

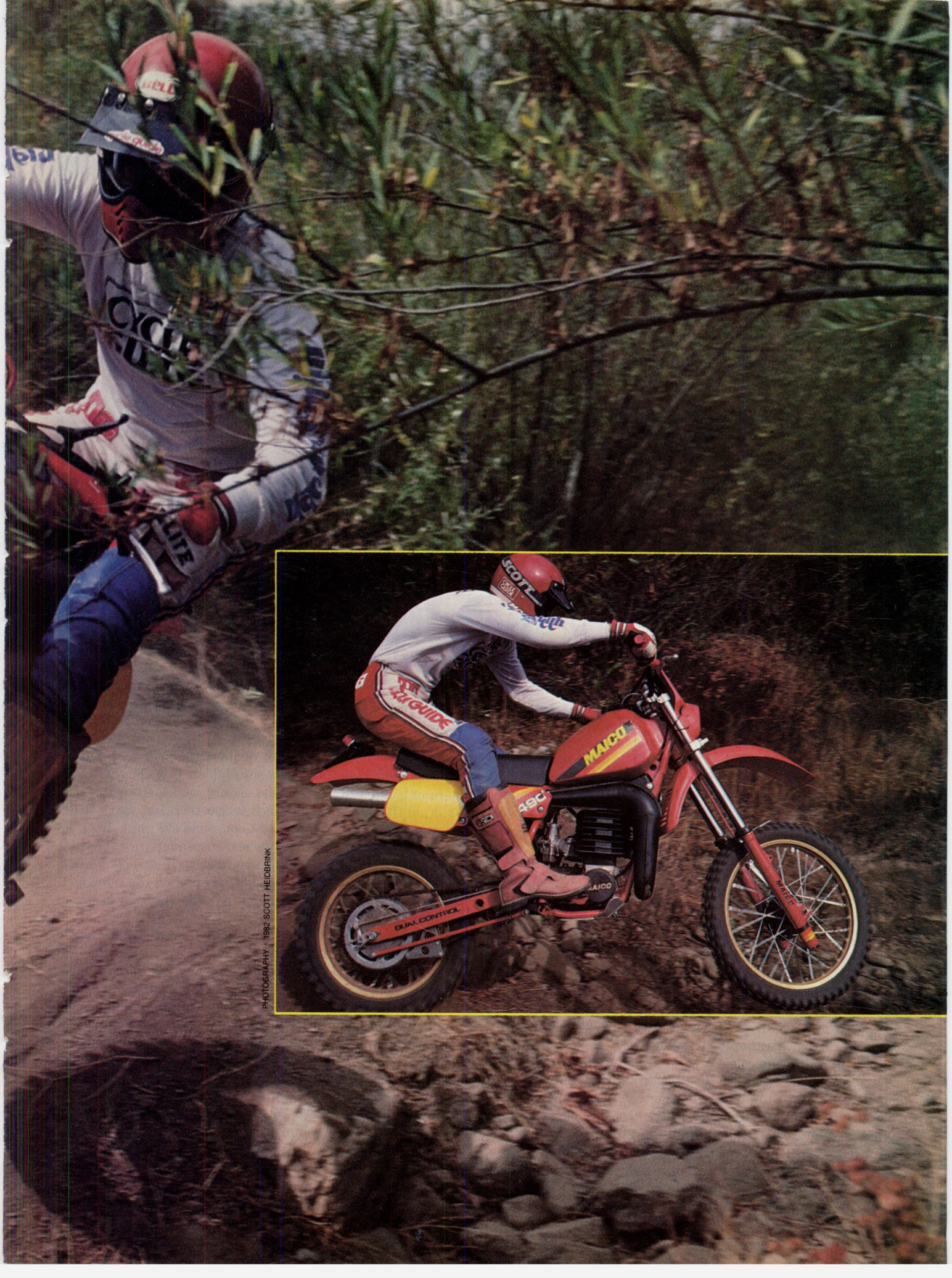
ENDURO TEST:

Maico 490 Enduro

Open-class success through excess.

