine speed the bike is moving about 15 mph in low gear. And the CR250M will run 65 mph at its 8000 rpm power peak in fifth gear. Naturally, the gearing can be changed to meet the requirements of faster and slower courses.

High strength chromium-molybdenum alloy steel is used to make the single loop cradle frame. Though simple-appearing and clean in design the frame is extremely rigid. A 45mm o.d. backbone tube makes certain that the steering head stays where it is supposed to be on those vision-blurring whoop-de-dooos.

The front fork tubes and slider legs appear to be slightly longer versions of those which appeared last year on the XL-250. Total effective travel of the forks is 7.1 inches, including hydraulic cushioning at both ends. As you may recall from the XL-250 test, the internals of these forks are very similar to the separate cylinder and piston Ceriani-pioneered type. Very thick-sectioned forged aluminum alloy triple-clamp brackets keep the forks aligned. The bottom clamp has two 8mm bolts on each side to cinch its 42mm clamp height around the 35mm fork tubes. Additionally, the top clamps have 8mm bolts on each side. The resultingly large and effective area of the clamps make the front forks extremely rigid. Combining with these top clamps are four-bolt clamps on the bottoms of the fork legs which prevent the axle from pivoting in response to the side loads of the wheel.



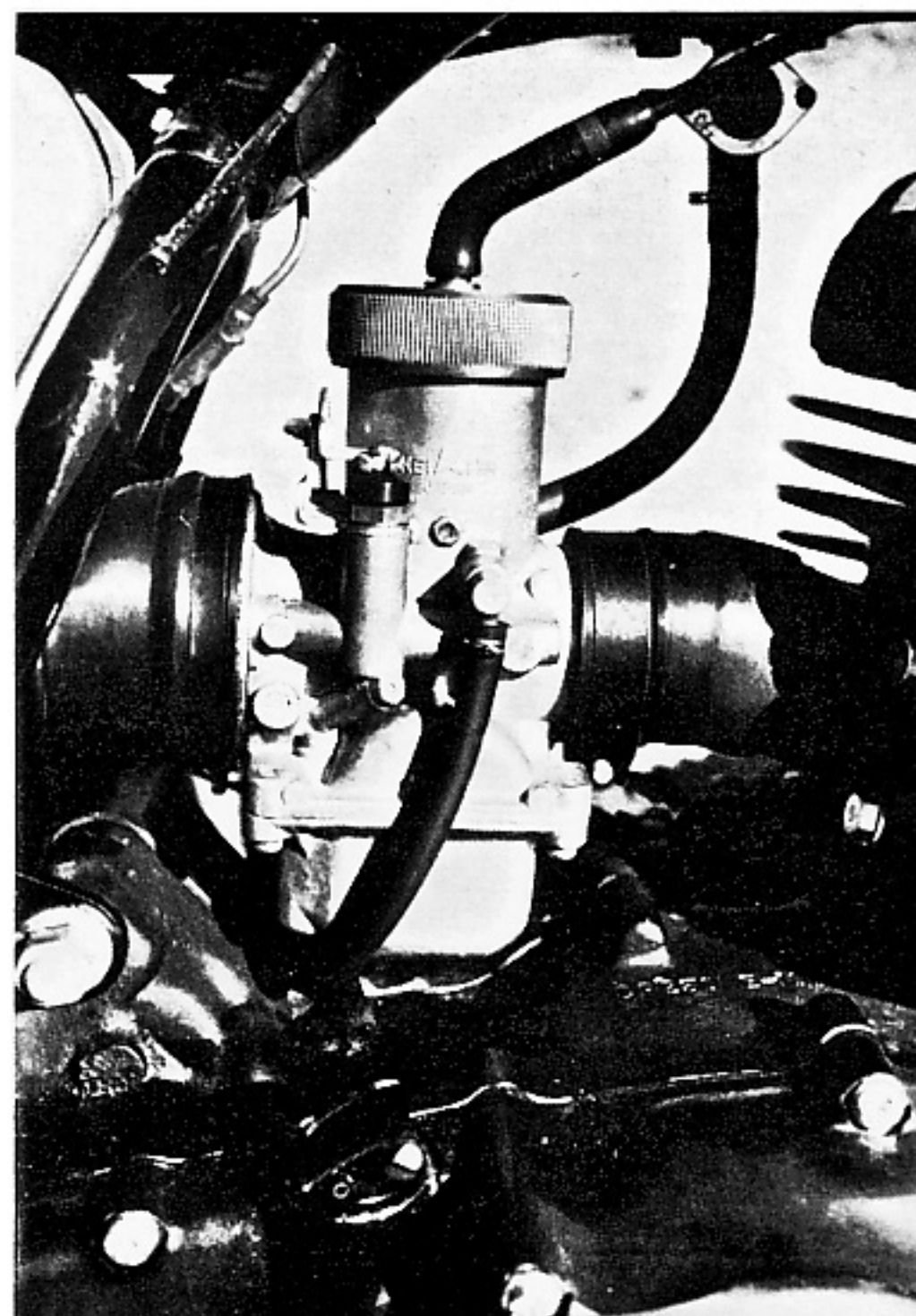
Totally new rear shocks of Honda's own design control swingarm movement. Fat, 41mm-diameter aluminum castings with integral cooling fins, house oil reservoirs and damping assemblies for the 10mm control rods. The large springs (62mm-diameter) control the 4.1 inches of movement provided by the 14-inch (center-to-center) shock absorbers.

The front and rear suspension units combine to give the Elsinore incredible tractive power over the purposely punishing terrain of moto-cross courses.

Both fenders are made of extremely flexible and tear-resistant plastic and both are rubber-mounted to the fixing points. A rubber mud flap on the front fender keeps the rider's goggles clean and a removable vinyl engine shield is available to keep the cylinder and head fins clean when tracks are muddy.

