

**T** hose forks with the funny-looking air cans on top first appeared on Jimmy Weinert's factory Yamaha about midway through last year's Trans-AMA series. Everybody made cracks about them; said they looked like pregnant beer cans and others thought they were some kind of super-trick fork caps. When all the kidding was put aside, it was plain to see that Yamaha was really gettin' their act together.

It wasn't simply the occurrence of the air fork that amazed us, it was the speed with which Yamaha transmitted it to their production-line machines. If you'll recall, we tested the YZ125C in the August '75 issue; at that time it was considered a late-'75, early-'76 model. Now, considerably less than a year later comes this true-'76 model. Designated the YZ125X, it sports the latest factory technology.

Those of you who bought last year's YZ may be really bent, and those who were reluctant to buy will be glad they waited. There's no comparison between the two bikes. We were expecting the forks to be the only real improvement, but it wasn't until we dug into the spec sheet and made a few phone calls that we realized overall appearance was the only aspect still common to both.

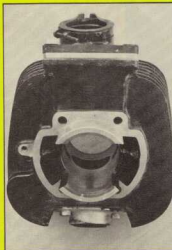
This latest version is taller, longer, has softer rear suspension, increased rear wheel travel, a few changes both inside and outside the engine, and a few improvements to increase its reliability.

All of Yamaha's latest YZ MXers—from the 125 up—come standard with the new air/oil forks. Although they look like a tuner's nightmare, they're really simple pieces of technology. Each leg consists of a damper valve assembly, a quantity of oil and two pressurized air chambers that are

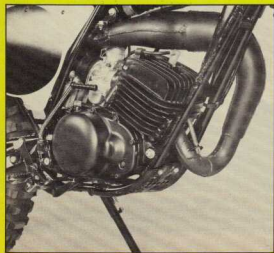
# YAMAHA'S YZ125 A Handful Of Gaseous TNT

Exploding Onto The Scene With A Revolutionary New Air Fork, Yamaha's Latest 125 Is Potent Enough To Blow 'Most Everything Else Into The Weeds

BY RICH COX  
PHOTOGRAPHY: MIKE PARRIS



Far left: Latest barrel features a raised exhaust port and change in port timing. A cast-steel liner is pressed into the cast-aluminum cylinder; it can be rebored. Left: Tool kit contains bare minimums. Owner's manual contains lots of info on the new air/oil forks. Note included wire for safety wiring the air accumulators. Right: It takes a swift kick to get the little beast started, as each kick turns the crank only one and a quarter times. Beefed up clutch and forged steel footpegs are new. Far right: Flat rear sprocket replaces last year's dish type. Larger 520 chain and tensioner eliminates all chain problems.



# You'll Find Yourself Diving Deeper And Braking Harder 'Cuz The Front End Doesn't Monkey Around...



Above: Standing long and tall like its bigger brothers, the 125 is a thoroughbred racer from head to tail. When adding gas you'll notice the gas cap washer doesn't fall off now. Left: With the increased wheelbase and smoother power, the YZ wheelies only on the rider's command.



Above: Stronger D.I.D. rim is laced to the cast-aluminum front hub. Funny-looking fork sliders are exclusive on the 125; they're thin, light and non-flexing. Bridgestone tire improves steering. Right: Trick little wire meshed vents at the bottom of each boot serve two functions: they let the boot breathe and also act as tiny air filters.



During our riding sessions at Indian Dunes Motorcycle Park, we gave it a thorough water test and found the YZ positively waterproof—the rider wasn't.

regulated by those goofy-looking cans called accumulators. The first few inches of travel are controlled by the air pressure in the first chamber and can be varied anywhere from 22 to 35 pounds. The remaining inches of travel are controlled by the second chamber—the high-pressure chamber. Its filling valve is located on top of the accumulator and will hold from 45 to 71 pounds. By adding or subtracting air in both chambers, and by using varying quantities and viscosities of oil, you can make the fork almost infinitely adjustable. If you're curious about tuning and maintaining them, check the complete technical piece we've included in this issue.

The 125 uses the same 36mm stanchion tubes as the 250 and 400, but there is an entirely different set of sliders stuck on the bottom—it looks almost as if somebody forgot to run them through the lathe. They look heavy but Yamaha swears they're ten-percent lighter than the standard round ones found on the 250/400.

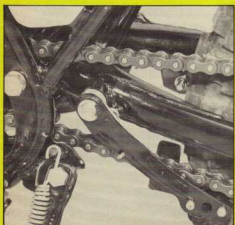
If you push up and down on the forks, you find they're smooth-acting and totally free of resistance. They solved the stiction problem by going to a new type seal that fits more loosely around the tube, but still maintains a leak-free seal. They've even gone so far as to place trick-looking little vents around the bottom of each fork boot—now that's looking toward detail!

