Features & Specifications
2019 RM85

RM85L9

YU1: Champion Yellow

Key Features

- Liquid-cooled, 84.7cc, two-stroke single produces smooth power at any RPM.
- Smooth 6-speed transmission with precise shifting and clutch action to blast out of any corner
- Class-leading, lightweight and nimble handling.
- Fully tunable SHOWA suspension.
- Includes the ability to earn Suzuki contingency and track-side support.

New Features

- New, competition inspired body panel colors, graphics and seat cover colors align perfectly with the RM-Z450 and the all-new RM-Z250.

Overview

The 2019 RM85 continues to carry on the powerful tradition of racing excellence in the Suzuki motocross family. The reliable two-stroke engine produces smooth power at any rpm with an emphasis on low to mid-range performance. Just like its larger RM-Z cousins, the RM85 delivers class-leading handling for both experienced racers and rookie riders alike. With its smooth power delivery and lightweight handling, the RM85 is the perfect motocross bike for anyone learning to race—and striving to win!

Enlist in the RM ARMY and enjoy Suzuki Amateur Racing Support!

Suzuki's RM Army and Amateur Racing Support is top notch, offering over $3.8 million in contingency, trackside support, and the opportunity to train with Ricky Carmichael at Suzuki's exclusive Camp Carmichael. Want to see why champions choose Suzuki? Visit www.racesuzuki.com for more information on Suzuki's Amateur Support Program and enlist in the RM ARMY!

Engine Features

- The high-revving 84.7cc, 2-stroke, liquid-cooled, reed-valve, single-cylinder engine has a bore and stroke of 48.0 x 46.8mm.
- The cylinder features Suzuki Composite Electrochemical Material (SCEM) for durability, low weight and effective heat transfer for superior class performance.
- The exhaust valves are made of aluminum to best match the expansion rate of the cylinder, improving sealing for better engine performance.
- The exhaust valve governor and actuator help provide good throttle response and overall tractability.
- Precise Keihin™ PE28 carburetor provides smooth throttle response, and is designed for simplified maintenance and tuning.
- Digital CDI mapping helps create strong engine performance at high RPM.
- The large-capacity radiator provides efficient engine cooling at all engine speeds.

Transmission Features

- The RM85 is equipped with a smooth shifting six-speed transmission plus a precise rack and pinion activated clutch.
- The long clutch lever makes it easy to accurately locate and work the engagement point during starts and driving off of corners.
- This durable transmission features a refined shift mechanism with a strong detent spring and needle bearing on the left side of the shift drum.
- A knurled shift-pedal tip delivers excellent grip and shift feel for precise gear selection.

Chassis Features

- A tubular steel frame with aluminum beam swingarm provide class-leading performance on the track, especially in the corners. Designed for rigidity, durability and straight-line performance, the frame features large diameter tubing in key areas and a large front reinforcement plate.
- SHOWA 37mm inverted front forks are completely adjustable for rider weight, style and ability. The forks feature a cartridge system with fully-adjustable rebound damping and 20-way adjustable compression damping (also included are guards to protect the inner fork tubes). The forks have 275mm (10.8-inches) of travel.
- A SHOWA large diameter rear shock absorber is valved to produce a plush feel and resistance to bottoming. The shock provides 277mm (10.9-inches) of wheel travel and features adjustable compression and rebound damping force adjustment.

Chassis Features (continued)

- **A twin-piston caliper front brake with 220mm (8.7-inches) large-diameter disc and a rear brake with 200mm (7.9-inches) disc to provide excellent braking performance.**
- **The light, narrow-diameter front and rear brake hoses improve feel and feedback to the rider. The font hose is routed behind the fork leg, eliminating the need for a brake hose cover.**
- **A rigid rear brake caliper provides reliable braking performance, long pad life and is easy to maintain. The caliper's plastic guard reduces the possibility of damage and saves weight.**
- **The forged aluminum-alloy rear brake pedal is light and strong while providing the rider accurate braking feel.**
- **High-quality footpegs are made of cast chrome-molybdenum steel, instead of stamped steel, which makes them more durable with better grip.**
- **Champion Yellow bodywork with new graphics design, new yellow rear fender, plus black fork protectors and guards provide a professional race look.**
- **Each side of the new color seat has textured surface for better knee gripping.**
- **The RM85's wheel sizes meet AMA 85cc class regulations (Front: 70/100-17; Rear: 90/100-14).**

