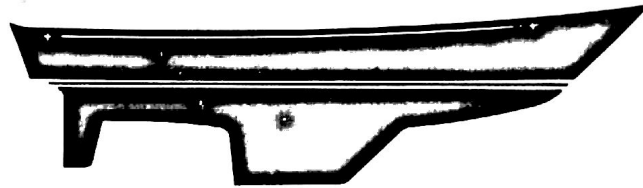




# Landfall 38

## OWNER'S MANUAL



Owner's Name

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Address

---

---

Date

---

Yacht Name

---

Hull No.

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Engine Serial No.

---

Dealer Name

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DESIGNERS AND BUILDERS  
TOGETHER THEY BECOME CREATORS

"Basically, we design and produce a product that is somewhat pointed at one end and rather blunt at the other. To stop it from falling over sideways, we hang a big blob of lead underneath."

With a touch of wry understatement, that's how C&C's George Cuthbertson described the way yachts are created. The occasion: C&C Yachts receiving a Canadian government award for excellence of design management. C&C is one of the few producers of yachts where designers and builders work together, close at hand, from conception to production.

The birth of a yacht at C&C starts with a meeting of marketing people, designers and yachtbuilders. Together, they discuss the developing needs of the market and what kind of yacht to build. Should it be a flat out racing craft? A lazy, lounging cruiser? What size should the new yacht be? In what price category will it compete? When these questions are answered, the first glimmering image of the new craft begins to form in the designers' minds.

A few weeks later, the design group calls the next meeting. This time, the design group presents preliminary drawings and specifications for the new craft. And with their initial concept comes the unique contribution that only a top-flight design team can provide. The innovation, the fresh thinking and even the occasional stroke of sheer genius that makes a yacht more than just the solution to a marketing need. They lay their case as to why their design concept fits the agreed needs of the market, and why they think it's going to be a great yacht. But they're playing to a tough audience. The marketing people and production people are encouraged to take potshots. It's a demanding session for the design group, but when their work survives this kind of scrutiny, and that in other meetings to follow, they know they've got a great design going.

After a series of such meetings, it's time for the prototype. This is when the master boatbuilder comes into his own. With a prototype, there are no production precedents to follow. Now, the responsibilities are reversed. It's the builder's job to execute exactly what the design group has conceived. And until the prototype is completed, his job is just as difficult as was the designers'.

Things that didn't show up as problems on paper become problems in production.

Designers are there casting a watchful eye every time the builder turns around. And last minute design modifications always seem to arrive just as

Designers and builders. Together they become creators. (cont'd)

that particular part has been completed. But out of it all, comes that first exciting and beautiful prototype. And there isn't a designer or builder alive whose blood doesn't rush a little faster when he looks her over.

Into the water. It's the only place to test a prototype, and at C&C it's all aboard. Marketing people, designers and builders sail the prototype. Together and separately. After enough sailing, in all kinds of weather, the reviews come in. She's almost but not quite. She's fabulous downwind in a breeze, but a little sluggish in very light winds. An extra two inches in the forward cabin would make all the difference for cruising comfort. Details, details, details. But every last one of them goes on the blueprint as a design modification.

Then, and only then, is a C&C design ready for production. When a yacht has sailed its way through the toughest critics she'll ever come across. When designer and builder can acknowledge, without a word spoken, that together they've created something quite beautiful and very worthwhile.

It's a long road to production for a C&C yacht. But it's that long road that has made C&C yachts consistent race winners and cruising favourites throughout North America, and increasingly, throughout the world.

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## INTRODUCTION

This manual is intended to help you to know your new C&C yacht. It is most important to familiarize yourself thoroughly with all aspects of operating and maintaining your yacht in a safe and efficient manner. Read your manual carefully as well as the manuals supplied by the manufacturers of components. If any questions arise to which you cannot find an answer, your C&C dealer will be pleased to help you.

It is company policy that the C&C line of yachts is constantly upgraded and improved. Thus, you may find your yacht equipped with gear different from that shown in your manual. Any new piece of equipment will be in all cases, equal to, or better than, its predecessor. We will keep you informed through your dealer of changes that have been made, of recommendations for improving the equipment on your yacht, or other matters of interest to you as a C&C owner.

On taking delivery of your yacht, be sure to read and understand the C&C warranty. Fill in the warranty card or the change of ownership card and return it to C&C immediately.

We know you will have many satisfying and happy hours of sailing in your C&C yacht.

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### 3. CONSTRUCTION

#### 3.1 Hull

The hull of the C&C yacht is a single-unit fibreglass moulding. It is carefully constructed to ensure the complete wetting of the fibreglass with no voids or bubbles. Unidirectional fibreglass roving is used extensively in the basic structure as well as in areas of additional stress such as keel bolts. The exterior finish consists of a pigmented gelcoat moulded onto the fibreglass. The boot top is permanently moulded in the hull to reduce maintenance requirements. On some models, balsa core is laid up in the hull between the layers of fibreglass to add strength to the hull, and yet ensure that weight is kept to a minimum.

#### 3.2 Deck

The deck and cockpit, like the hull, is a single-unit fibreglass moulding surfaced with gelcoat. Balsa core is incorporated into the deck between the layers of fibreglass to give additional stiffness. A non-skid finish is moulded into the working areas of the deck.

#### 3.3 Deck/Hull Joint

The hull-to-deck joint details are illustrated in Fig. 1. On assembly, the top of the hull flange is capped with butyl compound to which is fitted a vinyl rub rail topped by another layer of butyl compound. The deck is lowered onto the hull and fastened by means of stainless steel thru-bolts. When the bolts are tightened, the butyl compound in the joint is forced into the exposed crevices. It should be noted that if a leak should develop at the hull/deck joint, the thru-bolts in the area may be tightened, care being taken not to allow the bolt to turn while tightening the nut.

#### 3.4 Rudder & Steering

The outboard rudders are constructed of two moulded fibreglass shells over a foam core. The upper part, or rudder head, has a solid wood core for added strength.

The rudder can be removed by unbolting the tiller, removing the cotter pin at the bottom of the pin that extends through the gudgeon and pintle. Remove the pin and lift off the rudder. Care must be taken when removing the pin to support the rudder so that it does not drop.

The inboard rudders on larger yachts are constructed as above, but feature a stainless steel rudder post welded to a mild steel plate inside the rudder.

On all yachts where the rudder post passes through the hull, water tightness made by means of a close tolerance fit between rudder shaft and tube. A grease cup is fitted to the rudder tube and is packed with grease before the yacht leaves the plant. To refill, unscrew the cup and pack it with a good grade of waterpump grease and screw the cup back on. Tightening the cup down forces more grease around the rudder post, ensuring a water-tight seal.

On yachts fitted with tiller steering, the tiller is connected to the head of the rudder post. On those yachts fitted with pedestal steering and wheel, a radial driver turned by the wheel through a cable system is connected to the rudder post with a keyway and lock nuts. The pedestal manufacturer has provided a sheet of maintenance instructions with regard to the steering system and these are repeated in Sec. 13.15 under Maintenance.

### 3.5 Ballast

The keel of your C&C yacht is lead alloyed with antimony for added strength and cast to close tolerances. The keel gives the yacht stability and, because of its foil shape, provides a certain amount of 'life' when the yacht is sailing to weather. The keel is fastened to the bottom of the yacht by means of stainless steel bolts cast into the lead. These bolts extend through the bottom of the boat and are secured by means of stainless steel nuts and washers. The bolts are bedded with sealing materials to prevent water leaks. (See Fig. 2 Keel Hull Sealing Method.)

Centreboard installations, optional configurations in certain models, feature a cast-iron foil-shaped board which has been sandblasted and treated with a coal-tar epoxy finish. The board pivots on a stainless steel pin bolted through the lead ballast casting. A stainless steel wire pennant is shackled high up on the trailing edge of the board. This pennant feeds through a stainless steel tube, running just abaft the mast, which leads it to the deck adjacent to a turning block.

The stainless tube terminates in an end plate in the bilge which is bolted to the hull. This area should be inspected for possible leakage from time to time, and care should be taken not to tighten the bolts more than is necessary for a good seal.

The pennant exposed on deck should be marked to indicate the full up and full down board positions. Avoid unnecessary overtightening of the system when the board is full up, as it applies extra load to the fittings.

Extreme care should be taken to let the board down in a controlled manner. Otherwise, enormous inertial forces could develop from the iron board (weighing several hundreds of pounds) swinging down unrestrained! This could damage the fittings and/or the centreboard trunk.

## 4. RIGGING

### 4.1 General Description

To do an effective job of mast tuning, it's important that you understand the principles involved. Let's start with some definitions and some explanations. The term 'standing rigging' refers to fixed pieces of stainless steel wire or rod supporting the mast. If they offer principally fore and aft support, they are called 'stays' (backstay, forestay, etc.,). If the support is principally transverse, they are called 'shrouds'. (See Fig. 3 Mast & Rigging, Table 1 Stainless Steel Components, Table 2 Standing Rigging, Table 3 Running Rigging, Table 4 Blocks and Table 5 Backstay Preload Limits.)

The shroud running from the masthead to a chainplate on the deck near the rail is called the main or upper shroud. If it were to travel this route directly, then the angle of support would be so fine as to induce extremely large tensile forces in the shroud and equally large compressive forces in the mast. To increase this angle of support to the desirable  $12^{\circ}$  or greater, a spreader is inserted approximately half way. This spreader should be angled upwards approximately  $5^{\circ}$  to bisect the angle formed by the shroud as it bends over the spreader tip. A horizontal spreader, or worse still a spreader angled slightly down, is not only unsightly but unseamlike and dangerous; the spreader may be forced to slip further down the shroud resulting in the loss of the spreader and thus collapse of the mast. This spreader becomes a compressive member and when properly loaded would tend to push the middle of the spar to leeward. To avoid the resulting leeward bow, a lower shroud is installed running from the mast at the spreader deck near the upper shroud chainplate. Although the principal purpose of the lower shroud is to provide athwartship support, some fore and aft support can also be achieved at the other aft. Therefore, we can have a single spreader rig with single or double lowers. The addition of the spreader and lower shrouds means the mast is now supported at more places transversely than it is fore and aft; and the mast section itself need not be as strong transversely as it does fore and aft. Thus, almost all keel boat masts have a greater fore and aft dimension than transverse.

### 4.2 Spars

It is an obvious extension that the more spreaders and shrouds used transversely, and intermediate forestays and running backstays used longitudinally, the smaller the allowable mast section will be. This can be advantageous as it reduces the weight and windage of the mast, and thus the undesirable influence of the mast on the mainsail. The smaller the mast section, the better the flow over the main. However, to keep such a small section standing would require a complex maze of wires. The spar would be difficult to keep in tune and the running backstays and the intermediate forestays would make tacking

#### 4.2 Spars (cont'd)

difficult. Therefore, except in the case of very sophisticated racing craft with large experienced crews, C&C designs the rigs as simple as possible to reduce the degree of attention required. However, even while maintaining an uncomplicated rig, C&C has attempted to reduce the drag of the spar and its detrimental influence on the main by using the company's highly developed triangular diamond-shaped sections, and extruded aluminum airfoil spreaders.

C&C has also modified some of the yachts completely to solid, high-strength, stainless steel rod rigging. Rod has the advantage over the current industry standard of 1x19 stainless steel wire in that it stretches much less for a given size. Therefore, a rig will hold its tune in a much larger range of sailing conditions. Swaged terminals on 1x19 wire are highly susceptible to stress, corrosion, and freeze cracking when water seeps between the wire and the terminals, whereas rod rigging with its headed terminals are susceptible to neither. The navtang terminal at the spar also reduces the number of pieces involved and eliminates the need for machine screwing the tang to the spar, at the same time reducing windage.

Tuning involves adjusting the tension in these shrouds and stays so that the mast will remain straight under most sailing conditions and at the dock with the desired amount of rake for comfortable helm balance. Tuning involves two phases - tuning at the dock, and tuning while under sail.

#### 4.3 Tuning at the Dock

Be sure all turnbuckles are equipped with toggles at their base to eliminate any bending load on the swage and turnbuckle threads. Also see that there is a toggle at both ends of the forestay. As the boat tacks and the headsail loading varies from side to side, the forestay terminals experience a much higher fatigue loading.

Start tuning the spar by ensuring that the mast is in the centre of the boat, perpendicular to the designed transverse waterline. Boats often will not sit level at the dock due to the distribution of their accommodation plan and the internal weight or location of crew. So to make sure the mast is plumb transversely, slacken the lower shrouds fully by undoing their turnbuckles. If the spar is stepped through deck, remove the mast wedges as well. Take the main halyard and lead the shackle end to a point on the rail or chainplate. Adjust the tension in the halyard so that the shackle just touches the rail or chainplate with a given tension, and then cleat the halyard. Take the halyard to the same location on the other side of the deck and with the same tension, the shackle should just touch the rail or chainplate. If not, let off one upper shroud's turnbuckle and take up on the other to bring the masthead closer to centre-line until the halyard shackle touches both points under the same

#### 4.3 Tuning at the Dock (cont'd)

tension. The particular part of the rail or deck you choose as your reference point is not important as long as it is the same point on each side. After the mast is centered transversely, tighten both upper shroud turnbuckles uniformly, one full turn on one side, then one full turn on the other. Repeat until the turnbuckles become difficult to turn. Pin the turnbuckles. Tighten up the lower shroud turnbuckle so that almost all of the slack is removed. That is, the shroud itself should be able to flop about 1" in each direction. Sight up the trailing edge of the spar to make sure that it is still straight.

Now, check your rake. Rake is the fore and aft angle of the spar. C&C yachts are designed to carry from 6" of rake on the smaller yachts to about 10" on the largest model. Some sailmakers prefer no rake at all; that is a perfectly plumb spar, but from an appearance point of view, as well as a helm balance point of view, begin using the measurements mentioned above.

Forward rake should be avoided. Again, use the main halyard to check the amount of rake. Wait for a reasonably calm day and hang a weight, such as a hammer, a wrench or even a bucket of water, from the main halyard at approximately gooseneck level. The fore and aft distance between the halyard and the mast at the gooseneck is the amount of rake. Ease off the forestay turnbuckle and tighten up on the backstay turnbuckle or vice versa until the desired rake is achieved. Now, pin the forestay turnbuckle and the backstay turnbuckle. Unless the rake has to be readjusted in the future to correct the helm balance, these will need no more adjusting. Any additional tensioning can be applied by the backstay adjuster.

Reinstall the mast wedges if the mast is stepped through deck and pin the other turnbuckles.

At this time, check that the outboard end of the spreaders are taped and padded to avoid wear and tear on the genoas when tacking.

You are now ready to go sailing to complete the tuning procedure.

