

NAUTA-LINE OPERATORS MANUAL



Price \$5.



TO THE NEW NAUTA-LINE HOUSEBOAT OWNER

Welcome to the wonderful world of HouseBoating. You are now the proud owner of one of America's finest pleasure boats. Your purchase of a Nauta-Line places you in the distinguished family of knowledgeable boat owners. Nauta-Line is Number One in HouseBoats.

This leadership means that you will benefit from Nauta-Line's tremendous background of over seventeen years experience in fiberglass construction. Your boat is the result of our insistence on using only quality materials and time-tested production methods. Nauta-Line's superior hull design and dynamic interior treatment, combined with an outstanding dealer organization insures that: dollar for dollar, size for size, liveability for liveability and performance for performance, you have the best possible boat afloat. ...a Nauta-Line Fiberglass HouseBoat.

The purpose of this manual is to acquaint you with the design and operating features of your new boat which are of specific advantage to you. You will notice that in every detail of planning, engineering, styling, and convenience, we have sought to anticipate your needs and desires.

READ THIS MANUAL CAREFULLY: Knowing how and when to operate the various controls to the best advantage and how to maintain your craft will enhance your boating pleasure from the start. As you read this manual and check the various points and features listed, you will become aware of the many refinements and innovations that have been incorporated to give you the maximum in boating pleasure and performance.

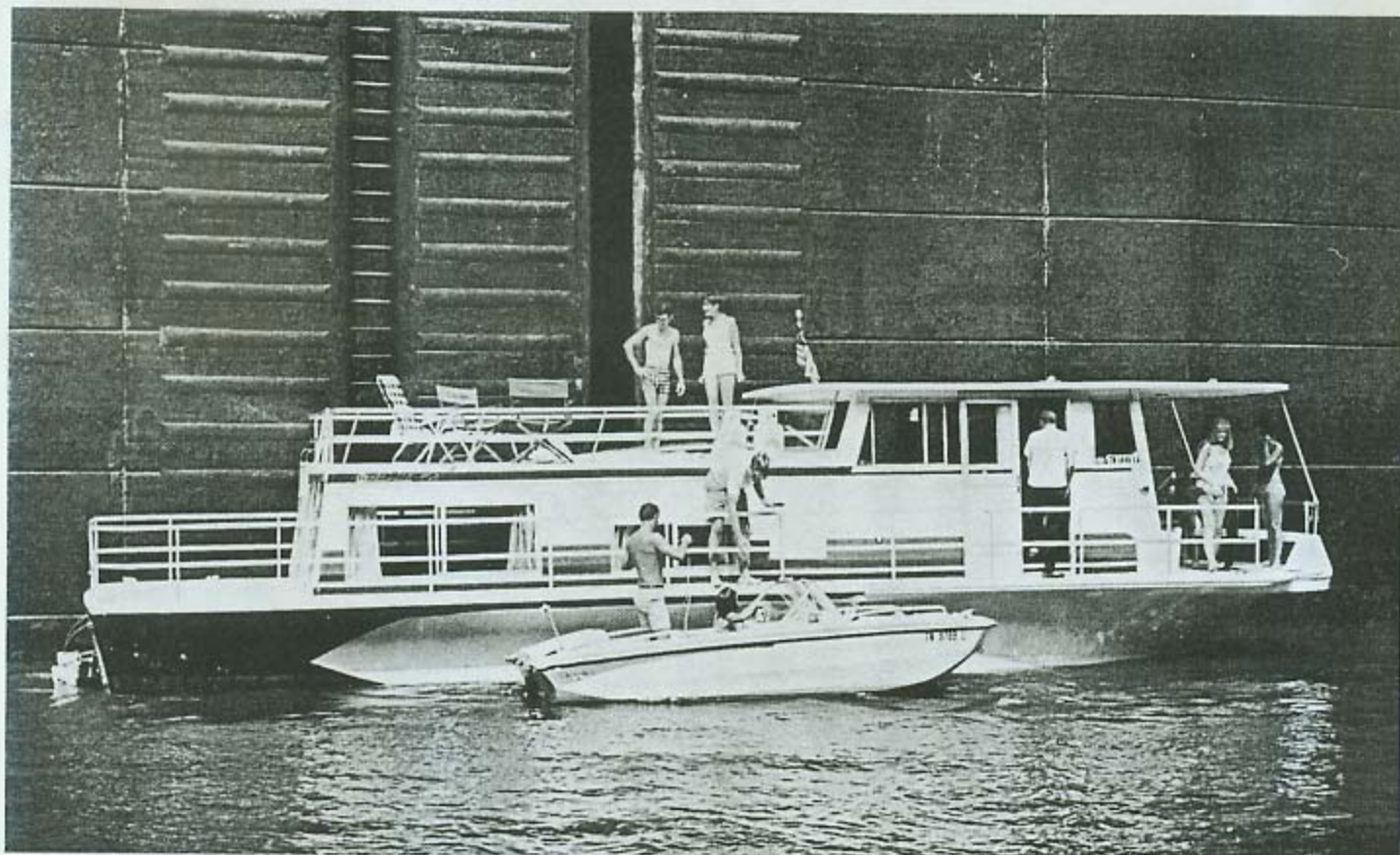
Turn this page and become acquainted with the exciting features of your new HouseBoat - features that will remain new for many seasons of pleasant and carefree boating seasons.

Thank you,

John F. Purcell
President
Nauta-Line Division
Glastron Boat Co.

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GET ACQUAINTED WITH YOUR NEW HOUSEBOAT

After you've become accustomed to the sleek lines and striking beauty of your new Nauticraft, step aboard and sit behind the wheel. From this vantage point, we're sure you'll be favorably impressed by the overall quality and elegance of the interior, the nearness of the operating controls and the readability of the instruments.

Now using the Owner's Manual and other manufacturers' literature supplied as a ready reference, check out each and every instrument and control to make sure you know how they operate before you take to open water.

When you are thoroughly familiar with the location and operation of the instruments and controls, the next step is to start the engine and go for an initial test run.

Do not start the engine until you have read the separate Engine Manual you received with this operator's manual. In any case, **do not start the engine until** you have opened and ventilated the engine hatch. The Nauticraft bilge ventilation system complies with U.S. Coast Guard regulations. These bilge ventilation requirements have been established to eliminate the accumulation of gasoline vapors which may gather in the bilge of your boat if it remains inactive. The sparks from a starting ignition can cause combustion in a bilge that has not been properly ventilated. It is a wise precaution to open the engine hatches before starting the engine.

Start your check with an inspection of the batteries. Check each cell to be sure that it has an adequate fluid level. The electrolyte should cover the plates, but not be higher than about a 1/4 inch above them; many batteries now have visual indicators for the proper liquid level. Do not add water to a battery unless it is fully charged, or nearly so. The charging process results in a rising of the liquid level, and otherwise you might overflow. If you have access to or can borrow a hydrometer, check the specific gravity of each cell before adding any water. Fully charged batteries will show an S.G. of around 1.260, varying somewhat with the type of battery and its manufacturer. More important than the actual specific gravity is the uniformity of the readings between cells. A variation of more than ten points indicates potential trouble. If you find more cells significantly below others, have the battery checked by an expert or replace the unit without delay.

If you must add liquid to your batteries, use distilled water. Be absolutely sure that it is clean; do not add acid to your storage batteries.

Check the top of your batteries. If there is corrosion at the terminal posts, clean them thoroughly and cover them with a light coat of grease. If the top of the battery is dirty, clean it with a dilute solution of ordinary baking soda and water, but be sure not to get any of this solution into the battery. Keep the cell caps on tightly during this process. Check all wiring for rubbing or chaffing damage. Finally, check your inventory of light bulbs and spare fuses.

ELECTRICAL EQUIPMENT

If you have and operate a radio aboard, be sure you carry out the following checks.

Check carefully the base insulator of the antenna. It should be clean, free of any paint or varnish, dirt or salt deposits. Check also the connection of the wire to the antenna for excessive corrosion. If it is in need of attention, loosen the nut and scrape the connecting metal surfaces clean and bright. Check the connection of the ground lead to the through-bolt of the ground plate. If there is corrosion, loosen, clean and replace it. Check all equipment that operates on self-contained batteries, such as a radio direction finder or portable emergency receiver. Are the terminals of the cells and those of the equipment bright and free of corrosion? If not, clean them and replace the batteries if the performance of the equipment is not up to par.

PROPER FUELING PROCEDURE

1. CHECK FUEL TANK, FILL PIPE, VENT PIPE AND FUEL LINES FOR DAMAGE OR LOOSE FITTINGS.

2. FUELING SHOULD NEVER BE UNDERTAKEN AT NIGHT EXCEPT UNDER WELL LIGHTED CONDITIONS.

3. WHENEVER THE BOAT IS MOORED AT SERVICE STATION FOR FUELING:

- Do not smoke, strike matches or throw switches.
- Stop all engines, motors, fans and devices liable to produce sparks.
- Put out all lights and galley fires.

4. BEFORE STARTING TO FUEL:

- See that the boat is moored securely.
- Close all ports, windows, doors and hatches.
- Ascertain definitely how much additional fuel the tank will hold.

5. DURING FUELING:

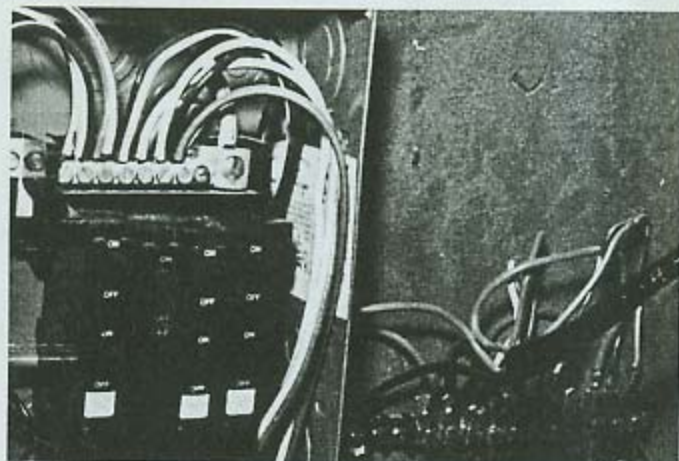
a. Keep nozzle of hose or can in contact with opening to guard against possible static spark.

b. See that no fuel spills get into hull or bilges.

6. AFTER FUELING IS COMPLETED:

- Close fill openings.
- Wipe up ALL spilled fuel.
- Open all ports, windows, doors and hatches.
- Permit boat to ventilate for at least 5 minutes.
- See that there is no odor of gasoline in the engineroom or below the decks before starting machinery or lighting fire.

NAUTA-LINE WIRING AND ELECTRICAL SYSTEM



The wiring and electrical installations aboard all Nauta-Line Fiberglass HouseBoats have been selected and situated to provide maximum safety and convenience. The design and engineering of the electrical wire harnesses is in accordance with NFPA, YSB, and BIA recommended practices. Only the highest quality copper, brass and bronze American made components are used throughout the electrical system, and all wiring has been designed to carry a minimum of the 30% more than the necessary amperage. The color coding is in accordance with the Boating Industry of America recommendations, and greatly simplifies the tracing of circuits in maintenance procedures and installation of custom additions to the electrical system. All 110 volt wiring is connected to the magnetic circuit breakers for additional protection. All 12 volt accessory and lighting wires are connected at the fuse block with "quick disconnects" for ease of isolating and checking circuitry. 110 volt circuits are fused with circuit breakers. A wiring location and color code chart is furnished with this manual.

INSTRUMENT PANELS AND CONTROLS



Oil Pressure Gauge

If the oil pressure gauge indicator stays at either "L" or "H" position, stop the engine. Check oil level - don't cruise with these conditions.

Tachometer

Shows engine revolutions per minute. Check engine manual for proper R.P.M.

Ammeter

Shows electrical output from battery. If ammeter discharges when motor is running, do not cruise under this condition. Check battery and consult engine manual.

Temperature Gauge

Shows temperature of motor. If gauge reads above average do not operate engine. Check engine manual.

Ignition Key

Turn right to start engine. Do not start engines before reading engine manual or ventilating bilge.

Electric Bilge Blower

Always turn on electric bilge blower for five minutes before starting engines.

International Lights

Pull out to turn on. Push in to turn off. 3 position switch - in is off, 1st notch running lights - 2nd notch anchor.

Range Light

Switch on panel.

Throttle Shift Controls

Throttle - Foreward to increase engine rpm. Shift - All way foreward to shift into foreward. Neutral is in center position. Pull back to shift into reverse. Shifting should be done at lowest possible engine rpm without stalling engines. Shifting should be done with a firm, smart action only with engine running.

Windshield Wipers (Optional)

Pull out to operate - push in to stop.

Fuel Indicator

Check fuel before everything else. Always fill tanks before starting any cruise or trip. Tanks should always be topped off to prevent condensation.

Ship's Wheel

Deluxe 22" chrome and hardwood wheel controls direction. Nauta-Line HouseBoats are powered by outdrive and do not have rudders as in ordinary cruisers. The ship's wheel turns the boat on its axis, resulting in greater maneuverability and control.

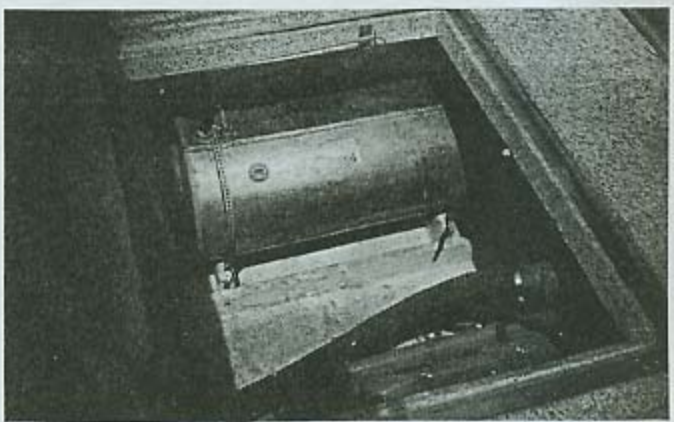


Door Locks

Two keys supplied with your Nauta-Line - one for the ignition and one for both the cabin door and rear patio sliding door. It is a good idea to make a duplicate and keep in a safe place.

