# Suzuki's RM125A Their Latest Bid For 125 Supremacy


# HAS THIS NEW SIX-SPEEDER LEAPED AHEAD OF HONDA AND YAMAHA... OR MERELY CAUGHT UP?

**BY RICH COX**

**PHOTOGRAPHY: MIKE PARRIS**

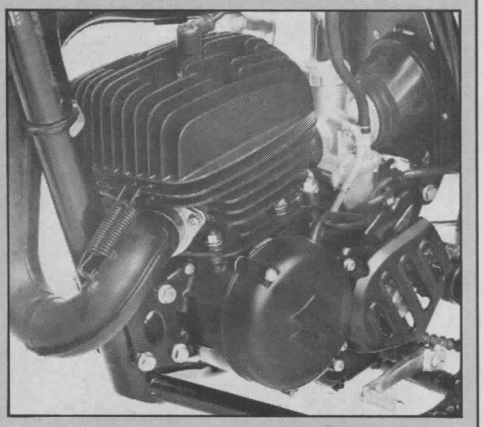
The way things have been going these last few months with the Japanese trying to better each other every time they rearrange the assembly line, it's no wonder models are obsoleted while in the hold of the cargo ship on their way across the Pacific. For the consumer, it's both good and bad. He's assured of getting an improved bike each year that features the latest technology and yet if he buys one, he must realize that it will only stay truly competitive for that same year. Well, whether you like it or not, Honda, Yamaha and Suzuki have done it to you again this year with their 125 MXers. They all got face lifts for '76 and we should say that the improvements are many. Two months back we sampled Yamaha's new YZ and found that it'll run circles around most other 125s *except* the new Suzuki and Honda. Let's peek up the sleeves of the Suzuki and Honda engineers and see what magical wonders *they've* been developing these last six months. In the end we'll throw all three bikes onto the track at once and see who's got the slight advantage for '76.

With tears in our eyes, we are saddened to say that last year's RM125M Suzuki is now considered history, obsolete, a machine of the past, and serves only as a point of reference when comparing their latest model called the RM125A. Sensing that the original version would be totally stomped on in '76, Suzuki has burned the midnight oil and updated it into practically a brand new motorcycle. We found many of the faults that were present in the '75 RM have been corrected, with even a few tidbits added for icing on the cake.

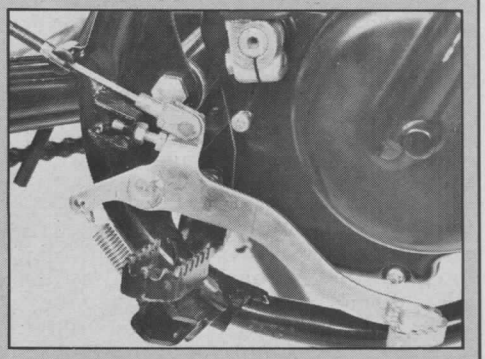
# Suzuki


After strengthening the frame and swing arm, and adding longer suspension front and rear, Suzuki still reduced the RM's weight by three pounds over last year. Increased rear travel is gained by mounting the shocks an inch further down the longer arm. The fuel tank is now aluminum instead of steel.

Longer fork travel and increased trail gives the RM more straight-line stability. Larger front fender has been stolen off the RM250 for better protection against mud.



RM powerplant has been totally reworked with the addition of a six-speed gearbox, bigger 32mm carburetor, new cylinder head, barrel and piston, and reed valve induction into the cases. It's more responsive throughout and also more temperamental when it's being lugged.



After some slippery complaints, Suzuki changed to a cleated brake pedal perch and footrests. The footrests are also spring loaded instead of the familiar flopping pieces of metal.

Both Suzuki and Honda come standard with this new "Variable Pitch" Bridgestone tire. It seemed to work considerably better than the Dunlop rubber on the Yamaha.

Brought out first as a five-speed, the RM was a gear shy of being perfect. This year Suzuki has upped it to six, keeping it in trim with the Honda and Yamaha. The enlarged gearbox also sports a gear-actuated gearshift mechanism instead of the pin-actuated type—all designed for smoother and crisper shifting.

Six speeds would have been useless without additional horsepower, so Suzuki engineers did some chunking here too. The engine now has what is called the "Power Reed" intake system. The intake gases enter the engine in two places: through the normal piston valve inlet and also through a new path which leads directly into the cases. This second path is fitted with a reed valve that opens and closes at certain angles during each two-stroke cycle. Inlet timing has also been altered with the inlet port opening slightly later and closing slightly earlier. This, in conjunction with the case-inducted reed, allows more bottom and mid-range torque. Flipping the cylinder bore over, you'll notice it has six scavenging ports just like the old RM—but the number of partitions on the entrance side of the scavenging passages has been reduced from four to two; it increases the intake area and makes for a better gas flow.

