

YZ80/125/250/490



With stock bikes like these, who needs works bikes?

Every year, it's the same old story.

The new stock motocrossers from this manufacturer or that manufacturer are supposed to be the next best thing to a works bike.

And every year, the works bikes win all the races.

Last year, however, things went somewhat differently.

Box-stock YZ's won more races than you can shake a trophy at. Including the National Championship Motocross Series for 250cc bikes. As well as Super-cross victories in Seattle and Orlando.

Of course, that was last year and this is this year. But we have very strong suspicions that, for 1985, the story will be even better.

Box-stock Yamahas winning races. Which, when you think about it, sort of makes a works bike the next best thing to a stock YZ.

Hooray for the white, red and Yamaha.

The first thing that will change is our colors. Yamahas will now be painted our international white and red.

So that, for once, the YZ that wins a motocross in Malaysia will be identical to the one that wins in Minnesota.

The ups-and-downs of a YZ.

Remember when Yamaha pioneered the Monocross rear suspension way back in 1977?

Well, we've been improving on it ever since.

First, by moving the damping adjuster to the remote reservoir to make it more accessible.

Then by making the swing arm lighter and stronger.

Followed by the introduction of the world's first true rising-rate, single-shock suspension.

And now, by incorporating our revolutionary Brake Actuated Suspension System.



**What we don't have here
is a failure
to communicate.**

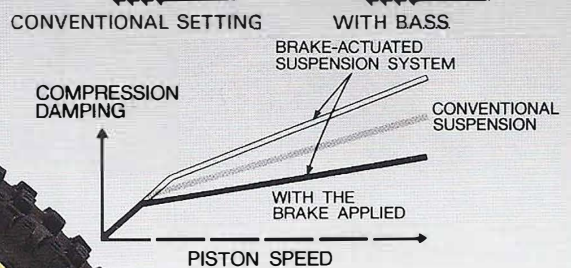
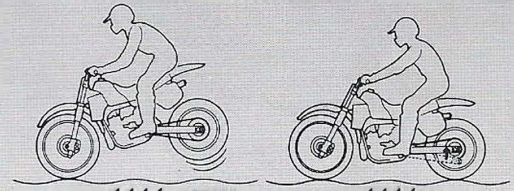
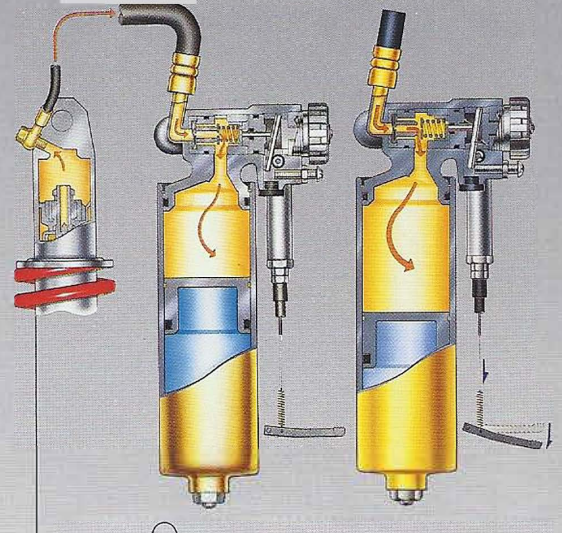
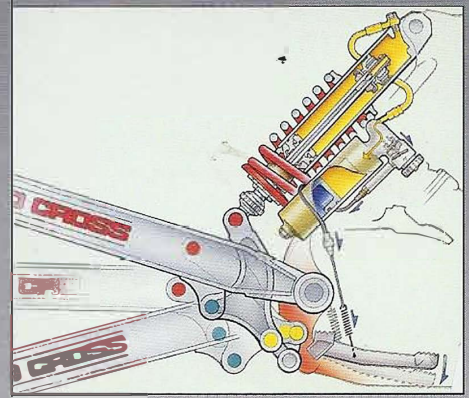
Historically, suspension and brake systems have never done much in the way of talking. While their functions are interrelated, one never seemed to know what the other was doing. Or why.

This year, with the introduction of the Brake Actuated Suspension System (or BASS), our brakes and suspensions have finally established a meaningful relationship.

BASS is a totally new concept in off-road suspension technology. It utilizes a stepped rod, which is built into the compression adjuster on the shock absorber and also connected to the brake pedal. Every time the brake pedal is depressed the rod is pulled. And every time the rod moves, a valve on the shock absorber opens and the rear suspension compression damping is reduced.

