

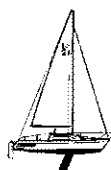
US YACHTTM

UNITED SAILING YACHTS[®]

OWNER MANUAL



US 18



US 21



US 22



US 25



US 27



US 30

WELCOME ABOARD

The purpose of this manual is to help inform you and familiarize you with this new equipment. It will not tell you everything there is to know about boating, but it will assist with the operation of equipment built and supplied by United Sailing Yachts. (Equipment, specifications, and price are subject to change without notice.) When your US Yacht needs service, see your dealer.

Understanding your new boat and how it works is essential to your boating enjoyment and your safety. We recommend a three-step program for full pleasure.

1. Make certain you get a full explanation of all systems from your dealer before taking delivery.

2. Read this manual thoroughly, with particular emphasis on these sections:

Starting, Checking for fumes, Alcohol stoves, Loading limits, Safety suggestions, Limited warranty.

3. Practice. All members of the family should be familiar with the boat's operation and how all systems work.

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SECTION I

Recommended Procedures for Launching, Fueling, Operating, Safety Inspecting and Trailing Your Boat.

At the time of the first launching of your US Yacht, it is very important the procedure noted below be followed. US Yachts 18 through 25 series are water-tested at our factories on a random sample basis. Each US27 and US30 is water tested prior to delivery. Still your new US Yacht should be checked closely when first launched.

Launching

1. Inspect the bottom of your new US Yacht and make note of all fittings below the waterline, then proceed with the launching.
2. Once in the water, immediately board your boat and inspect for signs of leakage. Check the area of any through-the-hull fittings for leakage.
3. If any leaks are noted, the boat should be removed from the water. If the selling dealer is not present, he should be notified.
4. Check the rigging for proper tuning. This should be done each time prior to getting underway.
5. On the US18, US21, and US22, install the rudder. Attaching a safety line is advised as the rudder will not float. Turn the rudder to one side to fit the pintles into the gudgeons. The lower pintle is longer and will slip in before the upper pintle.

Fueling

1. Prior to fueling, extinguish all open lights, close all hatches, windows and doorways, and stop all engines, motor fans and other devices liable to produce sparks.
2. Inboard models are fitted with a through-the-deck fitting marked "GAS" or "DIESEL". This fitting is located so any fuel spilled will not enter the boat. Remove the cap and insert the fuel nozzle, allowing the nozzle to make contact with the through-the-deck fitting. This contact will protect against static electricity.
3. Proceed with filling the tank. After 4 or 5 gallons have been pumped in, stop to inspect the area of the engine and fuel tank for signs of leakage or fumes. If nothing is detected, proceed with fueling. When the tank is full, again check the motor/fuel tank area.
4. Install the fuel cap.
5. Wash down the area around the fuel fill with fresh water.
6. In the case of portable fuel tanks on outboards, remove tanks from the boat for filling. Once filled, they should be hosed down and wiped off before being replaced in the boat.

NOTE: Some portable tanks have vent screws which must be open to operate the outboard engine.

7. On very hot days, allow for expansion. Do not fill the fuel tank completely.
8. If, when filling the tank, you can't put fuel in at a reasonable rate, check the fuel vent line to see that it's free, not kinked.
9. A periodic check should be made of the motor/fuel tank area. Any sign of seepage or fumes should be investigated and the cause repaired prior to operating the boat.

Starting (inboard models only)

1. Check the engine oil level, test alternator/water pump belts for tension and check entire motor area to see if everything is in its proper place. **IMPORTANT: Check entire area visually as well as by sniffing to insure that no fuel vapors are present. Check transmission oil level.**
2. If the diesel engine has not been run, bleeding of the fuel system is required. See the motor owner's manual for instructions for bleeding the engine.
3. On gas engine models, turn on the blower and allow it to run for three minutes. Do not turn the blower off until you are underway and at a cruising speed.
4. Position the throttle at half throttle and turn the ignition key to the start position.
5. As soon as the engine starts, set the engine speed at 1000 RPM's and check your oil pressure. Oil pressure will vary from one engine to another, but it should come up immediately. If it doesn't, shut the engine down. On those engines equipped with indicator lights, if the warning light does not go out, shut the engine down.
6. When the oil pressure checks "OK", check the engine again for fuel vapors or fuel leakage. Give particular attention to all fuel fittings. Also check for any sign of water. Leaking from the engine might indicate the block drain plugs are open. **CAUTION: Check the engine and fuel compartments and operate blower for gas engines for at least three minutes before starting and when operating below cruising speeds.**
7. On boats equipped with an alternator indicator light check to see that the light is out. On boats equipped with a volt meter, readings of 13 to 14 volts are considered normal when the engines are running (over 1,500 R.P.M.). Readings

below this indicate a severely discharged battery or a non-functioning charging system.

8. With the engine(s) not running, volt meter readings in the 11.5 to 12.5 volt ranges are considered normal. Readings in the 10 to 11.5 volt range indicate a marginal charge condition. Readings below 10 volts indicate a serious discharge condition.

9. Look over the stern of your boat and make sure that water is coming out with the exhaust.

10. If no water is present, this is an indication no cooling water is circulating. Shut down the engine immediately and report the problem to your dealer.

Packing Gland on Propeller Shaft Log (inboard models)

1. The boat should be checked when first launched to see that the packing gland is not leaking.

2. When properly adjusted, with the shaft turning, a slight drip indicates correct adjustment.

3. During initial hours of operation, the packing gland should be checked regularly.

4. If excess leakage is noted, shut the engine down, loosen the jam nut on the shaft log and tighten the packing nut slightly. Start and check with the engine in gear. Continue this procedure until a slight drip is noted.

Controls (inboard models)

With the boat tied securely to the dock, advance the shift control to forward. Bring it back to neutral, hesitate, and bring the shift lever back to reverse. Return the lever to neutral. The boat thrust should correspond to the shift lever position. When shifting in or out of gear, move the shift lever firmly and quickly.

If you have followed the procedures above, then the most important functions of your boat have been checked. Any discrepancies noted should be reported to your dealer immediately. **DO NOT ATTEMPT TO OPERATE YOUR BOAT UNTIL THE PROBLEM IS CORRECTED.** If everything checks out OK, you're ready to go.

For maximum safety and fun afloat, the procedures above should be followed each time you operate your boat. They are not just for beginners. Seasoned skippers, like airplane pilots, perform these checks each time they launch, fuel or operate their boats.

Safety Inspection

1. You should check to make sure you have the following safety items, tools and spare parts on your boat:

Fire extinguisher

- Life preservers — One for each person aboard and one throwable flotation device, all with a coast guard approval tag.
- Boat hook or paddle
- Fenders
- Lines
- Chart for intended operation area
- Flashlight
- Flares—night and day approved types.
- Small tool box containing:
 - Phillips head screw driver, slot head screw driver, pliers, vice-grip, regular open-end wrenches, electrical tape, jackknife, Allen wrenches, hacksaw, hammer, ratchet-sockets and extension, feeler gauges lubricating oil, battery jumper cables, water pump pliers, friction tape, hose clamps, screws-bolts-nuts and washers, waterproof matches.

NOTE: Metric tools are required for diesel engines.

Spare Parts

- Alternator belt and/or water pump belt
- Gear lubricant
- Cabin lights, courtesy bulb number GE-94 or GE-90
- WD-40 (rust inhibitor)
- Navigation light bulb number GE-90
- Dome lights number GE-1141
- Propeller nut and washer (outboard)
- Drive pin, if required
- Spare propeller

2. Instruct passengers in the use and location of life jackets and fire extinguishers.

3. Check your self-contained head. It should be charged with a fresh chemical solution before starting a trip.

4. Check your water system. It should be filled and the operation of the manual or pressure pump should be tested. Your pressure pump system has a switch in the galley area that activates the pressure pump. When your water tank runs dry, you should shut off the pump as continuous running when dry will damage the pump.

5. Bilge pumps work well if their intakes are kept clear of debris and the outlet hose is kept free. Occasional checking of operation is advised. Don't run your pump dry. Add a little water to the bilge and pump out to make certain it is operating properly.

Trailer

1. Purchase a trailer with the proper capacity rating. A trailer that is sprung to carry more weight will ride too roughly and can damage your boat. Too little trailer capacity will be unsafe on the freeway, and will not meet legal requirements.
2. Consult your state laws for brake requirements, and check brakes for proper operation prior to departure on each trip.
3. Check tires for proper inflation. Under-inflated tires heat up rapidly and tire damage is likely to occur.
4. Wheel bearings should be checked at least every 90 days and before putting your boat away for the season.
5. Your boat should be fastened to the trailer by a line from the bow eye to the winch line PLUS a safety chain or cable to the winch stand or trailer tongue. The stern of your boat should be tied down to the trailer from the stern eyes.
6. Check to be sure the tail lights and turn signals work when attached to the towing vehicle. Some autos require heavy duty flasher units to make turn signals work properly.
7. Your trailer should support your new boat in as many places as possible and be adjusted so the load is well divided among the supporting rollers or pads. Occasional lubrication of the rollers aids in launching and retrieving your boat.
8. Too much or too little tongue weight will cause difficult steering and tow vehicle sway. A rough rule of thumb is 5% to 10% of boat and trailer weight on the tongue.

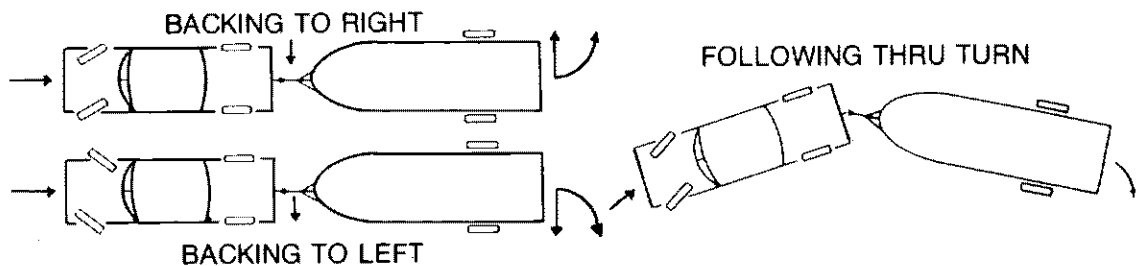
9. Close and secure all cabin windows and doors. Store equipment so that it cannot slide or fall.
10. Check springs and under carriage for loose parts.
11. Carry a spare wheel with tire to fit the trailer with tools sufficient to change it.
12. On extended trips, carry spare wheel bearings, seals and races. Due to the immersion necessary to launch your boat, the trailer bearings and packing will not last the mileage they will in your auto.

