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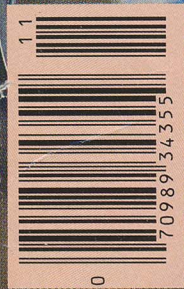
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WR200



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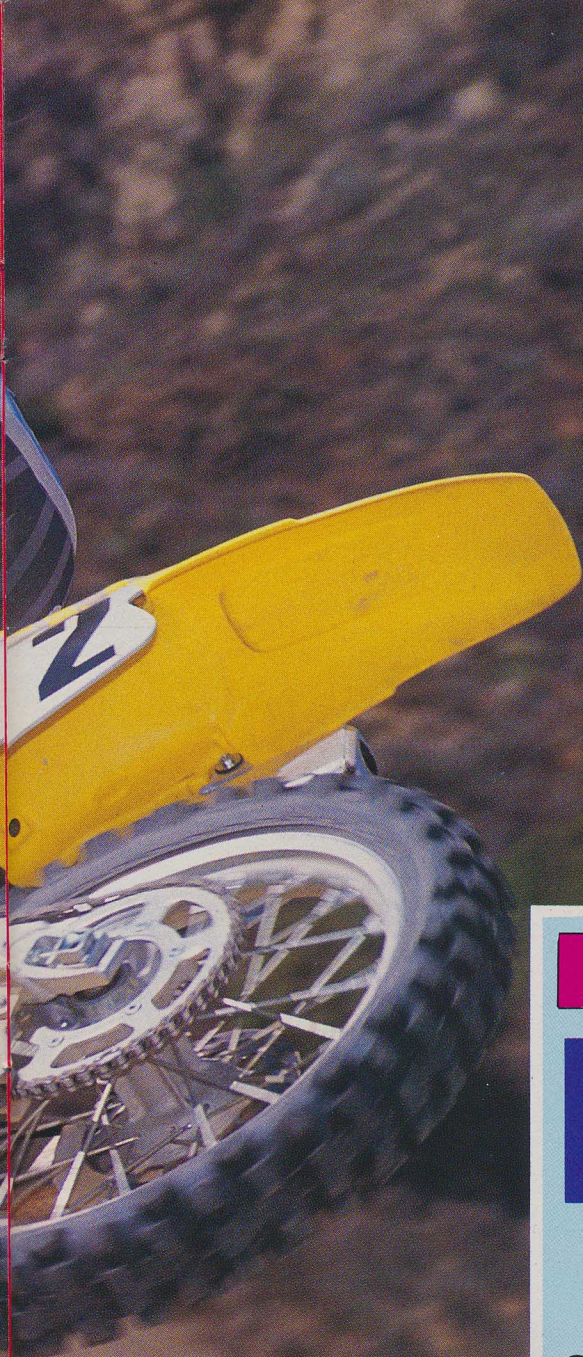
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ON THE COVER: Why didn't Jeff Ward win the 250 championship? He tells all on page 56, while Yamaha's new enduro surprises are on page 30. Wardy photo by Chris Hultner. Cover design by DeWest, separations by Valley Film.





**MOTOCROSS TEST:
1991 SUZUKI RM125**

IN LIVING COLOR

Does bright make right?

By the Staff of DIRT BIKE

Suzuki's Press Relations man was doing an admirable job—but no matter how tightly his tie was wrapped, no matter how polished his smile was, the seven editors in the room could see the beads of perspiration on his neck and hear the stress in his voice. “Regardless of what you think of our new styling,” he said, his voice audibly shaking as he began to pull the cover off the new RM125, “. . . we think you’ll agree that the new 125 is, uh, striking.” He dropped the cover to the ground, right next to a puddle of sweat that was forming. The editors looked over the new machine in silence for a minute or so.

“So what’s new?” someone finally asked.

