Roger DeCoster "Replica" Racer

SUZUKI RM400 MOTOCROSSER

By Tom Beesley

Photos by Nora Hawkins

Suzuki's all new RM400 motocrosser: The machine you'll probably be seeing a whole lot of in open class victory circles.

So it's finally come to this, has it?

"This" is the all new Suzuki RM400, the motorcycle you and I are probably going to buy if and when we want to go racing in a really big way.

Every time Suzuki (or Yamaha, Honda or whoever for that matter) introduces a new model, there are more innovative and interesting features to rave about. But the RM400 has outdone itself, and dazzled us in the process.

What we have here is your basic state-of-the-art motocross racing motorcycle. That means that the current technology of the "breed" has progressed a long way from yesterday, when the factory sold you the basic components and you had to shop around for all the trick stuff.

Believe us when we tell you that the RM400 comes to you right off the local dealership's showroom floor already equipped with all the trick goodies you used to have to spend extra money for.

Things like extra-wide unbreakable plastic fenders, works-type front number plate, full floating rear brake, aluminum swingarm and plastic gas tank all come standard on the RM400, and those features help make it quite a package. Heck, all the goodies that Suzuki has stuck on the 400 for '78 would probably cost you $350 if you went out to buy them

SUZUKI RM 400

TECHNICAL SPECIFICATIONS
SUZUKI RM 400

ENGINE

Engine type	2-stroke single
Bore and stroke,mm	80 x 80
Displacement,cc	402
Horsepower/rpm (claimed)	37/6500
Torque/rpm (claimed)	32.4/6000
Compression ratio	6.7:1
Air filtration	Oiled foam
Carburetion	36mm Mikuni (Reed valve)
Lubrication	Pre-Mix
Ignition	Suzuki CDI

DRIVE TRAIN

Transmission	5-speed, constant mesh
Clutch type	Wet, multi-plate
Primary drive	Gear
Final drive ratio	50/13 = 3.84

CHASSIS

Chassis type	Single downtube
Overall length, in.	84.3
Seat height, in.	36
Ground clearance, in.	11.4
Wheelbase, in.	57.1
Weight as tested, lbs.	253
Tires, front	3.00 x 21
rear	4.50 x 18
Fuel capacity	2.2 gal.

SUSPENSION

Front	Kayaba air/oil forks
Travel	9.8 in.
Rear	Kayaba gas/oil shocks
Travel	9.6 in.

MOTOCROSS

Max. Pts.	NUMERICAL EVALUATION	
10	Power	10
10	Powerband	10
10	Acceleration	10
10	Transmission	
	(5) Ratios	5
	(5) Operation	5
10	Suspension	
	(5) Front	5
	(5) Rear	5
10	Brakes	
	(5) Front	5
	(5) Rear	5
10	General Handling	10
30	Miscellanea	
	(5) Starting	3
	(5) Rider comfort	4
	(5) Quality of craftsmanship	4
	(5) Riding maneuverability	5
	(5) Tires	3
	(5) Noise level	3
100 pts.	Overall Rating	92 pts.

for your older RM370.

It's becoming more and more common for the motorcycle factories, especially the Big Four from Japan, to fit their racing machines up on the assembly line with those items we used to have to buy from an aftermarket manufacturer. All the "trick" stuff you used to see advertised to make your Japanese motocrosser more competitive now have factory stock numbers. So goes the game of building production-line racing machinery and staying competitive with your rival factories.

It's a funny game, this building of racing machines for sale to John Q. Public. The factories have to stay on top of it all, lest they fall way behind. Catching up isn't an easy, or cheap, proposition. The ideal is to get on top, then make whatever minimal changes necessary to remain there.

The factories really can't plan on having an identical model for even a full year. Before that period is up, the competition will have come up with something new, and tricker, and the older model is suddenly very, very obsolete.

It might seem apparent that the specific facts we're dealing with here are that Suzuki found their sales figures for the RM370 motocrosser lagging behind Yamaha's YZ400. Now both are truly wonderful motorcycles, and both are capable of winning races, but the Yamaha had the competitive edge.

That meant it was time for Suzuki to get on the stick and play the old "one-upmanship" game.

Enter the RM400, a darned good case of one-upmanship if we've ever seen one.

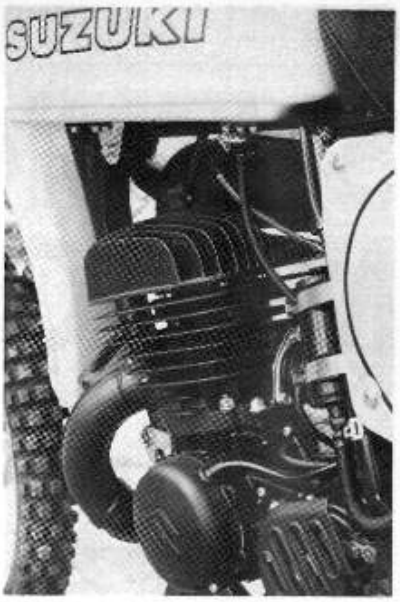
In fact, we'd venture to say right out that Suzuki has gone almost *too* far for once. The RM400, as compared to the RM370, is a veritable "giant step for mankind." The differences in the two machines go far deeper than a few cubic centimeters of displacement and some "trick" bolt-on goodies. No, they're completely different motorcycles.