Fuel Tanks

Fuel tanks are located in engine compartment. Nauta-Line uses only approved Yacht Safety Bureau fuel tanks. Standard equipment on the 34' model is a 50 gallon tank. The 43' model provides two 60 gallon tanks. Additional fuel tanks for extensive cruising may be installed as an optional accessory. See your dealer. CHECK FUELING INSTRUCTIONS ON PAGE 2 CAREFULLY BEFORE FUELING.



Water Tank

A 100 gallon fresh water tank is located on centerline, at midships underneath the flooring on the 43' model. The 34' model provides a 50 gallon fresh water tank in back of the pilot house seating area. (note: always check water supply before starting a cruise.

Bilge Pump (optional)

Pumps any water that may have accumulated in bilge.

Tie Cleats

Used for docking and tying up your boat. Nauta-Line provides 4 mooring bitts as standard equipment on the 34' and 6 for the 43'. **IMPORTANT:** These cleats were not intended for towing.

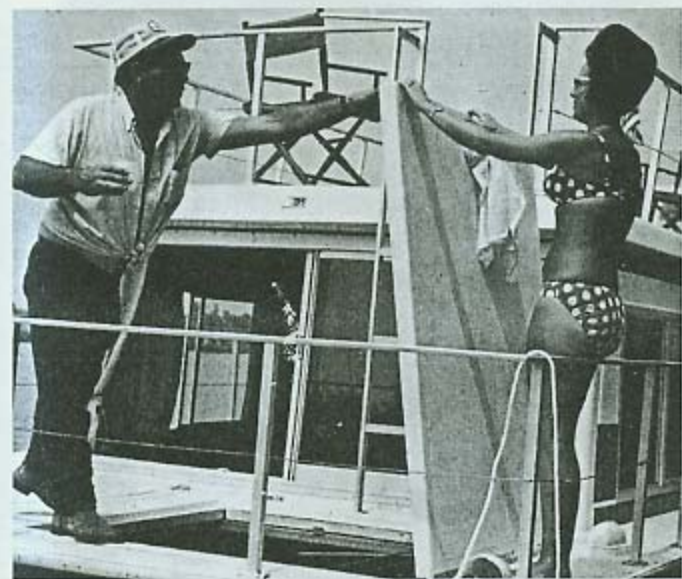


Watertight Bulkheads

The 34' boat has two watertight bulkheads, the 43' boat has three. In order for these to be effective, the plug supplied with the boat must be used. Access to these plugs is through the small access hatches.

Engine Hatches

Engine hatches are located aft. Deluxe flush type hatch pulls lift easily for entrance to engine area. Care should be taken to insure proper drainage of hatch wells.



Galley Refrigerator

A 4.5 cu. ft. ice chest is supplied as standard equipment on both the 34' and the 43' models.



Refrigerator Gas/Electric Combination (Optional)

Gas Operation

1. To start the refrigerator, turn the gas valve lever A to open position and turn the thermostat knob B to setting 4. (On refrigerators with combination electric/gas operation the gas valve cannot be fully opened unless the electric switch is in the OFF position).
2. Press the red button C of the automatic pilot and after about 15 seconds, turn the lighter rod D clockwise with a rapid movement. This will create a spark which lights the burner.

NOTE: Propane gas appliances should be installed **only** by qualified mechanics. All connections should be checked periodically for hazardous conditions.

3. After the burner is lit, keep the button C pressed for an additional 15 seconds.
4. Release the button C and check that the burner is operating. If not, repeat the process.
5. Oven can now be operated automatically as selected by thermostat dial on the range front panel.

Operating the Propane Stove

To operate the range Constant Burning Pilot:

1. Locate the Constant Pilot Light immediately beside the oven pilot light.
2. Lift range top and look for Constant Pilot Valve. This valve is connected to the manifold (black pipe to which burner valves are connected).
3. Turn constant pilot valve handle so that it is at right angles to manifold (open).

Electric Operation

1. Check that the connection cable is plugged to the supply socket.
2. To start the refrigerator, turn the gas valve lever A to the shut-off position and turn the switch to ON.
3. Turn the electric thermostat knob C to setting 4.
4. Light constant pilot which is located to the right of the oven burner. Allow thirty seconds for the air to be purged from the line.



Head Operation and Maintenance

To operate the head, make sure that both the seacocks and the inlet valve on the toilet are open. No priming is necessary. Just pump some water into the bowl before use. After use, pump until the bowl is flushed clean. If the boat will be left unattended for a period of time, the seacocks should be closed and a few drops of a better grade machine oil applied to the piston rod to keep the "O" ring soft. Periodic application of vaseline on the piston rod will keep the toilet operating more easily.

Maintenance of the head consists merely of good shipboard practice. When running in rough water, or when the HouseBoat is to be left overnight, close the inlet valve. Be sure to open it before using the toilet.

Should the toilet pump hard, check any of the following three things:

1. The piston rod is dry.
2. A foreign object is in the pump.
3. The inlet valves or the seacocks are closed.

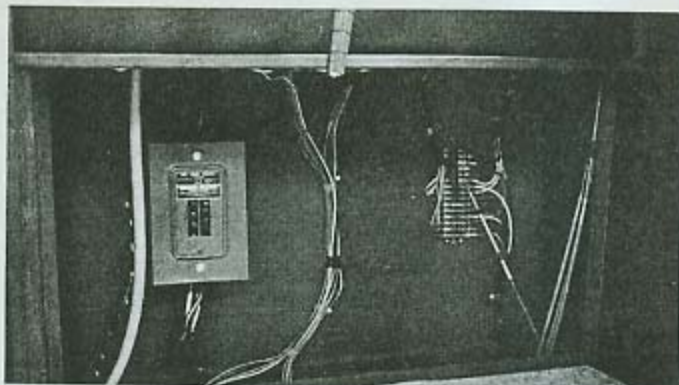
If an object becomes lodged in the toilet, close the seacocks and remove the flange and discharge pipe. Most small objects will be caught at the point of the choker valve. When cleaning the bowl, acids or harsh alkalis should be avoided.

When you haul your HouseBoat out for storage, spend some time making sure your toilet will continue to give excellent service:

1. Fill the bowl, pump, and discharge lines with fresh water and pump overboard several times. Fill the bowl again and let stand several days to dissolve any salt in the housing and lines. Then pump dry.
2. Apply vaseline to the piston rod and work it down.
3. Before freezing weather.

ELECTRICAL SYSTEM AND WIRING

The boat's 12 volt electrical system is used when the boat is under way or when the engines are running and depend on the electrical energy produced by the alternator and stored in the battery. Check engine manual for information. The 12 volt system fuse block is located in the binnacle box. Caution must be taken not to run the 12 volt system down because it will cause trouble when trying to start the engine since the 12 volt system battery is also used for starting the engine.



We recommend that 15 x 20 amp fuses only be used. Always keep a minimum of one box of spare fuses in your tool locker. The wiring diagram that comes with each boat will show where the 15 and 20 amp fuses are used. The boat's 110 volt system (Dockside) inlet is located at forward starboard.

Magnetic circuit breakers for the 110 volt electrical system are located in binnacle box. In the case of a power line failure first determine the cause of the power loss or overload and correct this condition. Then reset the current breaker by pushing the switch to "ON". Particular caution should be taken when energizing 110 volt system.

CAUTION: If 110 current is fed into the boat's grounding system all appliances, engines, copper tubing will be lethal. Some marinas have incorrect polarity on their dockside hookups. Before hooking up at an unknown dock check and be positive that polarity is correct.

ELECTRICAL SYSTEM CHECK LIST

Even though the components we use are the best obtainable and have been thoroughly tested, the humid atmosphere found inside any boat is particularly damaging to the electrical systems. Keep the electrical system aboard your new Nauta-Line in ship-shape condition.



The molded, polarized connector bodies make removal for maintenance easy and eliminate error in reconnecting system. Molded connectors at the engine simplify removal for maintenance and check out. All molded connectors feature phosphor bronze receptacles and complete insulation. The switch panel nomenclature is engraved in the panel face for performance and durability.

Wire terminals are machine crimped for reliability and feature an insulation grip which prevents the insulation from slipping away from terminals in cold weather due to shrinkage.

ELECTROLYSIS

Electrolysis or stray current corrosion, on boats in the water, consists of transfer of metal from one part to another part by means of an electric current flowing through the parts and through the water in which they are immersed. Electrolysis and galvanic corrosion are related but are caused by different measures. Galvanic corrosion will be explained later in this section.

Corrosion by electrolysis can best be compared to a plating operation such as electroplating of chromium or brass. Salt water acts as an excellent electroplating bath in this case. The 12-volt D.C. battery in your boat is the source of the electric power for the plating operation. In electroplating, the metal which is intended to be plated upon the object is immersed in the electroplating bath and is connected to the positive terminal of the voltage source. This positive terminal is called the anode. When the circuit is complete by making the plated object negative in the circuit, current will flow through the plating bath and carry particles of metal from the anode to the cathode or plated object. The requirements for this action calls for a complete circuit in which one electrode is more positive than another electrode within a conducting solution such as salt water.

This could occur on a boat, for instance, if a positive battery ground were made to the engine which, in turn, would make the propeller and shaft positive and if the negative side of a bilge pump became shorted to the water. In this case metal from the propeller and shaft would be carried through the water and plated onto the exposed portion of the bilge pump. With 12-volts impressed on the circuit and sea water as the electrolyte, the propeller and shaft would disappear in a matter of days. Two fittings are recommended to reduce this danger.

First, all marine engines manufactured by major builders, today, have negative ground in the battery system. With the engine and, therefore, the propeller negative, the worst that can happen is that a bilge pump or other minor electrical item might be destroyed by being plated to the propeller and shaft, instead of the shaft and propeller being destroyed. Additional protection can be gained by bonding all thru-hull metal fittings shafts, struts, rudders and engines together in one circuit, using a heavy copper conductor such as number eight wire or quarter-inch copper buss bar. Whenever a radio-telephone installation is made it is mandatory for such a bonding system to be installed at the same time. The high rates of current which are induced into the water beneath the boat through the radio-telephone grounding plate can enter adjacent metal parts and cause heavy electrolysis unless all metal parts are bonded together in the same circuit as the ground plate.

GALVANIC CORROSION

Galvanic corrosion is the transfer of one metal through an electrolyte to another metal which is electrically connected to the first metal where no external voltage is applied but the two metals occupy different positions in the galvanic series. The galvanic series refers to a listing of all metals in order of the voltage generated between them in an electrolyte. At one end of the galvanic series we have magnesium, zinc and aluminum. This is referred to as the corroded or least noble end of the series. At the other end of the series lie graphite, platinum and gold which are referred to as the protected metals or the most noble. Roughly halfway between these two extremes lie many of the marine metals such as bronze, nickel and copper.

When two different metals are electrically connected and immersed in an electrolyte, the metal which lies closer to the protected or noble end of the galvanic series will not be harmed, while the metal which lies nearer the less noble or corroded end will gradually be eaten away by galvanic corrosion.

The best way to eliminate galvanic corrosion is to use only compatible alloys from the brass, copper, bronze, nickel-copper group in the middle of the galvanic series.

Galvanic corrosion can be reduced or eliminated by insulating the two dissimilar metals from each other in the electrolyte. This is sometimes done in aluminum-hulled boats where a bronze fitting must be used by mounting the bronze fitting in a Micarta or plastic bushing to insulate it from the aluminum hull.

The relative severity of galvanic corrosion acting upon a corroded metal depends on the area exposed in relation to the area of noble metal exposed. A less noble metal can be protected in a galvanic circuit by painting the noble metal with a non-metallic paint. This will reduce the area of the noble metal to the point where galvanic corrosion of the less noble metal will be reduced considerably.

Painting of the less noble metal, while leaving the noble metal bare, is not advisable because scratches or gouges in the paint film would expose a small area of the less noble metal to the large area of noble metal. An instance of this would be where an aluminum casting is adjacent to a bronze propeller and the aluminum casting is painted while the bronze propeller is left bare. A gouge in the paint on the aluminum casting could result in accelerated galvanic corrosion to the extent that the aluminum casting would be completely pierced at the point where the paint was scratched on the casting.

Whether the metal is destroyed by electrolysis or galvanic corrosion, the appearance will be roughly the same. Electrolysis generally works much faster and destroys more metal than galvanic corrosion.

To review . . . the conditions required for electrolytic corrosion are: two metals submerged in a conducting liquid, connected to a voltage source which causes one of the metals to be at a higher voltage than the other. The conditions for galvanic corrosion are: two dissimilar metals electrically connected, immersed in a conducting liquid but with no external voltage impressed upon the circuit. As you see from the above, conditions which are unfavorable to electrolytic corrosion are very favorable to galvanic corrosion. However, since electrolytic corrosion can be much more destructive it is common practice

to protect the boat against electrolyte corrosion by bonding and depend upon the use of underwater fittings constructed all of the same metal to protect the boat from galvanic corrosion.

Additional, sacrificial anodes of zinc or magnesium may be bolted to the underwater metal parts to provide an alternate source of corroded metal to enter into any galvanic corrosion circuit. A boat which is adequately protected against electrolytic corrosion will, therefore, consume the sacrificial anodes much more quickly than a boat which does not have a bonding system. Assuming that all underwater parts are of the same or compatible alloys and that the boat itself is made of a non-metallic material such as wood or fiberglass, there is less need for the use of sacrificial anodes or zincs.

