Service Manual Outline

Notice

Throughout this publication, “Dangers”, “Warnings” and “Cautions” (accompanied by the International HAZARD Symbol ⚠) are used to alert the mechanic to special instructions concerning a particular service or operation that may be hazardous if performed incorrectly or carelessly. **OBSERVE THEM CAREFULLY!**

These “Safety Alerts” alone cannot eliminate the hazards that they signal. Strict compliance to these special instructions when performing the service, plus “Common Sense” operation, are major accident prevention measures.

⚠ DANGER

DANGER - Immediate hazards which WILL result in severe personal injury or death.

⚠ WARNING

WARNING - Hazards or unsafe practices which COULD result in severe personal injury or death.

⚠ CAUTION

Hazards or unsafe practices which could result in minor personal injury or product or property damage.

Notice to Users of This Manual

This service manual has been written and published by the Service Department of Mercury Marine to aid our dealers’ mechanics and company service personnel when servicing the products described herein.

It is assumed that these personnel are familiar with the servicing procedures of these products, or like or similar products manufactured and marketed by Mercury Marine, that they have been trained in the recommended servicing procedures of these products which includes the use of mechanics’ common hand tools and the special Mercury Marine or recommended tools from other suppliers.

We could not possibly know of and advise the service trade of all conceivable procedures by which a service might be performed and of the possible hazards and/or results of each method. We have not undertaken any such wide evaluation. Therefore, anyone who uses a service procedure and/or tool, which is not recommended by the manufacturer, first must completely satisfy himself that neither his nor the products safety will be endangered by the service procedure selected.

All information, illustrations and specifications contained in this manual are based on the latest product information available at the time of publication. As required, revisions to this manual will be sent to all dealers contracted by us to sell and/or service these products.

It should be kept in mind, while working on the product, that the electrical system and ignition system are capable of violent and damaging short circuits or severe electrical shocks. When performing any work where electrical terminals could possibly be grounded or touched by the mechanic, the battery cables should be disconnected at the battery.

Any time the intake or exhaust openings are exposed during service they should be covered to protect against accidental entrance of foreign material which could enter the cylinders and cause extensive internal damage when the engine is started.

It is important to note, during any maintenance procedure replacement fasteners must have the same measurements and strength as those removed. Numbers on the heads of the metric bolts and on the surfaces of metric nuts indicate their strength. American bolts use radial lines for this purpose, while most American nuts do not have strength markings. Mismatched or incorrect fasteners can result in damage or malfunction, or possibly personal injury. Therefore, fasteners removed should be saved for reuse in the same locations whenever possible. Where the fasteners are not satisfactory for re-use, care should be taken to select a replacement that matches the original.

Cleanliness and Care of Sport Jet

A marine power product is a combination of many machined, honed, polished and lapped surfaces with tolerances that are measured in the ten thousands of an inch/mm. When any product component is serviced, care and cleanliness are important. Throughout this manual, it should be understood that proper cleaning, and protection of machined surfaces and friction areas is a part of the repair procedure. This is considered standard shop practice even if not specifically stated.

Whenever components are removed for service, they should be retained in order. At the time of installation, they should be installed in the same locations and with the same mating surfaces as when removed.

Before raising or removing an engine from a boat, the following precautions should be adhered to:

1. Check that flywheel is secured to end of crankshaft with a locknut and lifting eye is threaded into flywheel a minimum of 5 turns.
2. Connect a hoist of suitable strength to the lifting eye.

In addition, personnel should not work on or under an engine which is suspended. Engines should be attached to work stands, or lowered to ground as soon as possible.

We reserve the right to make changes to this manual without prior notification.

Refer to dealer service bulletins for other pertinent information concerning the products described in this manual.

