

TECHNICAL SPECIFICATIONS - ENGINE 2007

	450 SX-F / 450 SXS-F	505 SX-F
Design	Liquid-cooled, 1-cylinder, 4-stroke Otto engine	
Displacement	449.3 ccm	477.5 ccm
Bore / Stroke	97 / 60.8 mm	100 / 60.8 mm
Compression ratio	12.5 : 1	
Fuel	Unleaded premium fuel with at least RON 95 (USA = Premium PON 91)	
Valve timing	4 valves controlled via cam lever and 2 camshafts, driven by a pair of spur gears and a tooth-type chain	
Valve diameter intake	40.4 mm	
Valve diameter exhaust	31.7 mm	
Valve clearance, cold, intake	0.10 - 0.15 mm	
Valve clearance, cold, exhaust	0.15 - 0.20 mm	
Crankshaft bearing	2 cylindrical roller bearings	
Conrod bearing	Needle bearing	
Piston pin bearing	Bronze bushing	
Piston	Light alloy - forged	
Piston rings	1 compression ring, 1 oil scraper ring	
Engine lubrication	Pressure circulation lubrication with 3 rotary pumps	
Engine oil	Fully synthetic engine oil (Motorex Power Synt 4T 10W/50) 10W/50 for temperatures over 5°C or 5W/40 for temperatures under 5°C	
Quantity of engine oil	1.3 liters	
Primary drive	29:74	
Transmission (claw shifted)	4-speed	
1 st gear	17:32	
2 nd gear	19:30	
3 rd gear	21:28	
4 th gear	23:26	
Ignition system	Breakerless DC-CDI ignition system with digital ignition timing, type KOKUSAN	
Generator	42 W at 6000 rpm	
Spark plug	NGK CR 9 EKB	
Cooling system	Liquid cooled, permanent circulation of cooling liquid through water pump	
Cooling liquid	1.2 liters, 50% antifreeze, 50% distilled water, at least -25°C	
Starting aid	Electric starter	

BASIC CARBURETOR SETTING			
	450 SX-F	450 SXS-F	505 SX-F
Type of carburetor	Keihin FCR-MX 4125G	Keihin FCR-MX 4125G	Keihin FCR-MX 4125H
Main jet	185	190	185
Jet needle	OBDTP	OBDTR	OBDTP
Idling jet	40	40	42
Idle air jet	100	100	100
Needle position	4 th from top	4 th from top	5 th from top
Starting jet	85	85	85
Mixture control screw, open	1.5	1.5	1.5
Slide	15	15	15
Throttling	-	-	-
Hot start system	2.5 mm	2.5 mm	2.5 mm

TIGHTENING TORQUES - ENGINE		
Oil jet for piston	M4	Loctite 243 + 4 Nm
Oil restrictor jet for crankshaft	M4	Loctite 243
Crankcase air jet	M4	Loctite 243
Oil jet for cam lever / camshaft	M4	Loctite 243 + 6 Nm
Throttle oil supply clutch	M5	Loctite 243 + 6 Nm
Screw on locking lever	M5	Loctite 243 + 6 Nm
Screw on retaining bracket for camshaft bearing	M5	Loctite 243 + 6 Nm
Screw on oil pump cover, right	M5	Loctite 243 + 6 Nm
Screw on bearing bolt for oil pump idler	M5	Loctite 243 + 6 Nm
Screw on retaining bracket for timing train axle	M5	Loctite 243 + 6 Nm
Screw on bearing lock washer	M5	Loctite 243 + 6 Nm
Screw on stator	M5	Loctite 243 + 6 Nm
Screw on retaining bracket for stator cable	M5	Loctite 243 + 6 Nm
Screw on pulse generator / pulse generator adapter	M5	Loctite 243 + 6 Nm
Screw on engine case	M6	oiled 10 Nm
Screw on clutch, ignition and water pump cover	M6	10 Nm
Screw on oil pump cover, left	M6	Loctite 243 + 10 Nm
Screw on clutch spring	M6	10 Nm
Stud for screw cap on cylinder / cylinder head	M6	10 Nm
Screw on clutch slave cylinder	M6	10 Nm
Screw on shift lock	M6	Loctite 243 + 10 Nm
Cap nut on water pump	M6	Loctite 243 + 6 Nm
Screw on valve cover	M6	8 Nm
Nut on cylinder head screw cap	M6	oiled 10 Nm
Throttle oil supply timing-chain tensioner	M6	Loctite 243 + 6 Nm
Screw on oil filter cover	M6	10 Nm
Screw on exhaust flange	M6	Loctite 243 + 10 Nm
Screw on electric starter engine	M6	10 Nm
Screw on retaining bracket for pulse generator cable	M6	Loctite 243 + 10 Nm
Screw on shift lever	M6	Loctite 243 + 10 Nm
Screw on engine case	M7x1	oiled 14 Nm
Screw on clutch cover	M7x1	14 Nm
Screw on camshaft bearing bridge	M7	geölt 14 Nm
Plug for engine locking screw	M8	20 Nm
Screw on camshaft gear	M10x1	oiled 50 Nm
Plug on cam lever shaft	M10x1	10 Nm
Plug on oil duct	M10x1	10 Nm
Plug on timing chain tensioner release	M10x1	10 Nm
Screw on rotor	M10x1	oiled 80 Nm
Stud for screw cap on cylinder / cylinder head	M10x1.25	20 Nm
Nut for cylinder head screw cap	M10x1.25	oiled 10/30 Nm + 50°
Spark plug	M10	10 - 12 Nm
Screw on rear sprocket	M10	Loctite 243 + 60 Nm
Oil drain screw	M12x1.5	20 Nm
Threaded sleeve for engine ventilation	M12x1.5	16 Nm
Nut for balancer gear	M14x1	Loctite 243 + 20 Nm
Oil intake snorkel	M14x1	Loctite 243 + 15 Nm
Axle for tensioning rail/guide rail	M14x1	15 Nm
Plug on bypass valve	M14x1.5	18 Nm
Nut on clutch drive	M18x1.5	Loctite 243 + 80 Nm
Plug on timing chain tensioner	M24x1.5	25 Nm
Nut on primary gear/freewheel hub	M27x1	60 Nm
Plug on oil screen	M32x1.5	oiled 30 Nm