

JAWS III!

Just when you thought it was safe to go back in the Open Class

By the Staff of Dirt Bike

The Shark is here! A single-toothed shark, at that. You've heard the rumors of a single-shock Maico for 1982 and it's true. When the works riders appeared with single-shock bikes during the GP season, long-time Maico watchers knew the production version could not be far behind. Maico invariably brings out what their race team uses after its proven.

We got our hands on the very first pre-production bike available. Of course, some minor changes will be made in the actual production line versions, but, basically, what you see here is what you get. Surprisingly, the linkage differs from what the Maico team ran here at the USGP.

The new system, dubbed an Alpha 1, is similar to the Honda Pro-Link setup, but is simpler and sturdier. The top of the shock is fixed and has no links or arms attached. At the bottom, a massive aluminum rocker is situated way down low under the swingarm. The shock is well forward in the chassis and angled forward a bit.

Now, here's the wild part! The suspension lever ratio is the most radical we've ever seen. Check this out: when the rear wheel is moved one inch, the shock only compresses an eighth of an inch. That gives the Shark an 8 to 1 initial SLR. By the time the bottom of the stroke is reached, the SLR is changed to a modest 2.2 to 1. Outrageous! What a variation of loads!

THE SPRING THAT ATE CINCINNATI

In order to get the job done, the stoutest spring ever is fitted around the Corte and Cosso shock. The rate is... get this...725 pounds per inch. Enough to do the job, with some change to spare. A Honda Pro-Link spring, by comparison, starts out at right around 500 pounds.

To keep everything where it should be, huge gussets are welded to the bottom of the swingarm and the frame rails. These look plenty beefy but do add weight to the bike. In fact, the Mai-

co has picked up ten pounds over last year's machine. The 1981 bike weighed 227.7 pounds, with nary a drop of oil or gas. Our Official *Dirt Bike* Scales, which are periodically checked for accuracy by highly trained NASA gardeners, showed 237 pounds, even. Well, so it's only 9.3 pounds. Don't nit-pick. This puts it right in the ballpark with the other open class bikes around. There are no longer any "light" open bikes. Sad fact...but true.

OTHER OBVIOUS CHANGES EVEN A FOOL COULD SEE

A glance at the rear wheel shows that Maico has finally succumbed to the full floating rear brake syndrome. We truly hope that they go back to the 1981 rear arrangement. It was smooth, predictable and didn't chatter a bit. The new floating unit offers nightmares of 1975 Yamaha trigger-action lockups. And, no doubt, it adds weight to the bike. Possibly as much as two or three pounds.

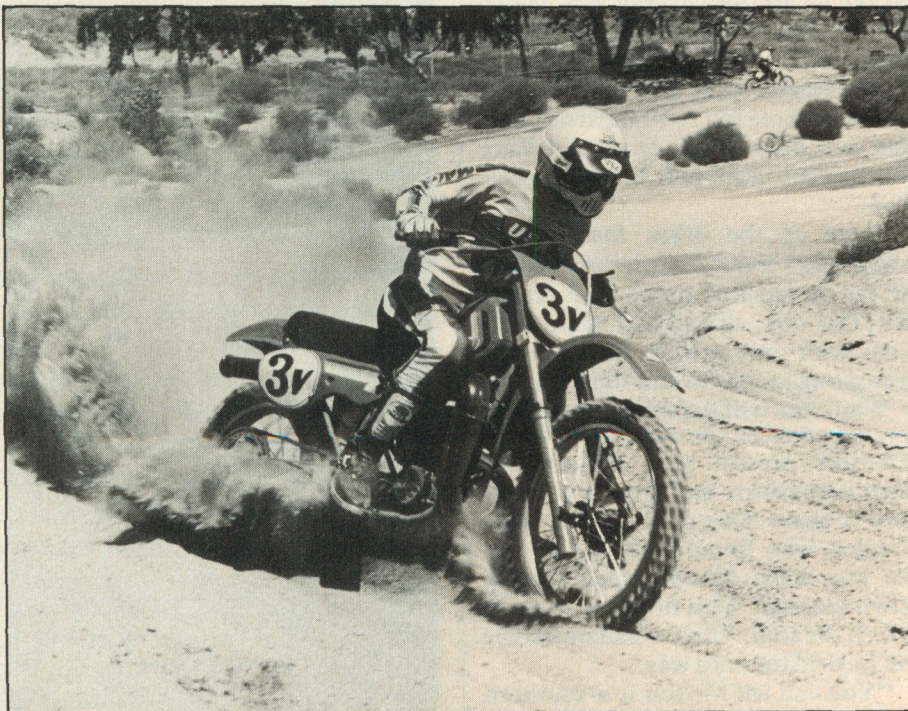
The brake pedal no longer actuates directly over the swingarm pivot... where it should. Instead, it's nearly an inch above. Some pulsing can be felt when braking, too. All things considered, it's a thoroughly depressing unit. Fortunately, the 1981 backing plate can be put on, should the factory choose to stay with this mistake.

