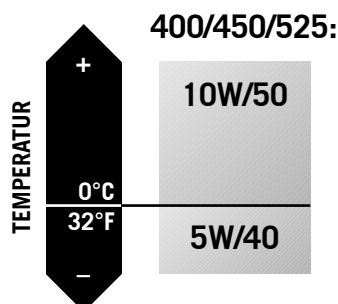


TECHNICAL DATA – ENGINE »

ENGINE	400 XC-W, EXC	450 XC	450 XC-W, EXC	525 XC	525 XC-W, EXC
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft				
Displacement	398 cc	449 cc	448 cc	510 cc	
Bore/Stroke	89 / 64 mm	95 / 63,4 mm	89 / 72 mm	95 / 72 mm	
Ratio	11 : 1	12 : 1	11 : 1	11 : 1	
Fuel	unleaded fuel with at least RON 95 (USA = Premium PON 91)				
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain				
Camshaft	595/0121	590/5521	590/5521	590/5521	
Valve diameter Intake	35 mm				
Valve diameter Exhaust	30 mm				
Valve clearance cold Intake	0.10 - 0.15 mm (0,004 - 0,006 in)				
Valve clearance cold Exhaust	0.10 - 0.15 mm (0,004 - 0,006 in)				
Crank shaft bearing	2 cylinder roller bearing				
Connecting rod bearing	needle bearing				
Top end bearing	bronze bushing				
Piston alluminium alloy	cast	forged	cast	forged	
Piston rings	1 compression ring, 1 oil scraper ring				
Engine lubrication	pressure circulation lubrication with two rotor pumps				
Engine oil	full synthetic oil (Motorex Power Synt 4T 10W/50)				
Quantity of engine oil	1.25 liters				
Primary ratio	Primary ratio				
Clutch	multiple disc clutch in oil bath, hydraulically operated (Motorex Kupplungsfluid 75)				
Transmission claw shifted	6-speed	6-speed	6-speed	6-speed	6-speed
Gear ratio					
1st Gear	14:34	14:34	14:34	16:32	14:34
2nd Gear	17:31	17:31	17:31	18:30	17:31
3rd Gear	19:28	20:28	19:28	20:28	19:28
4th Gear	22:26	22:26	22:26	22:26	22:26
5th Gear	24:23	24:24	24:23	24:24	24:23
6th Gear	26:21	21:18	26:21	21:18	26:21
Ignition system	contactless DC-CDI ignition with digital advanced system by KOKUSAN				
Generator	12V 150W				
Spark plug	NGK DCPR 8 E				
Spark plug gap	0.6 mm (0.02367 in)				
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanically driven water pump				
Cooling liquid	1 liter, 50% antifreeze, 50% distilled water, at least -25° (-13° F)				
Starting equipment	kick - electric starter				

JASO T903 MA



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 in the 10W/50 viscosity (for temperatures over 0°C, 32°F) or 5W/40 (for temperatures under 0°C, 32°F).

! CAUTION

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

TECHNICAL DATA – ENGINE »

BASIC CARBURATOR SETTING		
	400 XC-W USA	400 EXC RACING EU
Type	Keihin FCR-MX 3900D	Keihin FCR-MX 3900E
Main jet	178	178
Jet needle	OBDVR	OBDVR
Idling jet	42	42
Main air jet	200	200
Idling air jet	100	100
Needle position	1st from top	1st from top
Starting jet	85	85
Mixture control screw open	1.25	1.25
Slide	15	15
Performance restrictor	–	Slide stop
Stop pump membrane	858 / 2.15 mm	858 / 2.15 mm

BASIC CARBURATOR SETTING			
	450 XC, XC-W USA	450 EXC RACING EU / AUS	450 EXC RACING SIXDAYS EU
Type	Keihin FCR-MX 3900E	Keihin FCR-MX 3900E	Keihin FCR-MX 3900E
Main jet	178	178	182
Jet needle	OBDVR	OBDVR	OBDTR
Idling jet	42	42	42
Main air jet	200	200	200
Idling air jet	100	100	100
Needle position	3rd from top	3rd from top	4th from top
Starting jet	85	85	85
Mixture control screw open	1.25	1.25	2.0
Slide	15	15	15
Performance restrictor	–	Slide stop	–
Stop pump membrane	858 / 2.15 mm	858 / 2.15 mm	858 / 2.15 mm

BASIC CARBURATOR SETTING			
	525 XC, XC-W USA	525 EXC RACING EU 525 EXC RACING AUS 525 XC DESERT RACING EU	525 EXC RACING SIXDAYS EU
Type	Keihin FCR-MX 3900F	Keihin FCR-MX 3900F	Keihin FCR-MX 3900F
Main jet	178	178	182
Jet needle	OBDVT	OBDVT	OBDTR
Idling jet	42	42	42
Main air jet	200	200	200
Idling air jet	100	100	100
Needle position	3rd from top	3rd from top	5th from top
Starting jet	85	85	85
Mixture control screw open	1.25	1.25	2.0
Slide	15	15	15
Performance restrictor	–	Slide stop	–
Stop pump membrane	858 / 2.15 mm	858 / 2.15 mm	858 / 2.15 mm

TECHNICAL DATA – ENGINE »

TIGHTENING TORQUES – ENGINE 400/450/525		
Hexagon collar screw, engine case, clutch cover, ignition cover	M6	10 Nm
Oil drain plug	M12x1.5	20 Nm
Allan 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
Jet screw and hollow screw, oil line	M8	10 Nm
Screws, oil pump cover	M5	Loctite 222 + 6 Nm
Hexagon collar screw, cylinder head top section	M6	10 Nm
Hex.collar screw, cylinder head top section, water pump cover	M6	10 Nm
Hexagon collar screw, exhaust flange	M6	Loctite 243 + 10 Nm
Cylinder head screw	M10	Oil + 40/50 Nm
Allan head screw, camshaft gear	M8	Loctite 243 + 28 Nm
Allan head screw, cap rocker arm	M5	6 Nm
Counter nuts, valve adjustment screw	M6x0.75	11 Nm
Allan head screw, primary gear, free wheel	M6	Loctite 648 + 16 Nm
Hexagon nut, primary gear	M20x1.5 left	Loctite 243 + 150 Nm
Allan head screw, balancer shaft gear	M6	Loctite 243 + 10 Nm
Nut for inner clutch hub	M18x1.5	Loctite 243 + 120 Nm
Hexagon collar screw, clutch spring	M6	Loctite 243 + 8 Nm
Allan head screw, shift roller locking piece	M6	Loctite 243 + 10 Nm
Hexagon collar screw, locking lever	M5	Loctite 243 + 6 Nm
Hexagon collar screw, shift roller	M5	Loctite 243 + 6 Nm
Hexagon collar screw securing guide, chain guide, chain tensioner	M6	Loctite 243 + 6 Nm
Hexagon collar screw, clip	M5	Loctite 243 + 6 Nm
Hexagon collar screw, chain adjuster	M6	10 Nm
Hexagon collar screw, stator XC/EXC	M6	Loctite 243 + 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
Hexagon collar screw, spring hanger kickstarter	M6	Loctite 243 + 10 Nm
Hexagon collar screw E-starter	M6	10 Nm
Hexagon collar screw, hanger vent hose	M6	Loctite 243 + 10 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
Spark plug	M12x1.25	20 Nm