Oday

YACHT OWNER'S MANUAL



INTRODUCTION

Congratulations!

In choosing your new yacht from the O'Day line, you have selected one of the best values available in today's sailboat market. The design and construction of this yacht reflect the 20 years of experience and knowledge gained in the building of over 46,000 boats. Drawing on this experience, and information gathered from sailors around the country, C. Raymond Hunt Associates has designed a strong, attractive and comfortable yacht which will provide you with many years of sailing pleasure.

This manual is intended to help familiarize you with your new O'Day, and its systems. Please take the time to read it thoroughly. You will find information on a variety of topics from the electrical wiring to suggested routine maintenance, which will help you in operating and caring for your new boat. In addition, refer to the manuals provided by the manufacturers of such equipment as the engine, stove and head. These will provide more complete information on the specific gear, as well as their warranty procedures.

Thank you for the confidence you have shown in O'Day by selecting one of our products. Have fun, and Good Sailing!

BANGOR PUNTA MARINE

COMMISSIONING NOTES

#1

If your O'Day yacht is supplied with a 110V AC shore power system, it will have a control panel with a main breaker (30 amp) and separate (15 amp) breaker switches for the outlets and water heater. In addition, there are both audible (buzzer) and visual (yellow light on panel) reverse polarity indicators. With all switches off, attach the power cable to the power inlet on the boat. Next, connect the power cable to the dockside outlet. IF THE POLARITY INDICATORS LIGHT AND SOUND, DISCONNECT THE CORD IMMEDIATELY. This indicates a reverse polarity situation which is dangerous. Diagnose the problem before proceeding.

It is recommended that any appliances used on board be wired with three wire grounded plug.

#2

If your O'Day yacht is equipped with the optional water heater, it will be installed to operate off both the engine cooling system and the 110V AC electric system. Before switching the 110V system on, be sure the hot water tank is filled. Open the valve in the inlet water line, and be sure the check valve is installed with the arrow pointed toward the water heater. Operate the pressure water system until you get a steady stream through the hot water faucets.

WARNING: FAILURE TO FILL THE WATER HEATER BEFORE SWITCHING ON THE 110V CIRCUIT WILL RESULT IN DAMAGE TO THE HEATING ELEMENT.

A-595 BEARING LINER

A-137 FIBRE

WASHER

A-140 NEEDLE

BEARING



CUSTOMER SERVICE

PARTS LIST / EDSON PEDESTAL STEERING ASSEMBLY

As a further service to our customers we have illustrated a parts breakdown showing the design and construction of your Edson Pedestal Steerer. These parts drawings will assist you in the proper maintenance of your steering system.

If disassembly should become necessary the following instructions will provide a simple but precise method of removing and replacing the steering shaft and its components.

DISASSEMBLY

- 1. With the wheel and brake assembly removed, replace the wheel nut with any standard thread 34" or 1" hex nut.
- 2. Loosen the steering cables and chain by backing off the take-up eyes at the Quadrant or Radial Driver, lift the chain off the sprocket and tie to the forward part of the bowl.

A-327 "O" RING

A-729-WASHER

A-660 SNAP RING

B-250 WHEEL SHAFT

the grooved end).

ponents into the pedestal.

A-140 NEEDLE BEARING

B171 SHAFT KEY

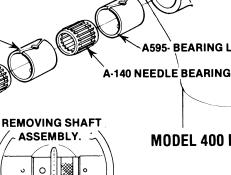
3. Align the notch in the aft fibre washer with the "V" stamped on the sprocket.

4. Carefully drive the pin out of the sprocket (drive from the round end toward

5. With a piece of wood against the 3/4" or 1" hex nut, gently tap the wheel shaft

from the housing, see illustration above, be careful not to drop the shaft com-

A-595 BEARING LINER



A-95A DRIVE PIN

A-135-11 SPROCKET

A595- BEARING LINER

NOTCHÉD

FOR BRAKE ASSEMBLY FIG 689

SERIAL NUMBER

LOCATION

MODEL 400 PEDESTALS

A-135-11 SPROCKET A-95A DRIVE PIN A-140 NEEDLE

A-137 FIBRE WASHER

A-137 FIBRE WASHER

BEARING

SERIAL NUMBER

LOCATION

- 6. Remove sprocket, two fibre washers and forward needle bearing.
- 7. Remove aft needle bearing and washers.
- 8. Wipe out any dirt or old grease before reassembly.

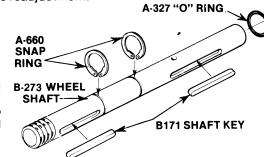
To reassemble reverse the above procedure, do not grease the bearings until reassembly is completed.

NOTE: Check your compass for possible readjustment.

ORDERING INSTRUCTIONS

When ordering spare parts give the pedestal serial number, part number, part name, and quantity. Your order will be filled

If you have any question don't hesitate to call the Edson factory. We will be pleased to assist you.





MODEL 334 & 335 PEDESTALS



The Edson Corporation 460 Industrial Park Road New Bedford, Mass. 02745

Printed in the U.S.A.

Telephone (617) 995-9711 Telex 95-1337

A-140 NEEDLE BEARING

FOR BRAKE ASSEMBLY

FIG 689

Eds⇔n

EDSON PEDESTAL MAINTENANCE GUIDE

This guide has been prepared to assist you in the proper maintenance of your Edson Steering System. To properly maintain the moving parts in the top of the pedestal, it is necessary to remove the compass and its cylinder. For proper alignment when re-installing the compass, we recommend placing 3 or 4 lengths of tape on the pedestal and compass as shown below. Slit the tap when removing compass, align the strips of tape when re-installing the compass for visual compass realianment. Your compass MUST then be check for accuracy. Lubrication of needle bearings should be done by squeezing Edson Fig. #827 Teflon Lubricant into the holes located on top of the bearing housings inside the pedestal bowl. Spin the wheel when squeezing the lubricant in to make sure the entire bearing is serviced. Winch grease or water pump grease can be used as an alternative, but don't let the bearings run dry. Do not over grease as it will run onto the brake pads. Oil the chain with #30 weight motor oil. Do not grease chain as it does not penetrate the links.

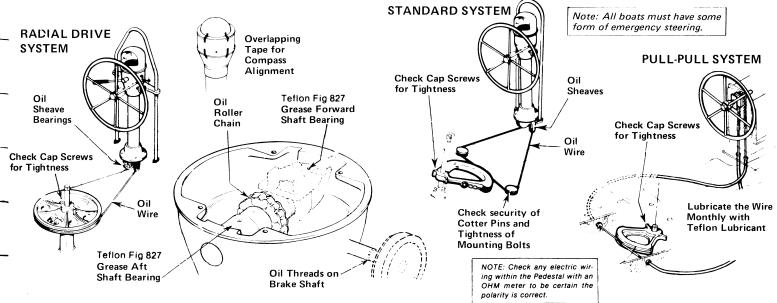
Inspect the condition of the wire, tension of the wire and lightly oil. Edson recommends placing about 5 layers of "Kleenex" on the palm of your hand, squirt oil on the tissues and lightly oil the wire. This will lubricate the strands but will also "flag" a broken or hooked strand by tearing off a small section of tissue. If you do have a wire break, replace the wire immediately. See Edson Fig. 775 wire and chain replacement kits. (Caution: Wire splinters can cause painful cuts.) Replace the wire after 5 years. If still good, keep the old wire on board as a spare. To check for proper wire tension, lock the wheel in position by using the pedestal brake, or by tying off the wheel. Cable tension is best when you cannot move the quadrant or drive wheel by hand with the wheel locked in place. Over tightening will greatly reduce the sensitivity of the system.

It must be emphasized that all on board must be familiar with the care and operation of the Steering System and engine controls. One person must be assigned the job of maintenance and must be thoroughly familiar with the operation and intent of all the equipment. If at any time your Steering System makes strange noises or reacts differently than it has previously, you must find the causes immediately and correct the problem. Screws, nuts, bolts as well as clevis and cotter pins that are part of the steering system, engine controls, or pedestal accessories must be check regularly for tightness and wear. Failure to inspect all steering parts, engine controls and pedestal accessories may cause loss of control or failure of the engine or steering system. All boats must have an emergency tiller or its equivalent and all on board must be familiar with its location and operation. An emergency tiller drill is just as important as a man-overboard drill and must be regularly conducted.

On a new boat and at least once a year, inspect the system when under a strong load. On a calm day and under power, go away from the other boats and with the person who is assigned the maintenance watching from below, put the wheel hard over at full throttle. The maintenance man should watch carefully for all parts of the system bending, distorting, creaking, or giving any indication of falling if placed under a heavy load for a period of time. If for any reason, something did fail or needs adjusting the day is early and you will have plenty of time.

