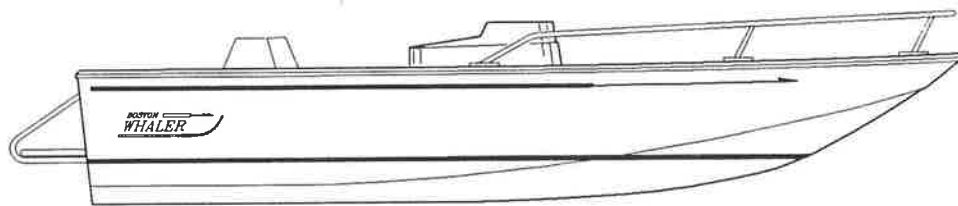


Boston Whaler[®]

Rage Jet Boat



OWNER'S MANUAL



SAFETY OPERATION

ATTENTION:

THE JET BOAT YOU HAVE JUST PURCHASED WILL PROVIDE YEARS OF GOOD SERVICE. HOWEVER, BEFORE OPERATING YOUR BOSTON WHALER RAGE JET BOAT, READ THE OWNERS MANUAL COMPLETELY TO BECOME FAMILIAR WITH ALL SAFETY, DANGER, WARNING, AND MANEUVERING ASPECTS OF THE BOAT. THE FOLLOWING SUMMARIZES SOME OF THESE:

- Run bilge blower prior to starting the engine.
- Follow engine break-in procedures.
- Mix oil with gasoline - 50:1 Ratio
- Gasoline and vapors are highly flammable. If fuel odors present, do not start engine or any electrical equipment.
- When engine is running, the jet pump is operating and movement of the boat is possible.
- Attach safety lanyard to operator.
- Jet thrust is required for steering. If the engine is not running, there is no ability to steer the boat.
- Do not over prime fuel system, one pump of the ball is enough.
- Batteries contain sulfuric acid - Avoid contact with skin, eyes and clothing.
- Batteries produce explosive gases - caution when charging or using jumper cables.
- Check engine compartment for water prior to starting engine
- Disconnect batteries prior to performing any work.
- Shut off engine before attempting to remove debris from the jet intake.
- Cooling system flushing warning
- Single point lifting Apex warning
- Do not leave your boat in water for extended periods of time to reduce damage from marine growth and electrolysis.
- Never take your boat to the point where you do not feel in control and approach maximum RPM slowly and with caution.

T A B L E O F C O N T E N T S

RAGE JET BOAT

GENERAL INFORMATION

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23. KEEPING SHIPSHAPE - MAINTENANCE

Boston Whaler, Inc.
1149 Hingham Street
Rockland, MA 02370 USA

I N T R O D U C T I O N

Congratulations on the purchase of your new Boston Whaler. We are pleased to welcome you to the family of Boston Whaler owners who are known for their commitment to the highest quality and best engineering possible.

Boston Whaler began building boats in 1958. In the ensuing years our products have become legendary because of their unique foam core construction which makes Boston Whalers unsinkable, and extremely durable. Your new Whaler was designed using the experience and dedication to craftsmanship that only our over 30 years of boat building expertise can provide. Every Boston Whaler that we have ever built, including your boat, is the best in its class.

This manual provides important information on operating and caring for your new boat. We strongly suggest that you read it in detail prior to using the boat, so that you can familiarize yourself with its systems and operating procedures. Following these guidelines will protect your warranty and ensure your full enjoyment of your boat.

Boston Whaler has built its reputation on safety. We strongly encourage you to review the sections in the manual about boating safety, and the safety systems we have incorporated into your boat.

Thank you for purchasing a Boston Whaler. We wish you many years of safe, enjoyable boating. If you should need assistance, first talk with your dealer. Beyond that, please feel free to contact the Boston Whaler Customer Service Department.

Sincerely,
Boston Whaler

ABOUT THIS MANUAL

This manual is intended as a guideline for becoming familiar with your Boston Whaler and its operation. Safety has always been a primary consideration in the design and construction of all Boston Whalers, and this manual stresses the importance of safe operation.

The manual describes the systems of the boat in terms of purpose, operation and maintenance. At times reference is made to certain systems which may be installed by your dealer. You should consult your dealer and the manuals provided by the manufacturers of those systems for detailed instructions on their operation and maintenance.

We know this manual will provide you with knowledge to help make your time on board your Boston Whaler enjoyable and safe. In an effort to continually improve our products and provide better service, we invite your constructive comments on our boats and on the format and content of this owner's manual.

MODEL

[] Rage Jet Boat

IDENTIFICATION NUMBERS

BW Hull No. _____

Hull Ident. No. _____

Engine Ser. No. _____
(See plate on intake manifold)

Ignition Key No. _____

**BOSTON WHALER, INC.
COMMISSIONING CHECKLIST**

Prior to taking delivery of your new Boston Whaler, we strongly encourage you to review the items in this checklist with your dealer to ensure the safe and efficient operation of your boat.

[] Identification

Owner: Name _____ Tel. no. () _____
Address _____
Dealer: Name _____ Tel. no. () _____
Address _____
Dealer rep. _____
Boat: Model _____ Hull no. _____ Year _____
Hull ident. no. _____ Capacity _____ persons

[] Options installed as ordered

[] Deliverables

- ☐ Title & registration papers
- ☐ Ignition keys
- ☐ Owner's Manual
- ☐ Equipment manuals

[] Owner's responsibilities

- ☐ Knowledge & skills
- ☐ Safe operation
- ☐ Proper equipment
- ☐ Proper maintenance

[] Safety equipment

- ☐ Fire extinguisher
- ☐ Personal flotation devices
- ☐ Sound signalling device
- ☐ Visual signalling device

[] Electrical system

- ☐ Batteries & maintenance
- ☐ Switch Panel
- ☐ Navigation & anchor lights
- ☐ Compass light

[] Fuel system

- ☐ Tank capacity
- ☐ Filling procedures & precautions
- ☐ Engine filter
- ☐ Vent
- ☐ Fuel gauge
- ☐ **RUN BILGE BLOWER PRIOR TO START**

[] Steering system

- ☐ Principles of operation
- ☐ Maintenance

[] Controls & Instrument Panel

- ☐ Ignition (Start/stop)
- ☐ Throttle
- ☐ Shift
- ☐ Choke

[] Things to know

- ☐ Lifting
- ☐ Trailering

- ☐ Attachments to hull
- ☐ Battery installation
- ☐ Hull trim
- ☐ Drainage
- ☐ Prior to getting underway
- ☐ Safe operating habits
- ☐ Securing the boat
- ☐ Rigging for skiing

[] Keeping shipshape

- ☐ Fiberglass parts
- ☐ Metal & wood trim
- ☐ Windshield
- ☐ Upholstery
- ☐ Canvas
- ☐ Bottom paint & waterlines
- ☐ Winter storage

OWNER'S RESPONSIBILITIES

OWNING A BOAT INVOLVES RESPONSIBILITIES to both the general public and to your passengers. These responsibilities are intended to assure the safety and enjoyment of boating for everyone.

Although this manual is not intended to teach you all you should know about boating, we list below some of the more important responsibilities which must be considered before beginning your first cruise in your new Boston Whaler. The U.S. Coast Guard Auxiliary is a good local source to expand your knowledge about boating.

KNOWLEDGE OF OPERATING PROCEDURES:

- Rules of the Road
- Navigation procedures and skills
- Boat handling and maneuvering
- Location and use of safety equipment
- Emergency procedures for:
 - Fire and/or explosion
 - Collision with another boat or floating object
 - Going aground
 - Swamping or capsizing
 - Man overboard
 - Medical emergencies
- Basic first aid
- How to approach a person in the water
- Anchoring and mooring
- Signalling and radio communications
- Predicting weather and sea conditions

SAFE OPERATION OF THE BOAT

- Proper lookout
- Awareness of other boats & swimmers nearby
- Attention to navigational hazards - shoals & obstructions
- Safe speed for existing conditions
- Regard for your boat's wake
- Operation of the boat in a sober, responsible manner

A PROPERLY EQUIPPED BOAT

- Proper and sufficient safety equipment
- Adequate fuel
- Proper anchor and mooring equipment

PROPER MAINTENANCE OF THE BOAT AND ITS EQUIPMENT

- Prevent breakdowns and dangerous conditions

COURTESY ON THE WATER

- Proper speed
- Proper trash & garbage disposal
- Don't anchor too near others
- Keep the noise down
- Help others in need

Be a responsible member of the boating community. **BOSTON WHALER OWNERS ARE RESPECTED FOR MORE THAN JUST THE QUALITY OF THEIR BOATS!**

SAFETY EQUIPMENT

GENERAL: Your Boston Whaler has been designed with safety in mind with our unsinkable foam core hull making us an industry leader in boating safety. However, there will be times when your actions will be important in ensuring the safety of you and your guests.

Learn the location and proper use of all safety equipment on your boat. Your guests should be given demonstrations and practical instruction in this regard, prior to getting underway. They will appreciate knowing that you care enough about their safety to take the time to conduct safety drills. Prior to departure, make sure that all safety equipment is properly stowed in assigned locations, ready for immediate use.

THE U.S. COAST GUARD REQUIRES THE FOLLOWING SAFETY EQUIPMENT:

1. **USCG Approved fire extinguisher** (USCG type B-1) (Two type B-1 extinguishers are included with your Rage Jet Boat.)

2. **USCG Approved Person Flotation Devices** (Life vests or PFDs)

Boats less than 16 feet in length must be equipped with one Type I, II, III or IV for each person aboard.

Discuss with your dealer the PFD types you should carry on board your Boston Whaler.

3. **Visual distress signals**

Boats less than 16 feet in length must carry U.S. Coast Guard approved distress signals for use at night.

Discuss with your dealer the types recommended for your boat.

4. **Navigation lights (Optional)**

Your Boston Whaler is available with optionally equipped USCG approved navigation lights for use while underway at night. These must be used while underway from sunset to sunrise and in any periods of reduced visibility.

5. **A sound signalling device**

A hand, mouth or power operated horn or whistle is required on board boats in the size range covered by this manual. If an electric horn is not provided on your boat, discuss the requirements with your dealer.

Exact specifications for safety equipment are included in the booklet "Boating Basics, Blueprint for Safety", published by the National Marine Manufacturer's Association, which is included in your owner's package.

LIMITED WARRANTY

For the protection of its customers, Boston Whaler, Inc. offers:

- (1) A Limited Ten-year Warranty for the Hull and Whaler Drive Structure;
- (2) A Limited Two-year Warranty for Accessories supplied by Boston Whaler, Inc., other than engines;
- (3) A Limited One-year Warranty for Cosmetic Finishes.

1. Boston Whaler, Inc. provides each new boat with a warranty registration card which must be filled out and mailed to Boston Whaler, Inc. promptly after purchase, to help us fulfill our service obligations to our customers, and our legal obligations under the Federal Boat Safety Act. FAILURE TO COMPLETE AND RETURN THE WARRANTY REGISTRATION CARD WITHIN 30 DAYS OF DELIVERY OF YOUR BOAT TO YOU WILL VOID THE WARRANTY.
2. Boston Whaler, Inc. warrants each Boston Whaler Hull and Whaler Drive manufactured by Boston Whaler, Inc. to be free from STRUCTURAL defects due to substandard material and workmanship, under conditions of normal consumer use and service, for a period of TEN YEARS from date of manufacture.
3. ACCESSORIES supplied by Boston Whaler, Inc., whether or not manufactured by Boston Whaler, Inc. (other than the engine assemblies, which are warranted by the engine manufacturers and not by Boston Whaler, Inc.) are warranted against defective workmanship or materials for a period of TWO YEARS from date of delivery to the original purchaser. (Built-in fuel tanks are accessory components).
4. Boston Whaler, Inc. warrants each hull and Whaler Drive supplied by Boston Whaler, Inc. to be free from COSMETIC defects (including bottom blistering) due to substandard materials or workmanship, under conditions of normal use and service, for a period of ONE YEAR from date of delivery to the original purchaser.
5. None of the foregoing hull and accessory warranties applies to any Boston Whaler boat which has been structurally altered, subjected to unreasonable use, negligence or accident, or used for racing purposes. These warranties are also void if the manufacturer's maximum recommended horsepower is exceeded. The recommended horsepower is shown on the certificate plate affixed to the hull.
6. The obligation of Boston Whaler, Inc. under these warranties is limited to the repair, replacement or making reimbursement within a reasonable time, for such boat or part which shall, within the warranty period, be determined to have been defective in material or workmanship. The decision to repair, replace or make reimbursement for a particular boat or parts shall be at the election of Boston Whaler, Inc.

Replacement or reimbursement for such boat or part will be prorated for use according to the portion of the warranty period elapsed when the claim is made. [For example, if you have had your boat for six years and a structural defect appears, you would be entitled (at Boston Whaler's election and assuming Boston Whaler has not elected to repair) to reimbursement equal to 40% of your hull's purchase price or an equal credit towards the purchase of a new hull.] Boston Whaler, Inc. may require such boat or part to be returned to an authorized dealer or the factory for examination, transportation charges prepaid. Boston Whaler, Inc. will reimburse these charges upon disclosure of a bona fide warranty claim.

BOSTON WHALER, INC. MAKES NO OTHER EXPRESS WARRANTIES, AND INTENDS NO IMPLIED WARRANTIES. IF ANY IMPLIED WARRANTIES BE FOUND TO EXIST, SUCH IMPLIED WARRANTIES WILL BE SUBJECT TO THE TIME LIMITS APPEARING AT THE TOP OF THIS WARRANTY. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. BOSTON WHALER, INC. WILL NOT BE LIABLE FOR CONSEQUENTIAL DAMAGES OF ANY KIND RESULTING FROM A BREACH OF ANY WARRANTY EXPRESSED OR IMPLIED. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

7. Boston Whaler, Inc. reserves the right to improve its products through changes in design or material without obligation to incorporate such changes on boats of prior manufacture.
8. To initiate a warranty claim, it is the responsibility of the purchaser to contact an authorized Boston Whaler dealer or the Customer Service Department at Boston Whaler, Inc., 1149 Hingham Street, Rockland, MA 02370 within a reasonable time after discovery of the defect, giving details as to the nature of the problem, hull serial number, date of purchase and from whom, and circumstances of the defect, and delivering to such dealer the boat with respect to which the warranty claim is made.
9. This warranty is not limited to the original purchaser. It is transferrable to all future owners of the boat. Any transfer of the boat to a new owner shall not extend the period of any warranty made by Boston Whaler, Inc.
10. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Boston Whaler, Inc., 1149 Hingham Street, Rockland, MA 02370

BOSTON WHALER, INC.
LIMITED ENGINE WARRANTY

Your new Boston Whaler Rage Jet Boat is covered under the terms of our normal Boston Whaler limited hull warranty. The engine and jet pump are warrantied by Boston Whaler for a period of one (1) year from the date of sale against defects in material or workmanship, under the same warranty terms and limitations. Any Rage Jet Boat utilized for commercial applications will be warrantied for a period of ninety (90) days from the date of purchase and subject to the noted exclusions. Replacement parts will be warrantied for the balance of the applicable warranty period.

Boston Whaler provides each new boat with a warranty registration card which must be filled out and mailed to Boston Whaler, Inc., promptly after purchase, to help fulfill our service obligations to our customers, and our legal obligation under the Federal Boat Safety Act. The return of the warranty registration card within 30 days of delivery will ensure both your boat and engine are registered.

To obtain repairs under the warranty during the warranty period, it is the OWNER'S RESPONSIBILITY to give notice to an authorized Boston Whaler Rage Dealer of any apparent defects and make the boat available at the dealer's place of business for inspection within 10 days of discovery of the apparent defect. Charges for transportation are excluded from the warranty. It is the owner's responsibility to ensure the boat and engine are properly maintained, operated and stored.

GENERAL EXCLUSIONS: The warranty will not cover the repair of damage if the result of abuse or neglect such as, but not limited to:

- Racing or competition use, modification of original parts, or abnormal strain
- Lack of proper maintenance and off season storage
- Installation of parts or accessories that are not equivalent in design and quality to genuine original parts, or other than in strict conformance with applicable user manual or other written instructions furnished by Boston Whaler
- Previous repair or alteration other than by an authorized Boston Whaler representative.
- Improper shipment or transport
- Use of lubricants, oils and fuel/oil mixtures that are not suitable
- Damage resulting from accidents, collisions, contact with foreign materials, or submersion
- Growth of marine organism and/or electrolysis on motor, intake, and pump components
- Normal wear and routine maintenance items such as oil, spark plugs, fuel filters, impeller and lines and anodes

TRANSFER OF THE WARRANTY can be accomplished by filling out and mailing the transfer portion of the warranty card to Boston Whaler, Inc.

If you need further assistance or further CUSTOMER SERVICE, first contact your dealer. Since all warranty matters are handled at the dealer level, this is the best person to help you. If you are not satisfied or require additional assistance, please write:

BOSTON WHALER, INC.
CUSTOMER SERVICE DEPT.
1149 HINGHAM STREET
ROCKLAND, MA 02370

ENGINE CONTROLS

DESCRIPTION: The controls for operating the engine consist of the following:

- Ignition/blower control (Start/stop)
- Emergency Ignition Stop Switch & Safety Lanyard
- Choke control
- Throttle control (Engine speed)
- Shift control (Forward and reverse)
- Overheat warning device

Be sure to read Section 11 of this manual (Engine & Jet Drive) for specific instructions on operation and maintenance of the engine, jet drive and controls. **FOLLOW THE BREAK-IN PROCEDURES IN THAT SECTION.**

IGNITION/BLOWER CONTROL: Your Rage Jet Boat is equipped with an ignition control panel which has one of two configurations. Earlier models have a panel which contains a key switch, a "Start" button, a "Stop" button and an "Emergency Ignition Stop Switch" with lanyard. Later models have a single key switch located on the dash switch panel. The engine is started with an electric starter motor activated by the key switch (and starter button, if installed) on the ignition panel.

The key switch on the earlier models has two positions - "Off", and "On". Placing the key switch in the "On" position operates the bilge ventilation blower and allows the "Start" button to energize the starter motor.

The key switch on later models has four positions - "Off", "Accy", "Run" and "Start". The engine is started by turning the key switch to the "Start" position for not more than five seconds. When the engine has started, the key is released and automatically returns to the "Run" position. The switch is turned to the "Off" position to stop the engine. Placing the switch in the "Accy" position allows accessories (including the bilge ventilation blower) to be operated while the engine is not running. Otherwise, accessories may be operated while the engine is running with the key switch in the "Run" position. The blower will operate whenever the switch is in the "Run" position, but this position should only be used with the engine running. Leaving the switch in "Run" without the engine running may damage the electronic ignition circuitry.

