

**SPECIFICATIONS**

|  |  |
|--|--|
| Model Numbers . . . . .  | 60ES71 (standard length)<br>60ESL71 (5" longer)  |
| *Horsepower (B.I.A.-certified) . . . . .                             | 60 hp at 5000 rpm  |
| Full throttle operating range . . . . .                              | 4500 to 5500 rpm   |
| Tank test with test wheel Part Number 382861 . . . . .               | 4800 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.<br>Lower, .0625 - .0615 in.   |
| Piston ring lbs. compression<br>recommended when compressed. . . . . | Upper, 2.5 lbs.<br>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.<br>Automatic, thermo electric manual lever and remote control choke  |
| Float level setting . . . . .  | Remove float bowl, turn it upside down so weight<br>of float closes needle; float should now be<br>parallel to and 1/16" above surface of gasket   |
| Carburetor orifice plug . . . . .                                    | Part Number 205880 - Hole size .057"   |
| Inlet needle seat . . . . .  | .065 - .062 Use a #52 drill as gage.   |
| Cooling system . . . . .   | Thermostatically controlled recirculating system   |
| Propeller gear ratio . . . . .                                       | 12:29  |
| Propeller supplied with motor . . . . .                              | (Aluminum) 3 blade, 13-1/4" dia. x 17" pitch   |
| Alternate propellers . . . . .                                       | (Aluminum) 3 blade, 14" dia. x 9" pitch<br>(Aluminum) 3 blade, 14" dia. x 11" pitch<br>(Aluminum) 3 blade, 14" dia. x 13" pitch<br>(Aluminum) 3 blade, 13-3/4" dia. x 15" pitch<br>(Aluminum) 3 blade, 13" dia. x 19" pitch<br>(Aluminum) 3 blade, 12-3/4" dia. x 21" pitch<br>(Aluminum) 3 blade, 12 3/4" dia. x 23" pitch<br>(Bronze) 2 blade, 13-3/4" dia. x 21" pitch<br>(Bronze) 2 blade cupped, 13-3/4" dia. x 21" pitch<br>(Bronze) 2 blade cupped, 13-3/4" dia. x 23" pitch<br>(Stainless steel) 3 blade, 13" dia. x 19" pitch<br>(Stainless steel) 3 blade, 12 3/4" dia. x 21" pitch<br>(Stainless steel) 3 blade, 12 3/4" dia. x 23" pitch |
| Speed control . . . . .  | Remote control - synchronized throttle and spark   |
| Gear shift control . . . . .   | Electric - Hydraulic - forward,<br>neutral, reverse - remote control   |
| Weight (without fuel tank). . . . .                                  | Model 60ES71 - 207 lbs.<br>Model 60ESL71 - 212 lbs.<br>(Fuel tank weight 11 lbs. net)  |
| Fuel capacity . . . . .  | 6 gallons  |
| Starter . . . . .  | Electric and emergency rope  |
| Electrical system . . . . .  | 9 amp alternating current generator  |
| Starter amp draw when cranking. . . . .                              | Prestolite, 135 amperes maximum  |
| Ignition (CD with breaker points) . . . . .                          | Battery  |
| Spark plug . . . . .   | Champion L77V  |
| Spark plug torque . . . . .  | 17-1/2 - 20-1/2 foot-pounds  |
| Breaker point gap . . . . .  | .010 in.   |
| Breaker point spring tension . . . . .                               | 28 - 32 oz.  |
| Shift solenoid resistance - lo ohms scale . . . . .                  | 5-6 ohms   |
| Part No. 580847 Coil Test Specifications                             |  |

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

|   |                    |                      |
|---|--------------------|----------------------|
| Switch  | Coil               | Index Adjustment     |
| **A - - - - -   | 580847 - - - - -   | 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 end .....      | .0005 max. - .0000 min. |
| Piston ring gap .....                       | .017 max. - .007 min.   |
| Piston ring groove clearance .....          | .0040 max. - .0015 min. |
| Cylinder and piston .....                   | .0050 max. - .0035 min. |
| Crankshaft bearings                         |                         |
| Upper .....                                 | Roller type             |
| Center .....                                | Roller type             |
| Lower .....                                 | Ball type               |
| Crankshaft end play .....                   | .0156 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 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. (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.            |
| Distributor cap and stator screws .....                           | 48-60 in.-lbs.                    |
| Lower journal bearing retainer plate screws .....                 | 96-120 in.-lbs.                   |
| Pinion nut, driveshaft .....                                      | 40-45 ft.-lbs.                    |
| Starter through bolts .....                                       | 54-66 in.-lbs.                    |
| Starter drive assembly lock nut .....                             | 25-30 ft.-lbs.                    |
| **Retorque to 16-18 ft. lbs. or 192-216 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.

**NOTE**

Retorque cylinder head screws and spark plugs after motor has been run and has reached operating temperature, and has cooled comfortable to touch.