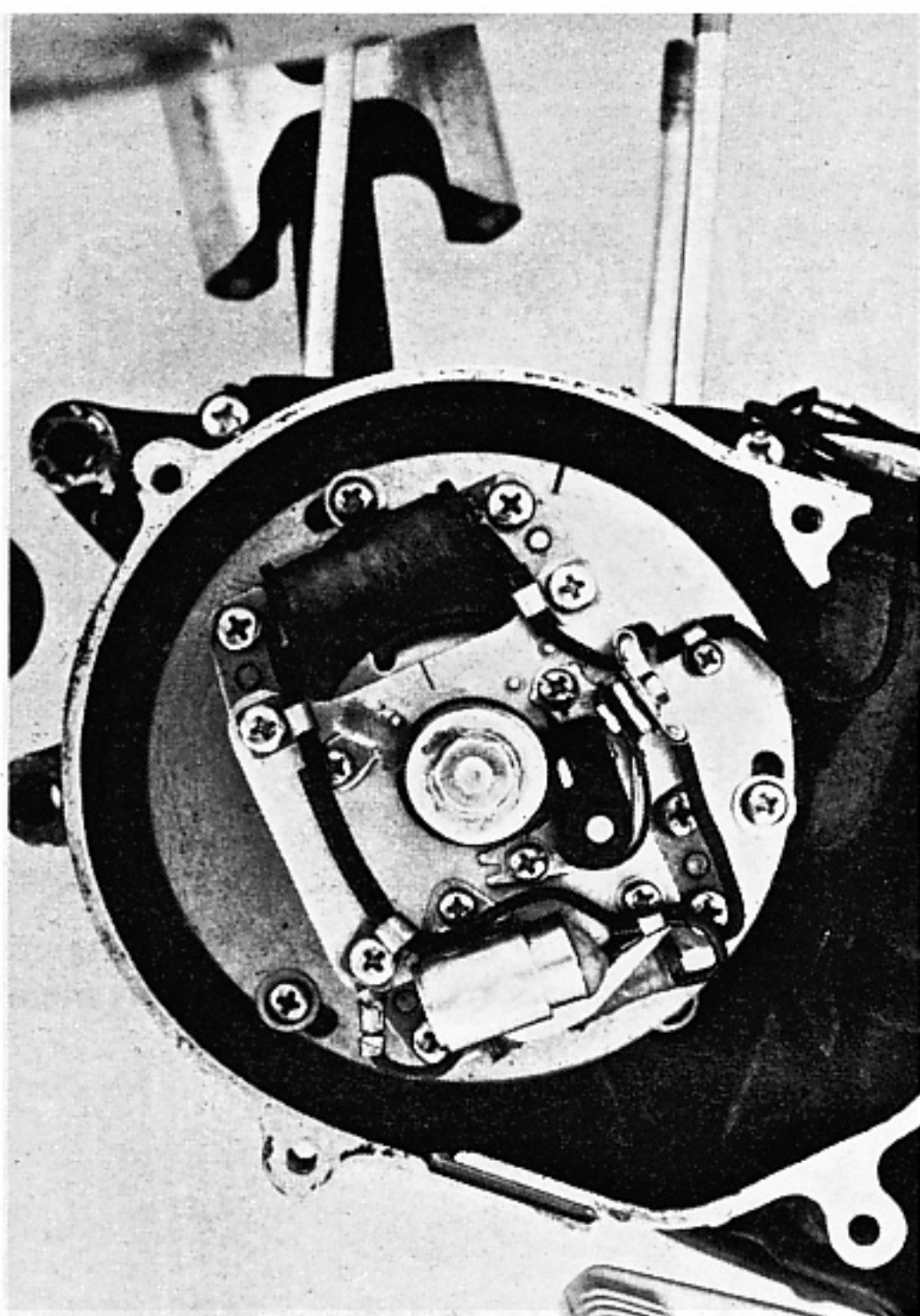
Vinyl covering on the 23-inch seat gives good grip on the rider's leathers when wet. Three inches of foam over the seat and five inches in the front area are responsible for the cushioning we felt during our 15-minute mock races. The material used for the seat base is quite unique: it's composed of a layer of flexible plastic sandwiched between two sheets of thin aluminum. Mounting brackets are simply riveted to the front and both sides of the rear, and are bolted to the frame.

A space under the seat forms the air cleaner cavity. It is bounded at the rear by the fender and at the bottom by a molded plastic tray, which has a little trap door so that you can quickly drain any trapped water. Molded plastic side covers, each secured with a pair of slotted screws, serve double duty as sides for the air box and numberplates on the outside. The joints of the box, subject to spray from competitors' wheels, are sealed with vinyl stripping. Air inlets are carefully constructed under the lower fronts of the covers and under the protective skirts of the seat edges. Servicing the filter element can be quickly accomplished by removing one of the side covers with a screw driver. A security spring clip and a single nut hold a stamped filter element retainer *via* a long stud. Removing the element reveals its sandwiched layers of two different materials. The outer layer is an orange mini-forest of hairy synthetic fibers; the inner is a relatively thin layer of more familiar open-celled polyurethane foam. The element is cleaned as a whole by repeated squeezing in a container of solvent. Retreatment of the element is accomplished by dousing it with light oil (10W-30 is fine) and squeezing out the surplus by compressing it in your closed fist for a few seconds. The filter is highly efficient. Castrol R-30 oil is recommended by Honda as the lubricant to be mixed with the fuel. This oil contains a large percentage of refined castor oil, a substance which leaves a particularly resinous and sticky residue on everything it touches. After a hard day's running in a very

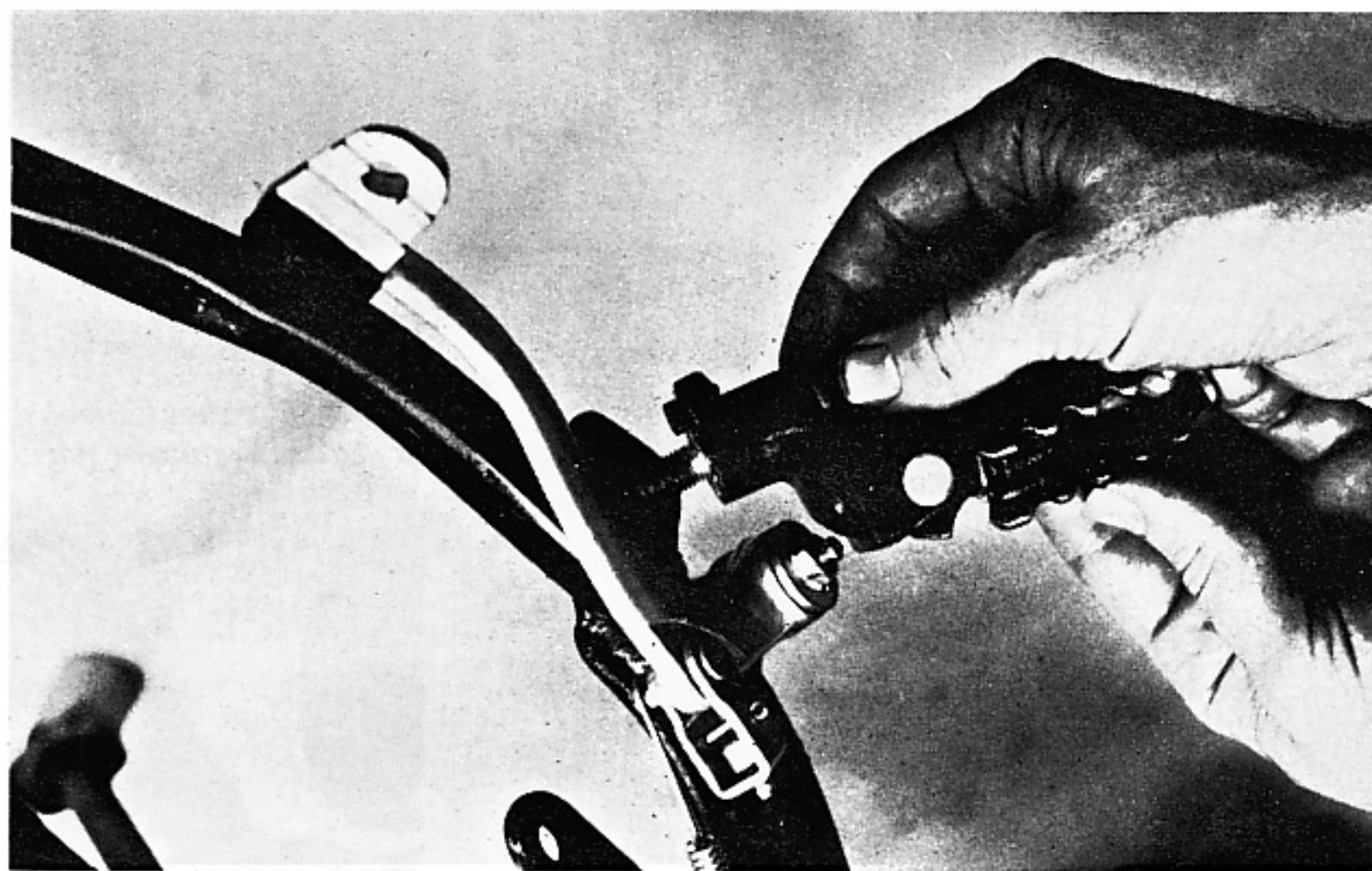


Keihin carb with 34mm venturi is virtual replica Mikuni, but has light alloy body and chrome-plated brass slide. Both ends are supported in resilient rubber mounts.