CAUTION: THE BLOWER SHOULD BE OPERATED FOR A MINIMUM OF 5 MINUTES PRIOR TO STARTING THE ENGINE, TO EVACUATE DANGEROUS FUMES FROM THE BILGE AND ENGINE COMPARTMENT. THESE FUMES CAN CAUSE FIRE AND/OR EXPLOSION IF NOT PROPERLY REMOVED.

On earlier models, the engine is stopped by pushing the "Stop" button, and holding it until the engine stops turning. The blower should be allowed to run for several minutes after stopping the engine, prior to turning the key switch to "Off" again. On later models, the engine is stopped merely by turning the key switch to "Off".

BILGE VENTILATION BLOWER CONTROL: On earlier models, this is located on a separate switch panel, combined with the bilge pump control. On later models, it is combined with the bilge pump switch within the ignition panel on the dash. The blower is operated by depressing the lower part of the Bilge/Blower switch. To stop the blower, return the switch to the "center" position. (See "Drains and Bilge Pump" section of this manual for operation of the bilge pump portion of this switch.)

CAUTION: THE BLOWER SHOULD BE OPERATED FOR A MINIMUM OF 5 MINUTES PRIOR TO STARTING THE ENGINE, TO EVACUATE DANGEROUS FUMES FROM THE BILGE AND ENGINE COMPARTMENT. THESE FUMES CAN CAUSE FIRE AND/OR EXPLOSION IF NOT PROPERLY REMOVED.

THE EMERGENCY IGNITION STOP SWITCH and SAFETY LANYARD have been provided for your safety. The switch will stop the engine if the lanyard is pulled from the switch. WE RECOMMEND THAT THIS LANYARD BE ATTACHED TO THE OPERATOR.

TWO IMPORTANT PRECAUTIONS MUST BE OBSERVED PRIOR TO STARTING THE ENGINE:

1. IF FUEL ODORS ARE PRESENT, OBSERVE "NO SMOKING", AVOID ANY SPARKS AND DO NOT START ENGINE OR ENERGIZE ANY ELECTRICAL EQUIPMENT.

CORRECT THE CAUSE OF FUEL LEAKS AND ASSURE THAT NO FUMES REMAIN PRIOR TO STARTING THE ENGINE OR ENERGIZING ELECTRICAL EQUIPMENT.

2. THERE IS NO "NEUTRAL" MODE ON THE JET DRIVE. WHEN THE ENGINE IS STARTED, THE JET PUMP IS OPERATING AND MOVEMENT OF THE BOAT IS POSSIBLE. USE EXTREME CAUTION TO ASSURE THAT THE PATH OF THE BOAT IS CLEAR AND THAT YOU ARE PREPARED TO CONTROL THE BOAT IMMEDIATELY UPON STARTING THE ENGINE.

CHOKE CONTROL: This control is located on the console and operates a cable which adjusts the choke on the carburetor to control the ratio of air/fuel mixture taken into the engine. Prior to pushing the "Start" button when the engine is cold, pull the choke control all the way out from the console. When the engine has warmed up, push the choke all the way in. It should not be necessary to use the choke when the engine is warm.

THROTTLE CONTROL: This is a spring loaded lever located on the steering wheel or optional handle bar. It increases the engine rpm and boat speed when operated against the spring tension. Engine rpm and boat speed are decreased when the lever is released.

WARNING: The throttle is equipped with a return spring. If the throttle is released it will return the engine to idle speed. However, the jet pump will still be operating (with the reverse gate in either "ahead" or "astern" position) and the boat will continue to move unless the engine is stopped.

SHIFT CONTROL: This lever is located on the port side of the helm console. It is connected by a cable to the reverse gate on the jet nozzle. When the shift control lever is moved forward, the gate is fully lifted and in the forward "ahead" mode. When the shift control lever is in the middle, the gate is partially closed, deflecting the water straight down.

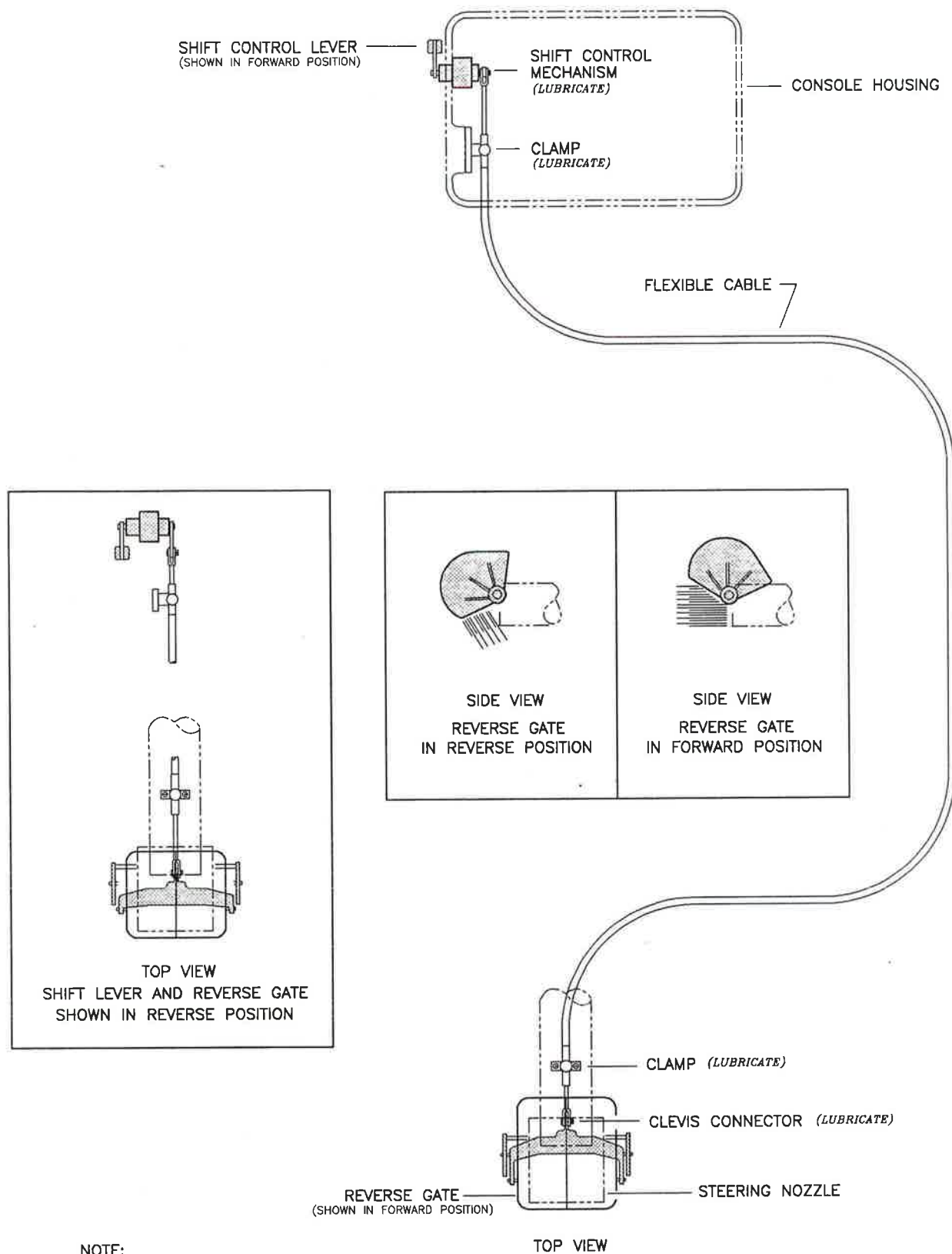
CAUTION: THE JET PUMP IS ENGAGED WHENEVER THE ENGINE IS RUNNING. SOME FORWARD OR AFT MOVEMENT OF THE BOAT CAN OCCUR WITH THE SHIFT CONTROL LEVER IN THE MIDDLE POSITION.

When the shift control lever is moved aft, the reverse gate closes, deflecting the water forward thus moving the boat "astern".

THE ENGINE THROTTLE SHOULD BE SLOWED PRIOR TO SHIFTING in either direction to prevent possible damage to the reverse gate or other components.

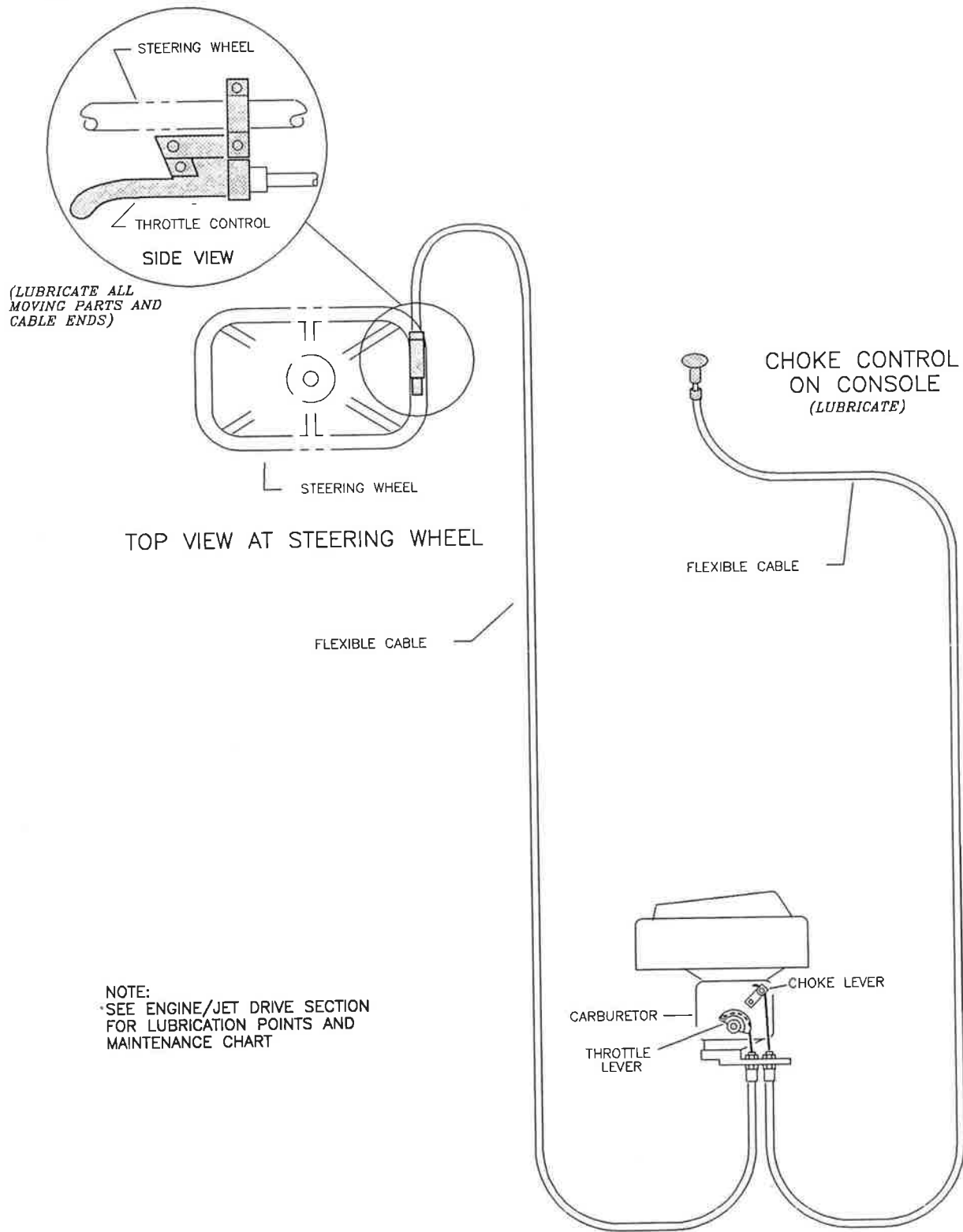
OVERHEAT WARNING DEVICE: The engine has an overheat warning device. If the engine starts to overheat, engine speed will be automatically limited to about 3000 rpm. If this happens, stop the engine and check the waterjet intake screen for an obstruction which may be clogging the intake or cooling passages. (See "Engine & Jet Drive" section of the manual for further information)

MAINTENANCE: Follow the instructions on inspection, testing and lubrication of the engine controls found in Section 11 of this manual. Periodically check the reverse gate and hardware for wear. Inspect the cables for chafing or cracking and replace if any is observed.



NOTE:
SEE ENGINE/JET DRIVE SECTION
FOR LUBRICATION POINTS AND
MAINTENANCE CHART

SHIFT CONTROL SYSTEM



THROTTLE AND CHOKE CONTROL SYSTEMS

STEERING SYSTEM

DESCRIPTION: Jet thrust is used to steer the boat. The steering system installed in your Boston Whaler Rage Jet Boat is a push-pull cable which is connected at one end to the bell crank at the end of the steering shaft, and at the other end to the jet steering nozzle. Turning the steering wheel or optional handle bar directs the nozzle left or right to change the direction of the boat.

Clevis fittings are used at both ends of the cable to assure positive connections.

The steering wheel turns 130 degrees from stop to stop. This allows for quick response and the installation of the trigger operated throttle on the steering wheel. (See Engine Controls)

The steering system consists of the following major components:

- Steering wheel (standard) or handle bar (optional)
- Steering shaft and bell crank
- Steering push-pull cable
- Steering nozzle (or steering "adjuster")

WARNING: THE JET THRUST REQUIRED FOR STEERING IS PRODUCED BY THE ENGINE. IF THE ENGINE IS NOT RUNNING, THERE IS NO ABILITY TO STEER THE BOAT.

OPERATION: Steering is effected by moving the jet steering nozzle to the left or right and simultaneously applying appropriate jet thrust to move the boat. Since the nozzle has virtually no effect as a rudder, the boat's direction is controlled by a combination of steering wheel movement and the application of engine throttle.

It is important to practice the combined operation of the steering and throttle controls in an area away from other boats, swimmers and obstructions in order to gain practice in proper maneuvering technique. Use slow speeds when approaching and maneuvering around docks. At planing speeds, experiment with the steering response at various throttle settings.

REMEMBER, STEERING IS CRITICAL TO THE SAFE OPERATION OF YOUR BOAT AT ANY SPEED.

IF ANY CHANGE IN STEERING LOADS OR PERFORMANCE OCCUR, CHECK WITH YOUR DEALER IMMEDIATELY.

MAINTENANCE:

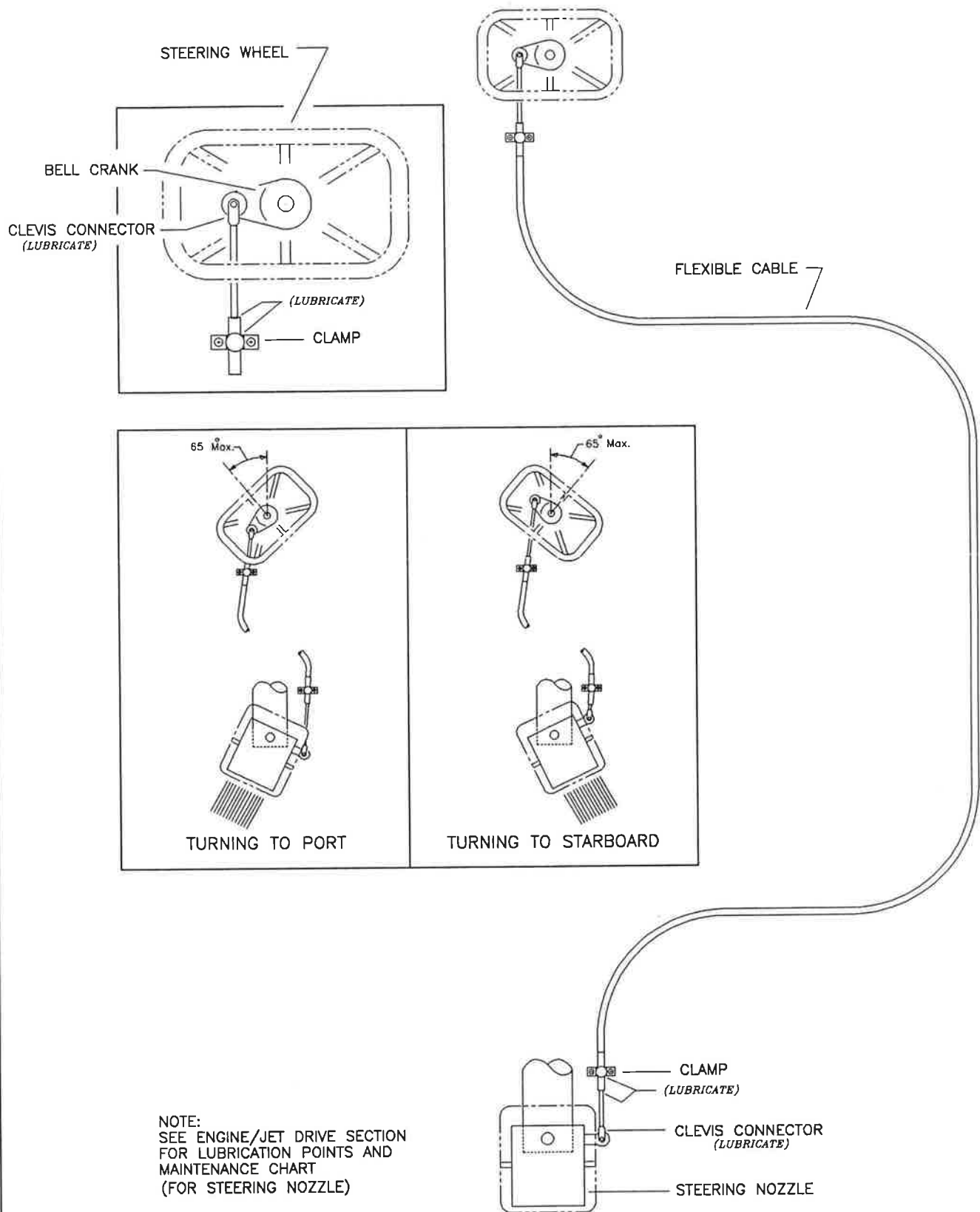
Mechanical steering cables are vinyl jacketed steel core material. Any cracks or abrasion in the vinyl jacket will cause corrosion of the steel with resultant swelling and hard steering. The cable should be inspected regularly. If any cracks or abrasions are noted, the cable should be replaced.

Keep the bell crank and steering nozzle mechanism lubricated with a

good grade of marine grease. Regularly inspect the clevis end fittings for wear and replace if necessary. (See Section 11 on lubrication)

Keep all moving parts of the steering system free of salt build-up or other foreign matter which might affect their operation.