Translated, this means that there's a lot less chance of wheel hopping when you hit the rear brake. Or shattering when you corner. The rear wheel stays exactly where it's meant to.

The frames on this year's YZ's are, as always, extremely strong and lightweight. And topping our 250 and 490 is a new seat that's 15mm thicker than last year's.



That's the brakes.

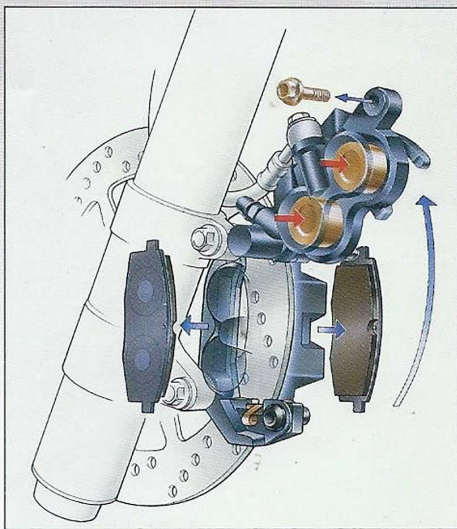
Our Brake Actuated Suspension System isn't the only change we've made to the YZ brakes, our 125, 250 and 490 now have a disc at the front. Stronger, more controllable and less prone to fading.

The brake itself consists of a 240mm diameter drilled rotor. Along with a twin-piston floating caliper, stainless steel brake line, and a master cylinder designed to keep air from entering the braking system if the bike overturns.

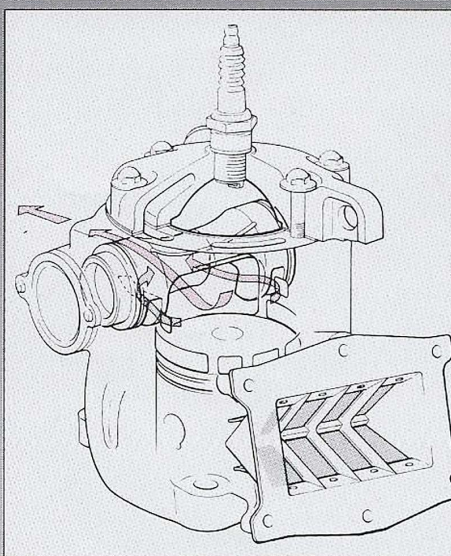
Which probably sounds as if a YZ front brake weighs as much as a YZ itself. But, in fact, a YZ with a disc brake has the same unsprung weight as one with last year's drum brake.

The rims on this year's YZ's are solid aluminum and considerably stronger than last year's.

And the tires have also been improved with better tread patterns and compounds.



A higher power.



This year, our engines have been totally redesigned to provide even more power and flexibility than last year's. A fact that will not sit well with our competitors. Or yours.

The reed valves on the YZ125 and YZ250 are no longer made of metal, but rather of a lightweight composite material for a smoother intake flow.

The carburetors have been modified for better throttle response throughout the entire rpm range.

The water jacket on the cylinder now dissipates heat faster so all this new found horsepower won't take a leave of absence.

And both the YZ125's and YZ250's have benefited from changes in cylinder porting that substantially increase power output. Not the least of which are the improvements to our YPVS.

Two engines are better than one.

For those of you unfamiliar with our YPVS, here's a short review.

In creating what we intended to be the finest two-stroke motocross engine ever made, we were faced with a choice. We could set

the exhaust port timing: A) for low-end torque, B) for high-end speed, C) somewhere in-between, or D) all of the above.

We chose D) all of the above and came up with the Yamaha Power Valve System (aka YPVS). Which you'll find on every **YZ125 and YZ250.**

The heart of the system is a cylindrical valve that's cut into the exhaust port. The valve matches the shape of the port and rotates to reduce or increase the port height. Which, in turn, changes the exhaust port timing as you accelerate or decelerate.

Just twist the throttle and the YPVS automatically gives you gobs of torque at low rpm and plenty of speed at high rpm. All the while improving overall power and combustion efficiency.

So why not leave well enough alone? Because we figured that we could improve on the two small, auxiliary ports which give YZ engines added low-end power and make the transition from the low to high-end a whole lot smoother.



Last year, these ports were drilled into the valves. This year, they're cast, so the charge has a smoother and less exhausting journey out of the port.

Speaking of exhausting, the silencer on our YZ's has been redesigned with a new inner tube that's made of steel and stronger riveting to keep it from loosening.

