



MAICO 490 ALPHA 1

● YOU COULD SAY THAT MAICO'S MOTOCROSS machines are ideal examples of truth in advertising. For the most part, Maico races what it sells; the company doesn't send team riders out on exotic one-offs that have only paint and decals in common with showroom bikes. In fact, new pieces on one year's team bikes are almost sure to appear on the following

*Here's real Transatlantic news.
The big Maico 490 jumps to the
front of suspension technology
with its single-shock Alpha
Control rear suspension system.*

PHOTOGRAPHY: ROBIN RIGGS

year's production machines. In short, Maico's racing program fuels its product research and development.

So after seeing a single-shock rear suspension system on last year's factory race bikes, we were not surprised to find the 1982 production motocrossers featuring single-shock setups. The new Maico rear, named the Alpha Control

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suspension, is built around a single nitrogen-charged, remote-reservoir Corte & Cosso shock. The top of the shock mounts to the frame; the bottom end connects to an aluminum rocker that fastens to the frame and the steel box-section swing arm. The Alpha Control is a rising-rate system: as the rear end compresses, the rear wheel travels progressively less in relation to shock travel. So for a given amount of wheel movement, the shock moves farther during the final portion of the wheel's travel than in the beginning. This, in effect, progressively increases the shock damping and springing rates, which have the rear wheel respond quickly at first and then

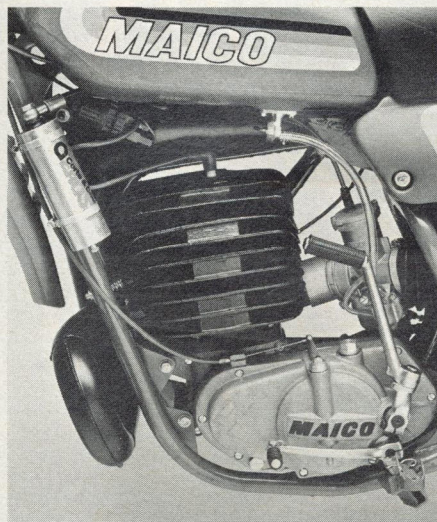
require a severe load to compress the shock completely.

Since this is Maico's first try at a single-shock system, we expected to find some bugs. Not so. We were pleasantly surprised to discover that the Alpha Control works very well. The rear end is much better than last year's twin-shock Corte & Cosso setup, largely because of the progressive action of the rising-rate linkage. The shock bottoms only lightly, thanks to the linkage and the large foam-rubber stop bumper on the shock shaft. The Alpha Control rear suspension provides 12.6 inches of travel, an increase of 0.8 inch over the 1981 490. Though there's a wide range of adjustability, the shock action is a bit harsher than other single-shock rear suspension systems.

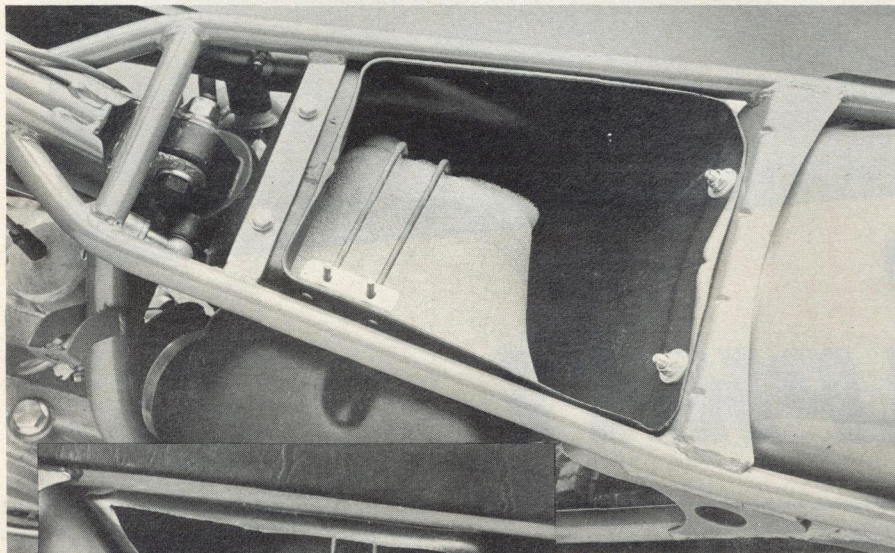
The shock's easily accessible adjusting knob makes setting the rebound damping to one of about 60 positions easy. The shock worked well set 30 clicks in from the fully backed-off (counterclockwise) position. We liked the shock's springing when set up with 200 psi of nitrogen in the shock reservoir and enough preload to set the shock spring length at about 9.5 inches. Naturally, these settings varied with rider weight and different track conditions. There's just one snag in the shock spring preload adjusting collars; the aluminum threaded rings deform rather easily if you change preload settings with a hammer and punch. Change them often as you travel from track to track and your shock will soon be well scarred.



