

**SPECIFICATIONS**

Model Numbers . . . . .	85ESL71 (20" transom)
*Horsepower (B.I.A.-certified) . . . . .	85 hp at 5000 rpm
Full throttle operating range . . . . .	4500 to 5500 rpm
Tank test with test wheel Part Number 384199 . . . . .	4800 rpm
Engine type . . . . .	90° V-type, 4-cylinder, 2 cycle
Bore and stroke . . . . .	3-3/8" bore x 2-19/32" stroke
Piston displacement . . . . .	92.6 cubic inches
Piston ring sets (3 per set) standard . . . . .	Part Number 382825
.020" oversize . . . . .	Part Number 382826
.030" oversize . . . . .	Part Number 384384
Diameter of ring . . . . .	3.375 in. (standard)
Width of ring . . . . .	.0935 - .0925 in.
Piston ring lbs. compression recommended when compressed . . . . .	9.7 to 14.5 lbs.
Piston less rings	
Standard . . . . .	Part Number 383674
.020" oversize . . . . .	Part Number 383697
.030" oversize . . . . .	Part Number 384383
Crankshaft size	
Top journal . . . . .	1.4980 - 1.4975 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 . . . . .	2 carburetors - Float feed with low-speed adjustment Automatic, manual lever and remote control choke
Float level setting . . . . .	Remove float bowl, turn carburetor upside down so weight of float closes needle; float should now be parallel to gasket surface.
Carburetor orifice plug . . . . .	Part Number 317021 Hole size .057 in.
Inlet needle seat . . . . .	.065 - .062 Use a #52 drill as gage
Cooling system . . . . .	Thermostatically controlled recirculating system
Propeller gear ratio . . . . .	13:26
Propeller supplied	
with motor . . . . .	Aluminum 3 blade, 13-1/4" dia. x 17" pitch
Alternate propellers . . . . .	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" dia. x 19" 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
Speed control . . . . .	Remote control - synchronized throttle and spark
Gear shift control . . . . .	Hydro-Electric - forward neutral, reverse - remote control
Shift solenoids . . . . .	5-6 ohms (10 ohms scale)
Weight (without fuel tank). . . . .	252 lbs. (Fuel tank weight 11 lbs. net)
Fuel capacity . . . . .	6 gallons
Starter . . . . .	Electric and emergency rope
Electrical system . . . . .	9 amp flywheel alternator
Starter amp draw when cranking . . . . .	185 amperes maximum
Ignition (CD with breaker points) . . . . .	Battery - Power Pulse
Spark plug . . . . .	Champion L-77V
Spark plug torque . . . . .	17-1/2 - 20-1/2 foot-pounds
Breaker point gap . . . . .	.010 in.
Breaker point spring tension . . . . .	28 - 32 oz.

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

Switch	Coil	Index Adjustment
**A - - - - -	580740 - - - - -	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

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 end	.0006 max. - .0001 min.
Piston ring gap	.017 max. - .007 min.
Piston ring groove clearance	.007 max. - .0045 min.
Cylinder and piston	.004 max. - .0025 min.
Crankshaft bearings	
Upper	Roller type
Center	Roller type
Lower	Ball type
Crankshaft end play	.0336 max. - .0006 min.
Connecting rod bearings	
Piston end	Roller type
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 shaft	.002 max. - .001 min.
Propeller on shaft	spline

TORQUE CHART

Power head	
Flywheel nut	70-85 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.
Center	162-168 in.-lbs.
Lower	144-168 in.-lbs.
Spark plugs	17-1/2-20-1/2 ft.-lbs.
Lower journal bearing retainer plate screws	96-120 in.-lbs.
Stator screws and distributor cap	48-60 in.-lbs.
Crankcase head screws	
Upper	120-144 in.-lbs. (10-12 ft.-lbs.)
Lower	96-120 in.-lbs. (8-10 ft.-lbs.)
Starter thru bolts	110-122 in.-lbs.
Starter drive assembly locknut	25-30 ft.-lbs.
Driveshaft pinion nut	60-65 ft.-lbs.
**Retorque to 18-20 ft.-lbs. or 216-240 in.-lbs. after motor test.	

**CAUTION**

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.