Yamaha obviously kept this new fork under tight wraps before springing it on the public because it works perfectly. The forks are like floating on cloud nine—they flat work! You know those braking bumps that about tear the bars from your hands? No sweat. The forks soak them up

without the faintest indication of compressing up or shimmying from side to side. You'll find yourself diving deeper into corners and braking harder because the front end doesn't monkey around. And, at last we have found a pair of nonflexing forks! Even coming off jumps a bit sideways isn't good enough reason to slow down—the bike lands soft, the front keeps right on trackin' straight.

While we're up front you'll be glad to see that a Bridgestone 3.00x21 has replaced the skating Dunlop tire. With its deeper and sharper knobs it makes the front track a lot better and does away with the wash-out willies. Rumor has it that the rear Dunlop might soon be on the way out too. Daido in Japan makes two types of alloy rims; the early YZs had the cheaper shiny ones while this latest model has the dull-finished rims which are a little heavier but a lot stronger. Only one wrenching session on the spokes was needed throughout the test period.

Dwarfing the rear of the engine is a huge 34mm Mikuni that makes the old black 30mm look like a tinker toy. If you're thinking about slapping one on your '75 model and having it carburet right, better hold off. There are more changes to this engine than meet the eye. Port timing has been changed with the exhaust port being raised slightly and even though the pipe looks identical to last year's, Yamaha claims it has been improved. We couldn't find out to what extent. In an effort to get more usable power where it's needed, the ignition sports a different timing advancement curve; it now advances the spark more in the midrange and tapers off more at the top. It works too. The 125s aren't noted for having a power



Above: Chain tensioners are new to all YZs. It's one of few tensioners we've seen that doesn't tear up the chain. Keep everything lubed and adjusted and you shouldn't have any problems. Right: Air filter arrangement hasn't changed; they're still using a pair of those fuzzy elements. They're harder to clean but do a good job of keeping water out.

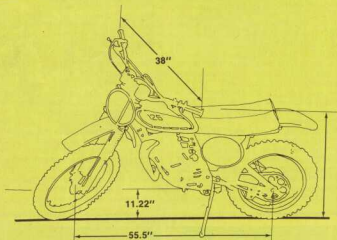


Big 34mm Mikuni carburetors cleanly and increases mid-range torque considerably. Engine is less explosive and makes more usable power. Big carb will work on early models with a larger air-box outlet.



Left: Low pressure valve is on the side while the high pressure valve is up top protected by nifty rubber caps. Ours came to us pressurized with 22 pounds in the lower chamber and 40 pounds in the upper one. Center: Handlebars on the

125 are offset to clear the accumulators; this sets the bars back an additional inch which may or may not affect your riding style. Right: Additional weight can be attributed to extra heavy frame gusseting throughout.



## YAMAHA YZ125

### TEST BIKE: YAMAHA YZ125X

Engine Serial..... 002532  
Base Price..... \$1019

### ENGINE

Type..... Two-stroke, seven-port,  
air-cooled single  
Displacement..... 123cc  
Bore and Stroke..... 56x50mm  
Compression Ratio..... 7.4:1  
Lubrication Type..... Mixed gas 20:1  
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

Teeth..... 46/12

### CHASSIS & SUSPENSION

Frame..... Tubular steel, double  
cradle  
Caster/Trail..... 59  
Suspension, Front..... 5.51 inches  
Telescopic forks,  
7.68 inches travel  
Rear..... Monocross,  
7.68 inches travel  
Brakes,  
Front..... SLS 5.228-in.-dia.  
Rear..... SLS 5.228-in.-dia.  
Tires,  
Front..... 3.00x21 Bridgestone  
Rear..... 4.10x18 Dunlop  
Rim Locks,  
Front/Rear..... 1/2

### WEIGHTS & CAPACITIES

Weight, wet, unladen.. 207 pounds  
Fuel Tank Capacity..... 1.5 gallons  
Transmission Oil..... 22 ounces

band other than wide-open. The new YZ is an exception to the rule and will actually pull down low considerably better than most other 125s. Apparently there were some ignition failures in last year's bike that were traced back to a pulsar piece. The pulsar sends the signals to the magic box and on occasions it refused to cooperate, so Yamaha simplified the entire ignition by doing away with it. The magneto side cover has changed its shape since '75 and they went back to a primary sprocket cover. The outer engine cases and wheel hubs are aluminum with the brake backing plates still being the only magnesium on the bike.

In an effort to increase reliability, Yamaha finally went to the larger 520 chain. However, the way it was previously geared it wouldn't have fit between the primary sprocket and the engine case. To remedy this Yamaha changed both the primary and secondary ratios. The old primary drive (74/19 teeth) had a ratio of 3.894 while this new version has 71/22 teeth for a ratio of 3.227. The primary countershaft sprocket has gone down from 14 to 12 teeth while the rear sprocket gains only one tooth and now totals 46. Both changes pretty much cancel each other out with the overall drive ratios being slightly higher.

