OWNERS MANUAL



Welcome to the RH Boat Family!

On behalf of everyone at RH Aluminum Boats, we thank you for purchasing one of the highest performing aluminum boats in the industry. As boat owners ourselves, we are confident your new RH boat will provide you and your families with the ultimate boating experience for years to come.

Our passion for boating, fishing and the great outdoors is reflected in each and every one of our RH Aluminum Boat models. It is found in the quality, durability and safety of each model, and we believe that it is our dedication to these passions that make RH Aluminum Boats the primary choice for both serious anglers and outdoor enthusiasts alike.

Your boat has been built with the highest priority of safety, it has been designed with quality materials and craftmanship. And, with proper care and maintenance, it will retain its retail value to one of the top in the industry.

We hope this manual will give you proper guidance in the care, maintenance and operation of your RH Aluminum Boat. And we ask that you please pay particular attention to the safety statements that are labeled as DANGER, WARNING, CAUTION and NOTICE. These statements are there to alert you to possible safety hazards that can help avoid any problems that may arise.

Please remember that this manual cannot cover every aspect of boat ownership and operation, nor is it intended to. If you need additional information, please consult your local RH Aluminum Boats Dealer. We encourage you to practice safe boating at all times, and respect the environment and natural resources around you.

Enjoy the RH Life!

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Owners Manual

Your RH Boat is equipped with an engine for propulsion. The engine has its own owner's manual that you will need to review and become familiar with along with reviewing and becoming familiar with your RH Boat.

This manual will guide you through general understanding of boating safety, maintenance, service and your boat systems. Become familiar with this manual, other manuals and printed material before launching your RH Boat.

Registration

All undocumented vessels that are equipped with propulsion machinery shall be registered in the state of principle use, according to Federal Law. A certificate number shall be issued upon registration and shall be displayed on the boat. The owner must carry a valid certificate number when operating the boat.

The number must be displayed per standard specification. Contact your dealer or state marine authority for numbering display requirement. The US Coast Guard issues certificate of number in the state of Alaska.

Insurance

Some states require a minimum insurance coverage. Also, in most states the boat owner is held responsible for damage and/or bodily injury he or another person causes by operating the boat.

You should also look into protecting your boat from theft or physical damage. Check with your dealer or state marine authority for required minimum insurance coverage.

Education

If you are not an experienced boater, you should explore a boating safety course. Contact your local dealer or Coast Guard.

Responsibilities as an RH Boat Owner

- Review and understand your warranty
- Review and understand manuals and literature associated with your RH Boat and equipment.
- Upon delivery, inspect your boat and verify all systems are working properly.
- Routinely inspect your boat and systems and verify that they are working properly.
- Follow all maintenance procedures and schedules described in all appropriate manuals and literature.

Your RH Boat has a unique Identification Number known as a HIN, Hull Identification Number. This number is associated with your boat and all equipment and accessories received from RH a long with the delivery/shipping information.

The HIN is located on the starboard, right, side of the transom. When making inquires about your boat, you should include the HIN on all correspondents. Failure to include the HIN may result in delays in response to your questions and/or issues.

Before Operating Your RH Aluminum Boat

- Before operating your boat, you should read, review and understand all manuals supplied with your boat and all aspects and labels prior to operation.
- Never operate your boat while under the influence of drugs and/or alcohol. Close to 50% of all boating accidents are associated with a form of intoxication.
- Gasoline is highly flammable and explosive. Extinguish all forms of flames or sparks prior to fueling your boat.
- Your engine produces an exhaust containing carbon monoxide. Carbon monoxide is an odorless and colorless gas that can cause brain damage or death. Symptoms may include dizziness, drowsiness and nausea.
- Attach the throttle lanyard to your body prior to getting underway. If you are thrown from the helm, the lanyard will be pulled from the switch and the engine shall turn off.
- You should know and understand the marine laws and regulations for your boating area. See the "Basic Boating Rules" section for more information.
- Understand the weather and stay informed of the weather forecast. Avoid boating during hazardous weather.
- Make a float plan and leave it with a responsible person. Your float plan should include destination, number of people and the time you are expected to return.
- Be aware of swimmers, skiers, boarders, etc. Put the boat engine in neutral and turn off the engine when someone is boarding the boat.
- Know your abilities of operating your boat. Operate your boat within your limits and operate at safe speeds, watch for other boats and obstacles and obey No Wake Zones.

Operate your boat using common sense and good judgement.

- Always load your boat evenly both front to back and side to side as low as possible in the boat. Never exceed the capacity maximums of the boat. Overloading the bow of the boat will cause severe damage not covered by warranty.

Engine Alarm

- Most engines have an audible alarm that sounds when the engine experiences a problem.
- Do not continue to operate the engine if a warning device has activated. Consult your engine dealer if the problem cannot be located and corrected.
- When the alarm sounds, remain calm, navigate into safe waters and out of the way of traffic and throttle the engine down to idle speed.
- Shift into neutral. Check the gauges to determine the problem.
- Power the engine off if the problem cannot immediately be solved.

Engine Stop Lanyard Safety Switch

- The lock plate must be attached to the engine stop switch for the engine to run. The lanyard should be attached to a secure place on the operator's clothing or body part.
- Should the operator fall overboard or leave the helm, the lanyard will pull out the lock plate, stopping ignition to the engine. This will prevent the boat from running away under power.
- You should always carry an extra lanyard in case one is broken.

Engine Start-In-Gear Protection Switch

- Shift lever must be in neutral before the engine can be started. This safety feature prevents the engine from being started in gear.
- If the engine will not start, check to make sure that the shift lever is in neutral by moving back and forth. If this issue persists, contact your dealer to have the system checked.

Required Safety Equipment

The Coast Guard requires every boat to carry specific equipment. Check with the Coast Guard and your local regulation for safety equipment that is required. Refer to the "Federal Requirements And Safety Tips For Recreational Boats" for detailed requirements.

Personal Floatation Device (PFD)

Your RH Boat must have appropriately sized PFD for each passenger on board. PFD's must be in good working order free of rips, tears and warn spots.

Types of approved PFD's:

Type I: Off-Shore Life Jacket
Best for open, rough or remote water, where rescue may be slow coming.

Type II: Near-Shore Buoyant Vest
Good for calm, inland water, or where there is a good chance of fast rescue.

Type III: Flotation Aid
Good for calm, inland water, or where there is a good chance of fast rescue.

Type IV: Throwable Device
For calm, inland water with heavy boat traffic, where help is always nearby.

Sound Signaling Device

Your RH Boat is required to have onboard a sound signaling device that is efficient in creating a sound that can be heard up to ½ nautical mile.

