ISLAND PACKET©

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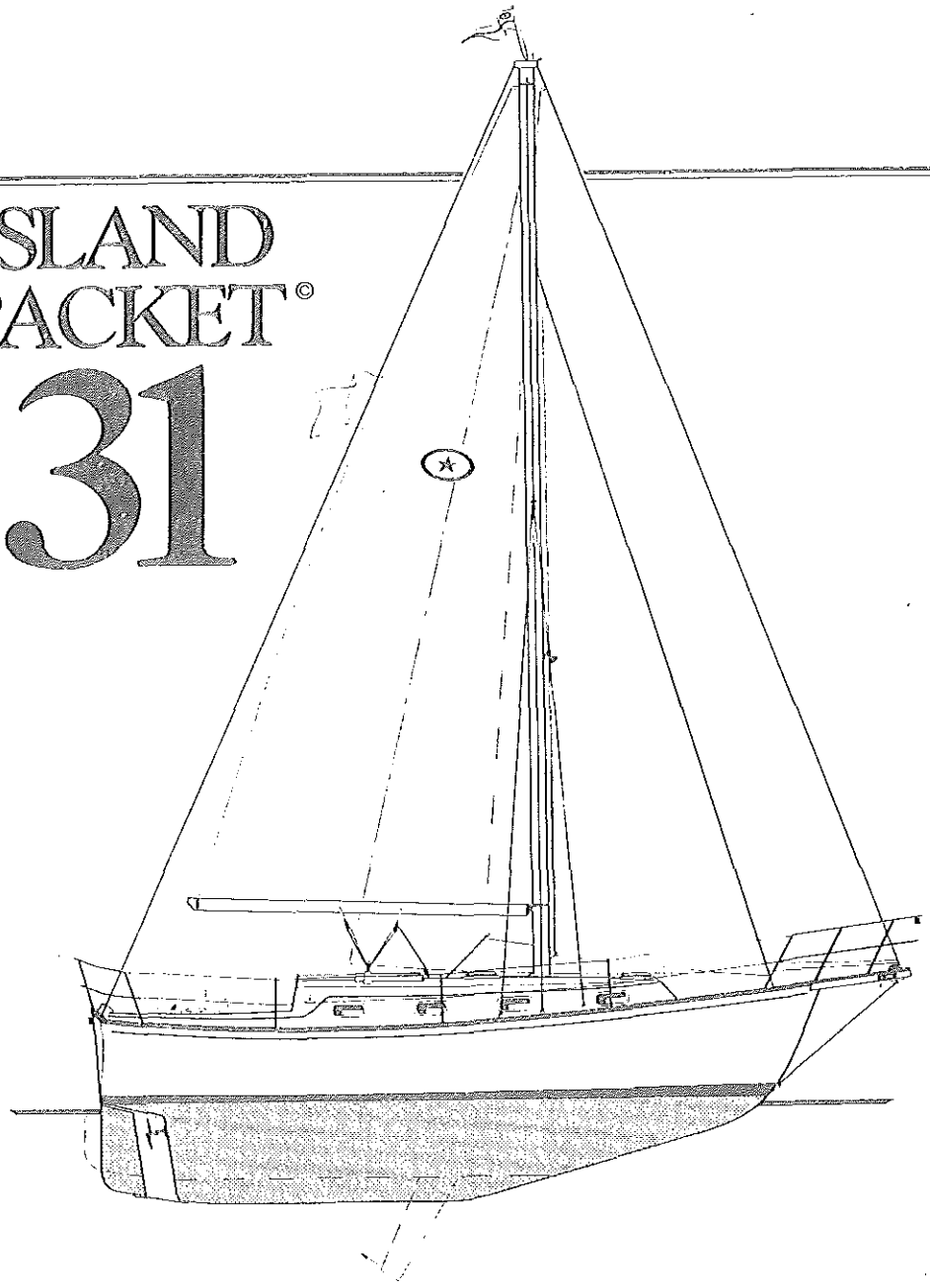

OWNER'S MANUAL

TRADITIONAL WATERCRAFT

ISLAND PACKET YACHTS

Modern Yachts in the Finest Tradition

Hello!

Congratulations on the purchase of your Island Packet, and welcome to our distinctive family of owners. We take great pride in our yachts and appreciate your endorsement of our efforts by selecting the Island Packet.

This manual is intended to help you understand and enjoy your new yacht more thoroughly and to assist in maintaining and operating it in a safe and efficient manner. Individual instruction manuals from the various manufacturers of installed equipment may be found in your owner's package for more in depth information if required. Also your authorized Island Packet dealer should be able to answer additional questions you may have, or feel free to call our manufacturing facility for further assistance.

We wish you years of pleasurable sailing experiences with your new yacht, and hope that your enthusiasm and pride of ownership for your Island Packet will continue to grow with every season.

Best regards,

Robert K. Johnson
President

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ISLAND PACKET 31 OWNER'S MANUAL

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I.a. Hull

The hull of the Island Packet is molded as a single unit of fiberglass laminate consisting of alternating layers of hand laid mat with triaxial roving saturated with polyester resin. Triaxial roving is an advanced fiberglass reinforcement that is significantly stronger than conventional woven roving materials. A solid fiberglass (vs. cored) laminate is used for all Island Packet hulls because of its superior impact strength and resistance to puncture, factors of vital importance to the cruising sailor.

The exterior finish of all molded fiberglass parts is a premium ISO/NPG type gelcoat which has superior gloss and color retention, and maximum resistance to osmotic blistering below the waterline. The boot stripe color is painted on with a high grade acrylic enamel, and the gold cove stripe is a weatherproof vinyl tape.

The bowsprit structure is molded integrally with both the hull and deck and becomes a unit structure during the joining of the deck to hull. It has heavy fiberglass surfaces on all sides with a solid core of alternating layers of plywood and fiberglass.

I.b. Deck

The deck utilizes a cored laminate construction for the advantages of lighter weight, increased stiffness, and improved insulation. The entire deck, cabin and cockpit are molded as a single unit with a hand laid fiberglass laminate consisting of layers of mat or mat and roving saturated with polyester resin, on either side of a core of Polycel©, a matrix of glass microballoons and polyester resin. Polycel© is, in our opinion, the finest core material available. It is impervious to rot, will not delaminate or create voids, and has exceptional physical properties.

The exterior deck finish is molded with the same high quality ISO/NPG gelcoat as the hull. The coarse diamond nonskid areas are molded in a contrasting tan integrally with the deck in a two step process.

The interior of the deck is finished off with a molded fiberglass headliner. This is a separately molded part bonded to the underside of the deck structure during the molding process to produce an interior surface that is attractive, practical and durable.

I.c. Interior

The interior construction of the Island Packet is based on a molded fiberglass structural pan that is unified with the hull to produce an immensely strong, rigid unit. This structural pan forms the entire sole, all settee and bunk surfaces, the engine bed, and miscellaneous other surfaces, and is molded with a grid system of plywood and fiberglass reinforcing webs. The full perimeter of this pan and the entire gridwork of reinforcing webs are bonded directly to the interior of the hull with multiple laminates of woven roving and mat. Then all large structural bulkheads and various furniture assemblies are installed, attaching directly to both the pan and the interior hull surfaces with multiple laminates of woven roving and mat.

This interior construction method should not be confused with the more common "full liner" systems in popular use. All major structural interior assemblies in the Island Packet are bonded directly to the interior hull surface, whereas a "full liner" has substantially less direct structural bonding. It is far more labor and material intensive to build an interior with the structural grid, as in the Island Packet, but we feel it produces the strongest, most reliable assembly.

I.d. Deck to Hull Assembly

The assembly of the deck to hull is one of the most important steps in the construction of a yacht. The method used on the Island Packet is simple, extremely strong and reliable. The hull is molded with an integral flange turned inward around the entire perimeter of the hull. The deck is fastened to this flange with stainless steel bolts with aircraft type locking nuts, plus the joining structures are liberally coated with a tenacious, resiliant urethane adhesive sealant. Also, the inboard side of the hull flange is double sealed with a Permagum sealant strip to further ensure water tightness.

This entire joining area is then completely encapsulated with a teak cap and side rail heavily bedded in the same urethane sealant. This rail is screwed in place through both deck and hull, adding further to the strength of the joint. And all rail mounted hardware such as genoa track, stanchions, and cleats are through bolted through the cap rail, deck and hull adding strength to the assembly. Figure 11 in the technical drawing section at the end of this manual shows this assembly in detail.

I.e. Rudder and Steering

The rudder is made of two fiberglass half "shells" with a solid stainless steel shaft with welded steel blade interlocking in a core of high density, structural grade urethane foam. The rudder "shells" are molded of multiple layers of unidirectional fiberglass roving and mat saturated with polyester resin, and are bonded together.

Note: It is not uncommon for a slight opening to appear on the centerline seam of the rudder, especially when the rudder is bottom painted a dark color and exposed to direct sunlight. This is due to a slight expansion of the core material and in no way affects the integrity of the rudder. However, we do recommend

that, if this occurs, it be filled with a high grade waterproof flexible sealant such as 3M-5200 or Boatlife.

The rudder is supported by two bronze bearings. The lower bearing, built into the hull immediately above the rudder, is a combination packing box and bearing. Routine inspection and adjustment, if required, of this packing box should be made to insure a continued watertight seal of the packing material. Repacking of this (or the propeller shaft) requires 1/4" square packing material. Access is through the cockpit locker.

The upper bearing is bolted to the cockpit and is visible inside the steering seat base. A bronze locking collar supports the rudder vertically just above this bearing, with low friction plastic thrust washers providing minimum friction.

The bottom of the rudder has a stainless steel strap bolted in line with the shaft, and running to the lower aft end of the keel. This strap is not intended to be a rudder support; it serves as a deflector for lines and debris.

The rack and pinion steering gear provides a direct drive wheel steering system unmatched for its feel and reliability. Routine inspection of this assembly should include checking all bolt assemblies for tightness, and lubrication of gear teeth with heavy grease, and oiling of bearing areas. Over a period of time, especially with a new yacht, some looseness will develop in the rack and pinion gear teeth causing some free play to be felt in the wheel. This can be eliminated. First ascertain that all assemblies (mounting brackets, upper bearing, etc.) are properly tightened. Then loosen the four cap bolts on the quadrant attachment to the rudder shaft and tap the quadrant downward to mesh the gear teeth

together. When free play is eliminated, but steering is still smooth and light, retighten the four cap screws to lock the quadrant in place. Periodically apply a coating of heavy grease to mating gear teeth to provide smooth, friction free steering. Also, apply lubricating oil to the forward support bearing on the seat face from both sides to prevent wear and squeaks. Also apply oil to the two shaft bearings on each side of the pinion gear.

Note: The aft end of the steering wheel shaft is prepared for installation of an autopilot. A keyway is provided for attachment of a chain sprocket. The autopilot drive unit can be installed inside the yacht under the footwell, either directly below or to one side on a mounting platform or bracket. The Autohelm 6000 or Benmar Course-Setter 21 units work nicely with this steering system.

II.a. Spars

All spars are extruded aluminum 6061-T6 alloy with a heavy clear anodized coating applied after all welding for maximum corrosion resistance. An internal mast guide secures all wires and prevents unwanted slapping against the mast interior. A nylon messenger is provided in both the mast and interior to run additional wires, plus a radio antenna coax cable wire has been installed in the mast (and below, from step to nav station), ready for dealer installation of end fittings and antenna.

The mast of the Island Packet 31 is stepped through the deck on the keel. A rubber gasket tightly secures the mast at the deck with a stainless steel pin locking the mast to the collar and deck. The mast must be drilled to receive this pin. Do this after the rubber gasket is in place and the rigging is attached. Also, it is advisable to coat the rubber gasket with vasoline to facilitate installation and later removal. A vinyl boot provides a

weather proof seal at the deck, with some silicone sealing required in the mast track areas fore and aft.

When installing or removing and replacing any fasteners from the spar, we recommend using a silicone grease applied to each fastener and contacting hardware surfaces to minimize electrolytic corrosion and facilitate removal at a later date.

II.b. Standing Rigging

Standing rigging includes all fixed wires which support the mast. All Island Packet standing rigging is made of premium U.S. manufactured stainless steel alloy 1 x 19 wire with rotary swedged terminals for maximum strength and durability. The bobstay is made of solid stainless rod (Navtec) adjusted to exact length at the factory and permanently locked in position. No maintenance or adjustment is required for this stay.

