GENERAL OWNER'S MANUAL

CAPE DORY YACHTS

INCORPORATED

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GENERAL OWNER'S MANUAL

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CAPE DORY

TYPHOON SENIOR
26 OUTBOARD
26 DIESEL
28
30
32
330
300 MS

LETTER OF WELCOME

Dear Skipper,

Welcome to the Cape Dory fleet!

You have joined the select group of sailors who recognize the quality construction and traditional workmanship found in every Cape Dory Yacht.

This manual has been prepared to assist you in getting to know your new yacht before setting sail for the first time. It also is a helpful guide to follow for the proper care and maintenance in the future.

The Cape Dory team of managers, supervisors and quality control personnel do their very best through every step of the construction process and strive to build boats of exceptional quality which will provide their owners with many years of sailing pleasure and retain a high resale value.

Please review the material carefully. You will enjoy your new Cape Dory more if you are familiar with the design and construction of your yacht and with the equipment used on board.

Any questions you may have can be answered by your authorized dealer as he is a knowledgeable professional and is familiar with your new boat. He will continue to be your most important contact for information about your boat and for any problems, should they develop.

We appreciate your confidence in our product and assure you that with proper care, you should have many years and miles of enjoyable sailing in your new Cape Dory.

Again, welcome to the fleet.

Sincerely,

Andrew C. Vavolotis
President
Cape Dory Yachts, Inc.

CUSTOMER SERVICE

The Cape Dory Yachts Customer Service Department has been established to provide technical information and a replacement parts ordering service for Cape Dory Owners.

Please do not hesitate to contact us with any questions or comments on your boat. We appreciate any suggestions that you might have to improve the product.

We suggest that you place any parts orders through your Cape Dory Dealer, but will be happy to accommodate you for special orders. Whenever you make an order, please provide the dealer or Cape Dory with your hull number and an accurate description of the part.

Situations may arise when we will be referring you to local marine stores or marine hardware manufacturers. Our intent in these cases is to provide you with the fastest and least expensive service.

Through our customer service department, we strive to maintain our reputation for product quality and excellent service.

Sincerely,

David J. Schutt

David Schutt
Customer Service Department

CAPE DORY OWNER'S RECORD

Complete and save this form for your records and future reference.

Yacht Name_____Home Port_____

Hull Identification Number *_____

Dealer Name_____Address_____

Salesman_____Delivery Date_____

Date Commissioning Checklist/Warranty returned to CDY_____

* * * * * * * * * * * * * * * *

Owner's Name_____

Address_____

State Registration/Documentation_____

Engine Model and Serial Number_____

Head Model and Serial Number_____

Stove Model Number and Serial Number_____

Spar Number_____Rigging Kit Number_____

* Your Cape Dory is identified by a hull identification number (HIN) on the starboard corner of the transom. Newer boats have the HIN number on the hull in the port sail locker in addition to the transom. This identifies the number of the hull and supplies government officials with additional information concerning the builder, and the year of manufacture. There is also a builder's plate with the hull number. In addition, there are serial numbers on your boat's engine (see the engine manufacturer's owner's manual) and on some of the accessory equipment which you may elect to have installed.

We recommend that you record these important numbers carefully and keep copies of them both at home and aboard (see "Owner's Record" form). These numbers and an accurate description of your property, in the event of theft, could be essential to their recovery.

Marking an inconspicuous place such as the inside of a locker, underside of a door or drawer, or the base of the mast with your initials, social security number or other unique "brand" may also aid in the prompt identification of your property, should the need to do so ever arise.

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Chapter 1

INTRODUCTION

The intent of this manual is to help the owner of a Cape Dory to understand and maintain his yacht. This manual should be used in conjunction with other publications to fully understand the demands and pleasures of sailing. A suggested reading list is provided and monthly periodicals such as Sail, Cruising World, Motor Boating, Sailing, etc. are also recommended. Obviously, personal knowledge and skills are required to handle and maintain any boat successfully.

Cape Dory yachts are constructed in a recently remodeled building facility located in East Taunton, Massachusetts. Our boats are assembled using modern methods, equipment, and materials obtained from the most reputable suppliers.

The basic hull design of Cape Dory yachts is a traditional one which has proven itself over many years of use and thousands of miles of cruising. The long keel with attached rudder hull configuration combined with a generous but not bulbous beam provides stiffness and longitudinal stability; it also provides protection for the rudder, propeller and propeller shaft. Our sail plans are not as lofty as those used on more race oriented designs of similar size. Instead of high aspect ratio main sails, Cape Dory has continued with what it considers to be a more sensible cruising sail plan. This means that a smaller head sail is needed, that a family or few crew can handle a Cape Dory, and that the stresses on the rig and boat are less than those on high aspect ratio rigged boats under identical conditions. The interior layouts of Cape Dory yachts are designed to provide comfortable accommodations for a reasonably sized crew on boats of their size.

CHAPTER 2

OWNER'S MANUAL

CAPE DORY YACHTS

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CONSTRUCTION OF YOUR CAPE DORY YACHT

Chapter 2

CONSTRUCTION

2.1 Molded Fiberglass Parts

Traditionally, Cape Dory yachts are built to heavier lamination schedules than the industry standards call for. This creates an extremely sound product of lasting value. The Typhoon Senior, for instance, has a total of seven alternating layers of hand laid fiberglass mat and roving below the water line. By contrast, the Cape Dory 330 has 13 alternating layers of heavier fiberglass mat and non-woven roving in the bottom. All the fiberglass is carefully finished off by hand and multiple inspections are made during the molding process to maintain consistent standards and ensure quality. All of our hulls are molded in one piece, never molded in halves and later joined.

2.2 Deck and Headliner

The deck is molded in one. All exterior surfaces, including the non-skid are pigmented gel coat molded into the deck. The deck is layed up with glass strand fibers and non-woven roving incorporating a balsa core for stiffness and insulation. Where hardware and equipment are through bolted, wood blocks, aluminum or solid glass replaces the core. In highly stressed cockpit corners, unindirectional roving is utilized near the gel coat surfaces and in the final layer of laminate. This minimizes stress cracking.

The headliner is a fiberglass part used to provide a cosmetic surface to the inside of the cabin as well as providing attachment points for the major bulkheads. The air gap between the deck and the headliner also provides an effective vapor barrier and thermal insulator.

The headliner is built with glass strand fiber and woven roving. After it has been parted from the mold, specific areas are filled solid so that fasteners may be installed later. The headliner is then bonded to the deck accurately with a polyester adhesive compound. This is done with the aid of a jig that holds the headliner in place while the adhesive cures. At this point, the deck is parted from the mold and sent to the deck hardware department.

Some yachts have headliners made of formica faced plywood with teak trim, which are backed up with a combination of plywood and fir fairing strips for fastening

and support. This system also provides an easy to maintain interior surface with similar vapor barrier and insulating qualities.

2.3 Ballast

The cast lead ballast is mounted inside the keel cavity of the hull. Each ballast is individually cast in either one piece or two, depending on the combined finished weight of the ballast. The ballast location is determined first and the hull surface marked. Then the ballast is installed dry to insure the correct fit is obtained. The Quality Control Department checks the location of each piece of ballast accurately, then records its weight against our specifications. Next, it is lowered into and encapsulated in a mixture of special low shrink bonding resin and microspheres . Besides its shrink characteristics, the bonding resin was chosen for having some resiliency should the keel be subject to sharp impact loads.

The ballast is then over bonded with several layers of fiberglass, securely holding the ballast into the hull. This laminate is gel coated, sealing the ballast from the rest of the boat and giving a smooth, clean bilge.

2.4 Rudder

The rudder assembly consists of two fiberglass half shells completely filled with a reinforced polyester compound. The blade is further reinforced with two layers of glass tape bonded, sanded and faired over the molded seam. This surrounds a formed solid stainless steel, or in the case of the Typhoon Senior, welded, rudder shaft creating a solid one piece rudder of exceptional strength.

On the Typhoon Senior, the rudder shaft extends to the bottom of the rudder and into the heel fitting which is attached to the foot of the keel. All Cape Dorys from the 26 to the 330 have a bronze gudgeon casting imbedded in the bottom of the rudder to accept the stainless steel pintle of the cast bronze heel fitting which is attached to the keel. The heel fitting is set in polysulfide bedding compound and fastened onto the hull with bronze rods passing through the solid portion of the keel. The entire casting is then faced with polyester putty, glassed and faired into the keel. This helps to minimize the electrolysis problem commonly found when stainless steel weldments are used in seawater.

2.5 Diesel Auxiliary

One of the more critical installations we perform is the installation of the inboard diesel engine. The diesel is installed with fully adjustable flexible mounts attached either to a heavily reinforced fiberglass engine bed or to a rugged metal weldment, coated with corrosion resistant paint. These systems effectively spread the engine load over a large section of the hull. A drip pan is provided to keep oil out of the bilge. This area should be pumped out regularly being careful not to discharge oil overboard.

The exhaust is a wet system consisting of an engine water injected elbow, a waterlock muffler and heavily reinforced rubber hose. The main advantage of this type of exhaust system is that it allows the waste cooling water to cool the exhaust gases after leaving the engine. This system produces lower sound levels and reduces temperatures in the engine compartment helping to prevent burns and minimizing fire hazards.

The fuel system incorporates a custom aluminum fuel tank, fuel filter, flexible fuel lines and reinforced rubber fill hose. Flexible fuel lines have been chosen as they are very easily repaired in the field should a leak develop. Copper fuel lines require special tools to repair which may not be available at sea. Every installation includes a second fuel filter/water separator for that extra measure of safety.

2.6 Mechanical Installation

While the carpenters are completing their joiner work, the bulk of the mechanical installations are completed. The water tank mounting pans are glassed into place and the tanks installed. The plumbing is run to the manifold located under the galley sink and then into the respective compartments where the pumps and water heater are located. The wiring from the engine is run to the electrical panel. The bonding system joining all underwater thru hulls is completed. Lightning ground and bonding systems are optional on the Typhoon Senior, and CD-26 (outboard model).

2.7 Hull to Deck Joint (not including C-300 MS)

When most of the interior components have been installed, the hull is made ready to receive the deck. All Cape Dory hulls with the exception of the C-300 MS have integrally molded internal hull flanges. These flanges are made up of the same laminate as the hull topsides, with

additional uni-directional glass reinforcement in the chainplate areas.

The deck is raised over the hull and the process of fitting the deck to the hull is begun. All the upper edges of the bulkheads are carefully scribed and cut until the deck rests on the hull flange.

The flange is then prepped and coated liberally with a special polyester bonding material and the deck bonded into place. The deck is then screwed down in the case of the Typhoon Senior, and in all others thru-bolted on 12" centers.

Additional strength is imparted to the hull to deck joint when the teak toerails are installed. Stainless steel round head self-tapping screws on approximately 12" centers are used to secure the toerails. These screws, which vary in size from No. 10 on the Typhoon Senior to No. 14 on the C-330, are centered between the all ready installed bolts, giving a deck joint fastening every 6".

On boats fitted with genoa tracks the track bolts, also pass through the hull flange, make for a secure installation.

Hull to Deck Joint - C-300MS

The Cape Dory 300 Motorsailer deck to hull joint is as shown in the drawing at the end of this manual.

The hull has a reinforced vertical flange over which a similar vertical flange on the deck is overlapped as in the lid of a box. After the deck has been fitted to the bulkheads, etc. the interfacing surfaces of the two flanges are prepped and liberally coated with a polyurethane bonding compound. The deck and hull are then mated together. Stainless steel screws are used to hold the two components together while an extruded vinyl rubrail is fitted. The rubrail has a molded-in lip that covers the lower edge of the deck flange. The face of the rubrail, as with the deck and hull flanges, is coated with the same polyurethane bonding compound prior to mating it with the boat. The rubrail is then through bolted every 8 inches using 1/4" diameter stainless steel bolts with self-locking nuts, the bolts passing through the hull and deck flanges, as shown in the diagram, completing the hull to deck joint.

2.8 Chainplate System (not including C-300 MS)

The chainplate system is easy to understand and does what any chainplate system must do - transmit the rigging loads to the hull and not leak. We use chainplate castings with substantial base areas so that when installed and

caulked, the resulting seal is impervious to water penetration.

The bolts securing the cast bronze chainplates pass through the reinforced area of the deck to hull joint and also through an aluminum alloy plate bonded to the underside of the hull flange. This plate further serves to distribute the shroud loads.

The C-330 is fitted with a 'T' shaped bracket that connects the chainplate backup plates, port and starboard, to structural bulkheads.

Every Cape Dory chainplate design has been subjected to structural evaluation including destructive pull tests assuring that they meet our structural requirements. All bolts are tightened to specific tolerances using a torque wrench.

The sizes of the standing rigging were determined using a factors of safety of 3 on the wires, compared to the relative design loads, and factors of safety of 4 for the chainplates.

Please refer to the drawing for further details.

Chainplate System - C-300 MS

The shroud chainplate arrangement on this model consists of house side mounted lower shroud chainplates and outboard upper chainplates, through bolted to the hull.

The hull topsides in the area of the upper chainplates and the backstay chainplates are locally reinforced with additional laminate to provide increased bearing area for the bolts and to assist in transmitting the rigging loads into the hull.

The lower chainplates are through bolted to the coachroof sides, the cavity between the deck and headliner being filled solid with a polyester putty.

All chainplates on the C-300 MS are made from 300 series stainless steel and are installed using the same polyurethane bedding compound employed in the deck to hull joint.

All chainplates are filled with ground wires.

Please refer to the drawing for further details.

CHAPTER 3

OWNER'S MANUAL

CAPE DORY YACHTS INCORPORATED

OPERATION AND MAINTENANCE

Chapter 3

OPERATION AND MAINTENANCE

3.1 Fiberglass

Fiberglass is one of the most maintenance-free materials utilized today in boat construction. If given proper care and treatment, the gel coat surface will look new for years. If not maintained, it will eventually become dull and chalky.

We recommend that you wash the exterior fiberglass surface of your boat several times each season with a mild soap solution and plenty of warm fresh water . Rinse liberally with fresh water. After the boat has dried, use a good quality fiberglass cleaner in paste form; follow this process with a wax or polish prepared for marine use. A fiberglass cleaner with a very fine abrasive in it may help remove minor scratches and surface wear. Care should be taken, as the continued use of cleaners containing abrasives will gradually erode the gel coat surface. Marine wax will fill small scratches and provide a glossy finish. We suggest you use a wax that does not contain silicone as it gets into the gel coat and is almost impossible to remove should you want to paint the boat at a later date.

Stubborn stains may be removed with fiberglass cleaner in some instances. More difficult stains may be worked out with judicious use of a very mild abrasive powder such as Bon-Ami. Stubborn tar and petroleum stains can usually be removed with careful application of acetone. (Acetone is a powerful and extremely flammable solvent which is available in most paint and hardware stores. Please be sure to follow the manufacturer's directions.)

Stress or "spider cracks" are a common occurrence on the fiberglass boats of even the most careful boatbuilders and boat owners. Most of the time, these cracks are limited to the gel coat surface and are of a cosmetic nature only, not structural. If you have any doubt about the seriousness of any crack, consult your dealer. Cosmetic repair of gel coated surfaces is not a difficult task and a reasonably handy person with a little practice and study can make adequate repairs. Structural fiberglass repairs are best left to the experts.

If for any reason you wish to paint areas of the boat other than the bottom or boot-top, seek the advice of qualified personnel at a boat yard in your area for information about the latest development in chemically-based paints for fiberglass, and the recommended surface preparation procedure.

Minor repairs of the gel coat surfaces may be done by using one of the following methods:

SURFACE IMPERFECTIONS: On imperfections that do not penetrate the gel coat, you may sand them out with #320 wet and dry sandpaper. Finish with 400 and 600 grit paper and hand buff with a fine rubbing compound.

DEEP SCRATCHES AND FLAWS: (exposed fiberglass) Thoroughly clean the damaged area with acetone to remove dirt, grease, or wax. Tape off the damaged area with masking tape. Thicken a small amount of matching gel coat with talcum powder or cabosil to obtain a putty-like consistency. When ready to apply the putty, thoroughly mix a small amount of hardener into the gel putty. A tablespoon quantity of gel putty will require ONE DROP of hardener to cure to a hard plastic in mild temperatures. Some experimenting will allow you to adjust the amount of hardener to suit your needs. Over-catalyzing (adding too much hardener) results in a rubber-like substance, never permitting a complete cure. Using too little hardener, will also cause an incomplete cure.

Apply the gel putty with a putty knife, filling the scratch or flaw slightly above the surrounding surface. Allow to harden. Sand and buff as previously mentioned for shallow scratches. Clean up hands and tools with acetone before putty hardens.

CAUTION: The clear hardener should be handled with great care. Flush skin or eyes with large amounts of water if accidentally splashed.

Be careful of discarding uncured, mixed gel coat material. Once hardener is added, a chemical reaction takes place that generates heat. Large quantities can become very hot. Submerge material in water until cured for maximum safety.

NON-SKID IMPERFECTIONS: Repair of the non-skid is similar to that of deep imperfections only that you add small amounts of non-skid grit and dab the gel coat on with the end of a brush with a stippling action.

GEL COAT BLISTERS: Below the water line, it is possible for water to get beneath the gel coat and cause it to blister. This occurrence is rare and usually takes the form of small blisters less than 1/4" in diameter. While we try to use the latest materials and techniques in combating this phenomenon, it is not within our ability to guarantee this never happening due to the very nature of the materials used. If you should find yourself with a serious case of the "blisters", contact the factory for the latest recommended repair practices and advice. The successful repair is

difficult and time consuming and the services of an expert repair facility is advised. To minimize the potential of blisters, it is recommended that only light sanding of the bottom be done with 150 grit or finer paper. Coarse sanding will scratch the gelcoat which increases the likelyhood of the water penetration. The continued use of epoxy primer and bottom paints is also advised. It is also recommended that the boat be hauled regularly and repainted.

3.2 Steering

The rudder post on all tiller steered Cape Dory yachts extends well above the waterline, and occasionally, when heeling or in a sloppy and confused chop, water will enter the cockpit through the fitting at the top of the rudder post. This is not a cause for concern as the volume is minimal and will drain out of the cockpit scuppers.

Maintenance of the tiller-steered Cape Dory system is simple: keep the bearing at the top of the rudder post lubricated with a good waterproof grease. Tilt the tiller upward and apply the grease to the top of the shaft and bearing. Inspect the condition of the key. Inspect the gudgeon, the heel fitting at the base of the keel where the rudder is connected. There should be very little play at that point.

If the tiller cap is removed from the head of the rudder post, be certain to re-install the tiller cap properly. Both the rudder post and the tiller cap have machined keyways in them. Insure that the key is in the keyway and that the tiller cap is slid down onto the rudder shaft until the top of the shaft touches the under side of the upper face of the tiller cap. Tighten both the key locking screw and the clamping bolt. There should be no play between the tiller cap and the rudder shaft.

Pedestal Steering (not including C-300MS)

The pedestal steering system on your Cape Dory has been carefully designed, installed and aligned here at the factory to give you excellent service with minimal maintenance.

The pedestal steering system consists of the pedestal itself, housing the wheel shaft and chain sprocket, an under cockpit idler assembly, which is through bolted to the pedestal base, and a rudder shaft mounted quadrant. To support the upper section of the rudder shaft, a pillow block bearing is installed. A rudder stop, limiting the travel of the rudder to about 35 degrees each side of the yacht's centerline, is mounted on the idler assembly.

Wheel movement is transmitted to the rudder quadrant by a combination of a roller chain running over the wheel shaft sprocket and 7 x 19 stainless steel wire running from the quadrant through the idlers to the roller chain. The wire/chain combination is adjusted by quadrant mounted tensioning bolts.

During installation, we have replaced many of the vendor supplied nuts with self locking nuts as we have found they will otherwise loosen during road transit, engine vibration and general use.

It is imperative that the owner take the initiative to inspect the steering system for proper wire tension, wire alignment, and fastener tension during the sailing season. Periodic maintenance is also required on all moving parts. In particular, the lubrication of the bronze sheaves is critical to the smooth operation of the steering unit.

The keyway that is cut into the rudder shaft is purposely cut a little long to accept an attachment for a number of automatic pilot systems. This saves a very costly alteration from having to be performed in the field were another keyway to be cut and eliminates the need to bolt something to the shaft which would tend to weaken it.

The head of the rudder shaft above the pillow block bearing has been keyed to accept an emergency tiller. Access for this is gained by removing the bronze deck plate in the cockpit sole.

Should anything ever happen to your primary steering system, the key for the deck access plate and the emergency tiller should be readily accessible and not buried in the bottom of a locker.

Please review carefully the enclosed maintenance hints supplied by the vendor. A thorough understanding of how your steering system works is the only way you can be assured of its proper performance year after year.

Steering System - C-300MS

The steering system on the C-300MS consists of a bulkhead mounted steerer, housing the wheel shaft and chain sprocket, steering cable conduits with lubrication points and an aluminum alloy radial drive mounted on the rudder shaft.

3.3 Diesel Auxiliary

The engine fitted in your Cape Dory is a marine diesel.

Parts are available at any local distributor or directly through our distributor. You will find that they stock and ship almost every part you may need to effectively repair or maintain your engine. Their name and address is in the vendor list.

The engine installation is best broken down into several systems and a description of each system follows. The systems are electrical, exhaust, hand starting, cooling, fuel, shafting, maintenance and winterization.

3.4 Engine Electrical System

Due to the rapid growth and technological developments of marine diesels, Cape Dory Yachts has steadily sought to install the best possible engine for the given application in each boat. We are using a Westerbeke 10-2 in the 26D, a Universal 13 in the 28 and 30, a Westerbeke 46 "V" Drive in the 300 MS, a Westerbeke 21A in the 32 and a Universal 30 in the 330.

Specifications for all these engines vary, but in general should a starting problem occur, first check the overload fuse or circuit breaker located close to the starter.

The Westerbeke has a 20 amp circuit breaker on the engine, while the Universal engine uses a 20 amp inline fuse, both used to protect the electrical system in the event of excessive current drain.

Another problem that can occur is a faulty starter switch not making proper contact.

This and other problems should be corrected by a reputable serviceman or authorized dealer . The Engine Owner's Service Manual that is supplied with each boat carefully outlines many of the electrical features included in the engine.

As with all vendor supplied equipment used in the boat, a thorough review of the service manual contents for each piece of equipment will insure a better knowledge of the correct usage, maintenance and repair methods required.

3.5 Exhaust System

The exhaust system is of the wet type. Gases leaving the engine exhaust manifold are mixed with the waste raw water leaving the heat exchanger, by means of an injection

elbow. The gas/water mixture then passes through a water lock muffler, located in the aft part of the engine space, and out of the transom via a wire reinforced flexible hose.

Little maintenance of this system is required. It is recommended that every time the engine is started, you look over the transom to see if the cooling water is coming out with the exhaust. If it isn't, not only will the engine block overheat, but the exhaust system will overheat as well. The routing of the exhaust hose should not be changed or problems may develop. For winterizing the exhaust system, a drain plug is fitted to the exhaust muffler allowing it to be drained.

The antisyphon valve in the water injection line should be cleaned periodically . This valve can be found by following the small hose on the exhaust elbow back to the engine. If it occasionally spurts water, most likely a small piece of dirt has lodged itself in the seat and it should be cleaned. If it is allowed to drip, it may cause rust on the engine.

If at any time the engine is hard to start and a lot of cranking is required, the water injection hose to the exhaust elbow should be removed and allowed to drain into the bilge. If this precaution is not followed, the muffler could become full of water and back up into the exhaust elbow and then into the cylinder head. Obviously, once the engine is started, this hose must be reconnected immediately, or the exhaust system which is normally water cooled will overheat and burn out.

3.6 Hand Starting

Hand starting a diesel is so difficult that we do not recommend it. Such force is required that injury may result. Intelligent use of the two battery system should eliminate the need for hand starting. In our opinion, it is foolhardy to rely on this feature.

3.7 Transmission

When the engine is not in operation, the transmission must be kept in reverse. Some transmissions overheat if allowed to free-wheel.

3.8 Cooling System

The cooling water enters the hull through a screened seacock. All inboard diesel engines used by Cape Dory are raw water heat exchanger cooled. An engine mounted sea water pump, pumps raw sea water through a heat exchanger to remove heat from the coolant. The raw water is discharged overboard through the exhaust line as described in the exhaust section. If the engine is started with the seacock closed or the flow of water is obstructed in another way, damage to the pump's impeller will result. A spare impeller should be carried aboard at all times and is easily changed.

Domestic hot water is generated using the heat exchanger principal. The heated engine coolant is passed through a coil in the hot water tank before it enters the raw water heat exchanger. Domestic hot water can also be generated using the 110 volt AC heating element in the tank.

Overheating of the engine coolant, indicated by an audible alarm buzzer or excessively high readings on the temperature guage, mounted in the engine panel, could be caused by several problems, including:

* Cooling water shortage due to blocked intake strainer or closed seacock.
* Loss of cooling water due to ruptured hoses.
* Loss of cooling water due to leaky gaskets.
* Loss of cooling water due to loose hose clamps.
* Broken or slipping water pump drive belt.
* Defective water pump - check impeller.

Consult the engine owner's manual for further information regarding the operation and maintenance of your diesel auxiliary.

3.9 Fuel System

In order to run, a diesel's only requirement is clean, waterfree, airfree fuel and combustion oxygen. There are no spark plugs or ignition requirements. Ninety-five percent of all diesel engine problems result from fuel problems. The engine manual that comes with the engine describes the bleeding procedures (some engines are fitted with self bleeding fuel systems) and every owner should know how to do this. The fuel feed line must be 100% air tight or it will suck in air which eventually will reach the high pressure pump and cause the engine not to start until this air is expelled. All engines are test run here at the plant and are fully bled, however, air may be introduced in trucking or launching and must be bled out once the boat is launched. The fuel system consists of rubber hoses secured with hose clamps and threaded fittings made tight with pipe dope tape

or sealer. The complete fuel line from the pick-up tube in the tank to the fuel pump in the engine must be tight or air will be introduced.

All CDY engine installations incorporate two fuel filters which also must be air tight. Any time the fuel system is opened up, as when changing a fuel filter, air will be introduced into the system which must be bled out.

Usually, the only other major problems that can occur are caused by dirty or water laden fuel. Water is especially harmful in that its presence in the delicate passages of the high pressure pump will cause rust which may ruin the very costly fuel injection system. The best way to avoid water in the fuel is to keep the fuel tank nearly full at all times. This reduces the air space in the tank, which cuts down on condensation. A water separator which should be periodically checked and drained when necessary, is also provided.

Diesel fuel stabilizer also works, is highly recommended, and can be obtained from your local fuel dealer.

When filling the fuel tank, care must be taken not to overfill it. This will result in excess fuel being expelled out the vent hose and into the ocean which is illegal. Care must also be taken to see that the fuel fill cap is replaced securely so that no water will leak into the tank.

Fuel drawn from a cool underground tank will expand when placed in the warmer ships fuel tank. Therefore, the tank should only be filled to 95% of capacity to allow for expansion.

Diesel fuel, while less volatile than gasoline, is still explosive and extreme care should be taken while fueling or working on the fuel system. Never allow a mechanic to use ether as a starting aid. Ether can cause over pressurizing of the small cylinder on an auxiliary diesel.

3.10 Shafting

All Cape Dorys from the C-26D to the C-330 are fitted with 1" diameter tobin bronze "Tru Shaft" propellor shafts. The C-300 MS shaft is 1-1/4" diameter of the same material. The propellers require a standard tapered SAE bore and keyway and are secured with one 3/4"-10 nut, a "Perry Nut" zinc and a 1/8" cotter pin. The C-300 MS propeller locking nut is 7/8"-9. Vibration is minimized through the use of flexible engine mounts. (NOTE: "Perry Nut" zincs are available from Perry's Boat Harbor and Drydock, Isleton, California 95641.)

Alignment is very critical and should be checked

carefully several times the first year and at the beginning of every season. Alignment can only be accomplished in the water, with the rig tuned. All engine mounts are adjustable up and down and athwartships. If a flexible coupling is fitted, it must be removed when checking alignment.

Alignment is checked by mating the two metal coupling flanges together by hand and measuring the gap between them with a common automotive feeler guage around the entire periphery. There should be no more than .002" gap anywhere. Once alignment is arrived at, the flex coupling which is used on some models of the C-28 and C-330 should be installed and all bolts tightened. Particular attention should be paid to the engine mount nuts and bolts.

3.11 Stuffing Box

The propeller shaft, and on wheel steering boats, the rudder shaft, are fitted with stuffing boxes. The adjustment of the stuffing box is especially critical on the propeller shaft. If it is too tight, the packing will wear in and may require frequent adjustment. The packing nut should be adjusted so that one or two drops of water leak out approximately every 10 seconds, with the shaft turning. In practice, the stuffing box is properly adjusted as long as it is permitted to leak, with the shaft turning, and the leaking is not excessive.

If you are having trouble keeping the stuffing box from leaking excessively, alignment should be rechecked . Misalignment will cause the packing to wear, but once corrected, should solve the leaking problem . All CDY stuffing boxes use 1/4" waxed flax packing. DO NOT USE synthetic or teflon packing.

3.12 Maintenance

Owners should refer to the engine manual for recommended maintenance. Daily checks should be made on the oil levels and fuel level. Particularly important is that the engine mounts and coupling bolts be checked often to see that they remain tight. Periodically, it is a good idea to go over the entire engine with a set of wrenches tightening all bolts. Care must be taken not to overtighten and strip bolts and particular care must be taken on bolts that require certain torques such as head bolts. Engine vibration loads may have been experienced during shipment over the road. Beyond the above, the engine itself should be kept clean and dry, and the fuel fresh, water free and dust free. The oil and filter should be changed often and the two fuel filters changed at

carefully several times the first year and at the beginning of every season. Alignment can only be accomplished in the water, with the rig tuned. All engine mounts are adjustable up and down and athwartships. If a flexible coupling is fitted, it must be removed when checking alignment.

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least annually.

3.13 Winterization

Winterization is best left up to your storage yard. If you do it yourself, you should follow the instructions in the engine manufacturer's owner's manual. The major problem that can arise during winter layup is the danger of the engine water freezing. This can be prevented by either draining the water completely out of the engine and exhaust system, or by treating this water with antifreeze. Refer to the label for the proper mixing instructions for the degree of protection required in your locale. If the antifreeze system is used, the thermostat must be removed to insure that water enters all areas of the block.

3.14 Electrical System

Most Cape Dory yachts are equipped with a comprehensive electrical system designed to meet your present and future needs. The A. C. (alternating current - Shore Power) and D. C. (direct current - Ship's Power) wiring is plastic coated, stranded copper wire with crimped-on connectors or soldered joints as required. The electrical system is basically maintenance free, with only the batteries requiring periodic inspection.

3.15 D. C. - 12 Volt System

The D.C. system is powered by 12 volt, 75 amp hour batterie(s) located in the cockpit lockers . They are enclosed in an impact resistant, non-corroding plastic case and firmly attached to the hull. All Cape Dory yachts use standard negative ground system which must be considered when purchasing and installing additional equipment.

The batteries are controlled by means of the Battery Selector Switch, with the exception of the Typhoon Senior and C-26 outboard version, located on the bottom of the D.C. Power Panel which is in the companionway area. This switch acts as a master disconnect as well as a selector for battery #1, battery #2 or batteries #1 and #2 together. Commonly, one battery is reserved for engine starting duty while the second battery supplies all other needs. (battery switch is standard on 26D and above)

CAUTION: NEVER TURN THE BATTERY SWITCH TO THE OFF POSITION WHILE THE ENGINE IS RUNNING. SERIOUS DAMAGE TO THE

ALTERNATOR WILL RESULT.

The level of charge of the batteries may be checked with a Battery Condition Meter located in the center of the D.C. Power Panel, except for the Typhoon Senior and C-26. The BATTERY TEST SWITCH adjacent to the meter is used to directly connect the meter to the individual batteries. The condition may then read directly from the meter. The BATTERY SELECTOR SWITCH must NOT be in the ALL position and the engine should NOT BE RUNNING or false readings will result.

Fully charged batteries in a static state (meaning that the batteries have not been charged or discharged for at least two hours) should indicate between 12.3 - 12.6 volts on the numerical scale. The guage needle should be just touching the low end of the green normal segment on the colored scale. If the pointer lies in either the yellow or red low band, indicating between 11 - 11.5 volts on the numerical scale, the battery is about half discharged and should be recharged to ensure its usefulness. If, when the engine is started, the needle does not move up, this indicates that no charge is being delivered to the battery from the engine and the charging system should be checked. When the battery is being charged, the needle should indicate between 12.6 - 13 volts, approximately in the center of the green band. The needle may reach about 13.7 volts (at the high end of the normal green band) towards the end of the charge cycle. If the battery voltage reaches 15 volts (the center of the H1 red band) this indicates that the battery is being overcharged and will be damaged if left unchecked. The voltage regulator is most likely at fault.

When the battery is being discharged (having electrical loads placed upon it) and no charging current applied, it is normal for the pointer to indicate between 11.4 - 12.6 volts, or be in the yellow band.

A FINAL WORD: The above guidelines provided are merely to help you establish what is normal - the usefulness of the meter will depend on your own routine observations which will spot trouble when it occurs.

NOTE: The voltmeter located in the engine instrument panel indicates the engine alternator output, and is not an indication of the state of charge of the batteries.

A red PILOT light is provided on the panel. This light is illuminated whenever the batteries are connected to the system and provides you with an additional reminder that the batteries are on and also provides enough light to read the switch panel labels at night. The pilot light draws very little current and will not run the batteries down even when left on for long periods of time.

The batteries should be inspected and serviced at least once a month, more frequently when under heavy use. The terminals should be free from corrosion and tight on the battery posts and the electrolyte kept at the proper level by topping up with distilled water.

CAUTION: Avoid spilling battery electrolyte into the bilge and avoid getting any salt water in the battery. If this should occur, ventilate extremely well since poisonous gas will be given off.

There is a series of individual circuits provided on the D.C. Power Panel. Each circuit is activated by a toggle or rocker switch and protected by a circuit breaker or fuse. Before adding additional electrical equipment, check the required rating of the circuit breaker or fuse. Also be certain the number and size of the batteries is sufficient for the added loads.

3.16 A. C. - 110 Volt System (optional)

The A.C. system operates on 115 volt, 60 cycle current. Power is supplied from a 30 amp shore service by connecting the shore power cord to the receptacle in the cockpit area. Make sure the main circuit breaker on the A.C. Power Panel is in the OFF position when connecting the shore power cord.

IMMEDIATELY after connecting the shore power cable, check the 110 pilot light. If it is on and the main breaker off, this indicates a live circuit from the shore power receptacle. Next, check the reverse polarity indicator light. If it is on, disconnect the shore power cable IMMEDIATELY and determine the source of the problem as serious electrical shock hazards may exist to persons on board or along side your yacht, even if the main circuit breaker is off. The ship's wiring has been thoroughly checked and is of the proper polarity when it leaves the factory. If the system has not been altered, the reverse polarity condition is in the shore side system and should be brought to the attention of the system operator. If the reverse polarity light does not come on, the system is safe to operate. Turn on the Main Circuit Breaker at the top of the panel and then select whichever branch circuit is needed.

CAUTION: Before turning on the hot water heater, insure that the tank is full of water. Permanent damage will result from operating the heater with an empty or partially full tank. To check that it is full, simply open the faucet to the hot water side of the pressure water system and watch for continuous water flow.

On each Cape Dory that has been equipped with a factory

installed 110 volt AC system, we have included or added a #8 green coated copper wire as a ground. This wire is led from the common AC ground to the engine, and is in turn tied into the boat's ground system.

This ground cable is a safety feature installed to avoid serious electrical shock hazards should a connection to a faulty dockside power source be made.

Under no circumstances should this cable be disconnected, irrespective of claims that a certain amount of electrolysis could be created by the addition of this wire.

3.17 Bonding System

All thru hulls and seacocks below the waterline, including the stern tube, are connected to one another, to the engine block and to the external ground plate with a continuous loop of #8 copper wire. This is done to minimize the effect of electrolysis should one fitting become "hot" for any reason. Generally, a fiberglass hull is considered to be non-conducting and as such, the chance of stray electrical currents forming is minimal. (Bonding system is standard on all diesel equipped Cape Dorys)

As more and more electrical equipment is added to a boat, it becomes increasingly important to be alert to the threat of electrolysis. We recognize that there are various types of instrumentation available to further monitor strong currents and any potential difference between ground and the thru hulls. These instruments can all be added to the supplied ground wire system.

All Cape Dorys equipped with diesel auxiliaries have factory installed sacrificial "Perry Nut" type shaft zincs. These should be checked on a regular basis (at least twice a season) and replaced if corroded away. The "Perry Nut" will only offer protection to the underwater hardware, as long as zinc (grey metal) remains. (See Section 3.10 - Shafting)

3.18 Lightning Ground System

Your Cape Dory is equipped with a lightning ground system installed in accordance with the American Boating and Yacht Council (A.B.Y.C.) Project E-4. Every shroud and stay is connected to an external ground plate by a #8 a.w.g. stranded copper wire. Other equipment requiring grounding include the engine, fuel tank, fuel fill cap and mast step. Within practical working restraints, the wires are lead directly to the ground plate. (NOTE: Typhoon Senior and C-26

have optional lightning ground systems).

While no one can predict how lightning will react when it hits a spar, we know from actual experience that this system offers added protection.

During a lightning storm, refrain from touching any metal objects such as shrouds, mast, stanchions, pulpit, etc. as these may attract lightning.

DO NOT paint the external ground plate with bottom paint as this prevents the plate from grounding out with the sea water.

Periodically, inspect the connections to see that they are tight and clean and free from corrosion.

3.19 Through Hulls and Seacocks

Since some openings below the waterline are necessary, seacocks are used to open and close those safely and reliably. They have been in use for years aboard craft of all types, and have proven their value many times over.

The seacock is essentially a round tapered bronze plug with a hole through its diameter. The tapered plug is mounted in a cast bronze housing that forms the body of the seacock. The plug can be rotated through a 90 degree arc, to open and close the seacock, by means of the attached handle. The seacock is open when the handle parallels the direction of the hose (perpendicular to the seacock base) and closed when the handle is 90 degrees to the hose direction (parallel to the base).

