

CONSTRUCTION DETAILS AND GENERAL INFORMATION

A. HULL

The hull is hand laid up in a large female mold into which successive layers of material are laid. The mold can be rotated from side to side during the laminating process, allowing the workers to place the fiberglass more accurately and also to allow better resin penetration than would be possible with an upright mold.

The exterior of the boat is an isothphalic NPG gel coat which is sprayed into the mold after the stripe areas have been masked off. Next, the masking is removed and the stripe color is sprayed on. Next, layers of multidirectional glass fiber are laid into the mold to prevent pattern transfer from the successive layers of laminate. Finally, alternating layers of multidirectional fiber and bidirectional roving are applied until the correct layup thickness is attained. The thickness will vary, depending on loads applied and will generally increase from sheer to the keel area.

The interior pan acts as a structural reinforcing member for the hull. The pan is bonded to the hull in every conceivable place in order to make the pan and hull act as a single unit.

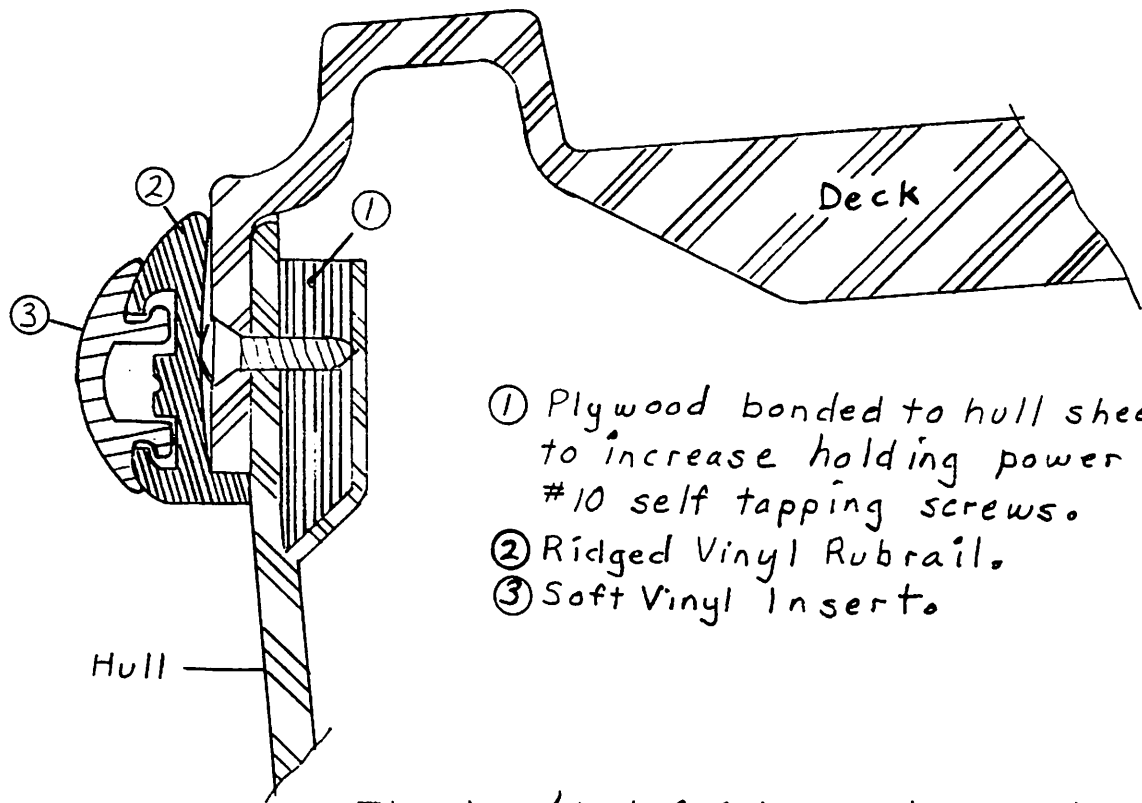
B. DECK

The deck is hand laid up using glass strand fibers and woven roving. The deck is balsa cored for strength and weight reduction. In areas of high stress or compression, the balsa core is replaced with either plywood core, aluminum sheet, or solid glass. The nonskid area is molded in, and the deck is gelcoated as with the hull.

