

## TECHNICAL DATA – ENGINE S5-E, S5-GS '99

Engine	S5-E (Adventure)	S5-GS (Pro Junior, Pro Senior)
Design	<i>air cooled single cylinder 2-stroke engine</i>	<i>air cooled single cylinder 2-stroke engine with reed valve inlet</i>
Displacement	49.8 ccm	
Bore/Stroke	39 / 41.7 mm	
Compression ratio	9 : 1	
Fuel	<i>SUPER fuel, research octane no 95, mixed with 2-stroke oil</i>	
Oil/gasoline ratio	<i>1 : 50 when using high grade 2-stroke oil (Shell Advance Racing X), When in doubt, please contact your importer or use 1 : 33 mix ratio to be on the safe side</i>	
Lubrication	<i>mixture lubrication</i>	
Crankshaft bearing	<i>2 grooved ball bearing</i>	
Connecting rod bearing	<i>needle bearing</i>	
Piston pin bearing	<i>needle bearing</i>	
Piston rings	<i>1 L-ring, 1 rectangular ring</i>	<i>2 rectangular ring</i>
Primary drive	<i>helical gears, 15 : 52 t, cast</i>	<i>helical gears, 15 : 52 t, milled</i>
Transmission oil	0.25 l SAE 30	
Spark plug	Bosch W 4 AC	
Electrode gap	0.6 mm	
Carburetor	<i>DellOrto SHA 1412</i>	<i>Pro JuniorUSA: Mikuni VM 16-519 / Pro Senior: Mikuni VM 18-144 Pro Senior: Mikuni VM 20-364</i>
Air filter	<i>wet foam type air filter insert</i>	

<i>TOLERANCES AND FITTING CLEARANCES</i>			
<i>Engine</i>		<i>S5-E</i>	<i>S5-GS</i>
<i>Crankshaft</i>	<i>run out of crank stud</i>	<i>max. 0.050 mm</i>	<i>max. 0.050 mm</i>
<i>Conrod bearing</i>	<i>radial play</i>	<i>max. 0.022 mm</i>	<i>max. 0.022 mm</i>
	<i>axial play</i>	<i>max. 0.045 mm</i>	<i>max. 0.045 mm</i>
<i>Cylinder</i>	<i>diameter bore</i>	<i>max. 39.026 mm</i>	<i>max. 39.024 mm</i>
<i>Piston</i>	<i>fitting clearance</i>	<i>max. 0.070 mm</i>	<i>max. 0.028 mm</i>
<i>Piston ring</i>	<i>piston ring end gap</i>	<i>max. 0.55 mm</i>	<i>max. 0.55 mm</i>

<i>TIGHTENING TORQUES - ENGINE</i>			
<i>Hexagon nut primary gear</i>	<i>M 12x1,25</i>		<i>40 Nm (30 ft.lb)</i>
<i>Hexagon nut flywheel</i>	<i>M 8</i>		<i>35 Nm (25 ft.lb)</i>
<i>Nut for clutch hub</i>	<i>M 10</i>	<i>Loctite 242 +</i>	<i>35 Nm (25 ft.lb)</i>
<i>Nuts cylinder head</i>	<i>M 6</i>		<i>12 Nm (8 ft.lb)</i>
<i>Nuts exhaust pipe</i>	<i>M 6</i>		<i>12 Nm (8 ft.lb)</i>
<i>Oil drain plug</i>	<i>M 8</i>		<i>15 Nm (10 ft.lb)</i>
<i>Other screws engine</i>	<i>M 5</i>		<i>7 Nm (5 ft.lb)</i>
	<i>M 6</i>		<i>10 Nm (7 ft.lb)</i>

<i>BASIC CARBURETOR SETTING</i>				
<i>Type</i>	<i>Dell'Orto SHA 1412L</i>	<i>Mikuni VM 16-519</i>	<i>Mikuni VM 18-144</i>	<i>Mikuni VM 20-364</i>
<i>Main jet</i>	<i>60</i>	<i>70</i>	<i>70</i>	<i>110</i>
<i>Needle jet</i>	<i>--</i>	<i>0-8</i>	<i>145</i>	<i>N-6</i>
<i>Idling jet</i>	<i>--</i>	<i>25</i>	<i>30</i>	<i>30</i>
<i>Jet needle</i>	<i>--</i>	<i>3DS3-3</i>	<i>4F18-4</i>	<i>4J13-3</i>
<i>Needle position from top</i>	<i>--</i>	<i>3rd</i>	<i>4th</i>	<i>3rd</i>
<i>Mixt. reg. screw open</i>	<i>--</i>	<i>2,0 turn</i>	<i>1,5 turn</i>	<i>1.5 turn</i>
<i>Throttle valve</i>	<i>--</i>	<i>2,5</i>	<i>1</i>	<i>2</i>