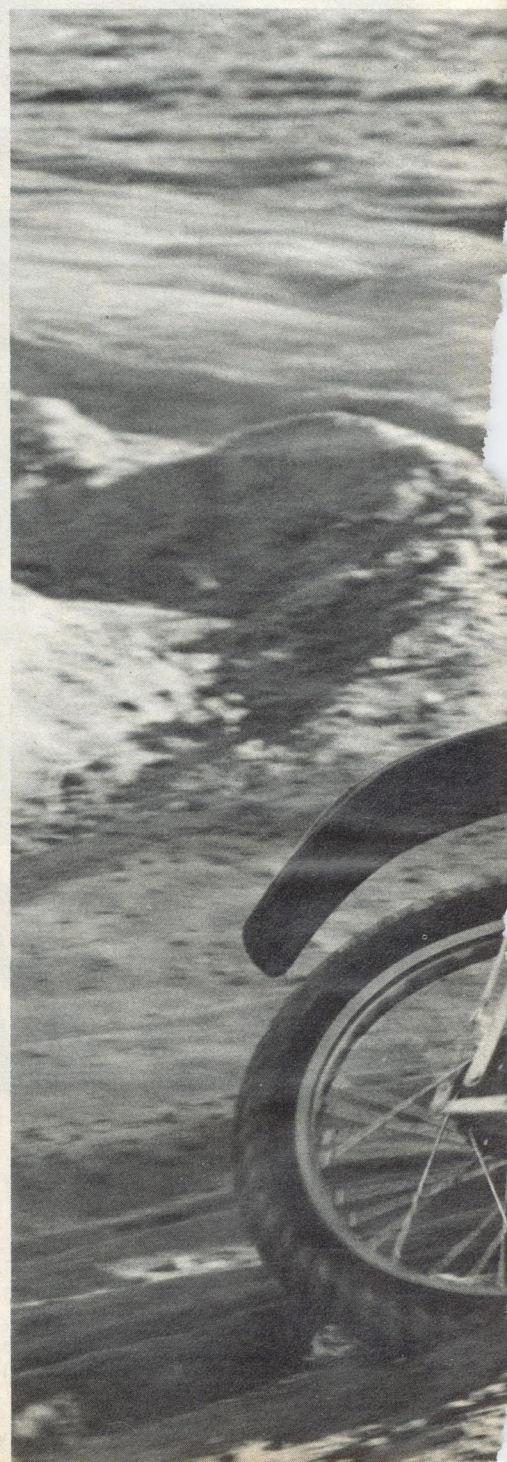
Maico made a few minor modifications to the 488cc powerplant in an effort to boost mid-range and low-end power. However, our Alpha 1 made less power on the bottom and the top than last year's 490.



PHOTOGRAPHY: KEN LEE, ROBIN RIGGS



The new air filter has 40 percent more area than last year's version, but the seat base restricts air flow. Cutting a hole in the right side of the airbox improves airflow and engine performance, but the Maico's waterproofing suffers.



Maico's air fork, with 42mm tubes, is one of the stoutest available. The lower triple clamp now has two bolts per side, which makes the front end stronger than ever. Initially, our 490 had an appreciable amount of fork stiction, and the right fork leg weeped oil past the seal. Both problems cleared up with use; and while the front end felt less plush than the 490 Yamaha's, fork action was good with the stock 10-weight oil and 10 to 12 pounds of air in each leg.

Despite the new rear suspension system—a major change in the 490's running gear—the Alpha 1 retains Maico's near-legendary steering precision. The front end tracks remarkably well even in dry, hard-packed clay corners, and controlled, feet-up slides through fast turns

are effortless. Much of the credit for the 490's steering must go to the Metzeler tires; they're excellent. A steepish 28.5-degree fork rake and forward-biased weight distribution add to steering agility and control. The only handling quirk of note is a mild front-end twitch that appears on trailing throttle in sections of stutter bumps or sandy whoops. Last year's 490 would sometimes shake its head vigorously under similar conditions; this year the tendency is much less. That's progress.

