

TECHNICAL DATA – ENGINE » »

ENGINE	250 SX-F, XC-F	250 XCF-W, EXC-F
Design	Liquid-cooled single cylinder 4-stroke engine	
Displacement	249.51 ccm	
Bore/Stroke	76 / 55 mm	
Ratio	12.8 : 1	
Fuel	unleaded fuel with at least RON 95 (USA = Premium PON 91)	
Valve timing	4 valves controlled by finger levers and 2 camshafts, driven by a pair of spur gears and a tooth-type chain	
Valve diameter Intake	30.9 mm	
Valve diameter Exhaust	26.5 mm	
Valve clearance cold Intake	0.10 - 0.15 mm	
Valve clearance cold Exhaust	0.12 - 0.17 mm	
Crank shaft bearing	2 cylinder roller bearings	
Connecting rod bearing	needle bearing	
Top end bearing	bronze bushing	
Piston	aluminium alloy forged	
Piston rings	1 compression ring, 1 oil scraper ring	
Engine lubrication	pressure circulation lubrication with 2 rotor pumps	
Engine oil	full synthetic oil (Motorex Power Synt 4T 10W/50)	
Quantity of engine oil	1.1 liters	
Primary drive	22:68	
Clutch	multiple disc clutch in oil bath, hydraulically operated (brake fluid DOT 5.1)	
Transmission claw shifted	6-speed	6-speed
1st gear	13:32	13:33
2nd gear	15:30	17:33
3rd gear	17:28	19:29
4th gear	19:26	23:28
5th gear	21:25	23:23
6th gear	22:24	26:22
Ignition system	contactless DC-CDI ignition with digital advanced system by KOKUSAN	
Generator	12 V 80 W at 5000 rpm, SX-F without generator	
Spark plug	NGK CR 9 EBK	
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanically driven water pump	
Cooling liquid	1.2 liters, 50% antifreeze, 50% distilled water, at least -25° (-13° F)	
Starting equipment	Kick-and Electric starter; SX-F kickstarter only	

Engine oil

Only use fully synthetic engine oils that meet the JASO MA quality requirements (see information on the can).

KTM recommends Motorex Power Synt 4T 10W/50.

! CAUTION

Poor oil quality or minor quantity cause early engine-wear.

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TIGHTENING TORQUES – ENGINE		
Hexagon collar screw, engine case, clutch cover, ignition cover, water pump cover	M6	10 Nm
Oil drain plug	M12x1.5	20 Nm
Allen head plug, oil screen short	M16x1.5	Oil + 10 Nm
Hexagon plug, oil screen long	M20x1.5	15 Nm
Collar screw for oil filter cover	M5	6 Nm
Plug pressure valve	M12x1.5	20 Nm
Screws, oil pump cover	M5	Loctite 222 + 6 Nm
Hexagon collar screw, cylinder / cylinder head	M6	10 Nm
Cylinder head screw	M10	Oil + 40/50 Nm
Hexagon collar screw, exhaust flange	M6	Loctite 243 + 10 Nm
Valve cover screws	M6	10 Nm
Camshaft screw	M12x1	Loctite 243 + 80 Nm
Collar screw/nut camshaft bearing support	M7	Oil + 18 Nm
Hexagon nut, primary gear	M18x1.5 left	Loctite 243 + 150 Nm
Nut for inner clutch hub	M18x1.5	Loctite 243 + 120 Nm
Hexagon collar screw, clutch spring	M6	10 Nm
Allan head screw, shift roller locking piece	M6	Loctite 243 + 10 Nm
Hexagon collar screw, locking lever	M5	Loctite 243 + 6 Nm
Locking screw for shift roller bearing	M6	Loctite 243 + 6 Nm
Locking screw for main shaft bearing	M6	Loctite 243 + 6 Nm
HH collar screw clip/tensioning rail	M6	Loctite 243 + 10 Nm
Plug for chain tensioner	M24x1.5	25 Nm
Hexagon collar screw, stator SX-F	M5	Loctite 243 + 6 Nm
Hexagon collar screw, stator XC-F, XCF-W, EXC-F	M6	Loctite 243 + 8 Nm
Hexagon collar screw, E-starter	M6	10 Nm
Hexagon collar screw, pulser coil	M5	Loctite 243 + 6 Nm
Hexagon collar nut, flywheel	M12x1	60 Nm
Hexagon collar screw, bump part kickstarter	M6	Loctite 243 + 10 Nm
Cable retaining bracket (ignition)	M6	Loctite 243 + 6 Nm
Allan head screw, kickstarter	M8	Loctite 243 + 25 Nm
Hexagon collar screw, shift lever	M6	Loctite 243 + 10 Nm
Hexagon screw, engine sprocket	M10	Loctite 243 + 60 Nm
Spark plug	M10	10-12 Nm

BASIC CARBURATOR SETTING					
	250 SX-F	250 XC-F/XCF-W ZA	250 XCF-W USA	250 EXC-F EU, AUS	250 EXC-F Six Days
Type Keihin FCR-MX	3925F	3900K	3900K	3900H	3900K
Main jet	175	168	168	168	172
Jet needle	OBETP	OBETP	OBEKT	OBDYS	OBETP
Idling jet	40	40	42	42	42
Main air jet	200	200	200	200	200
Idling air jet	100	100	100	100	100
Needle position	4th from top	4th from top	3rd from top	3rd from top	5th from top
Starting jet	85	85	85	65	85
Mixture control screw open	1	1	1,5	1,25	1,25
Slide	15	15	15	15	15
Performance restrictor	–	–	–	Slide stop	–
Leak jet	–	–	50	70	70
Hot start device	2.5 mm	–	–	–	–