

Specifications - 65

65

General

Full Throttle Operating Range	4500 - 5500
Idle rpm in Forward Gear	750 rpm
Test Wheel and rpm	Part No. 386665 (11-3/16" dia. x 1-27/32" wide) 5000 rpm

Powerhead

Bore and Stroke	76,20 mm x 59,53 mm (3.000" Bore x 2.3437" Stroke)
Piston Displacement	814 cm ³ (49.7 cu. in.)
Width of Ring	
Upper	2,286 - 2,273 mm (0.0900" - 0.0895")
Lower	1,588 - 1,562 mm (0.0625" - 0.0615")
Crankshaft Size	
Top Journal	38,047 - 38,034 mm (1.4979" - 1.4974")
Center Journal	34,930 - 34,920 mm (1.3752" - 1.3748")
Bottom Journal	30,110 - 29,997 mm (1.1815" - 1.1810")
Connecting Rod Crankpin	30,043 - 30,030 mm (1.1828" - 1.1823")
+Standard Bore Size	76,213 - 76,187 mm (2.9995 - 3.0005")

+To determine correct bore size for oversize pistons, merely add oversize dimension to standard bore size.

Ignition System

Ignition	Flywheel magneto, breakerless C.D.
Spark Plug	
Champion	L77J4 or QL77J4
Spark Plug Gap	1,0 mm (0.040")
Ignition Coil	Part No. 582366 or 582106
RPM Limiter Powerpack	Part No. 582556 (5700 rpm)

Ignition Coil Test Specifications - Part No. 582366 or 582106

Stevens Model ST-75	Primary Resistance	0.1
Reverse Polarity (Switch Setting CD)	Secondary Continuity	5 approx.
Stevens Tester Model M.A.-75 or M.A.-80	Graham Tester Model 51	
Switch	Maximum Secondary	400 ohms
A (Use Model CD-1 Adapter - Red test clip to orange/black - Black test clip to orange)	Maximum Primary	0.4 ohm
Index Adjustment	Primary Continuity, Point Test Scale	0.1 ohm max.
20	Coil Index	50
Merc-O-Tronic with Capacitor Discharge Adapter Model 55-980	Coil Test Minimum AMPLIFIED	26 (With secondary circuit "open")
Operating Amperage	Hi tension lead disconnected	
1.0	Gap Index	50 (Coil must fire spark gap on tester at this setting)

Ignition Component Tests - 65 Models

	Resistance		Ground Test		Output (Cranking)	
	Meter Setting	Reading	Meter Setting	Reading	Meter Setting	Reading
Charge coil	High ohms scale	550 ± 75 Ω	High ohms scale	∞	(-), 500	220
Sensor coil	Low ohms scale	17 ± 5 Ω	Low ohms scale	∞	S, 5	0,4
Power pack					(-), 500	230
Ignition coil primary	Low ohms scale	0,1 ± 0,05 Ω				
Secondary	High ohms scale	275 ± 50 Ω				

Electrical System

65

Alternator 6 amp-Flywheel alternator
 Engine Fuse 20 amp - Littlefuse 1A.G. or Buss A.G.A.
 Power Tilt Fuse 40 amp - Buss A.G.U. -40

Fuel System

Carburetion Single barrel, float feed, fixed low* and high speed jets, primer starting system
 Float Level Setting Between steps on gauge Part No. 324891
 Float Drop Setting 28 - 41 mm (1.125" - 1.625")
 * Low speed needle is factory calibrated.

Clearance Chart

Piston Ring Gap 0,43 - 0,18 mm (0.017" - 0.007")
 Piston Ring Groove Clearance - Lower 0,102 - 0,038 mm (0.0040" - 0.0015")
 Cylinder and Piston 0,140 - 0,114 mm (0.0055" - 0.0045")

Torque Chart

Flywheel Nut 135 - 140 N·m (100 - 105 ft. lbs.)
 Connecting Rod Screws 40 - 42 N·m (29 - 31 ft. lbs.)
 Cylinder Head Screws 24 - 27 N·m (18 - 20 ft. lbs.)
 Crankcase to Cylinder Main Bearing Screws and Nuts
 Upper, Center, Bottom 24 - 27 N·m (18 - 20 ft. lbs.)
 Spark Plugs 24 - 27 N·m (18 - 21 ft. lbs.)
 Stator Screws 5 - 7 N·m (48 - 60 in. lbs.)
 Lower Journal Bearing Head Screws 11 - 14 N·m (96 - 120 in. lbs.)
 Driveshaft Pinion Nut 54 - 60 N·m (40 - 45 ft. lbs.)
 Starter Motor Thru-Bolts
 Prestolite 12 - 14 N·m (110 - 122 in. lbs.)
 Bosch 11 - 12 N·m (90 - 105 in. lbs.)
 Starter Motor Pinion Nut
 Prestolite 34 - 40 N·m (25 - 30 ft. lbs.)
 Bosch 27 - 34 N·m (20 - 25 ft. lbs.)
 Power Pack Mounting Screws 5 - 7 N·m (48 - 60 in. lbs.)
 Ignition Coil Mounting Screws 5 - 7 N·m (48 - 60 in. lbs.)
 Pivot Shaft Nut 180 - 200 N·m (130 - 150 ft. lbs.)
 Gearcase Mounting Screws 24 - 27 N·m (18 - 20 ft. lbs.)
 Exhaust Housing to Powerhead Screws 24 - 27 N·m (18 - 20 ft. lbs.)

