

COMING FAST FROM THE BACK OF THE PACK...

DIRT BIKE TESTS THE REST

*Impressions of the
Ammex,
Carabela,
Harley-Davidson
and Villa*

by The Staff of DIRT BIKE

Have you tried to count how many brands of dirt bikes there are on the market at this time in the U.S.? We have, and came up with 19 different marques that you can choose from if you want to go dirt riding. You will be pleasantly surprised to know that 14 (yes, 14) of these have been featured in tests in DIRT BIKE Magazine during the last 18 months. In this issue we'll cover the remaining five brands. The Hercules 175 can be found somewhere else in these pages as a special technical feature test. It's an innovative design and we feel it merits this attention. The other four are "tested" right here. We qualify the word "tested," because these are not supposed to be real honest-to-goodness full-scale tests, but merely presentations and introduction, with a one-day test ride each, of these new brands to the dirt market. That is far more riding than many other magazines do for their full tests. The distributors for these brands are still small compared to the rest, and it would have been unreasonable to ask them to deliver a bike to us, since none of them are located here in Smogville. We went on the road and visited the Islo Honda plant in



Saltillo, Mexico, met with the Harley-Davidson people at Mid-Ohio International RaceWay, Carabela at their U.S. distributor in Alpha, Ohio, and then stopped in the San Francisco area to try out the Moto Villa on the way home.

Of this foursome, Carabela is the only manufacturer who has a complete line of bikes available right now; 100, 125, 175, 250 and 450 cc models are offered in both motocross and enduro trim. Additionally, bicycles, mini-bikes, mopeds, and both a short-tracker and a speedway bike are offered. Moto Villa is second in terms of diversity, having both a 250 and a 450 MX available at this time. Harley's 250/MX will likely be available by the time you

read this. Their line of dual-purpose bikes, the SX125, 175 and 250, have, of course, been available all along.

Ammex will be the last to get their 250 on the market. That will take place during the latter part of '77, making it for all practical purposes a '78 model before production reaches any significant numbers. As in the case of H-D there is also a 360 version being tested at this time, but it is still too early to talk about any production plans. Ammex is the new name for the late Cooper motorcycle, being produced by the Moto Islo plant in Saltillo, Mexico. The Cooper 250 Enduro production line seized some time ago and, needless to say, no more bikes will be produced under that name.

AMMEX 250 5V

The Ammex motocross project is a product of the efforts of Don and Gary Jones and the Islo factory. Don's and Gary's vast knowledge of motocross bikes, combined with Gary's riding ability (see interviews in the Nov. and Dec. '76 issues of DIRT BIKE Magazine), will be used toward the goal of producing a very competitive MXer.

The Islo plant is only a small part of a big group of factories, privately owned, in Northern Mexico. The group includes a steel plant to produce the steel used in the other factories, a brick factory, etc. It is interesting to note that this is the only factory in the world that produces Honda motorcycles in which Honda themselves do not have complete control over the operation. Only a couple of dual-purpose bikes, based on the SL90 of a few years back, are produced under the Honda name. Total two-wheel production is around the 20,000 mark, and the majority are sold in Mexico, of course. Other motor products include three-wheel transporters and stationary industrial-type engines. Street bikes in 90, 125, 175, 200 and 250 sizes are produced, using an Islo design that has proven very reliable.

The 200 and 250 incorporate the same engine that is used as a base for the motocrosser, but it has by now been almost completely redesigned, with stronger and bigger bearings all around, beefed-up gears and crankcase, new crankshaft, new top end and so on. The basic engine layout has been retained, however. The hefty crankshaft drives the clutch via a duplex chain, and a regular "gear rod" actuates the clutch from the outside. The five-speed transmission has a straight-through drive in fifth gear, with the "countershaft sprocket" located on the mainshaft. The countershaft itself is located right under the mainshaft, with a shifting cam plate located vertically behind them. There are future possibilities of locating the swingarm pivot close to the drive sprocket. A Dansi electronic ignition does the sparking.