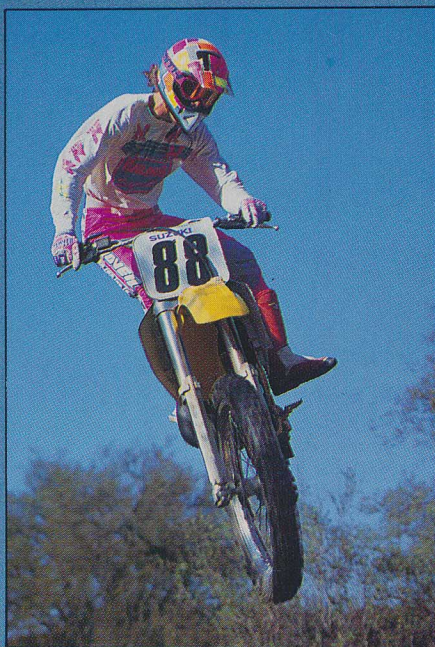
The Suzuki people looked relieved. They were expecting to be so raked over the coals about the yellow frame, the multi-colored

seat, the white number plates and the splashy graphics, they must have figured no one would notice or care that a new bike was under all that.

BUT WHAT’S REALLY NEW?

In the case of the '91 RM125 those splashy new colors, the strange styling licks and the new stickers aren't attempts at distracting people from a product that isn't really all that different. In fact, if you go by part numbers, almost *everything* is different. The '91 RM125 has a list of new stuff long enough to keep partsmen in Suzuki dealerships busy ordering new stock for half the year. The suspension is the biggest change. This year Suzuki went from Kayaba to Showa at both ends. Why? We're not sure. Last year's fork and shock weren't so far off the mark that they couldn't be fixed. Chances are, since Showa lost a lot of its Honda business when the CRs went to Kayaba shocks, Showa's business-suited salesmen hit Suzuki hard and scored the big sale.

◀ *It won't become known as the king of the holeshot machines, but the '91 RM125 might be the easiest to ride of all the 1991 125s.*



Making the RM into a Honda-beater is a simple matter of mixing common sense and good wrenching.

Another big change Suzuki announced in its press conference was the addition of two booster exhaust ports. However, when Mitch Payton at Pro Circuit took apart one of the first models imported, he couldn't find any new ports. He called the people at Suzuki and told them—they were surprised. The main exhaust port had been widened, and it was reconfigured across the top to offer more piston support, but no new holes.

Other engine changes (that turned out to be real) include a new piston with a higher silicon content, radiators that are connected parallel, rather than in series, and assorted transmission changes, mostly aimed at increasing durability.

As far as frame changes go, Suzuki made the fork angle about a half-degree steeper, beefed up the frame and bolted on wider footpegs and a new swingarm that's made from both cast and extruded parts. Then there's the new silencer and the coarser texture on the seat cover.

BUT WHAT'S REALLY, REALLY NEW?

If you go by outright performance, not much. The engine revs more freely than last year's did, probably due to a lighter piston, but that wasn't really much of a problem in the first place. The old RM125 was just a little too slow, and the new one is just a little too slow—the new one is just too slow by less. Suzuki seems bent on keeping the motocross aftermarket busy. Last year, some companies actually made the little RMs scream, earning a good living for themselves in the process, and this year they'll be doing the same thing.

Before you start lining up at the local Honda dealer, though, know that the new Suzuki, despite being not much faster, still is a much better bike than last year's. Where the '90 model had no power at all, this year's at least has good low-end. That makes it a very easy bike to ride. The power delivery is smooth and linear, kind of like a 250's only with less everywhere. Our test bike came with the needle in the second-richest position (for no apparent reason) and the bike wouldn't run well until the clip was placed in the middle. After that, the stock jetting was perfect (with the airbox mud cover removed). The Suzuki's gear ratios seemed too close, though. If you really want to take advantage of the extra low-end power, take two teeth off the rear sprocket; that will spread out the ratios a touch and maybe let you carry a taller gear into the turns.