The chainplates are attached to the hull by a combination of fiberglass bonding and an interlocking assembly. Figure 11 in the technical drawing section at the end of this manual shows this installation in detail. The three side chainplates on each side of the mast are a single welded unit, with welded crossmembers on each chainplate interlocking them with the integral hull flange. Also, a stainless steel strap bridges all three side chainplates with continuous strand fiberglass wrapped around each chainplate/strap intersection. These strands are bonded to the interior hull surface immediately below each chainplate. The strap bridging all three chainplates is also covered with mat and roving, imbedding the entire chainplate assembly with the fiberglass hull laminate. Of interest, this chainplate installation system is what can be termed a "belt and suspenders" design... either method would do the job (interlocking or bonding), but both together guarantee unfaltering reliability. The

installed strength of each chainplate could support the weight of the entire yacht.

The twin backstay chainplates are installed similarly except that they are individual units. Twin backstays are used (vs. a single backstay) on all Island Packets because they provide an open central area aft for easy stern boarding and unrestricted helm seating. Instead of the common three legged type split backstay, two independent continuous stays are run to the masthead offering improved reliability...four (4) terminal pins (vs. six (6) for the 3 legged type) and support from either stay if one should be removed.

The bobstay chainplate is also installed similarly to the others, except it has solid stainless steel rod crosspieces that are interlocked with a large bundle of glass fibers bonded to the hull interior with mat and roving, joining and imbedding it into the hull laminate.

Note: When your yacht is new, it is not uncommon for the seal at the chainplate covers to open somewhat due to "seating" of the rig. A small leak could possibly develop, with water finding its way into the lockers below the chainplates. Therefore, it is recommended that the chainplate covers be rebedded after the yacht has been sailed a few times (at least in moderate air). Simply unscrew the cover plates, pry up, rebed with a high quality sealant such as 3M-5200 or Boatlife, screw back in position, and wipe a "finger bead" around the chainplate where it exits the cover. This should now provide a permanent seal for many seasons.

II.c. Running Rigging

Running rigging refers to all that is used to hoist or control sails. Examples include halyards, sheets, topping lifts, reefing lines, etc.

The halyards provided with your Island Packet are made of special low stretch dacron and run externally to the mast to facilitate inspection, repair or replacement. By convention, the main halyard should run on the starboard side of the mast, with headsail halyards to port.

II.d. Tuning the Rig

The shrouds and stays supporting your rig require periodic inspection and adjustment to keep the mast straight and properly supported and the headstay adequately tensioned for good upwind performance. It is recommended that mast rake be set to factory specification. Helm balance will be optimum at this setting, and engagement of the mast base in its cast step will be uniform.

The mast rake is preset at the factory during installation of step and partner (deck collar). As long as the mast is not bowed fore and aft (check by sighting up the mast from deck level), proper rake will be obtained when installed.

Tuning of your rigging will periodically be required, especially with a new yacht after a sail in heavy air. If you are not experienced with tuning a rig, it is recommended that you have a qualified person show you the techniques involved. Consult your Island Packet dealer for assistance here. Tuning is somewhat of an art, with development of a "feel" required to properly set up and maintain a proper tune. However, it is not difficult to learn.

A few key points to remember regarding setting up and tuning the rig:

1) Never set up rigging tension bar tight. Too much tension could damage fittings or the yacht itself.
2) Periodically inspect all turnbuckles to make sure all clevis and cotter pins are in place and properly secure.

3) Regularly inspect standing rigging for broken or bent wires, damage or rust. Pay particular attention to the swedge fittings above the turnbuckles for any sign of cracks or corrosion.

4) Inspect your lifelines and fittings on a routine basis to ensure security on deck. Make sure the pelican hooks at the aft end of the lifelines or on the stern gate are properly attached and locknutted onto the thread studs, and that the retaining clips are properly snapped in place.

5) Sight the mast when under sail in a moderate breeze to ascertain that it is straight both athwartships and fore and aft. Put your eye at the base of the mast and look up at the spar to do this. Check on <u>both</u> tacks. The mast on the Island Packet is designed to stand as a straight column. No bending is recommended.

6) It is good practice to periodically coat all standing rigging terminal swedges with a corrosion inhibiting liquid. Products containing anhydrous lanolin (usually available from marine hardware sources or your local pharmacy) are particularly recommended. The lower swedges on all standing rigging (just above the turnbuckles) are particularly important, and are easily accessible. This prevents salt or other corrosion producing deposits from collecting at the base of the rigging wires and possibly causing long term damage.

III.a. <u>Sail Care</u>

Although the Esprit Sails provided with your Island Packet will give you years of service with minimal maintenance, proper care will enhance their life appreciably. The two worst enemies of sails are sunlight and chafe. Keep your sails covered when not in use, and in saltwater areas rinse them once or twice a year with fresh water (sailing in the rain will do just fine) as salt expedites ultra violet

degradation. The stitching on mainsail covers and sacrifical stripes should be inspected yearly for wear, particularly in southern climates. Although the acrylan in these covers can withstand six to eight years of intense sunlight, the stitching may need attention once or twice over the same period.

To keep sails from chafing, be sure your spreader tips are padded and covered, and watch for chafe points in the pulpit area. Furthermore, when sailing downwind the use of a vang will prevent unnecessary mainsail contact and wear with spreaders and shrouds (and provide substantially improved performance).

III.b. Sail Selection

The Island Packet 31 is designed to be sailed as either a sloop (main and jib only) or, if so equipped, a cutter (main, jib and staysail). The two rigs are identical except for the staysail; a sloop rigged Island Packet can be made into a cutter by adding the staysail and related hardware, and the cutter rigged Island Packet may be sailed as a sloop by not using the staysail.

The staysail provides added sail area (about 25% more) plus increased versatility. Light air sailing is markedly improved with the use of main and double headsails, plus a variety of reduced sail area combinations are possible for stronger winds: main and jib, main and staysail, reefed main and staysail, etc.

III.c. Sailing Your Island Packet

Assuming one has competence in basic sailing and yacht handling skills, a few additional comments may be useful pertaining to the Island Packet.

The most common comment made by first time Island Packet sailors regards the difficulty in tacking. One may find it relatively easy to put the yacht in irons, especially in light air, if the helm is put down too rapidly and/or the jib is released too soon during the tacking maneuver. The counterbalanced rudder used on the Island Packet is very easy to turn and provides excellent control; however, it can also act as an effective "brake" if too much helm is applied too quickly.

To avoid this "braking" effect when tacking, causing the loss of way, and the potential for an incomplete tack, gradually apply helm when tacking (as opposed to snapping the rudder over to full lock), "steering the boat around" while leaving the jib sheeted in until it backs, helping to pull the bow "across the wind". Then release the windward jib sheet and quickly sheet in on the opposite side for the new tack while gradually bringing back the helm. This method is especially effective when sailing with the cutter rig's double headsails, as the jib should pull through the slot between the staysail and headstay with little or no assistance if it is allowed to backwind.

Best windward performance will be achieved by sailing "full and by" as opposed to "pinching". Boat speed will drop off quickly if sailing too close to the wind, reducing your "speed made good" to weather. Trim your jib in first (making sure the sheet lead is properly set to cause the luff to break simultaneously at head and foot when heading up) then adjust your main (and staysail) accordingly. Be careful not to overtrim the main...ease out the mainsheet until some backwinding or luffing occurs and then trim in slightly. Also, in moderate to heavy air, adjust the traveller stops outboard to minimize mainsail twist.

Proper jib halyard adjustment and headstay tension are vital for good windward performance. Likewise, the main luff

and foot should be properly tensioned for correct sail shape and best drive. A boom vang is particularly effective in increasing performance when reaching or running, and may also be rigged to the rail as a preventer when running before the wind.

Just as it is easy to cause a braking effect with the rudder in light air, one may experience reduced steering control in heavy air, or during strong gusts, by "over steering". This causes a reduction in steering control and could, in extreme cases, render the rudder ineffective. If you experience this behavior, reduce the amount of helm to allow the rudder to regain its grip and re-establish control. This steering behavior is typically brought on by the yacht being overpowered, so reduce sail area (by reefing and/or changing sails) or ease the main during gusts to greatly reduce the likelihood of this happening.

In general, the Island Packet 31 will achieve best performance when sailed in a prudent manner. The great stability of this yacht may tempt one to carry sail longer than is actually desirable. A reef in the main or a change to reduced sail probably will not cause any loss of speed and will substantially improve comfort and control. In general, one should reduce sail area in freshening breezes by starting aft, i.e. reef the main first before reducing or changing headsails. Once wind strength increases beyond the level that will drive the yacht at hull speed, about 7+ knots, sail area may be reduced without loss of boat speed. The result will be a far more controlled and comfortable ride.

III.d. Reefing

The mainsail of your Island Packet is equipped with a "jiffy" or "slab" reefing system that allows one person to quickly reef while standing at the mast. Refer to figure 12 for a detailed description of rigging.

Briefly, the reefing procedure entails the following steps:

1) Ease the mainsheet to luff the main.
2) Make sure the topping lift is secure.
3) Release the halyard, dropping the main sufficiently to allow engagement of the reef luff cringle (grommet) with the attachment "horn" on the gooseneck.
4) Retighten the main halyard and secure.
5) Now grab the appropriate reefing line from its exit at the gooseneck and pull until the reef cringle at the leech is secure to the boom and well tensioned aft for good sail shape. Then secure this line on the cleat provided under the boom.
6) Retrim the mainsheet.
7) One can now elect to either gather the excess sail hanging from the boom and tie up with the lines provided at each reef point (always passing the lines <u>over</u> the boom and not under) or allow the sail to remain as is, if it is lying quietly and/or you anticipate shaking out the reef soon.

IV. <u>Motoring Your Island Packet</u>

When motoring in your Island Packet, you will notice a dramatic difference in steering control between forward and reverse. This is due to several factors. In forward, thrust from the propeller is most efficient and the propeller "wash" directly impacts the turned rudder, "kicking" the boat around quickly even at rest. Conversely, in reverse the propeller thrust is reduced substantially (due to the blades operating backward) plus, most importantly, the prop wash is now directed forward, <u>away</u> from the rudder, eliminating the "kick" experienced in forward gear. The net result is substantially reduced steering effectiveness in reverse. However, one can maintain a degree of control when reversing by doing the following:

- Keep the rudder amidships until some sternway is achieved. The rudder cannot steer the yacht unless it is moving aft, and will only "brake" the boat's motion in reverse if helm is applied too soon.
- Apply power in reverse gradually, minimizing turning of the boat due to prop side thrust.
- Use the prop side thrust to your advantage whenever possible by allowing it to pull the stern toward the desired direction.

It is recommended that one practice maneuvering in reverse to develop a proficiency in this skill. This is best done away from any docks or other vessels (or sarcastic friends) in calm water. A float or marker bouy should be dropped overboard as a reference and then one should attempt to back around and up to it until a feel is developed for the boat's behavior in reverse. With time and experience, the backing maneuver will become manageable.

One will notice that when cruising under power, a degree of "helm" will be experienced. This is due both to the effects of the single screw propulsion system plus the counterbalanced design of the Island Packet rudder. If long periods of motoring are anticipated, such as running the Intra-Coastal Waterway, it is recommended that the (optional) wheel brake be used to reduce or eliminate this effect.

The modern Yanmar diesel is designed to operate at much higher speeds than older, heavier units. It is entirely acceptable to cruise for extended periods at 2500+ RPM and not cause undue wear or strain. Fuel consumption should fall in the range of about four tenths of a gallon per hour at six knots.

The single lever shift/throttle control provided enables one handed maneuvering and "crunch" free shifting by even the most "harried" skipper. An electric safety switch is

incorporated to prevent starting in gear. By pulling out the center button, the shift action will be bypassed providing for "throttle only" control.

Note: We recommend leaving the control in reverse when under sail, with motor off, to prevent the prop shaft from rotating. This reduces drag from the prop plus minimizes cutlass bearing wear. Due to construction of the Yanmar transmission, the more pressure against the prop, the tighter the transmission. This will probably make it necessary to reduce boat speed if trying to return the transmission to neutral while still under sail.

V.a. Fiberglass

Fiberglass maintenance is relatively simple and care free. With proper care and treatment, the gelcoat finish on your Island Packet will maintain its new look for years to come. But if not cared for, it will eventually turn to a flat, chalky texture.

To keep fiberglass looking new, wash the exterior surfaces of the boat frequently with mild soap and fresh water. Stubborn stains can be removed with mild abrasive cleaner such as SOFT SCRUB. It is also recommended that you keep the surface fiberglass waxed with an automotive or boat paste wax a couple times per year. A coat of liquid Turtle Wax is applied to every new Island Packet at the factory and has, in our experience, been quite durable and easy to apply. After each sail, it is a good idea to rinse the boat of salt using fresh water.