The piston itself has undergone some minor changes. The crown is re-shaped to produce smoother flow of intake and exhaust gases through the ports. In an effort to retain reliability, Suzuki has increased the size of the wrist pin allowing the use of larger needle bearings. Striving to extract every last bit of horsepower, they've even gone to a thinner set of Keystone rings measuring 1.2mm instead of 1.5mm thick.

The cylinder head got changed on top and underneath. The head bolts have been rearranged into a different configuration to allow cool air to strike the plug head-on and the plug hole is slightly angled instead of straight up and down. Turning the head over, you'll see that it's been notched around the gasket area to fit snuggly into a corresponding notch on the cylinder sleeve bore; this eliminates the possibility of installing the head slightly off center.

From the outside the engine looks relatively the same, aside from a larger 32mm Mikuni carburetor and a new up-pipe that puts it in style with its bigger brothers. Put it all together and you've got a much livelier engine than last year's. It pulls stronger through the entire power band, and revs higher at the top-end. However, you didn't get these benefits for free—you don't git nothin' for free. The higher output engine signs off more quickly at the lower revs and seems to load up easier and more frequently than last year's engine. It leaves zero room for a mistake and if you goof a gearshift or select the wrong one, you're gonna get passed by about ten hungry Yamahas.

Surrounding the powerplant is a

new chrome-moly frame featuring thinner tube walls for less weight. Suzuki claims that although the walls are skinnier, the frame is stronger and more rigid than the earlier carbon steel unit. Up front the Suzuki engineers have managed to pull a little over a quarter-inch more travel from the forks and have altered the head angle from 29 to 30 degrees. The trail has therefore jumped from 4.80 to 5.10 inches giving the new RM better straight-line stability.

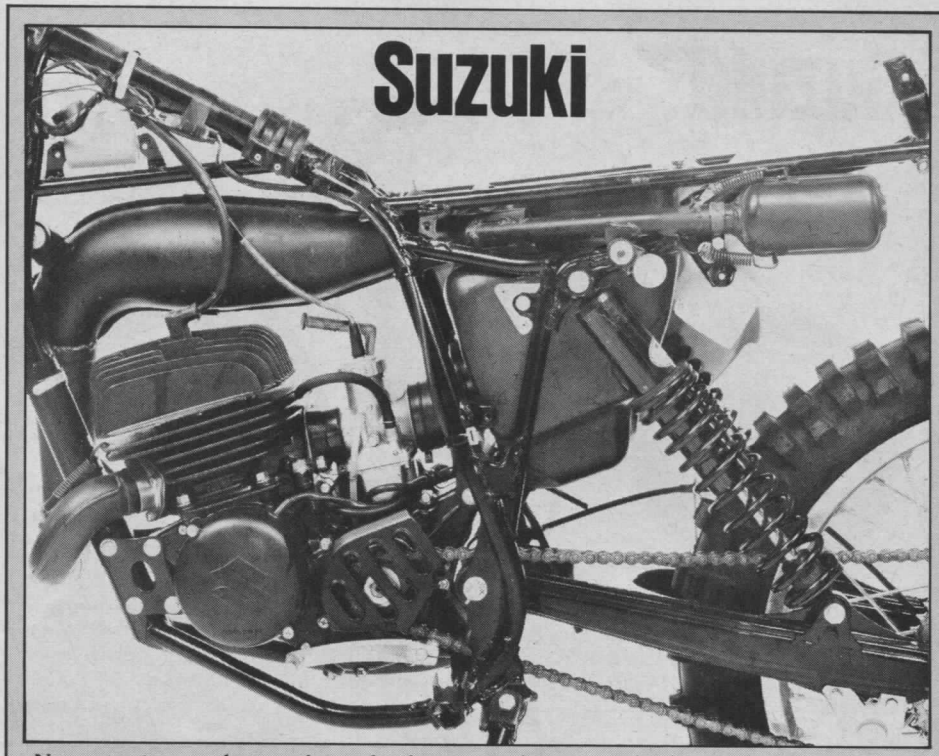
Rear wheel travel has also ballooned close to ½-inch more by increasing the angle on the shock; the Kayaba shocks remain identical aside from a slightly larger cylinder diameter. The swing arm is over two inches longer than it was last year and is made from stronger steel plate stock instead of the weaker tube stock—it increases the swing arm's reliability and the longer wheelbase further increases overall stability.

One common complaint concerned the slippery brake pedal and footrests, so sure enough, this new version is equipped with cleated units in both cases. The front fender got wider but lost its mud flap in the process, and even the hand grips got a face lift job.