C. HULL-TO-DECK JOINT

The O'DAY 280 hull/deck joint is one of the strongest in the industry. It is formed by setting a flanged deck down over the hull edge. (See diagram.) The deck is brought down on the hull and carefully mounted. The deck is then lifted and the two mating surfaces are coated with the bonding material. The bonding material used has unique properties in that it is a slightly flexible bonding/sealant. The joint is then fastened every 6" with #10 stainless steel self-tapping screws. A rigid vinyl rub rail is then screwed on with #10 SS screws, alternating with the hull/deck joint screws. This gives a mechanical fastener approximately every three inches as well as the chemical bond on the sealant. The rub rail then has a flexible plastic insert added to absorb minor bumps.

The use of mechanical fasteners and a slightly flexible chemical bond allows a very slight movement here, which might otherwise crack a fiberglassed joint.



- ① Plywood bonded to hull sheer to increase holding power of #10 self tapping screws.
- ② Ridged Vinyl Rubrail.
- ③ Soft Vinyl Insert.

The hull/deck joint is bedded and bonded together with a polyurethane adhesive. The deck is mechanically fastened with #10 Stainless Steel screws on 6 in. centers.

O'Day 280
 Hull to Deck Joint
 2-17-89 JPF

D. KEEL

The keel is an external, bolted on, lead casting. The keel is bolted to an external stub with four 3/4" stainless steel bolts. Additionally, between the hull and keel casting is a polyurethane adhesive bedding. The external lead keel is generally recognized as the best way of attaching ballast in order to get the weight as low as possible. Also, an external lead keel provides much better impact resistance than either external iron or internal ballast of any type. The wings also aid in stability and give additional "lift."

E. MAST AND RIGGING

Your O'DAY sailboat is equipped with a mast and rigging system that is designed to withstand extreme loads.

The mast and boom are extrusions of special marine-grade aluminum that are anodized to protect them from the elements. This anodizing, while more expensive than painting, is a much better coating, as it is less likely to come off through abrasion.

The standing rigging that supports the mast is 1 x 19 stainless steel wire. The upper ends of the shrouds and stays are connected inside the mast. This provides cleaner airflow and less chance of snagging a sail, while providing a "toggle" action which reduces wear on the wire. The lower ends are swaged onto chrome bronze turnbuckles which also have a toggle at the lower end. Swaging is a process by which the turnbuckle part is actually squeezed INTO the strands of wire.

Since the standing rigging actually holds up the mast, The O'Day Corporation is not tempted to undersize the rigging. We would rather use the next larger size than use rigging that is "adequate" for the job.

The running rigging, i.e., sheets, reef lines, halyard, etc., are all color coded for ease of identification and are constructed of low-stretch dacron braid. This braid is long wearing and easy to handle, while providing good tension to the sail. The O'DAY 280 also has all running rigging, with the exception of outhaul and topping lift, led aft to the cockpit, which enhances ease of sailing and makes sailing safer, since no one has to go forward to hoist sail, reef, or trim sails.

Further information on the mast and rigging can be found in the commissioning and maintenance sections.

F. RUDDER

The rudder of your O'DAY 280 is made of a high-density, polyurethane foam core, surrounded by a fiberglass skin. If your boat is

STAINLESS STEEL KEEL BOLT
CAST INTO THE LEAD
KEEL INSTALLED
IN THE BOAT WITH
WASHERS & NUTS

HULL BOTTOM

FIBERGLASS KEEL STUB
MOLDED WITH THE HULL

THE KEEL IS INSTALLED
USING A POLYURATHANE
SEALANT/ADHESIVE.

THE LEAD KEEL IS PRIMED WITH
A METAL PRIMER AND IS THEN
PAINTED WITH BOTTOM PAINT.