#### 4.4 Tuning While Sailing

Select a pleasant sunny day with a steady 8 to 12 knots of breeze. Put the boat on a starboard tack, close hauled. Sight up the luff groove of the spar. If the mast seems to fall off to leeward at the spreaders, luff up slightly and tighten the starboard lower shroud as necessary. Put the boat back on the wind and check the spar again. When the mast appears straight, put the boat about and do the same on the port side. Check the following carefully. First, if the upper shrouds are at optimum tension, when at about 15° to 20° of heel,

#### 4.4 Tuning While Sailing (cont'd)

the leeward rigging should begin to look slack. This is quite natural and should never be tightened. Secondly, when close-hauled under genoa and main, the forestay will appear quite sagged. Tensioning the backstay will reduce the amount of sag, but the sag itself can never be eliminated. As a rule of thumb, the maximum static backstay pressure should not exceed one-quarter the backstay breaking strength. (See Table 2 - Standing Rigging and Table 5 - Backstay Preload Limits.)

The mast should also be fixed at the step by either pins or wedges to prevent fore and aft movement and to hold the mast in the step.

If your boat is equipped with double lowers, as in the case of the C&C 27 and Landfall 38, the forward lower shrouds should be tightened marginally more than the aft lowers to encourage a bit of a forward bow to the mast. This forward bow is counteracted by the luff of the mainsail and the aft lowers. Aft bow should not be allowed. It destroys the sail shape and is countered only by the forward lower shrouds. If you find that the mast, whether or not you have double or single lowers, tends to bow after rather than forward under the backstay tension, this indicates incorrect preliminary adjustment. Correct placement of the mast wedges and spacers or lower shroud tension will correct this situation.

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

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

## 5. FUEL SYSTEM

### 5.1 Fuel Tank

For fuel tank location on yachts other than those with outboards, see 'Typical Fuel Tank Installation' Fig. 4. The inlet fuel cap and the fuel tank vent locations are also noted.

### 5.2 Fueling

Before opening the fuel inlet cap, be sure all open flame aboard the yacht is extinguished, no person is smoking, plus all electrical circuits and the main electrical switch are turned to 'off'. The nozzle of the fuel hose must be touching the metal deck plate to ground static electricity. When the tank has been filled, close the inlet cap tightly and wash down any spills with fresh water. Before starting the engine, open all hatches and operate the bilge blower for at least five minutes.

It is recommended when fueling models with outboard engine and portable fuel tanks that fuel tank be removed from the yacht when being filled. The nozzle of the fuel hose must be touching the metal tank to ground static electricity.

### 5.3 Fuel Grade

For outboard engines, see the engine manufacturer's specification for the correct oil-to-fuel ratio. On those yachts with inboard engines, use fuels as specified in the engine owners manual supplied. For those yachts equipped with diesel engines, use a standard diesel fuel.

### 5.4 Portable Fuel Tank

On boats with a portable fuel tank, we advise disconnecting the fuel line from the portable fuel tank when the engine is not in use. The vent valve on top of the tank filler cap should be left open to allow for expansion.

## 6. POWER PLANT AND TRANSMISSION OF POWER

### 6.1 Engines

All necessary data and information about the engines installed in your yacht are contained in the Engine Owner's Manual and are not repeated here. Read this manual carefully so that it is thoroughly understood. The life and performance of an engine depend upon the care it is given.

### 6.2 Transmissions

The reduction gears and reverse gears are contained in the transmission casing attached to the after end of the engine. These gears normally need little maintenance, but the oil should be checked from time to time (see Maintenance Schedule). Avoid damage to the gears and increase clutch life! The engine should always be at idle speed when shifting gears.

On those yachts fitted with a V-drive, the gear box is at the forward end of the engine. An extra gear box is installed which allows the line of the drive shaft to be reversed in direction and extend towards the stuffing box at the stern of the yacht.

### 6.3 Propeller Shaft

The propeller shaft in C&C production yachts is as specified in Table 6. It is supported at the inboard end by the shaft coupling and at the outboard end by a strut containing a cutlass-type rubber bearing. The shaft passes through the hull at the stuffing box.

### 6.4 Shaft Alignment

The propeller shaft and the engine are aligned carefully prior to delivery of a new yacht. Each time the boat is launched, however, this alignment should be checked, especially if there is excess vibration when the engine is running or loss of engine speed is evident. The alignment is checked in the following manner:

- a. Remove the bolts on the shaft coupling adjacent to the transmission box.
- b. Support the weight of the shaft and coupling and slide the coupling faces together by hand.
- c. Use a feeler gauge or a piece of metal stock of .003" maximum thickness to check that the gauge is gripped firmly and completely around the circumference of the coupling faces.

If the feeler gauge does not pull evenly around the entire coupling, misalignment is indicated. This is corrected by adjusting the engine legs until the coupling faces match evenly. Rotate the shaft 180° and again check the alignment. If it is still out of line, this indicates a bent shaft. The shaft must be removed and straightened or replaced.



## 6.5 Stuffing Box

The stuffing box is located at the inboard end of a fibreglass tube passing through the hull. The fibreglass tube and the stuffing box are connected by means of a short length of flexible rubber tubing held in place by hose clamps. The stuffing box should be inspected on a regular basis. If found that it is leaking slightly, the hose clamps should be checked. If the drip is very slight from the stuffing box, we recommend no further adjustment be made. If the leak seems excessive, the stuffing box may be tightened by loosening the lock nut and tightening the gland nut slightly (perhaps a quarter turn), then tightening the lock nut back up (see Fig. 5). Do not over-tighten the stuffing box. This will cause excessive heating and possibly the seizing up of the unit. Note: The rubber tubing at the stuffing box must be inspected yearly. Replacement is advised every two years.

If the stuffing box continues leaking after tightening down the gland nut and after the engine has been run for a number of hours, new stuffing box packing may be required. To replace the packing, (available from your marine dealer), unscrew the gland nut and wind 3 or 4 turns of new packing around the shaft in the direction of nut installation. The gland nut then is moved towards the stuffing box against the packing, and tightened just until the leak stops. The lock nut should then be tightened. If leaking still persists, have your dealer investigate for a possible bent or scored shaft.

## 6.6 Propellers

The standard propeller supplied with the yacht is a two-bladed, solid bronze unit. For cruising, this unit is often the best choice. However, for serious racing the optional folding propeller is superior, offering the least amount of drag. For serious cruising, a feathering propeller may be fitted offering solid propeller performance with the reduction in drag available when the blades are feathered. When sailing a yacht equipped with an inboard engine, it is advisable to lock the propeller shaft by putting the engine "in gear" after it has been shut off. In using a folding propeller, note the location of a point adjacent to the engine on the shaft or coupling when the propeller blades are in the horizontal position. Before racing, shut the engine off, put into "neutral", rotate the shaft by hand until located as previously noted. Then, lock the shaft by placing the engine "in gear". This will ensure that one blade of the folding propeller does not hang open since the speed of the yacht while sailing will close the blades if they are in horizontal position.

When sailing with a fixed two-bladed propeller, it is usual to lock the shaft when the blades are in the vertical position. This offers, it is felt, the least drag. This is done by rotating the shaft to a predetermined point as above.

### 6.7 Removal of Propellers

For both solid and folding propellers, a propeller puller is required. This is available from a major hardware or marine hardware dealer.

To remove a folding propeller, proceed as follows:

- a. Remove all cotter pins from pivot bar for blades and shaft. Salvage these cotter pins if possible.
- b. Pull pivot bar from the blades. It will be noticed that on some propellers one end of the pivot bar is tapped for a bolt. Thread bolt into this end of the pivot bar and pull bar by means of bolt. On other types, the pivot bar can be tapped out with a drift punch and hammer.

For both folding and solid propellers:

- c. Remove the shaft nut counter sunk inside the propeller hub on folding props and exposed on solid props. To remove shaft nut, a  $\frac{1}{2}$ " square drive handle with extension is required for folding propellers; a socket for standard propellers.
- d. To remove the propeller, leave the propeller retaining nut in place but installed about 1 or 2 turns loose from the tight position (to protect the threads). The puller shaft should never bear directly on the end of the propeller shaft. As it bears on the propeller retaining nut, a spacer of brass, aluminum or copper should be used to protect the nut. The puller must be installed straight and centred carefully so that its maximum effectiveness can be realized. Place the claws of the wheel puller behind the propeller hub.

### 6.8 Installation of Propeller

Ensure the bore of the propeller is free from dirt and corrosion and the end of the shaft is clean. The keyways of the propeller and shaft must be free from burrs. Place the propeller on the shaft with the keyways in the shaft and propeller in line. The key should fit snugly at the sides with a .01" minimum clearance at the top. Do not force the key in as this may cause the propeller to be forced off centre. The propeller, the locking nut and the cotter pin are then assembled on the shaft (Fig. 6). Check to ensure that the propeller is correctly aligned.

### 6.9 To Check Propeller Alignment

Install the propeller completely as to be used. Clamp a piece of thin metal or wood on the propeller strut to touch one blade edge of the propeller. Rotate the shaft and the propeller by hand. Any variance in the track will be indicated by either a gap between the

To Check Propeller Alignment (cont'd)

next blade or the blade striking the indicator. If the propeller is so indicated to be out of line, it should be checked and balanced by a yacht marine yard familiar with this type of work.

6.10 Exhaust System

The exhaust system utilizes a "pot" type muffler. In operation, the engine water pump draws water through the engine intake port, circulates it through the engine block, and thence into the muffler. The water is mixed with the exhaust gases in the muffler and discharged overboard through the exhaust port in the stern of the yacht.

In a yacht with an engine set up with fresh water cooling, an auxiliary pump draws water through the intake port, circulates it through a heat exchanger, from whence it is pumped into the muffler and overboard through the exhaust port. The salt water in the heat exchanger lowers the temperature of the engine coolant circulated through the engine block by means of the normal engine water pump. This coolant is 50% ethylene glycol and 50% fresh water and protects the system to approximately -32°F (-35°C). The ethylene glycol should be used at all times to help prevent corrosion in the engine.

## 7. CONTROLS

### 7.1 Description

Please refer to the engine manual that accompanies this C&C yacht for starting procedure and engine panel function as engines and panels differ somewhat between individual models.

### 7.2 Starting and Operating an Inboard Engine

1. Turn main battery switch to 'on'.
2. Switch engine compartment blower 'on' (blower should remain on for approximately five minutes before starting engine).
3. Check that engine water intake valve is open.
4. Check that the gear shift level is in neutral, throttle is slightly open.
5. Turn key or press starter button to start engine.
6. Check oil pressure indicator to be sure it is registering. Check the exhaust port to be sure that water is circulating and is discharging through the port. If oil pressure is not indicated or water is not being discharged, shut down engine immediately. Check engine manual.
7. Again check oil pressure gauge and exhaust port discharge after about ten minutes of operations. If they do not indicate normal operation, shut down engine immediately and consult engine manual.
8. Close throttle until engine is at low idle before moving gear level into forward or reverse.
9. When using a folding propeller, excessive vibration may occur when the engine is placed in forward gear. This is caused by one blade of the propeller not opening. If this occurs, slow the engine to idle, shift into reverse gear and accelerate the engine. This will open the blade. Idle the engine and shift into forward gear.
10. Be sure to run the engine until it reaches full operating temperature. Excessive engine corrosion will result if this is not done.

When sailing, it is always wise to start the engine before the sails are lowered. In this way, it is still possible to manoeuvre if the engine should not start.

### 7.3 Finished With Engine

1. Close the throttle to slow idle, place the gear shift in neutral, and turn off ignition switch.
2. If the engine is not to be used again for long periods, the circulating water intake port valve may be closed, but this is normally not necessary.
3. Turn off engine compartment blower. If finished with other power in the yacht, turn the main battery switch to 'off'.
4. Diesel Engine. Slow to idle, place the gear shift to neutral and engage the engine 'stop' button until the engine stops. Turn the ignition key to 'off'. Repeat other steps as above.

## 8. ACCESSORIES

### 8.1 To Install Thru Hull Fittings

#### Balsa Cored Hull

- a. Drill hole size to accommodate the thru hull fitting.
- b. Using a knife, remove the balsa core from the area surrounding the hole at least two inches in from the edge of the hole.
- c. Fill this area with fibreglass mat and let cure.
- d. Mount the sea cock or thru hull with sealer on the flange portion of the thru hull fitting. A layer of marine sealer should be applied between the interior portion of the fitting and the hull. Allow to dry.

Directions illustrating the various components of the thru hull fitting should be included with the unit.

Note: After applying the marine sealer between the interior of the fitting and the hull, tighten the unit. The nut on the interior fitting should not be allowed to turn as this will break the seal. A wrench to tighten the nut and a wrench to hold the fitting will be required. Refer to Fig. 7.

#### Non-Balsa Cored Hull

To ensure correct positioning of the thru hull, consult with your local marine dealer. Refer to Fig. 7.

- a. Drill hole size to accommodate the thru hull fitting.
- b. A small backup plate is required for strength purposes, i.e., marine plywood. A hole the same size as that in the hull should be drilled in the wood. The holes may then be lined up, the wooden backup plate bedded with sealer, allowed to dry and glassed into place using mat and resin.
- c. Install the thru hull.

Directions illustrating components of the thru hull fitting should be included with the unit.

### 8.2 Installation of Deck Fittings

#### Winches

Ensure winch placement where the deck is reinforced to accommodate it, i.e., winch island mounts. The cabin area is equipped with access plates enabling entry from below to the bolts securing the winch. Winches do not require backup plates. Flat washers, lock washers and nuts only are required. Bolts for winches, tracks, cleats, etc., should be bedded with silicone sealant.

## 9. ELECTRICAL

### 9.1 General

The electrical system in your C&C yacht has been designed to ensure as much trouble-free operation as possible. Wiring and connections are kept as high in the interior of the yacht as practicable, reducing the possibility of exposure to water. The main switch panels are located to protect them as much as possible from the elements. See Fig. 8 - Typical Wiring Diagram, included in this manual, for details of the wiring arrangement. Also see Fig. 9 - Mast Lighting System.

### 9.2 Batteries

C&C yachts with inboard engines are not supplied with batteries. The battery box is located near the engine. The circular, explosion-proof main battery switch is located in the after part of the cabin adjacent to the companionway. This switch has four positions: 'off', 'one', 'both', 'two'. When one battery is installed, 'off' and 'one' are the two positions used. When the arrow points to 'one', the yacht's electrical system is activated.

On yachts with provision for two batteries, the switch will activate '#1' or '#2' batteries, or 'both' will operate the batteries in parallel. DO NOT TURN THIS SWITCH TO 'OFF' WHILE THE ENGINE IS RUNNING AS SERIOUS DAMAGE TO THE CHARGING SYSTEM WILL RESULT. The engine manufacturer recommends that you do not change batteries with this switch while the engine is running.