However, not all boats are constructed to this ideal. Some manufacturers have, in the past, used aluminum or magnesium for underwater struts, rudders, and other fittings. There have even been instances of the use of aluminum gear-boxes in V-drives which are cooled by salt water. When a bronze propeller and possibly a bronze shaft is introduced into this environment, the aluminum underwater parts are very quickly destroyed except where they are protected by an adequate paint film. The paint film, however, is of limited protection because it has nicks and scratches. The paint does not usually coat the internal passages of the castings where salt water can complete the circuit and destroy the casting from the inside.

All underwater fittings and fasteners on Nautica-Line Fiberglass HouseBoats are made of one of the compatible alloys in the brass, copper, bronze, nickel-copper group.

ELECTROLYSIS CAUSED BY RADIO-TELEPHONE INSTALLATIONS

The normal radio-telephone installation instructions require the use of external ground plate, bonding wires to all underwater fittings including the ground plate, a negative grounded battery system and heavy conductors from the batteries to the transmitter. In spite of the installations being made in accordance with these instructions, owners occasionally experience severe electrolysis after beginning to use their radio-telephones.

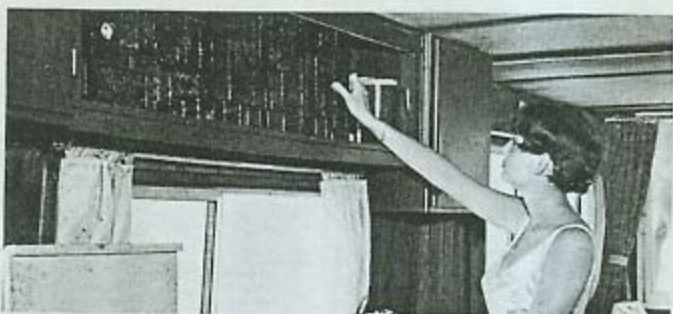
The following points should be checked on any installation of a radio-telephone to minimize problems with electrolysis:

1. Bonding conductors should be at least as large as number eight electrical wire.
2. The ground plate should be bonded to the engine negative grounding stud as well as to the transmitter frame.
3. The external ground plate should be kept clean and should never be painted.
4. All wire terminals in the bonding system and in the 12-volt supply system to the transmitter should be soldered to the wires. The standard crimping or clamping types of wire connectors develop a high resistance which can lead to electrolysis. If clamping or crimping type connectors are already installed they should be carefully soldered at the neck where the wire enters the connector.
5. The power leads for the transmitter should be at least as large a wire size as is recommended in the instructions and should be of the minimum length possible. These power leads should be connected to the batteries or to the battery discon-

nect switch. Do not connect the power leads to any other part of the boat circuit such as the fuse block.

STORAGE ABOARD YOUR HOUSEBOAT

Unlike conventional cruisers, there is no need to improvise storage space aboard a Nautica-Line HouseBoat. The importance of having all gear tucked away in storage facilities was recognized by Nautica-Line's engineers because they were aware of the inconvenience and even danger that results from unstowed equipment.



It is recommended that all gear such as food and clothing, which will be needed most often, be stored in the utility closet and cabinets located in the galley. Other items like water skis, fishing tackle or tools can be placed in the hatches fore and aft.

FACTORY INSPECTION

FINAL INSPECTION



Boat Serial No. _____ Engine No. _____ Drive No. _____
 Boat Model _____ Engine No. _____ Drive No. _____
 Shipped To _____ Shipped Via _____
 Name of Driver _____

	BUYER	DEALER		BUYER	DEALER
1. Complete set of screws	_____	_____	13. All lights complete	_____	_____
2. 110 shore side plug	_____	_____	14. Steering locked up properly	_____	_____
3. Stern and anchor light	_____	_____	15. Chain plugs for engine on wheel	_____	_____
4. Keys for door and ignition	_____	_____	16. All cushions in good condition	_____	_____
5. Gaskets for stove if gas	_____	_____	17. All gas fittings O.K.	_____	_____
6. Prop for engine—two if two	_____	_____	18. Optional items	_____	_____
7. Engine and drive manual	_____	_____	19. Boat clean inside	_____	_____
8. No broken windows	_____	_____	20. Boat clean outside	_____	_____
9. Sink drain and plug	_____	_____	21. Cabinetry built, etc., for 43'	_____	_____
a. _____	_____	_____		_____	_____
b. _____	_____	_____		_____	_____
c. _____	_____	_____		_____	_____
d. _____	_____	_____		_____	_____

The above items have been checked and all found to be in good condition.

Inspected at factory by _____

Inspected at dealer by _____

Inspected 8/14 delivery by driver _____

PLEASE LIST REMARKS ON BACK

NOTE: Claims on deliveries via lot or other common carriers MUST be filed with the carrier and a copy sent to the factory.

ORIGINAL—RETURN TO FACTORY

Your Nautica-Line HouseBoat has been meticulously inspected and performance tested at the factory. Upon delivery to your dealer both he and the driver check to see that your boat is delivered as ordered.

For your information and protection, ask your dealer to see a copy of the delivery check list above.

The following is the Check Out sheet used by your dealer.

DEALER PRE-DELIVERY CHECK OUT AND SERVICE



PRE-DELIVERY CHECK OUT AND SERVICE

ARRIVAL FROM FACTORY

1. Check boat and equipment for possible transit damage with driver or delivery agent.

PRE-LAUNCHING CHECK OUT

1. Clean boat - Inside and out.
2. Check and adjust all thru-hull fittings and underwater parts.
3. Check and adjust hatches, windows, drawers and doors.
4. Check all fastenings.
5. Check entire water system - includes faucets, pump, toilet hoses and fittings.
6. Check all electrical systems.
7. Touch up paint and trim.
8. Check and test all propane fittings and appliances.

AFTER LAUNCH CHECK OUT

1. Check for water tightness thru hull fittings.
2. Check all connections and fittings in fuel system for liquid and air leaks, and for tightness.
3. Check engine alignment.
4. Check lights and all wiring.
5. Start engine, run slowly, check all instruments and gauges.
6. Check engine oil level.
7. Check and adjust engine.
8. Take on shake down run, adjust steering.

In addition to having a superior product, Nauta-Line's dealership organization is largely responsible for the "Number 1" reputation. All authorized dealers are selected because of their ability to service and assist you as a Nauta-Line customer. You will receive courteous treatment and excellent service, before and after the sale, and a reliable warranty program. Your Nauta-Line dealer will treat you as a friend and welcome your business.

After accepting delivery on your Nauta-Line HouseBoat, your dealer has examined your boat carefully, removing any dirt accumulated in transit, unpacking and generally preparing your Nauta-Line Fiberglass HouseBoat for your use.

For your information and protection, ask your dealer to see a copy of his Dealer Pre-delivery check out sheet.

YOUR PERSONAL CHECK OUT PROCEDURE

An itemized check should be made with the assistance of your dealer to insure that all equipment, both standard and extra items are aboard at the time of delivery. In order that everything is in perfect condition for the initial run, the Nauta-Line Dealer will have carefully examined your HouseBoat inside and out. Having checked the equipment, you should become familiar with all controls, instruments and switches as outlined in the beginning of this manual. If there are any questions, ask your dealer for assistance. Then carry out these initial launch inspection steps.

BEFORE LAUNCHING YOUR NEW HOUSEBOAT



1. Read your operator's manual and Engine Manual thoroughly.
2. Check presence and tightness of all drain plugs.
3. Inspect and close all engine drains.

AFTER LAUNCHING

1. Check all electrical installations, tightening any loose connections.
2. Fill fresh water tanks.
3. Check all water connections.
4. Check tightness of all fuel lines and fittings.
5. Fill fuel tanks and check for leaks. Check vents.
6. Check that engine oil is at correct level. Start engines and check the operations of all instruments.
7. Operate engines for a brief period in both forward and reverse positions. Run the HouseBoat at open throttle briefly and make carburetor and spark adjustments for best performance.

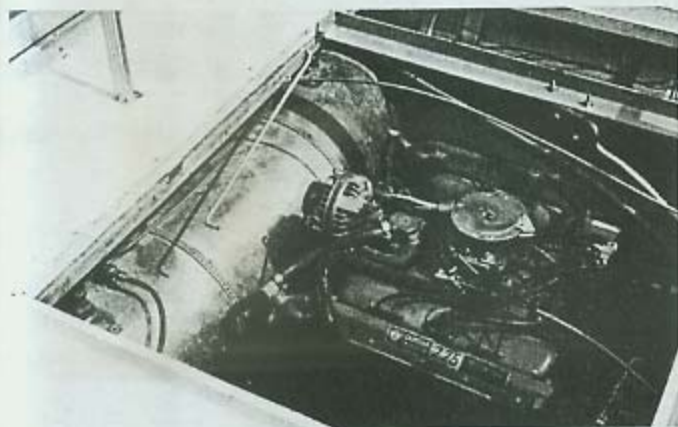
Follow up Inspections

Your Nauta-Line dealer is concerned with you as a long-time friend not as a "one shot" customer. His service and concern does not stop when you sail away. He is interested and obligated to provide you the "after-the-sale" service and any warranty work you may require. Read your warranty carefully. If there is any doubt, check with your dealer or the factory.

In addition to the pre-delivery check up, your dealer is responsible to:

1. Adjust reverse gear and forward gear after 20 hours.
2. Change engine oil after 25 hours (cost of oil extra).
3. Tighten engine head bolts after 15 hours.

Be sure that you also read over your engine and outdrive warranty and understand what it includes and requires on your part.



Regular Engine Inspection

The following checklist will give you a few basic recommendations for the maintenance of your outdrive. Additional technical information may be found in the manual which accompanied your engine.

1. Check all fittings where the sterndrive joins the engine.
2. Operate the gear shift and steering linkage.
3. Check all through hull fittings. If lubricant is required, a waterproof grease should be used. Make sure that the rubber parts are in good shape and that the hose clamps are not cutting the rubber.
4. In the spring, replace the lay-up rust preventative you put in the lower unit with a sterndrive lubricant. The most popular type of sterndrive lube is a form of hypoid grease, about 80 or 90 SAE. Check your engine manual for the proper type. The stern drive lubricant should be replaced once a year.
5. Remove and check the propeller. If there are nicks, file them smooth. If the prop is badly damaged it should be replaced or else water will be able to enter the lower unit gear case. When replacing a propeller, apply waterproof grease on the shaft prior to installation.
6. Check all through hull exhaust and intake hoses and fittings.
7. Check tilt pins and clearance of reverse latches. If there are exterior grease fittings, pump in grease until it backs up.
8. Check the skeg and file out any nicks. Replace trim tabs, zinc self-sacrificing slugs and propeller rings.
9. Check the mechanism of the hydraulic lift and top it off with appropriate fluid. Check electrical connections.
10. Check the steering and reverse cables and fittings. Should the shift bind or seize, make certain that you check with your dealer as for the proper parts needed for replacement.
11. Touch up or repaint the entire exposed area using an approved enamel. If you want to apply anti-fouling paint, prime the drive with zinc chromate and use a mercury-base paint, not copper or bronze.
12. Remember, too, that after a shakedown drive, you should top off the gear lube. It may be a little low due to trapped air in the case.

LIGHTING OFF AND SECURING MAIN ENGINES

FOLLOW ABC'S OF SAFETY EACH TIME YOU START THE ENGINE.

1. CHECK ENGINE OIL WITH DIP STICK.
2. CHECK REVERSE GEAR OIL WITH DIP STICK.
3. OPEN VALVE ON COOLING WATER INTAKE; HANDLE UP AND DOWN IS IN OPEN POSITION.
4. TURN ON FUEL VALVE; HANDLE PARALLEL TO PIPE IS IN OPEN POSITION.
5. CHECK ENGINE MOUNTS AND OTHER FASTENINGS.
6. RUN BILGE BLOWER OR OPEN ENGINE HATCH AT LEAST 5 MINUTES TO VENTILATE BILGE. CHECK ENGINE COMPARTMENT FOR FUMES BEFORE STARTING ENGINE.
7. PUT SHIFT LEVER IN NEUTRAL POSITION.
8. ADVANCE THROTTLE TO FAST IDLE POSITION.
9. TURN ON IGNITION.
10. ENERGIZE STARTER.
11. PUMP BILGE - CHECK FOR SIGNS OF LEAKING FUEL OR WATER.
12. CHECK OIL PRESSURE INDICATOR OR GAUGE.
13. CHECK FOR COOLING WATER DISCHARGE FROM EXHAUST.

IMPORTANT NOTES

You should check your boat out carefully every time you take her out. In particular check for:

- Fuel leaks and proper venting of engine compartment (Bilge blower operation)

NOTE: Engine hatches must be open before starting engines.

- If you have LP gas aboard, check all lines and tanks for leaks or signs of hazardous conditions.
- Check dockside AC connections for proper polarity. Chafing of wires or overloading of circuits can cause a dangerous situation.
- Steering and controls systems cables should be checked for possible kinks or unusual wear. Check all connections and routing of cables.
- Check handrails and life rails for secure fastenings.
- Your Nauti-Line has been designed for family cruising. Do not attempt to navigate or cruise in heavy seas.
- Avoid taking excess water over the bow. Because of the large glass area on all sides of your Nauti-Line, there can be danger of window damage.
- It is important to keep the bulkhead plugs in place while cruising.
- Deck hatch drains should be cleaned out regularly.
- On the 43' Nauti-Line, check the catwalk installation for loose or worn fastenings.
- Do not operate with a bent propeller or one with serious nicks. (Usually detected by vibrations). This can cause a broken shaft or other damage to your outdrive.

FIBERGLASS MAINTENANCE

As stated previously in the introduction, fiberglass requires a minimum of maintenance. However, some care and upkeep is needed to keep a fiberglass boat looking her best. Unlike wood or metal boats, however, upkeep is confined only to the surface appearance or possibly the repair of accidental damage. Structural deterioration from the elements is not a problem.