SHOW US YOUR SHOWAS

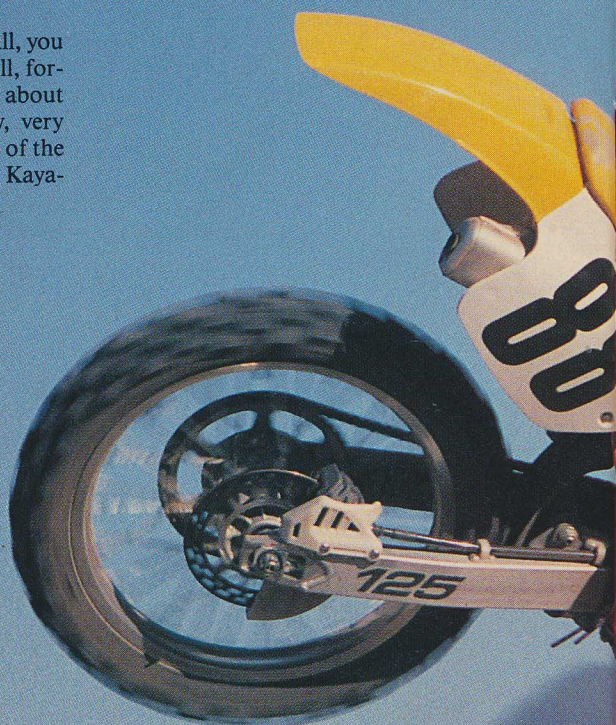
What about the biggest change of all, you ask? What about the suspension? Well, forget everything you thought you knew about Showa forks. The RM125 has very, very good front suspension. That was one of the weaker areas of the '90 RM. The old Kaya-

In 1990, the Suzuki had great rear suspension and an average fork. This year it has a great fork and an average rear end. Some day . . . ▶

bas were harsh on little bumps and nothing special anywhere else, but the new bike has the best fork that any Suzuki has ever had. From concrete-hard adobe to squishy-soft sand, the Showa fork seems to work *everywhere*. For our 150-pound testers, we had the rebound about five clicks out and the compression about nine out. Riders who weigh less might want to spin the knobs out some because the RM's spring rates are set up for heavier riders (or light riders who hit things very hard).

That goes double for the rear end. In fact, it might be *too* stiff, an unusual condition for a Japanese 125. The lighter the rider, the more he would gripe about the harshness of the rear end. Heavy riders wouldn't complain at all. Give the aftermarket an extra week or two to figure out this one.

One thing that hasn't changed a bit is the way the Suzuki handles. The tighter the track, the better the RM does—it's a very easy bike to point and steer. That means you don't have to be a hero with the throttle wide open and the back end flattacking to get through a corner. On the RM, it's okay not to be a pro, although it can still slam berms with the best of them. It's only fault is that it still has a touch of the Suzuki headshake at high speed. At least it's no worse than before, despite 1991's steeper steering head angle. While we're nitpicking, there are a number of details that annoyed us, like the multi-



colored number plate stickers that have to be removed before you can put on numbers, like the clutch which always drags a little, like the new gearbox which still doesn't like to be shifted with the throttle open.

JUST GOOD ENOUGH

All that stuff is fairly minor, though. Once you factor together the fork (which is better than last year's), the rear suspension (which isn't quite as good), the engine (better, but still not great) and the handling (which is the same) you have a 1991 RM125 that is better than a 1990 RM125. It's not a spectacular difference, but the new Suzuki *is* better. In a year that might be remembered more for its splashy stickers and bold new graphics, real improvement might be a rare thing.

CYCLE ENGINEERING RM GO-FAST TIPS

• Stock '89 Suzuki RM125s are dogs—that's certainly no secret by now—but yours can easily, quickly and cheaply be fixed to compete with the best of them without engine modifications and expensive add-ons. The secrets to a hot '89 (or '90) RM125 involve reeds, jetting and pipes.

Boyesen reeds are necessary for maximum power with this engine, but radical jetting changes are required. Take time to jet it and you'll see impressive gains across the board. The following jetting tips are for a stock RM125 with Boyesen reeds. Be sure to use

high-temp silicone seal on reassembly, and don't overtighten the bolts!