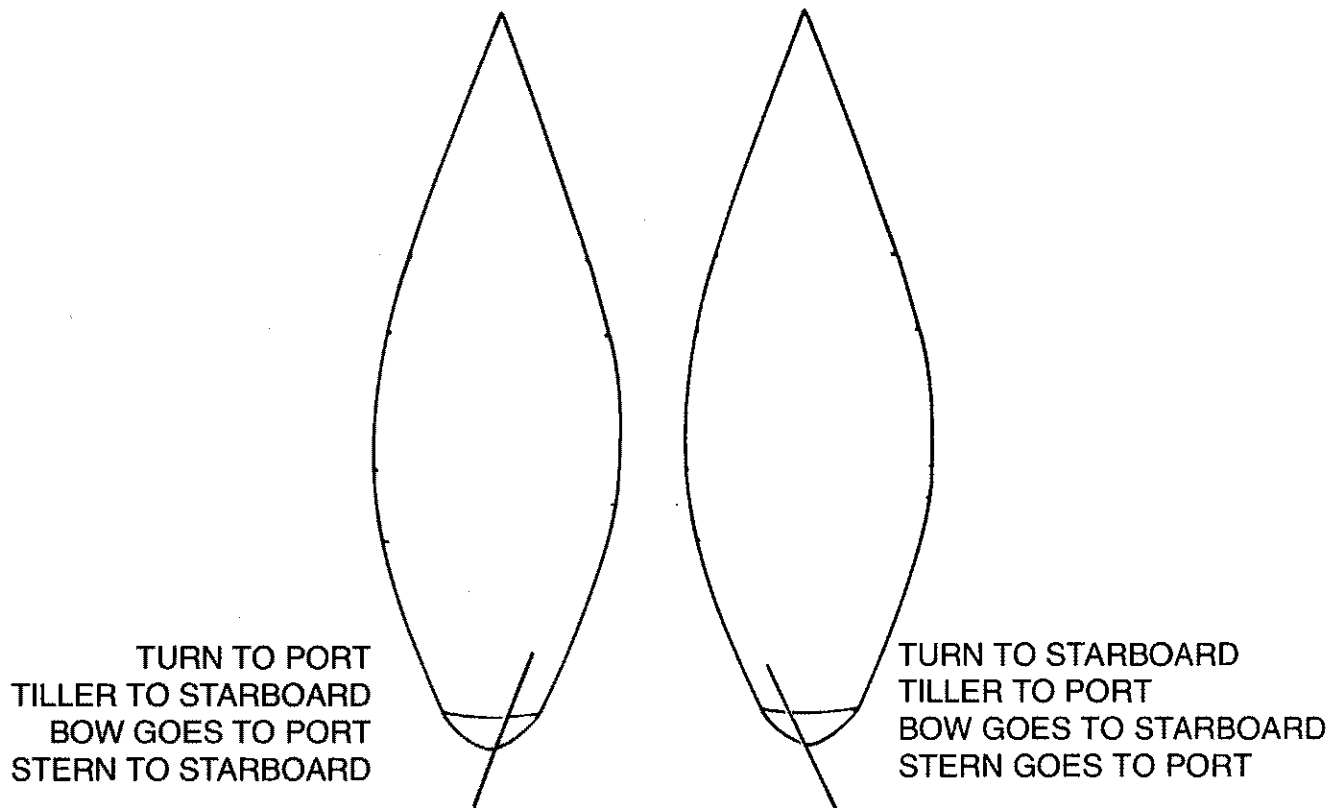
How to Back Up Your Trailer

We will attempt to show you how it is done in pictures. However, since practice makes perfect, we suggest using an empty supermarket parking lot as a practice area.

NOTE: When backing, be sure to have a lookout as your visibility may be severely impaired. Also, make certain the rudder will clear obstacles.

1. Turn the front wheels of the car in the opposite direction from which you want the trailer to go.
2. Once the turn is started, follow the trailer as you would normally backing the car.
3. When rounding turns on highways or streets, don't cut corners.
4. Equip your vehicle with a right hand mirror — a real benefit when passing and parking.





Getting Away From the Dock.

Piloting a boat is a lot like learning to drive a car. Extra caution and slow speeds cause fewer accidents.

OUTBOARDS MODELS: Your "US Yacht" will steer well with the rudder. The motor, for most applications, can be left straight ahead.

Practice Maneuvers Under Power

Once you are away from the dock, devote some time to learning how to maneuver.

1. Practice docking by using an imaginary dock.
2. Practice stopping. You have no brakes, but reverse works well at low speeds. **NOTE: Inboard powered boats are difficult to steer in reverse due to the pronounced effect of engine torque and propeller rotation.**

3. Remember your boat is very heavy. When operating in close quarters or docking, all maneuvering should be done at idle speed. Proceed with caution in congested areas.

Have fun and stay calm. You will learn quickly and enjoy it more.

SECTION II

Parts and Systems-Operation and Maintenance

Electrical Systems

Although US Yacht manufactures many different models, the electrical systems on all models operate on the same basic theory. The

key to a good marine electrical system is the battery. The batteries on models US21 through US25 are dealer installed items. US Yacht makes the following recommendations on battery rating: models US21 through US25-minimum 60 amp/hour capacity.

The US27 (inboard power model) and US30 come standard with one 85 amp/hour battery. The battery master switch has four positions: "Off," "Battery 1," "All," and "Battery 2." A second battery may be installed for "Battery 2" position. Through this switch the changing of the batteries can be controlled. It is important that the switch not be left in the "All" position as both batteries could be discharged leaving no power for starting the engine. Also don't turn to the "Off" position or a position with no battery when the engine is running. Doing this can damage the charging circuit.

Battery

The marine battery has a big job. It supplies you with lights, engine starting power and power to run many accessories. Don't neglect it! Check the water level regularly by removing the caps. If the zinc plates are exposed, add distilled water.

Battery terminals that are corroded can let you down. Clean them with baking soda and water and coat with preservative or a light film of petroleum jelly. Be sure all battery connections are tight. When storing the boat, it is best to remove the battery, give it a full charge and store it inside where there are not extreme temperatures. Do not store on a cement floor.

Fuses

The fuses on all models are located at the DC switch panel. To supply power to the switch panel the master switch on the panel must be in the "On" position.

On the US27 and US30 models the pressure water system pump and the shower sump pump (optional), where applicable, also have an in-line fuse at the panel. In addition to fuses at switch panels, US models 21 through 30 have a 30-amp in-line fuse on the positive main power lead at the battery.

Dockside Power

On the US27 the (optional) circuit breaker panel is located under the shelf on the aft starboard bulkhead. In the US30, the circuit breaker panel is located in the cabinet under the galley.

CAUTION: When plugging into shore power you should always check the polarity of the shore power. When you plug in your dockside plug,

check the polarity tester on the aft panel. If your boat doesn't have proper polarity, disconnect your dockside plug. Failure to make this check can result in damage to your 110v accessories and severe electrical shock. The problem is in the connection. Notify the marina.

All circuit breakers should be in the "On" position. The 110 volt accessories and wall outlets can now be used. The main battery switches can be in either the "Off" or "On" position while on shore power.

The US27 and US30 are equipped with a battery charger which works automatically when the dockside power is plugged in. The battery master switch need not be turned to the "On" position.

Hot Water Heater

On the US27 and US30, the hot water heater is hooked up to dockside power only. When hooked up to dockside power the 110v heating element will maintain the water in the tank at 140 degrees. The hot water tank, which holds approximately five gallons of water, is equipped with a thermostat and a reset button. These are located under a removable plate on the tank itself.

CAUTION: When the water system has been run dry, the hot water must be shut off immediately or the 110v heating element will be damaged. This is done at the dockside power circuit breaker box.