The massive single shock and the accompanying new swing arm and linkage have added more than a few pounds to the 490; fully gassed, the 264.5-pound Alpha 1 is 12.5 pounds heavier than the 1981 Maico 490 Mega 2. This takes the

Maico from an average weight rating for open-class bikes and puts it on the list of heavyweight motocross machines. The additional weight is most felt during loading onto a truck or positioning on a milk crate; you can't heave the 490 around like a small-bore. When ridden back-to-back with the Husqvarna 430 (the class lightweight at 246 pounds), the 490 feels relatively heavy. Once on the track, however, it feels similar to the new 254-pound YZ490 Yamaha.

The 490's powerplant remains basically unchanged from last year's version. The 86.5 x 83.0mm bore and stroke displace an actual 488cc, and the four-transfer-port cylinder follows basic two-stroke design; the Maico is devoid of any fancy reed setups or trick boost ports.

The new Alpha Control rear suspension system provides 12.6 inches of good, progressive rear wheel travel, and the 490 retains Maico's renowned steering precision.



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The aluminum intake manifold now angles toward the bike's left side in order to clear the centrally located rear shock. The big 40mm Bing carburetor is the same as last year's, but the air filter reportedly has 40 percent more filtering area than the '81 bike's.

For 1982, Maico made a few minor changes to alter the 490's power characteristics. A new exhaust pipe and reangled transfer ports supposedly increase the Maico's low-end and mid-range power, but we questioned this claim after our first ride. Traditionally, big-bore Maicos have a lot of flywheel effect and are known for their smooth, usable powerbands. Our Alpha 1 felt as if it was

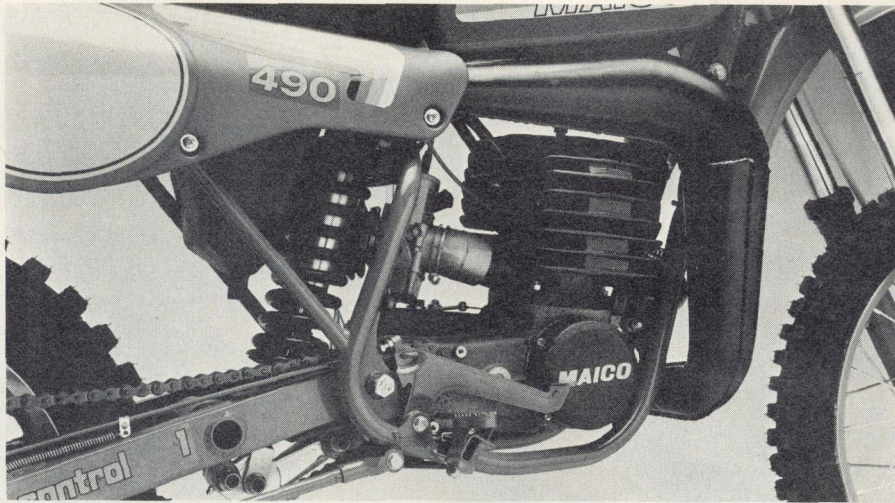
running rich; it pulled like a strong 250 rather than a high-horsepower open-classer. In a drag race against a Husqvarna 430, the 490 held even until third gear; then the Husky squirted away. That was surprising, because last year's 48-horsepower 490 was a jet.

A call to our Maico West contacts brought some answers. The new airbox is larger than last year's, but the intake opening is so close to the seat base that airflow is restricted. The Maico West representative suggested cutting away the upper portion of the airbox to increase flow; then the stock jetting would be spot-on. We prefer not to modify any test bike because the consumer's machine will be just like our non-modified unit. In this case, however, the stock 490 performed

