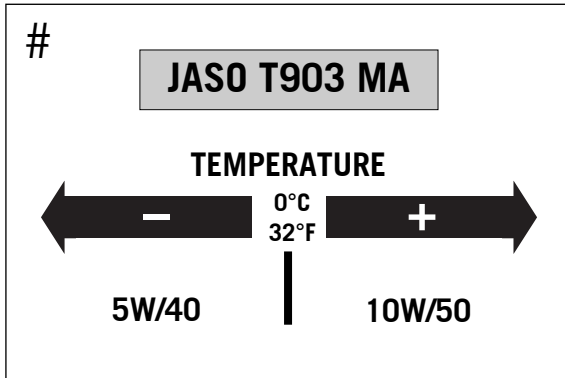


ENGINE	990 LC8
Design	Liquid-cooled, 2-cylinder 4-stroke engine with 75° V arrangement with balancer shaft and electric starter
Displacement	999 cc
Bore / Stroke	101/62.4 mm
Compression ratio	11.5:1
Fuel	unleaded fuel with at least RON 95 (USA: Premium PON 91*) / RON 80 - 94 for other ignition curve)
Valve timing	4 valves controlled over bucket tappet and 2 camshafts, camshaft drive with gears/chain
Valve diameter	Intake: 38 mm Exhaust: 33 mm
Valve clearance, cold	Intake: 0.10 - 0.15 mm Exhaust: 0.25 - 0.30 mm
Crankcase bearing	Friction bearings (2 main bearings / 1 supporting bearing)
Conrod bearing	Friction bearing
Piston pin bearing	Dual-fuel bearing
Piston	Light alloy – forged
Piston rings	1 compression ring, 1 taper face ring, 1 single-piece oil scraper ring with spiral-type expander
Engine lubrication	Dry sump with 2 trochoidal pumps (pressure pump and suction pump)
Engine oil	SAE 10W-50 (Motorex Power Synt 4T) #
Quantity of engine oil	approx. 3.0 liters during oil/filter change
Primary drive	Straight-toothed spur wheels 35 : 67
Clutch	Multi-disc clutch in oil bath
Transmission	6-speed claw shifted
Gear ratio	1st gear 12:35 2nd gear 15:32 3rd gear 18:30 4th gear 20:27 5th gear 24:27 6th gear 26:27

ENGINE	990 LC8
Mixture preparation	EFI (electronic fuel injection)
Ignition system	breakerless transistorized electronic ignition system with digital ignition advance
Ignition timing	Map-controlled via TPS
Generator	12V 450W at 6000 rpm
Spark plug	NGK DCPR 8 E
Electrode distance	0.8 mm
Cooling system	liquid cooled, permanent circulation of cooling liquid through water pump
Cooling liquid	2.1 liters, 50% antifreeze, 50% distilled water, at least -25° C
Starting aid	0.9 kW electric starter



*

PON / CLC	RON / ROZ	MON
87	91	83
91 Premium	95	87

PON = Pump Octane Number
 CLC = Cost of Living Council
 RON = Research Octane Number
 ROZ = Research Oktan Zahl
 MON = Motor Octane Number

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).

TIGHTENING TORQUES – ENGINE

Hexagon nut on primary gear	M33x1.5 left	Loctite 243 + 130 Nm
Multipoint head bolt on conrod caps	M10x1	25 Nm/30Nm/60°
Hexagon nut on balancer shaft	M20x1.5	Loctite 243 + 150 Nm
Hexagon nut on balancer shaft preloaded (spreader)	M20x1.5	Loctite 243 + 120 Nm
Hexagon nut on cylinder head	M10	lubricated, 25 Nm /38 Nm
AH bolts on cylinder head	M8	18 Nm/23 Nm
Hexagon nut on cylinder head	M6	8 Nm
Studs in engine case	M6	10 Nm
Studs in engine case	M10	20 Nm
Stud on exhaust flange	M8	15 Nm
Plug on front cylinder head	M12x1.5	25 Nm
Bolts to attach bearings	M5	Loctite 243 + 6 Nm
Collar screws for bearing shell retaining brackets	M5	Loctite 243 + 6 Nm
Crankshaft locking bolt	M8	10 Nm
Bearing bolts on tensioning rail	M8	Loctite 243 + 20 Nm
Bearing bolts on guide rail	M8	Loctite 243 + 15 Nm
Bearing bolts on double timing gear	M10	30 Nm
Bolt on chain tensioner	M16x1.5	20 Nm
AH bolts on camshaft bearing bridges	M8 10.9	10 Nm/18 Nm
AH bolts on camshaft bearing bridges	M6 10.9	10 Nm
HH bolts on valve covers	M6	10 Nm
HH bolts on engine case halves	M6	10 Nm
HH bolts on engine case halves	M8	20 Nm
AH bolts on freewheel support	M6 10.9	Loctite 648 + 13 Nm
HH bolts on freewheel holder	M6	Loctite 243 + 10 Nm
Oil plug (clutch lubrication)	M10	15 Nm
Oil drain plug	M22x1.5	35 Nm
Oil line screw connections	M6	10 Nm
HH bolts on oil pump cover	M6	Loctite 243 + 10 Nm
Plug on oil filter housing	M14x1.5	Loctite 243 + 15 Nm
Oil jets	M6x0.75	Loctite 243 + 4 Nm
Oil jets bended	M4	Loctite 243 + 6 Nm
Oil pressure switch	M10x1	10 Nm
AH bolt on shift locating drum	M6	Loctite 243 + 10 Nm
HH bolt on shift locking lever	M5	Loctite 243 + 6 Nm
HH bolt on the shift lever (Adventure)	M6	Loctite 243 + 10 Nm
Hexagon nut on clutch clutch hub	M22x1.5	Loctite 243 + 130 Nm
HH bolts on clutch pressure cap	M6	10 Nm
HH bolt on clutch cover	M6	10 Nm
HH bolt on clutch cover	M8	15 Nm
HH bolt on outer clutch cover	M6	10 Nm
AH bolt on ignition rotor	M16	Loctite 243 + 180 Nm
AH bolt on ignition rotor	M16x1.5	Loctite 243 + 150 Nm
HH bolt on generator cover	M6	10 Nm
Fixing bolts on the stator	M6	Loctite 243 + 10 Nm
Plug on generator cover	M24x1.5	8 Nm
Bleeder flange on generator cover	M16x1.5	Loctite 243 + 10 Nm
Bearing bolt on generator cover	M6	Loctite 243 + 10 Nm
Fixing bolts on ignition pickup	M6	Loctite 243 + 10 Nm
AH bolts on gear sensor	M5	Loctite 243 + 3 Nm
Spark plugs	M10x1.0	12 Nm
Spark plugs	M12x1.5	20 Nm
Collar bolt on water pump wheel	M6	Loctite 243 + 10 Nm
HH bolt on water pump cover	M6	10 Nm
Water temperature sensor	M12x1.5	12 Nm
Water connections for cylinder head	M20x1.5	Loctite 577 + 10 Nm
HH bolt on the starter motor	M6	10 Nm
Vacuum connections for intake port	M6	Loctite 243 + 5 Nm
Hexagon nut on chain sprocket	M20x1.5	sheet retainer+Loctite 243+100 Nm
AH screw for carburetor trumpet fixture	M4	4 Nm
Hose clamps for intake rubber	M4	1.5 Nm
Lambda probe	M18x1,5	45 Nm
Other engine bolts	M5	6 Nm
	M6	10 Nm