

Design	1-cylinder 4-stroke engine, water-cooled
Displacement	248.60 cm ³ (15.1706 cu in)
Stroke	54.80 mm (2.1575 in)
Bore	76 mm (2.99 in)
Compression ratio	12.8:1
Idle speed	1,400... 1,500 rpm
Control	DOHC, four valves controlled via cam lever, drive via tooth-wheel chain
Valve diameter, intake	30.0 mm (1.181 in)
Valve diameter, exhaust	26.0 mm (1.024 in)
Valve clearance	
Exhaust at: 20 °C (68 °F)	0.12... 0.17 mm (0.0047... 0.0067 in)
Intake at: 20 °C (68 °F)	0.10... 0.15 mm (0.0039... 0.0059 in)
Crankshaft bearing	2 cylinder bearings
Conrod bearing	Needle bearing
Piston pin bearing	Bronze bush
Pistons	Forged light alloy
Piston rings	1 compression ring, 1 oil scraper ring
Engine lubrication	Pressure circulation lubrication with two rotary pumps
Primary transmission	22:68
Clutch	Multidisc clutch in oil bath/hydraulically activated
Transmission ratio (EXC-F, EXC-F SIX DAYS, XCF-W)	
1st gear	13:33
2nd gear	17:33
3rd gear	19:29
4th gear	23:28
5th gear	23:23
6th gear	26:22
Transmission ratio (SX-F, 250 XC-F USA)	
1st gear	13:32
2nd gear	15:30
3rd gear	17:28
4th gear	19:26
5th gear	21:25
6th gear	22:24
Generator (EXC-F, EXC-F SIX DAYS, XCF-W, XC-F)	
Light coil and charging coil	12 V, 80 W
Generator (SX-F)	
Light coil and charging coil	none
Ignition	Contactless controlled fully electronic ignition with digital ignition adjustment, type Kokusan
Spark plug	NGK CR 9 EKB
Spark plug electrode gap	0.7 mm (0.028 in)
Cooling	Water cooling, permanent circulation of coolant by water pump
Starting aid (EXC-F, EXC-F SIX DAYS, XCF-W, XC-F)	Electric starter/kickstarter
Starting aid (SX-F)	Kickstarter

Capacity- engine oil

Engine oil	1.10 l (1.16 qt.)	Engine oil (SAE 10W/50) (☛ p. 116)
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Capacity - coolant

Coolant	1.2 l (1.3 qt.)	Coolant (☛ p. 116)
		Coolant (mixed ready to use) (☛ p. 116)

Oil jet, conrod lubrication	M4		Loctite® 243™
Oil jet for cam lever lubrication	M5	4 Nm (3 lbf ft)	Loctite® 243™
Screw, locking lever	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, freewheel hub	M5	7 Nm (5.2 lbf ft)	Loctite® 243™
Screw, ignition pulse generator	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, stator bracket (SX-F)	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® 243™
Oil jet, piston cooling	M6x0.75	4 Nm (3 lbf ft)	Loctite® 243™
Screw, cover plate of valve cover	M6	3 Nm (2.2 lbf ft)	Loctite® 243™
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)	Loctite® 243™
Screw, starter motor (EXC-F, EXC-F SIX DAYS, XCF-W, XC-F)	M6	10 Nm (7.4 lbf ft)	–
Screw, generator cover	M6	10 Nm (7.4 lbf ft)	–
Screw, cable holder in generator cover	M6	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, clutch cover	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch spring	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch slave cylinder	M6	10 Nm (7.4 lbf ft)	–
Locking screw for bearing	M6	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, engine housing	M6	10 Nm (7.4 lbf ft)	–
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 (EXC-F, EXC-F SIX DAYS, XCF-W, XC-F)	M6	8 Nm (5.9 lbf ft)	Loctite® 243™
Screw, valve cover	M6	10 Nm (7.4 lbf ft)	–
Screw, water pump cover	M6	10 Nm (7.4 lbf ft)	–
Screw, cylinder head	M6	10 Nm (7.4 lbf ft)	–
Nut, camshaft bearing bridge	M7	15 Nm (11.1 lbf ft)	lubricated with engine oil
Screw, camshaft bearing bridge	M7	15 Nm (11.1 lbf ft)	lubricated with engine oil
Stud, camshaft bearing bridge	M7		Loctite® 243™
Screw, kickstarter	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, timing chain guide rail	M8	10 Nm (7.4 lbf ft)	Loctite® 243™
Plug, crankshaft location	M8	20 Nm (14.8 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™
Screw, cylinder head	M10	Tightening sequence: Tighten diagonally, beginning with the rear screw on the chain shaft. Step 1 40 Nm (29.5 lbf ft) Step 2 50 Nm (36.9 lbf ft)	lubricated with engine oil
Spark plug	M10	10... 12 Nm (7.4... 8.9 lbf ft)	–
Nut, rotor	M12x1	60 Nm (44.3 lbf ft)	–
Screw, camshaft gear	M12x1	80 Nm (59 lbf ft)	Loctite® 243™
Plug, oil pressure regulator valve	M12x1.5	20 Nm (14.8 lbf ft)	–
Oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)	–
Plug for oil screen, short	M16x1.5	10 Nm (7.4 lbf ft)	lubricated with engine oil

Nut, inner clutch hub	M18x1.5	120 Nm (88.5 lbf ft)	Loctite® 243™
Nut, primary gear	M18LHx1.5	150 Nm (110.6 lbf ft)	Loctite® 243™
Plug for oil screen, long	M20x1.5	15 Nm (11.1 lbf ft)	–
Plug, timing chain tensioner	M24x1.5	25 Nm (18.4 lbf ft)	–

EXC-F, EXC-F SIX DAYS

Carburetor type	KEIHIN FCR-MX 39
Carburetor identification number	3900H
Needle position	3rd position from top
Idle mixture adjusting screw	
Open	1.25 turns
Pump membrane stop	2.15 mm (0.0846 in)
Main jet	168
Jet needle	OBDYS (OBETP)
Idling jet	42
Idle air jet	100
Cold start jet	65 (85)
Leakage nozzle	70
Slide stop	present

XCF-W, 250 XCF USA

Carburetor type	KEIHIN FCR-MX 39
Carburetor identification number	3900K
Needle position (250 XCF-W USA)	3rd position from top
Needle position (250 XCF-W ZA, 250 XC-F USA)	5th position from top
Idle mixture adjusting screw (250 XCF-W ZA, 250 XC-F USA)	
Open	1.0 turn
Idle mixture adjusting screw (250 XCF-W USA)	
Open	1.5 turns
Pump membrane stop	2.15 mm (0.0846 in)
Main jet	168
Jet needle (250 XCF-W USA)	OBEKT
Jet needle (250 XCF-W ZA, 250 XC-F USA)	OBETP
Idling jet	42
Idle air jet	100
Cold start jet	85
Leakage nozzle	50

SX-F

Carburetor type	KEIHIN FCR-MX 39
Carburetor identification number	3925I
Needle position	4th position from top
Idle mixture adjusting screw	
Open	1.25 turns
Pump membrane stop	2.15 mm (0.0846 in)
Main jet	175
Jet needle	OBEKP
Idling jet	40
Idle air jet	100
Cold start jet	85
Leakage nozzle	50