

Specifications - 2 and 4

General

2

4

Full Throttle Operating Range	4500 - 5500 rpm	4500 - 5500 rpm
Idle rpm in Forward Gear	650 rpm	600 rpm
Test Wheel and rpm	Part No. 316021 (4-9/16" dia. x 5/8" wide) 3900 rpm	Part No. 317738 (5-1/4" dia. x 11/16" wide) 4550 rpm

Powerhead

Bore and Stroke	39,69 mm x 34,93 mm (1,5625" Bore x 1,375" Stroke)	39,69 mm x 34,93 mm (1,5625" Bore x 1,375" Stroke)
Piston Displacement	43 cm ³ (2.64 cu. in.)	87 cm ³ (5.28 cu. in.)
Width of Ring	1,588 - 1,562 mm (0.0625" - 0.615")	1,588 - 1,562 mm (0.0625" - 0.615")
Crankshaft Size		
Top Journal	19,055 - 19,042 mm (0.7502" - 0.7497")	19,075 - 19,063 mm (0.7510" - 0.7506")
Center Journal		16,993 - 16,980 mm (0.6690" - 0.6685")
Bottom Journal	19,055 - 19,042 mm (0.7502" - 0.7497")	19,055 - 19,045 mm (0.7502" - 0.7498")
Connecting Rod Crank Pin	17,018 - 17,005 mm (0.6700" - 0.6695")	17,018 - 17,005 mm (0.6700" - 0.6695")
+Standard Bore Size	39,815 - 39,797 mm (1.5675" - 1.5668")	39,751 - 39,733 mm (1.5650" - 1.5643")

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

Ignition System

Ignition	Flywheel magneto	Flywheel magneto
Spark Plug		
Champion	J6J or RJ6J - 14 mm	L86 or RL86 - 14 mm
Spark Plug Gap	0,76 mm (0.030")	0,76 mm (0.030")
Breaker Point Gap	0,51 mm (0.020")	0,51 mm (0.020")
Condenser	Part No. 580321 - 0.18 - 0.22 Mfd.	Part No. 580321 - 0.18 - 0.22 Mfd.
Ignition Coil	Part No. 582931	Part No. 582931

Ignition Coil Test Specifications

Part No. 582931

Stevens Tester Model ST-75

Normal Polarity (Switch Setting Standard)	1.8
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Stevens Tester Model No. M.A. - 75 or 80

Switch	Index Adjustment
B	26

Merc-O-Tronic

Operating Amperage	Primary Resistance		Secondary Continuity		Secondary Resistance	
	Min.	Max.	Min.	Max.	Min.	Max.
1.3	0.7	1.1	50	60	6500	9000

Graham Tester Model 51

Maximum Secondary	Maximum Primary	Coil Index	Minimum Coil Test	Max. Gap Index
10,000	1.4	60	25	60

Coil Ohmmeter Test

Primary (Low Ohms)	0.9 Ω ± 0.2
Secondary (High Ohms)	8000 Ω ± 300

Fuel System

Carburetion	Single barrel float feed, with high and low speed adjustments, manual choke	Single barrel float feed, fixed high speed adjustable low speed, manual choke
Float Level Setting	Between steps on gauge Part No. 324891	Between steps on gauge part No. 324891
Float Drop Setting	28 - 38 mm (1.125" - 1.500")	28 - 38 mm (1.125" - 1.500")

Clearance Chart

Powerhead

Piston Ring Gap	0,64 - 0,38 mm (0.025" - 0.015")	0,38 - 0,13 mm (0.015" - 0.005")
Piston Ring Groove	0,10 - 0,05 mm (0.0040" - 0.0020")	0,10 - 0,05 mm (0.0040" - 0.0020")
Cylinder and Piston	0,140 - 0,109 mm (0.0055" - 0.0043")	0,076 - 0,046 mm (0.0030" - 0.0018")
Connecting Rod - Piston End	0,028 - 0,010 mm (0.0011" - 0.0004")	Needle Bearings