Page Numbering

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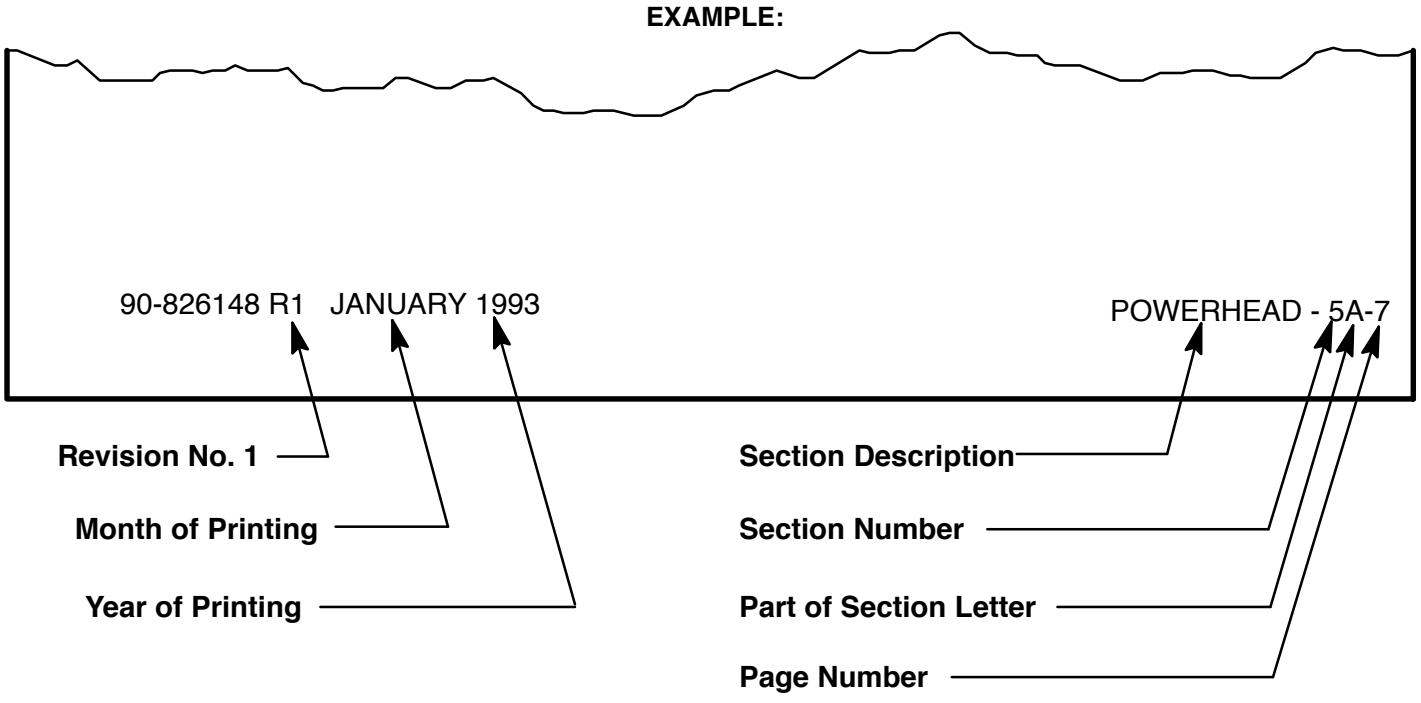

IMPORTANT INFORMATION

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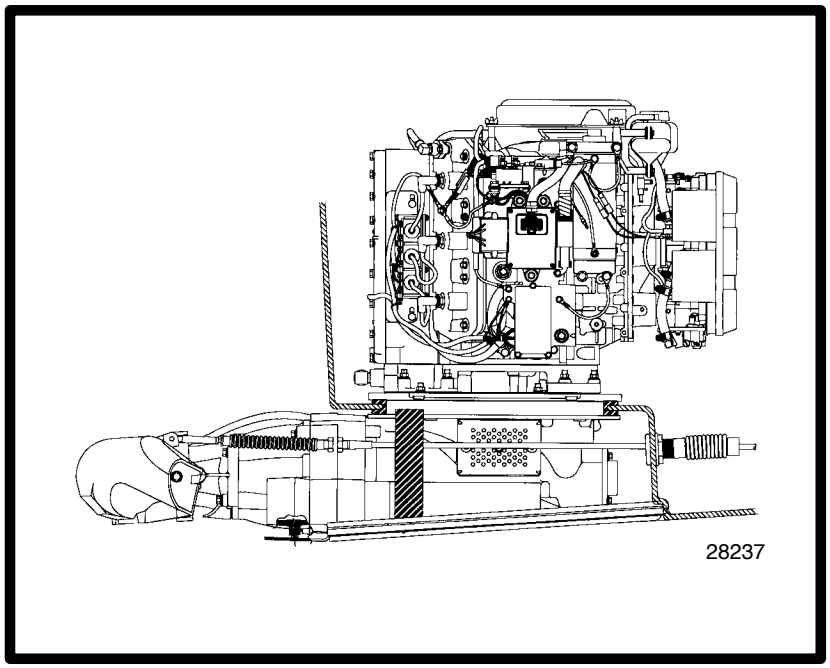

