TYPE	660 LC4	450 LC4
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft and electric starter	
Displacement	653,7 cm^3	447 cm^3
Bore / Stroke	102/80 mm	89/72 mm
Ratio	11,6:1	
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	
Valve diameter	Intake: 36 mm Exhaust: 32 mm	Intake: 36 mm Exhaust: 30 mm
Valve clearence 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	
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring	
Engine lubrication	2 Eaton-Oilpumps	
Quantity of engine oil	SAE 10W/50 (Motorex Power Synt 4T)	
Engine oil	2,2 liters including frame	
Primary ratio	straight geared spur wheels 31 : 79 teeth	
Clutch	multi disc clutch in oil bath	
Transmission	5-speed claw shifted	6-speed claw shifted
Gear ratios	1. Gear 33:15 2. Gear 24:15 3. Gear 21:18 4. Gear 19:20 5. Gear 18:22	1. Gear 14:32 2. Gear 17:27 3. Gear 20:24 4. Gear 25:25 5. Gear 21:19 6. Gear 21:18
Ignition system	contactless DC- CDI ignition with digital advanced system type KOKUSAN	
Ignition timing	adjustment to max. 33° BTDC at 8500 rpm	
Generator	12V 200W	
Spark plug	NGK DR 9 EA	Denso X27 ETR
Spark plug gap	0,9 mm	
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump	
Cooling liquid	1,8 liter, 50% antifreeze, 50% water, at least –25° C (–13° F)	
Starting equipment	electric starter	

BASIC CARBURETOR SETTING				
	660 Rally (throttled)	660 Rally (open)	450 Rally (throttled)	450 Rally (open)
Type	Keihin CR 39	Keihin CR 39	Keihin CR 39	Keihin CR 39
Main jet	190	190	175	175
Jet needle	OBDVR	OBDVR	OBDVR	OBDVR
Idling jet	48	52	48	50, 52
Main air jet	200	200	200	200
Idling air jet	100	100	100	100
Needle clip position from top	III	III	III	III
Starting jet	85	85	85	85
Mixture control screw open	2	2	2	2
Throttle valve	15	15	15	15
Performance restrictor	24,5	–	24,5	–
Stop pump membrane	3,2 mm	3,2 mm	3,2 mm	3,2 mm

TIGHTENING TORQUES - ENGINE		
Hexagon nut at primary gear	M20x1,5	Loctite 243 + 220 Nm
Collar nut flywheel	M16x1,25 links	80° C + 150 Nm
Hexagon nut for inner clutch hub	M18x1,5	Loctite 243 + 80 - 100 Nm
Allan head screws freewheel hub	M6x12/M6x12,5	Loctite 648 + 12/16 Nm
Hexagonscrew oil pump	M6	Loctite 243 + 8 Nm
Hexagon screw camshaft gear	M10	Loctite 243 + 35 Nm
Allan head screw cylinder head top sect.	M6x25/M6x65/M6x70 (8.8)	8 Nm
Allan head screw cylinder head top sect.	M7x55/M7x60 (12.9)	20 Nm
Cylinder head screws	M10	60 Nm
Collar nuts at cylinder base	M10	50 Nm
Hexagon screw chain sprocket	M10	Loctite 243 + 40 Nm
Oil drain plug	M22x1,5	30 Nm
Magnetic plug	M12x1,5	20 Nm
Plug bypass valve	M12x1,5	20 Nm
Hollow screws oil lines	M8x1	10 Nm
Hollow screws oil lines	M10x1	15 Nm
Jet screw clutch cover	M8	10 Nm
Screw plug timing-chain tensioner	M12x1,5	20 Nm
Counternuts valve adjusting screws	M7x0,75	16 Nm
Crankshaft locking bolt	M8	20 Nm
Engine mounting bolt	M8	40 Nm
Engine mounting bolt	M10	70 Nm