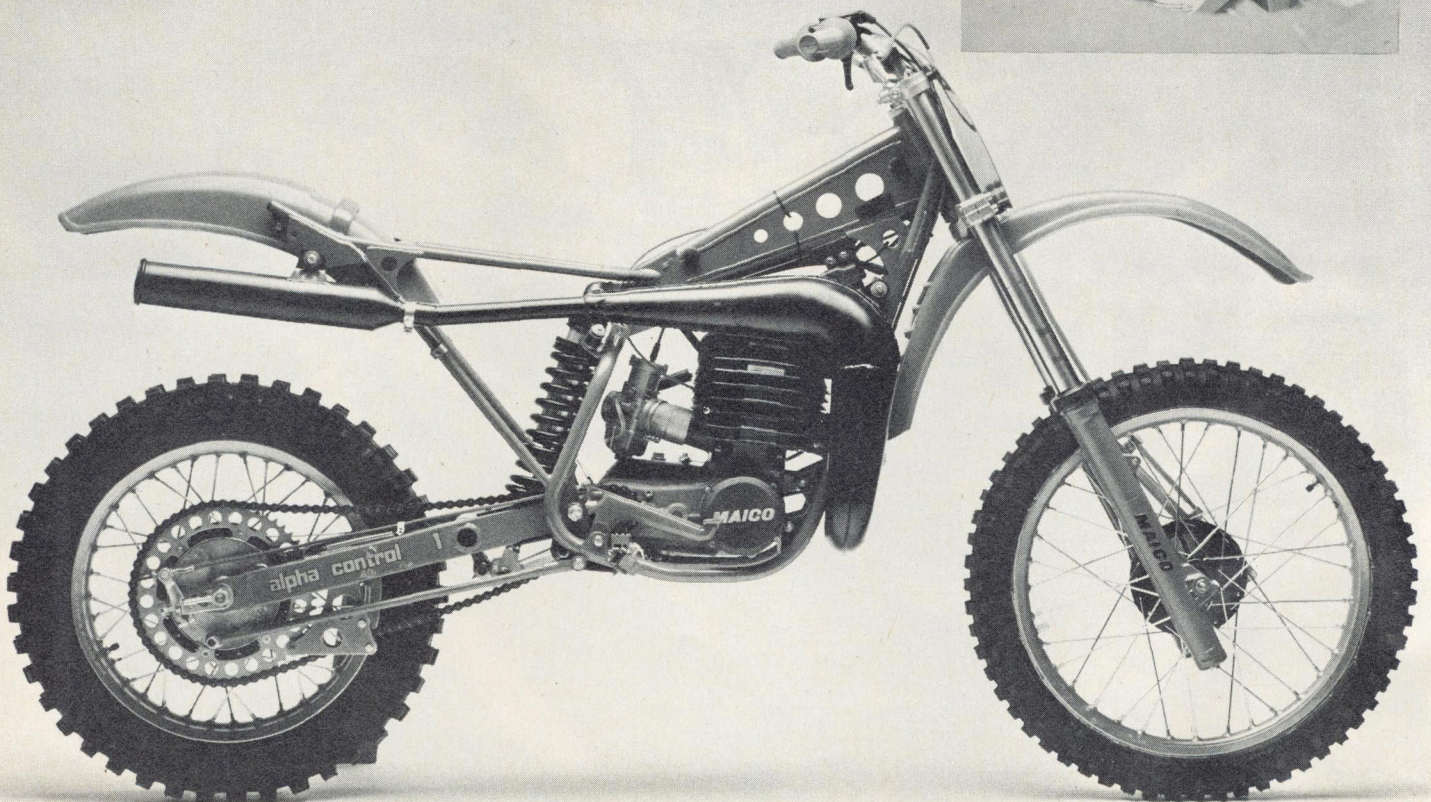
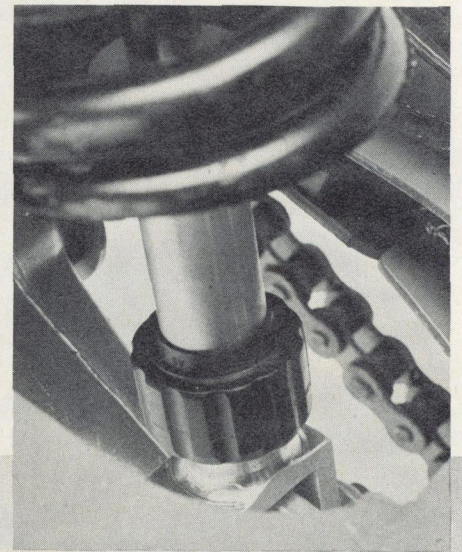
so poorly that it would have been useless to test the bike without the modification; we would have learned nothing about the new Maico's powerband.

A small bit of X-acto-knife surgery opened up the plastic airbox, and though the change was impressive—the 490 pulled much harder, especially through the mid-range—the Maico still gave up a small lead to both the Husky 430 and the Yamaha 490 in a race to the first turn. Properly set up, the Maico has muscle—but don't expect to bully the opposition with raw horsepower.