Jetting for these motors is more critical than you will ever believe! When spot-on, the motor flat hauls. Our purely stock bike with an FMF pipe will easily run side by side with the fastest stock Hondas from zero to top of sixth gear in controlled drag races.

The following is a list of symptoms you may encounter when jetting this motor. Symptoms in the owner's manual are textbook symptoms that may never be noticed in real-world racing. These symptoms are representative of what you may actually feel:

Main jet too rich: Bike pops, blubbers and generally fails to rev out cleanly at wide-open throttle—especially when the motor is under light load as in an airborne condition over jumps. Motor clears out when pulling up hills. Blipping throttle while in mid-air to raise front end of bike is futile because motor won't rev.

Main jet too lean: Plug burns white or tan. Motor revs clean but just won't rev out very far. Engine may heat up and lose power. Engine may seize, especially on sandy tracks or in deep mud. Nailing throttle from idle will kill engine.

Clip position too rich: Motor blubbers at three-quarters throttle (especially when not loaded as in jumping or on flat, hard-packed sections) but cleans up when throttle is fully opened. Throttle response will likely be sluggish.

Clip position too lean: Occasional hesitation during momentary acceleration, particularly when nailing throttle out of turns or to jump. Bike will hesitate a second, then pull normally when main jet takes over. After a lap or two the engine may heat up and lose power—then symptoms get worse.

Needle too rich: Bike loads up at low throttle settings—takes a moment to clear out when throttle is opened. Lousy low-speed throttle response particularly evident in woods riding. Loads up quite a bit at the starting line.





SUZUKI RM125

Engine type	Case-reed, liquid-cooled 2-stroke
Displacement	125cc
Bore and stroke	54.0mm x 54.5mm
Carburetion	35mm Mikuni
Fuel tank capacity	2.1 gal.
Gearing	13/51
Lighting coil	No
Spark arrester	No
Green sticker legal in stock form	No
Running weight with no fuel	202.5 lb.
Wheelbase	45.1 in. (1145mm)
Rake/trail	27.3°/111mm
Ground clearance	14.2 in. (360mm)
Seat height	37.8 in. (960mm)
Tire size and type:	
Front	80/100 x 21 Dunlop K490
Rear	110/90 x 19 Dunlop K695
Suspension:	
Front	Showa inverted cartridge, adj. reb./comp., 12.0 in. travel
Rear	Showa aluminum piggyback, adj. comp./reb., 12.8 in travel
Country of origin	Japan
Suggested retail price	\$3399
Distributor/manufacturer:	
	American Suzuki
	P.O. Box 1100
	Brea, CA 92621
	(714) 996-7040

PARTS REPLACEMENT COST

Piston	\$26.92
Ring	10.61
Clutch plate (drive)	4.79
Clutch plate (driven)	2.81
Front sprocket	8.57
Rear sprocket	61.76
Front brake pads	32.99
Rear brake pads	25.53

FMF pipe: 320 main, #64 needle, #3 position, #50-55 pilot.

PSI pipe: 320 main, #65 (stock) needle, #3 position, #50-55 pilot.

Although the above jetting has been arrived at by exhaustive testing using every possible combination of available jets in actual motocross conditions, *you* are still responsible for final jetting of your motor. Due to differences in altitude, temperature, gasoline and motors themselves, no one can absolutely predict correct jetting. It's your responsibility to make sure that you're not

Needle too lean: Bike often runs great cold, but power progressively deteriorates in a few laps as motor overheats. Changing clip position will not correct for this without screwing up mixture at other throttle settings. Upper needle diameter is effective primarily at one-quarter throttle, whereas clip position is effective primarily at three-quarters throttle. Woods riding particularly shows this since lower throttle positions are used for long periods of time. Bike runs great at first, but gets slower and slower as the heat builds up.

Pilot too rich: Bike loads up at starting line or blubbers badly just above idle.

Pilot too lean: Bike very crisp at starting line but has hesitation when blipping throttle from slow idle in neutral. Bike won't crank in cold weather.