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Additional Features

- **A variety of Genuine Suzuki Accessories for RM85 owners are available including a large selection of Suzuki logo apparel.**
- **Learn more about Suzuki's industry leading contingency, The RM ARMY and Amateur Support programs at www.SuzukiCycles.com/Racing.**
- **For more details, please visit www.suzukicycles.com.**

Specifications RM85L9
E-03: USA, E-33: California

DIMENSIONS

Overall length	1 805 mm (71.1 in)
Overall width	735 mm (28.9 in)
Overall height	1 100 mm (43.3 in)
Wheelbase	1 240 mm (48.8 in)
Ground clearance	325 mm (12.8 in)
Seat height	850 mm (33.5 in)

ENGINE

Type	Two-stroke, liquid-cooled
Intake system	Crankcase reed valve
Number of cylinders	1
Bore	48.0 mm (1.890 in)
Stroke	46.8 mm (1.843 in)
Displacement	84.7 cm^3 (5.2 cu. in)
Corrected compression ratio	9.5 : 1 (EX VALVE OPEN)
	10.9 : 1 (EX VALVE CLOSE)
Carburetor	KEIHIN PE28, Single
Air cleaner	Polyurethane foam element
Starter system	Primary kick
Lubrication system	Fuel/oil premixture of 30 : 1

DRIVE TRAIN

Clutch	Wet multi-plate type
Transmission	6-speed constant mesh
Gearshift pattern	1-down, 5-up
Primary reduction ratio	3.444 (62/18)
Gear ratios, Low	2.545 (28/11)
2nd	1.933 (29/15)
3rd	1.571 (22/14)
4th	1.333 (20/15)
5th	1.166 (21/18)
Top	1.045 (23/22)
Final reduction ratio	3.357 (47/14)
Drive chain	D.I.D 428DS, 118 links

Specifications RM85L9
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CHASSIS

Front suspension	Telescopic, pneumatic/coil spring, oil damped
Rear suspension	Link type, oil damped
Front fork stroke	275 mm (10.8 in)
Rear wheel travel	277 mm (10.9 in)
Caster	28° 30’
Trail	87 mm (3.4 in)
Steering angle	45°
Turning radius	1.9 m (6.2 ft)
Front brake	Disc brake, hydraulically operated
Rear brake	Disc brake, hydraulically operated
Front tire size	70/100-17 40M
Rear tire size	90/100-14 49M

ELECTRICAL

Ignition type	Electronic Ignition (CDI)
Ignition timing	15° B.T.D.C. at 11 000 rpm
Spark plug	NGK BR10ES

CAPACITIES

Fuel tank	5.0 L (1.3/1.1 US/Imp gal)
Transmission oil	650 ml (1.4/1.1 US/Imp pt)
Engine coolant	570 ml (1.2/1.0 US/Imp pt)
Front fork oil	351 ml (11.86/12.36 US/Imp oz)

CYLINDER + PISTON + PISTON RING

Unit: mm (in)

ITEM	STANDARD	LIMIT
Piston to cylinder clearance	0.040 – 0.050 (0.0016 – 0.0020)	0.120 (0.0047)
Cylinder bore	48.000 – 48.015 (1.8898 – 1.8904) Measure 15 (0.59) from the top surface.	Nicks or scratches
Piston diam.	47.955 – 47.970 (1.8880 – 1.8886) Measure 16 (0.63) from the skirt end.	47.880 (1.8850)
Cylinder distortion	———	0.05 (0.002)
Cylinder head distortion	———	0.05 (0.002)
Piston ring free end gap	N: Approx. 4.0 (0.16)	3.2 (0.13)
Piston ring to groove clearance	0.020 – 0.060 (0.008 – 0.0024)	———
Piston ring end gap	0.20 – 0.40 (0.008 – 0.016)	0.80 (0.031)
Piston pin bore	14.002 – 14.008 (0.5513 – 0.5515)	14.030 (0.5524)
Piston pin O.D.	13.995 – 14.000 (0.5510 – 0.5512)	13.980 (0.5504)
Reed valve clearance	———	0.2 (0.008)

