

## TRACK TEST:

# Suzuki RM125T

*Suzuki starts the Eighties right where it left off in the Seventies—in possession of the 125 class.*

BY PAUL DEAN

If motocross were a religion, its church would be called Our Lady of Perpetual Change. Because most motocross followers, it seems, religiously believe that only a substantially different motorcycle can be a substantially *better* motorcycle. If every brand-new moto-racer isn't ostensibly improved from the one before it, if each new model doesn't bristle with innovation, it is not deemed worthy of worship by those of the motocross belief.

Consequently, anyone of this persuasion who's in the market for a 125cc motocross bike probably will take one peek at Suzuki's new RM125T and scratch it from his 1980 wish list. For one thing, it looks



PHOTOGRAPHY: LEN WEED

like nothing more than a re-fendered '79-vintage RM125N. And indeed, a walk through the T-model's specifications shows vital statistics virtually identical to the '79 RM's.

Apparent similarities or not, however, this is one motorcycle that cannot be easily written off as a lukewarm leftover from last season's moto-menu. Because out on the track—the only place where any of this means anything—a T-model will all but run circles around an N.

When you consider that the RM125N was the finest production 125 on the track, that's a mighty impressive accomplishment. To effect so much improvement on

such a highly acclaimed motorcycle with only minor changes is just short of miraculous. Yet once you probe the 125T's inner workings, it all starts to make sense. And just one ride demonstrates that most of the T-model's refinements, however superficial they may seem, are responsible for a significant performance uplift.

In the engine, for example, the biggest difference between the '79 and '80 RM125s is that the latter has slightly wider and therefore heavier crankshaft flywheels. In addition, the compression ratio is up from 8.0 to 8.1:1, the CDI's spark curve has more advance at high revs and a few of the exhaust system's important dimensions are new. Everything else in the six-speed motor remains as is. The 54mm-square bore and stroke are unchanged, the easier-opening intake case-reed block introduced on the N-model is no different and all of the porting specifications are exactly as they were on the 125N.

Those few changes were implemented in response to two specific criticisms leveled by numerous RM125N owners. One of those complaints was that although the N-model was torquier and more tractable than the 1978 RM125C, it also was a bit slower on the fast straightaways. And the other gripe was that the N wanted to stop revving abruptly just above its horsepower peak. If the gearbox wasn't stirred immediately after the power crescendoed, the engine would fall flat on its two-stroke face. Within its wide and unusually torquey powerband an RM125N could outrun any stock 125 on the track other than an RM125C; but shifting just a fraction of a second too late could cause the N-model to lose almost as much ground as it might have gained through being more powerful and tractable. So Suzuki's R&D wizards passed their wands over the expansion chamber and ignition system, and came up with a combination that allows the engine to rev more freely once it passes its horsepower peak. They also made the crank wheels heavier to help nullify any peakiness or loss of midrange that may have resulted.

None of those minor tuning tricks are significant enough, though, to endow the RM125T with more peak power. The maximum horsepower is, for all intents and purposes, the same as on the N-model except that it is delivered 250 rpm lower. The torque peak, on the other hand, occurs 500 rpm *higher*, and that puts both peaks right back where they were on the superfast C-model. So combining the C-model's power

curves and the N-model's torque-boosting port layout with a set of heavier flywheels has made the T-model just as fast as the beloved RM125C but with a wider, smoother and more tractable powerband.

That same subtle-but-effective approach was used to sharpen up the 125T's chassis. Dimensionally, the frame and swingarm were left unaltered, but heavier gusseting and thicker-walled tubing were used around the swingarm-pivot area to give the whole chromoly structure more rigidity. Most of the critical chassis measurements, including wheel travel and wheelbase, are identical to the N-model's, while the steering geometry is fractionally quicker and the overall weight marginally greater. The single biggest change on the chassis, however, is in the Kayaba reservoir shocks. They're now oil-refillable and incorporate four-position adjustable rebound damping in place of the two-position feature first used on the C-model.