SPECIFICATIONS

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Master Specifications

Model 175		
HORSEPOWER (KW)		175(130.5)
SPORT JET WEIGHT	**Powerhead** **Pump Unit**	205 lb. (93 kg) 100 lb. (45 kg)
CYLINDER BLOCK	**Type** **Displacement**	V-6 Cylinder, Two Cycle, Loop Charged 153.0 cu. in. (2507cc)
STROKE	**Length (All Models)**	2.650 in. (67.31mm)
CYLINDER BORE	**Diameter (Std)** **Taper/Out of Round/Maximum Wear** **Bore Type**	3.501 in. (88.925mm) 0.003 in. (0.076mm) Cast Iron
PISTON	**Piston Type** **Standard** **0.015 in. (0.381 mm) Oversize**	Aluminum 3.494 in. ± 0.001 in. (88.748mm ± 0.025mm) 3.509 in. ± 0.001 in. (89.129mm ± 0.025mm)
REEDS	**Reed Type** **Reed Stand 0pen (Max.)** **Reed Stop (Max.)**	Steel 0.020 in. (0.50mm) Not Adjustable
FUEL SYSTEM	**Fuel** **Recommended Gasoline** **Recommended Oil** **Gasoline/Oil Ratio** **Fuel Pressure – @ Idle** **– @ WOT**	Gasoline w/Oil Injection Unleaded 87 Octane Minimum Quicksilver TC-W3 or TC-WII 2 Cycle Outboard Oil Only 50:1 (25:1 Break-In) 2 PSI 8 PSI
STARTING SYSTEM	**Electric Start – All Models** **Starter Draw (Under Load)** **Starter Load (No Load)** **Battery Rating**	 175 Amperes 40 Amperes 670 Marine Carnking Amps (MCA) or 520 Cold Cranking Amps (CCA)
IGNITION SYSTEM	**Type** **Spark Plug Type** **Spark Plug Gap**	Capacitor Discharge NGK BU8H Surface Gap
CHARGING SYSTEM	**Alternator Output (Regulated)**	12 Amperes @ 3000 RPM

Master Specifications (Continued)

175XR^2 Sport Jet (Continued)		
Carburetor	**Idle RPM**	1000 - 1100 RPM
	Wide Open Throttle (WOT) RPM	5000 - 5500
	Idle Mixture Screw Adjustment (Preset - Turns Out) – All Carbs	1-1/2 turns out from a lightly seated position
	Float Setting	Set parallel to body flange
	Main Jet	
	–Top Carb	.076
	–Middle Carb	.076
	–Bottom Carb	.076
	Idle Air Jet	
	–Top Carb	.050
	–Middle Carb	.050
	–Bottom Carb	Port .054 Starbboard .050
	Vent Jet	
	–Top Carb	.080
	–Middle Carb	.080
	–Bottom Carb	.080
Timing	**Maximum Timing BTDC**	
	@ Cranking Speed	22° BTDC
	@ 5000 RPM	20° BTDC
	Idle Timing ATDC	0° ± 2° @ 1000 - 1100 RPM
	Firing Order	1-2-3-4-5-6

Torque Chart

Special Items	Torque
PUMP UNIT	
Impeller Nut	150 lb. ft. (203 N·m)
Impeller Gear Nut	90 lb. ft. (122 N·m)
Pinion Shaft Assembly	180 lb. in. (20 N·m)
Drive Housing Cover Nuts	35 lb. ft. (47.5 N·m)
Stator Bolts	35 lb. ft. (47.5 N·m)
Nozzle to Stator Bolts	35 lb. ft. (47.5 N·m)
Rudder Pivot Bolt	50 lb. ft. (68 N·m)
Reverse Gate Pivot Bolt	50 lb. ft. (68 N·m)
Steering Lever Screw	180 lb. in. (20.2 N·m)
Reverse Gate Stop Screw	120 lb. in. (13.6 N·m)
Inlet Screen Screw (6 mm)	75 lb. in. (8.5 N·m)
Inlet Screen Screw (8 mm)	200 lb. in. (23 N·m)
Ride Plate Screw	75 lb. in. (8.5 N·m)
POWERHEAD	
Adaptor Plate to Powerhead	35 lb. ft. (47.5 N·m)
Powerhead to Drive Housing Nuts	35 lb. ft. (47.5 N·m)
Cylinder Head	225 lb. in. (25.4 N·m) Then Turn Additional 90•
Flywheel Nut	125 lb. ft. (169.5 N·m)
Main Bearing Bolts	270 lb. in. (30.4 N·m)
Connecting Rod Screws	120 lb. in. (13.6 N·m) Then Turn Additional 90•
Transfer Port Cover	80 lb. in. (9.03 N·m)
Exhaust Manifold	180 lb. in. (20 N·m)

Standard Hardware

Screw or Nut Size	Torque
6 - 32	9 lb. in. (1.0 N·m)
8 - 32	20 lb. in. (2.3 N·m)
10 - 24	30 lb. in. (3.4 N·m)
10 - 32	35 lb. in. (3.9 N·m)
12 - 24	45 lb. in. (5.0 N·m)
1/4 - 20	70 lb. in. (7.8 N·m)
5/16 - 18	160 lb. in. (18.1 N·m)
3/8 - 16	270 lb. in. (30.4 N·m)

Metric Hardware

A	B	Torque Specification		
		lb. in.	lb. ft.	N·m
8 mm	M5	36	3	4
10 mm	M6	70	6	8
12 mm	M8	156	13	18
14 mm	M10	312	26	36
17 mm	M12	372	31	42