CONROD + CRANKSHAFT

Unit: mm (in)

ITEM	STANDARD	LIMIT
Conrod small end I.D.	18.003 – 18.011 (0.7088 – 0.7091)	18.040 (0.7102)
Crank web to web width	44.9 – 45.1 (1.767 – 1.775)	———
Crankshaft runout	———	0.05 (0.002)

CLUTCH

Unit: mm (in)

ITEM	STANDARD	LIMIT
Clutch lever play	10 – 15 (0.4 – 0.6)	———
Drive plate thickness	2.7 – 2.9 (0.106 – 0.114)	2.4 (0.094)
Driven plate distortion	———	0.10 (0.004)
Clutch spring free length	41.5	39.4 (1.55)

RADIATOR

ITEM	STANDARD	LIMIT
Radiator cap valve opening pressure	110 kPa (1.1 kgf/cm^2, 16 psi)	———

TRANSMISSION

Unit: mm (in) Except ratio

ITEM		STANDARD		LIMIT
Primary reduction ratio		3.444 (62/18)		———
Final reduction ratio		3.357 (47/14)		———
Gear ratios	Low	2.545 (28/11)		———
	2nd	1.933 (29/15)		———
	3rd	1.571 (22/14)		———
	4th	1.333 (20/15)		———
	5th	1.166 (21/18)		———
	Top	1.045 (23/22)		———
Shift fork to groove clearance		No.1, No.2 & No.3	0.05 – 0.25 (0.002 – 0.010)	0.45 (0.018)
Shift fork groove width		No.1	3.95 – 4.05 (0.156 – 0.159)	———
		No.2 & No.3	4.45 – 4.55 (0.175 – 0.179)	———
Shift fork thickness		No.1	3.80 – 3.90 (0.150 – 0.154)	———
		No.2 & No.3	4.30 – 4.40 (0.169 – 0.173)	———

DRIVE CHAIN

Unit: mm (in)

ITEM	STANDARD		LIMIT
Drive chain	Type	D.I.D 428DS	———
	Links	118	———
	20-pitch length	———	259 (10.2)
Drive chain slack	40 – 50 (1.6 – 2.0)		———

CARBURETOR

ITEM		SPECIFICATION
Carburetor type		KEIHIN PE28
Bore size		28 mm
I.D. No.		03B3
Float height		19.0 ± 0.5 mm (0.75 ± 0.02 in)
Main jet	(M.J.)	#128
Jet needle	(J.N.)	24NAAH-3rd
Slow jet	(S.J.)	#50
Air screw	(P.A.S.)	2 turns out
Throttle cable play		2 – 4 mm (0.08 – 0.16 in) at the throttle grip

ELECTRICAL

Unit: mm (in)

ITEM	SPECIFICATION		NOTE
Spark plug	Type	NGK: BR10ES	
	Gap	0.7 – 0.8 (0.028 – 0.031)	
Spark performance	Over 8 (0.3) at 1 atm.		
Ignition coil resistance	Primary	0.2 – 1.0 Ω	W/Bl – Ground
	Secondary	12 – 20 kΩ	Plug cap – Ground
Magneto coil resistance	100 – 160 Ω		B/R – R/W
	140 – 230 Ω		R/W – B/W
	240 – 380 Ω		B/R – B/W
Ignition coil primary peak voltage	200 V and more		⊕: Ground ⊖: W/Bl

BRAKE + WHEEL

Unit: mm (in)

