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. Engine 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.

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 product’s 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 reuse, care should be taken to select a replacement that matches the original.

GENERAL INFORMATION AND SPECIFICATIONS

1

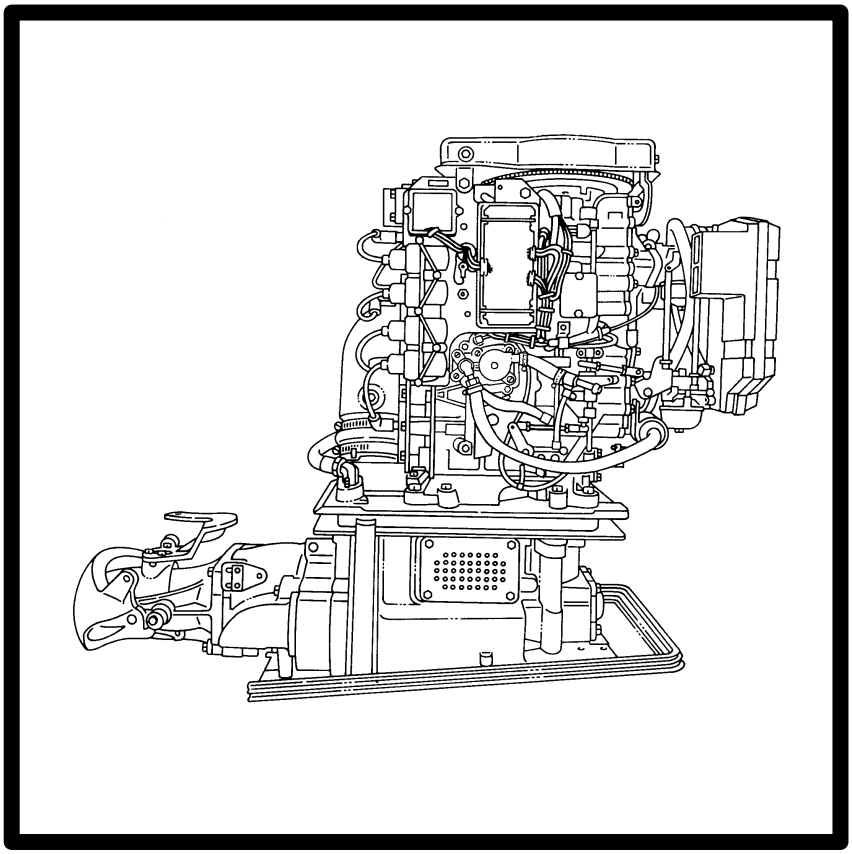


Table Of Contents

How To Use This Manual

The manual is divided into SECTIONS (shown right) which represents major components and systems.

Some SECTIONS are further divided into PARTS. Each PART has a title page. A **Table of Contents** for the particular PART is printed on the back of the title page.

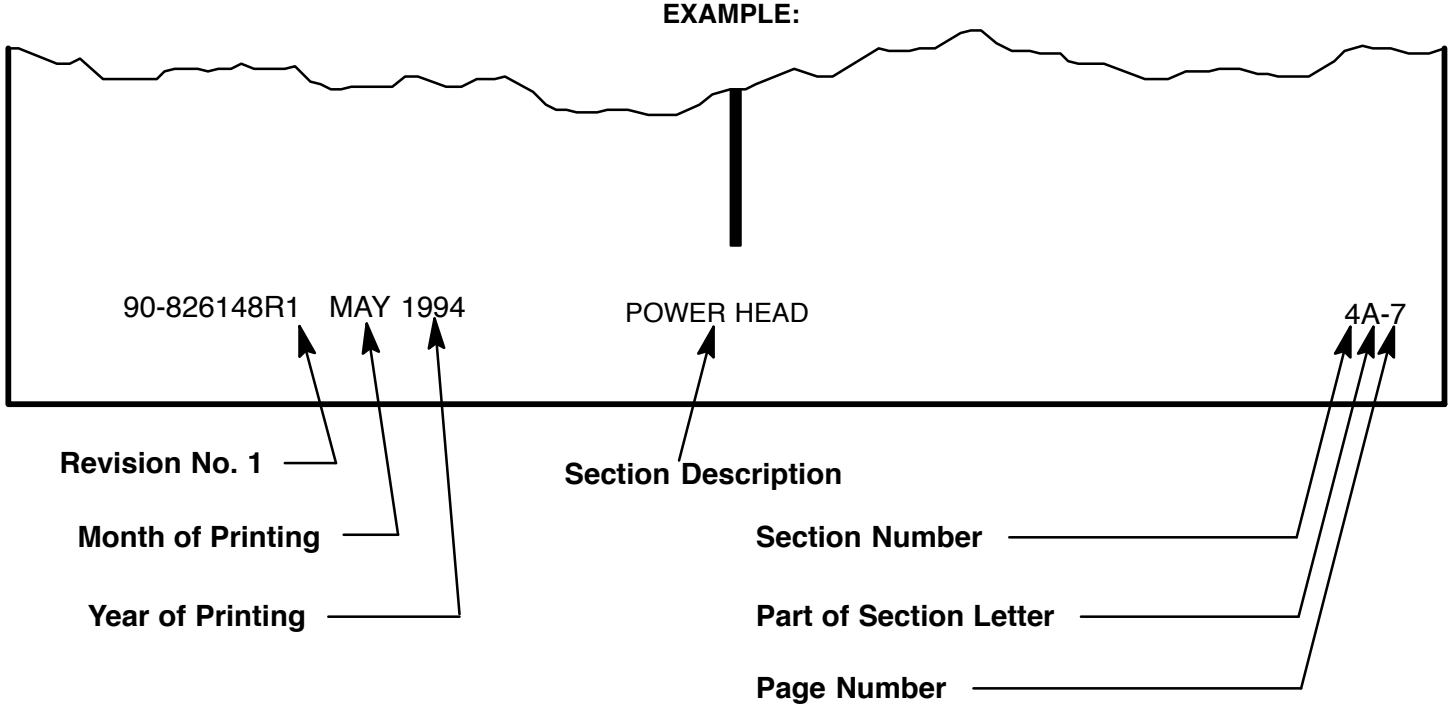
SECTIONS and PARTS are listed on the **Service Manual Outline** sheet which immediately follows the cover of this book.