BY RON LAWSON





PHOTOGRAPHY © 1982 SCOTT HEIDBRINK

The Maico 490 E is more than just an experiment in excess. It's a 489cc monument to the concept that there is no such thing as too much, as long as too much is properly executed. The '83 Maico has arrived, looking for all the world like the enduro rider's answer to the big-inch trend in Open-class motocross, ready to blow anything in its class into tiny enduro-bike fragments. But this motorcycle is about to make a surprising discovery: There are no other machines in its class.

Not that there aren't any other high-horsepower Open-class enduro bikes; it's just hard to throw the Maico into that category. It has so much of everything, from power to suspension to weight, it has placed itself in a realm no other machine has yet entered. And don't get the idea that the 490 is just a re-aimed motocrosser, either; it has an identity all its own, even though it does share many parts with last year's 490 motocrosser.

Fundamentally, though, it's power that sets the Maico apart from other big-bore enduro bikes and Open motocrossers. As soon as you twist the Maico's right grip you know that this is what Open-class enduro power should have been long ago. There are some things you can't have too much of, and one is manageable horsepower. There's no way you're ever going to find a situation where the 490 runs out of horses, and no way that the Maico's delivery of those horses will get you into trouble.

If you can imagine a four-stroke that revs, that's how this two-stroke Maico performs. You can lug it down to idle-rpm ranges without stalling or even falling off the bottom of the powerband. And if you stay in that low-rpm zone, you'll start thinking about entering a trials event rather than an enduro. But just open the throttle a hair more and the Maico makes a clear statement that this is a machine made for going very fast. Torquey motors aren't supposed to rev quickly, but the Maico's does; and that, combined with its formidable horsepower, makes for a powerband that is no less than ideal for enduros.

That the power is so manageable is a tribute to Maico's ability to do more with less. The engine is almost identical to that in last year's Alpha One 490 motocrosser, the only difference within the barrel being the incorporation of the six-petal reed block used on last year's 250. The reed will hardly be a surprise to anyone who remembers that last year's 490 already had a non-functional boost port that simply went through the liner and dead-ended at the barrel casting. That boost port is put to use this year and now leads into the intake tract. The transfer and exhaust ports are



Trials torque, motocross suspension and desert stability make the 490 a hybrid racer

But in what kind of race do you enter it?

identical to the '82 motocrosser's, as is the pipe; but by adding the reed and switching from a Motoplat internal-rotor ignition to a Bosch unit with an external flywheel, Maico was able to change the fire-breathing MX motor into an equally fire-breathing, but much more manageable, enduro powerplant.

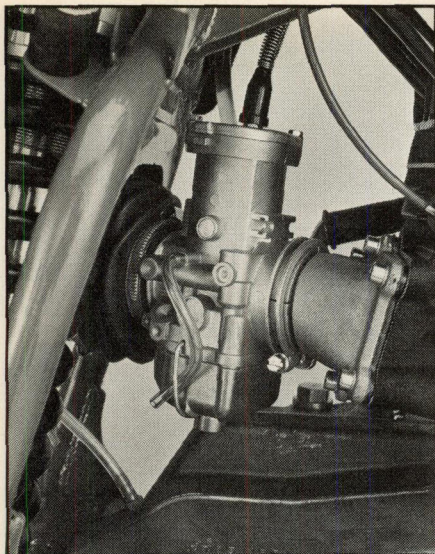
And if having a motor that produces more torque, more power and more *everything* than any enduro bike made isn't enough to qualify the Maico as the most excessive thing on knobs, then the chassis, and more specifically, the suspension, will surely push it over the line. Maico started by using the rear-suspension linkage from the '82 Alpha Control single-shocker and renamed it Dual Control because of the two simple aluminum links it uses to obtain its rising rate. But last year's model was plagued with shock trouble. If the stock Corte Cosso didn't break a shaft in the course of a season of racing, then the damping would gradually fade away.