APPEARANCE MAINTENANCE

Dirt will accumulate on any boat, even if it has been scrubbed down before fall lay up and covered all winter. To remove the average layer of dirt and grime, a good scrubbing with mild abrasive kitchen cleaners and or household detergents will suffice. Hard-to-remove scuff marks are removed with a soaped steelwool scouring pad, but use of these pads must be reserved otherwise they will dull the high gloss gel coat. In addition, the small steelwool particles must be rinsed away or they will cause a rust stain. Heavy oil and grease deposits can be wiped off with special cleaners, benzine, gasoline, or kerosene without harming the plastic. Stubborn tar or grease marks, which are wedged in, are dissolved away by using a deck brush and kerosene or gasoline.

To maintain the finish of a fiberglass boat, car waxes and cleaners are often used. A variety of polishes and cleaners especially for fiberglass are also on the market, and the best idea is to experiment with several to determine which one suits your maintenance needs best.

Waxing the topsides works the same way as on automobiles. The wax film keeps the surface from soiling, makes it easier to wash, and lengthens the life of the gel coat.

If the plastic finish has suffered abuse and fading or a chalky film condition has resulted, one of the new heavy-duty fiberglass boat cleaners should be tried. When followed by a wax polish the original gloss comes back satisfactorily.

PAINTING

Three factors must be kept in mind when there is a question concerning painting a fiberglass boat: When is the proper time to paint? What surface preparations should be made? And, what paint should be selected?

A fiberglass boat should be painted when the results of sanding or buffing are not satisfactory or when this work would take longer than painting the boat. Although there may be some fear that once a fiberglass boat is painted it will have to keep being painted, remember that you will paint a fiberglass craft far less than a wooden one. A fiberglass hull doesn't have seams and its expansion and contraction with temperature changes is similar to that of paint.

Secondly, a thorough surface preparation must be made. Before applying any paint to the boat, it must be thoroughly sanded and de-waxed. Sanding will give the surface graspability. Sanding and washing with a solvent (mineral spirits) will remove the wax that is present on the surface. Remember, too, that there may be many "experts" who will be glad to give their painting advice. It is recommended to prepare your boat's finish and follow the directions which will accompany the paint you select.

Selecting the proper paint is a story in itself and today with at least a half dozen fiberglass paints on the market, often creates a very perplexing predicament. Several types will be discussed, but you will have to decide which one will best serve your particular circumstance. Possibly an investigation into which paints have been used successfully in your area will be helpful.

The first specially made paint type designed for fiberglass boats was epoxy. Epoxy provides a protective film gel-coat hard and bonds intimately with the plastic surface, requiring no seasonal re-application. Despite the fact that epoxies are still the most popular paints, however, they still have one bad point. Epoxy has poor chalk resistance.

Polyurethane and acrylic formulations followed epoxy. Polyurethane features elastic strength, better weathering properties and color retention than epoxy. Acrylic formulations have achieved popularity due to the superior outdoor properties demonstrated in acrylic plastic parts.

Be cautious in your search for a good fiberglass paint since anything, including poster paint, will give a glossy finish for a short time. Look for a paint that isn't hard to apply and is relatively easy to recoat. Investigate, look, ask and then draw your own conclusions.

REPAIRS

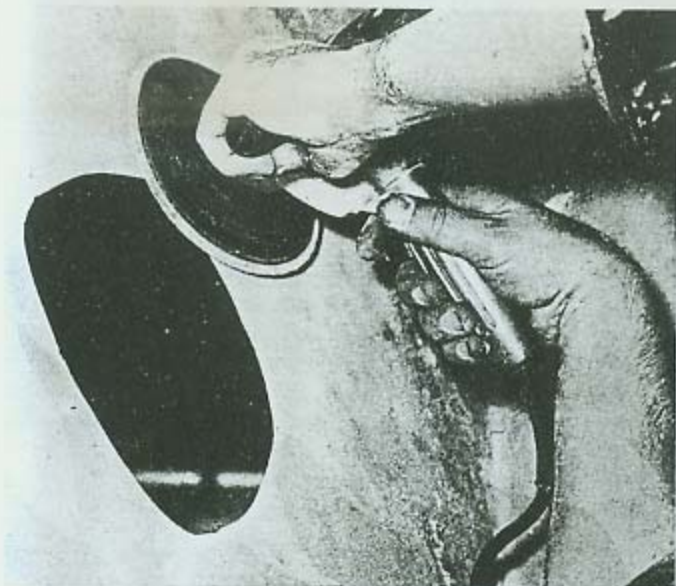
Crazing - crazing of the gel coat is the appearance of fine cracks caused by a premature failure of the surface resin. In no way does crazing indicate a failure of the fiberglass. There is reinforced plastic beneath the surface. To repair minor crazing an epoxy priming compound will suffice. This primer, being thicker than paint, will budge and fill minor cracks. When applying, however, the hull surface should not be sanded as this will allow dust to accumulate in the voids and make them harder to fill. To fix up larger or deeper gouges or cracks, a 2 part epoxy surfacing compound may be used as fill. Again, the surface must not be sanded. Build up the compound over the crack. After the filler is dry, sand down any excess compound with 80 grit paper and finish off with 150-180 grit paper.

Scratches - Basically there are three techniques to eliminate scratches. First try vigorous rubbing with a cleaner polish. Should this prove unsuccessful, use fine wet paper and a body rubbing compound. The least abrasive material must be employed. If neither process works then powered buffing pads may be used—with care. The excessive heat created from the turning at high speeds can be harmful to the surface.

Small Breaks - Small breaks may be repaired "do-it-yourself" style if done carefully. The break area should be scarfed and sanded from inside. Patches of fiberglass cloth are then cut to size, a primer coat of resin applied to the break, the cloth saturated with resin, and placed over the break. With the patch acting as a back-up, the outside void is filled with glass and matching resin, then sanded.

Small Holes - Briefly, saw out all the rough edges with a hand or power saber saw. Then with a rasp or rough disc power sander, feather-sand the edges on both sides to a V shape. Remember to wear a dust mask. Make a mold to be attached to the outside of the hull, either out of cardboard or metal covered with acetate film. Tape this back-up plate to the hull and work from within. Cut at least 3 layers of fiberglass cloth to fit the opening, saturate and work it into the opening. The

layers should be applied at about 30 minute intervals or until the previous layer cures. The final layer should be fairly smooth with the hull, then sanded and filled with compound. It is sanded again and painted. Once this process is completed, the back-up mold is removed from the outside of the hull and any blemishes in the glass and resin patch are filled with compound, sanded and painted.



Stains from Polluted Water - Stains around the water line caused by polluted water are removed by polishes or mildly abrasive compounds. Stain removers are also on the market. It is recommended, however, that you first experiment with any stain removers to see how it effects the finish or color. Many removers contain a bleach-acid solution which may be harmful.

Fouling of boat bottom and/or outdrive unit.

Bottom conditioning and maintenance may be required in some areas. For maximum results it is important that you follow the recommendation for that specific area. Outdrives should also be maintained in accordance with local requirements.

RULES OF THE ROAD

Memorizing the Rules of the Road is important and is legally required of all boatmen.

A knowledge of the "Rules" isn't difficult, for largely they are a combination of common sense principles blended with courtesy. Courtesy afloat involves simply a recognition of the other fellow's rights, comfort and safety.

During your boating you will encounter speed limits around many small boat anchorages. These limits are necessary to prevent damage to the property of others. For example, in an anchorage other boatmen may be cooking aboard. Your boat's wake, unless it is kept down, can cause havoc in a galley.

You are expected to keep clear of boatmen who are engaged in fishing. Your wake can cause their boats to roll dangerously and pitch uncomfortably when they are at anchor. And, quite selfishly, you wouldn't want to be bothered with the inconvenience of cutting away snarled fishing lines that may tangle in your boat's propeller.

The *privilege* to use public waters carries with it an *obligation* to helm your boat in a safe and courteous manner.

Take advantage of free courses in piloting, seamanship and small boat handling by the United States Coast Guard Aux-

iliary and the United States Power Squadrons. Be sure that you have the basic safety equipment aboard. It is the boat owner's responsibility to equip his boat with the following:

LIFE SAVING DEVICES - There must be at least one Coast Guard approved life saving device for each person aboard.

FIRE EXTINGUISHERS - Class A and 1 inboard/outboards must carry at least one approved fire extinguisher. Class A and 1 out-board-powered boats with a permanently installed fuel system must also carry an approved fire extinguisher. While not required by law, it is also wise for outboard boats with portable fuel systems to carry approved fire extinguishers.

BELL, WHISTLE OR HORN - Provide the necessary sound-ing devices required by Federal and State Regulations.

REGISTRATION - Be sure your boat is properly registered and numbers are exhibited.

SAFETY KIT - Carry a safety kit that includes distress signals, bilge pump, flashlight, first aid kit, hand tools, spare propeller, shear pin, cotter pin and a paddle or oar.

Periodically inspect your complete steering system. Be sure that cables are tight, that all parts are properly aligned, that the engine attachment points are secure and that there is no binding, looseness or interference in the system.

All Nautica-Line's are equipped with a bilge blower. Be sure to run the blower for at least three minutes before attempting to start your engine. If the boat has been idle, visually inspect the engine compartment and bilge area and "sniff" the compartment to be sure there is no fuel vapor present.

Exercise care in refueling your boat. Portable tanks should be removed from the boat for refueling. Close all hatches, windows and doors before refueling and allow no smoking. Before starting your engine be sure your boat has been properly ventilated.

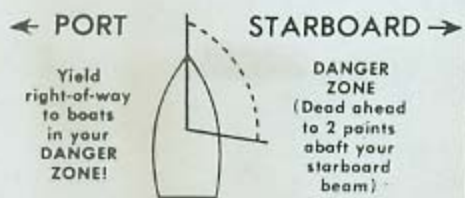
After you are sure that your boat is properly equipped, contact your local Coast Guard Auxiliary Flotilla for a "Courtesy Examination". After successful completion of the examination you will be awarded a decal that you can proudly display on your boat.

REMEMBER: Every boatman is responsible for his wake and for any damage it might cause.

BOATING SAFETY DEPENDS ON...

1. You, the Skipper
2. The Condition of Your Boat
3. The Traffic and Water Conditions

...BE SURE YOU UNDERSTAND ALL THREE



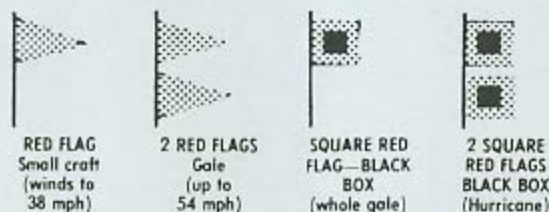
REMEMBER THESE RULES

- OVERTAKING-PASSING:** Boat being passed has the right-of-way. **KEEP CLEAR.**
- MEETING HEAD ON:** Keep to the right.
- CROSSING:** Boat on right has the right-of-way. Slow down and permit him to pass.

WHISTLE SIGNALS

- ONE LONG BLAST:** Warning signal
(Coming out of slip)
- ONE SHORT BLAST:** Pass on my port side
- TWO SHORT BLASTS:** Pass on my starboard
- THREE SHORT BLASTS:** Engines in reverse
- FOUR OR MORE BLASTS:** Danger signal

STORM WARNINGS



CHANNEL BUOY GUIDE

Entering port or going upstream

PORT SIDE	MID-CHANNEL	STARBOARD
Color: Black odd numbers	Color: Black & White no numbers	Color: Red even numbers
Can Spar	Can Spar Nun	Spar Nun
	Can Spar Nun	

USE COMMON SENSE AFLOAT

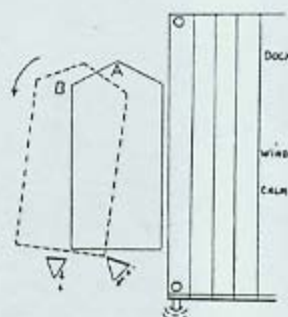
NAVIGATIONAL SUGGESTIONS

It is important to remember that a boat slides and moves with the wind or tide and current. Although it may require a few days of practice, once you have become familiar with the way a boat does slide, you will be able to feel how the wind or current will help you instead of working against you. Below are listed navigational suggestions to assist you in becoming well acquainted with the performance of your new HouseBoat and various operational tips.

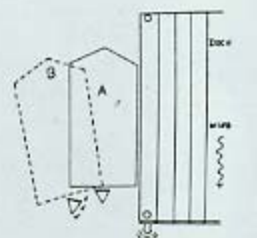
- The first rule to remember is that you should run your engine slowly. 500 revolutions when the engine is in gear will mean 700 revolutions when the throttle is pulled into neutral.
- Feel out all the engine positions: forward, reverse, and neutral, even when the boat is tied to the dock.
- After you leave the dock on your initial run, pull the throttle into neutral as soon as there is enough room to maneuver and observe the "drift."
 - Try this operation at different speeds.
 - Try this operation heading into the wind or current.
 - Try this operation when the wind or current is to your stern.
 - Try this procedure at right angles to the wind or current.

Leaving the Dock

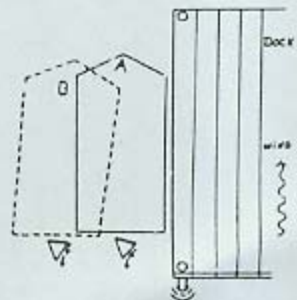
1 — When there is no wind, cast off the stern line first, then the bow line. Turn the engine away from the dock and run in very slow reverse to "pull" boat clear (A). Turn engine slightly back toward dock to permit boat to swing around parallel to the dock (B). Then proceed forward.



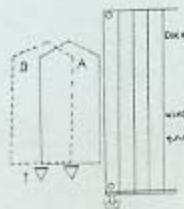
2 — With wind ahead (coming from the bow), cast off stern line first, then cast off bow line and push boat clear (A). At the same time, turn engine away from the dock and run in slow reverse until boat is clear and parallel to dock several feet off (B). Then proceed forward.



