

Design	1-cylinder 4-stroke engine, water-cooled	
Displacement (Every 450 models)	449.3 cm ³ (27.418 cu in)	
Displacement (Every 530 models)	510.4 cm ³ (31.147 cu in)	
Stroke (Every 450 models)	63.4 mm (2.496 in)	
Stroke (Every 530 models)	72 mm (2.83 in)	
Bore	95 mm (3.74 in)	
Compression ratio	11,9:1	
Idle speed	1550... 1650 rpm	
Control	4 valves controlled via rocker arm, drive via tooth/wheel chain	
Valve diameter, intake	39.5 mm (1.555 in)	
Valve diameter, exhaust	31.7 mm (1.248 in)	
Valve clearance		
Outfeed at: 20 °C (68 °F)	0.12... 0.17 mm (0.0047... 0.0067 in)	
Infeed at: 20 °C (68 °F)	0.10... 0.15 mm (0.0039... 0.0059 in)	
Crankshaft bearing	2 grooved ball bearings	
Conrod bearing	Needle bearing	
Piston pin bearing	not a bearing bush - DLC-plated piston pins	
Pistons	Forged light alloy	
Piston rings	1 compression ring, 1 oil scraper ring	
Engine lubrication	Pressure circulation lubrication with 2 rotor pumps (engine) / 1 rotor pump (transmission)	
Primary transmission	33:76	
Clutch	Multidisc clutch in oil bath / hydraulically activated	
Transmission ratio		
1st gear	14:36	
2nd gear	17:32	
3rd gear	19:28	
4th gear	22:26	
5th gear	24:23	
6th gear	26:21	
Generator	12 V, 150 W	
Ignition	Contactless controlled fully electronic ignition with digital ignition adjustment, type Kokusan	
Spark plug	NGK LK AR 8A - 9	
Spark plug electrode gap	0.8... 0.9 mm (0.031... 0.035 in)	
Cooling	Water cooling, permanent circulation of coolant by water pump	
Starting aid	Electric starter / kickstarter	

Capacity - engine oil

Engine oil	0.6 l (0.6 qt.)	Engine oil (SAE 10W/50) (☛ P. 114)
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Capacity - gear oil

Gear oil	0.9 l (1 qt.)	Engine oil (SAE 10W/50) (☛ P. 114)
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Capacity - coolant

Coolant	0.95 l (1 qt.)	Coolant (☛ P. 114)
		Coolant (mixed ready to use) (☛ P. 114)

Screw, cable holder in generator cover	M4	4 Nm (3 lbf ft)	Loctite® 243™
Oil jet, rocker arm lubrication	M5	2 Nm (1.5 lbf ft)	Loctite® 243™
Oil jet, piston cooling	M5	2 Nm (1.5 lbf ft)	Loctite® 243™
Screw, locking lever	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, ignition pulse generator	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, clutch spring	M6	10 Nm (7.4 lbf ft)	–
Locking screw for bearing	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, oil filter cover	M5	6 Nm (4.4 lbf ft)	–
Screw, oil pump cover	M5	6 Nm (4.4 lbf ft)	Loctite® 222
Oil jet, conrod lubrication	M6x0,75	4 Nm (3 lbf ft)	Loctite® 243™
Nut, water-pump wheel	M6	6 Nm (4.4 lbf ft)	Loctite® 648™
Screw, kickstarter stop	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, timing chain securing guide	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, exhaust flange	M6	10 Nm (7.4 lbf ft)	–
Screw, torque governor	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, starter motor	M6	10 Nm (7.4 lbf ft)	–
Screw, kickstarter spring hanger	M6	10 Nm (7.4 lbf ft)	–
Screw, timing chain guide rail	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw generator cover	M6x25	10 Nm (7.4 lbf ft)	–
Screw generator cover	M6x40	10 Nm (7.4 lbf ft)	–
Screw, gear oil level check	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch cover	M6x25	10 Nm (7.4 lbf ft)	–
Screw, clutch cover	M6x30	10 Nm (7.4 lbf ft)	–
Screw, clutch cover	M6x55	10 Nm (7.4 lbf ft)	–
Screw, engine housing	M6x65	10 Nm (7.4 lbf ft)	–
Screw, engine housing	M6x80	10 Nm (7.4 lbf ft)	–
Screw, camshaft bearing support	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, shift drum locating	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, shift lever	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, timing chain tensioning rail	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, stator bracket	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, valve cover	M6	10 Nm (7.4 lbf ft)	–
Screw, water pump cover	M6x25	10 Nm (7.4 lbf ft)	–
Screw, water pump cover	M6x55	10 Nm (7.4 lbf ft)	–
Screw, idler	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, cylinder head	M6	10 Nm (7.4 lbf ft)	–
Screw, rocker arm bearing	M7x1	15 Nm (11.1 lbf ft)	–
Plug, oil channel	M7	9 Nm (6.6 lbf ft)	Loctite® 243™
Screw, kickstarter	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Plug, crankshaft location	M8	10 Nm (7.4 lbf ft)	–
Balancer shaft nut	M10x1	40 Nm (29.5 lbf ft)	–
Screw, unlocking of timing chain tensioner	M10x1	10 Nm (7.4 lbf ft)	–
Screw, engine sprocket	M10	60 Nm (44.3 lbf ft)	Loctite® 243™
Plug, oil channel	M10	15 Nm (11.1 lbf ft)	Loctite® 243™