NOTE: The handle can be rotated through 90 degrees EITHER SIDE of the open position to close the seacock. Seacocks are standard on all below the waterline through hulls.

Before launching, and regularly throughout the season, you should check to see that all hose clamps are tight and in good condition. Seacocks are designed to provide a positive means of stopping a flow of water into the hull, should a connection fail or hose rupture. These fittings are the single most important safety devices that affect the watertight integrity of your boat. Checking them for ease and effectiveness of operation means making certain that the handles move the full arc that they were designed for, and that sinks, toilets, and cockpits drain easily when filled.

Whenever the boat is left unattended in the water, ALL thru hull fittings should be left in the CLOSED position

except for those serving the cockpit scuppers. Be certain to open the engine cooling water seacock before starting the engine. The water pump impeller could be damaged and/or the engine and exhaust system damaged by overheating if the engine were to be started with the seacock closed.

Routine maintenance of seacocks calls for disassembly when the boat is out of the water, applying a waterproof grease to all friction-bearing parts and reassembling. When disassembling seacocks, do so one at a time as the components of each seacock are individually fitted to one another by their manufacturer. Your dealer or marina will suggest a good grease available in your locality. Automotive water pump grease may be used.

Seacocks should be worked frequently to keep corrosion from forming, causing them to jam.

To disassemble your seacock - there is a locknut on the outer end of the shaft - back it off and remove it. Next, back off the hexagonal end plate, removing it completely from the shaft. Then, from the opposite end, pull the shaft out of the housing. DO NOT use a hammer or hard object to force the shaft out of the barrel as you may damage the threads. After you have cleaned off the old grease - inside and out - replace it with new grease, reverse the procedure and reassemble. Be sure that you tighten the end plate tight enough so that the seacock will not leak, but not too tight or the tapered plug will not turn. A thin layer of lubricant between the end plate and locknut will facilitate disassembly next season. For obvious reasons, this procedure is to be carried out while the boat is out of the water.

The cockpit drain seacocks should almost always be left open. Their primary function is to be able to shut off the flow of water should the drain hose burst or become disconnected. Because these are the least used seacocks on the boat, there is a tendency to forget that they are there. DON'T! Work them frequently, and service them annually so that they will work should an emergency arise. Leave all seacocks open when the boat is stored for the winter so there is no freezing damage.

The other seacocks should normally be left in the closed position when you leave the boat. Be sure that you establish a routine of opening and closing seacocks so that you don't overheat your engine or burst hoses in the head. Since the head bowl is near the waterline, particular attention should be paid to the seacocks that serve the head. They should be shut off anytime you are asleep or off the boat. A malfunction in the head or leaving the head intake valve open could cause the boat to flood or sink if undetected. Simply closing the seacocks eliminates this hazard. Set up a routine to do this all the time.

3.20 Fresh Water System

Fresh Water Tanks: The C-26 and C-26D are equipped with a 24 gallon polypropylene bow tank located under the v-berth. The fill for the bow tank is accessible under the v-berth cushions, by lifting out the square plywood trap . A vent/overflow hose is installed and terminated under the deck edge in the fore peak. Water is drawn from the tank by a manual pump at the sink through PVC hose.

On the C-28 and C30, there are two 30 gallon water tanks located under the main cabin bunks. The deck mounted water fill is tee'd to supply both tanks. Each tank is vented aft up under the deck edge. Water is drawn from these tanks to manual pumps at the sinks through PVC hose.

A manifold joins the two tanks with each tank having its own shut-off valve. Only one valve should be open at a time to avoid water from one tank syphoning to the other while sailing.

The C-32 is equipped with three polypropylene F. W. tanks each with individual deck fills and vents; total capacity 74 gallons. A 24 gallon tank is located under the 'V' berth in the forward cabin. There is a 30 gallon tank under the portside settee berth in the main cabin, and a 20 gallon tank aft, under the starboard side quarter berth. The manifold for the tanks is located in the locker under the galley sinks.

The C-330 is equipped with three polypropylene F. W. tanks each with individual deck fills and vents; total capacity 84 gallons. A 24 gallon tank is located under the 'V' berth in the forward cabin. There are two 30 gallon tanks located in the main cabin, one under each settee berth port and starboard. The tank manifold is located on the inboard face of the locker under the sinks in the galley.

The C-300 MS is equipped with two polypropylene F. W. tanks each with individual deck fills and vents; total capacity 75 gallons. A 30 gallon tank is located in the main cabin under the aft outboard section of the portside dinette settee. A 45 gallon tank is located outboard of the engine, to the starboard side, under the helmsman's seat in the cockpit area. The tank manifold is located in the locker under the galley sinks.

If water is left standing in tanks for an extended period of time, it may adopt an unappetizing odor and appearance. If flushing the tank with clean fresh water does not eliminate this problem, use a mild solution of baking soda and flush again after allowing the tank to stand for several hours.

Cape Dory water tanks are constructed of polypropylene. If too much water pressure is used when filling the tank, it may burst or crack. To eliminate this possibility, the 3" access covers should be opened while filling. This also allows you to see when the tanks are full. Care must also be taken not to overtighten the access cover.

Pumps

The hand and foot operated fresh water pumps located in the galley and head areas are self priming. If a pump fails to operate, check that:

I) There is water in the tank(s).
II) The manifold valve is open to the tank (where applicable)
III) The hose is not kinked or constricted by a heavy piece of gear.
IV) There are no loose connections or ruptured hoses.

If the hose is clear and the pump still fails to operate, disassemble the pump and inspect the operation of the internal check valve, etc.

Pressure Water System

Your yacht may be equipped with an automatic on demand type pressure fresh water system. In use, it is quite similar to a typical home water system in that no switches need be turned or pedals pushed in order to get water.

The system is activated by a circuit breaker on the D.C. Panel. Once the system is switched on, the pump maintains a pre-set pressure at all times. When you open one of the faucets, the slight decrease in pressure which results is sensed by the pressure regulator built into the pump. The pump starts and runs until the faucet is shut. The pressure then builds back up and the regulator shuts off the pump.

All fresh water tanks can be drawn from by the pressure water system. The tanks are selected by the use of the valves that make up the manifold mounted under the galley sinks.
NOTE: only one valve at a time should be open to prevent the syphoning of water between the tanks in extreme conditions and to prevent air from entering the system from empty tanks.

Coming off one side of the manifold through a valve is the line leading to the manual backup galley pump. This pump is intended for use only when there is a power loss or mechanical difficulty with the electric pump. The valve at the manifold should be kept closed when the pressure pump is being used so that the electric pump will not create a suction through the hand pump and possibly introduce air into the system and/or damage the backup pump.

Coming off the other side of the manifold is the hose leading into the Parr #36400-0000 strainer and then the Sure Flow #220-21334 pump. The water leaves the pump at 25-35 PSI and goes to a "T" fitting. Here the cold and hot water systems separate.

On the hot side of the "T" fitting, there is a check valve to prevent hot water from backing into the cold water side and a manual shutoff valve used to isolate the hot water system for trouble shooting and safety purposes. From here, the water goes into the hot water tank and back to a "T" under the galley sink. One side of the "T" feeds the galley sink and the other, the head sink with no fittings in between. The cold water leaves the first "T" and passes back to a second "T" under the sink, and then on to the two sinks with no intervening fitting between the faucets and "T".

Start-up varies, depending when your boat was shipped from the factory. Boats shipped between April 15th and September 15th do not have antifreeze in them, while the boats shipped September 15th through April 15th, do.

On boats which have antifreeze in them, the valve leading into the hot water side of the system was kept closed and only the cold water side of the system was tested here at the factory. This water should be flushed out and then the hot water side filled. The antifreeze used is safe for portable water systems and is made by Sudbury Laboratories in Massachusetts . BE CERTAIN THE HOT WATER TANK IS COMPLETELY FILLED BEFORE TURNING THE 110 VOLT HEATING ELEMENT ON OR IT WILL BURN OUT THE ELEMENT. Also, be careful not to accidentally activate the high temperature, high pressure relief valve, which projects out from the side of the tank. Once the lever arm has been pulled, the valve will not reset and it must be replaced.

To activate the water system, fill up the tanks and open one valve on the manifold. We suggest you run the pump and open the cold water side of BOTH faucets until a steady flow of water comes out. Close the faucets and repeat on the hot water side. You must be sure to eliminate any trapped air from the system or the pump will cycle rapidly or never shut off.

We hope that we have found any problems here at the plant, but always check the clear hose just below the pump for air bubbles flowing in the line. If air appears, you must find its source, i.e.: a leaking connection, leaking strainer, faulty manifold, or an empty tank.

Also, periodically check for a leak in the pressure side of the system. One indication that something is leaking is the pump coming on at times when no faucet opened. This signifies a loss in pressure which a leak would cause.

3.21 Head System

All Cape Dorys from the 28 thru the 330 include, as standard equipment, a marine head with holding tank. Both the 26 and 26D have a marine head with holding tank as an optional feature. The C-28, C30 and C300 MS have a 24 gallon waste holding tank installed under the V-berth. The optional 20 gallon holding tank for the C-26 and C-26D is also located under the V-berth. The C-32 and C-330 have a 35 gallon, fiberglass holding tank located under the engine.

Refer to the head manufacturer's instructions on use of the marine toilet. It is recommended that a minimum amount of flushing water be used on each cycle to maximize the capacity of the holding tank. There is a deck plate conveniently located from which your marina can pump out the tank.

All tanks have a 3" diameter access cover on the top for inspection and clean-out. The use of deodorizing chemicals as sold for recirculating toilet systems is recommended to control odor. The tank and head should be winterized by cleaning and treating them with a "Winterguard" type antifreeze. Winterguard is a non-toxic antifreeze which can also be used to winterize your fresh water systems.

In certain areas where pump-out facilities are not available, it may be necessary to install onboard holding tank pump-out equipment. We recommend a 1-1/2" hose tee be placed in the line from the tank to the deck fitting and that a pump be installed from this tee. The pump can either be a Whale Gusher GP-10 manual diaphragm pump, Whale Urchin manual diaphragm pump or an electric Jabsco Macerator pump (model #17260-0003). The discharge from the pump can either be lead to a seacock or a hose for dockside tanks. Discharge outside the territorial waters of the United States is permissible as long as this system is valved closed when inside the territorial waters. Please refer to the latest regulations for your area to determine which system is best for your boat. A vented loop is recommended in all head discharge lines that lead overboard. See the drawings for details of head plumbing systems.

3.22 Scupper Drains

The cockpit scupper drains on your Cape Dory use multi-ply wire reinforced hose throughout. The hose is 1" inside diameter on the Typhoon Senior and 1-5/8" inside diameter on all other models. The C-26 cockpit drains conveniently through the outboard motor well. All connections are sealed with gasket sealer and secured with stainless steel hose clamps. Scupper drains and galley sink drains discharge

overboard below the waterline. Protect these hoses from sharp objects and chafe. Inspect hose clamps for security regularly. Hose clamps that were tight when the boat was built may loosen in transit or due to the contraction of the rubber hose and should be checked often. A failure here could cause your yacht to sink if the seacock is left open.

3.23 Bilge Pumps

All Cape Dorys with inboard diesel engines are equipped with a permanently installed diaphragm-type bilge pump. The pump itself is located in the cockpit area and is operated by inserting the (removable) handle into the handle socket. This arrangement allows the pumping of the bilge with all hatches closed; a safety precaution, should you have to pump in severe conditions. Locate the handle, when not in use, so that it is readily accessible in an emergency. Insure that your crew is also aware of its location.

Water is carried from the bilge to the pump by a reinforced plastic hose with a strainer at the bilge end. This strainer should be checked FREQUENTLY and cleaned as needed. The pump discharges water overboard through a fitting located above the waterline near the transom.

The pump is designed to pump water containing a variety of debris, but can become clogged by excessive solid matter. If the pump should fail to prime itself after several strokes, check to see that the pick-up hose is positioned properly, then check the pump body for debris. The rubber diaphragm may be removed by loosening the screw which holds the stainless steel clamp. Inspect the pump body for foreign material and gently lift the intake and outlet flapper valves to determine that they are clear. Reassemble the pump and continue pumping. The pump may also fail to prime due to a ruptured or leaky hose. This can be checked by holding your hand over the end of the hose to see if suction is felt.

It is wise to pump the bilge before casting off and again on returning to see if the boat is taking on unusual amounts of water.

NOTE: If you decide to have an electric bilge pump installed, be sure to consult an expert on the wiring and plumbing of that piece of equipment.

3.24 Mast Step Reinforcement

Since the masts of the Typhoon Senior, 26, 28, and 30, 32 and 300MS Cape Dorys are stepped on deck, a reinforcement

system is fitted to distribute the load safely to the hull.

The structural systems vary from model to model, depending on the location of the mast step relative to the interior arrangements.

The Typhoon Senior uses a heavy laminated wood beam built into the deck unit, spanning the opening between the sections of the port and starboard main cabin bulkhead. The aluminum mast step casting is through bolted to the deck. The fastening nuts are reached by removing the 2 plastic caps in the underside of the deck.

The C-26 and C-26D mast steps are drilled and tapped into heavy aluminum plates inserted into the deck during construction. The mast compression loads are supported by a solid wood post and main cabin bulkhead, located underneath the mast step.

The C-28 and C-30 standard layout A have a structural steel weldment laminated into the deck. The mast step bolts are drilled and tapped into this weldment. This weldment distributes the mast loads on to the bulkheads and into the structure of the yacht.

The C-30 optional layout B (forward head model) is fitted with an aluminum tube compression post, to which the mast step is drilled and tapped. The compression post assembly is installed through the deck, the lower end being bedded onto the cast internal lead ballast with a polyester compound. The mast step is also through bolted to the deck.

The C-300MS and C-32 mast step bolts as on the C-26, are drilled and tapped into aluminum plates, which are molded into the deck. The compression loads of the masts are transmitted into the keel and surrounding structure by means of laminated wood posts and the main cabin bulkheads.

The C-330 mast passes through the deck and is stepped on the keel. The mast step casting is drilled and tapped into metal inserts in a premolded fiberglass mast step unit, bonded to the keel. The mast collar is through bolted to the deck.

3.25 Spars

Masts, booms and jib clubs on all Cape Dory yachts are made of high-grade extruded aluminum . All spars are anodized, but unfortunately, anodizing is a semi-permanent process, but still the best means of protecting aluminum. After several years of hard exposure to salt spray and sun, the protective properties may diminish and a paint or film

may need to be applied to the mast. However, anodized spars have been used for many years untreated with no apparent harm.

As a general rule, aluminum masts require minimal care and maintenance. When they are removed from the boat for the winter, they should be thoroughly washed with plenty of fresh water and a mild detergent. After a complete rinsing with fresh water, and after all halyards and lifts have been tied-off, to prevent tangling and fouling, a thorough inspection should commence. Start at the base of the mast. Water will collect here if the drain hole in the mast step has not been kept clear. This may hasten the breakdown of the anodizing and start the corrosion process. If water has collected and caused corrosion, clear the mast step drain hole and refinish the mast base or heel. Waxing will help preserve anodizing.

Proceed up the mast noting any areas that are scratched or abraded. If these are small, they may be covered with a clear lacquer of a mast-kote type product to keep corrosion from starting or spreading. Sometimes, it is recommended that you apply to the mast a good hard wax as this helps to protect it further. As you proceed up the mast, check every cleat and fitting for tightness, and for corrosion which may have begun in the screw holes. Make certain that no bronze, brass or non-stainless steel fastenings are used in the aluminum as these metals are noncompatible with aluminum and electrolytical corrosion will start at once.

Check the tang fittings of the lower shrouds and the base mounts of the spreaders as you proceed up the mast. Carefully check all tangs, straps and fittings at the masthead.

Examine the main and jib halyard sheaves for signs of wear. Insure they turn freely. If you see anything that looks at all unusual, ask your dealer or local boatyard for assistance. Booms and jib clubs should also be inspected as carefully, with particular attention to gooseneck fittings, sheet blocks and bails. The combination deck and mast light should also be inspected. Check the bulb holders for corrosion, and clean contacts if necessary. It is good practice to change the bulbs every year, as a mid-season failure is very difficult to correct. Record bulb sizes and carry spares aboard your boat.

The spreaders that support the upper shrouds should be inspected. They are designed to angle slightly upward to best support the mast in column. The inboard and outboard ends should be covered with chafe tape or spreader boots to prevent tearing sails or halyards . If any damage is sustained during mast stepping or winter storage, replace the spreader. DO NOT sail with defective spreaders, spars or

hardware. We do not recommend that a mast be left stepped all winter, especially in northern climates, where the boat is used for approximately 6 months out of the year. If possible the mast, boom(s) and rigging should be stored under cover during the winter, or layup period, as unnecessary exposure to the elements tends to shorten their life.

3.26 Standing Rigging

Standing rigging consists of shrouds and stays which support the mast in an upright position. Running rigging is used to hoist or trim sails. The condition of the standing rigging and turnbuckles must be checked periodically. A failure of a stay or shroud could result in the loss of the mast. Most failures occur from lack of attention, poor tuning or improper maintenance rather than structural failure.

Before stepping your mast each season, inspect all standing rigging thoroughly. Starting at the top of the mast, systematically check each upper shroud and stay tang and be certain that each clevis pin is secured with the correct size cotter pin with its ends bent over. Wipe down each shroud and stay with bronze wool dipped in a solution of water and mild detergent. The bronze wool will catch any broken wire in the rigging, calling attention to potential trouble; use bronze wool as unlike steel wool, it will not leave particles to rust and soil your sails. Follow the bronze wool with a piece of terrycloth sprayed with a water-dispersing agent, such as CRC or WD-40.

If you have doubt as to the soundness of a shroud or stay, consult your boat yard or a reputable rigger, and replace if necessary.

Next, see that the spreaders are firmly fastened in place, and that the upper shrouds are locked in place on the outboard end of the spreader with a short length of stainless steel wire. You should use a spreader boot or some other form of chafing gear to protect your sails from the spreader tip. Check the mast tangs, clevis pins and cotter pins for the lower shrouds as outlined above for upper shrouds and stays. The C-30 Cutter and C-32 Cutter (Note: cutter rig is optional on C-32) have additional tangs on the foreside of the mast for the staysail stay, on which the club jib is set, which also should be checked. The tangs for the lower shrouds are designed to allow for some movement, so do not overtighten the tang bolt.

Prior to stepping the mast, be sure that halyards are properly reeved. The main halyard's hauling part is secured to the starboard side of the mast, and the jib halyard is

secured on the port side.

After checking each piece of standing rigging for broken wires, rust spots, and for secure clevis and cotter pins, inspect the swaged terminal fittings at the ends of each shroud and stay. These fittings should be examined, using a magnifying glass, for any hairline cracks. These cracks sometimes develop after water has entered the body of the fitting (by following the lay of the wire) causing the wire to corrode and expand. Although this problem is more prevalent in the southern latitudes, many owners seal the space between the wire and swage with bees wax. Turnbuckle boots are also quite popular, but are not recommended by Cape Dory as they cover turnbuckles which should be inspected frequently. We DO NOT recommend oiling or greasing the swage fittings as a means of preventing water from running inside them.

Report to your dealer any fittings that you find to be defective. Wire and fittings with any of the following defects require replacement: kinked wire, wire with broken strands, cracked swage fittings, bent turnbuckles, turnbuckles with stripped threads, clevis pins with grooves worn in them, and tangs or other fittings with distorted holes. The existence of any of the aforementioned conditions should be investigated, the reasons for them determined, and corrective action taken.

After completing the above inspections, the mast may be stepped and the standing rigging secured to the chainplates. In all Cape Dory yachts, with the exception of the Typhoon Senior, the upper shrouds are attached to the chainplate in a direct line athwartships to port and starboard of the mast step. Lower shrouds are attached fore and aft of the upper.

The Typhoon Senior rig has swept back spreaders and single lower shrouds. The upper shroud should be attached to the outboard pinhole and the single lower to the inboard pinhole of the two hole cast bronze side stay chainplate.

All running rigging on Cape Dory yachts is Dacron. It requires only protection from chafe and the ultraviolet rays of the sun. Stow in neat, seamanlike coils when not in use so that it will run freely without kinks when it is needed. Periodic rinsing in fresh water during the sailing season is recommended.

3.27 Turnbuckles

Cape Dory boats are equipped with open body integral toggle turnbuckles. Prior to every sail, all turnbuckles should be checked to see that they are properly adjusted (see

section on Tuning) and above all, pinned, so that they will not loosen. The two cotter pins should be inserted and spread open. The threaded sections above and below the barrels may be taped once the turnbuckles are adjusted and locked in place. Engine vibration and even wave action at mooring or slip are enough to allow an improperly pinned turnbuckle to work loose.

During the season, you should completely disassemble and inspect all turnbuckles at least once. DO NOT attempt to do this when sea or wind conditions are placing strain on the mast. The shroud turnbuckles (upper and lower sidestays) may be disconnected and inspected ONE AT A TIME. The remaining shrouds will provide adequate mast support.

Prior to disconnecting headstay and backstay turnbuckles for inspection, special measures to support the mast are necessary. This can be accomplished by using the halyards as temporary stays. Attach the jib halyard to the jib tack shackle; haul it in tight and cleat it . This will temporarily replace the headstay, so that you may disassemble the turnbuckle for inspection. Lead the main halyard aft to a stern cleat and follow the above procedure to check the backstay turnbuckle. DO NOT use the coaming mounted sheet cleats for anything other than sheeting the headsail and then only if the sheet is around the winch first. These cleats are handily mounted, but may pull out of the coaming if the main tension of the sheet is not taken by the winches.

The barrel section of the turnbuckle should be backed off entirely from the top and bottom sections. All threads should be carefully inspected both for ware and damage as well as rust, corrosion, or breakdown of the metal itself. The threads in each end of the barrel should be inspected as well as the threads of the swaged stud attached to the wire, and the lower section incorporating the toggle. Prior to reassembling, lightly lubricate the threaded sections of each component with waterproof grease. The turnbuckle should be assembled so that the threaded section of the upper and lower parts are exposed for the same length in the barrel. This will allow even adjustment.

The turnbuckles on each shroud and stay should be set to approximately 2/3 open before stepping the mast. This will enable the stays to be tensioned easier during the mast stepping operation.

Turnbuckles should not be opened any further if it means obscuring the cotter pin holes in either of the upper or lower threaded studs. It is important that BOTH cotter pins are installed for obvious safety reasons.

3.28 Deck Hardware and Chainplates

Most deck hardware on Cape Dory yachts is either thru-bolted or the fastenings are drilled and tapped into a metal insert in the deck. Aluminum backups are used in some applications, and are visible below the deck or headliner. Some items e.g. access plates, are caulked and screwed down with self-tapping stainless steel screws. After a period of time, items of deck gear can develop leaks. These should be removed and rebedded using a good brand of caulk such as Boatlife "Life Caulk" or Sika "Sikaflex 201 or 231". Care must be taken not to overtighten the fasteners as the strength can be reduced severely. Particular attention should be paid to the chainplate fasteners as they are very critical to the safety of the rig. The chainplates were torqued at the factory and when recaulking them, you should not exceed the torques listed below:

1/2	bolts	200 inch pounds
3/8	bolts	150 inch pounds
3/16	bolts	90 inch pounds

3.29 Tuning the Standing Rigging

The purpose of tuning the rig is to adjust the center of effort of the sail plan fore or aft to obtain a slight weather helm in moderate winds, and to keep it straight without hooks to port, starboard, fore or aft. Properly tuning the rig is an important process which should be attempted only by qualified personnel; consult your Cape Dory dealer.

The fore and aft alignment of your mast can be checked by comparing it to a vertical structure such as a radio tower, chimney, etc.. Before checking the mast alignment in this manner, be certain that the boat is in level trim. The rake of the mast is adjusted by means of the shroud and stay turnbuckles on sloop rigged models, and in addition, the intermediate shrouds and staysail stay on the optional C-32 cutter rig and the C-330. (NOTE: when adjusting turnbuckles, never use excessive force or the turnbuckle may be distorted.) Always prevent the upper threaded turnbuckle stud from turning. Headstays and backstays should never be taken up so tightly that they will not "give" an inch or so if you pull on them with moderate force.

Upper shrouds should also be tightened equally and have about an inch of "give" to them. Forward lower shrouds should have one to two inches of "give", and the aft lowers slightly more.

UNDER NO CIRCUMSTANCES TAKE UP THE RIGGING TO BAR TIGHT TENSION. Both the mast and the boat can be severly damaged by excessive tension.

Fine tuning of the rig can be completed after the boat has been sailed, and may have to be done again after the boat has been out in strong winds. When sailing, it is important that the mast remain straight and as nearly in column as possible at all times. While sailing close hauled, sight up the mast track and note any mast curve. Does the mast appear to be falling off to leeward at the top, or does it hook upwind? Repeat this procedure on the opposite tack.

If the masthead is falling off on both tacks, the forward lower shrouds are too tight and the upper shrouds are too loose. If the masthead hooks to windward, the upper shroud is too tight in relation to the lower on the same side. When sailing to windward, the forward lower shrouds bear a greater load than the after lower shrouds; however, the after lower shrouds on the windward side should never be loose. All shroud tuning should be done from the leeward side. If the rig seems to be equally balanced when you begin, duplicate every half turn from side to side.

On Cape Dory boats with bowsprits, adjust the tension in the bobstay to keep the bowsprit straight. This should be checked while sailing upwind in moderate conditions. The bobstay cotter pins must be installed to prevent the stay from slacking off.

CHECK TO SEE THAT ALL COTTER PINS OR RINGS ARE IN PLACE AND THAT ALL SHARP EDGES ARE TAPED.

Rigging that has split strands or wire or cracked swage fittings should be discarded and replaced.

3.30 Running Rigging

Because of the recent advances made with pre-stretched synthetic fiber line and the age old problem of fish hooks forming in stainless halyards after one season of use, your boat is equipped with pre-stretched dacron halyards. Yachts equipped with running rigging made from this type of material have sailed around the world.

Periodic inspection of the running rigging will point out any areas of excessive chafe. Often the offending item causing the chafe can be corrected. One way to extend the life of the running rigging is to end for end each line, sheet, etc. every year to move the point of wear away from the sheave, winch or turning block. Only experience will dictate when they need replacement. If there is any question

as to the strength or safety of a particular line, consult your rigger or boat yard.

Drawings are included to illustrate the correct reeving of the mainsheets for all boats and the club jib sheets on the 28, 30, 300MS, optional 32 cutter and 330.

3.31 Sails

Sails should be protected from chafe by padding spreaders and other gear or by installing chafe patches on the sails themselves. Spreaders and shrouds can chafe genoas and other overlapping jibs when those sails are sheeted in tightly and can chafe the mainsail when running before the wind. Topping lifts frequently chafe the leach of the mainsails.

Inspect your sails frequently and take care of chafed stitching or small tears before they become a major problem. A small ditty bag with some thread and a few sail maker's tools on board can come in handy and save you time and money in the future.

Sails should also be protected from sunlight as much as is practicable. Ultra violet light can break down the dacron in the sail cloth and stitching. Sails that are left furled on booms, jib club booms and forestays without suitable covers are most susceptible to this problem. Suitable sail covers are available from Cape Dory through your dealer.

Mildew is no longer the major concern that it was in the days of natural fiber sails. Your new sails should be dry before folding if for no other reason than to prevent the unsightly growth of this dark mold.

In order to retain the shape of your sails, they should be folded after each use. In the case of the mainsail, outhaul tension should be relieved before flaking the sail on the boom.

After the season, sails should be inspected and if necessary, serviced by a competent sailmaker . For appearance's sake, stains should be removed and the sails washed gently with a mild soap and thoroughly rinsed with clean fresh water.

The mainsail has plastic slugs which are inserted into the track on the after side of the mast. On larger Cape Dory boats, a hinged mast gate is provided. After all the sail slugs are inserted in the track, close the gate and install the cotter pin with ends directed away from the sail to prevent chafe. Insert plastic slugs or bolt rope at the foot

of the main into the boom sail track.

The sail battens used on your boomed sails are thin wooden or fiberglass stiffeners inserted in the trailing edge to support the outward curved leach. When inserting the batten, the thin edge goes into the batten pocket first. Battens, particularly wooden battens, can twist and warp if they are not kept flat. Keep this in mind when storing them. Battens should always be removed when the mainsail is furled. You will find it helpful to have the battens numbered or lettered so that they can be installed in the correct pocket and direction each time.

3.32 Jiffy Reefing - All Boats

Jiffy Reefing is used on all boats. REMEMBER: IF YOU ARE THINKING ABOUT WHETHER OR NOT TO REEF, IT'S THE TIME TO DO IT. Being over-canvassed is hard on a crew and boat, potentially dangerous, and will not make the boat go any faster.

Reeve the reefing lines through the reefing cringles. The grommets on the luff and the leach will then become your new tack and clew. Ease off the halyard and pull the tack down to the top of the boom. Make the tack line fast to the cleat on the mast or place the tack reef cringle over the gooseneck mounted reefing hook and take up on the halyard until the luff is set with the proper tension. Next, haul in on the clew line, pulling the clew down and aft. The clew line runs from a padeye up through the grommet, down to a cheek block and forward to a cleat. It is important that during a jiffy reef the main sheet and the vang, should your boat have one, be eased to allow proper tensioning along the new foot of the sail. The key to this type of reefing is to have sufficient tension on the foot of the sail. When the clew has been pulled out and the foot is tight, make the line fast around the cleat on the boom.

There are reef "points" in the mainsail of Cape Dory yachts fitted with "jiffy" reefing. Use 24" lengths of 1/4" line and run them through each reef point. Lead the line through the reef point, under the foot of the sail and tie the reef lines in a REEF KNOT. It is the seamanlike procedure to keep the unused sail out of the way and reduce windage.

To shake out the reef, release the lines through the reef points, stow them and release the reef line through the reefing cringle that is serving as your clew. Then release the reef line or the reefing cringle for the tack, and hoist the mainsail so that the luff is tight. Return the topping lift to its original position. Again, make sure the sheet

and vang have been eased.

Generally speaking, reefing is desirable when you find yourself heeling more than 20 degrees or wish to slow the boat down to keep it manageable in heavy airs. When going off the wind, the boat will probably sail as well running under headsails alone, since the reefed main will usually blanket the headsail. You may wish to leave the mainsail reefed, furled and ready to hoist when you change direction to windward.

The enclosed explanation of "quick reefing" is from the catalogue of Schaefer Marine Products of New Bedford, Massachusetts. It is reprinted here with their permission.

3.33 Optional Sails

The first sail that you will probably want to add to the complement of your working sails is a 130% - 150% genoa. A sail of this size and type will provide more power and speed in lighter wind conditions and is particularly effective when going to windward. The LP of the sail (this is where the percentage comes from as a factor of the base of the foretriangle or 'J' dimension. In practical terms, the horizontal distance from the forward side of the mast to the headstay pin in the stemhead fitting) should be determined based upon your local sailing conditions and personal requirements . Consult your sail maker for their recommendations.

Cape Dory has genoa and genoa gear packages for all models. We also have 150% genoas for the Typhoon Senior and C-26.

If you choose to add a spinnaker or other sails to your inventory, select your equipment carefully. Your Cape Dory dealer will assist you in selecting suitable equipment and will make you aware of the optional sails and equipment that Cape Dory has available. Due to a very low demand for the spinnaker gear, Cape Dory cannot supply this gear other than the gear attached to the mast. A popular sail which acts like a spinnaker and a reaching genoa is a flasher. This sail is also known as a MPS (Multi Purpose Spinnaker). It does not require a spinnaker pole and is easier to set and trim than a spinnaker.

3.34 Bottom Paint, Boot Top Paint

Your Cape Dory was painted with anti-fouling paint before it left the factory. The area under the cradle

poppets and keel supports may require additional painting prior to launching. These areas should be well sanded with 120 grit paper and washed with solvent to remove wax prior to painting.

In different geographical areas, some bottom paints work much better than others. If you intend to repaint the bottom of your Cape Dory, seek the advice of your dealer or knowledgeable local boat owners on what brand of bottom paint works well in your area. CAUTION: not all bottom paints are chemically compatible. Be sure to tell your paint dealer what paint is currently on the bottom of your boat to be certain that you purchase compatible anti-fouling paint. Cape Dory recommends the use of epoxy primers and bottom paints.

The boot top paint is INTERLUX DADO BROWN #246. When repainting, this area should be well sanded before applying a new coat.

3.35 Exterior Maintenance

SPAR

It goes without saying that removing the spar and storing it inside after the sailing season is over (northern climates in particular) is preferable to leaving the spar stepped or outside. Regardless of where you sail, the spar should be waxed once a season and inspected carefully.

All moving parts on the spar were treated with a teflon lubricant when they were installed. At least once a season, you should do the same.

STANDING RIGGING

Standing rigging, the fixed rigging supporting your mast, should be inspected frequently to ensure trouble-free sailing.

New rigging will often form a thin layer of rust, especially at the terminal ends . This is caused by impurities surfacing when the wire is cold worked during manufacture. The oxidation should eventually stop forming and when it does, the stain should be removed with an unchlorinated cleanser . If the rusting persists after several cleanings, contact your dealer.

Turnbuckles should be checked to see that there are sufficient threads exposed and that the cotter pins are in place and taped over.

The judicious use of a silicone-type product on sail, genoa and traveler tracks works well to keep these running free in a salt air environment . Sheaves should be disassembled occasionally, washed and well lubricated with a thin oil.

Check the spreaders to be certain that they are angled upward with the angle between the upper shroud and the top of the spreader the same as the angle formed by the bottom of the spreader and the shroud. The spreader tip should be securely seized to the shroud and it all protected by chafing gear.

Once a month all shrouds, tangs, masthead assembly, etc., should be checked to be certain all bolts are tight and all cotterpins are in place.

LIFELINES, PULPITS AND STANCHIONS

Lifelines, like standing rigging, should receive periodic checks . The terminal ends should be engaged properly in the barrels of the turnbuckles and the lock nuts tight. As the lines stretch, the slack should be taken up. Check all swaging for dents or cracks.

Check pulpits and stanchions for cracks, dents and cracks in the welds. Check that the bases are tight and properly sealed.

Periodically, some of this stainless hardware shows signs of rusting as mentioned in the standing rigging section. If after a period of time the rusting continues, contact your dealer.

WINCHES AND BLOCKS

The winches installed on your yacht are the finest available. Most problems occur when a proper maintenance schedule is not followed. It is important that your winches be cleaned and inspected at least twice a season or after a two or three week offshore passage. We recommend a high density grease and not an oil for the required lubrication. Check to see that all bolts holding the winch down are tight.

Blocks require little maintenance except periodic washing in fresh water and a light oiling or spraying with a silicone lubricant. Check all aluminum 'T' tracks for signs of lifting or loose fasteners.

MAINTAINING TEAK

Teak above deck on Cape Dory yachts has been sanded and oiled to a full golden hue before it leaves the assembly area. As it gets exposed to sunlight and drying conditions,

the woods begin to take on a grey appearance that will eventually lead to surface deterioration of the wood. Teak which is ignored will eventually begin to split and grain will lift.

Contrary to what you may have heard, teak is not a miracle wood that is totally maintenance free. It is easy to maintain. There are a number of excellent teak cleaning and sealing preparations on the market. We suggest that you ask your sailing friends (who have teak you admire) for their suggestions. (Many excellent teak cleaning and sealing products are not available nationwide, so use the best available in your area.)

The teak may also be varnished; put three to six coats on initially; plan to apply another coat at midseason, and a final coat prior to winter layup. Follow manufacturer's directions for the varnish which you purchase (use only quality marine varnish.)

3.36 Interior Maintenance

Periodic cleaning is essential to keep the interior of your boat clean and bright. Choose sunny, breezy days for your boatkeeping chores as sun and fresh air are a great help in drying and airing interior cushions, etc. while you continue with chores below; they also contribute to your enthusiasm for the task!

3.37 Cushions

The cloth covering the interior cushions may be one of several different materials depending on which color or style you selected. We, therefore, recommend that you either have the cushions dry cleaned or clean them with an upholstery shampoo of the spray foam type.

Vinyl interior cushions and cockpit cushions should be cleaned with a vinyl upholstery cleaner . Follow the manufacturer's instructions regarding the use of these products. To prevent the growth of mildew beneath vinyl cabin cushions, elevate them when leaving the boat to allow air to circulate. Remove bunk top traps also, when leaving the boat, to allow the lockers to be aired.

3.38 Ice Box

The ice box on your Cape Dory is designed to drain water from melted ice into the bilge . Because small food particles, juices from meats, etc. may also drain into the bilge, it is wise to use a NAME BRAND bilge cleaner in the bilge as needed or every three to four weeks (depending on how frequently you are using the ice box). Follow the directions for use which accompany the product which you select.

Another alternative is to fit a plastic gallon jug on the end of the ice box hose. Periodically, dump the melted ice water into the sink.

Food items should not be left for long periods of time in a closed ice box without ice. Spoilage, odors, mold and mildew will result. Plan to clean out your ice box (both ice and food items) at the end of each sail or cruise when you are leaving the boat for an extended period of time. Remove the ice box cover to permit thorough drying. Clean up any spillage of food, etc., in the ice box, to prevent a blockage in the drain, and drainage into the bilge.

Clean the fiberglass interior surfaces of your ice box periodically with a sponge dampened with a water and bleach solution (this will help prevent mildew and odors in the ice box).

3.39 Ports and Hatches

The Spartan ports fitted on your yacht are made of bronze, tempered glass and stainless steel. A neoprene gasket bedded in a contact adhesive is used to seal the port. (NOTE: Typhoon Senior and some C-26 ports are non-opening)

The hinge pins and port knobs should receive a light periodic oiling to combat any build-up of salt spray that may accumulate. The glass may be cleaned with any non-abrasive household glass cleaner.

Optional port screens are available which snap into place on the outside of the port. DO NOT use strong solvents on the plastic portions of the screen.

Hatches made of lexan material should not be cleaned with any solvent or abrasive cleaner. They should be rinsed with warm water only and cleaned with an acrylic cleaner. Other soaps and detergents may cause the lexan to film over and lose some of its clear qualities.

