

TECHNICAL DATA – ENGINE 400/620 Super Competition, RXC, EGS

Engine	400 LC4	620 LC4
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft	
Displacement	398 cm ³	609 cm ³
Bore / Stroke	95 / 56,2 mm	101 / 76 mm
Ratio	10,0 : 1	10,5 : 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 EO 46° BBDC IC 52° ABDC EC 1° BTDC	IO 14° BTDC EO 56° BBDC IC 55° ABDC EC 13° ATDC
Valve diameter	Intake: 36 mm	Exhaust: 30 mm
Valve clearance cold	Intake: 0,10 mm	Exhaust: 0,10 mm
Crank shaft bearing	2 cylinder roller bearing	
Connecting rod bearing	needle bearing	
Top end bearing	bronze bushing	
Piston	forged/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	see below #	
Engine oil quantity	SC, RXC: 1,6 liters / EXC, EGS: 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 thyristor ignition with electronic advanced system type SEM	
Ignition timing	adjustment to max. 38° BTDC at 6000 rpm	adjustment to max. 32° BTDC at 6000 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 automatic and hand actuated, cold and hot start knob on carburetor	

GEAR RATIOS

Primary ratio	Transmission	Original final drive ratio	Available chain drive sprockets	Available final drive sprockets
30:81	SC, RXC EXC, EGS	400 SC, RXC, EXC, EGS 14:40/15:45	14 t	38 t 40 t
	1st gear 14:35	16:45	15 t for chain	42 t for chain
	2nd gear 16:24	620 SC, RXC, EXC, EGS	16 t 5/8 x 1/4"	45 t 5/8 x 1/4"
	3rd gear 18:21	15:50/16:40	17 t	48 t
	4th gear 20:19			50 t
5th gear 22:18			52 t	

TOLERANCE, ASSEMBLY CLEARANCE

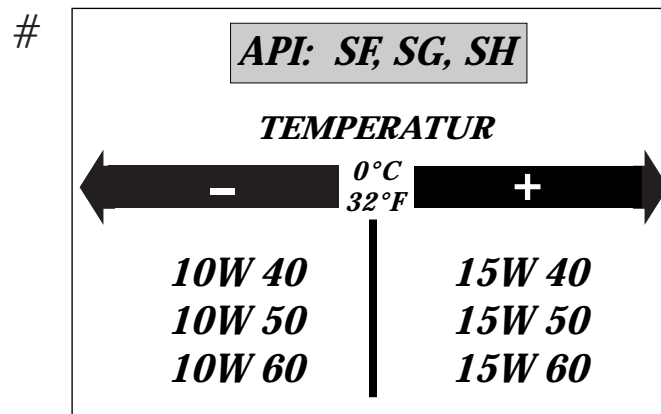
Crank shaft	axial play.....0,03 - 0,12 mm run out of crank studmax. 0,04 mm
Connecting rod bearing	radial play.....max. 0,05 mm axial playmax. 1,00 mm
Piston	assembly clearance 400/620max. 0,12 mm
Piston rings end gap	compression ringsmax. 0,60 mm oil scraper ringmax. 0,80 mm
Valves	seat sealing intakemax. 1,50 mm seat sealing exhaustmax. 2,00 mm run out of valve heads.....max. 0,03 mm valve guides diameter.....max. 7,05 mm
Oil pump	clearance outer rotor - housingmax. 0,20 mm clearance outer rotor - inner rotor.....max. 0,20 mm
Bypass valve	minimum spring length.....25 mm
Clutch discs	wear limit organic2,5 mm
Transmission shafts	axial play.....0,1 - 0,4 mm
Autodeko	minimum dekospring length.....7 mm
Clutch	minimum clutchspring length.....40,5 mm (new 43 mm)

TIGHTENING TORQUES - ENGINE

Hexagon nut at primary gear	M20x1,5	Loctite 242 + 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	35 Nm
Allen head screw cylinder head top sect.	M6x25	8 Nm
Allen head screw cylinder head top sect.	M6x60/M6x65 (12.9)	20 Nm
Allen head screw cylinder head top sect.	M6x65/M6x70 (8.8)	8 Nm
Cylinder head screws	M10	50 Nm
Collar nuts at cylinder base	M10	40 Nm
Hexagon screw chain sprocket	M10	Loctite 242 + 60 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
Jet screw clutch cover	M8	10 Nm
Screw plug timing-chain tensioner	M12x1,5	20 Nm
Counternuts valve adjusting screws	M7x0,75	20 Nm

(Nm x 0,738 = ft. lbs)

BASIC CARBURETOR SETTING							
	<i>400 SC. ED 400 EGS A, D, AUS</i>	<i>400 SC. DIVERSE, USA, J 400 EGS DIVERSE, J</i>	<i>400 EGS D</i>	<i>620 SX DIVERSE 620 SC. DIV, USA 620 EGS DIVERSE, GR</i>	<i>620 SC. F, D 620 EGS F, D, AUS</i>	<i>620 EGS A, D</i>	<i>620 EGS CH</i>
<i>Carburetor</i>	<i>PHM 38 SD</i>	<i>PHM 38 SD</i>	<i>PHM 38 SD</i>	<i>PHM 40 SD</i>	<i>PHM 40 SD</i>	<i>PHM 40 SD</i>	<i>PHM 40 SD</i>
<i>Carburetor setting number</i>	<i>140295</i>	<i>4894/6</i>	<i>4920/3</i>	<i>4922</i>	<i>4922/3</i>	<i>4922/2</i>	<i>4922/3 CH</i>
<i>Main jet</i>	<i>135</i>	<i>190</i>	<i>170</i>	<i>195</i>	<i>135</i>	<i>170</i>	<i>135</i>
<i>Needle jet</i>	<i>DR 268</i>	<i>DR 270</i>	<i>DR 268</i>	<i>DR 272</i>	<i>DR 268</i>	<i>DR 268</i>	<i>DR 268</i>
<i>Idling jet</i>	<i>45</i>	<i>45</i>	<i>45</i>	<i>45</i>	<i>45</i>	<i>45</i>	<i>45</i>
<i>Jet needle</i>	<i>K 51</i>	<i>K 51</i>	<i>K 51</i>	<i>K 51</i>	<i>K 51</i>	<i>K 51</i>	<i>K 51</i>
<i>Needle position from top</i>	<i>3 rd</i>	<i>2 nd</i>	<i>3 rd</i>	<i>2 nd</i>	<i>3 rd</i>	<i>3 rd</i>	<i>3 rd</i>
<i>Mixture.adju. screw open</i>	<i>1,5 turn</i>	<i>2 turn</i>	<i>1,5 turn</i>	<i>1,5 turn</i>	<i>1,5 turn</i>	<i>1,5 turn</i>	<i>1,5 turn</i>
<i>Throttle valve</i>	<i>40</i>	<i>40</i>	<i>40</i>	<i>40</i>	<i>40</i>	<i>40</i>	<i>40</i>
<i>Starting jet</i>	<i>45</i>	<i>45</i>	<i>45</i>	<i>45</i>	<i>45</i>	<i>45</i>	<i>45</i>



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.