

TECHNICAL DATA – ENGINE KTM 620 LC4 e

Type	620 LC4-E
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft and electric starter
Displacement	609 cm ³
Bore / Stroke	101 / 76 mm
Ratio	10.4 : 1
Fuel	unleaded premium gasoline with a least RON 95
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain
Camshaft	249° (249)
Valve timing by 1 mm valve clearance	IO 14° BTDC EO 56° BBDC IC 55° ABDC EC 13° ATDC
Valve diameter	Intake: 36 mm Exhaust: 30 mm
Valve clearance cold	Intake: 0.15 mm Exhaust: 0.15 mm
Crank shaft bearing	2 cylinder roller bearing
Connecting rod bearing	needle bearing
Top end bearing	bronze bushing
Piston	cast aluminium alloy
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring
Engine lubrication	2 Eaton-Oilpumps
Quantity of engine oil	see page 38
Engine oil	2.1 liters including frame
Primary ratio	straight geared spur wheels 30 : 81 teeth
Clutch	multi disc clutch in oil bath
Transmission	5-speed claw shifted
Ignition system	contactless DC- CDI ignition with digital advanced system type KOKUSAN
Ignition timing	adjustment to max. 38° BTDC at 6000 rpm
Generator	12V 200W
Spark plug	NGK DR8EA
Spark plug gap	0.7 mm
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least -25° C (-13° F)
Starting equipment	electric starter, kick starter

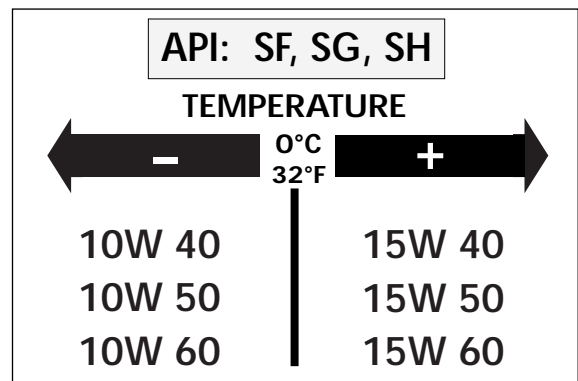
TOLERANCE, ASSEMBLY CLEARANCE

Crank shaft	axial play . . . . .	.0.03 - 0.12 mm
	run out of crank stud . . . . .	.max. 0.04 mm
Connecting rod bearing	radial play . . . . .	.max. 0.05 mm
	axial play . . . . .	.max. 1.10 mm
Cylinder	bore . . . . .	.max. 101.04 mm
Piston	assembly clearance . . . . .	.max. 0.12 mm
Piston rings end gap	compression rings . . . . .	.max. 0.80 mm
	oil scraper ring . . . . .	.max. 1.00 mm
Valves	seat sealing intake . . . . .	.max. 1.50 mm
	seat sealing exhaust . . . . .	.max. 2.00 mm
	run out of valve heads . . . . .	.max. 0.03 mm
	valve guides diameter . . . . .	.max. 7.05 mm
Oil pumps	clearance outer rotor - housing . . . . .	.max. 0.20 mm
	clearance outer rotor - inner rotor . . . . .	.max. 0.20 mm
Bypaß valve	minimum spring length . . . . .	.25.00 mm
Clutch	Length of springs . . . . .	.min. 35.00 mm (new 37.00 mm)
	wear limit organic . . . . .	.min. 2.50 mm
Camshaft	diameter of bearing bolt . . . . .	.min. 19.97 mm
Transmission shafts	axial play . . . . .	.0.10 - 0.40 mm

TIGHTENING TORQUES - ENGINE			
Hexagon nut at primary gear	M20x1.5	Loctite 242 + 170 Nm	(125 ft.lb)
Collar nut flywheel	M16x1.25 LH thread	80° C + 150 Nm	(132 ft.lb)
Hexagon nut for inner clutch hub	M18x1.5	80 Nm	(60 ft.lb)
Kickstarter stop screw	M12x1.5	50 Nm	(35 ft.lb)
Allan head screws oil pump	M6	Loctite 242 + 8 Nm	(6 ft.lb)
Allan head screws freewheel hub	M6x12/M6x12.5	Loctite 648 + 18 Nm	(13 ft.lb)
Hexagon screw camshaft gear	M10	Loctite 242 + 30 Nm	(22 ft.lb)
Allan head screw cylinder head top sect.	M6x25/M6x65/M6x70 (8.8)	8 Nm	(6 ft.lb)
Allan head screw cylinder head top sect.	M6x50/M6x55 (12.9)	20 Nm	(15 ft.lb)
Cylinder head screws	M10	50 Nm	(37 ft.lb)
Collar nuts at cylinder base	M10	40 Nm	(30 ft.lb)
Hexagon screw chain sprocket	M10	Loctite 242 + 40 Nm	(30 ft.lb)
Oil drain plug	M22x1.5	30 Nm	(22 ft.lb)
Magnetic plug	M12x1.5	20 Nm	(15 ft.lb)
Plug bypass valve	M12x1.5	20 Nm	(15 ft.lb)
Hollow screws oil lines	M8x1	10 Nm	(7.4 ft.lb)
Hollow screws oil lines	M10x1	15 Nm	(11 ft.lb)
Jet screw clutch cover	M8	10 Nm	(7.4 ft.lb)
Screw plug timing-chain tensioner	M12x1.5	20 Nm	(15 ft.lb)
Counternuts valve adjusting screws	M7x0.75	20 Nm	(15 ft.lb)
Crankshaft locking bolt	M8	25 Nm	(19 ft.lb)
Engine mounting bolt	M8	40 Nm	(30 ft.lb)
Engine mounting bolt	M10	70 Nm	(50 ft.lb)

GEAR RATIOS				
Primary ratio	Transmission	Original final drive ratio	Available chain drive sprockets	Available final drive sprockets
30:81	1st gear 14:35 2nd gear 15:24 3rd gear 18:21 4th gear 20:19 5th gear 22:18	17:38	16 for chain 17 $\frac{5}{8} \times \frac{1}{4}$ "	38 for chain 42 $\frac{5}{8} \times \frac{1}{4}$ "

BASIC CARBURETOR SETTING	
	620 DUKE
Type	PHM 40 SD
Carb.-setting number	080197
Main jet	155
Needle jet	DR 268
Idling jet	45
Jet needle	K 51
Needle clip pos. f. top	3. from top
Mixt. adj. screw open	1.5 turns
Throttle valve	40
Starting jet	55



Engine oil

Use only oil brands, which meet quality requirements of API-classes SF, SG or SH (informations on bottles) or higher. Both, mineral and synthetic oils with above specifications can be used.

! CAUTION !

POOR OIL QUALITY OR MINOR QUANTITY EFFECT EARLY ENGINE-WEAR.