Gearcase

Driveshaft and Bushing in Gearcase	0,071 - 0,025 mm (0.0028" - 0.0010")	
Gearcase Head and Propeller Shaft	0,056 - 0,018 mm (0.0022" - 0.0007")	
Propeller on Shaft	0,145 - 0,056 mm (0.0057" - 0.0022")	0,170 - 0,056 mm (0.0067" - 0.0022")
Gearcase Bushing on Propeller Shaft	0,056 - 0,018 mm (0.0022" - 0.0007")	

Torque Chart

Powerhead

Flywheel Nut	30 - 34 N·m (20 - 25 ft. lbs.)	40 - 54 N·m (30 - 40 ft. lbs.)
Connecting Rod Screws	7,0 - 7,5 N·m (60 - 66 in. lbs.)	7,0 - 7,5 N·m (60 - 66 in. lbs.)
Cylinder Head Screws	7,0 - 9,0 N·m (60 - 80 in. lbs.)	7,0 - 9,0 N·m (60 - 80 in. lbs.)
Crankcase to Main Bearing Screws Upper, Center, Lower	7,0 - 9,0 N·m (60 - 80 in. lbs.)	7,0 - 9,0 N·m (60 - 80 in. lbs.)
Bearing Housing to Cylinder Screws	7,0 - 9,0 N·m (60 - 80 in. lbs.)	
Spark Plug	24 - 27 N·m (18 - 21 ft. lbs.)	24 - 27 N·m (18 - 21 ft. lbs.)
Gearcase Mounting Screws	7 - 9 N·m (60 - 80 in. lbs.)	7 - 9 N·m (60 - 80 in. lbs.)

Specifications - 4 Deluxe thru 8

General

4 Deluxe and 4.5

5, 6 and 8

Full Throttle Operating Range	4500 - 5500 rpm	5 and 6 - 4500 - 5500 rpm 8 - 5000 - 6000 rpm
Idle rpm in Forward Gear	600 rpm	650 rpm
Test Wheel and rpm	Part No. 390123 (5-3/4" dia. x 5/8" wide) 5100 rpm	Part No. 390239 (5-3/4" dia. x 1-1/8" wide) 4900 rpm

Powerhead

Bore and Stroke	39,69 mm x 34,93 mm (1.5625" Bore x 1.375" Stroke)	49,21 mm x 43,18 mm (1.9375" Bore x 1.700" Stroke)
Piston Displacement	87 cm ³ (5.28 cu. in.)	164 cm ³ (10.0 cu. in.)
Width of Ring	1,588 - 1,562 mm (0.0625" - 0.0615")	1,588 - 1,562 mm (0.0625" - 0.0615")
Crankshaft Size		
Top Journal	19,075 - 19,063 mm (0.7510" - 0.7505")	22,282 - 22,155 mm (0.87725" - 0.87225")
Center Journal	16,993 - 16,980 mm (0.6690" - 0.6685")	20,712 - 20,585 mm (0.81545" - 0.8104")
Bottom Journal	19,055 - 19,045 mm (0.7502" - 0.7498")	19,207 - 19,045 mm (0.7562" - 0.7498")
Connecting Rod Crank Pin	17,018 - 17,005 mm (0.6700" - 0.6695")	17,018 - 17,005 mm (0.6700" - 0.6695")
+Standard Bore Size	39,751 - 39,733 mm (1.5650" - 1.5643")	49,225 - 49,207 mm (1.9380" - 1.9373")

+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	L77J4 or QL77J4 - 14 mm	L77J4 or QL77J4 - 14 mm
Spark Plug Gap	1,0 mm (0.040")	1,0 mm (0.040")
Ignition Coil	Part No. 582106	Part No. 582106 or 582366
RPM Limiter Powerpack		Part No. 582864 (6200 rpm)

Electrical System

Alternator System		
Electric Start		4 amp flywheel alternator
Manual Start		60 watt AC at 12 V