Visual Signaling Device

Your RH Boat must have a Coast Guard approved visual signal device when navigating Great Lakes, coastal waters, territorial seas and connection waters, and signals must be in serviceable condition without expired dates.

Red Flares: Hand Held or Floating
Orange Smoke: Hand Held or Floating
Orange Distress Flag: (Daylight Use Only)
Electric Distress: (Night Use Only)
Launcher for Aerial Red Meteors or Parachute Flares

Fire Extinguisher

Your RH Boat must have a Coast Guard approved marine type hand portable fire extinguisher.

Portable Fire Extinguisher Maintenance

- Inspect once a month, more often if exposed to weather. Have the unit weighed annually to verify that it is fully charged.
- Gauges fail often enough that they cannot always be relied on. Twice a year, remove unit from bracket, turn upside down and shake to loosen any dry chemical compacted at the bottom.
- Recharge or replace after any use.
- Never check a unit by partially discharging it. Remaining pressure in canister can leak out over time.
- Annual maintenance check by a qualified technician.
- A more economical method: weigh the unit yourself every year, and replace it every few years.

Navigational Lights

Your RH Boat is factory fitted with appropriate navigational lighting for recreational boats in inland and international waters.

Unassisted Reboarding

If your boat is equipped with a swim ladder reboard using it. If your boat has a swim platform with no ladder, pull yourself on to it, using the handle. If your boat does not have either. Make sure engine is off and put your foot on the engine, push yourself up and put your knee on the transom and climb in.

Additional Safety Equipment

Make sure you purchase a marine first aid kit to keep on board your RH Aluminum Boat. Replace supplies as needed The CG can assist when there is a major medical situation, and can be contacted on channel 16 via a VHF radio if you are in range.

Additional Equipment (ask your dealer for a list)

Weather Radio	Spare Lanyard Switch	Mooring Lines
Tool Box	Mirror	Fenders
Flashlight & Batteries	Sun Block	Water
Matches	Rain Jacket	Spare Parts
Spare Keys	Extra Anchor Line	

Maximum Capacities

Your RH Boat comes with a Maximum Capacity Label:

Total Maximum Weight Capacity:

- Persons or Pounds
- Motor & Gear (gear includes battery, fuel and cargo)
- Maximum Horsepower
- Recommended Horsepower
- Total weight of occupants

(SAMPLE STICKER)



Per Seat Capacities

Maximum weight per seat: 250lbs

Each passenger is required to have 16” of seating available.

Emergency Information

Please make sure that you have a thorough plan for any emergency circumstances you may face while on-board your RH Aluminum Boat. As an owner and/or operator you should always be prepared to face any situation that comes up.

Assisting An Accident

As an owner and/or operator of a vessel, you are required to lend assistance to anyone who has been in a collision, accident or casualty. *However, you are not required to endanger yourself, your vessel or passengers to render assistance.*

Reporting Boat Accidents

As an owner and/or operator you are required to report an accident to the proper marine authorities. Upon a death or disappearance, you are required to immediately notify authorities by phone or radio and then in writing (within 48 hours).
An accident that has caused more than $500.00 in damage must be reported within 10 days to the proper authorities.

Lightning Precaution

As an owner and/or operator it is your responsibility to keep an eye on the weather. When a thunder storm is approaching, seek shelter and get out of your boat. If this is not an option, get yourself and all passengers as low as possible and do not touch metal.
When lightning strikes, it will search for a ground and may pass through any metal parts.

Stay out of the water!



Carbon Monoxide Poisoning



Carbon Monoxide, (CO), is a dangerous gas that can cause brain damage and is potentially lethal.

Keep the cockpit well ventilated at all times.

Symptoms of CO poisoning can be dizziness, headache and nausea.

Carbon Monoxide, (CO), is a colorless, odorless gas that has about the same weight as the air we breath. Therefore, it will remain in a confined space or non-ventilated areas. CO is a poisonous gas that can cause death.

CO poisoning includes dizziness, nausea, headache, sleepiness, vomiting, throbbing in the temples, muscular twitching, and an inability to think clearly. If you or anyone else experience these symptoms, immediately get away from fumes and into an area where plenty of FRESH air can be consumed. If any symptoms from above persist, seek medical attention.

CO can accumulate in cabins and under canvas. If your boat is equipped with a canvas that encloses the aft cockpit and propulsion equipment, do not operate the boat with this canvas closed.

Your inboard and outboard engine creates Carbon Monoxide.

Fueling



As an owner and/or operator you are responsible to be educated before fueling your boat. Check your outboard engine manual for the appropriate fuel type and required octane rating.

Fuel containing up to 10% ethanol blend is safe to use in your RH Boat.

Ethanol Blended Fuel Tips

Use a 10 micron fuel filter to capture contaminants that break loose due to the solvent nature of ethanol blends, and keep an extra filter on board.

Before Fueling

- Shut Off Engine
- Turn Off The Battery Switch
- Extinguish All Cigarettes and Other Lighted Material
- Ready Your Fire Extinguisher and Have It Close By
- Check your fuel line for leaks and/or deterioration
- Replace hoses and clamps as required

During Fueling

To Reduce Static Charges, Keep The Fuel Nozzle In Contact With The Fuel Tank Opening.

After Fueling

- Secure Fuel Cap
- Clean All Spills



Pre-Departure Check List

- Always check the current weather and the forecast for that day.
- Check all required CG equipment is on board your RH Boat.
    - PFD's for each person on board
    - Sound Signaling Devices
    - Visual Signaling Devices
    - Fire Extinguisher
    - Check Your Navigation Lights
- Verify that all proper documents are valid and on board.
- Create a float plan and leave it with a responsible person.
- Make sure you have enough fuel for your trip.
- Check the engine's oil levels.
- Check engine fuel system:
  Filter, fuel line, clamps, connections, etc.
- Check the bilge for water and leaks:
  sea-cocks, supply lines, clamps, etc.
- Check the bilge pump operation:
  manual switch and automatic float switch.
- Check the steering system for ease of movement
- Turn the battery switch to the ON position
- Check the safety lanyard switch and attach it to the operator.
- Check the engine shift for movement and set in neutral position.
- Refer to your engine manual for operational procedures.



It's a good practice to have a tool kit and a set of spare parts on board in case of an emergency. Check with your dealer for a list of tools and parts.

After Engine Start

- Check for any leaks in the fuel, water and oil systems. Check that the engine cooling system is working properly.
- Check that all gauges are working and they are reading normal ranges. Refer to your engine manual.
- Make sure the mooring line, anchor line and other lines are on board and secured from under foot and/or stored away.



Do not start your engine when fuel fumes are present. Fuel fumes are highly explosive and are harmful to the safety of you and your passengers. Never operate your vessel under the influence of drugs or alcohol. You are responsible for the safety of your passengers and your boat.