### 9.3 Alternators

All engines are equipped with the standard alternator as supplied by the engine manufacturers.

## 10. ELECTRONICS

### 10.1 General

Many owners add electronic equipment such as logs, speedometers, depth sounders (all of which usually require thru hull fittings) and relative wind indicators, wind speed indicators, radio direction finders, VHF and SSB radios, and various types of electronic navigation aids such as Loran and Omega (all of which require mast-head fittings and/or antennas). Many of these items can be installed when the yacht is being built, or later by the C&C dealer.

Many problems develop in electronic instrumentation due to faulty installation. This should be done in the first instance by a specialist. It is recommended that instruments containing their own battery package be installed whenever possible to prevent drain on the yacht's main battery when sailing.

### 10.2 Thru Hull Fittings

If other than standard thru hull fittings are required and are to be added after the yacht is built, consult your C&C dealer to determine the correct positioning of the thru hull fitting. Directions showing the components and installation of the thru hull fittings should be supplied with the unit. (See 8.1 Balsa Cored Hull and 8.2 Non Balsa Cored Hull).

### 10.3 Masthead Fittings

Masthead fittings should be installed carefully following manufacturers' recommendations. Cables leading from the masthead fitting should come out at the foot of the mast and a connector installed at this point to facilitate easy disconnect when the mast is unstepped. Keep all connectors, junctions and wiring as high in the boat as possible when installing electronic equipment to prevent them from coming in contact with water.

#### Electronic Equipment

All electronic equipment feeding off the yacht's 12 volt electric circuit should be separately fused. Radios and other DC accessories taking a high amperage should be wired directly to the yacht's battery with a fuse installed close to the battery. Make sure the polarity for electronic accessories is correct and it is installed according to the manufacturer's recommendation.



11. SAFETY EQUIPMENT

Safety should be the first concern of every sailor and certain items should always be carried on each boat to ensure the well-being of every person aboard. Although the laws pertaining to safety vary from country to country, the items listed below are generally considered an absolute necessity on each yacht.

11.1 Fire Extinguishers

At least one type B.C. 2½ pound extinguisher should be carried on every yacht. Depending upon the size of the yacht, many owners carry two or three extinguishers mounted in the yacht where easily accessible. These extinguishers should be certified with regular inspection and testing dates listed on the unit.

11.2 Life Jackets

One life jacket for each member of the crew must be carried. They should be approved by the Department of Transport in Canada and by the United States Coast Guard in the U.S.A.

11.3 Life Buoys

Many yachts carry life buoys of the 'horseshoe/pony ring' type which can be easily stowed in a bracket on the stern pulpit or adjacent to the helmsman. This life buoy should have a gravity-actuated strobe or other bright light attached to it and a long line, the other end of which is attached to a man-overboard pole. This pole is stowed on the life line of the yacht and goes overboard after the life buoy.

11.4 Life Lines

Life lines should be checked regularly to ensure their integrity. Always be sure that the access gate (if installed) is closed before leaving the dock. Check carefully that the swage fittings are not pulling and the lock nuts on the bottle screws of the life line turn buckles are tight.

11.5 Safety Harnesses

Just as with life jackets, a safety harness should always be worn by anyone on deck at night and during heavy weather sailing. These harnesses allow the wearer to be attached to some permanent fixture on or above the deck. They should be of good quality and be able to take the full weight of the wearer falling several feet.

11.6 Flashlights

The yacht should be equipped with a number of flashlights in good condition with well-charged batteries, not only as a convenience in moving about the boat at night and in trimming sails, but as a safety precaution locating people overboard. At least two of the lantern-type should be available on the boat.

11.7 Dinghy or Life Raft

For off-shore racing, an inflatable dinghy or life raft must be carried with the capacity to accommodate every member of the crew. Inflatable dinghys should be checked once every two years to ensure their good operation. Your C&C dealer or yacht marine yard can advise you where to have the dinghys checked and repacked.

11.8 Safety Flares

Please consult the Canadian or U.S. Coast Guard regulations as they apply to your yacht.

11.9 Fog Signals and Radar Reflectors

Both of these items are extremely important if sailing conditions deteriorate and visibility is severely restricted. Fog horns of the cannister pressure type are good, but a 'lung power' type should also be available. Sailboats cannot be picked up well on radar, thus the radar reflector is a must for bad weather. These should be purchased commercially and stored carefully to prevent damage since the accuracy of the angles on the reflector are most important.

11.10 Anchor

The type of anchor carried will vary from region to region according to the bottom conditions. The anchor should include an anchor line minimum length of three times the length of the yacht which is attached to approximately six feet of chain which in turn is attached to the anchor. This chain ensures that the stock of the anchor will lie on the bottom permitting the anchor to dig into the bottom as it is dragged.

## 12. MAINTENANCE

Yachts kept tidy and shipshape require maintenance on a regular and frequent basis. The frequency will depend upon the conditions under which the yacht is being used. You should constantly check the running and standing rigging, winches, engine, head, bilge and surface finishes for signs of needed maintenance. All deck hardware should be washed down with fresh water after sailing in salt water.

### 12.1 Gelcoat Surfaces

Wash down the gelcoat surface of the hull and the deck regularly with fresh water and a good detergent. A sponge or soft brush should be used on a smooth surface and a stiffer brush should be used on the nonskid areas of the deck. Follow by rinsing with fresh water.

At least once a year the topsides of the hull should be waxed with a good automotive or boat wax, and polished. This will help the gelcoat top retain its colour and appearance. Do not wax the nonskid surfaces of the deck. Note dark hull colours may require waxing at frequent intervals to prevent oxidation.

Minor scratches in the gelcoat surfaces can be repaired by buffing with a light abrasive cleaner followed by a waxing and polishing. Scrapes or damage that have broken through the gelcoat surface can be repaired with the gelcoat repair kit which comes with your yacht. Directions for these repairs are included with the gelcoat repair kit. For major damage, where a large area of gelcoat has been removed, or the damage extends into the glass lamination below the gelcoat, consult your C&C dealer or a qualified yacht marine yard.

Gelcoat surfaces below deck are cleaned with a good detergent and water and rinsed down with fresh water. These surfaces can also be waxed if required to maintain the appearance.

Gelcoat surfaces will stain if the yacht is moored where leaves fall on the deck or birds roost. Surfaces should be scrubbed down very frequently or have a protective cover if this occurs.

### 12.2 Windows and Hatches

Windows and hatches of your yacht are glazed with plexiglass which is impact-resistant and very durable. The surface of plexiglass, however, is not highly abrasion-resistant and therefore gritty cleaning agents should never be used on them. Clean plexiglass with mild soap and water. If plexiglass requires polishing, plexiglass polish is available from most major hardware dealers. Toothpaste may be used as a substitute for plexiglass polish. Rinse afterwards with a mild detergent and clear water.

### 12.3 Teak

Exterior teak trim will develop a dull grey appearance if not maintained. Remove any dirt or salt with a damp cloth followed

### Teak (cont'd)

by sanding with a very fine grade of sandpaper, if required. Two or three times a year treat the exterior teak with a preparation such as Teak Brite or Teak Oil available from a marine hardware dealer or furniture store.

Interior teak surfaces are maintained in the same manner as exterior surfaces. Remove dirt or cooking grease from teak surfaces before applying teak oil. This can be done, of course, by washing down the surface with water and a mild detergent. Interior surfaces should be cleaned and treated once or twice a year.

### 12.4 Bottom of the Yacht

If the yacht is not to be dry sailed, a good anti-fouling bottom paint is recommended. It is important this paint be very carefully applied in the first instance. If it is, regular maintenance will keep it in relatively good shape for a considerable period of time. In any event, when applying bottom paint, read and follow the manufacturer's instructions carefully and explicitly.

The amount of maintenance required on the bottom is dictated by waters in which the yacht is sailed and to some extent by the use it gets. If the waters are polluted or are conducive to marine growth, the yacht should be hauled quite frequently and the bottom scrubbed down with brushes, detergent and fresh water immediately upon hauling. If for any other reason the yacht is hauled and it is planned to keep it out of the water for any length of time, the bottom should be scrubbed down immediately before any marine growth has the opportunity to dry and harden on the bottom.

If a smooth surface is required, the anti-fouling paint can be rubbed with a piece of burlap or sanded with a very fine wet sandpaper following the cleaning of the bottom. Any spots where the anti-fouling paint has been removed should be touched up with the same type of paint. When first purchasing the anti-fouling bottom paint, purchase an extra can for this purpose.

### 12.5 Cove Stripe

The cove stripe (usually gold, just below the deck line) is coloured mylar tape. At the end of the cove stripe the arrows, the unique trademark of C&C Yacht, are painted with enamel. The cove stripe may be cleaned by using mild detergent solution and the mylar tape, if needing replacement, can be purchased from many marine supply outlets.

### 12.6 Vinyl Rubbing Strip

The vinyl rubbing strip is located along the deck line where the deck is bonded to the hull. This rubbing strip may be cleaned using detergent and water. If hard to remove stains are encountered, an abrasive cleaner such as Ajax or methyl alcohol may be used.

### 12.7 Standing Rigging

Standing rigging is defined as fixed parts of the rigging which aid in support of the mast. The standing rigging and all the components listed under 'Stainless Steel' should be checked each time before going sailing and given a detailed monthly examination. Turnbuckles should be checked to make sure cotter pins are in place at top and bottom, cotter pin ends are turned back carefully and covered with plastic tape. Each spreader should be checked that the pins are in, and the spreader is not out of alignment. The end of the spreader where the shroud passes through must be taped. If any of the standing rigging is wire, sails may be ripped if strands are broken or protruding. Check also for signs of rust in wire rigging. A good safety practice is to paint a small white ring around the wire where it enters the terminal. The paint will show if any slippage occurs and will prevent salt from collecting in the minute spaces between the strands which will induce corrosion. Examine carefully where the wire enters the terminal end fitting for signs of rust or wear since this is a particularly vulnerable point when the yacht is sailed in a salt water area. If signs of rust or wear are found, the rigging should be replaced. Rod rigging should be examined for nicks or kinks and any signs of slippage where the wire enters the terminal end of fitting. If this is found, consult your C&C dealer.

### 12.8 Running Rigging

Running rigging comprises all the gear that is normally used in handling and trimming of sails such as sheets, guys, halyards, and vang. Main and genoa halyards are stainless steel wire and are subject to heavy loads and constant flexing as they pass over the sheave at the head of the mast and turning blocks at the foot of the mast. This constant flexing tends to fatigue the metal over a period of time. Consequently, halyards should be examined regularly for signs of stress and broken strands. When signs of stress appear, the only solution is to replace the halyard. Again, the end fitting on a halyard should be examined carefully. On halyards with rope tails the splice between the rope and the wire tends to be a point of possible weakness and should be examined regularly. Rope halyards (used mainly for spinnakers) are not subject to wear as severe as wire halyards but should be checked two or three times a season. The end fitting should be checked each time the boat is sailed to ensure it closes and locks easily and securely. Rope sheets tend to fray over a period of time with use and only experience will dictate when they need replacement.

### 12.9 Lifelines, Pulpits and Stanchions

Lifelines, like standing rigging, should receive periodic checks. The terminal ends at the connector must be well screwed into the barrel in order all the threads of the barrel are fully engaged and the lock nuts are done up tightly. This is most important as a life may depend on it. Again, check the swagings for signs of rust. Check pulpits and stanchions for dents or cracks and ensure they

Lifelines, Pulpits and Stanchions (cont'd)  
are properly secured.

12.10 Winches and Blocks

The installed winches on your yacht are as of high a quality as any available on the market. A manual is included in the kit accompanying your yacht describing winches and the maintenance required. Most problems with winches occur due to poor or improper maintenance. When sailing actively on salt water, winches should be stripped down, cleaned, and lubricated no less than once a month. Otherwise, winches should be stripped down, cleaned and lubricated at least twice per season. The bolts securing the winches should be checked at least once a season. Access to the bolts securing the winches in the cockpit may be gained through the cockpit lockers or from the quarter berth on yachts so fitted. Bolts securing the winches located on the deck may be checked by removing the access covers located in the head liner of the cabin. If it is necessary to remove a winch base and remove the bolts, the bolts should be resealed as required.

Blocks normally require little maintenance but they should be examined regularly for damage. Never leave a snatch block open. Be sure the snatch is properly closed before applying a load to prevent the cheek of the block being bent. Sheaves and blocks can be sprayed with a silicone lubricant to keep them running freely. The sheaves at the head of the mast should be checked before the spar goes into the boat in the spring and a couple of times during the season (this necessitates going up the spar in the bosun's chair) to ensure they are turning freely and the halyard is not cutting a groove into the sheave. The sheaves for the main and genoa halyards have oil-lite bronze bushings and normally do not require lubrication but once a season a few drops of light machine oil will be adequate. All running rigging should be washed down with fresh water after sailing on salt water.

12.11 Engine

The maintenance of your engine is covered in the Engine Manual which should be read carefully.

Please note. Once the engine is started, it should be operated until it reaches full operating temperature to prevent corrosion. This may take several minutes in cold water.

Before changing the oil, operate the engine until it reaches full operating temperature. The oil can be removed from the crank case with a crank case pump which is supplied (see 'Winter Storage').

Check all fuel lines for tightness and integrity. Probably your nose is your best guide here. If you smell gasoline or diesel fuel, there is a leak somewhere in the system. A gentle tightening of each

Engine (cont'd)

connection in the fuel line often will solve the problem. If you do smell fumes in the boat, extreme caution must be used to prevent an explosion.

12.12 Power Train

Details of shaft alignment and removal of propeller and stuffing box maintenance are given under Section 6.

12.13 Electrical Maintenance

The electrical wiring should require little or no maintenance. Exposed terminals and connections should be checked a couple times a season and more often in a sea air environment for tightness and signs of corrosion. Exposed electric and electronic terminals can be protected with a light coating of vaseline or silicone resin coat obtainable from an electronics parts dealer.

Battery terminals must be kept clean and free from corrosion. Periodic cleaning washes away sea water, acid and dirt that can accumulate and set up tiny circuits that drain off amperage. Before cleaning a battery, remove it to an area that will not be damaged by acid washed off the battery. Be sure the vent caps are tight. Scrub the terminals and the top of the battery with a brush dipped in a solution of dilute ammonia or a couple of ounces of baking soda dissolved in a quart of water. Scrub until all the bubbling stops. Flush with clean water, dry, and replace the battery.

Remember - 'Clean, Dry, Tight' are the three most important factors in battery and electrical connection maintenance.