Specifications - 100 and 155

General

100

155

Full Throttle Operating Range	4500 - 5500 rpm	4500 - 5500 rpm
Idle rpm in Forward Gear	650 rpm	650 rpm
Test Wheel and rpm	Part No. 387388 (11-1/8" dia. x 2-1/4" wide) 4800 rpm	Part No. 392622 (11-5/32" dia. x 2-1/2" wide) 4500 rpm

Powerhead

Bore and Stroke	88,90 mm x 65,74 mm (3.500" Bore x 2.588" Stroke)	88,90 mm x 65,74 mm (3.500" Bore x 2.588" Stroke)
Piston Displacement	1632 cm ³ (99.6 cu. in.)	2448 cm ³ (149.4 cu. in.)
Width of Ring		
Upper	2,273 - 2,286 mm (0.0895" - 0.0900")	2,273 - 2,286 mm (0.0895" - 0.0900")
Lower	1,562 - 1,588 mm (0.0615" - 0.0625")	1,562 - 1,588 mm (0.0615" - 0.0625")
Crankshaft Size		
Top Journal	41,158 - 41,145 mm (1.6204" - 1.6199")	41,158 - 41,145 mm (1.6204" - 1.6199")
Center Journal(s)	55,563 - 55,550 mm (2.1875" - 2.1870")	55,563 - 55,550 mm (2.1875" - 2.1870")
Bottom Journal	35,011 - 34,999 mm (1.3784" - 1.3779")	35,011 - 34,999 mm (1.3784" - 1.3779")
Connecting Rod Crankpin	34,955 - 34,943 mm (1.3762" - 1.3757")	34,955 - 34,943 mm (1.3762" - 1.3757")
+Standard Bore Size	88,887 - 88,913 mm (3.4995" - 3.5005")	88,887 - 88,913 mm (3.4995" - 3.5005")

+To determine correct bore size for oversize pistons, merely add oversize dimension to standard bore size.

Ignition System

Ignition	Flywheel magneto, breakerless C.D.	Flywheel magneto, breakerless C.D.
Spark Plug		
Champion	L78V or QL78V	UL77V or QUL77V
Ignition Coil	Part No. 582366 or 582106	Part No. 582366 or 582106
RPM Limiter Powerpack	Part No. 582684 (5700 rpm)	Part No. 582556 (5700 rpm)

Ignition Coil Test Specifications - Part No. 582366 or 582106

Stevens Model ST-75	Primary Resistance	0.1
Reverse Polarity (Switch Setting CD) 1.1	Secondary Continuity	5 approx.
Stevens Tester Model M.A.-75 or M.A.-80	Graham Tester Model 51	
Switch A (Use Model CD-1 Adapter - Red test clip to orange/black - Black test clip to orange)	Maximum Secondary	400 ohms
Index Adjustment 20	Maximum Primary	0.4 ohm
Merc-O-Tronic with Capacitor Discharge Adapter Model 55-980	Primary Continuity, Point Test Scale	0.1 ohm max.
Operating Amperage 1.0	Coil Index	50
	Coil Test Minimum AMPLIFIED	26 (With secondary circuit "open") Hi tension lead disconnected
	Gap Index	50 (Coil must fire spark gap on tester at this setting)

Ignition Component Tests - 100

	Resistance		Ground Test		Output (Cranking)	
	Meter Setting	Reading	Meter Setting	Reading	Meter Setting	Reading
Charge coil	High ohms scale	560 ± 75 Ω	High ohms scale	∞	(-), 500	160
Sensor coil	Low ohms scale	40 ± 10 Ω	Low ohms scale	∞	S, 5	0,3
Power pack	—	—	—	—	(-), 500	160
Ignition coil primary	Low ohms scale	0,1 ± 0,05 Ω				
Secondary	High ohms scale	275 ± 50 Ω				

