

PRODUCT INFORMATION

1997  
**ERMI**  
250/125/80



 **SUZUKI**

# RM80: the Winning Choice of Future Champions

The RM80 wears the same yellow body color and new graphics as its larger-class brothers — the RM250 and RM125 — and features a new-design front fender for 1997. The RM80 is the machine of choice of many young riders who are just entering the challenging and exciting world of motocross racing. From its Suzuki AETC-equipped powerplant and tough semidouble cradle frame to its progressive front and rear suspension, the RM80 provides a high level of race readiness. On the Suzuki RM80, the young rider is off to a great start.

- 2-stroke, liquid-cooled, single-cylinder crankcase reed-valve induction engine features high power output and easily accessible torque.
- The Mikuni TM flat-valve carburetor keeps intake flow smooth and ensures quick throttle response.
- Suzuki's AETC (Automatic Exhaust Timing Control) system regulates exhaust timing to match the engine rpm range.
- The six-speed transmission is designed for smooth

operation and precise feedback.

- The semidouble cradle frame combines strength and high rigidity with light weight.
- The highly rigid 35mm fork and the well-proven Suzuki link-type rear suspension provide optimum progressive performance.
- The rear shock absorber comes with fully adjustable rebound and compression damping adjustments.
- Both the front disc brake with semi-metallic pad and the rear disc brake with sintered-metal pad provide strong stopping power and optimum feedback.



