



MANUAL

1978

25/35 HP

models

25802, 25803, 25852, 25853
35802, 35803, 35852, 35853

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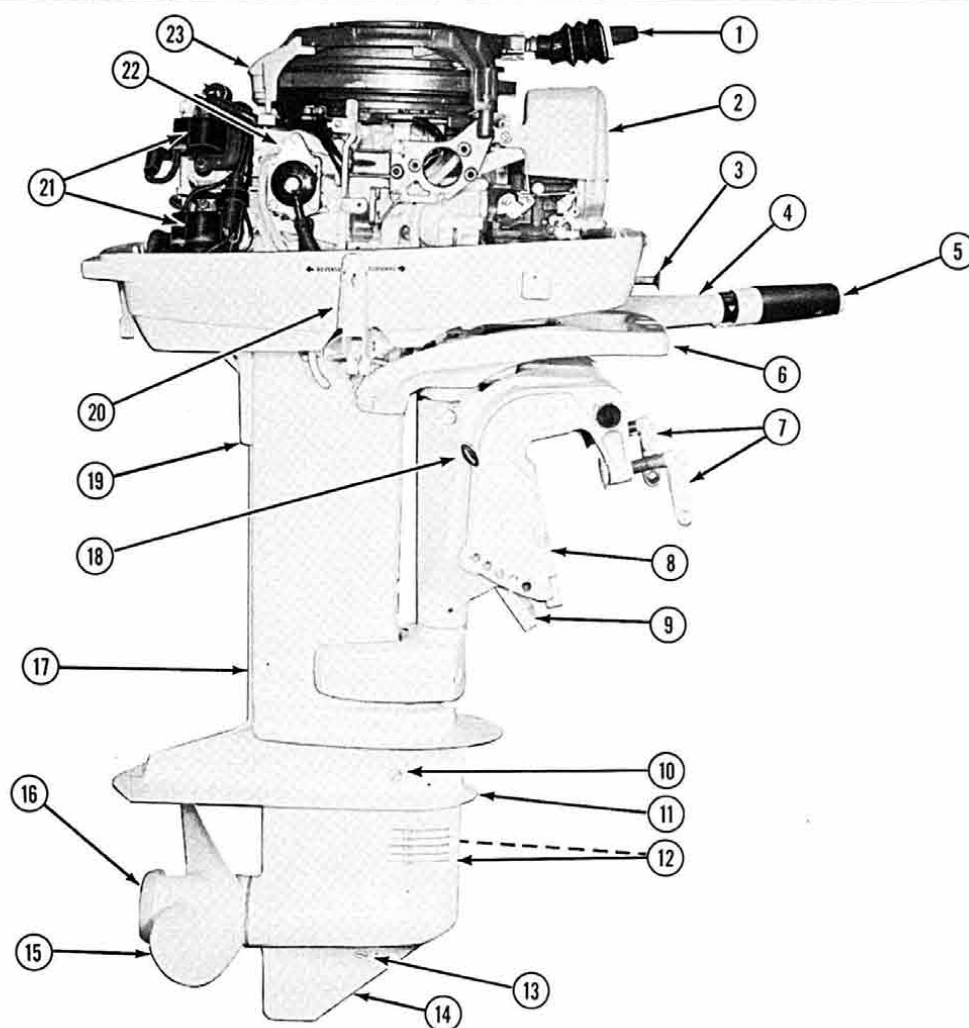
OUTBOARD MOTOR NOMENCLATURE

Sometimes the words "right" and "left" are very confusing when referring to the sides of an outboard motor. Therefore, the sides are referred to as STARBOARD or PORT sides. STARBOARD means on the right hand while facing the bow (FRONT) of the boat; PORT means left hand. See Figures 1-1 and 1-2.

Service required for outboard motors is generally one of three kinds . . .

1. NORMAL CARE AND MAINTENANCE, which includes putting a new motor into operation, storing motor, lubrication, and care under special operating conditions such as salt water and cold weather.

2. OPERATING MALFUNCTIONS due to improper motor mounting, propeller condition or



1. Manual starter grip
2. Air silencer
3. Choke knob
4. Steering handle
(manual start only)
5. Throttle control grip
(manual start only)
6. Steering bracket
7. Clamp screws
8. Stern bracket
9. Shallow water
drive bracket

10. Oil level plug
11. Anti-cavitation plate
12. Water intake
(port and starboard)
13. Oil drain and fill plug
14. Skeg
15. Propeller
16. Converging ring
17. Exhaust housing
18. Tilt/run lever
19. Exhaust relief
20. Shift handle

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Figure 1-1. Starboard View - 35 HP Manual Start

SPECIFICATIONS

Models 25802 and 35802, Manual Start	Standard Length (15" transom) (381 mm)
Models 25852 and 35852, Electric Start	Standard Length
Models 25803 and 35803, Manual Start	Long Shaft (20" transom) (508 mm)
Models 25853 and 35853, Electric Start	Long Shaft

POWER HEAD

Horsepower (B.I.A. certified)	
25 HP Model	25 HP at 5000 rpm
35 HP Model	35 HP at 5500 rpm
Full throttle operating range	25 HP - 4500-5500 rpm 35 HP - 5000-6000 rpm