O'DAY-240 & 272 & 280

KEEL/HULL JOINT

8 JAN. 87

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F. RUDDER - Continued

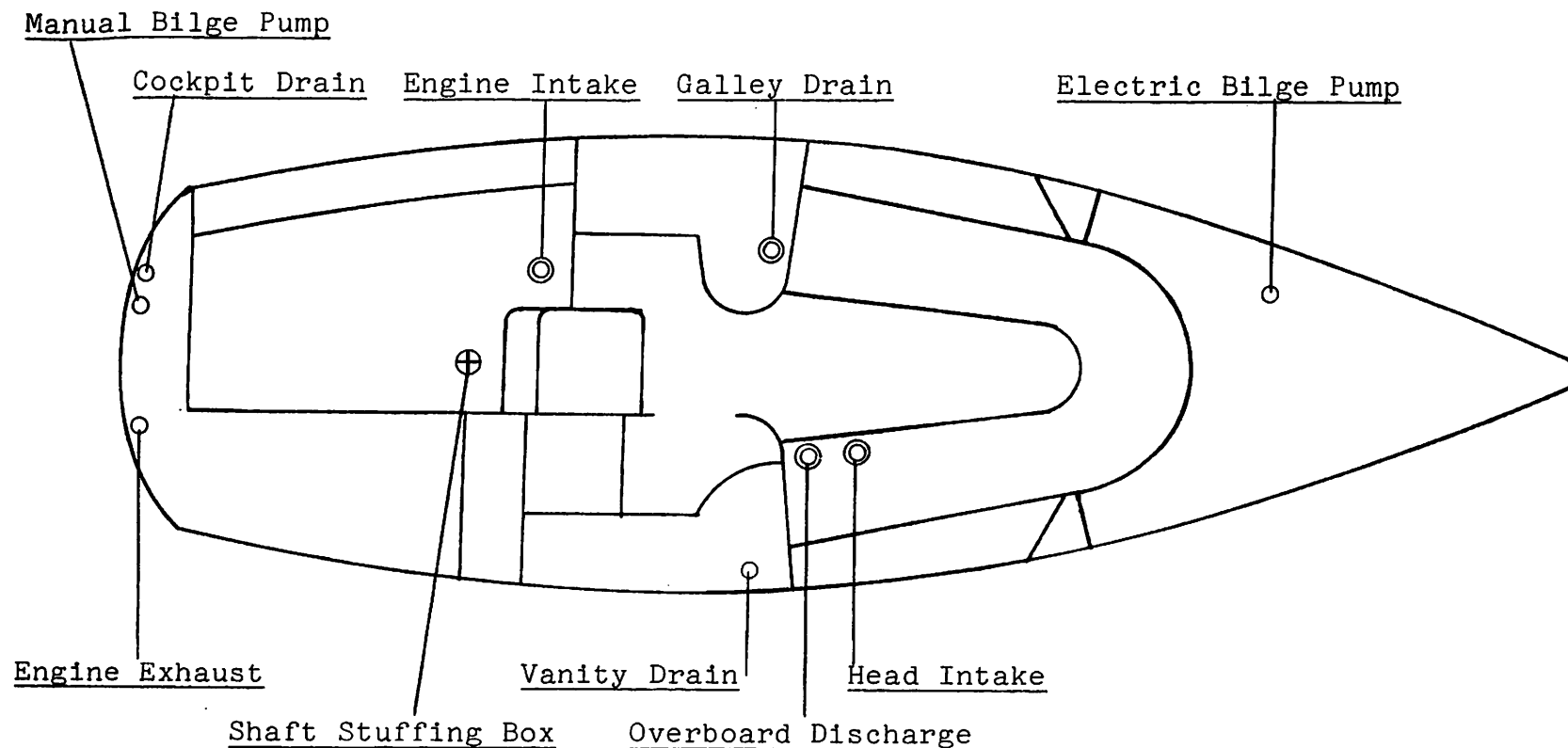
kept in the water, your rudder should be treated like the boat's bottom and bottom painted. The top pintle has a hole in it. There must be a pin (supplied) in this hole while sailing, in order to prevent the rudder from coming out.