Engine Break-In Period

You must “Break-In” your engine for a period of time to prevent damage. Refer to your engine’s manual for the proper procedure.

Stopping Your RH

Let your RH come to a complete stop and idle the engine down: either at anchor or moored at a dock. Shift the engine shifter into the neutral position. Turn the engine key to the OFF position.

After Using Your RH

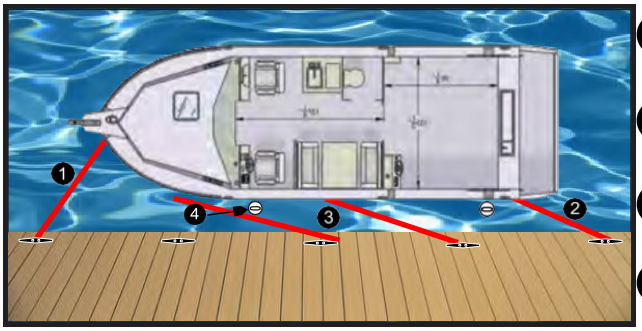
- Wash your RH Boat with soap and fresh water.
- Flush your engine with fresh water. Refer to the engine manual for procedures.
- Check your bilge and rinse with fresh water and empty the bilge.
- Turn battery switch to OFF and switch all electronics off.
- Make sure your boat is moored correctly. Check with your dealer for a list of tools and parts.

Anchoring and Docking

Docking your RH takes skill and practice. You have to keep all forces of nature in mind: wind and current. If at all possible, try to dock with the wind and current. Approach the dock at a angle and slow, idle speed. As the bow comes to the dock, turn your wheel to bring the stern of your boat to the dock while in neutral and then reverse the engine to slow your approach. Hopefully you will have a person on the bow and one on the stern to help you dock your RH. Secure the bow first and use your engine to maneuver the stern. Practice in all conditions to help your skill set. Practice makes perfect.

Anchoring

Position your RH into the wind or current. After your boat comes to a stop,



1 Bow Line

2 Stern Line

3 Spring Line

4 Rubber Bumpers

gently lower your anchor overboard. Let out at least
7 times the depth of water with rope. This is known as the rode. Be careful to keep your hand and feet out of the anchor line as it becomes tight. It is a good idea to have chain on your anchor line. Contact your dealer for a recommended size and length.

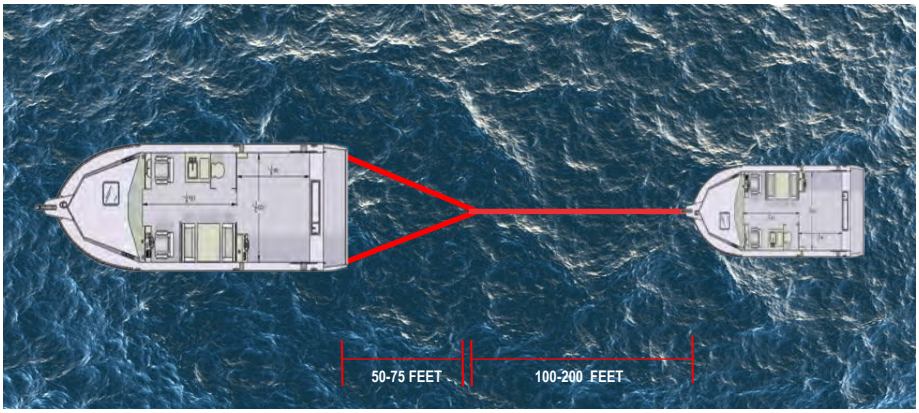
Hoisting the Anchor

Maneuver your RH directly over the anchor and you should be able to pull the anchor loose. If not, tie the line as tight as possible and the up and down movement of the boat should release the anchor. NEVER TIE THE ANCHOR LINE TO THE STERN OF YOUR RH.THIS COULD CAUSE THE STERN TO SWAMP WITH WATER .

Towing

At some time you may need to tow a boat or be towed. If you are towing, you should not tow a boat larger than your RH. Always use good judgement and safety when towing a boat.

A bridle is a smart thing to use. It creates a Vee behind the engine and helps to distributes the load between the tow eyes. The bridle should be secured by tying bowlines at each of the stern towing eyes. The tow line from the boat being towed can be tied to the bridle with a bowline and another bowline to the boats bow eye. The tow line should be twice the length of the towed boat. Pull the boat at a steady and moderate speed



BASICS

International Basics

These rules are used internationally and are enforced by the Coast Guard and local authorities. You should be aware of these rules and follow these rules whenever on the water. The rules presented here in your Owner's Manual are condensed, and have been provided for your convenience only. Consult your local Coast Guard Auxiliary, Coast Guard or Department of Natural Resources for a complete set of rules governing the waters in which you will be using your boat.

Steering and Sailing Rules

Whenever two vessels on the water meet one another, one vessel has the right-of-way; it is called the “stand-on” vessel. The vessel which does not have the right-of-way is called the “give away” or “burdened” vessel. These rules determine which vessel has the right-of-way, and what each vessel should do.

Stand-On Vessel

The vessel with the right-of-way has the duty to continue its course and speed, except to avoid an immediate collision. When you maintain your direction and speed, the other vessel will be able to determine how best to avoid you.

Give-Way Vessel

The vessel which does not have the right-of-way has the duty to take positive and timely action to stay out of the way of the Stand-On vessel. Normally, you should not cross in front of the vessel with the right-of- way. You should slow down or change directions briefly and pass behind the other vessel. You should always move in such a way that the operator of the other vessel can see what you are doing.

“The general prudential rule”

This rule is called Rule 2 in the International Rules and says, “In obeying and construing these rules due regard shall be had to all dangers of navigation and collision, and to any special circumstances, which may render a departure from the above rules necessary in order to avoid immediate danger.”

In other words, follow the standard rules except when a collision will occur unless both vessels try to avoid each other. If that is the case, both vessels become “Give-Way” vessels.