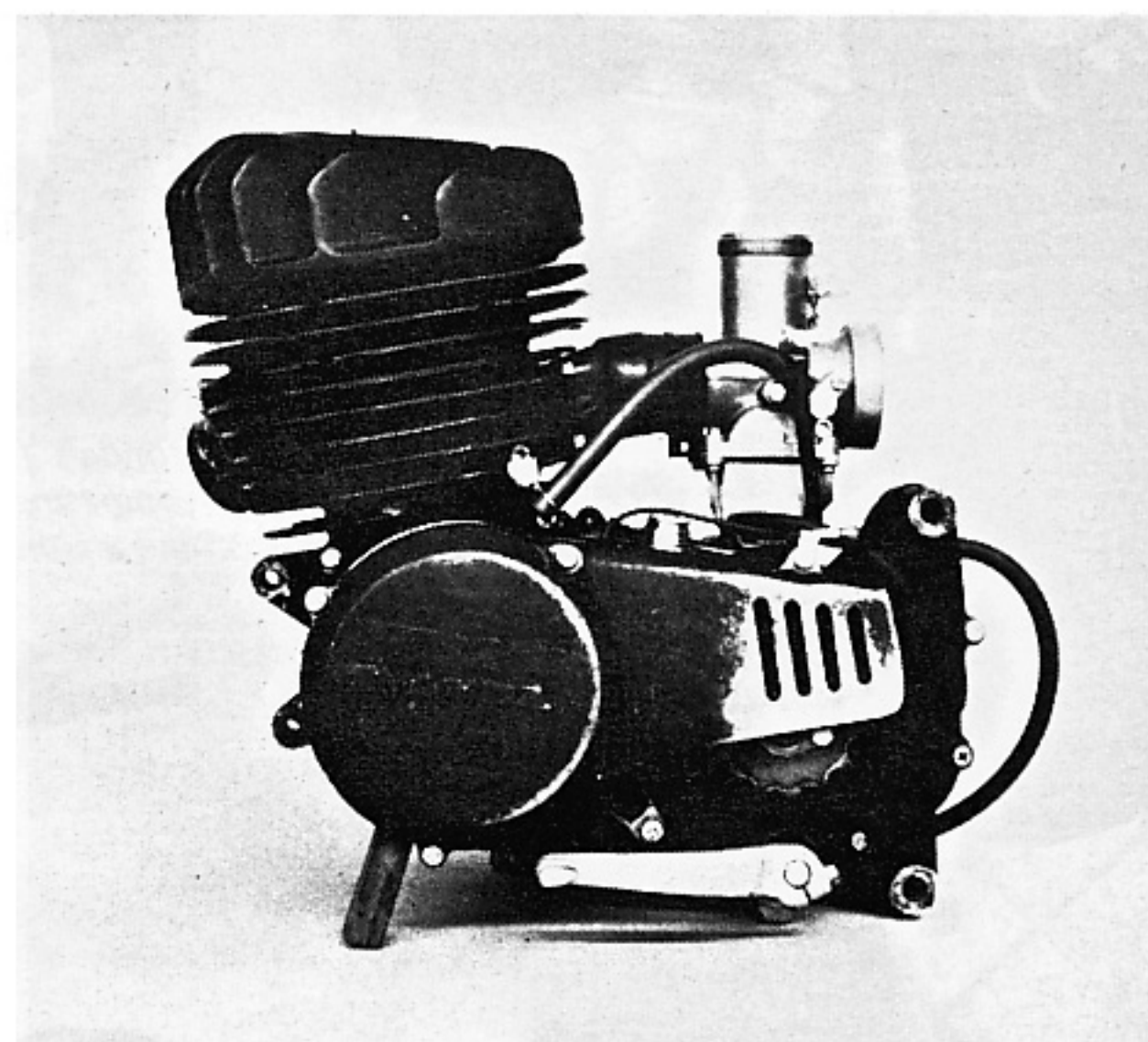




Sparks are provided by this breaker-points version of the magnetically triggered unit pioneered by Suzuki. Both coils are wired in series to give primary voltage needed for one-kick starts.

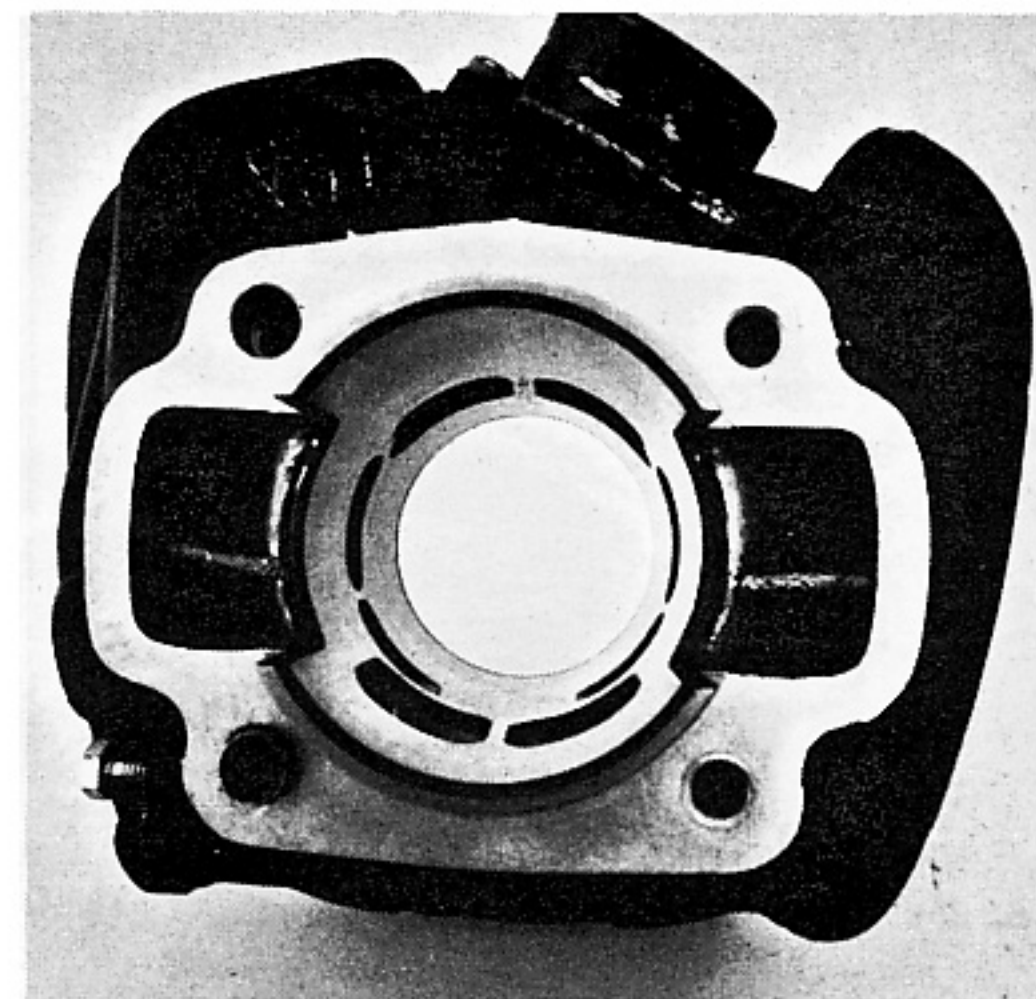
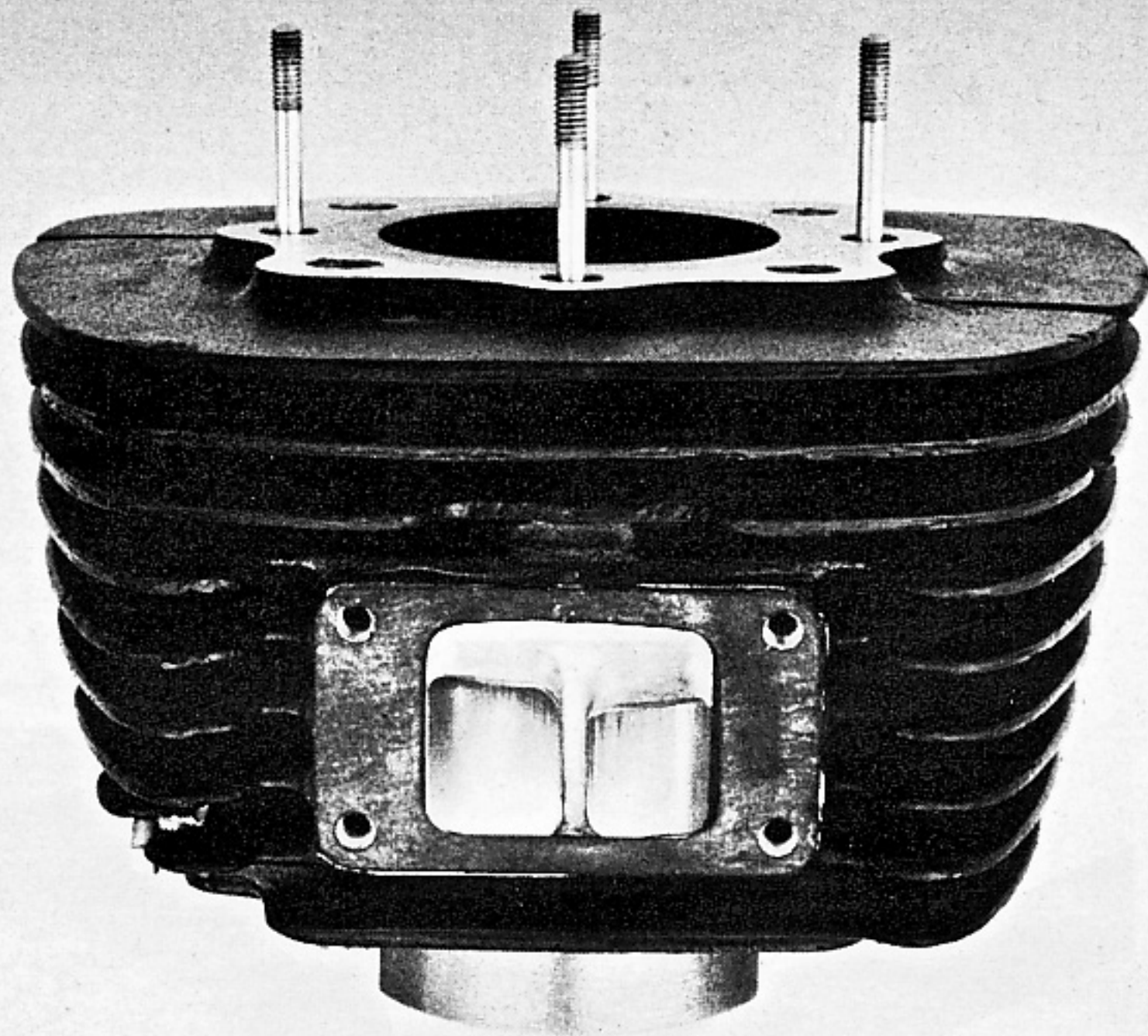