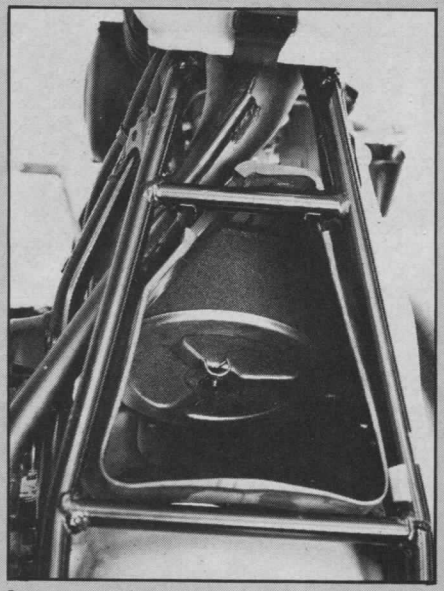
If you're thinking of swapping any of the newer RM's major parts onto your older RM, forget it kid! Would you believe that the clutch plates are the only major engine parts that can be interchanged and that the front fork assembly is the only chassis component common to both frames. We weren't kidding when we said it was *totally* new! Anybody want a slightly used RM that's only been ridden on Sundays?

You Honda owners are a bit luckier as the changes haven't been quite so extensive. Unfortunately a can of red spray paint won't bring your '75 model up to '76 standards. The H in Honda should stand for horsepower because when it comes to the 125 class, Honda's always been right on top. It's no different this year as a little fiddling here and there has once again pushed the Elsinore out front in the horsepower race. Looking closely at the engine you'll see that the cooling fin surface area has been increased both around the barrel and also on the head. All 125s have been susceptible to heating problems, particularly the Honda in past years, and this extra finning should help reduce horsepower loss from overheating. Bigger must be better when it comes to carburetion because all three have bigger jugs for '76, with the Honda going from a 28 to 30mm Keihin.

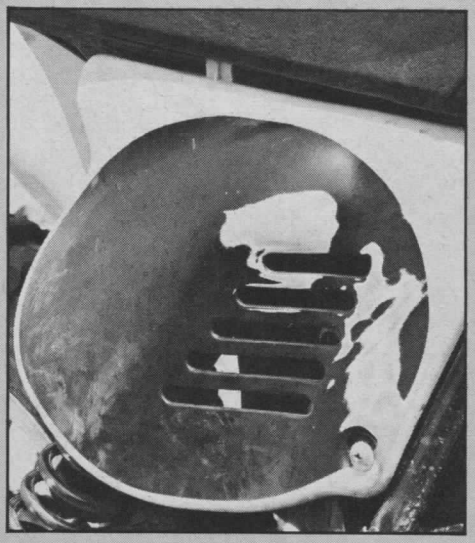
Down deep inside is a new cylinder design, with the exhaust port a little larger and sporting a new configuration. Capping off the barrel is a new cylinder head featuring a new combustion chamber shape that lowers the compression ratio from 7.6:1 to 7.5:1 while improving combustion at the same time. These changes, in conjunction with the more radical port timing and a re-designed exhaust system, have produced an engine that will wind effortlessly around 10,000 rpm and produce horsepower all the way up. It's quicker than the Suzuki and Yamaha wherever horse-




New up-pipe curls up through the new chrome-moly frame and immediately identifies the RM as being a '76 model. Frames can't be interchanged because the muffler and engine are mounted differently from those of the RM125M.



Larger air box accommodates a much larger air filter than last year's model. It's more easily accessible than the ones found on the bigger RMs.

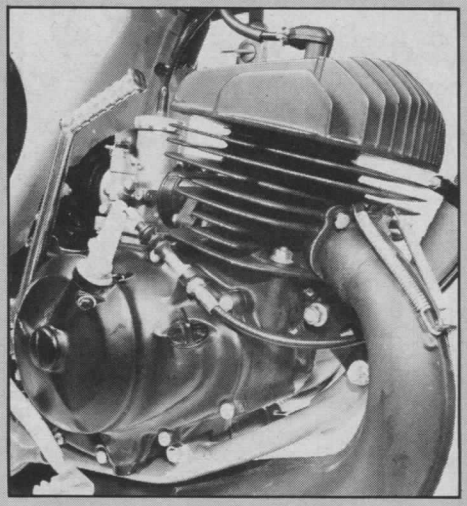


Trick looking slots in the bulging side covers are supposed to let cool air to the shocks and help prevent overheating. Worn areas show where boots make contact with the cover—could be irritating to some riders.