When leaving your boat at her mooring or slip, make sure that your wheel is properly tied off. DO NOT LEAVE THE STEERING SYSTEM TO FREE WHEEL.

The pedestal exterior should be cleaned with detergent and water, do not use acetone or/and any other strong solvents as they may damage the finish. Edson will be pleased to assist you. Call us or write us if we can help.



LUBRICATION RECORD

component	lubricant	schedule	first year 19	second year 19	third year 19	fourth year 19	fifth year 19_
sheave bearings	#30 oil*	check and oil monthly					
pull-pull cables	Teflon Fig 827	check and grease monthly					
wire rope	#30 oil*	check and oil annually					
roller chain	#30 oil*	check and oil annually					
pedestal shaft bearings	Teflon Fig 827	check and grease annually					

*Any light oil is suitable. We recommend #30 weight motor oil since most boat owners have it aboard

Caution: 1.) On extended voyages your steering system should be inspected each day and lubricated weekly. Carefully inspect your steering system at least one week before a vacation cruise to avoid last minute maintenance.
 2.) When the boat is unattended secure the wheel with the brake or a line. In rough weather the rudder can swing violently from stop to stop causing

namage.

For complete maintenance information please contact



FINISHES

Gelcoat

The gelcoats used on all exterior and interior surfaces of your O'Day Yacht are the highest quality materials available for marine use. These gelcoats have the best possible color retention, gloss and resistance to weathering. However, even the best gelcoats need some maintenance to preserve their finish.

- Whenever feasible, the deck and topsides should be rinsed with fresh water.
- Wash the gelcoat surfaces with a mild detergent or car wash solution. Use a sponge or towel on smooth areas, and a soft brush on non-skid surfaces. Be careful not to use abrasive cleaners or solutions containing chlorine.
- At least once a year, apply a good coat of high quality wax to all smooth surfaces. Buff down with a clean towel.

If the surface becomes dull, it can often be returned to a high gloss by hand buffing with an automotive buffing compound such as Dupont #7. If a power buffer is used, extreme care must be exercised to prevent burning through the gelcoat surface. This is particularly true of corners and edges. Always apply a coat of wax after compounding.

Small scratches or abrasions which do not go through the gelcoat can be removed by wet sanding with 320 grit paper, followed by wet sanding with 600 grit, compounding and waxing. For deep scratches or holes, you should rely on your dealer or local gelcoat

FINISHES (Cont'd.)

repairman to provide a good cosmetic repair.

Gelcoated surfaces can be painted. However, to assure a good finish which will last, careful preparation and application is necessary. This should be done by professionals.

<u>Teak</u>

The interior and exterior woodwork on your O'Day is primarily teak. This unique wood will not rot, and requires minimum maintenance. All the teak was treated at the factory with a high-grade teak oil.

On the interior, you should apply a new coat of oil at the beginning of each season. Use a good grade teak oil, which is available through your dealer or local marine hardware store. This will maintain the rich brown color of the wood.

The exterior teak, if left untreated, will turn a light gray, which some yachtsmen prefer. However, as the teak weathers, the grain raises, and there is a tendancy for the wood to check and/or split. Periodic cleaning with a teak cleaner will remove the gray color with a minimum of labor. A good coat of teak oil will help prevent the checking and splitting.

Teak may be varnished, which will produce a beautiful finish, and provide good protection. A varnished interior would normally last two seasons. However, on exterior teak, a new coat should be applied every four months. Before applying varnish, be sure the surface is dry, sand thoroughly, and wipe with acetone to

FINISHES (Cont'd.)

remove some of the oil. Before attempting to varnish teak, you should consult your local marine paint expert.

Laminated Surfaces

The non-wood cabinet surfaces are either mica or polyester laminates, chosen for their durability and ease of maintenance.

They should be cleaned with a mild detergent. Avoid using abrasive cleaners, as they will leave small scratches and will dull the finish. These surfaces may be coated with household waxes to mask small scratches and maintain the original lustre.

Hull Liner and Cushion Covers

The hull liner and cabin cushions are highly durable synthetic fabrics, chosen for their appearance and low maintenance. Should they be stained, clean with a sponge dampened in a mild detergent. Upholstery cleaners may be used, but try them on a small area first. DO NOT dry clean, or use dry cleaning chemicals, as they may attack the material or its backing.

Lexan and Plexiglass

The sliding doors in the cabinets and the ports are made of lexan or plexiglass. Clean these with window cleaner or a mild detergent. Do not use chemical cleaners or abrasive cleaners, as these will damage the finish.

BASIC RULES FOR BATTERY CARE AND MAINTENANCE

1) Check liquid level in all cells once every week or two. Add water as required. Bring liquid level to 3/8 inch above top of separators. It is much better to add water in small amounts frequently, than to put too much in and flood out the electrolyte, thus causing damage to adjacent wiring and equipment, plus loss of acid.

Generally the local drinking water in the United States is safe for use in batteries, but be sure to check with your battery supplier.

Add water only. Add no battery dopes, special liquid or powders. These are harmful or useless.

- 2) Before adding water, take a hydrometer reading of one cell.

 (Don't use same cell each time; change around). If above

 1.225 Specific Gravity, battery is O.K. If below 1.225 Specific Gravity, remove battery for bench charge. If level is too low to read, add water and take hydrometer reading the next day.
- 3) After adding water, examine hold-downs. Make certain battery is secure. Hold-downs should make a snug fit, not necessarily the tightest fit, otherwise the container may be forced out of shape.

Examine cables and terminals for tightness, corrosion and wear. Corrosion occurs from the spilled electrolyte getting on metal (other than lead). Lead does not corrode. To remove corrosion, scrape or brush it off. Then immerse the part in an alkaline solution such as bicarbonate of soda (baking soda) in

BASIC RULES FOR BATTERY CARE AND MAINTENANCE (Cont'd.)

- 3) the proportions of one pound to a gallon of water. One can tell when all the electrolyte is neutralized by observing when the bubbling stops. Wash with water, dry and apply a prepared grease, available from battery dealers.
- 4) Examine battery for broken or cracked covers, case and cracks in sealing compound. If any of the preceding defects are present, remove battery at once and have repaired. Acid loss from any of the above defects will shorten battery life. Acid escaping through cracked covers or sealing compound will cause corrosion of terminals, cables, carrier and adjacent parts.
- 5) Keep voltage regulators and generators charging rates so adjusted that the battery receives neither excessive over-charging nor undercharging. DO NOT SET RATE HIGHER THAN MANUFACTURER'S SPECIFICATIONS.

Voltage regulators should be checked if:

- A) Battery liquid is found above 110° F. or case is warm to the touch.
- B) Hydrometer reading is below 1.225 and ESPECIALLY if each week the electrolyte level is found below top of separators.

Overcharging is indicated by excessive water consumption.

6) Batteries should be recharged if hyrdometer reading is below 1.225.

BASIC RULES FOR BATTERY CARE AND MAINTENANCE (Cont'd.)

- 7) DO NOT LEAVE A BATTERY ON CHARGE FOR MORE THAN 48 HOURS.

 STOP CHARGE when two hydrometer readings recorded two hours apart show no increase, or when terminal voltage read every two hours shows no increase.

 If there is no rise in voltage or specific gravity in a period of two hours, further charging is USELESS and MAY DAMAGE BATTERY BEYOND REPAIR. Have your supplier check battery for possible acid adjustment or repair.
- 8) On this bench recharge, the specific gravity is expected to read certain values before being considered serviceable for continued use. The hydrometer reading should be above 1.260. The full charge gravity when new was 1.270 1.290.

 If battery does not register as above, have your battery supplier inspect it. He may be able to adjust acid or make repairs.
- 9) In cold weather don't fill cells with water and let stand without running motor long enough to allow water to mix with acid, as freezing might occur.
- 10) Spare batteries should be recharged at least every 4 or 5 weeks, in order that the specific gravity may be maintained at 1.240 or above.
- 11) Use a battery with sufficient ability to carry the connected load. Don't send a boy to do a man's job.

BASIC RULES FOR BATTERY CARE AND MAINTENANCE (Cont'd.)

- 12) Wash dirt and corrosion off top of battery to eliminate intercell discharge.
- 13) Neutralize corrosion in battery box by washing with solution of soda as recommended in #3; rinse with water.
- 14) If the maintainer will be careful in adding water, the amount of water which is needed by the different cells will be a clue to him on other items. For example, as mentioned under "Voltage Regulator", if each week the water which he put in the previous week has been used, it is reasonable to expect that too much charging current has passed through the battery; hence the voltage regulator should be checked.