DIAGRAM OF ELECTRICAL SYSTEM US21, US22 and US25

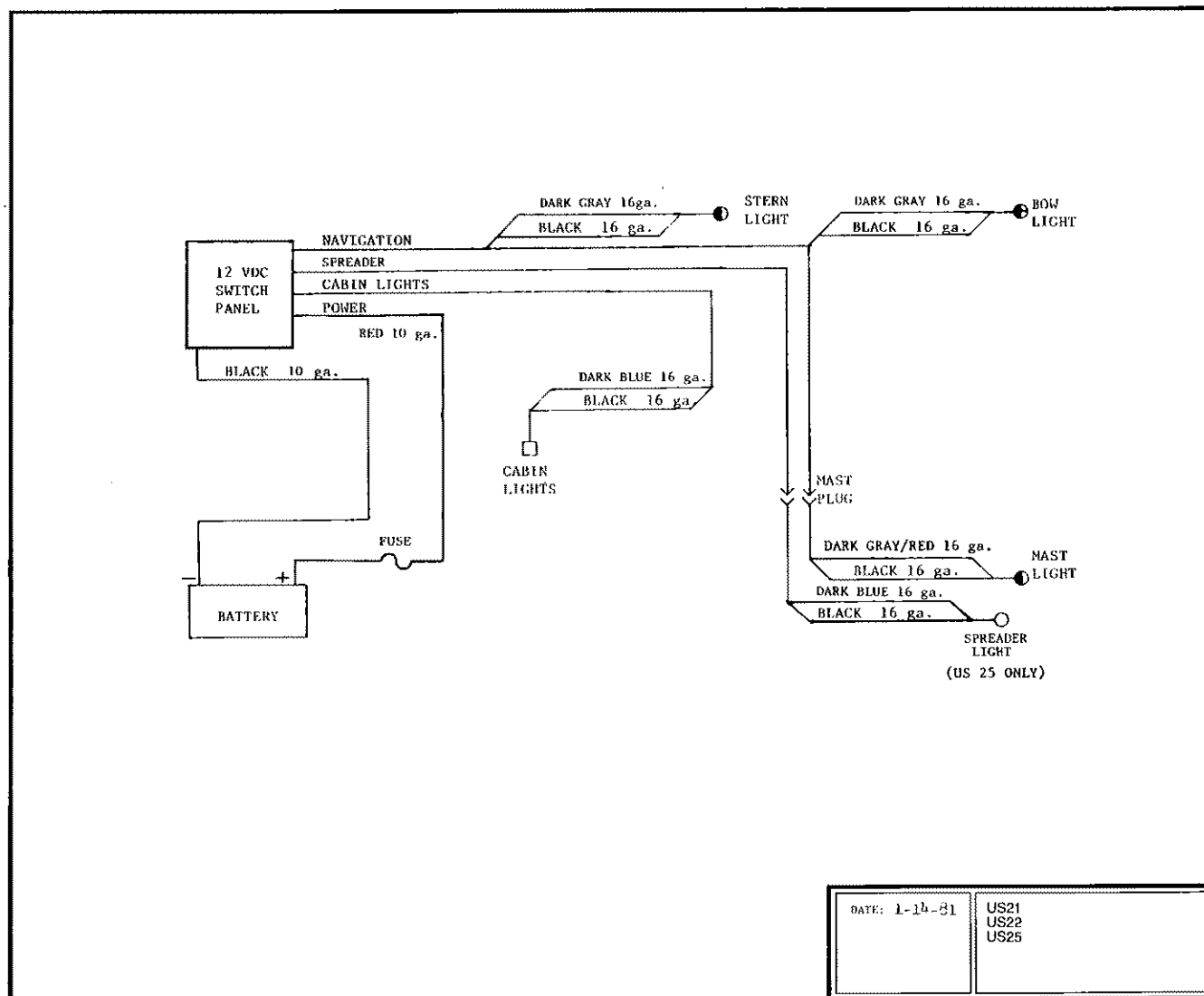
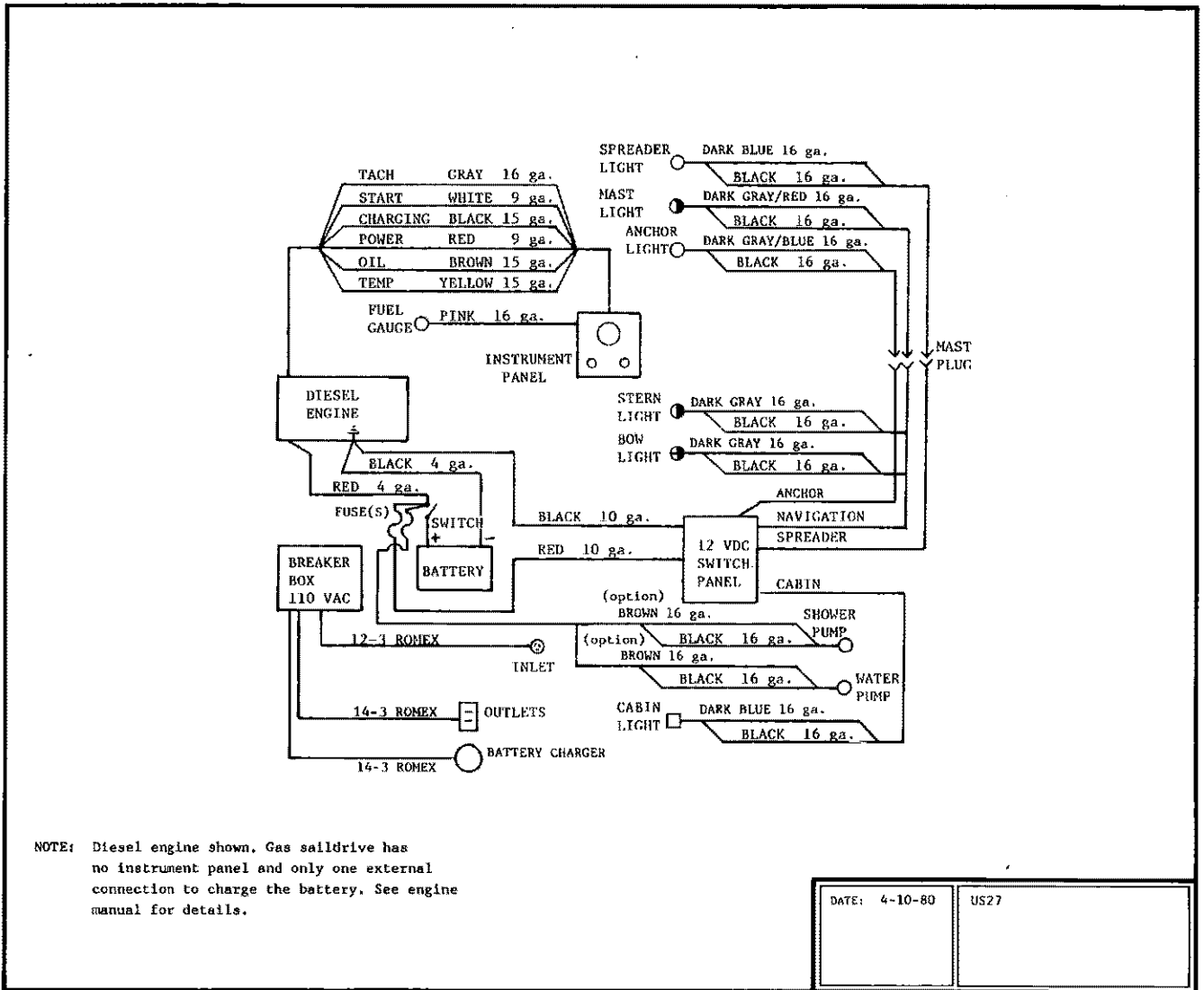


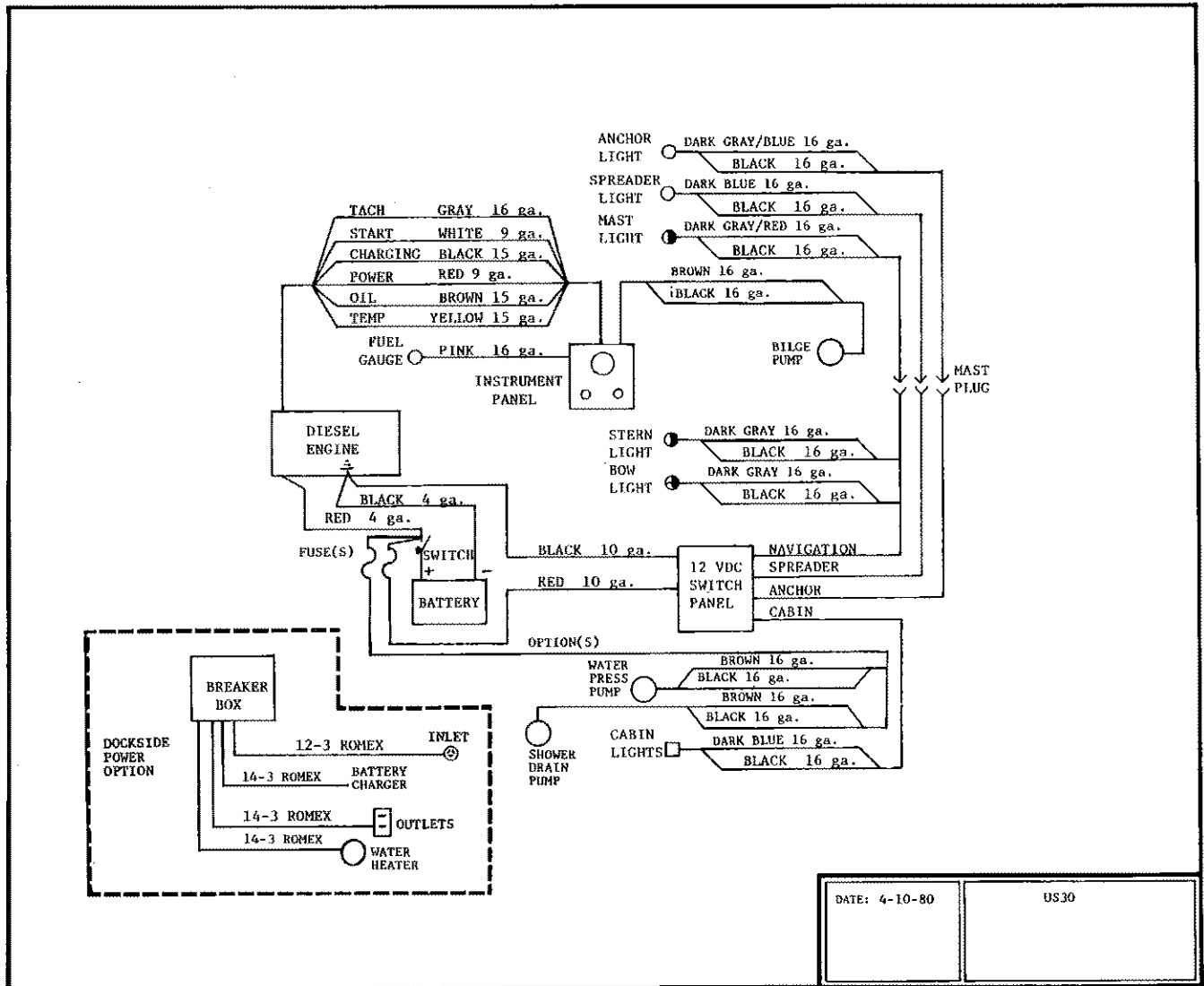
DIAGRAM OF ELECTRICAL SYSTEM US27



NOTE: Diesel engine shown. Gas saildrive has no instrument panel and only one external connection to charge the battery. See engine manual for details.

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DIAGRAM OF ELECTRICAL SYSTEM US30



DATE: 4-10-80	US30
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Fuel Tanks

1. OUTBOARD

Your outboard fuel tank should be stored in a ventilated area that is not open in any way to any part of the boat's interior.

2. INBOARD (GAS ONLY)

The fuel tank in your new gas inboard US Yacht, is equipped with an anti-siphon valve to prevent fuel from filling the bilge due to a broken line.

Contaminated fuel may occasionally cause the check valve to malfunction. In an emergency situation, the check valve may be removed if the engine is not getting enough fuel. **NOTE: Do not attempt to repair the valve. Replace it with a new one. During winter storage or in case of contaminated fuel, a fuel conditioner is recommended.**

3. During times of storage or inactivity of the boat, the fuel tank should be kept full to minimize condensation in the tank.

Freshwater System

The freshwater systems in US Yacht models vary in tank size and location.

US Yacht	Water Capacity	Location
21	3 gallons	In V-berth
22	3 gallons	In galley cabinet
25	3 gallons	In galley cabinet
27	29 gallons	Under port settee
30	19 gallons	Under V-berth

Shower Sump Pump

Because the shower sump, on the US27 and US30, is located below the waterline, the shower water must be pumped out.

Starter Motor

The engine starter motor is electrically different from most motors. It is designed to deliver high horsepower for very short intervals only. Avoid operation for more than 30 seconds at one time. Due to its high horsepower this motor builds up considerable heat and can be permanently damaged with prolonged use. If it does not operate, check battery for charge and all direct connections for shorts or loose connections.

Bilge Blower (gas powered only)

The bilge blower is designed to clear the bilge area of gas fumes. In essence, it is a squirrel-cage-type electric fan which sucks out engine compartment air and causes fresh air to circulate into the compartment through the deck vents.

The bilge blower is designed to be used before starting the engine, during starting, and while the boat is operating below cruising speed to insure fresh air circulation. Operate the blower for 3 minutes before starting the engine.

NOTE: The blower will not prevent explosion. If you smell any fuel, shut off the engine and all electrical accessories and investigate immediately. If the blower does not operate, check fuse and check lead wires.