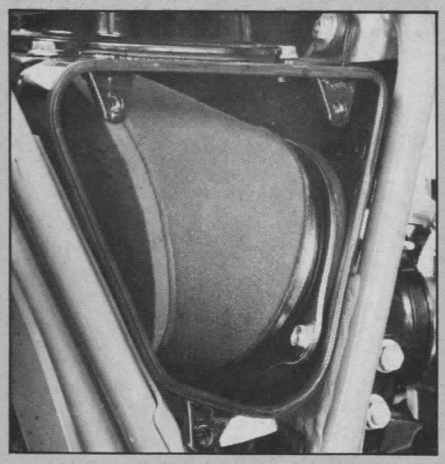
# Honda

Fire Engine Red all over, the '76 model stands out in any crowd. Though it's 18 pounds heavier this year, the increased horsepower and longer suspension will keep the Honda right up front at any local race track.

Forward mounted gas Showa shocks give close to six inches of wheel travel; springs are five-way adjustable. Even with its super thick seat, the Honda's ride is not quite as plush as that of the Yamaha and Suzuki. Larger 4.10 Bridgestone is standard.



Perfectly matched engine and gearbox keeps the power on tap at all times. With its new pipe and carburetor on the outside, and the changes inside, the Honda has gained a slight power advantage in '76.



Wetted foam air cleaner is shielded by an improved air box that provides better dust and water protection.

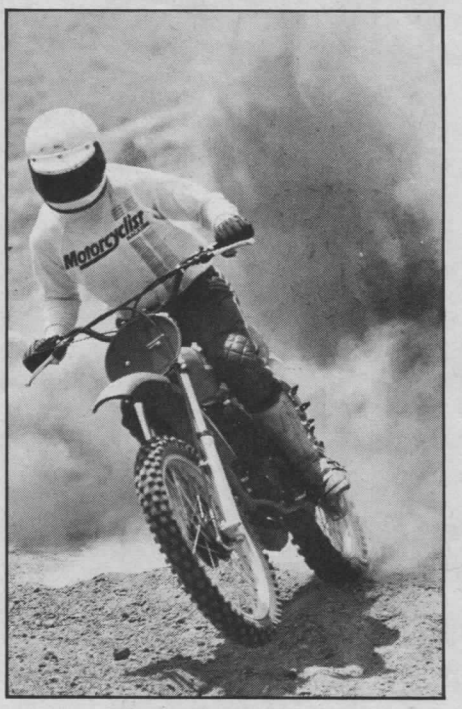
Larger 3.00 Bridgestone tire, and a change in steering geometry make the Honda a "steering wizard" in the tight places. Bigger diameter fork tubes have done away with previous "fork flexing."

power comes into play.

Like the Suzuki's, the Honda's frame has been re-vamped to improve steering and also reliability. It, too, is of chrome-moly construction that provides a solid platform from which to build on. They beefed it up further by adding extra gusseting throughout, which partially accounts for the increased weight of the bike; last year it weighed 188 pounds ready to go, while this latest version tips the scales at 206 pounds.

Still sacrificing weight for reliability, Honda has gone to 35mm fork tubes that replace the old 31mm jobs; this totally cures the bending and flexing problem that was common in the past. In fact all three bikes have forks that are "flex-free." The Honda's front axle remains offset in front of the fork legs; however, the offset has been slightly increased—this causes a reduction in trail from 5.5 to 5.4 inches and makes the Elsinore steer even more precisely than the year before. Better tracking up front could also be attributed to a larger 3.00-21 Bridgestone tire; the Honda was the only one fitted with a 2.75 last year and this year all three bikes have Bridgestones up front.

Walking around the back, you'll see a larger 4.10-18 "Variable-Pitch"



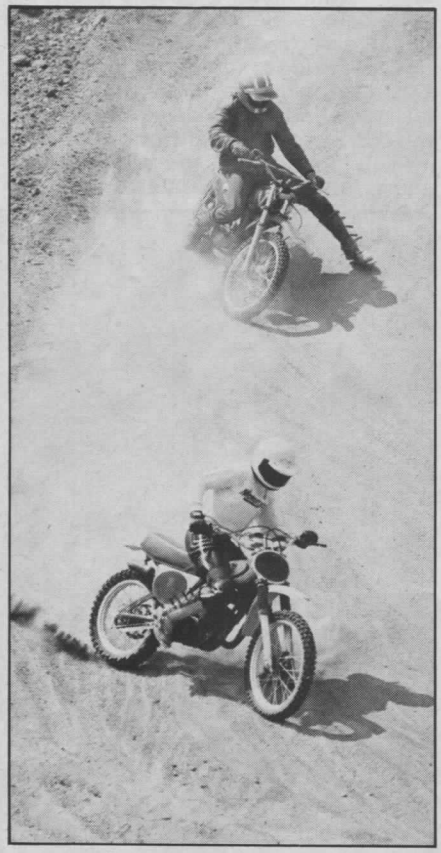
pattern Bridgestone that takes the place of the old 3.50 rubber. Some of the knobs are spaced close together and others are spaced farther apart and they alternate around the whole tire. Bridgestone's thinking is that if one set of knobs works better in mud and the other on hard surfaces, the tire should get good traction in both conditions. The '75 RM was the only other bike fitted with the smaller 3.50 tire and they also went to the larger Bridgestone this year. Yamaha is the only one still using the Dunlop skin and we think they'll be switching pretty soon.