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 APPLIED	26 (With secondary circuit "open") Hi tension lead disconnected
Operating Amperage	Gap Index	50 (Coil must fire spark gap on tester at this setting)
1.0		

Ignition Component Tests - 4 Deluxe thru 8

	Resistance		Ground Test		Output	
	Meter Setting	Reading	Meter Setting	Reading	Meter Setting	Reading
Charge coil	High ohms scale	575 ± 75 Ω	High ohms scale	∞	(-), 500	230
Sensor coil	Low ohms scale	40 ± 10 Ω	Low ohms scale	∞	S, 5	0,3
Power pack					(-), 500	180
Ignition coil primary	Low ohms scale	0,1 ± 0,05 Ω				
Secondary	High ohms scale	275 ± 50 Ω				

Fuel System

Carburetion	Single barrel, float feed, fixed high speed adjustable low speed, manual choke	Single barrel, float feed, fixed high speed adjustable low speed, manual choke
Float Level Setting	Between steps on gauge Part No. 324891	Between steps on gauge Part No. 324891
Float Drop Setting	28 - 32 mm (1.125" - 1.500")	28 - 32 mm (1.125" - 1.500")

Clearance Chart

Piston Ring Gap	0,38 - 0,127 mm (0.015" - 0.005")	0,38 - 0,127 mm (0.015" - 0.005")
Piston Ring Groove	0,102 - 0,051 mm (0.0040" - 0.0020")	0,089 - 0,051 mm (0.0035" - 0.0020")
Cylinder and Piston	0,076 - 0,046 mm (0.0030" - 0.018")	0,076 - 0,046 mm (0.0030" - 0.0018")

Torque Chart**Powerhead**

Flywheel Nut	40 - 54 N·m (30 - 40 ft. lbs.)	54 - 67 N·m (40 - 50 ft. lbs.)
Connecting Rod Screws	7,0 - 8,0 N·m (60 - 66 in. lbs.)	7,0 - 8,0 N·m (60 - 66 in. lbs.)
Cylinder Head Screws	7,0 - 9,0 N·m (60 - 80 in. lbs.)	16,0 - 19,0 N·m (12 - 14 ft. lbs.)
Crankcase to Main Bearing Screws		
Upper, Center, Lower	7,0 - 9,0 N·m (60 - 80 in. lbs.)	16,0 - 19,0 N·m (12 - 14 ft. lbs.)
Spark Plugs	24 - 27 N·m (18 - 21 ft. lbs.)	24 - 27 N·m (18 - 21 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.)

Gearcase

Gearcase Mounting Screws		
Front Screws	14 - 16 N·m (10 - 12 ft. lbs.)	14 - 16 N·m (10 - 12 ft. lbs.)
Rear Screws	7 - 9 N·m (60 - 80 in. lbs.)	7 - 9 N·m (60 - 80 in. lbs.)

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Specifications - 9.9 and 15

General

9.9 and 15

Full Throttle Operating Range	9.9-5000 - 6000 rpm 15-5500 - 7000 rpm
Idle rpm in Forward Gear	650 rpm
Test Wheel and rpm	Part No. 386537 (7" dia. x 1" wide) 9.9-5500 rpm 15-6200 rpm

Powerhead

Bore and Stroke	55,58 mm x 44,70 mm (2.188" Bore x 1.760" Stroke)
Piston Displacement	216 cm ³ (13.20 cu. in.)
Width of Ring	
Upper	1,788 - 1,765 mm (0.0700" - 0.0695")
Lower	1,562 - 1,588 mm (0.0615" - 0.0625")
Crankshaft Size	
Top Journal	22,255 - 22,243 mm (0.8762" - 0.8757")
Center Journal	20,638 - 20,625 mm (0.8125" - 0.8120")
Bottom Journal	20,638 - 20,625 mm (0.8125" - 0.8120")
Connecting Rod Crankpin	20,638 - 20,625 mm (0.8125" - 0.8120")
+Standard Bore Size	55,582 - 55,562 mm (2.1883" - 2.1875")