3.40 Curtains

Generally, the curtains supplied have a content of 77% cotton and 23% acetate and should be dry cleaned.

3.41 Sinks

Stainless steel sinks may be cleaned with any stainless steel cleaner according to the manufacturer's instructions or with a non-abrasive cleaner and soft cloth or sponge.

3.42 Head

The plastic seat and vitreous china bowl of your head should be cleaned with a non-abrasive cleanser and sponge or soft cloth.

3.43 Interior Wood Surfaces

Rubbing the wood periodically with a fine bronze wool when oiling will help produce a smooth satin surface. Many excellent teak oils are available as well as other household products such as "Liquid Gold".

Some finishes are in a wax base such as the Minwax products. Repeated use of this type of product, builds up a finish that has a very smooth surface. Care should be exercised, however, when using these products as oiling or varnishing at a later date may not be possible due to the layer of wax that has accumulated.

Make sure that there is adequate ventilation when it is called for by a product's manufacturer.

3.44 General

Dirt, hair, etc. should not be washed into the bilge during any cleaning process as these may plug the bilge pump strainer and prevent it from functioning when needed. Use a dust pan to collect dirt, etc. when cleaning the cabin sole of your boat. The C-330 is provided with a stainless steel dust pan, located under a teak sole grate in the galley area.

Remove covers of lockers when leaving the boat to allow for adequate ventilation and prevent mildew. Remove excess moisture which may have collected in lockers with a sponge,

and wipe the locker interiors with a dry cloth.

3.45 Winterizing

Winterizing your yacht is a relatively simple procedure. It is assumed that the boat will be dry stored in the following instructions. If you should decide to wet store your boat, be sure to take adequate precautions against water freezing in the engine and plumbing systems of your boat.

BLOCKING THE HULL

A good boat yard is, no doubt, expert at properly supporting the hull. Check to make sure that the weight of the hull is resting on the keel. The purpose of cradle bulkhead or poppets is to balance the boat in an upright position, not to bear the weight of the boat.

Before hauling out, show the boat yard the profile of the hull so that they will know how to position the lifting straps. The usual locations for the straps of a typical marine lift are just forward of the rudder heel bearing and in the hollow of the fore foot. Alert the boatyard as to the locations of under water fittings and any transducers that may be installed.

COCKPIT SCUPPERS

Flush with fresh water and leave seacocks in the open position so that the cockpit and the hoses will not fill with rain water and freeze.

ICE BOX

Clean ice box thoroughly and leave open,as previously described.

STOVE SYSTEMS

a) Non-Pressurized Alcohol
   Clean stove thoroughly, including burners, and insert burner gaskets.

b) Pressurized Alcohol
   Clean stove thoroughly, including burners . Release pressure in fuel tank and leave tank empty.

c) LPG (Liquified Petroleum Gas) and
   CNG (Compressed Natural Gas)
   Clean stove thoroughly, including burners. Burn off excess gas in the feed line by closing the

valve on the tank, with a stove burner lit. When the flame is extinguished, the gas in the fuel line has been burnt off. Be sure to turn all valves on the appliance to the OFF position. The first time you use your stove again, monitor the flame closely until all the air is bled out of the lines and a consistent flame is achieved. The tanks can either be left on the boat or taken off. If the tanks are left on the boat, insure that the gas locker drains and/or vents are clear. Consult your boat yard as to their preferred storage practice for LPG/CNG tanks.

ELECTRICAL SYSTEMS

Remove batteries from boat and store in a warm dry location off a cement or stone floor. They should be completely charged before storing or left on a trickle charge.

The balance of your electrical system requires little maintenance. If you wish, each bulb can be removed and the light fixtures given a spray of water dispersant such as "WD40", "CRC", or a similar product. The main switch and fuse panel can also be treated this way to minimize corrosion.

PROPELLER

Examine the propeller for any damage or nicks. If evidence of either is apparent, have the propeller removed and trued.

HEAD

Follow manufacturer's directions closely. Remove any water to prevent from freezing. The holding tank should be empty when the yacht is laid up for the winter. If possible, flush the tank with a mixture of non-toxic antifreeze and water prior to hauling.

WATER SYSTEM

Pump tanks as dry as possible, then add a non-toxic water system winterizer that your local marine hardware store will recommend. (CAUTION: DO NOT use antifreeze or other poisonous substances.) Pump this solution through the entire fresh water AND drainage system.

ENGINE

Follow the instructions laid down in the engine owner's manual, supplied with the ship's papers for winterizing your inboard diesel auxiliary.

Disconnect engine cooling water intake to make sure that no water remains in the line. Reconnect line and secure hose clamps. Remove the drain plug in the muffler and drain.

FUEL TANKS

The best way to store a fuel tank is empty. Partially filled tanks invite condensation. Completely filled tanks leave you with old fuel in the spring and possible gum deposits. Much has been written lately on this subject and new products are being developed to prevent gum deposits. Keep informed and consult your dealer or boatyard for recommendations.

COVERING

It is far better to store a boat under cover than to leave it open to the elements. The teak trim will fare far better during the winter and the boat will not be subject to the pressure of freezing water, a common cause of gel coat stress cracks. If your boat cover is durable, open a couple of ports to allow air to circulate below decks. Cape Dory recommends the use of a light colored heat reflecting cover fitted and vented so as to allow adequate air circulation.

3.46 Safety

Federal regulations REQUIRE certain safety equipment to be onboard your boat (personal and throwable floatation devices, fire extinguishers, flares, horn, whistle, etc.). Know what equipment is required and have it aboard and properly stowed before you cast off for the first time.

In addition to the equipment requirements outlined here, the U.S. Coast Guard can provide additional information and answer your questions. It is highly recommended that, although not required, certain additional items be kept aboard. This list is not complete; you should have all USCG required gear.

1. An anchor of appropriate size and design and rode of good quality, appropriate size and length.
2. First-aid kit.
3. Compass
4. Paddle
5. Flashlight

6. Up-to-date charts of the waters to be sailed.

7. Flares

Fire extinguishers are not standard equipment on your Cape Dory; they are to be provided by you, the owner. Fire aboard any boat is a serious hazard. It is important to take adequate precautions against fire and to be well prepared to extinguish one quickly and thoroughly should it occur. For this reason, U.S. Coast Guard approved fire extinguishers of the appropriate type and size (check U.S.C.G. regulations) should be installed immediately.

The permanent location of fire extinguishers should be where they are easily accessible (near areas where fires are most likely to occur - engine, fuel tanks, and galley) is important. They should not be located where fire may prevent their use. At least one extinguisher in a cockpit locker (reachable from outside the cabin) and one extinguisher installed below as a minimum.

CHARTS

There is no substitute for complete and up-to-date charts.

The Coast Guard is constantly making improvements on the aids to navigation which change buoy locations, numbers, configurations, etc.. These changes are reported in the respective Coast Guard District's Local Notice to Mariners, and are on display at all NOAA Chart Distributors. Before embarking on any trip outside your home port, make certain that you have the latest editions of the chart, and that they are fully corrected.

FUELING

Appropriate safety precautions are important before, during and after fueling. Before fueling the first time, be familiar with the instructions provided by the engine manufacturer.

1. Fuel docks should be approached at REASONABLE speed without wake. Observe posted speed limits and instructions. Be considerate of others using the docks, and watch for a dockmaster or hand who may give you instructions. Maintain control of your boat at all times and have your dock lines ready for use before you approach in the event that these are unavailable at the dock. Fenders should be in place before you approach the fuel dock.

2. Use bow, stern and spring lines to properly secure your boat.

3. Close and secure all hatches and ports.

4. PROHIBIT SMOKING while taking on fuel on or near fuel docks . Completely extinguish all smoking materials well in advance of approaching the docks; DO NOT recommence until you are well clear of it after fueling and conditions aboard are safe to do so.

5. Extinguish any other open flames aboard and see that all equipment (e.g. engine, stove, cabin heater, radios, and lights-both lanterns and electrical lights, etc.) which may generate heat or sparks of any kind are turned OFF...Turn off all switches for branch circuits so that there are no live electrical circuits. MAIN SWITCH should also be turned off AFTER engine is stopped (to avoid alternator damage).

6. If possible, crew members not involved in fueling should leave the boat.

7. An adequate fire extinguisher (USCG approved for Class B fires) should be readily available in case of emergency.

8. Remove fuel fitting. Be certain that you are putting fuel in the fuel tank. Note the approximate amount of fuel required to fill the tank by looking at the fuel level guage.

9. Be certain (double check) that you are taking on the appropriate fuel, diesel not gasoline. Errors of this type do occur and will result in serious engine damage, if not immediately detected and corrected.

10. Sometimes, if you are in an unfamiliar area, you may want to first take a sample of the fuel you plan to pump on board for visual and smell check to insure that it is diesel and not gasoline.

11. Maintain contact between the nozzle of the fuel hose and the fill pipe rim to prevent generation of static electricity sparks.

12. Fill slowly to about 95% of capacity; do NOT overfill (allowance must be made for thermal expension of fuel without overflow.)

13. Replace and secure fill fitting after fueling. Carefully clean any spillage. Check fuel tank vents at stern for overflow. Check below decks and in the bilge for fumes or leakage. If fumes or leakage are present, adequately ventilate and clean areas

completely BEFORE PROCEEDING.

14. Open all ports and hatches fully for ventilation.

15. DO NOT fuel during electrical storms; avoid fueling at night or in rough water, except in emergencies when extreme caution must be exercised.

16. Note the diesel fuel is flammable; handle it accordingly in a cautious manner.

17. Those Cape Dory owners with outboard engines should note that perhaps the safest fueling practice, when possible, is to remove the tank(s) from the boat before filling.

3.47 Weather Forecasts

The U.S. Coast Guard is in the process of discontinuing the display of weather signals at its stations and other locations along all coasts in favor of the NCAA weather broadcasts which are continuously broadcast on weather channels WX-1 and WX-2 (162.40 MHZ and 162.55 MHZ).

Good seamanship requires attention to the weather forecast before leaving port, and while you are sailing. Tune in to VHF weather, and make it a practice to check the broadcast on a regular basis in case there are changes in the forecast.

3.48 Boating Safety Organizations

Every sailor was once a beginner. Very few were born into sailing families and learned at their parents' knees. Therefore, it is to everyone's benefit that there are several fine non-profit organizations that are ready to teach interested persons everything from basic seamanship and piloting to celestial navigation.

Two of these organizations are:

United States Power Squadrons (U.S.P.S.)

United States Coast Guard Auxiliary

3.49 Stove Operation

The manufacturer of the stove includes an owner's manual

with the appliance. Read it carefully and make sure that everyone who uses the stove understands its operation. Remember, alcohol fires can be extinguished with water or Type B fire extinguishers.

The following precautions refer to all types of stoves. Refer to the owner's manual for specific instructions.

1. Never leave lighted stove unattended.

2. Never leave a stove while it is still hot. Remember alcohol can burn with an almost invisible flame.

3. Always release pressure in the fuel tank when leaving.

4. Close fuel valve (if applicable) in case of emergency.

5. Exercise caution when priming burners. Improper priming is one of the most common causes of galley fires.

CHAPTER 4

OWNER'S MANUAL

CAPE DORY YACHTS

INCORPORATED

GENERAL INFORMATION

Chapter 4

GENERAL INFORMATION

4.1 Commissioning

Cape Dory dealers are chosen because they are knowledgeable professionals. Since you are bearing the launching and commissioning expenses of your new yacht, you have the right to expect a thorough and professional job.

Please note that the checklist provided in this manual is to assist you and your dealer with the first launching of your boat. In subsequent years, you may wish to review this list in preparing your boat for launching.

Before your boat is launched, we strongly recommend that you read the entire manual. In particular, read and become familiar with the DEALER'S COMMISSIONING CHECKLIST as this is really a step by step set of instructions for launching your yacht.

CAPE DORY YACHTS

DEALER'S COMMISSIONING CHECKLIST

Model Number _____ Hull Number _____

Owner's Name and Address _____

_____

Dealer _____

Date Sold _____ Date Launched _____

*Indicates further information and/or drawings may be found in the Owners' Manual

	DATE	INITIALS	RECEIVING RECORD
1.	_____	_____	*All items on receiving checklist received in good order. Dealer should notify factory within ten (10) days of receipt, of any shortages or damaged goods.

PRE-LAUNCH CHECKLIST

2.	_____	_____	Visually check underwater hull surface for any damage sustained during trucking or handling.
3.	_____	_____	Through hulls are all tight and clear of any foreign objects.
4.	_____	_____	*Seacocks and valves all closed. Hose clamps tight.
5.	_____	_____	*Check propeller nut and perry nut for tightness. Record propeller information below: Diameter _____ inches; Pitch _____ inches; Rotation _____ left or right hand; No. of Blades _____ (2 or 3)
6.	_____	_____	*Rudder swings freely side to side, and hits the rudder stops.
7.	_____	_____	*Rudder and propeller shaft stuffing box packing adjusted. (Inspect to make sure packing is properly installed.)
8.	_____	_____	*Bottom under cradle poppets or bulkheads sanded, primed, and painted (Cape Dory recommends that a fresh coat of anti-fouling paint be applied to the entire underbody prior to launching.)
9.	_____	_____	Bilge dry
10.	_____	_____	*Bilge pump connections okay and handle on board
11.	_____	_____	Check deck and hull for any chips on gel coat

POST-LAUNCH CHECKLIST

12.	_____	_____	Immediately after launching, check bilge for water. If water is present, check all through hulls and stuffing box. Determine the source of any leaks.

13. _____ _____ Open seacocks one at a time and check for leaks. Check for proper drainage.

14. _____ _____ *Check stuffing boxes. The propeller stuffing box should drip water slowly, approximately one drop every ten seconds while shaft is turning to ensure that the bearing and packing gland are lubricated by water. The rudder shaft stuffing box may not weep at all except in rough conditions.

15. _____ _____ Check wheel steering system for proper operation. Adjust cable tension.

16. _____ _____ Remove emergency tiller access plate. Install tiller and chec for proper operation.

17. _____ _____ Check battery water level and charge level.

18. _____ _____ Check electrical system operation. Check operation of battery switch, voltmeter, circuit breakers, cabin lights, and all oth electrical equipment.

19. _____ _____ Test 110 volt shore power system. Inspect shore power cord. Refer to appropriate section in the Owner's Manual before testing.

20. _____ _____ Fill water tanks and inspect operation of all pumps and drains Inspect entire system for leaks. Install shower head and test hot water heater (be sure heater is full of water before turning on circuit breaker) on boats equipped with a pressure wate system.

21. _____ _____ Check head and holding tank operation

22. _____ _____ Check bilge pump operation

23. _____ _____ Check sump pump operation

24. _____ _____ Fill engine fuel tank

25. _____ _____ Inspect engine fuel tank gauge for proper operation

26. _____ _____ Fill stove fuel tank(s). Inspect for leaks and test operatio of the stove. Refer to the stove manufacturers literature fo operation instructions.

27. _____ _____ Install rails with proper bedding. Attach navigation light wires and inspect for proper operation. Install lifelines. (This applies to those boats which have had the rails removed for shipment.)

ENGINE START-UP CHECKLIST

28. _____ _____ Check engine and transmission oil level and condition

29. _____ _____ Check belt tension on all belt driven components

30. _____ _____ *Check that cooling water intake seacock is open

31. _____ _____ Check to see that all clamps on exhaust hose are tight

32. _____ _____ On fresh water cooled engine, check water level and antifreeze in the expansion tank.

33. _____ _____ Check engine mount fasteners for tightness.

34. _____ _____ Check transmission bolts for tightness.

35. _____ _____ *Check shift and throttle cable connections.

36. _____ _____ *Check prop shaft alignment using a feeler gauge -.002" gap between flanges maximum - NOTE: Alignment should be checked several times during the first season after the rig has been tensioned and the flexible mounts have taken a set.

37. _____ _____ Check coupling fasteners for tightness.

38. _____ _____ Check prop shaft set screws, and see that they are wired in place.

39. _____ _____ Start engine according to the manufacturer's recommendations. Failure to start may be due to air in the fuel lines. Refer To Engine Manual for bleeding directions.

40. _____ _____ Immediately after engine starts, check to see that water is coming out of the transom exhaust port.

41. _____ _____ Check gauges and/or warning lights

42. _____ _____ Check entire system for water, oil, fuel, or exhaust leaks. NOTE: Sealers and paints may burn off as engine heats up the first few times.

43. _____ _____ *Check throttle and shift operation. Adjust cables as required to ensure proper engagement of transmission.

44. _____ _____ *Recheck stuffing boxes

45. _____ _____ *Report any unusual noises or vibrations to the factory immediately. Do not continue to run engine if any are present.

46. _____ _____ Operate engine in and out of gear. Allow to run long enough to check engine for possible overheating problems.

RIGGING CHECKLIST

47. _____ _____ Check all fasteners on spars for tightness

48. _____ _____ *Reeve halyards

49. _____ _____ *Attach stays, shrouds, spreaders and topping lifts. Wire or seize end of spreaders to upper shrouds. Spreaders should angle slightly upwards and bisect the angle formed by uppers.

50. _____ _____ Check all clevis pins and cotter pins for security. Tape all potential chafe points including spreader bases and ends.

51. _____ _____ *Check wiring of combination deck and bow light. Be sure bulbs work prior to stepping mast.

52. _____ _____ Step mast and rigging.

53. _____ _____ Check all rigging for length.

54. _____ _____ Check all turnbuckle clevis and cotter pins for security. Tape all potential chafe points.

55. _____ _____ *Tune rigging to proper tensions.

56. _____ _____ Chock the spar with mast wedges. Drill for the mast collar pin AFTER test sailing and tuning is complete.

57. _____ _____ *Attach booms, sheets, blocks, reefing lines, topping lifts, etc. Reinstall sail track endstops with proper bedding.

58. _____ _____ Wire bow and deck lights

MISCELLANEOUS CHECKLIST

59. _____ _____ *Interior appointments complete. All movable items operating properly (i.e.: table leafs, slide-out berths, traps, etc.)

60. _____ _____ Inspect centerboard operation (CD-270 only)

61. _____ _____ Recheck all through hulls, valves, seacocks, hose clamps, hoses, and stuffing boxes.

62. _____ _____ Water test ports and hatches.

63. _____ _____ Optional equipment installed and operational

64. _____ _____ Bend on sails.

65. _____ _____ Owner's packet, ship's papers, and ignition keys given to owner. Be certain to read all manuals to familiarize yourself with the proper operation and maintenance of all systems.

66. _____ _____ Checklist (Warranty Registration) ready for mailing to factory.

OWNER _____ DEALER _____

DATE _____

TO ENSURE PROPER WARRANTY REGISTRATION, RETURN CHECKLIST WITHIN SEVEN DAYS OF LAUNCHING TO:

Cape Dory Yachts, Inc.
160 Middleboro Avenue
East Taunton, MA 02718

CAPE DORY YACHTS, INC.
160 Middleboro Avenue
East Taunton, Massachusetts 02718
(617) 823-6776

Limited Warranty

1. Cape Dory Yachts, Inc. (Cape Dory) warrants all yachts and parts manufactured by it to be free from defects in material and workmanship under normal use and service for a period of twelve (12) months from the date of delivery to the original purchaser. This Limited Warranty is extended to the original purchaser of the yacht, and is not extended to any subsequent purchaser.

2. This Limited Warranty applies only to those components of the yacht manufactured or built by Cape Dory. It specifically does not extend to paints, gel coats, anodized finishes and other surface coatings, wooden parts which may split, crack or check (due to climatic factors over which Cape Dory has no control) and all accessories, and installed equipment not manufactured by Cape Dory, including without limitation engines, engine parts, instruments and controls, sails, pumps, batteries, winches, wheel steering hardware, upholstery, turn buckles and plumbing equipment. Any warranty made by the manufacturer of such items will, if possible, be passed on to the purchaser. This Limited Warranty does not extend to yachts used for commercial purposes or those which have been altered or subjected to negligence or misuse.

3. To validate this Limited Warranty, the "Dealer's Commissioning Checklist" must be mailed to Cape Dory, 160 Middleboro Avenue, East Taunton, Massachusetts 02718 as soon as possible after the commissioning date. In order to obtain performance of any warranty obligation, the owner must report within fifteen days of its discovery any claim in respect of defects in material or workmanship to an authorized Cape Dory dealer. Cape Dory or its authorized representative may make an inspection within a reasonable length of time after receipt of notice of a claim. When a warranty claim is valid, Cape Dory or its authorized representative will repair or replace the defective component part free of charge. Cape Dory may require a yacht or any part thereof to be returned to the factory, its dealer or representative for examination, transportation charges prepaid. Cape Dory neither assumes nor authorizes any person to assume for it any liability or expense in the replacing of parts or correction of defects in a yacht within the warranty period, except when such expense is authorized in advance and in writing by Cape Dory.

4. ***Exclusion of Warranties: This Limited Warranty is in lieu of all other express warranties, and shall expire twelve months from the date of delivery to the original purchaser. Any implied warranty, including the warranty of merchantability and fitness for a particular purpose, is limited to the duration of this limited warranty.***

5. Cape Dory does not under any circumstances assume responsibility for any consequential damages incurred including without limitation expenses for transportation and travel, telephone, lodging, loss or damage to personal property or loss of revenue.

6. Cape Dory reserves the right to improve its products through changes in design and material without incurring any obligations to incorporate such changes in units already completed or in the hands of dealers or purchasers.

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

WARRANTY

4.2 Warranty Notification Procedures

Cape Dory Yachts is very proud of its "track record" of minimum warranty problems. After commissioning, you as an owner should not expect problems to develop. However, should you need assistance, there is only one very important thing to do...CONTACT YOUR CAPE DORY DEALER.

Your Cape Dory dealer is a knowledgeable professional who is familiar with your boat and capable of answering most of the questions which you may have. He will communicate any problems or inquiries which you may have directly to Cape Dory so that we can both work together toward an expeditious and satisfactory solution.

YOUR DEALER IS NOT, HOWEVER, AUTHORIZED BY CAPE DORY TO CONSENT TO REPAIRS OR THE REPLACEMENT OF PARTS WITHOUT THE EXPRESS WRITTEN APPROVAL OF CAPE DORY.

Cape Dory Yachts, like most other sailboat manufacturers, offers a written limited warranty.

Federal law requires that a written warranty contain certain information and statements.

To you as an owner, we at Cape Dory Yachts pledge to provide you with a product that is as defect-free as possible. Our goal will continue to be one of standing behind our products and one of continual improvement.

CAPE DORY OWNER'S ASSOCIATION

The Cape Dory Owner's Association was formed as the company grew from its original beginnings in 1964 as a sailing dory builder. The earliest Cape Dory owners would gather for regattas, races and picnics during the sailing season and frostbiting in the winter months.

Since the introduction of the full keeled Cape Dory Typhoon in 1969, more than 4,000 full keeled yachts have been built by Cape Dory to Carl Alberg's designs. Cape Dorys from 19' to 45' are scattered across the country in individual fleets. Today, the Cape Dory Owner's Association is national in scope and fleets are active throughout the country. The Association publishes a periodic newsletter which contains information on local regattas as well as the national rendezvous and many helpful hints on care and maintenance of your Cape Dory.

We urge all new Cape Dory owners to sign up for membership in the Cape Dory Owner's Association by gaining more information and helpful advice on the care and use of your Cape Dory Yacht.

The Association also enables you to join with other Cape Dory Owners to pursue common interests, such as cruising, racing and social gatherings. If you are a Cape Dory Owner and are not receiving a newsletter, please write to us and we'll enroll you immediately. Please be sure to provide us with your name, address, the specific model and hull number of your Cape Dory.

TECHNICAL INFORMATION

BOAT	TYS	C-26	C-28
LOA	22'-5"	25'-11"	29'-11"
LOD			28'-1"
LWL	16'6"	19'-3"	22'-2"
BEAM	7'-5"	8'-0"	8'-10"
DRAFT	3'-1"	3'-7"	4'-0"
DISPLACEMENT	3,300 lbs.	5,300 lbs.	9,000 lbs.
BALLAST	1,700 lbs.	2,400 lbs.	3,500 lbs.
SAIL AREA (100% Fore Triangle)	245 sq. ft.	304 sq. ft.	404 sq. ft.
I	26'-0"	32'-0"	35'-3"
P	27'-6"	27'-3"	31'-6"
J	8'-6"	10'-3"	11'-6"
E	9'-10"	10'-3"	12'-6"
MAIN LUFF	1/2" Round	3/4" Flat	3/4" Flat
MAIN FOOT	1/2" Round	1/2" Round	1/2" Round
TACK CUT UP	1/4"	1/4"	1"
TACK CUT BACK	2 7/8"	1 1/4"	4"
CLEW CUT UP	----	----	----
MAST HEIGHT ABOVE DWL	34'-6"	35'-3"	39'-6"

TECHNICAL INFORMATION

BOAT	C-30	C-32	C-330
LOA	32'-3"	34'-2"	35'-4"
LOD	30'-2 1/2"	32'-2"	33'-0 1/2"
LWL	22'-10"	24'-2"	24'-6"
BEAM	9'-0"	9'-11"	10'-3"
DRAFT	4'-2"	4'-11"	4'-10"
DISPLACEMENT	10,000 lbs.	11,750 lbs.	13,300 lbs.
BALLAST	4,000 lbs.	4,700 lbs.	5,500 lbs.
SAIL AREA (100% Fore Triangle)	437 sq. ft.	509 sq. ft.	561 sq. ft.
I	35'-0"	41'-0"	44'-9"
P	31'-6"	35'-0"	39'-0"
J	13'-3"	13'-6"	13'-9"
E	13'-0"	13'-0"	13'-0"
MAIN LUFF	3/4" Flat	1" Flat	1" Flat
MAIN FOOT	1/2" Round	3/4" Flat	3/4" Flat
TACK CUT UP	1"	1 5/8"	1 5/8"
TACK CUT BACK	4"	2 3/16"	2 3/16"
CLEW CUT UP	----	2 7/16"	2 7/16"
MAST HEIGHT ABOVE DWL	39'-6"	45'-6"	48'-9"

TECHNICAL INFORMATION

BOAT	C-300MS
LOA	31'-11"
LOD	29'-10 1/4"
LWL	26'-6"
BEAM	11'-5"
DRAFT	3'-11"
DISPLACEMENT	11,500 lbs.
BALLAST	4,500 lbs.
SAIL AREA (100% Fore Triangle)	477 sq. ft.
I	40'-9"
P	35'-3"
J	12'-10"
E	12'-3"
MAIN LUFF	1" Flat
MAIN FOOT	3/4" Flat
TACK CUT UP	1 5/8"
TACK CUT BACK	2 3/16"
CLEW CUT UP	2 7/16"
MAST HEIGHT ABOVE DWL	46'-3"

STANDING AND RUNNING RIGGING

BOAT		TYS	C-26
Forestay	(W)	5/32 x 27'4"	3/16 x 32'5-1/4"
Backstay	(W)	5/32 x 33'5"	3/16 x 34'6"
Backstay Lanyard	(X)	5/32 x 1'4"	5/32 x 1'4"
Upper Shrouds *	(W)	5/32 x 27'1"	3/16 x 31'6"
FWD Lower Shrouds*	(W)	----------	5/32 x 16'11-3/8"
AFT Lower Shrouds*	(W)	5/32 x 14'2-3/4"	5/32 x 17'1-1/4"
Main Halyard	(P)	5/16 x 60'0"	3/8 x 70'0"
Jib Halyard	(P)	5/16 x 52'0"	3/8 x 73'0"
Main Sheet	(D)	3/8 x 80'0"	3/8 x 90'0"
Jib Sheet	(D)	3/8 x 45'0"	7/16 x 60'0"
Boom Topping Lift		1/8 x 26'6" (X)	1/4 x 60'0" (D)
Topping Lift Adjuster	(D)	1/4 x 9'0"	----------
Clew Outhaul	(D)	1/4 x 6'0"	1/4 x 6'0"
Clew Reef	(D)	5/16 x 18'0"	5/16 x 19'0"
Tack Reef	(D)	5/16 x 11'0"	----------

KEY: (W) = 1x19 Stainless Steel Wire

(P) = Prestretched Dacron

(D) = Braided Dacron

(X) = 7x19 Stainless Steel Wire

* = 2 Required

NOTE: All Wire Lengths are Approximate

STANDING AND RUNNING RIGGING

BOAT		C-28	C-30
Forestay	(W)	1/4 x 37'0-1/2"	1/4 x 37'6-1/4"
Backstay	(W)	1/4 x 39'8"	1/4 x 40'0-1/4"
Upper Shrouds *	(W)	1/4 x 36'0"	1/4 x 35'10-7/8"
FWD Lower Shrouds*	(W)	3/16 x 18'5-5/8"	3/16 x 17'11-7/8"
AFT Lower Shrouds*	(W)	3/16 x 18'7-7/8"	3/16 x 18'1-3/4"
Bob Stay	(W)	1/4 x 4'0"	1/4 x 4'0"
Main Halyard	(P)	3/8 x 72'0"	3/8 x 74'0"
Jib Halyard	(P)	3/8 x 76'0"	3/8 x 84'0"
Staysail Halyard	(P)	----------	5/16 x 60'0"
Main Sheet	(D)	7/16 x 75'0"	7/16 x 60'0"
Jib Sheet	(D)	7/16 x 35'0"	7/16 x 90'0"
Boom Staysail Sht	(D)	----------	7/16 x 75'0"
Boom Topping Lift		1/4 x 32'0" (D)	1/4 x 32'0" (D)
Topping Lift Adjuster	(D)	1/4 x 10'0"	1/4 x 10'0"
Clew Outhaul	(D)	1/4 x 6'0"	1/4 x 6'0"
Clew Reef	(D)	5/16 x 26'0"	5/16 x 26'0"
Tack Reef	(D)	5/16 x 14'0"	5/16 x 14'0"
Boom Staysail Clew Outhaul	(D)	1/4 x 6'0"	1/4 x 6'0"
Staysail Boom Topping Lift	(D)	5/16 x 35'0"	5/16 x 35'0"

STANDING AND RUNNING RIGGING

BOAT		C-32	C-330
Forestay	(W)	1/4 x 41'10-1/2"	1/4 x 45'8"
Backstay	(W)	1/4 x 44'1-1/4"	1/4 x 47'11"
Upper Shrouds *	(W)	1/4 x 40'2"	1/4 x 43'8-1/2"
FWD Lower Shrouds*	(W)	7/32 x 20'11-1/2"	7/32 x 22'8"
AFT Lower Shrouds*	(W)	7/32 x 21'1-1/2"	7/32 x 22'11-1/4"
Intermediates *	(W)	----------	3/16 x 36'1-5/8"
Staysail Stay	(W)	----------	3/16 x 35'8-3/4"
Bob Stay		NAVTEC 1/2" Rod 54" Pin to Pin	NAVTEC 1/2" Rod 54" Pin to Pin
Main Halyard	(P)	7/16 x 85'0"	7/16 x 90'0"
Jib Halyard	(P)	7/16 x 85'0"	7/16 x 100'0"
Staysail Halyard	(P)	----------	3/8 x 75'0"
Main Sheet	(D)	7/16 x 65'0"	7/16 x 75'0"
Jib Sheet	(D)	7/16 x 45'0"	1/2 x 55'0"
Boom Staysail Sht.	(D)	----------	7/16 x 57'0"
Boom Topping Lift		5/32 x 35'0" (X)	5/32 x 38'0" (X)
Clew Reef	(D)	3/8 x 23'0"	3/8 x 28'0"
Boom Staysail Clew Outhaul	(D)	----------	1/4 x 10'0"
Staysail Boom Topping Lift	(D)	----------	5/16 x 39'0"

STANDING AND RUNNING RIGGING

BOAT		C-300MS
Forestay	(W)	1/4" x 42'6-1/4"
Upper Backstay	(W)	1/4" x 24'9"
Lower Backstay *	(W)	3/16" x 20'3-1/2"
Upper Shrouds *	(W)	1/4" x 41'2"
FWD Lower Shrouds*	(W)	7/32" x 20'4-3/8"
AFT Lower Shrouds*	(W)	7/32" x 20'6-3/4"
Bob Stay		NAVTEC 1/2" Rod 53" Pin to Pin
Main Halyard	(P)	7/16" x 80'
Jib Halyard	(P)	7/16" x 80'
Main Sheet	(D)	7/16" x 77'
Jib Sheet/Boom Staysail Sheet	(D)	7/16" x 45'
Genoa Sheet	(D)	1/2" x 32'
Boom Topping Lift	(W)	5/32" 7 x 19 36'
Topping Lift Adjuster	(D)	5/16" x 18'
Clew Outhaul	(D)	5/16" x 19'
Clew Reef (2)	(D)	3/8" x 19' and 27'
Boom Staysail Clew Outhaul	(D)	5/16" x 12'
Staysail Boom Topping Lift	(D)	5/16" x 36'

VENDOR LIST

In the interest of faster and more efficient service, Cape Dory has developed a list of the more important equipment and manufacturers. We produced this list so that the Cape Dory owner will be able to go directly to the original vendor for replacement parts, but, we still want you to feel free to call us here at the factory for any additional information.

Item Description	Mfg. Part #	Vendor
BLOCKS:	Various	Schaefer Marine
BOTTOM PAINT:		
Antifouling Brown	1522	Pettit Paint Co.
Boot Top Dado Dk. Brn.	Int. 246	International Paint
Antifouling Blue	1222	Pettit Paint Co.
Boot Top Endeavour Blue	Int. 16	International Paint
ELECTRICAL:		
Battery-12 Volts-85 AMP	XJ-2SM-85	Surrette
Dome Light(Bulb-12V15CP)	10-1252	Bass Products
Single Swivel (Bulb-GE1142)	10-2162	Bass Products
Panel	-----	Lorco Marine
Bow Light	33512-302	Ahlemann & Schlatter
Stern Light	33509-002	"
Mast Light(GE212 & 12V6W) Replace. Bulb	-----	Spartan Marine
ENGINE:		
C-26D Westerbeke 10-2		Hansen Marine
Fuel Filter Element	30200	Engineering
Oil Filter	30220	
Alternator Belt	13585	
Thermostat	24688	
Impeller Kit	32620	
Zinc	11885	
C-28/30 Universal 18		Medalist
Fuel Filter Element	298854	
Oil Filter	300209	
Alternator Belt	300817	
Thermostat	300281	
Impeller Oberdorser	295628	
Impeller Sherwood	287439	
Zinc	301069	

ENGINE (cont'd)

Item Description	Mfg. Part #	Vendor
C-32 Westerbeke 21A		Hansen Marine
Fuel Filter Element	30200	Engineering
Oil Filter	30220	
Alternator Belt	30592	
Thermostat	24688	
Impeller	11764	
Zinc	11885	
C-330 Universal 30		Medalist
Fuel Filter Element	300209	
Oil Filter	298852	
Alternator Belt	300803	
Thermostat	299798	
Impeller Oberdorser	295628	
Impeller Sherwood	287439	
Zinc	301069	
C-300MS Westerbeke 46		Hansen Marine
Fuel Filter Element	24363	Engineering
Oil Filter	30233	
Alternator Belt	30594	
Thermostat	24688	
Impeller Kit	33104	
Zinc	11885	
PORTS AND HATCHES:		
Medium Tan Hatch	139-Med.Tan	Bomar, Inc.
Small Tan Hatch	139-Sm.Tan	Bomar, Inc.
Bz. Oval Port(opening)	P560	Spartan Marine
Bz. Oval Port(fixed)	P610	Spartan Marine
Bz. 5" Round Port	P608	Spartan Marine
Ex. Small Nibo Hatch	N2000-103	Bomar, Inc.
Small Nibo Hatch	N2029-103	Bomar, Inc.
Medium Nibo Hatch	N2039-103	Bomar, Inc.
MARINE HEAD:		
C-26D,28,30,32,330,300MS	HE-HTP	Gross Mechanical Lab.
HOT WATER HEATER:	R6E	Raritan
Heating Element	WH1A	Raritan
Safety Valve	WH3	Raritan
Heat Exchanger	HE	Raritan
Thermostat	WH2	Raritan

Item Description	Mfg. Part #	Vendor
PEDESTAL:	335-5-211	Edson Corp.
Size 45 Shift & Throttle	816	Edson Corp.
Size 456 Brake	6897	Edson Corp.
Size 45 Guard	662	Edson Corp.
Wheel	Various	Edson Corp.
PUMPS:		
Manual Bilge Pump(C-330)	BP3708	Imtra Corp.
Manual Bilge Pump	BP9064	Imtra Corp.
Galley Foot Pump	CP0507	Imtra Corp.
Head Foot Pump	CP4618	Imtra Corp.
Counter Top Pump	37220-0010	Parr Jabsco Prod.
Electric Bilge Pump	Various	
Electric Sump Pump	220-21235	Bristol Prod.
Electric Press Water Pump	220-21334	Bristol Prod.
TRACKS:		
3/4" "T" Track	T713	Spartan Marine
1" "T" Track	T714	Spartan Marine
1-1/4" "T" Track	T715	Spartan Marine
Traveler Bridge Trk.(C30)	1159	Nicro Fico
Traveler Bridge Trk. (C-32,C-330)	1169	Nicro Fico
Traveler Track (C-300MS)	2156	Lewmar
SHIFT & THROTTLE CABLES:		
6'0" Shift Cable	3300 CC	Northwest Controls
8'0" Throttle Cable	3300 CC	Teleflex & Morse
11'0" Shift & Throttle Cab.	3300 CC	Morse
11'0" Stop Cable	3300 UT-CC207-11	Teleflex

NOTE: Check actual length before ordering.