We came through in the clutch.

Of course, all the horsepower in the world won't get you out of the starting gate if you can't harness it. So we've redesigned the clutches in our YZ's.

The clutch push lever is now double supported to reduce resistance and give it a much smoother and lighter action.

How we keep out undesirable elements.

If you pick up some dirt on the outside of an engine, all it'll cost you is the time it takes to wash it off.

But get a little dirt on the inside of an engine and you could be in for something a bit more substantial.

The cost of an engine.

Which is why the air cleaners on Yamaha YZ's are very large, highly efficient, and tucked neatly beneath the side panel where nothing can get at them.

Except you.

A great pair of legs.

The front forks on a YZ are remarkably strong and stiff. So you'll rarely catch them flexing in the corners.

And thanks to compression damping adjusters, your front end will always be in perfect sync with your rear.

Thus spoke Yamaha.

Unlike conventional spokes, Yamaha Z-spokes don't stop at the hub. The one-piece spokes enter one side of the hub, zig-zag to the other side (hence the name) and then exit.

That, plus the fact that the size of spokes has been increased, makes the chances of them loosening about as likely as someone passing a YZ down the straightaway.



YZ250

YZ125

This year, the YZ125 has gone through a lot of personality changes, making it meaner than ever.

The cylinder has been ported for even more power. Fitted with a 34mm carburetor for better throttle response. And given a new lightweight reed valve that adds ten per cent more horsepower at high rpms.

Of course, all of this added power doesn't come free of charge. More horsepower means more heat. And when you combine all of these engine changes with our Monocross Suspension and new Brake Actuated Suspension System, you'll see that the new YZ125 has everything it needs to put you in your place. First.

YZ250

When a motorcycle is as successful as our YZ250 was last year, you wouldn't expect to find many changes on this year's model.

Fortunately, Yamaha is not so logical.

The carburetor has been modified for better acceleration. And the air filter redesigned to make certain that the air going into the carburetor is healthy.

The rising-rate Monocross suspension and brake system (now with a front disc) no longer work independently of each other. They "communicate" by means of our Brake Actuated Suspension System for better traction and stability during braking.

Even something as seemingly unimportant as the spokes and screw threads

fell under our scrutiny. Our one-piece, Z-spokes have been enlarged by .5mm. And the spoke nipples have been heat-treated so they're even more likely to stay where they belong.

YZ490

Most of the changes on this year's YZ490 deal with the suspension and brake systems. Because, let's face it, when an engine already has enough torque to pull out seven tree stumps and then go on to win races, there isn't a whole lot that's needed.

Last year's front brake has been retired and a more-than-worthy successor found in our 240mm disc with alloy twin-piston floating caliper.

The YZ490 also features our new Brake Actuated Suspension System for improved stability during braking. (As if any bike could outhandle it to begin with.)

And to insure that our Z-spokes stay put, we increased their size by .5mm, heat treated the spoke nipples and changed over to solid aluminum wheels.



YZ125



YZ490

www.legends-yamaha-enduros.com

We gathered around the water cooler.

Our engineers sat down, gave the YZ80 a thorough going over and came up with a hotter water-cooler. Complete with a new set of front forks. An engine with ten per cent more horsepower. And a more powerful clutch and ignition system.

Starting at the bottom, we gave the YZ80 new inner fork legs. Which not only make them a lot more rigid but do it without adding extra pounds.

Our rising-rate Monocross suspension now has a bump-leveling 260mm of travel in the rear and a highly absorbing 255mm in the front.

We also gave the YZ80 a stronger clutch to handle the extra power of the engine (more about that later).

And changed the engine's primary reduction ratio so that it spins even faster for easier starting.

Proper breathing techniques.

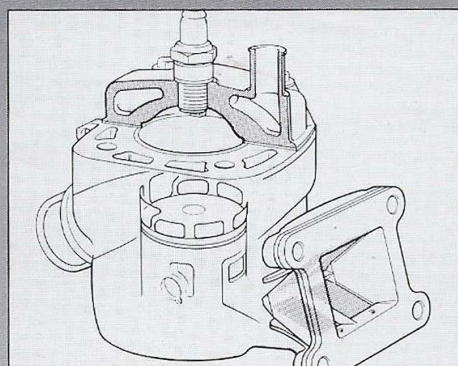
Add a few horsepower to a 1000 or 1200cc bike and you'll hardly be able to tell the difference.

But add 10% increase in horsepower to an 80cc bike and it can mean the difference between a first place and a maybe-next-year.