+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. 582106 or 582366

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 - 9.9 and 15

	Resistance		Ground Test		Output	
	Meter Setting	Reading	Meter Setting	Reading	Meter Setting	Reading
Charge coil	High ohms scale	575 ± 75 Ω	High ohms scale	∞	(-), 500	230
Sensor coil	Low ohms scale	40 ± 10 Ω	Low ohms scale	∞	S, 5	0,3
Power pack					(-), 500	180
Ignition coil primary	Low ohms scale	0,1 ± 0,05 Ω				
Secondary	High ohms scale	275 ± 50 Ω				

Electrical System

Alternator System	
Electric Start	4 amp flywheel alternator
Manual Start	60 watt AC at 12 V

Fuel System

Carburetion	Single barrel, float feed, fixed high speed adjustable low speed, manual choke
Float Level Setting	Between steps on gauge Part No. 324891
Float Drop Setting	28 - 32 mm (1.125" - 1.500")

Clearance Chart

Powerhead

Piston Ring Gap	0,38 - 0,13 mm (0.015" - 0.005")
Piston Ring Clearance, Lower	0,089 - 0,064 mm (0.0035" - 0.0025")
Cylinder and Piston	0,097 - 0,064 mm (0.0038" - 0.0025")

Gearcase

Propeller Shaft in Front Gear Bushing	0,221 - 0,005 mm (0.0087" - 0.0002")
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Torque Chart

Powerhead

Flywheel Nut	60 - 70 N·m (45 - 50 ft. lbs.)
Connecting Rod Screws	5,0 - 7,0 N·m (48 - 60 in. lbs.)
Cylinder Head Screws	24 - 27 N·m (18 - 20 ft. lbs.)
Crankcase to Main Bearing Screws	
Upper, Center, Bottom	16 - 19 N·m (12 - 14 ft. lbs.)
Spark Plug	24 - 27 N·m (18 - 21 ft. lbs.)
Electric Start Thru-Bolts	4 - 5 N·m (30 - 40 in. lbs.)
Starter Motor Pinion Nut	17 - 19 N·m (150 - 170 in. 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.)
Manual Starter Assembly Screw	32 - 36 N·m (24 - 26 ft. lbs.)

Mid-Section

Upper Mounts	7 - 9 N·m (60 - 80 in. lbs.)
Pilot Shaft to Steering Bracket Screws	11 - 15 N·m (8 - 10 ft. lbs.)

Gearcase

Gearcase Mounting Screws	14 - 16 N·m (10 - 12 ft. lbs.)
Slip Clutch Propeller	115 N·m (85 ft. lbs. min.)

Specifications - 20 thru 35

General

20 thru 35

Full Throttle Operating Range	20 and 25 - 4500 - 5500 rpm 30 and 35 - 5200 - 5800 rpm
Idle rpm in Forward Gear	650 rpm
Test Wheel and rpm	20 and 25 - Part No. 388880 (7" dia. x 1" wide) 35 - Part No. 386891 (7" dia. x 2-3/16" wide) 20 - 4650 rpm 25 - 5200 rpm 35 - 5300 rpm

Powerhead

Bore and Stroke	76,20 mm x 57,15 mm (3.000" Bore x 2.250" Stroke)
Piston Displacement	521 cm ³ (31.8 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	31,775 - 31,788 mm (1.2510" - 1.2515")
Center Journal	30,056 - 30,069 mm (1.1833" - 1.1838")
Bottom Journal	24,999 - 25,009 mm (0.9842" - 0.9846")
Connecting Rod Crankpin	30,043 - 30,030 mm (1.1828" - 1.1823")
+Standard Bore Size	76,213 - 76,187 mm (3.0005" - 2.9995")

+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. 582106 or 582366

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") Hi tension lead disconnected
Operating Amperage	Gap Index	50 (Coil must fire spark gap on tester at this setting)
1.0		