Striking new graphics jazz up what is basically the same 1981 plastic. The entire rear section has been changed. And, up front, a reservoir hangs on a frame downtube. A new gas cap rides on the gas tank. This one comes off easy. No need to carry a set of channel locks around just to remove the gas cap.

The same massive 40mm Bing carb is mounted this year, but its on a new, angled manifold that leads to a great air box. This is probably the most sensible single-shock wrap-around air box made. Suzuki should definitely take note of how Maico cleverly used the space.

That long swingarm sure looks bare without a pair of shocks wedged in there. It lends the bike a very lean and light look though.

With the tank off, you can spot the new and stronger backbone of the frame. Actually, a version of this appeared later in the 1981 model year, but many riders never noticed it. Being heavily boxed in, it's stronger than



Steve Banning felt that the new 490 had a whole lot more mid-range power than his 1981 bike, with no loss at the low or upper range.



MAICO 490 ALPHA 1

the bridge section used in the first half of the year.

Different triple clamps hold the same 42mm sturdy Maico forks of the last two years. The bottom triple clamp now has two bolts and the top clamp has the bolt forward, instead of on the side.

And that's about it for the external differences.

WHAT'S THIS? MORE MOTOR?

Yep! The engine is even stronger than last year's. If you will recall, the Maico won the battle of the dynos, with nearly 50 full horsepower at the rear wheel. Only KTM even came close. All of the Big Four were seven to ten horsepower off the pace.

Peak horsepower remains the same, with 50 big ones twisting the rear Metzeler knobby, but the mid-range power is up by a considerable margin. When we pressed the factory for details, they would only say that "the transfers have been refined for about a 10 percent increase at the mid-range rpm."

We also noticed that this particular 490 pulled remarkably clean down at low revs. Almost like it had a small Mikuni instead of a giant Bing. Not one bit of blubbering could be induced into the engine, even when we got it hot. Perhaps that new, long and curving manifold had something to do with it.

WORKING WITH WORKS

□ Our test sessions were supposed to be secret, but somehow Gil, of Works Performance shocks, got wind of them and showed up, tape measure and calipers in hand. After the photo sessions, we got down to some serious test riding and Gil determined that the Corte and Cosso shock was not quite right; it was good, but it hammered a bit and was harsh over the small bumps when accelerating.

One day later, Gil showed up at our second test-riding session with a hand-built, one-off Works Performance shock of his own design. We put it on the bike with the stock heavy spring and noticed an immediate improvement over the small bumps and a smoother action over the bigger bumps. The bike still shook its head a bit when coming down from speed.

To try and correct that, Gil made a special spring with an approximate

Until you've ridden a crisp 490 Maico, it's hard to understand just what correct open class horsepower is all about. You can lug that sucker right down to the bottom of the scale and whack the throttle right open, whenever you want to. The power buildup will be strong, even, and eye-opening. If you're in too low of a gear when you punch it, much of the power will be wasted in wheelspin, but the right gear will reward the rider with a forward rush that brings back the joy of riding a dirt bike.

As each higher gear is engaged, the forward rush increases, until you're going so fast that the landscape blurs and you start to do some serious thinking about getting that Big Shark slowed down before you get into a hypnotic state and launch off the edge of the earth into the ozone layer.

HOLESHOTS FOR THE ASKING

The only other thing that'll stay with the new 490 in a race to the first turn is another 490. Even the very impressive 495 KTM will not punch out of the hole quite as strongly.

Second-gear starts are child's play and third-gear starts can be accomplished on a dry starting area. Short-shifting to the upper gears right away is the hot ticket. The big engine will not bog, but will simply dig right in, moan a bit and try to destroy the sticky Metzeler rear tire.

As you accelerate hard on the new Maico, the front end will not get too light in the lower gears. But when the

600-pound spring rate. This stopped all of the head shake, but again, some of the steering accuracy was sacrificed.