Section	Section Heading
1	General Information/Specifications
2	Electrical and Ignition
3	Fuel System and Carburetion
4	Powerhead
5	Jet Pump
6	Sport Jet Installation

Page Numbering

Two number groups appear at the bottom of each page. The example below is self-explanatory.

EXAMPLE:



Master Specifications

1995 Sport Jet			
		90	120
HORSEPOWER (KW)	Model 90/120	90 (67.1)	120 (89.5)
PH / PUMP WEIGHT		184 lbs. / 101 lbs. (83.46 kg / 45.8 kg)	203 lbs. / 101 lbs. (92.08 kg / 45.8 kg)
CYLINDER BLOCK	Type Displacement	3 Cylinder In-Line 75.1 cu. in. (1231 cc)	4 Cylinder In-Line 102.9 cu. in. (1687 cc)
STROKE	Length	2.80 in. (71.1 mm)	2.876 in. (73.05 mm)
CYLINDER BORE	Diameter (Standard) Taper/Out of Round Max. Bore Type	3.375 in. (85.7 mm) 0.0015 Cast Iron	3.375 in. (85.7 mm) 0.0015 Cast Iron
PISTON	Piston Type Standard 0.010 in. (0.254 mm) Oversize 0.030 in. (0.762 mm) Oversize	Aluminum Major Dia.- 3.3618 (85.34) Min.- 3.3578 (85.288) Major Dia.- 3.3718 (85.64) Min.- 3.3678 (85.54) Major Dia.- 3.3918 (86.15) Min.- 3.3878 (86.050)	
REEDS	Reed Stand Open (Max.)	0.010 (0.254 mm)	
PUMP HOUSING	Gear Ratio Drive Housing Capacity Stator Capacity Impeller Shaft Gear- No. of Teeth Pinion Gear - No. of Teeth Pinion Height Gear Backlash	1.14:1 18.6 fl. oz. (550 ml) 3.4 fl. oz. (100 ml) 24 21 0.025 in. (0.64 mm) 0.007 - 0.009 in. (0.177 mm - 0.228 mm)	1:1 18.6 fl. oz. (550 ml) 3.4 fl. oz. (100 ml) 24 24 0.025 in. (0.64 mm) 0.007 in. - 0.009 in. (0.177 mm - 0.228 mm)
FUEL SYSTEM	Fuel Recommended Gasoline Recommended Oil Gasoline/Oil Ratio Fuel Pressure- @ Idle - @ WOT	Gasoline and Oil Automotive Lead-Free: 87 octane minimum Quicksilver TC-W 3 or TC-W II Outboard Oil Variable ratio oil injection 3.5 PSI 6 PSI	
STARTING SYSTEM	Electric Start- Starter Draw Under Load No Load Battery Rating (minimum)	 110 - 200 Amperes 80 - 165 Amperes 670 Marine Cranking Amps (MCA) or 520 Cold Cranking Amps (CCA)	
IGNITION SYSTEM	Type Spark Plug Type Spark Plug Gap Optional (Resistor Plug)	Capacitor discharge Champion L76V Not Adjustable QL76V	
CHARGING SYSTEM	Alternator Output (Regulated)	9 Amp	

Master Specifications (Continued)