Our dyno test figures back up these riding impressions. The 490 Alpha 1 produced less horsepower all through the rev range than last year's 490, and the Yamaha and Husky each hold a strong



The Alpha Control rear suspension system uses a Corte & Cosso shock that offers 60 rebound damping settings. Adjusting knob is readily accessible.



advantage over the new Maico. Although the Yamaha's mid-range horsepower figures match the Maico's numbers almost exactly, the YZ490 makes about five ponies more than the new 490 down low and on the top end. The lightweight 430 Husky, in turn, holds an advantage in low-end and mid-range power, which is the useful portion of the powerband; nobody keeps an open-classer wound out to 7000 rpm. So the bottom line is we'd rather have last year's engine and power characteristics.

The Maico's power train does offer several advantages. The Alpha 1's predictable power delivery makes the bike easy to ride; no sudden burst of power will send you sideways unexpectedly. The five-speed gear ratios are well suited

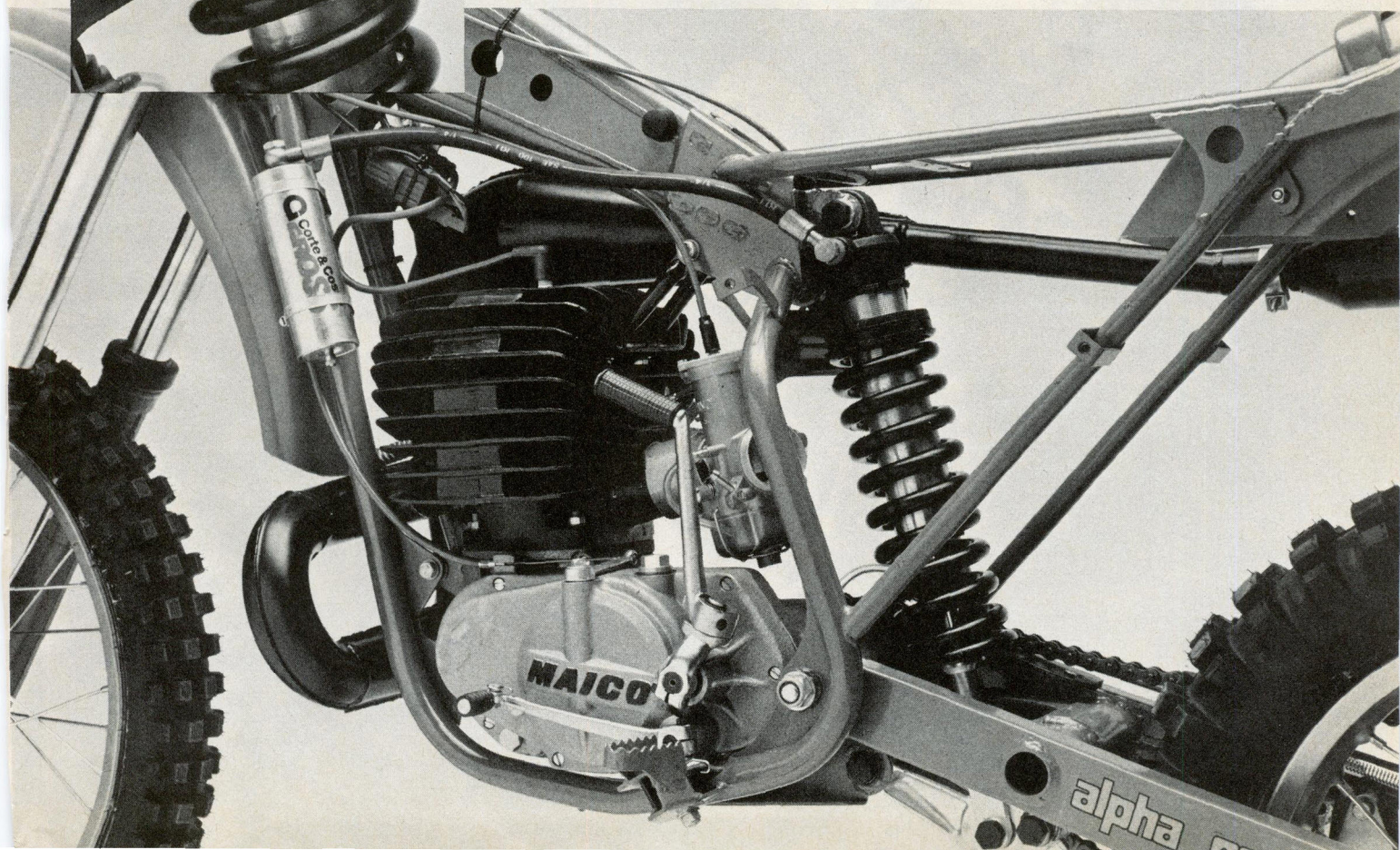
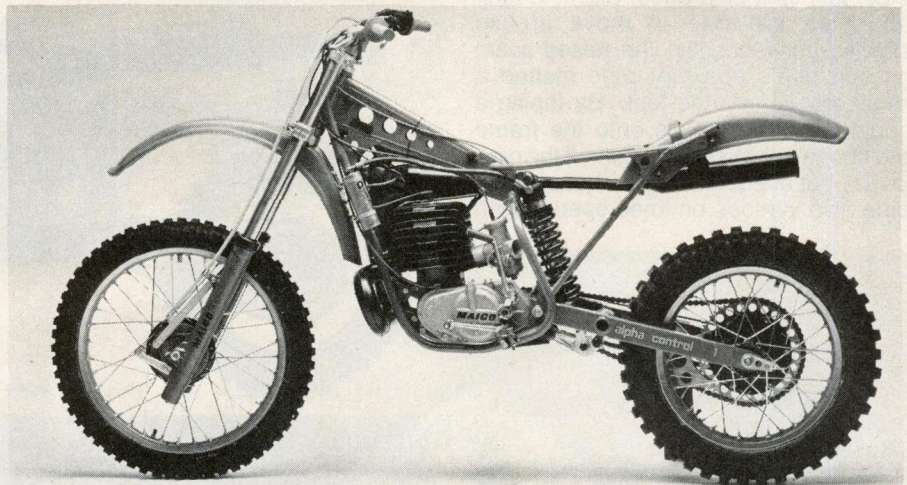
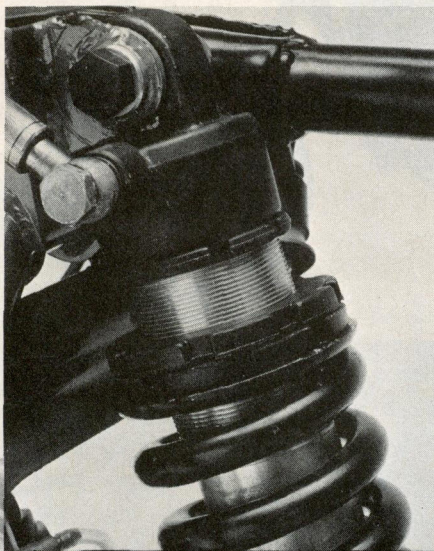
to the 490's powerband, and the shift action is excellent: the throw is short, the gear detents engage positively, and the lever has plenty of feel. Although the clutch requires a hefty squeeze at the lever, the multi-plate unit resists heat-induced slipping or drag, and clutchless upshifts or downshifts are problem-free.