It is not uncommon to develop hairline cracks on fiberglass boats regardless of the care taken by a boat builder or boat owners. These cracks are almost always superficial and cosmetic in nature and will not degrade the strength or affect the performance of the boat. It is best to consult

your Island Packet dealer or a qualified boat service yard if you have any doubts as to the seriousness of a crack, or how to repair.

V.b. Bottom Paint

Some Island Packets may be delivered with a factory bottom paint rather than a bottom paint applied by an Island Packet dealer. Island Packet yachts are factory coated with Interlux Fiberglass Bottom Kote in a four step process:

1) A bluing solution is applied to the entire bottom to act as a dye to show that step 2 is thoroughly completed.
2) A solvent wash of the entire bottom is performed to remove all traces of wax.
3) The entire bottom is chemically etched to provide a bond for the bottom paint.
4) The bottom is then painted with two coats of Interlux Fiberglass Bottom Kote applied with a roller.

Regardless of whether your bottom was painted by Island Packet Yachts or a marine service yard, it is a good maintenance practice to have your boat hauled out of the water once a year for bottom inspection. A clean, moss and growth free bottom is essential for good performance under sail or power.

V.c. Wood

All interior and exterior wood trim on your Island Packet yacht is made from select teak. Island Packet Yachts sands and applies teak oil to the interior and exterior teak before shipping.

In time, exterior teak will weather to a dull gray unless maintained with periodic applications of an oil finish or varnished. We recommend thoroughly cleaning all teak surfaces before application of oil finishes. While there are many commercially available products specifically formulated for this purpose, our experience has shown that a strong

liquid detergent such as "Wisk" used with scrub brush will do a thorough job of cleaning and brightening even the most weathered wood without damaging gelcoat or other surfaces. Let thoroughly dry and then apply oil. The secret to a long lasting exterior oil finish seems to be related to the number of initial coats of oil applied to the bare wood... one or two coats will look good for a few weeks, but four or five will last a lot longer. And re-oiling before substantial weathering occurs makes continuing maintenance considerably easier.

While there are many exterior oils available, we use Penta Var available from Walrick Co. in Highland Park, New Jersey (201-985-2316). The product number for this is KL89. Interior teak surfaces (except the sole and ladder) have been oiled with Scott's Liquid Gold, a unique interior oil product that cleans, penetrates and does not stain surrounding surfaces. We recommend that you eventually apply several additional coats of this product (or any other oil of your choice) to all interior teak surfaces to build a permanent "rubbed oil" effect on your interior wood. This combined with a light rubbing with a fine bronze or aluminum wood (do not use steel wool) will eventually produce a soft patina bringing out the beauty and color of the fine teak joinerwork.

Caution: Oily rags are potentially dangerous and may cause spontaneous combustion and resultant fire if not disposed of properly. Never put used oil rags in a confined locker - we suggest spreading them out to dry before disposal or submerging them in a can of water until they can be disposed of safely.

V.d. Engine System

All Island Packet Yachts are equipped with a Yanmar inboard diesel engine. The Island Packet 31 uses the 27 horsepower 3 cylinder fresh water cooled 3GM30. A Yanmar manual is shipped with every boat and should be read carefully to

fully understand engine care and maintenance.

When first commissioning your new yacht and annually thereafter, it is recommended that engine/propeller shaft alignment be checked after launching. Inspect all engine mount fasteners for tightness after alignment. Check your oil level periodically and add a good diesel grade oil as required. Your engine and transmission have been filled with Shell Rotella (40 weight) at the factory. Be very careful to never allow overfilling of the crank case with oil. A diesel is able to run on its own oil vapors! An overfilled crankcase could vent oil fumes into the air intake and cause a "runaway" condition.

Also, if you should ever find yourself with a low charge on all batteries, just barely able to crank the engine, try first opening the compression releases on top of the engine and then crank until a good RPM is achieved. Then "pop" the compression releases (one a a time) to start. This can usually be done by one person in the cockpit with an open engine hatch.

In addition to the integral Yanmar fuel filter, your engine has been provided with one of the finest fuel filter/water separators available. Visual inspection of the Dahl unit will reveal any accumulated water in the sight bowl. A small amount of water will not interfere with engine operation, but drain this filter if a substantial amount collects. Also, periodically replace the internal filter elements in both the Dahl and Yanmar units to ensure continued trouble free service. The replacement element for the Dahl is Part No. 101 available from Shawmet Diesel Engineering in New Bedford, MA (617-993-3800). Yanmar parts are available from numerous marine sources. A supply of clean, water free fuel is essential to proper diesel operation.

V.e. Plumbing

Your Island Packet has plumbing for the fresh water system, raw (sea) water system and the waste system. Detail schematics describing each one of these systems are included with the technical drawing package at the end of the manual (figures 7,8, and 9).

The fresh water system is filled through a deck fitting on the forward port side deck. When new, the fresh water system of your Island Packet may have been winterized with a nontoxic antifreeze solution (visible as a pink color). This should be drained and thoroughly flushed out before topping off your tank. Note that a vent for the water tank is located on the hull side adjacent to the deck fill, allowing one to observe when the tank is about to fill by the "bubbling" sound in the vent. (The same is true for the fuel fill aft with its vent also on the hull adjacent to the deck fitting.)

If the fresh water system was empty, it is likely that air is trapped in most of the plumbing system. To bleed out this air, allowing your pressure pump to operate correctly, progressively open each tap, hot and cold, with the pump on, allowing the water to run until all air is purged and "solid water" is pumping. This is especially important with the hot water system to allow the six gallon water heater to completely fill. Once this procedure is complete, top off the tank to replenish the lost water. The water heater will operate on either shore power (115 volt A-C) or by the heat exchanger from the engine whenever the engine is operated. NEVER TURN ON THE 115 VOLT A-C WATER HEATER SYSTEM UNLESS THE HEATER IS FULL OF WATER, otherwise serious damage to the electric heater coils will result. Usually about 20 minutes is all that is required to make a supply of hot water, either from the shore power system or when running the engine.

Access to the hot water heater is at the forward end of the port cockpit locker.

The waste system is comprised of a manually operated toilet that discharges to a two way valve and then, depending on valve position, either directly overboard or to the holding tank. A plaque is fixed to the hull adjacent to the two way valve (located under the aft end of the starboard settee) indicating the handle position for each function.

The 14 gallon holding tank has a deck fitting that requires a shore side pump out facility to empty.

The raw water system intake valve is located under the teak grate/dust pan just forward of the companionway ladder and serves both the head and the engine cooling system.

Note: If your sailing is done in an area with considerable debris in the water (eel grass, etc.), it may be desirable to install an exterior strainer over the intake thru hull. Generally this is not required, however, and is not installed by Island Packet Yachts because it is prone to the attachment of marine growth and, if not regularly maintained, could restrict the flow of water.

V.f. Electrical System

Your Island Packet is equipped with both a battery powered 12 volt D-C system plus a shore power operated 115 volt A-C system. Complete schematics for both of these systems are included in Figure 5 at the end of this manual.

Two 12 volt batteries are located under the forward end of the quarter berth. One should periodically check the batteries for water level, secure and clean terminals, and proper tie down tension.

Battery charge condition can be checked at any time with the switch and gauge located on the master electrical panel inside the yacht. The Yanmar diesel is equipped with an alternator to charge the batteries during operation of the engine, or if so equipped, one may operate the shipboard charger/converter when connected to a shore power source to keep the batteries at full charge. In either case, all shipboard D-C equipment is powered directly from the batteries, with recharging provided as previously described.

The master battery selector switch may be positioned to use the power from either battery independently (1 or 2) or together ("both"). It is good practice to start and operate the engine with the battery switch in the "both" position, but switch to a single battery (1 or 2) position when operating with either engine or battery charger off.

NEVER turn the master battery selector switch to off with engine running, otherwise permanent damage to the alternator circuits will result.

When cruising, a common practice is to operate (with engine or charger off) on battery 1 on odd number days, and battery 2 on even, so as to minimize the chance of discharging both batteries and not being able to start the engine to recharge. One should use D-C power prudently and always closely monitor the battery condition to avoid the inconvenience and potential for problems associated with "dead" batteries.

Your Island Packet has been provided with a 50 foot shore power connection cord allowing one to plug in to a 115 volt A-C power source. Always use caution and care when hooking up this system to avoid potential problems. Always use a grounded receptacle when plugging into shore power, otherwise serious shock hazard could result. The connection is in the cockpit footwell side adjacent to the helm seat. If the connection is complete and operating, an indicator

light will glow on the A-C side of the master panel below signaling that power is available. One may then turn on the master A-C switch and the individual breaker switches as noted on the panel. The master switch incorporates a circuit breaker preventing use of a "reversed polarity" source. It is not possible to override this switch if there is a problem. An indicator light will glow signaling reverse polarity. (A switch is provided to test this lamp periodically.) The three wire connection must be properly wired from the source before 115 volt shipboard equipment will operate.

Note: If service of the master panel is required, always disconnect the shore power cord before opening the hinged panel to eliminate serious shock hazard.

Your Island Packet has been provided with an electrical bonding system for the rig and all underwater metals. This system electrically connects these items to a common ground (engine block/prop shaft), thereby minimizing electrolysis of underwater metals and susceptibility to lightning strikes. A zinc collar has been installed on the propeller shaft to further protect underwater metals from electrolysis. Inspect this occasionally and replace as required. It is entirely possible to have an electrolysis problem due to electrical malfunctions from other yachts berthed nearby and/or an improperly wired docking facility.

V.g. Deck Hardware

Like all the parts and equipment on your Island Packet, deck hardware should be periodically inspected for damage and wear. Since the deck hardware items are expected to withstand a great deal of load, all hardware is thru-bolted with aircraft type lock nuts and backed by metal reinforcement where required. Some cabintop hardware (traveller track, mainsheet blocks and winch) is secured by bolts fastened into threaded aluminum plates imbedded into the fiberglass

deck laminate.

It is not unusual for some rust colored stains to develop on stainless steel hardware or trim, especially on a new yacht or in areas with heavy industry. In most cases, a thorough cleaning with a nonchlorinated cleaner (such as Bon Ami) or metal polish (such as Flitz) should remove all traces of these stains. Also, as recommended with fiberglass maintenance, frequent rinsing with fresh water will improve appearance of your deck hardware.

It is very important to check the lifelines on a regular basis to ensure the safety of crew members. The terminal ends of the connector must be well screwed into the barrel so all threads are fully engaged and locknuts are tight. Check the swedgings for signs of rust or other damage or wear.

Island Packet yachts are equipped with high quality Lewmar winches. Some Island Packets may also include self tailing winches. It is essential to maintain winches regularly to prevent costly repairs or replacements. Ideally, winches should be stripped down, cleaned and lubricated at least once per sailing season. It is also a good idea to cover winches when not in use.

Blocks require little maintenance but should still be examined regularly for damage. Sheaves and blocks can be sprayed with a silicone lubricant to keep them running smoothly. Sheaves in the masthead should be checked periodically to prevent excess chafe or friction.

V.h. Upholstery

Cushions in your Island Packet are covered with a high quality upholstery fabric. The fabric is generally stain resistant but care must be taken to guard against spills, mildew and

other stains. Cushion covers, where removable, should be dry cleaned only and covers should be thoroughly dry before returning to cushions. It is important that the upholstery be kept aired and dry to prevent mold and mildew problems. Moisture can be reduced by leaving cushions standing on end to allow for air circulation when the boat is not in use for an extended period of time and by removing all damp clothing from lockers.

Your Island Packet may have included optional cockpit cushions. These are waterproof cushions made from a closed cell foam and are covered in vinyl. They can be cleaned with soap and water or a commercial vinyl upholstery cleaner and should be stored inside the boat when not in use.

Note: Although cockpit cushions are made from high quality foam products which have floating properties, these cushions should never be relied upon as personal flotation devices.

V.i. Winterizing

Those of you unable to head south for the winter will have to make preparations for winter storage of your Island Packet. Whether stored on land or in the water, if freezing temperatures are anticipated during storage then the following precautions should be taken:

- Make sure all batteries are fully charged. Add water if necessary. If batteries are several years old, it is recommended that the charge condition be checked occasionally during the storage period.

- Flush the raw water system with a 50/50 antifreeze mixture (Prestone, etc.). We recommend disconnecting the hose from the raw water intake thru-hull and immersing it into a bucket kept full of antifreeze solution. Run the engine until the antifreeze solution flows from the exhaust outlet. Also, pump the head until the antifreeze solution

flows freely from the discharge. Close the head valve and "dry bowl" with the pump. If the holding tank system has been used,thoroughly flush this system first, then pump with some antifreeze solution and drain. When all raw water systems have been flushed, reconnect the intake hose and install the hose clamps securely.