While we visited the factory, ten new prototypes were put together for further testing on a wider basis. Eight of these were completed in time for the biggest motocross race of the year in Mexico, the Premio de la Amistad — the Friendship Prize. All of them completed the race



Race-testing the Ammex at the Premio de la Amistad, Mexico's biggest race. (Rex Reese photo)



Gary Jones' prototype already sports the new forks.



A "test" of the three-wheeler was absolutely necessary of course. Mike Tripes demonstrates the highsiding ability. (Rex Reese photo)

without any single, major, mechanical failure. The hubs and forks used for the event are soon to be replaced with components made in Mexico of an entirely new design. Work is also being done on an up-pipe to replace the unit used at the time of the race and "test." Two different types of cylinders were available, one with reeds and one without. The reed/cylinder certainly was very fast, but the piston port had a more usable powerband, in our opinion. The overall handling of the bike, we felt, was really excellent, and the 200mm travel front and rear was very adequate for the track we did our riding on. The brakes were very weak, especially when wet, but these wheels are just an intermediate solution before the new hubs are finished. These both are full width with straight spokes and brakes located in the middle, between the two spoke flanges, to eliminate any chance of the heat from the brakes loosening up the spokes on one flange more than the other. They are also lighter than the Grimeca hubs presently used. A number of other weight saving changes will be made throughout the bike. Still, the overall weight is 103.7 kg (about 228 lbs), which is competitive today for a production bike.

When we left the Islo factory we were certainly a lot more impressed than we had thought that we would be. Everybody from management on down showed great involvement and concern for the new product, and there definitely are a number of very knowledgeable people involved.

AMMEX 250 MX5

Brand and model	..... Ammex 250 MX5
Price (approx. retail)	N/A (still in prototype stage)
Engine type:	Piston port or reed valve, two-stroke, single
Bore and stroke	..... 70mm x 64mm
displacement	..... 246cc
Carburetion	..... Mikuni 36mm
Clutch	..... Multi-plate, wet
Primary drive	..... Duplex chain
Transmission ratios	..... Not finalized
Final drive	..... 520 chain
Air filtration	..... K&N cartridge
Electrics	..... Dansi CDI
Frame	..... Double cradle
Suspension:	
Front:	Ammex forks, 225mm travel
Rear:	Boge-Mulholland Freon bag shocks, 225mm travel
Wheelbase	..... Not finalized
Fork angle	..... 29 degrees
Weight	..... 103.7 kg (228 pounds) actual
Start system	..... Primary kickstart

CARABELA 250 MX CENTAURO

Perhaps the least known of these four brands, but certainly the biggest seller in the U.S., is Carabela. Carabela motorcycles in the form we know them have only existed for about three years. The first year that saw any significant sales in the U.S. was 1975, when slightly over a thousand bikes were sold. The number was tripled in '76 and Carabela U.S. will try to double that figure for '77. That will mean about 6500 bikes for the States for this year, an impressive figure indeed.

Acer Mex, S.A., the parent company, is located in Mexico City, where it is part of a large group of companies, much like Moto Iso in this respect. Acer Mex, too, owns their own steel plant where steel for all of their factories is produced. Their 1976 total two-wheel production reached 56,000 units, 40,000 of which were bicycles. Those figures will be increased in '77, as the factory has upped its production capacity.

The origin of the Carabela engines goes back to Italy. Some four years ago an agreement was made with Minarelli for the smaller engines and with Moto Villa for the larger sizes, to use their respective designs as a basis for further development, which was to be carried out in Mexico. The engine is a very modern and reliable unit, and no shortcuts have been taken that could cause problems later on. About the only criticism we can come up with is its lack of primary kickstarting, something necessary on any bike for the future.

Engine layout is traditional, with gear-drive on the right-hand side and a multi-plate wet clutch. On the left a Motoplat takes care of the "sparking," and your basic Mikuni does the mixing.