Air screw: Affects pilot circuit slightly—for fine-tuning only. In is richer.

Idle speed adjustment: Dramatic improvements in throttle response can sometimes be gained by adjusting slide so the motor will idle properly.

JETTING SPECS FOR THE RM125

Note: Jetting may vary slightly from bike to bike. This chart is for fresh top-end and clean power valve. Pump gas (93 octane) and 32:1 oil ratio. Altitude is 500 to 1000 feet (sea level to 1500 feet should be very close). Engine is stock—ported engines will be different. Boyesen reeds required for this jetting. Note use of (richer) #64 needle.

Stock pipe: 330 main, #64 needle, #3 position, #50-55 pilot.

too lean. Take the time to test thoroughly before you race. Be sensitive to the motor *while you race*. If it heats up, loses power and starts hesitating, *pull over right then*, sacrifice the moto and save your engine.

Occasionally on this bike and with this carburetor there may seem to be too big a gap between jets. The solution was to mix in 50/50 race gas (making the motor run slightly richer with Union 76 gas) or to run a slightly leaner gas/oil mixture (like 50:1). Never has a carburetor been so sensitive to small changes. •

IMPORTANT INFORMATION OTHER RM125 TIPS

• Aside from carburetion, there is *nothing* so critical to the operation of your RM125 as **the power valve**. Suzuki RM125 power valves stick very easily—here's why: transmission oil is used to lubricate the power valve area. When it hits the hot exhaust area around the power valves, it quickly turns to goo. The RM125 power valve actuator (and the spring it works against) is very weak. This means that friction in the mechanism will greatly affect its operation (250 Suzukis are much less susceptible to friction because of a stronger actuator and spring). Even the slightest goo buildup around the power valves will cause them to work sluggishly. The pre-mix you use will have *no* effect on this—only the transmission oil.

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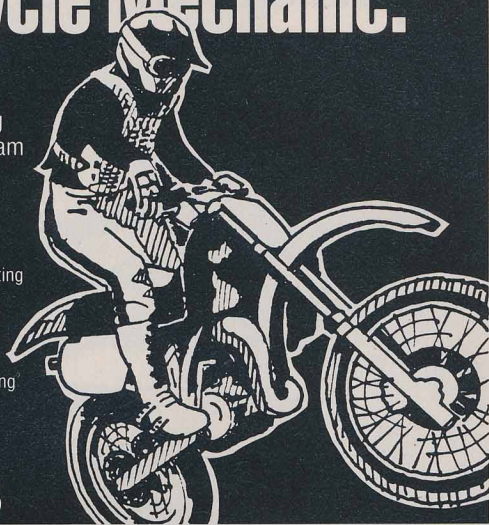
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None of the popular transmission oils commonly used in motorcycles will withstand this heat—they all turn to goo in a matter of a few motos. The most heat-resistant transmission oil available is Mobil ATF which is pure synthetic. It is available for \$5.00 a quart at CJR Sport Auto, (404) 432-5327. If you can't afford this, Castrol GTX or one of Valvoline or Pennzoil's turbo motor oils works fairly well.

• Of course, you should completely disassemble and clean your power valves every time you replace the ring, but there is an easy way to **remove the gum** very effectively without engine disassembly—you can even do it in the pits between motos. With engine intact and pipe in place, use a Phillips screwdriver to remove the bottom two screws holding the power valve cover on. Then, with pliers or vise-grips, loosen the top two screws which are out of reach for screwdrivers. Thoroughly spray the power valve assembly with contact cleaner as you manually open and close the power valves. After it evaporates, spray the area lightly with WD-40 and replace the cover. You will be amazed.

• RM125s have been known to have **air leaks** at either or both crank seals. If recommended jetting seems too lean, *look out for air leaks*. If the bike is jetted spot-on and you get an air leak, it will probably seize. Seals on this motor are easily replaced without splitting the cases. Clutch side seal should be replaced with seal and bushing for an '88 RM125 which seems to work better according to factory sources. An erratic idle often indicates a leaky mag seal. Smelly exhaust along with rapidly disappearing transmission oil often indicates a leaky clutch side seal.