Copying Suzuki, Honda has elect-

ed to beef up the swing arm which is now a one-piece stamped-metal unit. Both swing arm and frame have new shock mounts to accommodate the nitrogen gas Showa shocks. They have an outside valve that allows the pressure to be changed for varying track conditions. The owner's manual suggests a specific pressure between 142 and 213 psi. The new shocks, along with their more forward mounting, have increased wheel travel to almost six inches—that's more than ever before, but still not close to that of the Suzuki and Yamaha.

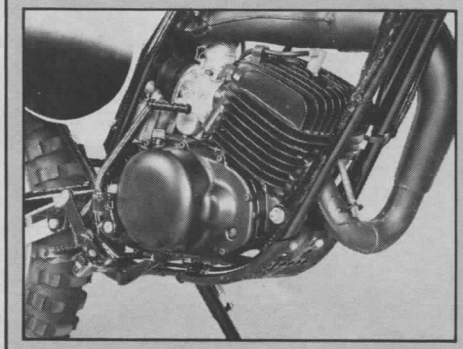
Included with the bike is a six-pound spark arrestor/muffler and an additional air cleaner top designed to quiet intake noise. We can't think of anybody who would try and run one of these babies up in the woods, but the necessary pieces are there if you want them. Enough of all this mumbo jumbo, let's get out to the track and start hooking it.

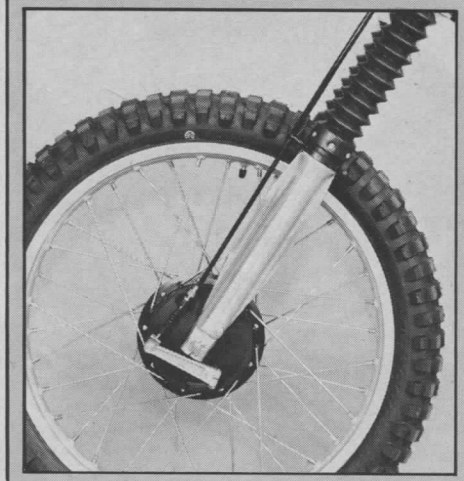
Joining us at a test session was



Roger Smith, Motorcyclist's '75 All-Star Award Winner in the High School MX Class. The 125 class is one of Roger's favorites and he couldn't wait to find out which bike was fastest. All three start easily when cold with the chokes on and the throttles closed and need very little warming up. Once warm, both the Yamaha and Honda will start using a quarter throttle opening, but the Suzuki requires a wide open throttle—anything other than WFO and you'll end up with a loaded up engine and a badly needed push. Taking starting line positions we raced them over and over to the first corner with the Honda getting there first every time. We thought the Bridgestone rear tire

# Yamaha

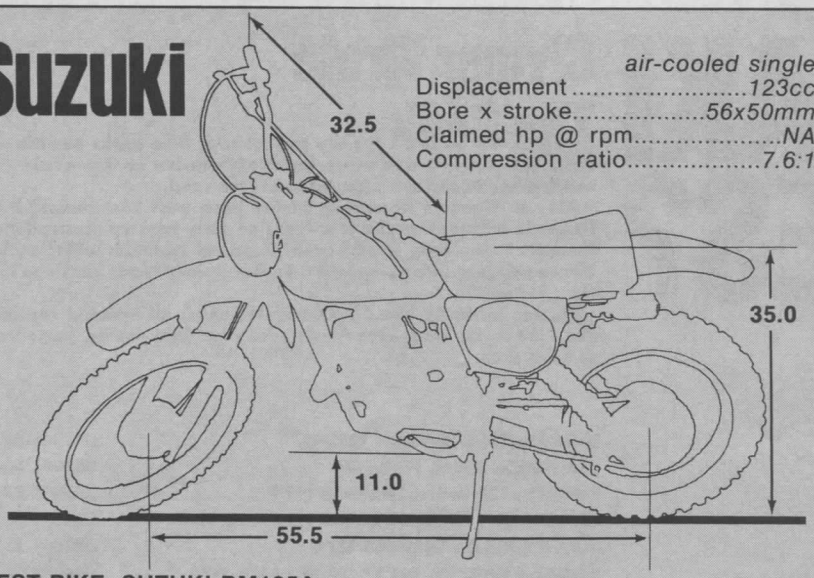


The YZ powerplant is fitted with a big 34mm Mikuni that replaces last year's 30mm tinker toy. It doesn't cause any "loading" problems down low and helps make more "mid-range torque." Although not the most powerful engine, it is the most forgiving.