G. THRU HULLS AND SHUT OFF VALVES

In any boat it is necessary to have some holes below the waterline for the intake and discharge of fluids. These have been kept to a minimum in the O'DAY 280 by allowing some discharge lines to exit above the waterline. Since there are openings below the waterline, there must also be a reliable method of closing them in the event of failure of a hose or fitting. These shutoff valves are a vital part of your boat's watertight integrity, and careful attention must be paid to them.

Before launching and periodically throughout the season, the thru-hull fittings and their valves should be thoroughly checked. The thru-hull nuts should be checked for tightness, the hose clamps checked for tightness, the hose checked for defects, and the valve should be checked for proper operation.

Whenever the boat is left unattended, and whenever the connected unit is not being used, the thru-hull valve should be CLOSED! This will prevent flooding in case of a hose or fitting failure on the unit.



○ Above waterline thruhull

⊙ Thruhull with seacock

Always close seacocks when boat is left unattended.

To be in compliance with FEDERAL DISCHARGE LAWS, the head discharge seacock must be closed and the handle removed whenever the vessel is within U.S. territorial waters.

ODAY 280
 Thru hull locations
 1/17/89 JPF

H. OPERATION OF THE JIB FURLING SYSTEM

The jib furling system on your O'Day 280 is made by one of the finest sail furling system manufacturers in the world. This unit is designed to allow quick furling of the jib, as well as some reefing of the jib. The 130% genoa is radial cut and has heavier leech and foot panels, which allow it to be reefed. Treated fabric provides UV protection when the genoa is furled. Always be sure to furl the sail with the UV cover on the outside.

HOISTING THE SAIL

Please read your furling system installation/owner's manual carefully before hoisting the sail for the first time. The manual is very descriptive on how to attach and hoist the jib. Just be sure that the sail is attached to the free end of the halyard, rather than to the black plastic "traveler."

For the first few hoists, the sail may be tight, but as long as it feeds into the slot freely, it will be okay. For the first feed, have one person feed the sail in while another hoists the sail.

TO FURL THE SAIL

To furl the sail, uncleat the furling line and make sure the sheets are clear and free to run. Pull on the furling line, while keeping light tension on the sheets. This light tension on the sheets will insure that the sail wraps tightly. Keep rolling the sail up until the sail is fully wrapped around the furling foil. Take one or two extra turns to wrap the sheets around the sail. This will keep the sail tight. Cleat the furling line. Lightly tension and cleat the sheets. NOTE: IF ANY TENSION OR RESISTANCE to rolling up the jib is felt, STOP IMMEDIATELY AND CHECK THE SYSTEM, furling line, sheets, and aloft. The sail should roll easily at all times. You should not have to winch the sail in!

When rolling up the jib at sea, never try to roll the jib up downwind. Come into the wind, keeping the front one half of the sail luffing. Roll up the sail as above.

Be sure to always furl the jib in the proper direction so the acrylic cover strip is on the outside.

REEFING THE SAIL

To reef the sail, proceed as above "furling the sail" except only roll in as much sail as you wish. Then cleat the furling line tightly, re-adjust the sheet lead blocks, and proceed. The sail is marked at 120% and 100% areas for your convenience.

NOTE: THE REEFING ABILITY OF THE 130% GENOA IS A CONVENIENCE, BUT NOT A SUBSTITUTE FOR A PROPER HEAVY WEATHER JIB OR STORM SAIL IN SEVERE CONDITIONS.

REEFING THE SAIL - Continued

NOTE: THE GENOA WILL NOT EFFECTIVELY REEF BELOW A 100% JIB.

UNFURLING THE SAIL

To unfurl the 130% genoa, release both genoa sheets and make sure they are clear to run. Uncleat the furling line and make sure it is clear to run. Come slightly off head to wind. Pull on the leeward sheet until the sail has come out the desired amount. Recleat the furling line.

NOTE: YOU SHOULD NOT HAVE TO WINCH THE SAIL OUT. IF ANY RESISTANCE IS MET, STOP AND INSPECT THE SYSTEM.