• Be sure to **seal the junction** of carburetor air boot and airbox with silicone seal. Remove the airbox, clean the area thoroughly with contact cleaner, then apply a thick bead of silicone seal all around. Keep a close eye on the seams of your air filter—Suzuki filters are famous for developing leaks at the seams. A Twin-Air filter is a safer bet.

• Many RM125s have been destroying bottom end bearings. Although near-seizures from incorrect jetting are probably the biggest culprit, some well-respected tuners have blamed wear on the **two thrust washers** on either side of the wrist pin bearing. Replace them each time you replace the ring. Also replace the wrist pin and bearing frequently. Ultra-high rpm causes rapid wear here and looseness causes stress on the lower end.

• Minor but certainly important improvements in power can be obtained by advancing **ignition timing** about 1mm (a very small amount) and by turning the power valve spring tensioner a quarter-turn counterclockwise to allow power valves to open sooner.

• Enlarge the hole in your **aluminum head stays** (where they bolt to the head). Great stress develops here due to frame flex and dangerous head gasket leaks may well de-

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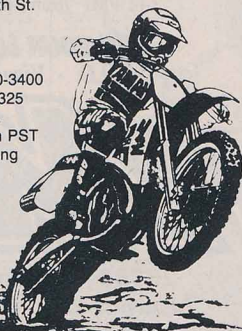
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1991 RM125

velop over time. Enlarging the holes at the head end allows the flex without undue stress on the cylinder head.

• **Stock shock and fork settings** are very close to ideal. If, however, you use Spectro 125/150 fork oil, less compression dampening and much less rebound dampening (several clicks) will have to be dialed in due to the higher viscosity of the Spectro vs. the stock KYB Oil oil.

• Although it's expensive, the **FMF reed cage and intake manifold** for the '89 RM125 really make it fly and largely eliminates many of the carburetion problems. We tried a shorter 1990 intake manifold from Suzuki on the '89 but were disappointed with the results.

• According to factory sources, the **1990 cylinder and head bolts** right on the '89 bottom-end should you ever have to replace yours. Porting on the 1990 cylinder (as well as power valve design) is much better. Other gains are made due to the chrome cylinder. Ever wonder what those factory bikes that are going so fast this year have done to the motor? Very little. Reliable factory sources say stock intake, stock bottom end and small changes to the exhaust port width.

• One of the more interesting changes we've done to the '89 RM125 is bolting on a **36mm Keihin PJ carburetor**. Although there wasn't much difference in horsepower compared to a properly jetted stock Mikuni, *all* of the jetting headaches disap-

peared with the Keihin. The smaller Mikuni had more midrange snap while the Keihin had more top-end. The Keihin, however, was able to run the same jets all the time with little regard to moderate temperature and humidity changes. We only jetted the Keihin with the FMF pipe, but final jets were as follows: main—188; needle: DEJ with 6.0 slide or DEG with 7.0 slide third groove; pilot: 60 to 62. We started with a 168 main and went to a 190 before finding one too rich. Oddly, there was not a great difference between 168 and 185.

• RM25s have a bad habit of using up **transmission oil**. Factory sources say it's going out of the relief tube by the power valve area and the solution is to vent the tube up high on the frame rather than have it point down and drain readily. At any rate, it is easy to lose enough transmission fluid to seriously endanger the clutch and gears if transmission oil isn't changed or checked regularly. Because of the sticky power valve problem mentioned previously, transmission oil must be changed very frequently (preferably every race or two). If you do this, low fluid level will never be a problem.

• The stock RM125 pipe gives superior low-end with reeds and recommended jetting, but top-end is somewhat limited. Of the pipes we've tested, the FMF Gold Series pipe gave the best top-end, while the Pro Circuit pipe was close behind. PSI's pipe gave more midrange. We rode a '90 RM125 with a 36mm Keihin carb and pipe from DG Performance, and the bike screamed! □

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