Rather than attempting to correct the Corte Cosso problems, Maico chose to

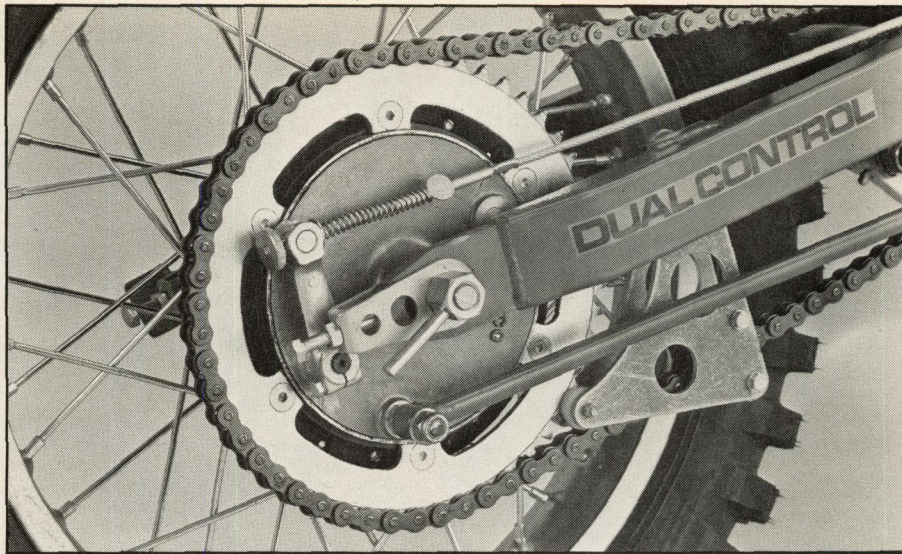
equip all of its '83 models with Ohlins damping-adjustable shocks. The Ohlins fitted to the enduro model, though, is one-eighth-inch longer than last year's shock. That might not sound like much, but it increases the rear suspension travel and seat height by almost an inch. And because the rear end now sits higher, the machine's steering angle has decreased one degree to 27.5.

The front of the Maico also received a slight lift, though not as much as the rear. The fork has roughly a quarter-inch more travel, bringing it to just under 12 inches. Maico did this by using one top-out spring per leg instead of two. And to make the fork more responsive on low- and medium-speed bumps, Maico has decreased the fork's compression damping with two additional orifices in each damping rod. The fork also now uses progressively wound fork springs.

That suspension rethink has resulted in a remarkably plush ride. The Maico smooths out ruts and rocks and tree roots with what seems like an endless amount of



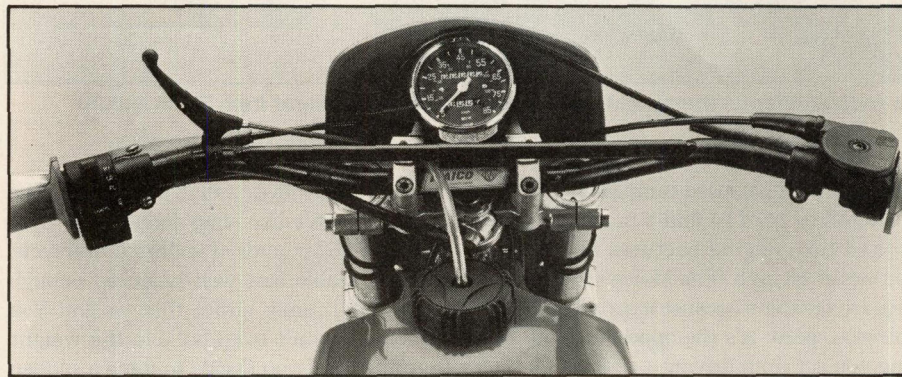
A 40mm Bing feeds the new reed valve
A 6-petal loan from a younger brother.



Maico brakes and swingarm are borrowed from last year's machinery
But expect a quick-disconnect wheel as a mid-year change.



Tripmeter cable lives in harm's way
It's hard to win an endless enduro.