NOTE: THE ONE ITEM THAT CAUSES THE MOST TROUBLE WITH FURLING SYSTEMS IS EXTRA HALYARDS. HALYARDS LED TO THE PULPIT, LIFELINES, ETC., WILL OFTEN BECOME CAUGHT UP IN THE HEAD SWIVEL AS THE SAIL IS FURLED OR UNFURLED. KEEP ALL HALYARDS AS TIGHT AGAINST THE MAST AS POSSIBLE. SPINNAKER HALYARDS SHOULD BE LED OUTSIDE AND BEHIND THE UPPER SHROUDS AND KEPT TIGHT.

Check the manual from the furling gear manufacturer for further tips and maintenance information.

I. MAINSAIL REEFING

1. TO RIG THE SINGLE LINE REEF

The O'Day 280 is rigged with a single-line reef, which allows reefing the mainsail without leaving the cockpit. To set up the reef, see the rigging diagram in the COMMISSIONING section.

2. TO REEF

- A. Tighten up the topping lift so that the boom will not drop into the cockpit.
- B. Ease the main sheet until the mainsail starts to luff.
- C. Ease the main halyard until the reef grommets are at boom level.
- D. Tighten the reef line.
- E. Re-tension the main halyard.
- F. If long-reefed passages are anticipated, tie the loose mainsail up through the grommets provided.
- G. Resume sailing.

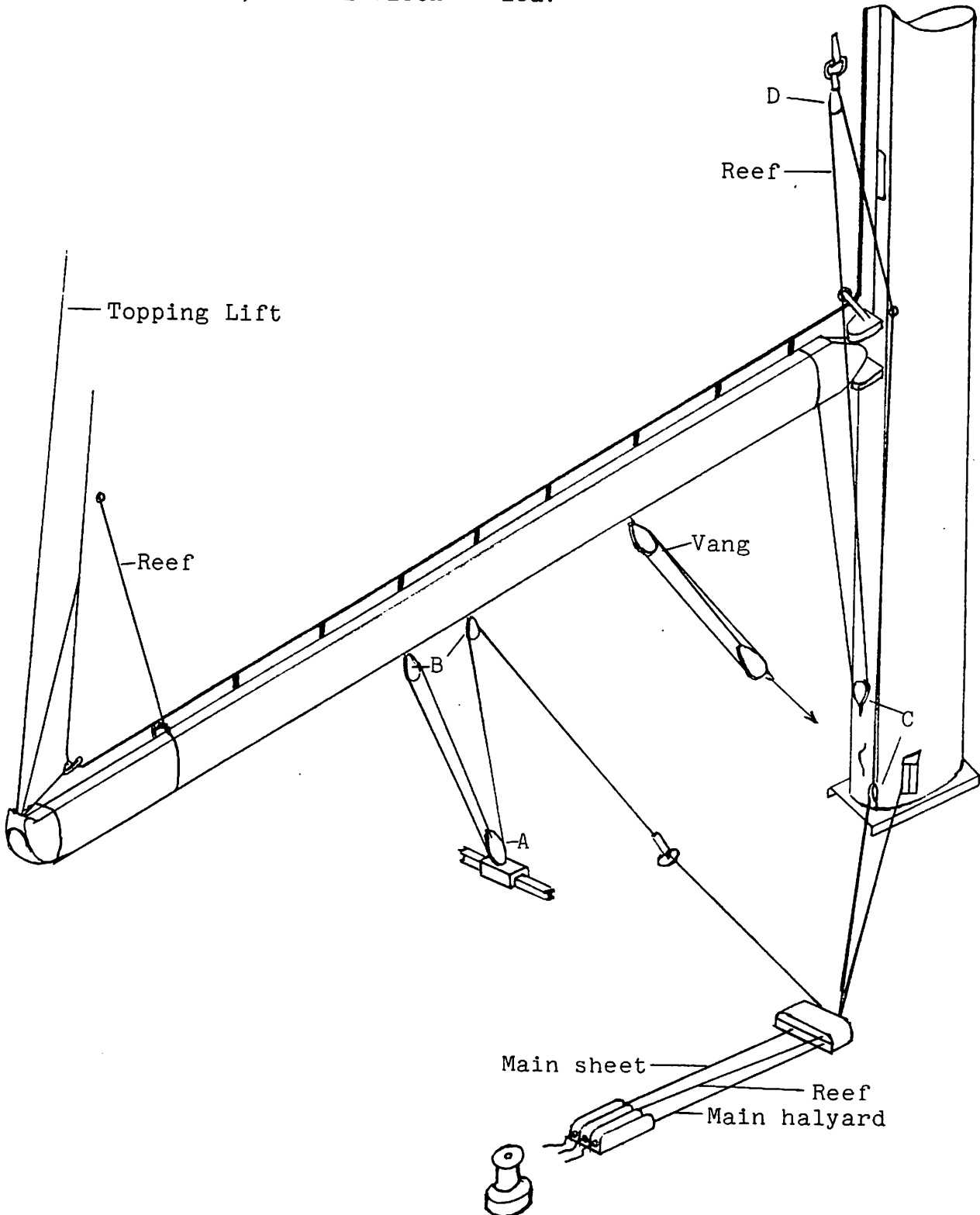
This reefing procedure should be practiced at the dock, in calm weather, several times until the procedure becomes second nature. Jiffy reefing, once mastered, can be done in two minutes or less. Marking the main halyard, to indicate the appropriate reef positions, will increase the ease of reefing. NOTE: BE SURE THAT THE LUFF RING DOES NOT HIT THE GOOSENECK OR LINE GUIDES, OR REEFING WILL NOT BE COMPLETE. KEEP THE RING AT OR ABOVE THE GOOSENECK.