All cells in the battery should take the same amount of water. If one cell should take more than the others and does this each week, it would be expected that the container is leaking. Whether the leakage is through the bottom of the container or from the sides of the container can be determined by examination.

PERIODIC MAINTENANCE

The following list of items and their accompanying numbers is in no way intended to be all that should be done to your yacht. This is only a suggested general list and is not intended to override the individual manufacturer's manuals. It also is not arranged in any special order. The numbers are in numerical order and not in priority order. Some numbers and their meanings may also seem redundant, but we feel it is better to be redundant than lax.

You are advised to follow the owner's manuals that come with the engines, heads, etc.

PERIODIC MAINTENANCE (Cont'd,)

	End of First Week	Monthly	Winterizing	Remarks
Mast, Boom	1,3	1,3,4,5	1,3,4,5,6	,
Standing Rigging	1,5	1,4	1,3,4,5,6	
Running Rigging	1	1,3,4	1,3,4,5,6	
Winches	1,5	1,3,4,5	1,3,4,5	
Engine Alignment	1,2	1,4,5	1,4,5	Disconnect coupling before hauling
Hose Clamps	5	1,5	1,3,4,5	Do not overtighten
C/B models only- Centerboard & Hoist	2	1,2,4,5	1,3,4,5,6	
Chainplates	1,2,5	1,2,4,5	1,2,4,5	Rebed at least twice a year
Tiller Strap if applicable	1,3,5	1,3,4,5	1,3,4,5	
Bilges	Check dai	lymore of	ften if the l	oat is leaking
Stoves, Alcohol, Propane	1,5		1,4,5	Check supply hoses for deterioration every Spring. If hose cracking is evident, replace.
1. Check conditi	on 2. Ch	eck watertig	htness 3.	Lubricate
4. Clean with fr	esh water	5. Check ti	ightness 6.	Grease
7. Drain and/or	anti-freeze	8. Discor	nect	,

PERIODIC MAINTENANCE

	End of First Week	Monthly	Winterizing	Remarks
Deck Fittings	5		1,4,5	
Rudder Blade		1		
Rudder Post	6	1,6	1,4,5,6	
Propeller Shaft	1	1	1,4	
Stuffing Box	1,2,5	1,2	1,4	
Zinc Anode		1	1	Replace at least once a year
Propeller		1	1,4,5	
Bilges			4,7	
Cockpit Drain Hoses	2	2,5	2,4,5,7,8	7,8- Some cockpit hoses have low point that hold water
Sea Cocks	1,2,3	2	1,4,6	
Pumps	1	1,2,5	1,4,5,7,8	
Water Tanks	2	2	1,4,7	
Piping, Fresh Water	2	2	1,4,7	
Lighting		·	1,3,4	3=WD-40 or CRC
Battery	1	1,4	1,4,8	4=Clean with baking soda & water solution
Water Filter		1,2,4	1,4,7	
Fuel Filter	1,5	1,5	1,4,5	4=Outside Only
Air Filter	1	1,5	1,5	
Exhaust System	1,2,5	1,2,5	1,4,5,7	
Engine Mounts	1,5	1,5	1,3,5	

HEAD OPERATION

O'Day has passed along the manuals which cover the operation and maintenance of the toilets installed in your yacht. Please read these and familiarize yourself and crew with their details.

Also, fill out and send in the warranty cards.

If the heads installed in your boat discharge only to dockside pumping stations, the waste access plate for the forward head is located on deck near the chainplate on the port side. The aft discharge is on the starboard side, at the aft end of the cockpit.

For heads equipped for both dockside and overboard discharge, there are "Y" valves and diaphræm pumps mounted in the discharge line. For the forward head, these are mounted under the port settee in the main cabin. For the aft head, they are mounted under the berth, on the starboard side.

To discharge dockside:

- 1) Move the "Y" valve handle in line with the deck discharge hose.
- 2) Insert dockside pump into the deck waste plate and pump tank.

To discharge overboard:

- 1) Move "Y" valve handle so that it points toward the diaphragm pump.
- 2) Open the discharge thru-hull seacock.
- 3) Operate diaphram pump to empty tank.
- 4) Close thru-hull seacock.

HEAD OPERATION (Cont'd.)

Note: U.S.C.G. regulations prohibit the discharging of untreated wastes. Be sure you are more than 3 miles off shore before pumping waste overboard.

Be sure to close all thru-hulls when away from the boat.

Although Bangor Punta Marine uses the best quality hose and rigid plastic tanks, we suggest that a good quality chemical be used to help prevent the possibility of any aroma permeation.

ALCOHOL STOVES

Please refer to manufacturer's manual. They cover the operation of these stoves in detail.

Caution

- 1) The flame during an alcohol fire is quite often invisible.
- 2) Do not mount the fire extinguisher near the stove. During a fire you may not be able to get to it.
- 3) Water is one of the best extinguishers for alcohol fires.

COOKING STOVES

PROPANE STOVES

The propane stove in your O'Day boat has been pressure tested at every joint with a special fluid at the plant prior to shipping, but we recommend that you have it checked by your own dealer after it has been launched, as boats go through some fairly heavy jars during overland travel.

To Operate:

- 1) Be sure the burner valves are in the OFF position.
- 2) Be sure the electric safety switch over the stove is in the OFF position.
- 3) Turn the valve on at tank.
- 4) Move the electric safety switch into the ON position.
 - a) This switch controls a Solenoid mounted between the propane tanks. In the OFF position there is no pressure anywhere inside the boat. Please refer to Marinetics Corp., Document #609.
- 5) Turn on the burner valve you desire and light. If the system is new or the tanks have just been replaced, there could be a quantity of air in the supply line. You may go through more than one match, but do not leave burner valve on while getting another match lit...the gas could be coming out while you're getting the next match lit. This could cause a loud noise. BOOM!!

When cooking has been completed, turn off the electric safety switch and after the burner goes out, close the burner valve. This will indicate that the electric safety valve is working, and will also remove pressure from the feed line inside the boat. For added safety, the manual shut off valve at the tanks may be closed when boat is left unattended, or overnight.

The entire system should be checked out at least once a year...

Pay particular attention to corroded or cracked fittings & supply lines.

PRESSURE WATER SYSTEM

Do not turn the 110 volt system water heater circuit on until the hot water tank is full, or the electric heating coil will be damaged. Once the tank is full, you may heat water by switching the 110V panel main breaker and water heater circuits on. With the engine operating, the heat exchange will automatically heat the water in the tank.

The plumbing used in your yacht is a polybutyl material, which is FDA approved for use on domestic water systems. The connections and elbows are self-sealing conical plastic units, which contain a stainless steel retaining ring to hold the tubing in the fitting.

Before shipment from the factory, your water system was thoroughly tested. However, if any leaks are found, hand tightening of the fittings should stop them. If this does not work, you may take an additional 3/4 of a turn with a wrench.

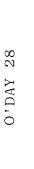
PRESSURE WATER SYSTEM

(Optional)

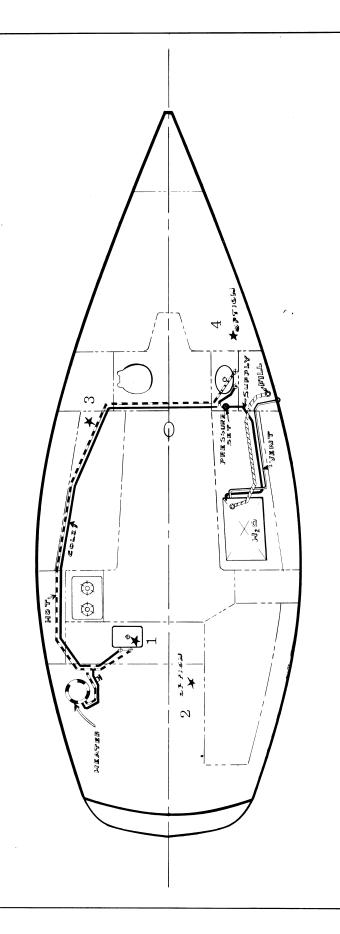
The fresh water tank is of a seamless plastic construction, supported and baffled. It is vented through a chrome vent on the outside of the hull and filled through a plate mounted on deck. The O'Day 28 has a 25 gallon tank, located under the starboard settee. The O'Day 30 has a 25 gallon tank located under the port settee. The O'Day 34 has two 25 gallon tanks, one located under each settee, with a tank selector valve located under the forward end of the port settee.