An 85-mph VDO speedometer/tripmeter keeps the Maico in its minute
But don't believe what you read; the machine tops out at 86.

travel. And by enduro standards, the Maico's suspension does seem almost bottomless. Not only is there more travel at both ends than on any enduro bike CYCLE GUIDE has tested, but there is more than on most motocross bikes. But this is no motocrosser. The 490E has the sheer travel to qualify as one, but it's softer and smoother than anything you'll find on a motocross track. When you make a both-wheels-at-once landing from a peaked ledge, there's no jolt; you simply sink into the suspension as if you had landed in a bottomless tub of whipped cream. The Ohlins shock has 12 rebound-damping positions, but regardless of the type of terrain we encountered during our testing, the sixth-slowest setting seemed best. When dialed-in, the Maico never kicks or hops. And you never seem to run out of travel, because when the Ohlins does bottom, it does so gently.

There's a reason, however, why most enduro machines don't have that much travel: Tight-woods maneuverability is important. The Maico is a tall motorcycle. In

fact, with a seat-height of 38.7 inches, the 490 collects yet another, although somewhat dubious, CYCLE GUIDE distinction—it's the tallest enduro bike, and the second tallest bike of *any* sort, we've ever tested. The Honda CR480 motocrosser, at 39.0 inches, had only a slightly greater stature. And on tight trails, the Maico's seat-height number translates into clumsiness. It's difficult to use the machine's greatest asset—its low-speed torque—when the rider is afraid to go slow. In first-gear woods sections, or any tight situation where the rider loses the security of higher speed, the Maico becomes awkward. It's not quite like being perched atop a flagpole in a windstorm, but even our six-foot-plus test riders were often intimidated by the Maico's height.

That long, soft suspension has other drawbacks, as well. If you drop into a sand bed and try to make an immediate turn on the Maico, the fork compresses all too easily and the weight shift causes the rear suspension to unload. So by the time you're ready to actually turn, the chassis geometry has changed radically and the bike

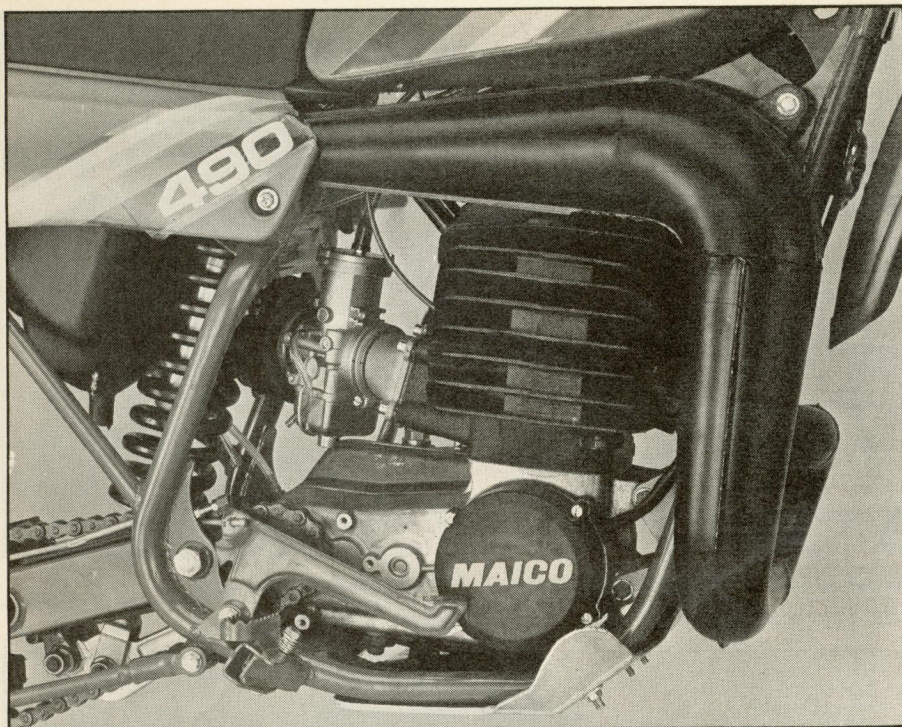
handles nothing like it did a few seconds before. So you have to be ready to compensate quickly as the front end tries to knife under in the sand.

Maico currently is working on several modifications that might remedy this situation. A mid-year steering-angle change is planned that will return the Maico's rake to the 28.5-degree angle it had before the increase in shock length. That won't make the machine any lower, but it could make its height easier to live with.