Starting any big single can be difficult, but the Maico starts fairly easily—if you follow the proper drill. First, open the reserve-equipped petcock and tickle the Bing until gas overflows freely. Next, actuate the cylinder-mounted compression release and *keep* it open until the engine starts; the release lowers cylinder pressure enough to facilitate piston travel over TDC but not enough to prevent combustion. The kickstart lever is mounted

high and on the left side, so it's best to kick the engine over with your right foot while you stand beside the bike. A healthy kick with a booted foot almost always lights off the 490, hot or cold, within three tries.

The first time you set out on your new Alpha 1, you'll recognize some Maico idiosyncracies. First, you'll note that the hard, barrel-shaped Magura grips should be replaced immediately with *any* aftermarket grip. Second, if you don't keep your trial run short you'll have trouble with the wheels; Maicos are notorious for having spokes work loose, especially up front. Check and tighten the spokes often during the extended bedding-in period or you'll surely break some or flat-spot the Akront rims.

The threaded spring preload adjusting rings are made of aluminum and deform rather easily if you change preload settings with a hammer and punch.



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The first time we landed the 490 after a sailing jump, we headed straight for the pits, sure that the handlebar clamps were loose and the bar was shifting down under impact. Wrong. Close inspection revealed that the rubber-mounted bar assembly was flexing slightly as the bike hit down heavily. Some testers objected to the handlebar "give" though they knew the cause; others didn't.