Lightweight folding footrest assemblies can be replaced by removing a single bolt on each side. Dowelpins prevent the footrests from pivoting on bolts.



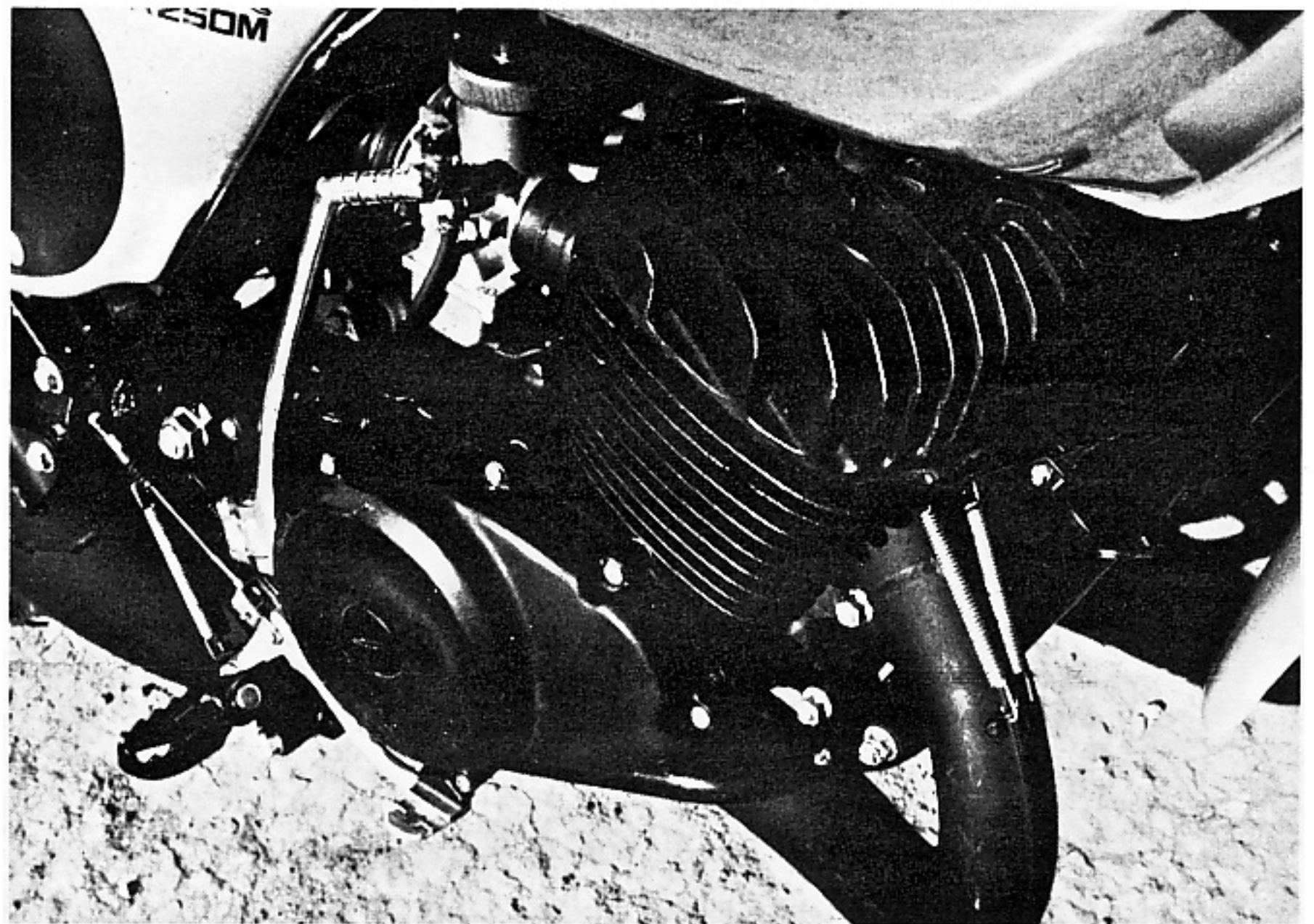
Bare dry engine with carb weighs 64 pounds, about the same as any of the competitive 250 MX bikes. Frame mounting bosses are very wide to keep engine in place in hard racing.

Long wheelbase helps keep front wheel on ground during hard acceleration, yet the Elsinore readily changes direction on short radius turns where there is no berm.