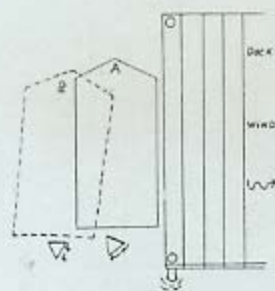
3 — With wind astern (coming from behind), cast off bow line first, then cast off stern line and push boat clear (A). Turn engine slightly away from dock and run in slow reverse to "pull" boat clear (A & B). Then proceed forward.



4 — With the wind coming off the dock, cast off both lines (A) and let wind "blow" the boat clear (B). When safe distance off, proceed forward.

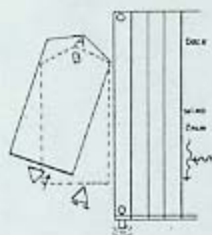


5 — With wind coming on the dock (from the water), cast off bow line (A), then cast off stern line and push boat clear. Turn engine away from dock and run in reverse to "pull" boat clear (A & B). The stronger the wind, the more power will be necessary.

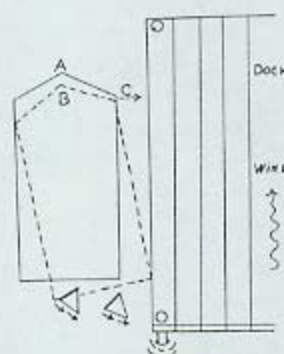


Docking

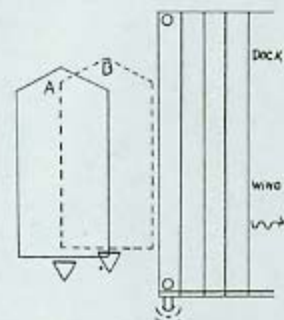
1 — When approaching dock either in calm, or when wind is ahead or off the dock, proceed slowly toward the dock at an angle until bow touches dock or is secured (A). Then turn engine toward dock and run in slow reverse to "draw" stern to the dock (B).



2 — When approaching dock with wind astern bring boat slowly parallel to the dock staying several feet off (A). Run in slow reverse to halt forward motion, then turn engine toward the dock and run in reverse to "draw" stern to the dock (B). Breeze will "blow" bow to dock (C).



3 — When wind is coming on the dock, proceed slowly forward until boat is parallel to the dock several feet off (A). Halt forward motion and let wind "blow" bow to the dock (B).



Turning Procedures

Listed below are the instructions for proper turning procedures and factors to beware of which will affect this navigational operation.

1. Notice that when you put the throttle into the forward position, the stern of the HouseBoat "kicks" around either right or left.

2. While still turning, put the throttle into the neutral position and notice how the turning becomes wider. This occurs because the response due to the area on a power boat is fastest and most effective when the propeller stream is directed against the direction which you want to turn. Because of this, it is necessary to spin the wheel from left to right, even when making a 180 degree turn in a narrow channel.

3. Turn all the way to the right and before the bow approaches the dock or goes out of the channel, pull the lever into reverse position and back up about 3 boat lengths. Following this, push the lever into forward and the stern will swing around even further on your course. Repeat this 3 or 4 times and you will have made a 180 degree turn.

a. A navigational trick is to speed the engine up when in the forward position, and to slow it down just before and while backing up.

b. There is no need to spin the wheel from left to right when backing up in calm or moderately smooth water.

c. Reversing the outdrive position will help only when the wind and current are against you; and then only if you speed up the motor when in reverse.

Heavy Weather Piloting

Though not designed for hurricane weather, the Nauta-Line Fiberglass HouseBoats are seaworthy in a literal sense. They are perfectly capable of high-performance in coastal as well as inland waters under normal conditions. However, the weather has a natural way of being unpredictable, and a lovely summer afternoon may produce a sudden, violent storm. Should you find yourself caught in such a situation and the water is getting rough or choppy, there are several navigational tips which will help make your ride smoother and safer.

1. Never run parallel or broadside with the waves. If the course you are on should be directed that way, it is wiser to cut into the waves at a 45 degree angle.

2. After you have gone a couple of miles, return to your original course, still maintaining a 45 degree angle to the waves.

Two points to keep in mind are that when maneuvering through rough water in the above, the sea will be on your stern quarter and spinning the wheel will be necessary to keep the bow always directed on your course.

Secondly, it is imperative to keep the waves from turning your boat's stern.



1969 BUC Award for "Marine Excellence."
1968 Donald T. Wright "Excellence in Design Award" Third International HouseBoat Regatta.

Piloting In Fog

Remember two facts if your out enjoying your Nauta-Line and the fog rolls in. The Pilot Rules, with which you should be familiar, stipulate that under foggy conditions you must run at a "moderate" speed and give a fog signal. As defined by the Rules a "moderate" speed is one at which you can stop your boat in half the limit of visibility. The fog signal you are required to give is a prolonged blast of 4 to 6 seconds at intervals of no more than one minute. Always be alert for the signals or motor sounds of other boats. If you feel reluctant about operating your craft through the fog, play it safe and drop anchor until the fog lifts.



Navigating In Rivers

Everyone knows that HouseBoats have always been enjoyed on rivers, and until the advent of the cruiser type planning hull as pioneered by Nauta-Line, rivers were about the only bodies of water HouseBoats could venture safely. Piloting on rivers, however, should not be taken for granted. Any experienced inland skipper will tell you that, despite the harmless appearance a river may give, you must be able to "read" the river, as well as know the navigational markers. An easy rule to remember is, to safely operate on a river, stay where the water is deep. Shallow water will always be lighter in color than the deep so keep your HouseBoat where the water's dark. A second important aspect of river piloting is to beware of submerged obstructions. Logs, sand bars, rocks or other hidden dangers are usually detectable by ripples on the surface of the water. A bump in the water is also a good sign that a hazardous object is lurking below. Be alert to such obstructions and steer clear of their path. To check the changes in the speed and direction of the river's current, watch for a change in the course of floating debris or a change in the heel (tilt) of a channel marker. Both will serve as a good indication of the current's behavior. Lastly, when approaching a blind corner where the river sharply bends — be safe, be cautious. Drop your speed down and signal your approach.

Line

Like any other equipment aboard your new fiberglass HouseBoat, line must be carefully maintained for it to last and perform its job. More than likely, the line which you will have aboard will be a fiber type whether cotton, hemp, flex or manila. Several facts must be remembered then when dealing with rope, and special care must be given to it even when it is a brand new coil.

First of all, it is most important that a new coil of line be uncoiled in the correct fashion. Otherwise the new line will become kinked, and kinks are harmful to line. If the new line seems difficult to handle, it may be made more flexible by alternately wetting it and then drying it in the sun. Secondly, fibre lines cannot remain wet without shrinkage occurring. Therefore, in order to alleviate the detrimental strain that shrinkage will place on the line, the fibre rigging should be loosened and remain that way until dry. Before stowing line, make sure it is dry because dampness will only lead to the line's deterioration. Rope will dry if it is placed loosely where the sun can hit it and where air is able to pass all around it. And lastly, never attempt to place a maximum strain on your line, for such tension will almost surely ruin it.

Anchorage

There will be plenty of occasions when you wish to stop your new HouseBoat to break for lunch, take a swim or go fishing. On such occasions you will have to find a location to anchor, and a few tips will be helpful in selecting a suitable spot. Several basic facts dealing with the correct procedure to anchor will be handy too.



An important consideration must be given to the type of bottom into which the anchor is to penetrate. Usually combinations of mud and clay, firm mud and sand, or mud and sand are the best. A mixture of hard sand and gravel will hold well if your anchor can penetrate the surface. The types of bottom to avoid are those consisting of loose sand and gravel or soft mud. Grassy bottoms are a good indication that firm mud is below, but chances are the anchor will not be able to get through the weeds.

Once the spot has been chosen, approach it with the bow heading into the wind and bring the boat to a stop. From the bow, lower the anchor down until it hits the bottom and the line goes slack. Once you know that the anchor has hit, allow the boat to fall back. If necessary, reverse the engine and back downwind slowly. Either way, let out about 4 to 5 times as much line as was required to enable the anchor to hit bottom. Once you have done this, stop feeding out line and set the anchor.

Being the owner of a HouseBoat, however, you will also want to enjoy many overnight trips. Selecting a good location to anchor for the night involves several additional important considerations.

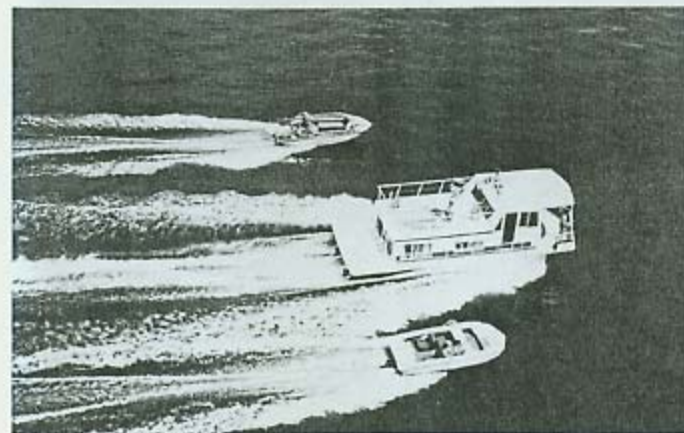
Keeping in mind the most suitable type of bottom, you must also select a spot which provides a certain amount of protection from the wind and where the water is the proper depth. The best type of location is one which is naturally sheltered: (ex.) a bay or harbor that offers protection on all sides. If such a spot is not available second best would be a cove. If neither can be found, then anchor off a bank where the wind is blowing from the same direction. The depth should be checked, using either a chart or a depthfinder, in order to prevent going aground overnight. A chart, too, will indicate by broken lines cable crossings and channels, which are areas to be avoided. Follow the same basic steps for setting the anchor as they have previously been explained. Remember, however, that if the area you have selected already harbors other boats, they have first priority. Each craft is really occupying a circle whose center is the anchor and radius is the length of the anchor line plus the boat's length. Try not to anchor too close because should your boat swing around into the radius of another boat it is not the owner's duty to move. When the time comes to weigh anchor, or raise it up out of the water, drive your HouseBoat until it is directly above the anchor and give a good yank. This should be sufficient to disrupt it out of the bottom. However, if a manual force is insufficient, then secure the line to the mooring bitt and use the drive of the engine to break it free.

Charts

It is very important to have the navigational charts you need and heed the navigational aids they provide. Easily obtained from the United States Coast Guard and Geodetic Survey, the Army Engineering Corps or the local branch of the Hydrographic office, these charts are available to meet various specifications. Usually a large chart will cover a small area thoroughly. A smaller chart will supply navigational information over a large geographic location but indicate only the major landmarks. To rank yourself as an experienced skipper, follow your charts and arrive at your destination safely.

Pilot Rules

A list of the Pilot Rules, or rules of the road as they are commonly called, may be obtained from the United States Coast Guard, and will explain all rules relating to navigation. It will pay off to have a thorough knowledge of these Pilot Rules so you are capable of controlling any nautical situation.



Fiberglass Construction

Over forty million Americans can't be wrong — boating is fun! Wherever your boating pleasure lies, bays or creeks, rivers,

oceans, streams or lakes, the pleasurable dimensions boating affords offer outdoor enjoyment not found in any other pastime. What other sport, for instance, realizes the same natural scenes of water and wildlife, buoys and lighthouses, rustic piers and modern marinas, or just the simple opportunity to escape the hurried day to day life. Only boating provides all this and more.

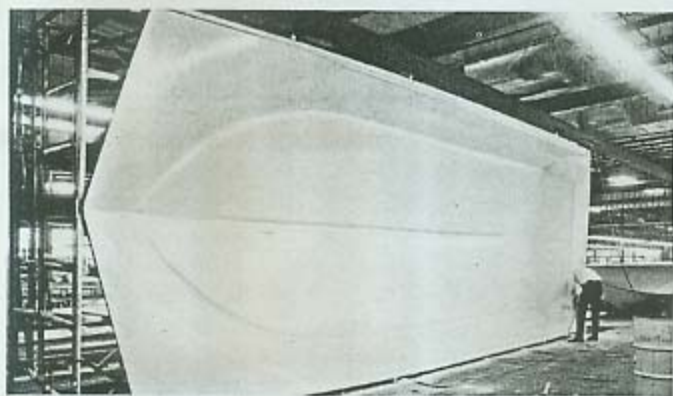
Traditionally, the world of boating has always been a wooden one. For generations, most pleasure boats have been made of wood. Fiberglass is a relative new comer. In the last five years, however, the production of fiberglass crafts, whether dinghies or cruisers, run-abouts or HouseBoats, has grown by leaps and bounds. Boating experts predict that within the next five years, approximately 75% of all pleasure boats manufactured will be constructed of fiberglass. Why has the world of boating gone fiberglass? The answer lies simply in the nature of the material itself. Fiberglass is strong, resilient, easy to clean and best of all needs only minimum maintenance.

Requiring only a general washing or two throughout the season and a good waxing of the exterior, a fiberglass boat will maintain a factory fresh appearance for years. Anti fouling bottom painting is needed for protection to repel marine growths which cling to all hulls, and will help in eliminating the tedious job of hauling the boat out of the water and scraping the bottom. It resists water, gas and sun damage too, as well as rusting or dry rotting. Therefore, there's no need to caulk or sand. All in all, there is ease of maintenance not possible with a wooden boat. Some care must be taken, of course, but major, time consuming maintenance operations are gone for good.

Fiberglass is strong and resilient. The filament of fiberglass rank as one of the strongest materials known today. While tensile (tension) strength is certainly not the only high-performance characteristic of fiberglass, the hull of a fiberglass boat is capable of delivering tensile strength up to 50,000 pounds P.S.I. Fiberglass also maintains significantly high impact properties, a very important feature when considering a boat's hull. Not only is fiberglass extremely resilient and capable of absorbing exact amounts of energy, it is also elastic and returns to its original shape without distortion. In other words, bumping a dock should not lead to a repair bill. Lastly, there is the strength provided by a fiberglass boat's seamless construction. Unlike a wooden boat, a fiberglass craft does not have to depend on its fastenings for durability.