The downpipe exits on the right-hand side and prevents a floating brake hookup, something that the rear hub already is prepared for otherwise. The hubs are very Yamaha-like, to say the least, and are laced to the D.I.D rims with good spokes, in total some of the best wheels in the business. Carlisle tires are fitted and proved to be better than some of the tires other factories fit stock, especially on hard or tacky



tracks.

Fiberglass is used for the side panels and tank, and the latter is held down with a rubber-like strap. The seat leaves a big gap between itself and the fender, space that should have been used either for more padding in the seat or for more travel in the rear suspension.

The fenders are made out of plastic, the front one being a little short on top to protect the rider from his own front wheel spray.

Our test bike was absolutely new, not having been ridden before at all.

The test track was a very snotty semi-muddy type, so going easy in the beginning to give the bike some time for a break-in was no big problem. The real problem was to stay on the wheels at all. As the day wore on, the track dried up a little bit and the traction got better and better. Our 250 Centauro MX was an easy starter all day and the carburetor jetting proved to be spot-on right out of the box. The grips and levers are all Mexican-made and nice, with black dog-leg levers for clutch and brake. The



Simple but very sturdy chain guide keeps the chain on the Rococo-sprocket.

throttle, however, we felt was a little too "slow" and also needs to be taped, to cover a slot designed to aid replacement of throttle cables. Bars are sort of CZ-like and, well, you can't please everybody anyway. Lever covers are missing.

One of the first things that strikes you when you get on the bike is the way the suspension works. The front forks are Mexican-made Betors with 200mm travel and the shocks are Carabela-made Freon bag style units. Both front and rear work very well. Rear travel is a little less than the front at 190mm. Actually, the shocks can also be mounted in three other positions, but we doubt that anybody would like to try that, as it will give less travel than the setup we used. The front forks worked just fine, but we have to admit that the rear bottomed out from time to time and was in need of stiffer springs for our heavy testers.

Handling otherwise is excellent, with a slight tendency to understeer.

Dropping the fork tubes some 20mm through the fork crowns takes care of that, and you are left with a very good handling and turning motorcycle. Because of the muddy track, the rear brake cable became a little sticky at the end of the day. It appeared as if the cables were not lubed from the factory, because the throttle also became heavy to operate in the end. The brakes otherwise are good and powerful.

This is another engine with a very good and rideable powerband, and, although it felt like it was giving away some to the heaviest competition, we were told that some extra power was easily obtainable through porting. Specs are already known to the factory people. We don't want to give you the impression that the engine is slow, just that there is a bit missing in comparison with the Grand Prix winning replicas mentioned elsewhere in this issue.

The Carabela Centauro 250 MX was a very pleasant experience for us. Here is a reliable, competitive bike that will give weeks, months and years of fun for a reasonable price. But a Grand Prix winner it ain't. Yet. Keep your eyes open, however. If Carabela has come this far in three years, imagine what they can do with a couple more. If you have a dealer close, go check one out. With five sizes and ten models, they might have one for you.

CARABELA 250 MX CENTAURO

Brand and model:

Carabela 250 MX Centauro

Price (approx. retail) \$1399

Engine type:

Piston port, two-stroke, single

Bore and stroke 70mm x 64mm

Displacement 246cc

Carburetion Mikuni 36mm

Clutch Multi-plate, wet

Primary drive Straight gear, 2.680:1

Transmission ratios:

1) 2.214

2) 1.555

3) 1.190

4) 0.946

5) 0.800

Final drive 520 chain

Air filtration Double oil foam

Electrics Motoplant CDI

Frame Double cradle

Suspension:

Front: Betor GP, Teledraulic, 200mm travel

Rear: Carabela Freon bag shocks, 180mm wheel travel claimed

Wheelbase 146cm (57.5 inches)

