CYCLE WORLD

FEBRUARY 1976
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America's Leading Motorcycle Enthusiasts' Publication

World's First Test: Husky 360 Four-Speed Automatic

The $100 ZI Fix

Maico 250WR Enduro

The ISDT

5000 Miles On A KZ400 Kawasaki

And A Guide To Accessory Enduro Tanks

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Husky's revolutionary four-speed Automatic photographed by Fernando Belair.

Illustration by Bill Neale

Cycle World Enduro Test

■ MAICO'S PRIMARY involvement with the sport of motorcycling has centered around motocross for many years. . .and has proven quite impressive. But that singular focus has had a limiting effect on other areas of competition—such as enduros—which have seen little or no effort put into machine development for the U.S. market. But that is understandable when one considers the type of organization behind the machinery. We aren't dealing with computer technology here, any more than we are dealing with a multi-thousand staffed megabuck operation that in itself could constitute a fair-sized city.

Instead, the Maico concern is a tiny one: just a few more than 300 employees, two small factories, family control and much devotion to the specialized product. Since production capabilities for the small company *are* a limiting factor, attention has understandably been concentrated in a few areas, causing a couple of potential markets to be ignored.

In the early 1930s, the brothers Hans and Otto Maisch went into the bicycle business. Like a lot of people in the bicycle business back then, they began putting motors in the bicycles and thus soon found themselves in the motorcycle business. *Maico* comes from the words *Maisch* and *Company*. The brothers Maisch were put temporarily out of motorcycle production during the war years, but resumed the operation in 1949. During the war they were busy helping the Fuhrer with the production of aircraft parts. Ironically, their first in-house motorcycle engine was the design of Heinkel Aircraft's Willi >

A Fast Terrain Special With Few Flaws

MAICO 250WR CROSS COUNTRY

MAICO CROSS COUNTRY

Tetzlaff, whose 125cc street powerplant has the same transmission and crankshaft centerline dimensions as today's units, regardless of displacement.

Although a substantial amount of input has been received from riders and machinery competing in European cross-country and ISDT events, major development efforts at Maico have traditionally gone into motocross equipment, and, as we've already mentioned, the company is on the motorcycle map because of it. Yet ever so slowly the market has begun to cry out for Maico's version of an enduro machine. Not *enduro* as defined by Japanese terms. . .heavens no. What they wanted was a piece of *serious* off-road equipment for the *serious* off-road enthusiast; the same type of machine that Bultaco, Penton and others had been handing the American market for some time. And at last Maico began to listen, releasing in limited quantities machinery based around the precise handling and incredibly suspended motocrossers. They were nothing more than racers with enduro-legal lighting, wide-ratio gearboxes and larger fuel tanks. Just what the cross-country Maico lovers had been crying for. . .nothing more.

The "Qualifier" bikes, as they were dubbed by U.S. distributors, weren't perfect, but they served as a good beginning. And it turned out handily that the venture was a success at just about the same time that Maico was debuting its new GP version MXers that boasted some of the most radical changes in years. The results of the "Qualifier" effort and the demand for it paved the way for a similar version of the GP machines. Enter the 250, 400 and 450 WR Cross Country machines. . .Maico's latest motocrossers with wide ratios and features for desert, enduro, qualifier, scrambles, trail and woods riders. At last the demand is being recognized for what it is.

Apparently the Maico organization listened carefully to the feedback from riders in the field as to how the new machine should be put together, because they started with the very same chrome-moly chassis from the latest GP motocrossers, exactly the right place to begin. *All* tubing members are chrome-moly, not just a few selected pieces, and paint finish is a silver-gray. Double downtubes split from the heavily reinforced and gusseted steering head area. From there they continue down to wrap under the engine unit, forming a cradle, then begin upwards again behind the powerplant. For extra rigidity, cross-bracing of these tubes is provided just in front of and under the engine. Tubing behind the engine forms triangles above the swinging arm pivot where it joins upper backbone and rear section framework.