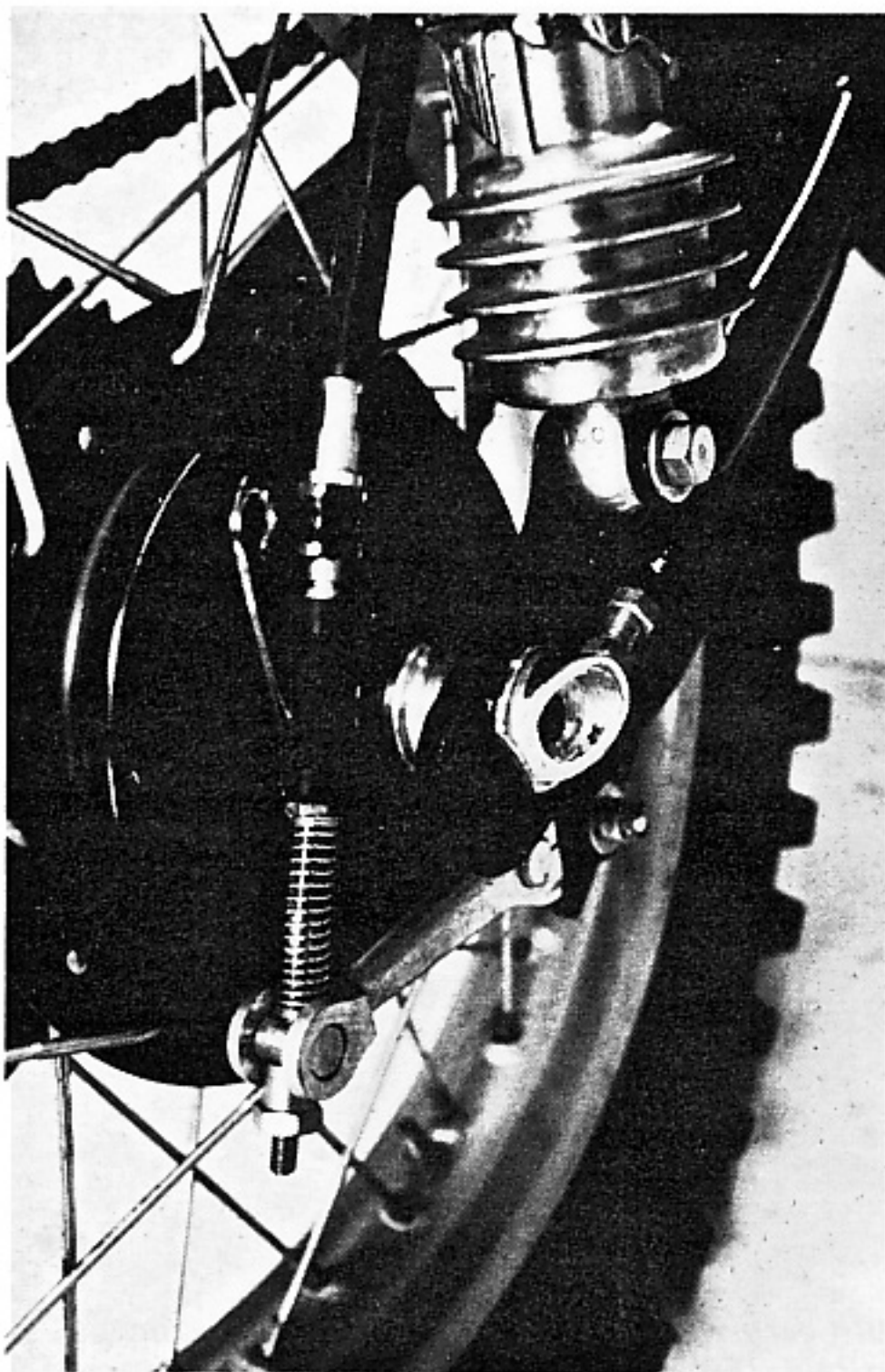


Huge transfer openings each feed siamesed cylinder filling ports via constant-radius tunnels.

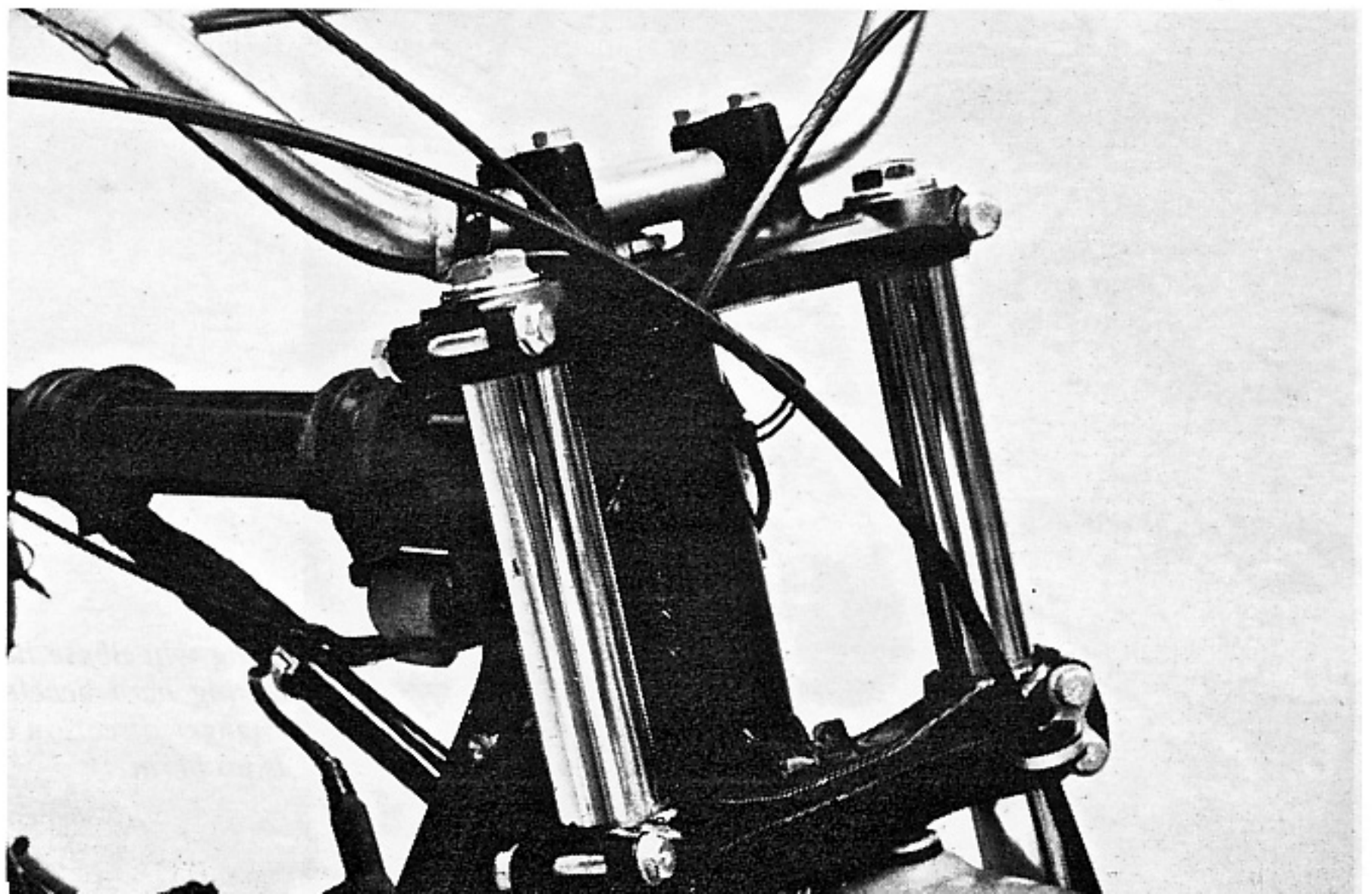
Cylinder inlet port breathing trickery has both sides opening/closing simultaneously, but directed differently when the piston is at top and the ports are wide open. Crankcase packing and bearing lubrication are both improved.