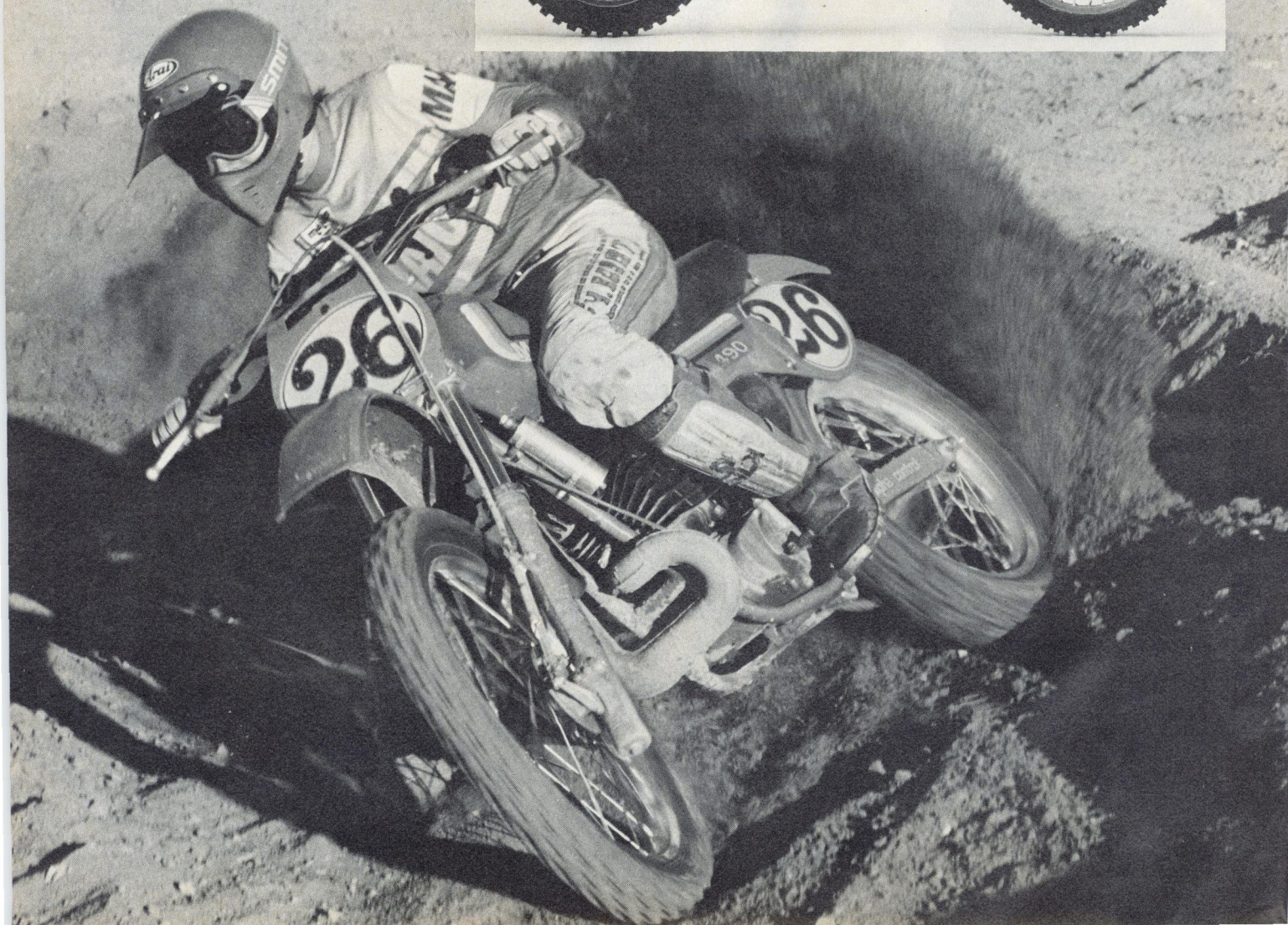
We can both praise and fault the 490's exhaust pipe. Complaints first. The most serious concerns the inadequate exhaust pipe/fuel tank clearance. Both the tank and pipe are free to move around slightly; consequently, the raised seam on our bike's upswept pipe melted a small groove into the tank. By taping a couple of shop towels onto the frame backbone, we raised the tank off the pipe (a lazy but effective fix). The hot exhaust pipe also intrudes on knee space when

the rider slides up on the tank in turns. And the clamp that joins the silencer and pipe was forever loosening and letting the muffler rattle around. A stainless steel hoseclamp will fix this last shortcoming.

Now praise. The muffler can be rebuilt, so you can replace the fiberglass packing when it gets oil-saturated or blown out. The big improvement in the 1982 pipe is its mounting system; last year's Mega 2 was plagued with fractured pipe

mounts. No fractures this year.