New graphics



New-design front fender

## Specifications

MODEL	RM250	RM125	RM80/BOX
Overall length	2,180mm (85.8 in.)	2,150mm (84.6 in.)	1,805mm (71.1 in.)
Overall width	815mm (32.1 in.)	815mm (32.1 in.)	735mm (28.9 in.)
Overall height	1,245mm (49.0 in.)	1,250mm (49.2 in.)	1,100mm (43.3 in.)
Wheelbase	1,480mm (58.3 in.)	1,455mm (57.3 in.)	1,240mm (48.8 in.)
Ground clearance	350mm (13.8 in.)	350mm (13.8 in.)	325mm (12.8 in.)
Seat height	950mm (37.4 in.)	950mm (37.4 in.)	840mm (33.1 in.)
Dry mass	98.0kg (215 lbs.)	88.0kg (194 lbs.)	64.0kg (141 lbs.)
Engine type	2-stroke, liquid-cooled with AETC/PC	2-stroke, liquid-cooled with AETC/PC	2-stroke, liquid-cooled with AETC
Intake system	Piston reed valve	Crankcase reed valve	Crankcase reed valve
Number of cylinder	1	1	1
Bore	66.4mm	54.0mm	47.5mm (RM80) 46.5mm (RM80X)
Stroke	72.0mm	54.5mm	46.8mm
Piston displacement	249.3cm <sup>3</sup>	124.8cm <sup>3</sup>	82cm <sup>3</sup> (RM80) 79cm <sup>3</sup> (RX80X)
Corrected compression ratio	10.9: 1 (Low rpm)~9.0: 1 (High rpm)	11.0: 1 (Low rpm)~9.1: 1 (High rpm)	RM80 - 10.83: 1 (Low rpm)~9.35: 1 (High rpm) RM80X - 10.85: 1 (Low rpm)~9.38: 1 (High rpm)
Carburetor	KEIHIN PWK38	KEIHIN PWK36	MIKUNI TM2BSS
Starter system	Primary kick	Primary kick	Primary kick
Lubrication system	Fuel/oil premixture 32:1	Fuel/oil premixture 32:1	Fuel/oil premixture 20:1
Clutch	Wet multi-plate type	Wet multi-plate type	Wet multi-plate type
Transmission	5-speed constant mesh	6-speed constant mesh	6-speed constant mesh
Gearshift pattern	1-down, 4-up	1-down, 5-up	1-down, 5-up
Gear ratios, 1st	1.800 (27/15)	2.143 (30/14)	2.545 (28/11)
2nd	1.470 (27/17)	1.750 (28/16)	1.933 (29/15)
3rd	1.210 (23/19)	1.444 (26/18)	1.571 (22/14)
4th	1.000 (21/21)	1.200 (24/20)	1.333 (20/15)
5th	0.870 (20/23)	1.053 (20/19)	1.166 (21/18)
6th	-	0.950 (19/20)	1.045 (23/22)
Primary reduction ratio	3.000 (63/21)	3.368 (64/19)	3.444 (62/18)
Final reduction ratio	3.846 (50/13)	4.167 (50/12)	3.428 (48/14)
Drive chain	DAIDO DID520DS5, 114 links	DAIDO DID520DS5, 114 links	DAIDO DID428G2, 118 links
Front suspension	New Conventional Twin Chamber Cartridge Fork, compression and rebound damping 18-way adjustable	New Conventional Twin Chamber Cartridge Fork, compression and rebound damping 18-way adjustable	Telescopic, pneumatic/coil spring, oil damped
Rear suspension	Link-type, spring preload fully adjustable, compression and rebound damping 20-way adjustable	Link-type, spring preload fully adjustable, compression and rebound damping 20-way adjustable	Link-type, spring preload fully adjustable, compression and rebound damping fully adjustable
Front fork stroke	290mm (11.4 in.)	290mm (11.4 in.)	275mm (10.8 in.)
Rear wheel travel	315mm (12.4 in.)	315mm (12.4 in.)	277mm (10.9 in.)
Caster	27°30'	27°45'	28°
Trail	116.5mm (4.6 in.)	114.8mm (4.5 in.)	87mm (3.4 in.)
Steering angle	45°	45°	45°
Turning radius	2.3m (7.5 ft.)	2.3m (7.5 ft.)	1.9m (6.2 ft.)
Front brake	Disc, hydraulically operated	Disc, hydraulically operated	Disc, hydraulically operated
Rear brake	Disc, hydraulically operated	Disc, hydraulically operated	Disc, hydraulically operated
Front tire	80/100-21 51M	80/100-21 51M	70/100-17 40M
Rear tire	110/90-19 62M	100/90-19 57M	90/100-14 49M
Ignition type	Electronic ignition	Electronic ignition	Electronic ignition
Spark plug	NGK R6918B-7	NGK R6918B-8	NGK BR10ES
Fuel tank	8.5L (2.2 gal.)	7.5L (2.0 gal.)	4.5L (1.2 gal.)
Transmission oil	850ml (0.9 qt.)	750ml (0.8 qt.)	650ml (0.7 qt.)
Body color	3AE: Special White No.2/Marble Science Yellow		

# 1997 RM250 and RM125 Staying Ahead of the Competition

Introducing the 1997 RM250 and RM125. Here is a brief description of how the two machines were upgraded, strengthened and refined to stay ahead of the competition. The RM250 powerplant has been fitted with new, three-stage exhaust valves, and a new cylinder has been designed for the RM125. Both models' carburetors feature a finned intake tract for more accessible power which is transferred through smooth-shifting transmissions. Chassis upgrades to both models include reduced below-axle extension and larger fork cartridges up front plus modified shock linkage and shock stroke in the rear. The 1997 RM250 and RM125 can take on the toughest track conditions with a higher level of suspension performance. The best features of the previous models were retained while key refinements were put in place. These changes to the 1997 RM250 and RM125 will put even more Suzuki riders in the winner's circle — where they belong.