Fork angle 31 degrees claimed

Weight N/A

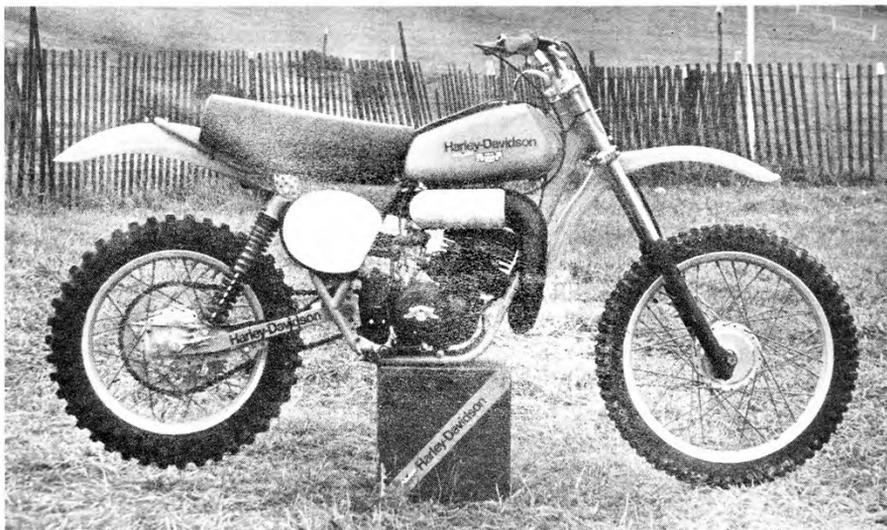
Start system Kick start

HARLEY-DAVIDSON 250 ME

Of the four brands mentioned in this story, we'll have to say that the one with the heaviest involvement into development and racing is the Harley-Davidson factory. Consequently, they also have the most finished product. The new Harley-Davidson ME250 (ME for Milwaukee Express) has been raced, not without success, during 1976 by full-time test and development rider, National #46 Rex Staten.

Producing motocross bikes is something entirely new to Harley-Davidson. It's a factory with traditions that go back to day one in motorcycling. Big V-twins have always been their bag. It was not until the '60s that Harley, through an agreement with the Aero Macchi factory in Italy, expanded their line to include something smaller than the big twins. Aero Macchi's full line of smaller single-cylinder bikes, both two- and four-strokes, were introduced to the U.S. market. This line also included the SX250, which was a dual-purpose machine intended to compete with the Yamaha DT1. In the early '70s, with the continued success of motocross racing, plans to build competitive motocross bikes took form in Milwaukee. It had to be built around the SX250 engine, which was basically a good and reliable unit. Everything else had to be built from scratch. The first prototypes saw the light in early '75, and used unique components in many places. Testing and racing have brought about many changes to that original design, not only to make it work well, but also to keep up with the development that has advanced radically in the last two years.

The result, soon to be distributed to dealers, is a finished product that works extremely well. It is also a very modern design that will last for some time — with its offset axle forks, up-pipe, primary kickstart, combined chain tensioner and guide, etc. The engine design is all Italian, but the suspension is from Japan (Kayaba), and the frame and most other components are designed in Milwaukee. Most of the bike will be built and assembled in Varese, Italy, at the Harley plant, but some small add-ons are expected once the



bike has arrived in the States. Delivery of the first bikes is expected during the end of January '77.

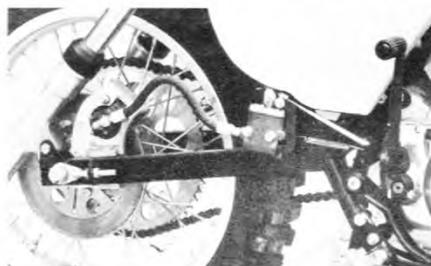
Engine design is basic in its layout. The crank drives the huge clutch via a gear on the right-hand side and the five-speed gearbox is drum-shifted. An "inverted" Dansk pointless ignition gives the spark. When we say inverted we mean that

the flywheel is installed "inside-out" and the stator plate is attached to the outside case, as on CZs and the new red engine Honda works bikes. Our bike was a very early and hand-built production prototype and there were a few small changes still to be made before the absolute production version that you will see on the dealer's floor. (Next to a 74-cubic-