Ignition Component Tests - 20 thru 35						
	Resistance		Ground Test		Output	
	Meter Setting	Reading	Meter Setting	Reading	Meter Setting	Reading
Charge coil	High ohms scale	575 ± 75 Ω	High ohms scale	∞	(-), 500	230
Sensor coil	Low ohms scale	40 ± 10 Ω	Low ohms scale	∞	S, 5	0.3
Power pack	—	—	—	—	(-), 500	180
Ignition coil primary	Low ohms scale	0,1 ± 0,05 Ω				
Secondary	High ohms scale	275 ± 50 Ω				

Electrical System

20 thru 35

Alternator System

Electric Start	4 amp flywheel alternator
Manual Start	60 watt AC at 12 V

Fuel System

Carburetion	Single barrel, float feed fixed high speed adjustable low speed, manual choke
Float Level Setting	Between steps on gauge Part No. 324891
Float Drop Setting	28 - 41 mm (1.125" - 1.625")

Clearance Chart

Powerhead

Piston Ring Gap	0,43 - 0,18 mm (0.017" - 0.007")
Piston Ring Groove Clearance, Lower	0,102 - 0,038 (0.0040" - 0.0015")
Cylinder and Piston	0,086 - 0,025 mm (0.0034" ± 0.001")
Crankshaft End Play	0,635 - 0,000 mm (0.025" - 0.000")

Gearcase

Propeller Shaft in Front Gear Bushing	0,051 - 0,025 mm (0.0020" - 0.0010")
Rear Reverse Gear to Rear Bushing	0,051 - 0,013 mm (0.0020" - 0.0005")
Reverse Gear Bushing to Propeller Shaft	0,038 - 0,013 mm (0.0015" - 0.0005")

Torque Chart

Powerhead

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 Main Bearing Screws	
Upper, Center, Bottom	19 - 22 N·m (14 - 16 ft. lbs.)
Powerhead to Exhaust Housing Screws	22 - 25 N·m (16 - 18 ft. lbs.)
Electric Starter Thru-Bolts	7 - 9 N·m (60 - 80 in. lbs.)
Electric Starter Motor Pinion Nut	27 - 34 N·m (20 - 25 ft. lbs.)
Spark Plug	24 - 27 N·m (18 - 21 ft. lbs.)
Manual Starter Assembly Screws	11 - 14 N·m (8 - 10 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.)

Gearcase

Pilot Shaft to Steering Bracket	14 - 16 N·m (10 - 12 ft. lbs.)
Gearcase Mounting Screws	14 - 16 N·m (10 - 12 ft. lbs.)

Specifications - 40 thru 75

General

40, 50 and 60

Full Throttle Operating Range	40 and 50 - 4500 - 5500 60 - 5000 - 6000	70 - 4500 - 5500 75 - 5200 - 5800
Idle rpm in Forward Gear	750 rpm	750 rpm
Test Wheel and rpm	Part No. 387635 (9-7/8" dia. x 2-1/4" wide) 40 and 50 - 4900 rpm 60 - 5600 rpm	Standard-Part No. 386950 (10" dia. x 2-5/16" wide) Long shaft-Part No. 386665 (11-3/16" dia. x 1-27/32" wide) 70 - 5000 rpm 75 - 5200 rpm

Powerhead

Bore and Stroke	80,96 mm x 71,63 mm (3.1875" Bore x 2.820" Stroke)	76,20 mm x 59,53 mm (3.000" Bore x 2.3437" Stroke)
Piston Displacement	737 cm ³ (45 cu. in.)	814 cm ³ (49.7 cu. in.)
Width of Ring		
Upper	2,286 - 2,273 mm (0.0900" - 0.0895")	2,286 - 2,273 mm (0.0900" - 0.0895")
Lower	1,588 - 1,562 mm (0.0625" - 0.0615")	1,588 - 1,562 mm (0.0625" - 0.0615")
Crankshaft Size		
Top Journal	38,047 - 38,034 mm (1.4979" - 1.4974")	38,047 - 38,034 mm (1.4979" - 1.4974")
Center Journal	34,930 - 34,920 mm (1.3752" - 1.3748")	34,930 - 34,920 mm (1.3752" - 1.3748")
Bottom Journal	30,110 - 29,997 mm (1.1815" - 1.1810")	30,110 - 29,997 mm (1.1815" - 1.1810")
Connecting Rod Crankpin	30,043 - 30,030 mm (1.1828" - 1.1823")	30,043 - 30,030 mm (1.1828" - 1.1823")
+Standard Bore Size	80,975 - 80,950 mm (3.1880" - 3.1870")	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.	Flywheel magneto, breakerless C.D.
Spark Plug		
Champion	L77J4 or QL77J4	L77J4 or QL77J4
Spark Plug Gap	1,0 mm (0.040")	1,0 mm (0.040")
Ignition Coil	Part No. 582366 or 582106	Part No. 582366 or 582106