VENTS:		
3" Low Cowl Vent	NF10883C	Nicro Fico
3" Vent Deck Plate	NF10863DW	Nicro Fico
3" Vent to Hose Adapt.	NF10863HA	Nicro Fico
3" Hi Vent	NF10923C	Nicro Fico
4" Bronze Deck Plate	NF10852	Nicro Fico
4" Hi Vent Bz.	NF10804C	Nicro Fico
WINCHES:		
Lewmar 4,6,7,8,16,30,40		Lewmar Marine

VENDOR ADDRESSES

Ahlemann & Schlatter/ Browning Marine	P.O. Box 806 St. Charles, IL 60174
Bass Products	P.O. Box 901 Marblehead, MA 01945
C.E. Beckman	11-35 Commercial St. New Bedford, MA 02740
Bomar	Box 314, So. West St. Charlestown, MA 03603
Edson Corp.	460 Industrial Park Rd. New Bedford, MA 02745
Essex Machine Works	West Avenue Essex, CT 06426
Gem Products	369 Blanding Blvd. Orange Park, FL 32073
Gross Mechanical Lab.	7240 Standard Drive Hanover, MD 21076
Hansen Marine Eng.	19 Atlantic Ave. Marblehead, MA 01945
Imtra	151 Mystic Avenue Medford, MA 02155
International Paint Co.	Morris & Elmwood Ave. Union, NJ 07083
Lewmar Marine	23 Broad Common Rd. Bristol, RI 02809
Lorco Marine Electric	715 Perimeter Rd. Manchester, NH 03032
Medalist Automated Machinery	Unit #210 Milwaukee, WS 53268
Nicro Fico	2065 West Ave. 140th San Leandro, CA 94577
Northwest Controls	Vernfield Village Harleysville, PA 19438
Parr Jabsco Products	1485 Dole Way Costa Mesa, CA 92626

Pettit Paint Co., Inc.	36 Pine St., P.O. Box 378 Borough of Rockaway, NJ 07866
Raritan Engineering Co.	1025 No. High St. Milville, NJ 08332
Rule Industries	Cape Ann Industrial Park Gloucester, MA 01930
Schafer Marine Products	Industrial Park New Bedford, MA 02745
Spartan Marine Products	160 Middleboro Ave. E. Taunton, MA 02718
Surrette Storage Batt Co.	P.O. Box 3027 Salem, MA 01970
Westerbeke	P.O. Box 4137 Boston, MA 02211

AVON, MA

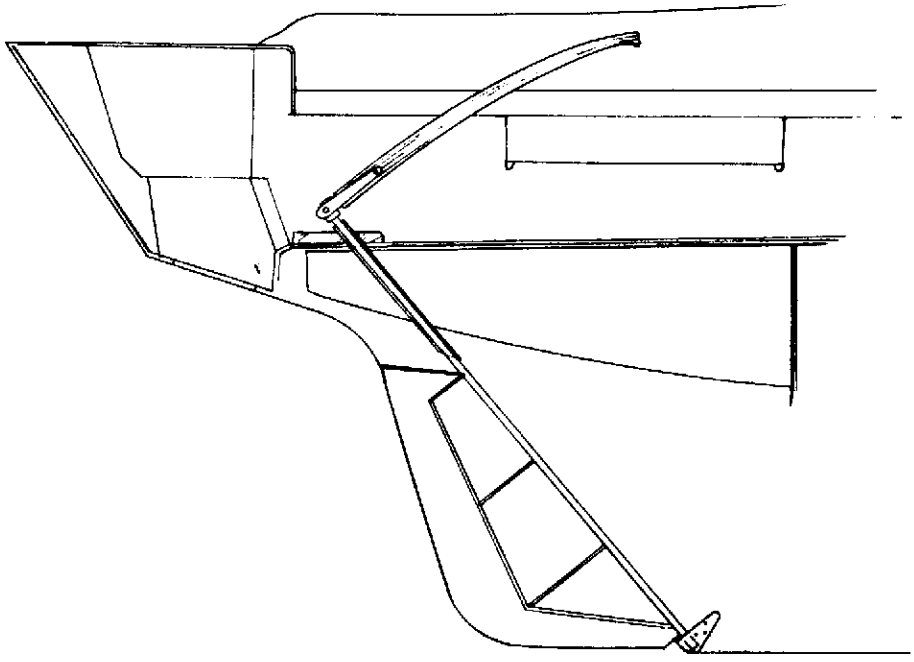
CHAPTER 5

OWNER'S MANUAL

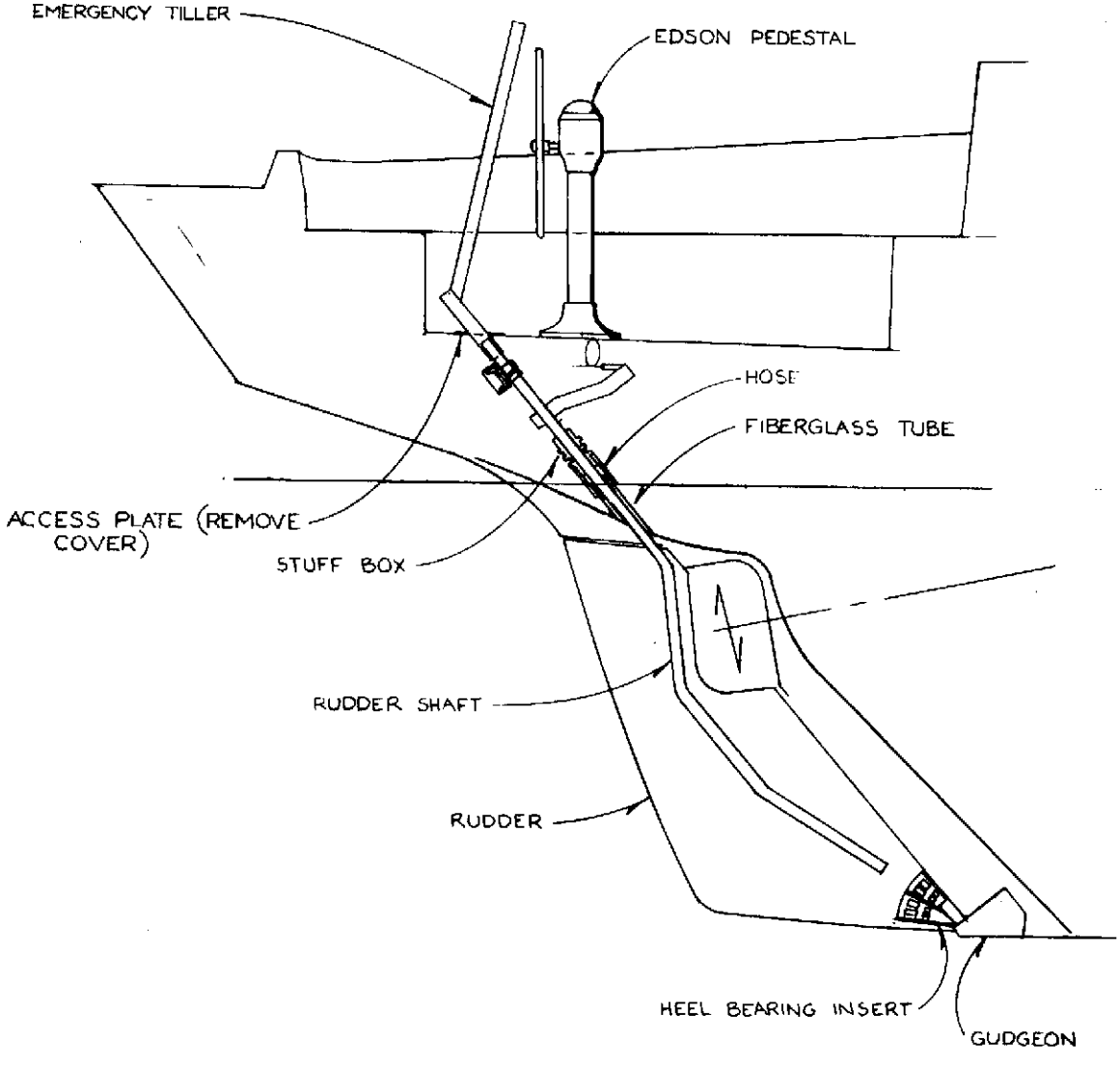
CAPE DORY YACHTS INCORPORATED

DRAWINGS AND SAIL PLANS

5.1 RUDDER DETAILS



TYPHOON SENIOR RUDDER DETAILS



EMERGENCY TILLER & RUDDER DETAILS

CUSTOMER SERVICE

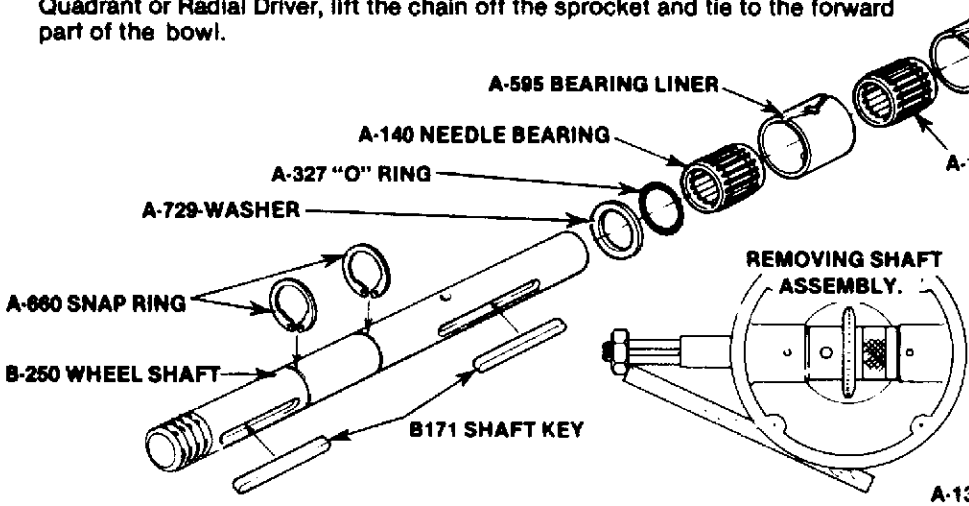
PARTS LIST / EDSON PEDESTAL STEERING ASSEMBLY

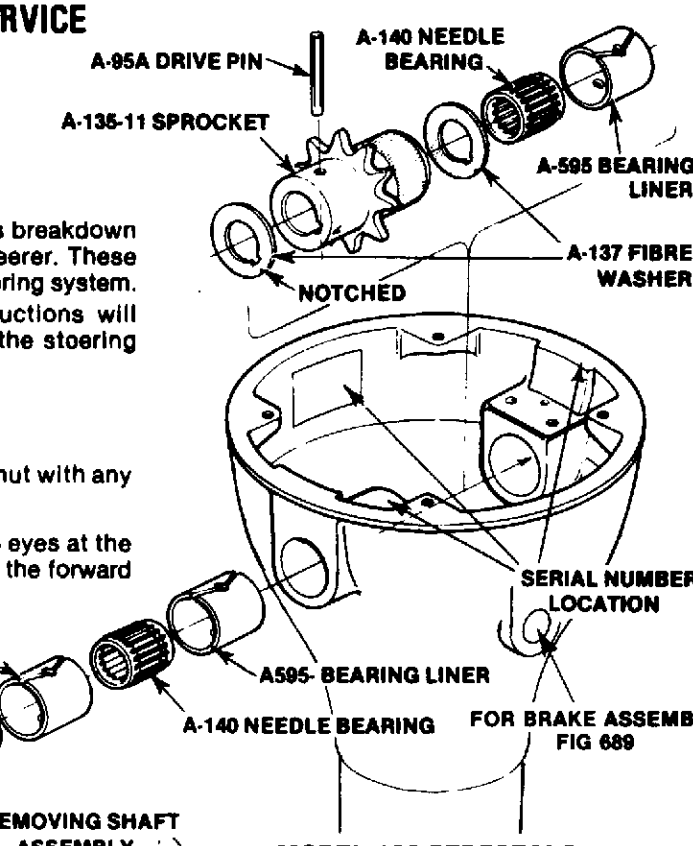
As a further service to our customers we have illustrated a parts breakdown showing the design and construction of your Edson Pedestal Steerer. These parts drawings will assist you in the proper maintenance of your steering system.

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 ¾" 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.



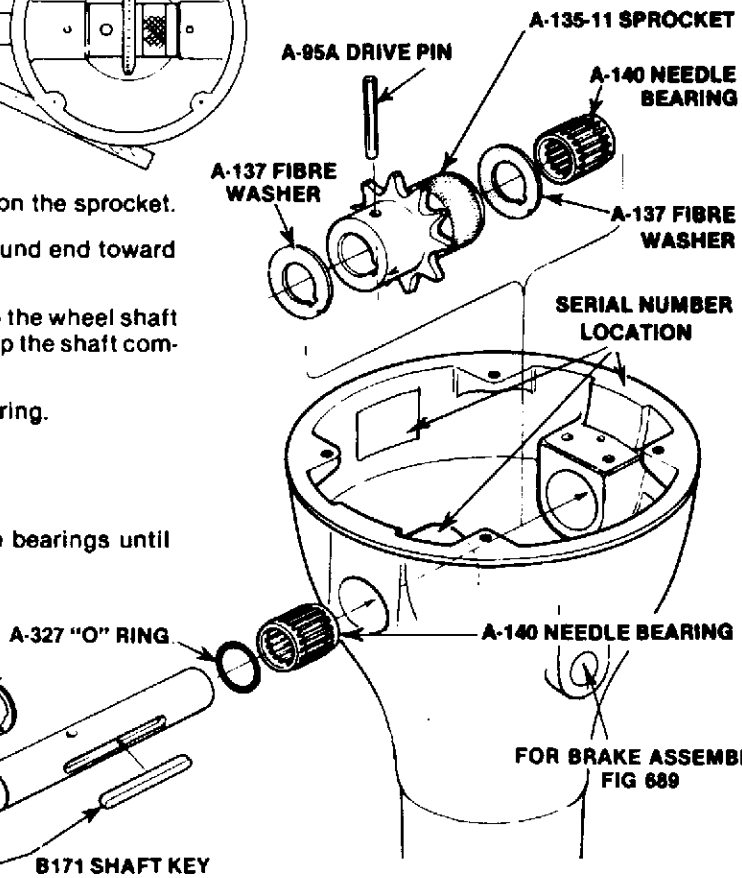


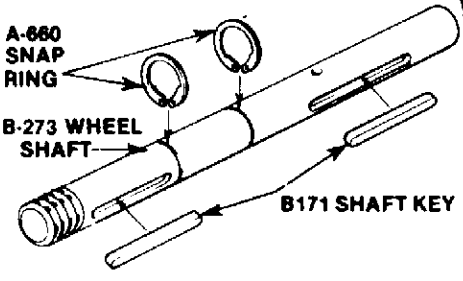
MODEL 400 PEDESTALS

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 the grooved end).
5. With a piece of wood against the ¾" or 1" hex nut, gently tap the wheel shaft from the housing, see illustration above, be careful not to drop the shaft components into the pedestal.
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.





MODEL 334 & 335 PEDESTALS

ORDERING INSTRUCTIONS

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

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

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

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Telephone (617) 995-9711
Telex 95-1337

Edson

5.2 STEERING ASEMBLY (cont.)

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 alignmment 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 re-alignment. 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.

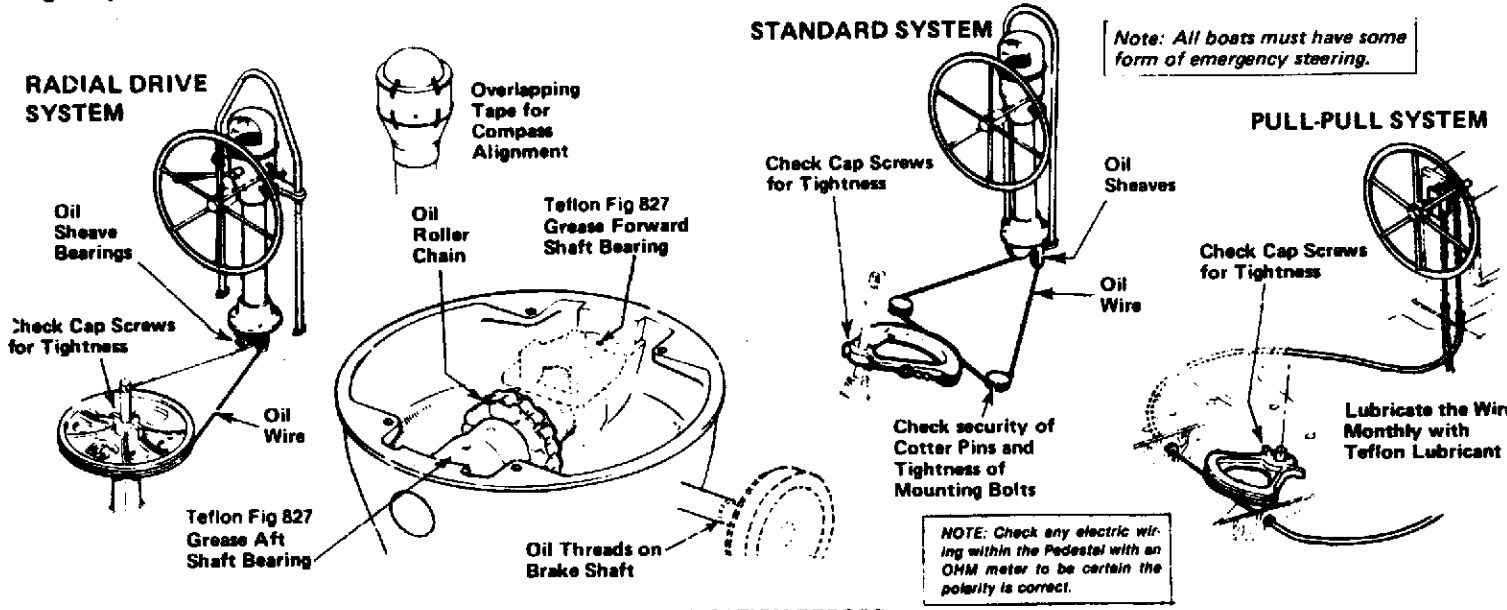
It must be emphasized that all on board must be familiar with the care and operation of the Steering System and engine controls. One person must be assigned the job of maintenance and must be thoroughly familiar with the operation and intent of all the equipment. If at any time your Steering System makes 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 failing 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 damage.

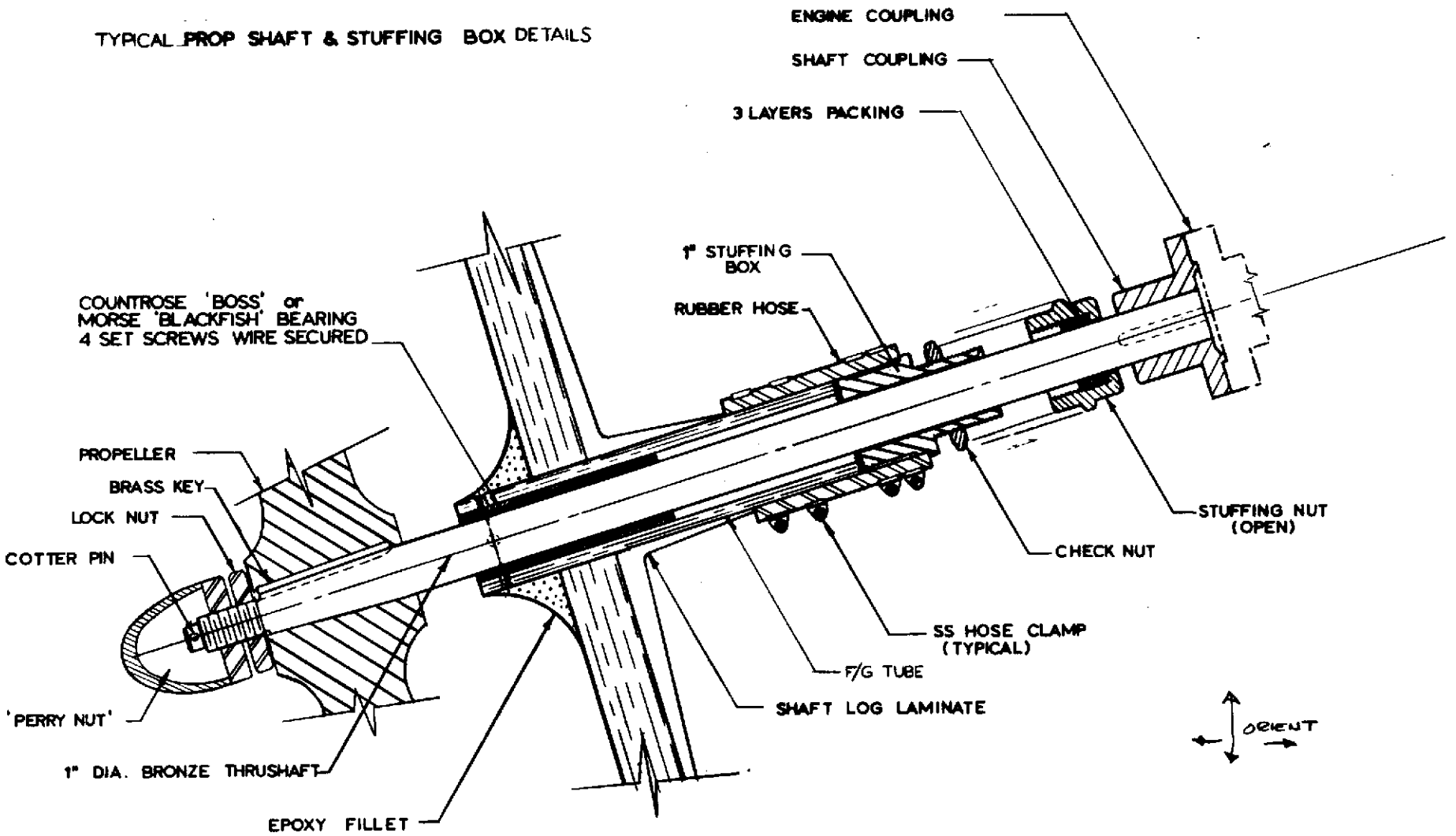
For complete maintenance information please contact

Edson International

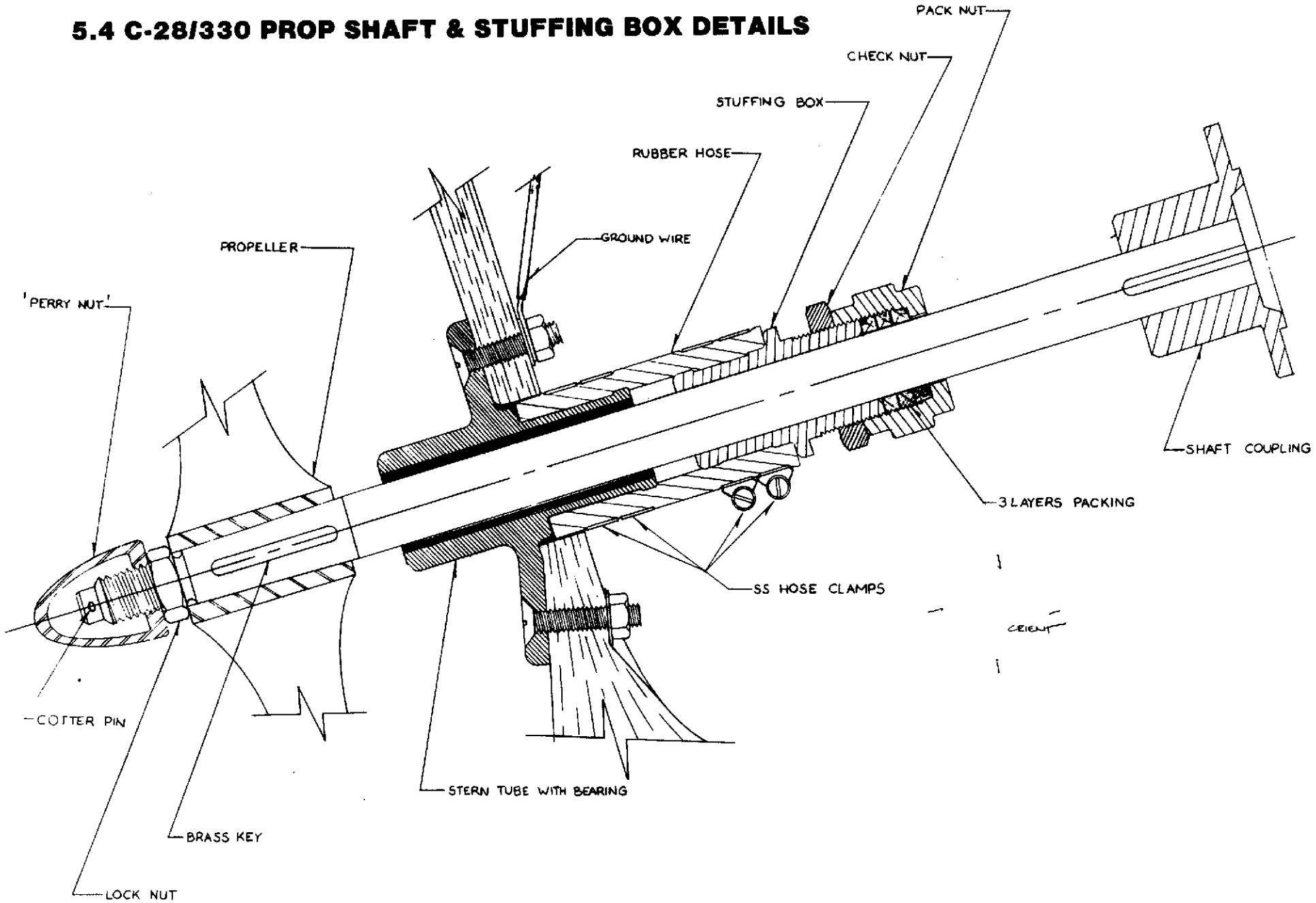
The Edson Corporation
460 Industrial Park Road
New Bedford, Mass. 02745

Telephone (617) 995-9711
Telex 95-1337

5.3 TYPICAL PROP SHAFT & STUFFING BOX DETAILS



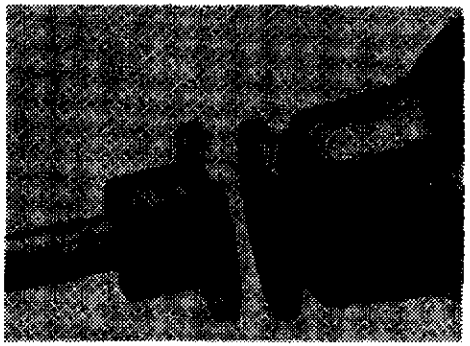
5.4 C-28/330 PROP SHAFT & STUFFING BOX DETAILS



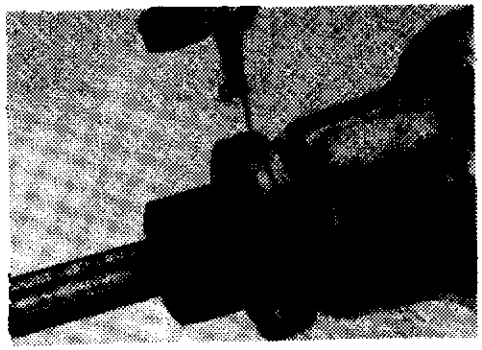
5.5 DISC SAVER & ALIGNMENT INSTRUCTIONS

STEP 1 Disconnect reverse gear and propeller shaft flanges, being careful to support the dead weight of the propeller shaft. Leaving bolts loosely connected aids support of propeller shaft.

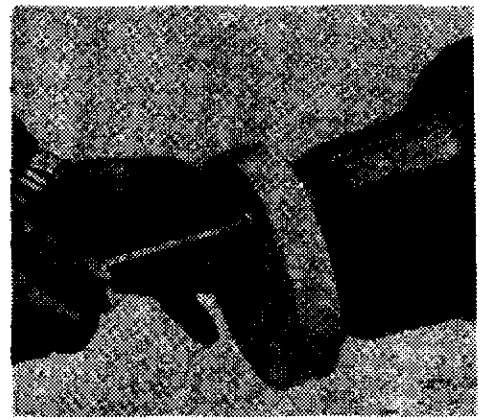
NOTE: Shaft may have to be cut and the key way remachined if there is insufficient room between the flanges for the Disc Drive.



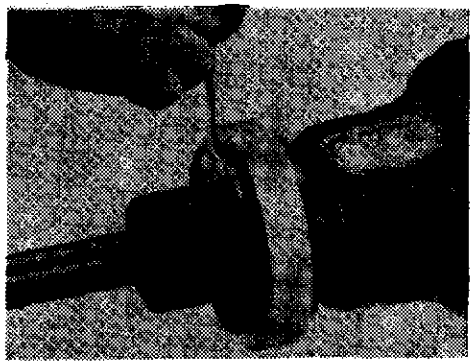
STEP 2 Check alignment of propeller flange to reverse gear flange by using a feeler gauge around entire perimeter of the coupling. Shim engine to compensate for any misalignment. (Industry norm for misalignment is .002").



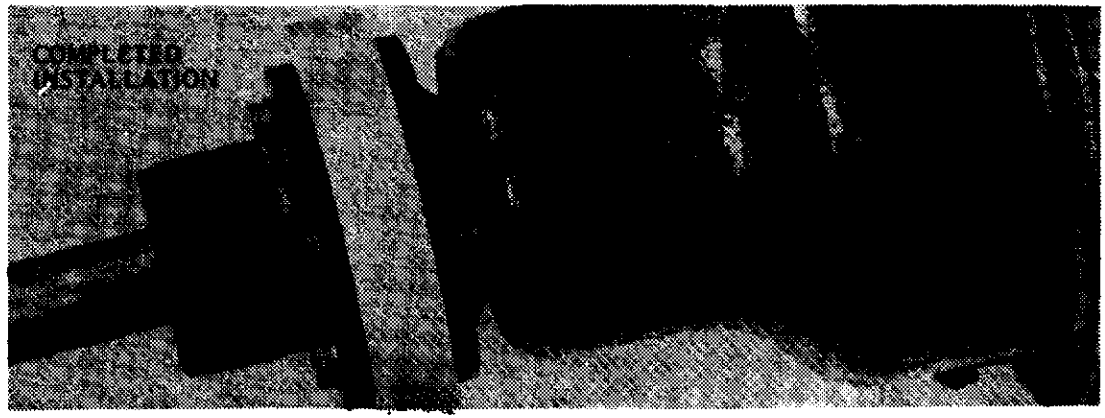
STEP 3 Install Disc Drive to the reverse gear flange by mating the pilots. Rotate Disc Drive to align socket head bolts with bolt holes of reverse gear flange. Install socket head bolts. Use lock washers and nuts, if necessary. Then tighten.



STEP 4 Slide propeller shaft with flange forward so pilot on the propeller flange mates with the pilot on the Disc Drive. Insert hex bolts with lock washers into threaded inserts of Disc Drive and tighten. Turn shaft by hand to determine runout. Use a dial indicator for accuracy.



STEP 5 Re-check bolt tightness after ten to fifteen hours of operation. The use of a small amount of waterproof grease on all fasteners is recommended to facilitate disassembly, when necessary.

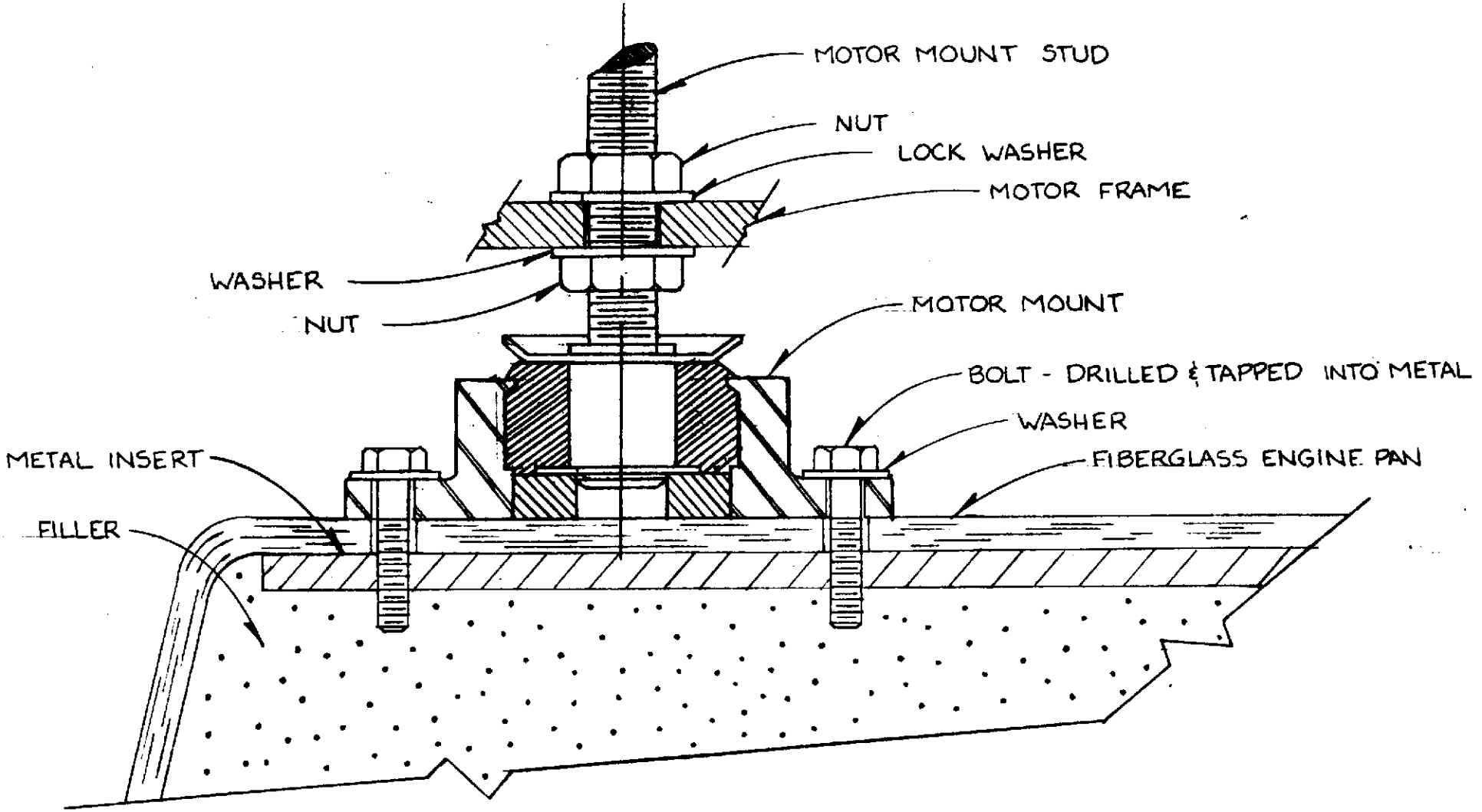


ALIGNMENT INSTRUCTIONS

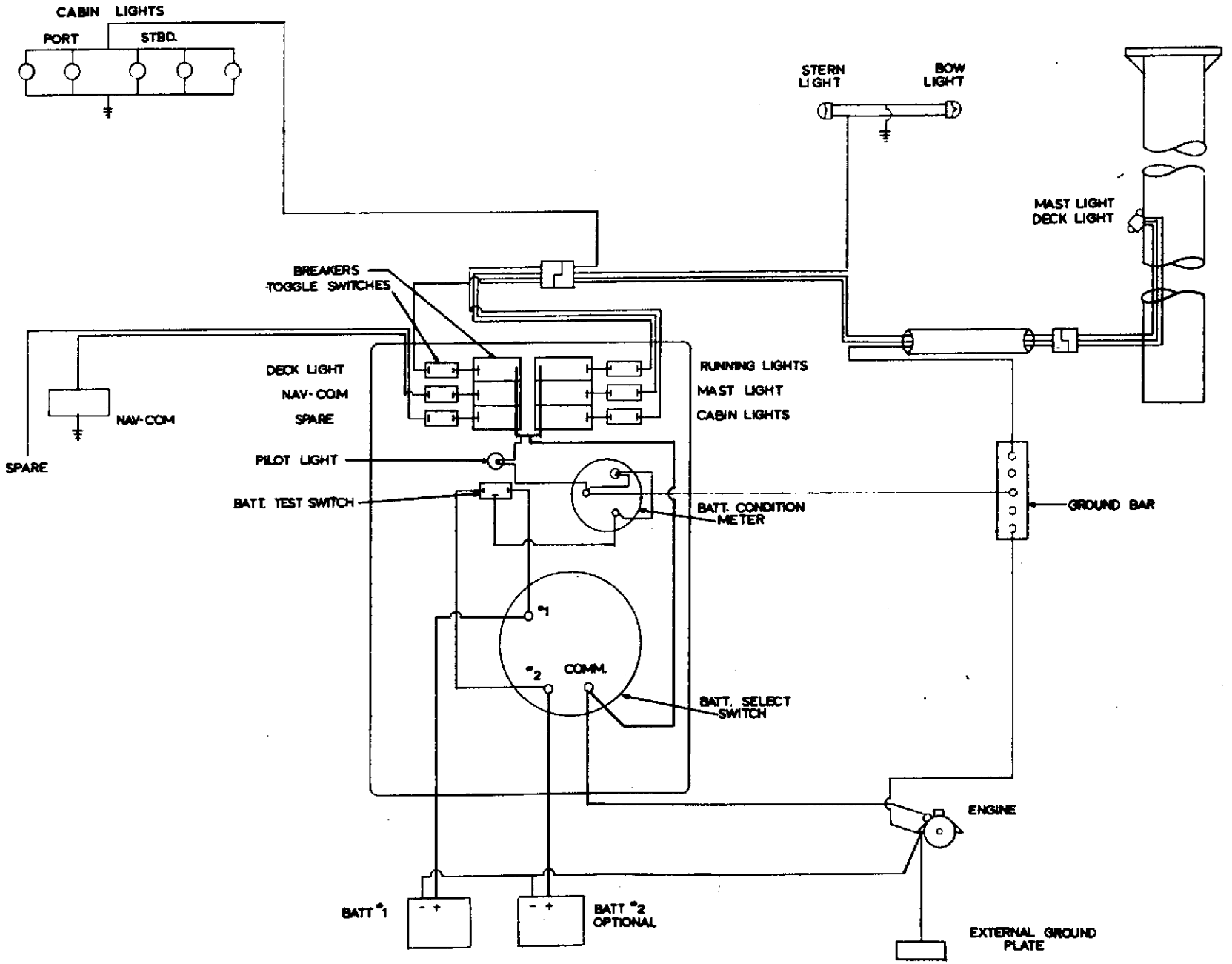
NOTE: ***Coupling must always be removed before aligning shaft.***

When tightening the hex bolts in step 4, please remember to do so at 180 ° intervals. Also, do not overtighten as this can cause the flex coupling to deform.