We'd guess that there are probably still a few RM370 machines sitting on dealer's floors around the country. If there are, those dealers had best get out their Magic Markers and prepare to mark down the price, because nobody's going to want a 370 once they hear about the RM400.

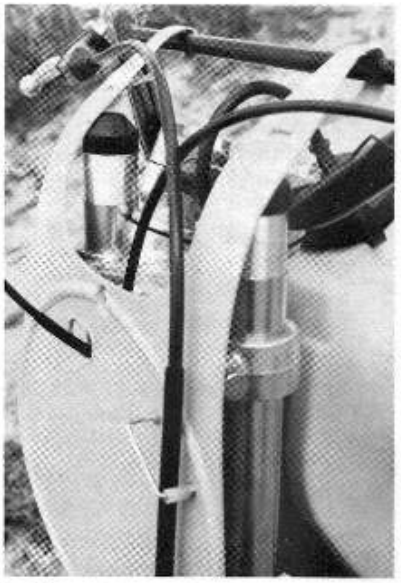
If we'd just gone out and bought a brand new RM370, we'd have our feelings hurt. "How can Suzuki do this to us?" we'd be saying. "I just bought this new bike and they come along with something so much better."

You can begin to forget about the RM370, a motorcycle that's certainly contributed to Suzuki supremacy on the nation's local motocross tracks. As soon as people find out about the 400, that'll be the chief topic of conversation around the local pit racing sessions. The RM370 is going to go the way of all "obsolete" models and will turn up at places like Saddleback and Indian Dunes in the hands of the pseudo-racers, the guys who like to roar around impressing no one but themselves, and who wouldn't actually enter a real race if you held a gun at their heads.

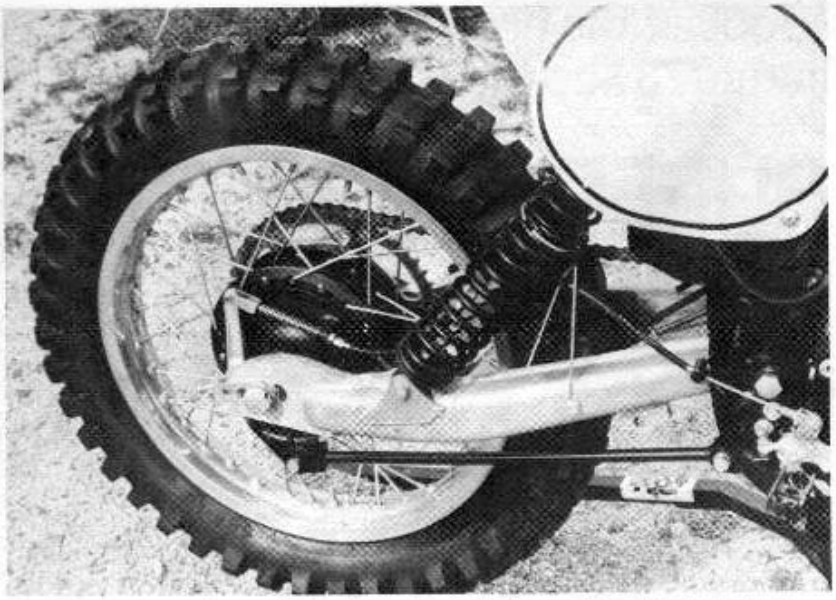
The *real* racers are going to be buying,



To up the displacement to an actual 402cc, Suzuki increased the bore to 80mm, making it the same as the stroke on the previous RM370 model. Different port timing, pipe, compression ratio and ignition timing have been included to mellow out the powerband and serve up more bottom end and mid-range horsepower. Horsepower output is about 37, with the peak at 6500 rpm.



Works replica number plates are good example of how Suzuki has tended to details on RM400. You used to have to buy such plates as this as an aftermarket accessory. Airfork caps are covered with rubber plugs.



New box section swingarm is aluminum, is much stronger than old steel one, at approximately the same weight. Full floating rear brake is absolutely marvelous.

With nearly ten inches of travel on each end, RM400 is state-of-the-art in the suspension department. Also note wide, very effective unbreakable plastic fender, another "trick" detail.

and winning on, RM400s. We believe that to be a fact and we're flat telling you so.

Okay, you're probably asking just why is the RM400 so good? What does it have to offer besides a bunch of features that used to be available only as aftermarket accessories? Let's take a good look at the model.