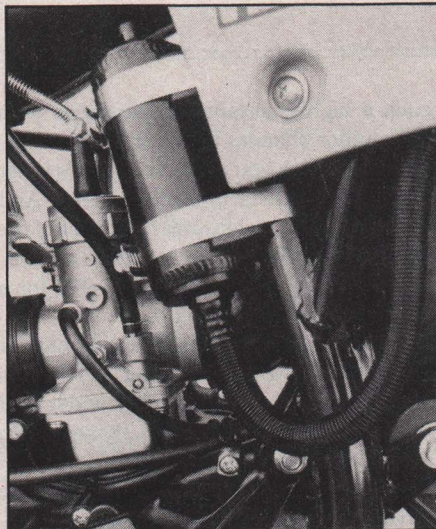
Those particular refinements came about after Suzuki learned that most C- and N-model shocks that were thought by their owners to have worn out simply were in dire need of an oil change. But because both the shock body and the reservoir were sealed units, the oil could not be changed or even inspected. So Kayaba now installs a conventional valve stem atop each of the RM125T's reservoirs to allow regulation of the nitrogen pressure. And that, in turn, permits the shock oil to be changed.

Nothing so extensive was modified in or on the air/spring front fork. Its only distinctions are that the bottom triple clamp was beefed up to inhibit fork flex and the recommended oil level in the fork was raised 10mm. The increased oil level helps reduce front-end dive by shrinking the size of the available air volume to obtain a more progressive overall spring rate. And where the rubber meets the racetrack, the 125T is delivered with new-design IRC knobbies that are stunning improvements on hard-surface tracks compared to the Bridgestones used on the 125N.

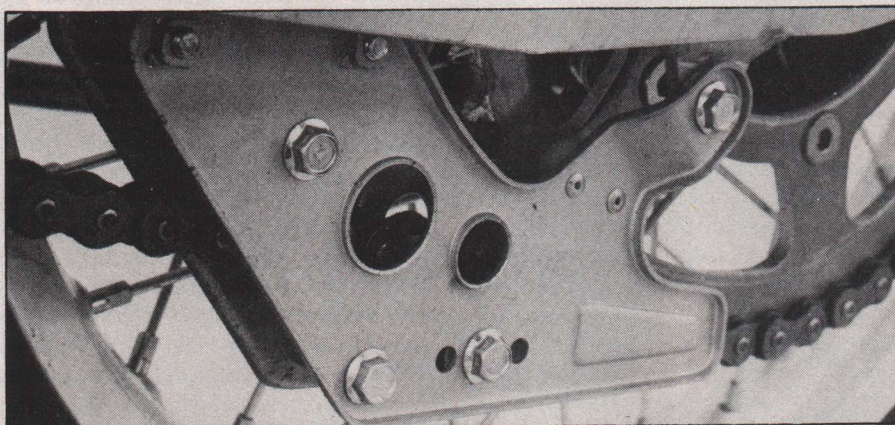
More-effective tires or not, though, we met several riders while testing the T-model who thought that it didn't reflect the level of model-year improvements they had come to expect in Suzuki's RM series. They were card-carrying different-is-better sectarians, of course, who changed their minds after riding the bike. But that doesn't dismiss one real-world fact of knobby-tired life—that until the T-model becomes a known quantity, many people are going to wonder if maybe Suzuki is lay-