12.14 Upholstery

The cushions and seat backs on your C&C yacht are covered with relatively stain-resistant nylon which should ONLY BE DRY CLEANED. However, consult your local dry cleaner before attempting this process. It is important that the upholstery be kept aired and that it be dried after use to prevent mould development. If the yacht is to be left for some time unused, it is advisable to stand the cushions on end so that air can circulate around them. It is also advisable at such times to clean out all lockers of damp clothing and leave locker doors open.

12.15 Steering

The manufacturer's instructions for maintaining your pedestal steering system should be followed closely.

The roller bearings in the pedestal were lubricated by the original manufacturer during assembly. After two seasons, apply lubrication in the holes provided on top of each bearing. DO NOT over lubricate as it will affect the brake pads, if so equipped. Check periodi-

### Steering (cont'd)

cally to prevent the bearings running dry, and lubricate following the manufacturer's recommendations.

Lightly oil the roller chain every two months with #30 motor oil or a machine oil. Oil the sheave bearings in the holes provided four times each season.

Inspect and lightly oil the wire in the system. The manufacturer recommends the placing of about five layers of facial tissue in the palm of your hand, applying oil to the tissues and lightly rubbing the wire. This will lubricate the strands and 'flag' a broken or hooked strand by tearing off a piece of tissue. If there is a break in the wire, replace it immediately. Cover your hand with a leather glove to prevent injury during this check.

The complete system, including bolts, should be inspected thoroughly each season. Wire should be replaced every five years or earlier if periodic inspections reveal frayed or broken strands. Keep the replaced wire on board as a spare.

In addition to the above, an inspection should be carried out every other year with the system under a heavy load. On a calm day and away from all other boats, station a person below to observe the system. While under load, the person below should look for parts bending, distorting, creaking or any other indication of failing in the system when under a full load for a period of time. Using this test while the boat is under stress will prevent a failure when the system is really needed.

### 12.16 Miscellany

For stove, head and various tank capacities, see Table 8.

For typical alcohol stove and propane systems, see Fig. 13.

Good maintenance is most important. If you take care of the system, it will take care of you.



## 13. FITTING OUT

### 13.1 Prior to Launching

- a. The exterior of the boat should be sponged down with soapy water to reveal any scratches and damage. Repair damaged areas (see 12.1).
- b. Wax the hull exterior. An idea for polishing the hull is to mix into the wax, if in paste form, a pigment for tinting. You can buy small tubes of pigment the same colour as the hull at a paint supply store. Thus, when you wax the hull, the wax will fill in any small scratches and disappear when you polish the hull.
- c. Check and clean propellers and shafts, and also check for excessive play in the strut. Ensure that the blades of a folding propeller open and close readily.
- d. Examine all deck fittings and service all winches (Sec. 12.10).
- e. Check that batteries are fully charged, battery terminals are clean and all electrical connections are secure.
- f. Check all thru hull fittings are secure and that valves open and close easily. Prior to launching, all thru hull valves should be closed to prevent any leakage.
- g. For yachts with inboard engines, replace engine block and water pump drain plugs. If fitted with V-drive, replace plug at bottom of intake connection. Remove any winter cover protecting the carburetor and the plug or cover at the stern exhaust port.

### 13.2 After Launching

- a. Check all thru hull fittings, sea cocks and the bilge to ensure that leakage is not occurring.
- b. Open the sea cock for the engine cooling water intake.
- c. Turn on main power switch and bilge blower.
- d. Start engine. After engine has reached operating temperature, shut down and change oil.
- e. Check propeller shaft alignment as indicated in Sec. 6.4.

### 13.3 Stepping the Spar

Spars are stepped by two methods, depending on a yacht's design.

### Stepping the Spar (cont'd)

Some spars are stepped directly on the deck of the yacht, the imposed load being transferred to the keel by means of a support inside the yacht. Other spars go through the deck at a mast collar and are seated on a mast step located on top of the keel. The procedure for stepping the spar basically is the same for both types.

The spar first should be laid out on two or more supports and checked carefully. Spreaders should have the pins in place and all standing rigging pinned at the tangs. Halyards must run freely and head sheaves turn easily. Install and check running rigging. Examine halyards for wear and replace if necessary. Steaming, mast head and spreader lights, plus any mast head wind instruments should be checked. Main upper shrouds should be positioned in spreader ends and locked. All cotter pins should be checked and taped over. Tie all running rigging together and secure tightly to the spar with light line at a point that will be just above the mast collar when the spar is stepped. Tie the forestay, backstay and two main shrouds together in a separate bundle and secure with light line to the spar at a point that will be approximately three feet above the deck when the spar is stepped.

Remove cotter pins and clevis pins from all turnbuckles and place in a container for future use. Back off all turnbuckles to the maximum. Carefully locate and secure the yacht adjacent to a crane, making sure the mast step is within the radius of the crane arm. Place the spar on supports adjacent to the crane.

Prepare a rope sling which will take the weight of the spar. A 10 foot line, minimum 5/8" dia. tied in a loop will suffice. Place the loop around the spar below the lower spreaders OUTSIDE THE RUNNING RIGGING. THE FORESTAY, BACKSTAY AND MAIN SHROUDS MUST BE OUTSIDE THE SLING. Make fast a 1/2" tie-down line to the sling, securing the other end to a winch or cleat at the bottom of the spar. This line prevents the load of the spar being carried by the spreaders when the spar is raised to a vertical position. It also facilitates pulling down the sling after the spar is stepped. Attach the lifting hook to the sling. In some instances, the crane height may not be sufficient or the sling must be positioned below the mid-point of the spar. Additional persons may be necessary to offset the weight above the sling and guide the spar into position. At least three persons should be present when stepping the spar in addition to the crane operator. Position one person at the foot of the spar to take the weight of the foot as it is raised and to guide the foot toward the yacht. A second person should clear the rigging as the spar is beside the mast step to guide the foot of the spar into position.

### Stepping the Spar (cont'd)

Raise the spar carefully, guiding the foot toward the yacht. Position one person on the yacht; pass the foot of the spar from shore to this person. Raise the spar to an almost vertical position and guide the foot into the step located on the deck or through the mast collar if the spar is stepped below. In the latter case, all electrical wiring at the bottom of the spar must precede the spar through the collar. With the foot of the spar through the collar, free the forestay, backstay and main shrouds, ensuring that all are clear of the crane lifting cable. Station a person below to guide the spar into the mast step and place the chocks or wedges around the foot before the weight is fully taken on the step.

With the weight of the spar on the step, attach the forestay, backstay and port and starboard main shrouds. Place the wedges around the spar at the collar to support the spar at this point. Lower the crane lifting cable sufficiently to allow the sling to be lowered and released, taking care that the sling and hook do not damage the steaming light on the forward side of the mast.

Release lower shrouds from their lashing, connect the lower shrouds and snug up all turnbuckles. Replace clevis pins and cotter pins. To help prevent damage to sails, insert all clevis pins fore to aft or outboard to inboard and tape over the cotter pins. Release all running rigging and lead to the appropriate blocks and winches. Proceed with tuning the spar at the dock (Sec. 4.3).

To unstep the spar, reverse the above procedure. Before removing the spar for winter storage, make a diagram of the location of the running rigging to serve as a guide when the mast is resteped. DO NOT use masking or filament tape on the spar. DO NOT expose a spar wrapped in plastic to direct sunlight.

**NB:** C&C YACHTS SHOULD NOT BE LIFTED IN THEIR CRADLES BY FORK LIFTS WITHOUT ADDITIONAL STRENGTHENING OF THE CRADLE.

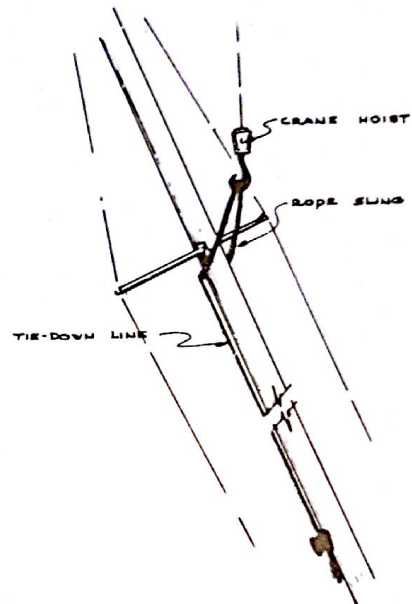


Fig. 10  
Spar Sling Lifting  
Location

Stepping the Spar (cont'd)

MOST FORKS TEND TO CONCENTRATE THE MAXIMUM WEIGHT IN A SMALL AREA AND THEREFORE DAMAGE MAY RESULT. RECOMMENDED PROCEDURE REQUIRES THAT BOATS BEING LIFTED IN CRADLES HAVE STRAPS OR FORKS PLACED UNDER FORE AND AFT UPRIGHT SUPPORTS.

## 14. LAYING UP FOR WINTER STORAGE

### 14.1 Hauling (Slings)

The proper placement of slings and supports is most important when hauling out. Improper placement stresses the hull and may result in gelcoat fractures or other damages. Slings should never be placed on a propeller shaft or strut. The forward sling is placed in the area of the forward main bulk head and the aft sling in the area of the aft main bulk head. To prevent the slings coming into contact with the vinyl rub rail, the hull may be padded with carpet placed flat against the hull just below the cove line. (See Fig. 12.)

Consult Engine Operators Manual for winter lay-up of engine.

### 14.2 Cradle Support

When hauling on a marine railway or placing the yacht in its winter cradle, at least 60% of the weight of the yacht should be on the keel. Pads for supporting the bottom of the hull should not bear more than 30-40% of the weight of the yacht or structural damage may result if these weight percentages are not followed. Do not put weight on the keel further aft than the last keel bolt. The extreme aft tip of the keel is thin and will accept little weight without bending (see 3.5). It may be necessary to go through the loading process two or three times, checking the keel position relative to the centreline of the cradle, before it is correctly positioned.

### 14.3 When Yacht Is Hauled

- a. Scrub down the bottom to remove any marine growth and grease. Wash down topsides and deck.
- b. All gear that may be damaged by cold or damp such as clothing, batteries, books, life jackets, etc., should be removed from the yacht and placed in a warm, dry, storage area.
- c. Lubricate or cover all exposed mechanical fittings to guard against ice or snow.
- d. Check all electrical and mechanical components on boat and remove those needing repair or replacement during the winter.
- e. On Universal engines (see Engine Manual), remove three drain plugs: manifold drain plug, cylinder block drain plug, and water pump drain plug. With a V-drive, remove the plug at the bottom of the intake connection. After allowing to drain for five to ten minutes, replace the plugs and tighten. Remove the engine water inlet hose from the sea cock and place this hose in a gallon container of antifreeze. Start the engine and run until all the antifreeze is out of the container. Stop the engine. Replace the inlet hose on the sea cock and

#### When Yacht Is Hauled (cont'd)

tighten the hose clamp. You now have antifreeze and a little water in the cooling system as well as in the muffler. It is recommended that the drain plugs now be removed for total protection.

- f. Put a wooden plug in, or plastic cover over, the exhaust pipe in stern of boat.
- g. Shut off gas tank valve.

#### 14.4 Fresh Water System

- a. Disconnect one of the fittings at the lowest point of system and allow it to drain into the bilge.
- b. Pump the bilge, cleaning it at the same time.
- c. Remove the inspection port on the top of the water tank and dry the tank interior with a cloth.
- d. Place some baking soda in an open glass container and place in the tank and lay the inspection port back on.
- e. Pump sink water pumps to remove any water remaining in them.

#### 14.5 Head and Holding Tank

- a. Pump out holding tank and flush once or twice.
- b. Add some holding tank disinfectant through the deck 'waste' fittings.
- c. Clean the bowl of head and pump water through.
- d. Add some antifreeze (such as Methanol) to the bowl of the head and pump it through the system.
- e. For best protection and trouble-free operation the next season, do the following: remove the parts as per manufacturer's instructions and clean all valves in the head.

#### 14.6 Batteries

Remove the batteries from the yacht, fully charge them, and store in a cool and protected area on a wooden shelf for the winter. If batteries are to remain in the yacht, make absolutely sure they are completely charged to help protect them against frost damage.

15. WARRANTY

Included with this manual is the Warranty Form for your new yacht. Please read it carefully. If there are any questions regarding the warranty's terms or conditions, please consult your dealer. (See Fig. 14)

When you take delivery of your yacht, complete the Warranty Registration card and mail it to C&C Yachts Manufacturing Limited, 526 Regent Street, P.O. Box 970, Niagara-on-the-Lake, Ontario, Canada, LOS 1J0.

This form must be completed by the original purchaser and returned to C&C Yachts to validate the warranty.

The warranty registration also serves as a record to meet U.S.C.G. requirements for those yachts purchased in the United States.

Also included are additional cards for change of address notification or change of ownership. Please keep us up to date on addresses and ownership since this is the only way we have of keeping our owners informed of changes in this manual. (See Fig.15)

16. SUGGESTED READING

There are many excellent books and periodicals available on the subject of boating and yachting. We suggest some below which we feel might be of interest.

The list of titles is by no means complete as a reader's interest may vary. It will depend on his level of skill and whether he is interested in cruising, racing, or perhaps just general reading.

Brown, INVITATION TO SAILING, Simon & Shuster.

Chapman, Charles F., PILOTING, SEAMANSHIP & SMALL BOAT HANDLING, Motor Boating & Sailing Book Division, The Hearts Corporation, New York.

Creagh-Osborne, Richard, THIS IS SAILING (PARTS I, II, III), Nautical Publishing Co. Ltd., Nautical House, Lymington, Hampshire, England.

Manning, Richard, & Associates, THE YACHTSMAN'S WIFE, (Qrtly), Box 342, New Canaan, Connecticut 06840, U.S.A.

Simonsen, Capt. Svend T., SIMONSEN'S NAVIGATION, Prentice-Hall, Englewood Cliffs, New Jersey, U.S.A.



Other

Any deck fitting which is under load (chainplates and inboard genoa tracks) should be checked at least once a year and rebedded with a marine sealant if found to be leaking.

LANDFALL YACHTS

Table 1.