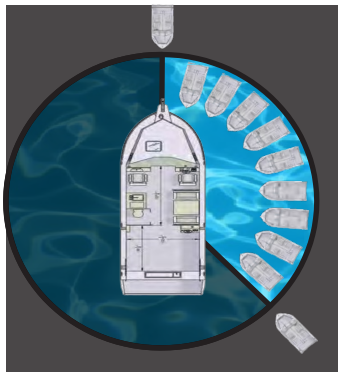
BASICS

Rules when Encountering Vessels

There are three main situations in which you may encounter vessels which could lead to a collision unless the Steering Rules are followed:

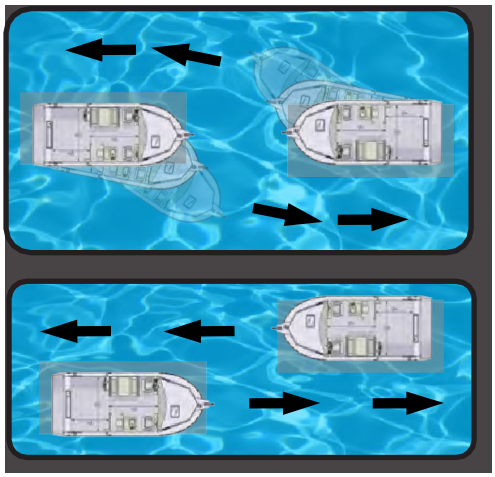
- Meeting: You are approaching another vessel head-on
- Crossing: You are traveling across the other vessels path
- Overtaking: You are passing or being passed by another vessel

In the following illustration, you should give the right-of-way to any vessels in the white area (you are the Give-Way vessel). Any vessels in the shaded area must yield to you (they are the Give-Way vessels). Both you and the meeting vessel must alter course to avoid each other.



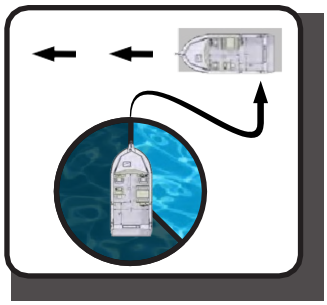
Meeting

If you are meeting another power vessel head on, and are close enough to run the risk of collision, neither of you has the right-of-way! Both of you should alter course to avoid an acci-dent. You should keep the other vessel on your port (left) side. This rule doesn't apply if both of you will clear one another if you continue on your set course and speed.



BASICS

Crossing



When two power driven vessels are crossing each other's path close enough to run the risk of collision, the vessel which has the other on the starboard (right) side must keep out of the way of the other. If the other vessel is on your right, you must keep out of its way; you are the Give-Way vessel. If the other vessel is on your port (left) side, remember that you should maintain course and direction, provided the other vessel gives.

Overtaking

If you are passing another vessel, you are the “Give-Way” vessel. Meaning that the other vessel is expected to maintain its course and speed. You must stay out of its way until you are clear of it. Likewise, if another vessel is passing you, you should maintain your speed and direction so that the other vessel can steer itself around you.

Narrow Channel and Bends

When navigating in narrow channels, you should keep to the right when it is safe and practical to do so. If the operator of a power driven vessel is preparing to go around a bend that may obstruct the view of other water vessels, the operator should sound a prolonged blast on the whistle (4 to 6 seconds). If another vessel is around the bend, it too should sound the whistle. Even if no reply is heard, however, the vessel should still proceed around the bend with caution. If you navigate such waters with your boat, you will need to carry a portable air horn, available from your local marine supply or major retailer.

Fishing Vessel Right-of-Way

All vessels which are fishing with nets, lines or trawls are considered to be “fishing vessels” under the International Rules. Vessels with trolling lines are not considered fishing vessels. Fishing vessels have the right-of-way regardless of position. Fishing vessels cannot, however, impede the passage of other vessels in narrow channels.

BASICS

Sailing Vessel Right-of-way

Sailing vessels should be given the right-of-way. Exceptions are:

- When the sailing vessel is overtaking the power-driven vessel, the power driven vessel has the right-of-way.
- Sailing vessels should keep clear of any fishing vessel.
- In a narrow channel, a sailing vessel should not hamper the safe passage of a power-driven vessel which can navigate only in such a channel.

Reading Buoys and other markers

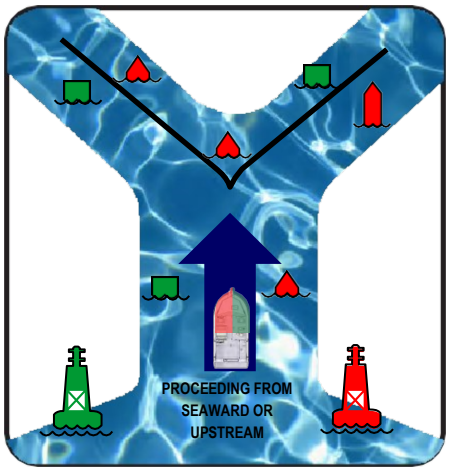
The waters of the United States are marked for safe navigation by the lateral system of buoyage. Simply put, buoys and markers have an arrangement of shapes, colors, numbers and lights to show which side of the buoy a boater should pass on when navigating in a particular direction. The markings on these buoys are oriented from the perspective of being entered from seaward (the boater is going towards the port).

This means that red buoys are passed on the starboard (right) side when proceeding from open water into port, and black buoys are to port (left) side. When navigating out of port, your position with respect to the buoys should be reversed; red buoys should be to port and black buoys to starboard.

Many bodies of water used by boaters are entirely within the boundaries of a particular state. The Uniform State Waterway Marking System has been devised for these waters. This system uses buoys and signs with distinctive shapes and colors to show regulatory or advisory information.

These markers are white with black letters and orange boarders. They signify speed zones, restricted areas, danger areas, and general information.

Remember, markings may vary by geographic location. Always consult local boating authorities before driving your boat in unfamiliar waters.



Fuel System

Your RH is equipped with a factory installed fuel tank. It was inspected and tested with the current regulations at the time of construction. It is your responsibility to keep the system in good working order and inspect all hoses and fittings for deterioration and replace as required.

Fuel Gauge

Your RH is equipped with a fuel gauge that registers the fuel level in your tank. With the gauge being mechanical, the gauge may record various readings at different trim angles.

Fuel Cap

Your RH has a flush mounted fuel cap on the port gunwale. The word GAS is embossed in red. To open the cap, press down and turn counter clockwise. The cap will pop-up and you can then continue to turn counter clockwise and open the cap. After fueling your River Hawk, replace the cap and turn clockwise until tight. Push the cap down and turn clockwise for a 1/4 turn and the cap becomes flush to the deck.

Fuel Vent

There is a vent fitting in the side of the hull below the fuel cap. The vent allows the air in the fuel tank to escape while fuel is being pumped into your tank. The vent will also allow fuel to spill before overflowing the fuel cap.

Fuel Filter

Your RH is equipped with a fuel filter in the fuel supply line to the engine. This filter is a water separator and supplies clean fuel to your outboard engine. You should inspect the filter assembly for corrosion and fuel line deterioration and change the filter on a regular basis. Refer to your outboard engine owner's manual and consult your dealer.



Helm System

Your RH helm is equipped with a factory steering system, throttle & shift control and optional trim tab controls. Each manufacturer supplies specifications on the equipment installed. You should become familiar with the supplied information.