Despite all of these impressive facts and figures, however, the light, versatile, tough material known as fiberglass requires the knowledge and experience to handle it properly and produce a good quality-constructed boat. Nauta-Line has that knowledge and experience.

For almost two decades the people at Nauta-Line have researched and developed the fabrication of fiberglass and its uses for both government and industry. Injecting these many years of fiberglass engineering and design into the world of boating, Nauta-Line introduced the innovation of the high-performance cruiser-type planing hull creating the number-one HouseBoat on the market today. Each and every Nauta-Line model which rolls off the production line is backed by the knowledge and experience of skilled workmen combined with the most modern manufacturing techniques. The result is a HouseBoat delivering cruiser performance with HouseBoat comfort and convenience. A tour through the Nauta-Line manufacturing facilities would show you how it's done.



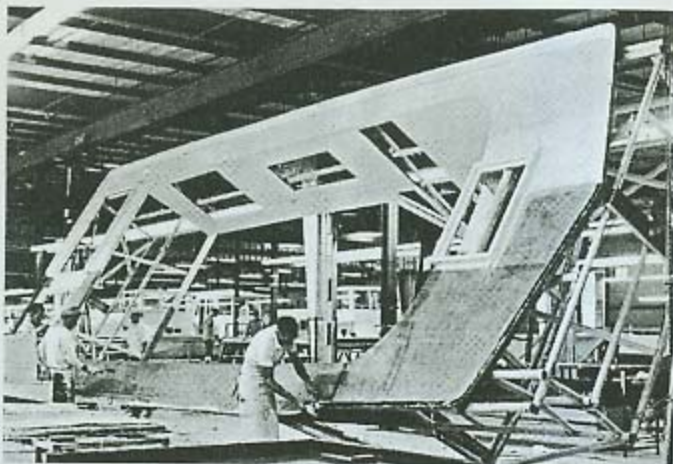
The first most important step in the making of a Nauta-Line HouseBoat is the meticulous construction of the "plug" (The "plug" is the structure over which the fiberglass mold is formed, and one is needed for each section to be molded). The shape of the plug is constructed with planks over mold frame stations following which the surface of the frame is planned and sanded down to the exact specifications of the mold. Nauta-Line's craftsmen give this phase of the plug construction a great deal of attention in order to work the surface to a smooth glass finish. Otherwise, any mar or imperfection would be transferred immediately to the mold.



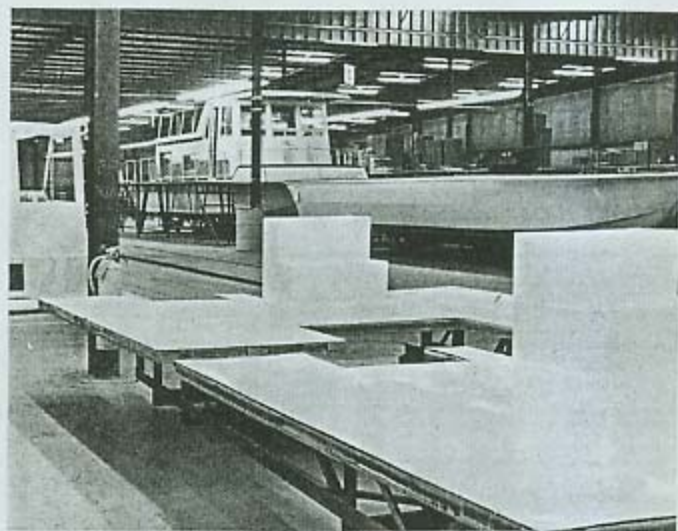
Once the "plug" has been completed, the mold is begun from which will result the hull, cabin sides, deck, and other exterior sections. After the mold has cured, the application of a thin coat of wax on the surface of the mold is begun. Then a good buffing follows. These two initial steps will insure a clean separation of the hull or other sections from the mold and also leaves a glossy lustre. Sprayed onto the hull, once the mold has been waxed, is a .15 mil. layer of gelcoat, permanently fused to the laminate shell. Next, the hull is set up. There are 650 sq. ft. to be laminated on the 34' model and 800 sq. ft. on the 43'!



Every section of your Nauta-Line HouseBoat is laminated together by the "Hand-Lay Up" System. All resins and catalysts are constantly checked from receiving through actual usage for constant quality. This extra care insures top quality with maximum rigidity and strength.

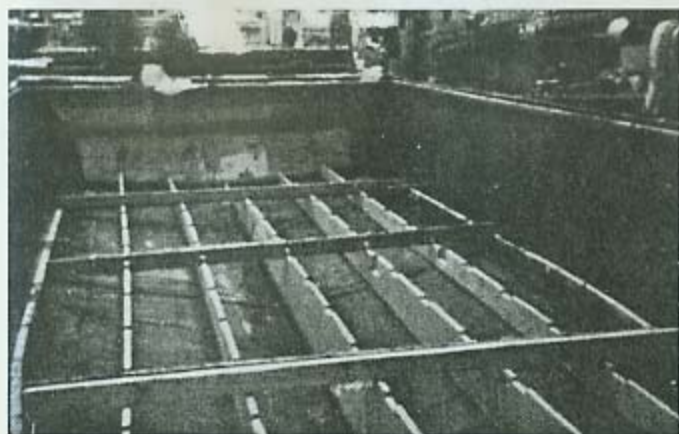


A fiberglass mat, the length of the hull and three to four feet wide, is positioned and then adhered to the mold by being saturated with resin. A layer of fiberglass woven roven is laid down while the resin previously applied is still tacky. Then more resin is applied. Air bubbles are always removed as each additional layer is placed and, in order that it fits snugly to the contours of the mold, the workers use their fingers or blunt sticks to smooth down corners, and ribbed steel rollers to rub flat surfaces. Being able to remove possible imperfections is one of the advantages Nauta-Line has found in employing a procedure known as "contact molding". Since the hull or other exterior sections are visible at all times during the application of mat and resin, air bubbles or dry spots are easily spotted. Also if additional layers are required for reinforcement, they may be placed as needed. Therefore, the possibility of error is eliminated.

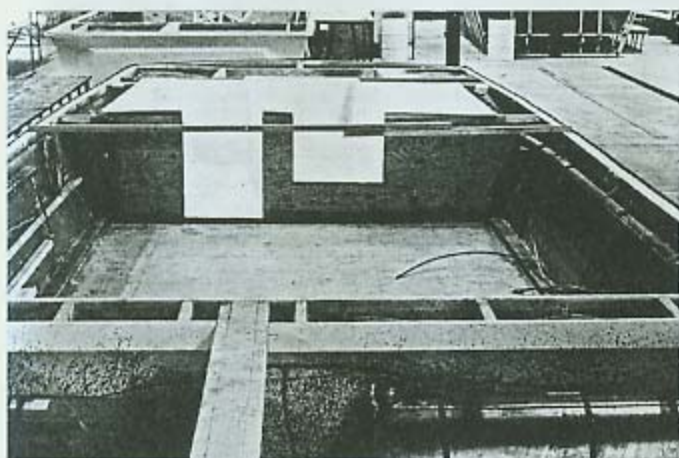


After the entire hull has cured, the keel undergoes additional layer applications until the proper thickness is obtained. THE 34' MODEL REQUIRES 6 LAYERS AND THE THICKNESS WILL RUN FROM 1/4" TO 3/8". EIGHT LAYERS ARE APPLIED TO THE 43' WITH A THICKNESS RANGING FROM 3/8" TO 1/2".

Longitudinal stringers constructed of solid marine plywood are completely encapsulate and laminated to the hull utilizing fiberglass mat and woven roving. Floors are then bonded to these longitudinal stringers and transverse battens. This type of construction yields the highest strength to weight ratio which is of utmost importance in a high performance planning type hull.



Once the hull has been completed and left to cure, other sections of the HouseBoat are then molded. Sheet fiberglass cloth is used for a one-piece smooth surface, which is given a coat of resin. This is followed by a coat of molded in finish. After this is completed, bulkheads, which are built up from the hull and decking, are set up and clamped together. A layer of fiberglass and resin is then applied, fusing the joint together.



As the Nauta-Line Fiberglass HouseBoat moves toward its final stages, all interior furnishings, appliances, exterior equipment and accessories are installed. Again, every installed item inside and out is of the highest quality and designed to add to your

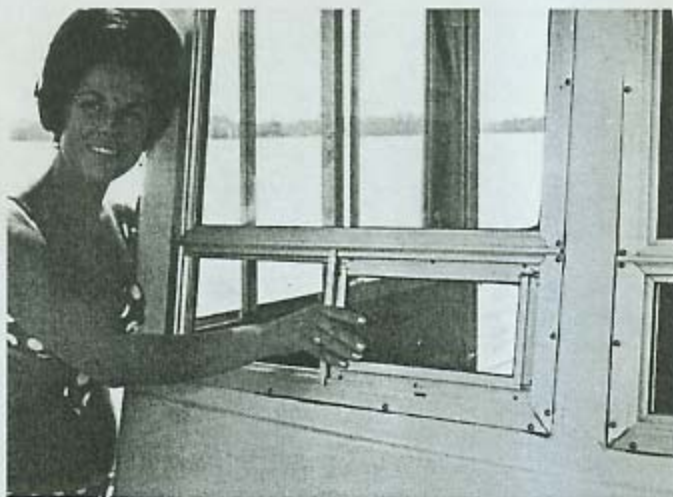
REMEMBER: Proper operation, periodic maintenance inspections help provide. . .

- Economical Operation of Your Boat
- Safety for You and Your Passengers

**OBSERVE ALL BOATING REGULATIONS
MAKE SAFE BOATING A HABIT**

boating pleasure. The safety rails affixed to the perimeter of both the lower deck and sundeck are of the sturdiest heavy duty aluminum. All ventilating windows and sliding doors, fore and aft, are constructed of rust-proof anodized aluminum.

To get the maximum life of your aluminum handrails, and other exposed aluminum surfaces, it is recommended that these areas be wiped down periodically and protected with a wax or silicone type preservative.



The engine is a powerful V/8 and outdrive mating power with a high-performance planing hull, to deliver top performance.



Inside, all wiring is installed for the HouseBoat's electrical system and custom controls. Plumbing with easy access panels for inspection, is located for our modern marine lavatory, featuring toilet and vanity sink with storage cabinet and mirror. A host of factory installed options may be ordered on your Nauta-Line through your dealer. Then the interior furnishings of the cabin's are begun.



On your 34' Nauta-Line Armstrong vinyl tile is standard. Ice Box, dinette and bunks are installed. Large locker space is provided. Interiors have been designed with you in mind.



On your 43' custom yacht carpeting is cut and laid over padding in the pilot house and aft stateroom. The convertible couches in both these interior living quarters is of the finest woven upholstery. The center salon is tiled with beautiful easy-to-clean Armstrong vinyl. The apartment-sized dining area is fully equipped with an "L" shaped formica top galley with cabinets above and below, a three burner stove, double sink and ice box. Conveniently located across from the galley is the convertible "U" type dinette, featuring vinyl covered foam cushions.



A series of meticulous inspections, including a final inspection, remains before your Nauta-Line fiberglass HouseBoat can be shipped to the dealer. Every area, every installation, every accessory comes under the thorough examination of Nauta-Line inspectors so your HouseBoat is shipshape when it arrives.



Nautical Library

The suggested books below contain basic information valuable to any skipper. Although only factual books are listed, it is recommended to have magazines and non-fiction aboard for the entertainment of the rest of your family crew.

Piloting Books

1. Piloting, Seamanship & Small Boat Handling, by Charles F. Chapman.
2. Seamanship, Charles F. Chapman
3. Mariner's Notebook, by Capt. Wm. P. Crawford
4. Bluejacket's Manual, 1960
5. Compass Adjustment, W. E. May
6. Recreational Boating Guide, C.G.-340, Supt. of Documents Washington 25 D.C.
7. Excerpts From The International Code Of Signals, 1944

First Aid

1. First Aid Afloat, by Paul B. Sheldon
2. Medical Emergencies In Boating, by N.C. Leone and E.C. Phillips
3. Medical Care Of Merchant Seaman, by William L. Wheeler

Guides And Records

1. The Yachtman's Annual Guide, useful boating information
2. Nautical Yearbook And Expense Record, spiral bound
3. Yacht Log, Guest Register and Radio Log

Cooking

1. The New CRUISING Cookbook, Russell Jones and C. McKim-Norton

Maintenance

1. Fiberglass Boats, Fitting Out, Maintenance and Repair by Hugo de Plessis
2. Motor Boating Ideal Series
 - Boat Maintenance, Afloat and Ashore - Part I
 - Boat Maintenance, Afloat and Ashore - Part II
 - Boat Maintenance, Afloat and Ashore - Part III
3. Modern Marine Engine Handbook, by C. Miller

HOUSEBOAT TOOL LOCKER

WRENCHES

Spark Plug Wrench
Set Allen Hex Wrenches
Open-end Wrenches, 7/16" to 1"
Box wrenches
Adjustable wrench, 10"

PLIERS

Pair channel lock pliers
Pair gas pliers
Slip-joint pliers
Cutting pliers

SCREWDRIVERS

Slotted Screwdriver, 10"
Slotted Screwdriver, 4"

CANS

Oil can
Emergency gas can
Fire Pail

TAPE

Friction tape
Electricians tape

OTHER

Knife
Ball peen hammer
Battery lifting strap
Feeler gauges
Cold chisel

Be sure to wipe these tools dry of any moisture after each use or they will begin to rust. Coating them very lightly with oil or wrapping them in oiled cloth will help preserve their newness. Finally, keep them stored in a non-corrosive tool box.