After much head shaking, measuring and calculating, it was determined that the spring rate of the stock spring was just about right, but the shock needed less compression damping. The same situation is true with the stock Corte and Cosso shock.

We talked with some of the Maico people and they noted that it was entirely possible that the Corte and Cosso shock could come with the reduced compression damping.

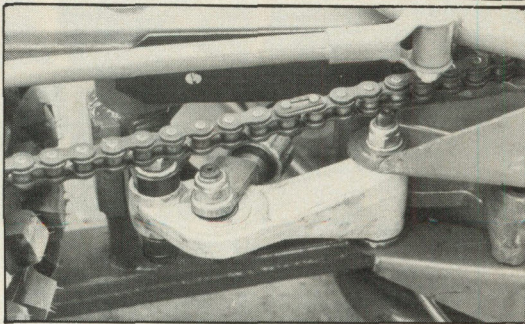
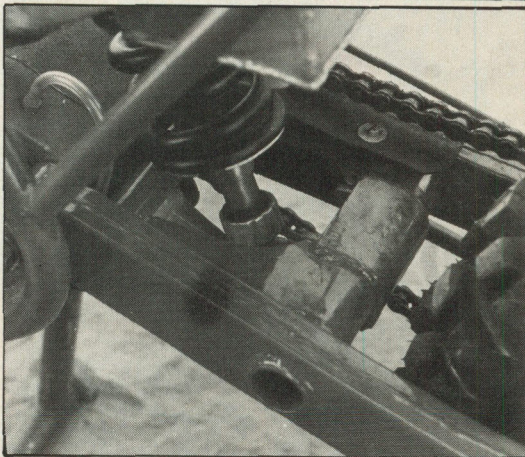
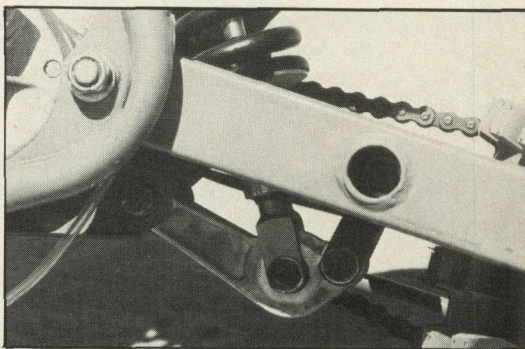
By the time the new Maicos hit, Gil will have a shock for the bike. That stock shock wasn't bad, and with enough riding time, normal seating and wear might reduce the compression damping. If the factory reduces it for you, the shock should be excellent. As we tested it, the action was very good, but not perfect. □

rider has his weight back a bit and the bike is pulling strongly in the upper gears, you have to pay attention to keep from looping out. A blip of the throttle on a normal big bike is just that... a blip of power. With the 490, it transmits into a violent lunge.

At the risk of verbal overkill, the power of the 1982 Maico 490 must be described as simply awesome. Cross-country riders will find that the big M will pull tall gearing easily. We had last year's 490 geared up two teeth on the countershaft sprocket and down eight on the back. The top end was absolutely frightening!