Hydraulic Steering System

Your RH may have a hydraulic steering system. The hydraulic system consist of two components; helm assembly and hydraulic cylinder.

The wheel may be positioned at 5 different angles for your comfort. There is a lever, when pushed down, will allow you to position the wheel where you would like it. Release the lever when you have the wheel at your liking and it will be locked into place for steering.

Throttle and Shift Control

Your RH is equipped with either a binnacle or side mount control. The control consist of three (3) major components: control handle, a throttle cable and a shift cable.

The control handle works the gear shift and throttle. The control handle has three (3) positions: Neutral (straight up and down), forward position and reverse position. Moving the control handle beyond the neutral, forward or backward, shifts the engine into gear.

The control is equipped with the means to increase the engine's RPMs while in neutral. Refer to equipment users manual for additional information.



Helm System

Neutral Safety Switch

Each control unit has a built in neutral safety switch which does not allow the engine to be started while in gear. If the engine will not start, move the control handle to the neutral position. You should check your neutral safety switch periodically to make sure it is functioning. There may be a situation to where your engine could be started in gear if the neutral safety switch is not working properly. See your RH dealer if the safety switch does not pass your periodic test.

Engine Power Trim & Tilt

Outboard engines are equipped with a trim and tilt feature. See the engine's owner's manual to locate this feature. Most trim and tilt switches are located on the control handle. The switch is operated with the thumb while your hand is on the control lever arm. The trim feature works in the first 20°. The trim feature is used while your RH is underway. You can adjust the trim to lift the bow up or down allowing for a more fuel efficient cruise. The tilt feature moves the engine up and out of the waterline when traversing very shallow water. For more information on the use and maintenance of the power trim and tilt, refer to the engine's users manual.

Engine Stop Switch

Your RH Boat is equipped with an engine stop switch that when engaged will automatically shut the engine off. A lanyard is attached to the stop switch and to the operator. When the lanyard is pulled the stop switch is engaged.
Make sure the lanyard is attached to the stop switch prior to starting the engine. For more information on the use and maintenance of the engine stop switch, refer to the engine's users manual.

Trim Tabs (optional equipment)

Trim tabs are mounted on the stern on each side of the engine. Your RH has a double rocker type switch that operates the trim tabs. The trim tabs help adjust the listing of your RH due to an unbalanced load. The trim tabs can also adjust the angle of the bow. Trim tabs should be in the "UP" position before planning your RH. After achieving your intended speed, you can then begin adjusting your RH's angle and list. When cruising in a chop, you can trim the bow down to help smooth out your cruise.

RH HELM SYSTEM





Electrical System

Your RH is equipped with a factory installed 12 volt electrical system. There is an optional battery charging system that is 120 volts that is to be plugged into a shore power system. A 12-V wiring diagram is included that identifies all circuits.

12-V Electrical System

Your RH is equipped with a standard marine 12 volt electrical system. The system is powered by either one or two, 12 volt wet cell batteries. If you have 2 batteries, you will have a factory installed battery selector switch (or you RH dealer may install one for you). The charging of the batteries can be done by the engine while under way or you may opt to have a battery charger installed. The switch panel is powered by the 12 volt system and each switch is protected by individual circuit breakers. The engine is protected by its own fuse system. Refer to your engine user's manual for more information.

Batteries and Battery Switch

Your River Hawk is equipped with wet cell batteries. These types of batteries are recommended by River Hawk and most engine manufacturers. Use only wet cell batteries or consult your dealer for more information.

The battery selector switch, if used, has four positions. The switch allows power from battery #1 or #2 or both along with a position that turns all power off. The positions are OFF, 1, BOTH and 2. Position 1 allows the charging of battery 1 only while under way and the power to the system from battery 1. In turn when the switch is in position 2, battery 2 is charged and supply only. When the position is selected on both, battery 1 & 2 shall be charged and supply from both will be dispersed to the system. Consult your dealer about the operation of your battery switch.



Electrical System

Switch Panel

All of the switches are single pole or position switches except the wipers and navigation lights. The bilge has a single switch auto-float directly connected to the battery. The navigation lights have a navigation lights position an anchor light position. The middle position on both switches are OFF. All switches are wired to individual circuit breakers to protect the system from overload.



Optional AC Electrical System

Your RH may have the optional factory installed battery charging system. This system is powered by the standard household 120 volt current. There will be an inlet plug that will accept an extension cord to transfer AC to your optional charger.

You may decide to have your dealer install a charging system instead of the factory. Consult you installer for proper instruction on operating the charging system.



Electrical System

Electrical Maintenance

Every year you should use an electrical protector spray on all of you electrical components. This is something you do not think about often, out of sight, out of mind. Remove the electrical panel and spray the entire electrical area. If you see any corrosion correct it. Check the exterior lighting and remove light bulbs and apply a dialectric grease to the connectors and avoid getting the jelly on the bulb itself. Inspect all wiring connections for corrosion and fix these corroded connections as required. Either by cleaning or replacing.

Check the level of electrolytes in your battery on a regular basis and add distilled water to bring the levels to the appropriate heights. If you charge your batteries on a frequent basis, you will need to check the electrolyte level more frequently.

Keep the batteries clean. The battery post should be corrosion free. Keep the post clean with a post cleaner or fine grit sandpaper. Coat the post with a silicone grease or dialectric grease .

If your cables are showing any signs of wear, you should replace them.



Drainage System

The drain system is a gravity type design that discharges through thru- hull fittings. These systems should be checked to insure proper operation.

Self Bailing Deck (Optional)

Your RH may have flush floor drains in the rear deck. These drains have small balls that will float upward and block water from entering the boat but will be pushed downward to allow water from the deck to drain out through the thru-hull fitting overboard. These drains should be checked frequently and cleaned as required to allow for proper drainage. A small piece of debris can cause drainage issues.

Bilge Drain

The bilge area in the stern is equipped with a screwed fitting drain and a bilge pump to remove water. The drain plug is located at the lowest point in the stern letting the water drain out when your RH is on the trailer.



ALWAYS CHECK TO MAKE SURE THE DRAIN PLUG IS SECURE PRIOR TO LAUNCHING YOUR RH!

Your bilge area also has a bilge pump and in some cases, an automatic float switch. The float switch activates the pump when the water level is at a particular spot and the pump will begin to remove the water in the bilge. The float switch is always powered but the pump can be turned on via the switch on the panel.

Fish Box / Bow Storage (Optional)

Your RH may have bow storage that doubles as a fish box. There is a drain plug that allows the liquid to discharge overboard by gravity. Make sure the drain is free of debris for proper operation.