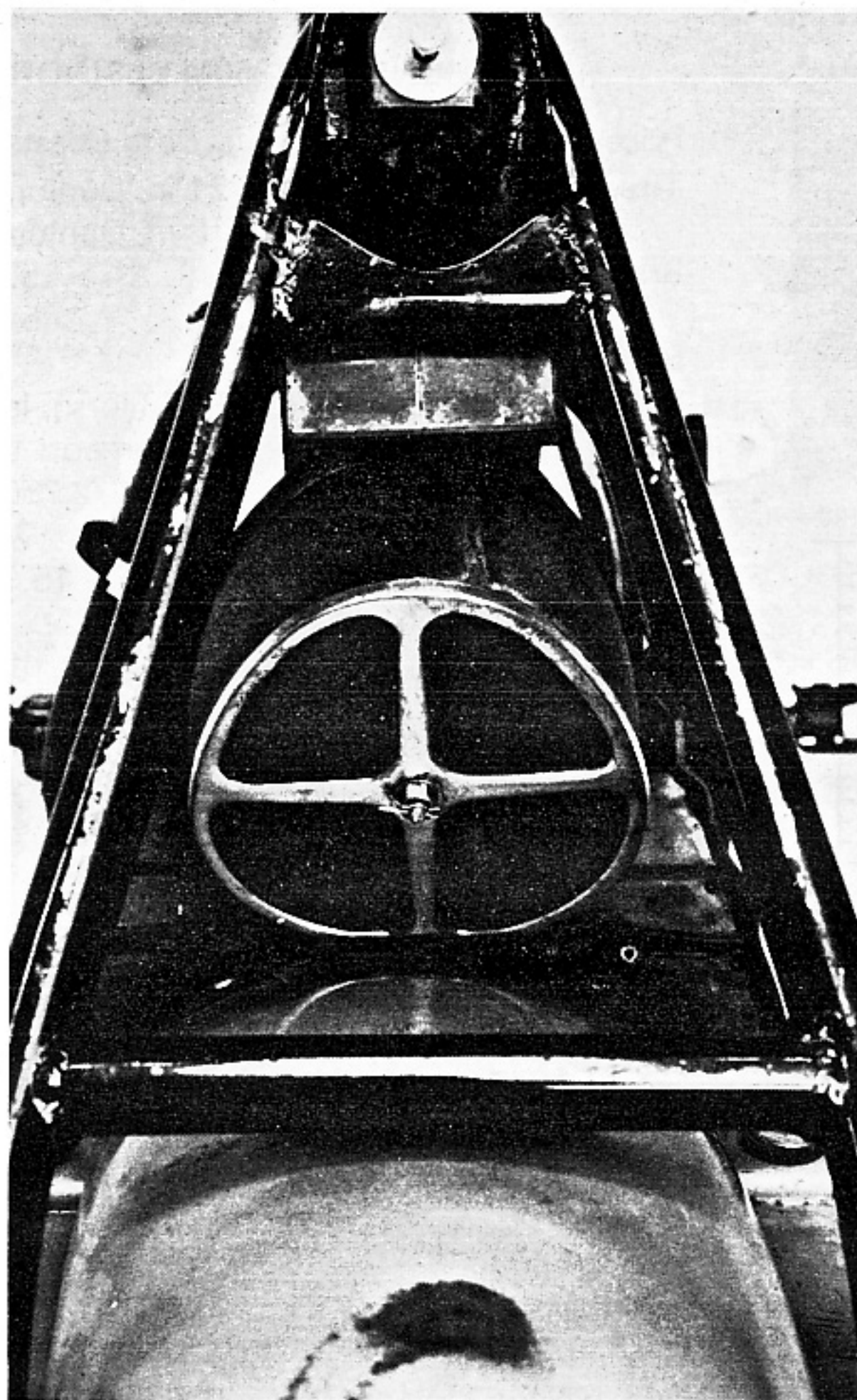
Honda's first real dirt racer borrows the best features from a lot of the bikes it will be competing against, and combines them with their own fresh ideas on suspension control and a computer analyzed breathing system.



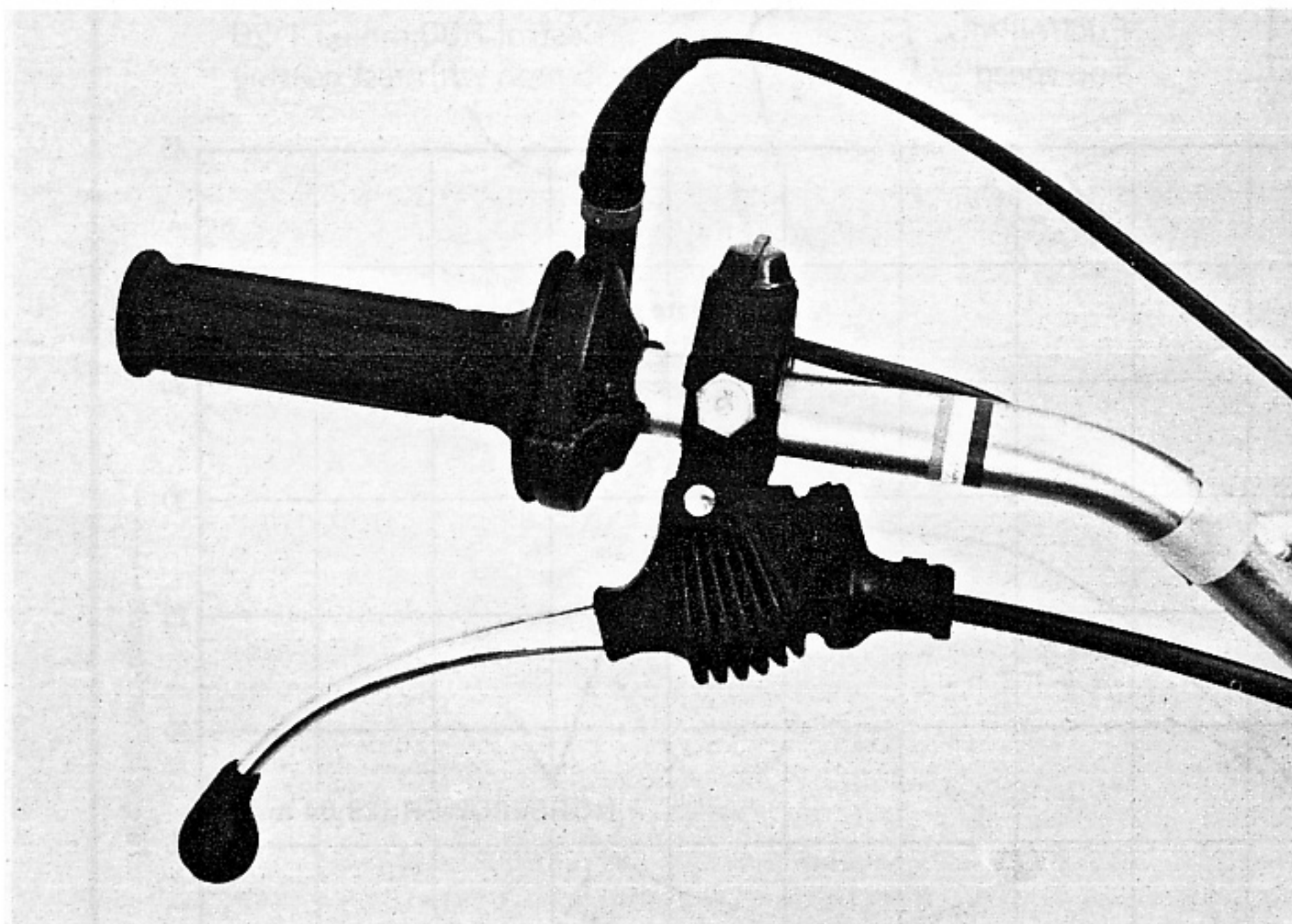
Fourteen-inch rear shocks with 12mm control rods have cooling fins on lower fluid reservoir.