ALL STEERING SYSTEMS require regular inspection, periodic adjustment and occasional replacement of parts in order to avoid unexpected loss of steering.



STEERING SYSTEM

FUEL SYSTEM

DESCRIPTION: The fuel system in your Boston Whaler consists of:

- Portable fuel tank with a capacity of 6 gallons (23 liters)
- Optional additional portable tank of 6 gallons (23 liters)
- Fuel level indicator gauge (on the tank)
- Fuel supply and return hose
- Fuel filter
- Priming bulb

See the drawing included in this section.

The portable tank is mounted on the port aft floor under the stern seat. It should rest on one of our fuel tank mats which have a grooved bottom to reduce slipping on the gel-coat surface. Placing the tank on the mat will prevent the tank from moving around, spilling fuel, marring the deck and staining the deck with rust. If the optional additional tank is used, it can be installed in the same area on the starboard side. The single supply hose can be shifted between tanks.

An elastic shock cord, secured with clips to the deck and passed snugly over the fuel tank, will help to keep it in place.

The vent on a portable tank is normally located on the fill cap.

A fuel level indicator gauge is installed on the top of the tank.

Hoses and fittings are of marine type and are installed using industry accepted procedures and components which are designed to prevent leaks. Supply lines are fitted with flexible hoses to reduce the effects of vibration on the connections.

The fuel line with the primer bulb is attached to the tank with a standard Yamaha quick disconnect fuel fitting. The primer bulb allows pump priming of fuel to the carburetor. **Do not over prime, or flooding of the engine will occur. Squeeze the primer bulb until it is firm.**

The fuel filter is located in the engine compartment. It is of the "in-line" type whose function is to filter out any fine particles of solid contaminants and to remove gummy substances which may be present in the fuel.

The filter is equipped with two intake fittings and one outlet fitting. Unburned fuel is returned to the filter from the engine carburetor via the return line.

OPERATION

FILLING OF THE FUEL TANK SHOULD BE DONE WITH GREAT CARE TO AVOID THE RISKS OF FIRE AND/OR EXPLOSION.

The following procedures should be followed:

1. Properly secure the boat at the fuel dock with mooring lines and fenders.
2. **OBSERVE NO SMOKING! Extinguish all cigarettes, cigars, pipes and all other flames.**
3. Stop the engine.
4. Have a fire extinguisher close at hand, along with some rags to mop up any spills.
5. Disconnect the fuel line from the tank
6. Remove the tank from the boat to prevent vapors and spillage in the vicinity of the engine compartment
7. Determine the approximate amount of fuel remaining in the tank and calculate the amount required to fill the tank, before filling, to ensure that you do not overfill.
8. **MIX THE FUEL WITH TWO CYCLE OIL IN A 50:1 RATIO (1 PINT OF OIL TO 6 GALLONS OF GASOLINE)**

We strongly recommend the use of Yamaha Outboard Motor Oil.

9. Open the fill cap and insert the fuel fill nozzle from the pump on shore. Monitor the filling process carefully to avoid overfilling and thereby spilling on the dock, onto the boat or into the water.

CAUTION: OIL AND FUEL SPILLS CAN BE DANGEROUS AND CAN SUBJECT OFFENDERS TO SEVERE PENALTIES

10. When complete, recap the tank, clean up any minor spills and check the bilge for gasoline fumes.
11. Re-install the tank in the boat, reconnect the fuel line.
12. Reprime the engine by squeezing the primer bulb. (Be sure the vent is open on the tank.) Do not over-pump the primer bulb, as this could result in flooding of the engine's carburetor.
13. Run the bilge blower for at least 5 minutes prior to starting the engine.
14. Discard oil or gas soaked rags in a suitable container ashore. **Do not leave these on board.**
15. Be courteous. Leave the fuel dock as soon as possible to allow other boats to fill their tanks.

MAINTENANCE

The following items require periodic maintenance as indicated:

Filters installed in the fuel supply lines should be replaced periodically. The frequency of this period will depend upon the amount of dirt and water in the filter, and on the season of the year. Winter operation will require more frequent replacements due to condensation. The disposable filter element will require replacement annually and perhaps more often, depending upon usage and quality of fuel used.

WARNING: IF FUEL ODORS ARE PRESENT, OBSERVE "NO SMOKING", AVOID ANY SPARKS AND DO NOT START ENGINES OR ENERGIZE ANY ELECTRICAL EQUIPMENT.

CHECK FOR LEAKS IN TUBING, CONNECTIONS AND HOSES. CORRECT THE CAUSE OF THE LEAKS, AND VENTILATE THE AREA TO ASSURE THAT NO FUMES REMAIN, PRIOR TO ENERGIZING ANY ELECTRICAL EQUIPMENT AND/OR STARTING ENGINES.

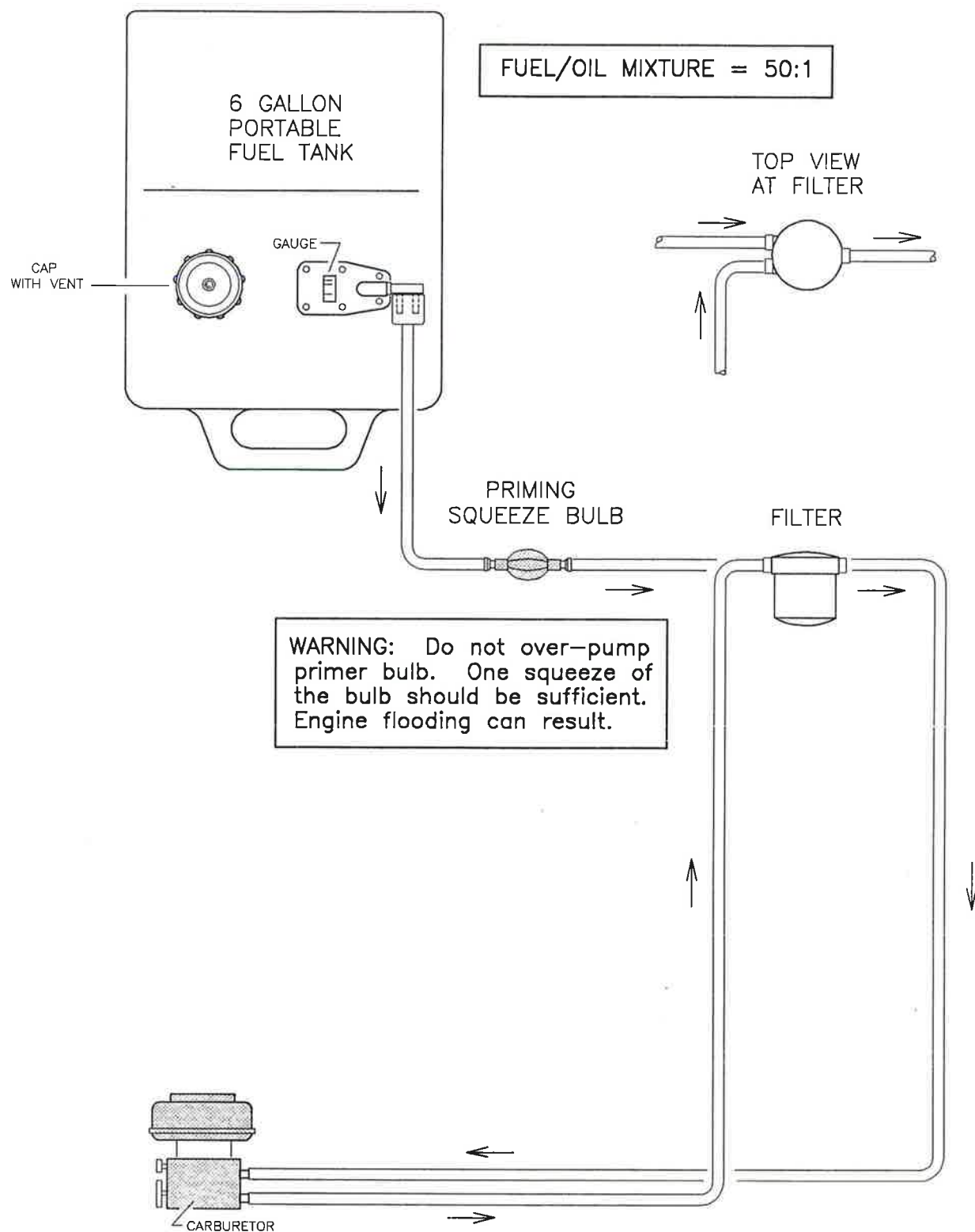
Inspect hoses and fittings for cracks, abrasion, deterioration, at least every 100 hours of operation. Make sure there is a good, tight connection at the fuel tank. These fittings can wear with use, causing the induction of air into the fuel line. Replace as necessary. Check the hose clamps at the engine on both the supply and return lines.

Make sure the primer bulb is functioning properly. It is equipped with an internal check valve. Replace the bulb if the rubber becomes stiff or cracked.

After starting engines, recheck that no leaks occur.

Replace damaged or deteriorated hoses and fittings which might restrict the flow of fuel or which might eventually break and cause serious leaks. If a leak cannot be stopped by tightening a fitting, the fitting should be replaced. This may require replacement of an adjacent hose. Use only replacement fuel hoses that have been certified to meet U.S. Coast Guard requirements.

If it becomes necessary to dispose of contaminated fuel, consult your local fuel supplier for proper procedures for disposal to comply with local, state and federal regulations.



FUEL SYSTEM ARRANGEMENT

ELECTRICAL SYSTEM

GENERAL DESCRIPTION: Your Boston Whaler is factory wired with a 12 volt DC electrical system which provides electrical power for the following:

- Engine ignition
- Bilge ventilation blower
- Bilge pump (optional)
- Navigation Lights (optional)

The battery is recharged by the engine alternator at a rate of 3 amps. Any optional equipment or components left "On" will deplete the charge quickly. Discuss the installation of the optional items with your dealer.

The electrical system consists of the following components:

- BATTERY
- ENGINE IGNITION WIRING HARNESS
- BOAT WIRING HARNESS
- FUSE PANEL
- IGNITION PANEL
- BILGE VENTILATION BLOWER

Each of these components is described in detail below. An electrical wiring schematic is provided to indicate the relationship of the components.

12V DC BATTERY: A 12 volt marine battery is located on the starboard side of the engine compartment. The battery provides electrical power for starting the engine and for operating those systems which require DC (Direct Current) electricity. With proper care it should give years of dependable service.

The battery is securely fastened in place to prevent movement and causing possible damage to the battery cables, or parts of the boat, including the engine. A breather tube on the battery enclosure provides ventilation of dangerous hydrogen gas.

Connecting jumper cables: If the battery should become discharged, it may become necessary to start the engine by using the 12 volt battery from another source. In this case, connect heavy duty jumper cables as follows:

WARNING: BATTERIES CONTAIN SULFURIC ACID WHICH IS DANGEROUS AND CAN CAUSE SERIOUS INJURY. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. IF CONTACT OCCURS, FLUSH IMMEDIATELY WITH LARGE QUANTITIES OF WATER AND CALL IMMEDIATELY FOR EMERGENCY MEDICAL ASSISTANCE.

BATTERIES PRODUCE EXPLOSIVE GASES. KEEP SPARKS, FLAME, CIGARETTES, ETC., AWAY. VENTILATE WHEN CHARGING OR USING JUMPER CABLES. ALWAYS SHIELD EYES WHEN WORKING NEAR BATTERIES.

1. Connect the positive (+) terminals of both batteries with the positive jumper cable.
2. Connect one end of the negative (-) jumper cable to the

negative terminal of the booster battery.

3. Connect the other end of the negative (-) jumper cable to an UNPAINTED bolt on the cylinder head.

WARNING: DO NOT CONNECT THE NEGATIVE (-) JUMPER CABLE TO THE NEGATIVE TERMINAL ON YOUR BOAT! THIS MAY CAUSE A SPARK AND POSSIBLE EXPLOSION.

Be sure all connections are secure and correct before attempting to start the engine. Any wrong connection may damage the electrical system.

Start the engine. AFTER the engine has started, disconnect the negative (-) cable first. Then disconnect the positive (+) cable.

BATTERY MAINTENANCE: Battery maintenance is important to assure that your boat will be ready for operation when needed. Maintenance procedures are divided into five categories:

1. Inspection
2. Testing
3. Cleaning
4. Electrolyte level maintenance
5. Charging

Inspection: Conduct a monthly inspection of the battery to determine the following:

1. Electrolyte level is above the plates but not by more than 1/4". (This is not a requirement for sealed batteries.)
2. Terminals are clean and free of corrosion.
3. The battery is properly secured to prevent movement.
4. No acid spills have occurred.

Testing: Battery voltage checks should be performed periodically with a DC voltmeter. (Discuss the installation of a permanent voltmeter with your dealer.) The voltmeter will register 12 volts or more if the battery is in good condition, and will register less than 12 volts if the battery is weak. Weakened batteries should be recharged by running the engine or by using a battery charger ashore.

Also, a monthly test of the electrolyte condition should be performed with a hydrometer. (This cannot be accomplished on sealed batteries.) Hydrometer specific gravity readings should be taken in accordance with instructions provided with the instrument.

WARNING: BATTERIES CONTAIN SULFURIC ACID WHICH IS DANGEROUS AND CAN CAUSE SERIOUS INJURY. AVOID CONTACT WITH SKIN, EYES AND CLOTHING. IF CONTACT OCCURS, FLUSH IMMEDIATELY WITH LARGE QUANTITIES OF WATER AND CALL IMMEDIATELY FOR EMERGENCY MEDICAL ASSISTANCE.

Cleaning: At least annually and whenever the battery appears to have dirt or corrosion on the terminals, disconnect the cable at the battery and scrub both the battery terminals and the cable fittings with a solution of baking soda and water with a wire brush. (Ask your dealer about a special tool designed for this purpose.) Be sure

to keep the solution from entering the battery cells. When all corrosion and dirt have been removed, wipe the terminals, cable fittings and the top of the battery with a clean cloth. After reconnecting the cables to the terminals, coat them with electrical jelly or vasoline to prevent further corrosion.

Electrolyte level: The electrolyte level may fall below the top of the battery cell plates by either spillage or evaporation. If this occurs, carefully refill the cells with distilled water to within approximately 1/4" above the plates. **Normal tap water contains minerals which are harmful to batteries. Therefore use only distilled water.**

Charging: The batteries are charged by the electronic charging circuit during normal operation. The charging capacity of this circuit is limited to 3 amps, so it is important not to leave the bilge blower or other accessories "On" for extended periods of time, as this may drain the battery. If circumstances require additional charging with a battery charger, follow the battery and charger manufacturers' instructions when performing this operation. After recharging, re-test the electrolyte condition with a hydrometer. The specific gravity of the electrolyte should be 1.28 at 68°F (20°C). If the condition has not been improved by recharging, the battery should be replaced. **Always remove the battery from the boat when adding distilled water or recharging. Never lay the battery on its side, as spillage and damage might occur.**

WARNING: BATTERIES RELEASE HIGHLY FLAMMABLE HYDROGEN GAS WHILE CHARGING (EXCEPT SEALED BATTERIES). ENSURE THAT VENTILATION IS ADEQUATE. DO NOT SEAL VENT OPENINGS OF BATTERY CAPS OR THE BREATHER TUBE ON THE BATTERY CONTAINER.

ENGINE IGNITION & BOAT WIRING HARNESSSES: These harnesses run from the console to the engine, with a portion running back to the aft bilge ventilation blower. They connect the ignition controls and the fuse block to the engine starter motor, the electronic ignition component (CDI) and the blower motor. When optional navigation lights and/or bilge pump are installed, the wiring harnesses connect the appropriate controls to these items as well. (See the wiring diagram included at the end of this section.)

FUSE PANEL: This component is located inside the console and protects the electrical system from overloads and short circuits. If a fuse blows, determine the cause and correct this situation immediately, prior to replacing the fuse. Always replace a blown fuse with one of the same type and amperage rating as originally designed for the circuit.

CAUTION: NEVER REPLACE A BLOWN FUSE WITHOUT FIRST DETERMINING AND CORRECTING THE CAUSE OF THE OVERLOAD. Should a circuit repeatedly blow its fuse, have a qualified marine electrician determine and correct the cause.

IGNITION PANEL: This panel contains the key switch, start and stop buttons and the Emergency Ignition Stop Switch and lanyard. The use

of these controls is discussed in detail in the "Engine Controls" section of this manual. (Also see "Engine and Jet Drive" section regarding the Ignition Fuse replacement in the engine electrical box.)

TWO IMPORTANT PRECAUTIONS MUST BE OBSERVED PRIOR TO STARTING THE ENGINE:

1. IF FUEL ODORS ARE PRESENT, OBSERVE "NO SMOKING", AVOID ANY SPARKS AND DO NOT START ENGINE OR ENERGIZE ANY ELECTRICAL EQUIPMENT.

CORRECT THE CAUSE OF FUEL LEAKS AND ASSURE THAT NO FUMES REMAIN PRIOR TO STARTING THE ENGINE OR ENERGIZING ELECTRICAL EQUIPMENT.

2. THERE IS NO "NEUTRAL" MODE ON THE JET DRIVE. WHEN THE ENGINE IS STARTED, THE JET PUMP IS OPERATING AND MOVEMENT OF THE BOAT IS POSSIBLE. USE EXTREME CAUTION TO ASSURE THAT THE PATH OF THE BOAT IS CLEAR AND THAT YOU ARE PREPARED TO CONTROL THE BOAT IMMEDIATELY UPON STARTING THE ENGINE.

BILGE VENTILATION BLOWER: This unit is located on the aft face of the fiberglass seat back, and is installed in the starboard ventilation exhaust duct. The blower provides ventilation for the engine compartment to evacuate dangerous fumes before starting the engine, and during operation of the boat. (See the section on Engine Controls) The blower is activated by a switch on the dash. This is a combination switch which also operates the bilge pump. (See the drawing on page 10-6.)

CAUTION: THE BLOWER SHOULD BE OPERATED FOR A MINIMUM OF 5 MINUTES PRIOR TO STARTING THE ENGINE, TO EVACUATE DANGEROUS FUMES FROM THE BILGE AND ENGINE COMPARTMENT. THESE FUMES CAN CAUSE FIRE AND/OR EXPLOSION IF NOT PROPERLY REMOVED.

It is good practice to allow the blower to run for a few minutes after the engine is shut off to cool the engine compartment.