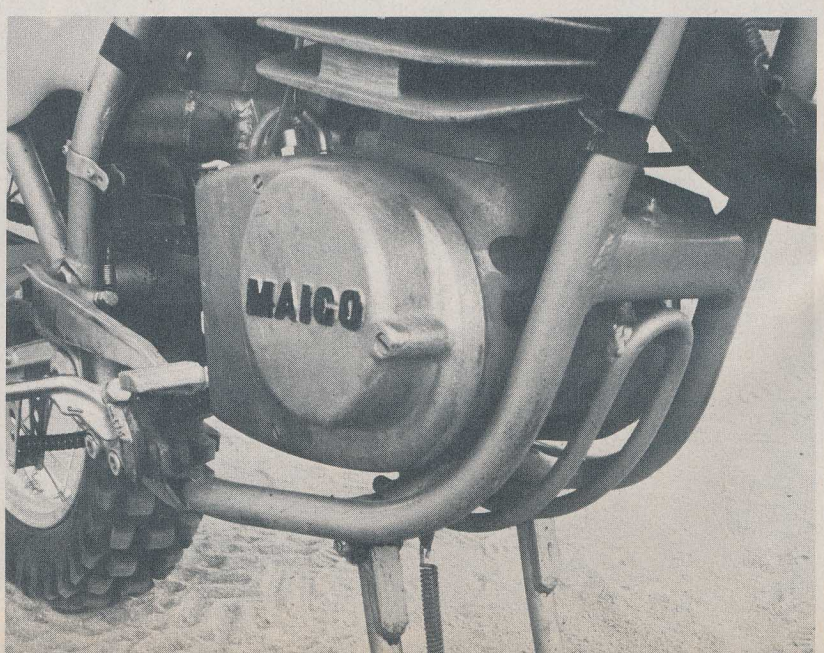
Since the machine was built primarily for the purpose of running in endurance type events, where rock and log hazards are often encountered, some sort of underside protection was necessary. So Maico has included an unusual piece of tubing that bolts between both downtubes, forming the engine cradle. It's not a bad idea, but most riders we know will want to fit a really hefty skid plate that will serve to protect not only engine sidecases, but the expensive frame tubing, as well. We know by experience that it doesn't take too much of a whack on a rock to bash in frame tubing. . .and that's no good at all.

Keep in mind, also, if you plan to make a protective plate, that clearance will have to be provided for the swing-down centerstand, a feature that allows removal of either wheel without laying the machine on its side. And in case an owner isn't that crazy about the idea of a centerstand, brackets are already welded in place on the frame to fit the sidestand from the motocrosser.

Maico frame behavior would give indications that it is a fairly rigid structure. Yet, in fact, there is some engine movement in spite of three mounting locations and head stays. It floats a bit at high engine rpm. That flex is more than permissable, and is even welcomed, since torque loads and vibrations are less likely to be transmitted to the rider. But where rigidity is needed, it is present, making the Maico's frame an example for others to follow. Wheelbase is 56 in., rake 31 degrees and trail a lengthy 6 in.

The swinging arm, also chrome-moly, is one of the longest found in motorcycledom. Flat bracing is welded to the top portion of the arm—required because of the far rearward location of the axle in relation to the lower rear shock mount location, which features three position locating holes. This arrangement, coupled with specially designed Koni Shocks, is good for about 7.5 in. of rear axle travel under full load. Those kind of figures can give a rider plenty of confidence in high-speed terrain crossing.

New style Maico forks have gone from external to internal springs, and lost a feature important to an endurance rider. . .rubber fork slider covers. These aren't a necessity by any means, but a nice feature just the same. Now the owner >



