

490 MAICO MEGA 2

The Most Potent Open Class Motocrosser Ever Sold



■ Maico's handling superiority is well known. Even people who have never ridden a Maico know they handle best. Year after year Maicos go around corners easier and with more precision

than other brands. Strange that a small family owned company on the edge of the Black Forest in Germany can consistently build bikes that out-handle any in the world. Stranger yet after the factory has been visited and one learns Maico doesn't own a motocross track or even have one available for testing. The factory does have an arrangement with a couple of local farmers—they can use the farm land when crops aren't planted and all of the proper government permits have been obtained. Thus, almost all research and development takes place on race tracks. Factory racers test under actual racing conditions and report the results to the factory. And the factory listens. Because the factory is small, time from race track to production is short and cost accountants aren't likely to screw things up. It also helps having an owner who's a pro motocrosser. So, Maico's handling edge isn't such a mystery after all. It's a simple use of logic and parts developed on race tracks around the world.

The Maico legend is especially strong in the open class. Building an open bike that produces gobs of power isn't too difficult but building one that makes useable power is. And Maico's open bike has always had useable power. Since the open motocross class is rather small, most manufacturers haven't tried to unseat Maico's reputation until recently. Last year Yamaha made a strong bid at the open class and many people thought the YZ465 best. The Yamaha was faster and had stronger brakes. This year Maico is fighting back with a killer 490.

Maico has chosen the easy way to more horsepower—make the piston bigger. The engine is based on last year's 450. The 450's 83mm stroke stays the same, the bore size has increased from 82mm to 86.5mm. Cubic centimeters jumped from 438 to 488 with the bigger bore. The transformation wasn't quite as easy as it sounds. The larger bore meant the transfer ports got pushed out wider and the bottom of the cylinder needed to be wider to ac-



490 MEGA 2

commodate everything. Thus, the center cases needed to be wider where the cylinder bolts on. The rod and bearing worked fine without change. Transmission gears and ratios remain the same as before. Primary drive is still chain but not the same. The double and triple row chains from past models have been replaced with two single row chains that supposedly increase life considerably. The clutch hub, clutch basket, steel clutch plates and bronze plates are unchanged. The bronze plates were newly designed last year. The waffle patterned working surfaces stopped most clutch problems by letting more cooling oil around them. The magnesium cases are small and compact and the countershaft sprocket is rear-set. Distance between countershaft sprocket and swing arm pivot bolt centers measures a measly 2.4 in. This close fit was accomplished by using three transmission shafts. The first two shafts are conventional designs, the third is actually a jack shaft and its only function is moving the countershaft sprocket rearward. Of course the engine cases could have been made shorter to eliminate the need for the jack shaft, but, the engine placement in the frame would have changed. The rearward placement of the shortened engine would have changed the weight distribution, making the front end light, fouling up cornering and general handling. The jack shaft means the engine placement and the countershaft sprocket placement can be ideal. In short, the best of both.

A 40mm Bing carburetor feeds fuel to the piston ported engine through a long aluminum manifold. The aluminum manifold replaces the troublesome rubber manifold of past models but causes its own problems. Early models didn't have enough slots cut into them and didn't tighten up well. Later models have more slots but still loosen between motos. The aluminum part also has a troublesome plastic seal between the manifold and the carburetor. The plastic cracked in about two weeks of testing although it hasn't caused trouble since.

Maico's new frame design from last year, a design that placed the steering head way up in the air, has been changed so the front end of the bike sits lower. The steering head on the frame was lowered and the front forks shortened so the front of the bike actually sits a couple of inches lower. The frame still uses a built-up backbone like last year. The part has been strengthened with gusseting at the steering head and double walled where the seat rail tubes weld to the sides of it. The modification has stopped the bending problems from last year. The rest of the frame design is mostly the same. Double front downtubes roll under the engine, up behind it and terminate at the rear of the

backbone. The area above the shocks, and below the seat is triangulated well and a flat strap ties the rear frame rails together. All tubing is chrome-moly.

The longer 22.0 in. chrome-moly swing arm is curved as before. Liberal use of gusset plates at the top and bottom prevent flex or other nasty actions.

Maico increased fork stanchion tube size to 42mm last year. The '81 also uses 42mm tubes but they are otherwise different. The tubes are shorter, the lower castings are shorter at the top and the damping is new. The shorter tubes combined with the lower steering head to drop the front of the bike without decreasing front wheel travel, which remains 12.2 inches. The lower castings have been beefed around the axle clamps and fork seals as well. The gull-wing lower triple clamp from last year is unchanged as is the top clamp.