5.6 TYPICAL MOTOR MOUNT

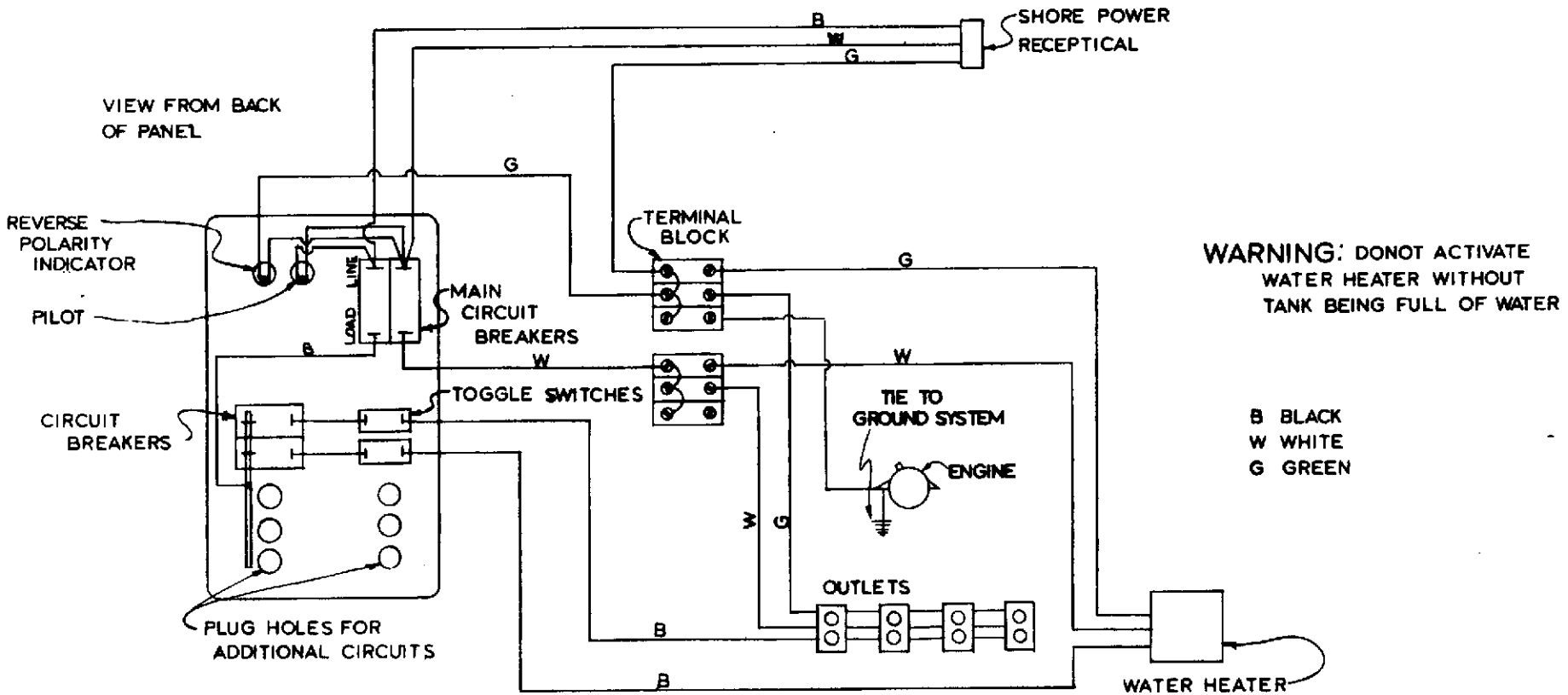


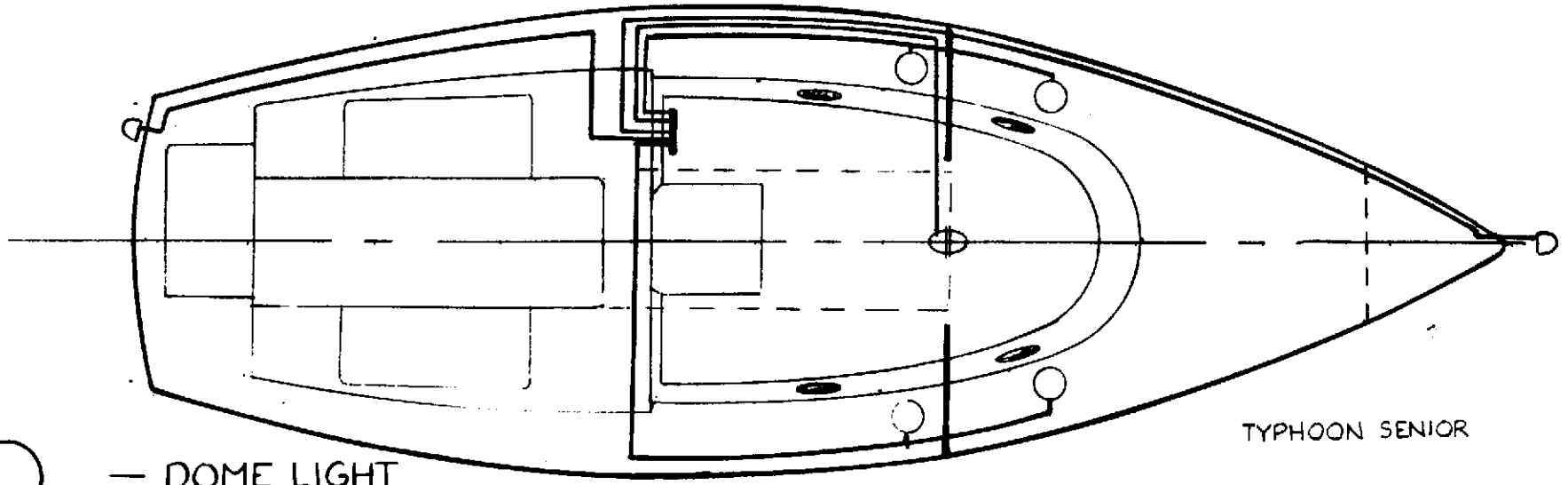
5.7 DC ELECTRICAL SCHEMATIC



5.8 AC ELECTRICAL SCHEMATIC

A.C. WIRING DIAGRAM





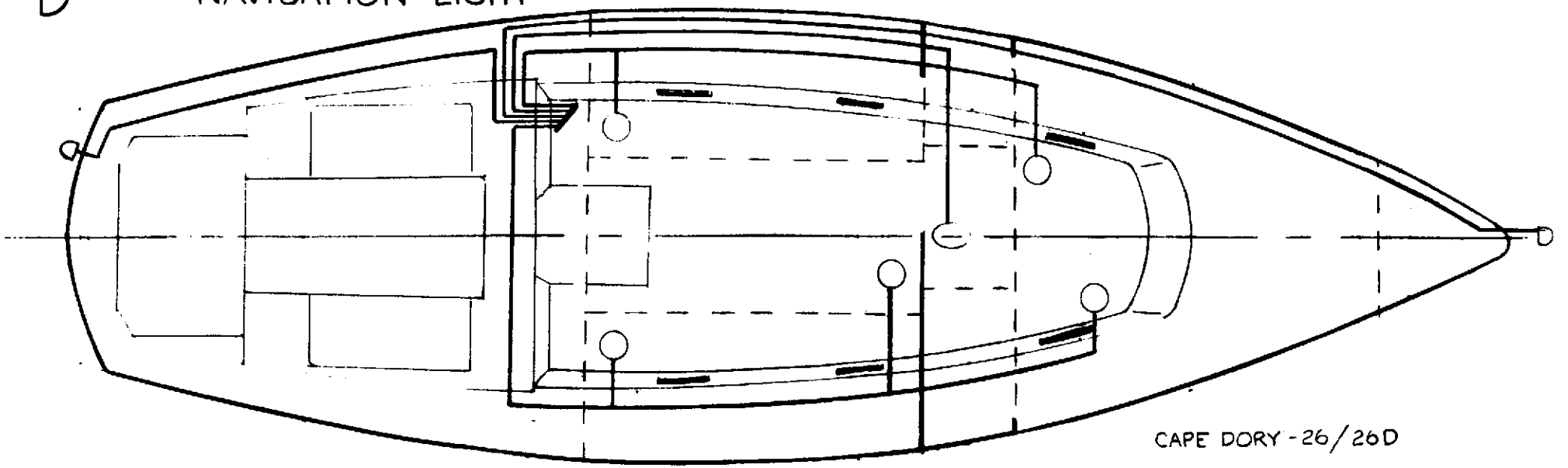
TYPHOON SENIOR

— DOME LIGHT

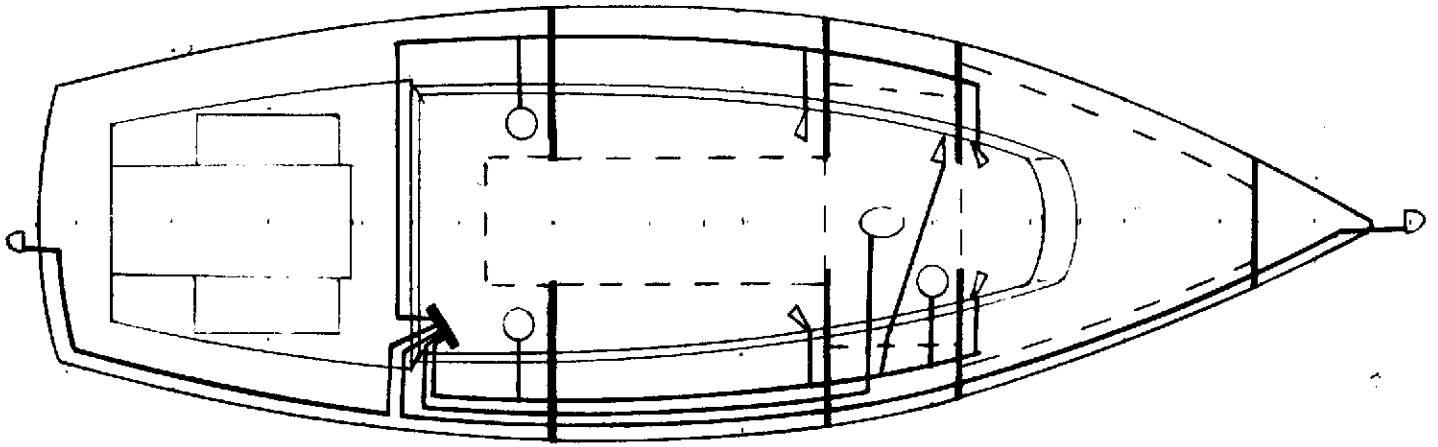
— SWIVEL LIGHT

— NAVIGATION LIGHT

5.9 TYS/C-26 & 26D ELECTRICAL LAYOUT



CAPE DORY - 26/26D



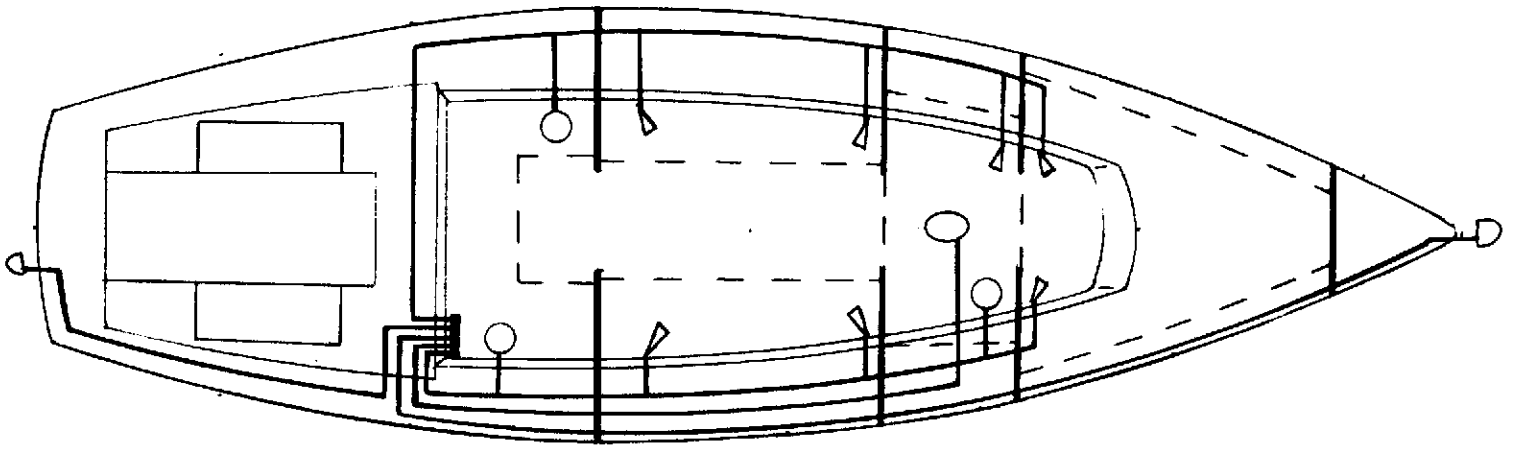
— DOME LIGHT

CAPE DORY - 28

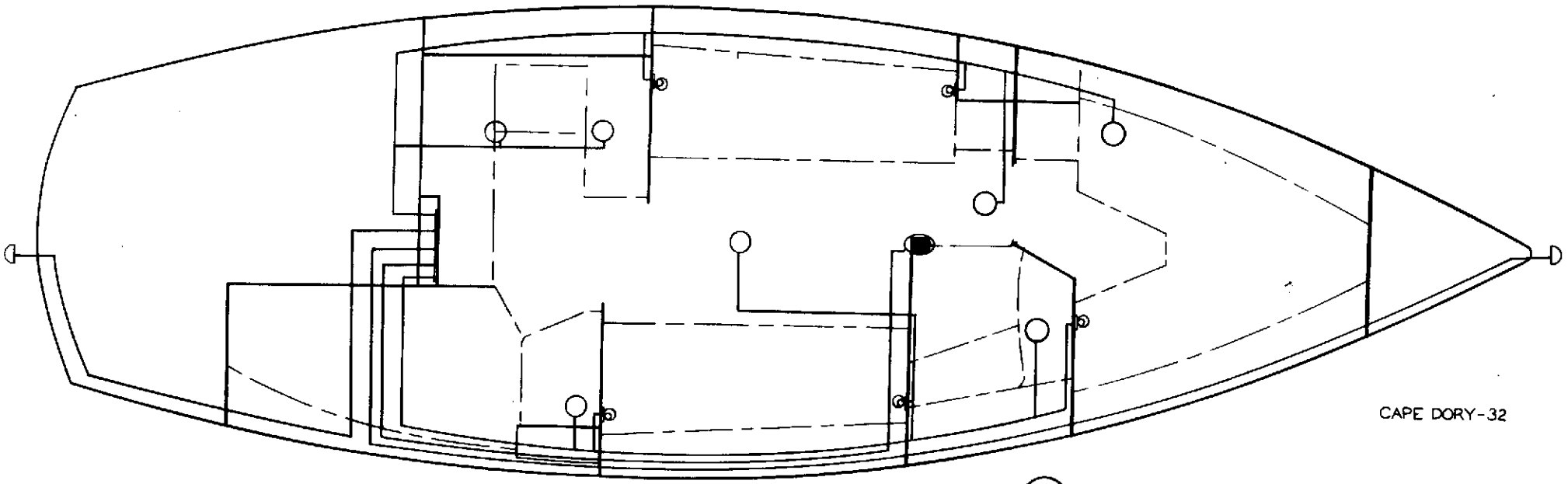
— SWIVEL LIGHT

5.10 C-28/30 ELECTRICAL LAYOUT

— NAVIGATION LIGHT



CAPE DORY - 30



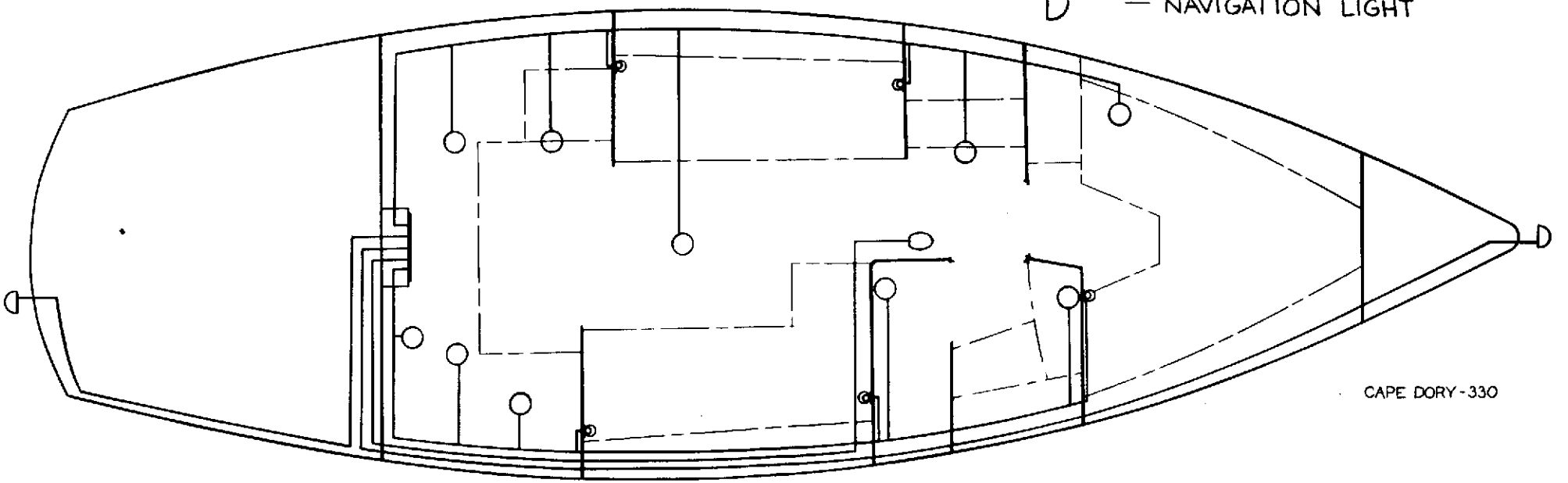
CAPE DORY-32

— DOME LIGHT

— SWIVEL LIGHT

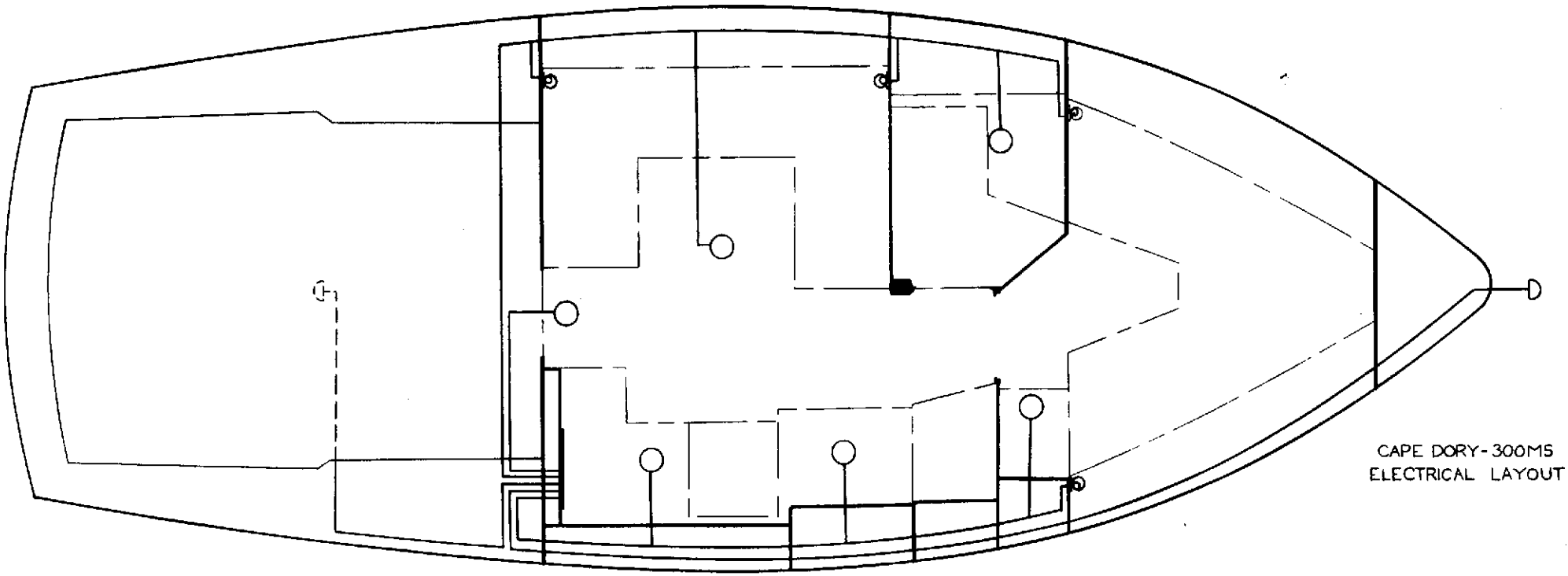
— NAVIGATION LIGHT

5.11 C-32/330 ELECTRICAL LAYOUT



CAPE DORY-330

5.12 C-300 MS ELECTRICAL LAYOUT



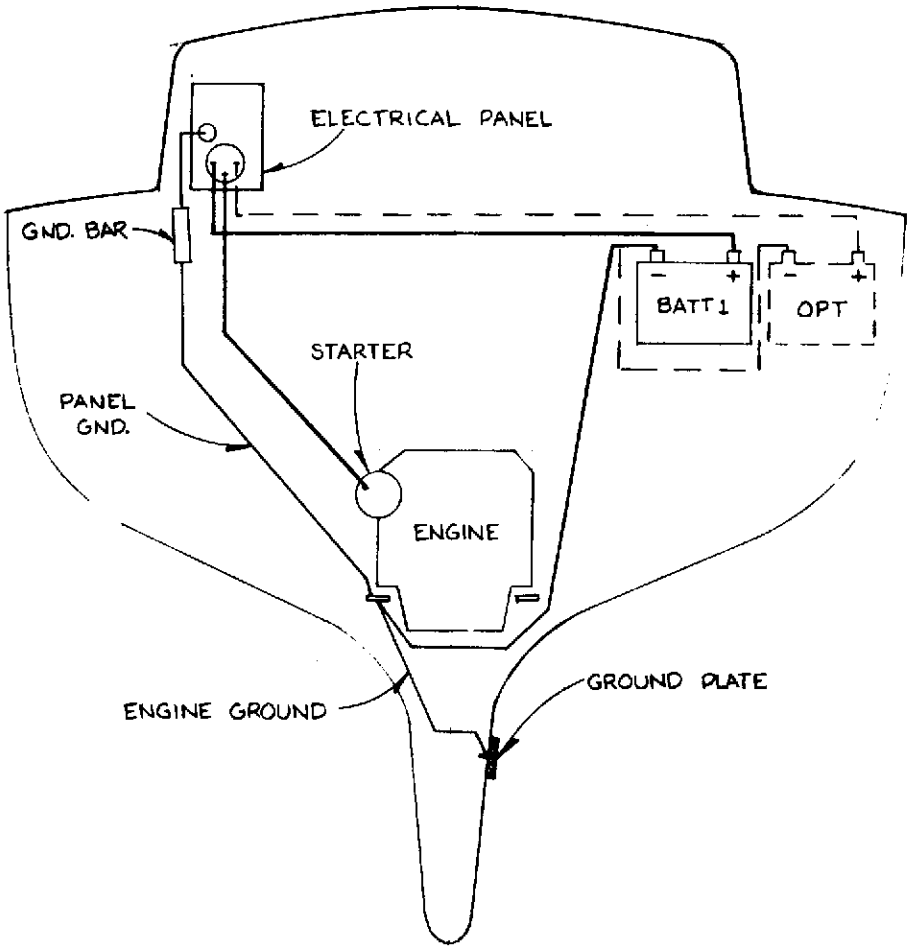
— DOME LIGHT

— SWIVEL LIGHT

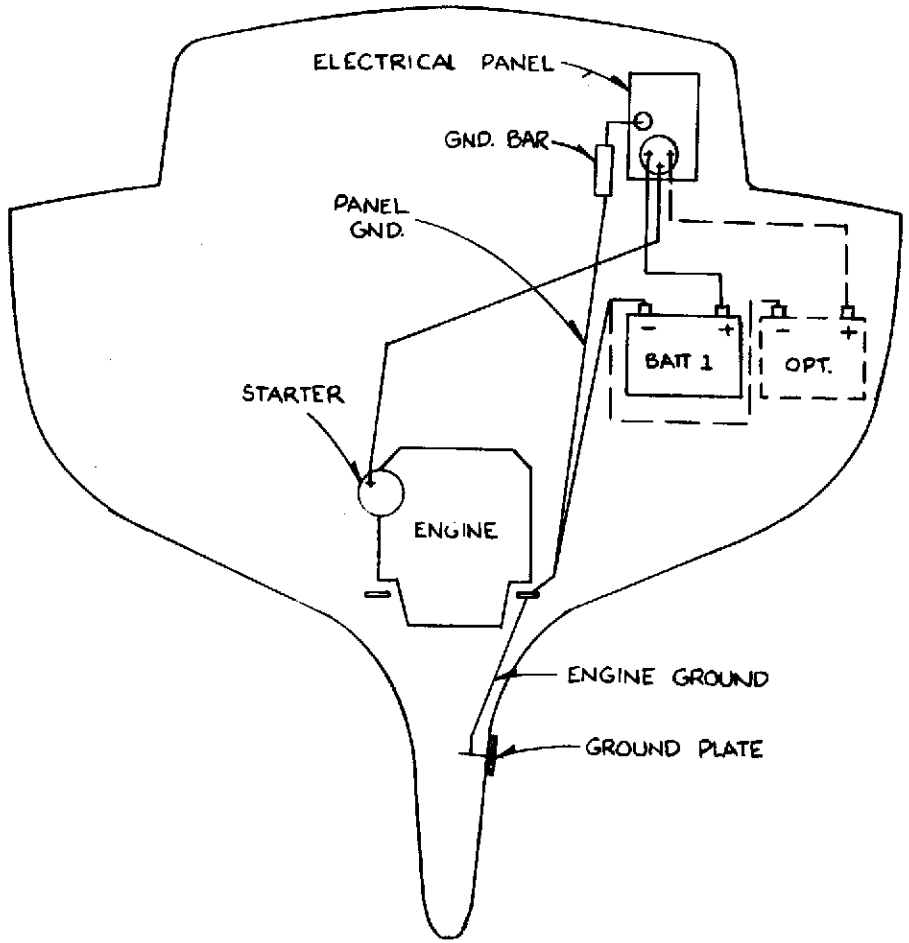
— NAVIGATION LIGHT

5.13 C-26D/28 BATTERY WIRING DIAGRAM

C-26D BATTERY WIRING DIAGRAM

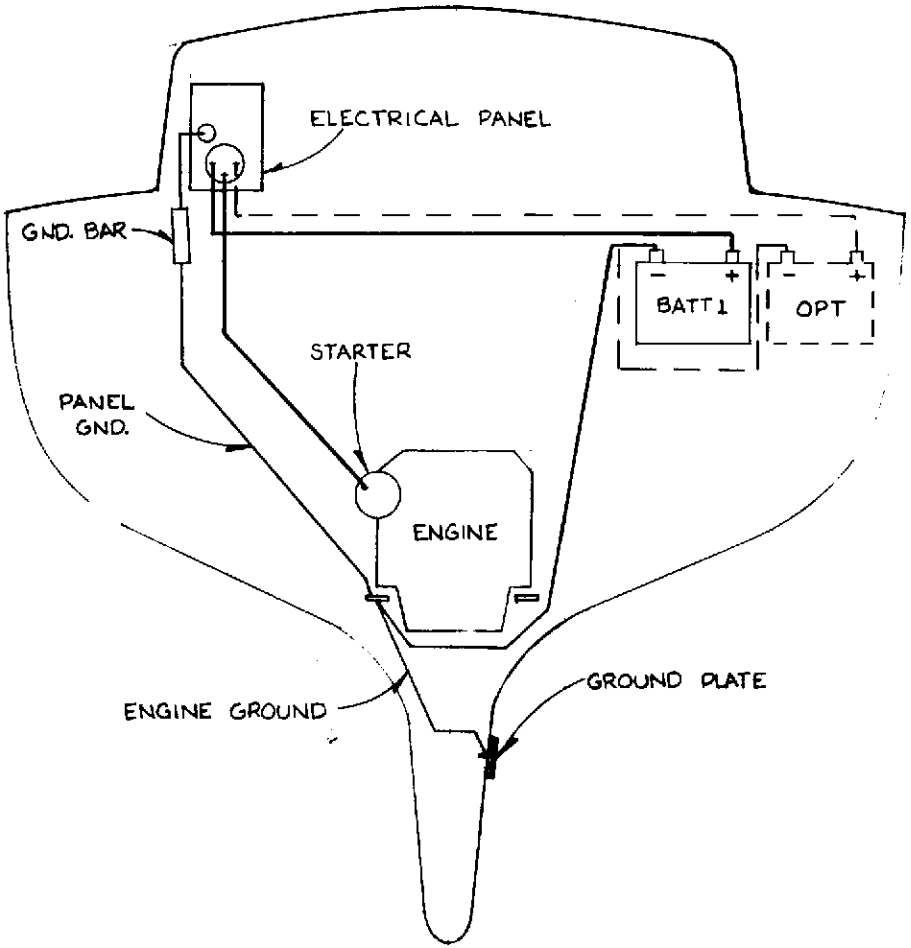


C-28 BATTERY WIRING DIAGRAM

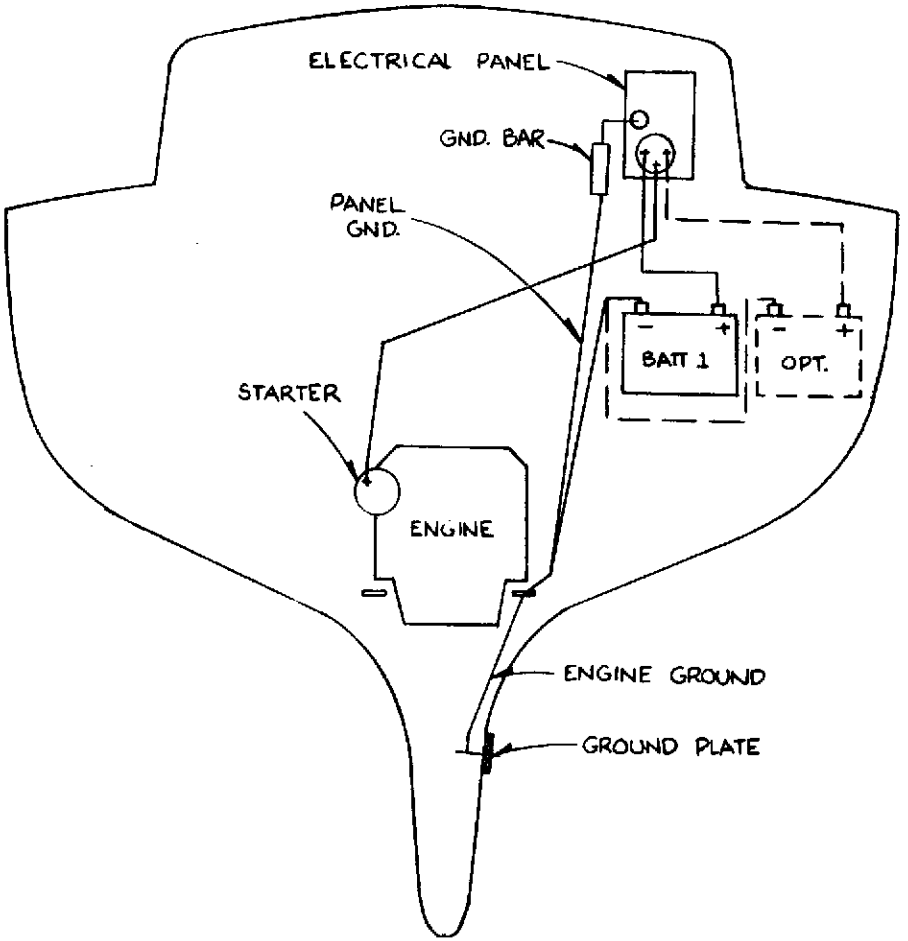


5.13 C-26D/28 BATTERY WIRING DIAGRAM

C-26D BATTERY WIRING DIAGRAM

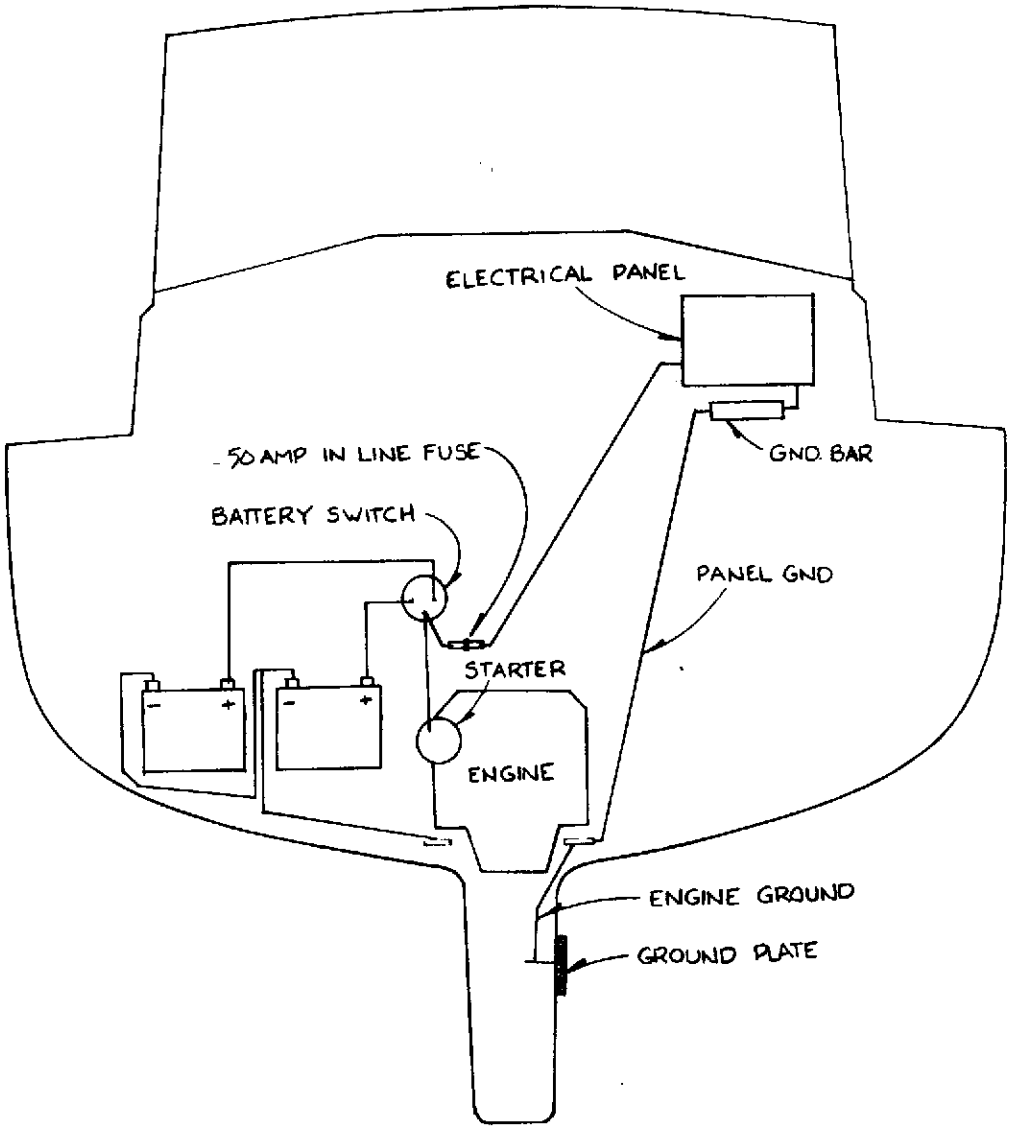


C-28 BATTERY WIRING DIAGRAM

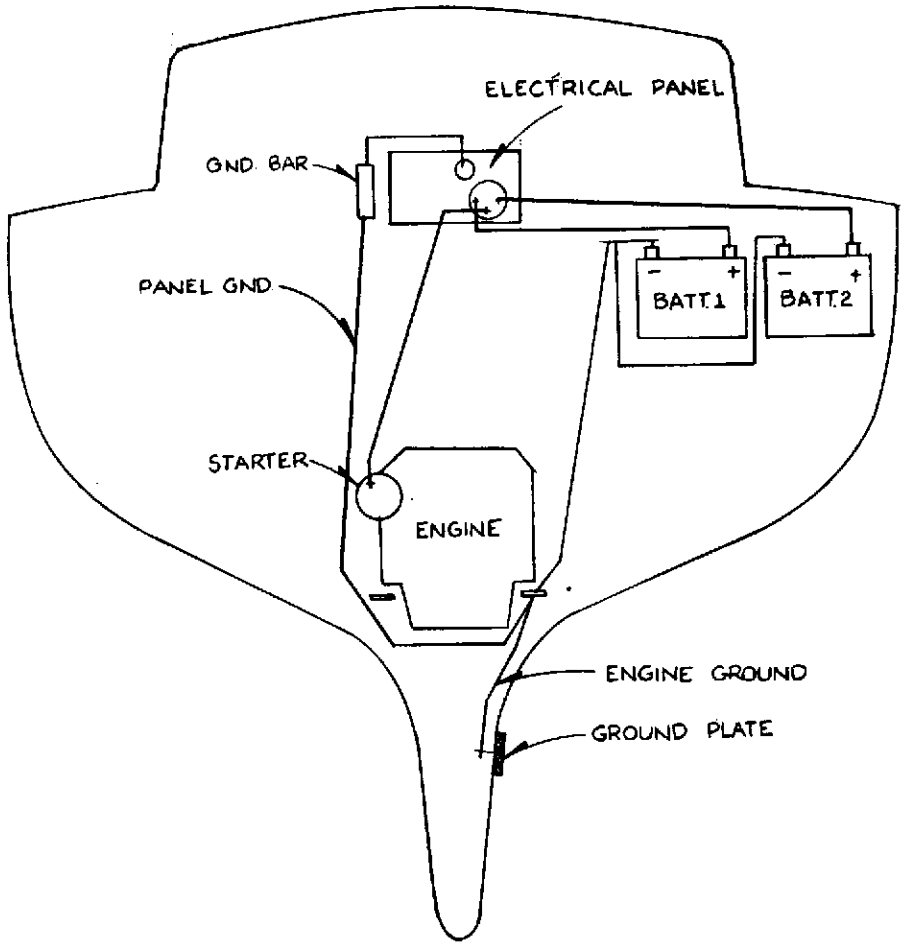


5.15 C-300MS/330 BATTERY WIRING DIAGRAM

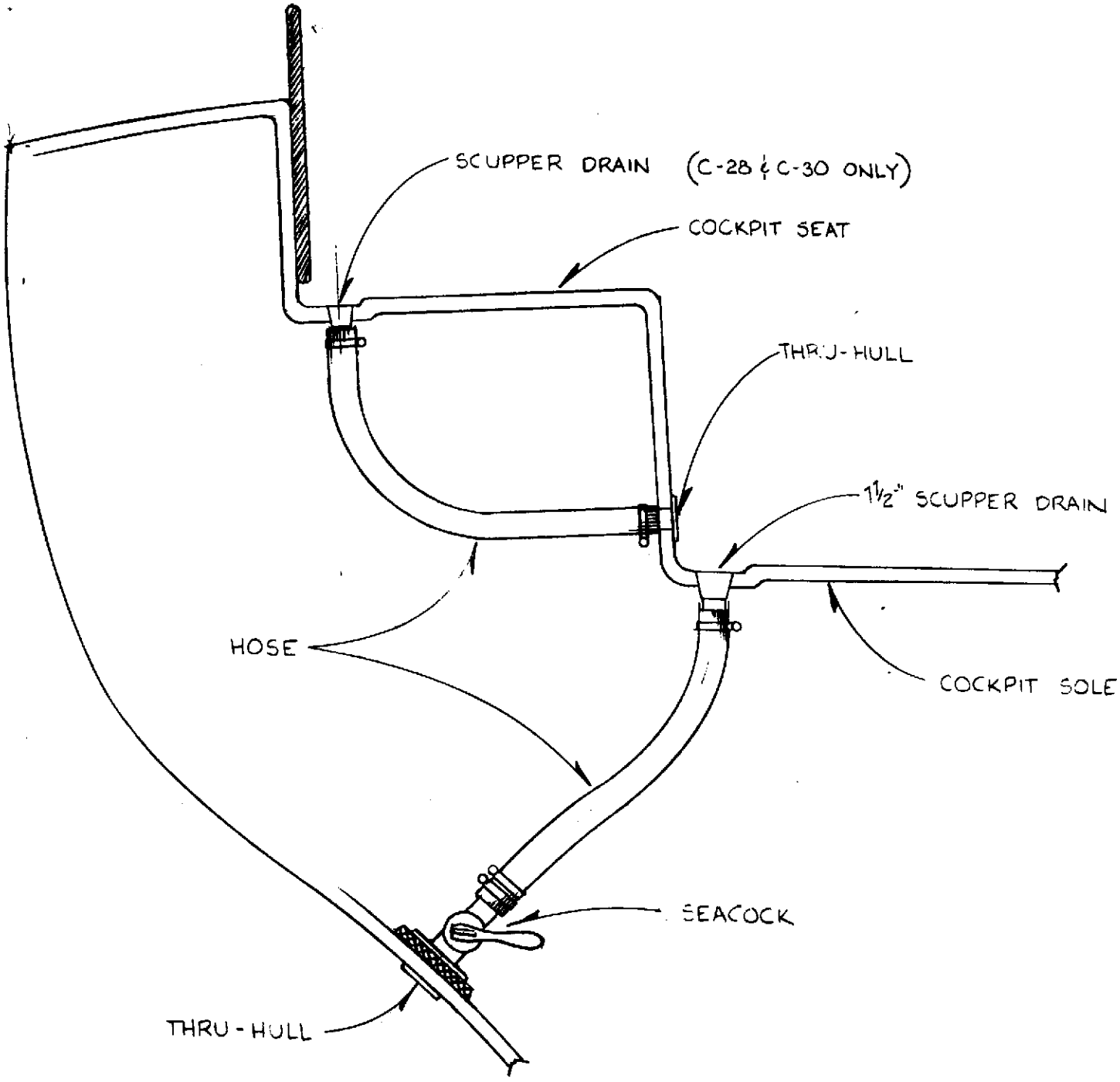
C-300MS BATTERY WIRING DIAGRAM



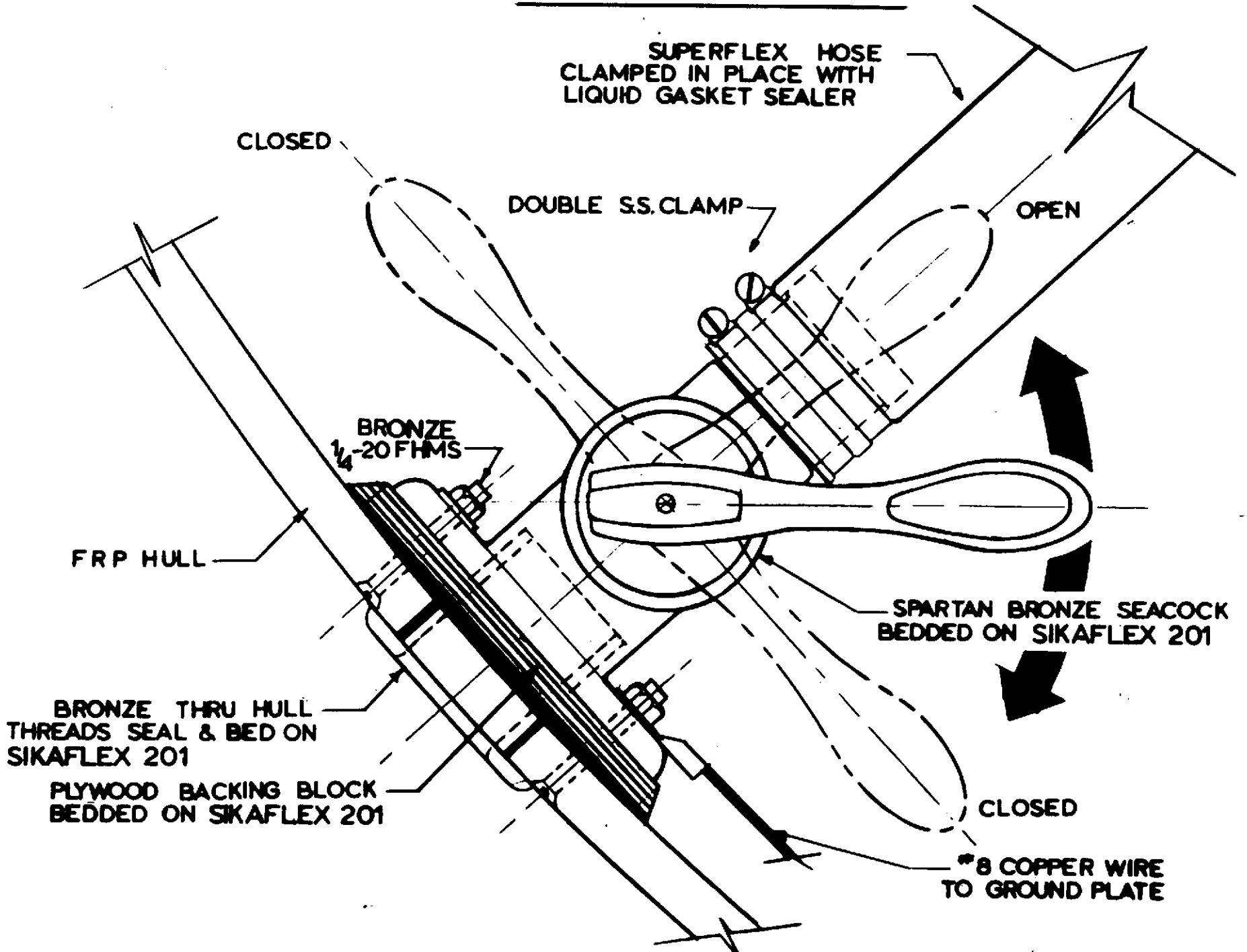
C-330 BATTERY WIRING DIAGRAM



5.16 TYPICAL SCUPPER INSTALLATION



5.17 SEACOCK INSTALLATION



5.18 SEACOCK MAINTENANCE

With proper maintenance, your solid bronze Spartan Seacock, will provide years of adequate service.

Winterizing

Make sure if the boat is hauled during a freezing season that the water is properly drained from the seacock plug. This can be accomplished by leaving the seacock open during hauling out. If the boat is kept in the water during a freezing season there are winter drain fasteners (16) located on the sides of the valve to allow water to exit when the seacock is closed.

Caution: Water left in the seacock to freeze will distort the metal and potentially fracture the casting.

Lubrication

The Spartan Seacock is designed to be disassembled for greasing and fine tuning. (Fig. B)

1. Holding the handle[15] unscrew the jam nut[10] and flange nut[11] off the plug threads[14]. The position washer[12] can then be lifted off.

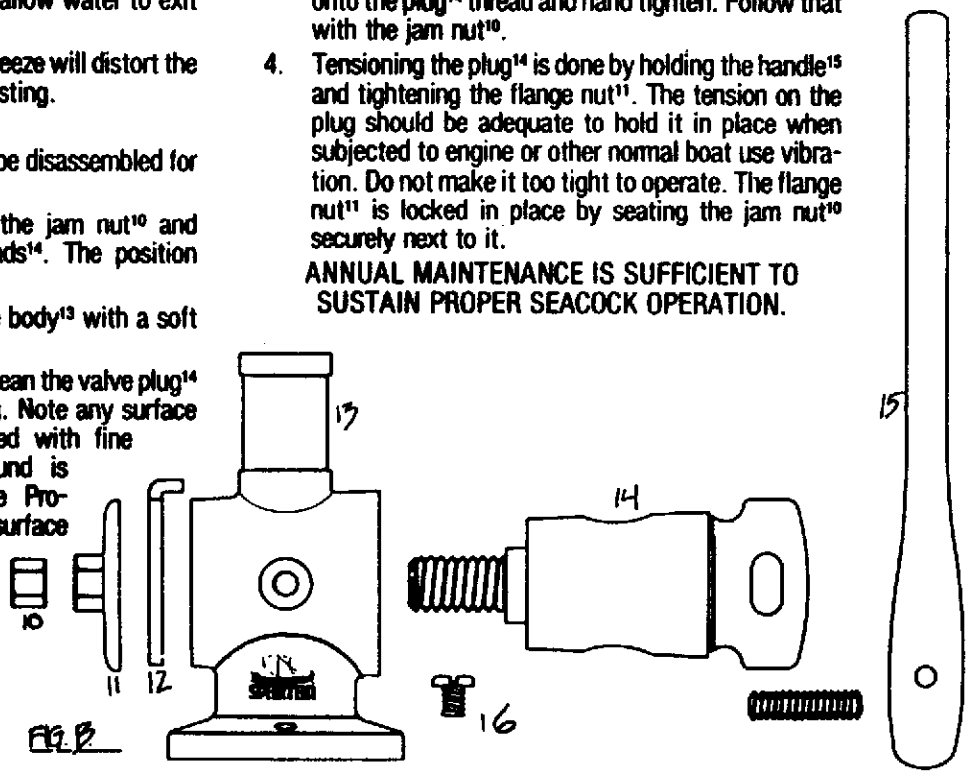
   Lightly tap the plug[14] out of the body[13] with a soft hammer or wood piece.

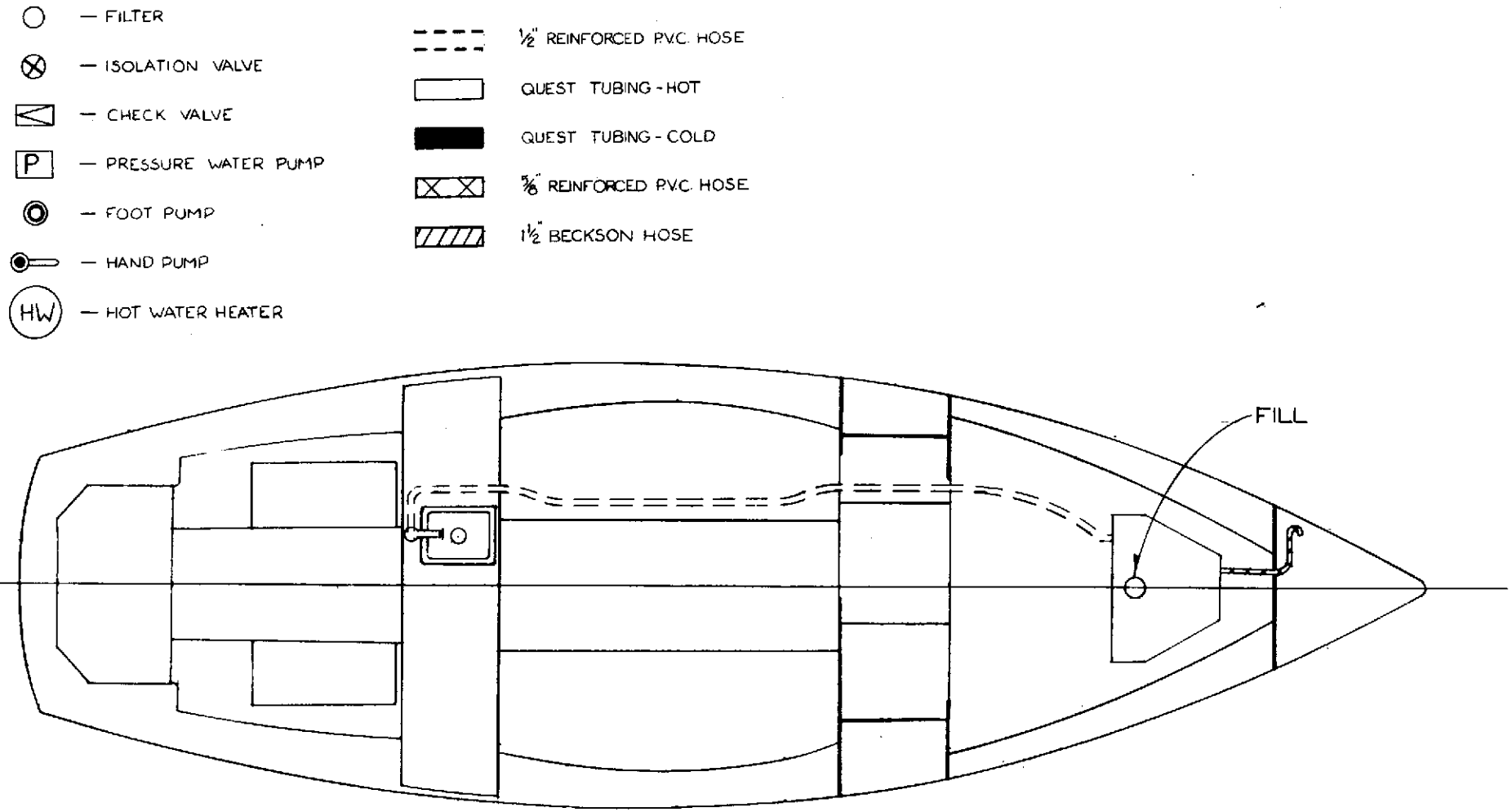
2. Use a grease cutting solvent to clean the valve plug[14] surface and body[13] plug housing. Note any surface gouges. These can be smoothed with fine emery cloth. Lapping compound is available from Spartan Marine Products, Inc. to aid with severe surface problems.

3. Generously apply a new skin of water pump grease on the plug[14] surface. Insert the plug in the body[13] and locate the position washer[12] properly on the end of the plug[14]. (The position washer should turn with the direction of the plug.) Screw the flange nut[11] onto the plug[14] thread and hand tighten. Follow that with the jam nut[10].

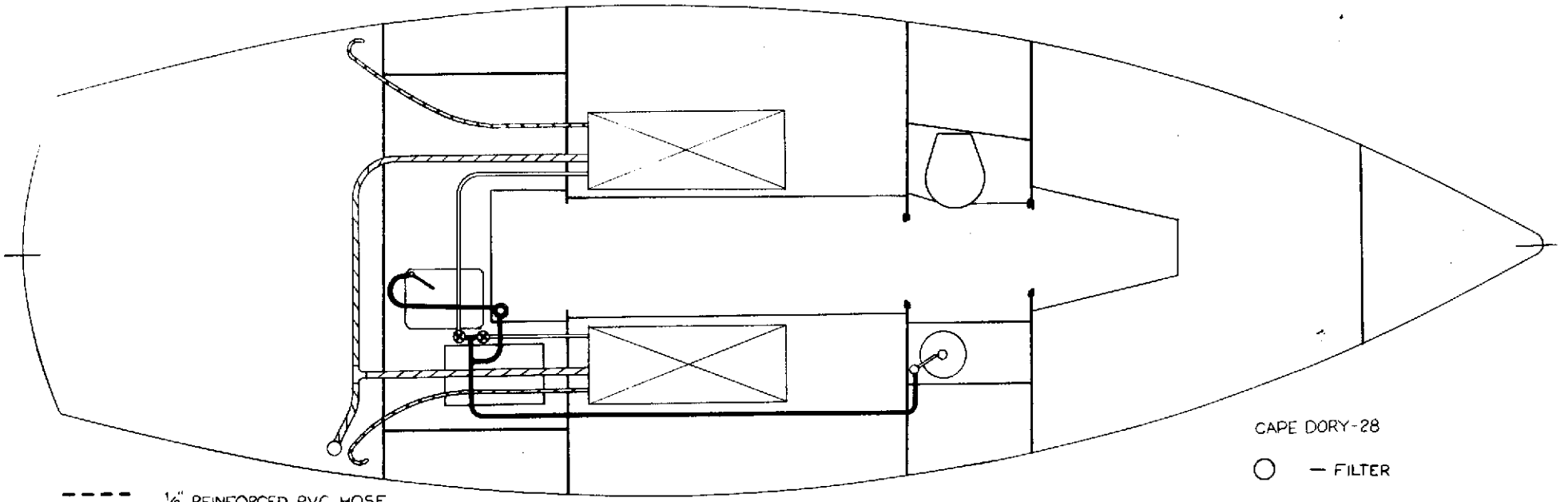
4. Tensioning the plug[14] is done by holding the handle[15] and tightening the flange nut[11]. The tension on the plug should be adequate to hold it in place when subjected to engine or other normal boat use vibration. Do not make it too tight to operate. The flange nut[11] is locked in place by seating the jam nut[10] securely next to it.

ANNUAL MAINTENANCE IS SUFFICIENT TO SUSTAIN PROPER SEACOCK OPERATION.





