TECHNICAL DATA – ENGINE 400 / 640 LC4 2000

Engine	**400 LC4**	**640 LC4**
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft and electric starter	
Displacement	398 ccm	625 ccm
Bore / Stroke	89 / 64 mm	101 / 78 mm
Ratio	10,8 : 1	11 : 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	249/1	
Valve timing by 1 mm valve clearence	IO 22° BTDC EO 60° BBDC IC 42° ABDC EC 4° ATDC	IO 13° BTDC EO 53° BBDC IC 51° ABDC EC 11° ATDC
Valve diameter	Intake: 36 mm Exhaust: 30 mm	
Valve clearence cold	Intake: 0,20 mm Exhaust: 0,20 mm	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	forged/cast aluminium alloy	
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring	
Engine lubrication	two Eaton-oilpumps	
Engine oil	see bellow #	
Engine oil quantity	appr. 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	
Gear ratio	1st 14:35 2nd 15:24 3rd 18:21 4th 20:19 5th 22:18	
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 DPR8 EA9	
Spark plug gap	0,9 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 and kickstarter	

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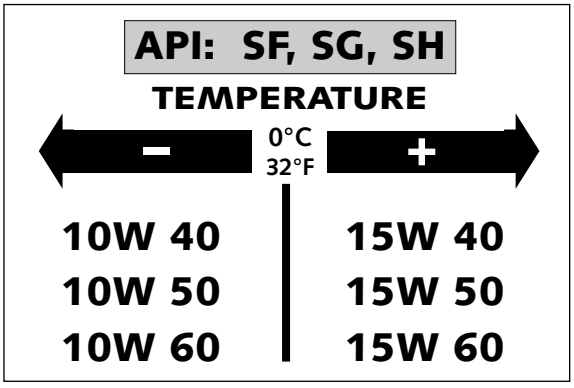

Engine oil

Use only oil brands (Shell Advance Ultra 4), 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.

TIGHTENING TORQUES FOR CHASSIS			
Collar nut front axle	M16x1,5	40 Nm	(30 ft.lb)
Brake caliper front	M8	Loctite 242 + 25 Nm	(20 ft.lb)
Collar nut rear axle	M20x1,5	80 Nm	(60 ft.lb)
Hex. nut swing arm bolt	M14x1,5	100 Nm	(74 ft.lb)
Clamping screw upper fork bridge	M8	20 Nm	(15 ft.lb)
Clamping screw lower fork bridge	M8	15 Nm	(11 ft.lb)
Clamping screws fork stubs	M8	10 Nm	(7 ft.lb)
collar screw for handlebar clamp	M8	Loctite 242 + 20 Nm	(15 ft.lb)
hexagon socket screw for handlebar mount	M10	Loctite 242 + 40 Nm	(30 ft.lb)
collar nut for connecting piece link	M12x1,75	60 Nm	(44 ft.lb)
collar screw for front/rear brake discs	M6	Loctite 242 + 15 Nm	(11 ft.lb)
Stover flanged nut - chain wheel	M8	Loctite 242 + 35 Nm	(26 ft.lb)
ball joint for push rod of footbrake cylinder	M6	Loctite 242 + 10 Nm	(7 ft.lb)
Other screws chassis	M6	10 Nm	(7 ft.lb)
	M8	25 Nm	(20 ft.lb)
	M10	45 Nm	(33 ft.lb)
Remaining collar nuts for chassis	M6	15 Nm	(11 ft.lb)
	M8	30 Nm	(22 ft.lb)
	M10	50 Nm	(37 ft.lb)

BASIC CARBURETOR SETTING		
	400 LC4 25 kW	**400 LC4** 31 kW
Carburetor	PHM 38 ND	PHM 38 ND
Carburetor setting number	100197	100197
Main jet	130	130
Needle jet	AR 264	AR 264
Idling jet	50	50
Jet needle	K 23	K 23
Needle position from top	2 nd	2 nd
Mixture.adju. screw open	1,5 turn	1,5 turn
Throttle valve	50/1	50/1
Starting jet	45 (50, 55)	45 (50, 55)
Performance restrictor	slide stop 51 mm	–

BASIC CARBURETOR SETTING		
	640 LC4 25 kW	**640 LC4** 37 kW
Carburetor	BST40-225	BST40-225
Carburetor setting number	080298	090298
Main jet	142,5	142,5
Needle jet	689 X-6	689 X-6
Idling jet	45	45
Jet needle	6G5	6G5
Needle position from top	3 rd	3 rd
Mixture.adju. screw open	2,25	2,25
Throttle valve	–	–
Starting jet	–	–
Performance restrictor	slide stop 17 mm	–