- Check the coolant level in the fresh water side of the engine cooling system. Add 50/50 antifreeze coolant as required to the overflow bottle mounted in the engine compartment.

- Add a fuel stabilizer (such as Store-N-Start) and a biocide to the tank and then top off with fuel. Run the engine for 15 minutes or so to thoroughly disperse and mix these additives.

- Change engine oil and filter. Pump out old oil with engine warm.

- Drain the fresh water system by pumping until dry. Disconnect the hose from the water tank at the electric pump. Now install a short length of hose to the pump inlet and insert into a bucket of nontoxic antifreeze solution formulated for potable water systems; (use full strength - do not dilute unless container specifically instructs otherwise).

- Before starting the pump, also disconnect the pressure water system hoses from the water heater (clear hoses, not the black hoses from the engine) and join together with a pipe nipple and clamps. This will bypass the water heater and allow it to fully drain by opening the pet cock. The water heater is accessible from the port cockpit locker.

- Now, turn on the water pressure system and sequentially open each tap, hot and cold, until the antifreeze solution flows freely. Turn off the pump when completed.

- Operate the galley manual water pump until dry. Any residual water in this pump or the emptied water tank will not cause damage when frozen.
- After all systems have been flushed with antifreeze reconnect hoses at the pump and water heater and secure with clamps.
- It is recommended that a 50/50 antifreeze mixture (Prestone, etc.) be poured in the bilge and pumped out with both manual and electric bilge pumps to flush these systems with antifreeze solution. Remove any remaining antifreeze solution from the bilge with a wet vac or sponges to help keep the interior dry.
- Thoroughly clean the interior with particular attention to head and galley areas, especially the ice box. Leave locker doors, access covers, ice box lids, and cabin doors open to insure complete ventilation throughout the interior. Stack all cushions on edge to allow air to circulate around the fabric. Make sure all ports and hatches are secure. If leaving items such as liquid soap, shampoo, etc., on board, it is suggested these be placed in plastic bins or left in a sink in case of freezing and cracking of their containers. Alcohol and LPG fuels require no special storage provisions, but make sure all stove controls are closed. As a further measure to keep the interior free of mildew, hang one or two of a commercially available product such as Mil-Du-Gas in the cabin.
- Store your Island Packet in a level position to insure proper drainage from deck and cockpit. The more one can cover, the better protected the boat will be. Be sure to at least protect the cockpit area to keep leaves, snow, and ice and debris from clogging the cockpit scuppers and possibly causing flooding of the interior.
- Always clean the bottom paint surfaces immediately upon hauling to allow easy removal of any marine growth and minimize surface preparation work at relaunch.

- If leaving the rig in place, remove all sails and covers and store in a dry, ventilated area. Either remove all running rigging (halyards, mainsheet, etc.) or secure to prevent chafe and slapping.

V.j. Centerboard System

Island Packets equipped with the optional shoal draft keel with the centerboard (Figure 10) require some routine maintenance and inspection of this system to insure trouble free service. The following routine maintenance steps should be performed:

- With boat out of water and suspended, inspect the lift cable attachment to the centerboard. Examine the nicopress and thimble attachment for any signs of wear or electrolysis. Also examine the cable above this attachment for any signs of broken strands or excessive wear. Replace this cable if there is any doubt about its condition.

  Note: Use only one nicopress sleeve to secure the cable, otherwise the centerboard will not fully retract into the trunk, allowing it to "rattle" excessively from side to side.

- Examine the centerboard at this time also for excessive tip wear, etc. If it is necessary to remove the centerboard, unscrew the fasteners securing the pin bracket on either side of the keel bottom and drop the centerboard from the trunk. This is also recommended (but not essential) for a proper paint job of both the trunk and centerboard before relaunching.

- Inspect the winch assembly under the cockpit. Check for excessive damage to the wire as it wraps on the shaft (a few broken strands are normal), an even lay to the wire as it winds on the shaft, loose fasteners, excess bearing wear or free play, etc. Keep this cable well greased on the shaft to insure smooth operation of the winch. Also inspect the pendant line on the large drum

and in the cockpit. Replace either the cable or pendant if excess wear is observed.

The centerboard travel is limited to about 45° to 60° below the horizontal to minimize the potential for damage in grounding or if the board is inadvertently left down at anchor and the tide recedes. Virtually no loss in windward performance is incurred due to this practical concession.

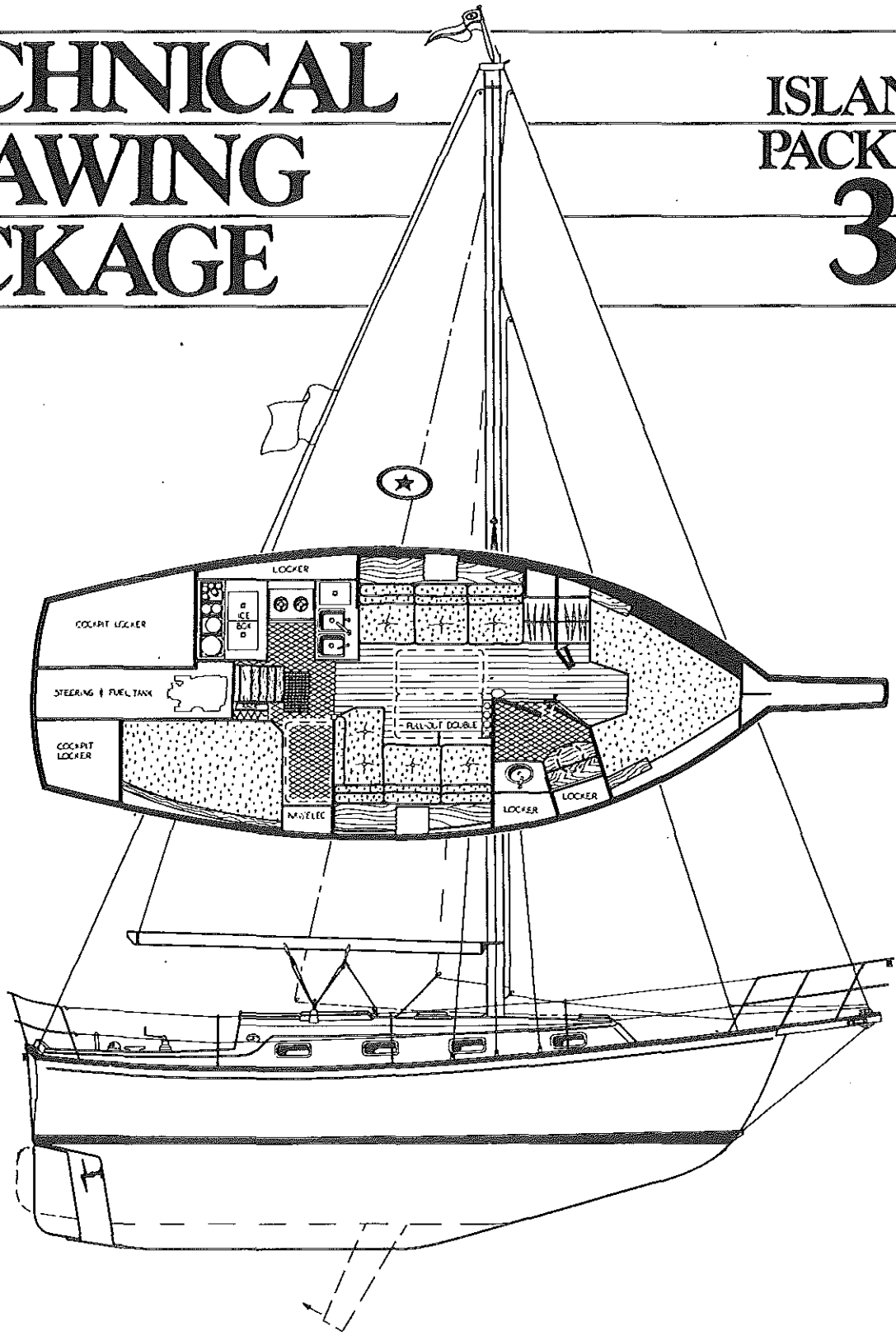
It is perfectly suitable to sail with the board either fully down or fully up. Very little practical difference will be observed with intermediate settings. The centerboard will raise or lower easiest with the yacht at rest or moving slowly and into the wind. Under sail, side loads from the yacht's leeway will prevent the board from dropping and make it more difficult to raise with the winch. The centerboard is required for best performance when sailing on the wind or beam reaching. On a broad reach or running downwind, the board may be retracted for reduced drag and a slight increase in speed. NEVER BACK UP WITH THE BOARD LOWERED. Serious damage to the centerboard system could result if grounding should occur under these conditions.

TECHNICAL DRAWINGS

FIGURE NO.	DESCRIPTION
1	Specifications, Arrangement Plan
2	Sail Plan
3	Elevation View, Plan View
4	Deck Plan View, Sectional View
5	A-C Electrical System, D-C Electrical System
6	Grounding System
7	Fresh Water System, Raw Water, Waste System
8	Fuel System, Drainage System
9	Thru-Hull System
10	Centerboard System (Optional)
11	Chainplate and Deck-to-Hull Assembly
12	Reefing System