SUSPENSION, FRONT AND REAR

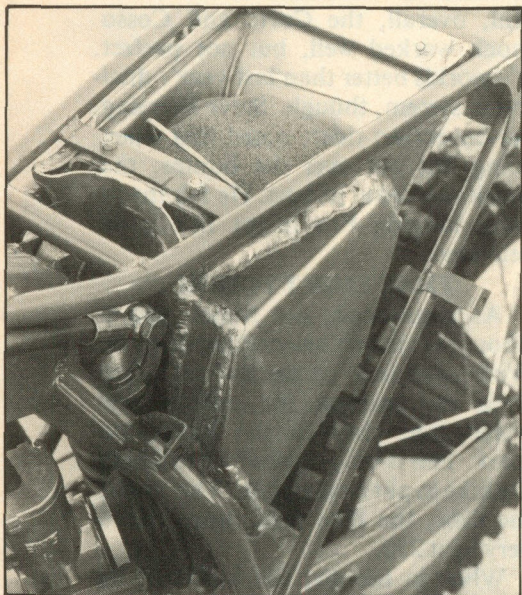
Forks are the same 42mm tubes and



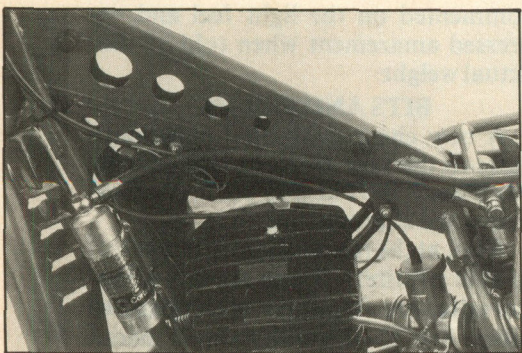
Three views of the linkage on the rising-rate suspension: A short, strong bolt rides inside the hollowed-out swingarm. Rebound damping can be adjusted by turning the small knob directly under the spring on the shock. Initial rate on the suspension is an astounding 8 to 1 on the first inch of travel! Spring rate is high, right around 725 pounds. Heavy gusseting beefs up the bottom mount.

the travel remains at 12.2 inches, but some of the compression damping has been removed and the topout spring changed. We felt no harshness, even when the forks were new and not broken in. New seals and rubber wipers are on the forks. One of ours wept a bit at first, then stayed dry after about four hours of riding. We ran 13 pounds of air in the forks, with the oil level 6 inches from the top of the tubes. Ten-weight oil worked best on a high-speed sand track, five- or seven-and-a-half weight on normal motocross tracks.

At the rear, the long (18.65 inches) Corte and Cosso shock is mounted slightly to the right of the center line and angled toward the engine at the



A work of art! Maico found a way to make a sensible air box/filter combo to work around a single shock. Our bike was a pre-production model and came with an aluminum box. Production units will come with a plastic unit. Filter is still removable, like last year's bike: squeeze the two rods together and pop it out. Carb is angled to the left side to set up the air inlet for a clean draw. Tasty bit of work.



Revised backbone on the new bike is stronger than the earlier 1981 rectangularly framed section. Heavy gusseting at the top of the shock mount area can be clearly seen. Long hose runs from the Corte and Cosso shock, up and out of the way of engine heat.



The additional ten pounds could not be felt when riding the bike. If any thing, the 1982 490 is more nimble and easier to toss around.

MAICO 490 ALPHA 1

top. It's also well forward on the swing-arm, putting the weight near the middle of the bike, where it should be.

Shaft removal on the shock is 3.18 inches (81mm). The spring itself is much longer and heavier than it needs to be. It's 10.2 inches long and is wound out of 14mm wire. We'd estimate that the spring alone weighs about the same as two conventional shocks.

Rebound damping adjustments can

be made by twisting a knob near the bottom of the shock. It can be reached easily and no tools are needed. Most riders will be happy with the rebound set from 8 to 16 clicks out. We never did count the available clicks, but there must be at least 30 of the little buggers.

Preload is accomplished by a threaded ring that's held in place with a conventional jam ring. You can get to it by simply removing a side panel and tapping on the notches with a punch. Very sano arrangement.

Our first pass through some serious

bumps with the new suspension showed that it was on the firm side, but it ate the big bumps alive. We were able to hit some big whoops as fast as the bike would go and the shock sucked them up without a whimper. Strangely, we didn't use all of the travel. To get all of the travel, we had to back way off of the preload. At that point, steering accuracy started suffering. When we cranked the preload back in, the bike would then steer well again, but when coming down from speed over bumps, it would waggle the forks a bit... much like an RM250 or 465.

Because of the time limitations, we were not able to experiment with oils of different viscosities in the shock. Still, overall, the Corte and Cosso shock worked well, but not perfect. It's worlds better than last year's dual-shock system, though. Steve Banning, our cover/test rider, noted that when going flat out over the bumps, the shock worked at its best. He felt that a hard-charging Pro might like it as delivered.

THAT LIGHT TOUCH

As mentioned, the Maico 490 is about ten pounds heavier than last year. With a full tank of gas and oil in the forks and gearbox, the ready-to-ride weight gets close to the 260-pound mark. This is only obvious when lifting the bike to put it on a crate. The rest of the time, the bike feels much like a very light 250.