STAINLESS STEEL COMPONENTS, MAST AND BOOM DIMENSIONS, MAINSAIL CUTBACKS, SPINNAKER POLE TRACK													
Yacht	Ø Bow Stern Pulpits	Ø Stan-chion	Mast Dimensions	Slug or Bolt Rope Size	Top of Sail Entry Slot Above Blackband	Boom Dimension	Slug/Bolt Rope Size	Tack Pin Cut-back	Tack Pin Ht.	Clew Pin Cut-back	Clew Pin Ht.	Track Dimension	Lgth.
LF 35	1"	1"	7-3/4" x 4-5/8" diamond	1/2" Ø	1'0"	6 1/4" x 3-1/8" rect.	1/2"	2-1/8"	1-1/8"	1"	2 1/2"	1 1/2" x 3/16" tee	9'0"
LF 38	1"	1"	9" x 5-3/8" diamond	1/2" Ø	1'0"	6 1/4" x 3-1/8" rect.	1/2"	2-1/8"	1-1/8"	1"	2 1/2"	1 1/2" x 3/16" tee	9'0"
LF 48	1"	1"	7" x 12"	7/8" T-Track	1'6"	8" x 4 1/2"	5/8"	2 1/2"	1 1/4"	Slug	-	1 1/2" x 3/16" tee	17'3"

Note: All cutback dimensions are taken from the appropriate 'P' & 'E' limits -

March 31, 1980

LF 38 STANDING RIGGING

Table 2

Item	Size	Style	Upper Fitting	Lower Fitting	Remarks
Forestay	#10	Navtec s.s. rod	1/2" toggle and high fatigue marine eye	Navtec #10 turnbuckle with toggle	
Backstay	#10	Navtec s.s. rod	1/2" Navtec marine eye	1/2" Navtec marine eye	Optional back- stay adjuster
Lower Leg Main Shroud	#10	Navtec s.s. rod	Navtec #10 marine jaw	Navtec #10 turnbuckle with toggle	To captive spreader system
Upper Leg Main Shroud	#10	Navtec s.s. rod	Navtec #10 external navtang	#10 custom eye	To captive spreader system
Lower Shroud	#10	Navtec s.s. rod	#10 jaw	#10 turnbuckle with toggle	
Intermediate Shroud	#4	Navtec s.s. rod	#4 external navtang	Navtec linkplate turnbuckle	To captive spreader system
Upper Life Lines	3/16" dia.	7x19 life line cable			Plastic coated with turnbuckle with insulators
Lower Life Lines	1/8" dia.	7x19 life line cable			Plastic coated with turnbuckle with insulators

March 31, 1980

LF 38 RUNNING RIGGING

Table 3

Item	Material		Lengths		Fitting On U/End	Fitting On L/End	Special Fittings	Remarks
	SS=Stainless Steel	BD=Braided Dacron	SS	BD				
Main Halyard	3/16" 7x19 SS	7/16" BD	54'5"	58'0"	Halyard Shackles			
Main T/Lift	3/32" 1x19 SS	3/8" BD	42'3"	13'0"				
Main Cunningham		3/8" BD		25'0"				
Main Sheet		7/16" BD		68'0"				
Main Boom Vang								
Genoa Halyard	3/16" 7x19 SS	7/16" BD	54'5"	58'0"	Snap Shackles			
Genoa Sheets		5/8" BD		2 x 65'0"				
Spinnaker Halyard		7/16" BD		122'0"	Snap Shackles			
Spinnaker Sheets		1/2" BD		2 x 76'0"	Snap Shackles			
Spinnaker Pole Lifts		3/8" BD		80'0"	Snap Shackles			
Spinnaker Pole Foreguys		7/16" BD		65'0"	Snap Shackles			

March 31, 1980

C&C LF 38 BLOCKS

Table 4

Usage	Description (Manufacturer's Suggested Safe Working Load)	Quantity
Mainsheet	Single swivel block            2,250 lbs	1
	Single block                        "	3
	Single block with becket        "	1
Jib Sheets	Foot blocks                        3,600 lbs	2
Cunningham	Turning block                      1,750 lbs	1
Main Boom Lift	Cheek block                        500 lbs	1
Slab Reefing	Cheek block                        1,750 lbs	1
Boom Vang	Optional package                 2,250 lbs	1
Spinnaker Gear	Single swivel                      2,000 lbs	2
	Single block with becket        "	2
	Snatch block                        "	3

LANDFALL YACHTS

NOTE: Absolute limit (40% breaking strength) should only be used with rod backstay and forestay, not stainless steel wire (SSW).

Table 5

RECOMMENDED BACKSTAY PRELOAD LIMITS				
Model	Backstay Size	Backstay Breaking Strength (Lbs)	Preload Limit 25%-33% of Breaking Strength (Lbs) Wire Limit	Absolute Preload Limit 40% of Breaking Strength (Lbs) Rod Limit
LF 35	#10 Rod	10,300	3,400	4,100
LF 38	#10 Rod	10,300	3,400	4,100
LF 48	#22 Rod	22,500	6,500	9,000

LANDFALL YACHTS

Table 6

ENGINES AND PROPELLERS						
Model	Engine	Transmission	Reduction	Standard 2-Blade Propeller	Optional Folding Propeller	
LF 35	Yanmar 3HM Diesel	Hurth V-Drive	2.83:1	16" x 13" x 1-1/8" R.H.	1-1/8" Shaft Std. U.S. taper Sailor Feathering - 16" Ø	
LF 38	Yanmar 3HM Diesel	Hurth V-Drive	2.83:1	18" x 12" x 1-1/8" L.H.	18" x 12" x 1-1/8" L.H.	
LF 48	Perkins 4236 Diesel	Straight Drive	2.51:1	22" x 22" x 1 1/2" L.H. 3-Blade		

LANDFALL YACHTS

Table 7

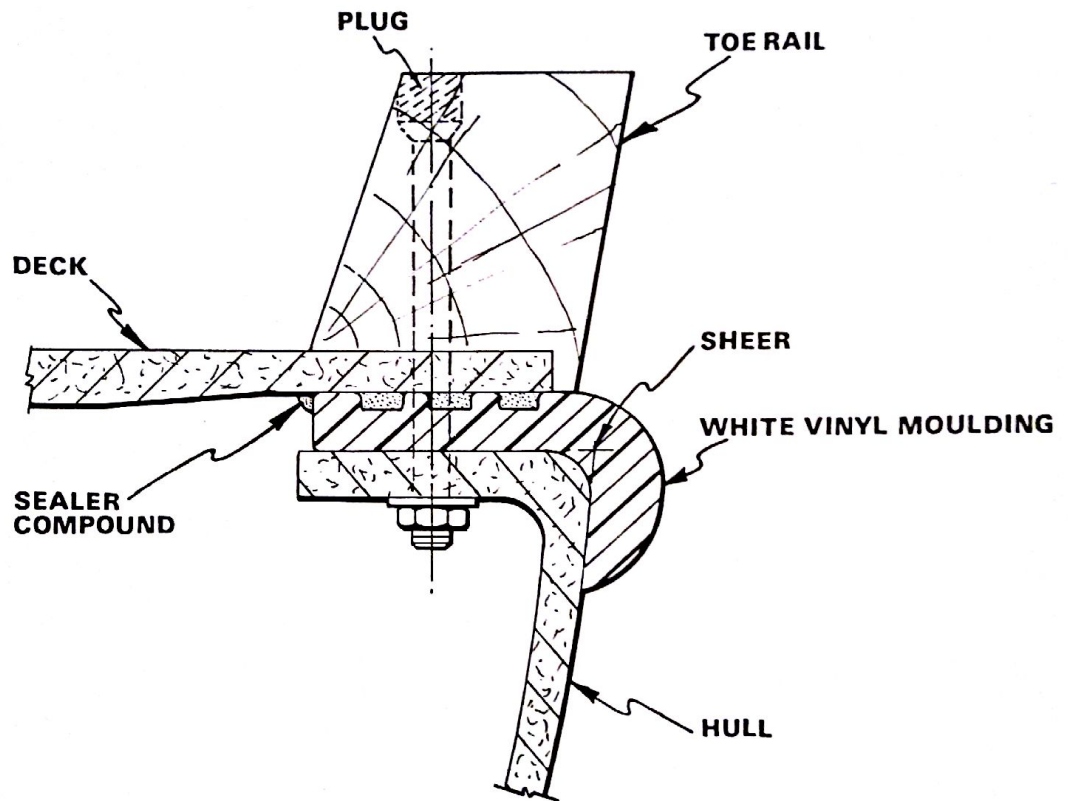
STANDARD TANK CAPACITIES AND PERTINENT DATA											
Model	Water Tank Capacities			Fuel Tank Capacities			Holding Tank Capacities			Toilet Type	Stove Type
	U.S. gal.	Imp. gal.	Litre	U.S. gal.	Imp. gal.	Litre	U.S. gal.	Imp. gal.	Litre		
LF 35	64.0 (2x32)	53.3	202.0	32.0	26.6	101.0	22.0	18.3	69.0	Standard Marine Toilet	Alcohol 3-Burner with oven
LF 38	79.0 (2x30) (1x19)	65.8	249.0	30.0	25.0	73.0	32.0	26.6	101.0	Standard Marine Toilet	Alcohol 3-Burner with oven
LF 48	375.0 (2x80)	312.5	1183.0	160.0 (2x80)	133.3	504.0	60.0 (2x30)	50.0	189.0	Standard Marine Toilets	Propane 3-Burner with oven



**LF 38**

**DECK-HULL JOINT**

**FIG.1**

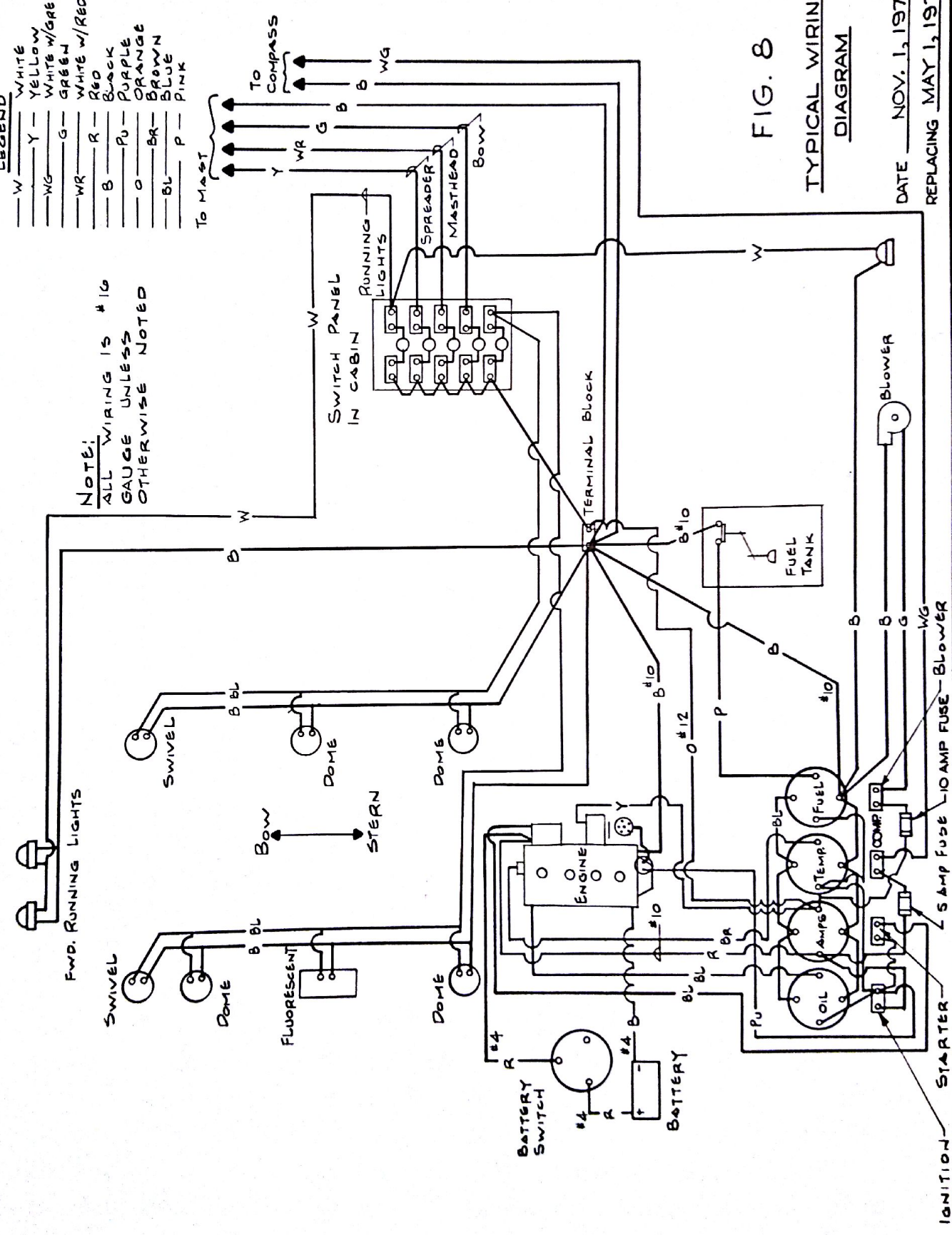


Date FEB 22nd 1980

Replacing \_\_\_\_\_

- LEGEND**
- W — WHITE
  - Y — YELLOW
  - WG — WHITE W/GREEN
  - G — GREEN
  - WR — WHITE W/RED
  - R — RED
  - B — BLACK
  - PU — PURPLE
  - O — ORANGE
  - BR — BROWN
  - BL — BLUE
  - P — PINK