Screw, cylinder head	M10x1,25	Tightening sequence: Tighten diagonally, beginning with the rear screw on the chain shaft. Step 1 10 Nm (7.4 lbf ft) Step 2 30 Nm (22.1 lbf ft) Step 3 50 Nm (36.9 lbf ft)	Engine oil (any)
Gear oil drain plug with magnet	M12x1,5	20 Nm (14.8 lbf ft)	–
Ignition rotor nut	M12x1	60 Nm (44.3 lbf ft)	–
Plug, SLS	M12x1,5	20 Nm (14.8 lbf ft)	–
Oil pressure control valve plug	M12x1,5	20 Nm (14.8 lbf ft)	–
Spark plug	M12x1,25	15... 20 Nm (11.1... 14.8 lbf ft)	–
Plug, rocker arm	M14x1,25	20 Nm (14.8 lbf ft)	–
Plug, gear oil screen	M16x1,5	20 Nm (14.8 lbf ft)	–
Plug, engine oil screen	M17x1,5	20 Nm (14.8 lbf ft)	–
Nut, inner clutch hub	M18x1,5	80 Nm (59 lbf ft)	–
Nut, primary gear	M20LHx1,5	150 Nm (110.6 lbf ft)	Loctite® 648™
Plug, timing chain tensioner	M24x1,5	25 Nm (18.4 lbf ft)	–

450 EXC-R EU, 450 EXC-R AUS/UK (3900I)

Carburetor type	KEIHIN FCR-MX 39
Carburetor identification number	3900I
Needle position	4th position from top
Idle mixture adjusting screw	
Open	1.75 turns
Pump membrane stop	2.15 mm (0.0846 in)
Main jet	180
Jet needle	OBDYU (OBDTQ)
Idling jet	40
Main air jet	200
Idle air jet	100
Cold start jet	65 (85)
Leakage nozzle	40
Throttle slide	15
Slide stop	present

450 EXC-R SIX DAYS, 450 EXC-R USA, 450 XCR-W (3900L)

Carburetor type	KEIHIN FCR-MX 39
Carburetor identification number	3900L
Needle position (450 XCR-W USA)	1st position from top
Needle position (450 EXC-R SIX DAYS)	3rd position from top
Needle position (450 EXC-R USA, 450 XCR-W ZA)	4th position from top
Idle mixture adjusting screw (450 XCR-W USA)	
Open	0.5 turn
Idle mixture adjusting screw (450 EXC-R SIX DAYS)	
Open	1.0 turn
Idle mixture adjusting screw (450 XCR-W ZA)	
Open	1.5 turns
Idle mixture adjusting screw (450 EXC-R USA)	
Open	1.75 turns
Pump membrane stop	2.15 mm (0.0846 in)
Main jet (450 EXC-R SIX DAYS, 450 EXC-R USA, 450 XCR-W USA)	180
Main jet (450 XCR-W ZA)	185
Jet needle (450 XCR-W, 450 EXC-R SIX DAYS)	OBDTQ
Jet needle (450 EXC-R USA)	OBDYU
Idling jet (450 XCR-W, 450 EXC-R SIX DAYS)	40
Idling jet (450 EXC-R USA)	48
Main air jet	200
Idle air jet	100
Cold start jet	85
Leakage nozzle	40
Throttle slide	15

530 EXC-R EU, 530 EXC-R AUS/UK (3900J)

Carburetor type	KEIHIN FCR-MX 39
Carburetor identification number	3900J
Needle position	5th position from top
Idle mixture adjusting screw	
Open	1.5 turns
Pump membrane stop	2.15 mm (0.0846 in)
Main jet	180
Jet needle	OBDZT (OBDTR)
Idling jet	40
Main air jet	200
Idle air jet	100
Cold start jet	65 (85)
Leakage nozzle	40
Throttle slide	15
Slide stop	present

530 EXC-R SIX DAYS, 530 EXC-R USA, 530 XCR-W (3900M)

Carburetor type	KEIHIN FCR-MX 39
Carburetor identification number	3900M
Needle position (530 XCR-W USA)	1st position from top
Needle position (530 EXC-R SIX DAYS, 530 EXC-R USA)	3rd position from top
Needle position (530 XCR-W ZA)	4th position from top
Idle mixture adjusting screw (530 XCR-W USA)	
Open	0.5 turn
Idle mixture adjusting screw (530 EXC-R SIX DAYS)	
Open	1.0 turn
Idle mixture adjusting screw (530 XCR-W ZA)	
Open	1.5 turns
Idle mixture adjusting screw (530 EXC-R USA)	
Open	2.0 turns
Pump membrane stop	2.15 mm (0.0846 in)
Main jet (530 EXC-R SIX DAYS, 530 EXC-R USA, 530 XCR-W USA)	180
Main jet (530 XCR-W ZA)	185
Jet needle (530 XCR-W, 530 EXC-R SIX DAYS)	OBDTR
Jet needle (530 EXC-R USA)	OBDZT
Idling jet (530 XCR-W, 530 EXC-R SIX DAYS)	40
Idling jet (530 EXC-R USA)	48
Main air jet	200
Idle air jet	100
Cold start jet	85
Leakage nozzle	40
Throttle slide	15