The pressure pump is a self-priming diaphragm pump. There is an in-line filter installed on the pump, to prevent any foreign material, which may have entered the water tank, from damaging the pump. This filter should be checked periodically and cleaned as needed. To operate the pump, turn the 12 volt system on and move the electrical control panel "pressure water" switch to the "on" position. When priming the pump, first open all faucets. The pump will go on and build up pressure in the system. When all faucets are delivering a steady stream of water, close them. The pump will go off automatically. Whenever you open a faucet, the pump will cycle on and off to maintain pressure in the system.

If your yacht is equipped with a hot water heater, it will be located in the engine room. Be sure the water line feed valve is open with the check valve arrow pointed toward the water heater. The pump will fill the tank and pressurize the hot water system.



FRESH WATER PRESSURE SYSTEM
&
THROUGH HULL LOCATIONS



#1- GALLEY SINK DRAIN #2- ENGINE RAW WATER INTAKE #3- HEAD INTAKE #4- HOLDING TANK DISCHARGE

NAVIGATION LIGHTS

Navigation lights must be in accordance with the rules and regulations of the waters in which you intend to cruise.

In general, navigation lights are to be used from sunset to sunrise, in all weather conditions. It is good practice to use the lights any time visability is reduced by inclement weather.

Your O'Day Yacht is equipped with the following navigation lights:

- A) Red and green 10 point side lights mounted near the bow.
- B) White 12 point stern light.
- C) White 20 point bow light mounted on the mast.
- D) White 32 point masthead light mounted on top of the spar.
- A & B are wired to the "running lights" switch on the DC panel.
- C is wired to the "bow light" switch.
- D is wired to the "masthead light" switch.

Underway by sail, the running lights (side lights and stern light) must be on.

Underway by power, the running lights and bow lights must be on.

At anchor, the masthead light must be on.

LIGHTNING GROUND

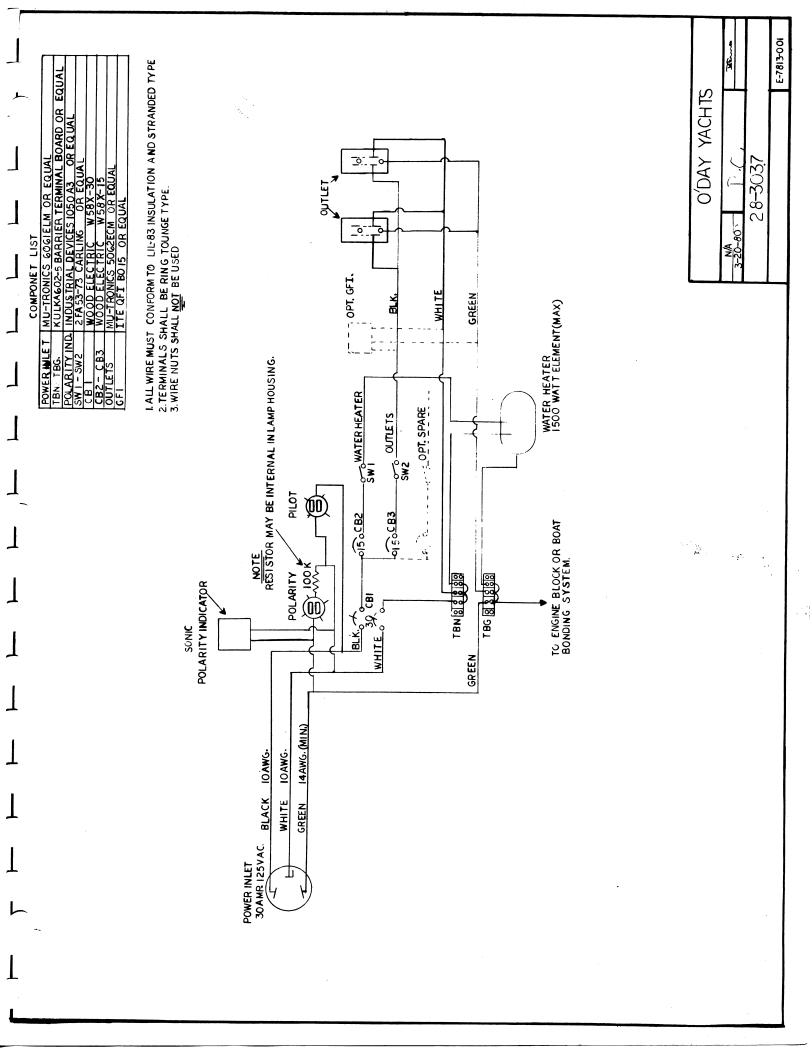
The spars and standing rigging on all O'Day Yachts are grounded, in compliance with the American Boat and Yacht council project E-4, to minimize damage resulting from lightning, and provide safety for personnel.

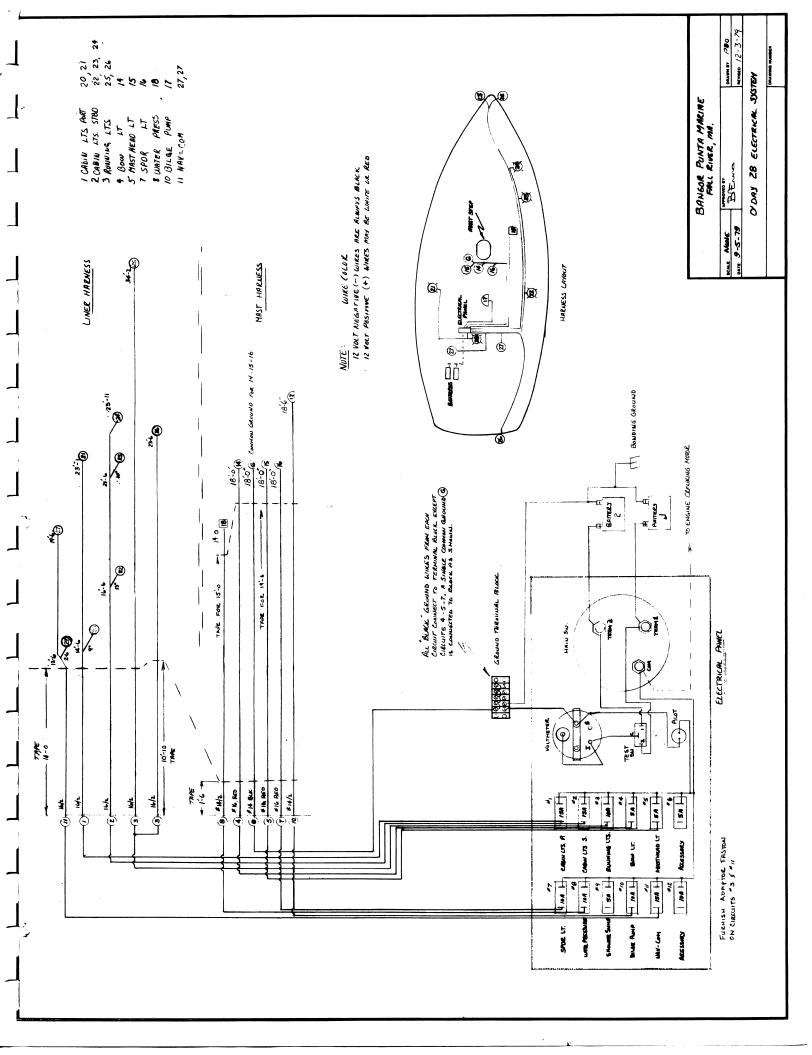
Each chainplate, the mast step and engine water intake are attached, by means of a #8 AWG solid copper wire, to the engine and/or strut. In the event lightning strikes the spar, the charge will be carried by the wire to ground through the shaft and strut.

The mast ground wire must be attached to the mast by the owner or yard after mast is stepped.

Caution: In an electrical storm, do not touch the mast, boom or any standing rigging. These are all electrical conductors, which will carry high voltage. In the event of an electrical storm, the following precautions are recommended:

- 1) As much as possible, stay below with the hatches closed.
- 2) Avoid contact with any items making contact with the electrical system.
- 3) Stay out of the water.
- 4) If struck by lightning, compasses and electrical equipment should be checked to determine that no damage or change in calibration has occurred.





ELECTRICAL SYSTEM

Your O'Day Yacht is equipped with a circuit breaker panel for the 12V DC electric system. The breakers are marked on the front with the amperage rating. These are thermal breakers, which trip when overheated by excess current draw. If they should trip, they will merely shut off. To reset, flip the switch to the ON position. These breakers are a trip-free type, which will trip off even if the lever should become frozen in place. Should this happen, the circuit will go on and off, as the breaker first heats up and trips, then cools down and resets.