Other small but important improvements to the 490 include a new, easy-to-grasp gas cap. Though the old-style Maico caps sealed well, they were difficult to remove. A new, more substantial roller-equipped chain guide is bolted to the swing arm, and the rear brake is now full-floating. The rear end doesn't chatter or hop while braking, but the rear brake offers little in the way of feel or power;



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only a healthy tromp on the brake pedal gets the rear brake working hard. In addition, both the brake pedal and shift lever become slippery when wet or muddy. Fortunately, the front brake is better than the rear; although it too requires a moderately firm squeeze for maximum stopping power, its feel and progressive action are excellent.

Maintenance chores with the Maico 490 are easy and few. The Motoplat ignition system has no points to adjust or wear; only the easy-to-reach spark plug needs regular attention. The Alpha 1 carries a new set of chain adjusters, making

chain maintenance simpler than it was last year. To get to the air filter takes removing only two bolts and the seat. An ingenious wire-rod retaining system holds the filter in place with spring tension; it removes in two seconds.

The filter itself is a good Twin-Air foam element that should be durable and effective. If you cut away the airbox according to our unofficial fix, you may want to pop-rivet a piece of sturdy wire mesh in place to keep out large dirt clumps. In wet weather, tape over this accessory air duct to prevent the engine from drowning.

Maico motocross machines have always been expensive and they still are: the 490 Alpha 1 costs about \$400 to

\$500 more than most other current big-bore motocrossers. However, there's never been any doubt that you *can* win at the local level on a Maico if *you* are up to the task; a quick visit to the winner's circle at any track in the country provides concrete proof. The suggested retail on the Alpha 1 is \$2720, only 21 dollars over last year's twin-shock Mega 2. We'll be glad to bet you that 21 dollars and more that the price increase from 1981 to 1982 doesn't come close to covering the increased production costs for the new Alpha Control rear suspension system. So don't think of the 1982 Maico 490 as an expensive motocrosser; look at it as a bargain on new suspension technology. ●

Cycle TEST SPECIFICATIONS

Make and model Maico 490 Alpha 1
Price, suggested retail (as of 1/5/82) \$2720

ENGINE

Type ... Two-stroke, piston-port, air-cooled single cylinder
Bore and stroke 86.5 x 83.0mm (3.41 x 3.27 in.)
Piston displacement 488cc (29.8 cu. in.)
Compression ratio 12.0:1 (full stroke)
Carburetion (1) Bing 40mm
Exhaust system Upswept with repackable silencer
Ignition Magnetically triggered CDI
Air filtration Oiled foam
Oil capacity 0.60 liters (0.63 qts.)
Bhp @ rpm 43.72 @ 6500
Torque @ rpm 36.52 @ 6000

TRANSMISSION

Type Five-speed, constant-mesh, wet clutch
Primary drive Twin chains; 1.86:1
Final drive #520 chain, 14/56 sprockets; 4.00:1
Gear ratios (transmission) (1) 2.71 (2) 1.97 (3) 1.50
..... (4) 1.20 (5) 1.00

CHASSIS

Type Dual-downtube, full-cradle, chrome-molybdenum frame
Suspension, front Leading-axle, air/spring fork with 305mm (12.0 in.) of travel
rear (1) Corte & Cosso reservoir gas shock adjustable for damping and preload yielding 320mm (12.6 in.) of travel
Wheelbase 1510mm (59.5 in.)
Rake 28.5°
Brake, front Single-leading-shoe drum with 25 x 136mm (0.98 x 5.35 in.) shoes
rear Single-leading-shoe drum with 30 x 160mm (1.18 x 6.30 in.) shoes
Wheel, front Akront 1.60 x 21 rim with one rim lock
rear Akront 2.15 x 18 rim with one rim lock
Tire, front 3.00 x 21 Metzeler Moto Cross
rear 4.50 x 18 Metzeler Moto Cross
Seat height 972mm (38.3 in.)

Ground clearance 352mm (13.9 in.)
Footpeg ground clearance 362mm (14.3 in.)
Fuel capacity 9.5 liters (2.5 gal.)
Curb weight, full tank 120.0 kg (264.5 lbs.)
Test weight 192.5 kg (424.5 lbs.)

CUSTOMER SERVICE CONTACT

West: Maico West Inc. East: Maico USA Inc.
110 E. Santa Anita Avenue 1256 Progress Road
Burbank, CA 91502 Suffolk, VA 23434