TECHNICAL DRAWING PACKAGE

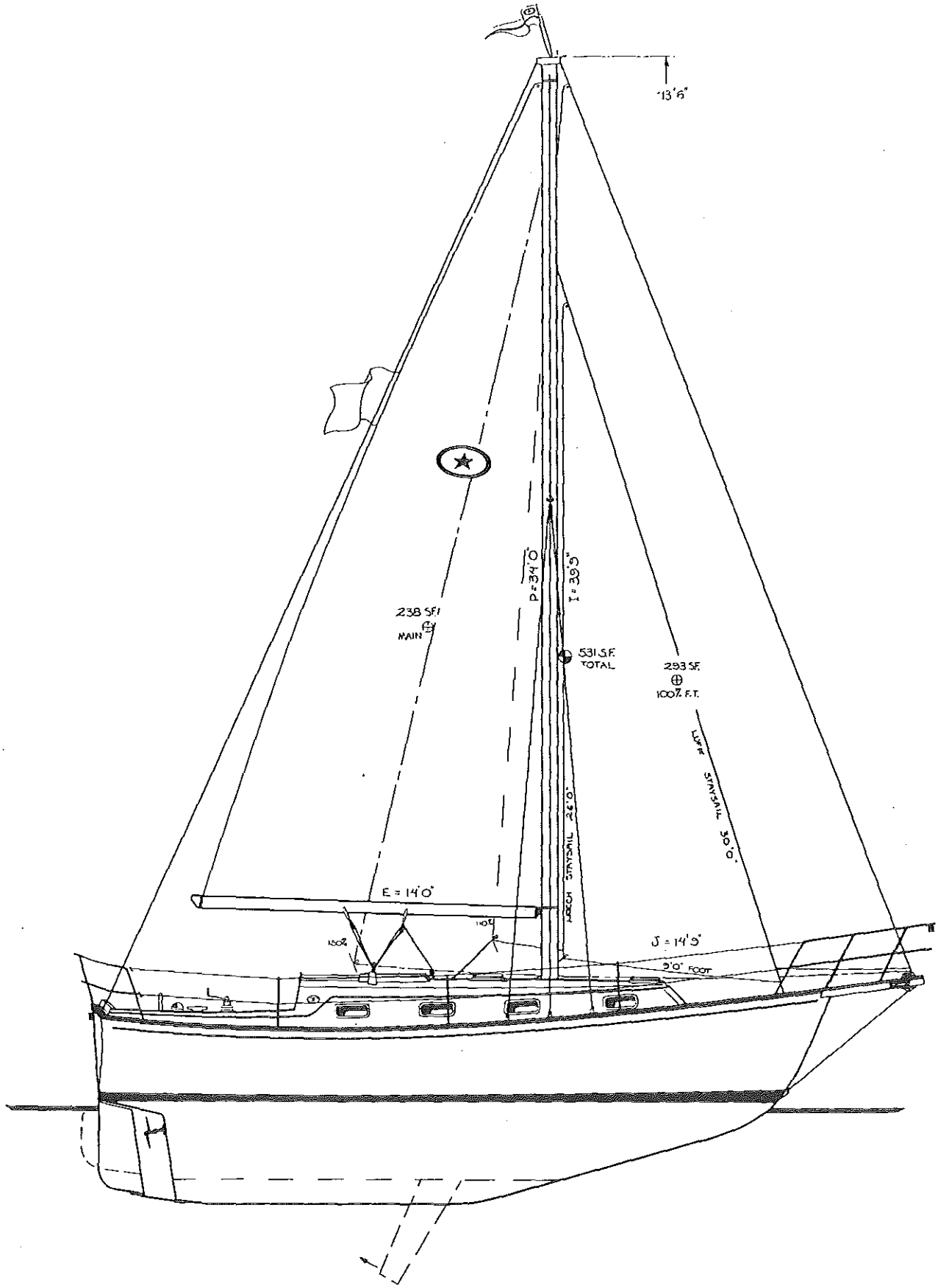
ISLAND PACKET© 31



SPECIFICATIONS

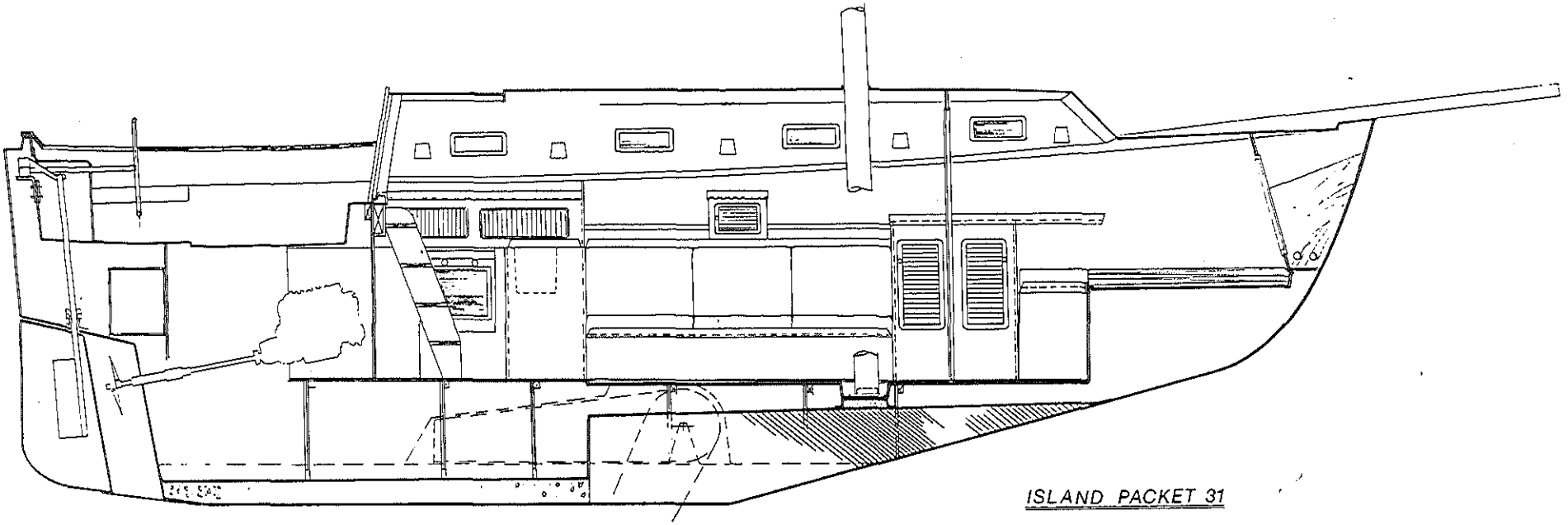
LOA	34'4"	BEAM	11'6"	CABINS/BERTHS	3/7
LOD	30'7"	DISPL. (Approx.)	11,000 lbs.	HEADROOM	6'3"
LWL	27'9"	BALLAST	4,500 lbs.	MAST ABOVE DWL	43'6"
DRAFT: KEEL	4'0"	SAIL AREA (100% F.T.)	531 S.F.	FUEL	25 gal.
K/CB	3'0"/7'0"	AUXILIARY	FWC 27 hp D.	WATER	70 gal.

Designer: Robert K. Johnson, N.A.



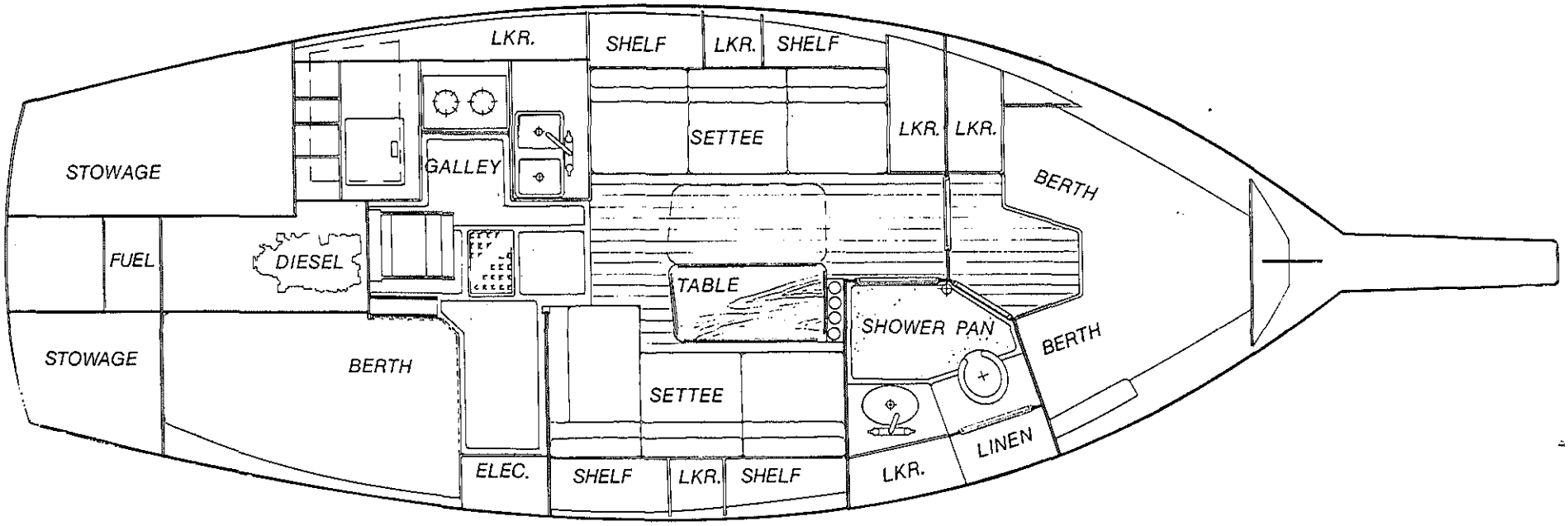
SAILPLAN
ISLAND PACKET 31
TRADITIONAL WATERCRAFT, INC.
LARGO, FLORIDA
DWNG Nº 31-1040 SCALE 1/4"=1'0"
DAN Byrnes 11/82

FIGURE 2



ISLAND PACKET 31

ELEVATION VIEW



PLAN VIEW

FIGURE 3

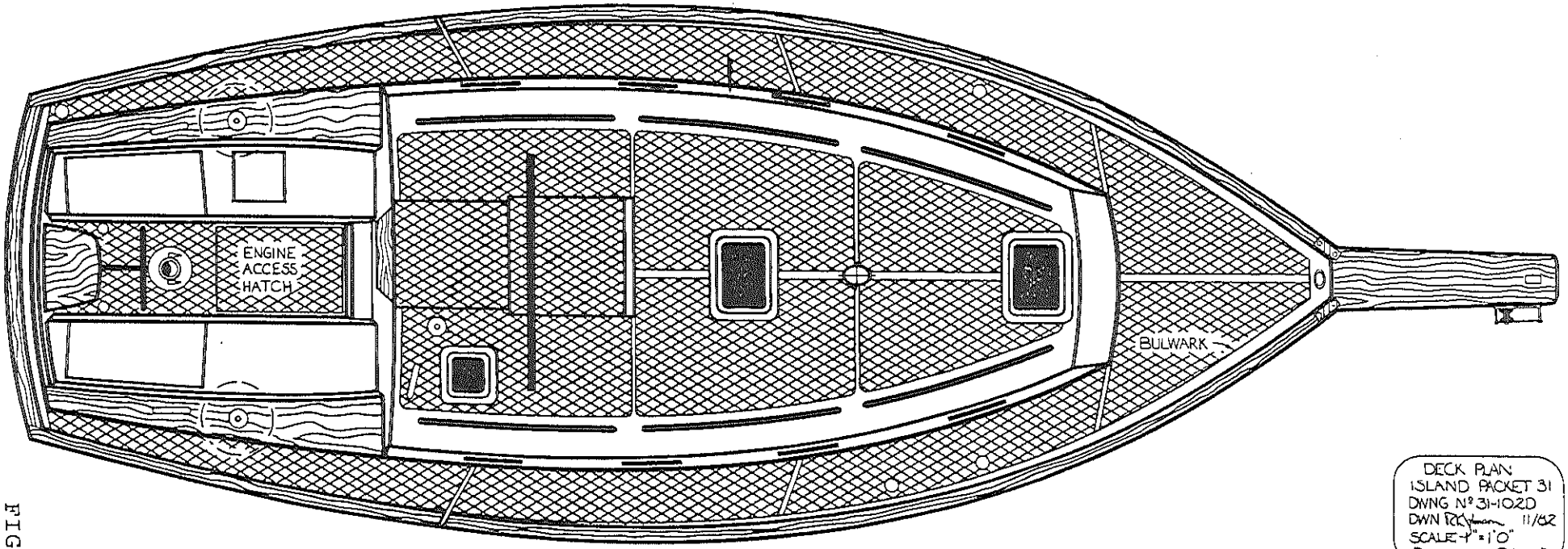
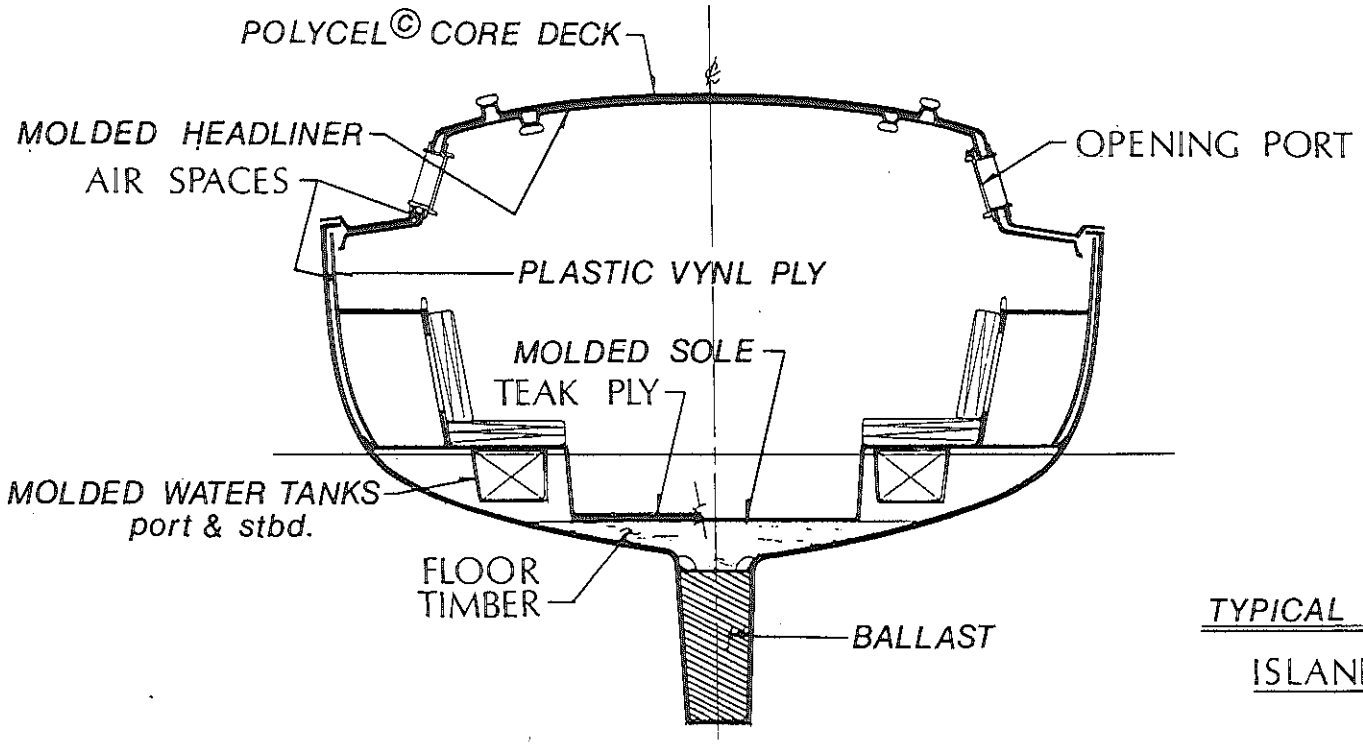
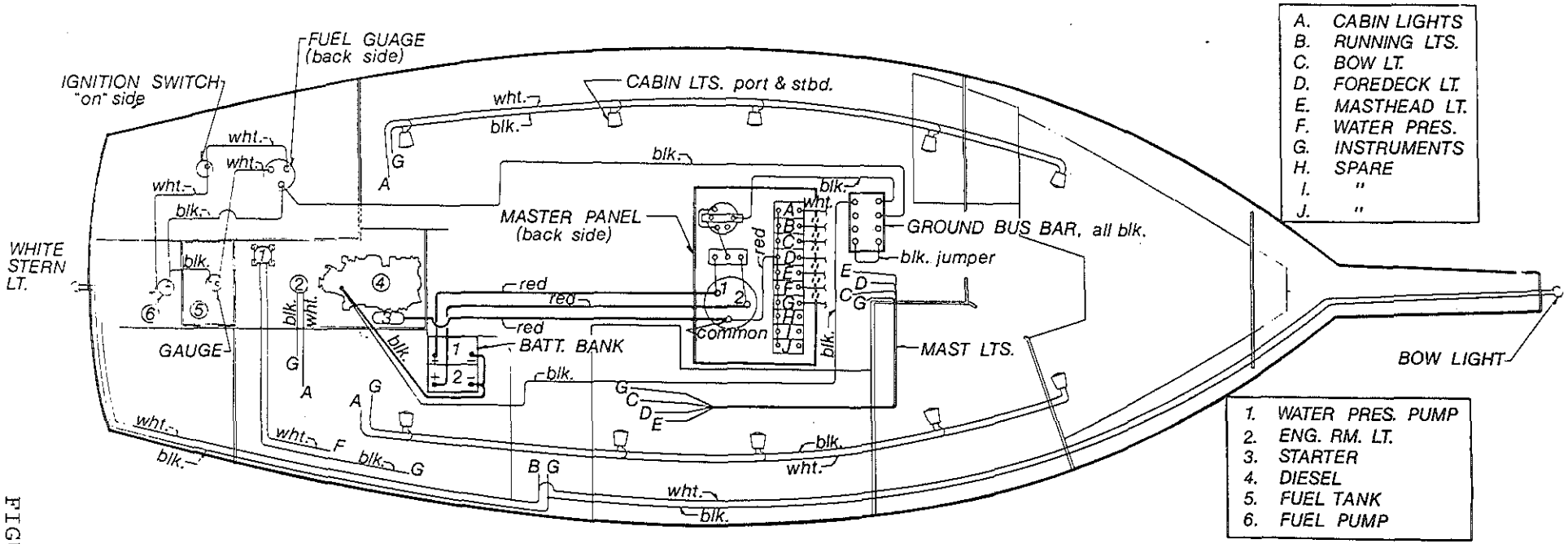