The voltage meter in the DC panel will give you an indication of your battery condition. By moving the battery test switch to the #1 or #2 position, you can check the individual batteries. This may be checked with the selector switch in the "OFF", "1" or "2" position, but not in the "BOTH" position, as this will give you the combined condition of the batteries. The condition of the batteries should be checked frequently, and the batteries should be kept as fully charged as possible to assure long life. Allowing a battery to be run down, or deep cycled, for a prolonged period could kill the battery. Be sure to check the battery fluid level and add water if needed.

The main battery switch connects either or both batteries to engine and DC switch panels. <u>Do Not Switch to "OFF" with the Engine Running</u>. It is recommended that one battery be used primarily for starting the engine, and the second battery (if your

ELECTRICAL SYSTEM (Cont'd.)

boat is so equipped) be used for the domestic DC circuits. The "BOTH" position should only be used in emergencies, or for extended engine cranking. In order to avoid overload and possible damage to the Alternator, the batteries should be charged independently, rather than at the same time. Select the battery to be charged by moving the switch to the #1 or #2 position. When away from the boat, leave the switch "OFF".

If your boat is equipped with the optional 110V shore power system, it will have a control panel, mounted over the galley, with a main breaker (30 amp) and separate breakers (15 amp) for the water heater and outlets. In addition, there are both audible (buzzer) and visual (yellow light on panel) reverse polarity indicators. With all switches off, attach the power cable to the inlet located on the outboard face of the coaming.

Next, attach the power cable to the dockside outlet. If the Polarity Indicator Lights and/or Sounds, Disconnect the Cord Immediately! This indicates a reverse polarity situation, which is dangerous. Diagnose and correct the problem before proceeding.

If the polarity is correct, switch on the breaker for the outlets and/or hot water tank as desired. Be sure the hot water tank is full before turning on the circuit, or you will damage the heating element (see plumbing and commissioning sections).

It is recommended that all appliances or lights be wired with three-prong grounded plugs.

ELECTRICAL SYSTEM (Cont'd.)

Preventive Maintenance

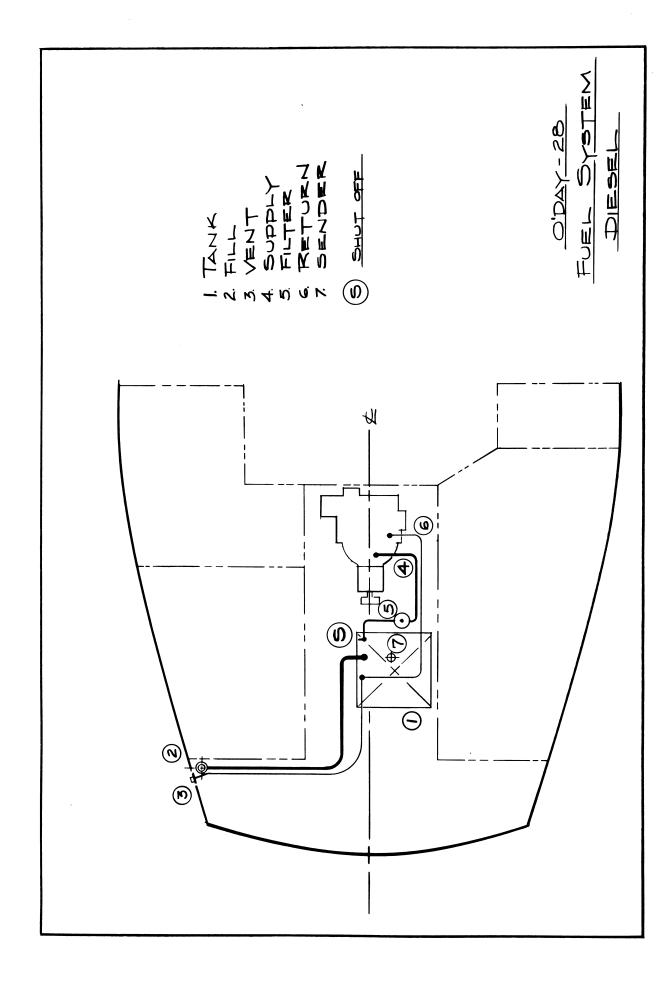
Electrical systems are adversely affected by moisture and a salt air environment. Preventive maintenance consists of protecting the system from the elements and periodic inspection for damage created by the elements.

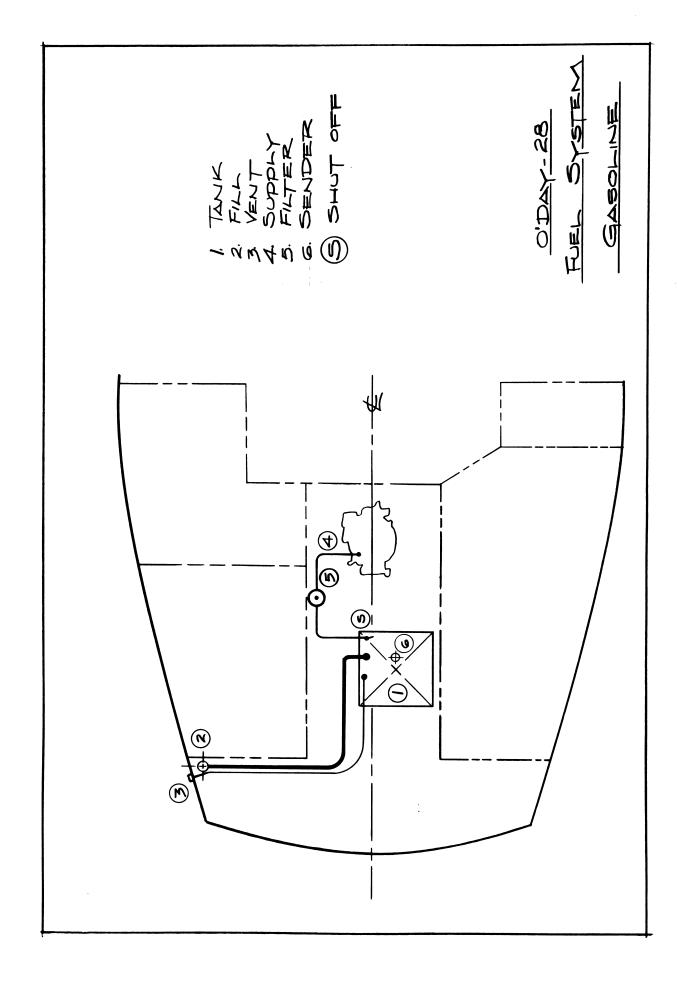
There are several aerosol spray products available for protecting the system. $\underline{WD-40}$ and \underline{CRC} are but two of the better known types.

Periodically check all wire harness and connections for secure fastenings, cleanliness, and any signs of physical damage or corrosion. A dirty or corroded terminal will cause resistance and could generate heat. It is extremely important that connections be kept clean.

- <u>Warning</u> Do not turn main DC switch off while engine is running.

 This could cause damage to the alternator.
- Warning Do not use the 110 volt system while the boat is hauled out of water. A ground wire must be run from the boat's ground system to the source of power's ground. (case ground). Ask yard for advice and assistance in this matter.





FUELING PROCEDURE

When preparing to fuel your boat, the following procedures should be followed to assure safety:

- A) Properly secure the boat to the dock.
- B) Turn off the engine, stove, heater, radio, lights, etc.
- C) Turn battery switch to OFF.
- D) Close all hatches, ports, etc. to prevent entry of fumes.
- E) Maintain continuous contact between the nozzle and deck plate to prevent a static charge.
- F) Fill tank to a maximum 95% of capacity to allow for expansion.
- G) Clean any spills after replacing and tightening fuel fill cap.
- H) Before operating the engine or electric equipment, open all hatches and check for fuel leaks. On gasoline engine, check for fumes and run the blower for 5 minutes before starting the engine.

Always be sure the fuel fill cap is tight, to prevent water and dirt from getting into the fuel tank. Periodically, check the fuel filter and water separator (diesel engines only). Those should be drained and cleaned as needed. The filter elements should be replaced annually.

FLOODING OF ENGINE WITH WATER

Your O'Day is supplied with a water-lift (wave suppressor) type of muffler that under normal conditions, when the engine is not running, provides wave suppression and water storage to help keep water from flooding the engine.

They have two distinct disadvantages requiring consideration: there is a direct path from the overboard exhaust port via the water-lift muffler to the engine, and from the water pump to the muffler. Too large a volume of water can fill the muffler and flood the engine. Accidental conditions (sea) and operator error (prolong starting attempts), do happen and provide that excessive volume of water.