Which is why we've totally redesigned our water-cooled 82cc engine. Porting the cylinder for better scavenging. Modifying the carburetor for improved pickup. And developing a new water passage that keeps the cylinder cool, calm and collected.

A lot of thinking also went into its head. Basically, through reducing the volume of the combustion chamber and increasing the width of the squish band. Which, for those of you less technically inclined, means that the fuel is burned more efficiently. Hence, more horsepower.

Required reedding.



Of course, the secret to developing a lot of horsepower isn't just getting the engine to ingest a big gulp of gas and air.

It's making certain that the gas and air ingested stays in the engine. Which is why a reed valve is so important.

This year, we've changed the reed valve from metal to a lightweight composite material. Not because it sounds more impressive, but because it does a better job of getting the gas and air into the engine.

Enough talk. We could go on indefinitely describing what a wonderful motorcycle this is. But the only way to really know is by riding one.

And that's where you come in.

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YZ80



YZ490



YZ250



YZ125



YZ80

	YZ490N	YZ250N	YZ125N	YZ80N
ENGINE				
Type.....	2-Stroke, Reed-Valve, Single	2-Stroke, Liquid Cooled, YPVS, Single	2-Stroke, Liquid Cooled, YPVS, Single	2-Stroke, Liquid Cooled, Single
Displacement.....	487 cc	246 cc	123 cc	82.5 cc
Bore and Stroke.....	87 x 82 mm	68 x 68 mm	56 x 50 mm	48 x 45.6 mm
Compression Ratio.....	6.9 : 1	8.4 ~ 9.3 : 1	8.1 ~ 10.3 : 1	9.3 : 1
Maximum Torque.....	43.7 ft.-lbs. (6.04 kg-m) @6,000 rpm	30 ft.-lbs. (4.15 kg-m) @7,000 rpm	15.8 ft.-lbs. (2.18 kg-m) @10,500 rpm	10 ft.-lbs. (1.39 kg-m) @11,000 rpm
Carburetion.....	Mikuni VM40SS	Mikuni VM38SS	Mikuni VM34SS	Mikuni VM26SS
Ignition.....	Capacitor Discharge	Capacitor Discharge	Capacitor Discharge	Capacitor Discharge
Starting.....	Kick	Kick	Kick	Kick
Lubrication.....	Pre-Mix	Pre-Mix	Pre-Mix	Pre-Mix
Transmission.....	4-Speed	5-Speed	6-Speed	6-Speed
CHASSIS				
Overall Length.....	85.6" (2,175 mm)	85.4" (2,170 mm)	84.1" (2,135 mm)	70.7" (1,795 mm)
Overall Width.....	33.5" (850 mm)	33.5" (850 mm)	33.5" (850 mm)	30.1" (765 mm)
Overall Height.....	47.8" (1,215 mm)	48.0" (1,220 mm)	48.4" (1,230 mm)	41.7" (1,060 mm)
Wheelbase.....	58.1" (1,475 mm)	57.9" (1,470 mm)	57.1" (1,450 mm)	48.6" (1,235 mm)
Ground Clearance.....	13.2" (335 mm)	13.4" (340 mm)	13.8" (350 mm)	11.4" (290 mm)
Seat Height.....	37.8" (960 mm)	38.0" (965 mm)	36.6" (930 mm)	31.5" (800 mm)
Dry Weight.....	224 lbs. (101.5 kg)	213 lbs. (96.5 kg)	191 lbs. (86.5 kg)	132 lbs. (60 kg)
Fuel Tank Capacity.....	2.8 gals. (10.5 ℓ)	2.3 gals. (8.5 ℓ)	2.0 gals. (7.5 ℓ)	1.3 gals. (5 ℓ)
Suspension				
Front.....	Telescopic Fork	Telescopic Fork	Telescopic Fork	Telescopic Fork
Rear.....	Swingarm with Monoshock	Swingarm with Monoshock	Swingarm with Monoshock	Swingarm with Monoshock
Brakes				
Front.....	Single Disc	Single Disc	Single Disc	Drum
Rear.....	Drum	Drum	Drum	Drum
Tires				
Front.....	100/90-21	90/90-21	90/90-21	80/80-17
Rear.....	140/80-18	130/80-18	120/80-18	110/80-14
Coloring	White	White	White	White

Always wear a helmet and eye protection. Specifications are subject to change without notice. 30-day limited warranty. Warranty terms are limited. See your Yamaha dealer for details. Designed for off-road, operator use only.

YAMAHA
Built for the fun of it.™

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