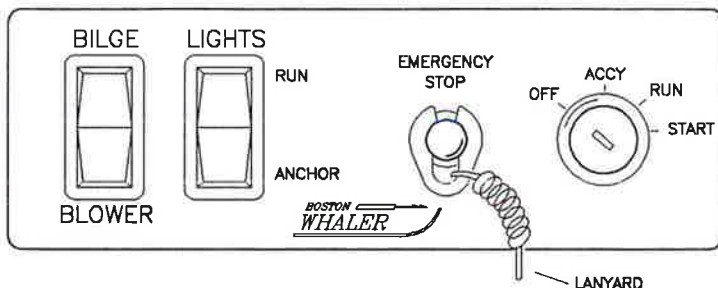
MAINTENANCE OF THE ELECTRICAL SYSTEM: The Electrical System requires little maintenance by the owner. Periodic checks should be made to determine that connections are tight and that wiring and components have not been damaged in any way.

CAUTION: BATTERY SHOULD BE DISCONNECTED BEFORE DOING ANY WORK OR MAINTENANCE ON THE ELECTRICAL SYSTEM.

Use only the appropriate tool for the job, according to the type of connection.

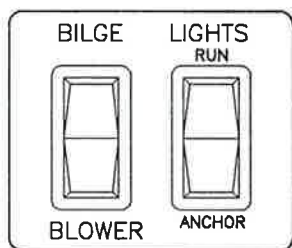
If wiring or components become damaged, consult a qualified marine electrician.



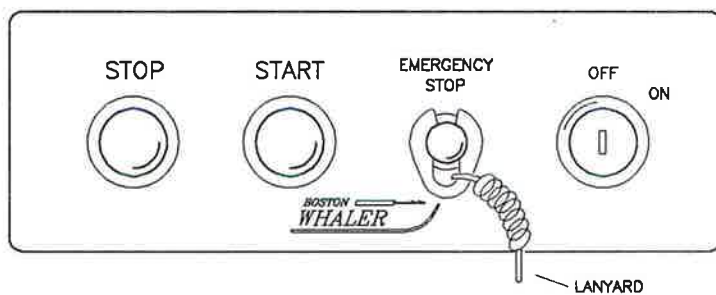


SINGLE PANEL
WITH ROCKER SWITCHES
FOR OPTIONAL BILGE PUMP AND NAVIGATION LIGHTS

LATER MODELS



SEPARATE PANEL
WITH ROCKER SWITCHES
FOR OPTIONAL SYSTEMS



IGNITION PANEL

EARLIER MODELS

DASH SWITCH PANELS

ENGINE AND JET DRIVE

DESCRIPTION: Your Boston Whaler is equipped with a two cycle Yamaha engine/jet drive installation. (See specification sheet included at the end of this section.) With proper operation and maintenance, the engine and drive unit should give you years of reliable service. The engine is attached to the jet drive mechanism by means of a shaft and flexible coupling as shown in the drawing. The engine causes the jet drive impeller to turn at a high rpm, thus pumping seawater from the intake on the bottom of the unit, through the jet drive tunnel and out the nozzle. The resulting high powered stream of water drives the boat forward. Steering the boat is accomplished by altering the direction of the steering nozzle or "steering adjuster" with the steering control mechanism. (See "Steering System" section of manual.) Reversing the boat is accomplished by changing the direction of the stream with the reverse gate, which is controlled by the shift control mechanism. (See "Engine Controls" section.)

OPERATION:

PRIOR TO STARTING ENGINE

1. Launch the boat and make sure it is **IN WATER AT LEAST 2 FEET DEEP**. Although your Rage Jet Boat can run in less water, we recommend that you never operate in less than 2 feet. Shallow water operation can result in the jet pump picking up pebbles and sand which could damage the impeller and cooling system. Avoid running in weeds or heavy grassy areas in which the jet intake may become clogged.
2. Check that no gasoline fumes are present.

CAUTION : IF FUEL ODORS ARE PRESENT, OBSERVE "NO SMOKING", AVOID ANY SPARKS AND DO NOT START ENGINE OR ENERGIZE ANY ELECTRICAL EQUIPMENT.

CORRECT THE CAUSE OF THE LEAK AND ASSURE THAT NO FUMES REMAIN PRIOR TO STARTING ENGINE OR ENERGIZING ELECTRICAL EQUIPMENT.

3. **RUN THE BLOWER FOR AT LEAST 5 MINUTES PRIOR TO STARTING ENGINE**
4. Be prepared to control the boat as soon as the engine is started.

BREAK-IN PROCEDURES:

1. Run the engine at the lowest possible speed for the first five minutes.
2. Gradually open the throttle to one-half.
3. Continue operation of the boat at half throttle or less until the first tankfull of fuel has been used up.

Immediately shut down engine if any of the following occur:

- a. Engine RPMs drop, thus indicating possible clogging of the water intake or impeller or possible engine overheating.
- b. Engine or jet drive unit emits abnormal sounds.

REFER TO THE TROUBLESHOOTING CHART at the end of this section, for symptoms and remedies for other possible operating problems.

MAINTENANCE: Regular maintenance of the engine and jet drive system and the operating controls will help to keep your Rage Jet Boat in good, servicable condition and will increase the enjoyment you get from its use. A Periodic Maintenance Chart is included to help you determine when to conduct inspections and perform maintenance and when to have certain maintenance tasks performed by your dealer. Additional information is given on the following pages to provide further details on the various aspects of good maintenance procedures.

WARNING: TURN OFF THE ENGINE BEFORE PERFORMING ANY SERVICE, UNLESS OTHERWISE SPECIFIED.

IF YOU ARE NOT FAMILIAR WITH MACHINE SERVICE, THIS WORK SHOULD BE DONE BY YOUR DEALER OR OTHER QUALIFIED MECHANIC.

Owner's Manual and tool kit: It is advisable to always carry the Owner's Manual and a tool kit with you whenever you use your Rage Jet Boat. To protect these materials from water, it is good practice to put them in a vinyl bag. The service information included in this manual is intended to provide you with the necessary information to complete your own preventive maintenance and minor repairs.

WARNING: Modifications to the boat or the engine and/or jet drive not approved by Boston Whaler may cause loss of performance, excessive noise, loss of warranty, or render the boat unsafe for use. Consult your dealer before attempting any modifications.

WATER INTAKE: Carefully check the water intake for weeds, debris or anything else that might restrict the intake of water. If the intake is clogged, cavitation could occur, reducing jet thrust, and possibly damaging jet pump parts. Also, engine cooling may be adversely affected, causing serious damage to the engine. (See "Cooling System" below.)

WARNING: IF JET THRUST CEASES, YOU HAVE NO STEERING CONTROL.

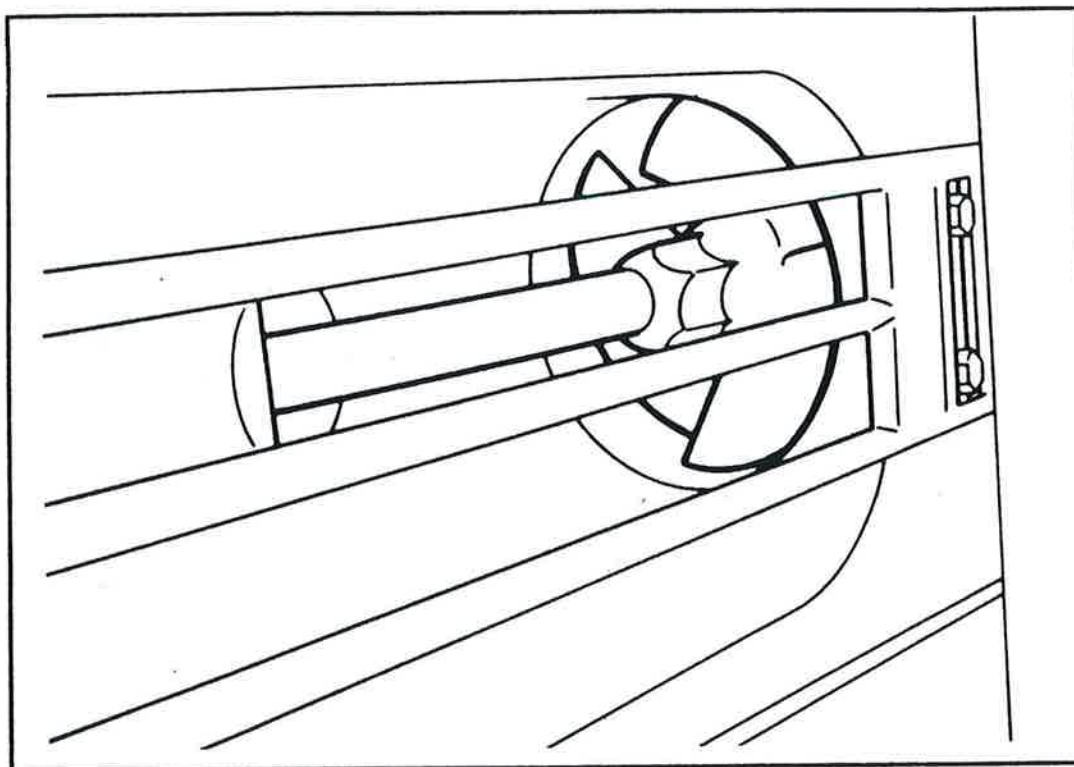


Figure 1 - Looking at water intake from underside of boat

OVERHEAT WARNING DEVICE: The engine has an overheat warning device. If the engine starts to overheat, engine speed will be limited to about 3000 RPM. If this happens, stop the engine and check for an obstruction at the jet water intake or water cooling passages.

WARNING: Be sure engine is shut off before attempting to remove debris from the jet intake. The impeller can cause injury.

CAUTION: If you cannot locate the cause of overheating, return to the nearest port at low speed. Consult your dealer about the problem. Continuing to operate at higher speeds could result in severe engine damage.

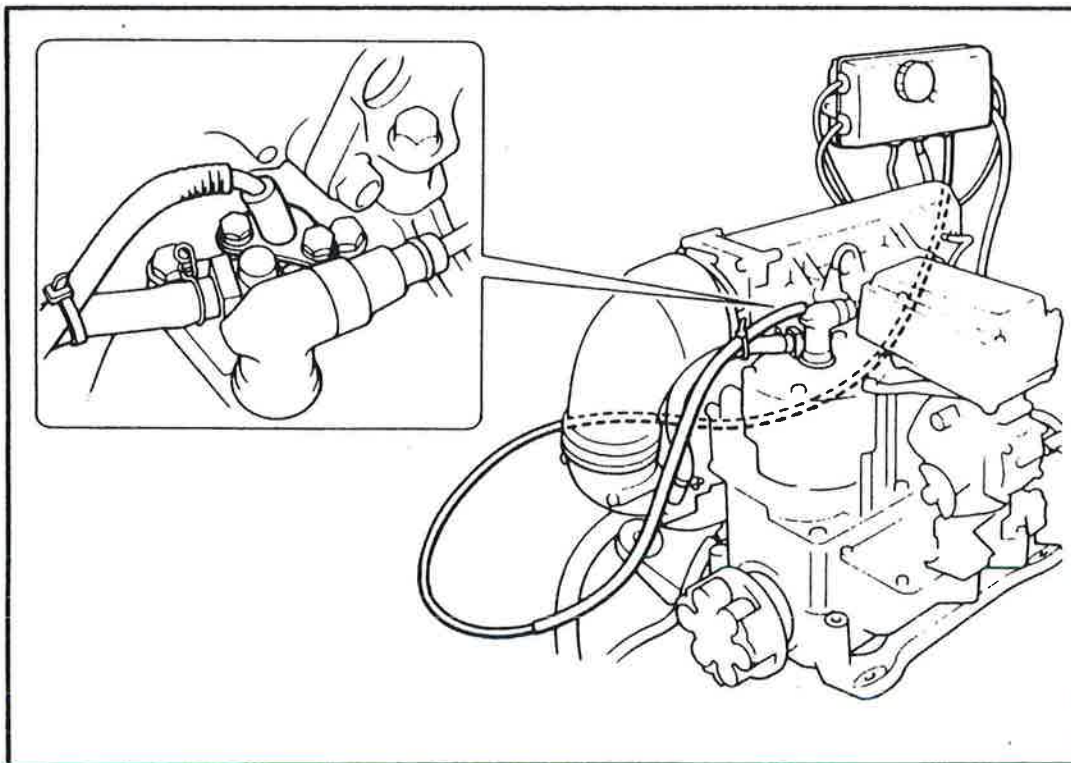


Figure 2 - Showing location of overheat warning device

SPARK PLUGS: The spark plug is an important engine component and is easy to inspect. The condition of the spark plug can indicate something about the condition of the engine. For example, if the center electrode porcelain is very white, this could indicate an intake air leak or carburetion problem in that cylinder. Do not attempt to diagnose any problems yourself. Instead, take the boat to your dealer. You should periodically remove and inspect the spark plugs because heat and deposits will cause the spark plugs to slowly break down and erode. If electrode erosion becomes excessive, or if carbon and other deposits are excessive, you should replace a spark plug with a new one of the correct type.

Standard spark plug: BR-8HS

Before installing a spark plug, measure the electrode gap with a wire thickness gauge. Adjust the gap to the specification shown below, if necessary.

Spark plug gap: 0.5 - 0.6 mm (0.020-0.024 in.)

When fitting a spark plug, always clean the gasket surface and use a new gasket. Wipe off any dirt from the threads and screw in the spark plug to the correct torque, shown below. (If a torque wrench is not available, a good estimate of proper torque with a new gasket is 1/4 to 1/2 turn beyond finger tight. Have the plug adjusted to correct torque with a torque wrench as soon thereafter as possible.)

Spark plug torque: 20 Nm (2.0 m kg) (14 ft lbs.)

Before installing the spark plug cap, be sure to wipe off any water on the spark plug or inside the cap. Push the spark plug cap down onto the plug until it clicks.

WARNING: When removing or installing a spark plug, be careful not to damage the insulator. A damaged insulator could allow external sparks, which could lead to explosion or fire.

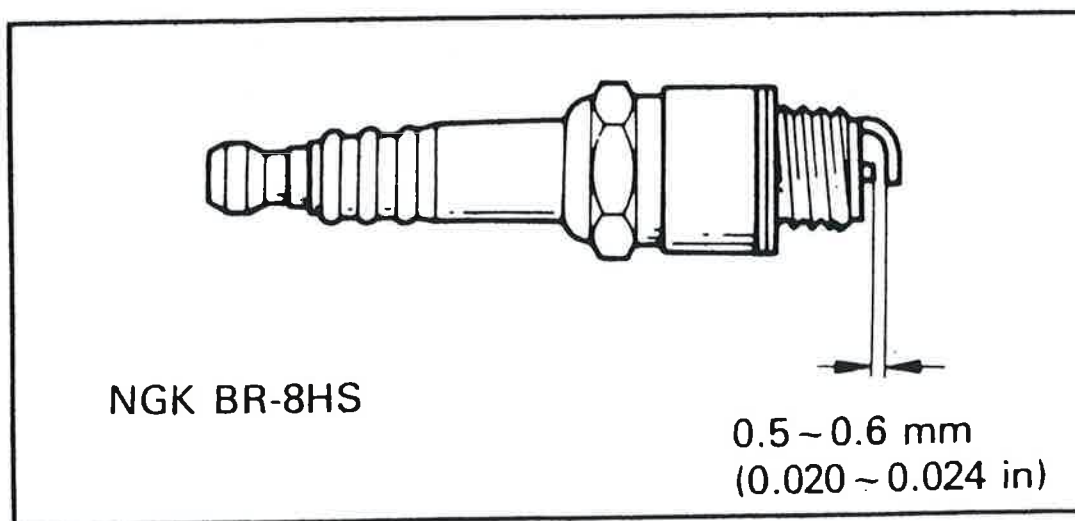


Figure 3 - Showing spark plug gap measurement

STEERING SYSTEM: To keep moving parts sliding or rotating smoothly, coat the following points on the steering system with Yamaha Marine Grease (water resistant grease) or equivalent:

- Steering wheel (or optional handle bar) shaft bearing
- Steering cable clevis connectors (both ends of cable)
- Steering cable inner wire (both ends of cable)
- Movable portions of cable clamps
- Steering nozzle pivot shaft collar

Extend the steering cable inner wire in both directions and apply a thin coat of grease to it at both ends.