5.19 C-26/26D PLUMBING LAYOUT



½" REINFORCED P.V.C. HOSE

QUEST TUBING - HOT

QUEST TUBING - COLD

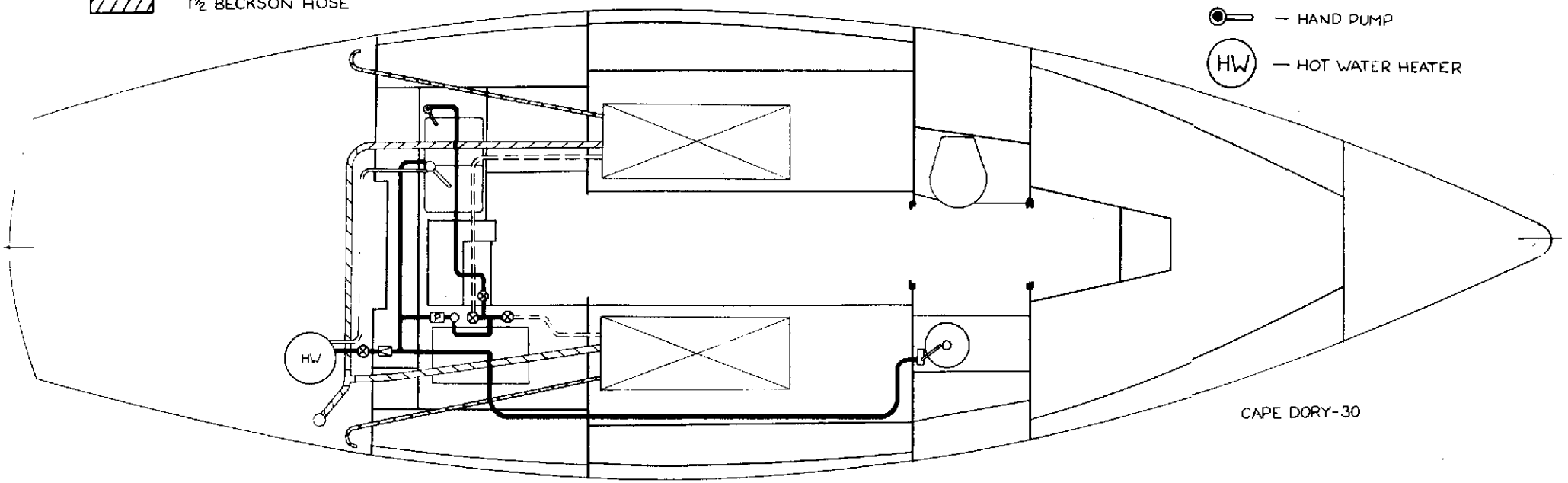
⅝" REINFORCED P.V.C. HOSE

1½" BECKSON HOSE

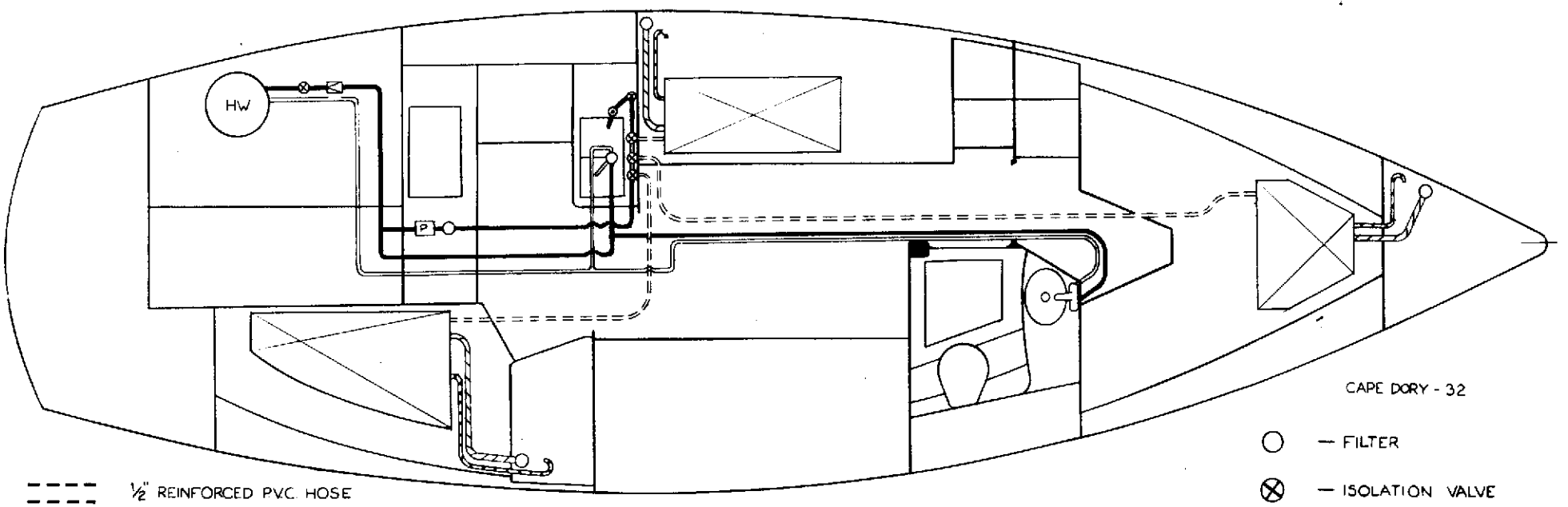
5.20 C-28/30 PLUMBING LAYOUT

CAPE DORY-28

- FILTER
- ISOLATION VALVE
- CHECK VALVE
- PRESSURE WATER PUMP
- FOOT PUMP
- HAND PUMP
- HOT WATER HEATER



CAPE DORY-30



CAPE DORY - 32

½" REINFORCED P.V.C. HOSE

QUEST TUBING - HOT

QUEST TUBING - COLD

⅜" REINFORCED P.V.C. HOSE

1½" BECKSON HOSE

— FILTER

— ISOLATION VALVE

— CHECK VALVE

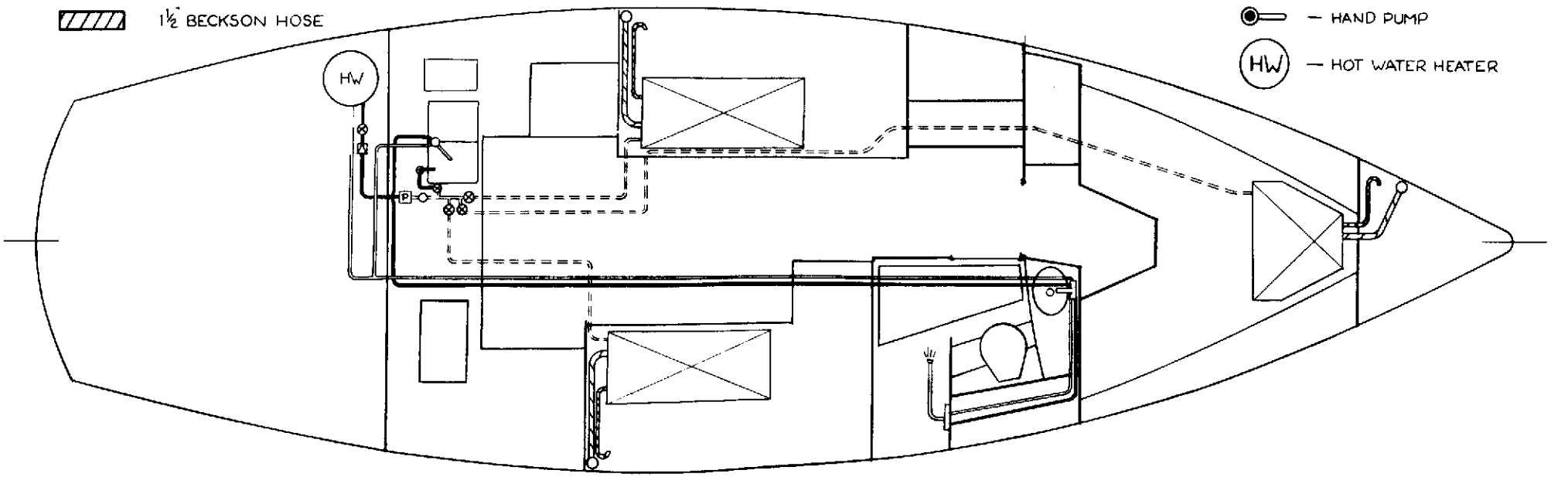
— PRESSURE WATER PUMP

— FOOT PUMP

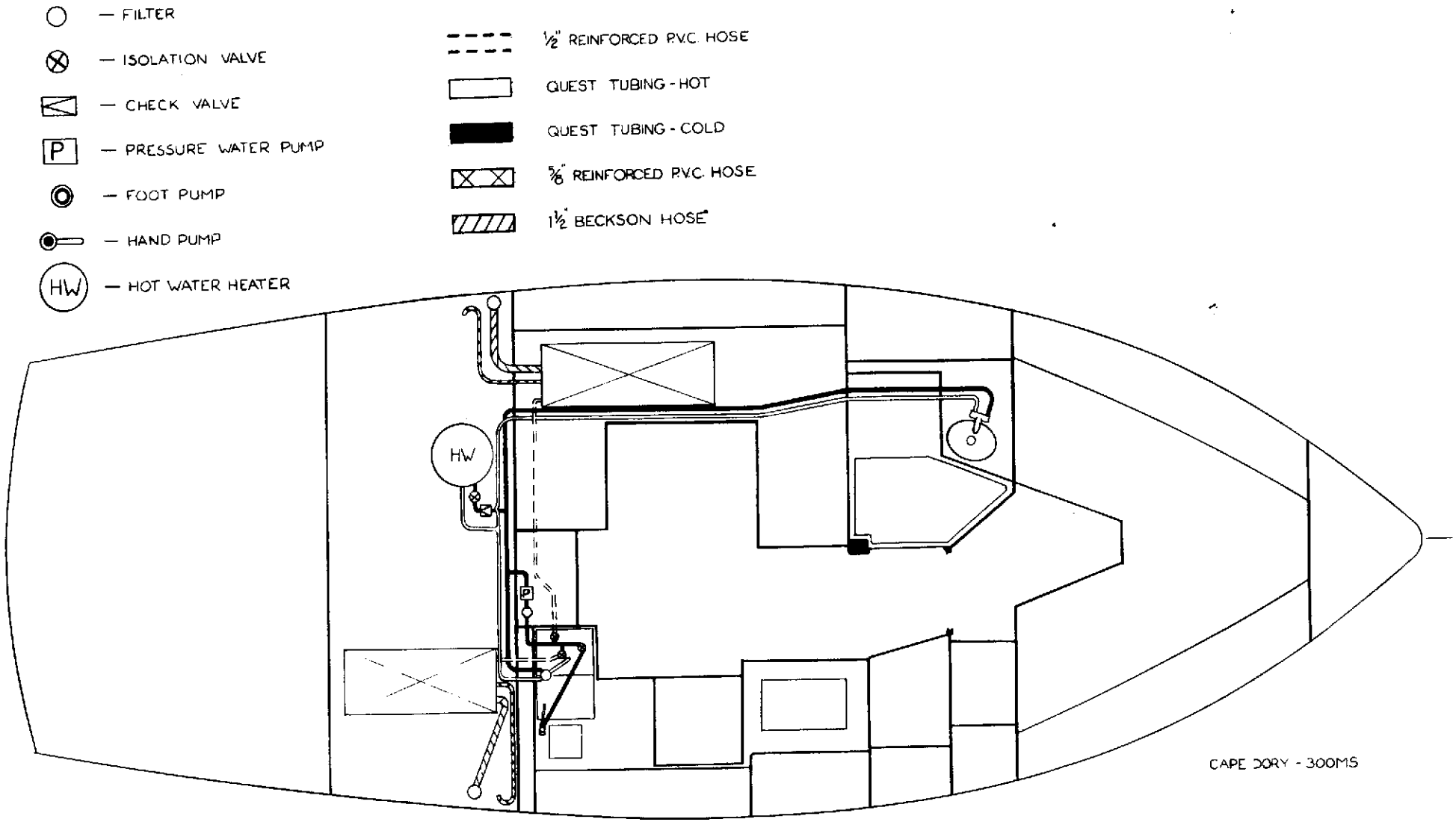
— HAND PUMP

HW — HOT WATER HEATER

5.21 C-32/330 PLUMBING LAYOUT

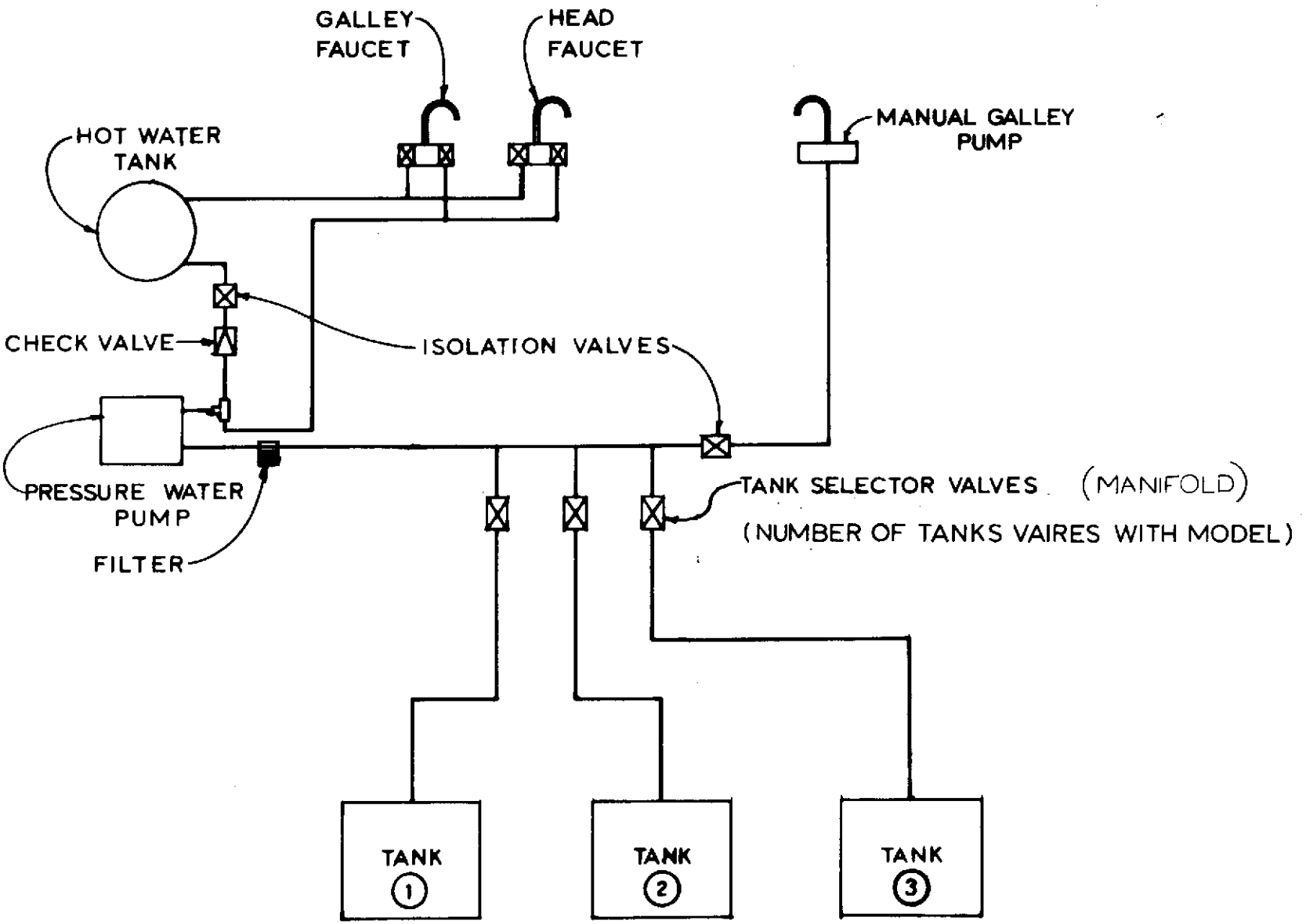


CAPE DORY - 330

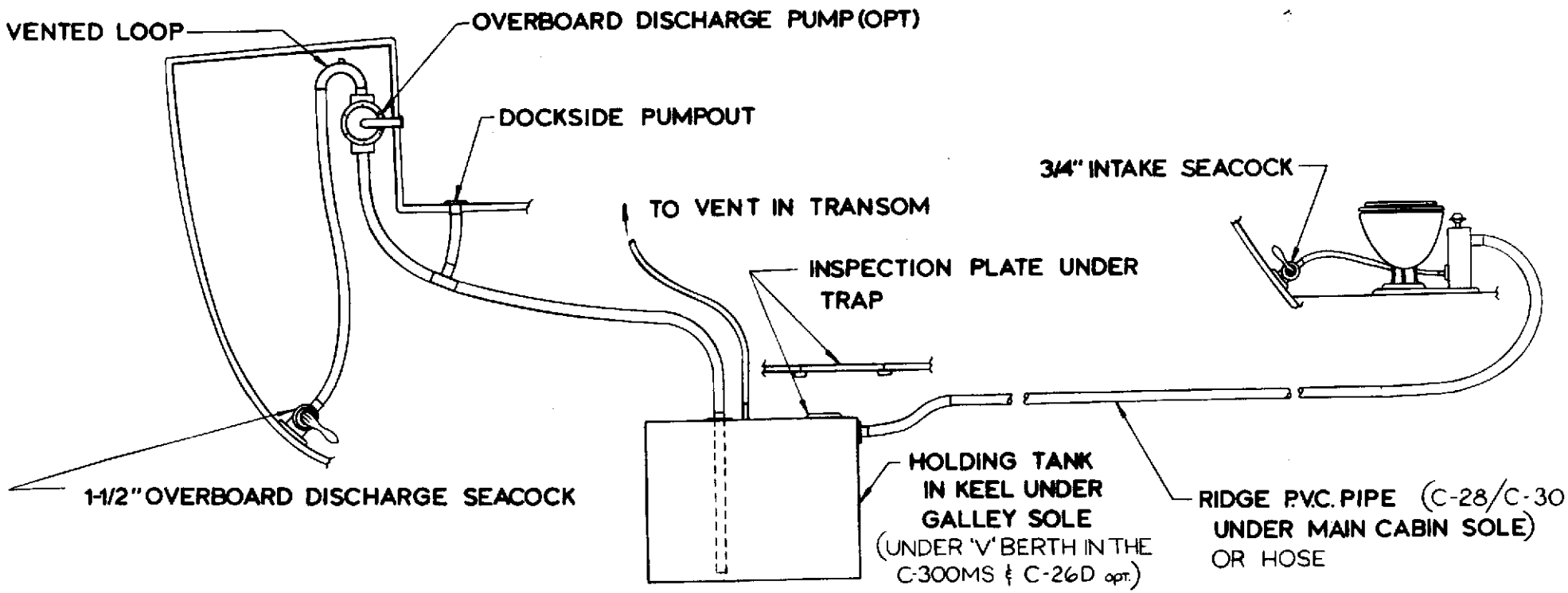


5.22 C-300 MS PLUMBING LAYOUT

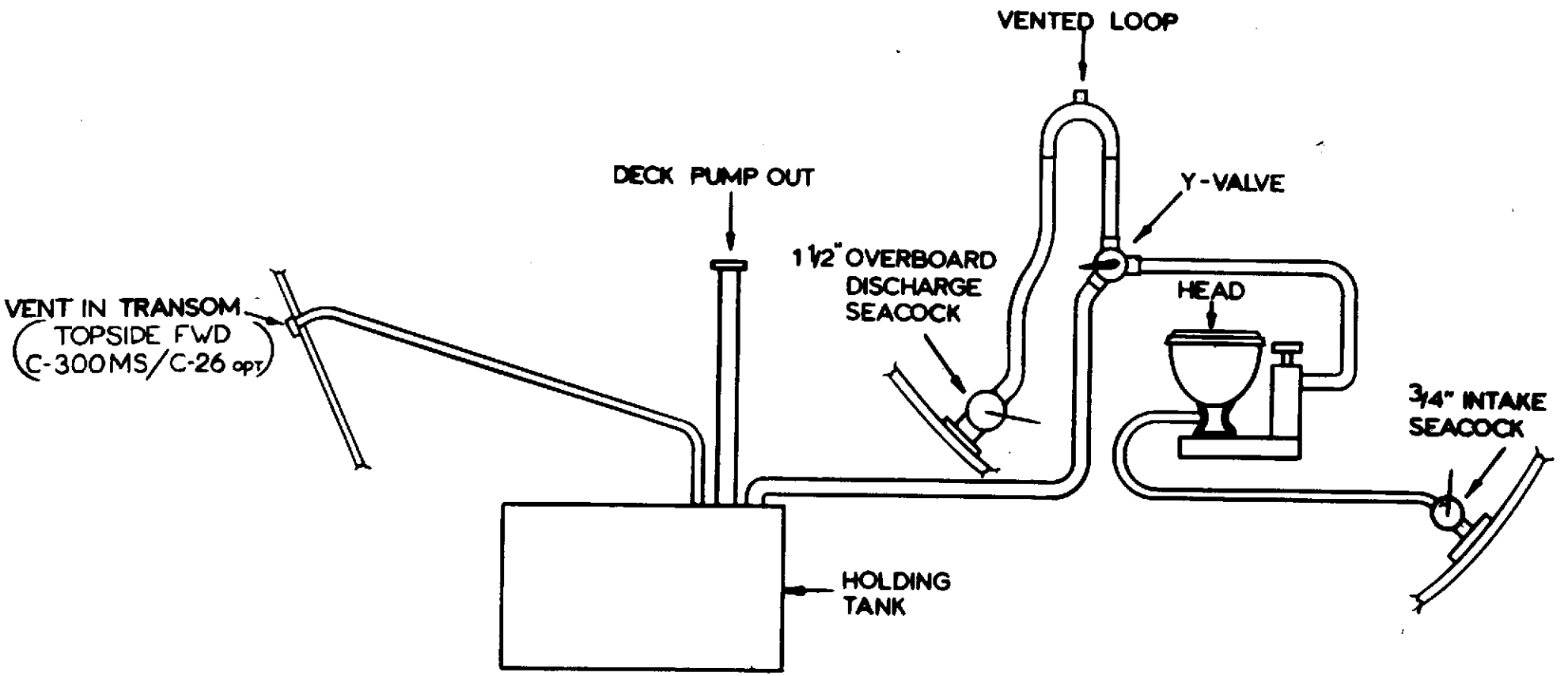
5.23 TYPICAL PRESSURE WATER SCHEMATIC



5.24 HEAD PLUMBING w/OPTIONAL OVERBOARD DISCHARGE

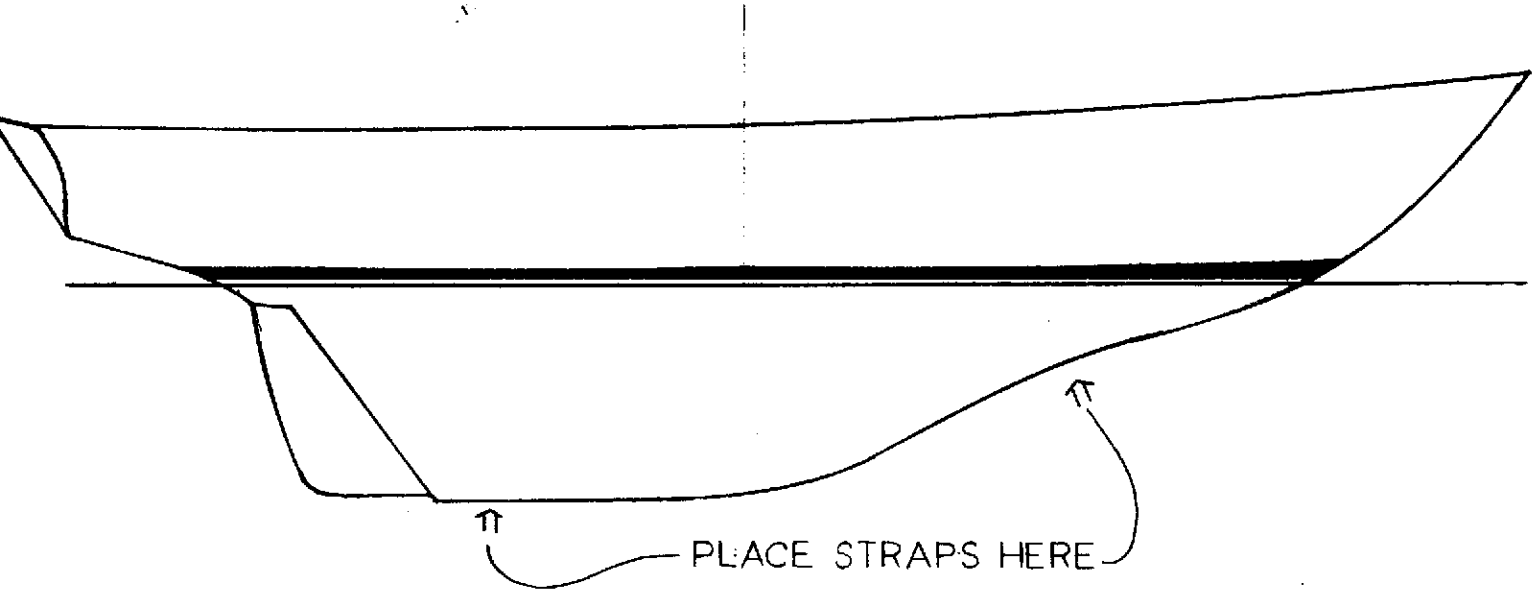


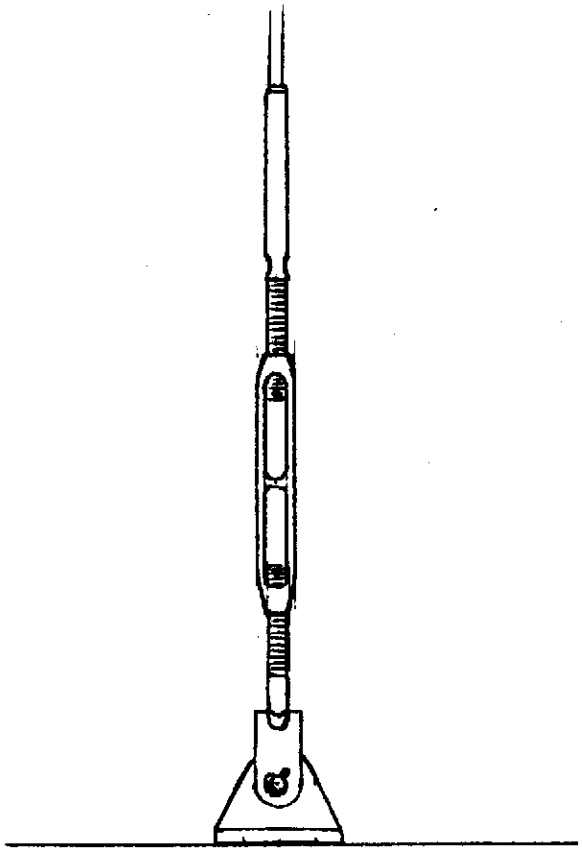
5.25 HEAD PLUMBING w/OPTIONAL Y VALVE DISCHARGE



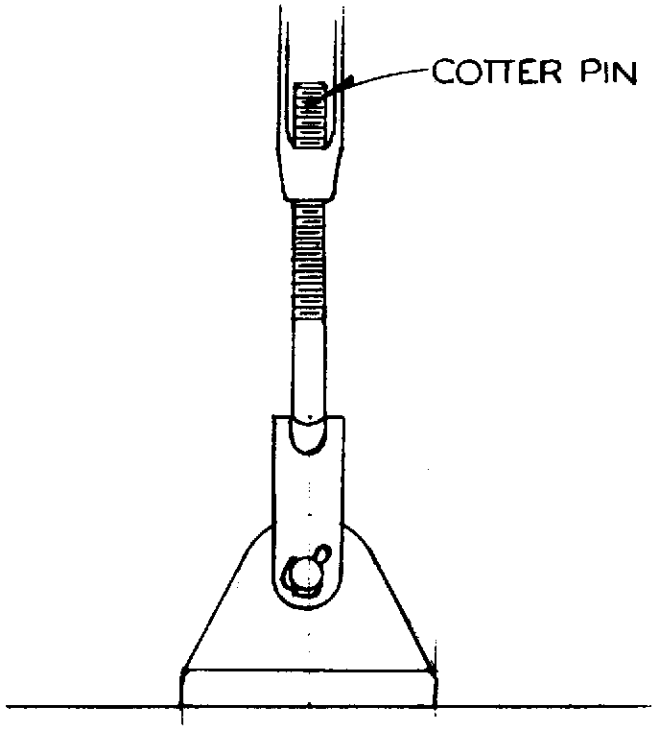
5.26 TYPICAL HULL LIFTING SLING LOCATIONS

NOTE: BE CAREFUL NOT TO LOCATE THE AFTER STRAP UNDER THE RUDDER





TURNBUCKLE

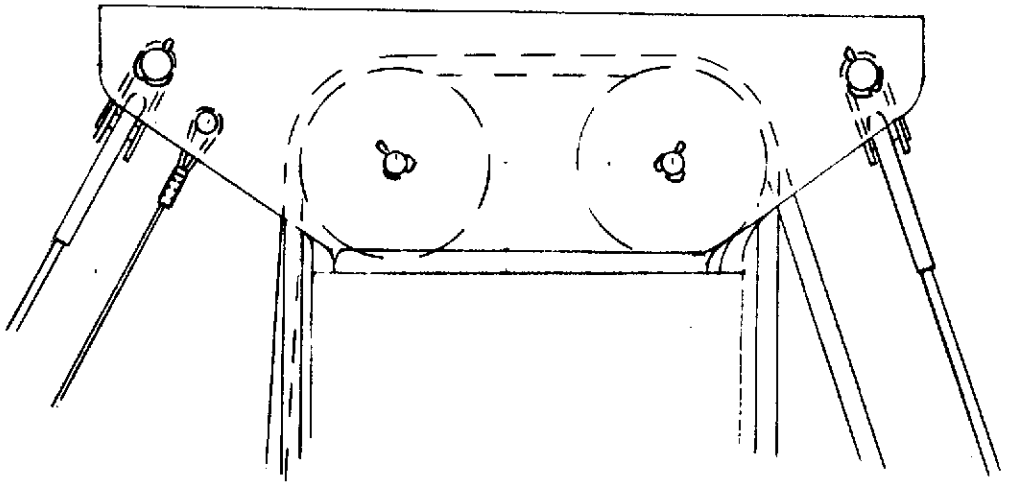


CHAINPLATE

5.27 GENERAL SPAR DETAILS

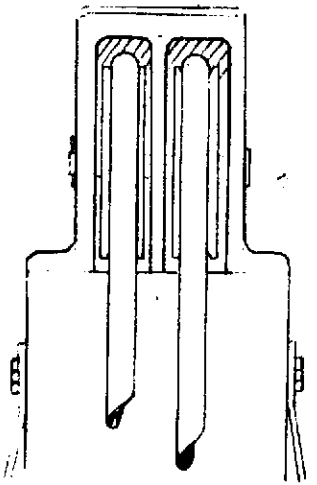
MASTHEAD - PROFILE