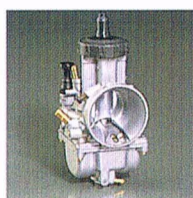
## Improvements that Retain the Edge The 1997 RM250 Powerplant

### Two-piece exhaust valves, a carburetor with "fins"

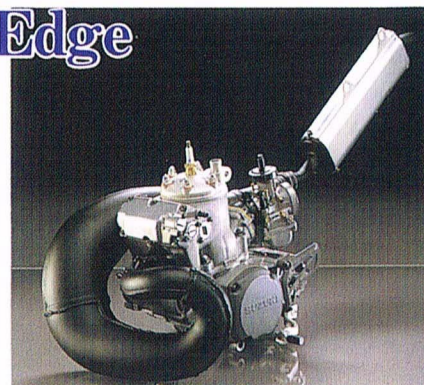
The RM250 engine, introduced last year with an all-new piston-reed design, is ready for the new season with key improvements aimed at retaining its leading edge. The AETC/PC (Automatic Exhaust Timing Control/Power Chamber) system has new two-piece exhaust valves that provide a three-stage (low-, mid- and high-rpm) transition to create smoother and more linear power delivery as the engine speed increases. The Keihin PWK38 carburetor is now equipped with two "fins" in the intake bell that smooth the air flow when the throttle is slightly opened, improving combustion at low rpm and providing better power pick-up and quicker throttle response. The cylinder head's revised combustion chamber shape and revised cylinder port timing and port shape improve combustion efficiency. This combination of cylinder and cylinder head changes increase low- to mid-range torque and high-range power to improve traction and acceleration. The magneto now generates a timed series of sparks, instead of a single spark for each combustion cycle, with modified ignition characteristics to match the cylinder and cylinder head changes. The low-routed exhaust system's shape also enhances mid-to-high range torque.

### Improved power transmission

The 1997 RM250 clutch is upgraded with revised friction plates and new steel driven plates to reduce variations in clutch play, increase durability, and provide a more crisp feel. Revision of the final reduction ratio from 49/13 to 50/13 creates a smoother power delivery "feel" when shifting gears. To improve crankcase rigidity, the sprocket cover no longer shares the same bolt-on attachment point as the crankcase.

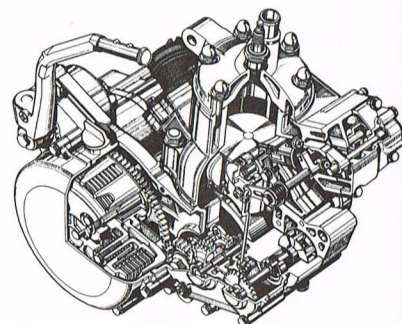
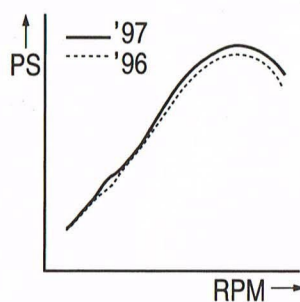