Anchor Locker (Optional)

Your RH may be equipped with an anchor locker that stores the anchor, line and chain. It is also equipped with a small drain that allows water to drain overboard. Frequently check that the drain is clean to provide proper drainage.

Raw Water

Your RH may be equipped with a live well that is plumbed to bring raw water from below your boat and into the livewell. Your RH may be plumbed with a raw water washdown pump that brings in raw water below your RH through a pressurized pump and hose that allows you to wash the boat down.

Livewell

Your RH may be equipped with a livewell that is plumbed to bring the raw water through a pump and continuously runs and refreshes the well with water. The pump is plumbed to a thru-hull fitting via a sea-cock. Make sure the valve is open prior to operating the pump. When not in use, shut the valve off to prevent a possible flooding issue if the pump housing breaks.

Optional Wash Down Pump

Your RH may have the optional raw water wash down system installed. This pump is plumbed to a thru-hull fitting via a sea-cock. The pump has a strainer on the inlet side and should be checked and cleaned on a regular basis for proper operation. The pump is also equipped with a pressure switch. This switch will turn on and off at particular pressures when the main switch is on. Your hose will have a spray nozzle attached and when you squeeze the handle, the pressure will drop and the pump will be activated. When you release the nozzle handle, pressure will build up, turning the pump off.

Raw Water System Maintenance

Check your hoses and fitting on a regular basis to ensure there are no cracks or signs of damage or deterioration. You should remove and clean the inlet sea strainers to insure proper operation. You should spray your pumps with a protective spray periodically and operate the sea-cocks periodically to insure proper operation.



Portable Head

Your RH may be equipped with a portable marine system that is made up of two major components: an upper tank and a lower tank. The upper tank contains the fresh water supply, a bellows pump, a seat and the lid. The bottom tank contains the flush valve, a waste holding tank, a chemical storage compartment and the drain nozzle. The components are secured together by a clamping mechanism when the portable head is ready for use.

In some areas, the law requires that portable heads be equipped with an optional permanent deck mounted pump out system to evacuate the waste with a dock side pump. Boats with a portable head pump out will be equipped with a deck fitting marked “WASTE” located on the deck. Since this system is required to be permanent, the bottom waste tank cannot be removed and the only way to evacuate the system is by a dock side pump.

Portable Head Operation:

1) The freshwater reservoir must be filled with fresh water.
2) Compress the bellows pump several times to add water to the bowl.
3) FLUSH the head by pulling the slide handle out.
4) Compress the bellows pump to rinse the bowl.
5) Close the slide handle valve.

Portable Head Maintenance

To keep your portable head operating properly it must be emptied and properly cleaned periodically. Please refer to the manufacturer owner’s manual for detailed instructions on the proper operation of your portable head.

In some areas the law requires a waste pump out system on portable heads. If your boat is equipped with the waste pump out, make sure you know the laws for the areas in which you boat before modifying or removing the pump out system. The portable head must be properly winterized before winter lay-up or for cold weather use. Please refer to the manufacturer owner's manual for winterizing and cold weather instructions.

Porcelain Head (Optional)

A manual porcelain marine head is provided as an option on the RH. Flush water is supplied by a thru-hull fitting in the bilge and raw water supply line.

Before using, open the inlet valve on the head and pump to wet the inside of the bowl. Use the Y-valve handle next to the toilet to select where to pump the waste: holding tank or overboard. Once the waste is discharged, the toilet should be pumped dry. The waste in the holding tank remains until it is pumped out by a waste dumping station.

In many areas it is illegal to flush head waste directly overboard. Violation of these pollution laws can result in fines or imprisonment. Always know the law for the areas in which you boat. Never dump head or holding tank waste overboard illegally.

Porcelain Head Holding Tank

When the tank is full it must be pumped out by an approved waste dumping station through the waste deck fitting.

Porcelain Head Maintenance

The head should be cleaned and inspected for leaks regularly. Repairs should be made as required. The holding tank should be pumped out and flushed as needed. Periodically add chemicals to the holding tank to help control odor and to chemically break down the waste. See the head manufacturer owner's manual for additional operating and maintenance information. The head system must be properly winterized before winter lay-up. Please refer to the manufacturer owner's manual for winterizing instructions.



Jump Seat Operation

Your RH may be equipped with jump seat back rest. The brackets that support these back rests are in the stern gunwale. The brackets also can be used as rod holders. There are pins that secure the back rest post into the bracket.

Exterior Aluminum Finish

Your RH's exterior is a thin layer of paint. This is for aesthetics only and is not structural. The paint is a hard shell that is porous and can discolor over time and also crack. Proper maintenance is required to care for your paint.

Exterior Aluminum Maintenance

The maintenance of your RH's aluminum is similar to what you would give to your car. Use common mild soaps and fresh water for cleaning. DO NOT USE caustic, alkaline or ammonia based cleaning items as these will harm and discolor your aluminum.

Exterior Aluminum Cleaning

The best way to prevent soil build-up and discoloration is to rinse your RH after each use and / or a regular basis. Clean your RH with a mild dish soap or detergent and plenty of fresh water. Also, use a sponge or soft cloth on the smooth surfaces and a bristled brush for the non-skid surfaces.



Finishing / Waxing

The finish on your RH will naturally fade, dull or age. These discolorations are shallow and can be restored. A polishing or rubbing compound can be used to remove small scratches and restore weathered areas.

Aluminum Care & Maintenance

- Keep your boat cleaned and waxed.
- Wash your boat with only mild, non-abrasive detergents. Wax the exterior of your boat at least twice a year.
- Clean and wax your boat prior to placing it in storage.
- Use only a high-quality automotive wax in accordance with application instructions provided by the manufacturer.
- Remove any small scratches or scuffs using a fine rubbing compound. For any major repairs, consult your authorized dealer.
- Cover if possible to keep your boat looking its best. Store in a dry, covered area.
- Never use any abrasive cleaners or brushes on your boat's exterior surfaces.
- Remove any unintentional fuel or oil spills from the aluminum surfaces as quickly as possible.
- Give your boat a fresh water wash after saltwater use.
- Never place a non-breathable cover on a boat that is still wet.
- Consult your RH dealer for advice on the waxing products for your boat.

Plexiglass / Polyethylene

The rod holders in your RH are constructed out of polyethylene and should be cleaned on a regular basis. The hard plexiglass should be cleaned using any glass cleaner and a soft cloth.

Anodized Aluminum

The anodized aluminum should be cleaned and maintained to prevent pitting. The aluminum parts should be washed with soap and water on a regular basis. Never use abrasive cleaners or bleach products. Failure to clean these products on a regular basis will allow contaminates to attack the anodized aluminum and create potential pitting.