SPARE PARTS

Always be prepared. Should a mechanical difficulty occur, and they hardly ever do when a service station is close at hand, make sure you have the spare parts you'll need. Here are a few that may come in handy sometime:

- (8) spark plugs
- (6) fuses
- (4) navigational light bulbs
- ignition coil
- condenser
- distributor cap
- spool of insulated wire
- generator belt
- propeller shaft
- propeller shaft key
- cotter pin
- nuts
- (2) sets distributor points
- rotor
- fuel filter gasket
- propellor

LAY UP

With most boatmen, the late fall brings lay-up time. Some "unseasoned" skippers are satisfied to merely throw a tarp over the hull and let the boat sit for the winter, then pay the price the following spring. Experienced boatmen, however, know that fall lay-up is one of the most critical periods of the boat's life cycle. Proper decommissioning and storage of your HouseBoat for winter will bring it through shipshape for the next boating season. Though there are several details, each of which must be carried out correctly, proper boat storage is neither hard nor time consuming.

Generally, a lead off question is - where to store? A craft the size of the 34' or 43' Nauta-Line is usually stored in a boat yard. However, if you don't live a great distance from the water, it may be practical to put your boat in the back yard.

Should you choose a boatyard, it would pay you to shop around for a reliable one. Some things to consider are:

1. Convenience of location. (This is not the first consideration.)
2. Cost. (This too should not be of primary importance.)
3. Covered storage. (Obviously your boat will weather less if under cover.)
4. Supervision - for fire and theft protection.
5. Nearness of caustic fumes or discoloring dirt and soot.
6. Competence of the yard's staff.
7. Ability and facilities to do your own work.
8. Extent to which the staff stands ready to assist.

In addition, the advantages of boatyard storage are twofold: the boat is under professional care all winter, and facilities are readily available for work on the craft during lay-up period. (Be sure to reach an agreement as to what work, if any, the yard will do and what work you will do. Some yards must do a certain amount of work on your boat to pay their cost of storing her. The boat should be hauled without damage or straining and properly handled throughout the storage period by a good yard.) Disadvantages also are twofold: there is high storage cost, especially under cover, and the most convenient yard may not be able to handle your boat on a pure storage basis, adding extra costs for work you would otherwise do yourself. Generally speaking, under cover storage is a protective shed. Its obvious superiority over outdoor storage is that it shelters against rain, sleet, and accumulations of snow.



HAULING-OUT AND STORAGE

If your boat is being hauled out at a boatyard, let the experts take over. If you are bringing the craft home and have a trailer, load her according to the directions of the manufacturer. If you do not have a trailer, see if you can find a trucker who will haul the boat for you and ship her to your house or other location. Most boating communities have people or concerns who do this work.

When a craft is stored at a boatyard, she will rest in a cradle furnished by the yard. At home, you must furnish the cradle. You can build a cradle if you know what you are doing, or have one built if you do not. Some skippers use the shipping cradle their boat came in. Or the boat can rest in an improvised cradling consisting of blocks and shores. Actually, the essential requirement of this blocking and shoring is the provision of such well distributed and steady support that it approaches the condition provided by the water when the boat is afloat. If it does not do so, there is a good likelihood that some permanent deformation of the hull may occur.

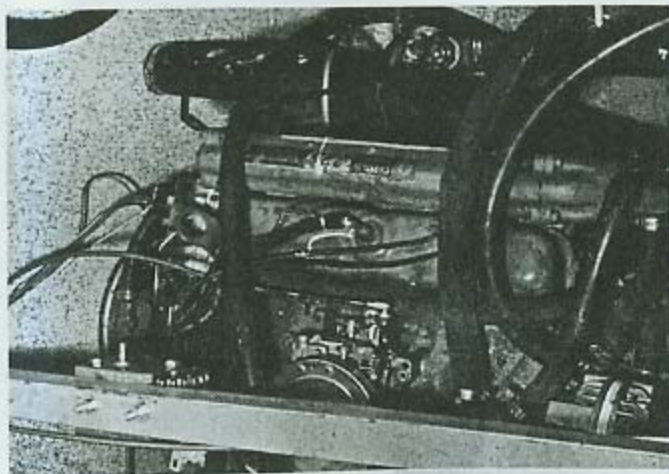
HULL

1. Bottom: within two hours of hauling out, scrape off grass, barnacles, and slime with a stiff brush and hose bottom clean. When dry, sand bottom lightly and apply coat of bottom paint - a roller makes this easy.
2. Drain Bilge: Now is a good time to clean bilge with detergent, then flush out with hose.
3. Check propeller: for nicks, dents, bent blades; have it repaired during winter if necessary.
4. Zinc Anodes: They'll need replacing next spring so note size and type and buy them now.



BELOW DECKS

1. Flame Arrestor: Remove core and clean in kerosene or diesel fuel. Replace.
2. Lube Oil and Fuel Filters: Replace elements in these.



3. Water Passages and cooling water lines: Drain completely and replace with anti-freeze, turn engine over with starter to draw anti-freeze through engine until some comes out exhaust.
4. Spark Plugs: Remove and pour half cup oil into each cylinder; turn engine over to distribute oil. Replace plugs.

5. Battery: Take it out of boat, clean terminals with wire brush, replenish water, and charge. Stow it in dry place and check once a month. Yard will do this.

6. Engine Overhaul: How many hours since last overhaul? If you need one, have yard do it during winter.

7. Bilge Pump: Remove and check operation. Does it need repairs?

8. Drain Water Supply Lines: Blow them out if possible.

9. Stove: Shut off fuel line. If gas, remove tank from boat. Don't leave fuel aboard in galley. Fill pump with anti-freeze. Refrigerator: Clean out all leftovers. Wash inside with bicarbonate solution. Leave door open during winter. Galley Lockers: Clean out all food; take glasses, dishes, silverware ashore.

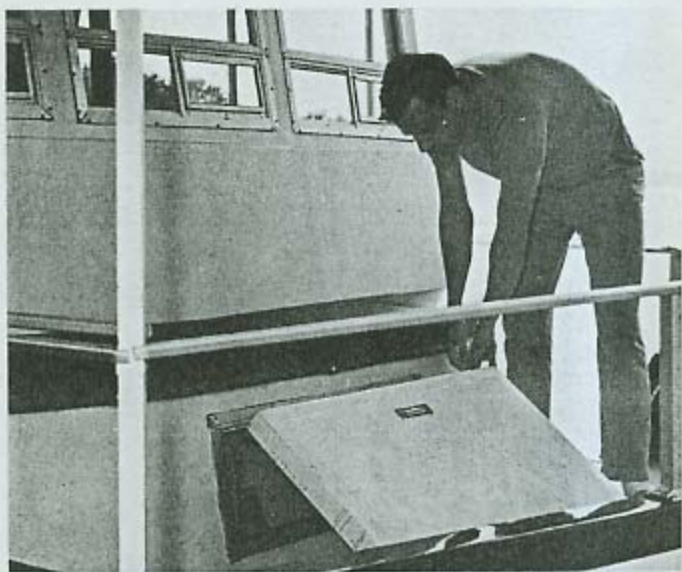
NOTE: Propane gas appliances should be installed only by qualified mechanics. All connections should be checked periodically for hazardous conditions.

ABOVE DECKS

1. Wash Overhead Decks: Scrape off seagull mess, clean off dirt and sand. Wash all brightwork, vinyl. Dirt will be "softer now" easy to remove.

2. Electronic Gear: Remove depthfinder, RDF, ship-to-shore, antenna, etc. If they've given you trouble during the season, have expert check and repair.

3. Clean Cockpit Lockers: Remove life preservers, docking lines, fenders, etc.; inspect, replace as necessary and stow in dry place ashore.

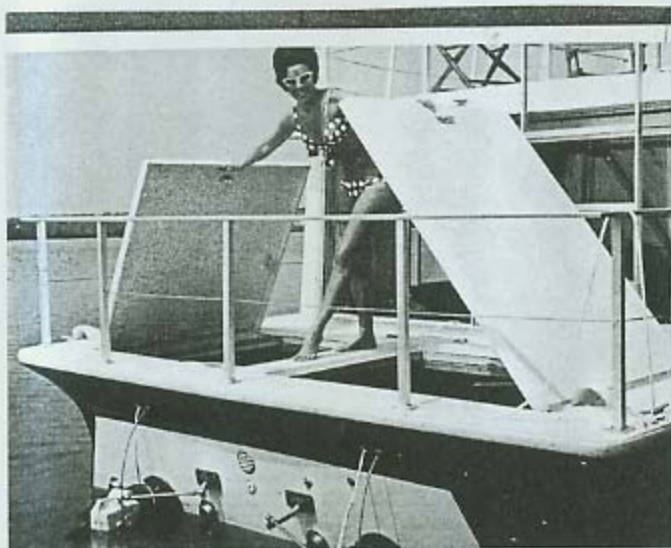


4. Wash all bright work. Wipe aluminum handrails and other aluminum surfaces and protect with a wax or silicone preservative.

5. Windows, Ports: Any "leakers" among them? Plan repairs yourself or by yard during winter.

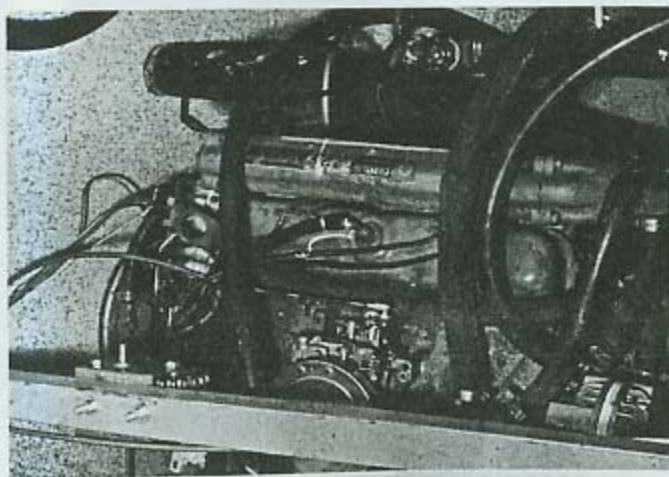
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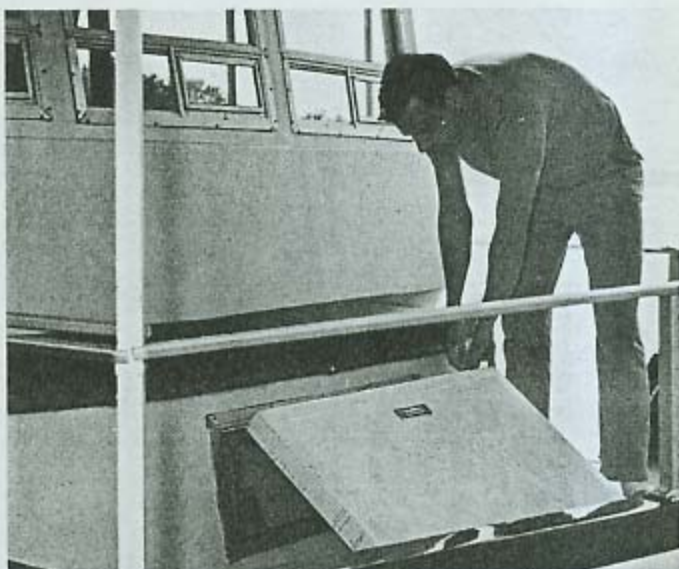
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FITTING OUT CHECK LIST

If you want to get the most out of your new Nauta-Line you should check her out carefully at "Fitting Out" time. The following is a check sheet that will help you get set for another season of Wonderful HouseBoating.

1. Alternator: See that all wires connected to the engine-mounted alternator are secure at the terminals. Replace wire that is chafed or frayed. Secure all long runs of wire with tape or lacing cord to prevent abrasion of insulation. Adjust V-belt tension.

2. Anchor: Inspect the shackles, chain and rope. Reverse the line end for end if there are minor wear or chafe points. If there is a serious wear, replace the entire line.

3. Antenna: Inspect and tighten the mounting bracket, if required. Clean and tighten the lead-in wire connection.

4. Battery: If your boat's battery has seen more than 3 seasons of service, replace it. Three points to remember: charge the cells fully; secure the battery snugly; tighten the cable clamps against clean, bright binding posts. Be careful to install battery polarity properly. Install plus to plus and minus to minus. Improper installation will result in burning out the alternator.

5. Belts: V-belts which transmit engine power to accessories (alternator, generator) should be replaced each spring.

6. Bilge: Clean it. A drip pan under the motor will make the job easier next time.

7. Bilge Blower: Test it; see that it is properly fastened and that its wiring is neatly dressed. Arrange the inlet hose as low as possible but not so low that bilge water will block air flow. Exhaust must blow outside the boat.

8. Bilge Pump: A few strokes of the hand bilge pump will tell you if it is operable. No? Valves and leathers probably need attention. Replacement parts kits are available. An electric bilge pump leads a rough life because electric machinery inherently dislikes moisture, dampness and salt water. Examine the pump's wiring: It is vitally important that the "ground" or "cold" (usually negative) wire be well connected and of heavy gauge. Further, the pump's switch must be in the non-ground or "hot" (usually positive) side of the line. An inadequate ground line or placement of switch or fuse in the ground circuit can ruin the bilge pump quickly. Worse, improper connections may damage the boat through electrolysis. Scrutinize your pump installation. Know that it is correctly wired, switched and fused.

9. Cables, Battery: Powerful current is transmitted through the battery cables and even slight resistance causes slow engine starts. Look at your boat's cables: they should be heavy, clean, free of corrosion and short as possible. Clamps should be clean. Don't try to save a dollar or two by retaining cables of doubtful quality. Buy new ones. Replace green, chafed, acid-eaten cables without hesitation.