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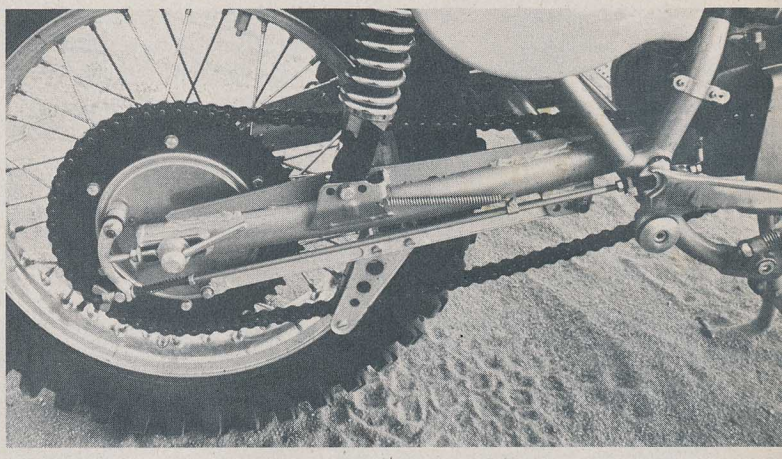
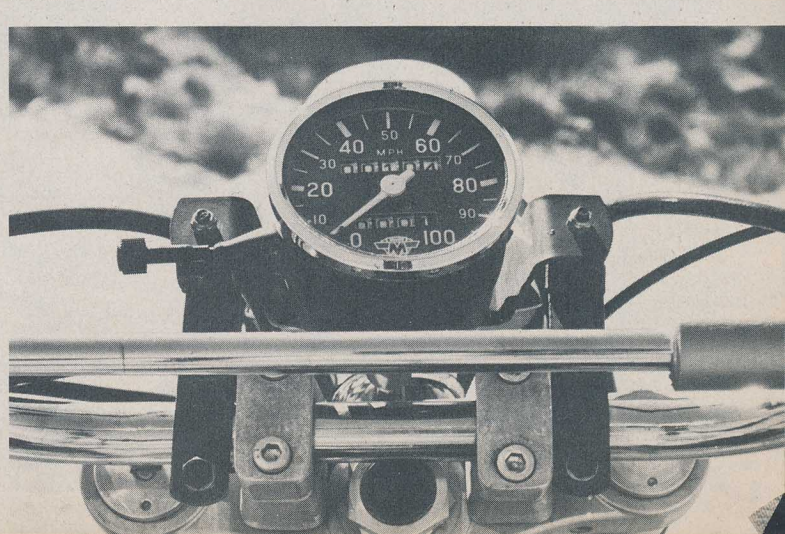




MAICO CROSS COUNTRY

will have to fit after-market covers if he or she desires them.

The new forks are unbelievably tough, featuring 8 in. of usable travel. The front axle is offset forward and adjusts for an ideal amount of trail when the forks are compressed. This also allows for long and strong fork leg castings. Aluminum triple clamps are designed to mount the forks close to the frame's steering head, which keeps things in alignment up front. Sliders are alloy and stanchions are hard chrome; fork seals leak profusely. Though the new units work superbly, we have mixed emotions about their advantages over the old style units, for the endurance riding application, at least. For motocross it may be a different story. The old style units were far more supple over low-speed bumps and irregularities, the kind of action forks see much of in woods type enduros. Yet in high-speed, West Coast enduros of the desert variety, the new forks have their advantages. Kind of a trade-off.

Metzeler four-ply tires are used at both ends, and, again, we had mixed emotions. In our West Coast enduros, we'd prefer a smaller rear tire, say a 4.00, as opposed to the 4.50 the machine comes with. And up front we'd like a larger 3.50 rather than the stock 3.00. Reason? Just our sandy terrain. The 4.50 is a tad hard to get spinning in the soft stuff with the 250 engine, and the front tire tends to plow a bit. Change to harder terrain and the "as equipped" tires are fine, but all riders have their own preferences. Metzelers do work well under a wide variety of conditions, but they are expensive.

Alloy conical hubs are beautiful and strong. Brake action is a big improvement over that on earlier Maicos. Resistance to water is average, though recovery time is a little slow. Nine-gauge spokes attach to ridgeless Akront rims, an improvement over previous steel units. Many riders, however, will still wind up switching to the stronger D.I.D. rims, which aren't available in Europe as original equipment for manufacturers.

Wheel removal is fast and easy, thanks to the centerstand we mentioned earlier. But to keep the stand from flopping down when riding, we suggest attaching it to the frame with a rubberband cut from an old inner tube, since the return spring isn't strong enough to do the job.