Reefing is a personal proposition. There is no "best" time to reef. You should reduce sail on your boat WHENEVER YOU ARE UNCOMFORTABLE. Sailing is supposed to be FUN! There is no reason to be uncomfortable with the angle of heel of your boat and not to reef just because another boat near you has not reefed. You are sailing for your own enjoyment, not for the people around you. Extreme heel angles also lead to poor boat performance. Reefing is SMART.

You will need to experiment to find out which sail you should reef in what winds. You should normally try to have some mainsail and some jib up in all conditions. This will help balance the boat and keep you sailing more freely.

LOOSE ITEMS LIST

- A) Fiddle block 1ea.
- B) Single block 2ea.
- C) Single block 2ea. (comes on mast)
- D) Swivel block 1ea.



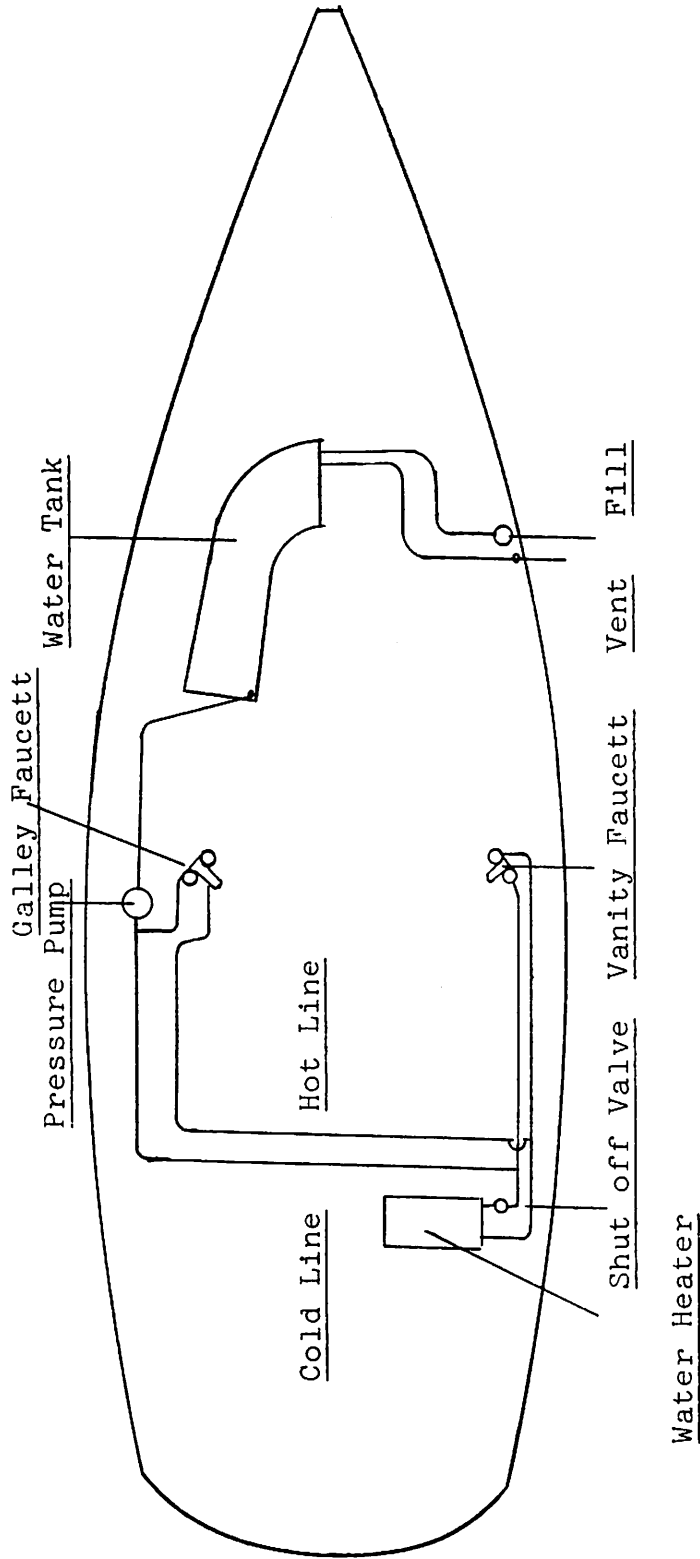
J. PLUMBING

The plumbing systems in the O'Day 280 were designed for efficiency and ease of use. The boat has one plastic, 30 gallon tank standard and it is located under the port settee. This tank has a deck fill. (See Water System Diagram.)

The fresh water plumbing is all semirigid PVC with threaded end connections. In the event of leakage at these connections, a slight tightening with an adjustable wrench should stop the seepage. (CAUTION: DO NOT OVERTIGHTEN.) The water-tank level can be checked by sighting through the tank side. Check the tank vent periodically.

The pressure pump is a self-priming diaphragm pump, located under the aft end of the starboard settee. 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.