*Continued*

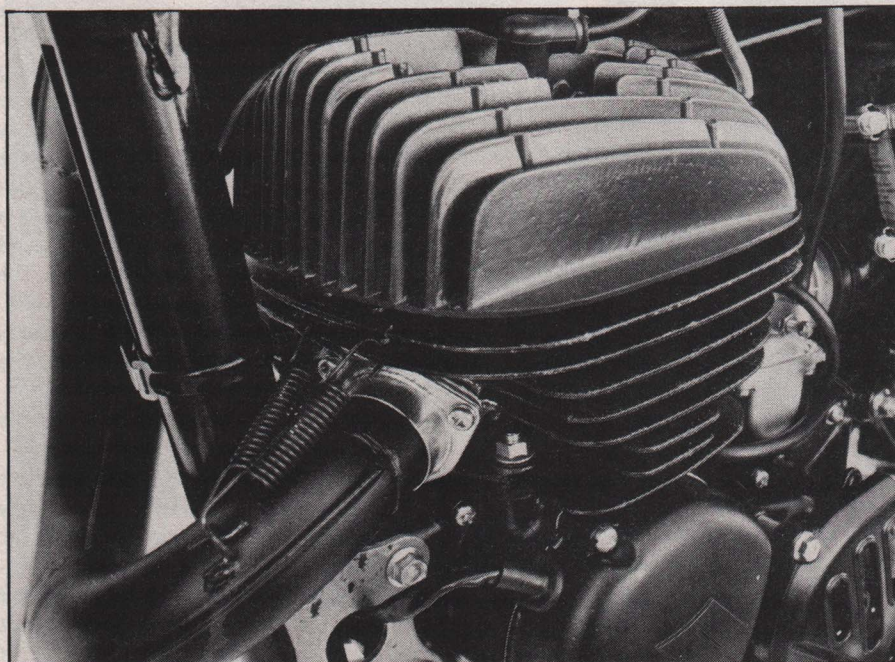




**New shock reservoirs with valve stems**  
*Rechargeability for longer life.*



**Chain guide has nylon thrust pads that rub against rear sprocket under side loads**  
*Putting an end to bent guides and derailed chains with a little caliper-think.*



**RM125T's mighty-mite powerhouse, refined yet another time for 1980**  
*Power backed up by every 125cc world championship that has ever been.*

ing back with the 125T and riding the wave of success kicked up by the popular N-model.

As anyone who looks at such things more logically might guess, though, it ain't necessarily so. The real truth is that the T-model isn't much different from the N-model simply because it *couldn't* be. When designing the N, Suzuki's R&D team configured the most radical works-bike replica that they thought the factory would dare build. They gave it steering and handling that Team Suzuki's world-class riders preferred. They suspended it with the quality and quantity of travel they thought a production 125 ought to have. They energized it with the kind of basic power that has carried one Suzuki rider or another to every 125cc world championship that has ever been. And having done all that, there was little more to do one year later other than refine, since that's all they did to the works-bike originals.

If you don't think that refinement has produced a substantially better RM125, park your butt on an N-model, or any other 125 for that matter, and try to catch a T. They won't be hard to find; they're sure to heavily populate every 125 moto on the planet. But the only 125T you're going to outrun is one ridden by someone who isn't up to your skill-level. In fact, if you're only a *little* better than he is, he'll probably whip you anyway.

If it's hard to understand how a handful of minute changes can make so much difference, it's even harder to deny the impact of those improvements once you've cut a few hard laps. The T-model does everything better than the N-model, which did *almost* everything better than any other 125.

Explaining the engine's role in all of this is not so difficult; it merely combines the best elements of the fastest 125 motocross engine ever mass-produced with those of the most tractable 125 race motor ever bolted together in Japan. That's why the 125T explodes out of corners more convincingly than the N-model and puts its power onto the ground more effectively. That alone gives the new RM a slight advantage on the tighter, tougher areas of the track. And the 125T's ability to outdrag a box-stock N-model by a foot or more in every gear on the straights can really add up during a long moto.

In contrast to the engine improvements, though, understanding why the new RM steers and handles noticeably better is not so cut-and-dried. The IRC knobies seem to have made the biggest improvement just by being better tires. Hence the RM turns, accelerates and stops more effi-



ciently than it did before. And because the T's rear tire is about 20mm taller than the N's, the effective steering head angle has been steepened by a fraction of a degree and the front wheel trail shortened by a few millimeters.

The coalition of tires that work and steering that is just perceptibly quicker makes the RM-T more responsive than the RM-N to rider input. It corners with newfound crispness down on the tight inside lines where the '79 RM sometimes floundered, and the front end won't plow as easily when slammed into a big, soft berm. Too, the increase in the fork's spring-rate progression helps the RM to turn more predictably. That's because reducing front-end dive results in less of the steering geometry fluctuations that can alter the front wheel's behavior while the bike is cornering.