The Yamaha rearend is the only one fitted with the larger 520 chain and a tensioner. The 125 uses the identical monoshock unit as its bigger brothers, but with less gas pressure.

Funny looking fork sliders are part of the new air forks that are exclusive on all the new Yamahas. Smoothest working of the three bikes, they're strong and flex-free. New Bridgestone rubber surrounds stronger D.I.D. rim; it steers better than last year's bike.

# Suzuki




**TEST BIKE: SUZUKI RM125A**
Engine serial.....*31053*
Base price.....*$995*

**ENGINE**
Type.....*Two-stroke, "power reed,"*
*air-cooled single*
Displacement.....*123cc*
Bore x stroke.....*56x50mm*
Claimed hp @ rpm.....*NA*
Compression ratio.....*7.6:1*
Lubrication type.....*Oil mist*
Carburetor.....*32mm Mikuni*
Air filter.....*Oiled foam*
Ignition type.....*CDI*
Starting.....*Primary kick*

**DRIVETRAIN**
Primary/ratio.....*Gear/3.705*
Gear Ratios...*1st 35.06; 2nd 26.33; 3rd 21.22; 4th 17.90; 5th 15.65; 6th 14.29*
Clutch.....*Wet multiple disc*
Final drive/ratio....*428 chain/4.071*

**CHASSIS & SUSPENSION**
Frame.....*Chrome-moly steel, semi-double cradle*
Caster/trail.....*60°/5.1 in.*
Suspension,
Front.....*Telescopic forks*
Rear.....*Swinging arm, gas shocks*
Brakes,
Front.....*Internal expanding*
Rear.....*Internal expanding*
Tires,
Front.....*3.00-21 Bridgestone*
Rear.....*4.10-18 Bridgestone*
Rim Locks,
Front/rear .....*One/two*

**WEIGHTS & CAPACITIES**
Weight, wet, unladen...*197 pounds*
Fuel Tank Capacity.....*1.6 gal*
Transmission oil.....*1.7 pints*

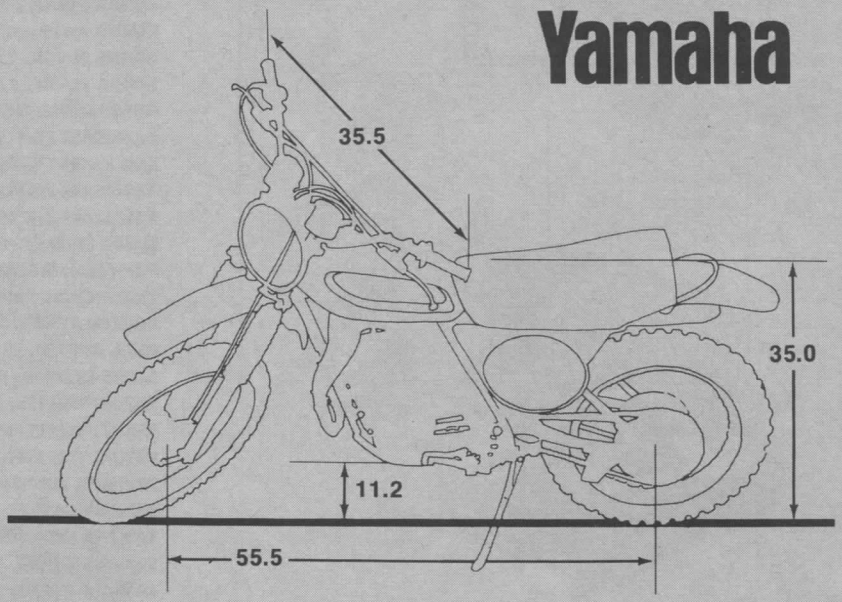
**MEASURED SUSPENSION TRAVEL**

| | FRONT | REAR |
|---|---|---|
| HONDA | 7.374 in. | 5.75 in |
| YAMAHA | 7.50 in. | 7.68 in. |
| SUZUKI | 7.125 in. | 7.0 in. |

might be a factor but since the Suzuki has the same tire, we had to discount that theory. Even with a bad start, the Honda will pass the other two like they are standing still. It's a toss-up for second between the Yamaha and Suzuki with the winner being the rider who does everything exactly right.

