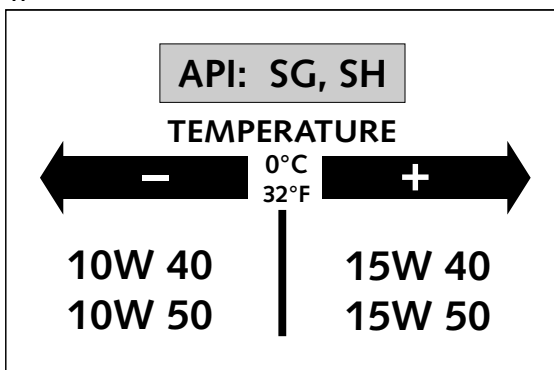


TECHNICAL SPECIFICATIONS – ENGINE 660 SUPERMOTO FACTORY REPLICA 2002

| | |
|------------------------|--|
| Engine | 660 LC4 |
| Design | Liquid-cooled single cylinder 4-stroke engine with balancer shaft |
| Displacement | 653 ccm |
| Bore / Stroke | 102 / 80 mm |
| Ratio | 12,5 : 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 | MSP1 |
| Valve diameter | Intake: 36 mm Exhaust: 32 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 | forged aluminium alloy |
| Piston rings | 1 compression ring, 1 taper face ring, 1 oil scraper ring |
| Engine lubrication | two Eaton-oilpumps |
| Engine oil | see table # |
| Engine oil quantity | 1,6 liters (0,42 US gallons) |
| Primary ratio | straight geared spur wheels 31 : 79 teeth |
| Clutch | multi disc clutch in oil bath |
| Transmission | 5-speed claw shifted |
| Gear ratio | 1st 15:33 2nd 15:24 3rd 18:21 4th 20:19 5th 22:18 |
| Ignition system | contactless DC-CDI ignition with digital advanced system type KOKUSAN 4K3 |
| Generator | 12V 110W |
| Spark plug | NGK DPR8 EA-9 |
| 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 | Kickstarter, cold start knob and hot start knob on carburetor |

#



| BASIC CARBURETOR SETTING | |
|--------------------------|----------------------------------|
| | 660 SUPERMOTO FACTORY REPLICA |
| Carburetor | Keihin FCR MX 41 |
| Main jet | 190 |
| Needle jet | OBEKR |
| Idling jet | 45 |
| Main air jet | 200 |
| Idling air jet | 100 |
| Needle position from top | 4th |
| Throttle valve | 15 |
| Starting jet | 85 |

Engine oil

Use only synthetic oil brands, which meet quality requirements (Shell Advance Ultra 4) of API-classes SG or SH (informations on bottles) or higher.

! CAUTION !

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

TIGHTENING TORQUES - ENGINE 660 SUPERMOTO FACTORY REPLICA 2002

| | | | |
|--|-------------------------------|----------------------|-------------|
| Hexagon nut at primary gear | M20x1,5 | Loctite 243 + 220 Nm | (162 ft.lb) |
| Collar nut flywheel | M12x1 left | 60 Nm | (44 ft.lb) |
| Hexagon nut for inner clutch hub | M18x1,5 | Loctite 243 + 80 Nm | (59ft.lb) |
| Kickstarter stop screw | M12x1,5 | 50 Nm | (37ft.lb) |
| Allan head screw oil pumps | M6 | Loctite 243 + 8 Nm | (6ft.lb) |
| Hexagon screw camshaft gear | M10 | Loctite 243 + 35 Nm | (25ft.lb) |
| Allan head screw cylinder head top sect. | M6x25/m6x35/M6x65/M6x70 (8.8) | 8 Nm | (6ft.lb) |
| Allan head screw cylinder head top sect. | M7x50/M7x55 (12.9) | 20 Nm | (15ft.lb) |
| Cylinder head screws | M10 | 60 Nm | (44ft.lb) |
| Collar nuts at cylinder base | M10 | 50 Nm | (37ft.lb) |
| Hexagon screw chain sprocket | M10 | Loctite 243 + 40 Nm | (30ft.lb) |
| Oil drain plug | M22x1,5 | 30 Nm | (22ft.lb) |
| Magnetic plug | M12x1,5 | 20 Nm | (15ft.lb) |
| Plug bypass valve | M12x1,5 | 20 Nm | (15ft.lb) |
| Hollow screws oil lines | M8x1 | 10 Nm | (7ft.lb) |
| Hollow screws oil lines | M10x1 | 15 Nm | (11ft.lb) |
| Jet screw clutch cover | M8 | 10 Nm | (7ft.lb) |
| Screw plug timing-chain tensioner | M12x1,5 | 20 Nm | (15ft.lb) |
| Counternuts valve adjusting screws | M7x0,75 | 20 Nm | (15ft.lb) |
| Crankshaft locking bolt | M8 | 25 Nm | (19ft.lb) |
| Spark plug | M12x1,25 | 20 Nm | (15ft.lb) |
| Engine mounting bolt | M8 | 40 Nm | (30ft.lb) |
| Engine mounting bolt | M10 | 70 Nm | (52ft.lb) |

ASSEMBLY CLEARANCE, WEAR LIMIT

| | | |
|------------------------|---|------------------------------|
| Crank shaft | axial play | .0.15 - 0.25 mm |
| | run out of crank stud | .max. 0.04 mm |
| Connecting rod bearing | radial play | .max. 0.05 mm |
| | axial play | .max. 1.00 mm |
| Cylinder 400 | bore | .max. 89.04 mm |
| Cylinder 640 | bore | .max. 101.04 mm |
| Piston forged | assembly clearance | .max. 0.12 mm |
| Piston rings end gap | compression rings | .max. 0.60 mm |
| | oil scraper ring | .max. 0.80 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. 30.5 mm (new 33.00 mm) |
| | wear limit organic | .min. 2.50 mm |
| Camshaft | diameter of bearing bolt (needle bearing) | .min. 19.97 mm |
| Transmission shafts | axial play | .0.10 - 0.40 mm |