

**NOTE**

The recommended full power operating range for your outboard motor is from 4500 - 5500 R.P.M. In order to get the best performance from your outboard the upper end of this range, from 5000 - 5500 R.P.M., is the engine speed to use in selecting the proper propeller. The R.P.M. should be measured with your expected average load in the boat.

## SPECIFICATIONS

Model Numbers	85ESL74 (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 382861	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 385664
.020" oversize	Part Number 385665
.030" oversize	Part Number 385666
Diameter of ring	3.375 in. (standard)
Width of ring (upper)	.0900 - .0895 in.
(lower)	.0615 - .0625 in.
Piston ring lbs. compression recommended	
when compressed (upper)	1.0 - 3.0 lbs.
(lower)	3.3 - 4.9 lbs.
Piston less rings	
Standard	Part Number 385478
.020" oversize	Part Number 385571
.030" oversize	Part Number 385572
Crankshaft size	
Top journal	1.6204 - 1.6199
Center journals	1.3752 - 1.3748
Bottom journal	1.3784 - 1.3779
Connecting rod crank pin	1.3752 - 1.3747
Carburetion	2 carburetors - Float feed with fixed high and low-speed 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 high speed orifice plug	Part Number 317021 Hole size .057 in.
Carburetor low speed orifice plug	Part Number 317646 Hole size .067 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, 13-3/4" dia. x 15" pitch
	Stainless steel 3 blade, 13-1/4" dia. x 17" 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	POWERSHIFT II - forward, neutral, reverse - remote control
Weight (without fuel tank)	267 lbs.
	(Fuel tank weight 11 lbs. net)
Fuel capacity	6 gallons
Starter	Electric and emergency rope
Starter amp draw when cranking (Prestolite)	180 amps maximum
(Bosch)	160 amps maximum
Starter RPM	250 RPM for ignition
Generator system	6 ampere flywheel alternator
Ignition (Magneto breakerless C.D.)	Power Pack
Spark plug	Champion UL-77V
Spark plug torque	17-1/2" - 20-1/2" foot-pounds
Sensor air gap	.Fixed
Coil	Part Number 581032

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

**COIL TEST SPECIFICATIONS**

No. M.A. - 75	Stevens Tester Model
Switch	Coil
**A - - - - -	581032 - - - - -
	Index Adjustment
	20

\*\*Use Model CD-1 Adapter

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	.0040 max. - .0020 min.
Cylinder and piston skirt	.0045 max. - .0025 min.
Crankshaft bearings	
Upper	Roller type
Center	Roller type
Lower	Ball type
Crankshaft end play	.0347 max. - .0017 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	100-105 ft.-lbs.
Connecting rod screws	348-372 in.-lbs. (29-31 ft.-lbs.)
Cylinder head screws	168-182 in.-lbs. (14-16 ft.-lbs.)
Crankcase to cylinder screws and nuts	
Upper	216-240 in.-lbs. (18-20 ft.-lbs.)
Center	216-240 in.-lbs. (18-20 ft.-lbs.)
Lower	216-240 in.-lbs. (18-20 ft.-lbs.)
Spark plugs	17-1/2-20-1/2 ft.-lbs.
Lower journal bearing retainer plate screws	96-120 in.-lbs.
Stator screws	120-144 in.-lbs. (10-12 ft.-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 (Prestolite)	110-122 in.-lbs.
(Bosch)	90-105 in.-lbs.
Starter drive assembly locknut (Prestolite)	25-30 ft.-lbs.
(Bosch)	20-25 ft.-lbs.
Driveshaft pinion nut	60-65 ft.-lbs.
Pivot shaft nut	130-150 ft. lbs.

**COIL  
OHMMETER TEST**

Primary Low Ohms	Secondary High Ohms
.015 ± .005	2200 ± 500

**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 to one-third of specified torque, then to two-thirds of specified torque, then torque down completely.

**STANDARD SCREWS**

Size	In.-Lbs.*	Ft.-Lbs.*
No. 6	7-10	
No. 8	15-22	
No. 10	25-35	2-3
No. 12	35-40	3-4
1/4"	60-80	5-7
5/16"	120-140	10-12
3/8"	220-240	18-20
7/16"	340-360	28-30

\*These Torque Values apply unless otherwise specified.