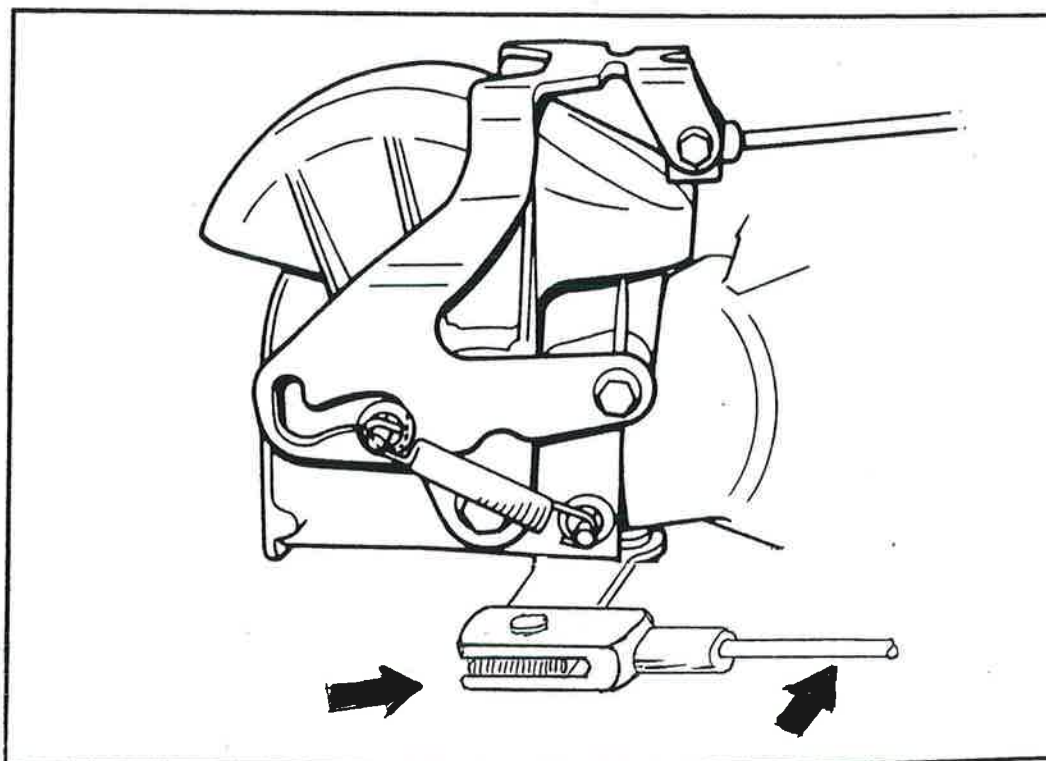


Figure 4 - Showing cable (nozzle end) lubrication points

STEERING SYSTEM (Continued):

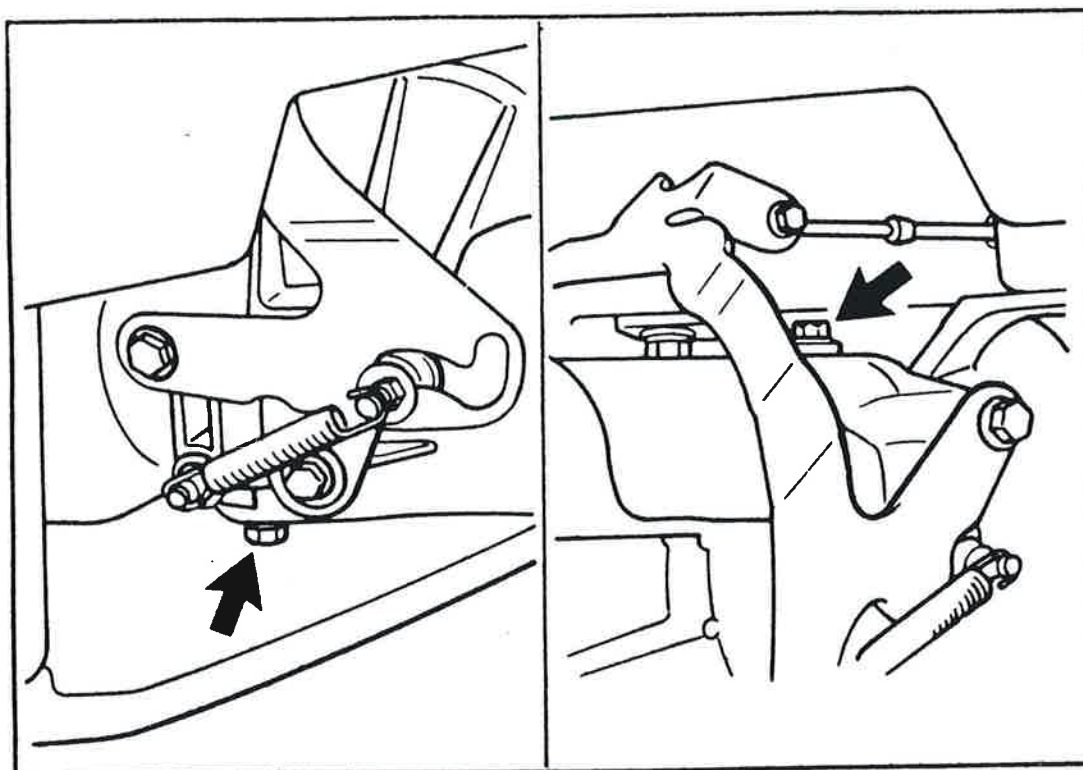


Figure 5 - Showing nozzle pivot shaft lubrication points

STEERING SYSTEM (Continued):

Steering cable inspection and adjustment: Check for smooth operation of the steering wheel (or optional handle bar) and steering nozzle. If the steering system is stiff to move, ask your dealer for service.

Turn the wheel or handle bar from lock to lock and check that the clearances between the steering nozzle and the hull are even on both port and starboard sides. See Figure 6 on the following page.

If the clearances are not even, loosen the locknut on the cable adjusting mechanism and tighten or loosen the cable with the mechanism to make the clearances even. Tightening the cable will reduce the clearance on the starboard side, while loosening the cable will reduce the clearance on the port side. When the cable has been properly adjusted, retighten the lock nut to secure the adjusting mechanism in place.

STEERING SYSTEM (Continued):

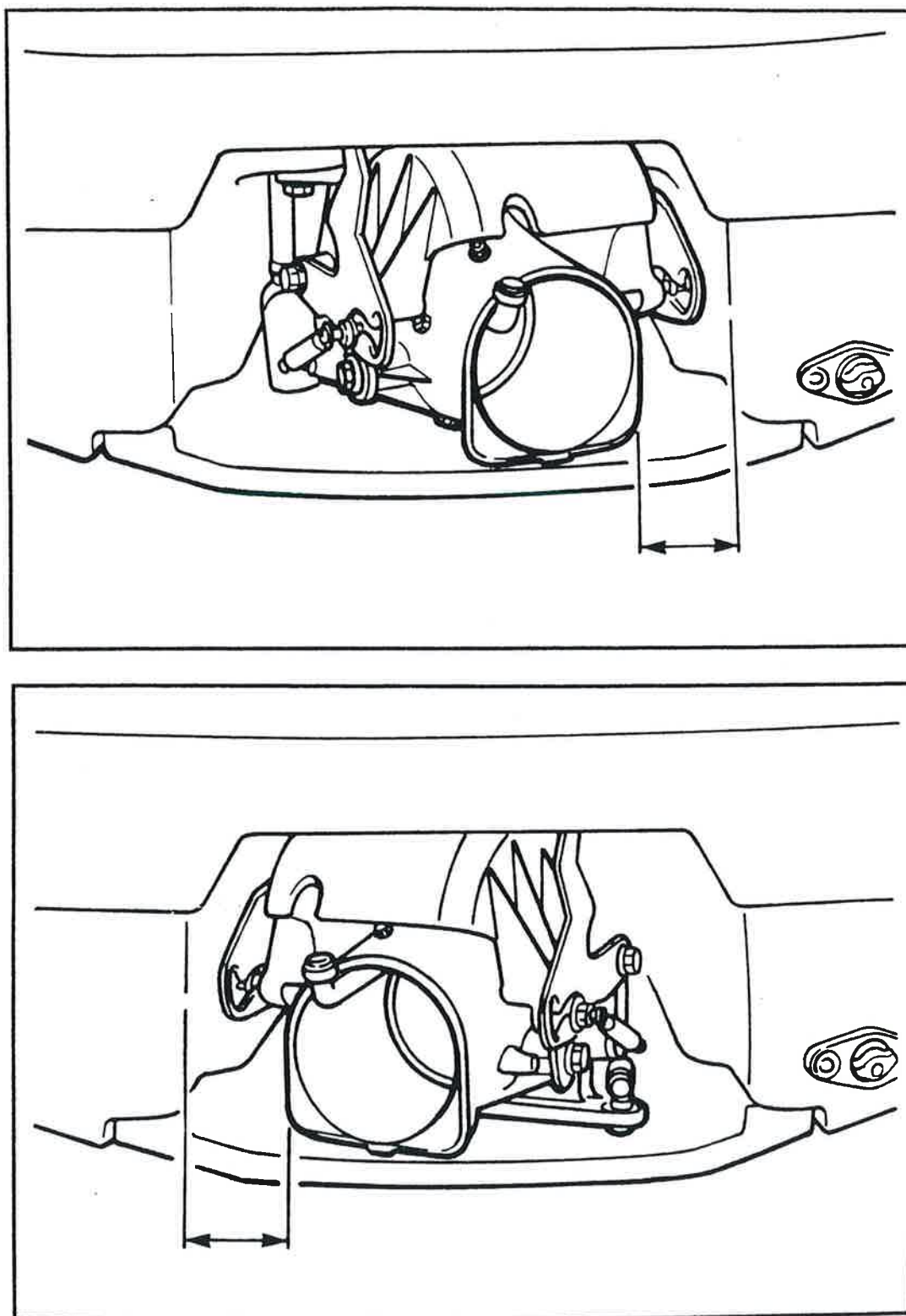


Figure 6 - Showing nozzle clearance dimensions (Should be even)

SHIFT MECHANISM:

Shift cable and mechanism inspection and adjustment:

Place the shift lever in the Reverse position. The reverse gate on the jet pump will go down to the stopper position on the Reverse side. At this position, the clearance between the pin and the pin slot end of the shift rod lever should be 2mm (0.08 in.) If not, adjust it by tightening or loosening the cable with the cable adjusting mechanism.

Lubricate both ends of the shift cable, the shift lever mechanism and the reverse gate mechanism, with Yamaha Marine Grease (water resistant grease) or equivalent.

In the drawing below:

- ① = Pin
- ② = Shift rod lever

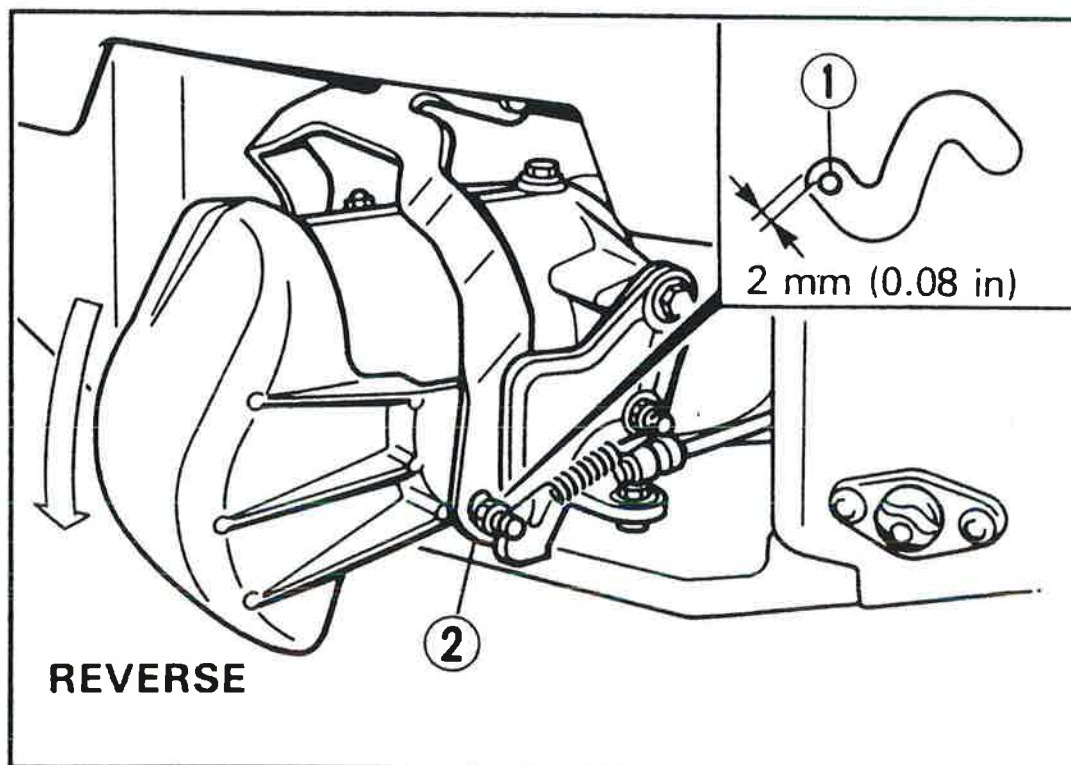


Figure 7 - Showing shift mechanism clearance measurement

THROTTLE & CHOKE CONTROL CABLES: To keep moving parts sliding or rotating smoothly, coat them with Yamaha Marine Grease (water resistant grease) or equivalent.

Grease the carburetor throttle cable and choke cable inner wires at the carburetor end and at the control console end. Also grease the throttle mechanism on the steering wheel or handle bar, as well as the shaft of the choke cable knob on the dash panel.

① = Grease points on carburetor end of cables

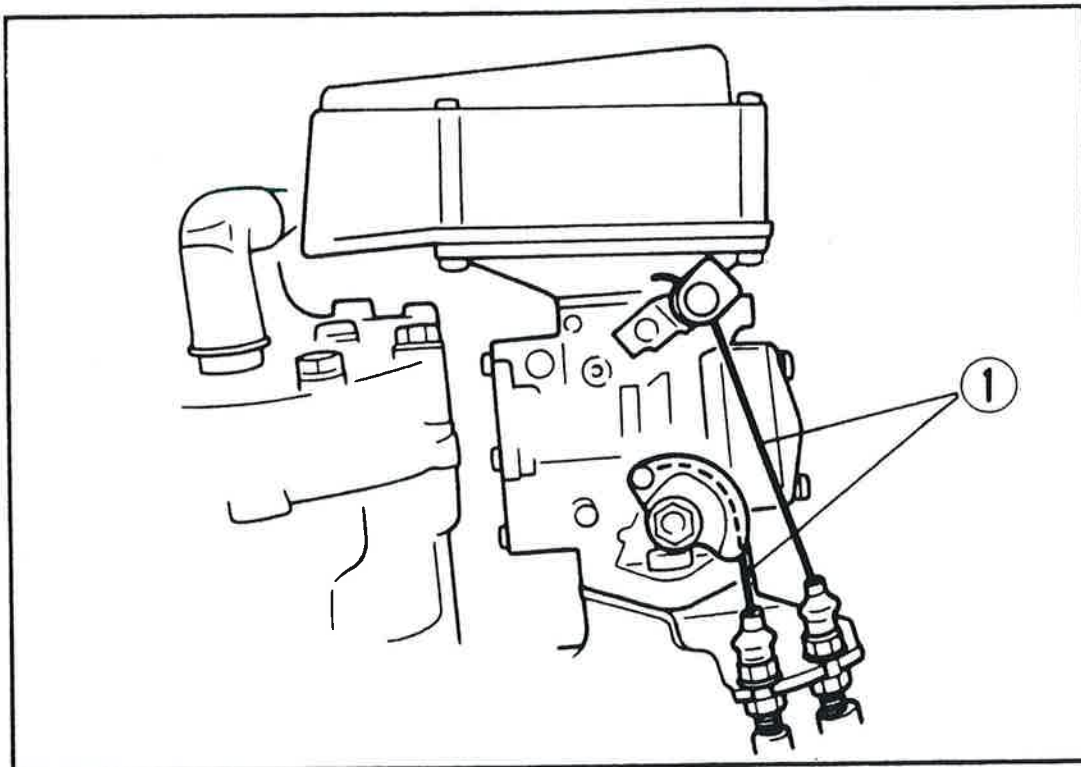


Figure 8 - Showing cable lubrication points on carburetor

CARBURETOR:

Carburetor Adjustment: The carburetor is a vital part of the engine and requires very sophisticated adjustment. Most adjusting should be left to your dealer, who has the professional knowledge and experience to do so. However, the following adjustment may be made by the owner as part of his usual maintenance routine:

CAUTION: The carburetor was set at the Yamaha factory after many tests. If settings are disturbed without having technical knowledge, poor engine performance and damage may result.

Trolling speed: With the boat in the water, start the engine and warm it up for two minutes. By turning the throttle stop screw by hand, adjust the engine speed to the trolling speed of 1250 RPM.

Turning the throttle stop screw clockwise increases the engine speed, while turning it counter-clockwise decreases the engine speed.

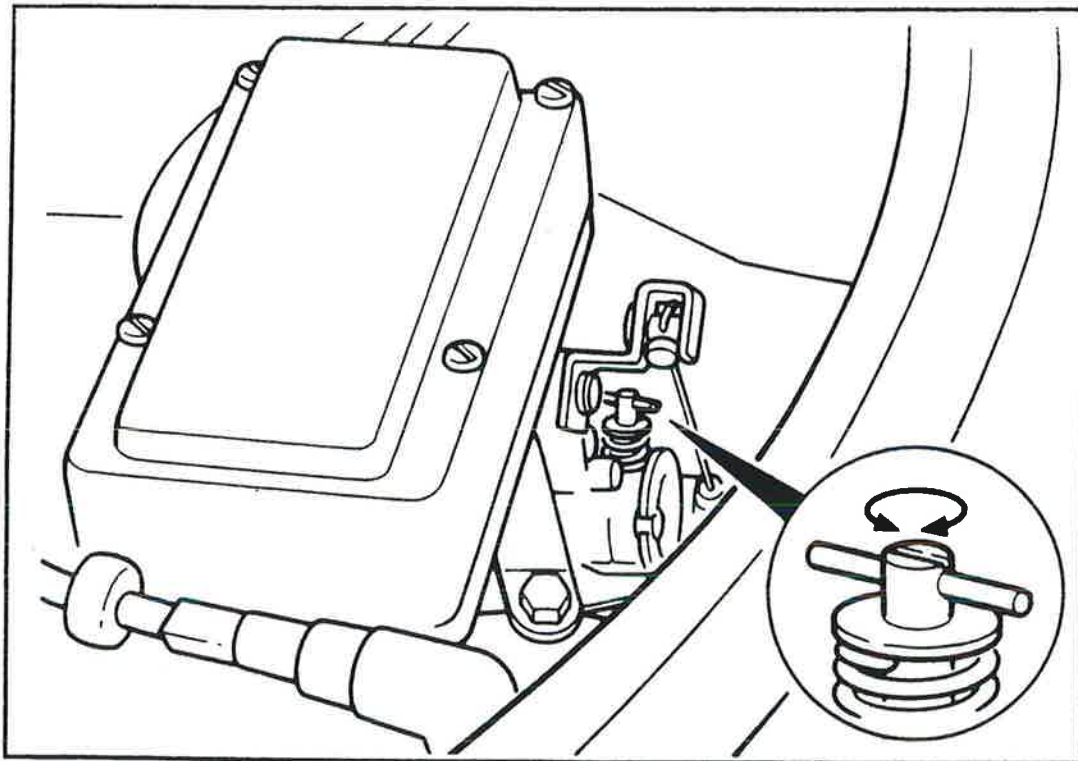


Figure 9 - Showing carburetor throttle stop screw adjustment

IGNITION FUSE: The ignition fuse is located in the electrical box mounted on the inside front bulkhead of the control console.

To replace the fuse, remove the cap and pull out the red wire and fuse holder from the electrical box. Open the fuse holder and remove the fuse. Replace the blown fuse with one of the same type and amperage. The fuse is rated at 10 amps, and is of the buss type.

CAUTION: NEVER REPLACE A BLOWN FUSE WITHOUT FIRST DETERMINING AND CORRECTING THE CAUSE OF THE OVERLOAD. Should a circuit repeatedly blow its fuse, have a qualified marine electrician determine and correct the cause.