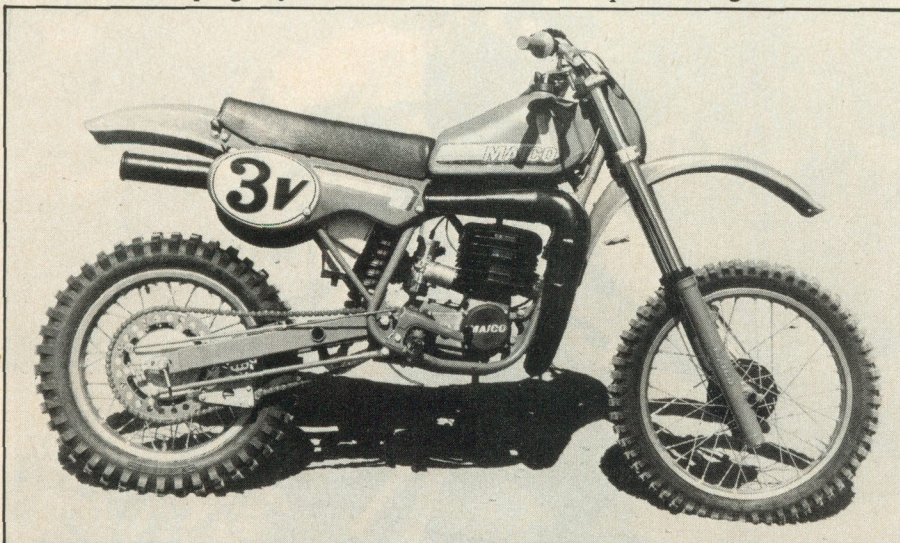
When in the air, the bike can be tossed around much easier than last year's bike. Under all riding conditions, the new bike feels much lighter and is far easier to maneuver than the 1981 version. No doubt this phenomenon is due to the high-up weight of the dual-shock setup being moved to a very low location and centered better in the frame. All of the test riders commented on the light feel and expressed amazement when told of the actual weight.

BITS AND PIECES

A new chain guide that runs very close to the rear sprocket was on our test bike. It isn't known yet if this will be around at production time.

Also, at the rear end is a different set of axle adjusters. These are more like the adjusters found on the Japanese bikes. The 22-inch swingarm is made of steel and is rectangular.

Excellent Metzeler tires come stock on all Maicos. We suggest 15 psi of air for the two-ply Metzels and 10 to 12 in the four-ply. Most of the bikes do come with two-plys.



Even though the Maico appears trim and lean, it has picked up ten pounds of weight over last year's bike. It now hits the scales at 237 pounds, bone dry.

MAICO 490 ALPHA 1

NAME AND MODEL	1982 Maico 490 Alpha 1
ENGINE TYPE	Two-stroke, air-cooled, piston port, single
BORE AND STROKE	86.5mm x 83mm
DISPLACEMENT	488cc
HORSEPOWER (CLAIMED)	50 at rear wheel, 7500 rpm
CARBURETION	40mm Bing, type V54/2
FACTORY RECOMMENDED JETTING:	
MAIN JET	190 or 195
NEEDLE JET	278-2
JET NEEDLE	6L2
PILOT JET	50
SLIDE NUMBER	220
RECOMMENDED GASOLINE	Premium, 92-plus octane
FUEL TANK CAPACITY	9.50 liters (2.5 gallons)
FUEL TANK MATERIAL	Plastic
LUBRICATION	Oil in gas, pre-mix
RECOMMENDED OIL AND RATIO	20:1
	Bel-Ray MC-3; 40:1 or 50:1 MC-1
OIL CAPACITY, GEARBOX	600cc
AIR FILTRATION	Oiled foam in still air box
CLUTCH TYPE	Wet, multi-plate—six sintel, six steel
TRANSMISSION	Five-speed, constant mesh
GEARBOX RATIOS:	
1	2.71:1
2	1.97:1
3	1.50:1
4	1.20:1
5	1.00:1
GEARING, FRONT/REAR	14/56
IGNITION	Motoplat pointless electronic
PRIMARY KICK SYSTEM?	Yes
RECOMMENDED SPARK PLUG	Champion
	NZ, N84G or NGK B9ES
SILENCER/SPARK ARRESTER/QUALITY	Silencer only, very quiet
EXHAUST SYSTEM	High-pipe, right side
FRAME, TYPE	Double loop, full cradle, chromoly
WHEELBASE	1510mm (59.45 inches)