FIGURE 4

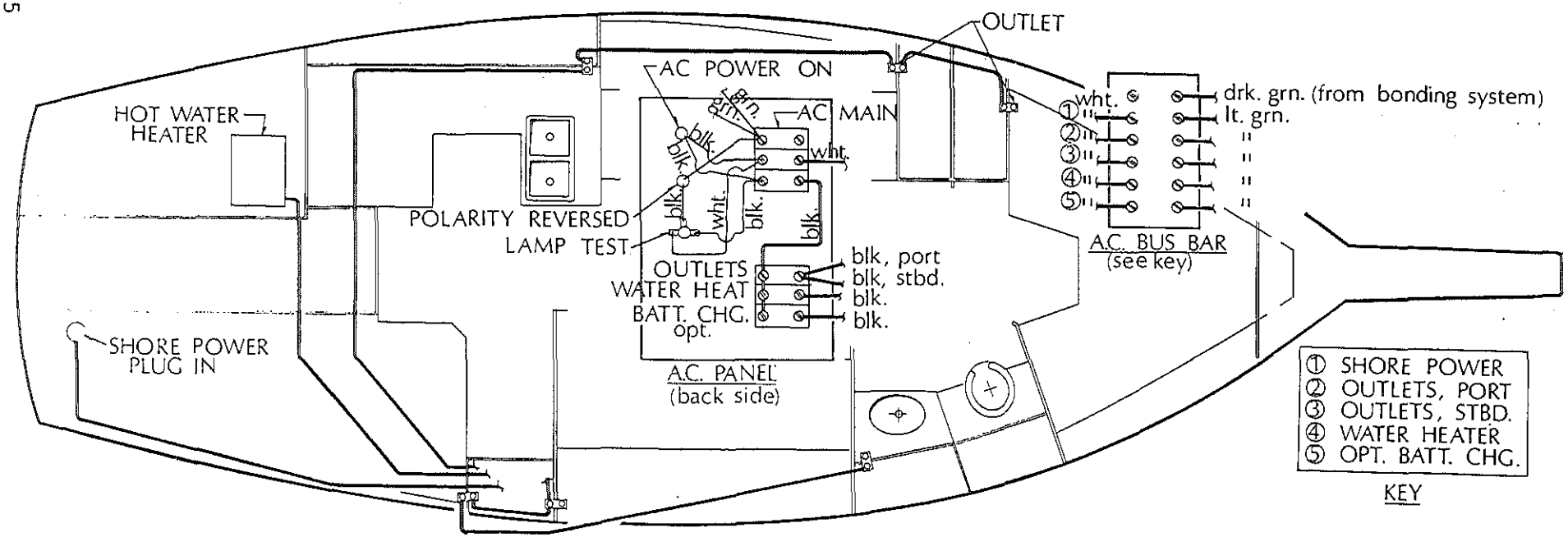


TYPICAL SECTIONAL VIEW

ISLAND PACKET 31



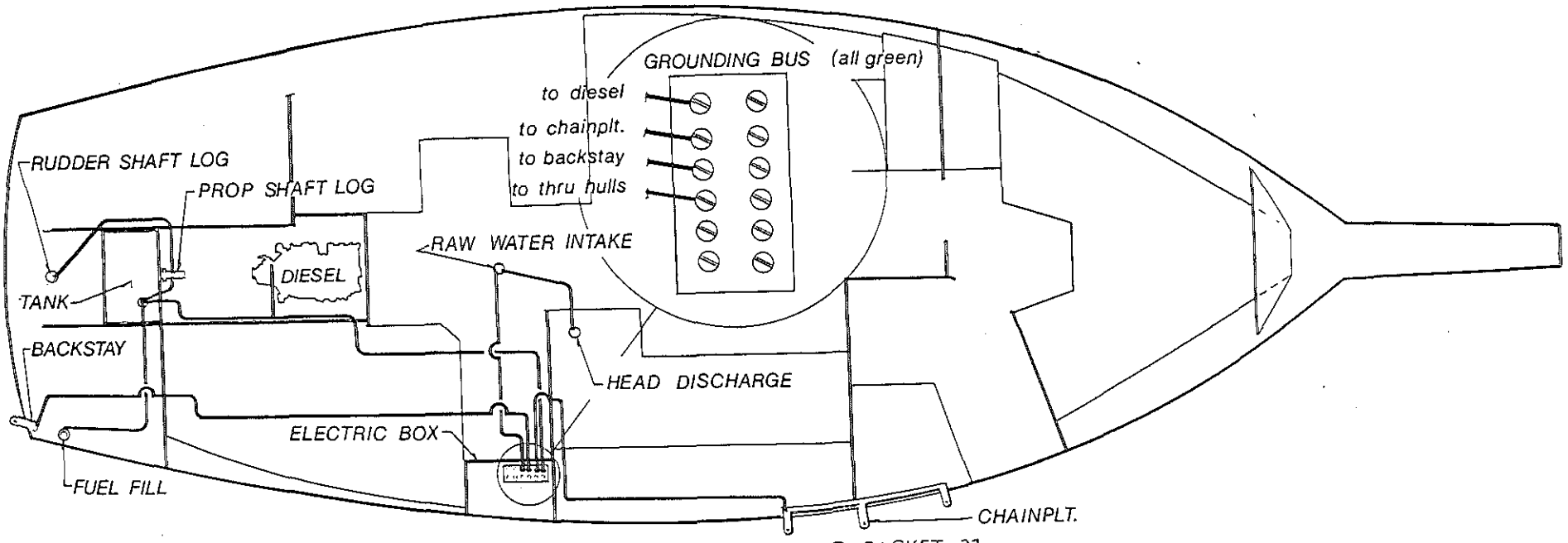
12V D.C. SYSTEM ISLAND PACKET 31



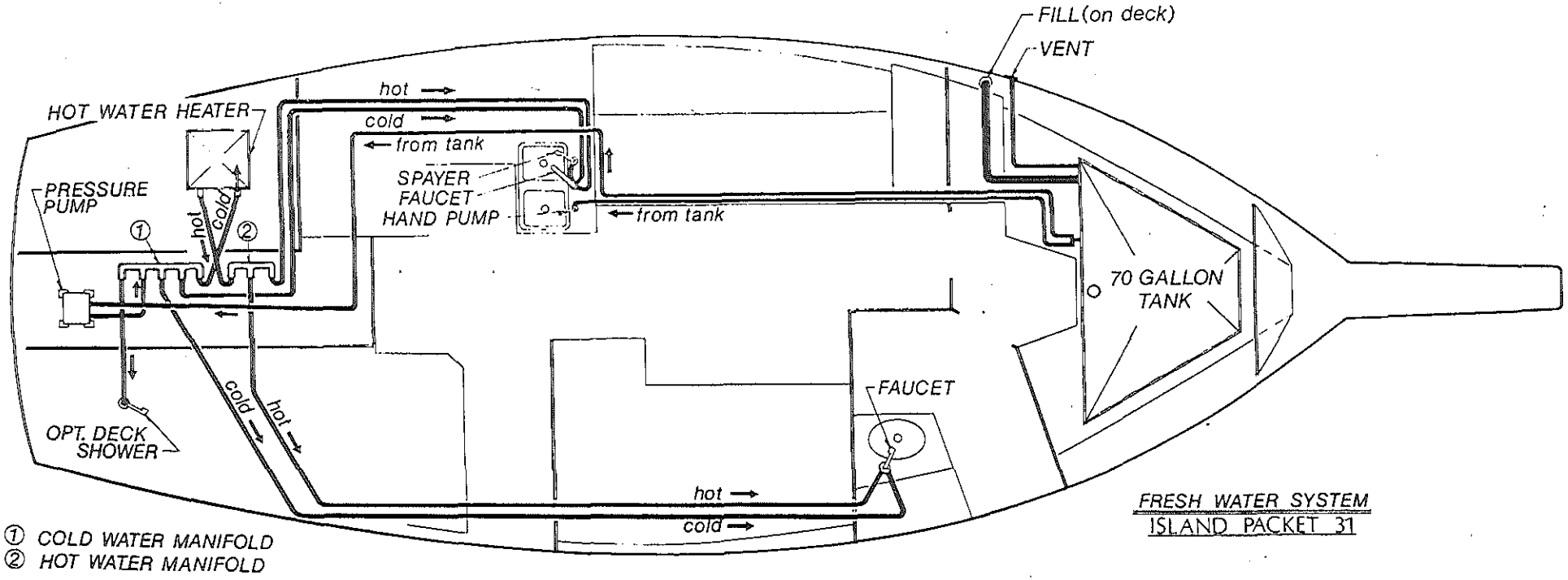
A.C. SYSTEM, ISLAND PACKET 31

FIGURE 5

FIGURE 6



BONDING SYSTEM ISLAND PACKET 31


FILL (on deck)
VENT
HOT WATER HEATER
hot
cold
from tank
SPAYER
FAUCET
HAND PUMP
from tank
PRESSURE
PUMP
hot
cold
①
②
70 GALLON
TANK
FAUCET
OPT. DECK
SHOWER
cold
hot
hot
cold
① COLD WATER MANIFOLD
② HOT WATER MANIFOLD
FRESH WATER SYSTEM
ISLAND PACKET 31