Forged aluminum alloy fork brackets combine with four-bolt axle clamps on slider legs for super stiff fork without saddle brace.



Dual material filter element has furry outer sheath to catch big pieces, open-cell urethane foam to keep out microscopic dust.



Malleable control levers and quick throttle housing are aluminum alloy. Pleated plastic boots keep grit out of levers and cables. Soft gum rubber grips are best stock items we've seen.

dusty area, we could find no trace of dirt in the carburetor throat or the carburetor-filter connecting hose.

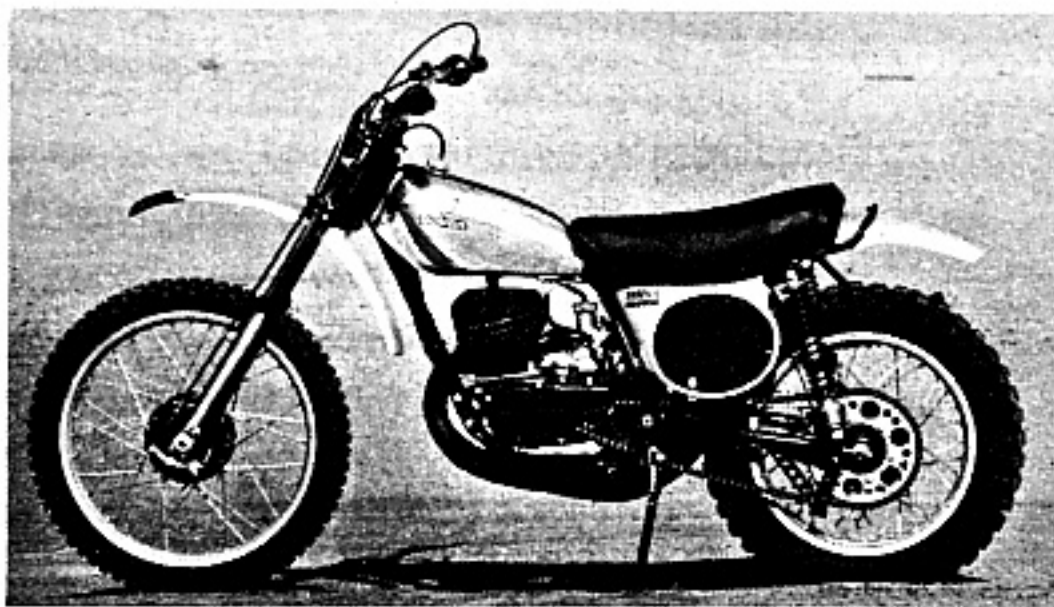
The fuel tank mentioned earlier, is a work of art to those of us who relish mechanical excellence. It is narrow—barely six inches across at the rider's knees and two inches wider at the cap. There are no corners: the top and sides and ends are all a continuing series of gentle, soft-flowing complex curves. The tank is fabricated by welding a pair of pressings together along the dorsal seam and welding a U-sectioned saddle into the tank along the remaining edges. The saddle fits over the frame backbone tube and is bolted to the frame using rubber shock mounts. A simple fluted machined-aluminum cap screws to the filler spigot. The tank must be made of very special alloy and artificially aged after it is formed and welded, for it is tougher and more dent-resistant than any other in our experience.

Almost horizontal at the rider's wrists, the matte, chrome-finished handlebars rise four inches and are 34 inches across at the tips of the grips. A cross-brace gives them the necessary motocross resistance to bending. We suspect that they are heat-treated chrome-moly, for they did not bend a bit after sustaining a couple of flip-flops.

Honda's own skinny gum rubber grips seemed perfect to us. An aluminum housing and nylon sleeve comprise the 1/5-turn throttle grip. An abbreviated form of the familiar Honda safety switch is attached to the front brake lever bracket.