GROUND CLEARANCE	372mm (14.64 inches)
SEAT HEIGHT	960mm (37.7 inches)
STEERING HEAD ANGLE (RAKE)	28.5 degrees
TRAIL	126mm (4.96 inches)
WEIGHT WITH ONE GALLON GAS	249 pounds; dry weight—237 pounds
RIM MATERIAL	Aluminum alloy, anodized gold
TIRE SIZE AND TYPE:	
FRONT	3.00x21 two-ply Metzeler knobby
REAR	4.50x18 four-ply Metzeler knobby
SUSPENSION, TYPE AND TRAVEL:	
FRONT	42mm Telescopic, air assist, 310mm (12.2 inches)
REAR	Single Corte & Cosso shock, 325mm (12.8 inches)
INTENDED USE	Motocross
COUNTRY OF ORIGIN	West Germany
RETAIL PRICE, APPROX	\$2700
DISTRIBUTOR:	
	Maico USA, Inc., 110 E. Santa Anita Ave., Burbank, California 91502.
	Maico East, 1256 Progress Rd., Suffolk, Virginia, 23434
	Maico Canada, R&M Motocross, 1441 Kings Way, Vancouver, B.C., Canada V5N 2R6
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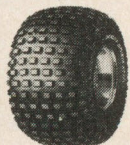
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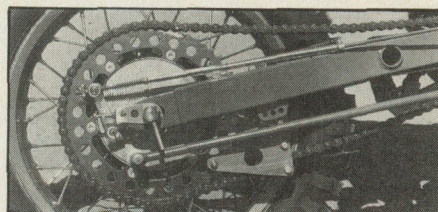
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MAICO 490 ALPHA 1



A poor full-floating rear brake came on our bike. We hope the factory scraps this idea and returns to the decent 1981 mechanism.

A compression release comes mounted on the left side of the bars and it's recommended that it be used—unless you can master a fast, sure, slapping kick at the starter. Our bike was invariably a first-kick starter, even after being dropped.

The belly of the pipe stuck out on the right side and toasted the knee of our testers. It could use a heat shield of some sort. Most serious Maico riders tack on a few pieces of stout welding rod to the hot spot, but this should be done at the factory level.

A stiff poly cover is over the front brake cable and this reduces flop and flex, but the cable guide that was molded into the 1981 fork wiper is a thing of the past. It would still be a good idea to mount one more clamp in that area, just for safety.

As with years past, the Maico has a primary chain drive. It's the same two single-row setup of last year. Several of our friends have 1981 490s and reported good life out of the two-row chains, compared to the old-style three-row belt.

The gearbox only holds 600cc's of oil. A smart rider will drain the hot oil out after every race day. Maico gearboxes are excellent, but replacement gears are expensive. Oil is relatively cheap.

Servicing the Maico is simplicity in itself. You can get to the air box by removing two saddle bolts. The carb can be rotated easily for jetting changes or cleaning. Nothing is cramped in or hard to reach. Most of the normal maintenance on the bike can be accomplished with a 10mm, 13mm, 15mm, 17mm and 19mm wrench.

As this was a pre-production bike, the factory informed us that input from our test would be helpful in finalizing some things on the bike. For example, the Corte and Cosso shock people can build the production shock with less compression damping which, we feel, would yield an almost perfect rear suspension.

[continued on page 73]

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We hope they give the same attention to the rear brake. There was nothing wrong with the 1980 or the 1981 non-floater that we could think of.

IMPRESSIONS

Even though we might see some small changes in the production version of the bike, the 1982 490 Maico is a big improvement. They've needed a single-shock bike for two years, and their first effort is a good one. It takes bumps under power superbly and has only a few glitches in an off-power situation.

But it still turns like a Maico. Sharp, accurate and confidence-inspiring. And the motor is enough to make you want to hock the farm. We realize that a whole bunch of folks will be coming out with large displacement bikes this year, like a 480 Honda and a 490 Yamaha, but unless their power is as well thought-out as the Maico's, those numbers will not give them better lap times at the track.

In 1981, the Maico was the obvious Master of the Open Class. This year, the bike is better. It looks like The Shark is circling in the waters once again. ☐

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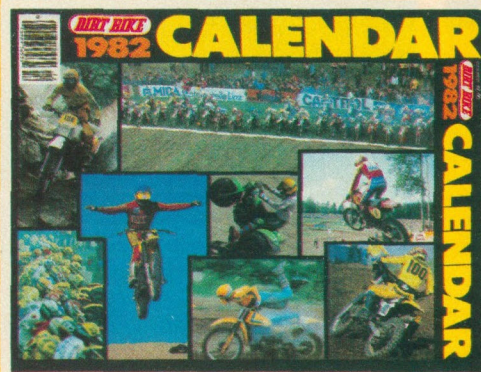
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