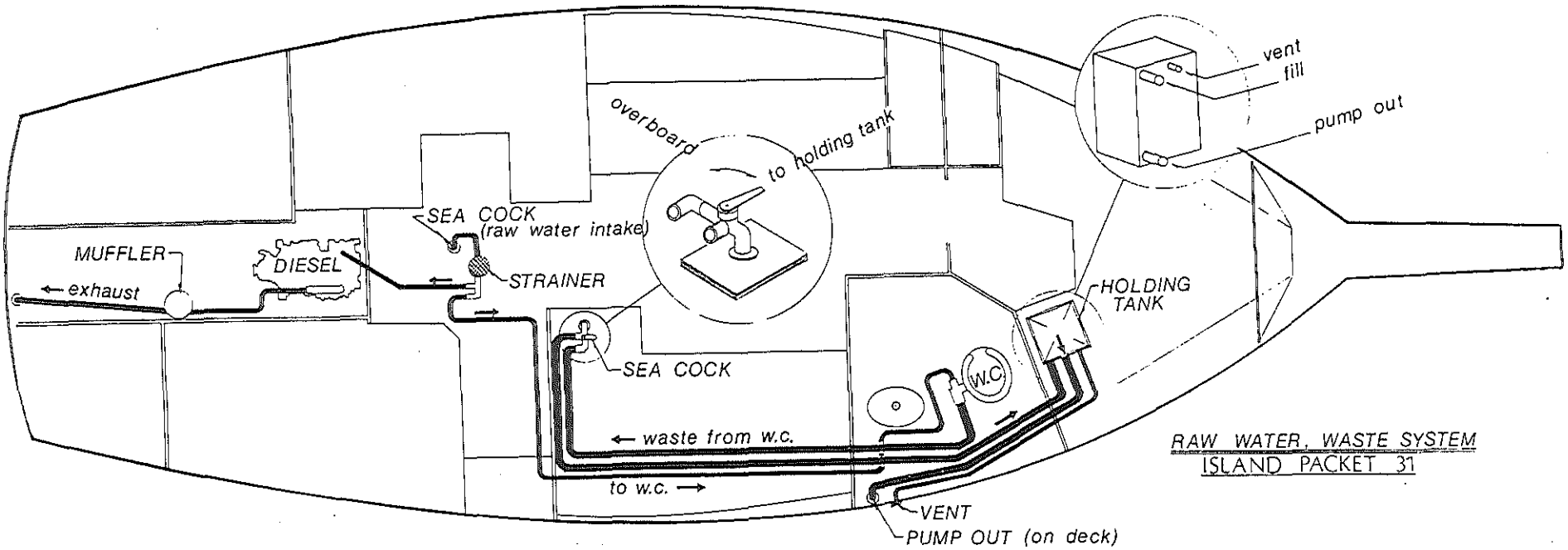
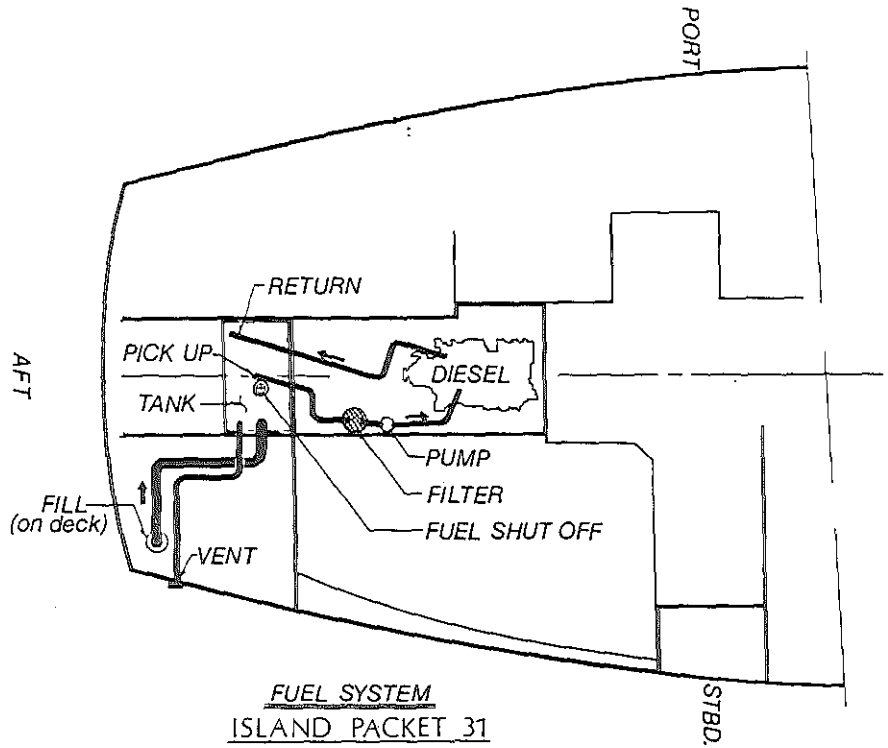
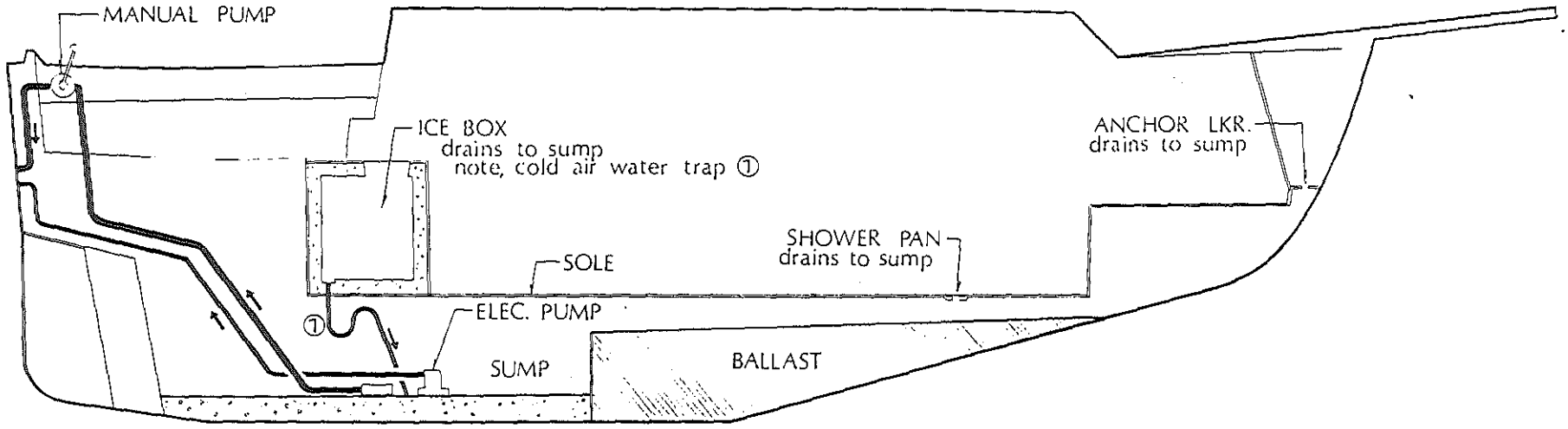

vent
fill
pump out
overboard
to holding tank
SEA COCK
(raw water intake)
MUFFLER
exhaust
DIESEL
STRAINER
HOLDING
TANK
SEA COCK
W.C
waste from w.c.
to w.c.
VENT
PUMP OUT (on deck)
RAW WATER, WASTE SYSTEM
ISLAND PACKET 31