Each time we rode the bike at the



The YZ was one of the most exciting bikes we ever tested. It was a total blast even up and down the river.

track we tried to pair off with other 125s (especially last year's YZ) to see if there is any performance increase. Just off the cuff we don't think it's any faster than last year's but we do think it's quicker. We raced one YZ (supposedly stock) in a drag race using all six gears and it walked away from us. But on the track ours always got to the next corner first. In fact, there wasn't a 125 through the entire test period that could beat it from corner to corner. The engine has tamed down a lot and even though it's one of the strongest pullers on the top end, it's not as explosive as it used to be. It'll even pull a little through the mid-range without loading up or totally signing out; this means it's a little more forgiving in the shifting department and generally just easier to ride. If you want to really get it on, wind it up around 10,000 rpm, start grabbing gears, and hold on tight because you're going places. We found downshifting once in the long sweepers was enough to keep the engine on the pipe, while the tighter turns required going down two gears. The gearbox shifts flawlessly up and down, with or without the clutch.

The super-stiff "go-fast" rear suspension has gone out the window along with the "hot dogs" who thought that was the hot set-up. The early model would stay straight through the rough stuff but it'd beat you to death doing it. The bike really got scary when you backed off the throttle or braked for a turn. If your weight was just a little bit forward and you hit one of those squared-off potholes or braking bumps, the back end would kick way up and you'd be riding on the front wheel. I should know: I endowed that last test bike exactly the same way. This latest version cures all these problems. By getting more extension on the shock, Yamaha has managed to increase the rear wheel travel from 6.30 to 7.68 inches. They've cut down the preload on the spring, making the entire suspension a lot softer and more compatible to the average racer. Five different springs with varying rates are available so there's no reason why the suspension can't be perfectly matched to the weight of the rider. They've also improved the damping characteristics of the shock by increasing the oil capacity by 40cc and enlarging the nitrogen volume. Nitrogen pressure inside remains unchanged.

This isn't a kid's bike anymore. In fact, if it keeps going the way it has, it will be mistaken for a 250 in a year or two. The added rear wheel travel has once again made it taller from 33.5 to 35 inches. With the addition of a 30mm-longer swing arm, the wheelbase has also increased from 53.5 to 55.5 inches. Unlike the 400's swing arm which pivots on caged needle bearings, the 125 still uses plain bushings; however, it does feature a grease fitting just like the big boys have. And, unlike the larger

*continued on page 84*

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## YAMAHA'S YZ125

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YZs that are now fitted with round-tubed swing arms that are lighter and stronger, the 125 still uses the rectangular stock that originated with the bike. They couldn't give us a really valid reason for doing so.

Totally new for '76 is a spring-loaded chain tensioner mounted on the swing arm. With all that wheel travel it was needed to keep the chain in line and it does a good job too. The only problem is it tends to make you forget to make chain adjustment. We didn't notice the chain was loose until it started making noise rubbing against the swing arm pivot. To correctly adjust the chain takes two people, one to sit on the bike and the other to do the adjustment. Once the chain tensioner is pulled down out of the way, set the axle adjusters until there are 1.57-1.77 inches slack in the drive chain. This measurement should be taken at the bottom of the chain at a point midway between the drive sprocket and the rear axle.

Even though the bike steers a lot better with the new front tire, the fastest way around the race track is still obtained from using every berm available and keeping speed up whenever possible. The bike's perfectly balanced and doesn't require a whole lot of body movement to keep both ends sticking. What amazed us was by exercising a little bit of throttle control we could stay away from uncontrolled slides and time-wasting wheelspin. One reason it's quicker is because it doesn't pull unnecessary wheelbase it gets the front wheel just light enough to lift it only when you want it to. Can't bitch at all about the brakes. They've got an unusually good sense of touch and didn't cause any unwanted lock-ups or slides. All the pedals are located in the right position and after a half-hour on the bike, everything seems to mesh into one smooth unit.

It seems that if you want long-travel suspension and reliability, you have to pay for it in the weight department. Last year's bike weighed in at 193 pounds wet and this year it ballooned another 14 pounds, bringing it up to 207 ready to go. Some of that increase is in the rims, some is in the suspension, and a whole bunch of it is in extra frame gusseting throughout the bike. However, it doesn't affect the handling—it is still light, nimble and fast.

In all we had a fantastic time with the bike. We had very few problems with it aside from one: it sheared off the top rear motor mount bolt during our first outing, possibly due to over-tightening. We installed another bolt and had no further problems. It's an exciting bike to ride and will definitely be super-competitive for this year. But next year . . . I'm not too sure . . . but then Yamaha has assured us that we ain't seen nothin' yet!

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