ITEM	STANDARD		LIMIT
Brake lever play	5 – 20 (0.20 – 0.79)		———
Brake disc thickness	Front	2.8 – 3.2 (0.110 –0.126)	2.5 (0.10)
	Rear	2.85 – 3.15 (0.112 – 0.124)	2.5 (0.10)
Brake disc runout	———		0.30 (0.012)
Master cylinder bore	Front	11.000 – 11.043 (0.4331 – 0.4348)	———
	Rear	12.700 – 12.743 (0.5000 – 0.5017)	———
Master cylinder piston diam.	Front	10.957 – 10.984 (0.4314 – 0.4324)	———
	Rear	12.657 – 12.684 (0.4983 – 0.4994)	———
Brake caliper cylinder bore	Front	30.230 – 30.306 (1.1902 – 1.1931)	———
	Rear	27.000 – 27.076 (1.0630 – 1.0660)	———
Brake caliper piston diam.	Front	30.150 – 30.200 (1.1870 – 1.1890)	———
	Rear	26.920 – 26.970 (1.0600 – 1.0618)	———
Wheel rim runout	Axial	———	2.0 (0.08)
	Radial	———	2.0 (0.08)
Wheel axle runout	Front	———	0.25 (0.010)
	Rear	———	0.25 (0.010)
Tire size	Front	70/100-17 40M	———
	Rear	90/100-14 49M	———

SUSPENSION

Unit: mm (in)

ITEM	STANDARD		LIMIT
Front fork stroke	275 (10.8)		———
Front fork spring free length	———		444 (17.48)
Front fork spring rate (each leg)	2.8 N/mm (0.28 kgf/mm)		———
Front fork oil level	124 (4.88)		———
Front fork damping force adjuster	Rebound	1 and 1/2 turns out	———
	Compression	7 clicks out	———
Front fork air pressure	0 kPa (0 kgf/cm^2, 0 psi)		———
Rear shock absorber gas pressure	1 000 kPa (10 kgf/cm^2, 142 psi)		———
Rear shock absorber spring pre-set length	3.1 mm (0.12 in) compressed from spring free length		———
Rear shock absorber damping force adjuster	Rebound	2 turns out	———
	Compression	3/4 turns out	———
Rear shock absorber spring rate	46 N/mm (4.6 kgf/mm)		
Rear wheel travel	277 (10.9)		———
Swingarm pivot shaft runout	———		0.3 (0.01)

TIRE PRESSURE

Front & Rear	70 – 110 kPa (0.7 – 1.1 kgf/cm^2, 10 – 16 psi)

FUEL + OIL + COOLANT

ITEM	SPECIFICATION		NOTE
Fuel type	Use only unleaded gasoline of at least 90 pump octane ($\frac{R+M}{2}$ method).		
Fuel tank capacity	5.0 L (1.3/1.1 US/Imp gal)		
Engine oil type	SUZUKI CCI SUPER 2-CYCLE MOTOR LUBRICANT or equivalent Two Cycle Racing Lubricant		
Air cleaner element oil type	MOTUL AIR FILTER OIL or equivalent filter oil		
Engine coolant type	Use an anti-freeze & Summer engine coolant compatible with aluminum radiator, mixed with distilled water only, at the ratio of 50:50.		
Engine coolant tank capacity	570 ml (1.20/1.00 US/Imp pt)		
Transmission oil type	SAE 10W-40, API SF/SG or SH/SJ with JASO MA		
Transmission oil capacity	Change	550 ml (1.16/0.97 US/Imp pt)	
	Overhaul	650 ml (1.37/1.14 US/Imp pt)	
Brake fluid type	DOT 4		
Front fork oil type	SUZUKI FORK OIL SS-05 or an equivalent fork oil		
Front fork oil capacity (each leg)	351 ml (11.86/12.36 US/Imp oz)		
Rear shock absorber oil type	SUZUKI REAR SUSPENSION OIL SS-25 or an equivalent rear suspension oil		
Rear shock absorber oil capacity	195 ml (6.6/6.9 US/Imp oz)		