Out on the track we realized the Honda's starting line performance was no fluke—it out accelerates the other two coming out of every corner. The Yamaha has the cleanest running engine when you're down low "off the pipe" while the Suzuki has the worst. The RM is a lot happi-

# Yamaha



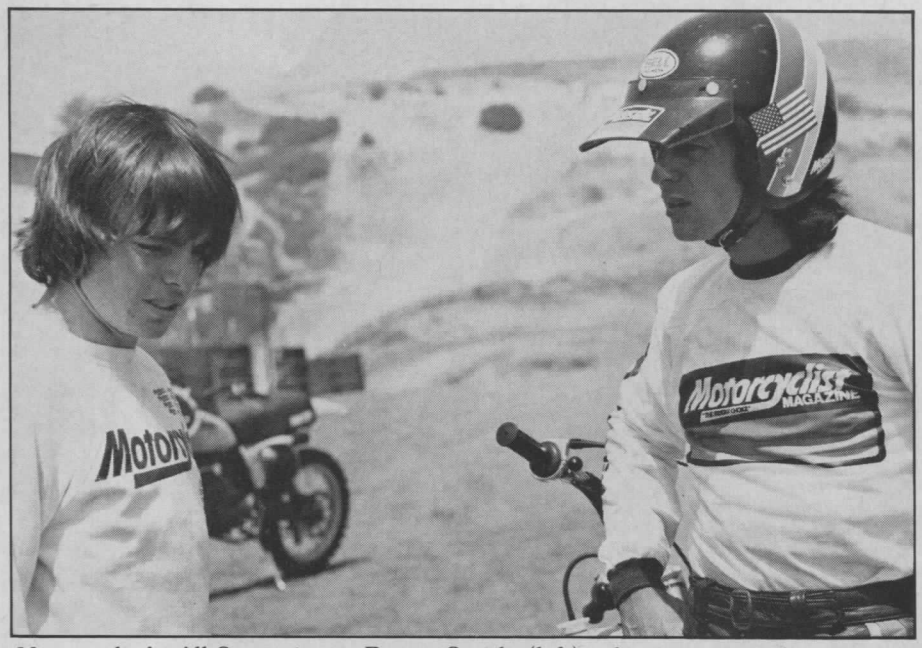

**TEST BIKE: YAMAHA YZ125X**
Engine serial.....*002532*
Base price.....*$1019*

**ENGINE**
Type.....*Two-stroke, 7-port, air-cooled single*
Displacement.....*123cc*
Bore x stroke.....*56x50mm*
Claimed hp @ rpm.....*NA*
Compression ratio.....*7.4:1*
Lubrication type.....*Oil mist*
Carburetor.....*34mm Mikuni*
Air filter.....*Oiled foam*
Ignition type.....*CDI magneto*
Starting.....*Primary kick*

**DRIVETRAIN**
Primary/ratio.....*Helical gear/3.227*
Gear ratios.....*1st 31.403; 2nd 23.917; 3rd 19.244; 4th 16.082; 5th 14.138; 6th 12.933*
Clutch.....*Wet multiple disc*
Final drive/ratio....*520 chain/3.833*

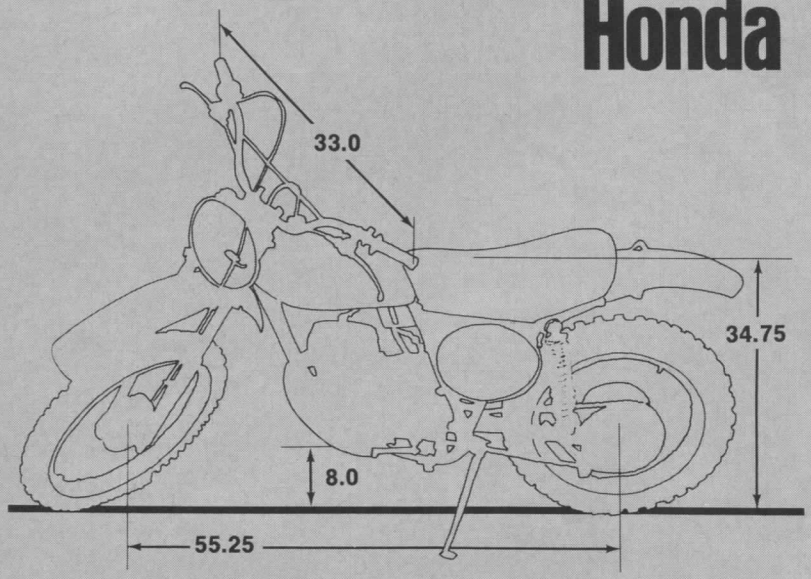
**CHASSIS & SUSPENSION**
Frame.....*Tubular steel, double cradle*
Caster/trail.....*59°/5.51in.*
Suspension,
Front.....*Telescopic forks*
Rear.....*Monocross, swinging arm*
Brakes,
Front.....*SLS 5.228 in dia.*
Rear.....*SLS 5.228 in dia.*
Tires,
Front.....*3.00-21 Bridgestone*
Rear.....*4.10-18 Dunlop*
Rim Locks,
Front/rear .....*One/two*