FIGURE 7

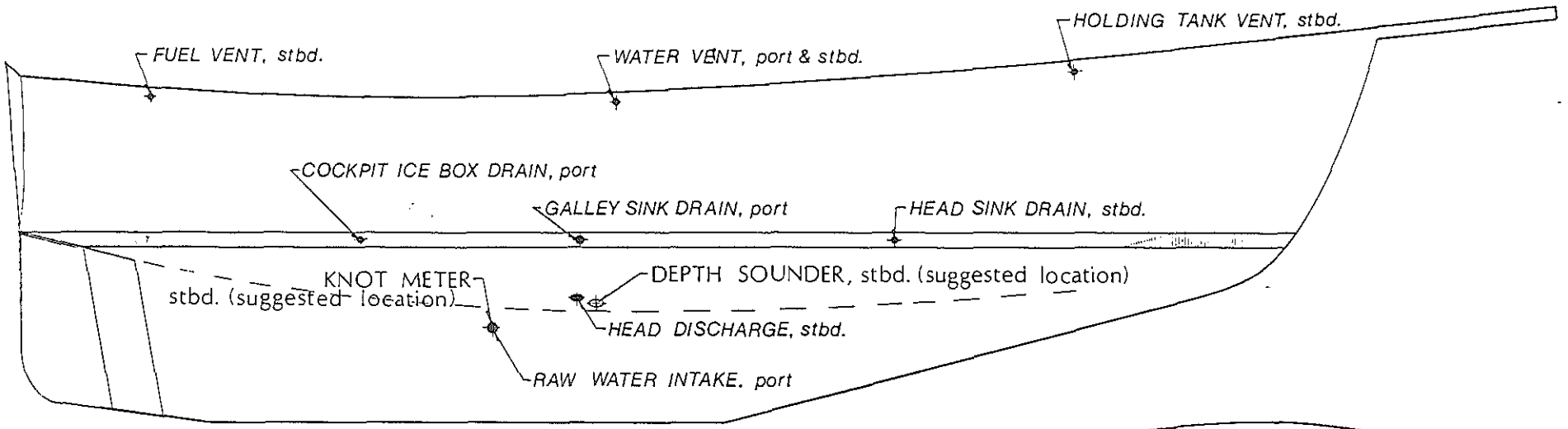


FUEL SYSTEM
ISLAND PACKET 31

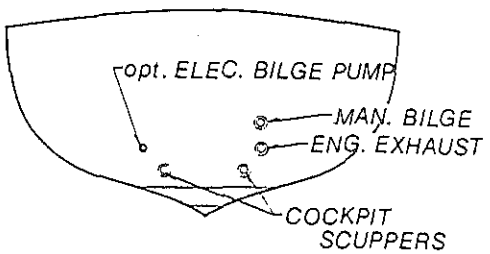
FIGURE 8



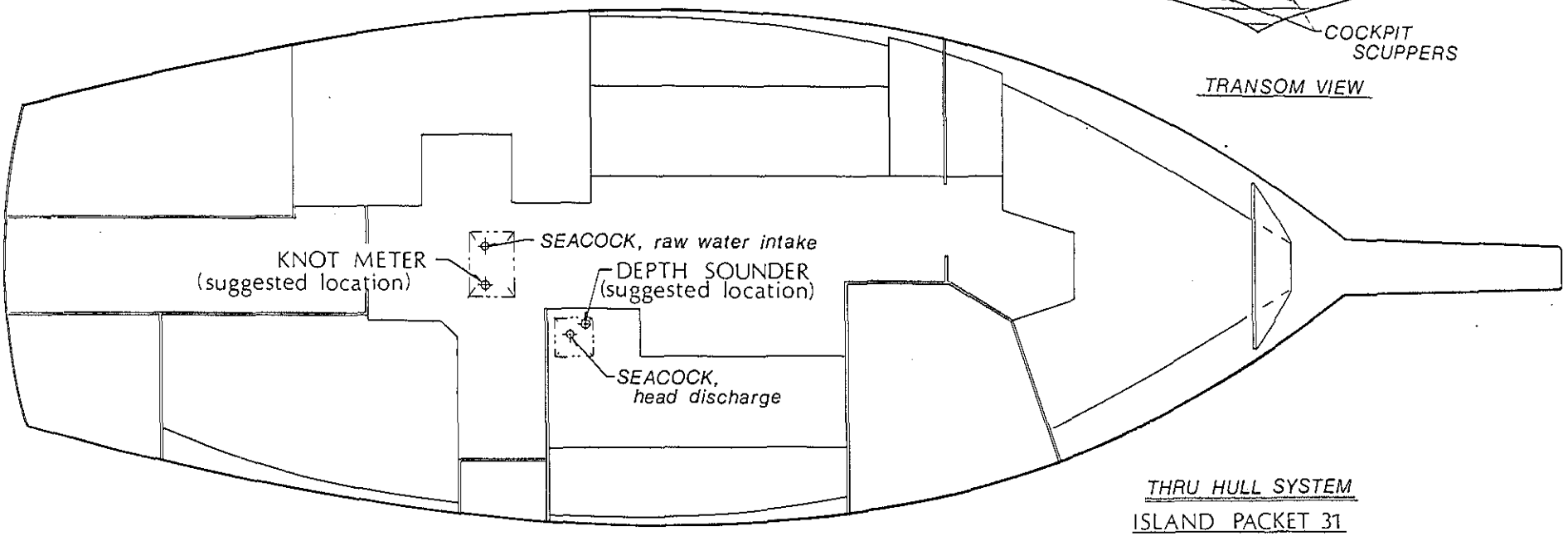
DRAINAGE SYSTEM ISLAND PACKET 31



ELEVATION VIEW



TRANSOM VIEW

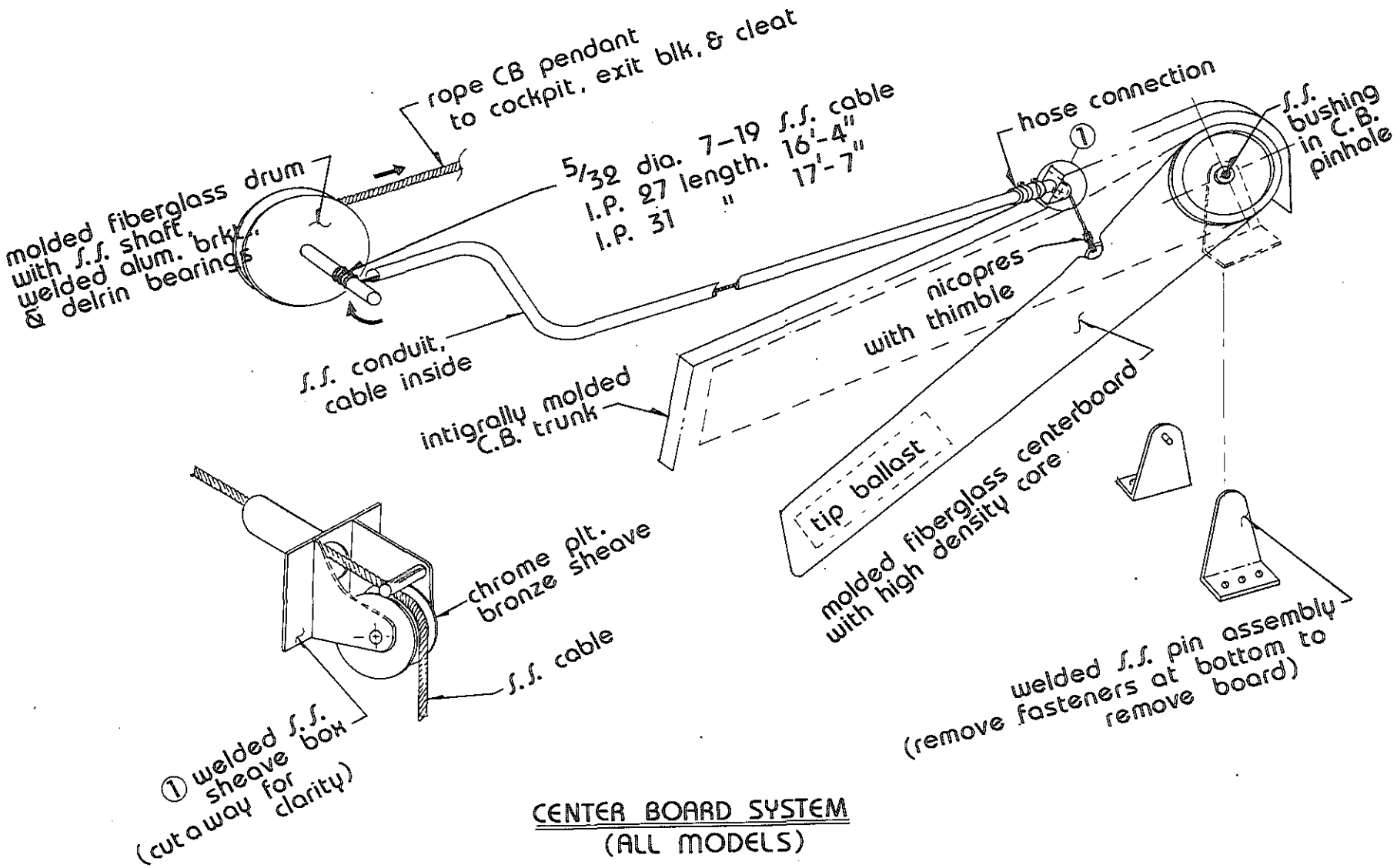


PLAN VIEW

THRU HULL SYSTEM

ISLAND PACKET 31

FIGURE 9



CENTER BOARD SYSTEM
(ALL MODELS)

FIGURE 10

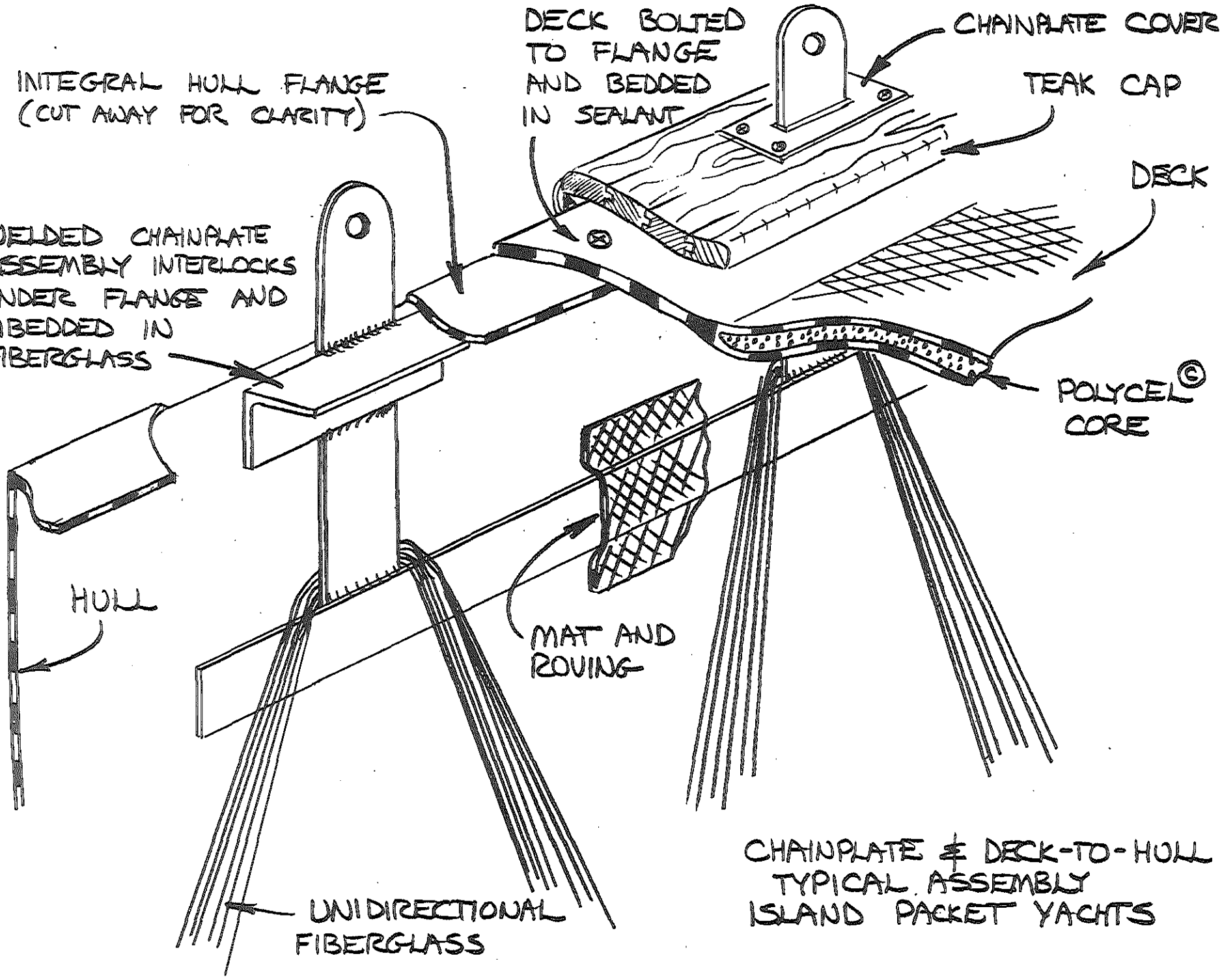


FIGURE 11

CHAINPLATE & DECK-TO-HULL
TYPICAL ASSEMBLY
ISLAND PACKET YACHTS

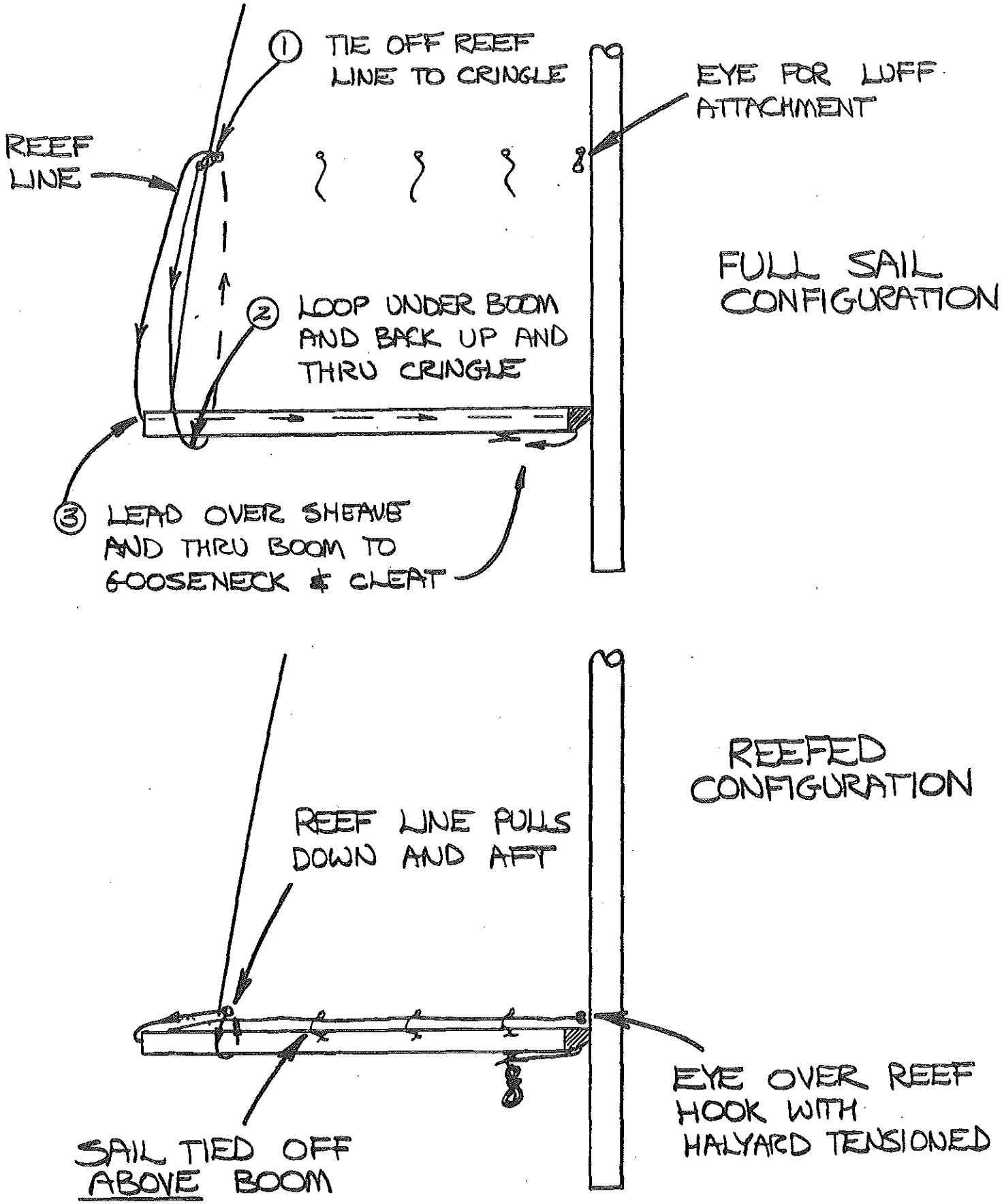

1 TIE OFF REEF LINE TO CRINGLE
EYE FOR LUFF ATTACHMENT
REEF LINE
FULL SAIL CONFIGURATION
2 LOOP UNDER BOOM AND BACK UP AND THRU CRINGLE
3 LEAD OVER SHEAVE AND THRU BOOM TO GOOSENECK & CLEAT
REEFED CONFIGURATION
REEF LINE PULLS DOWN AND AFT
EYE OVER REEF HOOK WITH HALYARD TENSIONED
SAIL TIED OFF ABOVE BOOM

FIGURE 12