

SPECIFICATIONS

Model Numbers	65ES72 (standard length) 65ESL72 (5" longer)
*Horsepower (B.I.A.-certified)	65 hp at 5000 rpm
Full throttle operating range	4500 to 5500 rpm
Tank test with test wheel Part Number 382861	5200 rpm
Engine type	2 cycle, 3 cylinders in line
Bore and stroke	3" bore x 2-11/32" stroke
Piston displacement	49.7 cubic inches
Piston ring sets (2 per set) standard	Part Number 384250
.020" oversize	Part Number 384247
.030" oversize	Part Number 384300
Diameter of ring	3.000 in. (standard)
Width of ring	Upper, .0900 - .0895 in. Lower, .0625 - .0615 in.
Piston ring lbs. compression recommended when compressed	Upper, 2.5 lbs. Lower, 4 to 8 lbs.
Piston with rings	
Standard	Part Number 384683
.020" oversize	Part Number 384685
.030" oversize, without rings	Part Number 384686
Crankshaft size	
Top journal	1.4979 - 1.4974 in.
Center journals	1.3752 - 1.3748 in.
Bottom journal	1.1815 - 1.1810 in.
Connecting rod crank pin	1.1828 - 1.1823 in.
Carburetion	3 carburetors - Float feed with low-speed adjustment. Automatic, thermo electric manual lever and remote control choke
Float level setting	Remove float bowl, turn it upside down so weight of float closes needle; float should now be parallel to and 1/16" above surface of gasket
Carburetor orifice plug	Part Number 317646 - Hole size .054"
Inlet needle seat	.065 - .062 Use a #52 drill as gage.
Cooling system	Pressure and Thermostatically controlled system
Propeller gear ratio	12:29
Propeller supplied with motor	(Aluminum) 3 blade, 13" dia. x 19" pitch
Alternate propellers	(Aluminum) 3 blade, 14" dia. x 9" pitch (Aluminum) 3 blade, 14" dia. x 11" pitch (Aluminum) 3 blade, 14" dia. x 13" pitch (Aluminum) 3 blade, 13-3/4" dia. x 15" pitch (Aluminum) 3 blade, 13-1/4" dia. x 17" pitch (Aluminum) 3 blade, 12-3/4" dia. x 21" pitch (Aluminum) 3 blade, 12-3/4" dia. x 23" pitch (Bronze) 2 blade, 13-3/4" dia. x 21" pitch (Bronze) 2 blade cupped, 13-3/4" dia. x 21" pitch (Bronze) 2 blade cupped, 13-3/4" dia. x 23" pitch (Stainless steel) 3 blade, 13" dia. x 19" pitch (Stainless steel) 3 blade, 12-3/4" dia. x 21" pitch (Stainless steel) 3 blade, 12-3/4" dia. x 23" pitch (Stainless steel) 3 blade, 13-3/8" dia. x 17" pitch
Speed control	Remote control - synchronized throttle and spark
Gear shift control	Electric - Hydraulic - forward, neutral, reverse - remote control
Weight (without fuel tank)	Model 65ES72 - 201 lbs. Model 65ESL72 - 208 lbs. (Fuel tank weight 11 lbs. net)
Fuel capacity	6 gallons
Starter	Electric and emergency rope
Electrical system	6 amp alternating current generator
Starter amp draw when cranking	American Bosch 120 amperes or Prestolite, 135 amperes
Ignition Magneto Breakerless CD	Magneto
Spark plug	ACVB40FFM or Champion UL77V
Spark plug torque	17-1/2 - 20-1/2 foot-pounds
Shift solenoid resistance - lo ohms scale	5-6 ohms
Sensor Air Gap	Fixed

Coil Test Specifications

Part No. 580821 New Stevens Tester Model No. M.A.-75

Switch	Coil	Index Adjustment
**A	580821	20
Merc-O-Tronic with Capacitor Discharge Adapter Model 55-980		
Operating Amperage	Primary Resistance	Secondary Continuity
Min. - Max.	Min. - Max.	Min. - Max.
1.4		22 - 26

*Horsepower established at sea level. Allow 2% reduction per 1000' above sea level.

**Use Model CD-1 Adapter

Graham Tester Model 51


Secondary Continuity	3000 ohms maximum
Primary Continuity	1.2 ohms maximum
Coil Index	60
Coil Test (Normal)	9 minimum
Coil Test (Amplified)	80 minimum
Gap Index	50 maximum

CLEARANCE CHART

Power head	
Piston and wrist pin - loose end0005 max. - .0000 min.
Piston ring gap017 max. - .007 min.
Piston ring groove clearance0040 max. - .0015 min.
Cylinder and piston0050 max. - .0035 min.
Crankshaft bearings	
Upper	Roller type
Center	Needle type
Lower	Ball type
Crankshaft end play0165 max. - .0006 min.
Connecting rod bearings	
Piston end	Needle bearing
Crankshaft end	Roller type
Lower unit	
Gearcase head and propeller shaft	Roller type
Driveshaft to gearcase - upper	Roller type
Pinion to gearcase	Roller type
Propeller shaft to oil pump	Roller type
Front gear bushing to propeller shaft002 max. - .001 min.
Propeller on shaft	spline

TORQUE CHART

Power head	
Flywheel nut	100-105 ft.-lbs.
Connecting rod screws	348-372 in.-lbs. (29-31 ft.-lbs.)
**Cylinder head screws	168-192 in.-lbs. (14-16 ft.-lbs.)
Crankcase to cylinder screws and nuts	
Upper	144-168 in.-lbs. (12-14 ft.-lbs.)
Center	144-168 in.-lbs. (12-14 ft.-lbs.)
Lower	144-168 in.-lbs. (12-14 ft.-lbs.)
Spark plugs	17-1/2-20-1/2 ft.-lbs.
Stator screws	48-60 in.-lbs.
Lower journal bearing head screws	96-120 in. lbs.
Pinion nut, driveshaft	40-45 ft.-lbs.
Starter through bolts - American Bosch	80-90 in. lbs.
Starter drive assembly lock nut - American Bosch	20-25 ft.-lbs.
Starter through bolts - Prestolite	70-80 in.-lbs.
Starter drive assembly locknut - Prestolite	25-30 ft.-lbs.
**Retorque to 16-18 ft. lbs. or 192-216 in. lbs. after motor test	

 NOTE

When tightening two or more screws on the same part, DO NOT tighten screws completely, one at a time. To avoid distortion of the part, first tighten all screws together to one-third of specified torque, then to two-thirds of specified torque, then torque down completely. Retorque cylinder head screws and spark plugs after motor has been run and has reached operating temperature, and has cooled comfortable to touch.