By just removing the cover you will have the whole primary ignition unit in your hand. The backing plate is permanently located in the cover, timing adjustments are done by moving the pick-up, seen at the outside of the flywheel at five o'clock, right in front of the folding shift lever.

inch FLH?) The two most important changes will be the removal of the rear frame loop and the addition of



Prototype from 1975 using the rear fork suspension and a disc brake.

reservoirs on the rear shocks. The pipe will be tucked in differently and the Mikuni carburetor will most likely be replaced with a 38mm DellOrto. Some details on our bike will be finished better before the production takes place, such as front brake attachment on the fork leg. Also, the fork stops will be part of the triple clamps. Good accessories abound on the Harley, such as Magura throttle and levers, folding shift and brake lever, good D.I.D rims with adequate lacing, good cable routing and a pair of very comfortable handlebars. The influence of a top rider and the honest effort of the technicians toward making this bike a trouble-free finisher are evident wherever you

look.

The test ride left us very impressed, too. The 230mm travel front and rear suspension, coupled with a very quick motor, offered both good handling and speed. Turning is as good as any bike's, the front end sticks very well. We had some slight difficulty with a rear brake cable that wanted to bind a bit, but, considering the conditions under which the test was done, that is a problem that could be easily solved. Our test track at Mid-Ohio Motocross park was quite slippery and muddy from the rainy Trans-Am of the day before. We "found" some good, deep, honest ruts in a couple of the turns and actually saw the shift lever and brake lever "fold" when they hit the ground. They work. Clutch action is very smooth and strong and the shifting is easy, with very short movement of the shift lever between gears; so short, in fact, that every once in a while we hit neutral between first and second gears. You must move the lever all the way to the stop.

We found the Harley-Davidson to be a full-fledged MXer, worthy of comparison with the best in its class. If the bike we rode — which, after all, was a hand-built prototype — can be produced without too much changes, Harley can look forward to much success also in MX circles. They own the dirt tracks right now.

HARLEY-DAVIDSON MX 250 ME

Brand and model:	Harley-Davidson MX 250 ME
Price (approx. retail)	.....\$1495
Engine type:	Piston port, two-stroke, single
Bore and stroke	.....70mm x 64mm
Displacement	.....246cc
Carburetion	.....Dell Orto 38mm
Clutch	.....Multi-plate wet
Primary drive	.....Straight gear, 2.73:1
Transmission ratios:	
	1) 2.286
	2) 1.611
	3) 1.238
	4) 1.0
	5) 0.846
Final drive	.....520 chain
Air filtration	.....Oiled foam
Electrics	.....Dansi CDI
Frame	.....Double cradle
Suspension:	
	Front: Kayaba forks, 230mm travel
	Rear: Kayaba reservoir gas shocks, 230mm wheel travel
Wheelbase	.....147cm (57.75 inches)
Fork angle	.....30 degrees
Weight:	
	102kg (225 pounds) dry, claimed
Start system	.....Primary kickstart