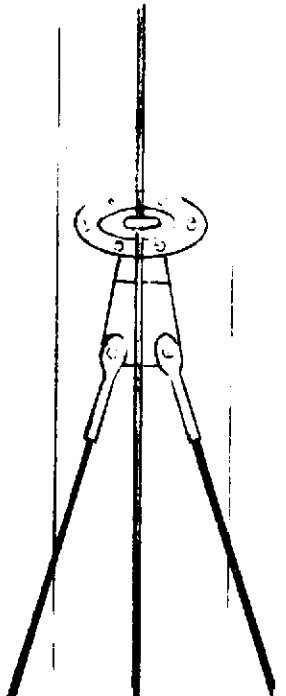
AFT

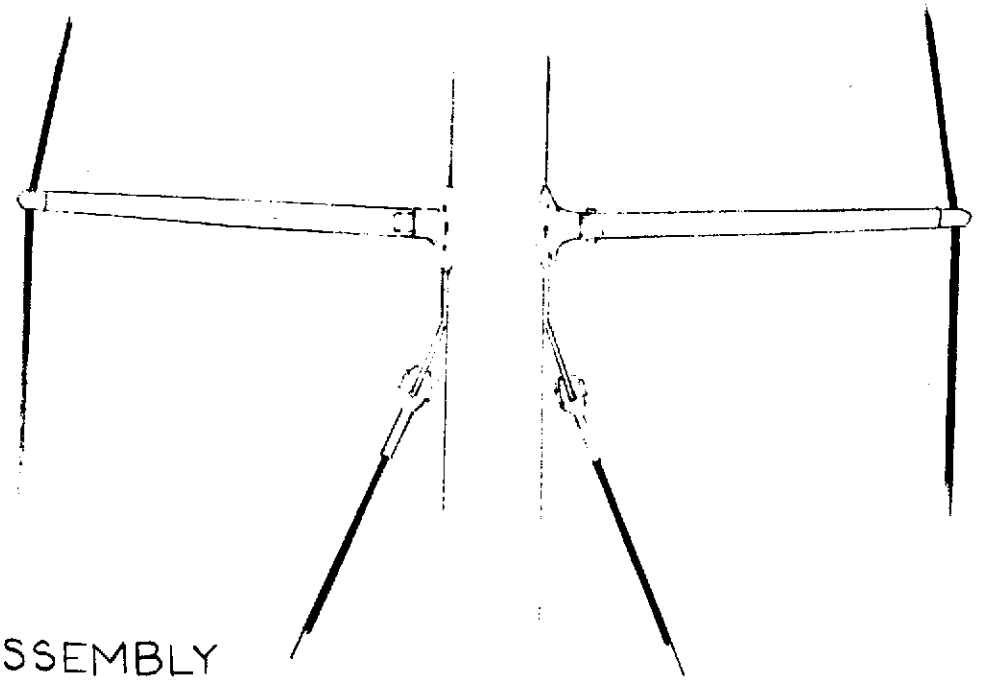


MASTHEAD - AFT END VIEW

(TOGGLE OMITED FOR CLEARITY)





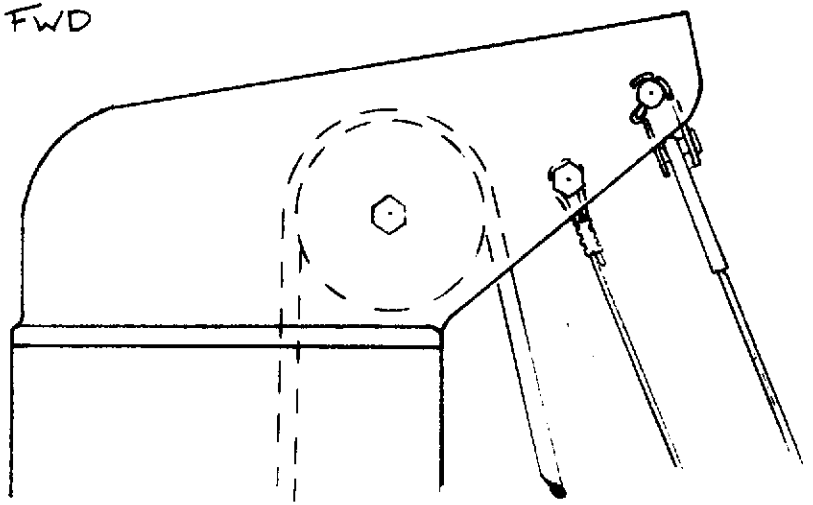


SPREADER ASSEMBLY

5.28 TYPHOON SENIOR SPAR DETAILS

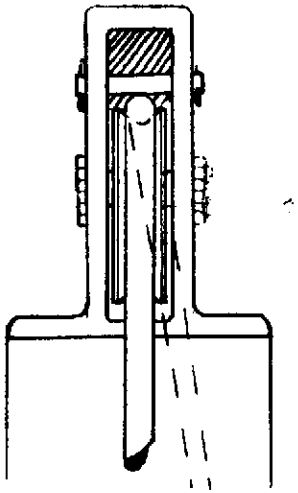
TYS MASTHEAD - PROFILE

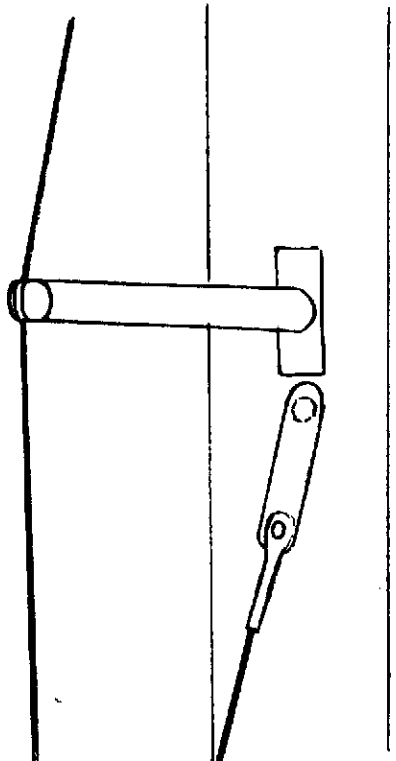
FWD



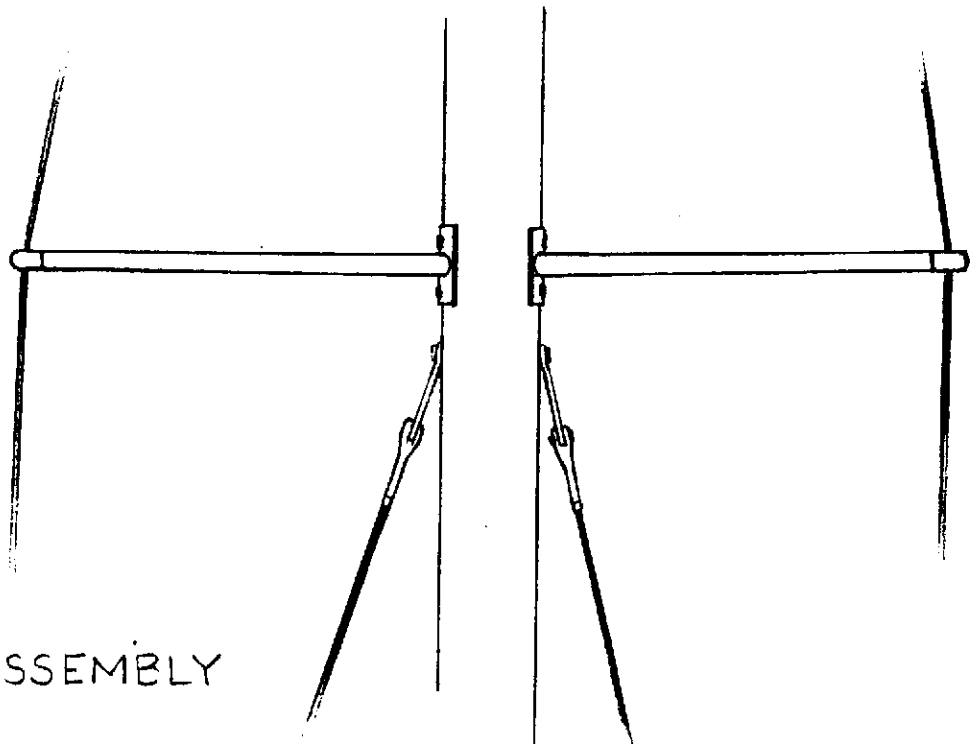
TYS MASTHEAD - AFT END VIEW

(TOGGLE OMITED FOR CLEARITY)

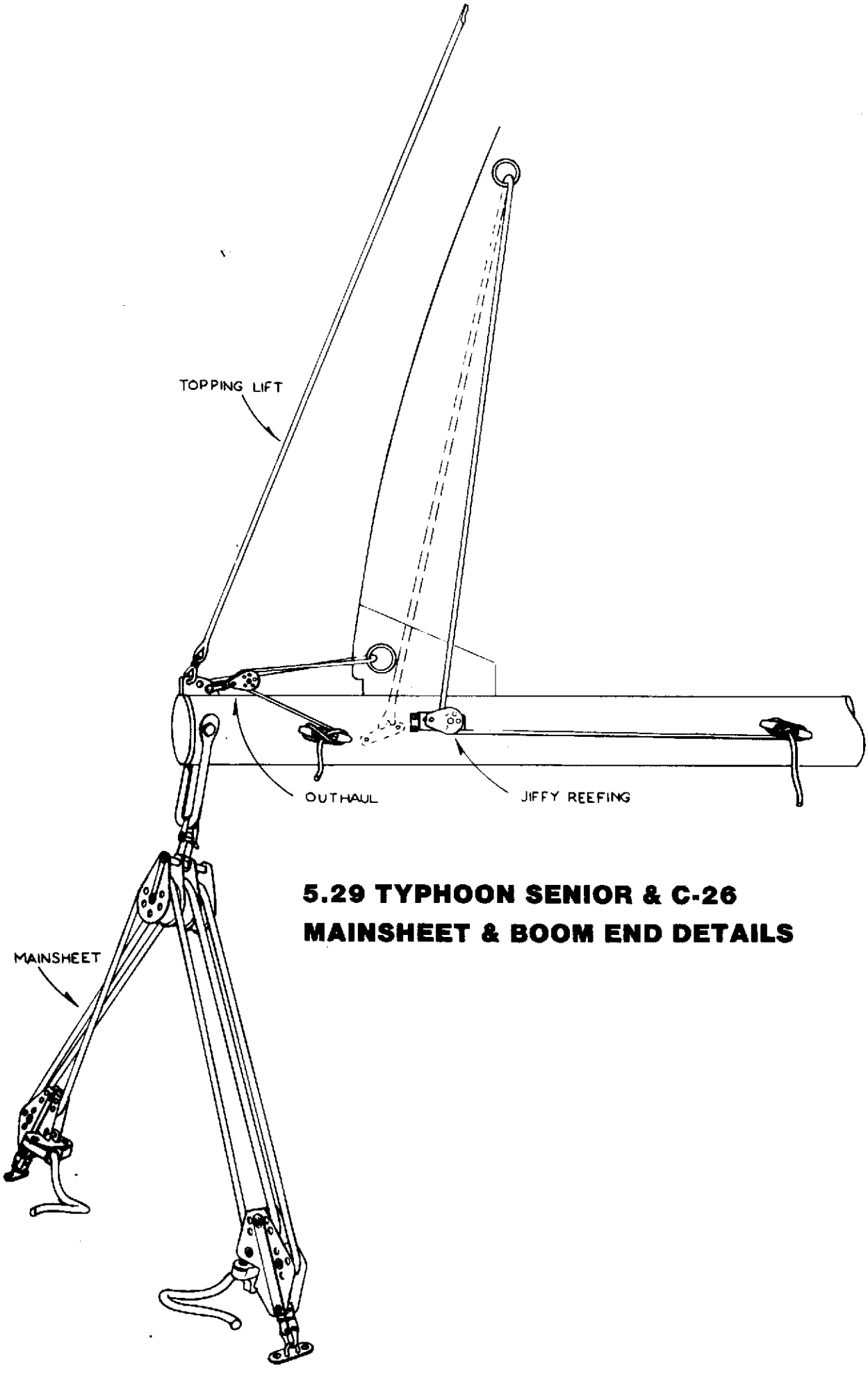




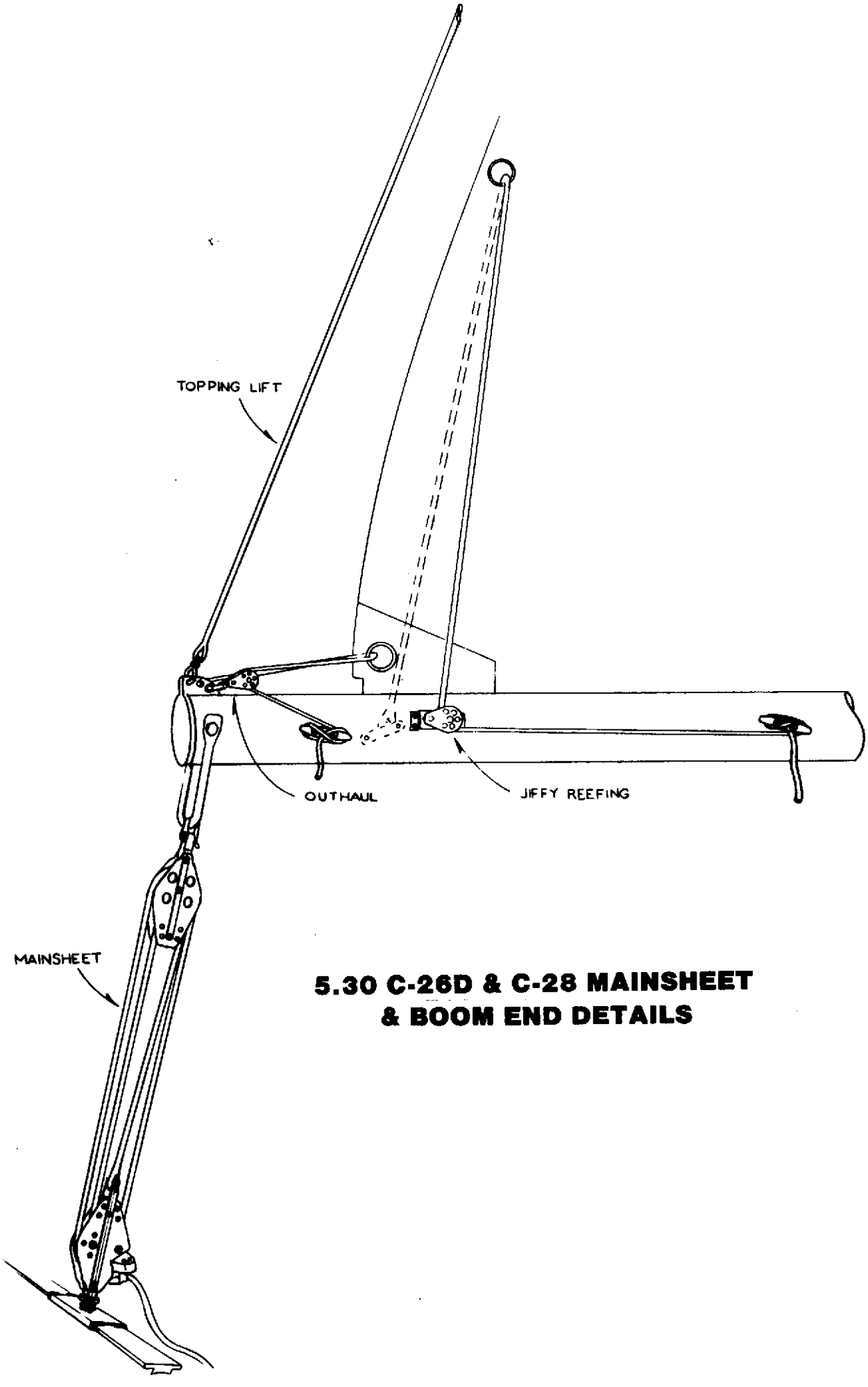
FWD



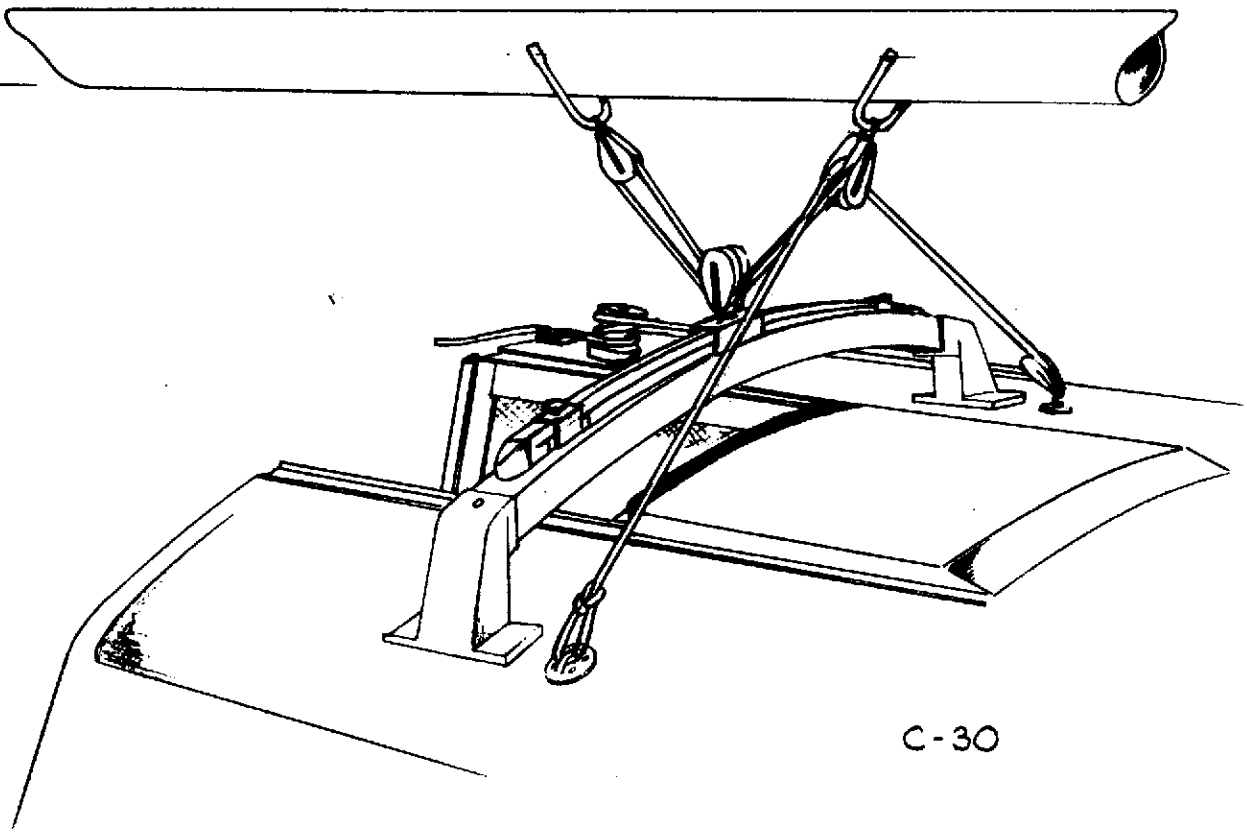
TYS SPREADER ASSEMBLY



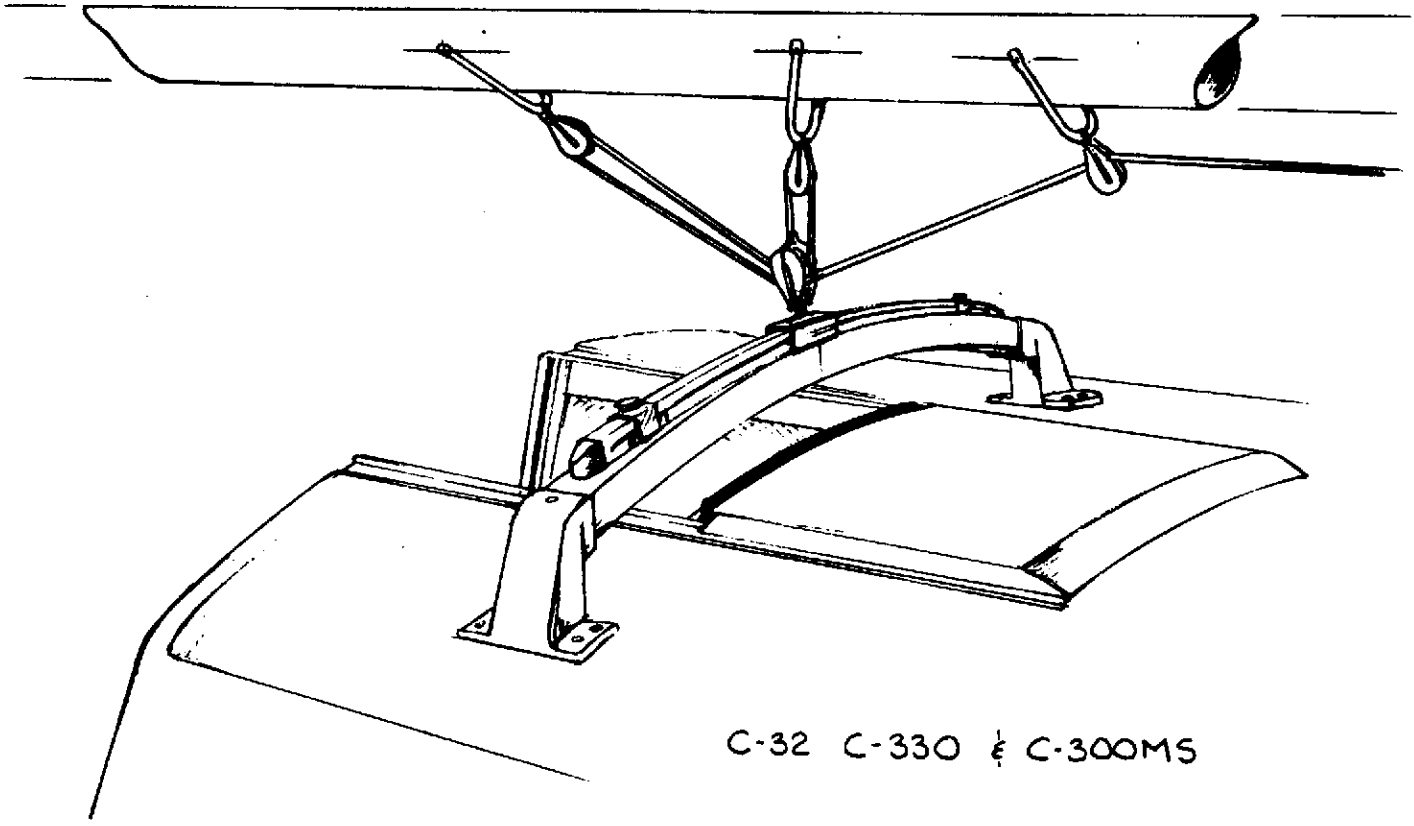
5.29 TYPHOON SENIOR & C-26
MAINSHEET & BOOM END DETAILS



5.30 C-26D & C-28 MAINSHEET & BOOM END DETAILS



5.31 TYPICAL MAINSHEET TRAVELLER DETAILS



NOTE: C-300MS TRAVELER IS LOCATED ON THE CANOPY

QUICK REEFING*

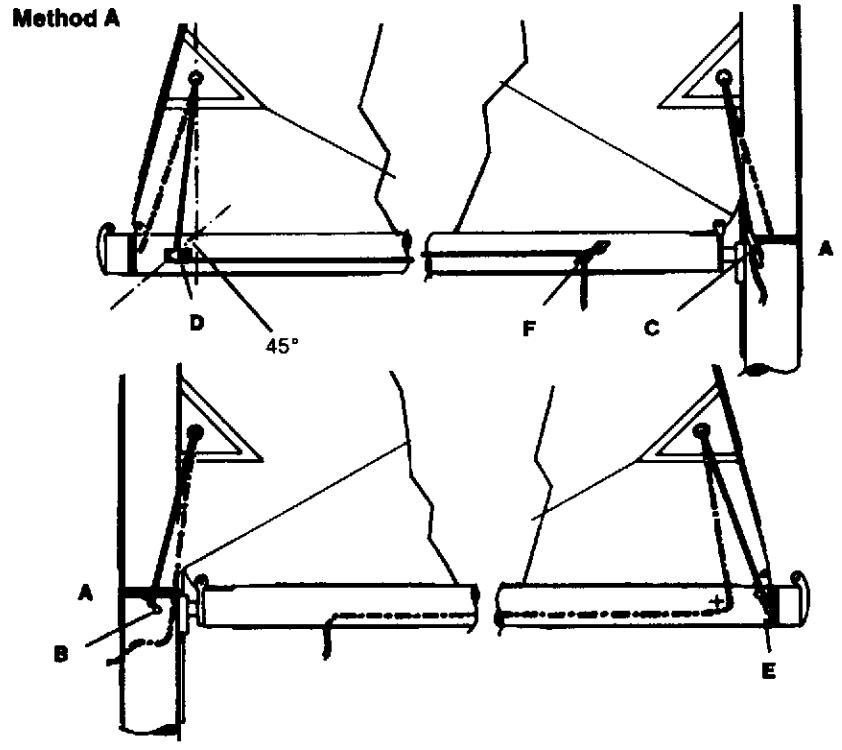
As the modern offshore racing yacht rapidly becomes more sophisticated, and offshore racing itself becomes more challenging, hardware and sail handling systems are refined and developed to make yachts faster and easier to operate. Perhaps the most important development in the area of sail handling has been Quick Reefing.

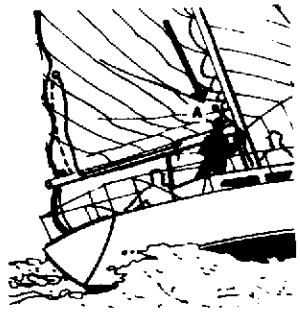
Time was when the call to reef meant a sacrifice of speed, time and lots of crewmen on deck. Quick Reefing has changed all this. It is very fast, requires few hands and retains proper sail shape.