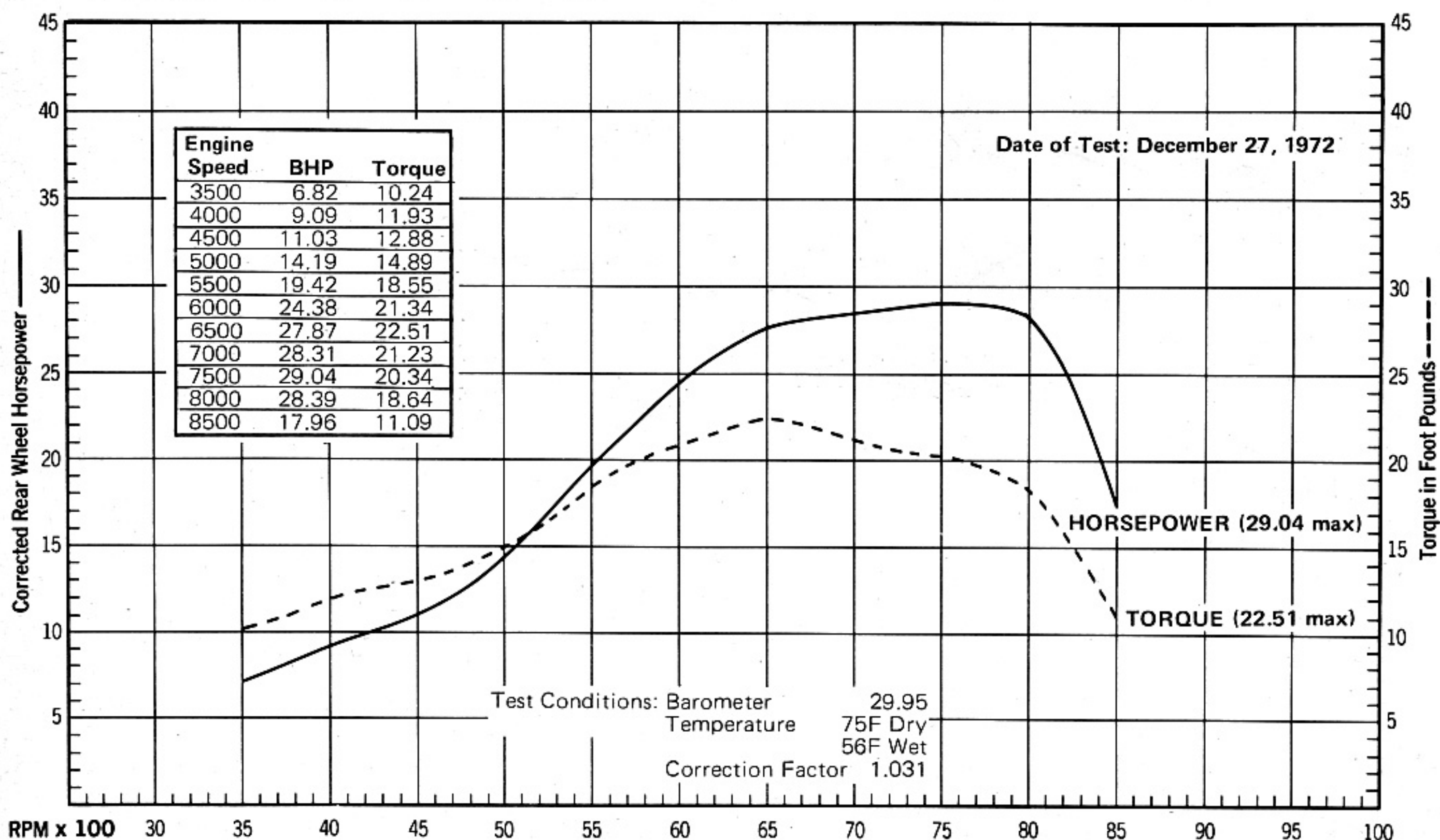
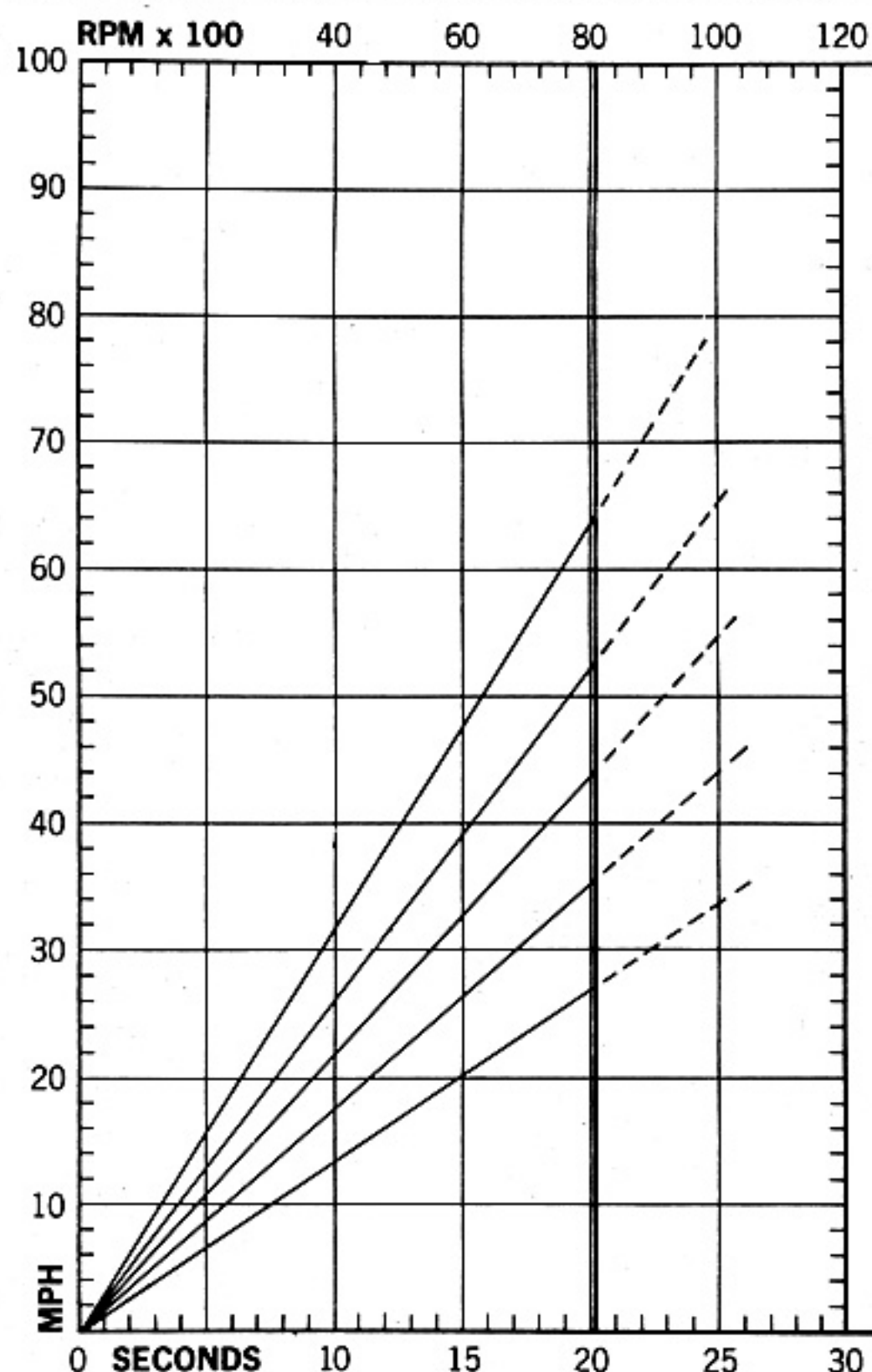
Both wheels for the Elsinore are totally new. There is nothing particularly novel about the design of either hub. Both brakes are single-leading-shoe and both are cable-operated. The front brake is particularly progressive in feel and effective in action. Rear brake feel is spongy and nondescript, except that it does not cause the vicious wheel-hop that some brakes do. The rims are the same aluminum ones as on the XL-250.

All of the aforementioned facts and figures would be hollow and meaningless were it not for the godawful power generated by Honda's first two-stroke racer. A casual look at the engine fails to reveal anything revolutionary. Quite frankly it appears as if it had been assembled from pieces selected from many of the competition's engines. Looking inside the primary case could be looking at that of a Suzuki, Kawasaki, or Yamaha: the gear drive and primary kickstart systems are virtually identical. The magneto that produces those nice three-kick starts looks like a Suzuki PEI unit that has been converted to a conventional breaker-points system. And the gearbox selector assembly could be out of any small Honda. The clutch throw-out shaft looks identical to Bultaco's, except that it is in the crankcase instead of the outer cover. The bore and stroke are almost identical to those of Suzuki's
(Text Cont'd on page 64; charts overleaf)



HONDA CR250M ELSINORE

Price, suggested retail Both Coasts, POE \$1155.00
 Tire, front 3.00 in. x 21 in. Dunlop Sports Knobby
 rear 4.00 in. x 18 in. Dunlop Sports Knobby
 Brake, front 5.51 in. x 0.98 in.
 rear 5.51 in. x 0.98 in.
 Brake swept area 33.93 sq. in.
 Specific brake loading 11.73 lb/sq. in., at test weight
 Engine type Piston-port two-stroke single
 Bore and stroke 2.756 in. x 2.535 in.,
 70mm x 64.4mm
 Piston displacement 15.12 cu. in., 248cc
 Compression ratio 7.2:1
 Carburetion 1; 34mm; Keihin
 Air filtration Oiled polyurethane foam
 Ignition ET Magneto
 Bhp @ rpm (actual) 29.04 @ 7500 rpm
 Power-to-Weight Ratio 7.78 lbs/hp. (at curb weight)
 Mph/1000 rpm, top gear 8.09
 Fuel capacity 1.8 gal.
 Transmission oil capacity 2 pts.
 Lighting None
 Battery None
 Gear ratios, overall (1) 22.77 (2) 17.40 (3) 13.85
 (4) 11.49 (5) 9.55
 Wheelbase 58 in.
 Rake 32 degrees
 Trail 5.8 in.
 Seat height 31 in., with rider
 Ground clearance 7.5 in., with rider
 Curb weight 226 lbs., with full tank of gas
 Test weight 386 lbs., with rider
 Instruments None
 Fuel Required Low-lead, 91 octane minimum
 Fuel/oil mix Castrol R30 mixed 1:20
 Top speed 65 mph with test gearing



Whatever breathing magic Honda's computers have wrought, the result is dazzling. The CR250M made more power on Webco's dynamometer (29.04 @ 7500) than any previously tested 250. Remember that those figures on the chart at the end of the test represent genuine rear wheel horsepower: the kind which know nothing of advertising agencies and fudge-factors.

A lot of the Elsinore's ability to run cleanly at low revs can be credited to the new Keihin carburetor. Having virtually the same design as a Mikuni, the 34mm instrument is cast in light alloy. Its precise metering ability is obvious when you open the throttle at low revs and the response is instantaneous.

We don't know why the Elsinore makes so much power and we haven't had time to figure out how a bike with a 58-inch wheelbase (about the same as a Sportster) and 32 degrees of steering rake and 5.8 inches of trail will turn corners so willingly. But we do know that this new Honda racer does all these things. And we have every reason to believe that it will do them reliably for the serious motocross racer who goes to his local dealer this March to buy one. ©