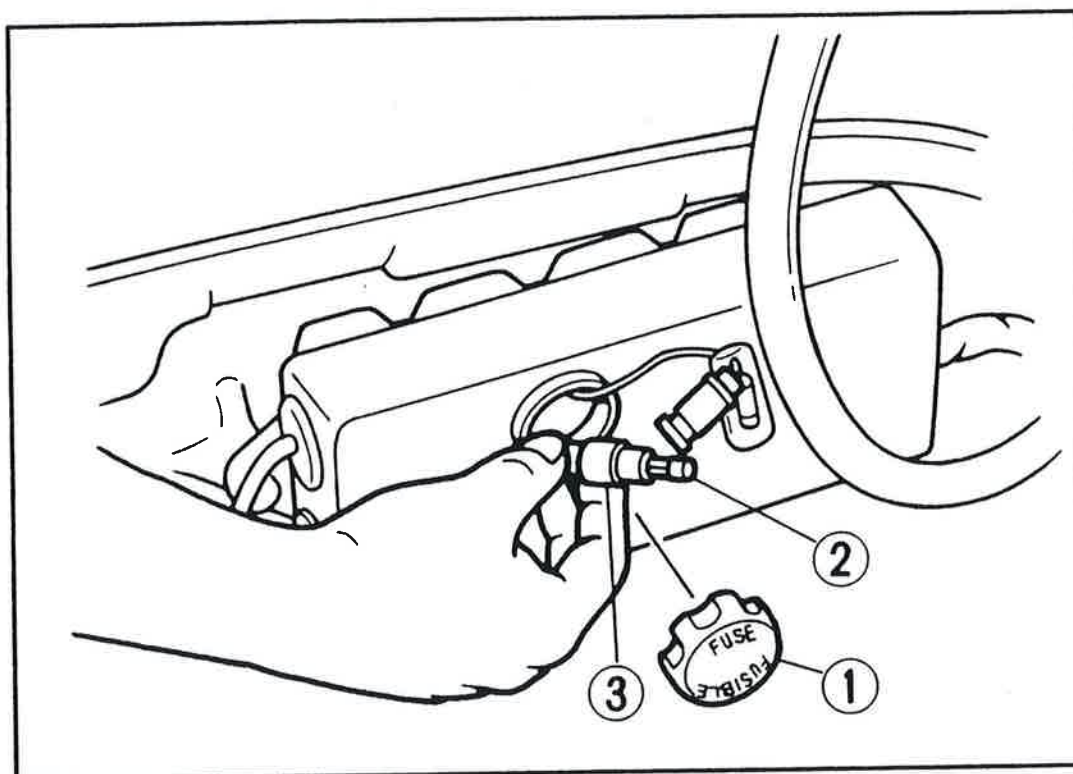


Figure 10 - Showing access to ignition fuse

- ① = cap
- ② = fuse
- ③ = fuse holder

WINTERIZING THE ENGINE: Storage for prolonged periods of time, such as winter storage, requires preventative maintenance to ensure against deterioration. It is advisable to have your Rage Jet Boat serviced by an authorized dealer prior to storage. However, the following procedures can be performed by the owner with a minimum of tools.

FUEL SYSTEM: Top off the fuel tank with fresh fuel/oil mixture and add one ounce of Yamaha Fuel Conditioner and Stabilizer, available from your dealer. Use of Yamaha Fuel Conditioner and Stabilizer eliminates the need to drain the fuel system. Consult your dealer or other qualified mechanic if the fuel system is to be drained instead.

COOLING SYSTEM: Cooling system flushing is essential to prevent the cooling system from clogging up with salt, sand or dirt. We recommend that you purchase the optional cooling system flush kit available from your dealer. This can be attached to the cooling system supply hose to flush the system. Discuss this procedure with your dealer.

Refer to the instructions included with the flush kit for proper installation.

WARNING: NEVER TURN ON THE WATER BEFORE STARTING THE ENGINE, AND NEVER HAVE THE WATER ON WHEN THE ENGINE IS NOT RUNNING. The water could back flow through the muffler into the crankcase, causing severe damage to the engine. BE SURE TO TURN THE WATER ON IMMEDIATELY AFTER STARTING THE ENGINE, to prevent engine overheating.

The following procedure may be used to flush the engine:

1. Connect the optional flush kit garden hose adapter to the flush hose connector
2. Start the engine, then immediately turn on the water supply.
3. Run the engine at a fast idle for 10-15 minutes.
4. Turn off the water supply and force the remaining water out of the cooling system by quickly opening and closing the throttle several times for 10 to 15 seconds.

AFTER TURNING THE WATER SUPPLY OFF, NEVER RUN THE ENGINE FOR MORE THAN 15 SECONDS TO PREVENT ENGINE OVERHEATING.

5. After stopping the engine, remove the garden hose adapter.

ENGINE FOGGING AND LUBRICATION: Perform the following procedure prior to storing the boat for long periods of time, to protect the engine:

1. Remove the carburetor silencer cover.
2. With the boat in a well ventilated area, start the engine. With the engine running at fast idle (**FOR NOT MORE THAN 15 SECONDS or OVERHEATING MAY OCCUR**), quickly spray Yamaha Stor-Rite Engine Fogging Oil (available from your dealer) into the carburetor until the engine stalls.
3. Reinstall the carburetor silencer.
4. Remove the spark plugs and pour approximately one tablespoon of oil into each cylinder.
5. Grease the spark plug threads and reinstall the spark plugs.
6. Lubricate all cables, such as throttle, choke, shift and steering as described earlier. Use Yamaha Power Cable Luber and Yamaha Lube-Zall (available from your dealer) to pressure lubricate the cables and purge out any moisture between the inner and outer cables.
7. Grease all other parts of the system as previously described.
8. Rinse the engine and drive unit with fresh water. Drain off all water from the bilge area, and wipe up the remaining moisture with clean, dry rags.
9. Spray the engine's exterior with Yamaha Silicone Protectant and Lubricant (available from your dealer).

FLEXIBLE COUPLING, IMPELLER & BEARINGS: These should be inspected by your dealer in accordance with the Periodic Maintenance Chart.

ENGINE SERIAL NUMBER:

The engine serial number is stamped on a plate attached to the intake manifold. See the drawing below.

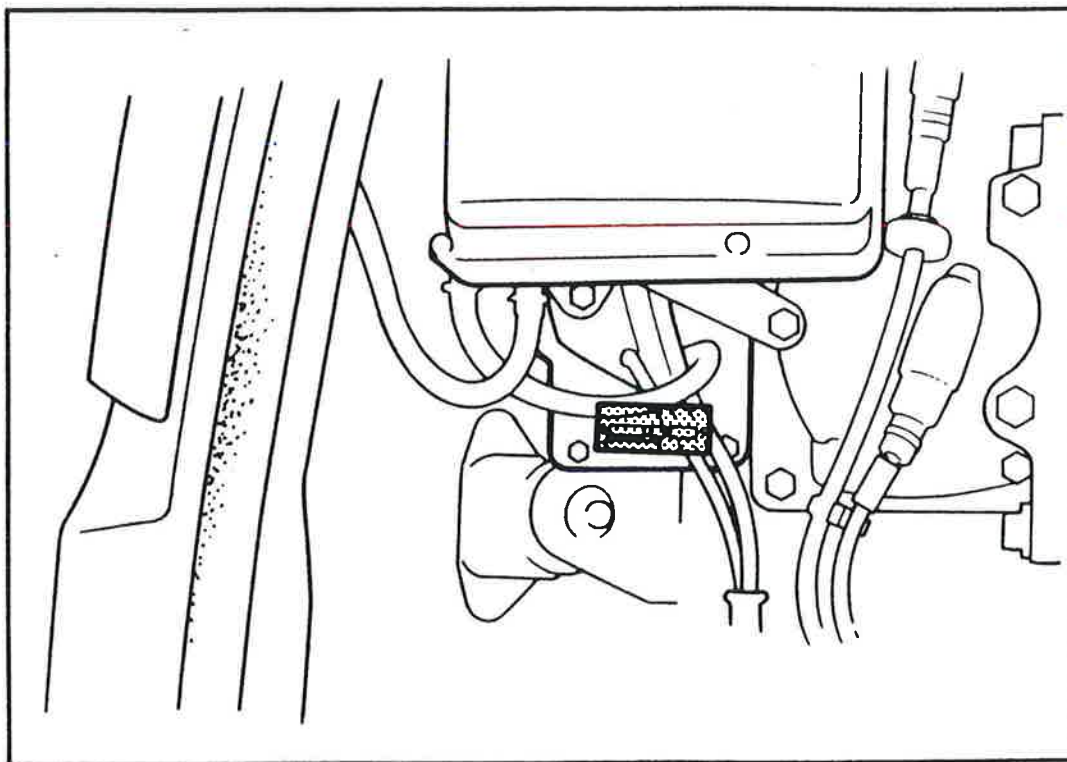


Figure 11 - Showing location of engine serial number plate

GENERAL SPECIFICATIONS FOR ENGINE AND JET DRIVE

ENGINE

Model number:	6R8
Type:	2 stroke
Number of cylinders:	2
Displacement:	633 cc (38.62 cu. in.)
Bore:	77 mm (3.03 in.)
Stroke:	68 mm (2.68 in.)
Compression ratio:	7.2
Intake system:	Reed valve
Carburetor:	Floatless type
Number of carburetors:	1
Carburetor starting system:	Choke
Scavenging system:	Loop charged
Lubrication system:	50:1 Fuel/oil mixture
Cooling system:	Water cooled
Starting system:	Electric starter
Ignition system:	CDI
Ignition timing:	15° BTDC - 21° BTDC
Spark plugs:	BR8HS (Two required)
Battery capacity:	12V-19AH

DRIVE UNIT

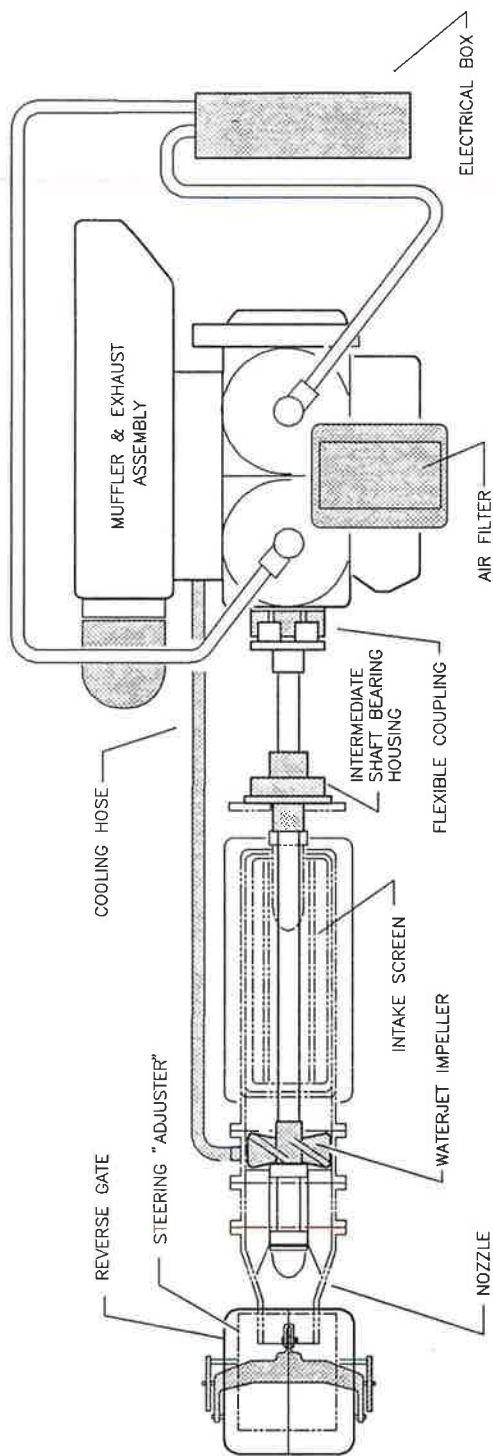
Propulsion system:	Waterjet pump
Waterjet pump type:	Axial flow, single stage (with reverse thrust)
Impeller rotation:	Counter clockwise (viewed from rear)
Transmission:	Direct drive from engine
Steering nozzle angle:	23° ± 1°

FUEL AND OIL

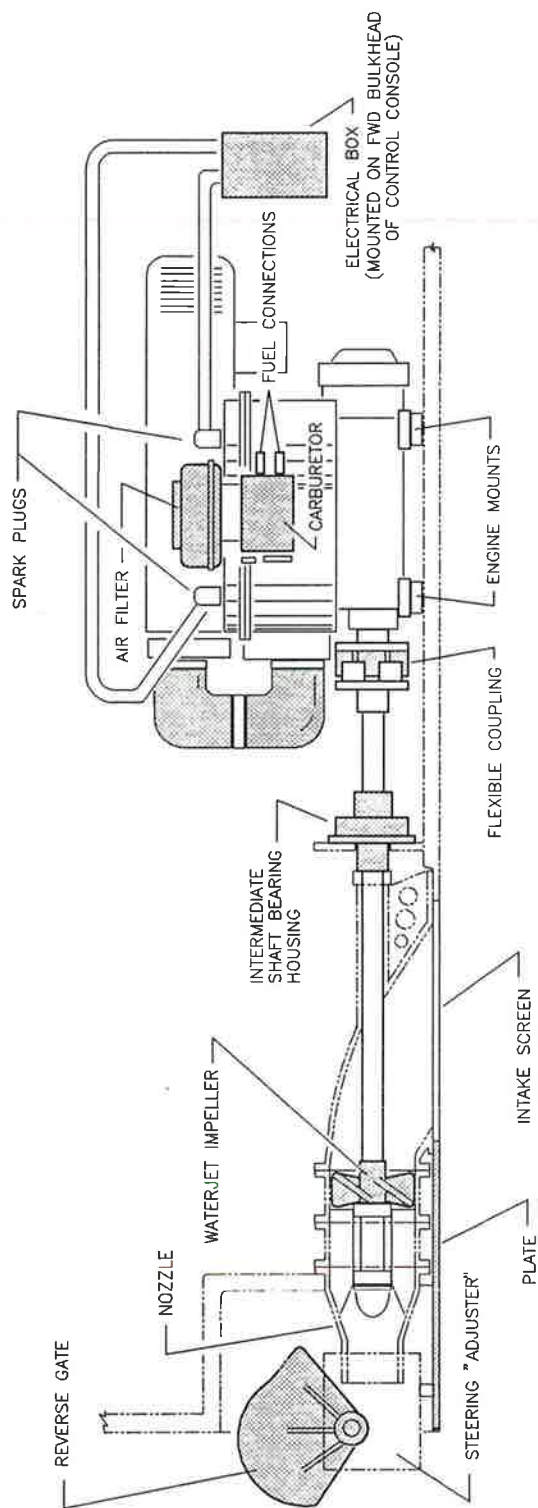
Fuel:	Regular gasoline
Oil:	Yamalube two-cycle outboard oil
Gasoline/oil mix ratio:	50:1 (or 1 pint oil to 6 gal. fuel)
Fuel tank capacity:	6 U.S. gallons (23 liters)

PERFORMANCE

Static Thrust:	225 kg (496 lbs)
Maximum Output:	36.8 kW (50 hp) @ 6000 RPM
Maximum Fuel Consumption:	21 liters/hr (5.5 gal/hr)



TOP VIEW



SIDE VIEW

ENGINE & JET DRIVE SYSTEM

The following chart should be considered strictly as a guide to general maintenance intervals. Operating conditions may require that intervals be modified to suit conditions.

	INITIAL			THEREAFTER EVERY	
	10 Hrs	50 Hrs	100 Hrs	100 Hrs	200 Hrs
ENGINE					
TIGHTNESS OF NUTS AND BOLTS	○		○	○	
BENDS, CRACKS AND WEAR	○				○
SPARK PLUG CONDITION, CLEANING & GAP	●	●	●	●	
ENGINE ALIGNMENT					○
CARBURETOR					
IDLING ADJUSTMENT	○		○	○	
MIXING ADJUSTMENT	○		○	○	
FUEL SYSTEM					
TANK CLEANING AND INSPECTION					○
FILTER REPLACEMENT			●	●	
FILLER CAP INSPECTION			●	●	
FUEL LINE INSPECTION			○	○	
CHECK VALVE INSPECTION			○	○	
CONTROLS					
THROTTLE SYSTEM ADJUSTMENT		○	○		
CHOKE SYSTEM ADJUSTMENT			○	○	
STEERING SYSTEM ADJUSTMENT			○	○	
SHIFT SYSTEM ADJUSTMENT					○
JET DRIVE					
IMPELLER INSPECTION		○	○	○	
IMPELLER/HOUSING CLEARANCE INSPECTION			○	○	
RUBBER COUPLING INSPECTION					○
CONDITION OF ZINC ANODE			●	●	
ELECTRICAL SYSTEM					
WIRING INSPECTION	○	○	○	○	
START SWITCH INSPECTION	○	○	○	○	
STOP SWITCH INSPECTION	○	○	○	○	
STARTER MOTOR INSPECTION			○	○	
BATTERY MAINTENANCE	●	●	●	●	
LUBRICATION					
CARBURETOR THROTTLE SHAFT			●	●	
THROTTLE CABLE			●	●	
CHOKE KNOB SHAFT			●	●	
CHOKE CABLE			●	●	
STEERING SHAFT			●	●	
STEERING CABLE			●	●	
CLEVIS CONNECTORS			●	●	
SHIFT CABLE & CLEVIS CONNECTORS				●	

- Indicates inspections and work which you may do yourself.
○ Indicates inspections and work to be done by your dealer.

PERIODIC MAINTENANCE CHART

TROUBLESHOOTING: Although the engine and jet drive are given rigid inspection before shipment from the factory, trouble may occur in operation. If this happens, check the units in accordance with the procedures given in the troubleshooting chart below. If repair is necessary, consult your dealer, who has skilled technicians available to provide excellent service.

If replacement parts are necessary, use only genuine replacement parts available from your dealer, or Yamaha. Failures which are the result of the installation of parts or accessories which are not qualitatively equivalent to genuine Boston Whaler parts are not covered by the limited warranty.

Any problem in the fuel, compression, or ignition system can cause poor starting, or loss of power while underway. The troubleshooting chart describes quick and easy procedures for checking these systems.

TROUBLE	POSSIBLE CAUSE	REMEDY
The engine will not start	Starter motor does not turn over: FuseBurned out BatteryRun down Wire connections loose Starter motor turns over: FuelEmpty or contaminated Spark plugFouled or defective CrankcaseFilled with liquid (fuel or water)	Check wiring and replace fuse Charge battery Tighten connections Empty, clean and refill Replace spark plug Crank engine with plug out until clean
The engine runs irregularly or stalls	FuelEmpty, stale or contaminated. Fuel filterClogged or full of water Spark plugFouled or defective Incorrect heat range Spark plug caps loose Loose elect. connections Spark plug cap leaking water	Fill, or empty, clean & refill Replace as required Replace Replace Tighten Tighten Replace
The engine runs too fast	CavitationJet intake clogged Impeller damaged or worn	Clean Replace
The engine runs too slowly	Engine overheatJet intake clogged (Engine speed is reduced by overheat warning device to less than 3000 RPM) Fuel filterClogged Spark plugFouled or defective Incorrect heat range Spark plug caps loose	Clean Replace Replace Replace Tighten

ENGINE TROUBLESHOOTING CHART

MANEUVERING & OPERATING CHARACTERISTICS

A jet propulsion system results in maneuvering and operating characteristics which are fun and unique. In most cases, you will have to experiment on your own to get the feel of operating the boat. This experimentation should always be done with caution for your own safety, the safety of the boat, as well as others.