Past Maicos have come with Corte and Cosso shocks. The '81 also uses Corte and Cossos but they are piggyback reservoir models that feature internally adjustable damping and they're completely rebuildable. A seven page shock book comes with each bike. The book explains how to change the existing valving for better performance when used for different types of racing. One valving change sets the shocks for sand tracks; another dials the rear for enduro and desert racing. The valving changes actually amount to restacking the damping washers in different orders. The book explains different color coding on the shock springs and makes recommendations for changes. It also deals with rebuilding, oil changing and about anything else an owner might want to know about the shocks.

Hubs and wheels look the same but they aren't. The front hub is stronger, the rear hub has larger spokes and sprocket bolts. The rear brake backing plate is also new. The short aluminum static arm has been eliminated in favor of a backing plate with a groove that slides into a peg on the swing arm. The design makes rear wheel removal easier.

Most plastic parts are changed, the exception being the front fender. The rear fender is wider and the front of it extends far forward so it can bolt solidly. The side number plates are a slimmer design and the airbox is new. It still uses the neat quick change foam filter but has a higher top and a drain in the deep V bottom. The steep bottom allows quick escape of any water that enters. The tank looks the same and is except it has a much better finish to the plastic and it's no longer painted. The filler hole is large and uses a ribbed plastic cap equipped with a vent hose.

The seat has a flat top that makes moving around on the bike easier and doesn't force the rider to one spot like last year's.

Magura control levers are still used. The brake and clutch levers are dog-leg shaped and strong. The cable adjuster

stops are now made of plastic instead of aluminum and don't do a good job of keeping the cable set. Best to replace them with the old metal ones. Ours came loose during a race and fouled up a good finish. The throttle is a straight-pull Magura, slightly larger than earlier straight pulls and it turns easier. Control cables are the same poor quality items from years past. The importer replaced ours with Terry Cables before we picked the bike up, you should do the same. The shift lever has a folding end, the brake pedal has the pull rod positioned lower for better leverage and the end is reshaped but still smooth and slippery when muddy. We bent the end up slightly and filed some grooves to improve boot grip.

The pipe is high mounted and has several mounting brackets. It is routed mostly out of the way although it is possible to



touch it with your knee while cornering. A large repackable silencer tones the exhaust note to a lower roar.

The 490 Maico is the tallest dirt bike we've tested to date. Throwing a leg over a bike with a 38.4 in. seat height is quite a thrill, especially so if you're short. Even six footers will have trouble touching the ground in street shoes. The height is noticed more when the bike is new as the suspension doesn't sack at all. After a hundred miles or so the suspension softens up and compresses under the rider's weight, making the seat height a little more liveable.

As you might suspect, the 490 is a bear to start. A compression release is located in the rear of the cylinder and operated by a lever on the left side of the handlebar. Pulling the lever until the engine starts is recommended and necessary. It makes

kicking easier and stops backfires that might damage the start mechanism. Still, the big engine isn't easy to start. Holding the Bing tickler down until fuel flows out the overflow tube for 5 or 6 seconds, then kicking 15 or 20 times is required when the engine is cold. When warm, it's a one or two kick affair.

Once running the engine has a strong, low frequency vibration. Some of it goes away as soon as the bike is rolling but vibration is still stronger than ideal.

Don't worry about being outdragged on a 490. Nothing will come close to the acceleration of a 490 Maico. Not a YZ465 or Honda CR450R or any other stock motocrosser.

Smoking the 4.50-18 Metzeler rear tire is as easy as twisting the throttle. We wore the stock rear tire out in two hours! It simply isn't wide enough for such a powerful

engine. We replaced it with a Metzeler 150/80-18. The larger Metzeler made the bike even faster. Much of the wheel spin was replaced with forward motion. The 150/80 costs about \$90 but it'll outlast two or three smaller tires, so it's worth the price. Third gear starts were easy with the 4.50 tire but second gear worked best with the wider 150.

The engine's powerband starts just above idle and goes to redline. Power, abundant power, is everywhere. Tight MX tracks mean you'll probably use only one or two of the five-speeds. Using the clutch lever is optional. After low is engaged, up and downshifting can be done without it. Shifts are smooth and precise. The lever throw is slightly longer than the throw on Japanese machines but not as long as earlier European bikes. First gear is almost useless on the 490. The internal gear ratios >