**NOTE:**  
ALL WIRING IS #16  
GAUGE UNLESS  
OTHERWISE NOTED



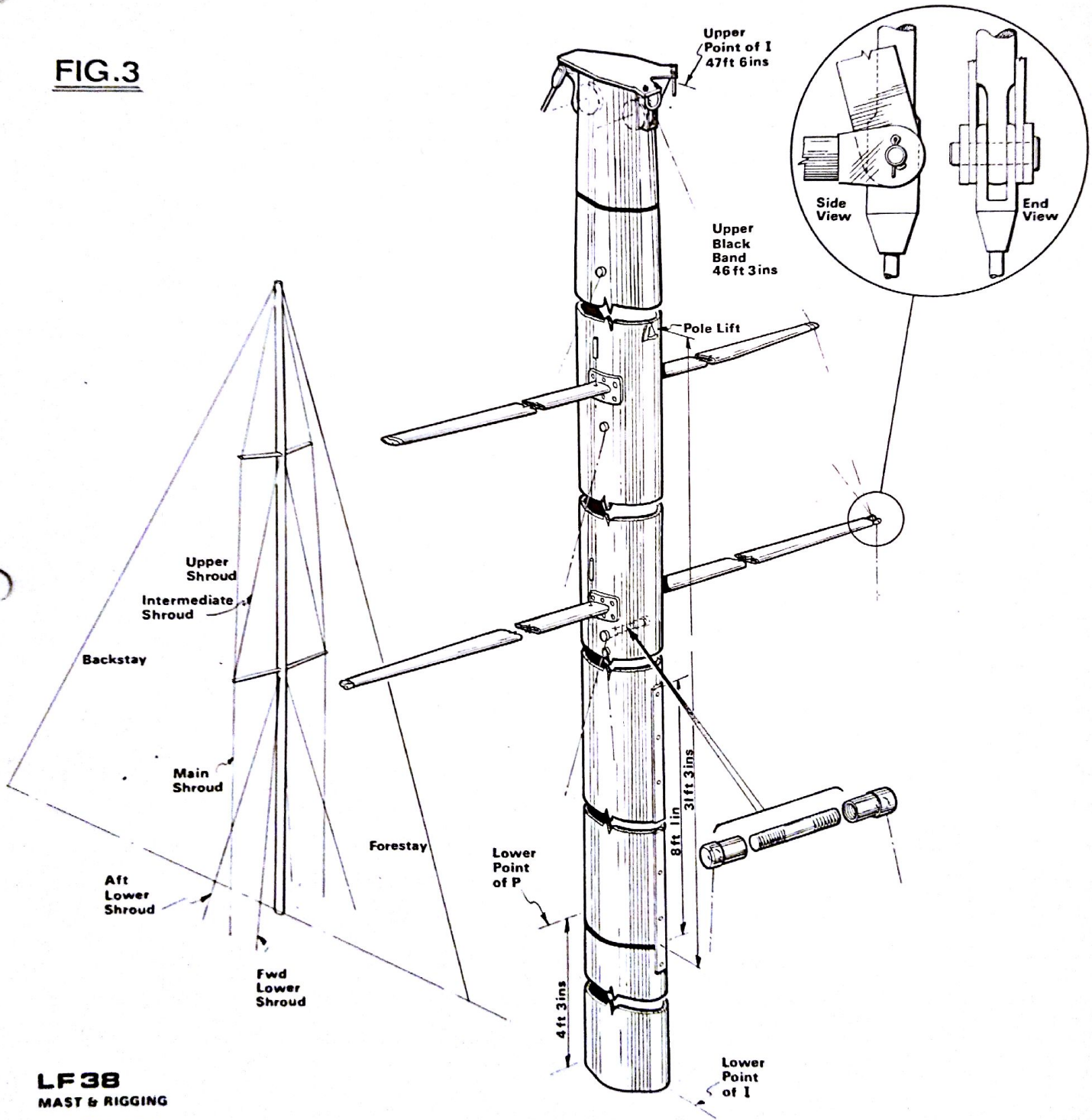
**FIG. 8**

TYPICAL WIRING  
DIAGRAM

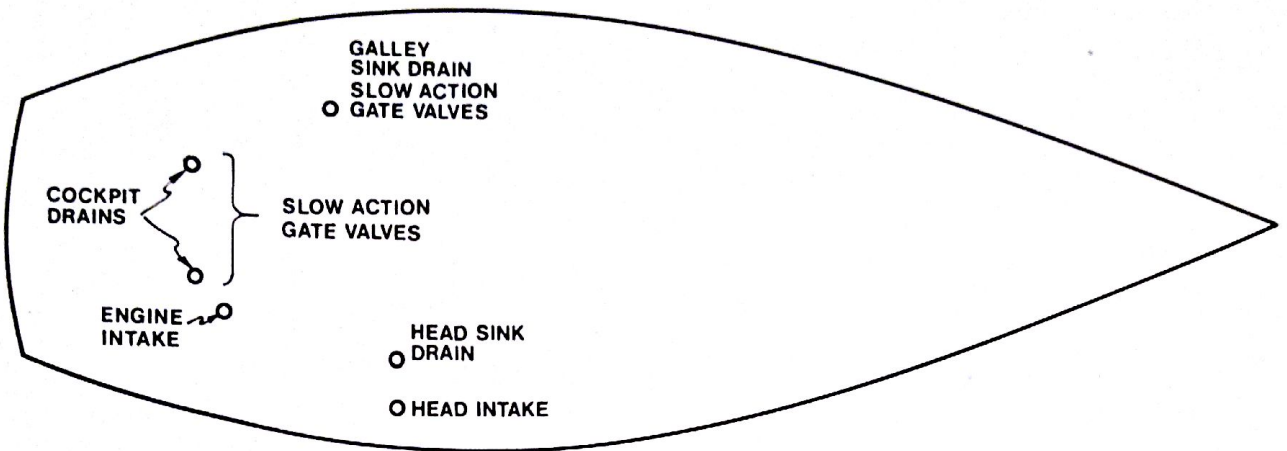
DATE NOV. 1, 1977  
REPLACING MAY 1, 1977



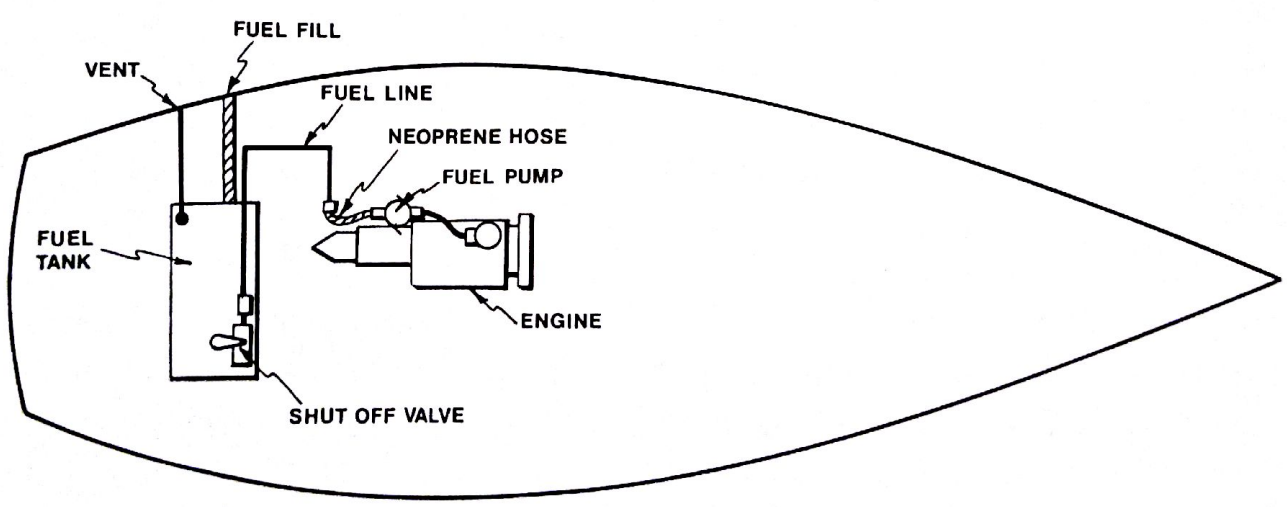
**FIG.3**



**LF38**  
**MAST & RIGGING**  
Date MARCH 1980  
Replacing.....



Typical through hull locations



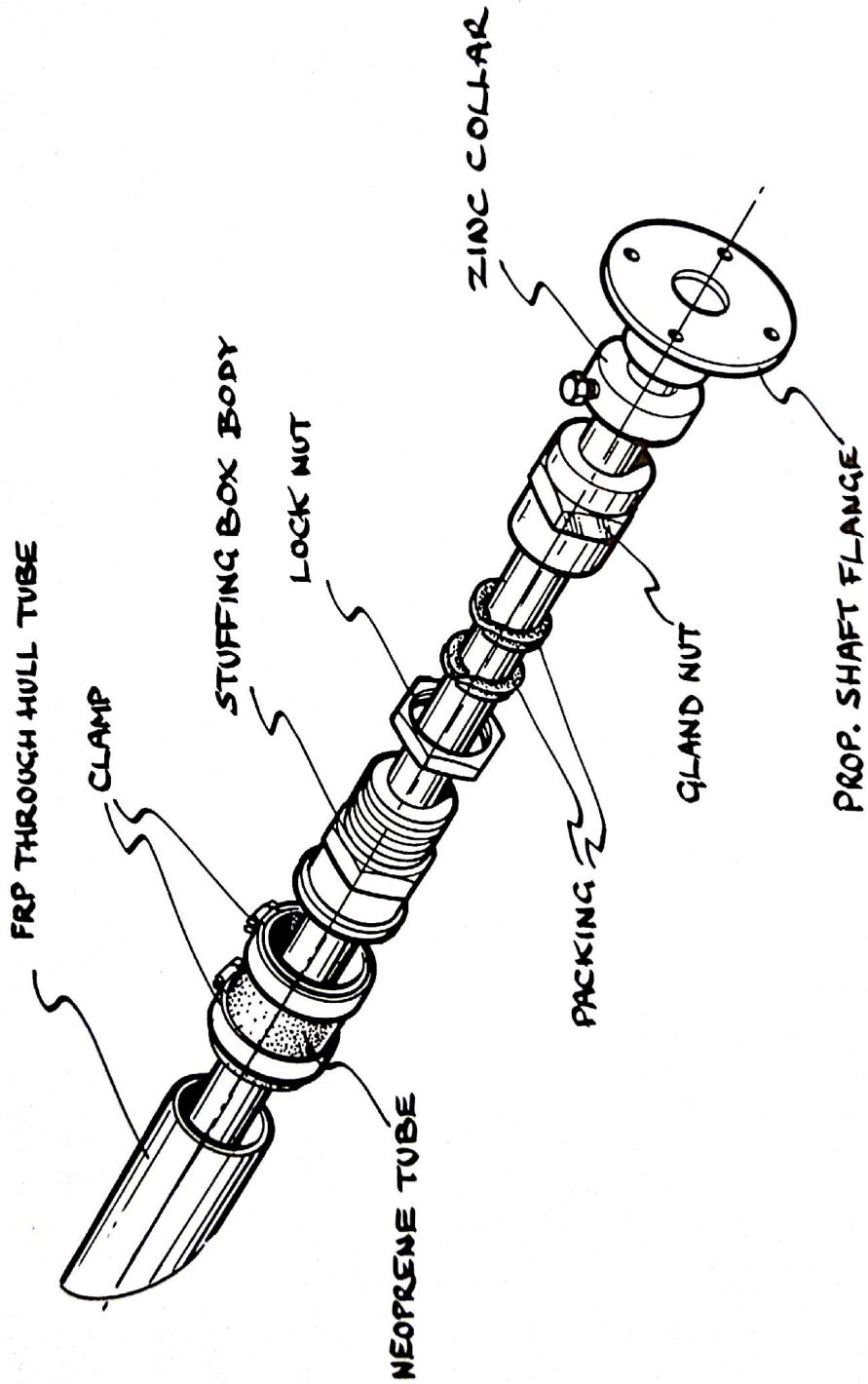
Typical fuel tank installation (diesel)