VILLA 250 AND 450 MX

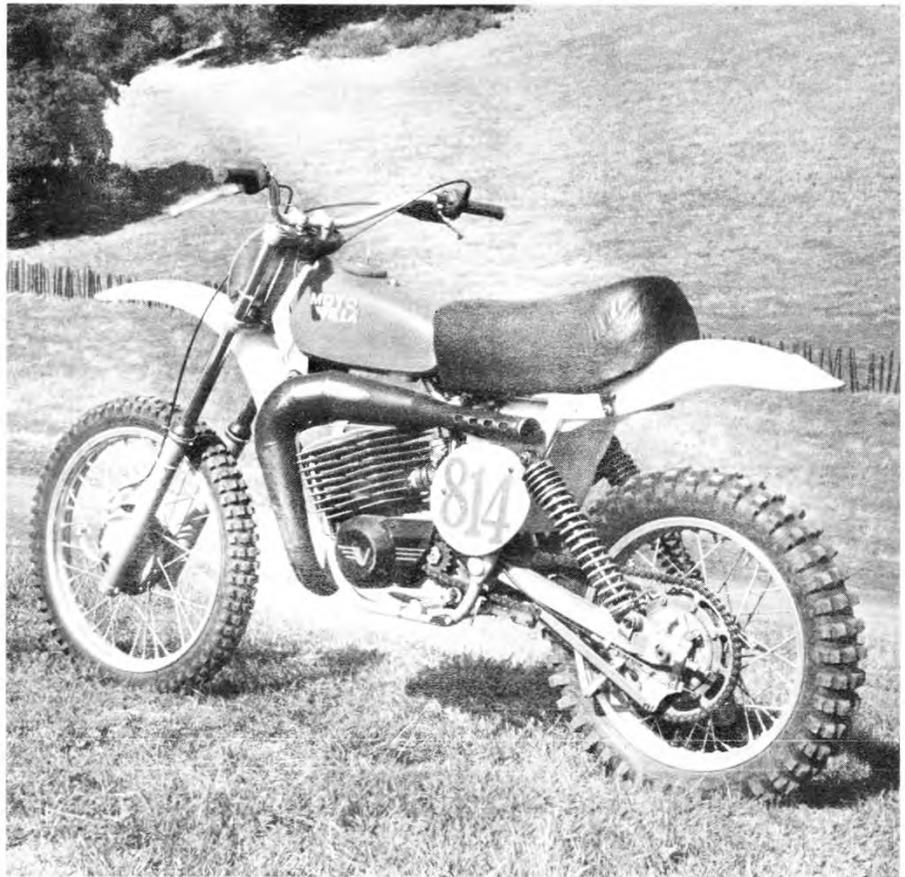
Moto Villa, the name rings familiar in racing circles. Right, the current 250 and 350 World Champion road racer's name is Walter Villa. Seems like there would be no connection there with a dirt bike, but strangely enough, there is. Walter's brother Francisco, who some three years ago (1974) was building a small factory to produce road racers, met with Bob Svensson from the U.S., who quickly (?) convinced him that building a motocrosser would be much more appropriate. Francisco certainly knew how to build engines and Bob had some knowledge about frames, so together they laid out the plans for the Moto Villa MXer. About this time a set drawings of the engine was sold to Carabela for use in their 250 and 450. Incidentally, they have produced about as many engines in Mexico as Villa himself. 1975 and '76 have been the first two sales years in the States for this company. The official name will shortly be changed to Villa with the "Moto" dropped.

We had a chance to try both the 250 and the 450 '76ers. The '77s were not in yet, but we are told that the 250 will be radically changed. Previously being based on the 450 crankcase, it will now get its own, and consequently lighter parts throughout the entire engine. Work is also being done right now on a 125 engine, which should be introduced around the middle of the year, if things go as planned and the bike is competitive.

Villa people on both sides of the Atlantic really aim for the highest quality and durability of their product. Therefore, many components are made in America, as well as all over Europe. Final assembly, particularly on the 450, is done here in the U.S.

The Italian factory, located in Bologna, has been in business for two years and currently employs about 40 people, manufacturing and assembling the bikes. Production in '77 is estimated to reach the 1000 mark, with of course the majority coming over here. Distribution in the U.S. is done solely through Moto Villa Ltd. in San Jose, California, and their dealers.

The engines, designed and manufactured by Francisco Villa, are



Smooth tractorlike pullingpower is the number one trademark of the 450 model.

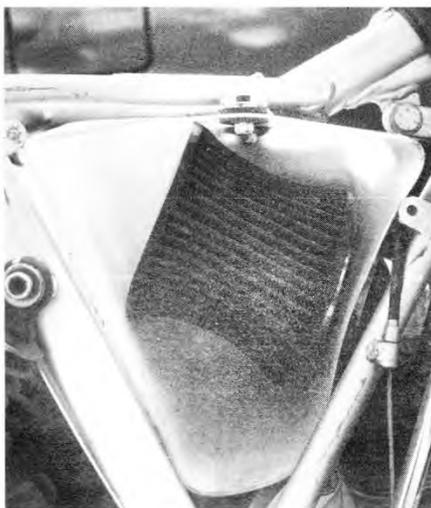
very straight and similar in design. They are also very robust and should prove reliable. Weight is the only penalty for this, especially in the case of the earlier 250s, which had a bit of a weight problem. This should be rectified with the introduction of the '77 models. The weights which were quoted to us were very competitive.