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 - 40, 50 and 60 Models

	Resistance		Ground Test		Output (Cranking)	
	Meter Setting	Reading	Meter Setting	Reading	Meter Setting	Reading
Charge coil	High ohms scale	575 ± 75 Ω	High ohms scale	∞	(-), 500	230
Sensor coil	Low ohms scale	40 ± 10 Ω	High ohms scale	∞	S, 5	0,3
Power pack					(-), 500	180
Ignition coil primary	Low ohms scale	0,1 ± 0,05 Ω				
Secondary	High ohms scale	275 ± 50 Ω				

Ignition Component Tests - 70 and 75 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

40, 50 and 60

70 and 75

Alternator 4 amp-Flywheel alternator 6 amp-Flywheel alternator

Fuel System

Carburetion Single barrel, float feed Single barrel, float feed,
fixed low and high speed
jets, primer starting system

Float Level Setting Between steps on gauge Between steps on gauge
Part No. 324891
Part No. 324891

Float Drop Setting 28 - 41 mm (1.125" - 1.625") 28 - 41 mm (1.125" - 1.625")

Clearance Chart

Piston Ring Gap 0,43 - 0,18 mm 0,43 - 0,18 mm
(0.017" - 0.007") (0.017" - 0.007")

Piston Ring Groove Clearance -
Lower 0,102 - 0,038 mm 0,102 - 0,038 mm
(0.0040" - 0.0015") (0.0040" - 0.0015")

Cylinder and Piston 0,125 - 0,048 mm 0,140 - 0,114 mm
(0.0049" - 0.0018") (0.0055" - 0.0045")
at major dia.

Forward Gear Bushing to
Propeller Shaft 0,05 - 0,03 mm 0,05 - 0,03 mm
(0.002" - 0.001") (0.002" - 0.001")

Torque Chart

Flywheel Nut 110 - 115 N·m (80 - 85 ft. lbs.) 135 - 140 N·m (100 - 105 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.)

Spark Plugs 24 - 27 N·m (18 - 21 ft. lbs.) 24 - 27 N·m (18 - 21 ft. lbs.)

Stator Screws 7 - 9 N·m (60 - 80 in. lbs.) 5 - 7 N·m (48 - 60 in. lbs.)

Lower Journal Bearing

Head Screws 11 - 14 N·m (96 - 120 in. lbs.) 11 - 14 N·m (96 - 120 in. lbs.)

Driveshaft Pinion Nut 54 - 60 N·m (40 - 45 ft. lbs.) 54 - 60 N·m (40 - 45 ft. lbs.)

Starter Motor Thru-Bolts

Prestolite 12 - 14 N·m (110 - 122 in. lbs.) 12 - 14 N·m (110 - 122 in. lbs.)

Bosch 11 - 12 N·m (90 - 105 in. lbs.) 11 - 12 N·m (90 - 105 in. lbs.)

Starter Motor Pinion Nut

Prestolite 34 - 40 N·m (25 - 30 ft. lbs.) 34 - 40 N·m (25 - 30 ft. lbs.)

Bosch 27 - 34 N·m (20 - 25 ft. lbs.) 27 - 34 N·m (20 - 25 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.)