That small increase in front-wheel rate didn't hurt the fork's action one bit on rough ground. The RM125T still has the N-model's wondrous ability to make the bumps virtually disappear. Only Husqvarna's new 125 is superior in that respect. In fact, the rear suspension seems to work even better than the N's, although Suzuki swears that there is nothing new in the shocks to account for such a thing. Yes, there are two additional damping positions on the T's shocks, but they are firmer settings than the two original ones, both of which have the same damping rates as before. And it was on the second-lowest notch where we obtained the best shock action. Apparently, the new positions are there simply to provide a greater range of damping compensation as the shock wears.

If that's the case, those additional set-

tings, along with the refillable feature of the shocks, are just two of the numerous other refinements designed for longevity and reliability. Among them is the drive chain, which finally is a No. 520 instead of the stretchy No. 428 that many serious riders would immediately do away with. And the chain is kept on-track by a new works-type guide that is centered by the rear sprocket so that it can't be bent to one side as easily as most guides. There also are smaller improvements here and there, such as softer grips, a straight-pull cable on the rear brake and new gas tank decals that seem to stay put longer than the RM125N's flyaway graphics.

There is more, but you should have gotten the message by now. You should be aware that regardless of what anyone thinks it looks like, the RM125T is no quick-and-dirty rehash of a year-old motorcycle. Quite to the contrary, it is by far the most totally competent motocrosser in its displacement range. And the only reason it isn't dramatically changed from last year's version is because that model already was at the very cutting edge of motocross technology.

In the end, of course, the success of the RM125T will be measured on the racetrack after the other manufacturers open the 1980 bag of 125cc tricks. Kawasaki will offer a Uni-Trak KX125, and as of this report, Honda and Yamaha supposedly have radically revised 125s poised and ready for action. But unless those motorcycles are light-years ahead of what those companies have right now, 1980 will be yet another year of 125 supremacy by Suzuki.

And there's absolutely *nothing* new about that. ●

## Ride Review

• Suzuki doesn't fool around on the motocross track. It's had a hammerlock on the 125 world championship ever since it was invented. Joel Robert ripped off a string of 250cc GP world championships and Roger DeCoster did the same in the 500cc class. For a long time, of course, Suzuki's production bikes didn't reflect the firm's GP expertise, but now no one questions Suzuki's motives on America's Sunday-afternoon motocross tracks. The aim is complete domination.

The new RM125T should easily accomplish Suzuki's goals in the 125 class. The 1979 RM was a good bike, of course, but I'd rather ride the new T-model than any 125 motocross bike I've ever been on. It's absolutely perfect just the way it bolts together out of the crate. From the front fender to the rear shocks, every piece of the new RM works in harmony with all the other pieces to get you around the track faster.

As usual, the T-model is faster than previous RM125s, but this time the punch is upstairs in the powerband where I like it. Now I can get out there and rev my engine with the rest of the 125 riders. For my Pro-level abilities, that's the biggest improvement Suzuki could have made in the most serious 125 motocross bike made, a 125 I'd pay money for.

—Dean Taylor

• There was a celebration last year when Suzuki built a 125 'crosser designed for adults. Here at last was a 125 bike that scaled down all the winning characteristics of Suzuki's large-bore motocrossers.

The T-model still gets an adult rating because it still takes a sophisticated sense of cornering technique to get the take advantage of the way the Suzuki handles. It's not the kind of motorcycle you can toss around the track, wasting time with senseless wheelspin. Instead you take the shortest and smartest way around the track, letting the front wheel determine your path and allowing the suspension to swallow up the obstacles.

But Suzuki also recognizes that 125 riders are accustomed to keeping the throttle tapped at all times. Last year's N-model had lots of mid-range and sufficient top-end, but because of the way the spark curve fell off at peak rpm, the engine hit a wall of jello at redline that actually slowed you down. The T-model's recalibrated ignition curve lets you hold the gas open without worrying about shifting short in time to keep from bouncing off the wall of jello.