In the final analysis there is no way to stop the flooding under accidental sea and/or misuse conditions.

Sea Flooding:

Your O'Day exhaust system is designed and installed to the highest standards, and as stated above, could still flood under certain heavy sea conditions. The only added safety precaution you could add would be to install a rubber flap to the overboard exhaust port. This would dramatically slow the surge effect of waves hitting the port.

FLOODING OF ENGINE WITH WATER (Cont'd.)

Operator Error:

This is a nagging source of water-in-the-engine and occurs under the condition where an operator repeatedly attempts to start an engine, i.e., he "grinds" the starter - not 2 or 3 times - but in angry and frustrated continued action.

The amount of cranking time varies from engine to engine, factors being: the amount of each piston's displacement, water pump's capacity, and whether the battery is cranking a full R.P.M.

There is no way to detect if your engine is into an "excessive volume of water" condition when you are cranking. One way to help prevent this condition would be to turn off the raw water inlet before attempting to start engine or when it is taking longer than necessary to start. Obviously, as soon as the engine does start, turn raw water inlet on immediately.

Summary:

In practice, the engine can be flooded - in spite of the "muffler" but only if the circumstances are right.

The design of the exhaust system of your O'Day is of the highest industry standards, and in the past four years we know of only one engine that was flooded, and this was caused by operator error, i.e., continued "grinding" of the starter motor (8 to 10 minutes).

ENGINE OPERATING INSTRUCTION

The engine installed in your yacht has already been run and all systems tested before it left the O'Day plant.

We are not going to get into a great amount of detail in this area, for we feel the manual supplied by the engine manufacturer covers the subject better than we can.

Study your owner's manual and get to know your engine. The knowledge could be of great assistance to you. Also, some manufacturers have clinics aimed at the customer; contact them for times.

It is advisable that you follow the engine manufacturer's procedures and recommendations on run-in and maintenance.

On yachts with propeller shafts, please follow these procedures:

Alignment of Engine to Shaft

The engine must be properly and exactly aligned with the propeller shaft. No matter what material is used to build a boat, it will be found to be flexible to some extent, and when launched, the boat hull will change its shape to a greater extent than is usually realized. It is, therefore, very important to check the engine alignment at frequent intervals and to correct any errors when they may appear.

Mis-alignment between the engine and the propeller shaft is the

ENGINE OPERATING INSTRUCTION (Cont'd.)

source of troubles which are often blamed on other causes. It will create excessive bearing wear, rapid shaft wear, or leakage of transmission oil through the rear seal. A bent propeller shaft will have exactly the same effect, and it is, therefore, necessary that the propeller shaft itself be perfectly straight.

The engine should be moved around on the bed and supported on the screw mounts until the two halves of the couplings can be brought together without using force, and so that the flanges meet evenly all around.

Never attempt a final alignment with the boat on land. The boat should be in the water and have had an opportunity to assume its final water form. It is best to do the alignment with the fuel and water tank about half full and all the usual equipment on board and after the main mast has been stepped and final rigging has been accomplished.

Take plenty of time in making this alignment, and do not be satisfied with anything less than perfect results.

The alignment is correct when the shaft can be slipped backward and forward into the counterbore very easily, and when a feeler gauge indicates that the flanges come exactly together at all points. The two halves of the propeller coupling should be parallel within 0.003 inches.

In making the final check for alignment, the engine half coupling

ENGINE OPERATING INSTRUCTION (Cont'd.)

should be held in one position, and the alignment with the propeller coupling checked in each of four positions, rotated 90° between each position. This test will also check whether the propeller half coupling is in exact alignment on its shaft. Then, keeping the propeller coupling in one position, the alignment should be checked rotating the engine coupling as described above.

The engine alignment should be rechecked after the boat has been in service for one to three weeks and, if necessary, the alignment remade. It will usually be found that the engine is no longer in alignment. This is not because the work was improperly done at first, but because the boat has taken some time to take its final shape. It may even be necessary to realign at a further period.

The coupling should always be opened up and the bolts removed whenever the boat is hauled out or moved from the land to the water, and during storage in a cradle. The flexibility of the boat often puts a very severe strain on the shaft or the coupling or both when it is being moved.

During the alignment procedure, check the set screws which hold the shaft half coupling to the shaft. These must be tight, in contact with the shaft, and safety wired.

Stuffing Box

The stuffing box provides a seal for the propeller shaft at the

ENGINE OPERATING INSTRUCTION (Cont'd.)

inner end of the shaft log. It is connected to the shaft log with heavy wall hose, double clamped at each end. This flex hose allows the stuffing box to maintain alignment with the prop shaft without creating excess wear of the packing due to mis-alignment or vibration. The packing used is wax impregnated 3/16" x 3/16" square flax.

When the shaft is turning, it is normal to have a slight leakage at the seal, about one drop per 30 seconds. This acts as a coolant, as well as a lubricant, to protect the seal and shaft surface. Should excessive leakage be apparent, release the lock nut and tighten the packing nut slightly and re-tighten the lock nut. Re-start engine and check again with shaft turning.

When it becomes necessary to replace the packing (boat should be hauled) loosen the lock nut, back off the packing gland nut, and slide it forward on the shaft. Remove all the old packing and replace it with three rings of new packing. Stagger the ends of each ring so as not to provide a path for water to leak through.

 $\underline{\text{Do}}$ $\underline{\text{not}}$ wind one continuous strip spirally around prop shaft to make a seal.

Slide the packing gland back and tighten enough to create a heavy drag on the shaft. This will seat and form the packing.

Back off the packing nut until the shaft feels free and re-set

ENGINE OPERATING INSTRUCTION (Cont'd.)

the lock nut. Re-check for proper leakage when boat is returned to the water. Be sure the lock nut is secure, as operating the boat in reverse could cause the packing gland to screw off the stuffing box, allowing water into the boat.

BOAT STORAGE

Whenever a boat is pulled from the water, for work or storage, care must be taken to provide adequate and proper support of the hull. This is especially true of fin keel sailboats.

It is <u>not</u> recommended that the weight of the boat be rested solely on the keel. Because of the small area of the keel bottom, the localized loads on the hull in the area of the keel would be severe, and could result in permanent damage to the shape or structure of the boat.

If poppets are used for support, they should be located so that the pads are under bulkheads, berth fronts or pan stringer, so that the load is dispersed (See Docking Plan). Failure to properly position the poppets could result in hull depression. Be sure to use an adequate number of supports, and locate them to prevent the boat from tipping fore or aft. A storage cradle designed for this boat is available through your O'Day dealer.

When hauling any boat with a propeller shaft, be sure to disconnect the coupling before lifting the boat. This will prevent bending of the shaft as the boat changes shape when lifted.

Do not careen a fin keel sailboat. The hull, keel and rudder should survive any accidental groundings. However, care must be taken to keep the boat as balanced and upright as possible to prevent excessive loads.

RIGGING DIMENSIONS

The following table shows the critical dimensions and materials used for the standing and running rigging on your O'Day yacht. In the event you should need to replace any of the rigging, you can order the materials through your O'Day dealer. If this is not convenient, this table will allow you or a local rigger to obtain the proper materials.

The standing rigging measurements are the overall length of the stay, from the center of the hole in the upper terminal to the center of the clevis pin on the bottom of the turnbuckle. The turnbuckle should be fully closed when taking the measurement. (We would strongly recommend actually measuring any standing rigging before replacing, to assure 100% accuracy).

The halyards on your O'Day yacht are low-stretch Yacht Braid.

This material was chosen for its handling ease and durability.

Because of the way it is manufactured, it does not stretch as much as normal rope.

All running rigging should be checked periodically for chafe or damage, and replaced when necessary. If excessive wear is noted on running rigging, check all blocks and sheaves to be sure they are free to rotate and are properly aligned.

All standing rigging should be inspected for cracks in the swages, proper installation of cotter pins and wear on clevis pins. Replace any damaged or suspect rigging.

RIGGING DIMENSIONS (Cont'd.)

As you may have noticed, on some sailboats the swaged ends of the shrouds will ooze rust and in severe cases the swage will split. One way to prevent this problem is to heat up the swaged section and place a bar of beeswax against the 1 x 19 s/s wire. As it melts, the beeswax will run into the swaged section, sealing it from the elements.