Fenders and airbox are now of unbreakable plastic molded in bright yellow, as is the right-side airbox cover/number plate. There is no provision for mounting a number plate on the left side of the bike, since the high-mounted exhaust system is in the way. The machine is delivered with a front plate if ordered without the optional lighting kit. To simplify things, you might want to fit a Preston Petty Headlight/Numberplate combination. Fenders are okay as long as the going doesn't get too sloppy. Then, larger fenders would be a good idea.

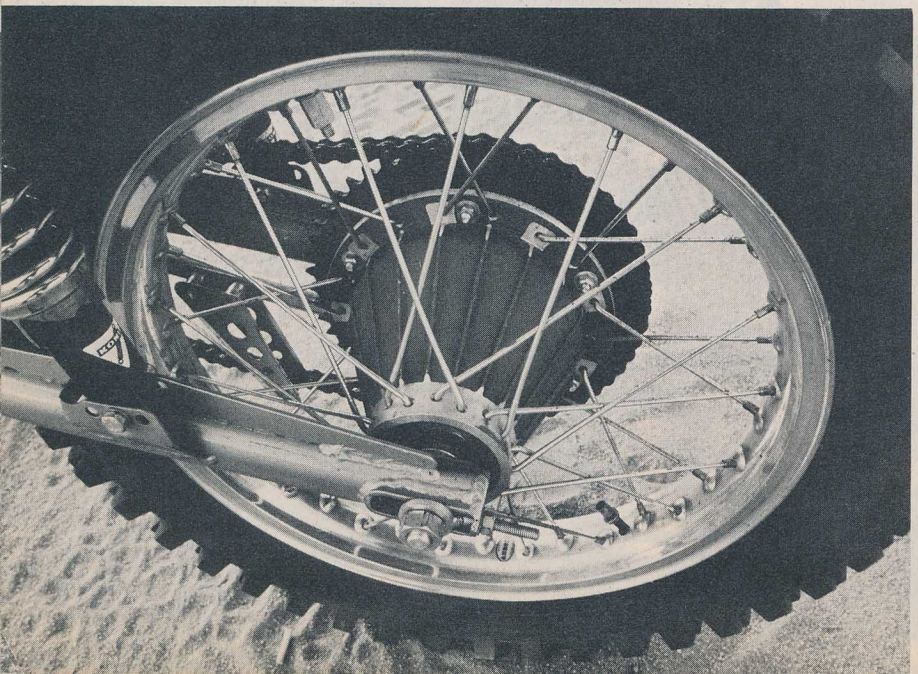
The airbox draws air from under the extremely lightweight seat, which unbolts quickly to reveal the Twin-Air filter element, one of the best. Holes are drilled in the airbox to let water out should it enter, but we'd opt for sealing the holes and protecting the intake area a bit with duct tape.

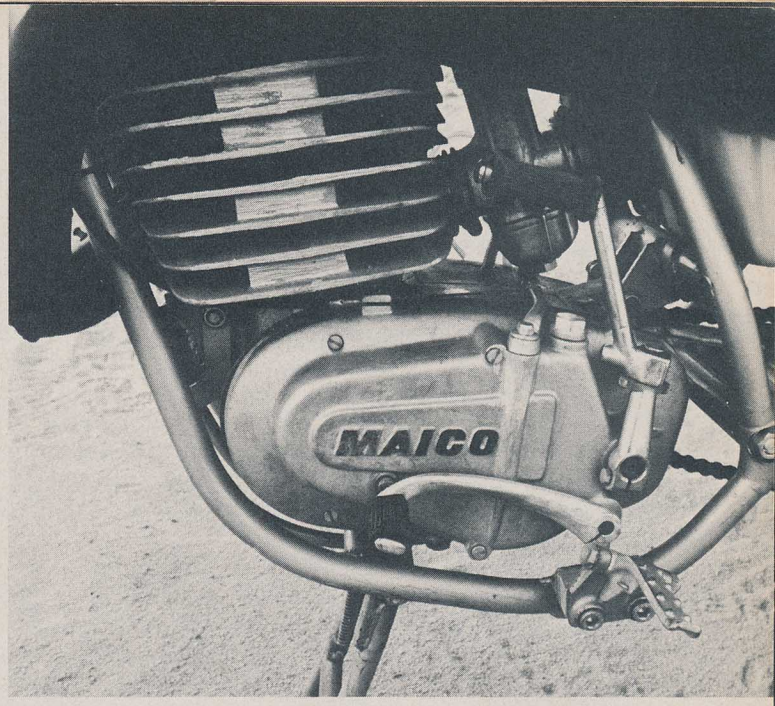
Footpegs are new and vastly improved over the older types. The spring-loaded folding units are amply sturdy and can be easily replaced if damaged. But smooth-soled boots and water might render them too slippery; we still find it hard to beat Bultaco footpegs in this respect. Footpeg placement is just right, high enough to miss most obstacles, but not high enough to put the rider's knees in his face.