Basically, the RM400 *looks* pretty standard. The gas tank is different, being a sharper-angled plastic 2.2-gallon job instead of the old-style round steel tank. The swingarm looks very different, as it's a silver-colored box-section aluminum item that is stronger than the old-style steel one. (Weight is about the same.) Forks and rear shocks are Kayaba, just like the RM370. And as we said at first, the front number plate and fenders are different and that's about it as far as

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New style plastic gas tank holds 2.2 gallons of pre-mix. Decals aren't much good, however . . . This photo was taken after only two laps of slow practice on the brand new RM400. Tank also has large filler cap, which is very welcome to long-time RM owners.

This isn't the same bike that Roger DeCoster rides, but it's not *that* far off. This bike is really something for a production bike.

outside appearances. The real improvements aren't quite so obvious to the naked eye.

Suzuki engineers wanted to extract more bottom-end and mid-range torque and power from the big-bore engine, so they elected to "merely" increase the bore of the 370 engine to 80mm, making it a full 402ccs. The stroke remains unchanged, giving the engine a square configuration, with identical bore and stroke measurements.

Cylinder port and ignition timing, compression ratio and the exhaust pipe have all been changed to obtain that desired (broader) powerband. Other than those changes, the basic engine remains the same as the RM370. Case reed/piston port induction, 36mm Mikuni carb, identical primary and internal gearbox ratios, same five-speed transmission . . . All remain the same on the newest model.

The increase in displacement doesn't translate directly to more speed, we can tell you. In fact, we doubt if the 400 is *that* much faster than an RM370. But in virtually every respect, it's quicker, and that's really what counts. You'll accelerate quicker out of the corners, get off the line a little faster, and you'll find the bike much more tractable and easier to ride. The older RM370 had to be ridden much like a 250cc machine, with more shifting and revving than most open class machines. Boy, has the 400 gotten away from those traits!

Engineering data input for the changes to the RM400 came largely from none other than Roger DeCoster. Roger D. hasn't had the absolute most powerful motorcycle on the Grand Prix or Trans-AMA circuit, but he's got the most useable horsepower. To him, and subsequently to most of us, that's much more important. Sheer, raw, huge amounts of horsepower are much more desirable on a road racer than in a motocrosser machine. You've got to be able to use the power.

The RM400 doesn't participate in an undue amount of rear wheel spin, or front wheel lifting. Of course, you *can* easily do both, but the motorcycle is much, much more manageable now. Therein is the biggest single improvement in the RM400, as compared to the RM370 of last year.

Suspension . . . Kayaba on both ends, with rear wheel travel increased an inch to a healthy 9.6 inches. Increase comes from further forward top shock mounting, increased shock angle and slightly longer gas/oil remote reservoir shocks. The shocks themselves are slightly different than before, but there's nothing radical enough to worry about.

Up front are air-assisted leading axle forks that give you 9.8 inches of travel, just over an inch more than the 370. By now, you're probably aware that the Kayaba suspension components are truly state-of-the-art, and the ones that others are usually judged against. We don't have to tell you how good and/or effective the Kayabas are. We will say, though, that the suspension components have been "fine-tuned" especially for the RM400, and the overall ride is considerably smoother and "plusher" than on the RM370.

It's a fact that most RMs don't ever actually get raced (remember the comment about the pseudo-racer a while back?), and we're pleased to tell you other guys who are into such play riding, (it IS fun to do something besides race, you know!) that the 400 RM is improved largely with you in mind. The overall characteristics of the engine and the suspension suit your style of riding much better than the 370 ever did. Of course, Mickey Motocross will still have his hands full when it comes time to line up against the starting gate at the local race track. And, M.M. you'll still have a very competitive motorcycle under you.

There are negative aspects of the RM400, just like there were with the 370. The engine still vibrates heavily, although rubber-mounted handlebars and aluminum motor mount plates help a lot. It's sometimes a darned hard engine to start, and kick-start lever kickback can be considerable. Once running, though, the bike is great. Those improved (to our mind) power traits make the bike pleasant and fun. The new full floating rear brake is superb and the bike does stop! Shifting is smooth and easy, comfort is good (for a motocross racer) and controls are well placed.

In summary, we feel that the RM400, largely because of those "trick" goodies that come standard, is one of the most race-ready production motorcyles currently available. At $1699, it's not a cheap-o, but you get what you pay for, and if you want to go racing in the open class, this is a darned good machine for the job.

Suzuki has done a good job with the motorcycle. Increases in displacement/horsepower very often bring out very undesirable traits. Sheer power usually translates directly into less control, increased rider fatigue and often, increased cost per moto. Suzuki has done the near impossible by obtaining all the plus aspects of a large displacement motocrosser, and at the same time weeding out most of the accompanying negative traits.

Good deal, you guys who sponsor Roger DeCoster . . . Not only do you sponsor him, but you also *listen* to him. You've built one heck of a racer for us little guys to play with.

And . . . You don't mind if we call it a Roger D. Replica, do you?