That's what makes the RM125T the best 125 you can buy. It's got all the tricks from Suzuki's big bikes plus the kind of top-speed rush 125 riders prefer.

—Michael Jordan

# Suzuki RM125T



## SPECIFICATIONS:

**IMPORTER:** U.S. Suzuki Motor Co.  
13767 Freeway Drive  
Santa Fe Springs, California 90670

**CATEGORY:** motocross

**SUGGESTED RETAIL PRICE:** \$1329

### ENGINE

Type ..... two-stroke vertical single  
Port arrangement ..... one piston-controlled  
intake, one reed-valve-controlled intake,  
six transfers, one exhaust  
Bore and stroke ..... 54.0mm x 54.0mm  
Displacement ..... 123.6cc  
Compression ratio (corrected) ..... 8.1:1  
Carburetion ..... one 32mm Mikuni slide / needle  
Air filter ..... washable oiled foam element  
Lubrication ..... pre-mixed fuel and oil  
Starting system ..... primary kick  
Ignition ..... internal-rotor magneto CDI  
Charging system ..... none

### DRIVETRAIN

Primary drive ..... straight-cut gears  
Primary drive ratio ..... 3.157:1  
Clutch ..... wet, multi-plate  
Final drive type ..... #520 chain (%-in. pitch, ¼-in. width)  
Final drive ..... 12/51: 4.25:1  
Gear Internal Overall MPH per  
gear ratio gear ratio 1000 RPM  
I 2.33 31.26 2.4  
II 1.75 23.48 3.2  
III 1.41 18.92 4.0  
IV 1.19 15.97 4.7  
V 1.05 14.09 5.4  
VI 0.96 12.88 5.9

### SUSPENSION/WHEEL TRAVEL, IN.

Front ..... air-spring, 38mm stanchion tube  
diameter / 11.2 in. (285mm)  
Rear ..... 3-way adj. spring preload, 4-way adj.  
rebound damping / 11.7 in. (297mm)

### BRAKES

Front ..... drum, single-leading shoe  
Rear ..... drum, single-leading shoe, straight-pull cable-operated

### TIRES

Front ..... 3.00x21 IRC Motocross GS45Z2  
Rear ..... 4.10x18 IRC Motocross GS45Z1

### DIMENSIONS AND CAPACITIES

Weight ..... 200 lbs. (90.7kg)  
Weight distribution ..... 47.0% front, 53.0% rear  
Wheelbase ..... 56.7 to 57.7 in. (144.0 to 146.5cm)  
Seat height ..... 36.3 in. (922mm)  
Handlebar width ..... 32.2 in. (818mm)  
Footpeg height ..... 16.2 in. (411mm)  
Ground clearance ..... 12.8 in. (325mm), at engine cradle  
Steering head angle ..... 29.7 degrees from vertical  
Front wheel trail ..... 4.95 in. (126mm)  
Frame ..... tubular chromoly steel, single front downtube  
Fuel tank ..... plastic, 1.8 gal. (6.7), no reserve  
Instrumentation ..... none

### PERFORMANCE

Top speed (calculated) ..... 62 mph (100 kph)

All weights and measurements are taken with machine  
unladen and fuel tank empty.

## COMPARATIVE TEST DATA:

Make & Model	Horsepower	Wheel Travel Front/Rear, in.	Weight (fuel tank empty), lb.	Weight bias Front/Rear percent	Transmission, number of speeds
Suzuki RM125T	19.8	11.2/11.7	200	47.0/53.0	6
Honda CR125R	19.1	10.8/10.6	197	47.4/52.3	6
Husqvarna 125CR-'80	18.8	11.8/11.8	214	43.9/56.1	6
Kawasaki KX125 A5	20.0	9.8/10.0	194	46.9/53.1	6
Yamaha KZ125E	15.9	9.3/9.1	198	48.7/51.3	6
Suzuki RM125N	20.1	11.2/11.7	197	46.7/53.3	6

## PERFORMANCE:

