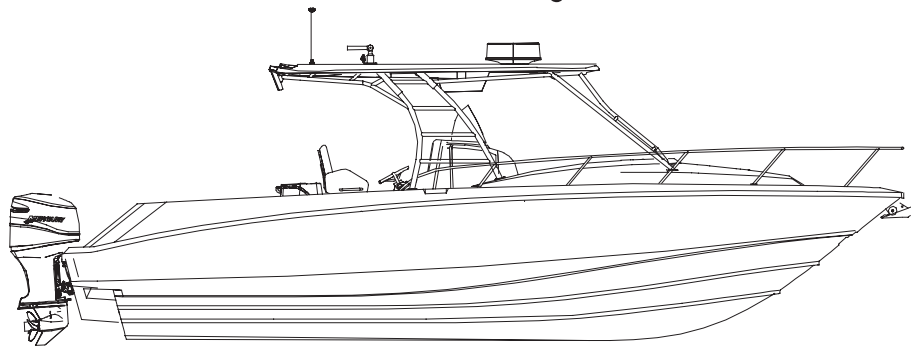

320 Outrage

Cuddy Cabin



**“The mission of Boston Whaler®
is to provide consumers with the
safest, highest quality, most durable
boats in the world”**

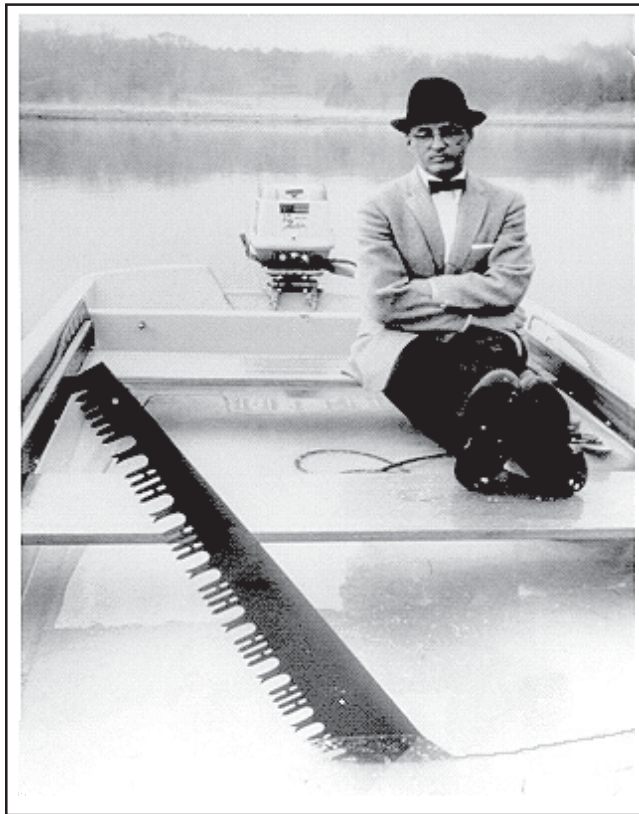
HISTORY

In 1958, company founder Richard T. Fisher introduced the first Boston Whaler® boat in Braintree, Massachusetts. It featured two significant innovations: first, its twin sponson hull design produced superior stability and a remarkably dry ride; second, its unique foam core construction made the boat not only durable, but unsinkable as well.

Fisher took every opportunity to illustrate the unique characteristics of the Boston Whaler®. His most famous demonstration was captured in 1961, by *Life Magazine*. The series of photographs showed the boat underway, the boat being sawed in half and ultimately Fisher motoring away in the remaining half of the boat. And through the years many other demonstrations have proved the toughness and

durability of the Boston Whaler hull. And though you may never cut your boat in half, this only goes to show one thing, people whose livelihood and lives depend on boats consistently choose Boston Whaler® because of their seaworthiness, dependability and the inherent safety of a hull that won't sink even if severely damaged.

Boston Whalers are built to last. For over 40 years Boston Whaler® has strived to make each model better, providing you with a safe and fun boating experience. That is the reason we offer a 10 year limited transferable warranty. It is also an excellent reason why you can trust the safety of your family and friends to a Boston Whaler®.



Boston Whaler® founder Richard T. Fisher demonstrating one of the features that has made Boston Whaler® the “Unsinkable Legend” in this 1961 LIFE Magazine Photo.

Richard T. Fisher was posthumously inducted into the National Marine Manufacturer's Association (NMMA) Hall of Fame on September 26, 1996 for accomplishments made in marine engineering and construction.

**PLEASE KEEP THIS OWNER'S MANUAL PACKET IN A SECURE PLACE, AND BE SURE
TO HAND IT OVER TO THE NEW OWNER IF YOU SELL THE BOAT.**

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Preface

This Owner's Manual has been written to provide specific information about your boat and it should be read carefully. Keep this booklet with the Manuals in the Owner's Manual Packet. The Owner's Manual Packet has been compiled to help you operate your boat with safety and pleasure. It contains details of the boat, the equipment supplied or fitted, it's systems and information on it's operation and maintenance. Please familiarize yourself with the boat and it's operation before using it. If this is your first boat, or you are changing to a type of boat you are not familiar with, for your own comfort and safety, please ensure that you obtain handling and operating experience before "assuming command" of your boat. Your Boston Whaler® dealer or local Yacht Club will be pleased to advise you of marine safety classes and safe boating classes in your area.

INFORMATION IN THIS PUBLICATION IS BASED ON THE LATEST PRODUCT SPECIFICATIONS AVAILABLE AT PRINTING. BOSTON WHALER® BOATS, INC. RESERVES THE RIGHT TO MAKE CHANGES AT ANY TIME WITHOUT NOTICE, IN THE COLORS, EQUIPMENT, SPECIFICATIONS, MATERIALS AND PRICES OF ALL MODELS, OR TO DISCONTINUE MODELS. SHOULD CHANGES OR MODIFICATIONS TO THE MODELS BE MADE BOSTON WHALER® IS NOT OBLIGATED TO MAKE SIMILAR CHANGES OR MODIFICATIONS TO MODELS SOLD PRIOR TO THE DATE OF SUCH CHANGES.

BOSTON WHALER • A BRUNSWICK COMPANY

MRP #1802348

Revision B 11/08/05

THE FOLLOWING ARE REGISTERED TRADEMARKS OF THE BRUNSWICK CORPORATION:

320 OUTRAGE CUDDY CABIN, BOSTON WHALER®.



Owner's manual

The material here and in the rest of the Owner's Manual Packet:

- Gives you basic safety information;
- Describes the features of your boat;
- Describes the equipment on your boat;
- Describes the fundamentals of boat use; and
- Contains service and maintenance information.

You must learn to operate this boat as well as read, understand and use this manual.

What this manual **does not** give you is a course in boating safety, or how to navigate, anchor or dock your boat. Operating a power boat safely requires more skills, knowledge and awareness than is necessary for a car or truck.

Your responsibilities

For your safety, the safety of your passengers, other boaters and people in the water, you must:

- Take a boating safety course;
- Get instruction in the safe and proper handling of your boat;
- Understand and follow the "rules of the road";
- Learn how to navigate.

Source of Information

In North America, contact one of the following for boating courses:

- U.S. Coast Guard Auxiliary
- U.S. Power Squadron
- Canadian Power and Sail Squadrons
- Red Cross
- State Boating Offices
- Yacht Club

Contact the Boat/U.S. Foundation at 1-800-336-2628 or go to www.boatus.com/foundation

Outside of North America, contact your boat dealer and/or your governmental boating agency for assistance.

A comprehensive background in boating can be found in the book, *Chapman - Piloting, Seamanship and Small Boat Handling*, by Elbert S. Maloney, published by Hearst Marine.

Warranties

In addition to the Boston Whaler® Limited Warranty for your boat, each component and/or system on your boat has its own warranty that will be found with the specific information and manual for that component. The manuals are included with your Owner's Manual Packet. Locate and read the individual warranties; then keep them together for easy future reference.

Contact Phone Numbers and Internet Addresses

Boston Whaler, Inc.

Phone 1-877-294-5645
Internet www.whaler.com

United States Coast Guard

Phone 1-800-368-5647
Internet www.uscgboating.org

Boat US Foundation

Phone 1-800-336-2628
Internet www.boatus.com/foundation

Canadian Coast Guard

Phone 1-800-267-6687
Internet www.ccg-gcc.gc.ca/main_e.htm

Boston Whaler® Limited Warranty

1. Boston Whaler, Inc. ("Boston Whaler") provides each new boat owner with a product registration card which must be filled out and sent to Boston Whaler, within 30 days of purchase. **PLEASE COMPLETE AND RETURN THE PRODUCT REGISTRATION CARD WITHIN 30 DAYS OF PURCHASE OF YOUR BOAT IN ORDER TO FACILITATE ANY PROCESSING OF WARRANTY CLAIMS AND FOR MANUFACTURER NOTIFICATIONS.**
2. This Limited Warranty is applicable for 2006 Boston Whaler product. Boston Whaler warrants that each hull manufactured by Boston Whaler will be free from structural defects due to substandard material or workmanship, under conditions of normal recreational consumer use and service, for a period of ten years from date of purchase. **The following limitations or exclusions apply to this warranty:**
 - a) The warranty starts on the date of purchase. The warranty is offered in two stages; the first five years (60 months) offers full coverage with the cost of any authorized replacement reimbursed at 100%. The remaining five years of warranty (60 months) is on a pro-rata basis; between 61-120 months the cost of any authorized replacement will be reimbursed as a percentage of the number of months left of coverage. A declining value of 1.67% will be assessed to each month of passing after the 60 month period. Any authorized replacement will be reimbursed as a percentage months expired after 60 months and the date of occurrence (i.e. defect occurs 6 years + 3 months after the date of purchase 60 + 15 months(15 X 1.67% = 25%.) This means 25% of the warranty has expired, therefore, 75% of the cost will qualify for repair and/or replacement of boat).
 - b) Any warranted structural defects will be repaired at the authorized Boston Whaler dealer chosen by Boston Whaler, or at the Boston Whaler factory in Edgewater, Florida. All repairs must be authorized in writing by Boston Whaler.
 - c) Expenses for hauling out, transportation to and from the dealer or to and from the Boston Whaler factory (in extreme cases) are the responsibility of the boat owner.
 - d) Additional exclusions: Damage resulting from abuse, misuse, accidents, overloading or powering in excess of the recommended maximum horsepower, use of improper trailer, modification or alteration to the hull including penetration of the hull by anyone other than Boston Whaler factory personnel or by Boston Whaler authorized dealer service personnel following factory specified procedures.
 - e) **Specifically excluded from this warranty are:** Gelcoat fading, discoloration, chalking, blistering, cracking, crazing, vinyl punctures and fading or stress lines. These are cosmetic and not structural and are not defective materials or workmanship.
 - f) This warranty is transferable for its remaining pro-rata period to a subsequent owner, except this limited warranty will not transfer to any new owner of a boat which has been salvaged and resold, or resold after a declaration of a total loss or a constructive total loss, i.e. the cost of repair exceeds the value of the boat. The new owner must fill out and send in the Boston Whaler warranty transfer form (the form is part of the original owner warranty registration card or go to www.whaler.com to download a re-registration form), a copy of the bill of sale, and a \$50.00 fee to Boston Whaler, 100 Whaler Way, Edgewater, Florida 32141, within 30 days of purchase.
3. Boston Whaler will repair or replace any accessories manufactured and installed by Boston Whaler found to be defective in factory materials and/or workmanship within one year from date of sale to the original purchaser. Specifically excluded from this warranty are:
 - a) Windshield breakage and leakage.
 - b) Engines, engine components, batteries, propellers, controls, steering mechanisms, electronics, and any other parts covered by the supplying manufacturers' warranties.
 - c) This warranty is not transferable.
4. None of the foregoing limited warranties applies to any Boston Whaler hull or accessories which have been structurally altered, subjected to unreasonable use, improper storage or maintenance, negligence or accident, or used for commercial, business, or racing purposes unless specifically authorized in writing by Boston Whaler. None of the foregoing limited warranties applies to any boat which has been salvaged or declared a total loss or a constructive total loss for any reason not covered by these limited warranties.
5. The obligation of Boston Whaler under these warranties is limited to the cost of repair or replacement for such boat or part which shall, within the warranty period, be determined by Boston Whaler to have been defective in material or workmanship. The decision to repair or replace a particular boat or part(s) shall be solely at the election of Boston Whaler. If a warranted defect is determined to exist, Boston Whaler will provide written authorization for exactly what remedial action will be performed. No work may be performed without this written authorization. **THE REMEDY DESCRIBED ABOVE SHALL BE THE EXCLUSIVE AND SOLE REMEDY PROVIDED BY BOSTON WHALER OTHER THAN AS SET FORTH HEREIN, THERE ARE NO OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED ON THIS BOAT. ALL OTHER WARRANTIES, EXPRESS OR IMPLIED INCLUDING IMPLIED WARRANTIES OF FITNESS AND MERCHANTABILITY ARE EXPRESSLY EXCLUDED. BOSTON WHALER FURTHER DISCLAIMS ANY LIABILITY FOR PRODUCT FAILURE OR OTHER ECONOMIC LOSS ARISING FROM CLAIMS OF NEGLIGENCE, DEFECTIVE DESIGN, MANUFACTURING DEFECT, FAILURE TO WARN AND/OR INSTRUCT, LACK OF SEAWORTHINESS, AND ANY OTHER THEORY OF LIABILITY NOT EXPRESSLY COVERED UNDER THE TERMS OF THIS LIMITED WARRANTY. TO THE EXTENT ALLOWED BY LAW: (1) ANY IMPLIED WARRANTY OF MERCHANTABILITY IS LIMITED TO ONE (1) YEAR; (2) NEITHER BOSTON WHALER NOR THE SELLING DEALER SHALL HAVE ANY RESPONSIBILITY FOR LOSS OF USE OF THE BOAT, LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS OR CONSEQUENTIAL DAMAGES. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG ANY IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.** The terms and conditions contained herein, as well as those of any documents prepared in conjunction with the sale of this vessel may not be modified, altered or waived by any action, inaction, or representations, whether oral or in writing, except upon the expressed, written authority of a management level employee of Boston Whaler.
6. **RETAIL CUSTOMERS IN THE EUROPEAN UNION (EU) MAY HAVE LEGAL RIGHTS UNDER APPLICABLE NATIONAL LEGISLATION REGARDING THE SALE OF CONSUMER GOODS WHICH ARE NOT AFFECTED BY THIS LIMITED WARRANTY. THE RETAIL CUSTOMER'S LEGAL RIGHTS UNDER ANY APPLICABLE NATIONAL LEGISLATION REGARDING THE SALE OF CONSUMER GOODS SHALL NOT BE AFFECTED.** You can receive information relating to authorized EU dealers by contacting Boston Whaler at the address listed below.
7. Boston Whaler reserves the right to improve its product through ongoing changes in design or material without obligation to incorporate such changes on boats of prior manufacture. Speed, weight, fuel consumption, and other performance characteristics are estimated and cannot be guaranteed.
8. To initiate a warranty claim, it is the responsibility of the purchaser to contact an authorized Boston Whaler dealer immediately after discovery of the defect, describing the nature of the problem, hull serial number, date of purchase and selling dealer. The authorized dealer has primary responsibility for warranty service and will notify Boston Whaler, who is solely responsible for determining and authorizing in writing the remedial action(s). The purchaser must notify Boston Whaler of any boat being repaired by an authorized Boston Whaler dealer which has been at the dealership for fifteen (15) days, or of any claimed defect which was not corrected after one repair attempt. Failure to complete and return the product registration card does not diminish the consumer's warranty rights.

**World Headquarters, 100 Whaler Way, Edgewater, FL 32141
Internet Address: www.whaler.com**

Explanation of Safety Precautions

This manual provides safety precautions which must be observed when operating or servicing your boat.

The most important aspect of boating is safety. Although every effort is made to address the numerous issues regarding the safe usage of your new boat, it is strongly recommended that you avail yourself of the training and knowledge available through boating safety courses, etc.

Warning labels

The following precautions appear throughout this manual. learn to recognize the degree of precaution and understand the explanations of safety prior to reading this manual. The precautions listed are not all-inclusive. Always use common sense in the operation of your boat.

Mounted at key locations throughout the boat, warning labels advise the owner/operator of

DANGER

Denotes an immediate hazard exists that **WILL** result in severe personal injury or death.

WARNING

Denotes hazards or unsafe practices that **COULD** result in severe personal injury or death.

CAUTION

Denotes hazards or unsafe practices that **COULD** result in minor personal injury, product or property damage.

NOTICE

Denotes information that is important to know prior to operation and/or maintenance, but is not hazard related.

imperative safety precautions to follow when operating and/or servicing equipment. **DO NOT REMOVE OR OBSTRUCT ANY WARNING LABEL.** Replace any label which becomes illegible

NOTICE

The law requires the owner/operator to assist any person or boat in distress as long as rendering assistance does not endanger the owner/operator, the passengers or the boat.

WARNING

A qualified operator must be in control of the boat at all times. Do not operate the boat while under the influence of alcohol or drugs. never operate your boat at speeds which exceed the operator's ability to react if an emergency develops. At night, turn on the appropriate navigation lights and cruise at a reduced speed that will allow you plenty of time to avoid dangerous situations.

Proposition 65 (California residents only)

WARNING

A wide variety of components used on this vessel contain or emit chemicals known to the State of California to cause cancer and birth defects and other reproductive harm.

EXAMPLES INCLUDE:

- Engine and generator exhaust
- Engine and generator fuel, and other liquids such as coolants and oil, especially used motor oil
- Cooking fuels
- Cleaners, paints, and substances used for vessel repair
- Waste materials that result from wear of vessel components
- Lead from battery terminals and from other sources such as ballast or fishing sinkers

TO AVOID HARM:

- keep away from engine, generator, and cooking fuel exhaust fumes
- Wash areas thoroughly with soap and water after handling the substances above

SAFE Boating means:

- Knowing the limitations of your boat
- Following the “RULES of the ROAD”
- Keeping a sharp lookout for people and objects in the water.
- Not boating in water or weather conditions that are beyond the boat’s and operator’s capability.
- Never operate the boat while under the influence of drugs or alcohol.
- Being aware of your passengers safety at all times.
- Reducing speed when there is limited visibility, rough water, people in the water nearby, boats or structures.

Boating in beautiful weather and calm water conditions can be a wonderful experience. Boating however requires considerably greater skills than operating a land vehicle.

To obtain these skills:

- Take a Coast Guard, U.S. Power Squadron or equivalent boating safety course. (Call the Boat/U.S. Foundation at 1-800 336-2628 for information on available courses, or go to: “www.boatus.com/foundation” on the internet.)
- Get hands-on training on how to operate your boat properly.

In Addition:

- Maintain your boat and its safety and other systems as recommended in this manual.
- Have the boat inspected by a qualified mechanic or dealer, at least annually.
- Ensure that the Coast Guard required safety equipment is on board and functioning.

Safe Boating Checklist

Before Departure

- ☐ Update checklists when equipment is added or modified.
- ☐ Weather-forecast safe
- ☐ Required documents-on board
- ☐ Navigation charts & equipment-on board
- ☐ Safety equipment-on board
- ☐ Safety training-passengers & crew instructed on procedures, location, and use of safety equipment.
- ☐ Drain plugs-installed
- ☐ Bilge pumps-working & clean
- ☐ Blower-working
- ☐ Navigation lights-working
- ☐ Horn-working
- ☐ Fuel tank(s)-filled, less than rated capacity (allow for expansion)
- ☐ Fuel system-no leaks or fumes
- ☐ Fuel filter-tight & clean
- ☐ Power steering fluid-filled(if applicable)
- ☐ Steering system-working smoothly & properly
- ☐ Battery-electrolyte level within range
- ☐ Float plan-filed with friend or relative

Trailer (if applicable)

- ☐ Boat position-secure on trailer
- ☐ Tiedowns-tight
- ☐ Winch-locked
- ☐ Trailer hitch-connected
- ☐ Engine clearance-in trailering position
- ☐ Safety chains-attached
- ☐ Electrical-Lights, brake lights, turn signals working
- ☐ Mirrors-adjusted for trailering

After Return

- ☐ PFD’s & other safety gear-dry, stowed for next use
- ☐ Fuel tanks-filled (allow for expansion) to prevent condensation
- ☐ Fuel system-no leaks
- ☐ Bilge pump-operating properly
- ☐ Bilge-clean, no leaks
- ☐ Float plan-notify person with whom you filed plan

Legally Mandated Equipment (Minimum Required)

Consult your National Boating Law Enforcement Agency. The following equipment is the minimum required by the U.S. Coast Guard for a boat which is more than 26 ft. (7.9M) in length but less than 40 ft. (12.2M) in length.

Personal Flotation Devices (PFD's)

One (1) Coast Guard approved Type I, II, III is mandatory for each person aboard.

One (1) throwable Type IV device is also required to be onboard.

A Type V device is acceptable (See page 1.6) if worn for approved use.

ALWAYS WEAR A PFD WHEN BOATING.

Fire Extinguishers (Portable)

If there is no fixed fire extinguishing system installed in the engine or generator spaces, the Coast Guard requires two (2) Type B-I or one (1) B-II fire extinguisher(s) be on board.

The American Boat & Yacht Council (ABYC) recommends that you carry three (3) A,B or C Type fire extinguishers on board and located within easy reach of the helm, Engine(s), and galley or passenger cockpit.

Whistle, Horn

You must have on board, some means of making a loud sound signal. Navigation rules require that a sound made by any audible device be capable of a four (4) second blast, and be audible for 1/2 mi. (.80 Km).

Visual distress Signals

If you operate your boat in coastal waters or on the Great Lakes, you must have a visual distress signals for day and night use on board. At least three (3)

U.S.C.G. approved pyrotechnic devices marked with date showing service life must be carried, be readily accessible, in servicable condition and not be expired. **Store all pyrotechnic signals in a well marked, waterproof container.**

Additional Recommended equipment for safe operation

In addition to the legally mandated equipment, the following items are necessary for safe boating, especially if your boat is out of sight of land.

- First Aid kit
- Charts/Maps
- Visual distress signals (for day or night use)
- Marine VHF radio
- Moisture repellent
- Mooring Lines
- Fenders
- Waterproof flashlights
- High power spotlight
- Spare propeller
- Tool kit:
 - Screwdrivers, (phillips & flat)
 - Pliers, (regular, vise-grip, tongue & groove)
 - Wrenches, (box, open end, allen & adjustable)
 - Socket set, (metric or U.S.)
 - Electrical tape & duct tape
 - Hammer
 - Spare parts kit, (spark plugs, fuses, etc.)
- Compass
- Manual bilge pump
- GPS or LORAN
- Spare keys
- EPIRB-Emergency positioning-indicating radio beacon
- Boat hook
- Extra batteries
- Instruction manuals
- Lubricating oil

Impaired Operation

WARNING

CONTROL HAZARD-Federal laws prohibit operating a boat while under the influence of alcohol or drugs. These laws are vigorously enforced.

Give special attention to the effects of alcohol and drugs while boating. No other single factor causes as many marine accidents and deaths. The

detrimental effects of alcohol and drugs are increased by wind, waves and sun, and will decrease your response time and ability to act in critical situations. Death or serious injury, damage to personal and private property can result from being impaired while operating a boat.

Carbon Monoxide (CO)

DANGER

- Fumes from engine(s), Generator(s) and other equipment and appliances that burn fuel contain Carbon Monoxide. Carbon Monoxide can kill you. Open all doors, hatches, curtains and windows to allow fresh air to circulate and dissipate the amounts of Carbon Monoxide present in enclosed spaces, especially when the boat is moored or anchored.
- Proper ventilation must be maintained, even during inclement weather to prevent dangerous levels of Carbon Monoxide build-up.
- Sleeping aboard a boat requires a working Carbon monoxide detection system, preferably in each sleeping quarter.

Carbon Monoxide is an odorless, colorless, extremely toxic gas that is the product of any type of combustion produced by engines, heaters, stoves or generators. When inhaled it combines with hemoglobin in the blood, preventing absorption of oxygen and resulting in asphyxiation and death.

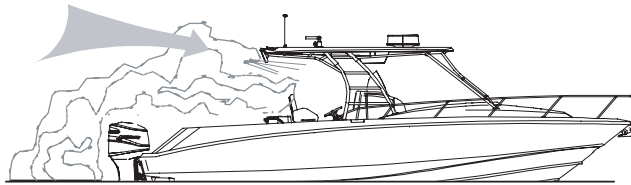
Symptoms of Carbon Monoxide poisoning include:

- Dizziness
- Headaches
- Ringing in the ears
- Nausea
- Unconsciousness

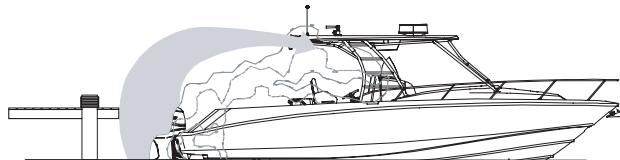
GET MEDICAL ATTENTION AS SOON AS POSSIBLE.

The poisoning victim's skin often turns cherry red. Carbon Monoxide is colorless, odorless and tasteless, it is unlikely to be noticed until the person is overcome.

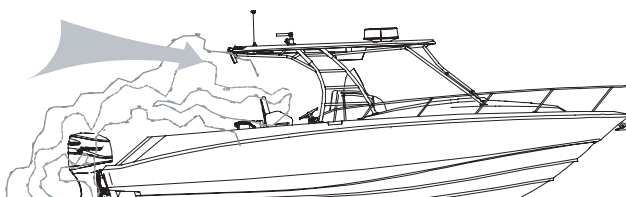
Examples of accumulation of Carbon Monoxide
Fig. 1.4.1



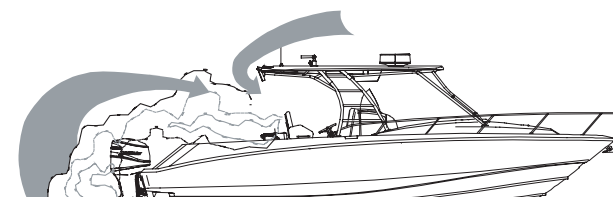
WINDS BLOWING EXHAUSTS TOWARD BOAT OCCUPANTS.



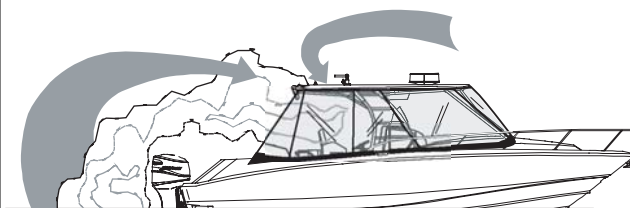
BLOCKING EXHAUSTS



OPERATING WITH "BOW HIGH"

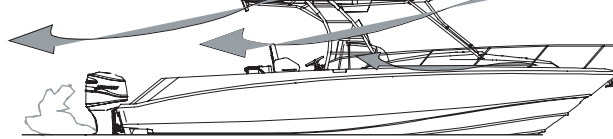


OPERATING AT SLOW SPEED OR DEAD IN WATER



RUNNING OR AT IDLE WITH CANVAS INSTALLED

OPEN ALL HATCHES, PORTLIGHTS OR CANVAS OPENINGS TO LET FRESH AIR CIRCULATE.



If CO poisoning is suspected, have the victim breathe fresh air deeply. If breathing stops, resuscitate. A victim often revives, then relapses because organs are damaged by lack of oxygen. Seek immediate medical attention.

Dangerous concentrations of Carbon Monoxide will be present if the engine(s) exhaust system leaks OR insufficient fresh air is circulating.

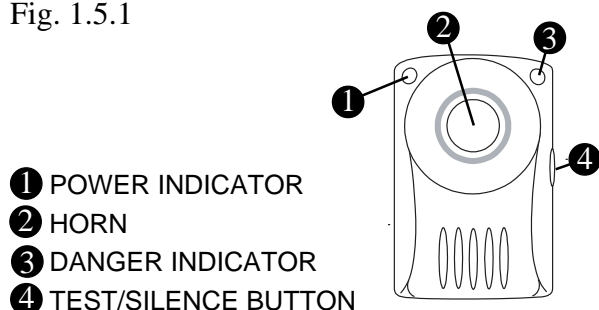
To minimize the danger of Carbon Monoxide accumulation when the Engine(s) and/or Generator(s) are running (or by use of fuel burning equipment.):

- Be sure to have sufficient ventilation when using canvas cabin enclosures when underway, anchored, moored or docked.
- Open all forward hatches, portlights and leave cabin door open.
- Operate all fuel burning appliances, such as charcoal, propane, LPG, CNG or alcohol cooking devices in areas where fresh air can circulate.
- Do not idle the engine(s) without moving the boat for more than 15 minutes at a time.
- Inspect the exhaust system regularly.

Carbon Monoxide Detector

The Carbon Monoxide Detector located on the starboard aft bulkhead of the cabin will sound an alarm when dangerous levels of CO are detected. The detector is very sensitive and will notify you before dangerous amounts of Carbon Monoxide can accumulate which will allow you to take measures

Carbon Monoxide Monitor
Fig. 1.5.1



⚠ DANGER

Even in rainy cold weather, ventilation must be maintained to avoid Carbon Monoxide poisoning. You will get wet and/or cold.

to dissipate the gas from the affected areas. Follow all recommendations regarding this section to keep yourself safe from Carbon Monoxide.

Lifesaving Equipment

Even strong swimmers can tire quickly in the water and drown due to exhaustion, hypothermia, or both. The buoyancy provided by a personal flotation device (PFD) will allow the person who has fallen overboard to remain afloat with far less effort and body heat loss, extending survival time necessary to find and retrieve them.

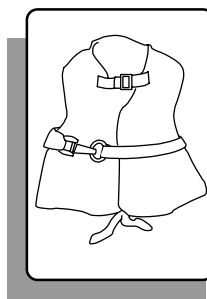
PFD Requirement

One (1) wearable personal flotation device (PFD, Type I, II, III or V) for every person onboard and at least one (1) throwable device, (Type IV).

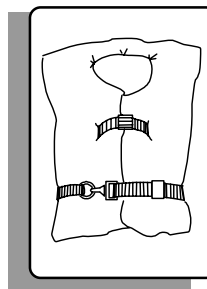
The law requires that PFD's must be readily accessible, if not worn. "Readily Accessible" means removed from storage bags and unbuckled. **Children and non-swimmers must wear PFD's at all times when aboard.**

PFD Classifications

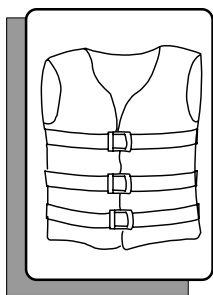
Listed below are the several different types of PFD's, each life jacket has different purposes, choose one that will suit your purpose.



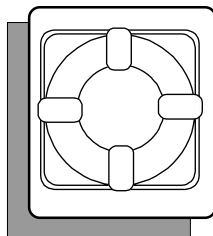
Type I, Off-shore Life Jacket is considered the most buoyant, it is designed to turn an unconscious person face up. Use in all types of waters where rescue may be slow, particularly in cold or rough water conditions.



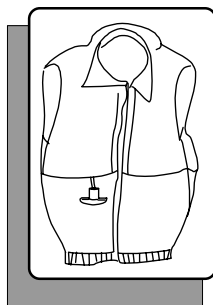
Type II, Near-shore Life Vest, "keyhole" vest with flotation filled head and neck support is also designed to turn a person face up, but the turning action is not as pronounced. Use in calm inland waters or where quick rescue is likely.



Type III, Flotation-aid Life vest is designed so that conscious wearers can turn face-up. Often designed for comfort while engaged in water skiing or other forms of water activities.



Type IV, Throwable Devices, horseshoe bouys, ring bouys and bouyant cushions are designed to be grasped, not worn.



Type V, Special-Use devices, sailboat harnesses, white water vests, float coats, and hybrid vests which have minimum inherent bouyancy and an inflatable chamber.

Before purchasing PFD's, ensure that there is an attached tag indicating they are approved by the U.S.Coast Guard or by your National Boating Law Enforcment Agency.

The operator is responsible for instructing everyone aboard on the location and use of PFD's.

Boarding (Wear a PFD)

- Board only one person at a time.
- Step or climb into cockpit. Never jump into boat.
- Load gear after you are aboard. Carrying gear while boarding can cause you to lose balance.
- Distribute weight evenly.
- Instruct passengers where to sit during on-plane operation to reduce the possibility of falling overboard during high speed maneuvers.
- If gear is not immediately needed, stow it in secure areas.

- Safety gear must be immediately accessible at all times.
- Children and non-swimmers must wear PFD's at all times when aboard. All passengers and crew should wear them since an unworn PFD is often useless. The law requires that PFD's, if not worn must be readily accesible, that is, removed from storage bags and unbuckled. Throwable devices must be readily available, that is, right at hand.

The operator is responsible for instructing everyone onboard on their location and use. **The best precaution is to wear the PFD at all times while on the boat.**

Maintain Control

On the water there are no marked traffic lanes, no traffic signs or lights, and boats have no turn signals. The boat operator must keep her or his attention focused not only on what's ahead but what's on the left, right and behind the boat.

The operator must always be alert to approaching boats (from the rear, right and left sides, as well as those ahead). There can be people in the water, partially submerged debris, and other navigational hazards such as rocks, sand bars, dangerous currents, to name a few.

Your passengers are relying on you to operate and maneuver the boat safely so that they are not in danger of going overboard. If you turn too quickly, increase or decrease speed abruptly, your passengers are at risk of being thrown overboard or thrown about the boat.

When visibility becomes impaired because of weather, time of day or high bow angle you must slow down so that you have sufficient time to react if an emergency occurs. Nearby boats face similar risks in avoiding a collision with you.

General Considerations

- Know how your boat handles under different conditions. Recognize your limitations and the boat's limitations. Modify speed in keeping with weather, sea and traffic conditions.
- Instruct passengers on location and use of safety equipment and procedures.
- Instruct passengers on the fundamentals of operating your boat in case you are unable to do so.
- You are responsible for passenger's actions. If they place themselves or the boat in danger, immediately correct them.

WARNING

Death or serious injury can result if you fail to observe these safety rules:

- Anyone who controls the boat must have taken a boating safety course and have trained in the proper operation of the boat.
- Always operate the boat at speeds that will not put people or property in danger.
- Be constantly aware of conditions in all directions when underway and before turning.
- Reduce speed, use a lookout to identify possible hazards or difficulties, and turn on navigation lights when:
 - visibility is impaired;
 - in rough water; and
 - in congested waterways.
- Watch your wake. It can capsize a small boat or damage moored boats or other property. You are responsible for damage caused by your wake.

WARNING

STABILITY HAZARD

- Load boat properly. The manufacturer's load rating is the maximum allowed under normal conditions. Adjust downward if weather, water or other conditions are adverse.
- Allow passengers to ride only in areas that do not pose a hazard to themselves or the boat.

DO NOT allow passengers to ride on the bow of a closed bow boat.

DO NOT allow several passengers to ride in the bow of a small open-bow boat, causing the boat to "plow" into the water.

DO NOT allow passengers to ride on the stern cushion or gunwales.

DO NOT overload the stern.

- Passengers should remain seated while boat is moving.

PERSONAL INJURY HAZARD-Stay alert. Use of drugs, alcohol or other substances which impair judgement poses a serious threat to yourself and others. The boat operator is responsible for the behavior of passengers.

DROWNING HAZARD-Boats must carry one wearable personal flotation device (PFD) for every passenger on board. Boats must have at least one throwable life preserver.

SLIPPING HAZARD-Wet decks are slippery. Wear proper footwear and use extreme caution on wet surfaces.

Emergency Situations

NOTICE

The law requires the owner/operator to assist any person or boat in distress as long as rendering assistance does not endanger the owner/operator, the passengers or the boat.

Prevention is the safest approach. We hope that you are never involved in an emergency situation, but if you are it is imperative that you react.

Medical Emergency

You may be far from professional medical help when you are boating. At least two (2) persons on board your boat should be CPR certified, and should have taken a first aid course. Your boat should have a well stocked first aid kit on board. In many situations your radio will be your only link to reaching medical assistance. Keep the radio in working order and understand which channels are used for emergencies, these channels are constantly monitored and will be useful when situations arise. Cell phones are becoming more common and can help in some areas, but they are limited and unreliable and should not be used in the place of a good VHF radio.

Water Rescue

In most situations a person that has fallen overboard will succumb to hypothermia if not rescued immediately. Life expectancy decreases as rescue time increases in water temperatures below 70° (21.1°C).

There are three (3) steps that must be taken when a person has fallen overboard:

Returning to the victim:

- Immediately make everyone onboard aware that someone is overboard and keep the victim in sight.
- Slow the boat and keep pointing toward the person overboard. At night or in low light, point the best available light source at the person.

- Throw a life ring/preserver to the victim, even if they are wearing one it will serve as another marker.

Making contact:

- Stop or slow the boat and circle toward the person overboard.
- Try to approach heading into the wind or into the waves.
- Keep person overboard constantly in sight.
- When almost alongside, stop the engine in gear to prevent propeller “windmilling”.

Getting back aboard:

- Try to reach the person overboard with a pole, or by throwing a life preserver. NEVER swim to them except as a last resort.
- Assist the person in boarding. Boarding should be done at the stern of the boat.
- If the person is injured or incapable of boarding by themselves, a rescuer should don a life preserver with a safety line and enter the water to assist the person onto the boat.
- Handle the person carefully, spinal injuries might have occurred and could be worsened by rough handling.
- Check for other injuries, render medical assistance immediately.

Fire

Fire is a serious boating hazard. Boats will burn quickly. Do not remain onboard and fight a fire for more than a few minutes. If the fire is out of control and cannot be put out with the fire suppression equipment onboard, abandon ship immediately.

The fumes released during a fire are toxic and should be avoided. Even after the fire has been extinguished, proper ventilation of the area is required to minimize exposure to harmful fumes.

DANGER

- Fires can spread quickly. Your reaction to the fire is important. Have the proper fire fighting equipment close at hand, and in good working order to respond quickly.
- Small fire extinguishers have small discharge times. Aim at the base of the fire with a sweeping motion to maximize the use of the fire extinguisher contents.

To lessen the danger of fire:

- Extinguish all smoking materials, shut off blowers, stoves, engine(s) and generator(s).
- Keep bilge area clean, oil and fuel spills should be cleaned immediately.
- If possible throw burning materials overboard.
- If fire is accessible, release the contents of the fire extinguisher(s) into the base of the fire.
- If the fire is in an enclosed compartment, and you have an automatic extinguisher for the compartment, wait 15 min. before opening the compartment. Have an extinguisher handy in case of a flare up.
- If possible, signal for help. Radio, visual, and audible signal should be used as needed. You must render assistance to any boater requesting help.
- If fire is out of control, grab all necessary survival gear, distress signals, don your PFD's and prepare to abandon ship.
- If you do abandon ship, make sure the passengers have PFD's. Take a head count before entering the water and take another head count when in the water. **STAY TOGETHER.**

Flooding, Swamping and Capsizing

In the event of Flooding, Swamping or Capsizing:

Flooding-

- Always wear your PFD, or have it within reach.

- If the bilge pump(s) have not automatically turned ON, switch them ON immediately.
- Find the source of the flooding and determine the best fix.
- Keep the bilge pumps running until the flooding is under control.
- Call for assistance if the source of the flooding cannot be controlled.
- Head back to port if possible.

Swamping-

- Always wear your PFD, or have it within reach.
- Swamping is usually a result of wave action, immediately get control of the helm and turn the boat into the waves.
- Swamping can also be caused by an overloaded boat.
- If the bilge pump(s) have not automatically turned ON, switch them ON immediately.
- The deck scuppers on your boat are designed to drain the deck of water.
- Keep the bilge pumps running until the flooding is under control.
- Take a head count of all passengers.

Capsizing-

- “Capsized” is when a boat is on its side or completely upside-down (usually as a result of wave action, improper loading or load shifting).
- Always wear your PFD, or have it within reach.
- If the boat will not right itself, get out of the water and climb onto the exposed hull.
- Do a head count for all passengers
- **STAY TOGETHER**
- Usually a capsizing will happen quickly and without warning.
- Use whatever is at hand to signal for help.

Section 1• Safety

The chances of flooding, swamping or capsizing can be reduced by being aware of:

- Weather
- Water Conditions
- Proper boat handling techniques
- Proper loading of the boat

Collision

In the event of collision:

- Cut the engine(s)
- Always wear your PFD, or have it within reach.
- Check on passengers
- If the bilge pump(s) have not automatically turned ON, switch them ON immediately.
- Determine the amount of damage to your boats structure.
- Call for assistance
- In the event of collision you are required to file an accident report. Contact a state enforcement agency or the nearest U.S. Coast Guard office. If you are boating outside U.S. waters, consult the nation you are visiting for accident reporting requirements.

Propulsion, Control or Steering failure:

If there is a propulsion, control or steering failure:

- Stop the engine, (shut off at Ignition or pull on the Emergency Engine Shut-Off Switch.)
- Drop anchor to prevent drifting.
- Determine if the problem can be fixed or will assistance be needed.
- Call for assistance if needed.

When loss of propulsion or steering is noticed, your quick reaction is required to prevent further damage to your boat or injuries to your passengers.

Outboard engines require propulsion to control the direction the boat will take. Without propulsion, the steering is virtually useless. If you are in a congested

waterway you will need to react quickly to warn others that you have lost power, propulsion or steering control and that assistance will be needed.

Grounding

Running aground may be avoided by paying attention to marker bouys or indicated by waves as they form into breakers when passing over a sand bar.

If you do run aground, the course of action depends on how hard the boat hits bottom and whether the boat remains stranded. If it is a simple touch, you may need only to inspect the lower drive of the engine and the hull of the boat. If possible do a thorough inspection before trying to get loose, throwing the boat into reverse before this is done may do more damage.

Distress Signals

Visual Distress Signals, (VDS)

- U.S. Coast Guard regulations require boats in coastal waters and the Great Lakes to carry a Visual Distress Signal (VDS) for day and night use, as well as appropriate for the time of operation. Exempt from the day signals requirement, but not night signals, are boats less than 4.8 meters (16 feet), open sailboats less than 7.9 meters (26 feet), boats participating in organized events and manually propelled boats.
- If you are required to have visual distress signals, at least three safety approved pyrotechnic devices in serviceable condition must be readily accessible. They must be marked with a date showing the service life which must not be expired.
- Carry three signals for day use and three for night use. Some pyrotechnic devices such as red flares, meet both day and night use requirements.
- Store pyrotechnic signals in a cool, dry location. An orange or red watertight container prominently marked "DISTRESS SIGNALS" is recommended.

Other recognized visual distress signals include:

- Flames in a bucket
- Code flags November & Charlie
- Black square & ball on orange background flag
- Orange flag (certified)
- Electric distress light (certified)-for night use
- Dye marker (any color)
- Person waving arms (slowly)
- U.S. ensign flown upside down

Audible Distress Signals, (ADS)

U.S. Coast Guard regulations require one hand, mouth or power operated whistle or horn, audible for at least 1/2 mile.

Other recognized audible distress signals include:

- Radio communication (see **Radio Communication** below)
- Radio-telegraph alarm
- Position indicating radio beacon
- Morse Code S-O-S (3 short 3 long 3 short) sounded by any means.
- Fog horn sounded continuously.

Radio Communication

A radio is the boat operator's main method of receiving safety information and summoning aid. VHF-FM radio is the primary means of short range communication. Single sideband radio (SSB) is used for longer range communication.

VHF-FM channel 16 and SSB 2182 kHz are designated for emergency use. Such situations can be categorized as:

- **EMERGENCY-**
“MAYDAY, MAYDAY, MAYDAY,”- used when life or vessel is in imminent danger.

- **URGENCY-**

“PAN-PAN, PAN-PAN, PAN-PAN” (pronounced PAHN-PAHN)-used when a person or vessel is in some jeopardy less than indicated by a “MAYDAY” call.

- **SAFETY-**

“SECURITY, SECURITY, SECURITY” (pronounced SAY-CURE-IT-AY)-used for navigational safety or weather warning.

An emergency situation will be hectic and there will not be time to learn proper radio procedure. **LEARN WHAT TO DO BEFORE YOU NEED TO DO IT.** If you hear a distress call, stop all radio transmissions. If you can directly assist, respond on the emergency frequency. If you cannot assist, do not transmit on that frequency. However, continue to monitor until it is obvious that help is being provided.

Weather

DANGER

DO NOT attempt to boat in severe weather conditions. Death or serious injury can occur. Get to shore before the weather turns bad.

Getting caught in severe weather is hazardous. Bad weather and/or rough sea or water conditions can cause an unsafe situation. Consult local weather services for up-to-date forecasts on weather and sea conditions. Television, Radio, Internet can give you access to NOAA weather reports that will help you make a determination on where and when to get underway.

Following are some weather related rules:

- Understand the design limitations of your boat.
- Check the weather forecast and water conditions before leaving and while underway.
- Wear a Personal Flotation Device, (PFD)

WARNING

A sudden change in wind direction or speed or an increase in wave height indicates deteriorating weather.

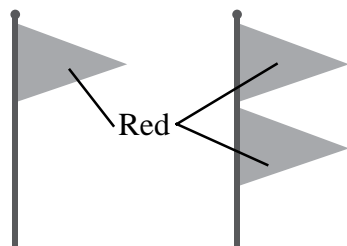
NOTICE

Check the weather forecast and water conditions before leaving and while underway

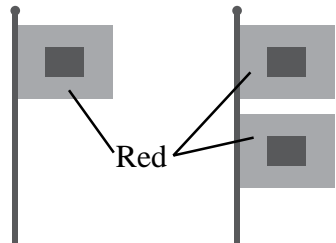
Weather Warning Penants

Fig. 1.12.1

Red flag-
Small craft
(winds to 38
knots).
2 Red flags-
Gale
(winds to 53
knots).



Square Red
flag-Black box
(Storm)
2 Square Red
flags- Black
boxes
(Hurricane)



- If a storm approaches, immediately seek a safe harbor.
- If a storm hits have everyone sit in the cabin or cockpit deck in the boat. Head the bow into the wind with enough power to maintain slow headway.
- If you encounter fog, determine your position, set a safe course, slow down and alert other boats of your presence with a sound signal.
- If a lightning storm approaches, the safest action is to dock and disembark. If you cannot return to shore, have passengers go inside the cabin and remain there until the storm passes.

- Stay out of the water during a lightning storm. If caught swimming during a storm, get back into the boat and remain there until the storm passes. (remember that lightning can strike several miles away from the storm itself. Be aware of the storms location relative to your location and the direction the storm is moving).

Swimming, Diving & Water Skiing

Swimming

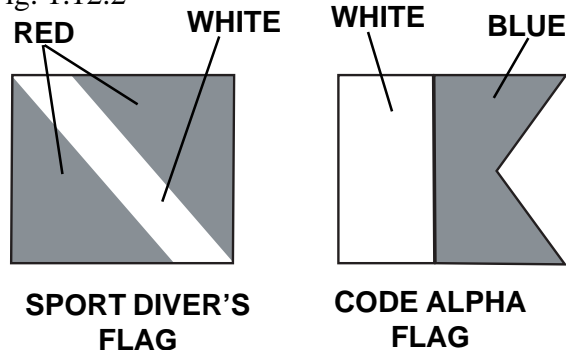
- Do not swim from a moving boat.
- Many areas prohibit swimming from a boat except in designated areas.
- Turn off engine in gear (to prevent propeller “windmilling”) before picking up swimmer.

Diving

Recognize and respect diving flags. Keep at least 30 meters (100 ft.) away.

Diver's Flags

Fig. 1.12.2



SPORT DIVERS FLAG-Red flag with diagonal white stripe marks a diver in the water.

CODE ALPHA FLAG-Blue and white penant designates boat being used in dive operations.

Water Skiing

- Always have two persons in the boat, one at the controls and one who can easily and continuously look at the skier.

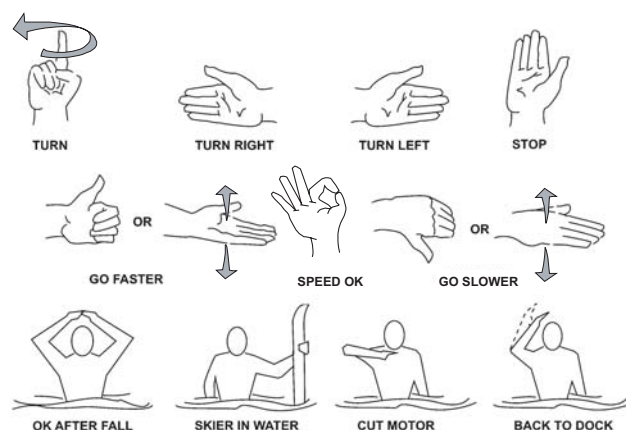
Section 1 • Safety

- Insist that anyone who water skis must know how to swim.
- Insist that skiers wear approved Personal Flotation Devices (PFD's)
- Ski only in daylight when visibility is good.
- Never drive the boat directly behind a water skier. At 22 knots (25 m.p.h.), it takes only 5 seconds to overtake a fallen skier who was 60 meters (200 feet) in front.
- Ski only in areas where skiing is permitted.
- Observe local restrictions on length of tow line.
- Learn the signals to communicate with a skier. The skier is to control the boat through hand signals (Figure 1.13.1).
- Your boat will handle differently while towing a skier. Experiment carefully to learn the difference.
- Skiers may start from the shore or dock, if boat traffic allows. When returning, pick up skiers from water. Do not ski back to shore or dock.
- Give immediate attention to fallen skiers.
- Keep a downed skier in sight and on the operator's side of the boat when approaching the skier. **Never back up to anyone in the water.**
- Turn off engine in gear (to prevent propeller "windmilling") before picking up skier.
- If the skier suddenly releases the tow rope, it can backlash into cockpit. Spotters who are watching the skier must be aware of this fact and be prepared to take appropriate action to avoid injury.

Water Skiing Signals

Skiing Signals

Fig. 1.13.1



Turn – Arm raised, circle with index finger extended.

Turn Right – Extend arm out from body to the right.

Turn Left – Extend arm out from body to the left.

Stop – Raise arm with palm vertical and facing forward.

Faster – Thumb pointed up or palm up, move hand up and down.

Speed OK – Raise arm and form a circle with thumb and index finger.

Slow Down – Thumb pointed down or palm down, move hand up and down.

OK After a Fall – Clasp hands together overhead.

Skier in Water – Extend one ski vertically out of water.

Cut Motor – Draw finger across throat.

Back to Dock – Pat top of head.

WARNING

SWIMMING/DIVING HAZARD

- Keep clear of areas designated only for swimmers and skin divers. Recognize markers used for such areas.
- Never swim when there is lightning in the area.

SKIING HAZARDS

- Skiers must use a safety approved Personal Flotation Device (PFD).
- Ski only during daylight and in good visibility.
- Avoid shallow water, other boats, navigational aids and other obstructions.
- Keep at least 30 meters (100 ft.) from other objects.
- Never drive directly behind a water skier.
- A competent observer must watch the skier at all times. A competent observer is a person that has the ability to assess when a skier is in trouble, knows or understands water skiing hand signals and is capable of helping a skier.
- Keep a downed skier in constant sight.
- Turn off engine in gear before you get close to person in the water.
- Never back up to anyone in the water.
- Use caution in boat when skier is being towed. Sudden release of tow rope can cause it to backlash into the cockpit.

PERSONAL INJURY HAZARD

Use transom tow ring only to pull water skiers. Unless specified by the manufacturer, any other use, such as parasailing, kite flying, towing other boats, etc. may create too much stress on the tow ring, resulting in personal injury and/or equipment damage.

Emergency Engine Stop Switch

WARNING

Wear the lanyard at all times when operating the boat. Use it to stop only in an emergency. DO NOT use it to shut off the engine during normal operation

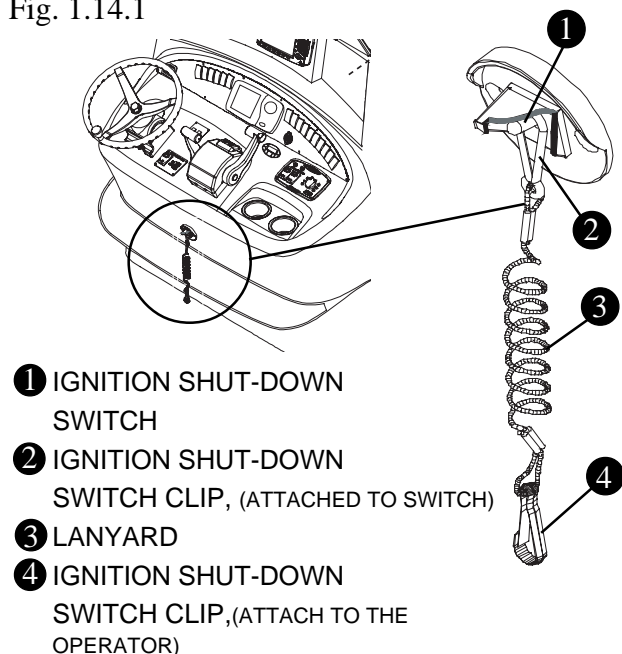
An emergency engine stop switch turns off the engine whenever the operator leaves the helm in an unsafe situation, for example, by falling. Familiarize yourself with its operation and always use it.

The lanyard should be long enough to prevent inadvertent activation. Do not let the lanyard become entangled.

Accidental loss of power can be hazardous, particularly while docking or in heavy seas, strong current or high winds. Passengers and crew may lose balance and the boat may lose steering control.

Should the operator fall out of the boat at planing speed, it may take several seconds for the engine and propeller to stop turning. The boat may continue to coast for several hundred feet, causing injury to anyone in its path.

Emergency Engine Stop Switch
Fig. 1.14.1



Float Plan

Float plans are important to you should you encounter problems on the water. A float plan should describe where you will be boating, departure time and return, number and names of passengers and destination. The float plan should be given to a friend or relative, so they can give the information to a national boating agency like the U.S. Coast Guard, in the event you do not return at the time specified on the float plan. If there are any changes to the float plan they should be conveyed to the person holding the float plan. Once you return you should contact the person holding the float plan to let them know you are back.

Chart Your Course

To avoid boating in unsafe areas where there are underwater obstructions, shallow water, unnavigable conditions such as dangerous currents, and others, you must chart a course. This means having and using National Oceanic and Atmospheric Administration (NOAA) charts for coastal waters, observing and understanding all navigational aids, using the knowledge and guidance of experienced boaters, and being aware of the tides and times where appropriate. If you are boating in an area you are unfamiliar with, proceed with caution and post a lookout to watch for hazards.



WARNING

Hitting an object in or under the water or boating in dangerous currents can cause serious injury or death to occupants in the boat.

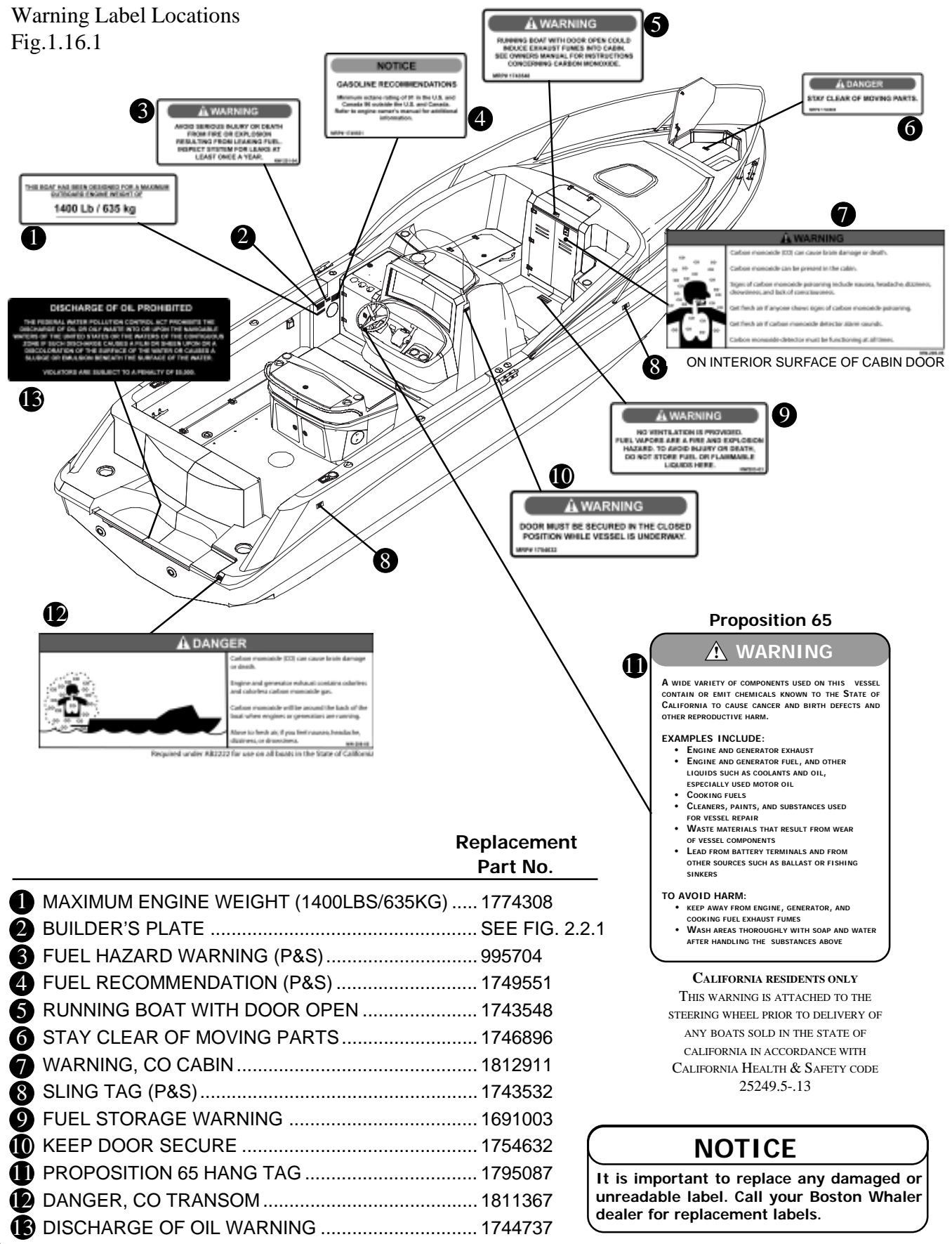
You must know where the hazards are and avoid them. In uncharted waters, boat very slowly and post a lookout.

If an object is struck or if you run aground:

- **Shut the engine OFF**
- **Check the hull for damage**
- **Check propeller for damage**
- **If aground, consider the bottom grade before moving off, (damage to the hull and propellers could be worsened).**
- **Determine the tides and whether it will help or hinder you from the grounding.**
- **Do not have anyone other than a trained and competent service tow your boat.**

Warning Label Locations

Warning Label Locations
Fig.1.16.1



Replacement Part No.

1	MAXIMUM ENGINE WEIGHT (1400LBS/635KG)	1774308
2	BUILDER'S PLATE	SEE FIG. 2.2.1
3	FUEL HAZARD WARNING (P&S)	995704
4	FUEL RECOMMENDATION (P&S)	1749551
5	RUNNING BOAT WITH DOOR OPEN	1743548
6	STAY CLEAR OF MOVING PARTS	1746896
7	WARNING, CO CABIN	1812911
8	SLING TAG (P&S)	1743532
9	FUEL STORAGE WARNING	1691003
10	KEEP DOOR SECURE	1754632
11	PROPOSITION 65 HANG TAG	1795087
12	DANGER, CO TRANSOM	1811367
13	DISCHARGE OF OIL WARNING	1744737

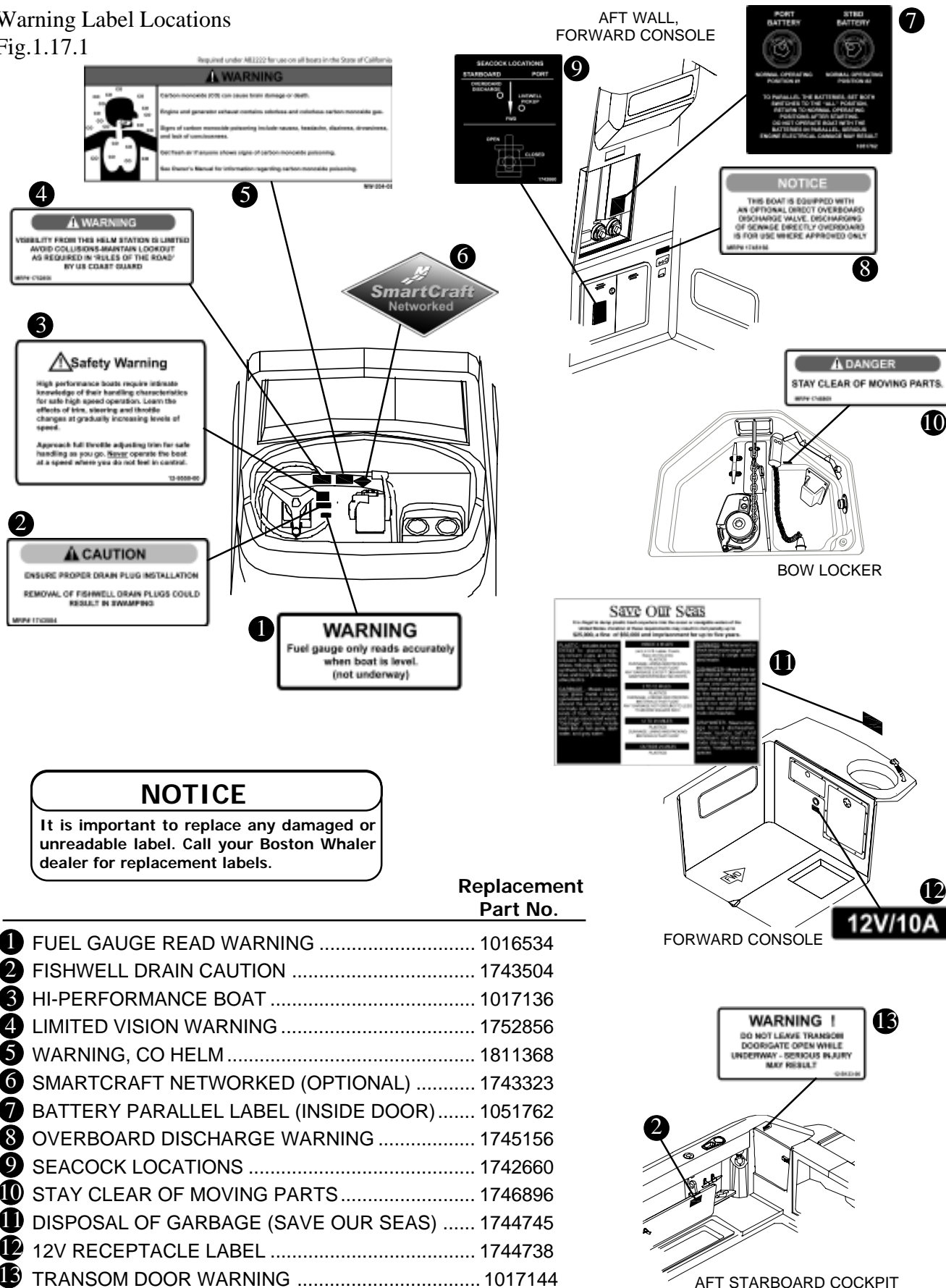
NOTICE

It is important to replace any damaged or unreadable label. Call your Boston Whaler dealer for replacement labels.

Section 1 • Safety

Warning Label Locations

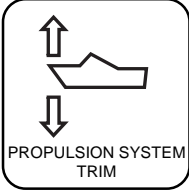

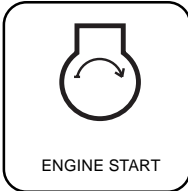
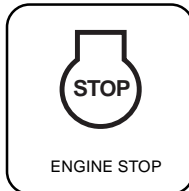
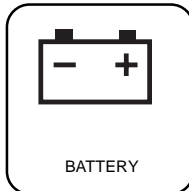
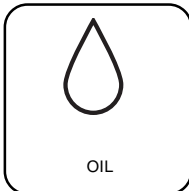

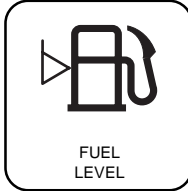
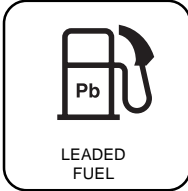






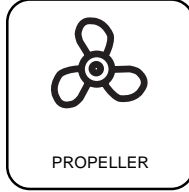

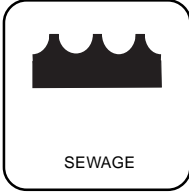
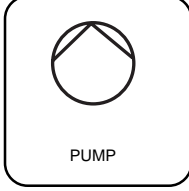


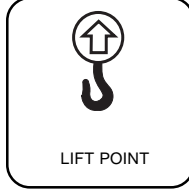
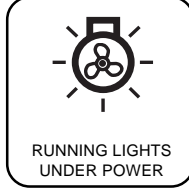
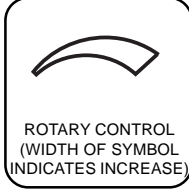

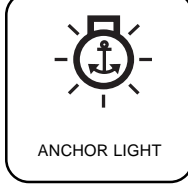



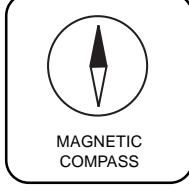
Fig.1.17.1



Section 1• Safety

Key to Symbols on Controls & Prints

Although not used in this manual, some of these symbols may be found on the controls, gauges, and hardware on your boat. This page is to help you understand what the symbols mean.

					
PROPULSION SYSTEM TRIM	TRIM TAB TRIMMING OPERATION	ENGINE START	ENGINE STOP	BATTERY	OIL
					
FUEL GENERAL	FUEL LEVEL	LEADED FUEL	UNLEADED FUEL	FRESH WATER	GRAY WATER
					
BILGE PUMP	OUTBOARD DRIVE	OUTBOARD DRIVE TILT	PROPELLER	SEAWATER	SEWAGE
					
PUMP	SINGLE LEVER CONTROL	LIFT POINT / SLING LOCATION	LIFT POINT	RUNNING LIGHTS UNDER POWER	ROTARY CONTROL (WIDTH OF SYMBOL INDICATES INCREASE)
					
ANCHOR	ANCHOR LIGHT	INTERIOR LIGHT	HORN	WINDSHIELD WIPER AND WASHER	MAGNETIC COMPASS

Construction Standards

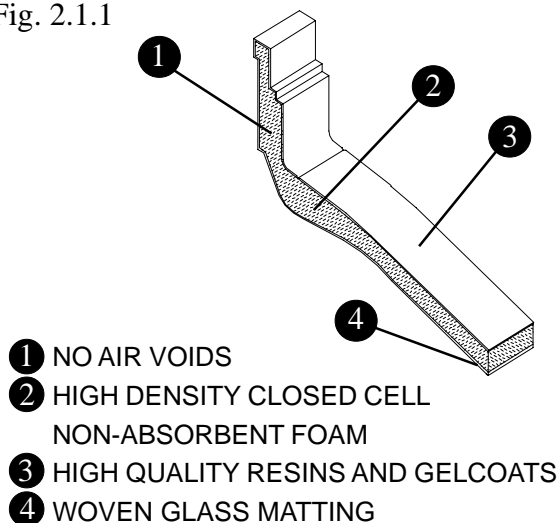
Boston Whaler® is dedicated to creating a superior product which will provide comfort, performance, safety and dependability. All of our boats comply with the safety standards set by the United States Coast Guard and are designed, engineered and manufactured in accordance with applicable recommendations and guidelines of the American Boat and Yacht Council (A.B.Y.C.) and certified by the National Marine Manufacturers Association (N.M.M.A.).

Our Hull

Boston Whaler® hulls are constructed with our patented Unibond™ construction process. This involves foam injection into a closed mold system where the foam expands to fill all voids in the hull. When the finished product is pulled from the mold, the hull and deck are chemically bonded to form a solid, inseparable unit.

Hull Construction

Fig. 2.1.1



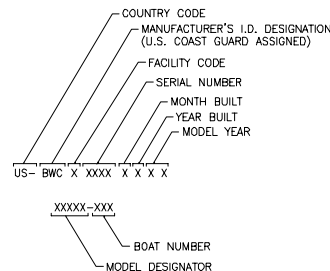
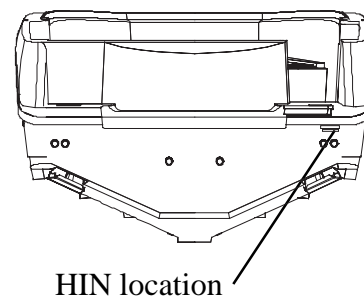
Hull Identification Number

The “Hull Identification Number” is located on the starboard side of the transom.

This is the most important identifying factor and must be included in all correspondence related to your vessel. Also of vital importance are the engine serial numbers, part numbers, etc. when writing about or ordering parts for your engine.

Hull Identification Number (HIN)

Fig. 2.1.2



Servicing Your Boston Whaler

When your Whaler requires service or maintenance work, it should be taken to an authorized Boston Whaler® dealer.

To find a Boston Whaler® dealer in your area call:
1-800-942-5379 (Domestic/International).

In the unlikely event that a problem is not handled to your satisfaction, discuss any warranty related problems directly with the service manager of the dealership or your sales person. Give the dealership an opportunity to help the service department resolve the matter for you.

Manufacturer's Certification

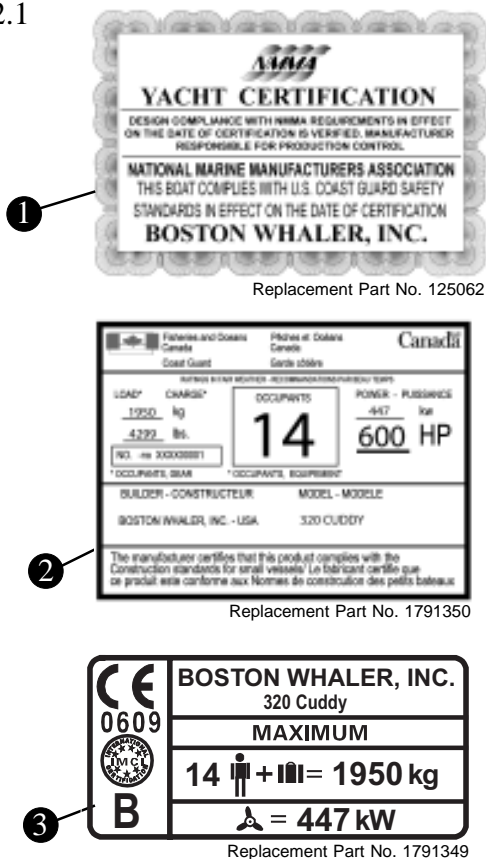
All boats must comply with federal regulations regarding maximum capacities. The certification plate (See figure 2.2.1) located on the port gunwale opposite the operator's console indicates certification by the National Marine manufacturer's Association and in the case of international certification the sticker or plate indicates the maximum weight, number of persons, and horsepower your boat is rated to handle.

⚠ DANGER

NEVER carry more weight or passengers than indicated on the certification plate, regardless of the weather or water conditions.

Certification Plates

Fig. 2.2.1



- ① NMMA YACHT CERTIFICATION PLATE
- ② CANADA CONFORMING STICKER
- ③ CE MARK BUILDER'S PLATE

The number of persons on board must be reduced if you go out in poor weather and rough water.

The information present on the certification plate does not relieve the operator from responsibility. Use common sense and sound judgement when placing equipment and/or passengers in your boat.

- Do not load to capacity in poor weather or rough water.
- The number of seats does not indicate how many people a boat can carry, especially in poor weather and rough water.

- Above idle speed, all passengers must be seated on the seats provided.

NMMA Certification means that your Boston Whaler® has been judged by the National Marine manufacturers Association to be in compliance with applicable federal regulations and American Boat and Yacht Council standards.

A **Canada Conforming Sticker** means that your Boston Whaler® has been certified to comply with construction standards for small vessels by Transport Canada.

A **CE mark** means that your Boston Whaler® has been certified with applicable International Organization for Standardization directives.

Certification Design Category

A (Ocean): Designed for extended voyages where conditions may exceed wind force 8 on the Beaufort scale (47 mph and above) and significant wave heights of 4 meters (13.12 feet) and above, and vessels largely self-sufficient.

B (Offshore): Designed for offshore voyages where conditions up to, and including, wind force 8 (39-46 mph) and significant wave heights up to, and including 4 meters (13.12 feet) may be experienced.

C (Inshore): Designed for voyages in coastal waters, large bays, estuaries, lakes and rivers where conditions up to, and including, wind force 6 (25-31 mph) and significant wave heights up to, and including, 2 meters (6.56 feet) may be experienced.

D (Sheltered waters): Designed for voyages on small lakes, rivers and canals where conditions up to, and including, wind force 4 (13-18 mph) and significant wave heights up to, and including, 0.5 meters (1.64) feet may be experienced.

The 320 Outrage Cuddy Cabin is category B

The significant wave height is considered to be the primary factor for determining design category.

Section 2 • General Information

Other parameters (e.g. meteorological) are descriptions of when these wave heights may be expected to occur. Refer to page 1-11 for weather information.

Power Capacity

The certification plate, as well as “Specifications & Dimensions” on the following page has the maximum rated power listed for your boat. **DO NOT EXCEED THIS RATING.** The various engine types offered today are more powerful and require constant maintenance to stay at optimal performance. It is required of the owner/operator to read all information regarding safety features, warning notices and maintenance schedules for continued safe operation of the engine.

The engine on the 320 Outrage Cuddy has been tested and proven to be best suited for general use under normal conditions and load.

If you are re-powering your Boston Whaler®, you should pay particular attention to the maximum/minimum horsepower and maximum safe engine weight load your Boston Whaler® boat is rated for.

The 320 Cuddy is designed for a maximum outboard engine weight of 1400 LBS (635 kg).

WARNING

DO NOT Exceed the maximum engine power rating for your boat.

Use caution while accelerating. Make sure passengers are safely seated in designated areas of the boat and all gear is stowed securely.

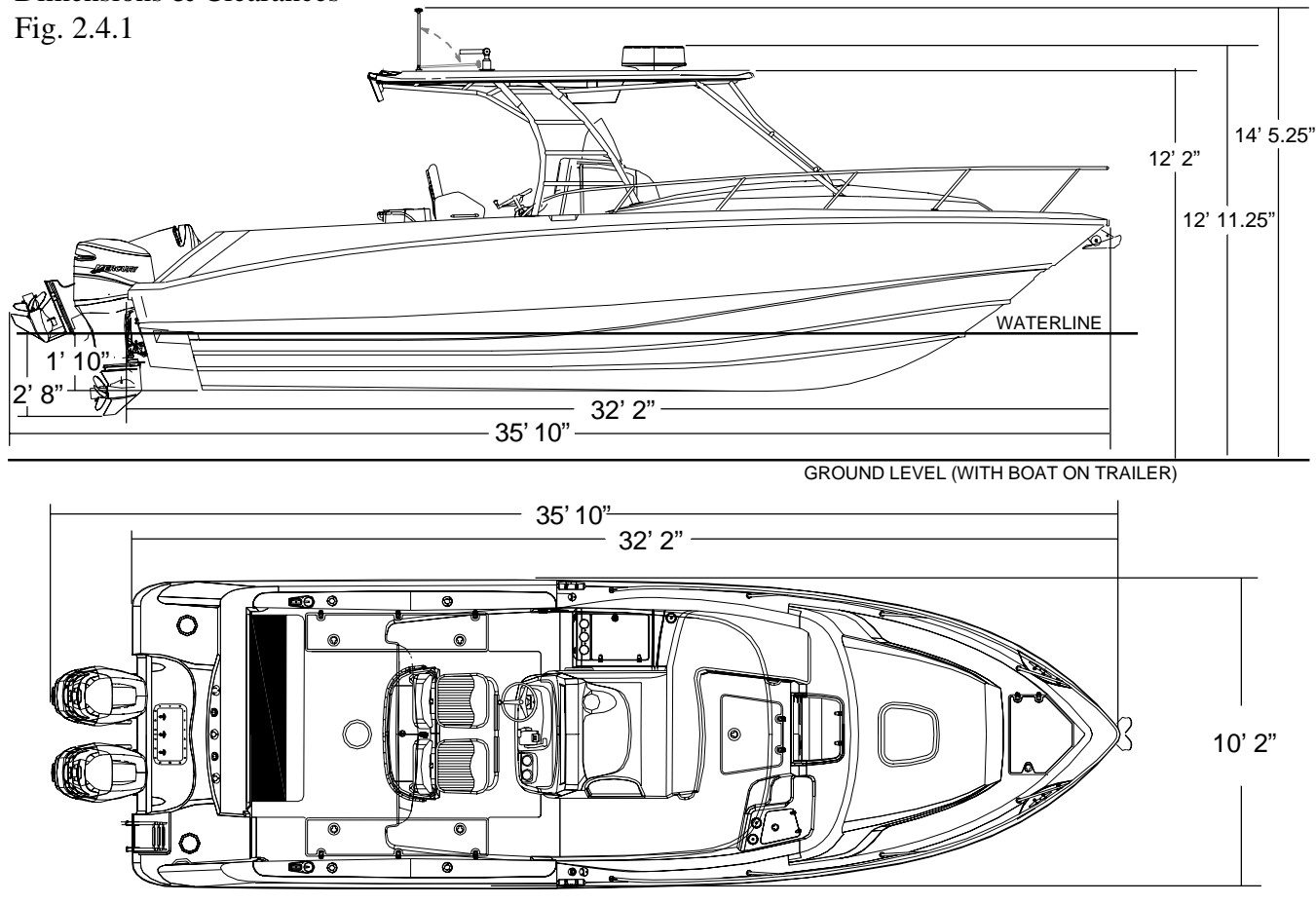
NOTICE

Always adjust the speed and direction of the craft to the varying sea conditions.

Section 2 • General Information

Dimensions & Clearances

Fig. 2.4.1



Specifications & Dimensions

(Specified measurements are approximations and are subject to variance.)

Overall Length	32' 2"	9.8 m	Weight (dry, no engine)	9000 lbs.	4082 kg
Trailerable Length	35' 10"	10.92 m	Swamped Capacity	4800 lbs	2177 kg
Bridge Clearance			Maximum Engine Weight	1400 lbs.	635 kg
- with hardtop	12' 2"	3.7 m	Maximum Weight,	4299 lbs	1950 kg
- with optional radar	12' 11.25"	3.9 m	(passengers, engine(s), gear ¹)		
- with optional outriggers	12' 10.25"	3.9 m	Persons	14	
- with light raised	14' 5.25"	4.4 m	Maximum Horsepower	600 HP	447 kw
Hull Length	32' 2"	9.8 m	Minimum Horsepower	400 HP	298 kw
Beam	10' 2"	3.10 m	Fuel Capacity	300 gal.	1135 L
Draft, (boat only)	22"	.56 m	Water Capacity	40 gal.	151 L
Draft, (Engine) ²	32"	.81 m			

¹ Exceeding this weight will affect the boat's performance. **DO NOT** Exceed the weight listed.

² Optional equipment and loading of the boat will affect the draft measurements. Follow the recommendations regarding the maximum amount of weight your boat can safely carry.

Passenger Locations

Deck Occupancy

Fig. 2.5.1

Working deck:



This area is intended for occupation **ONLY** while mooring, anchoring, loading/unloading or when the boat is at rest. **NEVER** operate the engine

while loading or unloading swimmers/divers from the swim platform/ladder.

Accommodation deck:



This area of the boat is inside the cockpit and includes helm seating. Movement in this area should be done with extreme caution while the boat is

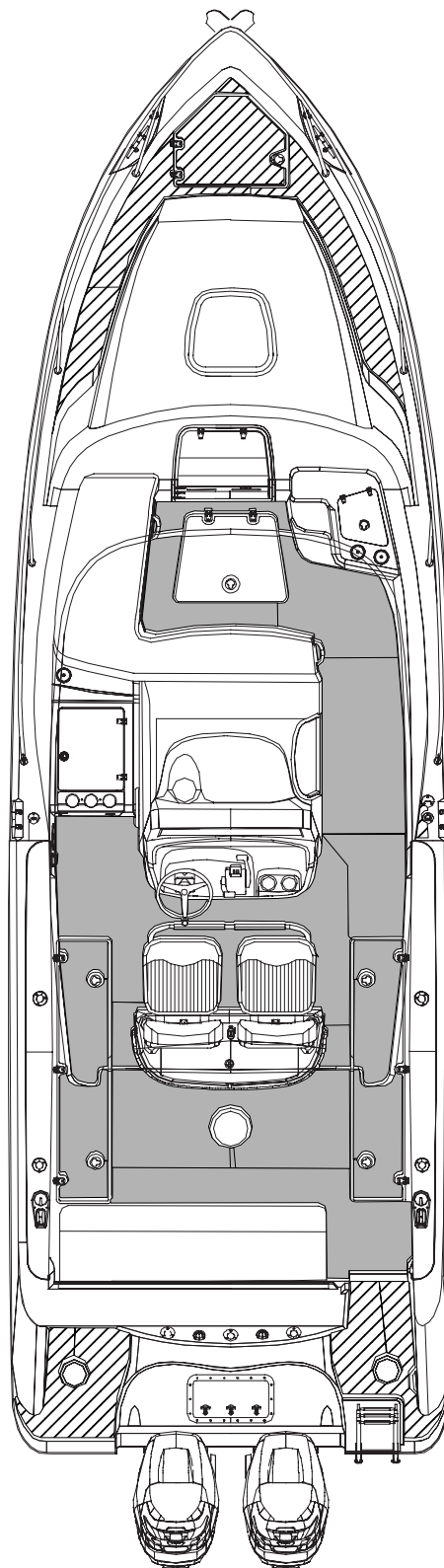
underway. A sudden shift in boat direction can cause a loss of balance and lead to injury or death.

DANGER

Be aware of your footing while the boat is underway, slipping or falling could result in serious injury or death, especially if the boat is in motion or in rough seas. Keep the accommodation deck clean, so if movement is necessary it will be free of obstruction.

WARNING

- Gelcoat surfaces are slippery when wet. Use extreme caution when walking on wet surfaces.
- Never occupy the working decks while the boat is underway.
- Use care when waxing to ensure that walkways are not made dangerously slippery.

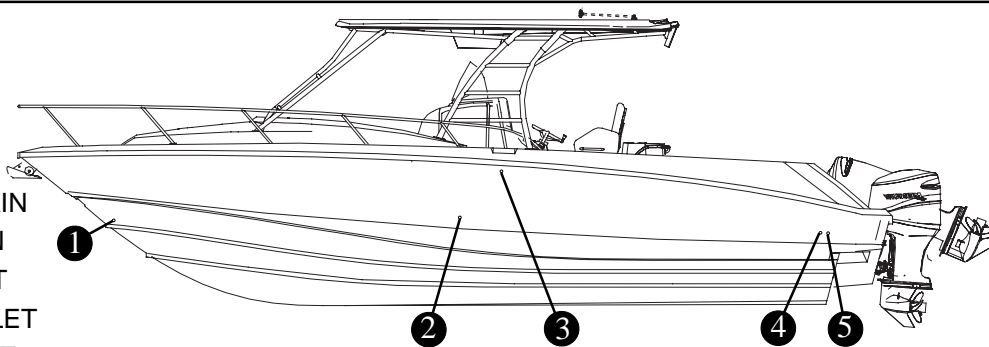


Section 2 • General Information

Location of Thru-Hull Fittings

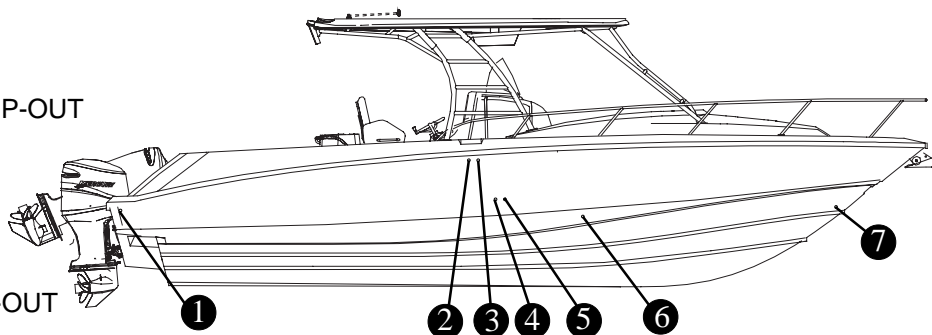
Thru-Hull Fittings, Port
Fig. 2.6.1

- ① ANCHOR LOCKER DRAIN
- ② REFRIGERATOR DRAIN
- ③ PORT FUEL TANK VENT
- ④ AFT BILGE PUMP OUTLET
- ⑤ PORT FISHBOX OUTLET



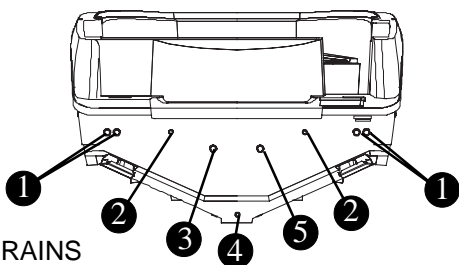
Thru-Hull Fittings, Starboard
Fig. 2.6.2

- ① STARBOARD FISHBOX PUMP-OUT
- ② STARBOARD FUEL TANK VENT
- ③ WASTE TANK VENT
- ④ FORWARD BILGE PUMP
- ⑤ FORWARD FISHBOX PUMP-OUT
- ⑥ SINK/DECK DRAIN
- ⑦ ANCHOR LOCKER DRAIN



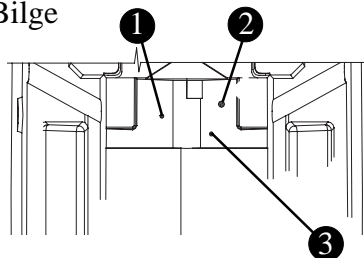
Thru-Hull Fittings, Aft
Fig. 2.6.3

- ① DECK DRAINS
- ② MOTORWELL DRAINS
- ③ LIVEWELL DRAIN
- ④ GARBOARD DRAIN
- ⑤ ACTIVE DECK SUSPENSION SYSTEM (ADSS) DRAIN (OPTIONAL)



Thru-Hull Fittings, Bilge
Fig. 2.6.4

- ① LIVEWELL INLET
- ② 600 WATT TRANSDUCER (OPTIONAL)
- ③ OVERBOARD DISCHARGE



NOTICE

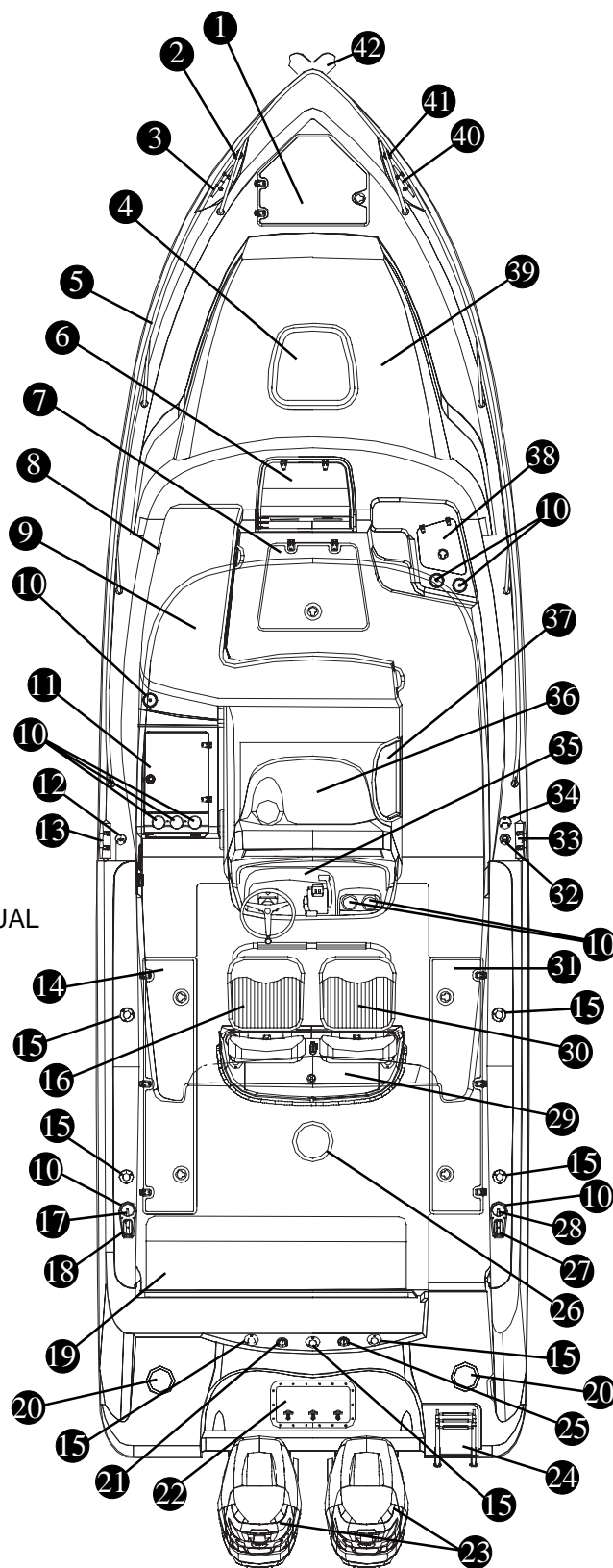
- The deck drain provides self-bailing capabilities while the boat is static in the water and no passengers on board. This feature prevents the accumulation of water in the cockpit. The drain plug must be in place when underway.
- Depending on the type of boat you have, you may have underwater fittings that need drain plugs. Garboard drain plugs and fishbox drain plugs need to be in place before the boat goes into the water. Any fitting that will be underwater needs to be plugged or the seacock needs to be closed.
- Through hull fittings should be checked for proper seal annually. When the boat is in the water the underwater fittings can be checked for dripping. It is recommended that the underwater fittings be removed, cleaned and resealed every other year.
- If the through hull fittings need to be replaced, it is recommended that an authorized Boston Whaler® dealer perform this type of repair. Through hull fittings that are improperly installed can cause premature hull failure and may void the Boston Whaler® limited warranty.

General Layout

General Layout, Exterior

Fig. 2.7.1

- 1 ANCHOR LOCKER (SEE FIGURE 2.8.2)
- 2 PORT NAVIGATION LIGHT
- 3 PORT BOW CLEAT
- 4 CABIN HATCH W/SCREEN
- 5 BOW RAIL
- 6 V-BERTH COMPANIONWAY DOOR
- 7 FORWARD FISH BOX W/PUMP-OUT
- 8 STEREO REMOTE
- 9 FORWARD SEATING W/UNDER STORAGE
- 10 CUPHOLDER
- 11 REFRIGERATOR, BOTTLE RACK, STORAGE
- 12 PORT FUEL FILL
- 13 PORT SPRING LINE CLEAT
- 14 PORT FISHBOX W/ PUMP-OUT
- 15 RODHOLDER
- 16 CONTROL STATION COMPANION SEAT
- 17 PORT STERN CLEAT (ON GUNWHALE)
- 18 PORT HAWSE PIPE
- 19 AFT FOLDAWAY BENCH SEAT
- 20 TRANSOM ACCESS PLATES
- 21 PORT ENGINE OIL FILL (OPTIONAL)
- 22 MOTORWELL HATCH
- 23 250 CXXL DTS MERCURY VERADO 4-STROKE DUAL ENGINES WITH POWER ASSISTED STEERING*
- 24 SWIM PLATFORM W/TELESCOPING LADDER
- 25 STARBOARD ENGINE OIL FILL (OPTIONAL)
- 26 FUEL TANK SENSOR ACCESS HATCH
- 27 STARBOARD HAWSE PIPE
- 28 STARBOARD STERN CLEAT (ON GUNWHALE)
- 29 PREP STATION (SEE FIG. 2.9.1)
- 30 CONTROL STATION CAPTAIN'S CHAIR
- 31 STARBOARD FISHBOX W/ PUMP-OUT
- 32 STARBOARD FUEL FILL
- 33 STARBOARD SPRING LINE CLEAT
- 34 WASTE DOCKSIDE PUMP-OUT
- 35 CONTROL STATION (SEE FIGURE 2.8.1)
- 36 FORWARD CONSOLE (SEE FIGURE 2.9.2)
- 37 FORWARD CONSOLE ACCESS DOOR
- 38 INSULATED STORAGE BUCKET
- 39 V-BERTH
- 40 STARBOARD BOW CLEAT
- 41 STARBOARD NAVIGATION LIGHT
- 42 ANCHOR



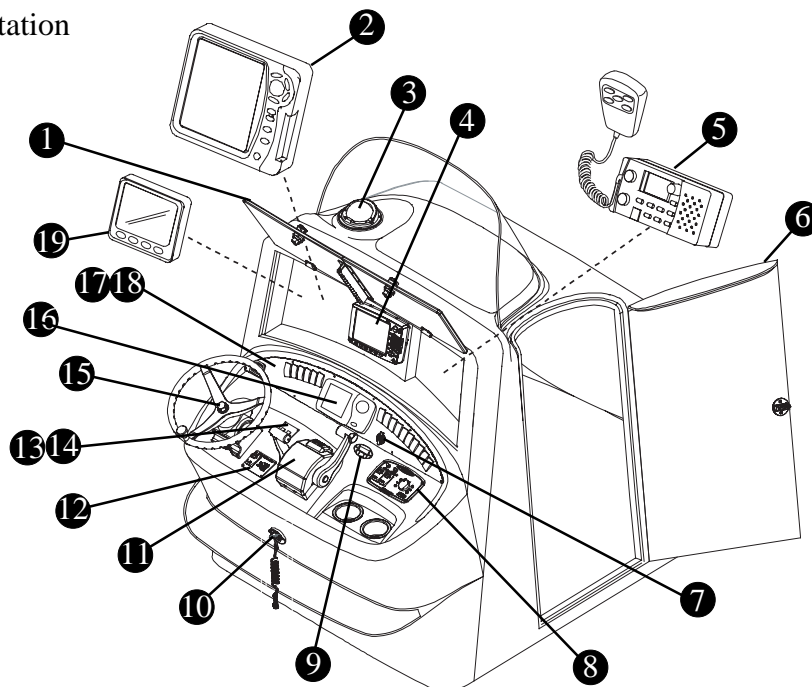
* Optional Engine availability:

225 CXXL DTS Optimax with digital throttle and shift, Smartcraft™ System View

275 CXXL DTS Mercury Verado 4-stroke with digital throttle and shift and power assisted steering

Section 2 • General Information

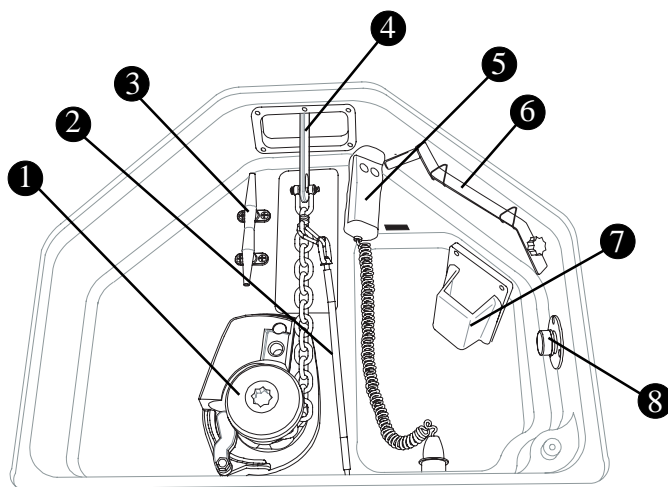
General Layout, Control Station
Fig. 2.8.1



- | | |
|--|--|
| ① ELECTRONICS ACCESS DOOR | ⑪ DIGITAL THROTTLE/SHIFT CONTROL |
| ② CHART PLOTTER/GPS/FISH FINDER (OPTIONAL) | ⑫ WINDLASS CONTROL PAD |
| ③ MAGNETIC COMPASS | ⑬ ELECTRIC TRIM TAB SWITCH |
| ④ NORTHSTAR RADOME 4KW RADAR (OPTIONAL) | ⑭ ELECTRIC TRIM TAB SWITCH W/INDICATORS (OPTIONAL) |
| ⑤ 7200 VHF NAVMAN RADIO (OPTIONAL) | ⑮ HELM |
| ⑥ FORWARD CONSOLE ACCESS DOOR | ⑯ SMARTCRAFT™ SYSTEM VIEW |
| ⑦ 12V ACCESSORY RECEPTACLE | ⑰ SWITCH PANEL |
| ⑧ ACTIVE DECK SUSPENSION SYSTEM (ADSS) CONTROL PAD (OPTIONAL, SEE PAGE 3.17) | ⑱ (OPTIONAL OPTIMAX SWITCH PANEL, SEE FIGURE 2.11.2) |
| ⑨ STEREO REMOTE | ⑲ AUTOPILOT (OPTIONAL) |
| ⑩ IGNITION SHUT OFF SWITCH W/LANYARD | |

REFER TO THE MANUFACTURER'S MANUAL IN YOUR OWNER'S MANUAL PACKET FOR COMPLETE INSTRUCTIONS AND WARRANTY ON THE ELECTRONIC EQUIPMENT INSTALLED ON YOUR BOAT.

General Layout, Anchor Locker
Fig. 2.8.2



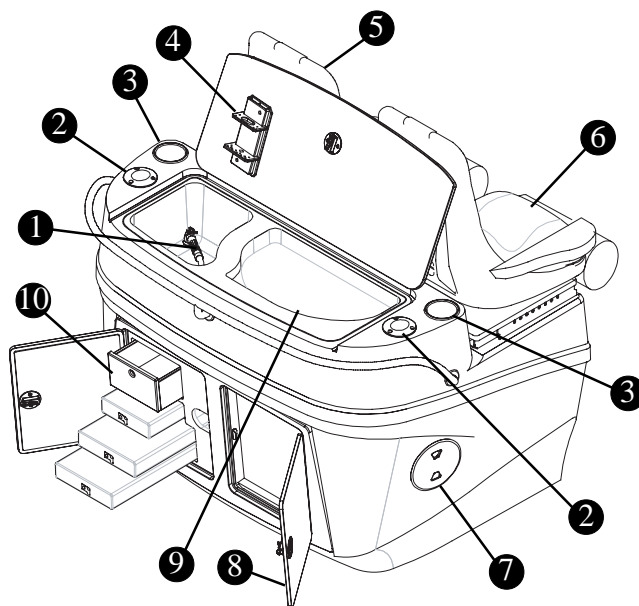
- | |
|-------------------------------|
| ① WINDLASS |
| ② ANCHOR CHAIN SAFETY LANYARD |
| ③ ANCHOR CLEAT |
| ④ THRU-HULL ANCHOR |
| ⑤ WINDLASS REMOTE |
| ⑥ EMERGENCY HANDLE |
| ⑦ WINDLASS REMOTE STORAGE |
| ⑧ FRESH WATER INLET |

Section 2 • General Information

General Layout, Prep Station

Fig. 2.9.1

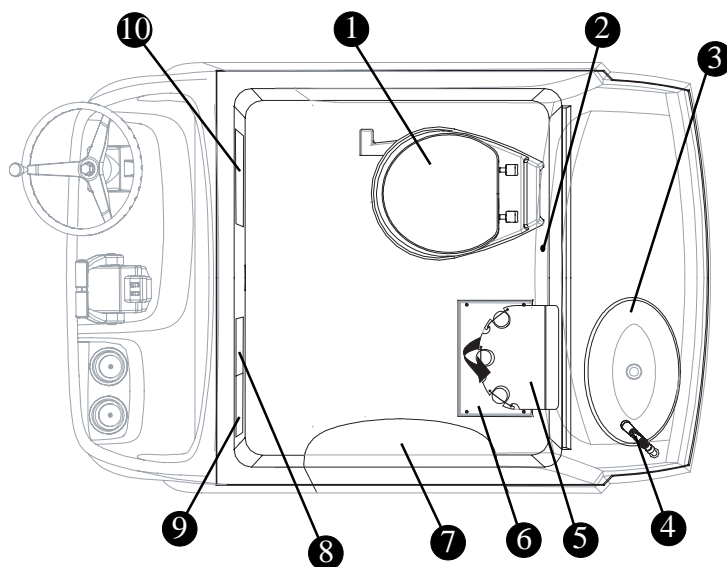
- ① SINK W/EXTENDABLE SPRAY HEAD
- ② RODHOLDER
- ③ CUPHOLDER
- ④ KNIFE RACK
- ⑤ CONTROL STATION COMPANION SEAT
- ⑥ CAPTAIN'S SEAT
- ⑦ ACCESS TO LIVEWELL SHUT-OFF VALVE
- ⑧ LIVEWELL ACCESS DOOR W/TOOL RACK
- ⑨ 45 GAL. (170 LITER) LIVEWELL
- ⑩ TACKLE STORAGE CENTER



General Layout, forward console

Fig. 2.9.2

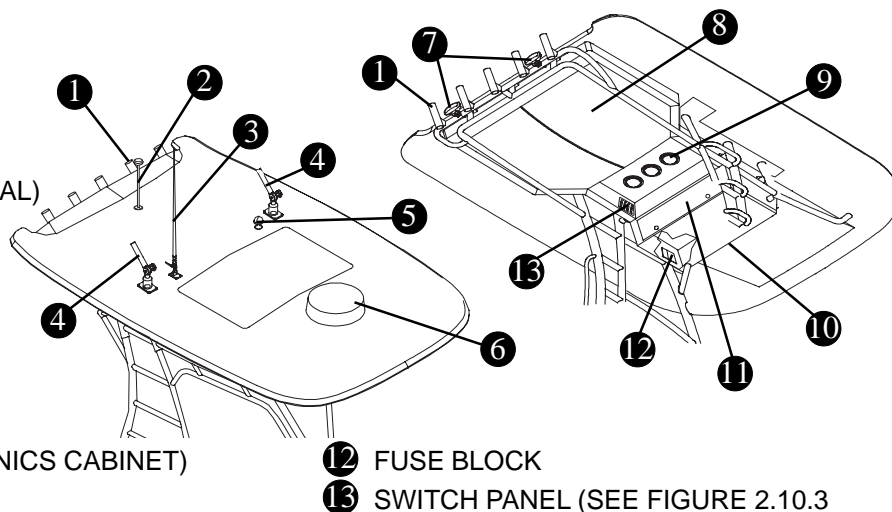
- ① VACU-FLUSH® TOILET W/ OVERBOARD DISCHARGE
- ② 12V ACCESSORY RECEPTACLE
- ③ SINK
- ④ EXTENDABLE SHOWER HEAD
- ⑤ FOLD AWAY ROD RACK
- ⑥ FLOOR DRAIN/ ROD RACK BASE
- ⑦ ACCESS DOOR
- ⑧ FUSE BLOCK
- ⑨ BREAKER PANEL, BATTERY SWITCHES, STEREO (SEE FIGURE 4.4.2)
- ⑩ STORAGE



General Layout, Hardtop

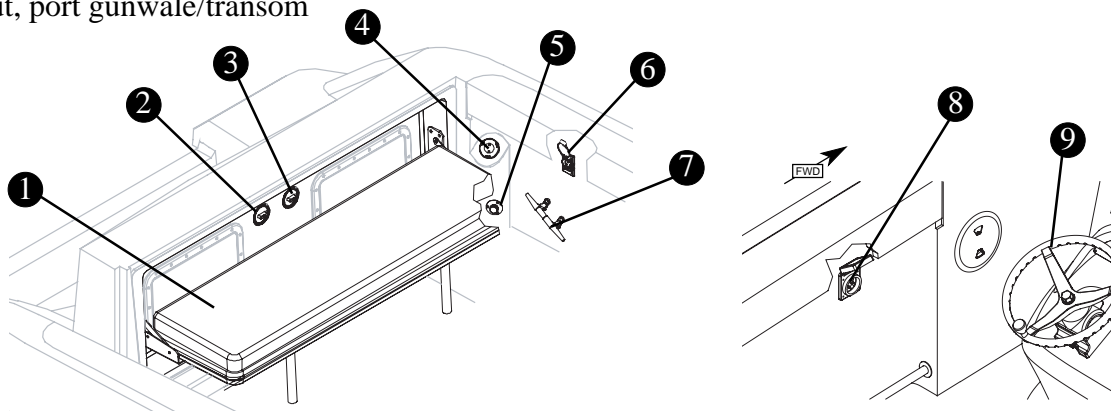
Fig. 2.9.3

- ① RODHOLDERS (5)
- ② ANCHOR LIGHT
- ③ VHF RADIO ANTENNA (OPTIONAL)
- ④ OUTRIGGERS (OPTIONAL)
- ⑤ GPS ANTENNA (OPTIONAL)
- ⑥ RADAR (OPTIONAL)
- ⑦ COCKPIT FLOOD LIGHTS
- ⑧ LIFE JACKET STORAGE
- ⑨ DOME LIGHTS
- ⑩ HORN (ON FACE OF ELECTRONICS CABINET)
- ⑪ ELECTRONICS CABINET



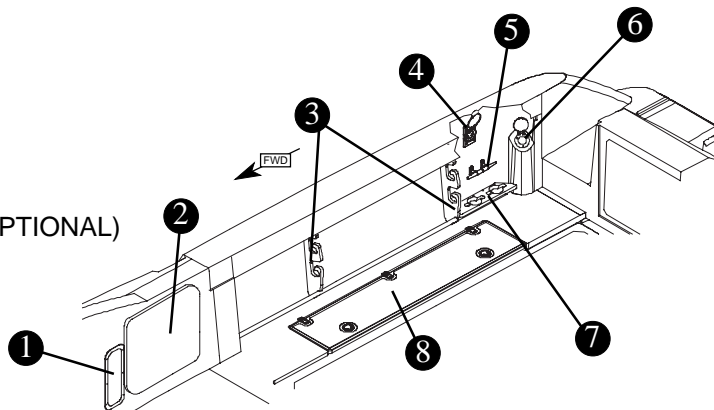
Section 2 • General Information

General Layout, port gunwale/transom
Fig. 2.10.1



- | | |
|-------------------------------|---|
| 1 STERN FOLDAWAY SEAT | 6 ELECTRIC DOWNRIGGER RECEPTACLE (OPTIONAL) |
| 2 STARBOARD ENGINE FUEL VALVE | 7 PORT AFT CLEAT |
| 3 PORT ENGINE FUEL VALVE | 8 SHORE POWER RECEPTACLE (120V/30A) |
| 4 FRESH WATER FILL | 9 HELM |
| 5 RAW WATER CONNECTION | |

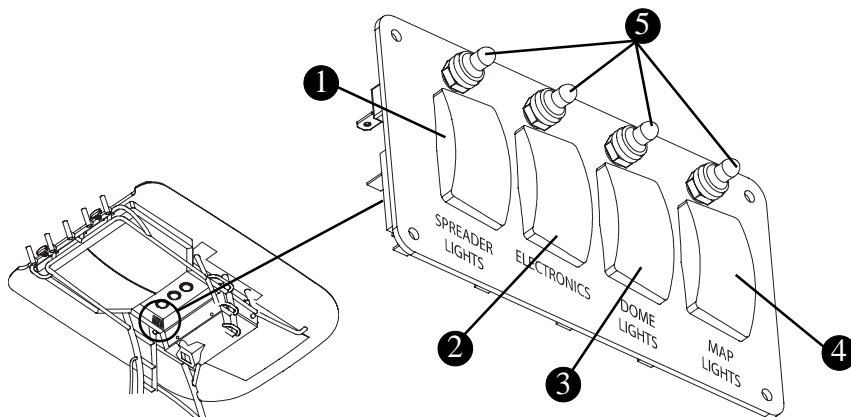
General Layout, starboard gunwale
Fig. 2.10.2



- | |
|---|
| 1 FIRE EXTINGUISHER POCKET |
| 2 STARBOARD GUNWALE STORAGE |
| 3 RODHOLDERS (P&S) |
| 4 ELECTRIC DOWNRIGGER RECEPTACLE (OPTIONAL) |
| 5 STARBOARD AFT CLEAT |
| 6 FRESH WATER SHOWER |
| 7 DOWNRIGGER WEIGHT CRADLE (P&S) |
| 8 STARBOARD 80 GAL. (302L) FISHBOX |

Hardtop Switch Panel

Hardtop Switch Panel
Fig. 2.10.3



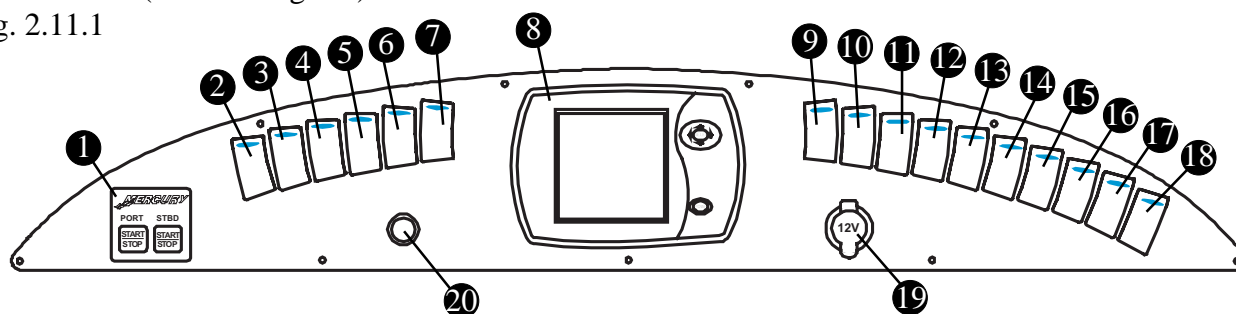
- | |
|-------------------|
| 1 SPREADER LIGHTS |
| 2 ELECTRONICS |
| 3 DOME LIGHTS |
| 4 MAP LIGHTS |
| 5 BREAKER RESETS |

Section 2 • General Information

Control Station Switch Panel

Switch Panel (Verado Engines)

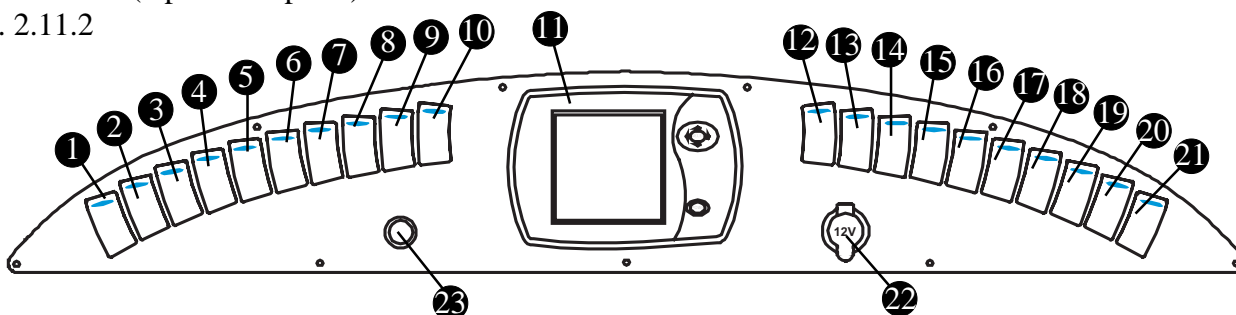
Fig. 2.11.1



- | | |
|-------------------------------|----------------------------------|
| ① ENGINE(S) START/STOP SWITCH | ⑪ STARBOARD FISHBOX PUMP-OUT |
| ② HORN | ⑫ FORWARD FISHBOX PUMP-OUT |
| ③ NAV/ANCHOR LIGHTS | ⑬ FRESH WATER PUMP |
| ④ COURTESY LIGHTS | ⑭ RAW WATER PUMP |
| ⑤ INTERIOR LIGHTS | ⑮ LIVEWELL PUMP |
| ⑥ AFT BILGE PUMP | ⑯ LIVEWELL LIGHT |
| ⑦ FORWARD BILGE PUMP | ⑰ ACCESSORY |
| ⑧ SMARTCRAFT™ SYSTEM VIEW | ⑱ ACCESSORY |
| ⑨ SPREADER LIGHTS | ⑲ 12V ACCESSORY RECEPTACLE |
| ⑩ PORT FISHBOX PUMP-OUT | ⑳ AMBIENT AIR TEMPERATURE SENSOR |

Switch Panel (Optimax Option)

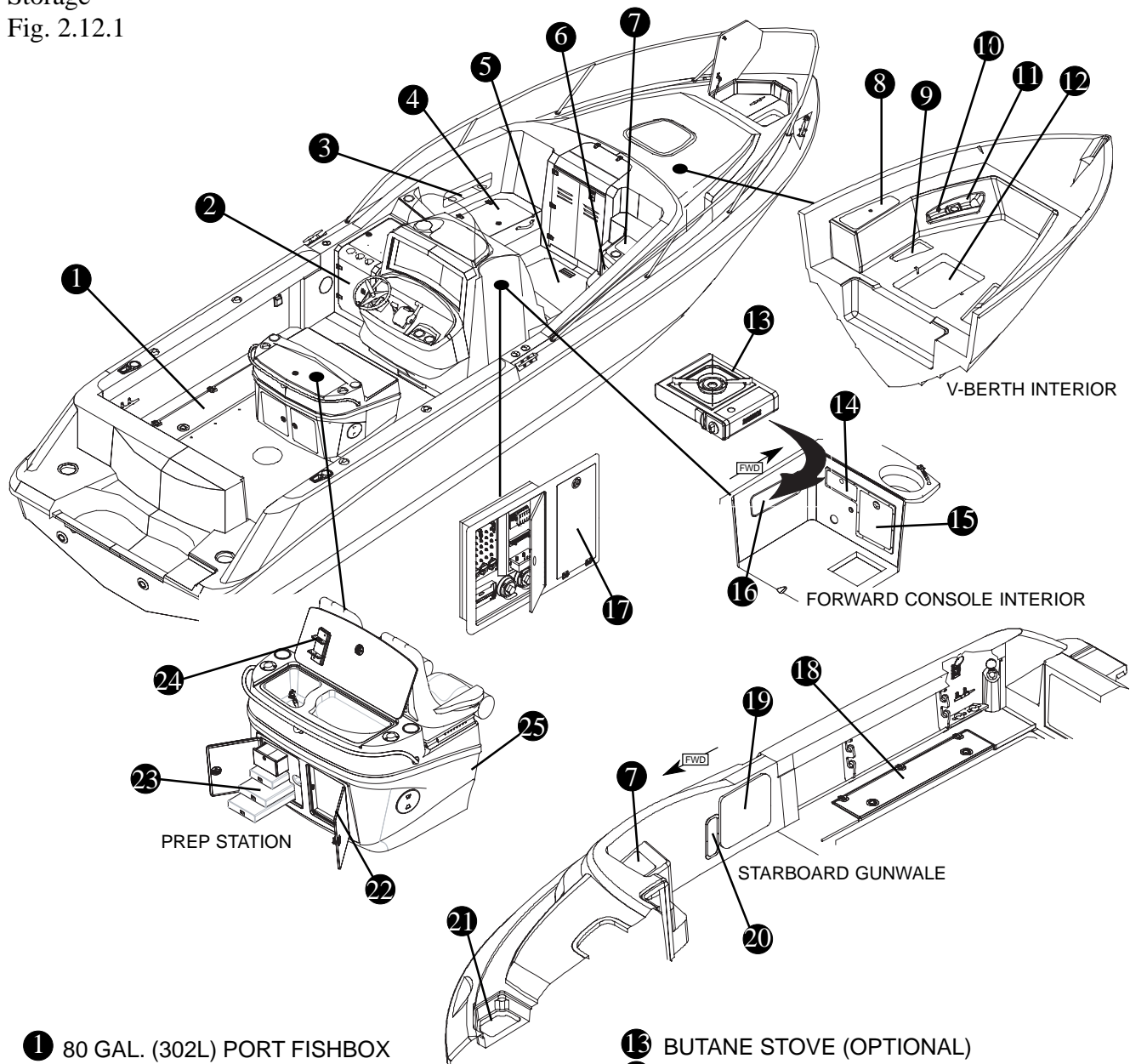
Fig. 2.11.2



- | | |
|-----------------------------|----------------------------------|
| ① HORN | ⑬ PORT FISHBOX PUMP-OUT |
| ② PORT ENGINE IGNITION | ⑭ STARBOARD FISHBOX PUMP-OUT |
| ③ PORT ENGINE START | ⑮ FORWARD FISHBOX PUMP-OUT |
| ④ STARBOARD ENGINE IGNITION | ⑯ FRESH WATER PUMP |
| ⑤ STARBOARD ENGINE START | ⑰ RAW WATER PUMP |
| ⑥ NAV/ANCHOR LIGHTS | ⑱ LIVEWELL PUMP |
| ⑦ COURTESY LIGHTS | ⑲ LIVEWELL LIGHT |
| ⑧ INTERIOR LIGHTS | ⑳ ACCESSORY |
| ⑨ AFT BILGE PUMP | ㉑ ACCESSORY |
| ⑩ FORWARD BILGE PUMP | ㉒ 12V ACCESSORY RECEPTACLE |
| ⑪ SMARTCRAFT™ SYSTEM VIEW | ㉓ AMBIENT AIR TEMPERATURE SENSOR |
| ⑫ SPREADER LIGHTS | |

Storage

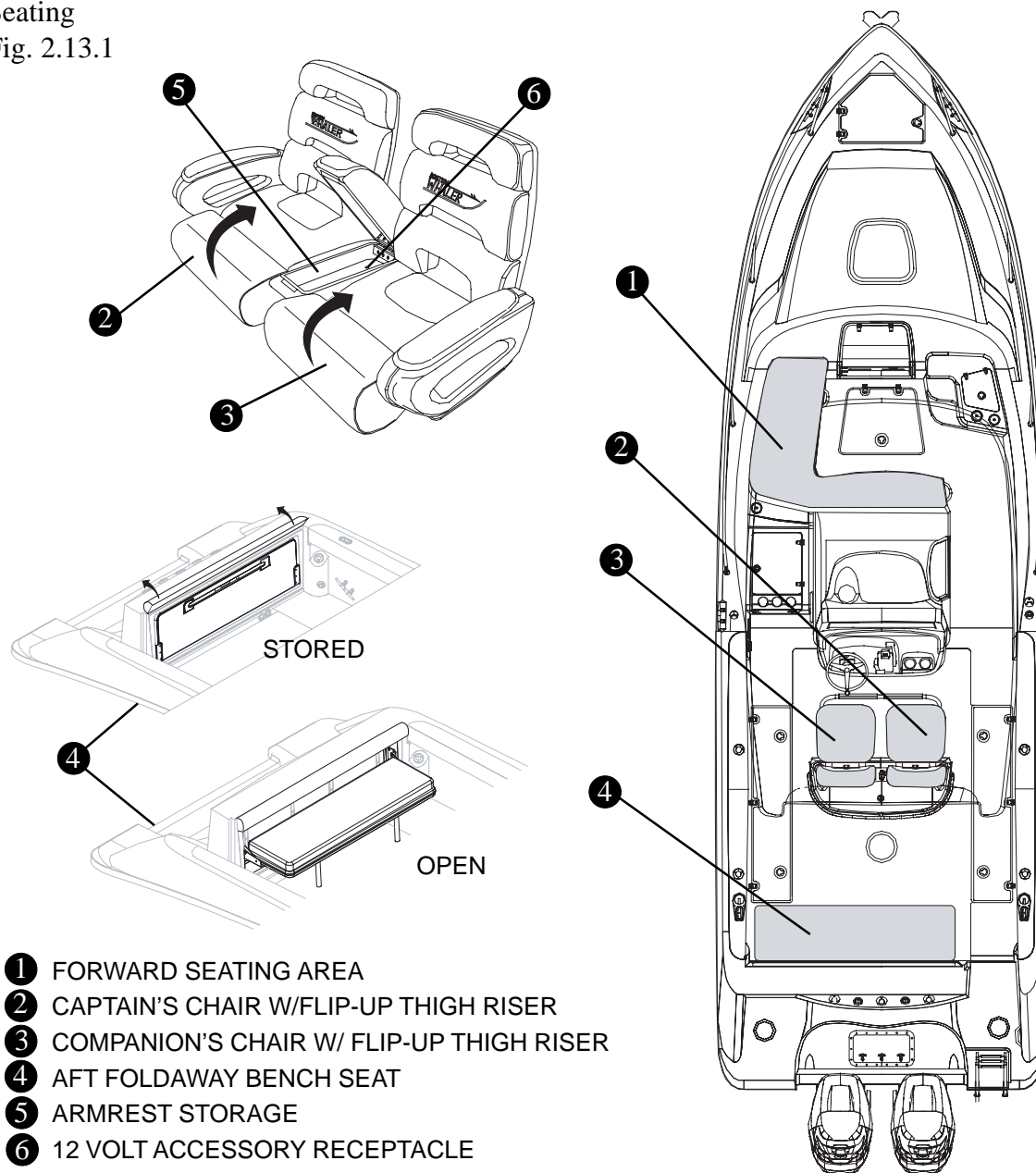
Storage
Fig. 2.12.1



- | | |
|--|------------------------------------|
| ① 80 GAL. (302L) PORT FISHBOX | ⑬ BUTANE STOVE (OPTIONAL) |
| ② BOTTLE RACK W/ DRAWER | ⑭ HEAD FORWARD STORAGE |
| ③ FORWARD PORT SIDE POCKET | ⑮ HEAD SYSTEM ACCESS/STORAGE |
| ④ UNDER CUSHION STORAGE | ⑯ HEAD SIDE POCKET |
| ⑤ 108 GAL. (409L) COOLER/STORAGE | ⑰ AFT HEAD STORAGE |
| ⑥ STARBOARD FORWARD STORAGE DRAWER | ⑱ 80 GAL. (302L) STARBOARD FISHBOX |
| ⑦ INSULATED COOLER | ⑲ STARBOARD GUNWALE TILT-OUT |
| ⑧ V-BERTH PORT STORAGE | ⑳ FIRE EXTINGUISHER POCKET |
| ⑨ V-BERTH PORT UNDER CUSHION STORAGE
(STBD TYPICAL) | ㉑ ANCHOR LOCKER STORAGE |
| ⑩ 12V ACCESSORY RECEPTACLE | ㉒ TOOL/KNIFE RACK (ON INSIDE DOOR) |
| ⑪ V-BERTH PORT SIDE POCKET (STBD TYPICAL) | ㉓ TACKLE CENTER STORAGE |
| ⑫ V-BERTH UNDER FLOOR STORAGE | ㉔ KNIFE RACK |
| | ㉕ TILT-OUT STORAGE (FRONT OF UNIT) |

Seating

Seating
Fig. 2.13.1



Control Station Seating

The helm and companion chairs on the 320 Outrage Cuddy Cabin are independently adjustable for your comfort. There is a handle on the front of the seat track that when pulled will allow the seats to be pulled forward, there are hole stops in the track that will lock the seat in place. The track has a maximum forward slide range of 6 inches, (15cm).

Aft Foldaway Bench

The aft bench seat extends across the full width of the stern. When folded away it fits flush into the transom (See figure 3.23.2).

Gear Shift & Throttle Control

CAUTION

Shift controls into **NEUTRAL** before starting engine. Shift only when engine is at idle. Reversing at high speeds can cause flooding/swamping due to water being pushed over the transom.

NOTICE

Wind and sea currents can change how your boat responds while in motion. Understanding your boat and its reactions at speed will make your boating safer and more enjoyable.

Digital Throttle/Shift (DTS®)

Your 320 Outrage Cuddy features a state of the art digital “drive-by-wire” gear shift and throttle control system. The Digital Throttle/Shift (DTS)® is the latest technology in recreational boating.

The DTS® system is monitored through the Smartcraft® System View display which will give you a visual readout of all functions regarding your boats engine as well as direction, and applicable fluid capacities.

The throttle control regulates the RPM of the engine. Regulating the RPM of the engine will control the speed of the boat. Moving the lever forward engages the forward gear. Continuing to move the lever forward will increase the forward speed of the boat.

Likewise, to reverse power, bring the control lever back to engage the reverse gear and increase the reverse thrust by continuing to pull back on the throttle control..

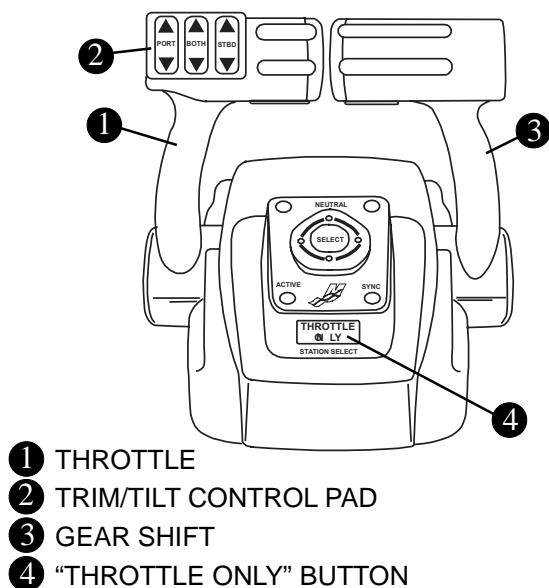
The control must be in the “NEUTRAL” position to start your engine. Neutral is in the center position of the unit and acts as an idle. While in this position, the propeller is not rotating. By moving the control arms back and forth you can feel a detent in the center position and will hear a click when neutral is engaged.

There is a “THROTTLE ONLY” button on the control unit that when depressed will disengage the shifting mechanism and will allow you to operate the throttle without engaging the propeller. The button will automatically engage the shifting mechanism once the throttle control has been moved back to its center position (you will hear and feel a click when it is engaged).

REFER TO THE ENGINE MANUFACTURER’S MANUAL IN YOUR OWNER’S MANUAL PACKET FOR COMPLETE INSTRUCTIONS, INFORMATION AND WARRANTY.

Digital Throttle/Shift (DTS®)

Fig. 2.14.1

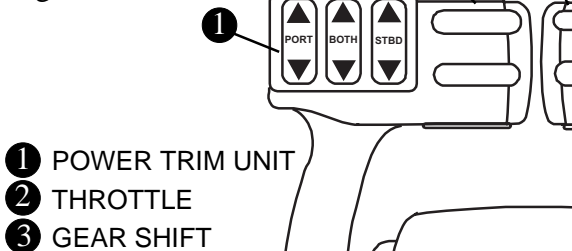


Power Trim Operation

The power trim/tilt pad located on the throttle lever (figure 2.15.1) allows you to raise and lower the engines individually or together for optimum performance in the water and for trailering, launching and beaching your boat. The switch is a momentary switch which means that constant pressure must be applied to the switch during the raising and lowering cycle. This also allows for ideal boat angle (in relation to the water surface) for a given load and water condition. In most cases, best all-round performance is obtained with the engine adjusted so that the boat will run at a 3° to 5° angle to the water.

Power Trim Switch

Fig. 2.15.1



SmartCraft™ System View

Your boat is equipped with the SmartCraft™ System View feature. System View allows the boat operator to receive a wealth of critical operational information, displayed clearly and instantly at the helm on the LCD display. The System View continuously monitors and reports information ranging from basic operating data to detailed vessel environment information.



System View Displays:

- Air & Water Temperature
- Fuel Flow / Range
- Water Depth
- Engine Alarms / Hourmeters
- Engine Synchronizer Display
- GPS Interface
- System Maintenance Records

System View can be fully integrated with the boat's GPS, if equipped, to provide up to the minute course, speed, and fuel-to-destination information.

System Calibration (For First Time Use)

Boston Whaler® or your Boston Whaler® dealer has calibrated the Smartcraft™ System View to the equipment on your boat. If equipment is added, the system will need to be recalibrated.

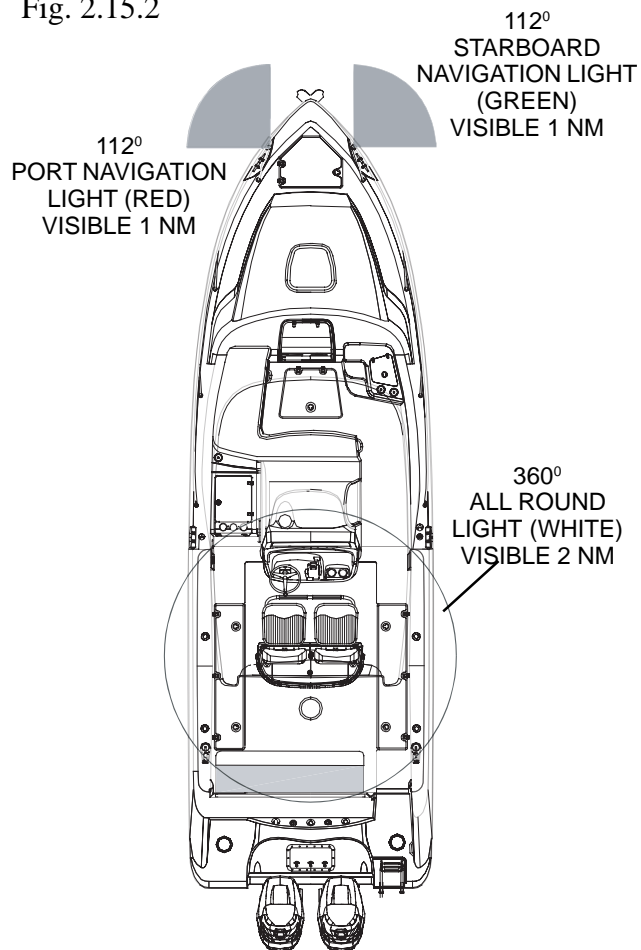
FOR RECALIBRATION OR MANUFACTURERS INFORMATION REGARDING THE SMARTCRAFT™ SYSTEM VIEW REFER TO THE MANUFACTURER'S OWNER'S MANUAL FOUND IN YOUR OWNER'S PACKET.

Navigation Lighting

Your boat comes equipped with navigation lighting for your safety. Regulations state that all boats, no matter the size, must display navigation lights. The lights must be displayed at night or in low visibility conditions. It is the responsibility of the operator to ensure that the navigation lights are in good working order and that the proper lighting is shown

Navigation/Anchor Lighting

Fig. 2.15.2

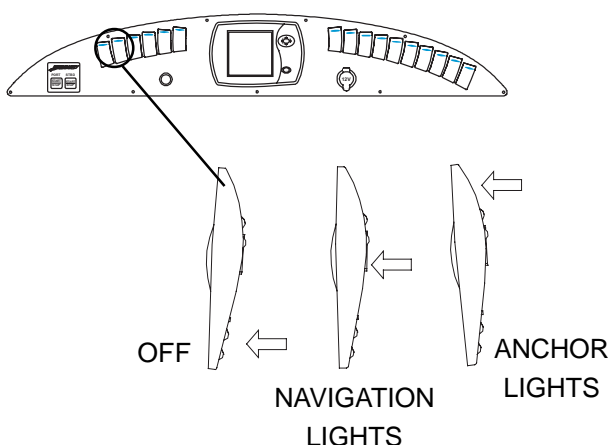


Operating the Navigation Lighting

A three-position switch, located on the console switch panel marked “NAV/ANC” (See page 2.10.1), controls the navigation and anchor lighting. In the “Navigation Lights” position (See figure 2.16.1), the port (red) and starboard (green) lights will illuminate. These lights let other vessels know the approximate size and direction of travel of your boat, depending on which lights they can see. In the “Anchor Lights” position, the white, 360-degree light will illuminate, showing other boaters your location while at anchor.

Navigation/Anchor Lighting

Fig. 2.16.1



Ignition Shutdown Switch

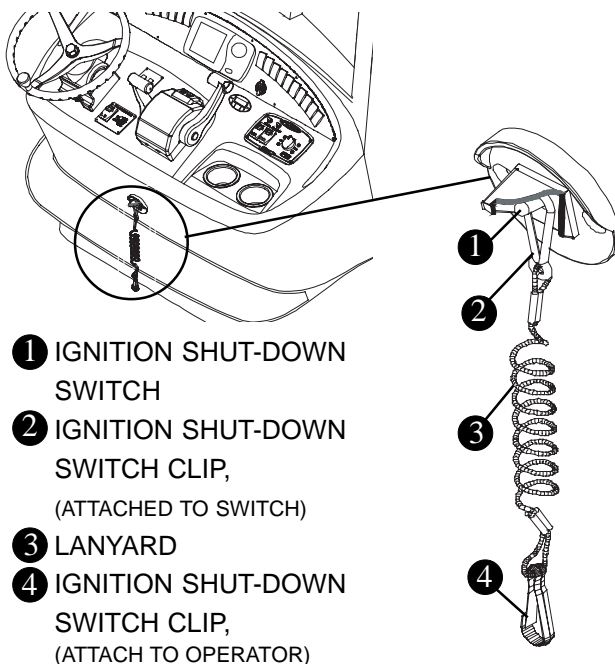
The ignition shutdown safety switch located on the lower front of the control station is designed to shut the engine off when the operator of the boat leaves the control station, either accidentally by falling into the boat, or by being ejected overboard. This would most likely occur as a result of poor operating practices. The switch incorporates a shut-off switch, switch clip, lanyard and lanyard clip, which should be clipped to the operator. If an emergency arises where the engines must be shut down, a pull on the cord to release the clip from the shut-off will shut down the engine.

⚠ CAUTION

Wear your lanyard at all times while operating the boat. It is for emergency stopping only. Do not use it to shut off the engine during normal operation. The lanyard should be long enough to prevent inadvertent activation.

Ignition Shutdown Safety Switch

Fig. 2.16.2



NOTICE

This switch only works when used properly. The decision of whether to use an ignition safety switch or not rests with you, the operator.

12V/30AMP Receptacles (Optional)

If equipped, the 12V/30A receptacles necessary to power electric downriggers or reels are located inside port and starboard of the aft cockpit. The receptacles are protected by the “PORT 12V PWR SOURCE” and “STBD 12V PWR SOURCE” breakers on the Main Distribution Panel located in the forward console (see Figure 4.5.1).

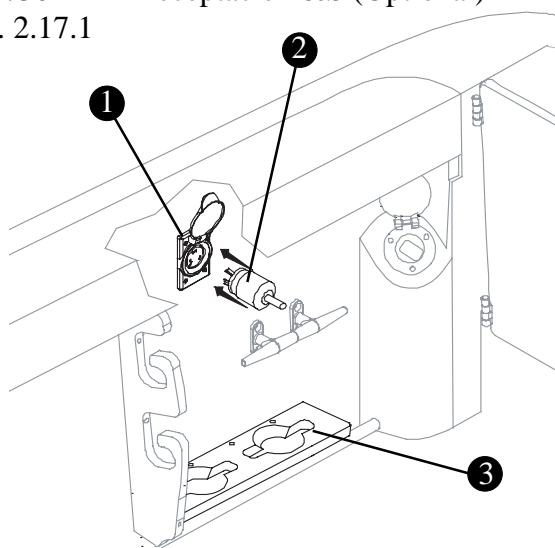
A storage cradle for downrigger weights is provided starboard and port in the aft cockpit. The cradles are designed to store the most common weights available.

Consult with your Boston Whaler® dealer for details on selecting and mounting the downriggers that will best suit your application.

CAUTION

DO NOT mount downriggers on areas of the gunwale that are not designed to withstand the stress which the downriggers will generate.

12V/30 AMP Receptacle P&S (Optional)
Fig. 2.17.1



- ① 12V/30A RECEPTACLE (P&S)
- ② DOWNRIGGER PLUG
- ③ DOWNRIGGER WEIGHT STORAGE

REFER TO THE DOWNRIGGER MANUFACTURER'S MANUAL FOR COMPLETE INSTRUCTIONS AND WARRANTY.

Canvas (Optional)

DANGER

CARBON MONOXIDE DANGER

Prolonged exposure can cause serious injury or death. To reduce CARBON MONOXIDE accumulation, increase air movement by opening windows or adjusting the canvas to allow for more air circulation

Removing or installing canvas on the open water can be difficult since rough water or wakes can cause you or your passengers to lose their balance while attempting to install or remove canvas panels.

For your safety and ease of installation or removal of the canvas, use two (2) people to perform the operation. Remove or install canvas before leaving the boat slip or off-loading your boat from the trailer.

Canvas Installation Tips

- If a new installation, install the zipper tracks into the zipper channel located around the perimeter of the hardtop. Once this is complete you may leave the tracks installed.
- Identify each piece of canvas and its position in the canvas set.
- Zip each piece of canvas to the zipper track and to the adjacent canvas piece only partially (approximately 4").
- Snap the remaining sides of the canvas pieces into place.
- Finish zipping all the zippers. This will ensure a snug fit.

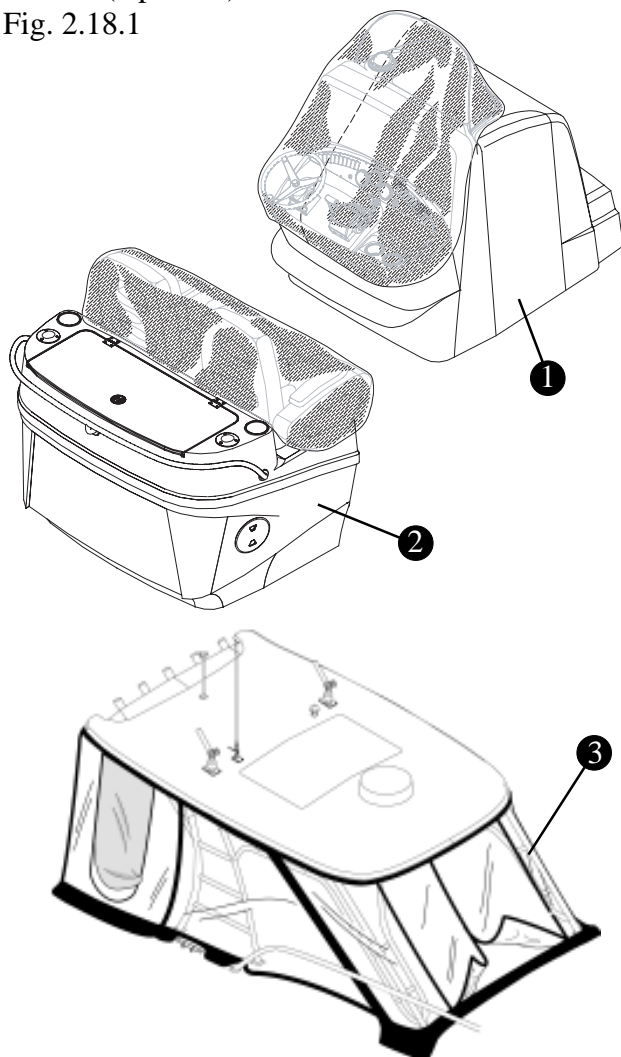
DANGER

If the cockpit is totally enclosed with canvas covers and curtains while the engine is running or the boat is moving, carbon monoxide will build up and cause death or permanent injury.

DO NOT use the rear (aft) curtain with the engine running or boat is moving.

Canvas (Optional)

Fig. 2.18.1



- ① CONSOLE COVER (BLACK ONLY)
- ② HELM SEAT(S) COVER (BLACK ONLY)
- ③ HARDTOP CANVAS SET (BLACK OR WHITE)

NOTE: canvas set for hardtop as shown is for reference only. Actual configuration may differ.

To Remove Canvas

- Unzip each piece of canvas leaving approximately 4" attached. This will relieve the tension on the snaps.
- Unsnap the remaining sides of the canvas pieces.
- Remove one piece at a time and store per manufacturers recommendations.

Refer to page 5-4 of this manual for more information on the care and maintenance of your canvas set.

⚠ DANGER

Exhaust fumes from engines contain deadly carbon monoxide gas (CO). Boats enclosed with canvas or with poor ventilation are most likely to collect fumes.

CO sickness symptoms include headache, nausea and dizziness. DO NOT mistake these symptoms for sea sickness.

In rainy and/or cold weather, fresh air must circulate through the boat to avoid carbon monoxide poisoning.

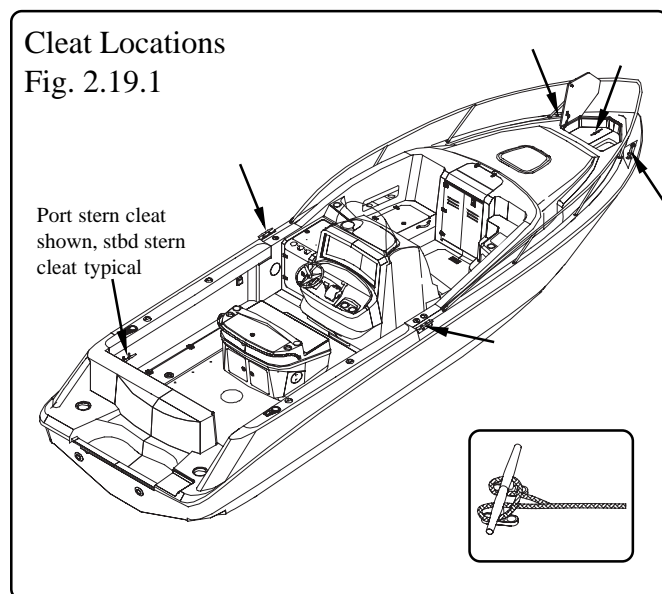
See page 1-3 of this manual for additional important information regarding carbon monoxide.

REFER TO THE CANVAS MANUFACTURER'S INSTRUCTIONS FOR COMPLETE CARE AND MAINTENANCE OF YOUR CANVAS SET.

Docking, lifting and trailering

Cleat Locations

Fig. 2.19.1



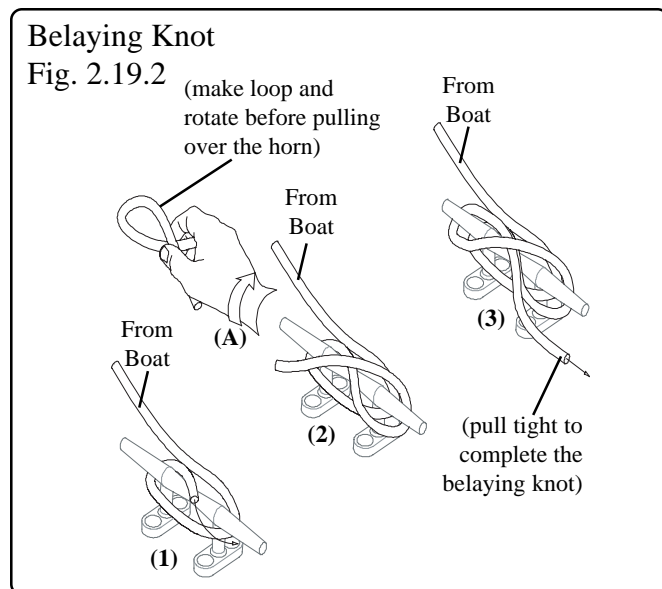
Docking

Your boat has (7) 10 inch cleats, one located in the anchor locker, two located at the bow, two located amidship and two located at the stern, forward of the transom. The cleats are used to secure the boat to the dock. While loading/unloading or mooring, please learn the proper way to secure the boat and how best to use the mooring points of your boat.

Figure 2.19.2 shows the correct method for tying a belaying knot, commonly used to secure a boat to a dock. This knot will hold fast and is simple to release when needed.

Belaying Knot

Fig. 2.19.2



Lifting

⚠ DANGER

Use only the lifting points specified. Using the cleats for lifting is dangerous and could cause serious injury or death.

The bow eye is used to haul and hold your boat onto a trailer. The stern eyes are used as tie down points while trailering the boat. The bow and stern eyes may be used only for short term lifting of the boat. Long term lifting with bow and stern eyes will cause stress on the fiberglass and gel coat.

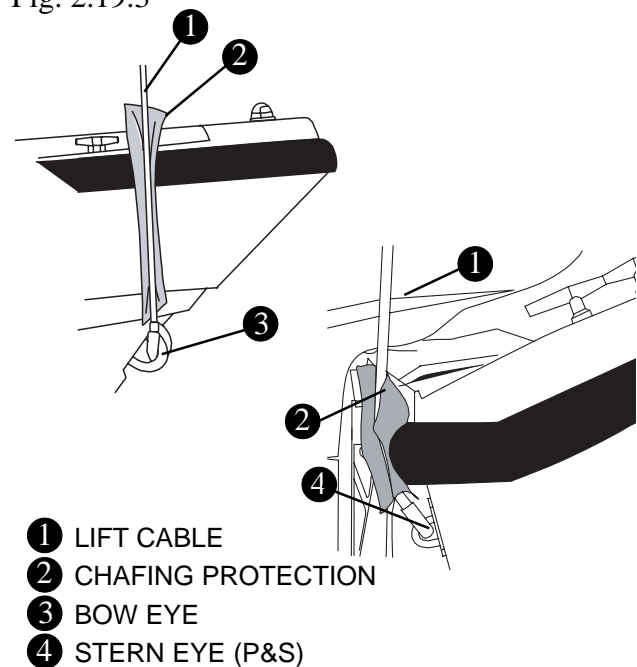
⚠ CAUTION

Long term lifting with the bow and stern eyes can cause stress on the fiberglass and gel coat and is not recommended.

For long term lifting or storage, use flat, wide belt-type slings and spreaders long enough to keep pressure from gunwales. Place slings where indicated by "Sling" tag on the hull (See figure 1.16.1). **DO NOT** place slings where they may lift on underwater fittings.

Proper Short Duration lifting

Fig. 2.19.3



Section 2 • General Information

Whether you are lifting your boat out of the water for routine maintenance or long term storage, consider the following:

- If you are using a professional lifting service, it is prudent to check all credentials and ask for proof of insurance to protect your investment.
- Use a wide, flat, belt sling for lifting ,to minimize stress on the gunwales. Careful placement of the slings should be observed. **DO NOT PLACE SLINGS WHERE UNDER WATER FITTINGS WILL BE IN CONTACT.**
- If using a lifting hook, attach to bow eye and the stern lifting eyes mounted on the transom. Always use a spreader bar on the stern eyes and use chafing protection on the top of the transom.

NOTICE

Place slings **ONLY WHERE INDICATED** by the "Sling" tags on the hull of the boat (P&S).

Trailer

Your 320 Outrage Cuddy Cabin has the option of being fitted with a galvanized trailer. This trailer is best suited for your boats length and width. If you have a trailer or plan on purchasing a trailer separately there are some points you need to consider, such as:

- Having a center roller and keel guards will help provide good support for the keel, also provide good fore and aft support.
- **Trailers equipped with rollers** instead of bunks can damage the foam sandwich hull of your boat and **should never be used.**
- Bunks provide a more even weight distribution.

NOTICE

Use a trailer with bunks **ONLY**. Your warranty may be voided if you use a trailer with rollers.

Trailer Safety

Securing the Boat to the Trailer

Safety Chain - There is a safety chain that attaches to the bow eye and will keep the boat from sliding off the trailer in the event that the winch strap or cable breaks. Hook this up first.

Tie-Down Straps - Can be used to secure the boat from the stern. The tie-down straps hook into the tie-down loops on the trailer frame and to the stern eyes on the transom. Padding (or similar) chafe protection should be used wherever the tie-down straps come in contact with the hull.

Securing the Trailer to the Tow Vehicle

Safety Chains - Safety chains connected to the trailer should be of sufficient length to reach the frame of the tow vehicle and should be long enough to allow the tow vehicle to turn without binding or tensioning .

Trailer Hitch - A properly matched trailer hitch ball and coupler is important.

Make certain that the coupler and the hitch ball are properly seated and locked.

⚠ DANGER

Tie-down straps should never be used by themselves, they are only used to help in keeping the boat secured to the trailer. Make certain that the safety chain is properly secured to the bow eye.

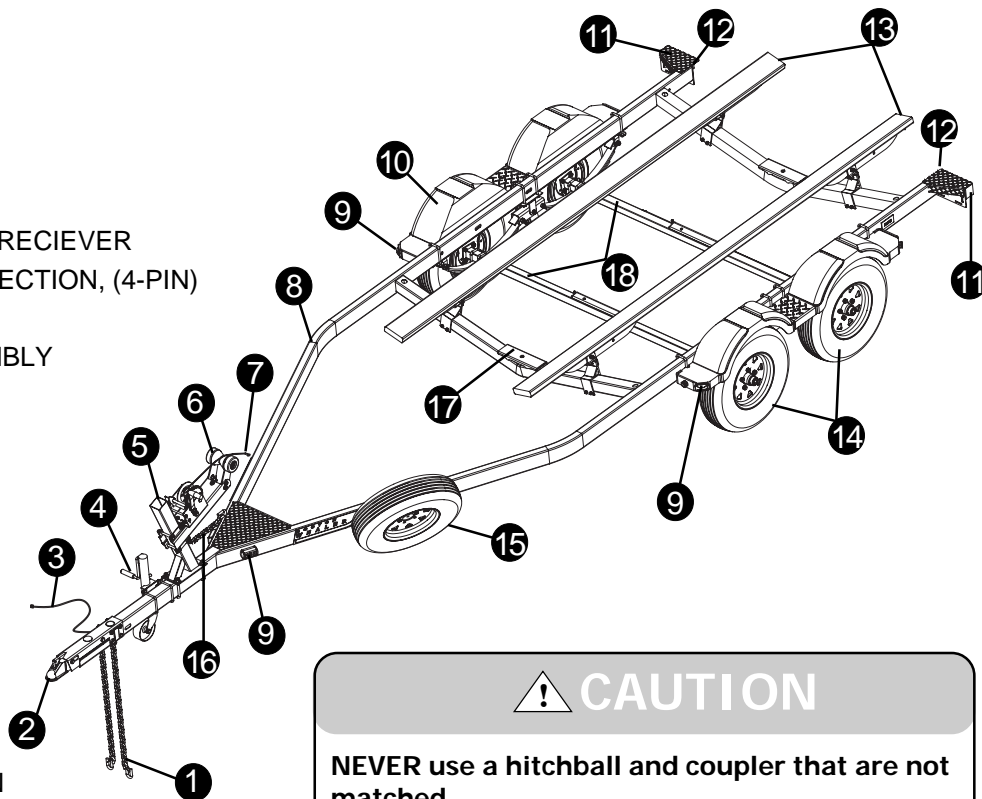
REFER TO THE ENGINE MANUAL IN YOUR OWNER'S MANUAL PACKET FOR PROPER ENGINE SUPPORT WHILE TRAILERING.

Trailer description

Bunk Trailer (Typical)

Fig. 2.21.1

- ① SAFETY CHAINS
- ② TONGUE/BALL HITCH RECIEVER
- ③ TRAILER LIGHT CONNECTION, (4-PIN)
- ④ TONGUE JACK
- ⑤ WINCH STAND/ASSEMBLY
- ⑥ CABLE ROLLER
- ⑦ WINCH HOOK/STRAP
- ⑧ TRAILER FRAME
- ⑨ SIDE LIGHT
- ⑩ FENDER W/ STEPS
- ⑪ TAILLIGHT
- ⑫ TIE-DOWN EYE
- ⑬ BUNK ASSEMBLY
- ⑭ TIRES
- ⑮ SPARE TIRE
- ⑯ WINCH SAFETY CHAIN
- ⑰ KEEL PROTECTOR
- ⑱ AXLES



CAUTION

NEVER use a hitchball and coupler that are not matched.



CAUTION

DO NOT secure the chains to the bumper of the tow vehicle.

Bilge Pumps

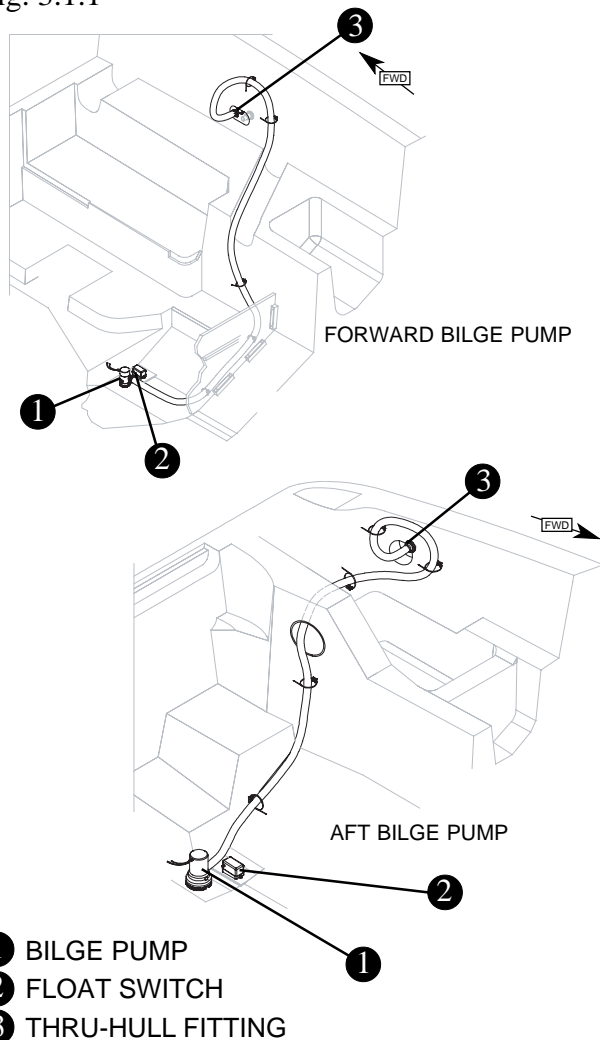
Your 320 Outrage Cuddy Cabin is equipped with two (2) automatic bilge pumps, one forward (1,100 GPH - 4,160LPH) and one aft (2000 GPH - 7,571LPH). Each pump is activated automatically by a float switch when the water in the bilge reaches a predetermined level.

By depressing the switch on the control station labeled BILGE PUMP (See figure 2.11.1) the operator can energize the pumps regardless of the position of the float switches.

The aft pump discharges water overboard by way of a thru-hull fitting on the aft port hull. The forward pump discharges water overboard by way of a thru-hull fitting on the midship starboard hull (See figures 2.6.1 & 2.6.2)

Bilge Pump Locations

Fig. 3.1.1



Maintenance

The aft pump is accessed through the hatch in the bottom of the motorwell. Access to the forward pump can be made through a hatch on the aft wall of the forward console. Frequently inspect the area under the float switches to ensure they are free from debris and gummy bilge oil. To clean, soak in heavy duty bilge cleaner for 10 minutes, agitating several times. Check for unrestricted operation of the float. Repeat the cleaning procedure if necessary.

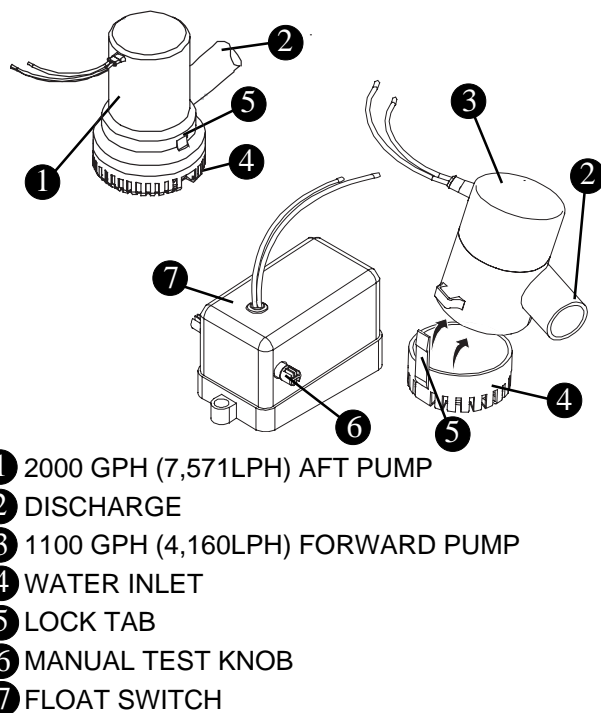
Inspect the bilge pump intakes and keep them free of dirt or material which may impede the flow of water through the pump. To clean the pump strainer, depress the lock tabs on both sides of the pump and lift the pump motor (Figure 3.1.2).

If water does not come out of the discharge hose:

1. Remove the motor module to see if the impeller rotates with the power on.
2. Remove any debris that may have accumulated in the impeller section or strainer base.
3. Check hose and connection on hull side for debris and proper connections.

BILGE PUMP & FLOAT SWITCH

FIG. 3.1.2



Section 3 • Systems & Components Overview & Operation

Fuel & Oil Spillage

Regulations prohibit discharging fuel or oily waste in navigable waters. Discharge is defined as any action which causes a film, sheen or discoloration on the water surface, or causes a sludge or emulsion beneath the water surface. A common violation is bilge discharge.

Use rags or sponges to soak up fuel or oily waste, then dispose of them properly ashore. If there is a large quantity of fuel or oil in the bilge, contact a knowledgeable marine service to remove it. Never pump contaminated bilge discharge overboard.

Fill fuel tank less than rated capacity. Allow for fuel expansion.

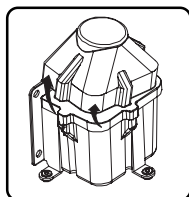
Power Steering

The Verado four-stroke engine uses an enclosed hydraulic pump unit. **The pump is electrically operated to provide hydraulic pressure to the steering system pump.** The pump is located in the aft bilge which can be accessed through the hatch in the bottom of the motorwell.

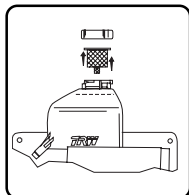
Filling & Maintenance

The system is virtually maintenance free, aside from regular fluid checks and visually inspecting the outside of the unit for signs of leaks or damage.

- Release cover by pressing on the locking tabs on the sides of the unit.



- Unscrew cap and check the fluid level in the reservoir, fill **ONLY** with SAE 0W-30 Full Synthetic Power Steering Fluid if necessary.



Check filter insert and clean.

- Replace filter, cap and cover

Make it a habit of checking the fluid level before each trip.

REFER TO THE ENGINE MANUFACTURER'S MANUAL IN YOUR OWNER'S MANUAL PACKET FOR COMPLETE INSTRUCTIONS AND WARRANTY.

Optimax Engine (Optional)

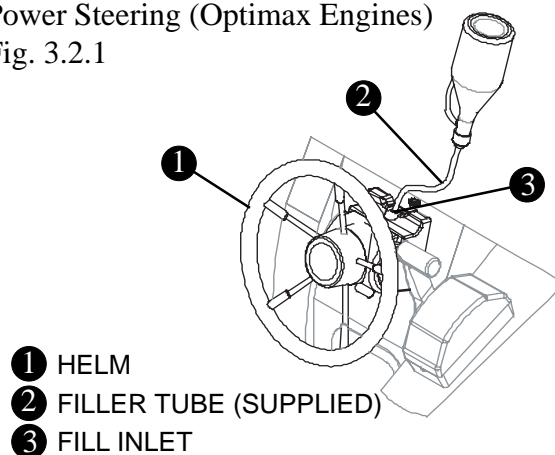
Proper maintenance of this system will ensure worry-free usage for the life of your boat. Steering system integrity is imperative when engaging in recreational water activities. Special care and attention must be taken to ensure proper performance of the steering system and should include the following:

- After the first few hours of operation and at regular intervals, check all fasteners and the complete steering system for security and integrity.
- Inspect for corrosion. Any part affected by corrosion must be replaced.
- When replacing parts, self locking hardware must be used.
- Check the fluid level in the helm pump unit.
- Lubricate slides on the engine cylinders.

All steering systems whether mechanical or hydraulic require regular inspections, periodic adjustment and occasional replacement may be necessary.

Power Steering (Optimax Engines)

Fig. 3.2.1



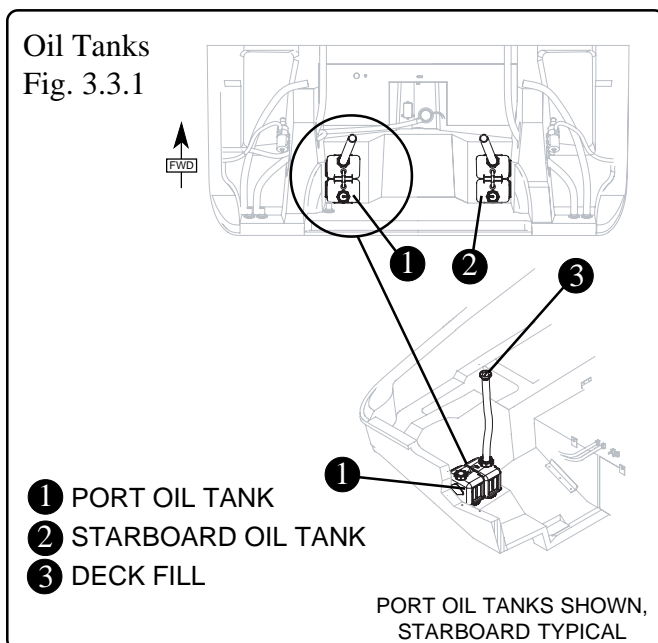
FILLING:

Your owners manual kit has a fill tube that can be used to replenish the hydraulic oil for the hydraulic steering system. Keep a record of the times you have filled the hydraulic fluid reservoir. Read the manual for complete information on the correct type of fluid to use and schedule.

REFER TO THE MANUFACTURER'S MANUAL IN YOUR OWNER'S MANUAL PACKET FOR COMPLETE INSTRUCTIONS AND WARRANTY.

Remote Oil System (Optimax Option)

If equipped with the optional 225 Optimax propulsion system your boat has a remote oil system. This system consists of dual 3- Gal.(11.3L) reservoir tanks and hoses which contain and meter lubricating oil to the engine. The oil tanks have external fills for each tank located on the aft transom deck (See figure 2.7.1). The tanks can be accessed through the hatch in the bottom of the motorwell. When recapping the fill inlet make sure that it is secure to prevent spills and to prevent the intrusion of water into the system. The remote oil tanks are secured by a nylon strap and quick release clip. Little maintenance is required for the remote oil system, aside from checking the hoses for abrasions and cracks and hose clamps for proper tightness. The tank should not be exposed to ultraviolet light, rain or seawater for extended periods of time.



Fuel System

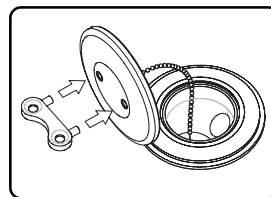


- Oil and fuel spills can be dangerous and can subject offenders to severe penalties
- Leaking fuel is a fire and explosion hazard, inspect the system regularly. Examine fuel tanks and exposed lines for leaks and corrosion.

The 320 Outrage Cuddy Cabin is equipped with a gasoline fuel system. **Please take time to read and understand all the fuel related information and warnings regarding gasoline and your boat, in the engine owner's packet.**

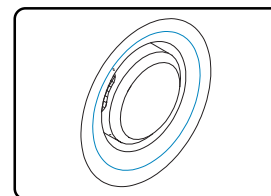
Fuel Fills

Fuel fills are located amidship on the port and starboard gunwales and are marked "GAS" (See figure 2.7.1). The fills can be opened by use of a special key that is included in your owner's manual packet. **Refer to the engine manufacturer's manual for recommended types of fuel to use.**



Fuel Vent

Fuel vents are located on the port and starboard gunwales below the fuel fill deck plates (See figure 2.6.1 & 2.6.2). The fuel tank vent serves as a pressure/vacuum release. Access to the port vent fitting is through a twist-out plate located inside the cockpit, opposite the vent. The starboard vent is located behind the tip out storage access on the starboard gunwale, amidship.



Maintenance

Periodically check the vent for debris as part of a regular maintenance schedule and clean for continued safe operation of the fuel system. The vent assembly consists of a backshell, nut and hose clamp. Remove

CAUTION

Use of improper fuel can seriously damage your engine. Engine damage resulting from use of improper fuel is considered misuse of engine and will void the warranty. Follow engine manufacturer's recommendations regarding the types of fuel and oil to use.

the hose clamp, nut and backshell and push the fuel vent out. If necessary, to dislodge the screens for cleaning, a small pick may be used to remove the lock ring that secures each of the four vent screens in place.

Fuel tank

Your boat is equipped with two (2) 150 Gal. (568L) aluminum fuel tanks for a total of 300 Gal. (1,135L) of fuel. The tanks are located under the aft section of the cockpit. The fuel sensors for each tank can be reached through a plate on the aft section of the cockpit floor.

NOTICE

Fuel tanks should never be filled to capacity. Allow 2% for expansion.

NOTICE

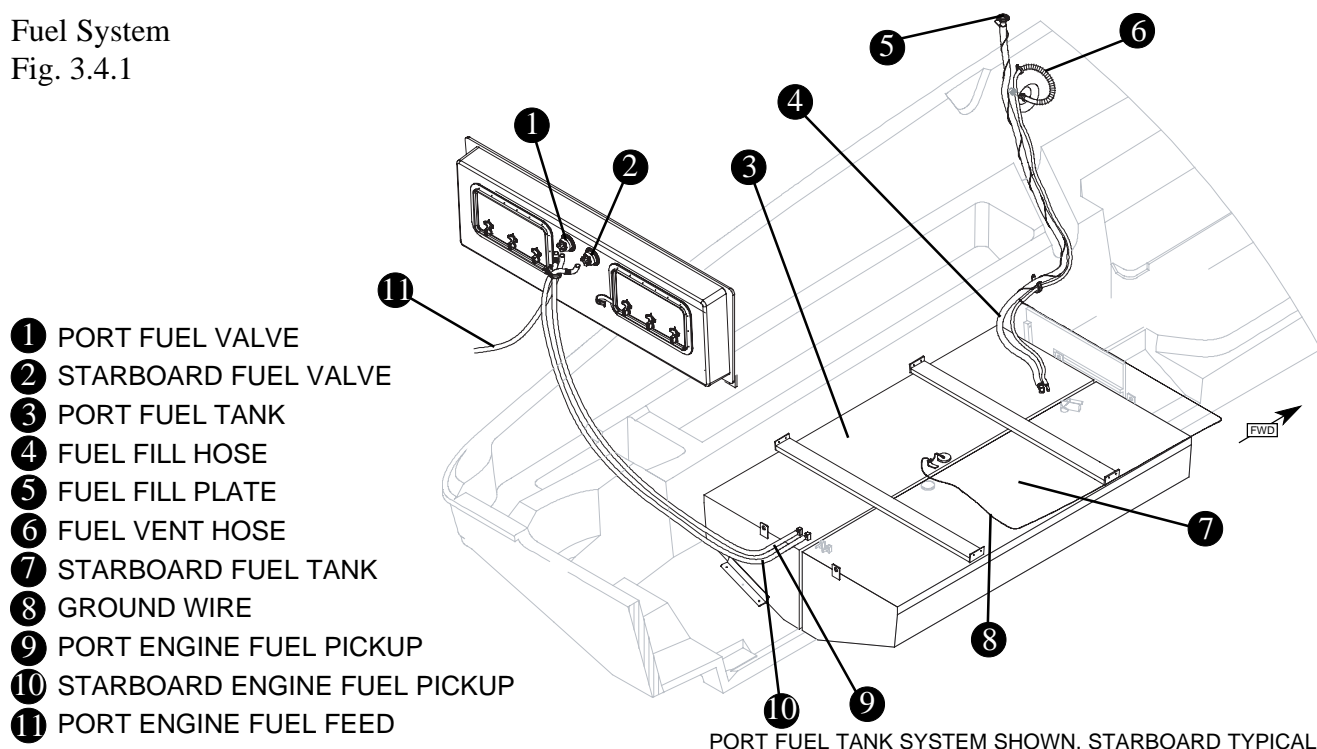
Keep records of the fuel capacity and consumption of your boat. Drastic changes in consumption and mileage may indicate a problem.

NOTICE

it is your responsibility to read and understand the engine manufacturer's manual in your owner's manual packet for complete fuel and fueling information and warnings.

Fuel tanks with levels less than 1/4 full can cause engine stalling problems due to fuel starvation or by allowing sediment and dirt to enter the fuel supply lines. Keep the tank full, allowing for expansion, and monitor the fuel level often to prevent this from happening.

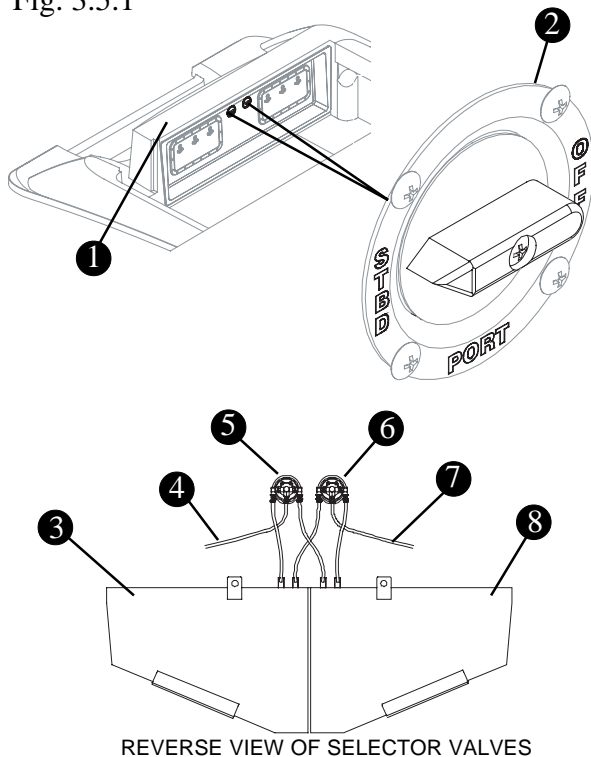
Fuel System
Fig. 3.4.1



Fuel Selector Valves

A 3-way fuel valve for each tank/engine is mounted on the transom behind the aft foldaway aft seat. The fuel system is designed so that the port engine is supplied by the port fuel tank and the starboard engine by the starboard tank. However, the fuel valves give the operator the ability to supply both engines with fuel from either tank.

Fuel Selector Valves
Fig. 3.5.1



- ① TRANSOM
- ② FUEL TANK SELECTOR VALVE
- ③ PORT FUEL TANK
- ④ PORT ENGINE FUEL FEED
- ⑤ PORT FUEL TANK SELECTOR VALVE
- ⑥ STARBOARD FUEL TANK SELECTOR VALVE
- ⑦ STARBOARD ENGINE FUEL FEED
- ⑧ STARBOARD FUEL TANK

Tank Selection

The fuel valves are clearly marked with PORT, STARBOARD and OFF around the perimeter of each valve. Turn the valve handles to the appropriate position for the desired tank selection. Be sure to check the fuel level of each tank and the position of each fuel valve to prevent drawing an excessive

amount of fuel from a single tank which may cause the boat to become unbalanced while underway.

NOTICE

If both engines draw fuel from the same tank for a long period of time, the boat will eventually list to the opposite side of the tank being used.

Maintenance

Follow your engine manufacturers recommendations for scheduled maintenance. Check the hoses for cracks, abrasions and deterioration on a regular basis and **NEVER start your engines if there is a strong gasoline odor present**. Replace worn or damaged hoses and fittings with marine grade replacement parts only. Your Boston Whaler® dealer will have all the parts and information you will need to maintain your boat.

Excessive water and sediment in the fuel tank(s) due to improper usage may require you to have the tank(s) professionally cleaned. Consult a professional tank cleaning contractor regarding this procedure and the proper disposal of residue and water.

NOTICE

Improper disposal of fuel or oily waste can subject the offender to severe state and federal penalties.

Static Electricity and the Fuel System

There is a danger that static electricity can ignite gasoline vapors that have not been ventilated outside an enclosed area. Use extreme caution when fueling your boat from a source outside the regular venues, (e.g. marinas, fuel service stations).

Your boats bonding system protects it from creating and discharging static electricity. Your boat must be in contact with the water or a land based grounding system while fueling.

Your boat has safety features that can be circumvented by not adhering to standard fueling

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practices. The following suggestions will help keep you safe from static electricity while refueling your boat.

- **NEVER** fuel your boat in unsafe conditions such as suspended on a sling or in a situation that increases the likelihood of static discharge.
- **NEVER** use homemade containers to fill your fuel tanks.
- Fuel carried on-board outside of a fixed fuel system should be stored in an approved container or in a portable tank such as provided for outboard engines and be stowed safely outside of the engine or living compartment(s).
- Shut down the engine, motors and fans prior to taking on fuel. Any ignition sources should be extinguished before filling the fuel tanks.
- Close all ports, windows, doors and hatches.
- Fueling should never be done at night except in well-lighted areas.
- Always keep the fuel nozzle in contact with the fuel fill plate or the edge of the fuel tank opening throughout the filling process.
- Allow areas where gasoline vapors could collect to be ventilated before starting the engine.
- Wipe any spillage completely and dispose of rags or waste on shore.
- Secure the fill cap tightly.

DANGER

Static electricity can ignite gasoline vapors causing serious injury/death and/or destruction of property.

Check for leaks in tubing, connections and hoses. Correct the cause of any leaks and ventilate the area to insure that no fumes remain, prior to energizing any electrical equipment and/or starting the engines.

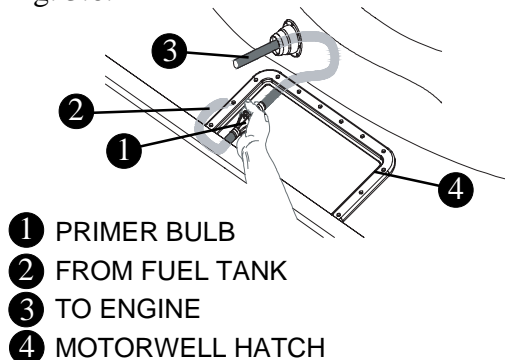
- Fuel tanks should never be filled to capacity. Allow 2% for expansion.
- Portable tanks should only be filled while on the ground, never on-board the boat.

Primer Bulb (Optimax Engine Option)

If equipped with the Optimax propulsion system, there are a pair of primer bulbs located under the port and starboard sides of the motorwell hatch can be utilized to draw fuel from the tank(s) to the engine(s), usually after the fuel has been drained from the entire system.

Primer Bulbs (Optional)

Fig. 3.6.1



NOTE: Primer bulbs deleted with Verado engines

REFER TO THE ENGINE MANUFACTURER'S MANUAL IN YOUR OWNER'S MANUAL PACKET FOR COMPLETE INSTRUCTIONS AND WARRANTY.

Starting/Stopping the Engines

CAUTION

NEVER start or operate your outboard (even momentarily) without water circulating through all the cooling water intake holes in the gearcase to prevent damage to the water pump (running dry) or overheating of the engine.

Prior to Starting

- Operator should know boating safety, safe navigation, and boat operating procedures.
- Make sure that the lower unit of the engine is in the water.

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- Make certain the gear shift/throttle control is in the neutral position. (The engine will not start if the control lever is in any other position than NEUTRAL)
- Be sure the kill switch (See figure 1.4.1) is in the “RUN” position.

Starting the Engines

The port and starboard master ignition key switches are located on the top of the main breaker panel (Figure 3.7.1) behind an access door on the aft wall of the forward console. The switches must be turned on to activate the system.

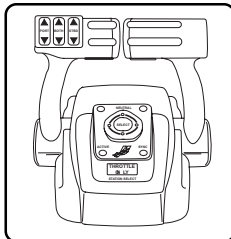
NOTE: The engines cannot be started from this location.

NOTICE

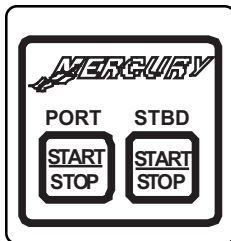
The gear shift/throttle control levers will not allow engine starting if the control levers are in any other position than NEUTRAL.

- Turn the master key switches on (clockwise).

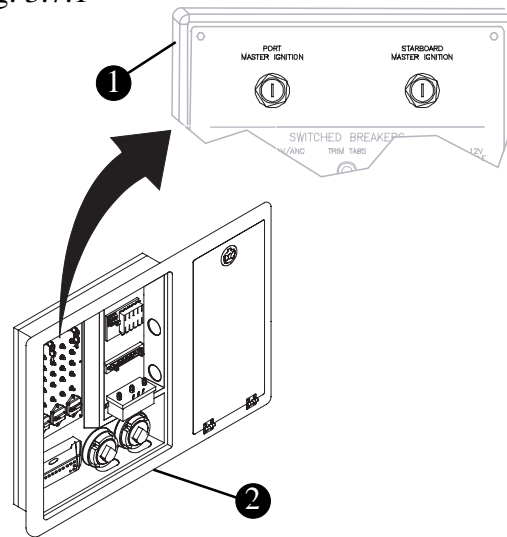
- Be sure gear shift and throttle control levers are in the NEUTRAL position.



- Press START/STOP button(s) (See figure 2.11.1) for the appropriate engine(s).

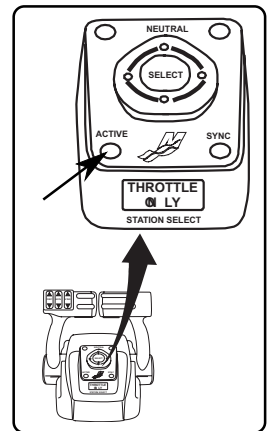


Master Key Switches
Fig. 3.7.1



- ① MASTER KEY SWITCH PANEL
- ② MDP CABINET

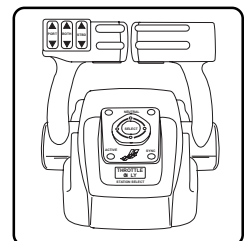
The “ACTIVE” light located on the console remote control will become illuminated once the engine(s) is started and communicating with the remote control.



Warming Up the Engines

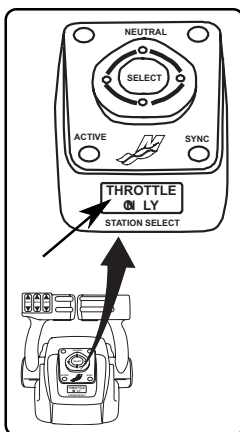
The “THROTTLE ONLY” button on the remote control allows the operator to increase engine RPM for warm-up without shifting the engines into gear.

- Be sure that the gear shift and throttle control levers are in the NEUTRAL position.



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- Press and hold the “THROTTLE ONLY” button while moving the control handle ahead to the forward position.
- Hold in the button until the horn sounds twice and the neutral lights start flashing. The flashing lights indicate that throttle only is engaged.

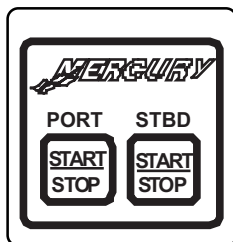
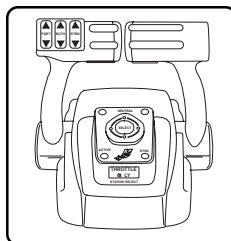


- Advance the control handles to increase engine RPM. Engine RPM is limited to prevent engine damage.
- To disengage, return the control handles back to the neutral position.

The warm-up mode can be re-activated by turning the engines off and re-starting.

Stopping the Engines

- Be sure that the gear shift and throttle controls are in the NEUTRAL position
- Press the start/stop button on the ignition pad for the appropriate engine.

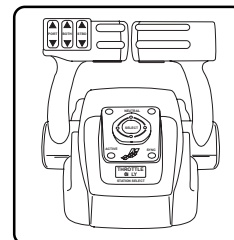


REFER TO THE ENGINE MANUAL IN YOUR OWNER'S MANUAL PACKET FOR COMPLETE INSTRUCTIONS.

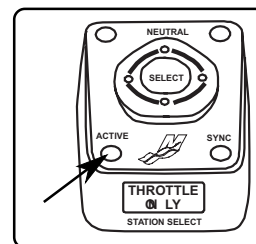
Optimax Engines (Optional)

Starting the Engines

- Turn the master key switches on (clockwise).
- Be sure gear shift and throttle control levers are in the NEUTRAL position.
- Press the TOP of the port or starboard “IGNITION” switch located on the control station switch panel (See figure 2.11.2).
- press the TOP of the momentary “START” switch for the engine you wish to start.

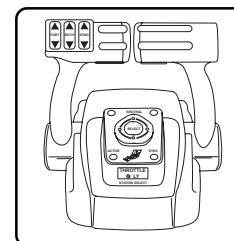


The “ACTIVE” light located on the console remote control will become illuminated once the engine(s) is started and communicating with the remote control.



Stopping the Engines

- Be sure gear shift and throttle control levers are in the NEUTRAL position.
- Press the BOTTOM of the port or starboard “IGNITION” switch located on the control station switch panel (See figure 2.11.2).



REFER TO THE ENGINE MANUAL IN YOUR OWNER'S MANUAL PACKET FOR COMPLETE INSTRUCTIONS.

Fresh Water System

NOTICE

- Be sure to fill the water tank from a source known to provide safe, pure drinking water.
- If you do not use the freshwater system for long periods of time or only use it seasonally it is recommended that you follow the disinfecting practice before using it.

The 320 Outrage Cuddy Cabin has a 40 Gal. (151L) fresh water tank located aft of the fuel tanks.

The freshwater system includes: pump, plumbing, holding tank and connections for water service to the head (forward console), the anchor locker and the transom shower.

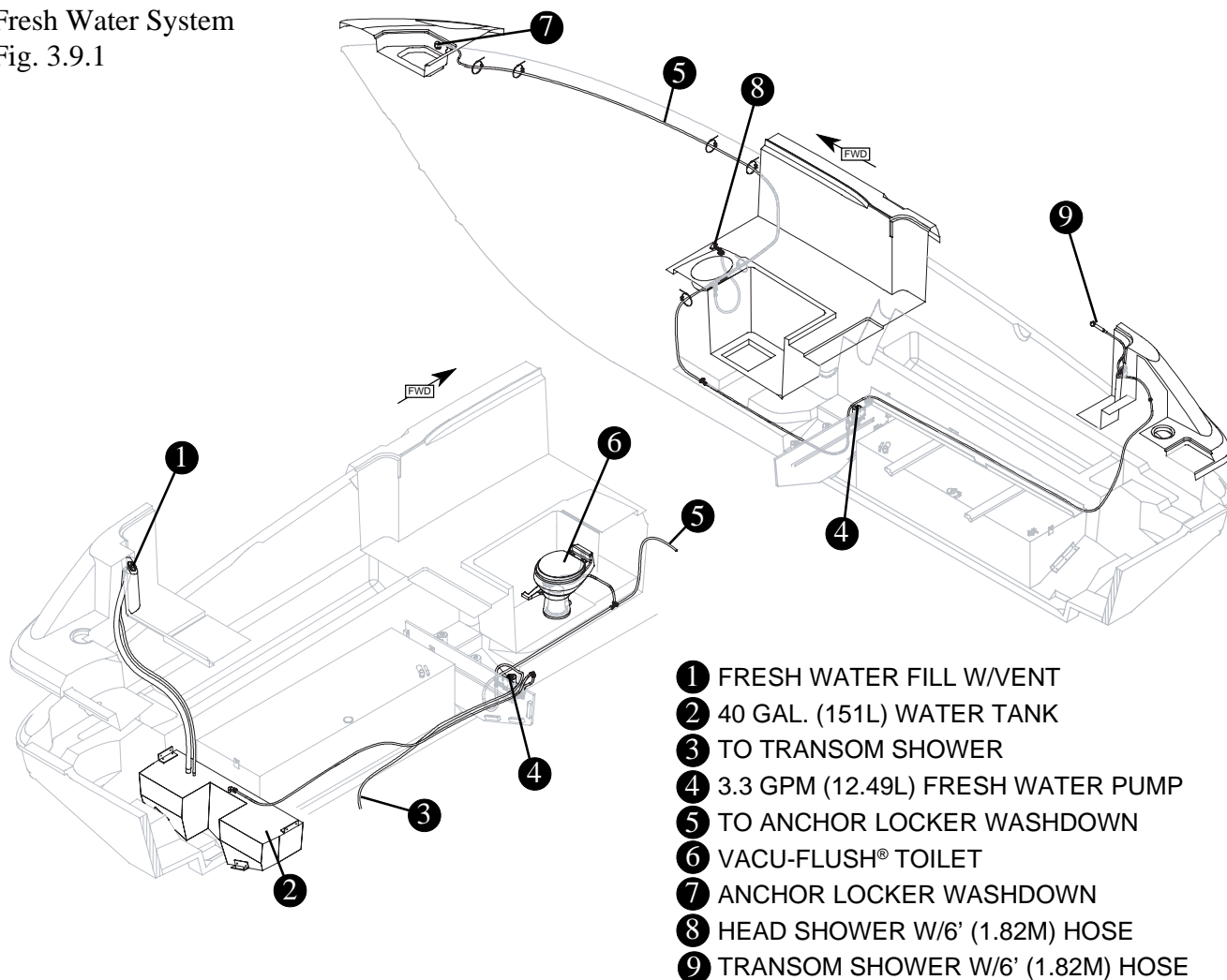
Filling the Tank

The water tank can be filled through the water fill inlet located on the port aft cockpit (See figure 2.10.1). Fill the tank only from a source known to provide safe, pure drinking water. Use only a plastic hose to fill the water tank. Using a rubber hose can give the water a disagreeable taste.

The hose should be dedicated to filling use only and should be stored in a clean, dry place. It is a good practice to cover the ends of the hose to ensure the inside stays clean.

Before you fill the freshwater system it is vital that it be properly disinfected. Ask your dealer if this has been done.

Fresh Water System
Fig. 3.9.1



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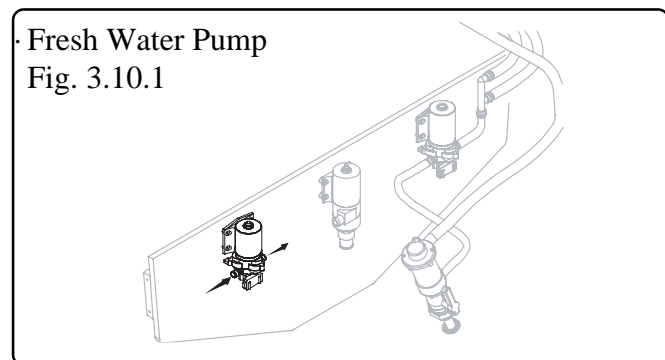
The following procedure is recommended to disinfect the freshwater system:

1. Flush the entire system thoroughly by allowing potable water to flow through it.
2. Drain the system completely.
3. Fill the entire system with an approved disinfecting solution (check with your dealer for recommendations) and follow the method prescribed by the manufacturer.
4. After disinfecting, drain the entire system.
5. Flush the entire system thoroughly several more times with potable water.
6. Now the system is ready for use, fill with potable water.

This should be done annually or before using the system if it has been laid up for an extended amount of time.

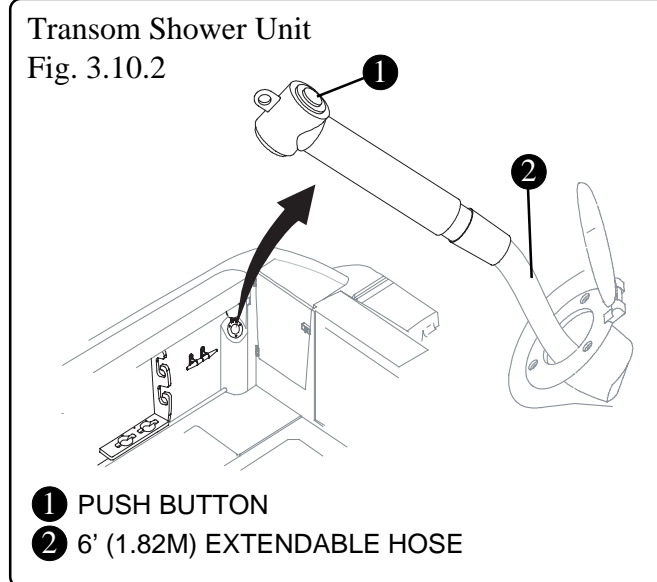
Freshwater Pump

The fresh water pump is located behind an access hatch on the lower aft wall of the head (forward console). To operate, depress the “FRESH WATER” switch located on the console switch panel (See page 2.11). When activated, the freshwater pump draws water from the water tank and provides pressure to the transom shower and forward console faucet as well as the anchor locker washdown connection.



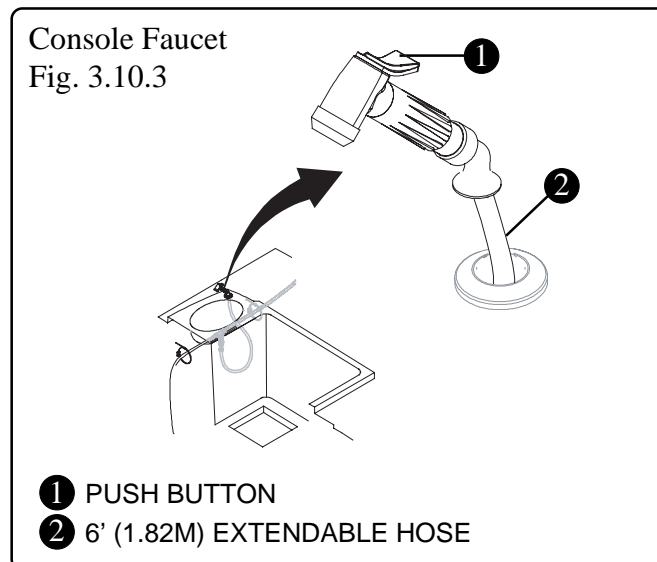
Transom Shower

The transom shower head is located in the starboard aft cockpit. The shower hose extends approximately 6' (1.82M). The shower unit is pressurized by the fresh water pump and the spray head is activated by depressing the button on the back of the unit.



Console Faucet

The console faucet in the forward console is fitted with a 6' (1.82M) hose and is activated by depressing the lever on the rear of the unit. The fresh water pump must be on to operate the unit.



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Maintenance

Very little maintenance is required for the freshwater system, other than annual disinfecting and winterizing. Periodically check the entire system to assure that the hose connections, tube fittings, electrical connections and mounting bolts are properly secured, and free of chafing.

Winterizing The System

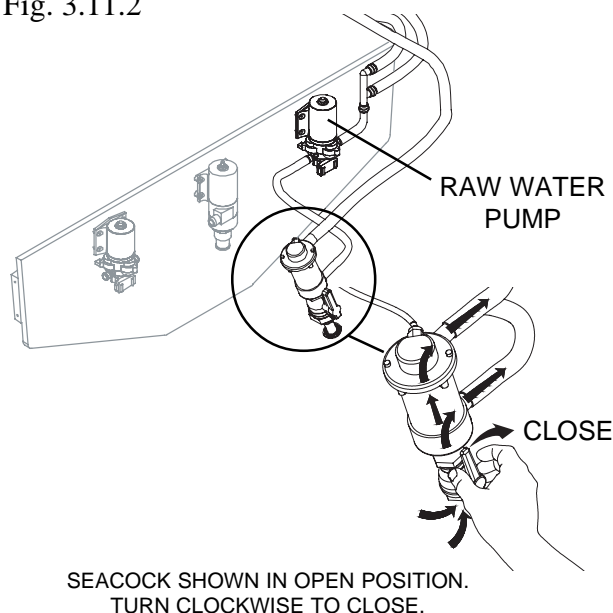
If the water system will not be used for an extended amount of time it is recommended that it be drained. Draining the freshwater system will require you to energize the freshwater pump switch on the instrument panel, press the button on the freshwater shower head and empty the freshwater tank. Next disconnect the hoses to and from the water pump to allow as much water as possible to drain out. De-energize the fresh water pump switch. Some service facilities may recommend filling the freshwater system with a non-toxic, non-freezing solution. This procedure should be completed by an authorized service center.

Raw Water System

The Raw water system includes a 3.5 GPM (13.25L) pump, seacock with auxiliary pump, livewell and a raw water hose connection.

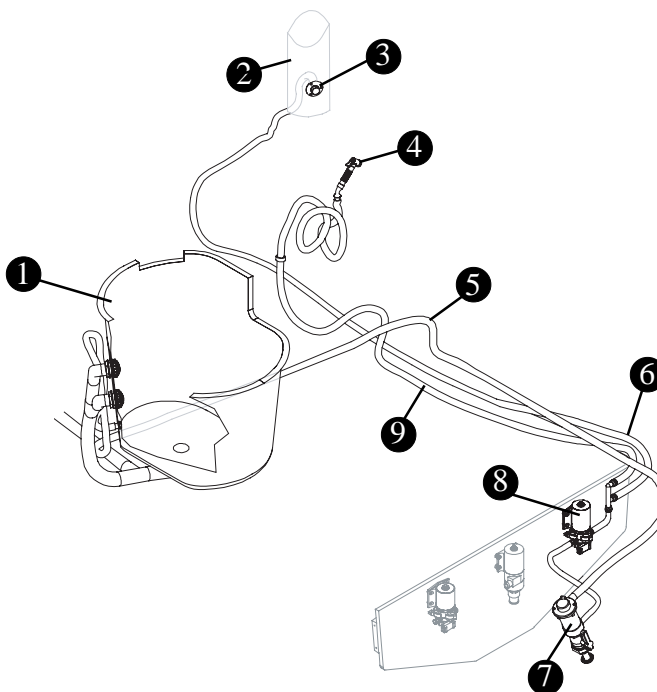
The seacock must be set in the OPEN position for the raw water system to function. The seacock and raw water pump can be accessed through the lower aft wall of the head (forward console).

Raw Water Seacock w/Auxiliary Pump
Fig. 3.11.2



Raw Water System
Fig. 3.11.1

- 1 45 GAL. (170.3L) LIVEWELL
- 2 PORT AFT COCKPIT
- 3 WASHDOWN HOSE CONNECTOR
- 4 PREP STATION SPRAY HEAD
- 5 TO LIVEWELL
- 6 TO RAW WATER WASHDOWN
- 7 SEACOCK W/PUMP
- 8 3.5 GPM (13.25L) RAW WATER PUMP
- 9 TO PREP STATION SPRAYER



Operation

Make sure that the hull seacock is set in the open position and turn ON The “RAW WATER” switch on the control station switch panel (See page 2.11) by pushing on the top of the switch. The raw water pump will be activated and the system will become functional.

NOTICE

The seacock **MUST** be in the **OPEN** position. Running the pump dry may cause damage to the unit.

Livewell

The livewell located in the prep station aft of the helm seat will keep baitfish alive by circulating fresh seawater through the tank.

Livewell Operation

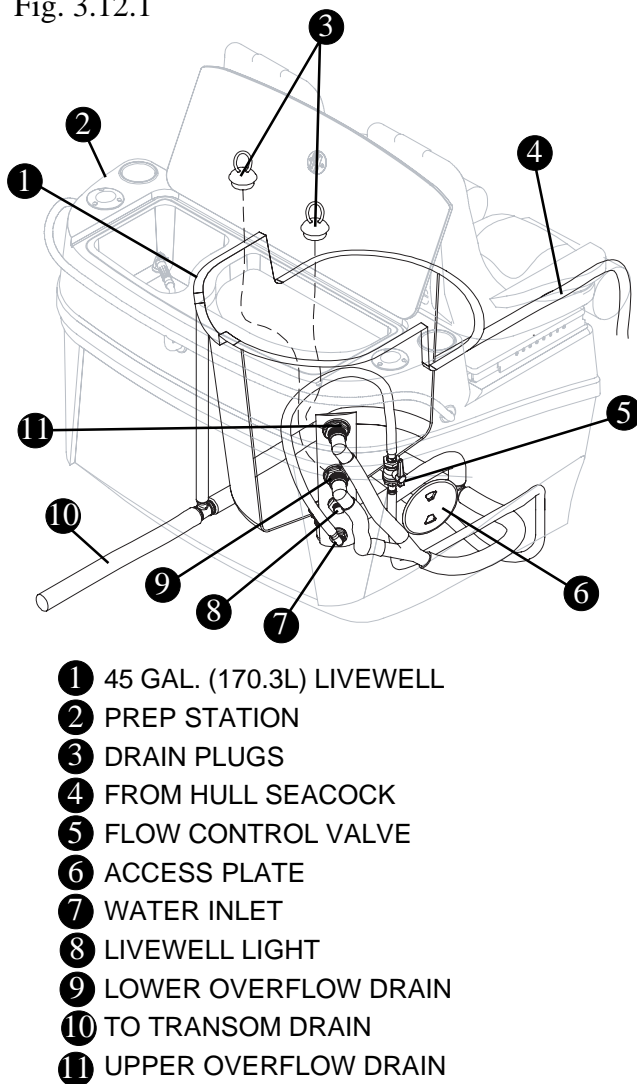
- Make sure that the hull seacock is in the open position (See figure 3.11.2).
- Open the livewell flow control valve located behind the twist-off access door on the starboard side of the prep station (Figure 3.12.1).
- Fill the livewell by pressing the switch marked “LIVEWELL” on the console switch panel (See page 2.11).

The livewell has three drains to regulate the amount of water in the unit. The bottom drain is used to empty the livewell of water completely. By utilizing the drain plug between the two overflow drains in the side of the livewell you can adjust the level of water in the unit. A drain tube with strainer connects to the livewell overflow drains and will direct overflow/excess water to the transom thru-hull drain.

Raw Water Washdown

The raw water washdown hose connection is located on the port aft of the cockpit (See figure 3.11.1). The fitting allows for connection of a common garden hose. It is important that the cap which is tethered to the connection be screwed onto the fitting when it is not being used. The raw water washdown is supplied

Livewell
Fig. 3.12.1



by a 3.5 GPM (13.25L) pump activated by the “RAW WATER” switch on the console switch panel (See page 2.11).

Maintenance

Maintenance of the raw water system requires periodic inspection of the raw water intake strainer and all fittings and hoses for system integrity to prevent leaks. Clean away debris and/or tighten hose connections as required. The system should be run at least every other month to keep the pumps impellers in good condition. The Livewell and raw-water washdown fitting is fed by the same pump. Access to the pump is through the lower aft access door in the head (forward console).

Head System

Environmental Considerations

*The Environmental Protection Agency (EPA) standards state that in freshwater lakes, reservoirs, impoundments whose inlets or outlets are such as to prevent the ingress or egress by vessel traffic subject to this regulation, or in rivers not capable of navigation by interstate traffic subject to this regulation, marine sanitation certified by the United States Coast Guard (U.S.C.G.) installed on vessels **shall be designed and operated to prevent the overboard discharge of sewage, treated or untreated or any other waste derived from sewage.***

The EPA standards further state that this shall not be construed to prohibit the carriage of Coast Guard certified flow through treatment devices which have been secured so as to prevent such discharges. They also state that the waters where a Coast Guard certified marine sanitation device permitting discharge is allowed include: Coastal waters, Estuaries, The Great Lakes and Intercoastal waterways, Freshwater lakes and Impoundments accessible through locks and other flowing waters that are navigable interstate by vessels subject to this regulation. (40CFR 140.3)

NOTICE

This boat is equipped with a direct overboard discharge valve. Discharging of sewage directly overboard is for use where approved only. Damage to the system could occur if the discharge seacock is not open during operation.

NOTICE

Severe state and federal penalties are levied for discharging raw sewage and solid waste in waters where it is not permitted.

Demonstrating that you have disabled the macerator by locking the system and/or removing the seacock handle may avoid a fine.

It is illegal for any vessel to dump plastic trash anywhere in the ocean or navigable waters of the United States.



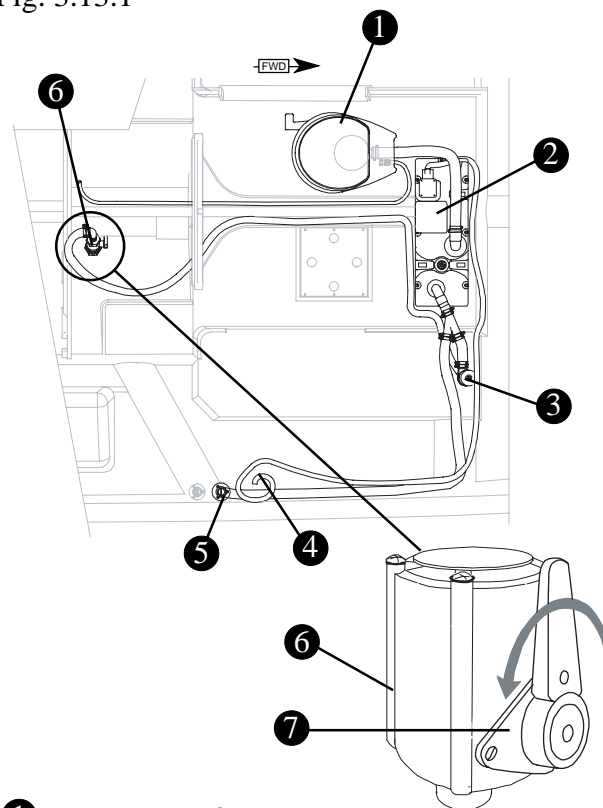
CAUTION

The discharge seacock should always be in the closed position when the toilet is not in use. Failure to do so could result in flooding, property damage and/or loss of life.

The 320 Outrage Cuddy Cabin is equipped with a waste disposal system (head) located in the forward console. The waste containment system includes a VacuFlush® toilet, a 6.5 Gal. (24.6L) holding tank with vacuum pump, macerator & lockable discharge seacock and a thru-hull vent.

To lock the discharge seacock; rotate the handle until the hole in the handle is aligned with the hole in the locking plate and insert a padlock (not supplied).

Head System with Lockable Discharge Seacock
Fig. 3.13.1

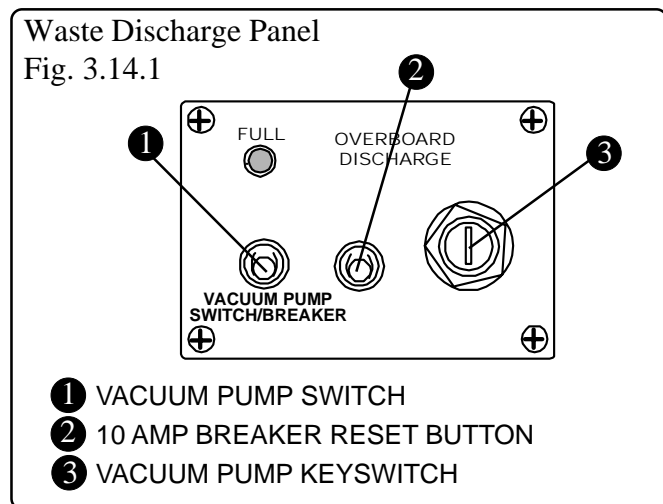


- 1 VACU-FLUSH® TOILET
- 2 WASTE HOLDING TANK W/VACUUM PUMP
- 3 MACERATOR
- 4 WASTE THROUGH HULL VENT
- 5 DOCKSIDE DISCHARGE DECK PLATE
- 6 LOCKABLE DISCHARGE SEACOCK
- 7 LOCKING PLATE

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Macerator/Overboard Discharge

The macerator discharge pump draws solid and liquid waste from the holding tank and processes it prior to discharging it overboard through the discharge seacock located behind the access door in the lower aft wall of the console.



Macerator Operation

The macerator control panel is located on the aft wall of the console. If the “FULL” light is on you must empty the holding tank before the system will function properly.

- Make sure the discharge seacock is in the open position.
- Insert the macerator key, which is included in your owners manual packet, into the panel.
- De-energize the vacuum pump by depressing the push button/switch. The button should be extended.
- Depress the lever on the toilet to deplete the vacuum.
- Turn the key clockwise and hold it there.
- When you are satisfied that the tank has been emptied, return the key to the upright position.
- Energize the system by depressing the push button/switch. The button will remain depressed.

- The system is now ready for normal operation.

Maintenance

After long periods of non-use, the macerator pump may not turn freely. Regular use of the system will reduce the chances of this occurring. If the system does require maintenance contact your nearest dealer.

Because your waste system is a low water use device, there is special paper which must be used to prevent clogs.

NOTICE

NEVER use residential tissue paper in your marine waste system.

Dockside Discharge

NOTICE

Dockside discharge is a preferred method of waste disposal.

The Dock-side discharge deck plate is located on the starboard gunwale, amidship, and is marked “WASTE” (See figure 2.7.1). Access is gained by use of a special key that is included in the owners manual packet.

The dockside facility will have a connection to fit your boat.

NOTE: Prior to using either method of discharging sewage:

- De-energize the vacuum pump by depressing the push button/switch.
- Depress the lever on the toilet to deplete the vacuum.
- After completion of the discharge, energize the vacuum pump by returning the switch or button to its normal position.

REFER TO THE MANUFACTURER'S MANUAL IN YOUR OWNER'S MANUAL PACKET FOR COMPLETE INSTRUCTIONS AND WARRANTY.

Trim tabs

NOTICE

Ensure continuous visibility of other boats, swimmers and obstacles during bow-up transition to planing. Adjust engine to an intermediate trim as soon as boat is on plane to avoid possible ejection due to boat spinout. Do not attempt to turn boat when the engine is trimmed extremely down/under/in.

The 320 Outrage Cuddy Cabin is equipped with electrically powered trim tabs.

The trim tabs are located on the lower section of your transom and are used to trim the list of your boat caused by uneven weight distribution, too many persons on one side of the boat, or strong cross winds.

An untrimmed boat will:

- Decrease operator visibility
- Reduce fuel economy
- Increase wear on your engine.

While accelerating there is some loss of forward visibility before the boat is on plane, the trim tabs can be used to adjust for forward visibility while underway.

Operation

The trim tabs are controlled by rocker switches located on the center part of your console above the throttle control. Short momentary bursts of the rockers will achieve proper attitude of the hull. The trim tab switch is marked “bow up” and “bow down”.

Using the trim tabs will:

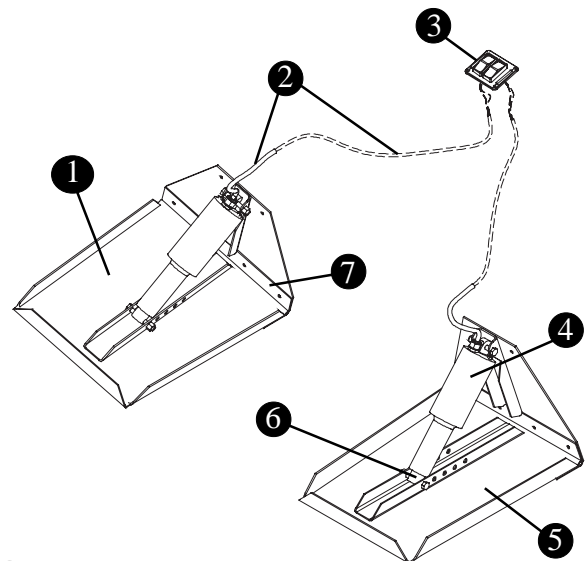
- Level the boat fore and aft.
- Reduce resistance in the steering system.
- Give you a smoother more stable ride.
- Speed will increase and there will be less strain on the engines.

Maintenance

The trim tabs are a completely sealed unit and are waterproof and maintenance free. Aside from a general cleaning when the boat is out of the water you should also inspect the planes and hinges for marine growth; remove as necessary.

Electrically Powered Trim Tabs

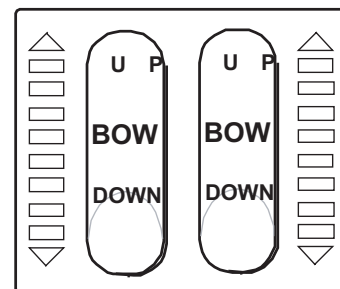
Fig. 3.15.1



- ① PORT TRIM TAB PLATE
- ② WIRING TO HELM MOUNTED SWITCH
- ③ TRIM TAB SWITCH W/INDICATOR
- ④ LOW VOLTAGE ELECTRIC MOTOR
- ⑤ STARBOARD TRIM TAB PLATE
- ⑥ STAINLESS STEEL RAM
- ⑦ STAINLESS STEEL HINGE

Trim Tab switch w/indicators (Optional)

Fig. 3.15.2



REFER TO THE MANUFACTURER'S MANUAL IN YOUR OWNER'S MANUAL PACKET FOR COMPLETE INSTRUCTIONS AND WARRANTY.

Shore Power

The 120V/30A shore power system provides dockside power to operate all of your boat's electrical system and charge your batteries.

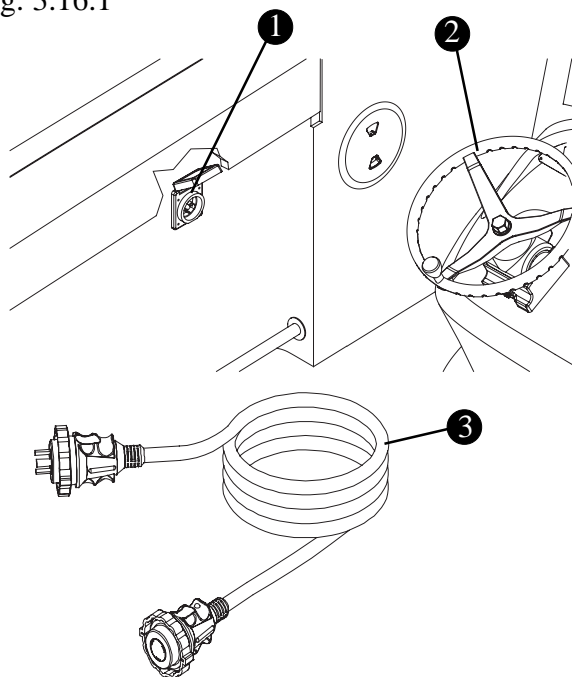
Use the supplied 50 ft. power cord to connect your boat to a dockside power source. The boatside receptacle is located under the port gunwale opposite the control station. The main breaker panel for the shore power system is located on the aft wall portside in the forward console.

CAUTION

To minimize shock hazard:

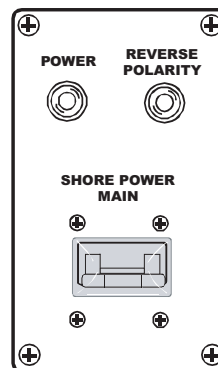
- Be certain that the shore power main switch is turned OFF before connecting the power cord cordset.
- Connect the cordset to the boat inlet first, then to the shore inlet.
- NEVER alter the cordset connectors.

Shore Power Receptacle
Fig. 3.16.1



- ① SHORE POWER RECEPTACLE
- ② HELM
- ③ 120V/30A SHORE POWER CORDSET

Shore Power Main Breaker panel
Fig. 3.16.2



Shore Power Hookup

Before making shore power connections make sure your boat is properly moored.

- Connect the female connector to the boat receptacle first.
- Next connect the male connector to the dockside panel.
- Check the breaker panel. DO NOT continue if the "REVERSE POLARITY" light is on. Remove cordset and report the situation to the dockmaster.
- If the reverse polarity light is not on, switch the "SHORE POWER MAIN" on.

In addition to supplying alternative power to your boat, shore power hookup gives you the ability to charge your batteries without running the engines. The system is automatic and little or no maintenance is required. The battery charger can be accessed through the hatch in the lower aft of the forward console.

REFER TO THE MANUFACTURER'S MANUAL IN YOUR OWNER'S MANUAL PACKET FOR COMPLETE INSTRUCTIONS AND WARRANTY.

Active Deck Suspension System (ADSS) (Optional)

The Active Deck Suspension System (ADSS) is a revolutionary, patented shock absorption system designed to drastically reduce the amount of impact loading felt by the passengers on the boat. It is a pneumatic system whereby the weight on the suspension deck is supported at the front by air cylinders and at the rear by a hinge, when the system is fully operational.

The system consists of three main components:

- 1) The main suspension chassis located directly beneath the helmsman.
- 2) The air compressor, main air tank, expansion air tank, in-line oil supply and water separator located portside in the forward console.
- 3) The ADSS instrument panel located on the dash.

The ADSS is powered by the main batteries and protected by two thirty (30) amp breakers located on the main breaker panel, labeled “ADSS”.

Operation

To power the system, press the top of the power switch, the light on the switch will illuminate, indicating the system is powered. The air compressor will run until the pressure in the air tank is at normal operating pressure. The

WARNING

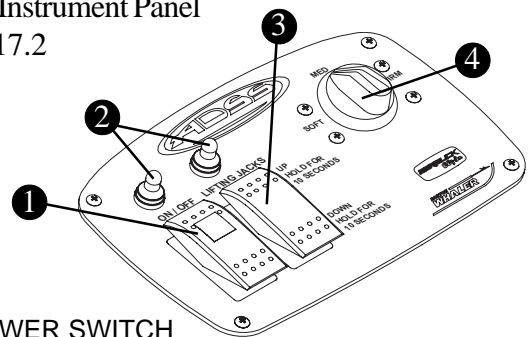
The system only lessens the impact loading to those passengers who are **STANDING ON THE SUSPENSION DECK**. Passengers outside the suspension deck will be subjected to normal impact loads.

WARNING

DO NOT allow the system to give you a false sense of security. It reduces the vertical impact forces; it does nothing for reducing the forces of **ROLL** and **YAW** of the vessel. Please operate the boat responsibly in all sea conditions and never exceed the capacity of the vessel or the abilities of the operator.

ADSS Instrument Panel

Fig. 3.17.2

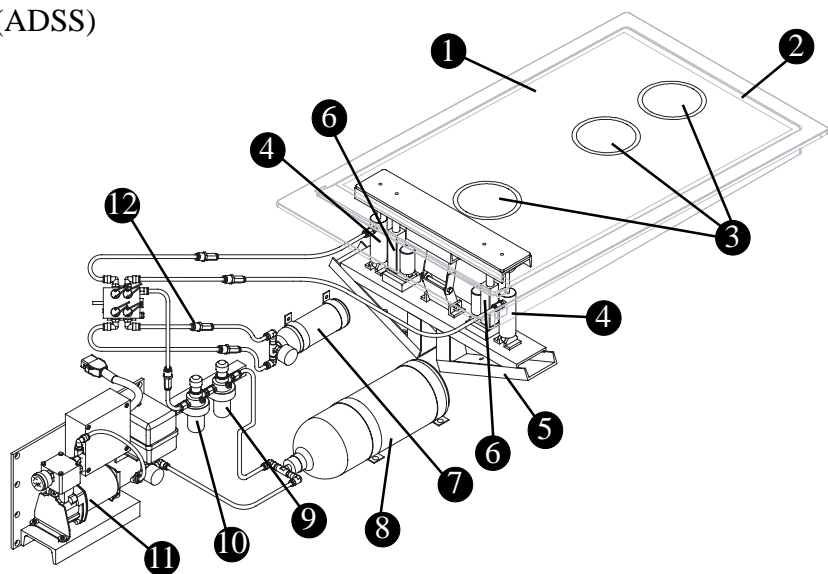


- 1 POWER SWITCH
- 2 LIFTING JACKS SWITCH
- 3 BREAKER RESETS
- 4 RIDE ADJUSTMENT KNOB

Active Deck Suspension System (ADSS)

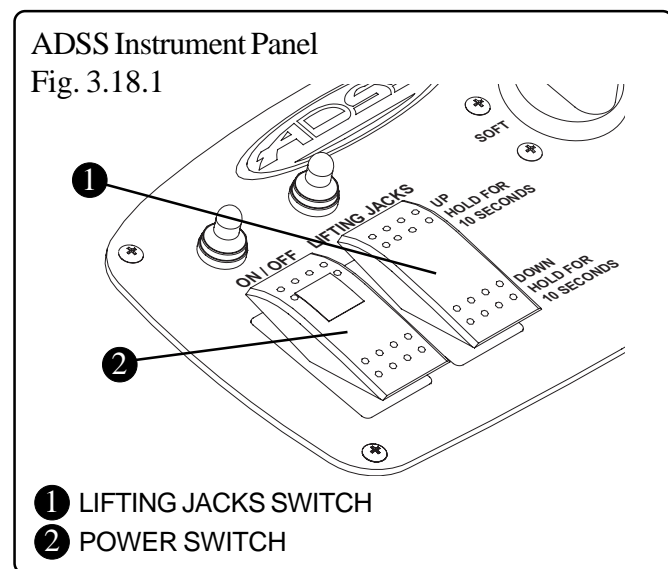
Fig. 3.17.1

- 1 SUSPENSION DECK
- 2 HINGE
- 3 DECK ACCESS PLATES
- 4 MAIN AIR CYLINDER (2)
- 5 MAIN SUSPENSION CHASSIS
- 6 LIFTING JACK
- 7 EXPANSION AIR TANKS
- 8 MAIN AIR TANK
- 9 IN-LINE OIL SUPPLY
- 10 WATER SEPARATOR
- 11 12V DC AIR COMPRESSOR
- 12 IN-LINE FILTER (5 PLACES)



suspension deck is supported by the lifting jacks when the system is not in use. After turning the system on it will be necessary to lower the jacks in order to activate the suspension deck. To lower the jacks hold the bottom half of the “LIFTING JACKS” switch for 10 seconds. After the air cylinders adjust to the amount of weight that is on the deck (usually 2-3 seconds) the suspension deck will be supported on a cushion of air. The ride adjustment knob has progressive settings through 3 modes, “Soft”, “Medium” and “Firm”. A “Soft” setting will allow the Active Deck Suspension System to absorb more impact, while the “Firm” setting will not deflect as much. The deck can be adjusted to your comfort, depending on sea conditions.

When leaving the boat for an extended period of time it is good practice to raise the lifting jacks to support the deck. To raise the jacks, hold the upper half of the “LIFTING JACKS” switch for 10 seconds. Once the jacks are raised the system can be powered down by pressing the bottom of the power switch.



It is important to note that the air cylinders are equipped with pressure switches that automatically adjust for the amount of weight that is on the suspension deck. When more people get on the deck, the deck will lower momentarily until the system has had a chance to adjust for the extra weight. This adjustment normally takes no longer than 2-3 seconds. In some instances, like in the case of trolling, it may be more desirable to have a traditional fixed deck. In this circumstance, the system can be locked out by raising the lifting jacks by holding the upper half of the “LIFTING JACKS” switch for 10 seconds. This will prevent the system from constantly trying to adjust for people moving back and forth across the cockpit.

Emergency Operation

If there is a pneumatic failure during normal operation (i.e. if there is an air leak or if the compressor stops working), the suspension deck will fall to the bottom of its stroke and not return. If this should occur, raise the lifting jacks so the deck returns to normal operating height and then power down the system. The suspension deck will remain fixed in its upright location until the unit can be serviced.

Maintenance

Conduct maintenance every 100 hours of run time:

- Ensure oil reservoir is full.
- Drain the water filter.
- Check that all in-line filters are clear of contamination.

It is also best to periodically check the oil reservoir. If the oil level in the reservoir gets low, add air tool oil to get the level back up to the fill line.

Anchor Windlass

⚠ DANGER

Use the windlass switch on the helm whenever possible. Use care when operating the anchor windlass with the hand-held remote.

The anchor windlass is located in the bow locker. The windlass gives you a mechanical means of raising and lowering the anchor.

The anchor windlass is controlled by a switch located on the helm, next to the gear shift/throttle control (See figure 2.8.1). The switch is a momentary type switch which means that there must be constant pressure applied to the switch to operate the anchor windlass.

Power is controlled by a push/pull button located to the left of the operation switch. A power indicator light illuminates when the switch is powered.

A hand-held remote located in the anchor locker can be used for raising and lowering the anchor at the bow. When not in use, the remote can be stored in a box located on the starboard side of the anchor locker. The power source for the remote is located on the aft bulkhead of the anchor locker.

There is also a handle that can be used to raise and lower the anchor manually in case the power to the anchor windlass is lost.

A safety lanyard secures the anchor when stowed and the boat is underway.

Operation

LOWERING- Pushing the top part of the switch down will power the anchor windlass DOWN. Make certain that the safety lanyard is detached from the chain and is clear of any moving parts of the anchor windlass.

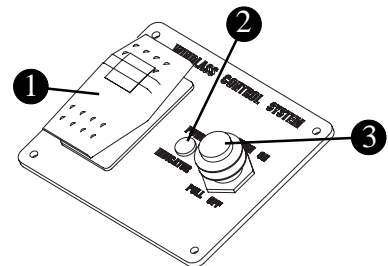
RAISING- Pushing the lower part of the switch will power the anchor windlass UP. Once the anchor and rode is secure in the UP position, the safety lanyard can be re-attached to the rode.

EMERGENCY OPERATION- The emergency handle can be used in case the power to the anchor windlass is lost. The top of the anchor windlass has a socket receiver that mates up with the handle socket.

MANUAL LOWERING- Turning the handle clockwise will loosen the anchor windlass drum and allow the line to pay out. Tension can be adjusted to allow you control of how fast the line falls

Windlass Switch Panel

Fig. 3.19.2

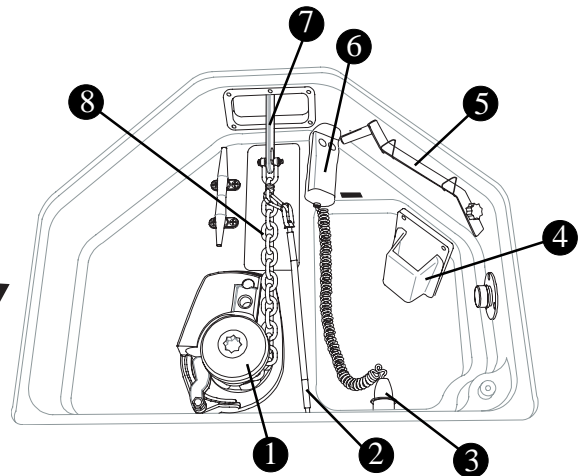
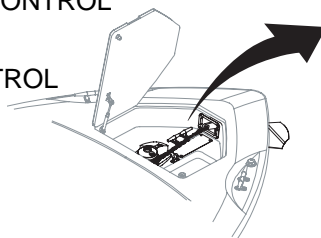


- ① WINDLASS CONTROL SWITCH
- ② POWER INDICATOR LIGHT
- ③ PUSH/PULL POWER BUTTON

Windlass

Fig. 3.19.1

- ① WINDLASS
- ② SAFETY LANYARD
- ③ POWER CONNECTOR FOR REMOTE CONTROL
- ④ STORAGE FOR REMOTE CONTROL
- ⑤ EMERGENCY HANDLE
- ⑥ WINDLASS REMOTE CONTROL
- ⑦ ANCHOR
- ⑧ RODE



Section 3 • Systems & Components Overview & Operation

Anchoring

The 320 Outrage Cuddy Cabin is equipped with an anchor storage compartment located in the bow of the boat. Because there are a variety of anchors, with a variety of uses, **discuss the types of anchors with your dealer to find the right anchor for your boat.**

WARNING

SWAMPING HAZARD - Anchor from the bow if using one anchor. A small current can make a stern anchored boat unsteady. A heavy current can drag a stern anchored boat underwater.

Considerations

- Wind and sea conditions can affect the boat.
- Because the boat is not moving through the water, there is no control.
- Be sure that the anchor will hold under all circumstances if you are leaving the boat.
- Understand the principles of rode and scope and their effect on anchor performance.

Proper anchoring requires knowledge of RODE and SCOPE and understanding the relationship between rode, scope and anchor performance.

The rode is the line connecting the anchor to the boat. Nylon line is ideal because it is light, strong

and stretches, it also can be stored wet and is easy to handle. Add a length of chain between the anchor and the nylon line to prevent abrasion of the line.

The scope is technically defined as the ratio of rode length to the vertical distance from the bow to the sea floor. Scope also depends on the type of anchor, tides, winds, sea conditions and type of sea floor the anchor is in. Since you want to know how much rode to use when anchoring, use this common formula:

Rode length = (bow height + water depth) X Scope

The minimum is 5:1 for calm conditions; normal is 7:1, and severe conditions may require a 10:1.

Example:

$$\text{Rode length} = (3 \text{ feet} + 10 \text{ feet}) \times 7^*$$

$$\text{Rode length} = 13 \text{ feet} \times 7^*$$

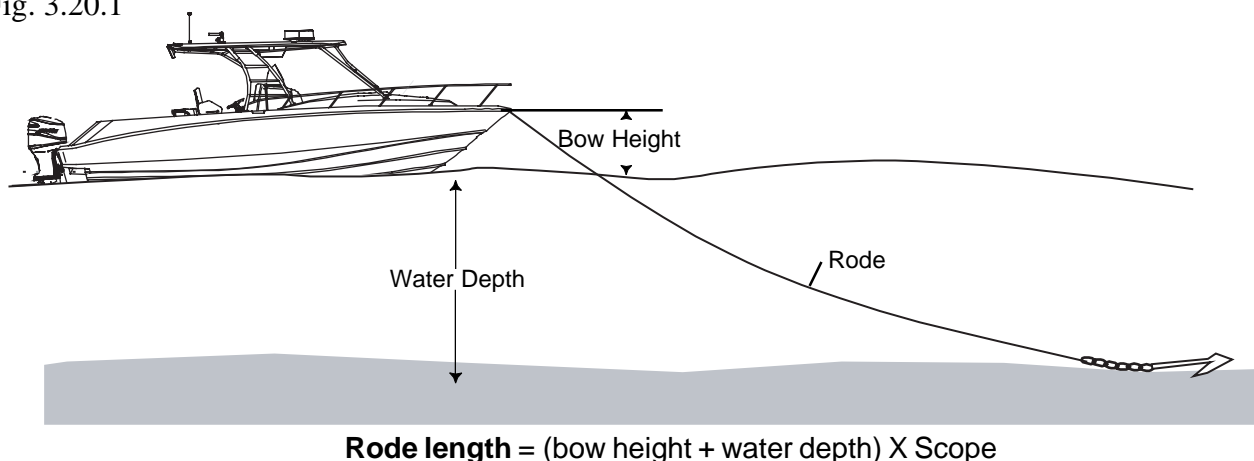
$$\text{Rode length} = 91 \text{ feet}$$

* Scope may range from 5 to 10 or more. However, less than 5, the anchor will break out too easily.

NOTICE

Before using the anchor be sure the anchor line is secured to the eye in the bottom of the anchor locker.

Proper Anchoring
Fig. 3.20.1



Lowering The Anchor

- Be sure there is adequate rode.
- Secure rode to both the anchor and the boat.
- Stop the boat completely before lowering the anchor.
- Keep feet clear of lines.
- Turn on the anchor light when at anchor or drifting (not under power) at night or in low visibility.

NOTE: If using the windlass, refer to the windlass operator's manual for anchoring instructions

Setting the Anchor

There is no best way to set an anchor. Experiment to see how it performs. One method is to turn the rode around a bitt or a cleat and slowly pay out as the boat backs from the anchor site. When the proper scope has been reached snub the rode quickly, causing the anchor to dig in to the sea bottom.

- Reverse the engine slowly to drive the anchor in and to prevent it from dragging.
- Secure the rode to the bitt or cleat.

Weighing the Anchor

To weigh (or retrieve) the anchor, start the boat and run slowly up to the anchor, taking up the rode as you go. The anchor will usually break out when the rode becomes vertical. Coil lines to let them dry before stowing.



CAUTION

Be careful that the trailing lines do not foul in the propeller

Propeller

NOTICE

- It is advised that you always carry a spare propeller, propeller hardware and propeller wrench on board. Should your propeller become damaged it can then be easily replaced.
- Under no circumstance should you use a propeller which allows the engine to operate at a higher than recommended RPM.

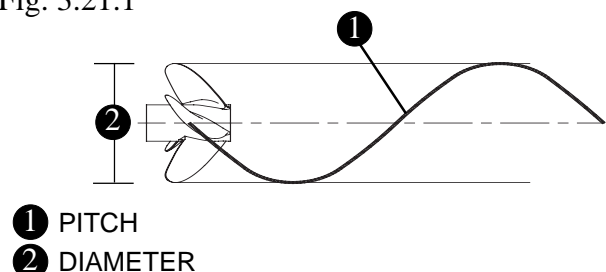
The engine on your 320 Outrage Cuddy Cabin has been equipped with a propeller which our tests have shown to be best suited for general use under normal conditions and load. In some situations you may wish to change the propeller to give your boat slightly different performance characteristics.

In general, changing to a lower pitch propeller will increase acceleration and load pulling capability, with a slight decrease in top end speed. If you choose to change propellers, the type should be discussed with your Boston Whaler® dealer. All propellers are designed to provide maximum forward thrust, consequently, the reverse thrust of the propeller will not be as efficient.

Propellers have two basic characteristics, diameter and pitch.

Diameter is that distance measured across the propeller hub from the outer edge of the 360° that is made by the propeller's blade during a single rotation. Pitch is that distance in inches that a propeller will travel if rotated one revolution without any slippage.

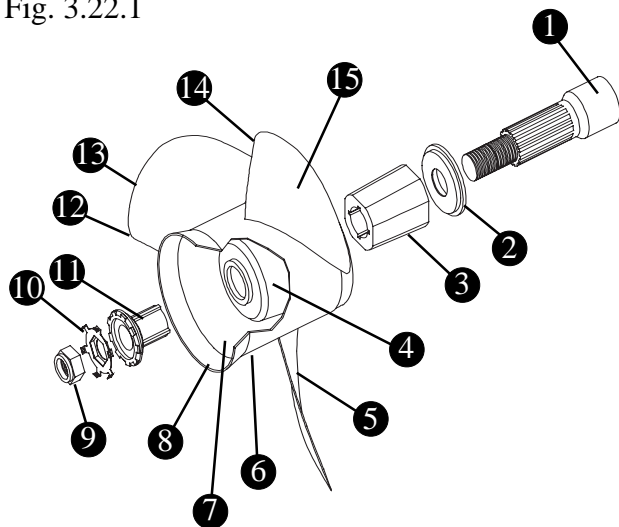
Propeller Pitch & Diameter
Fig. 3.21.1



⚠ DANGER

Disconnect power by moving the battery switch to the "OFF" position prior to removing the propeller.

Propeller Assembly
Fig. 3.22.1



- ① ENGINE SHAFT
- ② FORWARD THRUST WASHER
- ③ DRIVE SLEEVE
- ④ INNER HUB
- ⑤ BLADE BACK
- ⑥ OUTER HUB
- ⑦ EXHAUST PASSAGE
- ⑧ DIFFUSER RING
- ⑨ PROP NUT
- ⑩ LOCK RING
- ⑪ DRIVE SLEEVE ADAPTER
- ⑫ BLADE TIP
- ⑬ LEADING EDGE
- ⑭ TRAILING EDGE
- ⑮ BLADE FACE

Bow Tow Eye (Optional)

⚠ WARNING

PERSONAL INJURY HAZARD

Towing or being towed stresses the boat(s), hardware and lines. Failure of any part can seriously injure people or damage the boat(s).

DO NOT stand directly in line with the tow line. If it were to break, it would "snap Back" causing injury or damage to everything in its path.

The optional bow tow eye which is located on the hull, extreme front of the boat, is reinforced with a stainless steel backing plate located in the anchor locker.

In the event that it becomes necessary for you to have your boat towed, the U.S. Coast Guard or a private salvage company experienced in this type of operation are better equipped to perform the service.

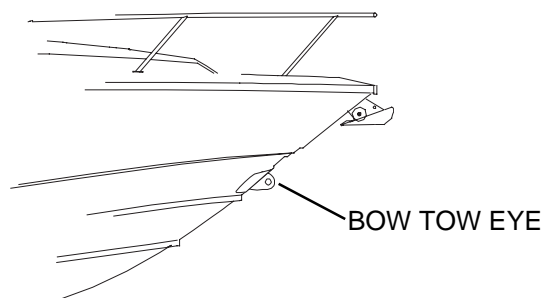
Use another recreational boat only as a last resort. Doing so may cause damage to one or both boats due to operator inexperience or other conditions such as weather and/or current.

In addition, the pitch of most propellers on average recreational vessels is geared toward maximizing the speed of the vessel, not torque, thus making towing inefficient and stressful on the engine.

Another recreational boat may assist by standing by, and possibly keeping the disabled boat's bow at a proper angle until help arrives.

Bow Tow Eye (Optional)

Fig. 3.22.2



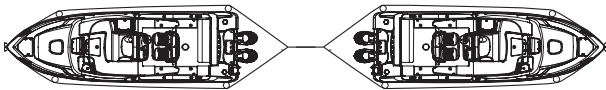
If it becomes necessary to tow your boat:

If possible, create a bridle with a line around the hull or superstructure or use spring lines to secure the towed vessel to the towing vessel (See below).

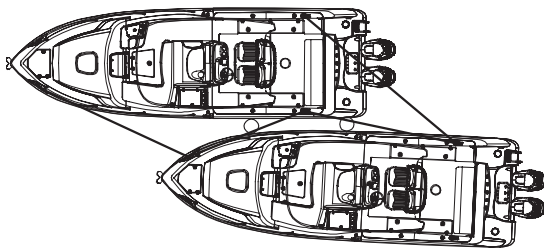
Either of these methods will distribute the load over a wide area. Be sure to use fenders or other chafe protection at the pressure points.

Methods of Towing
Fig. 3.23.1

BRIDLE



SPRINGS



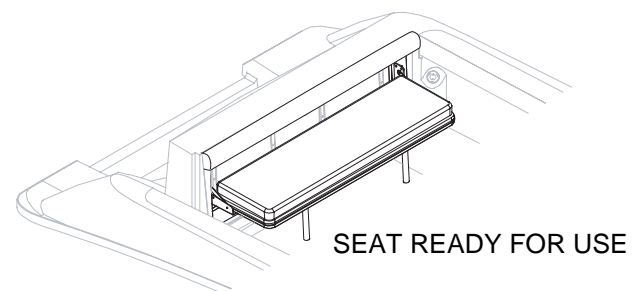
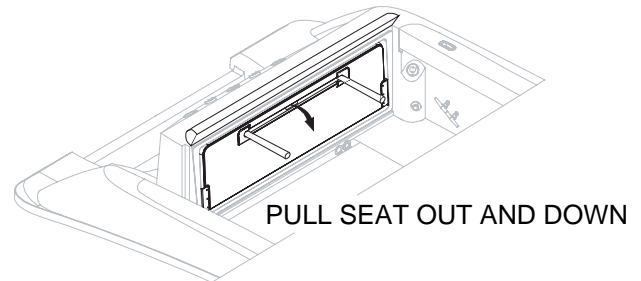
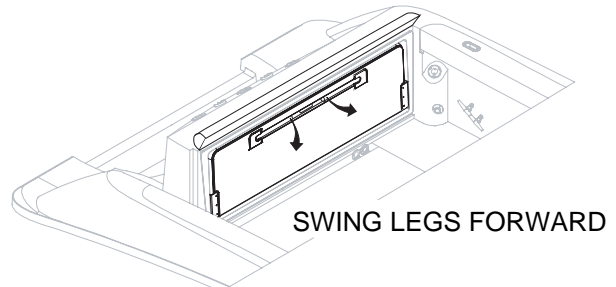
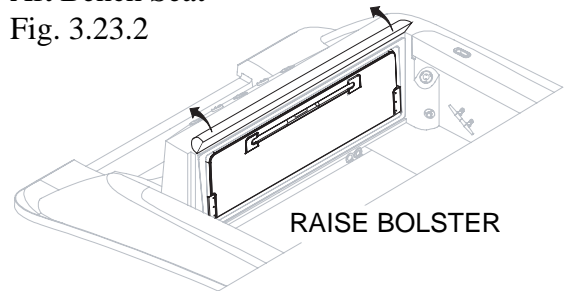
If using the bow eye to tow is the only option:

- Use double-braided or braid-on-braid line. **NEVER** use three-stranded twisted nylon; it has too much elasticity, can break and “snap back” causing severe injury or damage.
- Attach the tow line to the bow tow eye only. **DO NOT** attach the tow line to a cleat or deck rail.
- Have towing vessel move slowly to prevent strain on a slack line.
- Keep someone at the helm of the towed vessel to steer.
- Keep lines clear of propellers on both boats.
- Keep hands and feet clear of the other boat.
- **NEVER** hold a towline after it is pulled taut.

Foldaway Aft Bench

When the aft bench is not in use it is folded flush into the transom. To use the seat; raise the bolster, pull the legs out toward you and then pull the seat out and down.

Aft Bench Seat
Fig. 3.23.2



Electrical System

The 320 Outrage Cuddy Cabin is equipped with an electrical system powered by three marine, deep-cycle, lead-acid batteries. The batteries are charged by the engines when the engines are running or can be charged by shore power when the engines are turn off. A battery charger located in the lower aft area of the forward console facilitates the charging of the batteries when using shore power. See Section 3, page 3-16 for shore power operation.

The electrical system has dual battery selector switches which control the delivery of power to the following:

- Engine Ignition.
- Engine tilt trim system
- Helm switch panel & helm instrument panel
- Lighting/Navigation systems
- Livewell system
- Add-on accessories and electronics

Batteries

⚠ DANGER

Batteries contain sulfuric acid which is dangerous and can cause serious injury. AVOID contact with skin, eyes and clothing. If contact occurs, immediately flush the affected area with large quantities of water and call for medical assistance.

NOTICE

Always store the batteries in the covered battery boxes. Use the straps and clamps to keep the box secure while underway.

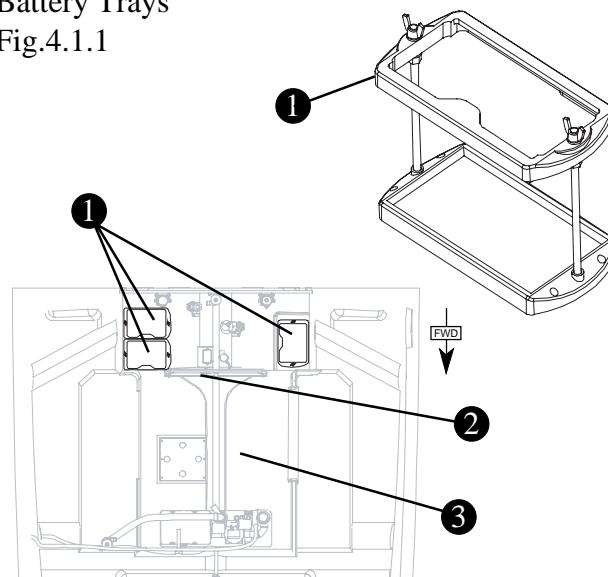
Battery Trays

The battery trays, located in the lower aft area of the forward console house and secure the port and starboard batteries. Your batteries should always be enclosed in the battery trays provided with your boat and secured in place by the retaining lids. The trays will ensure that while underway the batteries will

not move around, thus causing damage to components fitted in the same area. The batteries can be removed by loosening the wing nuts and removing the retaining lid on the battery tray.

Battery Trays

Fig.4.1.1



- ① BATTERY TRAY (3)
- ② EQUIPMENT ACCESS DOOR
- ③ FORWARD CONSOLE

Before use, check each battery and the charging system for loose connections or wiring. Normal maintenance should include:

- Coat the terminals with dielectric grease
- Keep the batteries dry
- If not using a sealed battery, check & maintain the water level. **USE DISTILLED WATER ONLY.**
- Remove the batteries from the boat during cold weather or long term storage.

The most life shortening experience for the battery is to be drained to zero charge before recharging.

When a battery discharges, the active material on both positive and negative plates converts to lead sulfate, causing the plates to become more alike in an electrical charge. The electricity conducting battery acid becomes weaker and the voltage drops.

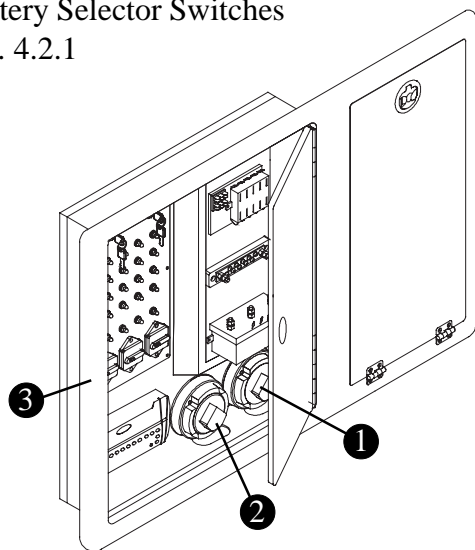
As the battery remains discharged, the process continues until recharging the battery becomes impossible.

If the battery does become run down be sure to recharge it as soon as possible. Over charging the battery can be just as detrimental to its life as running it down too far.

Battery Selector Switches

Your boat uses dual battery selector switches (one for each engine) to control delivery of DC power from the three batteries. The battery switches are located on the aft wall of the forward console in the Main Distribution Panel (MDP) cabinet.

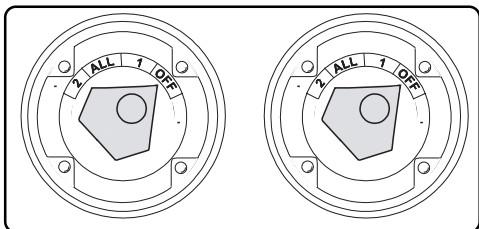
Battery Selector Switches
Fig. 4.2.1



- ① STARBOARD BATTERY SELECTOR SWITCH
- ② PORT BATTERY SELECTOR SWITCH
- ③ BREAKER PANEL CABINET

The battery switches have four (4) settings:

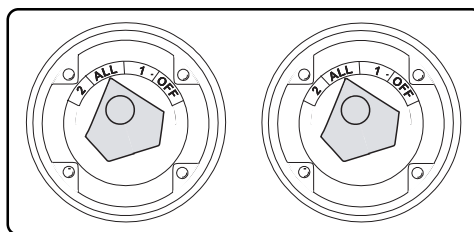
- “OFF”-you will have no power to the engines.



! CAUTION

- You must stop the engine(s) before moving the battery switch(es) to the “OFF” position.

- “ALL” - you will have power from both port and starboard batteries at the same time. This parallels the batteries to assist you in starting the engine, once the engine is started the battery switches **MUST** be switched from the “ALL” setting, and set to charge either port or starboard battery.



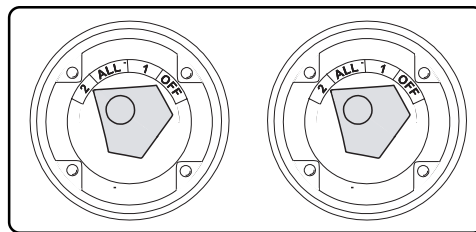
! WARNING

Do not operate boat with batteries in “ALL” once the engine is started or serious engine electrical damage may result.

! WARNING

- Use the “ALL” position only if both batteries are near the same voltage. If one battery is strong and the other weak, high current could cause battery damage.

- Port battery on “1”, starboard battery on “2” - preferred position for normal operation.



When the engine is shut down or not providing a charge, the system will draw power from the

starboard batteries. This will allow you to run all the boats functions without affecting the port battery. In the event the starboard battery discharges completely, you will still be able to start the engines by turning the battery switch to the “ALL” position thus accessing the port battery for engine ignition.

NOTICE

The Bilge pumps and stereo memory still draw power from the batteries, even if the switches are set to “OFF”.



CAUTION

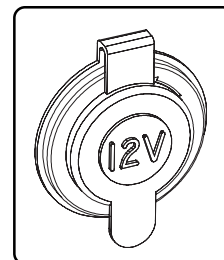
- **Never use an open flame in the battery storage area.**
- **Avoid striking sparks near the battery.**
- **A battery will explode if a flame or spark ignites the free hydrogen given off during charging.**
- **The battery should always be disconnected before doing any work or maintenance on the electrical system.**
- **Never reset a breaker without first determining and correcting the cause of the trip. Should a circuit repeatedly trip, have a qualified electrician determine and correct the cause.**
- **If equipped with a battery switch, you will need to stop the engine before moving the switch to the “OFF” position.**

12 Volt Accessory Receptacles

NOTICE

DO NOT insert a cigarette lighter into the 12V receptacles. Damage to the unit and system may occur.

The 320 Outrage Cuddy Cabin is equipped with four (4) 12 volt receptacles. There is a 12 volt receptacle located in the port side pocket of the V-berth, another is located in the side pocket of the port forward seating area, another receptacle can be found on the control console and the fourth receptacle is located in the console between the helm seats.



These receptacles are made of corrosion resistant marine grade materials and have a moisture proof cap. There are two (2) 10 amp breaker buttons located on the breaker box inside the forward console (See figure 4.5.1) which protect the receptacles.

Be sure to use accessories that do not exceed the rated capacity of the circuit, (10 amps). Doing so will cause the breaker to trip.

Fuse Blocks

! WARNING

Use of higher amperage fuses or breakers is a fire hazard.

Use fuses and breakers having the same amperage rating as the original or as specified.

There are fuse blocks located in the Main Distribution Panel and in the electronics box in the hardtop.

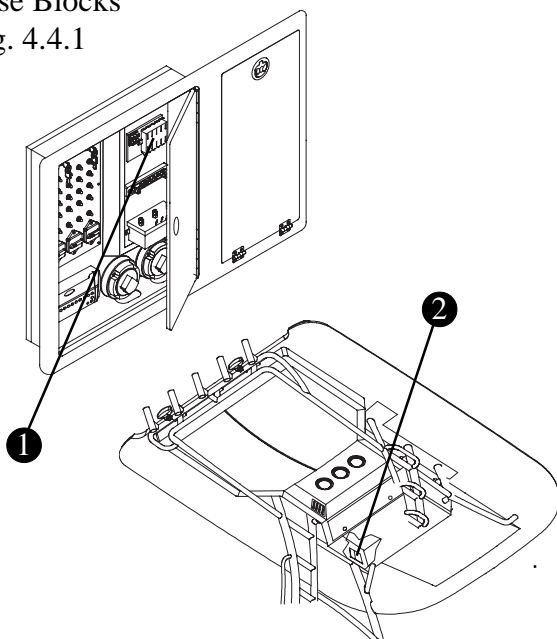
In the event you need to replace a fuse, use only the same amperage as the original. It is recommended that you carry spare fuses.

If a fuse is replaced with one of lower amperage, it will not be sufficient to carry the electrical load of the equipment it is connected to and will cause nuisance fuse failure or breaker tripping.

If a fuse is replaced with one of higher amperage, it will not provide adequate protection against an electrical malfunction and will create a fire hazard.

Fuse Blocks

Fig. 4.4.1



- 1 ELECTRONICS FUSE BLOCK
- 2 HARDTOP ELECTRONICS BOX FUSE BLOCK

Main Distribution Panel (MDP)

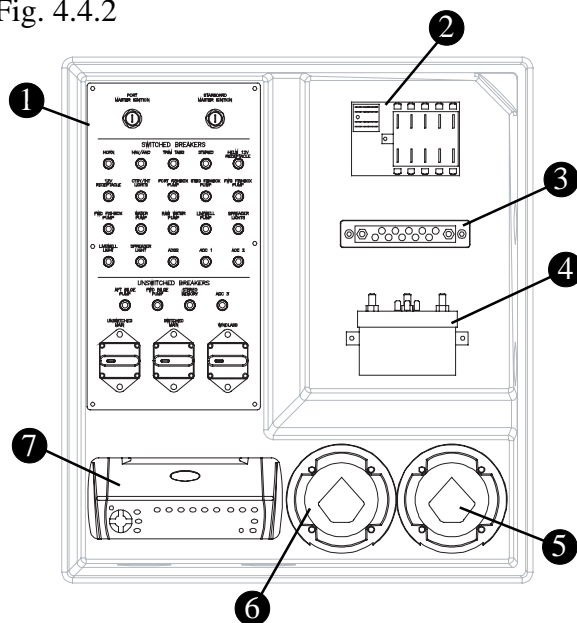
The Main DC breaker panel is in a cabinet on the aft wall of the forward console. In the event of a loss of power, determine and correct the problem before resetting the breaker at this panel. Should a circuit breaker trip repeatedly, have a qualified electrician correct the cause of the trip.

! CAUTION

Never reset a breaker without first determining and correcting the cause of the trip. Should a circuit repeatedly trip, have a qualified electrician determine and correct the cause.

MDP Cabinet

Fig. 4.4.2

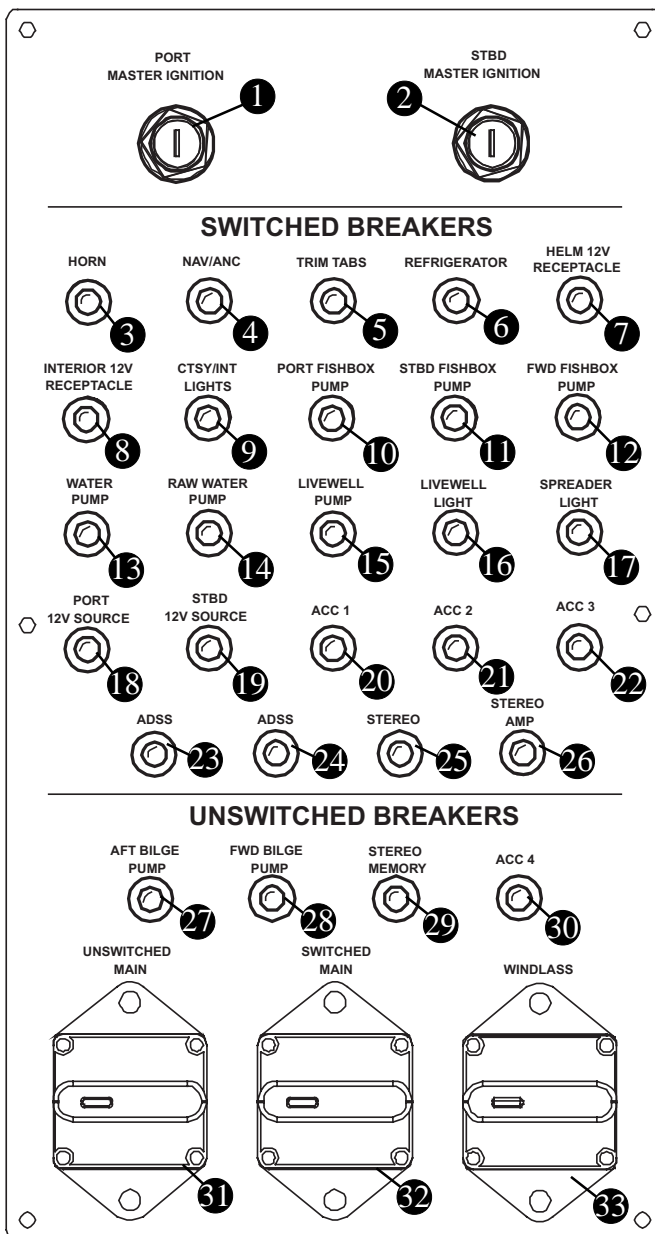


- 1 MAIN DC BREAKER PANEL
- 2 ELECTRONICS FUSE BLOCK
- 3 BUS BAR
- 4 WINDLASS CONTROL BOX
- 5 STARBOARD ENGINE BATTERY SWITCH
- 6 PORT ENGINE BATTERY SWITCH
- 7 CLARION STEREO

Main DC Breaker Panel

DC Breaker Panel

Fig. 4.5.1



- | | | |
|----|-------------------------------|----------|
| 1 | PORT MASTER IGNITION | |
| 2 | STBD MASTER IGNITION | |
| 3 | HORN | 5 AMPS |
| 4 | NAV/ANCH | 5 AMPS |
| 5 | TRIM TABS | 20 AMPS |
| 6 | REFRIGERATOR | 15 AMPS |
| 7 | HELM 12V RECEPTACLE | 10 AMPS |
| 8 | INTERIOR 12V RECEPTACLE | 10 AMPS |
| 9 | CTSY/INT LIGHTS | 10 AMPS |
| 10 | PORT FISHBOX PUMP | 20 AMPS |
| 11 | STBD FISHBOX PUMP | 20 AMPS |
| 12 | FWD FISHBOX PUMP | 20 AMPS |
| 13 | WATER PUMP | 15 AMPS |
| 14 | RAW WATER PUMP | 15 AMPS |
| 15 | LIVEWELL PUMP | 6 AMPS |
| 16 | LIVEWELL LIGHT | 5 AMPS |
| 17 | SPREADER LIGHT | 10 AMPS |
| 18 | PORT 12V SOURCE | 30 AMPS |
| 19 | STBD 12V SOURCE | 30 AMPS |
| 20 | ACC 1 | 10 AMPS |
| 21 | ACC 2 | 10 AMPS |
| 22 | ACC 3 | 15 AMPS |
| 23 | ADSS | 30 AMPS |
| 24 | ADSS | 30 AMPS |
| 25 | STEREO | 5 AMPS |
| 26 | STEREO AMP | 15 AMPS |
| 27 | AFT BILGE PUMP | 15 AMPS |
| 28 | FWD BILGE PUMP | 6 AMPS |
| 29 | STEREO MEMORY | 15 AMPS |
| 30 | ACC 4 | 10 AMPS |
| 31 | UNSWITCHED MAIN | 50 AMPS |
| 32 | SWITCHED MAIN | 100 AMPS |
| 33 | WINDLASS | 120 AMPS |

Section 4 • Electrical System

Electrical Schematics & Harnesses

The following pages (4-7 thru 4-14) contain schematics pertaining to the electrical system in your boat. These schematics were generated by technicians in the Boston Whaler® Engineering Department and are for reference and to be used by service technicians.

Boston Whaler® does not recommend that you attempt to work on the electrical system yourself. Instead, we suggest that you take your boat to an authorized Boston Whaler® dealer for electrical service.

Boston Whaler® reserves the right to change or update the electrical system on any model at any time without notice to the customer and is not obligated to make any updates to units built prior to the change.

Wiring Identification Chart

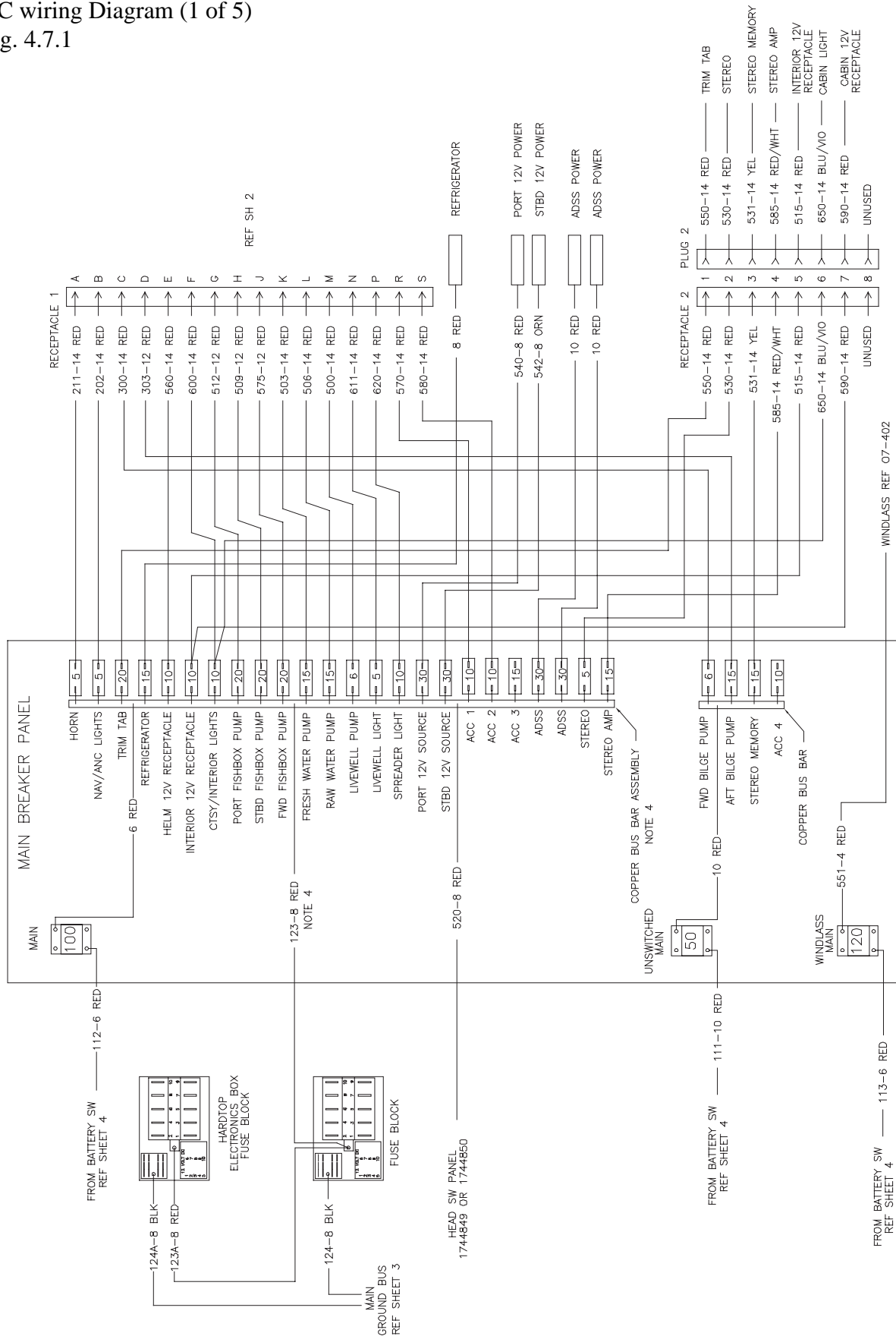
Boston Whaler® adheres to electrical wiring requirements which meet all the ABYC-11 standards. The following chart outlines the gauge, color and function of the wiring used.

Wire Color Chart for DC and Special Circuit

GAUGE	COLOR	FUNCTION	GAUGE	COLOR	FUNCTION
6 AWG	GRN	GROUNDING MAIN/TOWER & ALUMINUM FUEL TANKS	14 AWG	BRN/ORN	SUMP PUMP
8 AWG	GRN	GROUNDING	14 AWG	BRN/RED	BILGE PUMP (UNSWITCHED)
8GA AWG	ORN	STARBOARD 30 AMP RECEPTACLE	14 AWG	BRN/VIO	FORWARD FISHBOX PUMP
8 AWG	RED	MAIN FEEDS/PORT 30 AMP RECEPTACLE	14 AWG	BRN/WHT	MACERATOR
12 AWG	BRN/BLK	STARBOARD FISHBOX PUMP	14 AWG	BRN/YEL	LIVEWELL PUMP
12 AWG	BRN/VIO	FORWARD FISHBOX PUMP	14 AWG	GRY	RUNNING LIGHTS
12 AWG	BRN/YEL	LIVEWELL PUMP (HIGH CURRENT)	14 AWG	GRY/BLK	ACC 1
12 AWG	BRN/BLU	PORT FISHBOX PUMP	14 AWG	GRY/BLU	ACC 2
12 AWG	BLK	GROUND	14 AWG	GRY/GRN	ACC 3
12 AWG	RED	+12V MAIN	14 AWG	GRY/RED	AFT MAST/ACC 4
14 AWG	BLK	GROUND	14 AWG	GRY/WHT	ALL ROUND/FWD MAST LIGHT
14 AWG	BLK/YEL	STOP CIRCUIT	14 AWG	GRN	GROUNDING
14 AWG	BLK/WHT	GEN SHUTDOWN	14 AWG	ORN	REFRIGERATOR or CENTER WIPER
14 AWG	BLU	COMPASS	14 AWG	ORN/BLU	HORN
14 AWG	BLU/BLK	DOME LIGHT	14 AWG	ORN/BRN	STARBOARD WIPER PARK
14 AWG	BLU/GRN	SPREADER LIGHT	14 AWG	ORN/GRN	STARBOARD WIPER
14 AWG	BLU/ORN	LIVEWELL LIGHT	14 AWG	ORN/RED	PORT WIPER
14 AWG	BLU/RED	COURTESY LIGHTS	14 AWG	ORN/VIO	VACUUM PUMP
14 AWG	BLU/VIO	CABIN LIGHTS	14 AWG	ORN/WHT	CENTER WIPER
14 AWG	BRN	BILGE PUMP (SWITCHED)	14 AWG	PINK	FUEL SENDER
14 AWG	BRN/BLK	STARBOARD FISHBOX PUMP	14 AWG	RED	12V RECEPTACLE
14 AWG	BRN/BLU	PORT FISHBOX PUMP	14 AWG	VIO	IGNITION
14 AWG	BRN/GRY	RAW WATER	14 AWG	WHT	CO MONITOR/ELECTRIC TRIM TAB (SWITCHED)
14 AWG	BRN/GRN	FRESH WATER	14 AWG	YLW	BLOWER/STEREO MEMORY
			14 AWG	YLW/RED	START

Section 4 • Electrical System

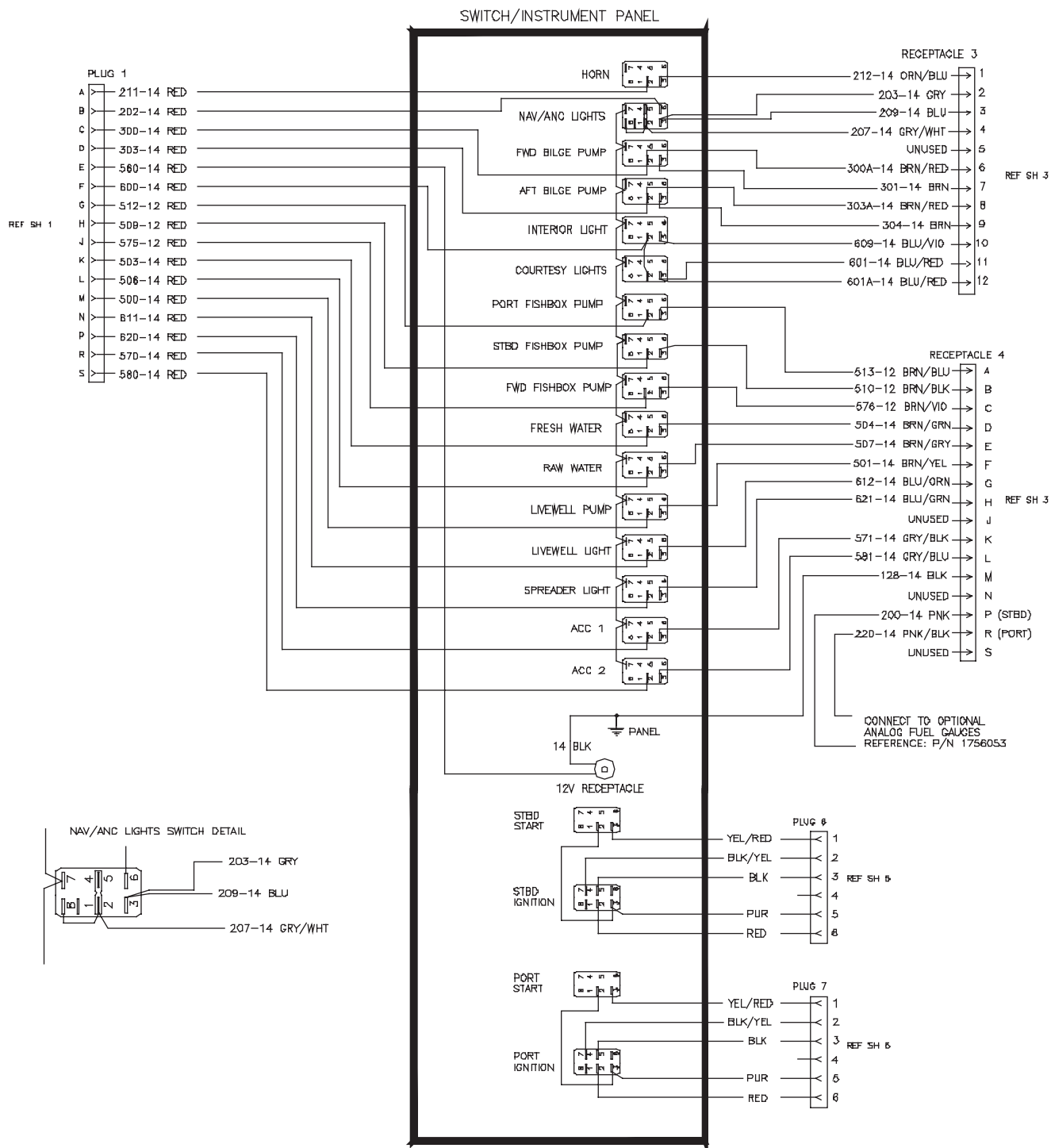
DC wiring Diagram (1 of 5)
Fig. 4.7.1



Section 4 • Electrical System

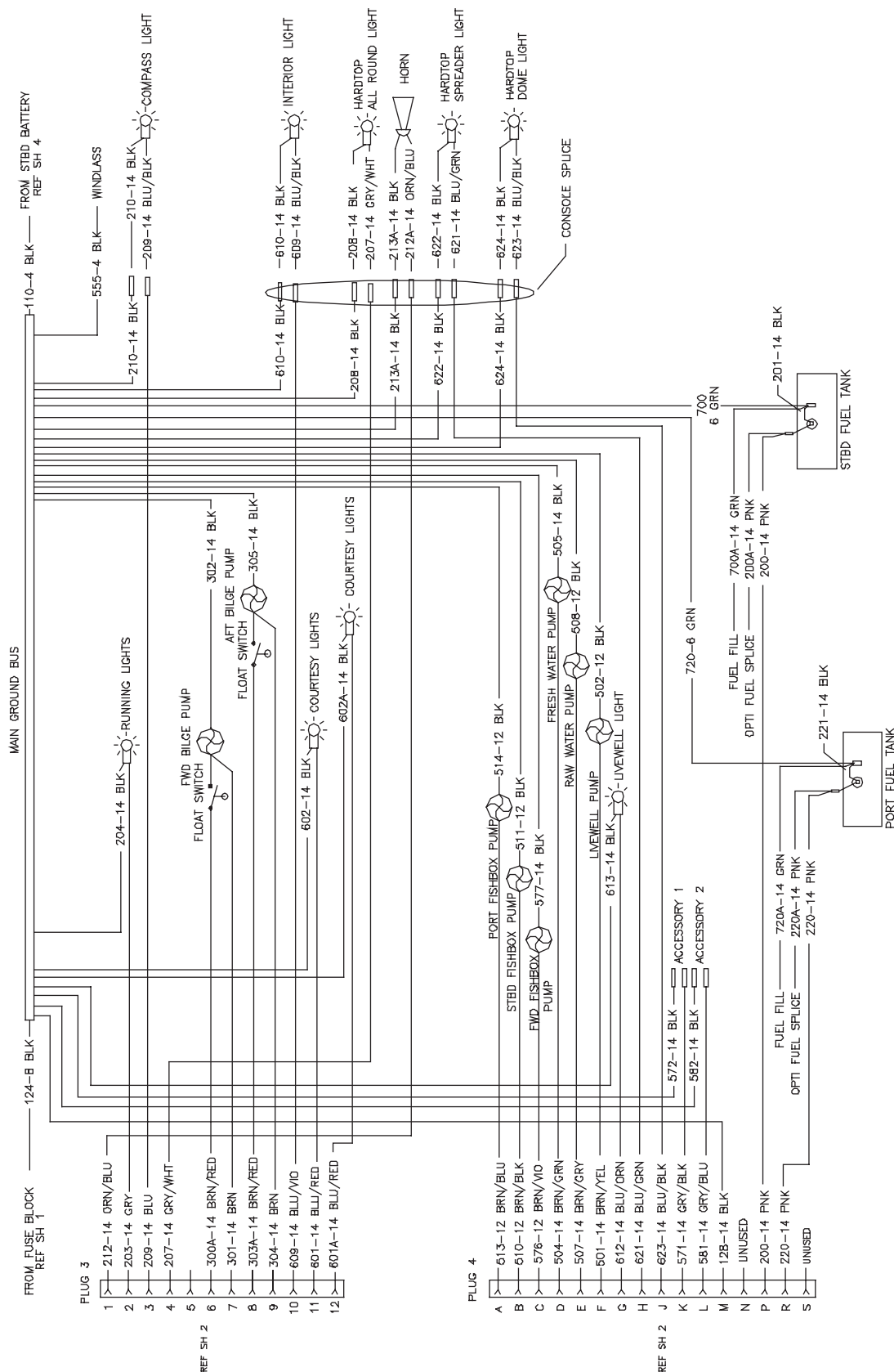
DC wiring Diagram (2 of 5)

Fig. 4.8.1



DC wiring Diagram (3 of 5)

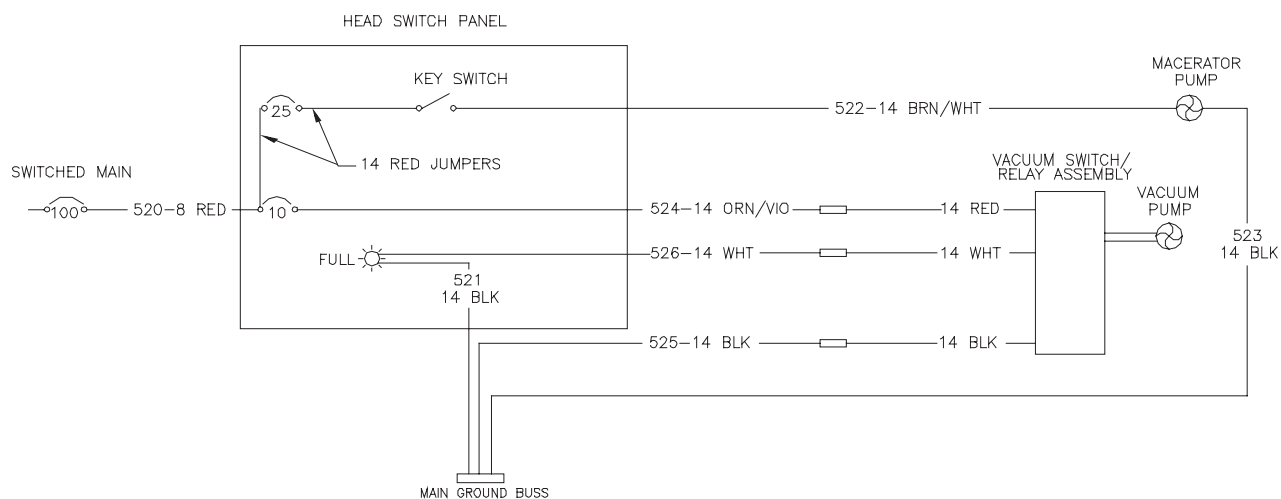
Fig. 4.9.1



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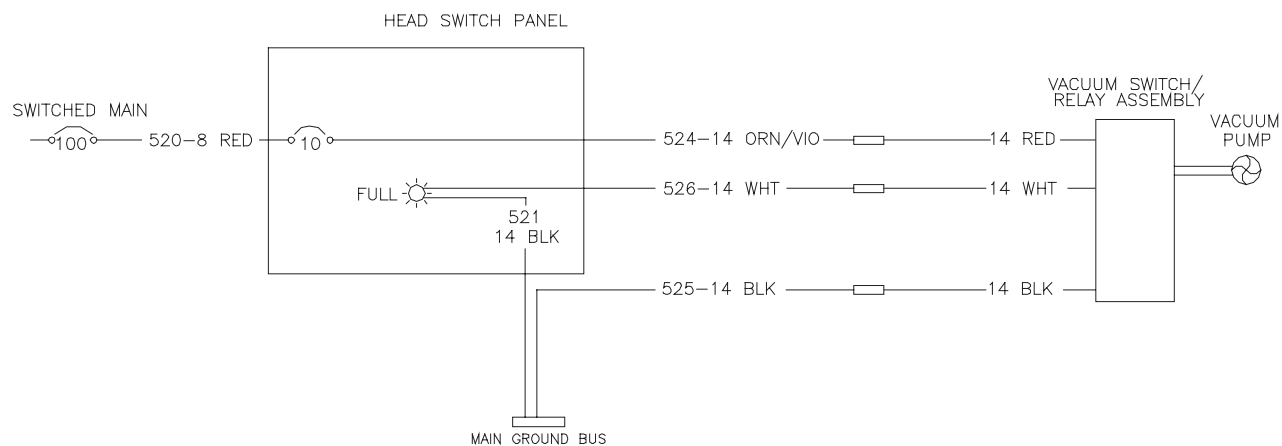
Head Switch Panel Schematic

Fig. 4.11.1

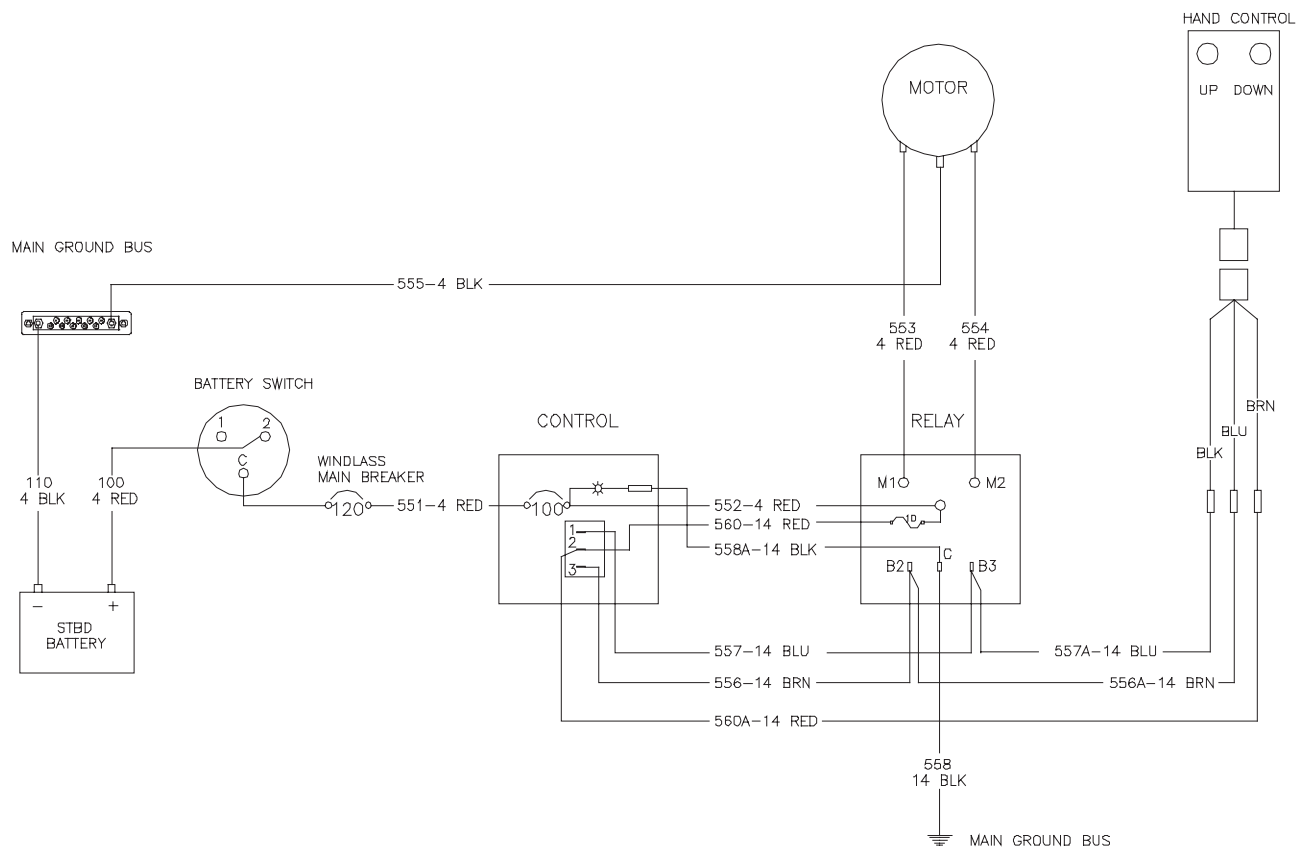


Head Switch Panel (Inland Waters) Schematic

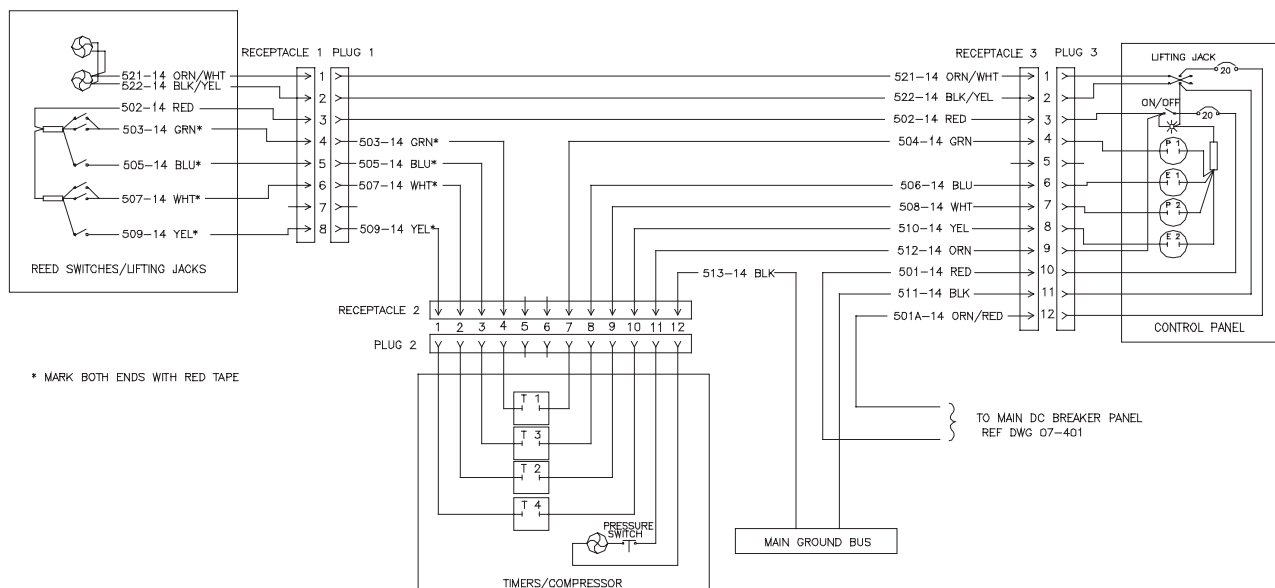
Fig. 4.11.2



Windlass Wiring Schematic
Fig. 4.12.1



Optional Active Deck Suspension System Wiring Schematic
Fig. 4.12.2

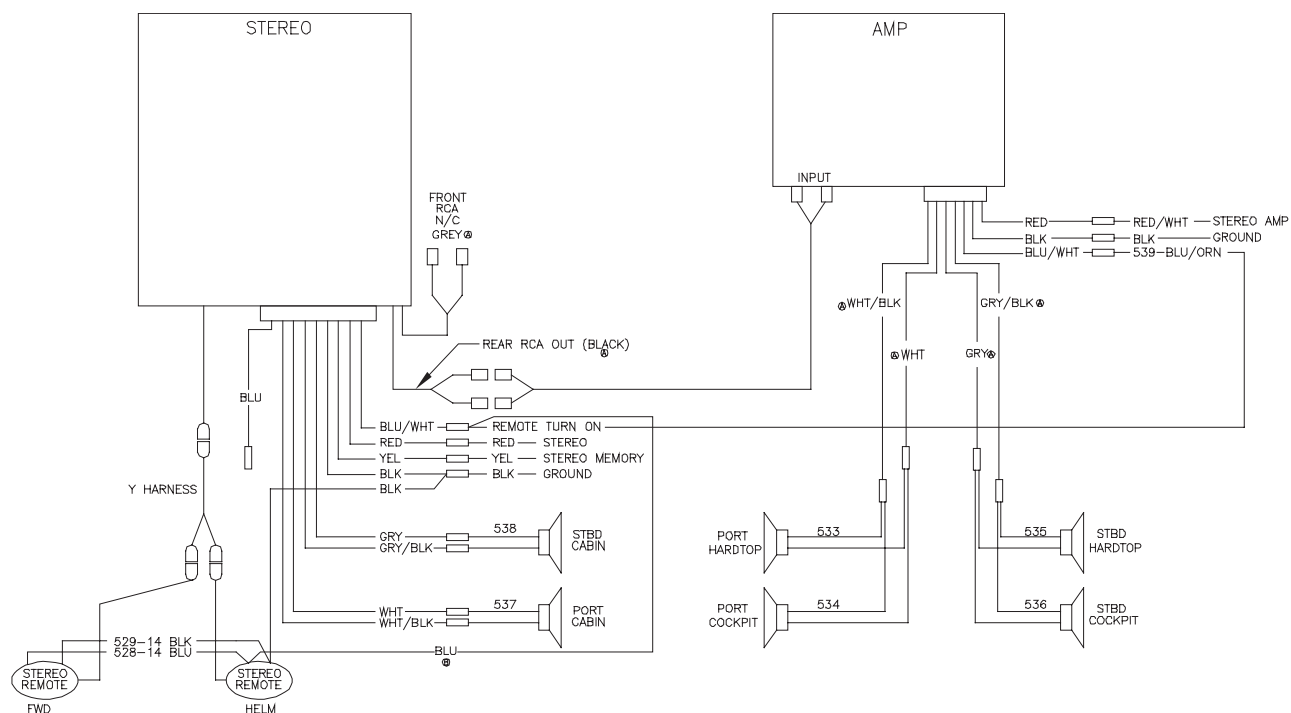


* MARK BOTH ENDS WITH RED TAPE

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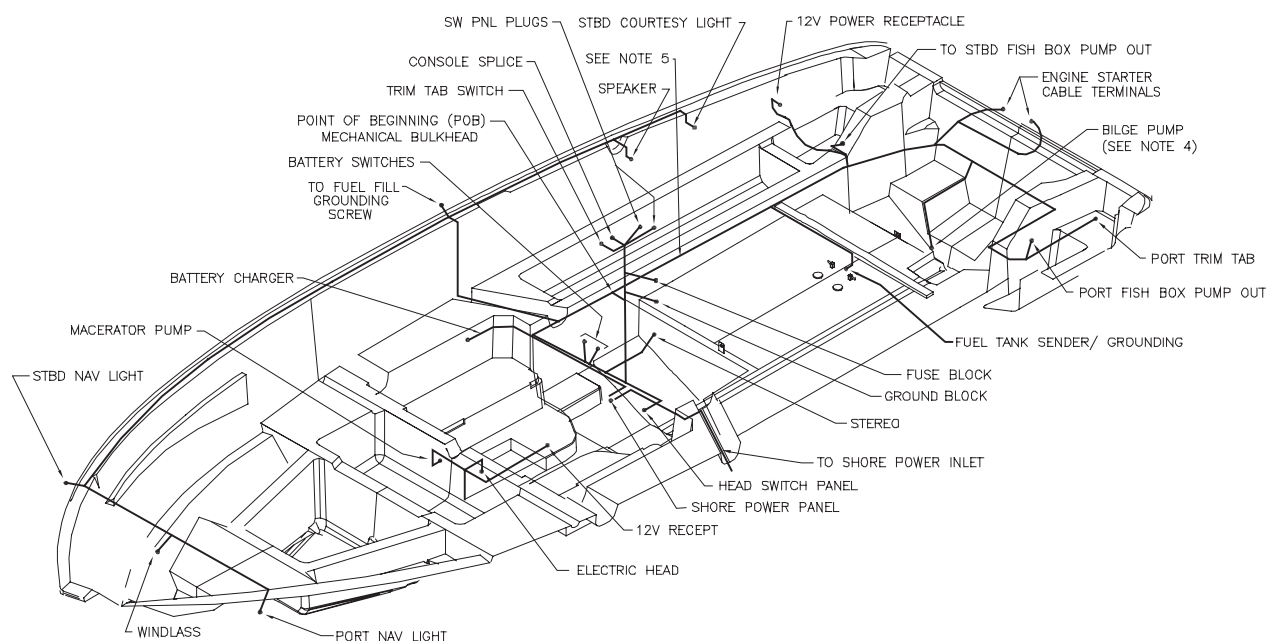
Stereo Wiring Schematic

Fig. 4.13.1



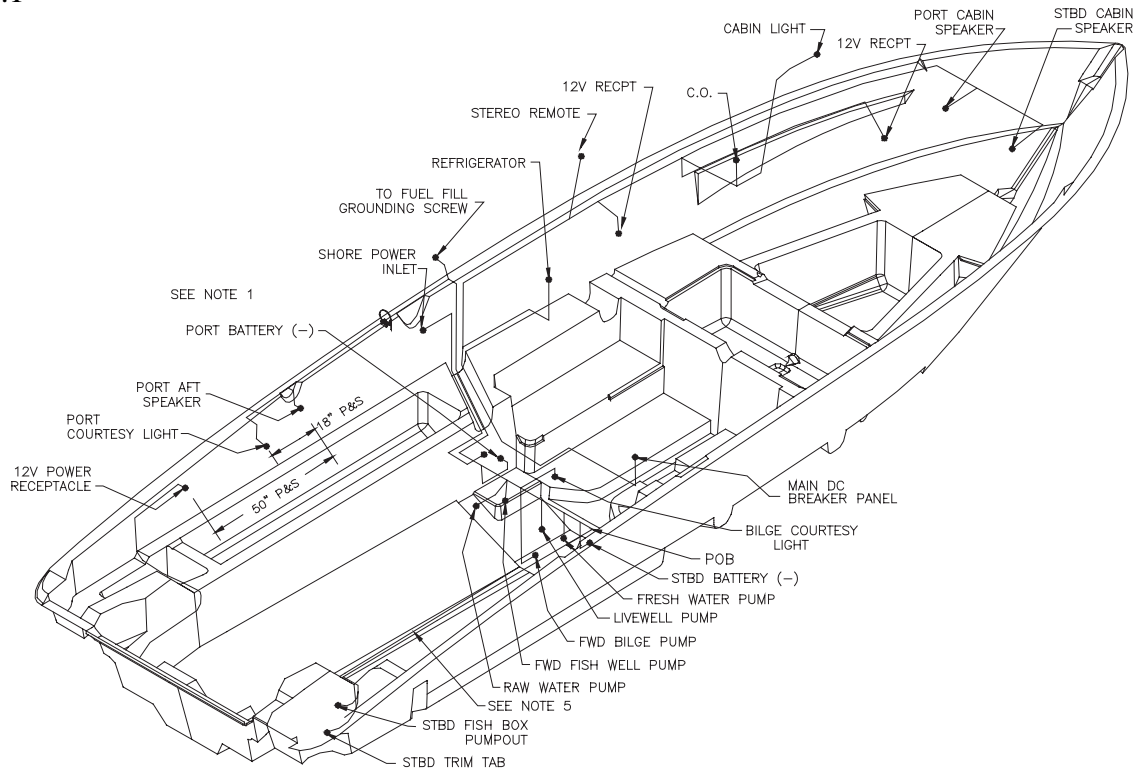
Starboard Wiring Harness

Fig. 4.13.2



Section 4 • Electrical System

Port Wiring Harness
Fig. 4.14.1



Routine inspection, service and maintenance of your boat, boat systems and components are vital to assure your safety, as well as prolonging the life of your boat. You should develop regular routines for inspecting and servicing your boat.

The interval between necessary service or maintenance is highly variable, depending on the environment in which your boat will be used. For example, corrosion of boat parts and components will occur far more rapidly in a salt water environment than a boat which is used in fresh water.

This section provides general guidelines for care and cleaning of your boat. It is your responsibility to determine whether maintenance and care intervals need to be accelerated due to your boat usage and/or operating environment.

NOTICE

Refer to the individual manufacturer's manuals for important information regarding service, care and maintenance of your boat, equipment and components. Failure to do so may in some cases void the warranty.

Owner's Manuals for your boat and each of the various components and equipment can be found in your Owner's Manual Packet.

⚠ DANGER

When using solvents read all information from the solvent manufacturer regarding safety and handling of the material.

Wear proper protective equipment to insure your personal safety.

Only use solvents in a well ventilated area and keep all solvents away from open flame and any other forms of ignition.

Cleaning Your Boat

Hull

Clean the bottom of your boat of marine growth immediately. If the debris dries it will harden and will make its removal very difficult. Waxing of the exterior surfaces is recommended to be done at least twice a

year to protect the gelcoat of your boat. Compounding may be necessary to remove more stubborn stains and chalking from the surface of your boat, compounding must be done after washing and prior to waxing. Check with your Boston Whaler® dealer on a compatible rubbing compound for your boat.

Windshield

When washing your windshield never use abrasive powders, gritty cloths or steel wool. Always use a damp cloth or a chamois when drying.

Stainless Steel/Metal Trim

Metal trim and fittings will stay bright if coated with a good grade metal polish or paste wax after washing. Stainless steel is strong and corrosion resistant, but still requires maintenance to keep its appearance. Crevice corrosion, a brownish coloring; occurs where two pieces of stainless hardware meet. This condition is caused by impurities in water and air and can be easily cleaned with a good grade marine polish using a sponge, cloth or small bristled brush (for nooks and crannies).

Hull Maintenance (Blisters)

Causes

The fiberglass and resin structure of your boat is porous (intrusion of water into the gelcoat will take some time). Blistering is caused by water soluble materials in the hull laminate. The effect of osmotic pressure allows water to impregnate below the gelcoat and substrate thus forming a blister. There have been extensive university studies funded by the United States Coast Guard regarding the cause and effect of blisters forming in the gelcoat of fiberglass boats. Fiberglass blisters can form in near-surface layers of the gelcoat to very deep into the fiberglass structure. The damage can range from cosmetic to catastrophic, (although the latter is a very rare occurrence). The studies seemed to point toward long term immersion of the hull in warm water as a primary cause of hull blisters. Stress cracks on the hulls below the waterline also contributed to the formation of blisters on the hull.

Prevention

There are a variety of ways to prevent the formation of hull blistering. Epoxy coatings can be applied to the hull, followed by hull painting. An alkyd-urethane-silicone marine paint can also be used to aid in the prevention of hull blisters.

Reducing the amount of time that your boat stays in the water also helps prevent hull blisters from forming. Use of a trailer or boat lift will reduce the likelihood of hull blisters forming. Be sure to use a bunk type lift or trailer for long term storage of the boat out of water. If blisters are present in the hull, they need to be properly cleaned and dried out before any barrier protection can be applied. Contact your Boston Whaler® dealer for more information on prevention and treatment of hull blisters.

Bottom Painting

DANGER

There are risks and dangers inherent with the use of paints and solvents. Dispose properly of all rags, rollers and trays used for painting. Follow all the precautions and regulations listed by the manufacturer before and after painting your boats hull.

Painting the bottom of your boats hull is a good way to slow the formation of hull blisters, and also keeping bottom growth (fouling) under control. To determine the waterline, you will need to place the boat in water and with a full load of fuel and gear, mark the waterline. Measure above the marked line 1 to 3 inches for placement of the tape line. Masking tape is not recommended for the types of paint you will be using. Preparation is the key to a successful hull painting. If the hull is bare, the gelcoat will have to be dewaxed before sanding can begin, otherwise the wax will be dragged into the scratches and will reduce the adhesion properties of the paint. After the dewaxing is complete, a light sanding with 80 grit paper is recommended. Proper ventilation and capture of the dust created by sanding is essential. The paint can be applied after sanding and cleaning



WARNING

The dust created by sanding is toxic and should not be breathed. A proper fitting respirator must be used.

DO NOT use a paper filter mask.

is complete. Follow the manufacturer's recommendation for applying the paint. Humidity and weather will play a role in how and when the paint is applied. Several thin layers are better than one thick layer.

Make sure that there is enough paint left to cover areas that were not accessible, (slings, jackstands etc.) and paint accordingly. Follow the manufacturer's recommendation for do's and don't's after the painting is complete. If the hull bottom is already painted, you must be sure to test the paint's adhesion to the already painted surface. If the paints are incompatible, the new paint will not adhere to the hull bottom or the paint will "Lift" the old paint. NEVER apply paint without first preparing the old painted surface. The paint is designed to resist algae growth which means it has chemicals embedded in the paint that are harmful if ingested. Take all necessary precautions required before painting or repainting your boats hull. Painting your boats hull will adversely affect the boats speed and performance. If your boat will spend most of its time in the water, it might be a good idea to paint the hull bottom, if you will be trailering the boat to and from the water, you might want to forgo the painting. This is an abbreviated section on painting your hull bottom. Your Boston Whaler® dealer should have information on properly painting your boats hull or recommendations on businesses that will paint your hull for you.

Painted Hull Care

The painted hull of your boat needs to be cleaned regularly to prevent the build-up of dirt, grease and other contaminants. When staining from build-up does occur, there are cleaning agents that are recommended by the paint manufacturer for use on these stubborn stains.

Section 5 • Care & Maintenance

NEVER use an abrasive cleaner to wash your boats hull.

NEVER use an abrasive pad to attempt to remove stubborn stains.

NEVER use strong solvents to clean.

Use care when covering your boats painted surfaces, tarps and other such covers can trap dirt and cause chafing. Tape or any other type of adhesives should not be applied directly to the painted surface. More information on care and maintenance of your boats painted hull can be found in the owners manual packet.

Painted Hull Care (Bottom)

The painted hull bottom will need to be inspected annually. Any growth will affect the boats performance and overall look. If it has been a while between inspections you might notice algae or slime growth. This can be cleaned with a coarse towel or soft bristle brush. The growth should be cleaned immediately after the boat has been removed from the water. If the growth is allowed to dry it will be much harder to remove. If the growth is more severe, you may need to enlist the services of a professional hull cleaning company. Fresh water, salt water and water temperature can all affect the types of growth that you will find on your boats hull.

Vinyl Cushion Care

The vinyl cushions on your boat will keep their appearance and suppleness if cared for properly. Salt water, salt residue, dirt, ultra-violet rays etc. will take their toll on vinyl products causing them to lose their luster and texture. A thorough cleaning with a good vinyl upholstery cleaner will keep the vinyl soft. Keep the vinyl dry to prevent mildew, make sure there is no moisture between the cushions.

The cushions on your boat are made of a durable vinyl material called OMNOVA and is protected by a finish called PreFixx.

This protective finish is designed to be cleaned easily, over and over without showing signs of wear. The

PreFixx finish gives you the freedom to remove stains with ease that were not possible before.

The vinyl material and superior finish has been tested to resist heavy abrasion. There is a 3 step cleaning process recommended by the manufacturer. Following this procedure will ease in cleaning the vinyl cushions.

Complete cleaning instructions are included in the owner's packet. Read all information provided by the cushion manufacturer regarding the proper cleaning and maintenance.

Note: As the level of stain is increased, the likelihood of using solvents may be necessary.

Read all information from the solvent manufacturer regarding safety and handling of this material.

Wear proper protective equipment to insure your personal safety. Only use solvents in a well ventilated area and test the solvent in a conspicuous section of the affected vinyl. Keep all solvents away from open flame and any other forms of ignition.

Long Term Storage

NOTICE

Periodically haul the boat out of the water and scrub the bottom with a bristle brush and a solution of soap and water. For better protection paint the hull below the waterline with a high grade anti-fouling paint.

Storage or winter lay-up will require you to make sure that your boat and its systems are properly conditioned for extended periods of non-usage.

Engine

Protecting your engines vital moving parts from corrosion and rust caused by freezing of trapped water or excessive condensation due to climatic changes is very important. Internal engine parts can be effected by rust due to lack of proper lubrication. Freezing water in the engine can cause extensive damage to the internal moving parts.

CAUTION

Never start or run your outboard (even momentarily) without having water circulating through the cooling water intake holes in the gear case. This will prevent damage to the water pump (running dry) or overheating of the engine.

It is important that you follow all the recommendations set by the engine owner's operations manual. It will give you a schedule of when these important functions need to be done.

Fuel System

Tank(s), hoses, fuel pump and carburetor should be treated to help prevent the formation of varnish and gum. Temperature extremes cause condensation to accumulate in the fuel tank(s). Empty gas tanks collect condensation which could lead to fuel contamination and/or premature wear of your system.

Electrical System

NOTICE

Store the batteries in a cool, dry location. Keep the batteries in their plastic boxes. Periodically check the batteries during storage.

The battery should be removed from the boat. Remove the negative (-) cable first, then the positive (+) cable and the battery given a full charge. Clean the external surface of the battery and check all water levels before and after charging. Grease both terminals and bolts on the cable ends.

Drainage

It is important to raise the bow of the boat enough to allow for proper drainage of water from the deck and bilge area. Make sure all the drainage fittings are clear and free of debris. Store the engine in an upright position to promote adequate drainage of water.

Water System

If the water system will not be used for an extended amount of time it is recommended that it be drained. Draining the freshwater system will require you to energize the freshwater pump switch on the instrument panel, press the button on the shower head and empty the freshwater tank, disconnect the hoses to and from the water pump to allow as much water as possible to drain out. De-energize the fresh water pump switch.

Trailer Storage

If you will be storing the boat for an extended amount of time on its trailer, you will need to lift the trailer off of its wheels. Use care when raising the trailer. The surface should be level and conditioned to accept the weight of the boat and trailer and allow for adequate drainage. Covering the wheels will protect them from harmful UV rays. Repeatedly immersing the trailer in water during boat launching can cause a variety of problems. Water seeping into the wheel hubs will cause the grease to emulsify and can prematurely corrode the bearings. Check with the trailer manufacturer for scheduled maintenance of your trailer.

Canvas Care & Maintenance

NOTICE

Do not use detergents, bleach or solvents to clean the canvas material.

Chafing, fiber wear from dirt and grit and deterioration from ultraviolet light can cause your canvas to degrade over time. The effects of ultraviolet light can sometimes be reduced by chemical treatment of canvas items. Consult your Boston Whaler® dealer or check your canvas manufacturer's manual before using any chemical treatments on your canvas. To keep the canvas and metal parts in good working condition and keep a good appearance, you will need to keep them clean. The fabric should be

cleaned regularly before substances such as dirt, pollen, etc. are allowed to accumulate on and become embedded in the fabric. The canvas can be cleaned without being removed from the installation.

Simply brush off any loose dirt, pollen, etc. hose down and clean with a mild solution of a natural soap in lukewarm water (no more than 100° F / 38° C). Rinse thoroughly to remove soap. Allow the canvas to completely air-dry. After each use especially in salt water areas, rinse the canvas completely with fresh cold water. Let the canvas dry completely before stowing.

DO NOT fold or store any of the canvas pieces while wet. All canvas should be rolled or folded when dry and store in a clean, dry space.

Lubricate the snaps of the canvas with petroleum jelly, use a parafin wax on the zippers to keep them in proper working order. If you have stubborn cleaning cases call your Boston Whaler® dealer for proper cleaning procedures.

Clear Vinyl (Acrylic)

To clean acrylic, first flood it with water to wash off as much dirt as possible. Next, use your bare hand with plenty of water, to feel and dislodge any caked dirt or mud. A soft grit-free cloth may then be used with a nonabrasive soap or detergent. A soft sponge, kept clean for this purpose, is excellent. Blot dry with a clean damp chamois.

NOTICE

Never use a dry cloth or duster or glass cleaning solutions on acrylic.

Grease and oil may be removed from acrylic with kerosene, hexane, white (not aviation or ethyl) gasoline or aliphatic naphtha (no aromatic content).

Remove small scratches with fine automotive acrylicrubbing and polishing compound.

NOTICE

DO NOT use solvents such as acetone, silicone spray, benzine, carbon tetrachloride, fire extinguisher fluid, dry cleaning fluid or lacquer thinner on acrylic.

The above substances will attack the surface of the vinyl.

Storing Clear Vinyl

The clear vinyl should never be folded or creased as cracking will result. The recommended method of storage is to roll or lay the panels down flat. To protect the clear vinyl from rubbing against itself while rolled or stored flat, place a piece of very soft, nonabrasive cloth between the pieces.

Cleaning The Plastic Headliner and Instrument gauges

Never use abrasives or rough, dirty cloths to clean plastic parts. A mild household detergent or plastic cleaner should be used. Wipe clean with a damp chamois.

When instruments are exposed to a saltwater environment, salt crystals may form on the bezel and plastic covers. Remove the salt crystals with a soft damp cloth. Clean with a mild household detergent or plastic cleaner.

Helm Seat Track Maintenance

The track system will need occasional maintenance to remain in proper working condition. Sea salt, grit and dirt will build-up and interfere with the slide mechanism. Rinsing with fresh water after each use will eliminate most salt and dirt residue. Make sure to pull the slide to its most forward position and rinse thoroughly. Check the slide every 4 months, depending on usage. If necessary, lubricate the slide and handle with a marine grade grease for longevity and continued smooth operation.

Section 5 • Care & Maintenance

Fill out the log below after scheduled service or maintenance is performed.

MAINTENANCE LOG			
DATE	ENGINE HOURS	SERVICED BY	MAINTENANCE PERFORMED
NOTES			