Although sophisticated refinements have been developed, the basic system is simple and effective. Installation or conversion is easy, and the benefits of this fine system are appealing to racer and cruiser alike.

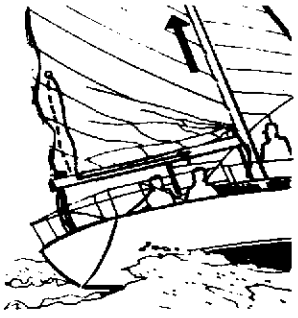
*Also known as California Reefing, Slab Reefing or Jiffy Reefing.

Method A

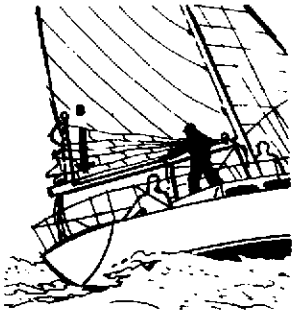




1. The halyard is released and the reef tack downhaul (A) is tightened until the reef cringle is drawn down to the gooseneck, then cleated. (Pre-marking the halyard provides a good reference when releasing)



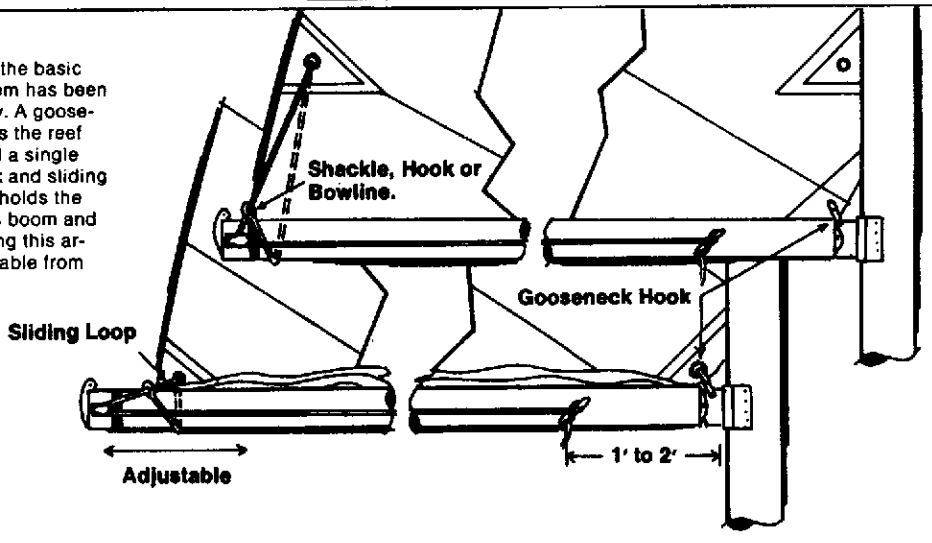
2. The main halyard is tightened up, *Note: The mainsheet should be slacked only if necessary. (Usually when reaching)*

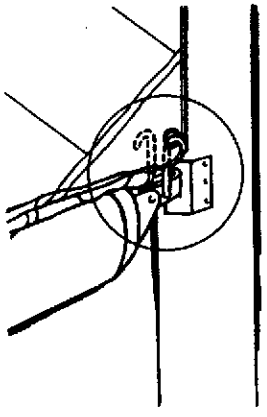


3. The reef clew outhaul (B) is tightened up to the reef cringle and cleated. *With practice, a Quick Reef can be executed in between 15 and 30 seconds on a boat of 40 ft. in length!*

Method B

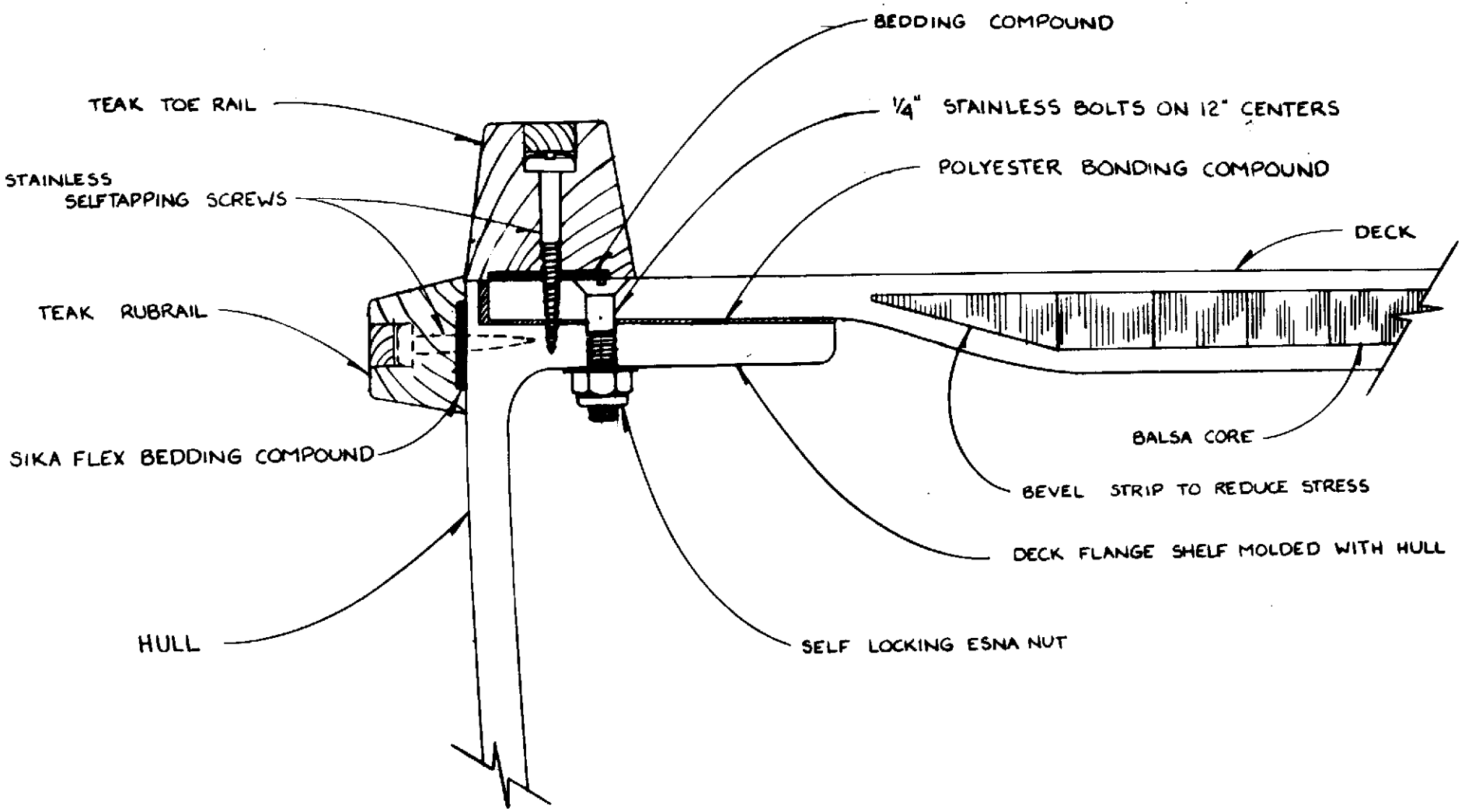
A simplification of the basic quick-reefing system has been developed recently. A gooseneck hook replaces the reef tack downhaul and a single ended cheek block and sliding loop arrangement holds the clew. A production boom and gooseneck featuring this arrangement is available from Schaefer Spars.



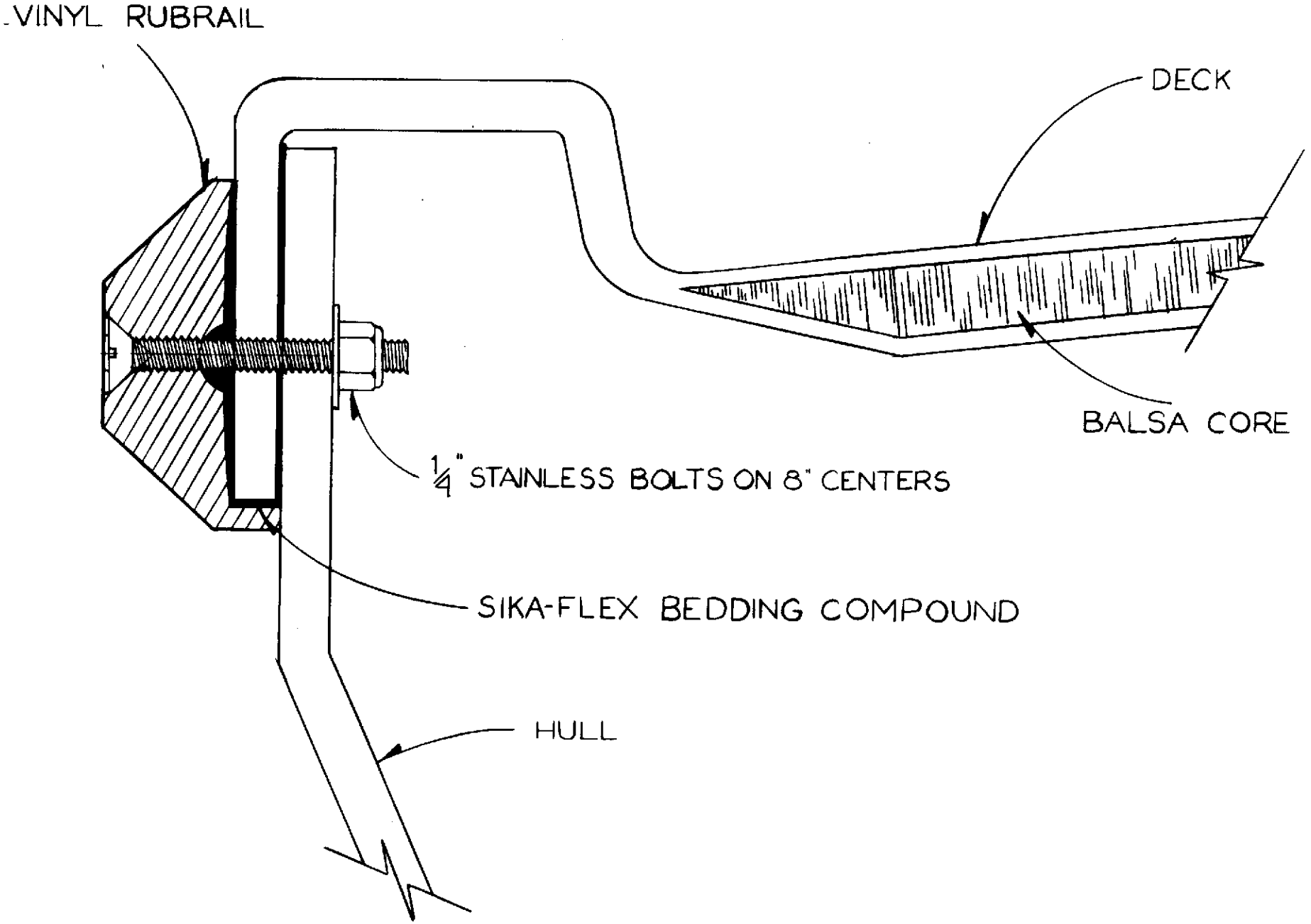


The reef tack cringle can be hooked quickly onto the gooseneck hook as the halyard is released.

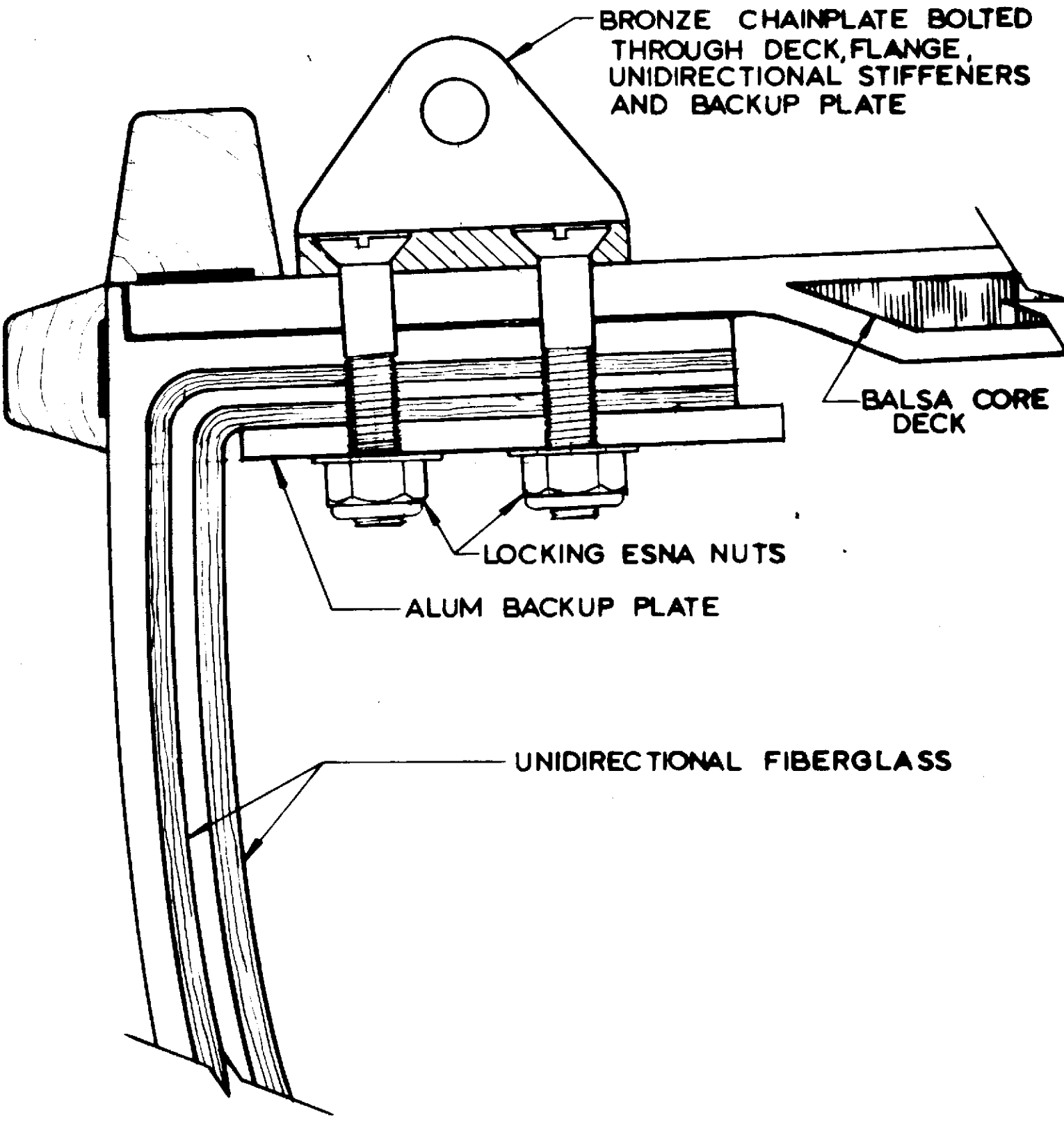
5.33 TYPICAL HULL TO DECK JOINT



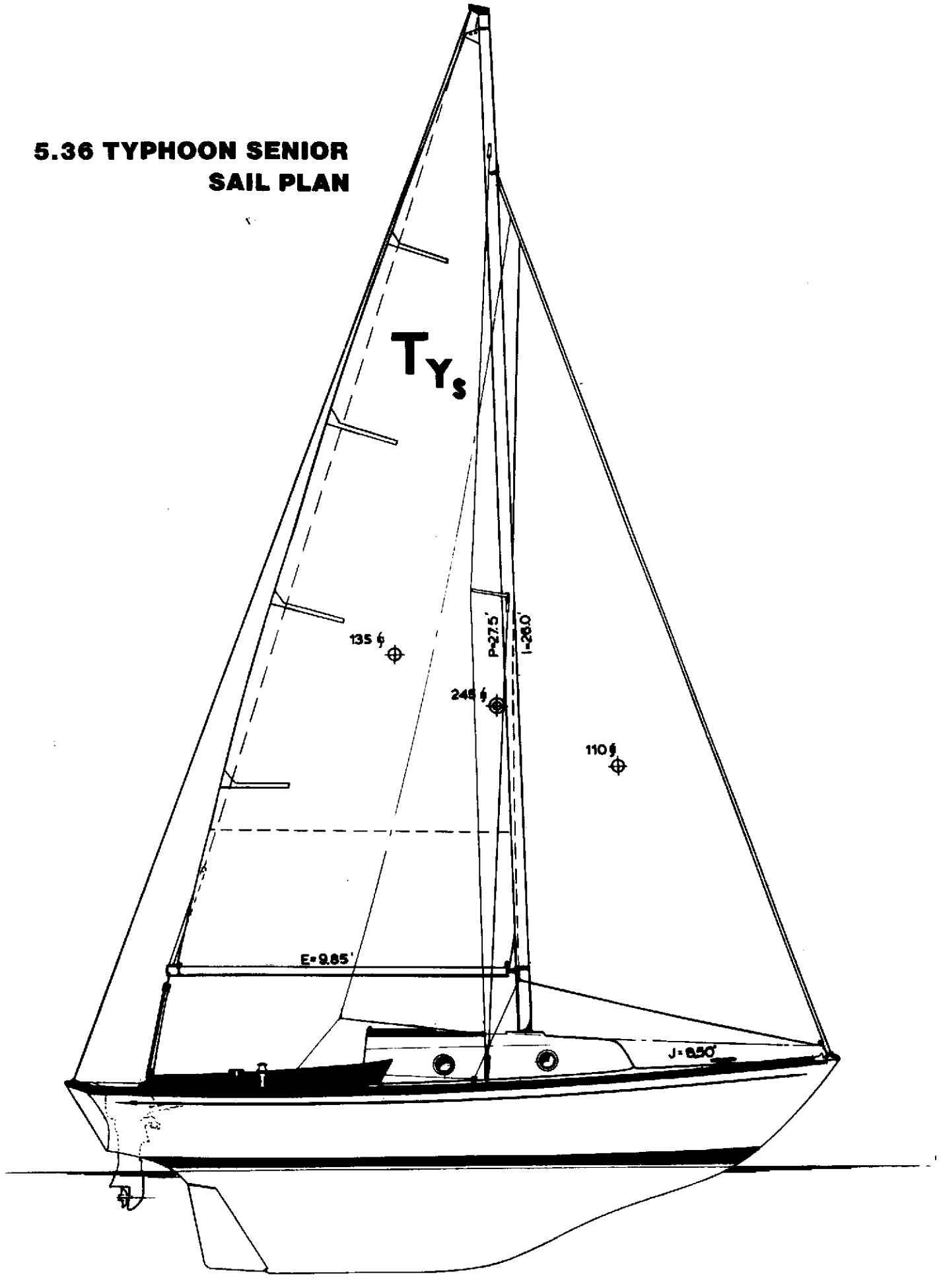
5.34 C-300 MS HULL TO DECK JOINT



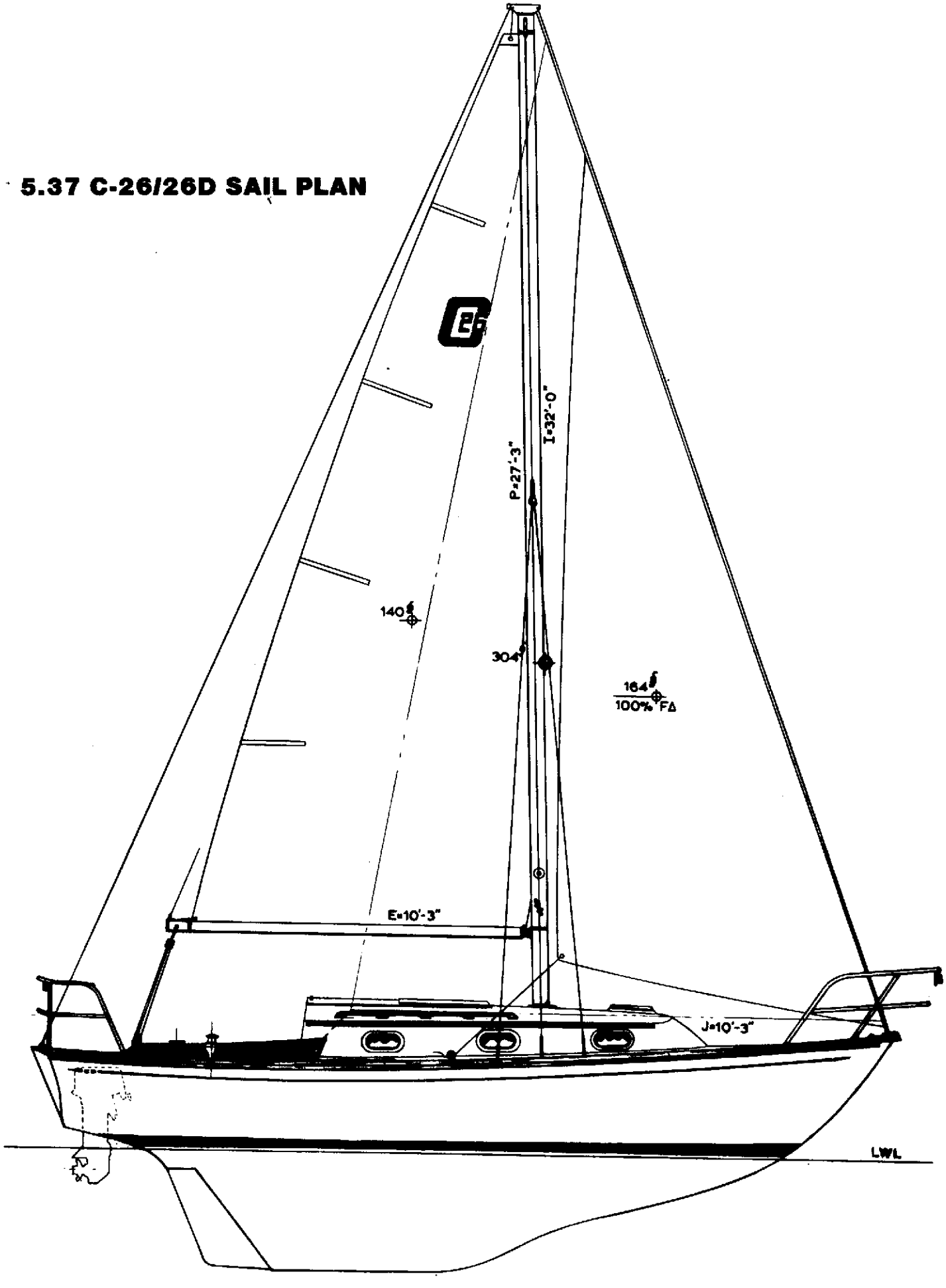
5.35 CHAINPLATE REINFORCEMENT DETAIL



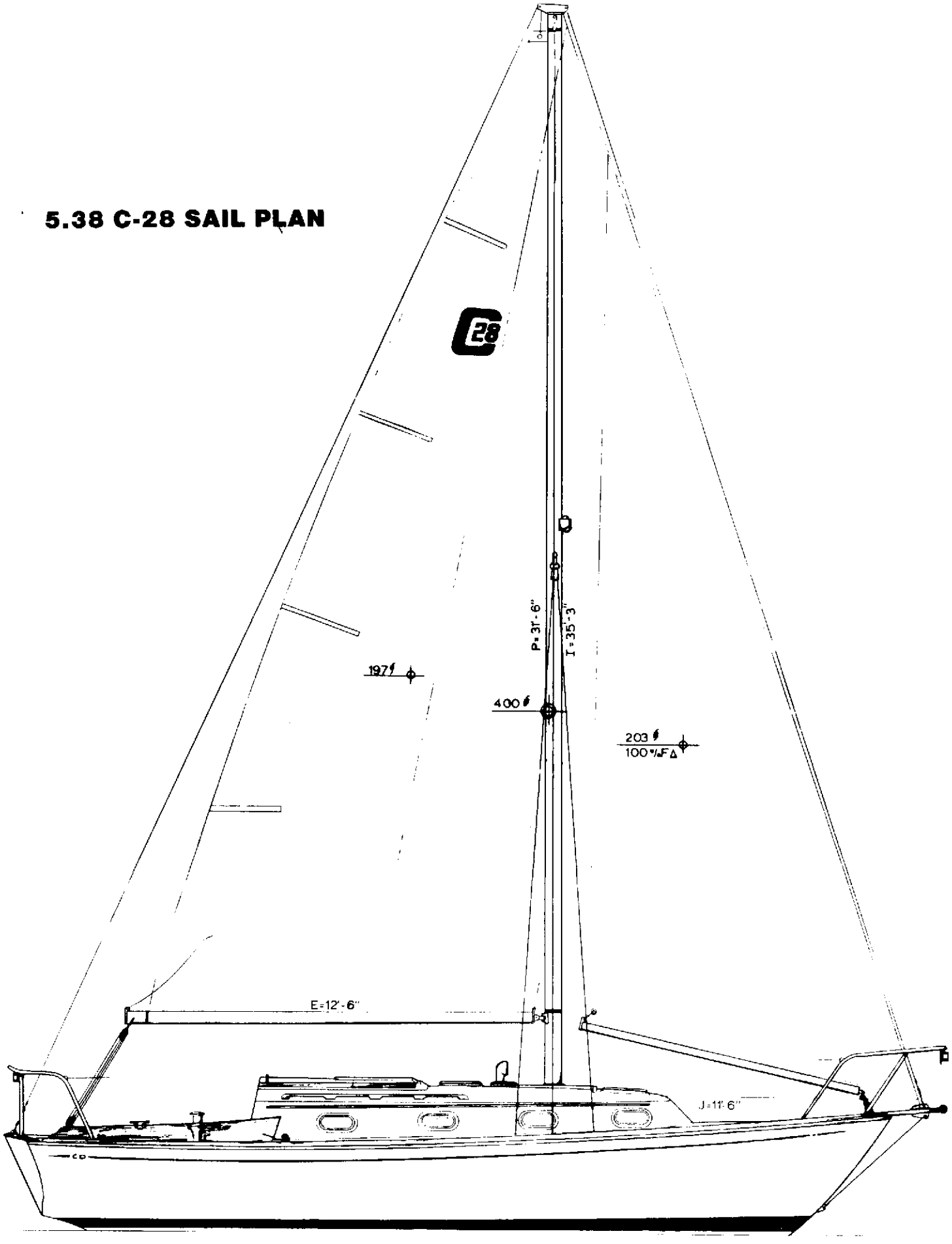
5.36 TYPHOON SENIOR
SAIL PLAN



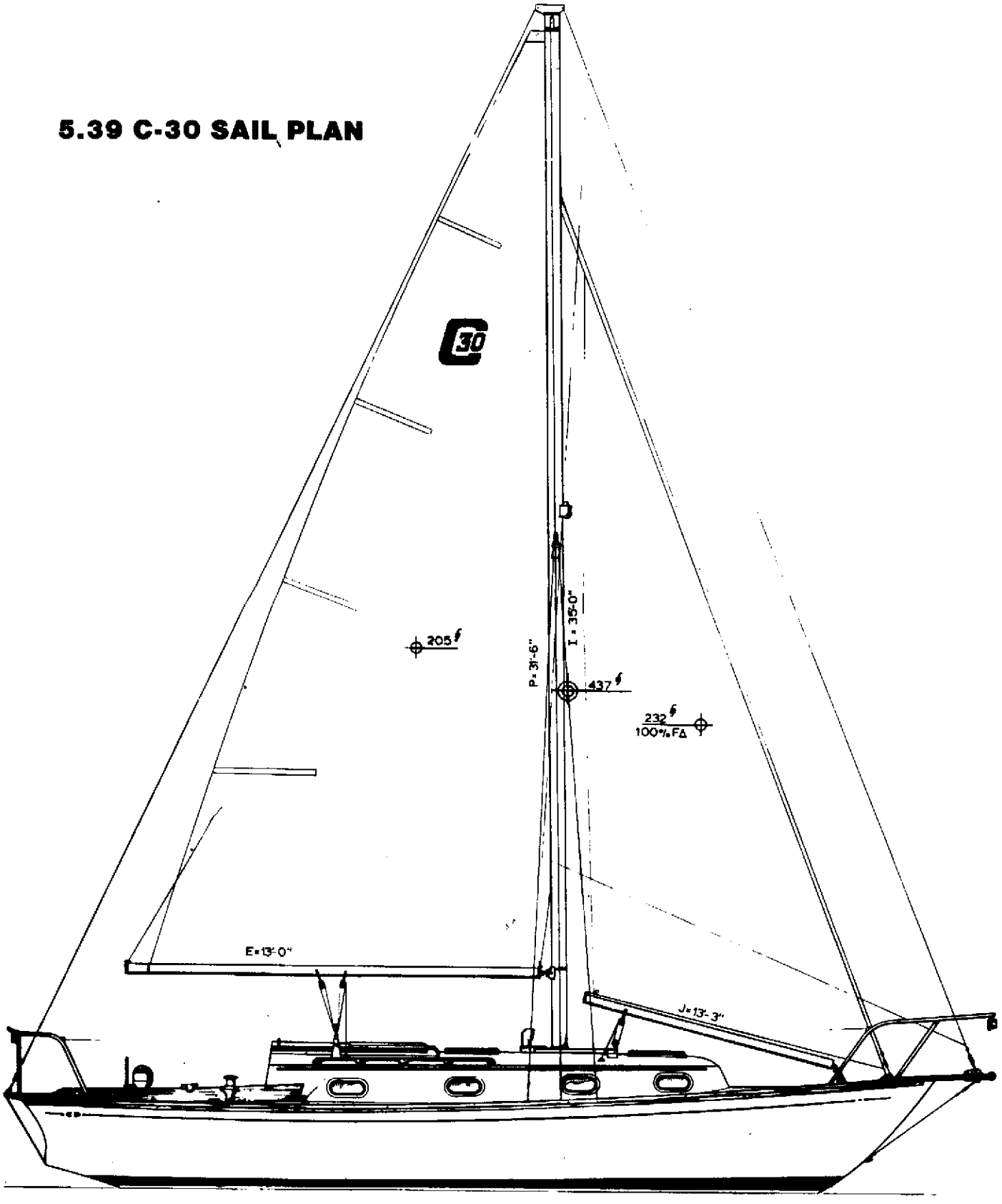
5.37 C-26/26D SAIL PLAN



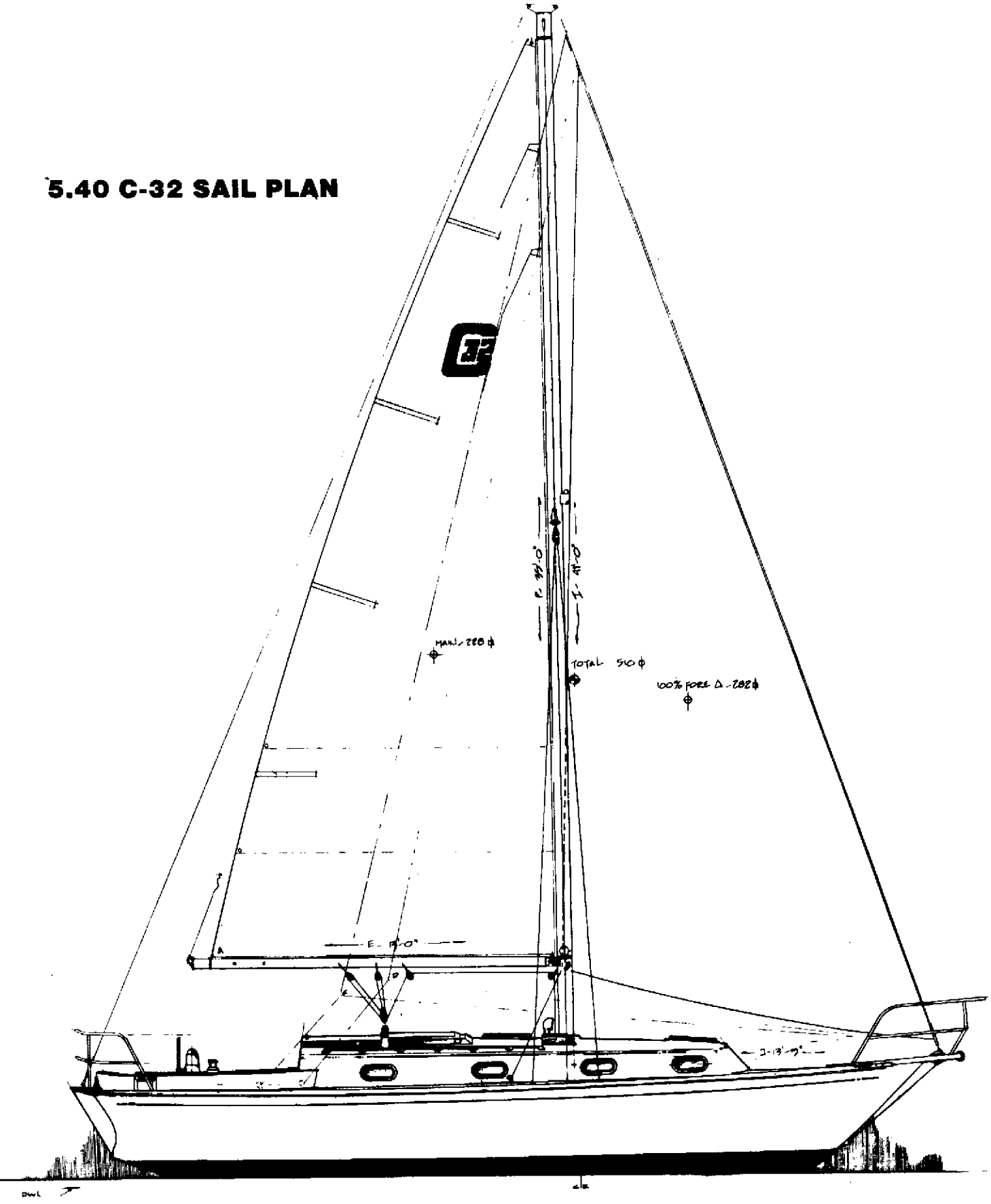
5.38 C-28 SAIL PLAN



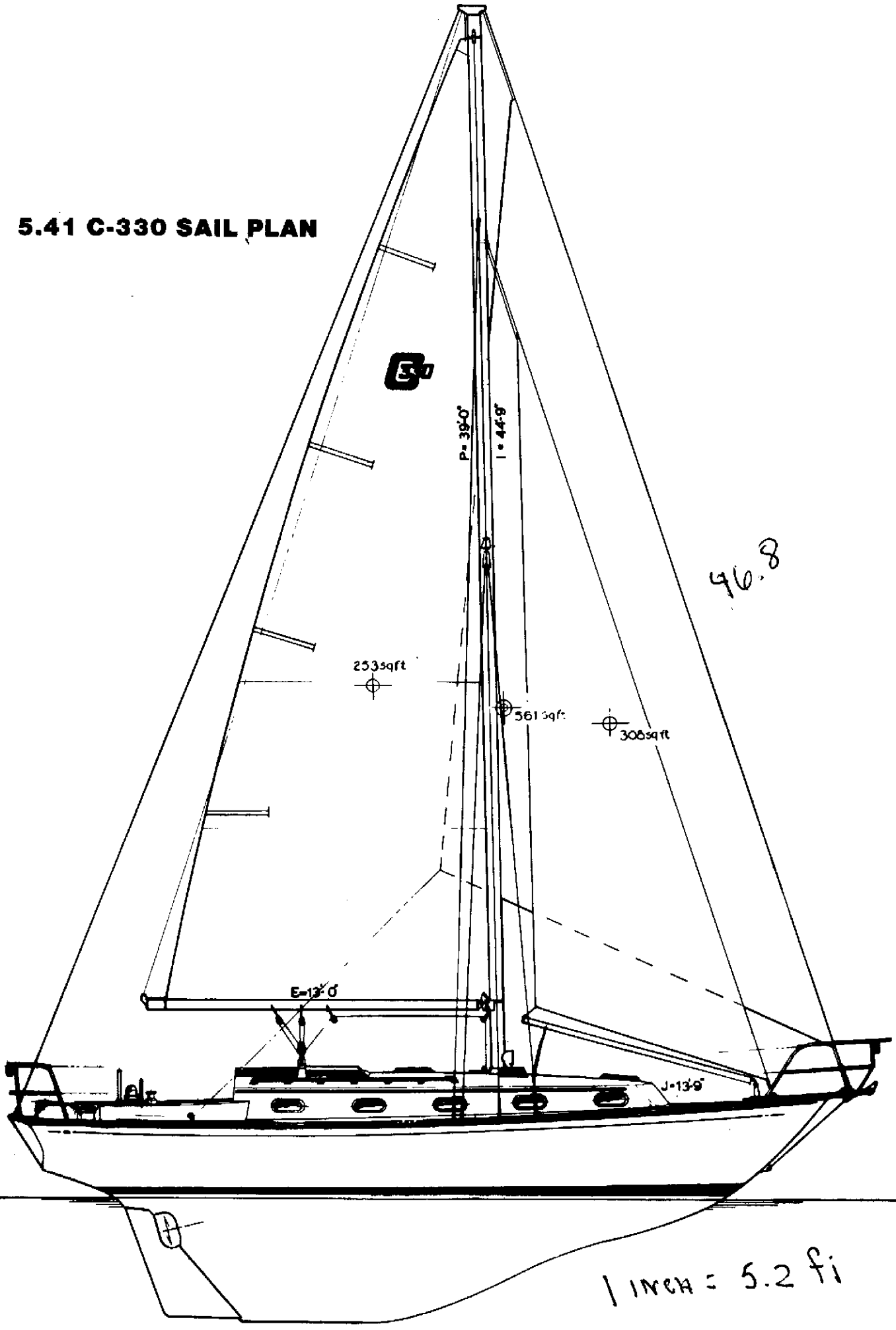
5.39 C-30 SAIL PLAN



5.40 C-32 SAIL PLAN



5.41 C-330 SAIL PLAN



96.8

1 INCH = 5.2 ft

5.42 C-300 MS SAIL PLAN