Tank test	
25 HP - Wheel part number 388880, 5200 rpm	
35 HP - Wheel part number 386891, 5300 rpm	
Engine type 2 cyl., 2 cycle, alternate firing	
Bore and stroke 3.000" bore x 2.250" (76.20 x 57.15 mm)	
Piston displacement 31.8 cubic inches (521 cm ³)	
Piston and rings available standard and 0.030" oversize	
Thickness of ring	Upper - 0.0900 - 0.0895 in. (2.286 - 2.273 mm) Lower - 0.0625 - 0.0615 in. (1.588 - 1.562 mm)
Crankshaft size	
Top journal	1.2510 - 1.2515 in. (31.775 - 31.788 mm)
Center journal	1.1805 - 1.1810 in. (29.985 - 29.997 mm)
Bottom journal	0.9842 - 0.9846 in. (24.999 - 25.009 mm)
Connecting rod crank pin	1.1828 - 1.1823 in. (30.043 - 30.030 mm)

CARBURETOR

Carburetion	Single barrel, float feed, fixed high speed, adjust- able low-speed (under mo- tor cover), manual choke
High speed orifice plug	25 HP - Part Number 324020 Identification Number 49-D 35 HP - Part Number 319831 Identification Number 59-D Flush with rim of casting 0.065 - 0.062 (1.65 - 1.57 mm) Use #53 drill as gage
Float level setting	1-1/4 turns open
Inlet needle seat	650 rpm maximum
Initial low speed needle setting	2000 - 3500 rpm
Idle speed	Combination positive dis- placement and centrifugal pump
Maximum neutral rpm	Pressure relief and thermo- statically controlled
Cooling system	12:21 (25 HP) - 14:27 (35 HP)
Propeller gear ratio	25 HP - 3 blade 9-1/4" dia. x 11" pitch
Propeller supplied with motor	35 HP - 3 blade 10-1/2" dia. x 11" pitch
Propeller options	25 HP - 3 blade 9-1/4" dia. x 9" pitch SST 3 blade 9" dia. x 9" pitch 3 blade 9" dia. x 10" pitch 3 blade 9-1/4" dia. x 7" pitch 3 blade 9-1/4" dia. x 9" pitch SST

	3 blade 9-1/4" dia. x 12" pitch SST
	35 HP - 3 blade 11-1/4" dia. x 7" pitch alum.
	3 blade 11" dia. x 9" pitch alum.
	3 blade 10" dia. x 13" pitch alum.
	3 blade 10-1/4" dia. x 13" pitch SST
	3 blade 10-1/2" dia. x 11" pitch SST
	3 blade 11" dia. x 9" pitch SST
Speed control	On steering handle (Manual start) Remote control available (Electric start)
Gear shift control	Forward, neutral and reverse
Weight (without fuel tank)	Model 25802, 101 lbs. (45.8 kg) Model 25803, 104 lbs. (47.2 kg) Model 25852, 103 lbs. (46.7 kg) Model 25853, 106 lbs. (48.1 kg) Model 35802, 114 lbs. (51.7 kg) Model 35803, 118 lbs. (53.5 kg) Model 35852, 117 lbs. (53.1 kg) Model 35853, 121 lbs. (54.9 kg) (Fuel tank weight 11 pounds - net 5 kg)
Fuel capacity	6 gallons (22.7 litres)

ELECTRICAL SYSTEM

Charging system	5 amp flywheel alternator (Electric start models only)
Starter	Manual - Self-winding Electric - 12 volt
Starter amperage draw while cranking	100 amps Max.

IGNITION SYSTEM

Ignition	Magneto breakerless C.D.
Spark plug	Champion L78V
Alternate Spark plug	Champion L77J4 or AC M40FFX gapped at 0.040" (1.0 mm)
Spark plug torque	17-1/2 - 20-1/2 foot-pounds (24 - 27 N·m)
Ignition coil	Part No. 581862

IGNITION COIL TEST SPECIFICATIONS

Stevens Model ST-75		
Reverse Polarity (Switch Setting CD)		1.6
Stevens Tester Model M.A.-75 or M.A.-80		
<u>Switch</u>	<u>Index Adjustment</u>	
**A	20	
**Use Model CD-1 Adapter - Red test clip to orange/black - Black test clip to orange		
Merc-O-Tronic with Capacitor Discharge Adapter Model 55-980		
Operating Amperage	Primary Resistance	Secondary Continuity
1.7	0.1 Ohm or less	5 (approx.)
Graham Tester Model 51		
Maximum Secondary	1,000 ohms	
Maximum Primary	0.6 ohm	
Maximum Primary DC Ohms (Point Test)	1.0 ohms	
Coil Index	60	
Coil Test Minimum AMPLIFIED	29 (With secondary circuit open") Hi tension lead disconnected	
Gap Index	60 (Coil must fire spark gap on tester at this setting.)	

*Horsepower established at sea level. Allow 2% reduction per 1000' (300 m) above sea level.