LF 38

Fig.4

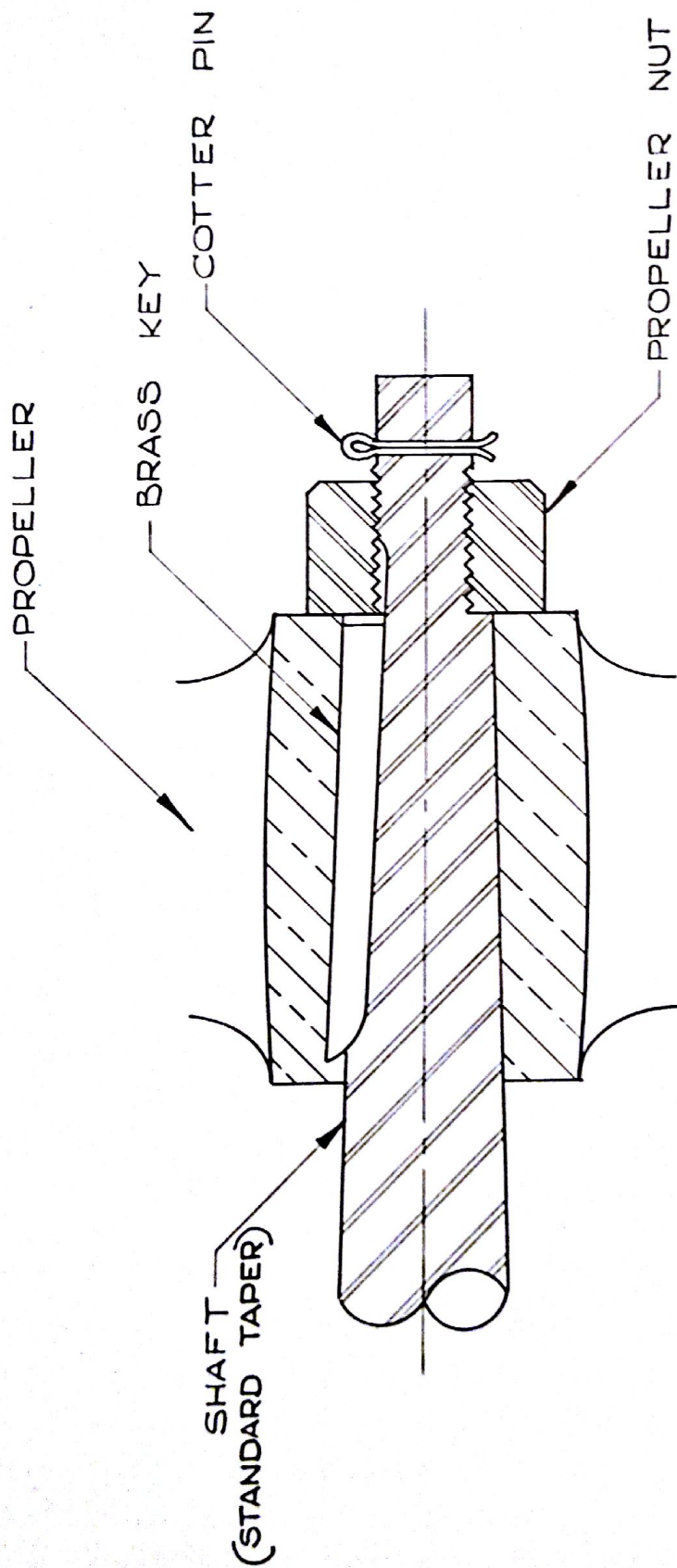
DATE FEB.1, 1980

REPLACING \_\_\_\_\_



STUFFING BOX ASSEMBLY

FIG.5

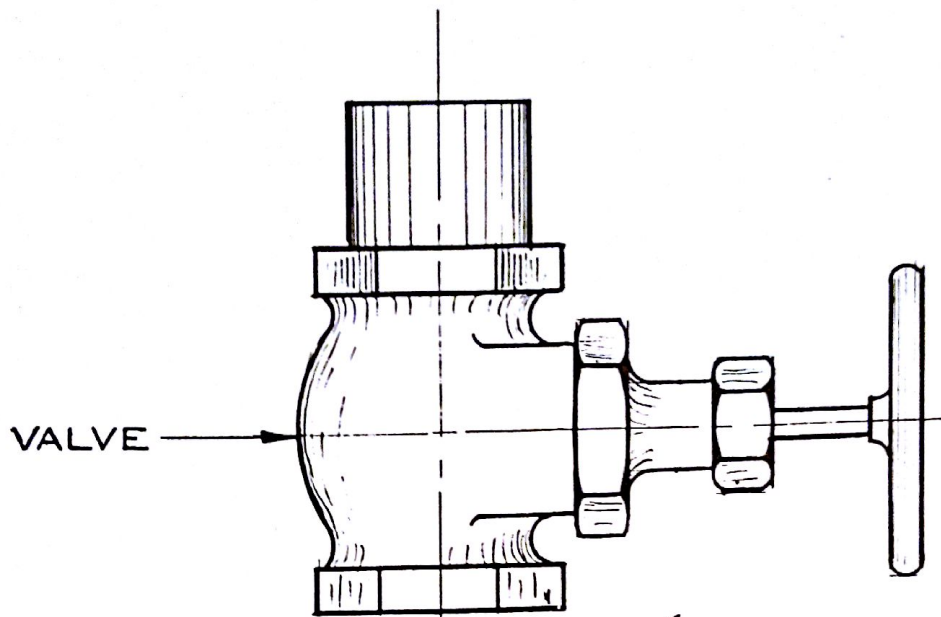


STANDARD 2 BLADE  
PROPELLER INSTALLATION

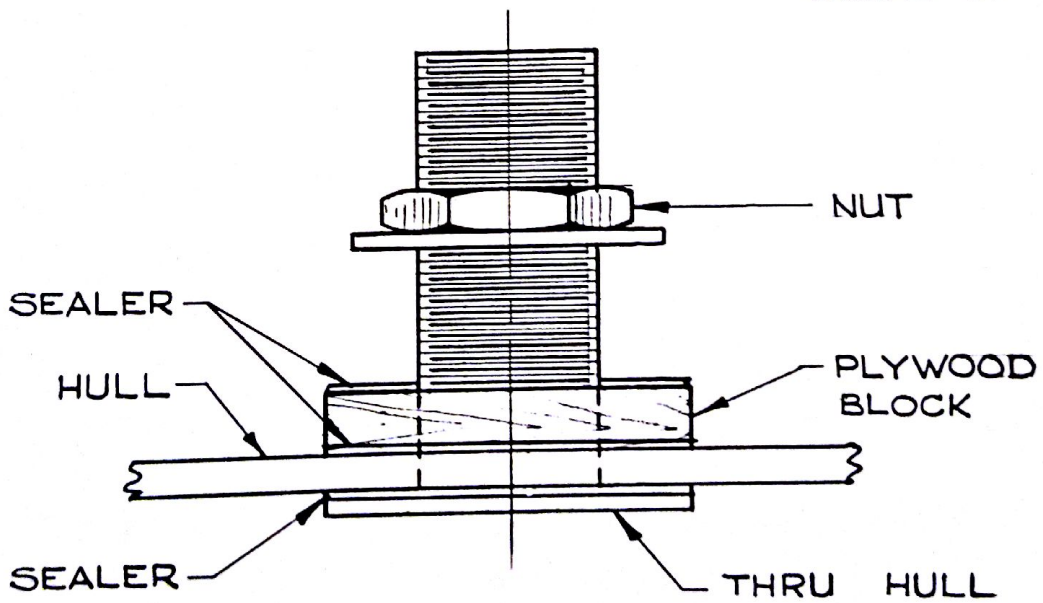
FIG. 6

DATE NOV. 1, 1977

REPLACING MAY 1, 1977



(SLOW ACTION GATE VALVE SHOWN)

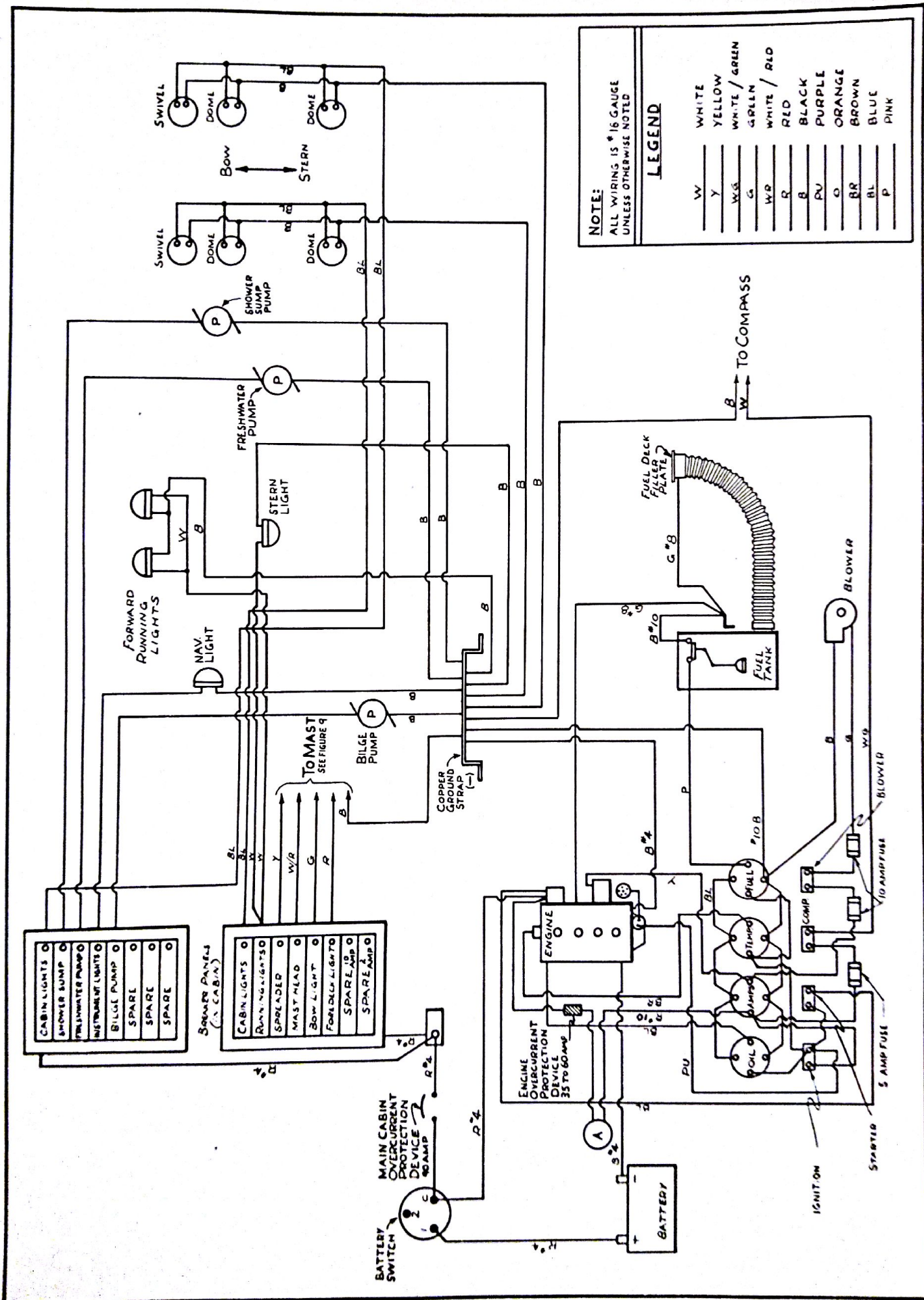


TYPICAL THRU HULL & VALVE INSTALLATION

FIG. 7

DATE NOV. 1, 1977

REPLACING MAY 1, 1977



**NOTE:**  
ALL WIRING IS #16 GAUGE  
UNLESS OTHERWISE NOTED

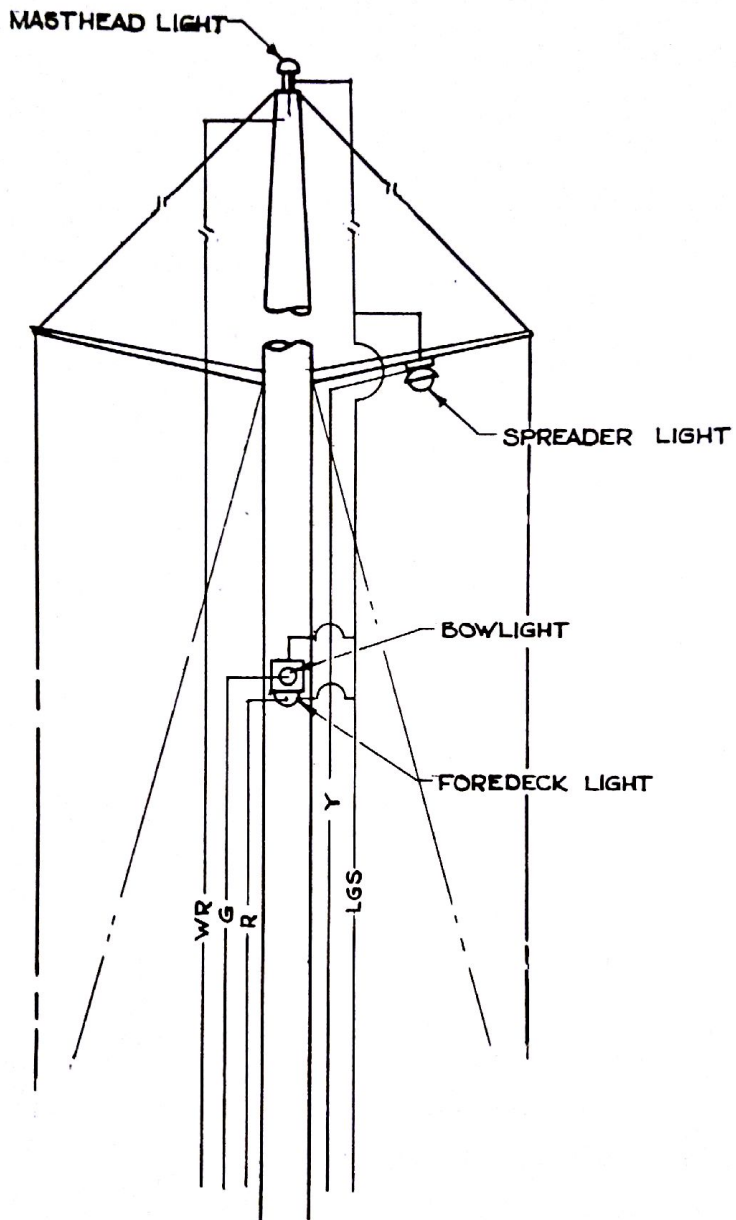
**LEGEND**

W	WHITE
Y	YELLOW
W/G	WHITE / GREEN
G	GREEN
W/R	WHITE / RED
R	RED
B	BLACK
PU	PURPLE
O	ORANGE
BR	BROWN
BL	BLUE
P	PINK

**TYPICAL WIRING DIAGRAM - C&C 40, LF38**

**FIG.8**





**LEGEND**

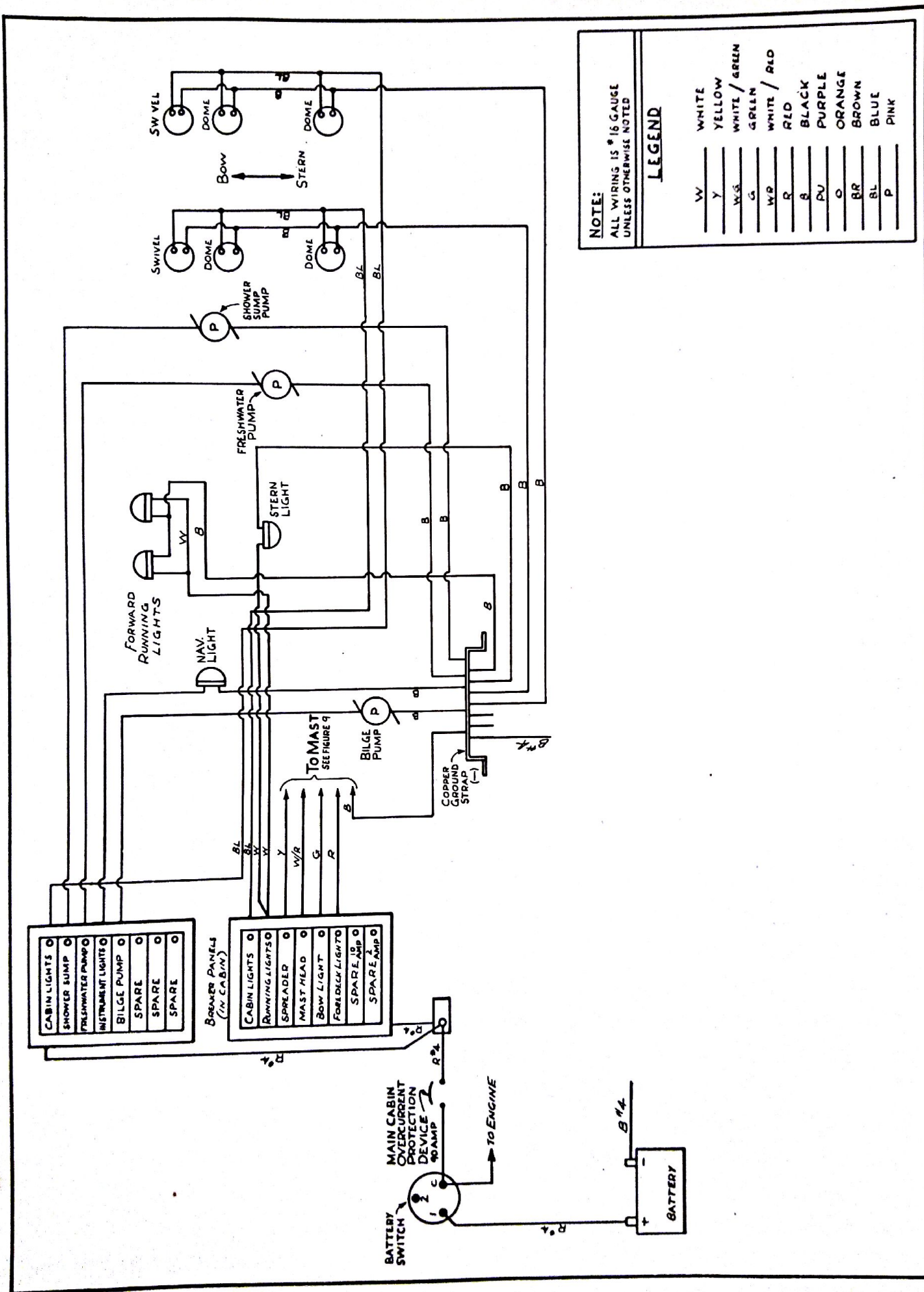
- WR — \*16 WHITE W/RED TRACER
- G — \*16 GREEN
- R — \*16 RED
- Y — \*14 YELLOW
- LGS — LIGHTING GROUND SYSTEM