**WEIGHTS & CAPACITIES**
Weight, wet, unladen...*207 pounds*
Fuel tank capacity.....*1.5 gal*
Transmission oil.....*0.8 qt*




Motorcyclist's All-Star winner Roger Smith (left), chums over a day's riding with M/C staffer Rich Cox. Roger thought he liked the big-bore bikes the best, but after a full day of riding on our little screamers, he had to think again.

## Honda




**TEST BIKE: HONDA CR125M2**
Engine serial.....*3000-156*
Base price.....*$910*

**ENGINE**
Type.....*Piston-port, two-stroke, air-cooled single*
Displacement.....*123cc*
Bore x stroke.....*56x50mm*
Claimed hp @ rpm.....*NA*
Compression ratio.....*7.5:1*
Lubrication type.....*Oil mist*
Carburetor.....*30mm Keihin*
Air filter.....*Oiled foam*
Ignition type.....*CDI*
Starting.....*Primary kick*

**DRIVETRAIN**
Primary/Ratio.....*Straight cut gear/4.000*
Gear ratios.....*1st 32.20; 2nd 24.34; 3rd 19.65; 4th 16.48; 5th 14.36; 6th 13.30*
Clutch.....*Wet, multi-plate*
Final Drive/ratio....*428 chain/3.786*

**CHASSIS & SUSPENSION**
Frame.....*Chrome-moly steel, semi-double cradle*
Caster/trail.....*59°/5.4 in.*
Suspension,
Front.....*Telescopic forks*
Rear.....*Swinging arm, gas shocks*
Brakes,
Front.....*Internal expanding*
Rear.....*Internal expanding*
Tires,
Front.....*3.00-21 Bridgestone*
Rear.....*4.10-18 Bridgestone*
Rim locks,
Front/rear.....*One/two*

**WEIGHTS & CAPACITIES**
Weight, wet, unladen...*206 pounds*
Fuel tank capacity.....*1.8 gal*
Transmission oil.....*1.1 qt*

er living in the upper rpm range, and if you happen to lug it way down low it'll just load up and take a dump on you. It can be partially corrected by re-jetting because we've ridden some that run considerably better than the one we tested. The Honda likes the higher rpm too, but it'll let you make a few mistakes without punishing you too badly.

All three have beautiful working forks and are all within an inch of each other when measuring actual fork travel. The Honda is a little stiffer on the compression damping and makes the rider work harder through the rough stuff while the Suzuki and Yamaha just float over it. The Bridgestone front tire makes all three steer more positively than previous models fitted with the Dunlop. As in the past, we'll give the best steering award to the Honda. With its proven frame geometry, improved front tire and lower center of gravity, it scoots in and out of corners like it was glued to the ground. The bike itself is not nearly as tall as the Suzuki and Yamaha, but its super thick seat jacks its total seat height up to within a quarter-inch of the other two.

What little advantage the Honda has in acceleration is quickly erased when the track starts gettin' really torn up. The Suzuki and Yamaha are suspension bikes and when the going is rough, they start shining. Both have well over an inch more measured travel in the rear producing a softer, more controllable ride. You can't really realize how fast these bikes will travel through extremely rough terrain until you take a chance and just leave her dialed wide open. We guarantee you'll be totally amazed if you ever try it.

We can't complain about the brakes on any of these bikes. None were "lock-up" prone, even on super slippery surfaces. All controls worked flawlessly, gearboxes shifted smoothly, and the motors never missed a beat throughout the testing.

After a full day's riding, Roger fell in love with the Honda and we had a hard time getting it away from him. For him it was perfect, for someone else it might not be. All three are first class machines, all are priced within $25 of each other and all are capable of winning races given the right rider. If you're willing to sacrifice a small degree of flat out handling for a slight horsepower and steering advantage, the Honda could be your bike. If you're a super expert rider who hardly ever makes mistakes (such as being in the wrong gear) and can ride a bike to its full suspension capacity, then the Suzuki would probably give you the best performance. However, if you're like me, who needs a little more "forgiving" bike that's generally easier to ride and yet capable of winning all the marbles, then definitely take a good hard look at the Yamaha. Anyway you look at it, these three bikes will most likely dominate the starting line at every race throughout the country.