Ignition Component Tests - 155

	Resistance		Ground Test		Output	
	Meter Setting	Reading	Meter Setting	Reading	Meter Setting	Reading
Charge coil	High ohms scale	550 ± 75 Ω	High ohms scale	∞	(-), 500	160
Sensor coil	Low ohms scale	17 ± 5 Ω	Low ohms scale	∞	S, 5	0,25
Power pack	—	—	—	—	(-), 500	170
Ignition coil primary	Low ohms scale	0,1 ± 0,05 Ω				
Secondary	Hi ohms scale	275 ± 50 Ω				

Electrical System

100

155

Alternator	10 amp-Regulated flywheel alternator	35 amp-Regulated flywheel alternator (6 amp WM models)
Engine Fuse	20 amp-Littlefuse 1A.G. or Buss A.G.A.	20 amp-Littlefuse 1A.G. or Buss A.G.A.
Trim and Tilt Fuse	30 amp-Littlefuse 1A.G.-30 or Buss A.G.A.-30	30 amp-Littlefuse 1A.G.-30 or Buss A.G.A.-30

Fuel System

Carburetion	2 Dual throat carburetors, fixed low and high speed jets, primer starting system	3 Dual throat carburetors, fixed low and high speed jets, primer starting system
Float Level Setting	Between notches on gauge (Part No. 324891)	Between notches on gauge (Part No. 324891)
Float Drop Setting	22 - 28 mm (0.88" - 1.125")	22 - 28 mm (0.88" - 1.125")

Clearance Chart

Piston Ring Gap	0,43 - 0,18 mm (0.017" - 0.007")	0,43 - 0,18 mm (0.017" - 0.007")
Piston Ring Groove Clearance	0,102 - 0,51 mm (0.0040" - 0.0020")	0,102 - 0,51 mm (0.0040" - 0.0020")
Cylinder and Piston	0,190 - 0,114 mm (0.0075" - 0.0045")	0,190 - 0,114 mm (0.0075" - 0.0045")
Crankshaft End Play	0,28 - 0,20 mm (0.011" - 0.008")	0,28 - 0,20 mm (0.011" - 0.008")

Torque Chart

Flywheel Nut	135 - 140 N·m (100 - 105 ft. lbs.)	190 - 200 N·m (140 - 145 ft. lbs.)
Connecting Rod Screws	40 - 42 N·m (29 - 31 ft. lbs.)	40 - 42 N·m (29 - 31 ft. lbs.)
Cylinder Head Screws	24 - 27 N·m (18 - 20 ft. lbs.)	24 - 27 N·m (18 - 20 ft. lbs.)
Crankcase to Cylinder Main Bearing Screws and Nuts		
Upper, Center, Bottom	24 - 27 N·m (18 - 20 ft. lbs.)	24 - 27 N·m (18 - 20 ft. lbs.)
Power Pack Mounting Screws	5 - 7 N·m (48 - 60 in. lbs.)	5 - 7 N·m (48 - 60 in. lbs.)
Ignition Coil Mounting Screws	5 - 7 N·m (48 - 60 in. lbs.)	5 - 7 N·m (48 - 60 in. lbs.)
Spark Plugs	24 - 27 N·m (18 - 21 ft. lbs.)	24 - 27 N·m (18 - 21 ft. lbs.)
Lower Journal Bearing Retainer Plate Screws	11 - 14 N·m (96 - 120 in. lbs.)	11 - 14 N·m (96 - 120 in. lbs.)
Stator Screws	14 - 16 N·m (10 - 12 ft. lbs.)	14 - 16 N·m (10 - 12 ft. lbs.)
Crankcase Head Screws		
Upper	14 - 16 N·m (10 - 12 ft. lbs.)	8 - 11 N·m (6 - 8 ft. lbs.)
Lower	11 - 14 N·m (8-10 ft. lbs.)	8 - 11 N·m (6 - 8 ft. lbs.)
Starter Motor Thru-Bolts		
Bosch	10 - 12 N·m (90 - 105 in. lbs.)	10 - 12 N·m (90 - 105 in. lbs.)
Starter Motor Pinion Nut		
Bosch	27 - 34 N·m (20 - 25 ft. lbs.)	27 - 34 N·m (20 - 25 ft. lbs.)
Driveshaft Pinion Nut	80 - 90 N·m (60 - 65 ft. lbs.)	80 - 90 N·m (60 - 65 ft. lbs.)
Pivot Shaft Nut	180 - 200 N·m (130 - 150 ft. lbs.)	180 - 200 N·m (130 - 150 ft. lbs.)
Exhaust Housing to Powerhead Screws	16 - 19 N·m (12 - 14 ft. lbs.)	16 - 19 N·m (12 - 14 ft. lbs.)
Gearcase Mounting Screws		
3/8"	30 - 33 N·m (22 - 24 ft. lbs.)	38 - 41 N·m (28 - 30 ft. lbs.)
7/16"	41 - 43 N·m (30 - 32 ft. lbs.)	65 - 70 N·m (48 - 52 ft. lbs.)