Your O'Day 280 is equipped with a hot water heater. It is located in the cockpit locker. 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.



ODAY 280
 Water System
 1/18/89 JPF

K. HEAD SYSTEM

The O'Day 280 uses a manual pump W-C and a separate 30 gallon holding tank with deck discharge for pump out at a shore station.

To Operate:

1. Open the intake thru hull valve located beneath the starboard settee.
2. Turn the handle on the head to "Flush."
3. Pump head to clear bowl.
4. Turn handle to "Pump Dry."
5. Pump head until bowl is dry.

- NOTE:
1. Always leave head valve in "Pump Dry" position.
 2. Always close intake thru hull when boat will be unattended.
 3. Always use holding tank chemicals.
 4. Check condition of holding frequently. Do not over fill.
 5. See Maintenance section for information on the vented loop.
 6. Except for toilet paper or head chemicals, never put ANYTHING in the toilet bowl which is not a product of human digestion.

OPTIONAL OVERBOARD DISCHARGE

The optional overboard discharge allows the holding tank to be pumped directly overboard when sailing offshore for extended time periods.

To Operate:

1. Attach the handle and open the discharge valve which is located under the starboard settee.
2. Pump the manual pump located in the face of the vanity next to the toilet.
3. When tank is empty, close the discharge thru hull and remove the handle.

- NOTE: DISCHARGING A HOLDING TANK OR HEAD OVERBOARD IS AGAINST THE LAW WITHIN U.S. TERRITORIAL WATERS. VIOLATORS FACE FINES UP TO \$5,000.

ALWAYS KEEP THE THRU HULL VALVE CLOSED AND THE HANDLE REMOVED WHEN NOT BEING LEGALLY USED OFFSHORE.