Maico also is playing with the idea of marketing a travel-limiting kit. This year, the FIM has passed a rule limiting ISDE bikes to 250mm (9.8 inches) of travel, so in order to be legal—and to make the machine more competitive in tight situations—the 490 will have to shrink a couple of inches at both ends. The kit still is in the planning stages, but it would consist of a spacer for the Ohlins shock, plus shorter fork tubes and damper rods.

But one situation for which all 38 inches of the Maico's present height are perfectly suited is desert racing, or for that matter,

Continued



A reed, a different tranny and a new ignition change the motor from MX to enduro

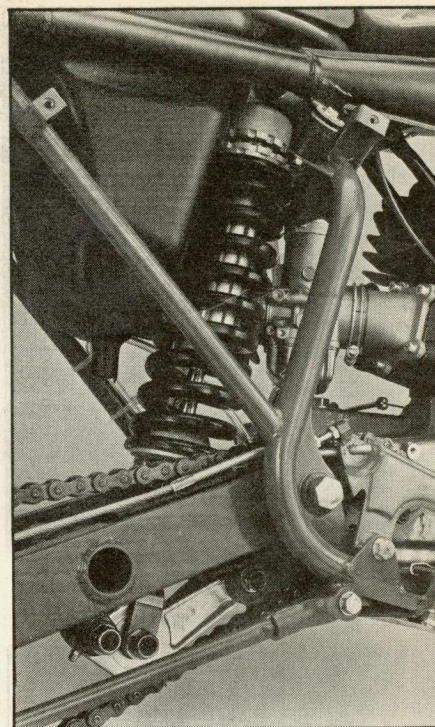
And give the 490 E a powerband that is worlds different and miles wide.

any kind of high-speed competition. In fact, it would be hard to find a machine better-suited for dodging cactuses and pucker bushes at 86 mph. The Maico's height is an advantage there because it serves to de-emphasize speed. It's the opposite of the feeling you get from driving a go-kart; 20 mph feels like 80 when you're only inches above the ground, but 80 seems like no big deal when you're on the high-altitude Maico.

That might be just an illusion, but it's backed by real-world handling stability. The 490 has the same secure feeling that has marked Maicos for years. It has what seems like a too-good-to-be-true combination of steadiness and manageability. When you want to go straight, the Maico goes perfectly straight, with its suspension allowing you to go over what other bikes run into. And when you want to turn, the Maico changes direction with no problems. But as with the motocross model, you have

to plan your moves well in advance, for the Maico doesn't like snap judgments. It is, after all, 262 pounds of enduro motorcycle, but it's stable and well balanced enough that you'll rarely notice that weight. You probably won't even believe the weight number until you decide to force a sudden 90-degree turn. The Maico's response to such a move is straightforward enough—it's going to overshoot the turn. But if you give the bike fair warning in the form of a little weight shift, a lean, or maybe some early braking, you'll go through the turn so easily you'll think you must be doing something wrong.

One reason for the 490's reluctance to make sudden turns can be found at each end of the bike: weak brakes. The front binder has enough power to drag you to a stop in fairly short order, but the rear requires enough pressure to turn your toenails white before you start to slow. Both



An Ohlins replaces the '82 Corte & Cosso

And Dual replaces Alpha Control.

brakes do, however, retain their stopping power—unimpressive as it is—when it comes to wet-weather riding.

Water might not be so merciful, though, with the lighting system. Our test bike was an early production model, and the wiring was a jumble of mismatched wires and poor connections. All of that likely will be corrected in later units, but the handlebar-mounted switch that coordinates all the Maico's electrical activities is just as flimsy and prone to DNFin. That switch includes the kill button, too, so a simple right-side slide-out resulting in a stuck throttle could mean a not-so-simple top-and/or bottom-end rebuild.