Pivot Shaft Nut (Long Shaft) 180 - 200 N·m (130 - 150 ft. lbs.) 180 - 200 N·m (130 - 150 ft. lbs.)

Gearcase Mounting Screws 24 - 27 N·m (18 - 20 ft. lbs.) 24 - 27 N·m (18 - 20 ft. lbs.)

Exhaust Housing to Powerhead

Screws 24 - 27 N·m (18 - 20 ft. lbs.) 24 - 27 N·m (18 - 20 ft. lbs.)

Specifications - V- 4 and V-6

General

	V-4	V-6
Full Throttle Operating Range	4500 - 5500 rpm	150 - 4500 - 5500 rpm 185 and 235 - 4750 - 5750 rpm 2.6 Models - 5000 - 6000 rpm
Idle rpm in Forward Gear	650 rpm	650 rpm
Test Wheel and rpm	90 - Part No. 382861 (10" dia. x 2" wide)	Part No. 387388 (11-1/8" dia. x 2-1/4" wide)
	115 and 140 - Part No. 386246 (11-1/4" dia. x 2-1/8" wide)	150 and 200 - 4800 rpm 175 - 4750 rpm 235 - 5200 rpm
	90 and 115 - 4800 rpm 140 - 4900 rpm	

Powerhead

Bore and Stroke	88,90 mm x 65,74 mm (3.500" Bore x 2.588" Stroke)	150 and 185 - 88,90 mm x 65,74 mm (3.500" Bore x 2.588" Stroke) 235 and 2.6 Models - 92,07 mm x 65,74 mm (3.6250" Bore x 2.588" Stroke)
Piston Displacement	1632 cm ³ (99.6 cu. in.)	150 and 185 - 2448 cm ³ (149.4 cu. in.) 235 and 2.6 Models - 2627 cm ³ (160.3 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")	150 and 185 - 88,887 - 88,913 mm (3.4995" - 3.5005") 235 and 2.6 Models 92,062 - 92,087 mm (3.6255" - 3.6245")

+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	90 and 115 - QL77J4 or L77J4 140 - UL77V or QUL77V	UL77V or QUL77V
Spark Plug Gap	90 and 115 - 1.0 mm (0.040")	
Ignition Coil	Part No. 582366 or 582106	Part No. 582366 or 582106
RPM Limiter Powerpack		2.6 Models P/N 582712 (6200 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 - V-4

	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 - V-6

	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

V-4

V-6

Alternator	10 amp-Regulated flywheel alternator (6 amp ML models)	150, 185 and 2.6 Models 10 amp-Regulated flywheel alternator, 235 - 35 amp-Regulated flywheel alternator
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")	150 and 185 - 0,43 - 0,18 mm (0.017" - 0.007") 235 and 2.6 Models - 0,838 - 0,508 mm (-0.033" - 0.020")
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") 235-0,228 - 0,254 mm (-.009 - 0.010)
Crankshaft End Play	0,28 - 0,20 mm (0.011" - 0.008")	0,28 - 0,20 mm (0.011" - 0.008")
Forward Gear Bushing to Propeller Shaft	0,05 - 0,03 mm (0.002" - 0.001")	0,05 - 0,03 mm (0.002" - 0.001")

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.)	150 and 185 - 24 - 27 N·m (18 - 20 ft. lbs.) 235 and 2.6 Models 27 - 30 N·m (20 - 22 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		
Prestolite	12 - 14 N·m (110 - 122 in. lbs.)	12 - 14 N·m (110 - 122 in. lbs.)
Bosch	10 - 12 N·m (90 - 105 in. lbs.)	10 - 12 N·m (90 - 105 in. lbs.)
Starter Motor Pinion Nut		
Prestolite	34 - 40 N·m (25 - 30 ft. lbs.)	34 - 40 N·m (25 - 30 ft. lbs.)
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	30 - 33 N·m (22 - 24 ft. lbs.)	30 - 33 N·m (22 - 24 ft. lbs.)