Bilge Pump

The manual bilge pump is optional on the US22 and the US25. The US27 and US30 are supplied with a manual bilge pump located in the cockpit.

NOTE: The Federal Water Pollution Control Act prohibits the discharge of oil or oil waste into or upon the navigable waters and contiguous zone of the United States if such discharge causes a film or sheen on, or discoloration of, the surface of the water, or causes a sludge or emulsion beneath the surface of the water. Violators are subject to a penalty of \$5,000.00

Running Lights

The night lights or navigation lights supplied with your US Yacht are of top quality. However, failure may occur for several reasons:

1. You may have blown a fuse. (Replace fuse in switch panel.)
2. The bulb may be burned out. (Carry spare bulbs for replacement.)
3. The bulb base may be corroded. (Clean periodically as required and coat with non-conductive grease or vaseline.)
4. A wire may be loose due to vibration or mis-stowed gear. (Repair where break occurred.)

NOTE: Prolonged operation of cabin interior lights (overnight) will result in a dead battery. Be conservative in the use of battery power.

Head Operation

MARINE HEAD WITH HOLDING TANK (OPTIONAL)

The marine head with holding tank is designed so waste may be flushed into the holding tank or, for those traveling offshore and beyond federally regulated waterways, flushed overboard. This is accomplished by routing the head discharge hose through a "Y" connector to the holding tank and also overboard. There are valves in each of these lines. To flush waste overboard, the gate valve to the tank must be closed and the thru-hull seacock should be open. To flush into the holding tank, close the thru-hull seacock and open the gate valve to the holding tank. To empty the holding tank the boat must be taken to a pump out station.

To operate the marine head, open the seacock on the seawater intake. Before using, pump some water in to wet the bowl. After using, pump until thoroughly cleaned. Pump a few more times to clean the lines. If excess waste should cause water to rise in the bowl, stop pumping until water recedes. If at any time you are unable to pump water into the bowl, the probable reason is debris sucked into the pump diaphragm. To remedy, shut inlet seacock and dismantle pump. The pump is generally held together with six screws. The design is simple and the problem will be obvious when the pump body is split open. To winterize the toilet, shut off the intake valve. Pump until dry. Remove the drain plug in the base and pump again to remove all water. Do not use antifreeze. The inlet seacock should be closed while the boat is underway or when the boat is left moored in the water. (The following chart will help you locate the holding tank and valves in your US Yacht.)

Model location	Tank location	Seacock location	Gate valve
US25	under v-berth	under v-berth	under v-berth
US27	under fwd prt settee	under fwd prt settee	outboard of holding tank
US30	under v-berth forward	under v-berth forward	aft side of holding tank

Portable Heads

POTPOURRI

1. Mix 1½ to 2 gallons of water with four ounces of Liquid Gold concentrate and pour the mixture through the opening of the basin, while operating the flushing handle on the side.
2. Pump the liquid into the basin, and push the flush handle. Repeat the operation to assure perfect mixing.
3. Before using, it is always necessary to pump liquid into the basin.
4. Keep the basin dry when running.

NOTE: Use only white toilet tissue as colored dyes may impair the effectiveness of the chemical. Use regular ply tissue. Do not use disintegrating tissue as this may clog the entire pump system.

Cleaning:

Use only mild cleansers, detergents or soaps. Avoid using abrasive cleaners and clean the toilet periodically as you would your own household toilet.

To Empty:

1. To empty the portable model into another toilet, remove the pour-spout cap at the rear right hand corner and connect the hose adapter with an adequate length of three inch (7.62cm) flexible sewer hose clamped on to submerge the hose below the waterline in an existing toilet bowl.
2. Gradually tilt the unit to drain out.
3. After emptying, flush a half pail of clear water into the holding tank and swirl contents to rinse out. Repeat if necessary.
4. To use toilet again, recharge with Liquid Gold as done originally.

NOTE: There are many brands of toilet chemicals, any of which will work very well in any of the portable toilets supplied by US Yachts.

SEA FARER

The Sea Farer is divided into two basic components. The top section consists of the seat, seat cover, flushing bellows, bowl and freshwater storage chamber. The lower section consists of an odor-tight, gas-tight seal, and the holding tank for waste storage.

1. Set the unit on the ground. Tilt it forward, then remove the large threaded cap from the lower rear of the unit and pour in ½ bottle of AquaKem Concentrate to control the odor and prevent gaseous buildup within the holding tank. Replace and tighten the cap.
2. Unsnap the cap on the top, back of the unit and fill the tank to the specified level with fresh water. **DO NOT POUR ODOR CONTROL CHEMICALS INTO THIS SECTION.** Replace the cap.

To Use:

1. If you wish to add water to the bowl before using, depress the flushing bellows. To flush after use, depress the flushing bellows one or more times and raise the valve handle. Water and waste in the bowl will pass into the holding tank. For the most efficient use and conservation of water, it is recommended that you raise the valve handle and depress the bellows simultaneously to flush.
2. Should the holding tank become overfilled, slightly tilt the toilet back and open the valve.

To Empty:

1. The holding tank of the Sea Farer is ready to empty when the holding tank contents approach the level of the blade of the mechanical seal. Carry the unit to any permanent toilet facility.
2. Tilt forward. Remove the large threaded cap on the lower right and pour the contents into a toilet.

Trouble Shooting

SYMPTOM: Blade operates harder than normal or sticks.

Cure: Apply a light film of silicone spray to blade.

Alcohol Stoves

The alcohol stove supplied with your US Yacht is the finest available. Read carefully and follow the operating instructions. Use only stove alcohol labeled specifically for marine use. Do not operate stove while underway.

To Fill:

Unscrew filler cap. Fill tank with denatured ethyl alcohol using a funnel. Replace cap. The filler cap is equipped with a safety valve and must not be replaced by any other type of cap. To start: pump approximately 20 times to pressurize fuel tank. Pump is located at front of stove.

To Operate:

Burners must be preheated to produce vaporized alcohol. Slowly open one burner at a time to allow alcohol to flow into priming cup below the burner body. Fill priming cup ¾ full (about ¼ oz.). Shut off burner and ignite priming alcohol. When this alcohol is fully consumed, turn control knob toward open position and light burner.

CAUTION: All alcohol spilled while filling tank or as a result of priming cup being filled to overflowing should be cleaned up prior to lighting alcohol stove. Follow starting instructions above carefully. Flare-up may occur during preheating, particularly if burner valve is opened before preheating is completed. If flare-up occurs, shut off burner and restart per instructions. DO NOT PUT COOKING UTENSILS ON STOVE UNTIL BURNERS ARE FUNCTIONING PROPERLY.

Release pressure in tank by loosening filler cap.

Some models are equipped with remote alcohol tanks. Each of these models is equipped with a small tire pump for pressurizing the tank. A pressure gauge and pump valve are on the tank itself. To pressurize, make certain stove control knobs are in the "OFF" position, then pump the tank to 15 psi. As the stove is used, check and maintain this pressure.

Pedestal Steering

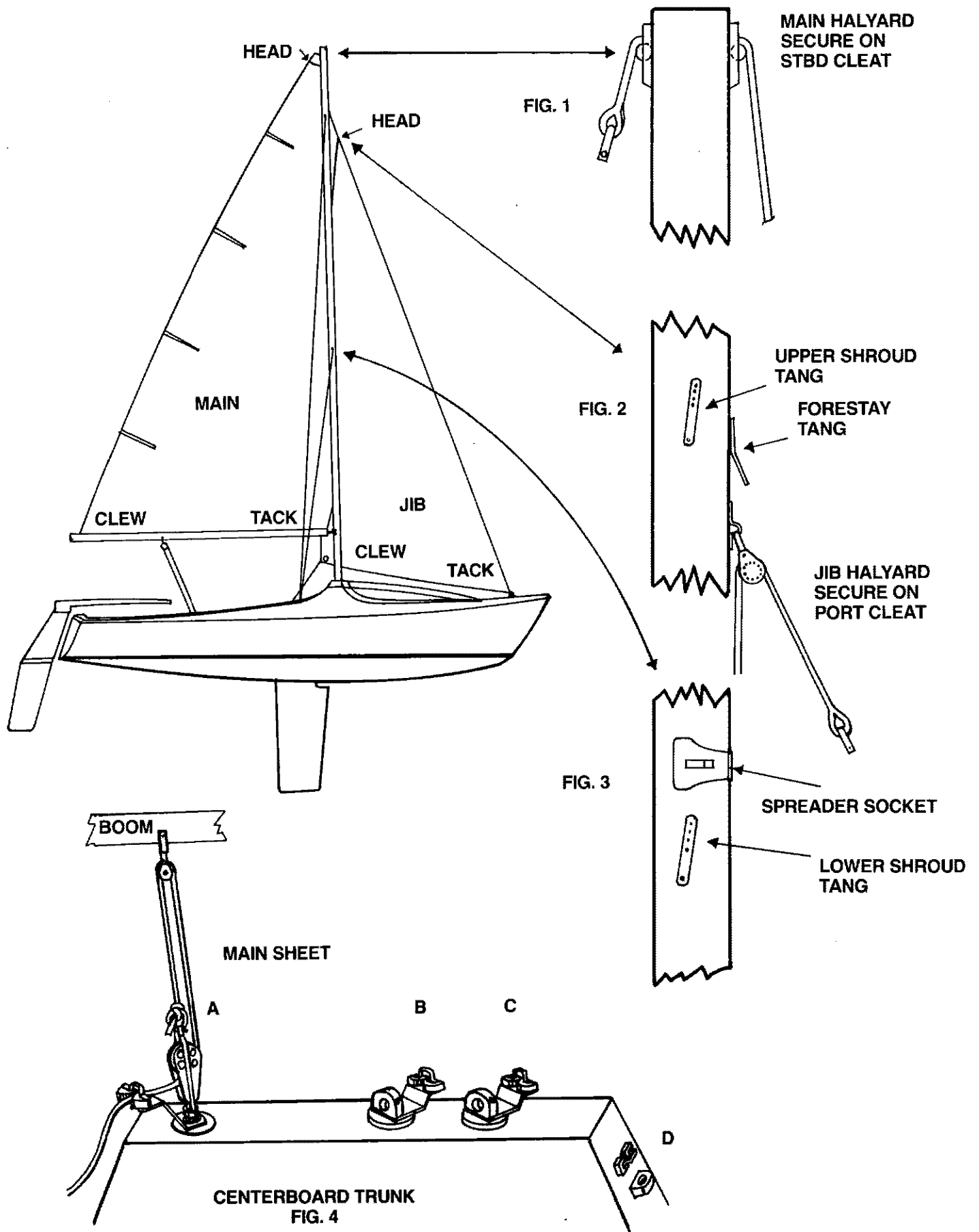
The pedestal steering is optional on the US27 and US30. For operation and maintenance instructions, see the Edson instruction sheet provided as part of the owner's package.