To protect the aluminum parts, coat the aluminum with a non-abrasive metal protector. Consult your RH dealer for a recommended product to clean and protect your aluminum.

Stainless Steel Deck Components

The SS components on your RH should be cleaned with mild soap and fresh water on a regular basis, using a sponge or soft cloth.

Doors & Hinges

All hinges should be antiseized once per year.

Canvas

- Store canvas prior to trailering.
- Dry all canvas prior to storing to prevent mildew.
- To store your panels, roll them to prevent the clear vinyl from cracking. NEVER fold the panels.

Wiring Tubes

Your RH may have a wiring tube installed that allows electrical wiring to be run from the stern to the console and to the bow. There is a PVC tube that is located on the outside edge on the deck that allows the wiring of the bow lights. This tube is located to the starboard side under the deck were the deck and hull are bonded. This tube can be accessed in the same location as the starboard wire tube.

Galvanic Corrosion

Galvanic Corrosion is a type of problem that is caused by dissimilar metals. Galvanic Corrosion can occur for many reasons; including dissimilar fasteners and fittings that are in direct contact with bare aluminum, or like loose items (ie: sinkers and hooks that get into the bilge area). These dissimilar metals cause the galvanic corrosion when they are immersed together or while they are in contact with saltwater, hardwater or even contaminated freshwater.

Electrolysis Corrosion

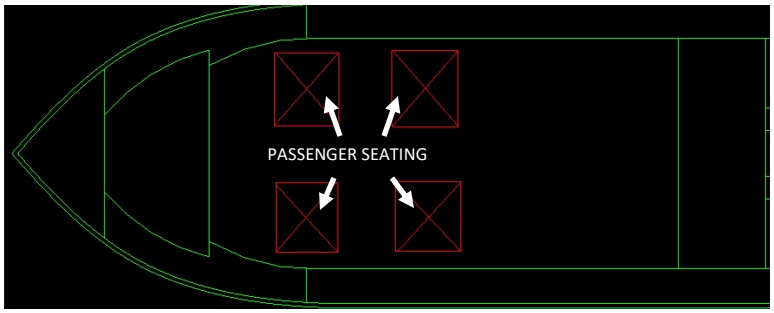
Electrolysis Corrosion can occur when an electrical component in the AC or DC system was either incorrectly installed or has an electrical fault which makes your boat the ground. This fault doesn't necessarily need to be on your boat to cause an issue. It could be located on a boat near you or a boat in the marina that is connected to the same AC on the marina supplied power connection. These faults can turn your boat into a battery, with the saltwater as the conducting electrolyte.

Sacrificial Anodes and Galvanic Protection

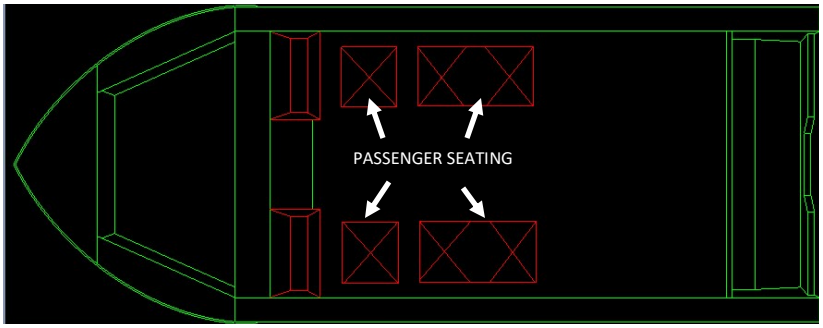
Your boat may be equipped with sacrificial anodes and a galvanic protection device. A galvanic isolator is present on all models equipped with a minimum 30A shore power system, and is installed just after the vessel's shore power connection. Signals can pass through this galvanically isolated circuit, but stray currents, such as differences in ground potential or currents induced by AC and DC power are blocked. Sacrificial anodes on your vessel are part of your cathodic protection system. The anode is made from a metal alloy with a more "active" voltage than the surrounding metal it is protecting. The difference in potential between these two metals means that the sacrificial anode material corrodes in preference to the surrounding area it is protecting. Anodes do require maintenance to keep them at their peak effectiveness. Repeated cleanings throughout the season with a wire brush may be required to remove any buildup that may form. The anodes on your vessel should be inspected and cleaned every two months. You should change your anodes after it has corroded to half its original size or when you've accumulated twelve months of immersion in saltwater. When anodes are cleaned or replaced, it must also be verified that they have good continuity with the hull. This is an easy step by using a multi-meter set to the ohms scale.

SEATING POSITIONS

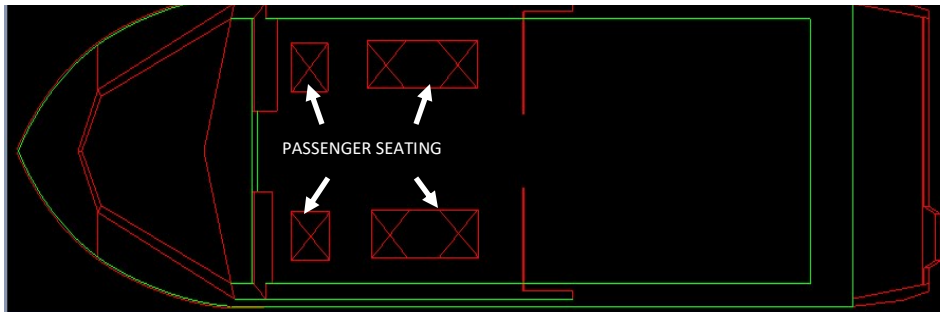
SAMPLE MODEL PRO-V



SAMPLE MODEL SH / COASTAL



SAMPLE MODEL CUDDY



GLOSSARY

A

ABEAM - A line perpendicular to the boat's keel.
Aft- Toward the rear or stern of the boat.
Amidship - In or toward the part of the boat midway between the bow and the stern.
Anchor - A metal device designed to dig itself into the sea floor to hold the boat in place.
Anchorage - A specifically designated area for boats and vessels to anchor.
Astern - Behind the boat. To move backwards.
Athwartship - At right angles to the centerline or keel of the boat.

B

Beam - The greatest width of the boat.
Bearing - The direction of an object from the boat.
Bilge - The lower interior area of the hull.
Bilge Access - A removable, watertight cover that provides quick entry to enclosed areas for maintenance or visual inspection.
Bilge Pump - A pump that removes liquid that collects in the bilge of the boat.
Boarding - Entering or climbing into a boat.
Boarding Ladder - Set of steps temporarily affixed over the side of the boat to allow access or entrance into the boat.
Bow - The forward section of the boat.
Bow Line - A line that is attached to the bow of the boat.
Bow Tow Eye - A U-shaped hull fitting used to attach the trailer winch to the boat.
Broach - When a boat becomes broadside or sideways in a sea and is in danger of capsizing.
Bulkhead - Vertical partition in the boat.