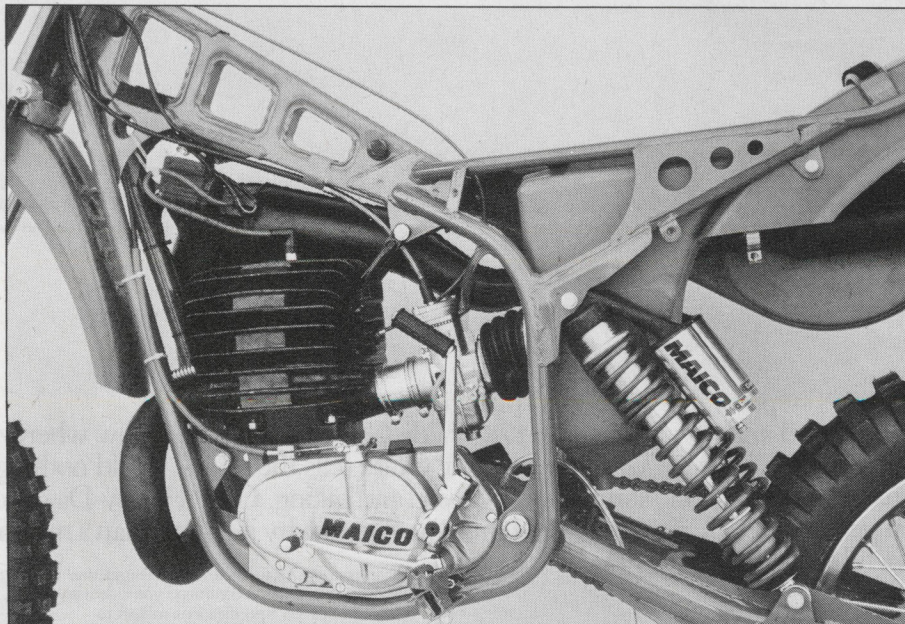




These four people hand assemble all of Maico's engines.



Beer and Coke machines are in one of Maico's machine shops. Drinking beer while on break or even while working is an accepted practice in Germany.



Potent 490 engine has an 86.5mm bore. Frame backbone has been strengthened by a gusset plate at the top near the steering head and flat plates at the rear sides. Footpeg brackets are stronger. Corte & Cosso piggyback reservoir shocks work well and they're rebuildable.

490MEGA 2

are the same as a 250 Maico. You'll never need 1st on a motocross course, 2nd will take the bike straight up! If the bike is used for trailing 1st might be used, but we doubt it. Almost vertical hills can be climbed in 2nd and 3rd gears.

Suspension at both ends of the bike is stiff until several hours are put on. Then both ends work without fault. The fork damping is perfect. Shocks work as well as the forks. Small bumps are crossed smoothly and neither end bottoms easily.

Corners are pure pleasure on the 490 Maico. Even slippery off-camber corners can be blasted into with full confidence you're going to make it through without falling. Just dive in, turn the throttle the amount you want to slide and enjoy. The rear of the Maico slides to the outside of a turn in a direct relationship to the amount of throttle applied. More throttle relates to more slide. Less throttle, less slide. What a TT bike the 490 would make. Berms are equally easy. Any place on the berm is fine, just pick a line and go for it. If you clip a rock or lip while berming don't worry, the Maico will hardly notice. Grooved corners are a cinch. The Maico's steering is so precise it removes the fear factor associated with grooved corners. You know the bike is going to go exactly where you point it.

Jumps are another high point. Nothing makes the bike handle badly. No jump is too high, no landing too rough. The bike just soaks everything up. Landing with the bike sideways doesn't spit the rider over the bars either. The Maico just straightens itself.

Brakes were poor on our test bike. Both felt mushy before the bike was ridden. The front seated and started working better after the first day of riding. The rear didn't get better so we replaced the lining. It didn't help. Power was still marginal and the feel mushy. We took both backing plates and shoes to Wheelsmith Maico and had them trued. Braking power was considerably better but still wasn't comparable to a YZ or Honda CR450. Our smaller riders complained about the Magura levers. They are hard to reach with small hands. Clutch pull is lighter than past Maicos but still heavier than we'd like.

The spokes in both wheels loosened considerably the first hour of use. They needed tightening three times before they seated. The larger rear spokes seem to have cured breakage there. But we broke eight in the front wheel. A sharp lip was hit at speed during a pro race at Saddleback Motorcycle Park and eight spokes in a row snapped at the bend by the hub. We had the wheel respoked with 8 gauge spokes at Merle's Pro Wheel. The rim was also wasted so we replaced it with a Sun at the same time.