PWK38 carburetor

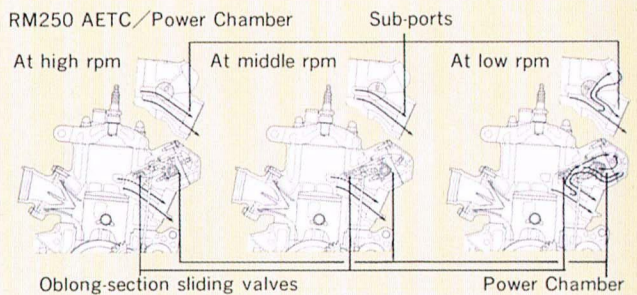


RM250 powerplant

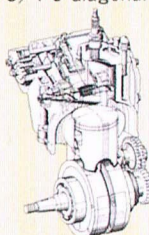
Power output comparison



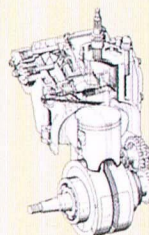
RM250 powerplant



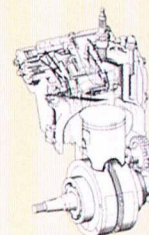
AETC/PC diagonal view



At high rpm



At middle rpm



At low rpm

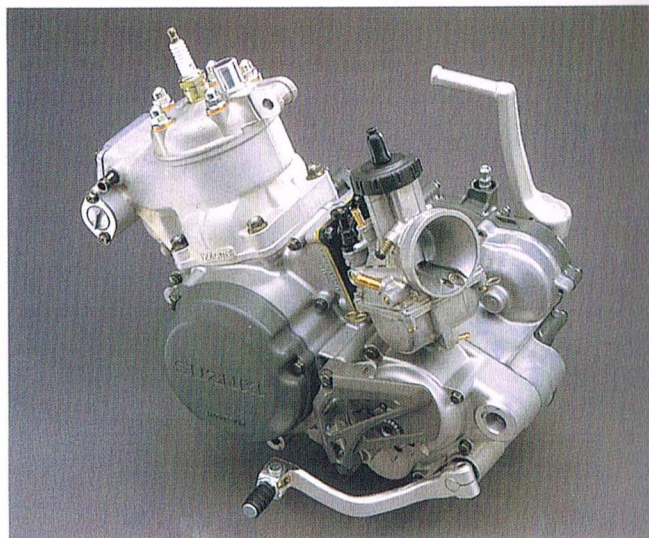
# New Cylinder Brings Multiple Improvements The 1997 RM125 Powerplant

## Thorough revisions — overall improvements

The 1997 RM125 powerplant features a new cylinder without exhaust sub-ports. All port timing, port shape, and exhaust route shapes are revised, and the compression ratio is increased from 8.9:1 to 9.1:1 at high rpm exhaust valve position. These result in multiple improvements: increased low- to mid-range torque, a wider, more accessible powerband, and better low- to mid-range power pick-up to provide better traction and acceleration with improved combustion efficiency. These improvements are also the result of carburetor, AETC, and exhaust pipe upgrades. The AETC exhaust valves come with revised spring preload and a longer stroke-governor, both of which make the operation of the valves more consistent. The RM125's Keihin PWK36 carburetor is also equipped with "fins" for the same improvements in throttle response as the RM250. The exhaust pipe, also like the RM250, is revised for improved low- to mid-range torque.

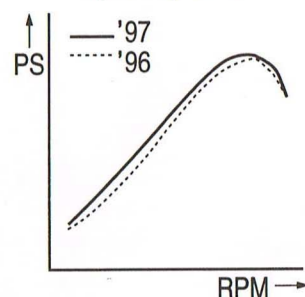
## Transmission upgrades shared with the RM250

The RM125's transmission system shares two effective upgrades with the RM250: the sprocket cover no longer shares the same bolt-on attachment point as the crankcase to improve crankcase rigidity, and the final reduction ratio is also revised from 49/12 to 50/12 for smoother power delivery while shifting.



RM125 powerplant

Power output comparison

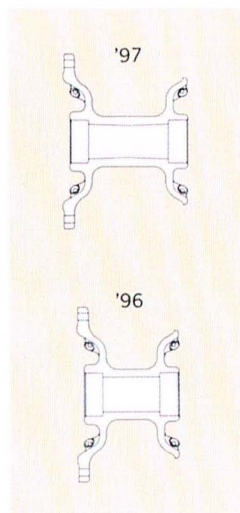


PWK36 carburetor

# Smoother, Plusher, More Compact and More Rigid Front End

## The wheel beefed up for rigidity

1997 refinements to the RM250 and RM125's New Conventional Twin Chamber Cartridge Fork-equipped front end improve its smoothness, plushness, compactness and rigidity. The front wheel has a wider hub and is modified from having spokes in sets of four to spokes in sets of six. This effectively increases front-end rigidity and improves stability, especially when going over ruts and entering corners.



