

Ask any 125 rider how far Europe is from Japan, and he'll say it's something like 10,000 miles, via the Arctic Circle. Ask the owner of a Husqvarna 430CR, a KTM 495 MC or a Maico Alpha 1 490 the same question and he'll tell you the two lands are worlds apart. Because in matters of Open-

class motocross philosophy, Japan and Europe have almost nothing in common.

The Japanese tide that swept through the 125 and 250cc classes in the last decade left the Open class relatively untouched. As a result, Husqvarna, KTM and Maico have fortified themselves in American Open-

class motocross and have a market share that rivals that of the Japanese Giants, in spite of price tags that are hundreds of dollars higher. And it's simply because of the different attitudes concerning the making of both motorcycles and profits that exists in the two hemispheres.

COMPARISON TRACK TEST:

The European Open - Classers

The Husqvarna 430CR, KTM 495 MC and Maico Alpha 1 490 meet in the western semifinals.

BY RON LAWSON



Honda, Yamaha, Suzuki and Kawasaki look at motocross as a stepping stone on the way to the more-lucrative street market. Profits from selling MXers are possible, but the huge costs involved in research and development, supporting a race team and catering to the frequent changes in MX fashion push prices far above what most racers would consider reasonable. So the machines are priced cheap. The loss is minimized by selling as many units as possible, dispersing the fixed cost over a large number of machines. Motocross does breed publicity, if not profit. The Open class, however, doesn't sell. It's the least popular MX class in this country. That's why Japanese Open-class interest is low-key—Honda went for years without a big-bore, and Kawasaki currently is without one.

But for the lower-volume European manufacturers, the Open class is large enough. Even though there are fewer Open-class riders, those riders will pay more for a machine. And because MX bikes are an end in themselves for the Europeans—they aren't used to promote or sell

anything else—the Open class receives the most emphasis as the most profitable class. More advertising, more research, more effort goes into the Open class.

And a look at the European Open offerings shows that effort. The Husky 430CR is a standard. Its twin-shock Ohlins design has reached the highest point of two-shock evolution. And Husqvarna is a company that takes pride in not following the crowd. The 430 reflects that in everything from its six-speed gearbox to its aluminum tank.

The KTM relies, more than anything else, on force to do the job. The 495 is the most powerful production motocrosser ever built. Additionally, this year the KTM

goes to single-shock Pro Lever suspension. Maico has gone the same way, dubbing its system Alpha Control, but it's handling that Maicos are most known for, and the 490 is designed to uphold that tradition.

Each machine has assets aimed at making it the best Open-class motocrosser in the world. For the manufacturers of these bikes, it's more than a matter of promotion to have the top machine—it's a matter of survival. But before any one of these machines even has a shot at being World's best, it first has to be named Europe's best. And that means they go inch-to-inch against each other in *CYCLE GUIDE's* all-Europe Open-class cross-off.

Continued



Open-Class Comparison: Tech Inspection

Engine:

Top End: The Husqvarna, KTM and Maico represent three very different approaches to building Open-class machinery. While the KTM and the Husky do share a 74mm piston stroke, their engines have little else in common. The KTM uses a mammoth 92.3mm bore for a 66cc displacement edge over the Husky, which has an 86mm bore. The Maico has nearly the same bore as the Husky (86.5mm) but with a longer stroke that helps yield a more gradual power delivery.

The intake systems on the three bikes also differ. Both the KTM and Maico use standard 40mm Bing carburetors, now that KTM has abandoned the Bing Power Jet it used last year, but the Husky comes with a Japanese-made Mikuni. The Maico is the only one of the three that doesn't use a reed valve, staying with its piston-

port design. It's likely, though, that future Maicos will make use of reeds—the cylinder liner has two windows above the bridged intake port that have no corresponding passages in the barrel. When a reed is added, these windows will become booster transfer ports.

The KTM uses an eight-petal reed block, which is new this year. Along with its new reed, the KTM received three booster transfers to supplement its four direct transfer ports. The KTM's exhaust port also has been redesigned and is now oval-shaped and unbridged. Husqvarna continues to use two vertically positioned reed blocks, each of which has four fiber petals. The four transfers and one booster transfer port are unchanged, but the exhaust port has been raised 1mm for an increase in high-rpm power.

A 30mm-shorter header pipe used on the new Husqvarna works toward the same

end. Maico went the opposite direction this year, using a longer header pipe in an attempt for more low-end power. The Maico's only port change is in the transfer passages, which have been made less restrictive. Both the Maico and the KTM have centrally located exhaust ports, while the Husqvarna's is slightly offset to the left. The Husqvarna and the KTM don't use head gaskets, so head-retorquing is an important part of maintenance, particularly during break-in.

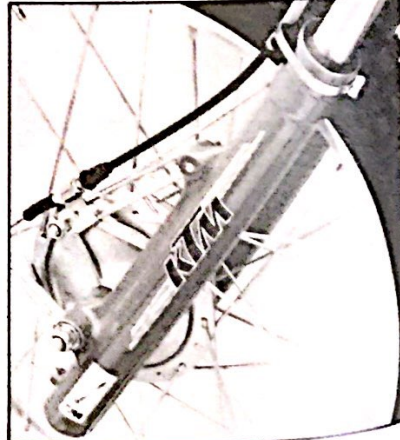
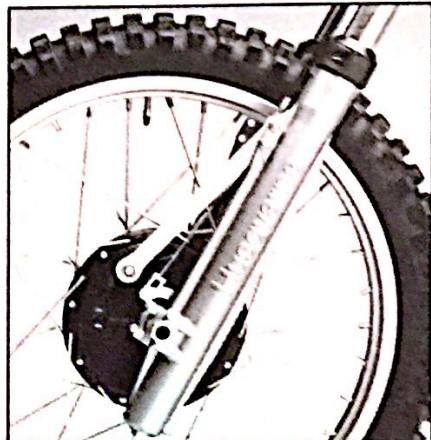
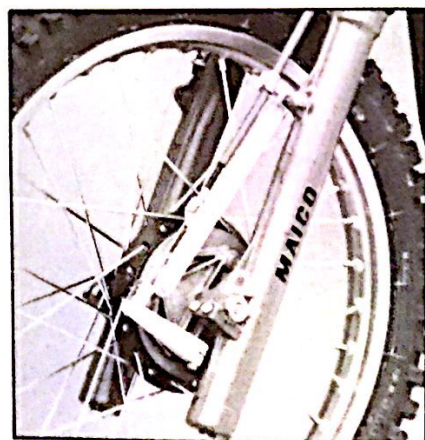
Bottom End: The swingarm pivot bolts on all three machines double as the rear motor mounts, and both the Husqvarna and Maico have strengthened cases around this pivot bolt. All three machines use internal-rotor Motoplat ignitions and full-circle crankshafts.

Drivetrain:

Primary Drive: The Husky and the KTM use straight-cut gears to transmit power from crank to clutch, while the Maico uses two side-by-side single-row chains. Of the three clutches only Husqvarna's uses fiber plates. The KTM's has nitro-fied steel drive plates with sintered copper driven plates, and the Maico's has



Husqvarna breaks the Open-class mold
With more gears and less grunt.



All are similar in design, but Maico, Husky and KTM derive Open-class fork philosophy from three different countries
The in-house forks of Husqvarna and Maico out-travel and out-perform the KTM's imported Marzocchis.

steel drive plates with brass driven plates. The Maico also differs in the type of clutch springs used; rather than six coil springs as on the other two bikes, the Maico uses 18 Belleville-type dished washers stacked in the center of the hub.

Gearbox: Both the KTM and Husqvarna use cylindrical shift drums for gear selection, similar to most Japanese machines, but the Maico, again, is different. A star-shaped rotor transmits motion from the shift lever to a flat plate that slides back and forth and has cam slots that the shift forks follow. The Maico and the KTM have five speeds, while the Husky uses six ratios to better make use of its slightly narrower powerband. All the bikes have undercut gear dogs for secure engagement. KTM is using less undercut and narrower dogs than it has in previous years, in an attempt to ease shifting. Husqvarna's only gearbox modification this year is a change in the heat treatment of the gears, aimed at reducing the incidence of gear-dog breakage.

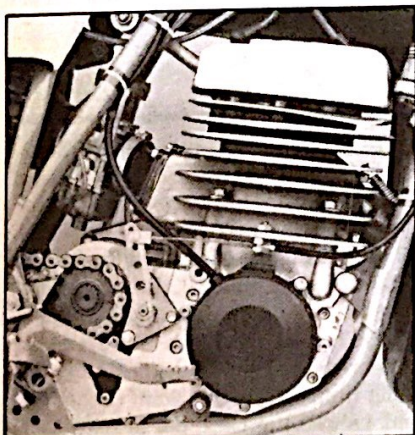
Suspension:

Front: Maico and Husqvarna manufacture their own fork assemblies. Maico is

using the largest stanchion tube diameter of the three, its tubes measuring 41.8mm. This year the Maico sliders are manufactured from two pieces that are pressed together, although some early bikes came with the single-piece sliders used in '81. The new sliders have more bushing area for less flex, and Maico claims there is no increase in friction. The Husqvarna fork has 40mm stanchion tubes, and two oil seals are stacked in each of the Husky's fork legs. During the test it was the only machine that didn't seep fork oil, ending a long tradition of leaky Husky forks. The only internal change to the fork is a more pronounced cone on the damping rod to increase damping action during the final stages of both the compression and rebound stroke.

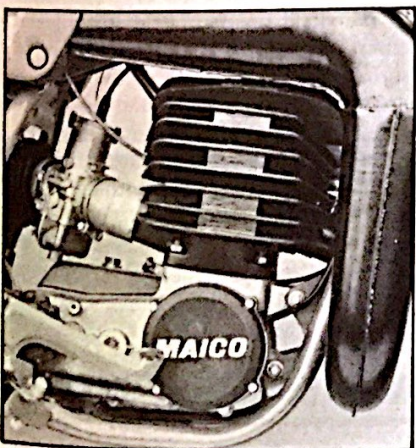
KTM uses a 40mm Italian-made Marzocchi fork on the 495. Last year the Marzocchi sliders were cast magnesium, but this year they are forged aluminum. According to KTM, the new sliders are lighter than the old ones, in spite of an increase in size (last year they had 38mm stanchions) and the change in material. To reduce friction in the new fork, Marzocchi uses Teflon bushings instead of the magnesium sliding surface of last year.