C

Capsize - When a boat over turns.
Chine - Point where the topside and bottom of the boat join.
Chock - Deck fitting that has inward curving flaps through which mooring or anchor lines pass through to lead them in a desired direction.
Cleat - Deck fitting with arms or horns on which lines are fastened.
Cockpit- - The location of controls on a vessel.

D

Deck- Upper structure which covers the hull.
Displacement -The volume of water that the boats hull displaces.
Draft - Depth of water required to float a boat.

E

Electrical Ground - An electrical connection to the negative side of the battery.
Even keel - When your River Hawk is floating or proceeding level and smooth.

F

Fathom - A depth measurement equal to six feet.
Fender - A soft plastic or rubber object that is placed between the boat and a dock or other vessel during mooring to protect your boat from damage.
Fend Off - Hold your boat away from a vessel or dock to prevent damage.
Flukes - Large points of an anchor that dig into the sea floor.
Freeboard - Distance measured between waterline and deck.

G

Grab Rail - Metal hand hold railings mounted for personal safety when moving around the deck.
Gunwale (Gunnel) - Point where the deck and hull join.

H

Harbor - A place on the coast where vessels may find shelter, esp. one protected from rough water by piers, jetties, and other artificial structures.
Hatch - An opening in the deck to provide access below.
Head - A toilet on a boat.
Helm - Steering and control area of a boat.
Hull - Major component that provides a watertight platform buoyant enough to float a craft and its load.

K

Keel - The major longitudinal member of a hull -the lowest external portion of the boat.
Knot- A measurement of speed equal to nautical miles per hour. (1 knot = 1.15 mph.)

GLOSSARY

L

Lee - The side that is sheltered from the wind.
Leeward - The direction to which the wind is blowing.
Lines - A rope or ropes on or around your boat.
List - A tilt or lean to one side of your boat.
LOA - Overall length of a boat.

M

Midship - The center section of the boat. **Marina** - Protected facility for storing boats. **Moored** - A secured and properly tied boat.
Mooring - An anchoring devise that is permanently anchored to the sea floor that secures boats.

N

Nautical Mile- A length measure = 6,080 feet.
Nun Buoy- A conical shaped navigational aid.

O

Outboard - 1. A boat designed to have an engine mounted to the transom.
Refers to an object outside of a boat.

P

Pier- An object that extends into the water.
Pile / Piling - Column that is driven into the sea floor to which boats can be tied.
Pitching - Rocking motion of the boat's bow as it rises and falls.
PFD - Personal Floatation Device
Port - The left side of the boat when sitting in the vessel facing forward.

R

Reverse - Change of direction from forward motion.
Roll- A boat's sideways rotational motion in rough seas.
Rope Locker - Compartment where line is stored. Usually in the bow area.
Rub Rail - A railing that runs the length of the boat's sheer that protects it from rubbing on docks, piers, pilings and/or other boats.

S

Scupper - Holes permitting water to drain overboard from deck and cockpit.
Seacock - Safety valve installed in the bilge between thru-hull fittings and piping.
Sheer - Curve or sweep of the deck as viewed from the side.
Slip - A boat's berth between 2 piles or piers.
Sole - The deck of a boat's cockpit or cabin.
Spring Line - A line that leads from the bow aft or stern forward to prevent the horizontal movement of the boat at the dock.
Starboard - The right side of the boat when sitting in the vessel facing forward.
Stern - Rear of the boat.
Stow - To pack away
Stringer - Longitudinal members fastened inside the hull to add rigidity and strength.
Swamp - When a boat fills with water from the sides or over the transom.
Swimming Ladder - A ladder that extends into the water to allow boarding.

T

Thru-hull - A fitting that passes through the hull of the boat, either above or
below the waterline.
Topside - The skin of the boat between the waterline or chine and deck.
Transom - Flat vertical stern perpendicular to the keel.
Trim - Refers to the angle of the boat underway.
Trough - The area between the crest of waves and parallel to the crest.

U

Underway - When a boat moves through the water
Wake - The movement of water created by a moving boat
Waterline - The line to which a vessel's hull is immersed when loaded in a specified way
Windward - Side facing the direction of the wind (against the wind)

Y

Yacht Basin - Protected facility for boats
Yaw - When a boat moves off its course to either side.

WARNING LABEL SAMPLES



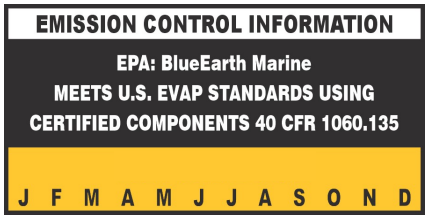








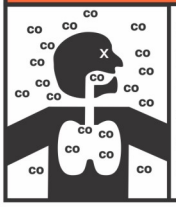




⚠ WARNING

ROTATING PROPELLER MAY CAUSE SERIOUS INJURY OR DEATH.
SHUT OFF ENGINE WHEN NEAR PERSONS IN THE WATER.

⚠ WARNING



Carbon monoxide (CO) can cause brain damage or death.
Engine and generator exhaust contains odorless and colorless carbon monoxide gas.
Signs of carbon monoxide poisoning include nausea, headache, dizziness, drowsiness, and lack of consciousness.
Get fresh air if anyone shows signs of carbon monoxide poisoning.
See Owner's Manual for information regarding carbon monoxide poisoning.

⚠ DANGER



Carbon monoxide (CO) can cause brain damage or death.
Engine and generator exhaust contains odorless and colorless carbon monoxide gas.
Carbon monoxide will be around the back of the boat when engines or generators are running.
Move to fresh air if you feel nausea, headache, dizziness or drowsiness.

RH Aluminum Boats reserves the right to change, alter, and modify their finished boats, parts, and specifications included in this Owner's Manual without notice. Optional equipment described in this manual may vary from model to model and year to year.

Please consult with your local RH Aluminum Boats Dealer for the most current information on standard and optional equipment and specifications. This manual has been compiled to help you operate your boat with safety. It contains details of your boat, the equipment supplied or fitted, its systems, and information on its operation and maintenance. Please read it carefully and familiarize yourself with your boat before using it. Please ensure that you obtain handling and operating experience before "assuming command" of your boat. Your dealer will be pleased to help you with any questions you may have.

PLEASE KEEP THIS MANUAL IN A SECURE PLACE, AND HAND IT OVER TO THE NEW OWNER IF YOU EVER SELL YOUR BOAT.

RH

ALUMINUM BOATS

RHBOATS.COM