O-28 RIGGING DIMENSIONS

Item	Length	Diameter	Material	Fitting	
Main Sheet	45'	3/8"	Yacht Braid		
Jib Sheet (2)	30'	3/8''	Yacht Braid		
Main Halyard	68'	3/8"	Low Stretch- Yacht Braid	Screw Shackle	
Jib Halyard	74'	3/8"	Low Stretch- Yacht Braid	Snap Shackle	
Genoa Sheets (2)	40'	7/16''	Yacht Braid		
Spinnaker Halyard	90'	3/8''	Yacht Braid	Snap Shackle	
Foreguy	30'	3/8''	Yacht Braid	Snap Shackle	
Pole Lift	48'	3/8"	Yacht Braid	Snap Shackle	
Spinnaker Sheets (2)	48'	7/16''	Yacht Braid	Snap Shackle	
Boom Topping Lift- Mast-	29'	1/4''	Low Stretch- Yacht Braid	Bullet Block	
Boom-	22'	1/4''	Low Stretch- Yacht Braid	Block & Splice	
				<u>Upper</u> <u>Lower</u>	
Head Stay	37'5"	7/32''	1 x 19 SS wire	#7 Eye Turnbuckle	
Back Stay(Overall)	37'9"				
(Upper Section) (Lower Section)	31'7" 6'	7/32'' 5/32''	1 x 19 SS wire 1 x 19 SS wire	#7 Eye Jaw #5 Jaw Turnbuckle	
Upper Shroud	35'4"	7/32''	1 x 19 SS wire	#7 Eye Turnbuckle	
Aft Lower Shroud	18'11½"	7/32''	1 x 19 SS wire	#7 Eye Turnbuckle	
Fwd. Lower Shroud	$18'11\frac{1}{2}"$	7/32''	1 x 19 SS wire	#7 Eye Turnbuckle	

STEPPING AND TUNING THE MAST

Before stepping the mast, be sure all running and standing rigging is properly installed, cotter pins are spread, and halyard sheaves are free to rotate. The upper shroud is run through the groove in the outboard end of the spreader; on either side of the groove is a hole. Through these holes run a stainless wire. Wrap it around the stay several times in such a manner as to prevent the shroud from jumping out of groove. After the shroud is wired in place, tape over all the wire to protect the sails, and to prevent the wire from unravelling. Check the spar lights to be sure they are operational. Open all turnbuckles to their full extension.

Refer to Separate Sheet for Mast Collar Instructions.

Step the spar through the deck and table (if applicable), and then onto the mast step. Be careful not to pinch the mast wires during the stepping. The mast step was set at the factory to provide an aft rake. If you wish to adjust this, loosen the mast step bolts and slide the step fore or aft.

The mast ground wire should be attached to the mast at this time.

Attach all the shrouds, tighten the headstay, backstay and upper shrouds to a taut condition. For now, leave the lower shrouds slack. Attach a weight to the main halyard and allow it to hang freely. Adjust the headstay and backstay to achieve a straight spar (when sighting up the trailing edge) with the halyard,

O'D 37 - 12",

O'D 34 - 8",

O'D 30 - 9",

STEPPING AND TUNING THE MAST (Cont'd.)

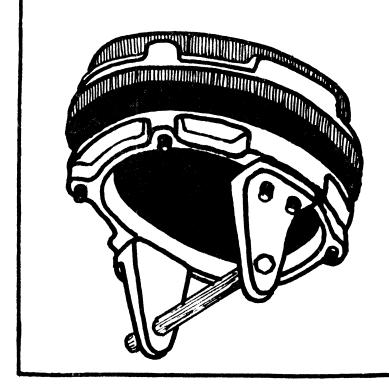
O'D 28 - 7", aft of the spar when measured at the gooseneck. Next, with the boat level athwartships, tighten the upper shrouds to get the mast straight. Finally, tighten the lowers no more than hand tight.

Final tuning must be accomplished while sailing. In a light breeze (6-8 knots) adjust the shrouds to achieve a straight spar on either tack. In heavier winds any curvature should be gradual and constant from the deck to the mast head. After the initial sail, go below, and drill through the spar and install the bolt that passes through the mast collar ears and spar. This serves to hold the deck from flexing, and should not be installed until the boat has been sailed and the rig tuned, to assure proper location of the hole.

The rig will need adjustment after a few sails to compensate for the stretch in the wire. Be sure to install cotter pins in all turnbuckles and clevis pins, and tape over them to prevent injury to crew or damage to sails.

Fine tuning for the best performance will depend upon your local conditions and your sails. Consult your dealer or local sail-maker for their suggestions.

KENYON MAST COLLAR INSTALLATION INSTRUCTIONS



TO INSTALL THE COLLAR

- 1) Before stepping the mast, remove the mast collar from the deck, slide one of the aluminum rings, flat side down, up the spar to the gooseneck. Slide the neoprene collar up the spar, under the flat ring (on the O'Day 30, 34, & 37, be sure that the end of the collar with the holes closest together is facing forward).
- 2) Step the spar through the deck, slide the other ring on, with flat side up, against the headliner (on the O'Day 30, 34, & 37, be sure that the end of the collar with the holes closest together is facing forward). If the mast is also to go through the table, the table should be in place. Set the spar onto the mast step.
- 3) After the mast is in place, install the mast collar bolts.

 Don't forget to install the ears on the lower ring.
- 4) Fill the sail groove in the spar with silicone sealer in the area of the collar. It is a good idea to provide extra leak protection by putting a bead of silicone around the spar, on top of the neoprene collar.

KENYON MAST COLLAR INSTALLATION INSTRUCTIONS (Continued)

5) After sailing the boat and re-tuning the rigging, drill through the ears and through the spar. Install the 5/16" x $5\frac{1}{2}$ " or 6" bolt. Do not over-tighten this bolt. If it is overtightened, excessive side pressure can be placed on the ears.

This collar seals the deck in the area of the spar, to prevent any leaks. It also ties the deck to the mast to prevent deck flexing in heavy seas or winds. Proper installation is important!