490 MAICO MEGA 2

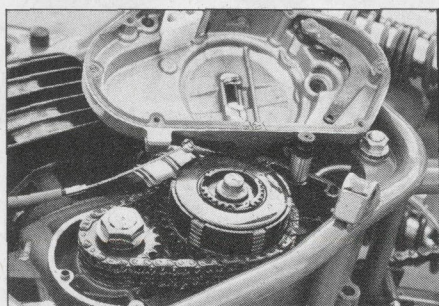
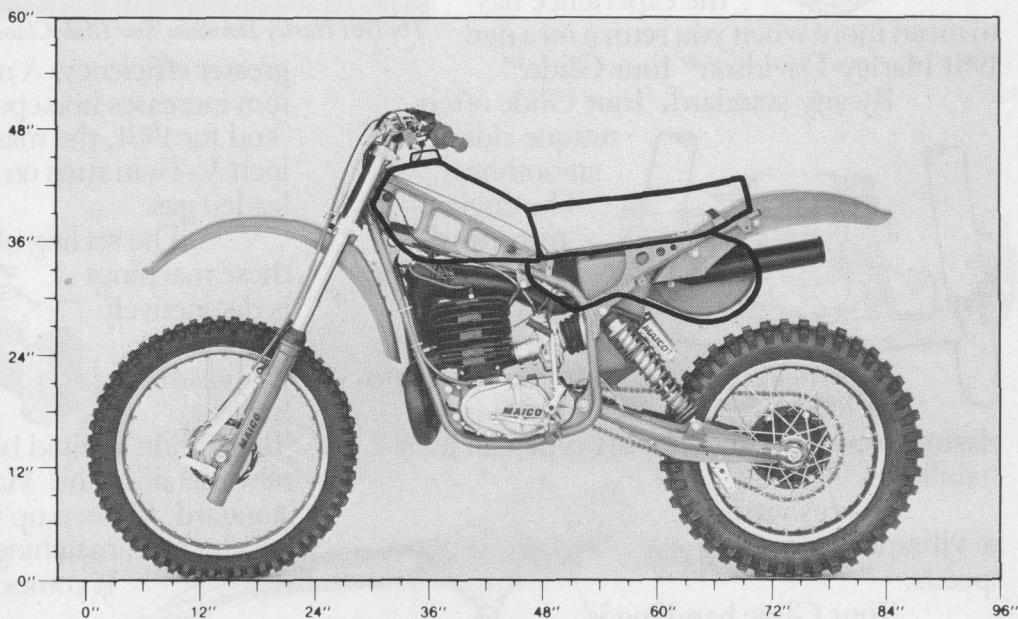
SPECIFICATIONS

List price\$2699
 Fork travel12.2 in.
 Fork stanchion
 tube diameter42mm
 Rear wheel
 travel12.2 in.
 Front tire3.00-21 Metzeler
 Rear tire4.50-18 Metzeler
 Engine two-stroke Single
 Bore x stroke ...86.5 x 83mm
 Piston displacement ...488 cc
 Compression ratio12:1
 Claimed powerna
 Claimed torquena
 Carburetion40mm Bing
 IgnitionCDI
 Lubrication systempremix
 Primary drivechain
 Gear ratios, overall:1
 5th7.43
 4th8.94
 3rd11.17
 2nd14.68
 1st20.15
 Oil capacity1.2 pt.
 Fuel capacity2.5 gal.
 Fuel tank
 materialplastic
 Swing arm
 material ..chrome-moly steel
 Starterprimary kick

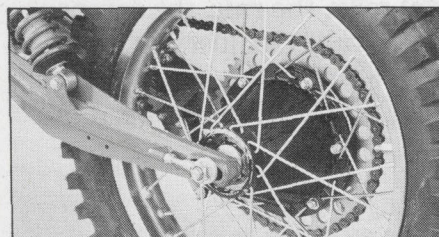
Air filtrationoiled foam
 Frame material .. chrome-moly
 steel
 Wheelbase59.1 in.
 Seat height38.4 in.
 Seat width5.2 in.
 Seat length22.5 in.
 Seat front to steering
 stem center14.5 in.
 Handlebar width33.2 in.

Footpeg height16.5 in.
 Footpeg to
 seat top21.8 in.
 Footpeg to shift
 lever center6.0 in.
 Footpeg to brake
 pedal center5.1 in.
 Swing arm length22.0 in.
 Swing arm pivot to
 drive sprocket center .. 2.4 in.

Gas tank filler
 hole size1.8 in.
 Ground clearance13.6 in.
 Fork rake angle28°
 Trailna
 Test weight w/half
 tank fuel243 lb.
 Weight bias, front/
 rear percent48.1/51.9



Primary drive is via two single row chains. Rub block in bottom of cover keeps chain from grinding on the casting.



Rear wheel has larger spokes and sprocket bolts.



Forks are shorter and have new damping. Front of bike sits lower this year. Wheel travel is 12.2 in.

One of our testers raced the 490 in the last two DG Golden State Series races. The bike proved competitive against factory backed riders and bikes. The last race was at Saddleback. The start is uphill and takes lots of horsepower. The stock 490 beat the other 37 bikes in the race to the top of the hill both motos. Many of the other bikes were ported and the Maico still outran them. Just think what one would do with some port alignment!

The 490 Maico has the honor of being the fastest and most expensive open motocross bike around. One will set you back over \$2900 after tax and setup are added. That's a lot of money for a bike you'll have to change control cables on, probably have to true the brakes, and maybe respoke the front wheel. . . .

Is a 490 Maico Mega 2 worth the price? We think so. With the above mods we competed in a race series that was salted with different levels and brands of factory machines. And the bike was competitive. Isn't that what it's all about? 