10. Carburetor: Don't tinker with the carburetor. If you think it is gummed up or otherwise malfunctioning, carefully remove it to a good carburetor shop for rebuild. Reinstall it with a fresh gasket. Connect the gas line with great care; you don't want gas dripping in the bilge as it is extremely dangerous.



11. Cleats: Cleats on decks, take great strains when lines are snubbed tight. Look closely: Fastenings should be free of corrosion and must have a good bite to the sustaining member.



12. Compass: It's the prince of instruments for piloting and navigation. How about your compass? Is it a good one? Is the lighting comfortable at night? Is it compensated?

13. Controls: Lubricate throttle and clutch controls. Test both controls: A helper makes the job easier. Throttle lever must open and close the carburetor's control completely and have a little travel to spare. Clutch control should be centered at neutral and have more than enough travel to engage the transmission in "forward" and "reverse" fully.



14. Depth Finder: Inspect the transducer and its fairing block before your boat is launched. Be sure the underwater fittings are secure and well bedded. Some companies, incidentally, recommend that the transducer be washed with detergent or wetting agent before the rig goes into the water.

15.* Dockside Cable: Think back to last season: Was your electric cord long enough? Heavy enough for the load? Did it have the correct fittings and adapters? If not, better correct it.



16. Electronic Equipment: The earlier the better, get your electronic gear into and out of the shop for necessary check-up and repair. Later in the spring shops become filled with work. Be sure to have a qualified technician tune up your radiophone and give it a frequency check after it is installed.

17. Engine: If you're qualified and have the tools and instruments, give the engine a spring Tune-up. If you are not able, or don't have the time, have the motor tuned by a good mechanic. In most cases, tune-up should include new spark plugs, fresh points and condenser, replaced fuel filter element, ignition timing and dwell adjustment. Check fuel pump diaphragm carefully for deterioration and possible leakage into bilge. This can be a safety hazard. Replace immediately if necessary.

18. Exhaust System: Inch by inch, inspect the engine's exhaust manifolding, pipes, hoses, fittings. Run the engine. Watch for leaks. If you find leaky castings, hoses or fitting the remedy is obvious: Install a new component. (Hint: Use a flashlight and look intently for pinhole leaks on the bottom of copper exhaust tubing. That's where trouble usually starts.)

19. Fastenings: Close examination of a boat's fastening in the spring, before she's launched, may prevent trouble later in the boating season.

20. Filler Pipe: Fuel tanks are generally below decks or in the enclosure. The tanks are connected to a deck fitting having a cap. Usually the connecting pipe is a section of neoprene hose and is an electrical non-conductor. For safety, examine this kind of installation for two things: 1. Make sure all connections (tank-to-pipe-to-hose-to-deck fitting) are vapor tight. 2. See that there is an electrical bonding strap, wire or mesh braid between tank and deck fitting. Bonding helps eliminate dangerous static sparks.

21. Fire Extinguishers: Before you venture a foot from the dock: know absolutely that you are carrying the required fire extinguishers and an extra one to two we hope. Naturally, you have checked, tested and approved.

22. Fuel lines: Examine the fuel line all the way from tank to engine. It should be secured well so vibration can't chafe the tubing, and the clips that support the line should be soft, non-abrasive. Between the bulkhead or engine bed and the engine proper there should be a section of high quality flexible gasoline hose.

23. Fuses: Naturally, you'll replace any blown fuses. But more important: Jot down the size and style of every fuse on the boat and buy several spares (or a box) of each kind. Stow them close to the fuse panel.

24. Ground Plate: If your boat has a marine band radiophone it will be fitted with an underwater ground plate. Examine to be sure the plate is securely fastened to hull and that adequate strap conductor connects the plate to the transmitter. In addition, the boat's battery system and other heavy machinery should be boned to the plate by heavy conductors.

25. Galley Stove: If your stove uses bottled gas, be absolutely certain that the installation meets safety requirements especially as regards to tank location and shut-off valves.



26. Hand Rails: Sometimes hand rails are grabbed hard and at times the grabber is clutching to keep himself out of the drink. Test your rails regularly then to be sure they're doing their job.



27. Hatch covers: Be sure that they are tight. Clean out drains.

28. Ignition System: After you have checked your engine and spark plugs have been installed, spray or wipe on a moisture fighting compound.

29. Life Preservers: You must have one Coast Guard approved life saving device aboard for each person on the boat.

30. Lights: Test every electric light on the boat. Pay particular attention to the running and anchor lights.

31. Lines, dock: Make sure you have aboard a bow, stern, and a couple of tow lines aboard.

32. Propeller: Inspect the prop carefully. If it's nicked, dented or bent, send it to the prop shop for refurbishing. If your wheel is in good shape, be sure the nut is tight, that it is backed up by a second nut and that the nut is cottered or safety-wired.

33. Sink: Check out the galley sink's piping and tubing. Tighten all clamps.

34. Steering: Tighten steering wheel, on its shaft and remember the importance of lubrication. Check nuts and bolts behind steering wheel.

35. Tanks: Important; fuel and water tanks must be secured against movement or shifting. The gasoline tank must be fitted with a vent arranged so that vapors and gasoline overrun go overboard.

36. Toilet: Does the toilet pump need packing or other attention? Check seacocks.

37. Vapor Detector: If your Boat is fitted with a bilge fume detector test it.

38. Water Pump, Engine: If the boat's water pump did any leaking, remedy the trouble. Re-pack the pump or have it rebuilt.

39. Zincs: Install new zinc anodes.

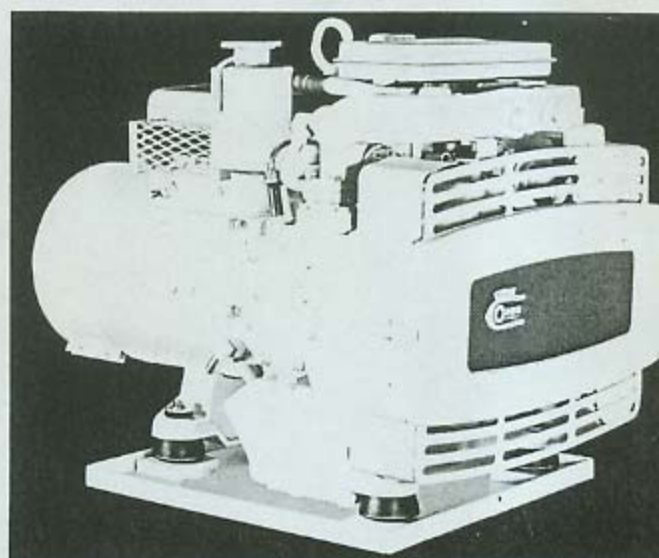
NOTE: Propane gas appliances should be installed only by qualified mechanics. All connections should be checked periodically for hazardous conditions.

ELECTRICAL SYSTEMS (AC 110 V Shore Current)

- () Shore line and terminals O.K.?
- () Main switch and fuses adequate?
- () Circuits checked out?

ELECTRICAL SYSTEMS (DC 12 VOLT)

- () Check battery
- () Main switches and fuses
- () Circuits checked out
- () Alternator



Generator Checkout Procedure

In the event that an electric generator plant fails to operate, please check the following items before calling your local Onan or Kohler distributor.

1. The following valves must be fully open
 - a. Gas valve
 - b. Gate valve on exhaust line
 - c. Water intake valve
2. Check for clean and tight battery connections and fully charged starting batteries.
- *3. Check Oil level
- *4. Check water level in fresh water cooling system
5. Demand (starting) load must be 60 watts or more. (To be sure, turn on one burner of electric range).
6. Check the line transfer switch. Handle must be in down (Generator) position. Open all fuses to be certain links have not "blown".
7. Push the reset button, located as follows:
 - Kohler:** Located on the side of the control box mounted on the generator.
 - Onan:** Located on the side of the control box mounted on the generator.

A second reset button is located in the remote control box mounted next to the line transfer switch . . . also, Check the fuse in the remote control box.

*(The oil and water level is important since we have a generators equipped at the factory, with cutouts to protect the unit in the event that oil pressure drops or it overheats.)

It is most important that each of the above items be checked before calling the distributor for repairs. If he finds that the malfunctioning is due to any of these items, you will end up paying his travel time and expenses. The warranty period is one year from the time the boat is delivered to the owner (same as Nauti-Line's warranty). You might void the warranty if you attempt repairs so we caution you -- check the above items only -- then call the distributor.

Of course, a fitting out check list cannot be considered complete without the addition of a safety equipment list. Check all your safety equipment according to the chart below.

SAFETY EQUIPMENT

Fire Extinguishers

- ☐ All approved type?
- ☐ Fully charged?
- ☐ Readily accessible?
- ☐ Satisfactory condition?

Life Preservers, Jackets, etc.

- ☐ Approved type?
- ☐ One for every person?
- ☐ In good condition?
- ☐ Easily accessible?

Whistle, Horn and Bell

- ☐ Approved items o.k.?

Paddle or Oar

- ☐ Ready for use?

Distress Signals

- ☐ Signal Flares, smoke, etc, O.K.?
- ☐ Radar reflector on board?

First Aid Kit

- ☐ Completely restocked?

Bilge Pump

- ☐ Cleaned and tested?

Bilge Blower

- ☐ Cleaned and tested?

Emergency Repair Materials

- ☐ Have such a kit available?

Fuel or Gas Detector

- ☐ Does it test O.K.?

Lead Line

- ☐ In good shape?

Boat Hook

- ☐ For docking and for reverse latch on Outdrive



The modern plant pictured above is the largest single plant dedicated to the production of Fiberglass HouseBoats in the world.

The new plant has 150,000 square feet of production area and will produce both the new 34' and 43' Nauta-Line. It will utilize the most advanced straight line production methods and highly specialized equipment in order to increase production. The latest quality control procedures and methods

are in operation to guarantee consistent top quality materials and workmanship. At No. 1 Nauta-Line Drive, constant checking and testing is carried out to insure that every Nauta-Line delivered to you, the buyer, is in top condition, ready for years of boating fun. Nauta-Line's research and design department is constantly checking new ideas, features, construction methods and models. Our staff is sensitive to the demands of you, the boating public and makes every effort to give you the things you want in a boat.

All information contained in this booklet is based on the latest product information available at the time of printing. The right is reserved to make changes anytime without notice.

NAUTA-LINE NATIONWIDE WARRANTY

TERMS AND CONDITIONS

The new Nauta-Line boat models designated on each Nauta-Line Standard Purchase Order form, are constructed according to Nauta-Lines' methods and of the design, materials, and equipment that are Nauta-Lines' standards at the time of manufacture. Payment for each boat is to be by cash upon completion and before taking delivery and transfer of ownership. In addition to the purchase price, dealer agrees to pay any State or Federal Sales of Use of Excise tax applying to this sale. No order for any boat is subject to cancellation except by written consent of an officer of Nauta-Line Division, Glastron Boat Company herein for brevity called "Nauta-Line." Nauta-Line shall not be liable for delays at delivery or failure to manufacture due to causes beyond its reasonable control, such as acts of God, acts of Dealer, priorities, fire, strikes, floods, war, riot, delay in transportation, car shortages, and inability to obtain necessary labor, materials, or manufacturing facilities. In the event of a product shortage Nauta-Line shall have the right to allocate its available products among its Dealers and other customers in such a manner as Nauta-Line may consider to be equitable. Nauta-Line may delay or cancel any individual boat order. In which latter case dealer's deposit on order so cancelled will be refunded. Nauta-Line shall not be liable for damages or loss of profits of any nature whatsoever for delay or failure to deliver, or for any loss or damages of any nature by use or sale of this boat by the dealer or any other person, and shall have no contingent liability whatsoever.

Nauta-Line warrants each hull and deck to be free from defects in materials and workmanship under normal use and service for a period limited to twelve months from the date of retail delivery through Nauta-Lines' selling dealers. This warranty does not apply to: Engines, Outdrives, Controls, Batteries or other equipment of manufacturers of accessories carrying their own individual warranties (appropriate adjustments to them being provided by their respective manufacturers). Necessary repairs will be made free of charge by either the Nauta-Line factory, or an authorized Nauta-Line dealer at the factory's option. Return transportation of any boat is to be paid by the

claimant with all repairs subject to the authorization of factory trained personnel whose decisions will be final. The extent of Nauta-Lines' liability for any such defective part shall be limited to the consideration by Nauta-Line as to the replacement thereof, provided written notice of such defective part shall be given by the claimant to Nauta-Line within said twelve month period together with the shipment of said part to the factory, transportation prepaid.

Upon receipt thereof Nauta-Line shall determine whether or not such part shall be replaced without charge and its decision thereon shall be final. Return transportation of any part is to be paid by claimant. If a boat or part thereof has been altered or changed outside of Nauta-Lines' factory, or parts not of Nauta-Lines' manufacture have been installed, Nauta-Line shall have no responsibility under the warranty. Nauta-Line does not warrant paint finishes nor upholstery materials. This warranty is the sole responsibility and liability of Nauta-Line and is expressly in lieu of all other warranties expressed or implied and all other obligations or liabilities whatsoever on the part of Nauta-Line. No person including any dealer, or representative of Nauta-Line Division, Glastron Boat Company is authorized to make any representation or warranty concerning the products on behalf of the Nauta-Line Division. Catalog speeds are not guaranteed. Nauta-Line reserves the right to make changes in design and changes or improvements upon its products without imposing any obligation upon itself to install the same upon its products then in the process of manufacture for delivery pursuant to any outstanding purchase order existing at the time such changes mentioned above may be decided upon.

If Dealer shall refuse to accept delivery or shipment of the boats ordered on Nauta-Lines' Standard Purchase Order form, after being acknowledged and scheduled by Nauta-Line, these boats will be reshipped or rerouted and Dealer charged with the freight, storage and all other costs and expenses incurred thereby.

NAUTA-LINE DIVISION

Glastron Boat Company
No. 1 Nauta-Line Drive
Hendersonville, Tenn. 37075