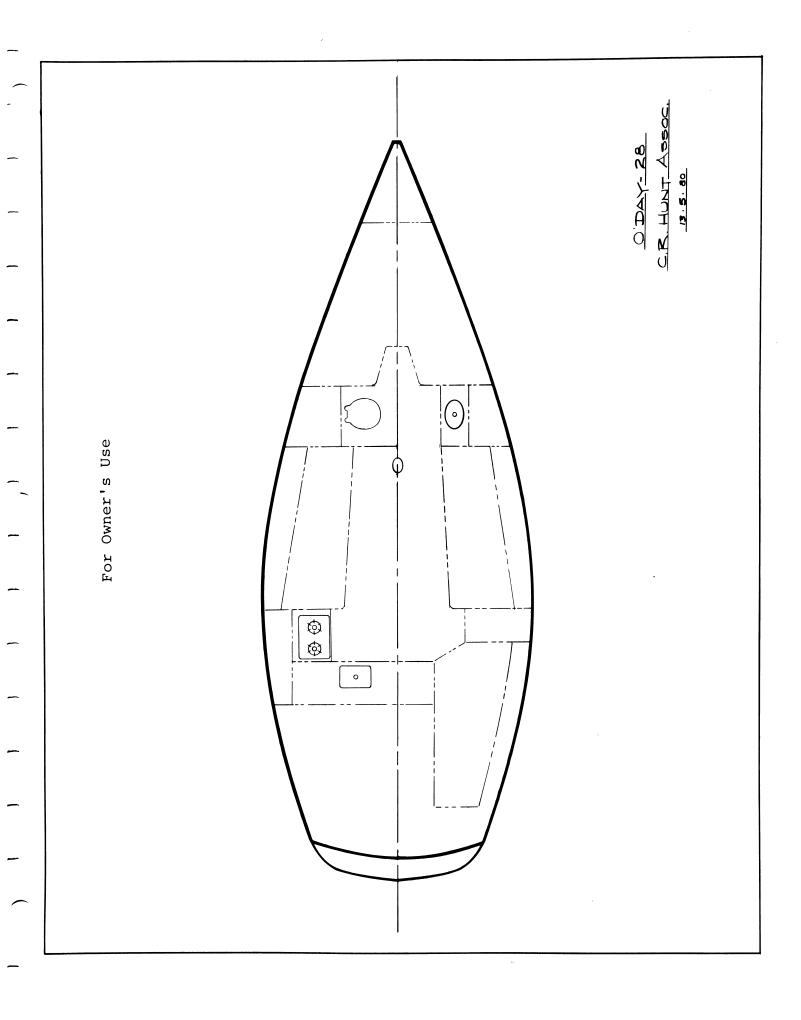
PRE-LAUNCH CHECK LIST

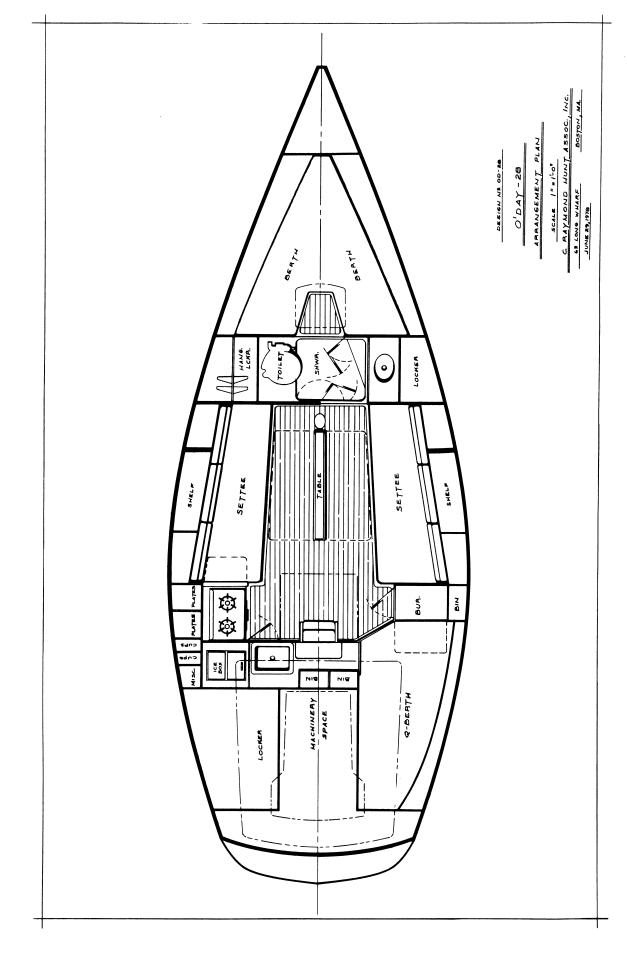
1)	All seac	ocks operational, closed and tightened.	
2)	Accessor	y thru-hulls installed and tightened.	
3)	Diesel:	Propeller in place; 2 nuts and cotter pin installed.	
	OMC:	Propeller in place; stainless washer, plastic hub, cotter pin spread.	
4)	Zinc dio	des installed on shaft. (If applicable)	
5)	Batterie	s secure, filled and charged.	
6)	Rigging and ta	installed on spar; cotter pins spread ped.	
7)	Masthead	sheaves free to rotate; lubricated.	

8) Mast lights working.

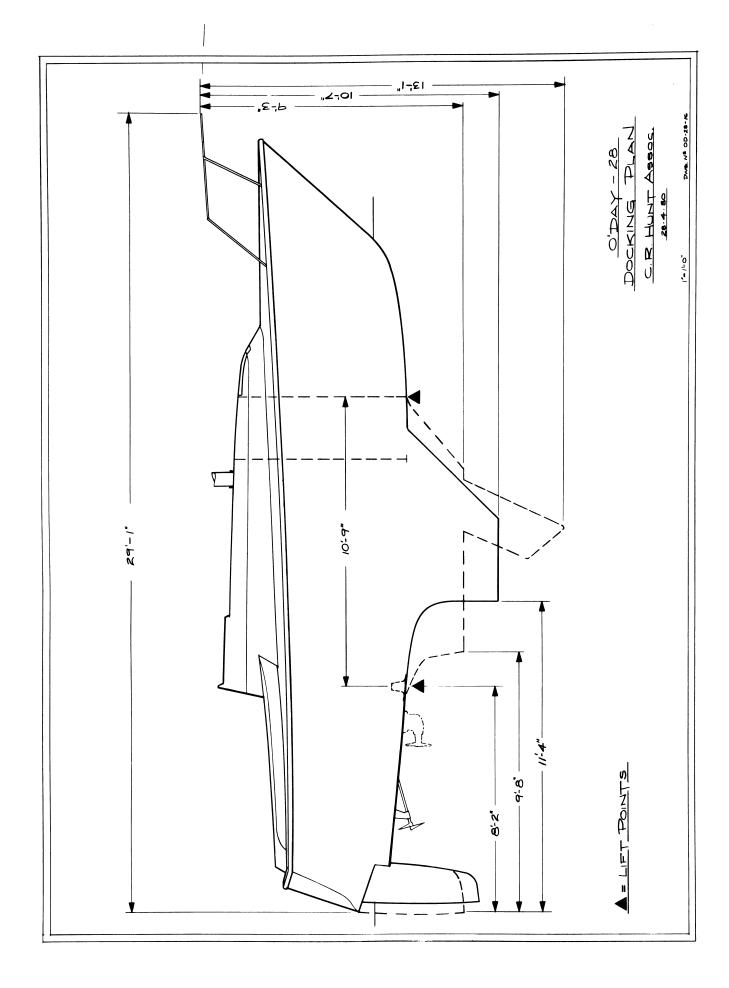
POST LAUNCH CHECK LIST

1)	All seacocks open and water tight.	
2)	Shaft aligned to .003" tolerance. (If applicable) (See Alignment Section under Engine Operation Instructions)	
3)	Engine shaft packing nut tightened. (If applicable) (See Stuffing Box under Engine Operation Instructions)	
4)	Engine oil levels checked. (If applicable) (Refer to Engine Manual)	
5)	Fuel tank filled and system checked for leaks.	
6)	Engine operates and passes water thru exhaust.	
7)	Table installed prior to mast being stepped.	
8)	Mast stepped and mast collar installed. *	
9)	Mast bolted to mast collar ears. **	
10)	Turnbuckles attached; cotter pins spread and taped.	
11)	Boom and running rigging installed.	
12)	Water tank filled. (See Note #2 on Optional Water Heater)	
13)	Faucets work and lines checked for leaks.	
14)	Stove fuel tank filled; system checked for leaks. (Refer to Propane Stove Instructions if Applicable)	
15)	Electrical equipment operational. (See Note #1 for Shore Power System)	
16)	Steering gear operational.	
17)	Rudder shaft greased.	
18)	Bilge pump operational.	
19)	Toilets operational; hoses secure.	
20)	Deck hardware checked for leaks.	
21)	Warranty and manuals delivered to owner.	
	*= Mast ground wire connected.	
	**= (after first light air sail)(see previous instructions)	





DESIGN Nº 00-28 0'DAY - 28 SAILPLAN SCALE: 12" = 1'-0" C. RAYMOND HUNT ASSOC., INC. 68 LONG WHARF BOSTON, MA. PSA. JUNE 29, 1978 SAILPLAN DIMENSIONS J = 12.08 152.5



STOWAGE & CLEARANCE INFORMATION

Mast Length Boom Length	$41'10\frac{1}{2}''$ $10'4\frac{1}{2}''$
Height of Boat on Standard Cradle- (Keel)	10'8"
Height of Boat on Standard Cradle-	
(Centerboard)	9'9''
Bridge Clearance on DWL	40'1''

CAPACITIES

Fuel	18 U.S. Gallons
Water	25 U.S. Gallons
Hot Water Heater	6 U.S. Gallons
Ice Box	3.75 Cubic Feet
Stove Fuel - Alcohol	3 U.S. Gallons
Head Holding Tank	15 U.S. Gallons

O'DAY 28

DIMENSIONS & CAPACITIES

PRINCIPAL DIMENSIONS

Length Overall	28'3"
Length on Design Waterline	22'11''
Beam	10'3"
Draft (Keel)	4'6''
Draft (Centerboard)	3'3" up
	6'10" down
Displacement	7,300 Lbs.
Ballast (Keel)	2,350 Lbs.
Ballast (Centerboard)	2,725 Lbs.

SAILPLAN DIMENSIONS

Total Sail Area (100% Fore)	369.9	Sq.	Ft.
Mainsail	152.5	Sq.	Ft.
Fore Triangle	217.4	Sq.	Ft.
P (Mainsail Luff, Maximum)	30.50	Ft.	
E (Mainsail Foot, Maximum)	10.00	Ft.	
I (Foretriangle Hoist, Maximum)	36.00	Ft.	
J (Foretriangle Base, Maximum)	12.08	Ft.	

$\underline{\mathtt{ENGINES}}\,,\ \underline{\mathtt{REDUCTION}}\,,\ \underline{\mathtt{PROPELLERS}}$

OMC Saildrive 15HP gas engine with 12" x 8" propeller (RH)

-OR-

Universal (5411) 11HP diesel- 2 cylinder- 2:1 reduction, with 12" x 11" propeller (RH), 1" shaft.