That switch also links into a component not found on Japanese enduro bikes: a horn, which isn't loud, but it's there. And another unusual aspect of the Maico is that its Italian-built headlight/front number plate and taillight, and its American-made

COMPARATIVE TEST DATA:

Make & Model	Wheel Travel Front/Rear, in.	Weight (fuel tank empty), lb.	Weight bias Front/Rear, percent	Steering head angle/Trail, degrees/inches	Transmission, number of speeds
Maico 490 E-'83	11.9/12.6	261	46.4/53.6	27.5/4.6	5
Honda XR500-'82	9.5/10.0	289	44.3/55.7	28.0/4.4	5
Yamaha IT465-'81	10.0/11.4	247	46.0/54.0	28.5/4.8	5
Husky 250 WR-'82	10.6/10.7	236	45.0/55.0	30.0/6.0	6
Maico 490 Alpha 1-'82	11.6/11.5	248	47.2/52.8	28.5/5.0	5
Yamaha IT250-'82	9.5/11.8	239	45.6/54.4	29.0/5.0	6



The 490 Enduro shows its motocross bloodline even in the backwoods hills

And with nearly 13 inches of travel, the E can out-plush anything on the trail.

Charting the Changes

Engine: Maico's 490E motor now is fed through a six-fiber-petal reed valve, like that used on last year's 250. A 40mm Bing carburetor still is used, but it has been completely rejetted for use with the reed.

Suspension: An Ohlins shock replaces last year's Corte Cosso. The Ohlins has a larger, stronger shaft and is 1/8-inch longer than the '82 shock. The rear suspension system has been renamed Dual Control.

The front fork uses no preload spacer this year, and the springs have been changed from straight-rate to the progressively wound type. Instead of using two top-out springs, each leg now has only one, resulting in a quarter-inch more travel. The damping rods also have been modified to incorporate two additional compression-damping passages (each 4mm in diameter), and the rebound-

damping passage has been moved 10mm lower on the rod to give added resistance to topping-out.

Chassis: The increase in shock length changed the steering angle from 28.5 to 27.5 degrees and the trail from 4.96 to 4.60 inches. A mid-1983 change will, however, return the steering geometry to its 1982 specifications. Also coming later in the year will be a quick-change rear wheel, but the early models will have a wheel identical to last year's. Maico claims that the spokes and rims are stronger than last year's, and that the spokes are no longer chrome-plated but have a polished finish.

Details: The Maico has a new headlight/front number-plate combo and taillight made by Acerbis of Italy. The gas tank is American-made and has a four-gallon capacity.

gas tank, skidplate and Answer Products spark arrestor/silencer, all are bolted on after the bike arrives in this country. And the speedometer is a genuine VDO enduro unit that will withstand a lot of abuse. Its cable flops around out in front of the right fork leg, though, and is highly vulnerable as a result. Consequently, on our first ride, a passing bush ripped the cable out of its housing. And that's a bigger problem than it might seem, since it's almost impossible to keep time in an enduro without a trip-meter.

And, after all, the Maico is an enduro bike, even if it doesn't fit into the traditional enduro-bike mold. Actually, it

doesn't fit well into *any* mold. It has more torque than you need in the desert, more travel than is allowed for an ISDE, and it's more motorcycle than a trail rider can use. But too much performance is no crime. When properly set-up with whatever amount of suspension travel, the Maico can perform in any one of these settings better than any of the assortment of other Open enduro bikes. What's more, it can do *all* of these things better than any other Open-classer. And when a machine can do that, it doesn't need to conform to the generally held rules on what a bike in its class should be.

It can just be in a class of its own. ●

Ride Review

• When human skyscrapers Dean and Lawson returned from Day One on the Maico complaining of the E's excessive seat height for enduro riding, it could have been a prelude to disaster. When a man-mountain gets nosebleeds from the altitude, what can a mere mortal hope for?

They were wrong, of course. Oh, the Maico *is* tall, but it was only in tight, gnarly sections that it was a problem. The rest of the time, the seat height's cause paid off handsomely: long-travel suspension. The E has so much good suspension that, if you're a mind to, you can sit your way through logs on the trail, sudden drop-offs and omigod rocky sections. And the chance to sit down when you want to can leave you at the end of a riding day contemplating another loop. Surprise one.