A chain guide is standard equipment, but some riders may want to fit a chain tensioner. Maico has also provided a replaceable plastic wear pad over the area where the chain crosses the swinging arm, an excellent touch. But the sidecase should be cut away more near the primary sprocket to allow better access in case of chain loss. In timed events such as enduros and qualifiers, minutes saved here and there can make all the difference in the world when the scores are tabulated.

Maico has bred for the 250WR a very simple and workable engine unit. There's nothing exotic here, just uncomplicated porting: one intake, two transfers and a bridged exhaust port. Port timing is identical to the motocrossers', but the ports are narrower. Bore and stroke is 67 x 70mm, for an overall displacement of 247cc. Fuel recommended is pre-mixed Bel-Ray MC-1 at 55 or 60 to 1. The mix is drawn through a Bing 36mm carburetor, which has to be tickled whenever the engine is cool. Access to the carb is cramped on the right side and completely blocked by the pipe on the left. The piston is a forged Mahle using one Dykes ring. The compression ratio is 13:1, uncorrected. Caged needle bearings support both ends of the rod and the crank is ultra hefty. Primary drive is via a duplex chain; and new this time around is a much needed five-speed gearbox.

Once a rider can get his or her hand around the ridiculously wide clutch lever (giant hands are a must), they'll find that clutch pull is stiff. . .a muscle builder, in fact. Neutral is >

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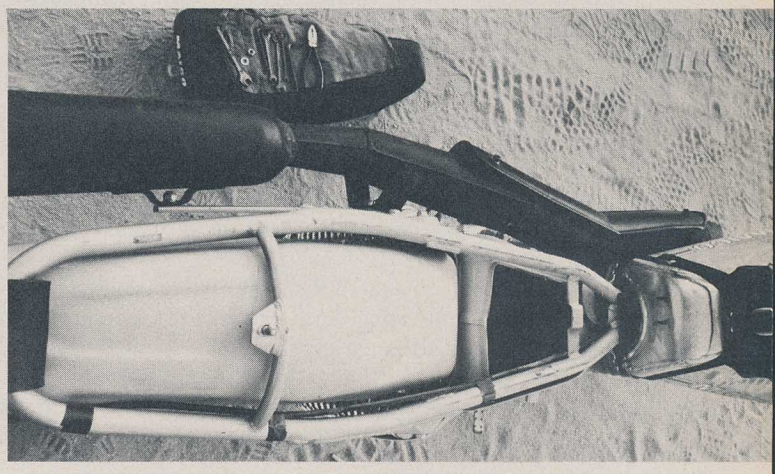



MAICO
MAICO

difficult to find unless the machine is still rolling, in which case the lever will nudge right in. But with the engine running and the bike stationary, forget it. The clutch also drags with the lever pulled in, regardless of the adjustment.

The gearbox works faultlessly once underway and clutch use can be dispensed with. Gears inside the transmission are tiny but hold up well all the same. High gear is a direct drive arrangement and is most efficient. The five ratios are spaced about like one would expect on a machine of this sort. The first three are close together, fourth a slight jump, and fifth like an overdrive. Large-bore Maicos got along just great with four speeds, but the 250 really needed the extra gear. At last we've got it. Naturally, the shift lever is found on the left in these days of standardization. It's made from malleable aluminum. Primary kickstarting is a welcome feature; the two-piece lever swings out easily on the left side of the machine.