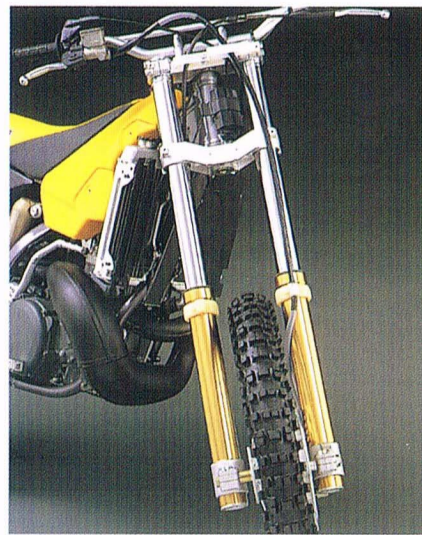
Front hub



New front wheel with spokes in sets of six

**A more plush, more compact fork**

A major upgrade on the 1997 RM250 and RM125's New Conventional Twin Chamber Cartridge Fork is apparent with a quick glance over the machines' front end. The fork's below-axle extension is shortened by 20mm, which was accomplished by slightly reducing (from 300mm to 290mm) wheelstroke and by using larger-size cartridges. This makes the below-axle extension comparable to that of inverted forks, eliminating what was seen as the biggest drawback of conventional forks — the greater chance of hitting obstacles with the fork bottom. Use of larger-volume cartridges (23 × 12mm, from the previous year's 20 × 10mm) enhances the fork's plushness and smoothness and also reduces harshness. The New Conventional Twin Chamber Cartridge Forks combine the best features of conventional and inverted type forks and continue to present multiple advantages including a long, usable wheelstroke, high shock absorption and smooth, progressive action.



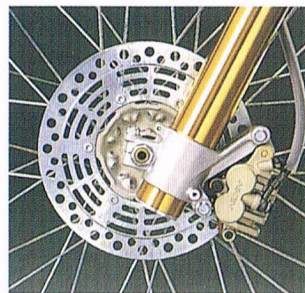
Twin Chamber Cartridge Fork



Damping adjuster



Damping adjuster



Front disc brake

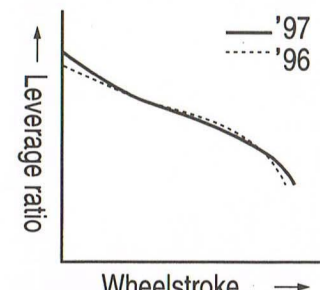


Rear disc brake

## Upgraded Shock and Shock Linkage; Other Chassis Refinements

**More suspension stroke, better progressive action**

The revised shock linkage for the 1997 RM250 and RM125 rear suspension, with a modified lever cushion/rod cushion combination, delivers a much more refined leverage ratio, more progressive action, and increased rear damper stroke. These translate into more usable rear wheel travel and better shock absorption. The rear shock absorber stroke is also increased from 135 to 138mm for better energy-absorbing capability, and stability.



Leverage ratios



Redesigned rear cushion unit

**New RM250 frame; stronger clutch lever**

While the RM125's steel/aluminum, round/box tubing frame is unchanged for 1997, the RM250 frame comes with two changes designed to provide a better combination of agility and stability. The rake angle is revised for enhanced agility through corners, while the frame down-tube diameter is increased from 25.4 to 28.6 (thickness and material are unchanged) for improved straightline stability. On both the RM250 and RM125, the clutch lever has been strengthened and the lever's shape was further refined to allow smoother operation.



Round/box tubing frame (photo: RM250)

**Safety first**

Suzuki dealers should always advise customers to put safety first. All customers should be advised as follows: At Suzuki we want every ride to be safe and enjoyable. So always wear a helmet, eye protection and protective clothing. Never ride under the influ-

ence of alcohol or other drugs. Study your owner's manual and always inspect your Suzuki before riding. Always supervise young riders. The RM series motorcycles are for closed-course competition use and related practices only. Professional rider photographed under closed-course conditions.



**RM250**



**RM125**



**RM80**

**WARNING**

FAILURE TO FOLLOW THE INSTRUCTIONS IN THE OWNERS MANUAL COULD INCREASE THE RISK OF SERIOUS INJURY

- Always wear the correct protective clothing including an approved helmet, eye protectors, hand protection and leg protection.
- Remember whether expert or novice, training improves skills.
- Never ride under the influence of alcohol or drugs.
- Always ride within your capabilities.

SUZUKI RACING INFORMATION, 1 North Road, Brighton BN1 1YA



Ride the winds of change