Rear: Both KTM and Maico have switched to single-shock rear suspension, while Husqvarna retains its dual Ohlins piggyback shock absorbers. The Maico design, dubbed Alpha Control, uses a remote-reservoir Corte & Cosso shock mounted to the frame on top and to a rising-rate linkage at the bottom. The Maico's shock is mounted farther forward than any on other single-shockers, and the resulting mechanical advantage requires the use of a 700-pound-rated spring. Compression damping is accomplished through two stages of flexible washers, which can be stacked and arranged to independently tune the rear end for low- and high-speed compression. Maico made several damping design changes mid-year, reducing low-speed compression damping through the use of thinner washers and increasing high-speed damping with the addition of another washer. The shocks with the modifications are identified with "M1" stamped on the body. Early shocks also suffered from trouble with the upper mount; the shock body was wider than the Heim joint, which led to binding and eventual breakage. Maico is making both damping and shock-body corrections at no cost to the buyer. The Maico's Corte &



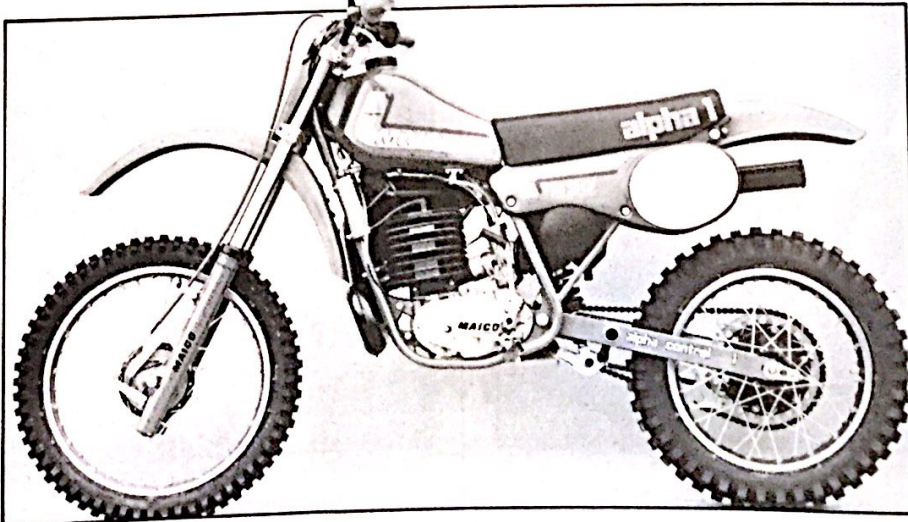
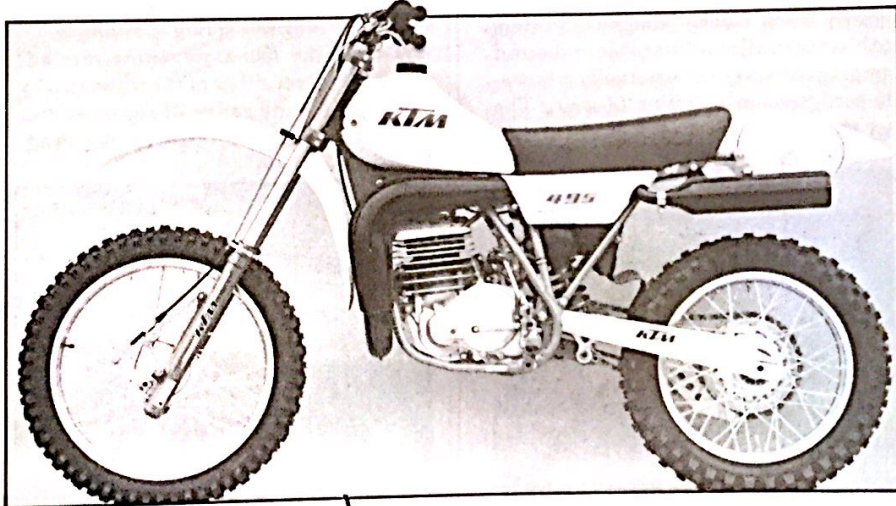
Reed-valved 494.6cc holeshot factory

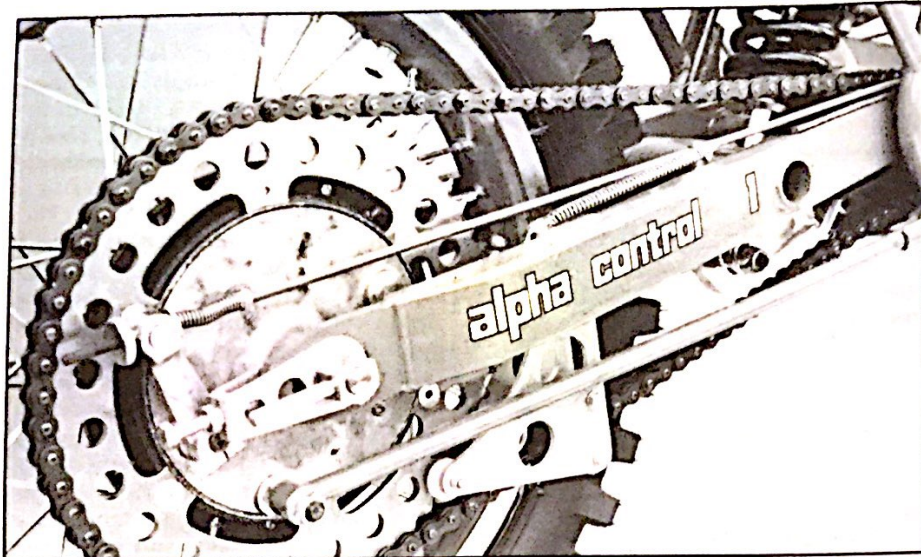
The horsepower king.



Potent but cobby-appearing 490 motor

Casting doubts on sand.





Maico's steel swingarm keeps Earth in contact with Alpha Control

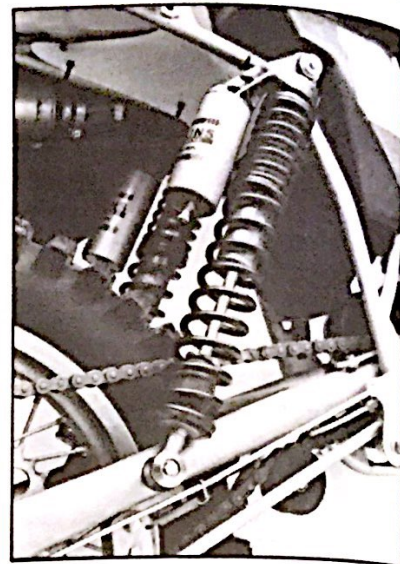
But the full-floating brake shoes don't fully contact the hub.

Cosso shock has externally adjustable rebound damping. Although the adjustment knob has 60 distinct clicks, only the first 48 have any effect on damping.

In Europe, the KTM comes with a White Power shock, but the U.S. model is fitted with an American-made Fox Factory Twin-Clicker shock that offers both externally adjustable rebound damping (38-way) and externally adjustable compression damping (8-way). The Fox shock, like the Corté & Cosso, has

undergone assembly-line modifications. While early models had twin-stage compression damping like that on the Corté & Cosso, later models of the shock went to a single stack of flexible washers. The stock spring is rated at 450 pounds; there is an optional 550-pound spring offered but no option for a lighter spring is available.

The Husky has more spring-rate adjustability than either of the other two by virtue of a wide range of replacement springs available through Husky Prod-



Husky's cultivated twin-shock design

The cream of the suspension crop.

ucts. The Ohlins shocks use dual-rate springs, with 10 low-rate and nine high-rate springs available for a possible 90 different rates. Damping changes also are possible with the Ohlins, but disassembly is required. Like the Corté & Cosso and the Fox, flexible washers can be added or removed to affect damping.

Wheels:

Three different companies supply the alloy rims for the European Open-classes. The Maico uses Green-Label Akronts, the Husky has Nordisk rims and the KTM rolls on Suns. The Maico and Husky rims are gold-anodized. All three machines have full-floating brakes in the rear and conical hubs at both ends. The Maico has an increase in spoke thickness this year, going from 4.4mm to 4.8mm in the front and 4.8 to 5.4 in back, but in spite of the upgrade, the Maico was the only machine to break a spoke during the test. Both the KTM and the Maico use Metzeler tires. The 5.10x18 at the rear of the KTM is designed for use on soft ground, and its knobs will fly off when ridden on the harder stuff. The 4.50x18 Metzeler at the rear of the Maico is more versatile. Husqvarna chose to use a 17-inch rear wheel and Trelleborg rubber at both ends. All three machines use rim locks that are half metal and half rubber and can sometimes can rub holes in the tube. The rim locks were responsible for flats on the Husky and the KTM during the test.

Frame:

None of the three companies has significantly changed frame geometry this year. The KTM remains the shortest of the



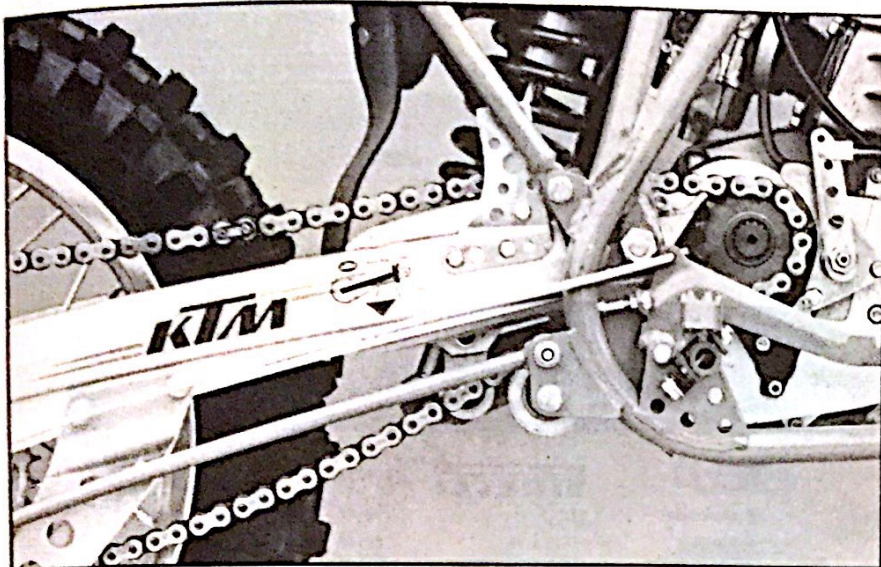
Easy-access Husky air filter

A twin-shock side benefit.



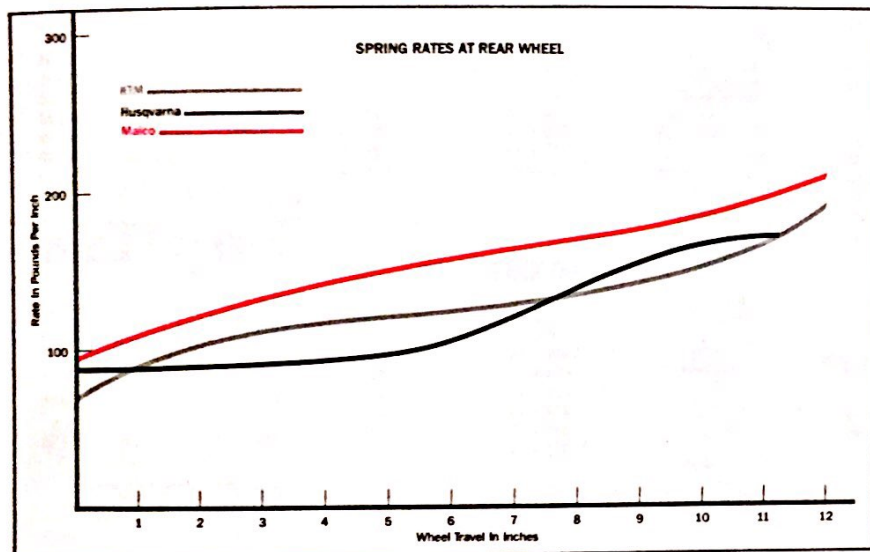
U.S. KTMs come with Fox shocks

U.S./Austrian/Italian alliance.



The KTM 495 has the only aluminum swingarm of the three European machines

Giving American motocrossers some Pro Leverage on the Open class.



three and has the steepest steering head angle—27.5 degrees from vertical, compared with the Maico's 28.5 degrees and the Husky's 30.5 degrees. The Husqvarna uses a single-front-downtube frame, while the Maico frame has twin downtubes and the KTM's has a single downtube which divides into a double cradle above the exhaust pipe. The KTM frame also differs from the others with its two-piece con-

struction. The rear section—everything behind the swingarm pivot—unbolts for access to the shock and swingarm (similar to last year's Honda RC factory motocrossers). And the KTM is the only bike of the three to employ an aluminum swingarm. KTM's extruded swingarms go through a 48-hour heat-treating process, according to the company. Maico considered using an aluminum swingarm, but

with the change in rear suspension chose to stay with its proven steel unit for at least one more year. Husky still maintains that the strength of steel is too valuable an asset to give up for the small weight saving of aluminum. The frame backbones on all three machines are constructed of round chromoly tubing, although Maico tried box-section tubing but went back to round in mid-1981.

Details:

All three machines have Magura controls. The KTM uses short levers for both the clutch and front brake, while the Husqvarna has a short lever only for the front brake. The Maico has full-sized Magura dog-leg levers on both sides of the bar. The Maico also uses Magura barrel grips that all test riders disliked because of their odd shape. But the Magura straight-pull throttle assembly, which the Maico and the KTM have in common, is compact, durable and easily disassembled. The Husky's Gunnar Gasser is larger and more exposed, but is cased in aluminum, rather than plastic.

For air filters, both the KTM and Maico have two-layered elements made by Twin Air of Holland. The airboxes on both machines were redesigned around the rear shock. The Maico's is two pieces, riveted and glued together; and while the intake boot is said to flow 40 percent more air than last year's, the airbox itself is more restrictive, and Maico recommends installing vents if you ride in areas that are not exceptionally dusty or wet. The Husky has the easiest filter access—the element can be removed by hand in seconds.

All three machines have left-side kickstart levers. The Maico's, unless moved all the way forward on the shaft, can hit the shift lever and knock the bike into gear. The Maico's rear brake lever also is poorly designed. The pedal tends to be slippery and is positioned too high—all the adjustment is used long before the pedal is level with the peg. The tanks and seats on all the machines are designed so the rider easily can move forward. The KTM's seat is longer than last year's model and its tank has been shortened.

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
Husqvarna 430CR-'82	11.8/11.3	236	46.2/53.8	30.5/6.0	6
Maico Alpha 1 490-'82	11.6/11.5	248	47.2/52.8	28.5/5.0	5
KTM 495 MC-'82	11.3/12.1	247	46.7/53.3	27.5/4.8	5
Honda CR480R-'82	11.5/12.0	232	48.5/51.5	27.2/4.2	4
Suzuki RM465-'82	10.8/12.0	234	46.9/53.1	29.3/4.8	4
Yamaha YZ490-'82	11.3/12.8	238	47.5/52.5	28.5/4.7	4

Continued

• The Husqvarna 430, the KTM 495 and the Maico 490 are as different from each other as they are from any Japanese machine, but still, they tend to be heaped into the same broad performance category and labeled *European*. The story goes that European bikes have a certain kind of power and handling that separates them from another huge pile of machinery that falls neatly into the slot titled *Japanese*.

But Sweden, Austria and Germany each has its own very distinct and very different philosophies concerning the building of motocrossers, and those philosophies are reflected in the Husky, KTM and Maico. Each machine has its strong and weak points, and no two produce the same feel on the track.

The KTM's strongest asset is obvious from the first moment you ease out the clutch lever. Power. The 495's torque is incredible, and it gets even stronger as the revs climb. The KTM doesn't have an exceptionally heavy flywheel, and rpm can climb at an almost frightening rate. The rider quickly learns to shortshift the 495, because at low rpm it can stay with anything on the track and the top-end punch can be saved for when it's needed. The KTM's powerband was broad enough for us to circle some tracks with as few as 10 shifts per lap. And even if you have a hyperactive left foot, it's unlikely you'll find a course where the KTM becomes more than an effective three-speed—first and fifth can be forgotten.

The Maico likes to be shortshifted, too, but for different reasons. High revs on the 490 are rewarded with vibration and less-than-awesome power. But keep it in the low-rpm range and the Maico becomes the easiest to ride of the three. Its bottom-end power is plentiful, smooth and controllable. The muscle comes on so smoothly it can deceive the rider into believing he isn't going very fast—going fast isn't *supposed* to be that easy. But on the Maico it's that easy because of the bike's broad base of gradually delivered low-end power.

The Husqvarna is at the other end of the Open-class spectrum. The 428.8cc mill isn't going to impress anyone with its brute force. But the CR's power is very usable. And its motor is matched to a six-speed close-ratio gearbox that enables the 430 to be ridden in a way not usually associated with Open-class motocross. The Husky is meant to be revved and shifted only when it reaches its peak. It isn't that the Husky won't pull from the bottom, for it actually

produces a deceptively hefty amount of low-end power. But compared to its near-500cc competition, the Husky motor isn't a torquer. Riding the 430 to make the most of its assets means you have to rev higher and shift later than on the other bikes.

Even though the CR surrenders horsepower to the KTM and the Maico, its rear suspension is the top choice of the three. Single shocks might be the wave of the future, but right now the motocross world still is in transition, and a well-designed twin-shocker, like the Husqvarna, can work better than a single-shock system. And in this case, it does. Both KTM and Maico are in the process of refining their all-new single-shock systems.

The bugs in the Maico's Alpha Control aren't severe. Early in the test we experienced harsh bottoming, but Maico in-

formed us of an update that consisted of an additional high-speed compression-damping washer being installed in the shock. After the modification, which Maico dealers will do for any early '82 Corte & Cosso shock, the machine was much smoother. The Maico still bottoms too often, but it never hits with enough impact to scare the rider or cost time in a race. Heavier riders might have more trouble, though, because Maico offers no optional springs.

Fork action on the 490 was excellent. Maico is one of the few companies that still recommends air pressure in the fork. We played with different pressures and found 12 to 14 pounds in each leg seemed to work best on a wide variety of terrain.

We spent much more time trying to dial in the KTM's suspension. The 495 has a tendency to sag in the rear but at the same

The European Open-Classers: Which Will Win?



time feel hard on sharp bumps. More preload helped our machine in tight turns, where the KTM's geometry wasn't as badly affected by the low-riding rear end, but it didn't eliminate the harshness. The KTM's Fox Factory shock was modified halfway through the year, going to single-stage compression damping. But the problem seems to be more in the progression curve than in the shock. It starts at too low a ratio for the 450-pound-rated spring, and then climbs steeply. The result is a bike that is too soft during the first half of its travel, causing it to ride in the harder zone of the curve on both small and large bumps. The KTM works best over a rapid succession of large whoops, where the upper half of its travel is put to use. The settings we used were 9.5-inch set length on the spring, nine clicks from the hardest re-

bound setting and the number-four compression damping.

We also spent time tuning on the KTM's fork. It worked well stock, but not as well as the others, seemingly because of too much compression damping. We tried lighter viscosity fork oil (5-weight) and the two bottom holes in the damper rods were enlarged to two millimeters. We also replaced the stock progressively wound springs with optional straight-rate Fox Factory springs. When all was done, the Marzocchi fork was better, but still not in the same league with the Maico or Husky forks. Like the rear end, the KTM's front seems to work best in a straight line over large, rolling bumps, but the fork doesn't keep the wheel on the ground securely through turns or on sharp-edged holes.

While the Maico and the KTM were in

the pits being adjusted and readjusted, the Husky was being ridden. No experimental stuff here, since the 430's suspension works as delivered. Heavier riders did feel the CR was soft until a stiffer spring was installed then agreed it was the best of the three.

The Husky also is the lightest of the bunch—and it feels it. The Maico and the KTM are the class heavyweights and their heft can wear a rider down. But even though the Husqvarna is the lightest, it feels the clumsiest in turns. With its long wheelbase and 30.5-degree rake, the Husky favors stability more than agility. The Maico also has a long wheelbase and is equally stable through the straights, but it turns almost effortlessly. In loose, powdery corners, a twist of the Maico's throttle will send the back out in a smooth, controllable slide and give you plenty of warning when the limit is being approached. And on hard ground the Maico communicates with its rider, telling him exactly how much traction is available. But it is a slow-steering machine. Last-minute decisions and line changes aren't well received. As long as the turns are well planned, the Maico remains the class easy-steering king.

The KTM is capable of turning more sharply than either of the others. The 495 has a very steep rake and the shortest wheelbase of the three. But the sag in the rear suspension dulled the KTM's potential turning ability. That, combined with the stiff fork and the explosive powerband, made the KTM a difficult machine to ride, although it still turned in some of the quickest lap times. It also was the most reliable machine in the test. The Maico broke a spoke, cracked a rim and had a rear brake that was so poorly matched to the hub that it barely worked until we sanded down the high spots—and then it worked only marginally. The Husky we tested earlier this year proved to be very unreliable, but this 430 was better. Only its muffler came apart on the last day of testing. European machines have a reputation for requiring heavy maintenance, but a season of racing shouldn't be difficult on any of these three.

Choosing a winner between these bikes, however, is difficult. It's like deciding what flavor of ice cream is best—all of them are different and everyone has a favorite. For us, though, the Maico tastes best. Even though it doesn't have the best suspension or the most power, it is the easiest and most fun bike to ride. And on the track, if riding is fun, then winning will be easy.

—Ron Lawson



Maico 490 vs. Suzuki 465: The Final Showdown

• By now, you should have only one unanswered question about the weapons used in Open-class moto-warfare: Who makes the best one in the entire world? As you have just read, Maico's Alpha 1 490 is the king of the Euro-crossers; and as concluded in our All-Japan Open MX Shoot-out of three months ago, Suzuki's RM465 is the Oriental Open bike most likely to succeed. So it's only logical to wonder which of those two winners is *The* undisputed Open-class World Champion—as far as production motocross bikes are concerned, at least.

Well, we did more than just wonder about it. We kept the winning Suzuki from our April comparison, refurbished it to insure that it was fully representative of that model, then ran it head-to-head against the three European bikes in general and the 490 Maico in particular. From that confrontation emerged a winner, one that may or may not surprise you, depending upon whether your preconceived notions about such matters are steeped in Old World tradition or founded in New Wave technology.

Even we were a little surprised, however, to learn that the Suzuki is faster than the Maico, despite its 23cc handicap. The RM is much quicker-revving than the heavy-flywheeled Maico, and its top-end and mid-range power exceeds that of the 490 by a healthy margin. Only down in the lower rpm ranges does the Maico manage to out-motor the RM, although that superior grunt can be a significant advantage when the traction is somewhere between lousy and non-existent. In those conditions you can just stick the Alpha 1 in a tall gear and lug it around at a brisk, competitive pace, whereas the quick power of the Suzuki tends to spin the rear wheel and require a bit more shifting.

One reason why the RM accelerates faster than the Maico is that at 234 pounds, it weighs 14 pounds less. The Maico's relative heft isn't so noticeable when comparing it to the other Eurobikes (the Husky weighs just 236 pounds, but its extremely slow-steering and longish wheelbase make it *feel* heavier than that) and doesn't make it cumbersome to maneuver; but it is a real factor when up against the RM, a bike that handles more like a slightly overweight 250 than it does like a typical Open-classer.

Then there's the suspension. Right out of the crate, the Suzuki's simply *works*—and at both ends. The Maico's suspension needs considerable fiddling to get it optimized; and at best, it never handles most types of rough terrain as well as the Suzuki's well-balanced system. We found, for example, that we generally could ac-



Suzuki's RM465, Open-class racing's shortest distance between Point A and Point B
Specifically when those two points are the start line and the checkered flag.

celerate the RM over a lot of whooped, cobby terrain, whereas the Maico usually couldn't do much more than maintain its speed over the same stuff. But because the RM has just a trace of nervousness in its handling mannerisms (the bike seems short and the front wheel always feels a little light), the Maico was marginally more stable in the fast, rough sections.

What's more, the Alpha 1 offers the world-famous Maico steering for your turning enjoyment, allowing you to carve through turns with the precision of a brain surgeon, even when you're so tired you can't remember your own name. The Suzuki is a pretty impressive turner itself, though, that bends around corners like it had power steering; but its front-wheel-light feeling causes just enough of a sensation of imprecision while turning to give the edge in that department to the Maico. Only in certain low-gear, hairpin turns does the lighter RM hold any steering advantage over the Maico.

In just about every other respect, however, the Suzuki steals the show. For one, it always has brakes, which on the Maico seem to come and go with great irregularity. The RM also shifts more precisely, its clutch has an easier pull and,

thanks to its reed-valve induction (the Maico is a piston-port engine), it carburetes more cleanly at any combination of throttle setting and rpm. And all that's needed to fully race-prep a new RM is to paste some numbers on its plates and dump some premix in its tank (and, for harder surfaces, change tires). But the Maico is a different story, calling for some minor re-engineering before everything operates acceptably. Among other things, you have to sort out the suspension, get the brakes to work by filing the shoes until they make full contact with their respective drums, and grind, file or shim sundry bits of hardware until they work smoothly and/or don't bang into something else.

So when you add to all that the fact that the RM costs \$500 less, and that its parts are cheaper and easier to find, the cold, hard facts are conclusive: Overall, for the average rider on the average track, the RM465 is a better motocross racer than the 490 Maico. You won't go wrong with either bike, obviously; but if you want every possible advantage on your side, you ought to slide behind the bars of an RM465. Maybe you're not the Open-class Champion of the World, but it is.

—Paul Dean

Ride Review

• Like Lawson, I, too, think that the Maico is the best all-around Open-crosser available from Over There, owing to its precise steering and D-9 Caterpillar-class low-rpm power. And my second-place vote goes to the Husky, with its unerring stability and bump-dissolving suspension. But if I had to spend *my* almost three grand on one of these racers, I'd ignore the results of this test and buy the last-place finisher, the KTM. And then I'd spend a lot of my time and more of my money to get the chassis working to my liking—all just so I could enjoy the KTM's utterly *awesome* motor any time I so desired.

You can't fully appreciate why I've become so infatuated with this engine if you've not ridden a 495 yourself. It lunges down the straightaways like something that's just been shot out of a nuclear cannon, all the while taking your breath away and stretching your arms like you were some sort of giant human Gumby. And until you experience that yourself, it's hard to understand why I fell in love with the engine the first time it scared the hell out of me. Which was, not coincidentally, the first time I turned open the throttle.

I probably wouldn't win any more races on my ideal KTM than on anything else, but that's beside the point. Because on a bike this fast, losing can be just as thrilling as winning. —Paul Dean

• Try as I might, I couldn't pick an overall winner in this Open-class shootout. Sure, there were things that each bike did well, but none of them combined enough good features to make it stand head and shoulders above the others.

The Maico was notable because it was the best compromise of the trio. It has a strong and usable motor, good suspension and a stable, yet quick-steering chassis. But it feels slightly heavy on the track.

KTM's 495 also is not a winner, because despite its God-awful-fast motor, it doesn't yet have the suspension to take the white rocket to victory. It also needs some work on its brakes before I could win races on it.

That leaves the Husqvarna, but I couldn't even call the 430CR an overall winner, because its motor is definitely out-horsepowered by the other two. But I could learn to ride it like a 250, and use the Husky's excellent suspension to make up ground on the others. And I could out-brake everything else with the most progressive—if not the most powerful—brakes in motocross.

On certain days and certain tracks, each one of the Eurocrossers could have just what it takes to win. But on those remaining days and tracks, each bike has too many compromises to insure victory.