Ignition is by Bosch, a pointless CDI unit, and the system uses no battery. An aluminum plate behind the flywheel contains the lighting coil and sender unit. The CDI mounts to the frame. Lighting is rubber-mounted and worked without fail on our test machine.

The fuel tank is polished aluminum with hand-welded seams to gladden the heart of any aesthete. The unit is held in place with straps, rubber pads and locating bolts, so there is little reason for concern over the 2.9-gal. tank falling off the machine. The cap leaks and there is but one petcock to worry about. Also included is a beautiful leather tool bag that fits over the tank. It's fairly roomy and has a handy slot for time cards with a Velcro-fastened protective cover. The pouch lid is secured by a sturdy strap. A nice assortment of tools comes as a surprise too.

Silence is not exactly the WR's forte. There is quite a bit of mechanical noise emanating from the engine's internals. And the exhaust system, although quiet out the opening, rings and clangs from within. In fact, the exhaust system is the machine's biggest drawback. Its positioning keeps it in the way of the rider most of the time, unless seated. When standing, he or she will have to ride bowlegged or position the left boot out on the tip of the footpeg, not a safe thing to do. We'd much rather see a downpipe of the Bultaco Frontera type, with a decent skid plate, or frame modifications that would permit the highpipe to be tucked in decently. It's interesting to note that European models come equipped with a very nice downpipe, but that the distributor here felt the U.S. market demanded the high location.

We changed the handgrips immediately, and would get rid of the clutch and brake levers just as quickly were the machine our own. Not one person on our staff could reach them easily. The VDO speedo unit is optional and was almost spot-on accurate. The mount for the speedo is nice and the latest in VDO units has a new easier-to-reach stem on the side for resetting the tripmeter.

Power delivery was slightly disappointing on the grunt side of the scale. The revs have to be up some on this one before it begins pulling decently. It's only a drawback if the rider isn't paying attention to what gear the bike is in; a rider on top of the situation won't be bothered. Mid-range and upper end are better, and the machine will get it on with the best of the 250s. With a few personal touches, an owner could have the powerband suited to his liking in short order.

Another gripe that is worsened by the lack of strong low-end power is a rather heavy front end. With so much weight forward, elevating the front wheel without effort is impossible. The rider has to be in precisely the right gear and do some tugging on the bars to get that front end sailing.

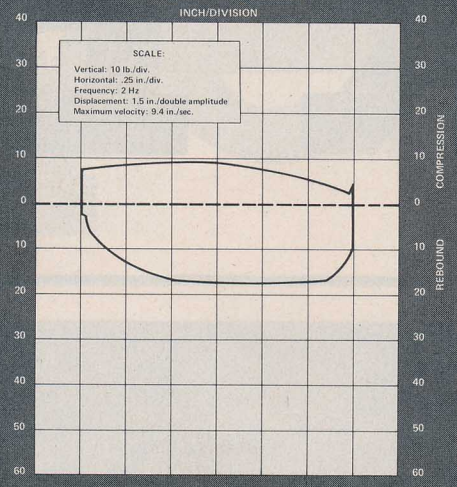
The real joy of a Maico WR lies in the suspension and incredible steering precision. It goes where the rider *thinks* it to. Very little effort is required to change lines or point the machine in a different direction. A slight shift of weight, a touch of body English. . .and you're there. With more low end and a different pipe, it'd be real close to the ultimate. As it stands, it's a *good* enduro bike for *good* riders in difficult events with fast schedules. A few minor touches could dial in the WR to suit any owner's needs almost perfectly. One can't ask for much more than that.

PARTS PRICING

Piston, incl. rings	$49.84
(1) Set Rings	12.75
Rear Shocks (each)	34.00
Wheel Rims (bare each)	
front	44.30
rear	53.50
Drive Chain (standard)	20.47
Front Fender	15.00
Rear Fender	15.00
Clutch & Brake Levers (each)	6.40
Clutch Cable	4.60
Throttle Cable	3.80
Brake Cables	4.60
Ignition Parts	N.A.
Air Filter Element	9.85
Rear Tire (standard)	42.51
Headlight Bulb	5.10
Headlight Unit	44.00
Taillight Lens	N.A.
Battery	N.A.