SECTION III

Rigging Instructions and Specifications

US18 (see illustration page 13)

1. Make sure that the area where you will be raising the mast is clear of overhead wires and obstructions.
2. Slide the spreaders over the fittings on the mast, secure with machine screw and lock nuts (fig 3).
3. Run the jib halyard through the jib halyard block on the front of the mast with the shackle forward (fig 2). The main halyard is routed through the mast head fitting with the shackle on the aft side (fig 1). Tie the ends of each halyard together and tie the halyards to their appropriate cleats.
4. Attach the forestay and upper and lower shroud to the mast at the proper place (fig 2-3). The fork of the rigging goes up and the turnbuckle is on the lower end. Use the pins and cotter pins to attach this rigging to the tangs.
5. Run the upper shrouds through the spreader tips and secure. The shrouds should be able to slip through the fitting when secured.
6. All five turnbuckles should be turned out with a couple of threads showing inside the barrel.
7. Position the mast so that it may be raised from aft to forward with the butt of the mast pinned in the mast tabernacle.
8. Attach the lower shrouds to the forward hole in the chain plates.
9. Raise the mast and insert the forward pin in the tabernacle. Attach the forestay to the stemplate.
10. Attach the upper shrouds to the aft hole in the chain plates.
11. Proper tuning of the rig will help the boat sail to its excellent potential, making sailing safer and more fun.
 - a. Athwartship (port and strb.). Adjust the upper shrouds until the mast is straight and centered. The upper shrouds should be firm but not tight. When pulling against them at chest height, they should move approximately 1½" to 2". This also applies to the forestay. Now adjust the lower shrouds until they move from 2" to 3". **CAUTION: Do not over-tighten the shrouds because it will not help performance and can weaken the mast by placing excessive compression loads on it.**
 - b. After tuning, pin the turn-buckles so they don't shake loose in the wind.
 - c. After sailing the boat for a time the rigging will stretch. Go through the above procedure again.
12. Next, install the boom with the pin provided at the gooseneck. Rig the main sheet as shown in figure 4-A.
13. The jib sheet is divided in half and tied through the clew of the jib. Each end of the sheet is routed around the front of the mast, through the sliding bullseye on the jib track and through one of the swivel eyes (B-C) on top of the center-board trunk.
14. Assemble the rudder and install it.
15. After launching the boat, attach the main and jib. The slugs on the luff or leading edge of the main sail are put into the mast track as the sail is raised (be sure the boat is heading into the wind). Also, when raising the sail, insert the battens into the appropriate batten pocket and slide the foot or bottom of the sail which has a boltrope into the groove on top of the boom. The clew or bottom aft corner of the mainsail is secured by the outhaul, a short length of line that is tied to the main clew, run through the block on the aft end of boom and to the small cleat provided. In general this should be kept fairly taut. Next, attach the jib sail to the forestay with the snaps or hanks, and raise with the halyard.



Rigging Instructions and Specifications

US21, US22, US25, US27, and US30

1. Make sure that the area where you will be raising the mast is clear of overhead wires and obstructions.
2. Slide the spreaders over the fittings on the mast and secure with a machine screw and lock nut.
3. Run the jib halyard (using the yellow messenger to pull the halyard inside the mast) from the front side through the upper port sheave. On the US22 the sheave is located 1/7 of the way down from the top of the mast. The main halyard is to be routed through the masthead fitting on the starboard side with the shackle on the aft side. Tie each halyard end together so that it doesn't fall out when the mast is raised.
4. Attach the forestay, backstay, and upper and lower shrouds to their appropriate place on the mast.
5. Run the upper shrouds through the spreader tips and secure. Pull these shrouds tight between the mast head and the spreaders before tightening the spreader tips. (Some models use wire. In this case lash the shroud to the spreader with the stainless steel wire provided.)
6. All turnbuckles should be turned out equally with a couple of threads showing.
7. Be sure that all rigging is arranged properly so that it is on the correct side of the spreaders before the mast is raised. Tape any loose rigging to the mast a few feet above the base so that if something comes loose it will not fall overboard.
8. It is now time to raise the mast. The US22 and US25 mast can be raised manually with two or three adults. The larger boats require a hoist to install the mast.
9. Tuning the US21 through US30 masts. The mast on your US Yacht has been specifically selected to provide the flexibility and ability to change the mast shape, thus changing the sail shape and helm while sailing. With this flexibility, it is critical to have proper tuning. Here are a few recommendations to help you tune your rig.

Tuning involves adjusting the tension in the shrouds and stays so that the mast will remain straight under most sailing conditions and give the proper amount of helm balance. Tuning involves two phases: tuning at the dock and tuning while under sail.

Procedure for US22 and US25

- a. Position the mast so that it may be raised from aft to forward with the butt of the mast pinned in the tabernacle.
- b. Attach backstay (under the stern pulpit) and upper and aft lower shrouds to chainplates with pins provided.
- c. With one person pulling on the forestay from the foredeck, one or two persons lift the mast from the sliding hatch area and walk it forward and up. (Be sure all lines are free and clear so they don't hang up while the mast is being raised.)
- d. With the mast raised, attach the forestay turnbuckle to the most forward hole on the stemplate. Attach forward lower shroud to the appropriate chainplates.

Raising the US27, US30 Mast

- a. All rigging should be attached to the mast the same way as done on the smaller boats. In addition, on the US30, a boom topping lift is attached to the aft side of the masthead fitting before the mast is raised.
- b. The mast is lifted with a hoist attached to a sling below the spreaders. Be sure that all rigging is arranged on the correct side of the mast and spreaders. The sling should be mounted under the rigging that is hanging on the mast.
- c. When the mast is set in place, plug in the mast lights and check for operation. The lights should be operating properly before any additional rigging is completed.
- d. Attach all turnbuckles to the appropriate chainplate.

Tuning at the dock:

1. Be sure all toggles at the end of the turnbuckles are free to swivel at their base to eliminate any bending load on the swage and turnbuckle threads, especially the toggles at both ends of the forestay. As the boat tacks and the headsail loading varies from side to side, the forestay terminals experience a much higher fatigue loading.

2. Start tuning the spar by ensuring that the mast is properly seated on the tabernacle. There should be a little clearance under both ends of the mast base to allow for minor adjustments fore and aft. Masts should fit evenly and perpendicular to the athwartship (across boat) waterline. Boats often will not sit level at the dock due to the distribution of the accommodation layout and the internal weight or location of the crew. To make sure that the mast is plumb athwartship, slacken the lower shrouds fully by loosening the turnbuckles. Take the main halyard and lead the shackle end to a point on the outboard rail or chainplate. Adjust the tension in the halyard to the same location on the opposite side of the deck and with the same tension, equal pull. The shackle should just touch the rail or the chainplate in the same place as it did on the opposite side. If not, let off one upper shroud's turnbuckle and take up on the other to bring the masthead close to the centerline until the halyard shackle touches both points under the same tension. Care should be taken that the particular part of the rail or deck you choose as your reference point is the same point on each side. After the mast is centered athwartship, tighten both upper shroud turnbuckles uniformly, one full turn on one side, then one full turn on the other. Repeat until the turnbuckles become difficult to turn. PIN THE TURNBUCKLES. This amount of tension should be approximately equivalent to deflecting the stays at chest height 1½" with medium pressure on the shroud. Tighten up the lower shroud turnbuckles so that almost all of the slack is removed. Sight up the trailing edge of the spar to make sure that it is still straight. Adjust to a straight alignment by tightening the lower shroud first on the side that will pull the mast into a column. Once aligned, tighten both evenly, one turn at a time to somewhat less tension than the upper shroud.

Adjusting the rake of your spar. (Rake is the fore and aft angle of the spar.) You will want to adjust the rake, depending on the helm and sailing con-

ditions. To start, your mast should be between plumb, (vertical) and approximately 6" of aft rake. Forward rake should be avoided. Again, use the main halyard to check the amount of rake. Wait for a reasonably calm day and hang a weight, such as a hammer, wrench or other reasonably small but heavy object from the main halyard at approximately 6" above the gooseneck. The fore and aft distance between the halyard and the trailing edge of the mast will give you the amount of rake the mast has. Ease off the forestay turnbuckle and tighten up on the backstay turnbuckle or vice versa until the desired rake is achieved. Tighten to the same approximate tension as the uppers. Now PIN THE FORESTAY TURNBUCKLE AND THE BACKSTAY TURNBUCKLE. Unless the rake has to be readjusted in the future to correct the helm balance, there will be no need for further adjusting.

NOTE Be sure to check the outboard ends of spreaders for tape and padding to avoid wear and tear on the genoas.

Tuning while sailing:

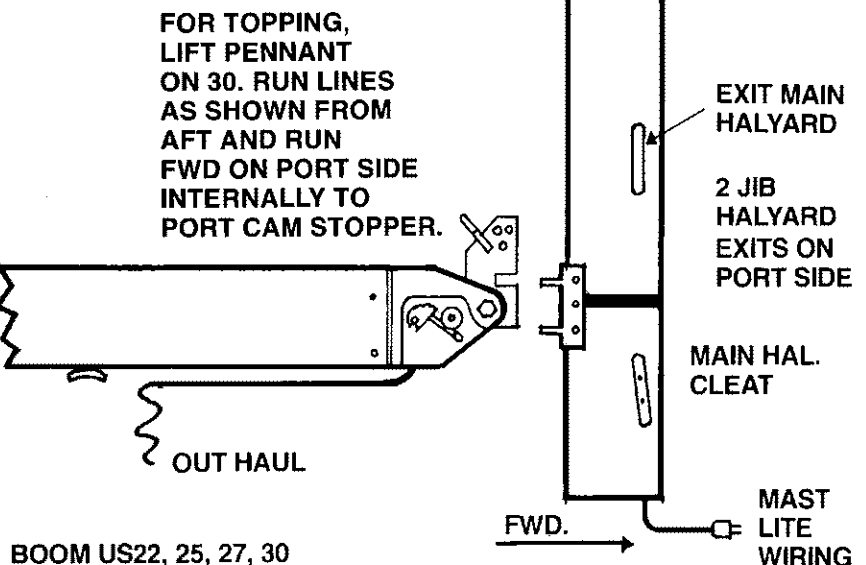
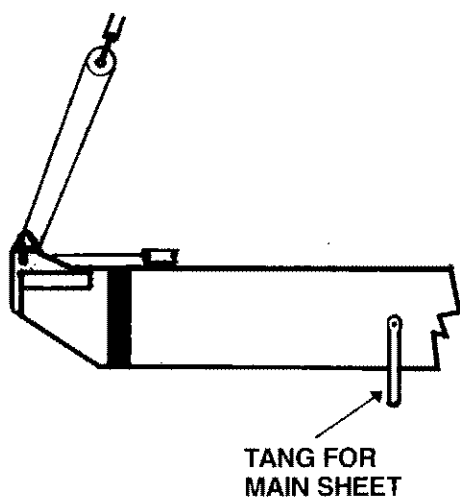
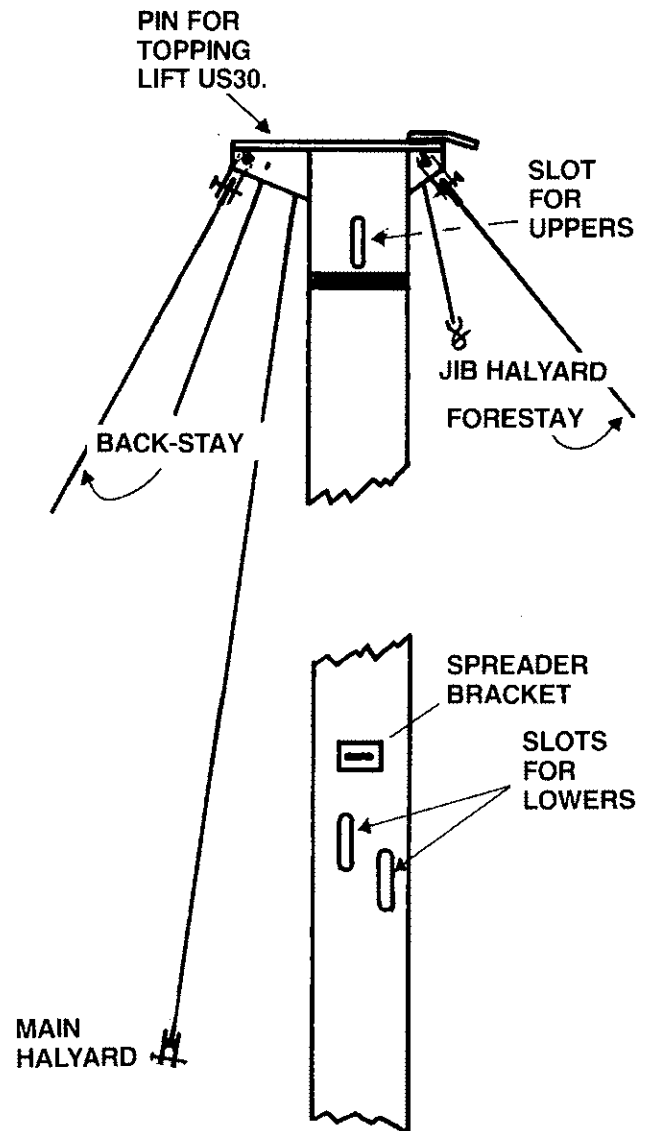
1. Select a pleasant, low sea condition day with a steady 8 to 12 knot breeze. Put the boat on a starboard tack, close hauled. Sight up the luff groove of the spar. If the mast seems to fall off to the leeward at the spreaders, luff up slightly and tighten the starboard, lower shroud a couple of turns. Put the boat back on the wind and check the spar again. When the mast appears straight, put the boat about and do the same on the port side. Check the following carefully. First, if the upper shrouds are at optimum tension, when at about 15 to 20 degrees of heel, the leeward rigging should begin to look slack. This is quite normal and should never be tightened. Secondly, when close hauled under genoa and main, the forestay will appear quite sagged. Tensioning the backstay will reduce the amount of sag, but the sag itself can never be eliminated.

2. With a brand new boat, the rigging may stretch to the extent that tuning from scratch will be necessary in a matter of weeks. However, after this initial working-in period, you will find that your boat tends to hold its tune for fairly long periods of time. After becoming used to the feel of the boat, you may wish to either increase or decrease the amount of "weather helm." (That is the amount of feel on the tiller.) Any sailboat, when going upwind, should have a tendency to "round up" slightly or head into the wind if you let go of the helm. However if you're constantly fighting the boat in order to hold her off the wind, you have too much weather helm. This can be alleviated by taking some rake out of the spar; i.e., raking the spar farther forward, and thus moving the center of effort of the sailplan further forward. If you find when sailing upwind that the boat tends to fall off the wind and you are constantly having to push her to weather, then you have lee helm. This can be overcome by putting a bit more rake into the spar.

3. With constant tuning as the season progresses, your boat's performance will improve. The boat will feel more comfortable to sail. You will find that tuning is a bit of an art; you will begin to notice subtle changes in the behavior and response of your boat as you make changes in tuning. The important thing to remember is to go about things in a slow and orderly fashion, and before you make any change, be sure it makes sense to you.

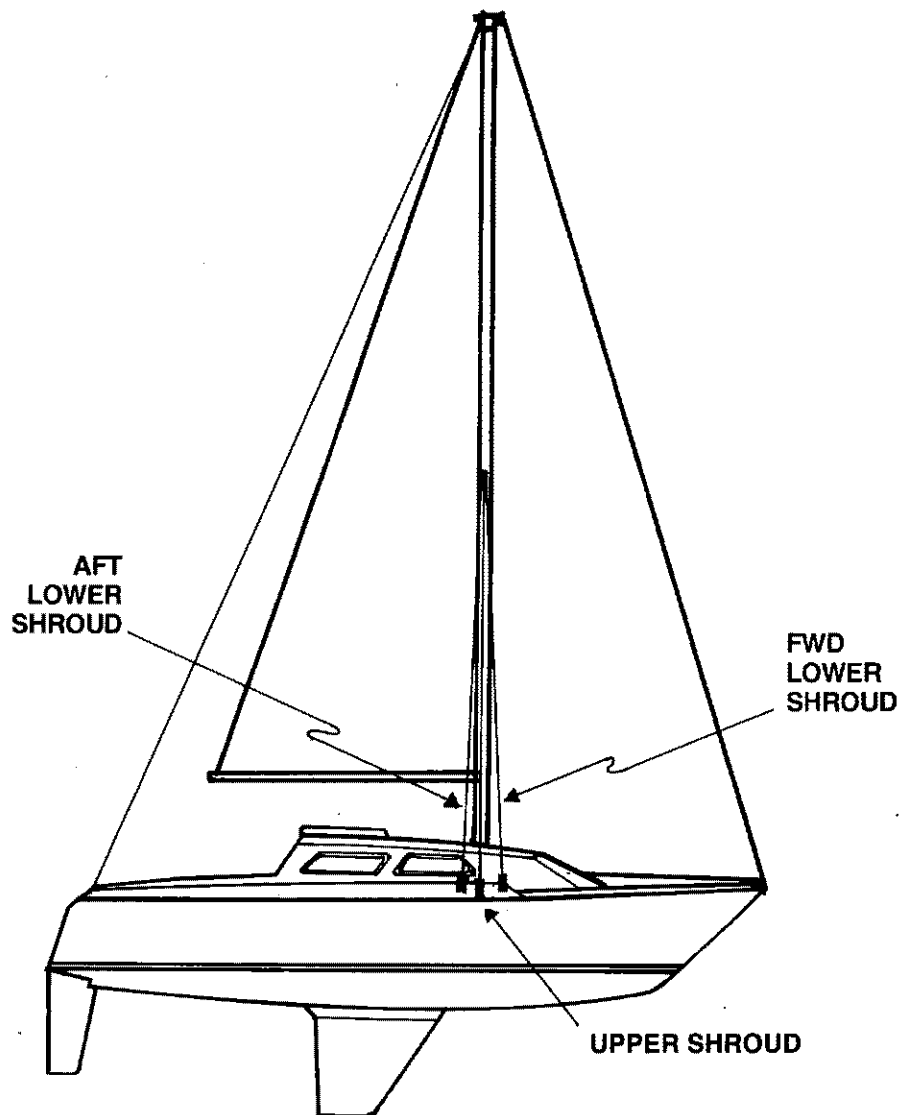
NOTE: Swaged terminals on 1×19 wire are susceptible to stress and corrosion and freeze cracking when water seeps between the wire and the terminals. Check each season or when subjected to abnormal conditions.

CAUTION: Do not over-tighten the shrouds because it will not help performance and can weaken the mast by placing excessive compression loads on it.



FOR TOPPING, LIFT PENNANT ON 30. RUN LINES AS SHOWN FROM AFT AND RUN FWD ON PORT SIDE INTERNALLY TO PORT CAM STOPPER.

BOOM US22, 25, 27, 30



SECTION IV

Auxiliary Power

Underway Operating Instructions

While under power, check instruments frequently. They are the advance warning system that will enable you to avoid troublesome malfunctions.

Instruments

1. Tachometer — All tachometers are of the electric type, indicating engine revolutions per minute (RPM) in 100's.
2. Temperature Gauge — The temperature gauge indicates engine coolant temperature by monitoring a signal from a sending unit installed

in the engine water jacket. The sender changes resistance value as its temperature changes. This changing resistance value is then measured by the instrument. When the gauge reads in the danger area, shut the engine off and diagnose the problem. A common cause of overheating is picking up a foreign object on the water intake. Some boats have warning lights.

3. Oil Pressure Gauge — The oil pressure gauge indicates pressure by monitoring a signal from a sending unit. When gauge reads in the danger area, shut the engine off and diagnose the problem. Some boats have warning lights.

4. Fuel Gauge — The fuel gauge indicates fuel level. Since boats are many times exposed to rough water conditions and varying trim, fuel gauges may provide inaccurate readings at times. It is always good to keep track of your running time as a double check against an inaccurate gauge.

5. Hour Meter (optional) — The hour meter measures engine running time. It is an aid to maintenance and warranty requirements. The meter has a range of 10,000 hours with automatic recycle.

Static Float Attitude

The static attitude of your boat can be affected by many variables. Optional equipment and loading of gear are the biggest contributors to a boat's listing. After launching, any new boat can be adjusted. If your boat lists to one side, store heavy items on the light side and light items on the heavy side.

Batteries have a big effect on static float attitude of a boat. Move batteries to the light side if required.

Tips for Boat Owners

1. When commissioning a new boat, do not plan an extensive trip or party until you have a shake-down cruise to make sure all equipment on your boat is functioning properly and you are familiar with its operation.
2. Use big bumpers as they will best protect your boat from floats, piers and other boats.
3. Carry adequate line properly sized to your boat. A minimum of two 30' lengths of $\frac{3}{8}$ " nylon line should be on board models US18 thru US25, three 30' lengths of $\frac{3}{8}$ " nylon line on models US27 and US30.
4. Install an adequate anchor or anchors.
5. Install all US Coast Guard Safety Equipment.
6. Be courteous to other boats. Slow down in congested areas and watch that your wake does not damage other boats.