—David Dewhurst

CYCLE GUIDE SPECIFICATIONS

Maico Alpha 1 490

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

SUGGESTED PRICE: \$2720

ENGINE

Type two-stroke vertical single
 Port arrangement one piston-controlled intake, four transfers, one bridged 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 internal-rotor magneto CDI
 Charging system none

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); 4.000:1 (56/14) ratio

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	2.713	20.152	3.9
II	1.976	14.678	5.3
III	1.504	11.172	7.0
IV	1.204	8.943	8.8
V	1.000	7.428	10.5

SUSPENSION/WHEEL TRAVEL

Front air-spring, 41.8mm stanchion tube diameter/11.6 in. (295mm)
 Rear .. Alpha Control, 48-way adjustable rebound damping, 13mm spring preload adjustment/11.5 in. (292mm)

BRAKES

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

TIRES

Front 3.00 x 21 48M Metzeler Moto Cross M21
 Rear 4.50 x 18 70M Metzeler Moto Cross M22

DIMENSIONS AND CAPACITIES

Weight 248 lbs. (113kg)
 Weight distribution 47.2% front, 52.8% rear
 Wheelbase 58.5 to 59.6 in. (1485 to 1513mm)
 Seat height 38.2 in. (970mm)
 Handlebar width 33.8 in. (858mm)
 Footpeg height 17.0 in. (432mm)
 Ground clearance 13.1 in. (334mm), at engine cradle
 Steering head angle 28.5 degrees from vertical
 Front wheel trail 4.96 in. (126mm)
 Frame tubular chromoly steel, double front downtubes
 Fuel tank plastic, 3.2 gal. (12.0l), including 0.8 gal. (3.0l) reserve
 Instrumentation none

PERFORMANCE Top speed (observed) 79 mph (127 kph)

WARRANTY: none

AVAILABLE COLOR: red only

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

KTM 495 MC

KTM America, Inc., 1906 Broadway, Lorain, Ohio 44052

\$2831

Type two-stroke vertical single
 Port arrangement one reed-valve-controlled intake,
 four transfers, three booster transfers, one exhaust
 Bore and stroke 92.3mm x 74.0mm
 Displacement 494.6cc
 Compression ratio (uncorrected) 9.6:1
 Carburetion one 40mm Bing slide/needle
 Air filter washable oiled foam element
 Lubrication pre-mixed fuel and oil
 Starting system primary kick
 Ignition internal-rotor magneto CDI
 Charging system none

Primary drive straight-cut gears; 2.548:1 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	2.500	23.664	3.3
II	1.600	15.145	5.1
III	1.167	11.046	7.0
IV	0.950	8.992	8.6
V	0.778	7.364	10.5

Front air-spring, 40mm stanchion tube diameter/
 11.3 in. (288mm)

Rear Pro Lever, 36-way adjustable rebound damping,
 8-way adjustable compression damping,
 25mm spring preload adjustment/12.1 in. (307mm)

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

Front 3.00 x 21 48M Metzeler Moto Cross M21
 Rear 5.10 x 18 Metzeler Perfect Cross

Weight 247 lbs. (112kg)
 Weight distribution 46.7% front, 53.3% rear
 Wheelbase 58.4 to 59.5 in. (1483 to 1511mm)
 Seat height 37.5 in. (953mm)
 Handlebar width 33.7 in. (856mm)
 Footpeg height 16.4 in. (417mm)
 Ground clearance 12.5 in. (318mm), at engine cradle
 Steering head angle 27.5 degrees from vertical
 Front wheel trail 4.80 in. (122mm)
 Frame tubular chromoly steel, single front downtube
 Fuel tank plastic, 2.6 gal. (10.0l), including 0.7 gal.
 (2.5l) reserve
 Instrumentation none

Top speed (observed) 85 mph (137 kph)

none

white only

Husqvarna 430CR

Husqvarna Motor Corporation, 4935 Mercury Street, San Diego, California 92111

\$2805

Type two-stroke vertical single
 Port arrangement one reed-valve-controlled intake,
 four transfers, one booster transfer, one exhaust
 Bore and stroke 86.0mm x 74.0mm
 Displacement 428.8cc
 Compression ratio (uncorrected) 11.1:1
 Carburetion one 38mm Mikuni slide/needle
 Air filter washable oiled foam element
 Lubrication pre-mixed fuel and oil
 Starting system primary kick
 Ignition internal-rotor magneto CDI
 Charging system none

Primary drive straight-cut gears; 1.795:1 ratio
 Clutch wet, multi-plate
 Final drive *520 chain (5/8-in. pitch, 1/4-in. width);
 4.417:1 (53/12) ratio

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	2.357	18.686	4.1
II	1.706	13.523	5.8
III	1.300	10.306	7.4
IV	1.043	8.272	8.3
V	0.880	6.976	11.0
VI	0.778	6.166	12.4

Front air-spring, 40mm stanchion tube diameter/
 11.8 in. (300mm)

Rear 8-way adjustable spring preload/
 11.3 in. (287mm)

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

Front 3.00 x 21 Trelleborg Motocross Deep Grip T544
 Rear 5.00 x 17 Trelleborg Ten Masters Motocross T744

Weight 236 lbs. (107kg)
 Weight distribution 46.2% front, 53.8% rear
 Wheelbase 58.5 to 59.3 in. (1486 to 1506mm)
 Seat height 38.0 in. (965mm)
 Handlebar width 34.0 in. (834mm)
 Footpeg height 13.8 in. (351mm)
 Ground clearance 12.5 in. (318mm), at engine cradle
 Steering head angle 30.5 degrees from vertical
 Front wheel trail 5.98 in. (152mm)
 Frame tubular chromoly steel, single front downtube
 Fuel tank aluminum, 2.0 gal. (7.5l), no reserve
 Instrumentation none

Top speed (observed) 85 mph (137 kph)

30 days, motor and frame only

Burgundy Red