When first experimenting with maneuvering around docks, do so at low speeds to avoid potential damage to the hull. You may want the assistance of a passenger to fend off or make sure the boat and/or dock has good fender protection.

The first operating characteristic you will notice is the increased ability of the boat to sustain forward momentum or glide. This is due to the flat running surface and no projections below the water to create friction. This will also affect operation of the boat in turning maneuvers.

The effect of reverse thrust of the jet is limited by several factors. The first is that it must overcome the forward momentum of the boat before having any effect on slowing the forward motion of the boat. You will have to experiment with various weight loads and speeds in order to judge the boat's glide characteristics.

Steering is accomplished only by moving the jet steering nozzle (turning the steering wheel or optional handle bar) to the left or right and simultaneously applying appropriate jet thrust (increased throttle) to turn the boat. **If the engine is shut off for any reason, you have no steering ability and the boat will glide in the direction it is headed.** You will have to experiment with the coordination of steering movement and throttle to obtain the desired effect on the boat when maneuvering in close quarters.

While on plane and simultaneously effecting a turning operation, the glide or forward momentum of the boat must be taken into account. It will require more power to overcome the existing directional momentum if a tight turn maneuver is required. The boat will have a tendency to slide through a turn as the change in thrust direction overcomes the existing forward momentum. When on plane, a slight decrease in throttle just before turning the wheel or handle bar will slow the existing forward momentum. As the turning is effected, applying throttle will increase the effect of the thrust in the new direction. In essence, you are "powering" the boat through the turn. Practice this with caution and in open water.

Should you oversteer or over power in a tight turn, the boat will fall off from the planing condition. In this case, release the throttle momentarily as the boat settles, and apply throttle and steering to get the boat headed in the desired direction.

In a chop or wave condition, ventilation can occur. You will hear the increase in engine R.P.M. The engine is equipped with an R.P.M. limiter to prevent damage to the engine under these conditions. Moving weight forward and reducing throttle under chop conditions will help keep more of the boat in the water to minimize ventilation.

Once the easy coordination and experimentation of throttle and steering has been mastered and you have the "feel" of the Rage Jet Boat, it is easy and fun to maneuver and operate.

LIFTING YOUR BOAT

GENERAL: Lifting your Boston Whaler should be done with careful planning and concern for the safety of persons involved, as well as for the boat. When selecting davits or lifting equipment, be sure the supplier and installer know where the lifting positions are on your particular Boston Whaler. Consult your dealer about proper lifting equipment and procedures.

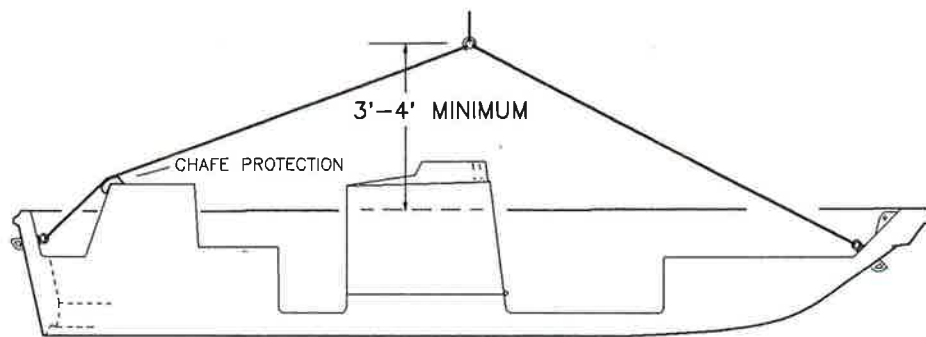
The drawing included in this section shows various lifting arrangements, along with important dimensions useful in making lifting bridles.

LIFTING YOUR BOAT CAN BE DANGEROUS. Considerations for this operation should include:

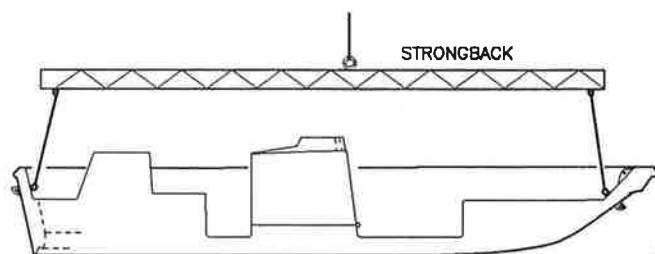
1. The lifting points on the boat
2. The load rating of the lifting equipment
3. The experience of those performing the lifting operation
4. Overhead and lateral clearances (Obstructions such as other boats, powerlines, buildings)
5. Keeping people out from under the boat during lifting
6. **Sufficiently high bridle apex in single point lifting systems to prevent distortion of lifting eyes and stainless steel shanks. (See drawing) The apex should be 3 to 4 feet above the gunwale**
7. Use of hooks which swivel freely and are properly sized for the lifting eyes
8. Use of shackles if necessary when hooks are too large for eyes
9. Bow slightly elevated and drain plugs removed
10. Proper cradle, trailer or berth to receive the boat

LIFTING POINTS: Your Boston Whaler has a single interior bow lifting eye as well as two interior lifting and exterior ski eyes on the transom. A three point lifting bridle may be attached to the interior lifting eyes. Padding or chafe protection at the top of the seat back may be necessary. (See drawing)

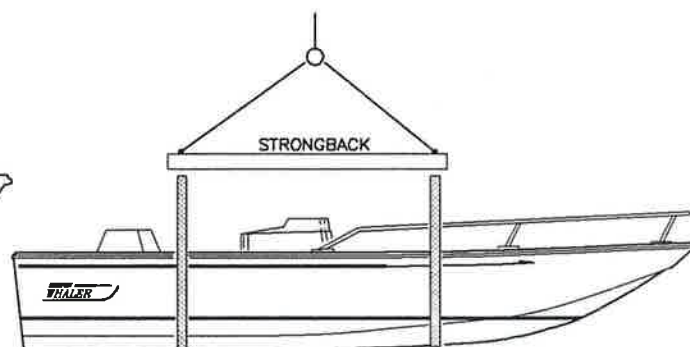
The boat may be lifted with single point, strong back single or dual davit lifting systems.



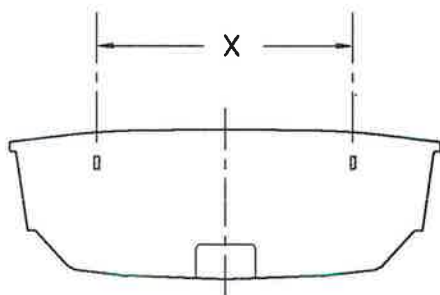
SINGLE POINT BRIDLE



SINGLE POINT LIFT
WITH STRONGBACK

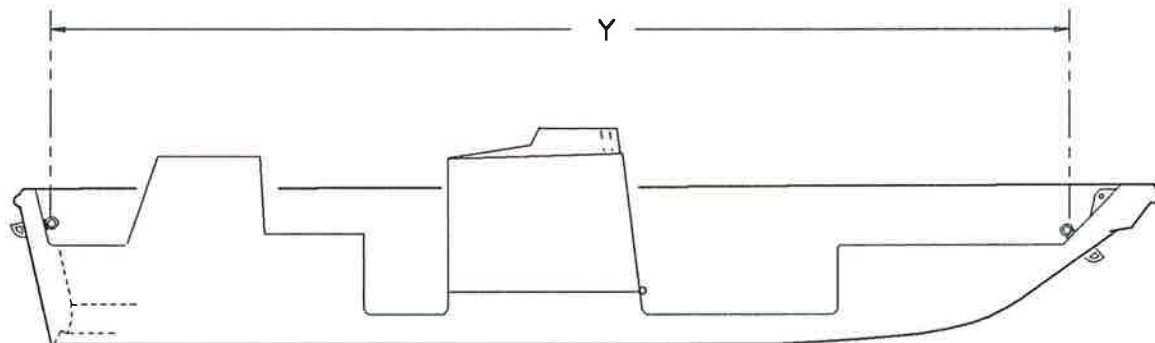


STRONGBACK & SLING



LIFTING POINT DISTANCES

HULL	X	Y
RAGE 14	4'-0"	12'-8"



DIMENSIONS FOR LIFTING

TRAILERING

TRAILER SELECTION: Your Boston Whaler dealer can be of assistance in trailer selection and in explaining the features and benefits of various trailers. Also consult him regarding safe trailering procedures, required equipment and licensing.

Match the trailer to your boat: Avoid over-rating or under-rating the trailer for your boat. The capacity rating should be matched to the weight and length of your boat.

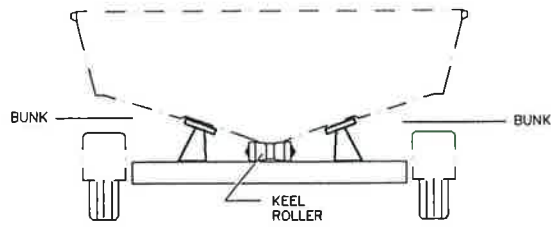
PROPER SUPPORT OF THE BOAT IS EXTREMELY IMPORTANT: As the keel of your Boston Whaler is designed to support the weight of the boat, you should select a trailer which contains center keel rollers. Adjust keel rollers so that they all support the keel. **Trailers equipped with side rollers instead of side "bunks" should never be used,** as the side rollers can cause a ripple effect on the fiberglass. This could disrupt the bond between the fiberglass and the foam core. Also, side rollers can put excessive pressure on molded spray rails when the boat is being launched or retrieved. **Therefore, the trailer should always be equipped with padded side bunks.**

SIDE BUNKS should be located so as not to interfere with bottom spray rails, transducers, etc. The bunks need only provide lateral stability and should not be weight bearing. Some slight rocking is desirable to assure that the weight is on the center keel rollers. Tie-down straps, when secured, will eliminate the rocking. A properly adjusted trailer will simplify launching and retrieving. The drawing shows the proper trailer arrangement for your Boston Whaler.

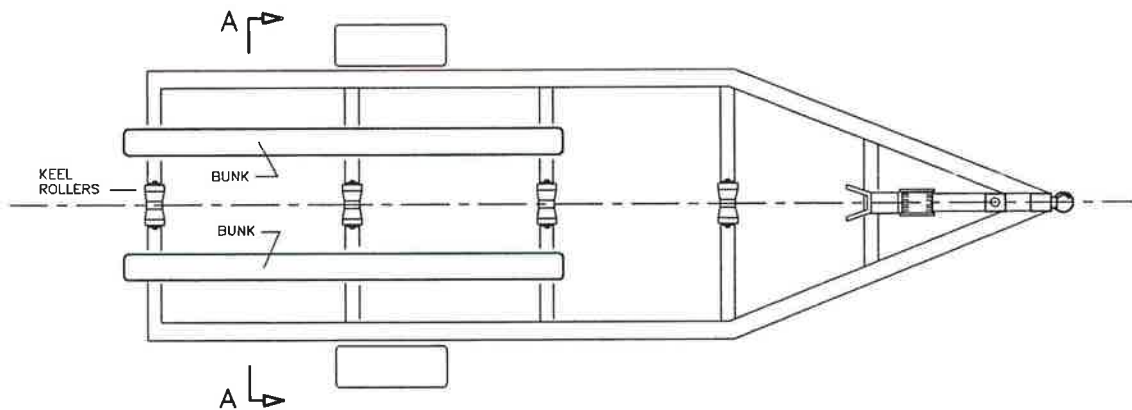
Float-on trailers are of the all bunk style. These are suitable for use as long as the bunks conform to the shape of the hull, give support near the center keel, and provide good fore and aft support to spread the total weight.

IMPORTANT CONSIDERATIONS WHEN TRAILERING: Discuss the following items with your dealer so that you are well aware of the proper procedures:

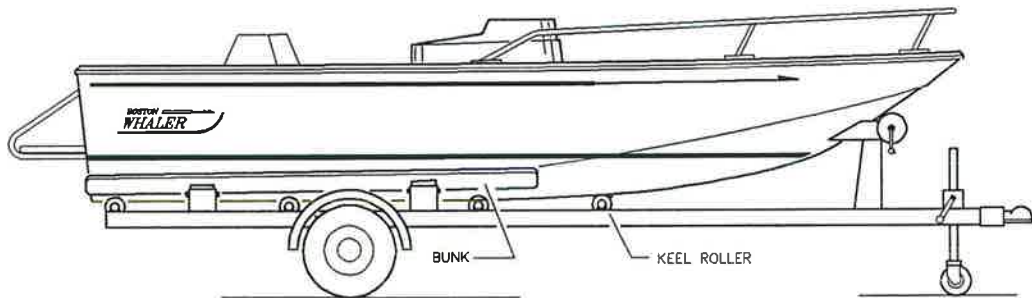
1. Loading and unloading the boat on land and in the water
2. Securing the boat on the trailer
3. Hitch mechanism - operation and maintenance
4. Tongue weight
5. Proper lighting
6. Tire pressure
7. Wheel bearing inspection and maintenance
8. Accelerating and braking while on the road
9. Wide turns
10. Backing the trailer
11. Launch ramp procedures



DETAIL A-A



TOP VIEW OF TRAILER



SIDE VIEW
WITH BOAT ON TRAILER

TRAILER ARRANGEMENT

ENGINE AND JET DRIVE REMOVAL AND REINSTALLATION

In the event your engine and/or jet drive unit require removal for repairs or major overhaul, the removal, repairs and reinstallation should be performed **ONLY** by a qualified marine mechanic who is experienced with this type of propulsion system. If this need should arise, discuss this situation with your dealer. You should not attempt the removal of the engine or jet drive on your own.

ATTACHMENTS TO THE HULL

GENERAL: Prior to installing custom accessories to your boat, check with your Boston Whaler dealer. It is important that accessories be located in a safe position and installed so they will remain securely in place. Your safety and the safety of passengers could be affected by improper installations.

Accessories subject to stress should be attached only in areas that have wood inserts in the hull to which these items may be securely fastened. Check with your dealer for location of wood inserts in your boat, or consult the wood locating diagram included in your owner's package.

FASTENERS: Check with your dealer and the manufacturer of the accessory you install, about the type, size and quantity of fasteners to use in the installation. Thru-bolting with backing plates, both inside and outside, is often the most secure way to install equipment and prevent cracking the interior and exterior fiberglass surfaces. Blind lag screws or self tapping screws may be sufficient if the accessory will not be subject to high stresses. Avoid putting screws into areas where there is no wood backing, as they will most likely strip out.

SEALANTS: In order to prevent water from seeping under or behind a newly installed accessory, it is important to coat the contact surface with a sealant or bedding compound. This will help to prevent corrosion. Some bedding compounds allow easy removal of an accessory while others will make removal extremely difficult. Check with your dealer for his recommendation on the material to use.

HULL TRIM

GENERAL: Proper hull trim is important for the safe, comfortable and efficient operation of your Boston Whaler. Hull trim is affected by several factors which are discussed in detail below. They include:

Amount of weight in the boat
Weight distribution
Engine & Boat speed

AMOUNT OF WEIGHT IN THE BOAT: Always observe the Boston Whaler recommended maximum weight (persons, motor & gear) for your particular model, as well as the maximum engine horsepower indicated. You can also expect that the closer you approach the maximum weight, the greater will be the reduction in boat performance.

WEIGHT DISTRIBUTION: The Rage Jet Boat rides best with weight positioned from midship forward. Sitting on the bow locker while underway or when the boat is on plane will reduce ventilation of the waterjet impeller in chop or wave conditions. Use caution and concern for passengers in the bow area, as this can also be the roughest riding position in any boat.

CAUTION: Do not install optional bow deck cushion on any boat which is not equipped with a bow rail.

Boston Whalers have a sharp bow entry resulting in a softer ride in chop conditions. Weight should be aft or in the middle of the boat with the bow light and high for the best ride at higher speeds. In choppy wave conditions, moving weight forward will help prevent ventilation of the waterjet impeller. Moving passengers to the seats forward of the console will result in better performance than having everyone aft. This trim also will produce faster and more efficient engine speeds.

Boston Whalers in this size range are high performance boats. Any operator should be properly trained for the use of high performance boats. **NEVER TAKE YOUR BOAT TO THE POINT WHERE YOU DO NOT FEEL IN CONTROL, AND APPROACH MAXIMUM RPM SLOWLY AND WITH CAUTION.**

ENGINE AND BOAT SPEED: These factors will change the hull trim. Generally, the faster the engine speed (below planing speed) the higher the bow will rise out of the water. This can be compensated for by moving weight forward. As the boat attains planing speed, the bow will come down and the boat will ride flat.

DRAINS & BILGE PUMP

DESCRIPTION: Your Boston Whaler Rage Jet Boat has gravity drainage of the cockpit through aft scuppers which pass through the transom. Cockpit water drains into molded channels which pass below the aft seat to the transom scuppers. The forward storage locker drains onto the cockpit floor through a small drain tube at the aft bulkhead of the locker. Water which collects between the stern seat and the transom is drained onto the cockpit floor by two small drains located in the molded depression under the transom lifting eyes.

Any water which collects in the lower sump and engine compartment when the boat is in the water can be removed by the optional bilge pump. If the optional bilge pump is not installed, water in the lower sump and engine compartment can be removed with a hand pump or wiped up. Before starting the engine, check the engine compartment and sump as any significant water in the engine compartment could damage the engine.

OPERATION: The optional aft bilge pump is operated by a rocker switch (which is combined with the blower control) on the control console. The electrical circuit is protected by a 10 amp fuse on the fuse panel.

Additionally, the bilge pump is controlled by an automatic float switch located near or within the pump to energize the pump when the console switch is in the "Auto" position.

The combination bilge pump/blower switch on the console is in the "Auto" mode in the center position, except when you wish to pump the bilges dry. Then push the upper part of the switch to active the "Manual" mode. Upon completion of manual pumping, return the switch to "Auto" mode to assure continuing protection. (Pushing the lower part of the switch activates the bilge ventilation blower. See the "Engine Controls" section of this manual.)

When in "Auto", the pump operates when the level of water in the bilge sump raises the float high enough to activate the switch.

When in "Manual", the pump operates regardless of the position of the float switch.