Boating Safety Courses

Your local Coast Guard Auxiliary or Power Squadron generally puts on a Safe Boating Class several times a year. They are very comprehensive and generally of minimal cost to you. Call your local US Coast Guard Auxiliary or Power Squadron Flotilla for the time and place of the next class.

SECTION V

General Maintenance and Repairs

Fiberglass Staining and Discoloration

These problems can generally be removed by many of the fine fiberglass cleansers available. However, they take elbow grease. For best results follow the manufacturer's recommendations. If the marine products are not available in your area, try the new liquid household cleaners such as 409, Ajax Liquid, Fantastik or others. **CAUTION: Household cleaners with abrasives will dull the finish on your boat. If this occurs, wax and buff area to restore the luster.**

Hardware Cleaning

Use nearly any of the modern chrome cleaners on the market today to spruce up hardware. After a good cleaning, a coat of paste wax will add greatly to its luster. All metal fittings, including dash panel, instruments, railings and hardware should be sprayed with a rust inhibitor similar to WD-40 every three months when exposed to saltwater and annually when exposed to fresh water. If not maintained on a regular basis, stainless steel railings and fittings in particular will discolor because of surface carbon steel granules picked up in the processing, and in some areas, because of contaminants in the air.

Vinyl Upholstery

Use any good automotive vinyl cleaner; cleaner concentrates such as Fantastik work well also. **CAUTION: Avoid solvents and bleaches, as they may permanently damage the vinyl.**

Teak

To keep teak looking fresh, it should be treated with teak oil at least twice a year (more often if exposure is severe). If the teak is in particularly bad condition, the teak oil should be rubbed in, using 220 grit wet and dry sand paper. (See caution note on oil, acetone, catalyst and etc.)

Repairing Fiberglass, Gelcoat Chips, Gouges and Scratches

Almost unavoidable during the life of your boat is damage to the gelcoat or colored surface. This is not as serious as you might think. Repair is not costly and can be done by the novice.

Scratches: If the scratch does not penetrate the gelcoat surface, use automotive rubbing compounds. Dampen a soft rag or use a power buffer. Apply rubbing compound with plenty of elbow grease. The scratch may not disappear completely; however its noticeability will decrease.

Gouges and Chips; To repair, simply obtain "Patch Paste" from your US Yacht dealer and follow this recommended procedure:

- a. Clean the area to be repaired of wax and oil. Acetone is a good solvent.
- b. Use a small portion of patch paste on a piece of cardboard and mix thoroughly with the catalyst (two or three drops of catalyst to a tablespoon of paste).
- c. Apply to pit, chip or gouge with a single edge razor blade to match the surface and the contour of the area being repaired. It's better to have an excess than not enough of the paste.
- d. Allow the paste to harden thoroughly. In most climates, one to two hours should be sufficient.
- e. Shape the patch to desired thickness using fine wet sandpaper on a sanding block.
- f. Finish using automotive rubbing compound in the same manner as for scratches.

CAUTION: Teak oil, acetone and catalyst are hazardous materials and should be used only in well-ventilated areas. Follow manufacturer's instructions only.

Saltwater Special Care

If permanently moored in saltwater your boat will collect barnacles and grass on its bottom. This will detract from the boat's beauty and greatly affect its performance. There are two methods of preventing this:

1. Periodic haulout and cleaning. (About every 30 to 45 days.) Use soap and water and lots of elbow grease.

2. IMPORTANT: US Yachts advises that any boat moored in fresh or saltwater be painted with a good grade of non-copper base antifouling bottom paint below the water line. US Yacht recom-

mends International Paint Company's "Tri-Lux" bottom paint. The bottoms on US models 27 through 30 are painted with International Tri-Lux at the factory. On other models, bottom paint is a dealer installed option. It is best and most inexpensive to have antifouling paint added prior to first launching.

Underwater Corrosion

Stray current corrosion or electrolysis can best be compared to electroplating of chromium or brass, with the saltwater acting as the electrolyte and the battery acting as the source of direct current.

Electrolysis can be prevented in several ways. The following are the most common causes and the simplest cures for the problem:

1. Keep a clean dry bilge. Wiring may leak a certain amount of electricity.
2. A poorly grounded zinc anode: check ground wire and clean contact surfaces.
3. The zinc anode may be deteriorated beyond effectiveness; replace at usually 50% loss.
4. Don't use a copper-based bottom paint as it can cause electrolysis on some metal parts.

Cabin Windows

Salt and brackish water are capable of etching and damaging glass. Keeping windows clean is the best preventive measure you may take. When cleaning, flush with plenty of fresh water.

Window Leakage

Cabin window leakage is uncommon; but should it occur, it is simple to remedy.

1. Mark the leak using a crayon or other nonpermanent marking.
2. Dry thoroughly. Sealer will not bond if moisture is present so you may have to wait for a dry day.
3. Coat area with silicone type rubber sealant.
4. Allow sealant to dry well, then check by sprinkling with a hose. (Cabin window or windshield leakage is not covered under the US Yacht warranty.)

Instruments — Care and Service

Your marine instruments have been designed and constructed of the best possible materials and with proper care will give you years of trouble-free operation.

When using your instruments in a saltwater environment, salt crystals may form on the bezel and the plastic dial. These salt crystals should be removed with a soft damp cloth: Never use abrasives or rough dirty cloths to wipe plastic parts. Mild household detergents or plastic cleaners can be used to keep the instruments bright and clean.

SECTION VI

Winterizing

If your boating season has ended or cold weather is setting in, follow these suggestions.

1. Drain the engine block and manifolds. Frozen water expands and can crack your engine. Consult your engine owner's manual for location of drains. There can be drains on the block, the manifold and the transmission.

2. Consult operating instructions provided with your head (toilet) for winterizing. Drain self-contained heads.

Drain water tanks to avoid freezing and insure fresh taste in the spring. Be sure to drain accumulated water in the pump to avoid damage due to freezing. This is best accomplished by running the pump until empty.

On those boats equipped with hot water tanks, remove the drain plug on the tank after all the water has been pumped out of the regular water tank.

3. Fuel tanks should be kept completely full so there is little air space to allow condensation, a major cause of sludge and gum that eventually creates problems.

4. Remove the marine battery from the boat. Fill the cells to the proper level and store in a warm place. **DO NOT STORE ON A CEMENT FLOOR.** A fully-charged battery will survive storage better.

5. Lubricate control and steering push-pull cables.

6. Clean the boat thoroughly. Coat deck hardware and other metallic parts with a rust inhibitor.

7. Your boat should be stored under cover if possible. If covered storage isn't available then a temporary winter cover is recommended. A proper winter cover should keep the weather off the boat, but still provide adequate ventilation.

Wrapping a boat up tight in a plastic cover without ventilation can do more damage than good. Dampness and lack of air circulation provide ideal conditions for the fungi that cause mildew and dry rot.

8. Bunk and dinette cushions may be left on board. They should be stored on edge with plenty of ventilation. Floor hatches and storage lockers should be left open.

9. If storing on a trailer:

a. Now is a good time to repack wheel bearings. Your local auto service center can help you.

b. Block the trailer wheels off the ground to avoid tire deterioration.

c. Loosen stern tiedowns to avoid stress on hull.

d. Touch up trailer paint.

We hope the preventive measures will help make a spring get-ready less work. However, don't forget to consult your dealer as well as the engine owner's manual for engine winterizing requirements.

NOTE: US Yachts cannot sell accessories or other items directly to the public due to production commitments and dealer franchising. Our dealers normally stock many of our accessories or can supply them to you in a short time.

Your dealer will be happy to help you in any way possible.

SECTION VII

Recommendations for Safety

1. Fuel vapors are explosive and, being heavier than air, will settle in the lower parts of a boat. While fueling, all doors, hatches, and ports should be closed, galley fires and pilot lights extinguished, smoking strictly prohibited and the filling nozzle kept in contact with the fill pipe to prevent static spark. Avoid spilling. Do not use gasoline stoves, heaters, or light on board. Whenever possible, portable tanks should be filled out of the boat.

2. After fueling, thoroughly ventilate all compartments and check the machinery and fuel tank areas for fumes before attempting to start the engine. Remember that the electrical ignition and starting system could supply the ignition to any accumulation of explosive vapors. Take time to be safe. Keep all lines tight and bilges clean.

3. Do not overload or improperly load your boat. Maintain adequate freeboard at all times: Consider the sea conditions, the duration of the trip, the weather and the experience of the operator. Do not permit persons to ride on parts of the boat

that were not designed for such use.

4. Keep an alert lookout. Serious accidents have resulted from failure in this respect.

PERSONAL FLOTATION DEVICES: REQUIREMENTS — One Coast Guard approved personal flotation device (PFD) of suitable size for each person aboard recreational boats, including sailboats, rowboats, kayaks and canoes. New PFD's bearing Coast Guard approval are now identified by "types I, II, III, or IV."

MANDATORY EQUIPMENT

1. Boats sixteen feet (16') or over in length; one Type I, II, or III (wearable) for each person on board and one (1) type IV (throwable) in each boat.

2. Boats less than sixteen feet (16') in length and all canoes and kayaks: One (1) Type I, II, III or IV PFD for each person on board.

TYPE I is an approved device designed to turn an unconscious person in the water from a face downward position to a vertical or slightly backward position, and to have more than 20 pounds of buoyancy. Recommended for offshore cruising. Acceptable for all size boats.

Type II PFD is an approved device designed to turn an unconscious person in the water from a face downward position to a vertical or slightly backward position and to have at least 15.5 pounds of buoyancy. Recommended for closer, inshore cruising. Acceptable for all size boats.

Type III PFD is an approved device designed to keep a conscious person in a vertical or slightly backward position and to have at least 15.5 pounds of buoyancy. While having the same buoyancy as Type II, the Type III has a lesser turning ability to allow for a comfortable design for water activities such as water skiing. Recommended for inwater sports, or on lakes, impoundments, and close inshore operation. Acceptable for all size boats.

5. Be especially careful when operating in any area where swimmers might be. They are often difficult to see.

6. Watch your wake. It can capsize a small craft and damage boats and property along the shore. You are responsible for it. Pass through anchorages only at a minimum speed.

7. Keep firefighting and lifesaving equipment in good condition and readily available at all times.

8. Obey the rules of the road. Neglect of this is the greatest cause of collision.

9. Always have children wear lifesaving devices. Always check those intended for young children for fit and performance in the water on each individual. Never hesitate to have "all hands" wear lifesaving devices whenever circumstances cause the slightest doubt about safety.

Type IV PFD is an approved device designed to be thrown to a person in the water and not worn. Designed to have at least 16.5 pounds of buoyancy, this device is acceptable for boats less than 16 feet, and canoes and kayaks 16 feet and over in length.

