

TECHNICAL DATA – ENGINE

Engine	350 LC4	400 LC4	620 LC4
Design	Liquid-cooled single cylinder 4-stroke engine		
Displacement	349 cm ³	398 cm ³	609 cm ³
Bore / Stroke	89 / 56,2 mm	95 / 56,2 mm	101 / 76 mm
Ratio	10,4 : 1	10,0 : 1	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	Intake: 249° Exhaust: 225° (995)		249° (249)
Valve timing by 1 mm valve clearance	IO 17° BTDC IC 52° ABDC	EO 46° BBDC EC 1° BTDC	IO 14° BTDC EO 56° BBDC IC 52° ABDC EC 12° ATDC
Valve diameter	Intake: 36 mm Exhaust: 30 mm		
Valve clearance cold	Intake: 0,10 mm Exhaust: 0,10 mm		
Crank shaft bearing	2 cylinder roller bearing		
Connecting rod bearing	needle bearing		
Top end bearing	bronze bushing		
Piston	forged aluminium-alloy	cast aluminium alloy	
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring		
Engine lubrication	forced-feed lubrication through Eaton-Oilpump with oil sump		
Engine oil	fully synthetic recommended brand multi-grade engine oil for 4-stroke engine (after running in)		
Engine oil quantity	oil flow also thru engine: 1,4 liters		oil flow also thru main frame tube: 2,1 liters
Primary ratio	straight geared spur wheels 30 : 81 teeth		
Clutch	multi disc clutch in oil bath		
Transmission	5-speed claw shifted		
Ignition system	contactless thyristor ignition with electronic advanced system type SEM		
Ignition timing	idling: 6° BTDC (1200 rpm) - adjustment from 1700 rpm to max. 38° BTDC at 5000 rpm		
Generator	12V 130W		
Spark plug	NGK D8EA		
Spark plug gap	0,6 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	decompressor hand actuated, cold and warm start knob on carburetor		

BASIC CARBURETOR SETTING

	350 EXC Competition	400 EXC 20kW 400 EGS 20kW 400 EGS 14kW	400 RXC 400 EGS 30kW D, SGP	400 EXC Comp. 400 EGS AUS, J	620 SX 620 EXC Comp. 620 RALLYE	620 RXC 620 EGS SGP 620 EGS 36kW	620 EXC 20kW 620 EXC Su.Co. 620 EGS F	620 EGS 20kW CH
Type	PHBE 36 HD	PHM 38 SD	PHM 38 SD	PHM 38 SD	PHM 40 SD	PHM 40 SD	PHM 40 SD	PHM 40 SD
Carburetor setting number	6835	4920	4920/3	4894/6	4922	4922/2	4922/3	4922/3 CH
Main jet	180	135	170	190	195	170	135	135
Needle jet	DR 270	DR 266	DR 268	DR 270	DR 272	DR 268	DR 268	DR 268
Idling jet	52	38	45	45	45	45	45	45
Jet needle	K 51	K 51	K 51	K 51	K 51	K 51	K 51	K 51
Needle clip position from top	2nd	2nd	3rd	2nd	2nd	3rd	3rd	3rd
Mixture adjusting screw open	1 turn	2 turn	1,5 turn	1,5 turn	1,5 turn	1,5 turn	1,5 turn	1,5 turn
Throttle valve	40	40	40	40	40	40	40	40
Starting jet	45	45	45	45	45	45	45	45

GEAR RATIOS

Primary ratio	Transmission		Original final drive ratio	Available chain drive sprockets	Available final drive sprockets
30:81	1st Gear 2nd Gear 3rd Gear 4th Gear 5th Gear	SX EXC	EGS RXC	SX 15:50 EXC 15:50 EGS 15:45 15:50 16:45	13 t 14 t for chain 15 t 5/8 x 1/4" 16 t 40 t 45 t 48 t for chain 50 t 5/8 x 1/4" 52 t
		15:33	15:33	16:40	
		15:24	16:24	15:45	
		18:21	18:21	15:50	
		20:19	20:19	16:45	
		27:21	27:21	RXC 16:45	

TOLERANCE, ASSEMBLY CLEARANCE

Crank shaft	axial play0,1 - 0,2 mm run out of crank studmax. 0,04 mm
Connecting rod bearing	radial playmax. 0,05 mm axial playmax. 1,00 mm
Piston	assembly clearance 350/400/620max. 0,12 mm
Piston rings end gap	compression ringsmax. 0,60 mm oil scraper ringmax. 0,80 mm
Valves	seat sealing intakemax. 1,50 mm seat sealing exhaustmax. 2,00 mm run out of valve headsmax. 0,03 mm valve guides diametermax. 7,05 mm
Oil pump	clearance outer rotor - housingmax. 0,20 mm clearance outer rotor - inner rotormax. 0,20 mm
Bypass valve	minimum spring length25 mm
Clutch discs	wear limit organic2,8 mm
Transmission shafts	axial play0,1 - 0,3 mm

TIGHTENING TORQUES - ENGINE

Hexagon nut at primary gear	M20x1,5	Loctite + 170Nm
Collar nut flywheel	M12x1 LH thread	60 Nm
Hexagon nut for inner clutch hub	M18x1,5	80 Nm
Kickstarter stop screw	M12x1,5	70 Nm
Allen head screws oil pump	M6	8 Nm
Hexagon screw camshaft gear	M10	50 Nm
Allen head screw cylinder head top sect.	M6	8 Nm
Cylinder head screws	M10	50 Nm
Collar nuts at cylinder base	M10	40 Nm
Hexagon nut chain sprocket	M20x1,5	70 Nm
Oil drain plug	M22x1,5	50 Nm
Magnetic plug	M12x1,5	20 Nm
Plug bypass valve	M12x1,5	20 Nm
Hollow screws oil lines	M8	10 Nm
Hollow screws oil lines	M12	20 Nm
Screw plug timing-chain tensioner	M12x1,5	20 Nm
Counternuts valve adjusting screws	M7x0,75	20 Nm