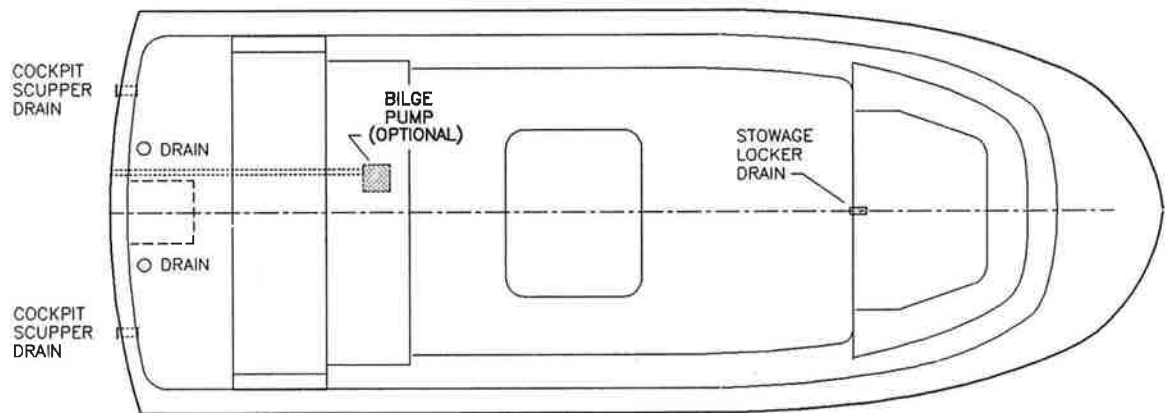
NOTE: WHEN LEFT IN THE AUTOMATIC MODE, THE PUMP WILL CONTINUE TO BE OPERABLE AND IS CONTROLLED BY THE FLOAT SWITCH.

The pump discharges the water overboard via a thru-hull fitting in the transom.

MAINTENANCE: No maintenance is required on the optional pump, as it is a completely sealed unit. Be sure to keep the sump free of debris to protect the intake screen from being clogged. Periodically check that electrical connections and hose connections are tight.

IT IS THE OWNER'S RESPONSIBILITY TO MAINTAIN THE BILGE PUMP, TO CLEAN THE SCREEN AND CHECK THE PROPER OPERATION OF THE FLOAT SWITCH.

Keep the aft scuppers free of debris to allow proper drainage.



DRAIN ARRANGEMENT

PRIOR TO GETTING UNDERWAY

Below is a suggested list of items to consider prior to getting underway.

WHEN YOU FIRST COME ABOARD CHECK:

1. Bilge for water - Discharge significant amounts overboard and install drain plugs
2. Fire extinguisher, flotation devices and signalling equipment
3. Fuel tank level
4. Battery voltage and water level
5. Anchor, anchor rode and mooring lines
6. Spare parts & tool kit

PRIOR TO STARTING ENGINES CHECK:

1. Bilge for fuel odor

WARNING: IF FUEL ODORS ARE PRESENT, OBSERVE "NO SMOKING", AVOID ANY SPARKS AND DO NOT START ENGINES OR ENERGIZE ANY ELECTRICAL EQUIPMENT.

CORRECT THE CAUSE OF THE LEAKS AND VENTILATE THE AREA TO ASSURE THAT NO FUMES REMAIN PRIOR TO ENERGIZING ELECTRICAL EQUIPMENT AND/OR STARTING ENGINES.

2. Fuel line connections tight - Do not overprime - No obvious leaks
3. Check the aft sump and engine compartment for water
4. Check the storage of equipment under the aft seat and ensure there is no loose gear in the engine compartment
5. OPERATE BLOWER FOR 5 MINUTES PRIOR TO STARTING ENGINE
6. Make sure that no lines or debris are in the water, as these might foul the water intake and pump.
7. Attach the Emergency Stop Safety Lanyard to your wrist
8. Be prepared to control boat as soon as engine starts.
9. Boat's path is clear.

AFTER STARTING ENGINES CHECK:

1. Engine - no abnormal sounds
2. No excessive vibration
3. Engines warmed up properly (See section 11 of this manual)

PRIOR TO GETTING UNDERWAY CHECK:

USE CAUTION AS BOAT IS SUBJECT TO MOVEMENT DURING THESE TESTS

1. Throttle control test
2. Shift control test - forward and reverse ONLY AT LOW IDLE
3. Steering system test - no excessive play - positive control
4. Lines, fenders and anchor - ready for immediate use
5. Navigation lights (optional) operable and "On" at night

WHILE UNDERWAY CHECK:

1. Listen for abnormal noises
2. Engine vibration - may mean fouled or damaged impeller

WHEN MOORING, TYING UP OR ANCHORING CHECK:

1. Crew members instructed in duties
2. Lines, fenders and anchor - ready for immediate use
3. Underway navigation lights extinguished when secured
4. Anchor light "On" when required by law

PRIOR TO LEAVING BOAT CHECK:

1. Bilge pump operating (Test float switch operation)
2. Mooring lines or anchor secure
3. All switches "Off"

SAFE OPERATING HABITS

KNOW THE RULES:

- About safe speed
- About proper lookout
- About buoys and other aids to navigation
- About meeting, overtaking and crossing
- About when and how to signal
- About navigation lights
- About weather
- About fishing boats & other special vessels
- About safety on the water

KNOW YOUR BOAT:

- How to operate and maintain the systems
- How it behaves in various sea conditions
- The depth of water it requires
- How many people & how much weight it can carry
- How much horsepower it can use
- How fast can it safely go
- The best trim conditions

KNOW THE OPERATING AREA:

- The important landmarks
- The aids to navigation & their characteristics
- The channels and depths of water
- The rocks, shoals and obstructions
- Where and how to get help
- The tides and currents
- The location of fuel, water & repair facilities
- Do you have proper charts on board

KNOW YOUR LIMITATIONS:

- Be aware of your skill and knowledge limitations
- Know the skill and knowledge limitations of others on board
- How far can you go with the fuel on board
- Is it safe to go out in this weather
- How rough should it be before you turn back
- Do you have proper protection from the elements
- Do you have spare parts if something goes wrong
- Should you attempt to tow that boat

DO THE RIGHT THING:

- Be prepared for any eventuality
- Carry the right safety equipment, spare parts & tool kit
- Carry a first aid kit and know how to use it
- Maintain your boat in shipshape condition
- Operate the boat safely - practice good seamanship
- Obey the laws
- Keep the boat properly trimmed
- Stow things away when not in use
- Practice maneuvering in various sea conditions
- Practice approaches to moorings & piers
- If you drink, don't drive
- Be courteous
- Help others when you can

SECURING THE BOAT

GENERAL: The following guidelines are included to help keep your boat safely secured while on mooring, at anchor or alongside the pier. Read up on your marlinspike seamanship for several useful knots for mooring, anchoring and tying up to a pier.

MOORING: A proper mooring will be securely anchored to the bottom with a heavy weight such as a block of concrete with a heavy duty eye bolt, attached to galvanized chain, a mooring line, buoy and buoy pendant. (See drawing) Check with your local harbormaster or dealer about the weight of the mooring block, and size & length of of mooring chain and mooring line required for local conditions.

It is best to use the exterior bow eye for attachment of the mooring line, or, as an alternative, rig the mooring line through the bow chock to the interior bow eye.

ANCHORING: A proper anchor rig will have an anchor chain attached to the anchor (to absorb most of the force as your boat rides at anchor, and to protect the anchor line from chafing on the bottom). Your dealer can recommend the proper type and size anchor for your particular model, as well as the size and length of chain and anchor line. The anchor line and chain can be stored in the bow locker. In order to keep the anchor from shifting around while underway, it is important to have it secured in place on deck or in the bow stowage locker.

Stow the anchor neatly, always ready for immediate use.

Before using the anchor, secure the other end of the anchor line to the interior bow lifting eye.

When anchoring, be aware of the proximity of other boats which may be hit by your boat if the wind or current suddenly shifts. Leave enough room for your boat to swing on her anchor. Don't anchor too close to shoals or underwater obstructions.

Know what the effects of the tide will be.

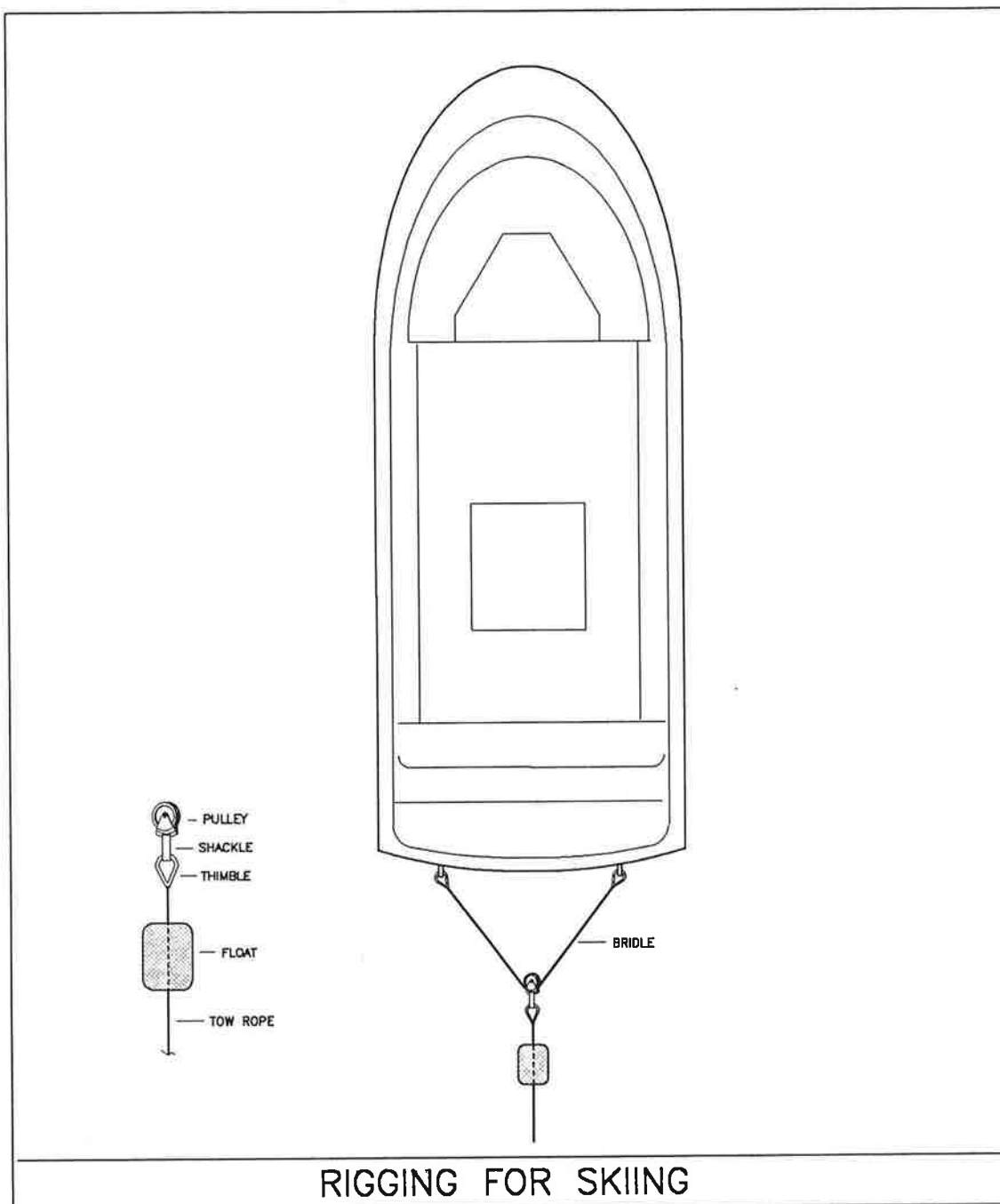
Be sure you do not become tangled in the line as you drop the anchor.

After the anchor has "dug in", make sure it is holding by taking a sighting on at least two natural ranges on shore (See drawing)

SECURING TO A PIER: Several methods of tying up to a pier or float are possible, depending on the pier configuration and location of cleats, bollards or pilings. When tying up to a pier, it is important to consider how the tide will change the situation as it rises and falls, and what will happen if the wind and/or current change. Also, be sure to rig fenders between the boat and the pier or float.

RIGGING FOR SKIING

GENERAL: Your Rage Jet Boat can pull small, lighter weight water skiers and is equipped with ski-tow eyes thru-bolted on the exterior of the transom. A bridle may be attached to these eyes with a pulley and float as shown in the drawing. The pulley will allow the tow line to traverse from side to side as the skier crosses the wake, and the float prevents the bridle line from sinking and tangling.



KEEPING SHIPSHAPE - MAINTENANCE

GENERAL: To keep your boat in good condition for the sake of appearance as well as for protection against the environment, it is recommended that you give regular attention to care and maintenance of the following:

- a. Fiberglass hull, decks and other parts
- b. Trim and fittings
 - Stainless steel
 - Aluminum
- c. Canvas and upholstery
- d. Bottom painting
- e. Winter storage

FIBERGLASS HULL, DECKS AND OTHER PARTS

General: Several steps should be taken, depending on conditions existing in the operating environment:

- 1. Washing
- 2. Waxing
- 3. Compounding
- 4. Repairs of damaged surfaces

Washing: Exterior and interior laminated fiberglass parts, as well as metal hardware, should be washed frequently (depending on use) using fresh water, a mild liquid detergent, and a soft clean cloth or sponge. (Never use abrasive powders, gritty cloths, steel wool or strong alkaline cleaners.) After washing thoroughly and removing all dirt, salt deposits and film, rinse with clean, fresh water and dry the surface with a chamois to prevent water spots.

Waxing: The exterior and interior laminated fiberglass parts of the hull, deck and superstructure should be waxed at least twice a year to protect the gelcoat (Outer surface). Use only a wax which has been formulated for use on fiberglass laminates. (See your dealer for recommendations). Follow the instructions provided with the wax, and never wax in direct sunlight.

Compounding: Occasionally, it may be necessary to remove chalking and stains with a rubbing compound after washing and prior to applying a coat of wax. Use a fine compound recommended by your dealer, and follow the manufacturer's instructions carefully.

Surface repairs: Minor scratches can often be compounded out after washing. Deeper gelcoat scratches may require light sanding with wet-or-dry sandpaper (working from 400 grit to 600 grit), followed by compounding. Scratches which go deeper than the gelcoat, and any other damage which involves delamination or structural repairs should be discussed with your dealer. Boston Whaler offers matching gelcoat & hull patch repair kits. See your dealer about these.

TRIM AND FITTINGS

Metal trim and fittings will stay brighter if coated with a good grade of metal polish or paste wax after washing. Ask your dealer about special products formulated for use on stainless steel and aluminum.

Stainless steel, although strong and corrosion resistant, does require periodic maintenance. Stainless steel surfaces must be kept clean and free of accumulated dirt and grit. Crevice corrosion, a brownish coloring, can occur on stainless components where one piece of stainless hardware joins another. This condition is usually caused by impurities in water and air and can be cleaned easily with any marine polish using a sponge, cloth or small bristled brush (useful for getting into nooks and crannies).

Caution: Never use steel or bronze wool for any cleaning applications. Tiny particles will fall off, getting into the gelcoat, causing rust stains.

CANVAS: Three primary considerations for cotton duck and acrylic canvas items such as sun tops and mooring covers are:

1. Chafing
2. Fiber wear from dirt and grit
3. Fiber deterioration from ultraviolet light

Inspect the canvas installation periodically to assure that it is not in contact with parts of the boat or gear which may cause chafing. Minor adjustment of the canvas frame component may be necessary to prevent this.

Canvas items should be washed at least once a season with luke warm fresh water with a mild detergent to remove salt and grit which will cause wear of the fibers. A soft bristle brush may be used with plenty of water to remove dirt. When all dirt, salt and grit have been removed, rinse thoroughly with clean fresh water and allow to dry thoroughly, to prevent mildew, before rolling it up for winter storage.

The effects of ultraviolet light can sometimes be reduced by chemical treatment of canvas items. Discuss this with your dealer.

Periodically lubricate snaps with petroleum jelly. Zippers periodically should be lubricated with paraffin wax.

UPHOLSTERY: Vinyl upholstery can be periodically cleaned with any good vinyl upholstery cleaner to keep it clean and pliable. For other types of upholstery fabric, use a foam type upholstery cleaner. Keep the upholstery dry to prevent mildew. Be sure there is no moisture between cushions. Do not use solvents or bleaches on vinyl.

ZINC ANODE: As a general practice, it is not recommended to leave your Rage Jet Boat in the water for extended periods of time without operating it. Marine growth can accumulate inside the pump cavity and on the impeller. Electrolysis can also cause damage to the pump and jet drive components. To reduce the potential effects of electrolysis, a sacrificial zinc anode is installed on the port side of the pump cavity. This zinc anode should be inspected frequently and replaced as necessary.

BOTTOM PAINTING: To protect the bottom from marine growth, any boat left in the water for an extended period of time should be painted annually with a good grade of anti-fouling paint. Because of pollutants in the water and their possible reaction with the gel-coat and laminate, we strongly recommend that a "barrier coat" be applied upon initial bottom painting. Consult your local marine dealer for recommended barrier and anti-fouling paints, and follow the paint manufacturer's instructions carefully. Do not use a copper-based paint as this may cause corrosion of underwater metallic fittings. **NEVER PAINT THE ZINC ANODE.**

Waterlines: Use the following procedure to establish the waterline of your boat:

1. Place the boat in the water.
2. From outside the boat, mark the waterline points with a sharp pencil, at the bow and stern.
3. On a flat floor surface, level the boat fore and aft and side to side to get marks equally distant from the floor.
4. Cut a stick to the length equal to the distance between the floor and the marks.
5. Holding this stick plumb, go all around the hull and marking where the stick touches the hull. Keep the marks close together (every 6 inches - closer where they form a sharp curve).
6. Follow all the marks carefully with masking tape.

WINTER STORAGE: If your boat is out of use during winter months, or is to be laid up for an extended period of time, the following should be done:

1. Check Section 11 of this manual for important procedures required to protect the engine during lay-up.
2. Remove any marine growth from the bottom and jet drive intake immediately after removing the boat from the water. This debris will harden, making its removal very difficult unless it is done while still wet.

3. Clean and wax your boat before storage. This will be easier now than it will after dirt and grit have adhered for a long period of time. Also, it will help to prevent stubborn stains from forming.
4. The boat should be supported on the keel. If on a trailer, side bunks need only prevent lateral movement. (See "Trailerling")
5. Store the boat with the bow slightly elevated to promote draining. Remove drain plugs.
6. Fill fuel tanks and add dry gas. Empty tanks collect condensation.
7. Remove the battery for storage. Clean the cable terminals and battery terminals. Charge the battery fully before storing it.
8. Provide the boat with safe, secure storage, out of the elements if possible. Otherwise protect it with a suitable cover which keeps out the weather, but provides some ventilation. Remember to account for snow loads when considering winter covers.