10. Know your fuel tank capacity and cruising range. If it is necessary to carry additional gasoline, do so only in proper containers and take special precautions to prevent the accumulation of such vapor in confined spaces.

11. If you ever capsize, remember that if the boat continues to float it is usually best to remain with it. You are more easily located by a search plane or boat.

CAUTION: Some US Yacht trailerable boats contain flotation material; however, no boat is unsinkable. Therefore, personal flotation devices should be carried for each passenger in accordance with US Coast Guard requirements.

12. Good housekeeping is even more important afloat than ashore. Cleanliness diminishes the probability of fire.

13. Know the meaning of the buoys. Never moor to one; it is a Federal offense.

14. Consider what action you would take under various emergency conditions such as man overboard, fog, fire, grounding, hull fracture or other bad leaks, motor breakdown, bad storm or collision.

15. Have an adequate anchor and sufficient line to assure good holding in a blow (at least six times the depth of the water).

16. Boat hooks are not required equipment but they are valuable when mooring or when needed to retrieve pets, preservers (and people) "over the side."

17. Know the various distress signals. A recognized distress signal used on small boats is to slowly and repeatedly raise and lower the arms outstretched to each side.

18. Storm signals are for your information and safety. Learn them and be guided accordingly.

19. Falls are the greatest cause of injury both afloat and shore. Eliminate tripping hazards where possible, make conspicuous those that must remain, have adequate grabrails and require proper footwear to be used on board. Use safety harness when handling sails during adverse conditions.

20. Always have an up-to-date chart, or charts, of your area on board.

21. Always instruct at least one person on board in the rudiments of boat handling in case you are disabled or fall overboard.

22. Keep electrical equipment and wiring in good condition. No knife switches or other arcing devices should be in fuel compartments. Allow ample ventilation around batteries.

23. Before departing on a boat trip, you should tell a responsible friend or relative where you intend to cruise. Be sure that the person has a good description of your boat. Keep him advised of any changes in your cruise plans. By doing these things, your friend or relative will be able to tell the Coast Guard where to search for you and what type of boat to look for if you fail to return. Be sure to advise the same person when you arrive to prevent any false alarms about your safety.

24. Do not test fire extinguishers by squirting small amounts of the agent. The extinguisher might not work when needed. Always follow approved instructions in checking fire extinguishers.

25. A special flag hoist (red flag with white diagonal) flown from the boat or buoy means skin-diving operations. Approach the area with caution and stay clear at least 25 yards.

26. Your local U.S. Coast Guard Auxiliary/Power Squadron generally puts on a Safe Boating Class several times a year. They are very comprehensive and generally of minimal cost to you. Call your local U.S. Coast Guard Auxiliary or Power Squadron Flotilla for the time and place of the next class.

SECTION VIII

Nautical Terms

ABEAM	Either side of the boat.	DRAFT:	Vertical distance from the waterline of the boat to the lowest point of the boat.
AFT:	To the rear or near the stern.	FATHOM:	Measurement of 6' used to measure water depth.
BACKWINDING:	When one sail throws wind onto lee side of another sail.	FORWARD:	Toward the bow.
BEAM:	The width of the hull.	FREEBOARD:	Vertical distance from the deck to the waterline.
BEARING OFF:	Steering to leeward, or away from the wind.	GUNWALE:	Where the hull and the deck meet.
BILGE:	The lowest portion inside of a boat. In a fiberglass boat it's generally the underdeck and lower portion of the engine compartment.	HALYARD:	Line used for raising or lowering a sail.
BLANKETING:	A windward boat takes the wind from a leeward boat's sail.	HATCH:	A covered opening in the deck.
BLOCK:	Sailors term for the pulley.	HEAD:	Toilet or toilet room.
BOOM:	Horizontal pole along the bottom of the sail.	HEADING UP:	Steering more to windward — toward the wind.
BOW:	The forward portion of the boat.	HELM:	Steering wheel.
CHINE:	The intersection of the sides and bottom of a v-bottom boat.	KEEL:	Lowest external portion of the boat.
		KNOT:	Nautical mile per hour; nautical mile is 6,076'; land mile is 5280'.
		LEEWARD	Side opposite from which the windblows.
		LINE:	General term for rope.
		LUFFING:	Shaking of sails that occurs when the boat heads too much into the wind or sail is improperly trimmed.
		MAST:	Vertical pole supporting the sails.
		MAYDAY:	International spoken distress signal for the radiotelephone.
		POINTING:	Sailing as close into the wind as possible.
		PORT:	To the left side of the boat.
		PORTLIGHT:	A hinged window in the boat's cabin.
		QUARTER:	Side of the boat near the stern.
		REEF:	Lessen a sail's area by gathering in and tying down part of the sail.
		RUNNING:	Sailing with the wind more or less astern.
		SCUPPER:	An opening in a deck or cockpit permitting water to drain overboard.
		SHEET:	Line used in adjusting the angle of a sail to the wind.
		SHROUDS:	Wires from the mast to the deck for side to side support of the mast.
		STANCHION:	A fixed, upright post used for support (of rails)
		STARBOARD:	To the right or right side of the boat.
		STAYS:	Wires from the mast to the deck for support of the mast in a fore and aft direction.

STERN: To the rear of the boat.
 TOPSIDES: Side of the boat from the waterline to the deck.
 TRANSOM: The vertical part of the stern.
 TRIM: Adjust angle of sail to the wind.
 WAKE: Track or path a boat leaves behind while in motion.
 WINDWARD: The direction from which the wind is blowing.

Recommendations for Expanding Your Boating Knowledge.

With the large number of books about sailing readily available, it may seem strange that we would also want to venture into this area. We would like to recommend those books that deal primarily with the handling of the keel-type sailboat you now own. We would also like to recommend that each attend the UNITED STATES POWER SQUADRON courses given in their community. Don't let the title fool you; there is a lot on sailing material. Remember that when you are using the engine, you become a power boat operator. Even the experienced boatman can learn something new, but even more important is the opportunity to teach. Take this opportunity to learn or pass your knowledge on to others.

Write to: U.S. Power Squadrons
 Box 345
 Montvale, New Jersey 07645

This course could add a whole new dimension to your enjoyment of the water.

There appears to be no ready reference to the myriad of laws, regulations, requirements and other pertinent items that affect the owner of a large sailboat. To partially fill this gap, or at least to make you aware of this potentially useful material, we have included a recommended "Basic Keelboat Sailor's Library," followed by a listing of pamphlets and thoughts for your perusal.

Keelboat Sailor's Library

If you cannot obtain any of these books locally, you may send a mail order to Sailing Book Department, 38 Commercial Wharf, Boston, MA 02110.

The Adventure of Sail; MacIntyre
 American Practical Navigator; Bowditch
 Around the World in Wanderer III, Hiscock
 The Best of Sail Trim; Coles
 Celestial Navigation for Yachtsman; Blewitt
 The Complete Book of Boat Maintenance and Repair; Kendall
 Cruising Under Sail; Hiscock
 Deep Sea Sailing; Bruce
 Dutton's Navigation and Piloting; Dutton 12ed

Elvstrom Speaks on Yacht Racing; Elvstrom
 Encyclopedia of Nautical Knowledge;
 McEwen-Lewis
 Further Offshore; Illingworth
 The Giants of Sail; Becken of Cowes
 Hand, Reef and Steer; Henderson
 Handbook of Knots; Graumot
 Handbook of Knots and Splices; Gibson
 Heavy Weather Sailing; Coles
 History of American Sailing Ships; Chapelle
 The Illustrated History of Ships and Boats;
 Casson
 An Introduction to Yachting; Herreshoff
 My Lively Lady; Rose
 Navigation the Easy Way; Lane-Montgomery
 The New Cruising Cookbook; Jones-Norton
 Ocean Racing and Offshore Yachts; Johnson
 Piloting, Seamanship/Small Boat Handling;
 Chapman
 Practical Sailing; Gibbs
 Racing Cruiser; Henderson
 Sailing Illustrated; Royce
 Sailing to Win; Bavler
 A Short Cruise to Navigation; Gardner
 Simplified Rules of the Road; Will
 Story of American Yachting; Rosenfield
 A View from the Cockpit; Bavler
 Voyaging Under Sail; Hiscock
 Weather, Water and Boating; Whelpley
 Wind and Sailing Boats; Watts
 A Woman's Guide to Boating and Cooking;
 Morgan
 Your Boat and the Law; Norris

Miscellaneous Publications

The following lists several publications available for your reading.

"Federal Requirements for Pleasure Craft" January 1970, deals mainly with requirements for a motor boat, but when under power, a sailboat becomes a "motor boat." Numbering requirements, Coast Guard Approved Equipment, Required Lights and Safety Suggestions form a major part of this leaflet.

"Coast Guard Auxiliary Courtesy Exam" (aux-204) January, 1971 leaflet covers most of the above, but also explains one of the several services performed by members of the Coast Guard Auxiliary. It contains a directory of the Auxiliary so you can communicate with the Flotilla nearest you.

"Basic Facts About Marine Fire Extinguishers" (dnod-2), is printed by the state of California, but the information will apply to any area of the United States.

Limited Warranty for US Sailing Yachts

ONE YEAR LIMITED WARRANTY:

US Yachts warrants to the original purchaser of its 1983 model sailboats operated under normal, non-commercial use in the U.S. or Canada, that the Selling Dealer will repair or replace any parts found to be defective in factory materials or workmanship within one year from date of retail delivery.

WHAT IS NOT COVERED:

This warranty does not apply to: (1) Mast, rigging or hardware; (2) Engine, drive train, controls, props, batteries or other equipment and accessories carrying their own individual warranties; (3) Engines, parts or accessories not installed by US Yachts; (4) Window breakage or leaks, gel-coat finish blisters, cracks or crazing; (5) Sails, vinyls and fabric, upholstery and trim; (6) Any US Yacht that has been altered, subjected to misuse, negligence or accident; (7) Any US Yacht used for commercial purposes; (8) Any defect caused by failure of the owner to provide reasonable care and maintenance.

OTHER LIMITATIONS:

THERE IS NO OTHER EXPRESS WARRANTY ON THIS BOAT. TO THE EXTENT ALLOWED BY LAW:

1. Any implied warranty of merchantability is limited to the duration of this written warranty.
2. Neither Bayliner or the selling dealer shall have any responsibility for loss of use of the boat, loss of time, inconvenience, commercial loss or consequential damages.

YOUR OBLIGATION:

We require that you return you boat, at your expense, to your Selling Dealer or, if necessary, to the US factory. You will be responsible for all transportation, haul-outs and other expenses incurred in returning the boat for warranty service.

Some states do not allow limitations on how long any implied warranty lasts, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

US Yacht Division
Bayliner Marine Corporation
P.O. Box 24467
Seattle, WA 98134

