

Johnson **OUTBOARDS**

SERVICE MANUAL



2 HP model

2R78

INTRODUCTION

**GENERAL
SERVICE
INFORMATION**

**FUEL
SYSTEM**

**IGNITION
SYSTEM**

**POWER
HEAD**

**LOWER
UNIT**

**MANUAL
STARTER**

1

2

3

4

5

6

7

SAFETY WARNING

Proper service and repair is important for the safe, reliable operation of all mechanical products. The service procedures we recommend and describe in this service manual are effective methods for performing service operations. Some of these service operations require the use of tools specially designed for the purpose. These special tools should be used when and as recommended.

It is important to note that some warnings against the use of specific service methods that can damage the engine or render it unsafe are stated in this service manual. However, please remember that these warnings are not all inclusive. Since Johnson Motors could not possibly know, evaluate and advise the service trade of all possible ways in which service might be done or of the possible hazardous consequences of each way, we have not undertaken any such broad evaluation. Accordingly, anyone who uses a service procedure or tool which is not recommended by Johnson Motors must first thoroughly satisfy himself that neither his nor the engine's safety will be jeopardized by the service methods selected.

Housings and covers around the power head are machinery guards. Operation of the motor with these guards removed exposes the operator to additional hazards.

When replacing components having safety warnings attached, the safety warnings must be attached to the replacement parts.

SAFETY

The purpose of the safety symbols is to attract your attention to possible dangers. The symbols, and the explanations with them, deserve your careful attention and understanding. Safety warnings do not by themselves eliminate any danger. The instructions or warnings they give are not substitutes for proper accident prevention measures.



SAFETY WARNING

Failure to obey a safety warning may result in injury to you or to others.



NOTE

Advises you of information specially useful in the servicing and overhaul of your motor.

TABLE OF CONTENTS



NOTE

All photographs and illustrations may not necessarily depict actual models or equipment, but are intended for reference only and are based on the latest product information available at the time of publication.

	PAGE
SECTION 1 INTRODUCTION	1-1
Arrangement of Manual	1-2
Parts Catalog	1-2
Service Policy	1-2
Replacement Parts	1-2
Special Service Tools	1-3
Outboard Motor Nomenclature	1-3
SECTION 2 GENERAL SERVICE INFORMATION	2-1
Specifications	2-2
Coil Test Specifications	2-2
Clearance Chart	2-3
Torque Chart	2-3
Lubrication Chart	2-4
Gearcase Lubrication	2-4
Lubrication Points	2-5
Engine Fuel and Lubricant	2-6
Break-In	2-7
Tune-Up Procedure	2-8
Trouble Check Chart	2-9
Submerged Motors	2-10
SECTION 3 FUEL SYSTEM	3-1
Description	3-2
Theory of Operation	3-2
Removal of Fuel Tank, Carburetor and Intake Manifold	3-3
Carburetor Disassembly	3-3
Cleaning, Inspection and Repair	3-4
Carburetor Reassembly	3-6
Reassembly of Leaf Valves, Intake Manifold, Fuel Tank, and Carburetor to Motor	3-7
Carburetor Adjustments	3-7
SECTION 4 IGNITION SYSTEM	4-1
Description	4-2
Theory of Operation	4-2
Removal of Magneto from Power Head	4-3
Magneto Disassembly	4-3
Cleaning, Inspection, and Repair	4-4
Testing Coil, Condenser and Breaker Points	4-5
Magneto Reassembly	4-6
Reassembly of Magneto to Motor	4-7
Breaker Point Adjustment	4-7
SECTION 5 POWER HEAD	5-1
Description	5-2
Theory of Operation	5-2
Checking Motor Temperature	5-3
Removal of Power Head	5-3
Disassembly of Power Head	5-3
Cleaning, Inspection, and Repair	5-4
Reassembly of Power Head	5-6
Reassembly of Power Head to Exhaust Housing	5-8
Break-In	5-8