SUSPENSION DYNO TEST

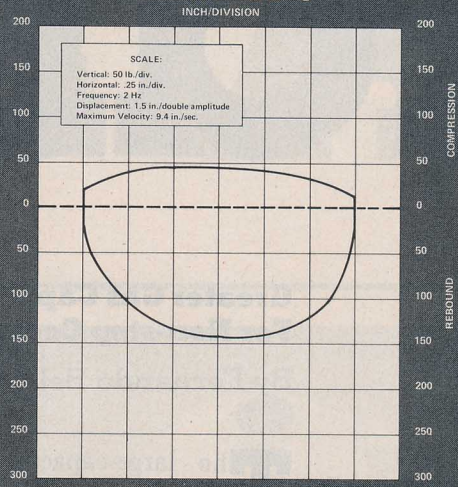
FRONT FORKS



Description: Maico fork with internal springs and HD 315 oil
Fork travel, in.: 7.75
Engagement, in.: 7.5
Spring rate, lb./in.: 31.5
Compression damping force, lb.: 9
Rebound damping force, lb.: 17
Static seal friction, lb.: 2

Remarks: Compression damping is fine. Although the forks did not top during our test, the dyno shows rebound to be a little weak. It should be 20 lb. Going to a heavier oil, 20-30 wt., would bring rebound damping up to the desired level. To maintain correct compression damping, drill out the lower (smaller of the two compression holes) to 3/32 in. Spring rate is too high for 160-lb. riders. Riders of this approximate weight should go to a 26 to 28-lb. spring. Maico forks are exceptionally strong and do not flex, thanks to the large 38mm stanchion tubes and an incredible 7.5 in. of engagement.

REAR SHOCKS



Description: Koni shock with adjustable rebound damping
Shock travel, in.: 3.75
Wheel travel, in.: 6.25
Spring rate, lb./in.: 125
Compression damping force, lb.: 42
Rebound damping force, lb.: 142

Remarks: Both compression and rebound damping are fine for the forward-mount application on the Maico. Hard running over rough terrain will result in enough heat build-up to alter damping (it goes away) in approximately 15 minutes. This will not present a control problem for trail riders, but for racers it will. Spring rate is okay for heavier riders, but 160 lb. riders should change to a 110-lb. spring.

Tests performed at Number One Products

MAICO 250WR CROSS COUNTRY

SPECIFICATIONS

List price	$1598
Suspension, front	telescopic fork
Suspension, rear	swinging arm
Tire, front	Metzeler 3.00-21
Tire, rear	Metzeler 4.50-18
Engine, type	piston-port, two-stroke Single
Bore x stroke, in., mm	2.64 x 2.76; 67 x 70
Piston displacement, cu. in., cc	15.07; 247
Compression ratio	13.0:1 (uncorrected)
Claimed bhp @ rpm	34 @ 7300
Claimed torque @ rpm lb.-ft.	N.A.
Piston speed @ rpm ft./min.	3358 @ 7300
Carburetion	36mm Bing
Ignition	Bosch CDI
Oil system	pre-mix
Oil capacity, cc	1000
Fuel capacity, U.S. gal.	2.9
Recommended fuel	premium
Starting system	primary kick, folding crank
Air filtration	Twin-Air oil-wetted foam

POWER TRANSMISSION

Clutch	multi-disc, wet
Primary drive	duplex chain
Final drive	(5/8 x 1/4) single-row chain
Gear ratios, overall:1	
5th	9.80
4th	12.26
3rd	16.18
2nd	21.27
1st	29.22

DIMENSIONS

Wheelbase, in.	56
Seat height, in.	34.5
Seat width, in.	10.0
Handlebar width, in.	34.5
Footpeg height, in.	13.5
Ground clearance, in.	9.5
Front fork rake angle, degrees	31
Trail, in.	6
Curb weight (w/half-tank fuel), lb.	258.5
Weight bias, front/rear, percent	47/53