Surprise two was that I didn't realize Maico had an Automatic. Sure, I know that there's a clutch, gearshifter and a full assortment of cogs. But other than running the E through the gears to prove that they were there, the 490 might as well have arrived with Maicoflow. Except for wide-open sections, the monster engine stayed mostly in third, merrily pulling its way over everything—hills, mountains and vertical climbs be damned. So figure the 490E however you want to. *I* know what it's for. It's the perfect lazy man's enduro bike.

—Larry Works

• I thought I had died and gone to heaven. God knows, the Maico's towering seat certainly is high enough to get me a lot closer to the Pearly Gates, but that wasn't the source of my ecstasy. Nope, I was reveling in the 490 E's utterly unbelievable motor, in my mind the most perfect enduro powerplant ever devised.

You see, for years now I've envisioned how I would build the ultimate enduro engine if I were able. It would be one that could cut loose with staggering acceleration just like an Open-class motocrosser, yet could lug down like a Kenworth in compound low, never *ever* refusing to speed up, no matter what. And wheelspin? Ha!—a thing of the past with my dream motor, for it would be tractable beyond belief, always able to hook up with the ground regardless of how snotty the trail or how indiscriminate my manipulation of the throttle.

Well, I need dream no more; that very motor is here, and it behaves *exactly* like the one I had imagined. Right now it's being carried around in a chassis that seems better-suited to slamming berms and causing nosebleeds than it is to dodging trees. But I could care less about that. Because as long as that magical motor is in it, the rest of the 490 E is virtually unstoppable.

—Paul Dean

CYCLE GUIDE SPECIFICATIONS

Maico 490 E

enduro

IMPORTER: Maico West, 110 East Santa Anita Avenue, Burbank, California 91502

SUGGESTED RETAIL PRICE: \$2800 (approx.)

ENGINE

Type two-stroke vertical single
 Port arrangement one reed-valve-controlled intake,
 four main transfers, one booster transfer, one exhaust
 Bore and stroke 86.5mm x 83.0mm
 Displacement 487.8cc
 Compression ratio (uncorrected) 12.0:1
 Carburetion one 40mm Bing slide/needle
 Air filter washable oiled foam element
 Lubrication pre-mixed fuel and oil
 Starting system primary kick
 Ignition magneto-flywheel CDI
 Charging system none: direct AC lighting

DRIVETRAIN

Primary drive dual single-row chains; 1.857:1 ratio
 Clutch wet, multi-plate
 Final drive #520 chain (5/8-in. pitch, 1/4-in. width);
 3.714:1 (52/14) ratio

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	2.985	20.592	3.7
II	2.175	15.003	5.0
III	1.655	11.415	6.6
IV	1.255	8.656	8.7
V	1.000	6.898	11.0

SUSPENSION/WHEEL TRAVEL

Front Maico air-spring, 41.5mm stanchion
 tube diameter/11.9 in. (301mm)
 Rear single Ohlins shock, 10mm spring preload
 adjustment, 12-position rebound-
 damping adjustment/12.6 in. (319mm)

BRAKES

Front drum, single-leading shoe
 Rear drum, single-leading shoe,
 straight-pull-cable operated

TIRES

Front 3.00-21 Metzeler Moto Cross
 Rear 4.50-18 Metzeler Moto Cross

DIMENSIONS AND CAPACITIES

Weight 261 lbs. (118kg)
 Weight distribution 46.4% front, 53.6% rear
 Wheelbase 58.8 to 60.1 in. (1494 to 1526mm)
 Seat height 38.7 in. (985mm)
 Handlebar width 33.5 in. (852mm)
 Footpeg height 17.2 in. (438mm)
 Ground clearance 14.0 in. (355mm), at skidplate
 Steering head angle 27.5 degrees from vertical
 Front wheel trail 4.60 in. (117mm)
 Frame tubular chromoly steel, double front downtubes
 Fuel tank plastic, 4.0 gal. (15.0l),
 including 0.7 gal. (2.7l) reserve
 Instrumentation speedometer, odometer,
 tripmeter resettable in tenths

PERFORMANCE

Top speed (observed) 86 mph (138 km/h)

WARRANTY: none

AVAILABLE COLOR: red only

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