1995 Sport Jet 90/120		
CARBURETOR	**Idle RPM**	950 - 1100 RPM
	Wide Open Throttle (WOT) RPM	
	– Model 90/120	4700 - 5300
	Idle Mixture Screw Adjustment (Preset - Turns Out)	
	Model 90/120	
	– All Carbs	1 1/2 turns out from a lightly seated position
	Float Setting	Set parallel to body flange
	Main Jet	
	– Model 90	
	– Carb #1	.072
	– Carb #2	.072
	– Carb #3	.074
	– Model 120	
	– Carb #1	.090
	– Carb #2	.092
TIMING	**Maximum BTDC**	
	@ Cranking Speed	
	– Model 90/120	32° BTDC
	@ 5000 RPM	
	– Model 90/120	30° BTDC
	Firing Order	
	– Model 90	1-2-3
	– Model 120	1-3-2-4

Master Specifications (Continued)

1996 & 1997 Sport Jet			
		95	**120**
HORSEPOWER (KW)	**Model 95/120**	95 (67.1)	120 (89.5)
PH / PUMP WEIGHT		184 lbs. / 101 lbs. (83.46 kg / 45.8 kg)	203 lbs. / 101 lbs. (92.08 kg / 45.8 kg)
CYLINDER BLOCK	**Type** **Displacement**	3 Cylinder In-Line 75.1 cu. in. (1231 cc)	4 Cylinder In-Line 102.9 cu. in. (1687 cc)
STROKE	**Length**	2.80 in. (71.1 mm)	2.876 in. (73.05 mm)
CYLINDER BORE	**Diameter (Standard)** **Taper/Out of Round Max.** **Bore Type**	3.375 in. (85.7 mm) 0.0015 Cast Iron	3.375 in. (85.7 mm) 0.0015 Cast Iron
PISTON	**Piston Type** **Standard** **0.015 in. (0.378 mm) Oversize** **0.030 in. (0.752 mm) Oversize**	Aluminum Diameter 3.3700 (85.598 mm) Diameter 3.3850 (85.979 mm) Diameter 3.4000 (86.360 mm)	
REEDS	**Reed Stand Open (Max.)**	0.010 (0.254 mm)	
PUMP HOUSING	**Gear Ratio** **Drive Housing Capacity** **Stator Capacity** **Impeller Shaft Gear- No. of Teeth** **Pinion Gear - No. of Teeth** **Pinion Height** **Gear Backlash**	1.14:1 18.6 fl. oz. (550 ml) 3.4 fl. oz. (100 ml) 24 21 0.025 in. (0.64 mm) 0.007 - 0.009 in. (0.177 mm - 0.228 mm)	1:1 18.6 fl. oz. (550 ml) 3.4 fl. oz. (100 ml) 24 24 0.025 in. (0.64 mm) 0.007 in. - 0.009 in. (0.177 mm - 0.228 mm)
FUEL SYSTEM	**Fuel** **Recommended Gasoline** **Recommended Oil** **Gasoline/Oil Ratio** **Fuel Pressure- @ Idle** **- @ WOT**	Gasoline and Oil Automotive Lead-Free: 87 octane minimum Quicksilver TC-W 3 or TC-W II Outboard Oil Variable ratio oil injection 3.5 PSI 6 PSI	
STARTING SYSTEM	**Electric Start- Starter Draw** **Under Load** **No Load** **Battery Rating (minimum)**	 110 - 200 Amperes 80 - 165 Amperes 670 Marine Cranking Amps (MCA) or 520 Cold Cranking Amps (CCA)	
IGNITION SYSTEM	**Type** **Spark Plug Type** **Spark Plug Gap** **Optional (Resistor Plug)**	Capacitor discharge Champion L77JC4 .040 (1.0 mm) QL77JC4	
CHARGING SYSTEM	**Alternator Output (Regulated)**	15 Amp	

Master Specifications (Continued)

1996 & 1997 Sport Jet 95/120		
CARBURETOR	**Idle RPM**	950 - 1100 RPM
	Wide Open Throttle (WOT) RPM	
	– Model 95/120	4700 - 5300
	Idle Mixture Screw Adjustment (Preset - Turns Out)	
	Model 95/120	
	– All Carbs	1 1/2 turn out from a lightly seated position
	Float Setting	Set parallel to body flange
	Main Jet	
	– Model 95	
	– Carb #1	.072
	– Carb #2	.072
	– Carb #3	.074
	– Model 120	
	– Carb #1	.090
	– Carb #2	.092
TIMING	**Maximum BTDC**	
	@ Cranking Speed	
	– Model 95/120	32° BTDC
	@ 5000 RPM	
	– Model 95/120	30° BTDC
	Firing Order	
	– Model 95	1-2-3
	– Model 120	1-3-2-4