Up till now, all engines have had a chrome bore but, for service reasons, all newer engines will have a steel

sleeve so that the cylinder can be rebored. The 250 uses bridged intake and exhausts with dual transfers and a fifth booster located between the two intakes, while the 450 uses single everything. Big-diameter crankshaft wheels give the necessary flywheel inertia, therefore only a small (116mm) Motoplat ignition is used to give the sparks. Straight cut gears drive the huge and heavy (on the 450) clutch. Primary kickstart will be incorporated into all the '77s, we



Excellent suspension is the number two feature where the Villa scores very well. Our unit was equipped with a test set of Works Performance shock absorbers. Forks are Marzocchi 240 mm-er's. MotoVilla was sold out at the time of our test and they had to borrow back one of their customer's bikes.



Large K&N air cleaner resides in U.S. made plastic airbox.

were told. The kickstarter arrangement is now located behind the two shafts in the transmission, making the engine quite long and the distance between the countershaft and the swingarm pivot longer than on most. The gearbox is, of course, drum-shifted, with a gear arrangement to turn the drum. It is located underneath the two transmission shafts in traditional fashion. A Mikuni carburetor, 38 on the big-bore and 34 on the 250, supplies the fuel.

The double cradle frame is very sturdy looking and has been extensively redesigned, compared to last year's unit. 240mm magnesium Marzocchi forks on tapered steering head bearings handle the front, and new Italian Corte Cosso gas shocks (known in this country under the Mickey Thompson name) give the rear end a similar amount of travel. The air box is aluminum and is serviced from the side, KTM and Husky style. Magura levers are all

around.

RIDING IMPRESSIONS

Both the 250 and the 450 were easy starters and proved to have good, strong powerbands, especially the open classer, which had very "long," smooth and predictable power. Shifting was very short but precise and of the "click-click" style. Neutral was sometimes a bit hard to locate with the engine running.

Steering was spot-on and the suspension, as you can imagine, didn't leave anything to be desired, with those famous components installed. Brakes on our unit, especially the 450, were quite weak, but the new hubs for the '77 models are said to be very effective. The bike feels a little heavy to manhandle around in the tight stuff, but that feeling is easily made up for by the good power and the excellent handling.

After only two years of development the Villa brand has strong potential to become one of the future major racing marques. They are now trying to tie up with a hot rider for further development and also for racing in the National Championship series in '77. Even after our short rides the good quality and the reliability of the bike were quite easy to appreciate. If you have a dealer in your neighborhood, check the Villas out. You will like what you see.

MOTO VILLA 250 MX and 450 MX

Brand and model:	Moto Villa 250 MX and 450 MX
Price (approx. retail)	.....N/A
Engine type:	Piston port, two-stroke, single
Bore and stroke:	70mm x 64mm and 86mm x 79mm
Displacement	.....246 and 458.9cc
Carburetion	.....Mikuni 34 and 38
Clutch	.....Multi-plate, wet
Primary drive	.....Straight gear, 2.68:1
Transmission ratios:	
	1) 2.214
	2) 1.555
	3) 1.190
	4) 0.956
	5) 0.80
Final drive	.....520 chain
Air filtration	.....Oiled foam
Electrics	.....Motoplat CDI
Frame	.....Double cradle
Suspension:	
	Front: Marzocchi magnesium forks, 240mm travel claimed
	Rear: Gas shocks, 240mm travel claimed
Wheelbase	.....140cm (55 inches)
Fork angle	.....29 degrees claimed
Weight	.....N/A
Start system	.....Kick start