LF-38 MAST LIGHTING SYSTEM

FIG. 9

DATE MAR. 1980

REPLACING \_\_\_\_\_



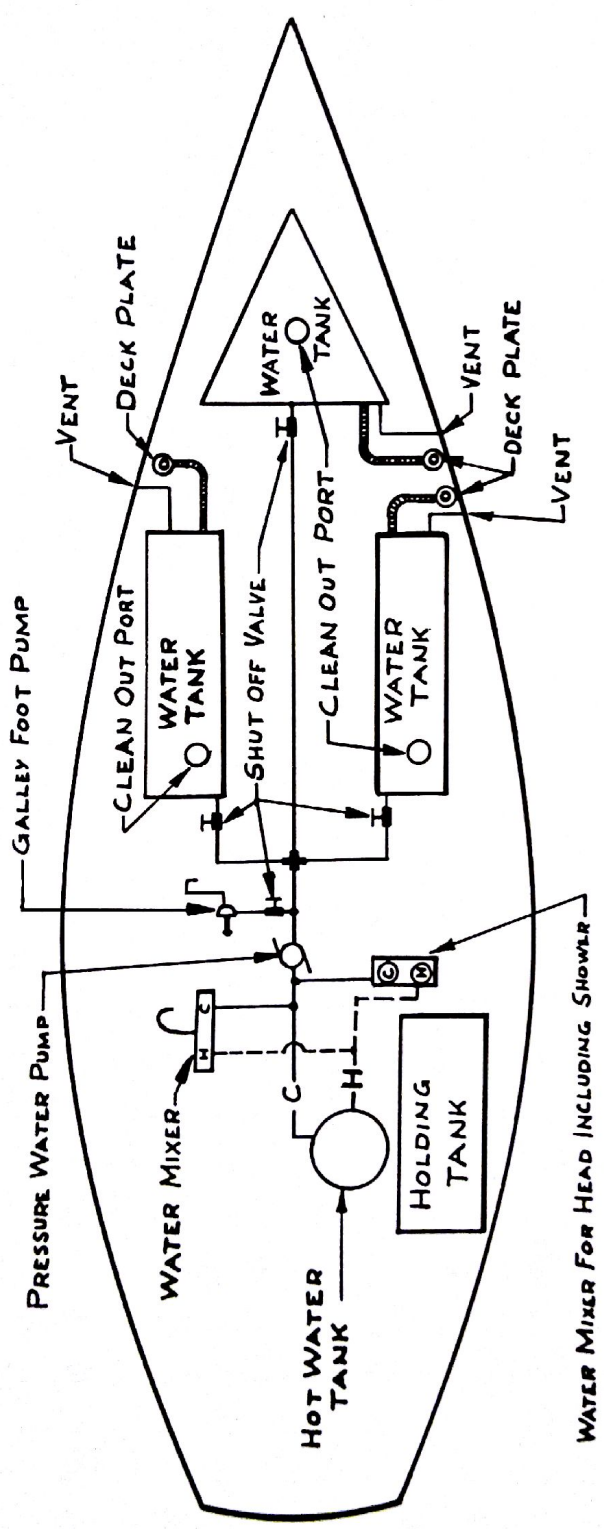
**NOTE:**  
ALL WIRING IS #16 GAUGE  
UNLESS OTHERWISE NOTED

**LEGEND**

W	WHITE
Y	YELLOW
WG	WHITE / GREEN
G	GREEN
WR	WHITE / RED
R	RED
B	BLACK
PV	PURPLE
O	ORANGE
BR	BROWN
BL	BLUE
P	PINK

**FIG.10**

**TYPICAL LIGHTING SYSTEM C & C 40, LF 38**



—C— COLDWATER  
 --H-- HOT "

HOT AND COLD WATER SYSTEM WITH SHOWER (STD.)

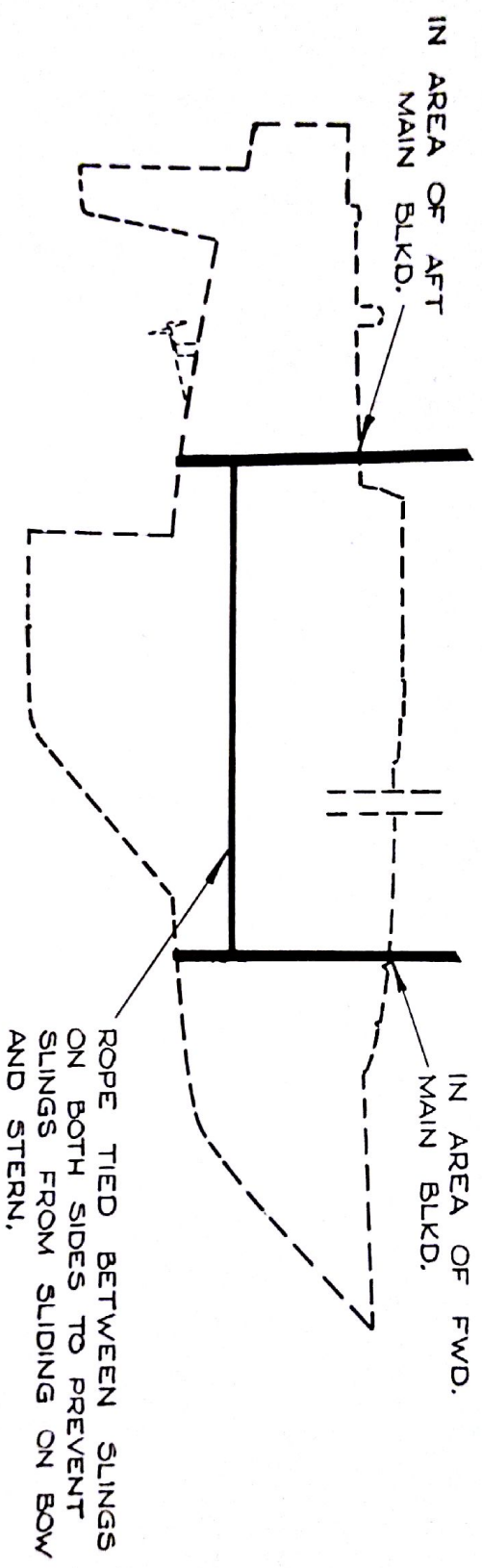
L.F. - 38

FIG. 10(i)

DATE MAR. 1980

REPLACING \_\_\_\_\_

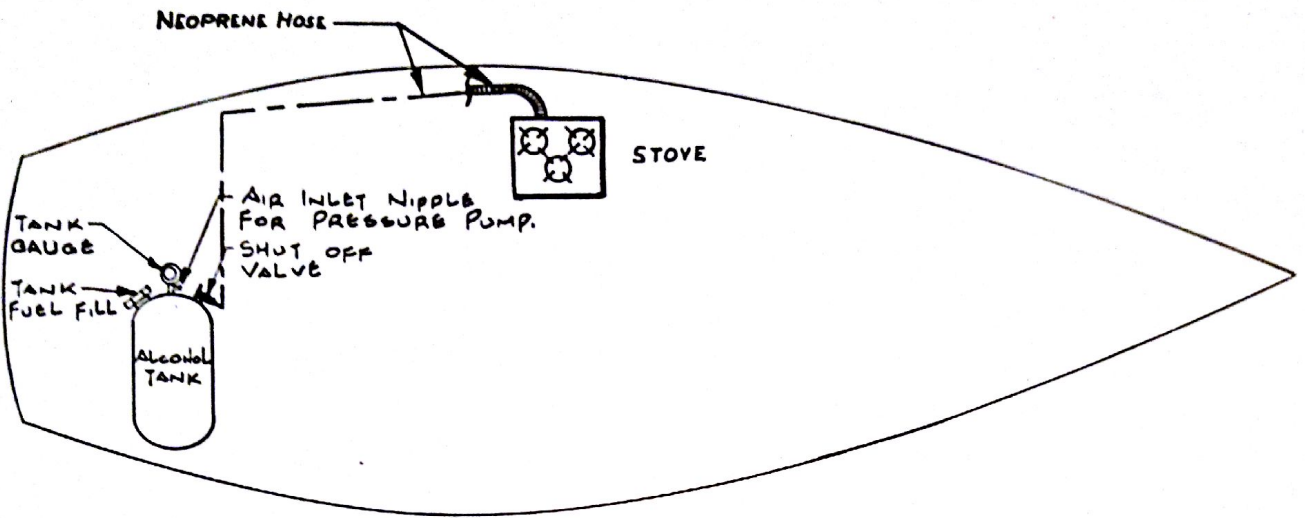




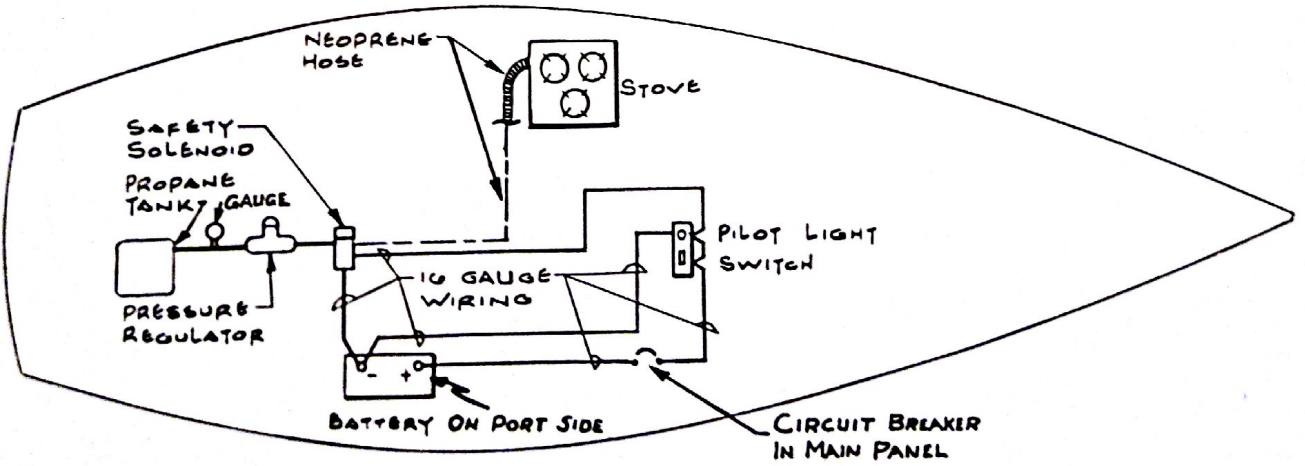
LF-38 SLING LOCATING DIAGRAM

FIG. 12

DATE MAR. 1980  
REPLACING \_\_\_\_\_



TYPICAL ALCOHOL STOVE & ACCESSORIES



L.F.-38

TYPICAL OPTIONAL PROPANE SYSTEM WITH ELECTRICAL SOLENOID SHUT-OFF

FIG. 13

DATE MAR. 80

REPLACING \_\_\_\_\_



**C&C Yachts Manufacturing Limited**  
526 Regent Street, Niagara-on-the-Lake, Ontario, Canada L0S 1J0

## **LIMITED WARRANTY**

\_\_\_\_\_  
Type of Vessel

\_\_\_\_\_  
Hull Number-U.S.C.G. Hull Identification Number

\_\_\_\_\_  
Engine Make

\_\_\_\_\_  
Serial No.

\_\_\_\_\_  
Name of Original Purchaser

\_\_\_\_\_  
Name of Dealer

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

\_\_\_\_\_  
Date of Commissioning

# LIMITED WARRANTY

1. This Limited Warranty is extended to the original purchaser of the yacht at retail, and is not extended to any subsequent purchaser of the yacht, nor is this Limited Warranty transferrable. The obligations of C&C Yachts Manufacturing Limited ( hereinafter referred to as "C&C" ) under this Warranty cease if the yacht is hired or placed in commercial use; the use of the yacht for commercial service shall void this Limited Warranty.

2. This Warranty applies to those components of the yacht manufactured by or built by C&C Yachts Manufacturing Limited, including the hull, keel, mast, standing rigging, deck, interior bulkheads and liners, rudder, rudder post, plumbing and wiring. It specifically does not extend to the colouration or finish of the hull, deck or keel exterior, nor does it extend to the upholstery materials, nor any components of the yachts which are not built or manufactured by C&C. These include the engine, running rigging, sails, head, winches, electric pumps, propellers, electronic instrumentation, lighting fixtures, steering gear and upholstery materials. C&C hereby assigns to the original purchaser its rights, if any, to claim in respect of defects in material or workmanship against the builder of such components. C&C further agrees to assist in making such assignments effective at the expense of the original purchaser.

3. To validate the Warranty, the "Warranty Registration Card" must be mailed to C&C Yachts Manufacturing Limited, 526 Regent Street, Niagara-on-the-Lake, Ontario, Canada L0S 1J0, as soon after the commissioning date as possible. In order to obtain performance of any Warranty obligation, the owner must report in writing within 30 days of its discovery, any claim in respect of defects in material or workmanship to the C&C Dealer from whom he purchased the yacht, or to C&C Yachts Manufacturing Limited at Niagara-on-the-Lake, attention the Warranty Claims Supervisor. When reporting a claim, the owner must provide the following information: (a) full details of the problem, (b) model and hull number of the yacht on which the claim is being made, (c) full name and address of the owner, (d) location of the yacht, (e) date of commissioning.

C&C will then authorize such expense in replacing parts or corrections of defects in the yacht as are warrantable under this warranty agreement. C&C may require such yacht or parts to be returned to the factory, its dealer or representative for examination, transportation charges prepaid. C&C neither assumes nor authorizes any person to assume for C&C any liability or expense in the replacing of parts or corrections of defects in the yacht within the warranty period, except when such expense be authorized in advance and in writing, by C&C.

If warranted components are repaired or replaced under terms hereof, the terms of this Limited Warranty shall cover such component for a period of 90 days from the date of repair or replacement or until the end of the original warranty period, whichever is later.

4. C&C accepts no responsibility for liability through the failure of any yacht or part, except to repair or replace the defective part. Obligations of C&C under this warranty are limited to claims which shall have been received by the dealer or by C&C within the warranty period, and which shall, to the satisfaction of C&C, be determined to have resulted from defective material or workmanship.

5. It is a condition of this warranty that the yacht has been given reasonable care, has not been used in commercial service, and that the warranty claim has not resulted from accident, negligence, misuse, or from unauthorized alterations by the original purchaser.

6. C&C reserves the right to improve its products through changes in design and material without obligation to incorporate such changes in yachts of prior manufacture.

7. The duration of the Limited Warranty protecting the fibreglass hull structure, excluding the deck and all fittings and attachments to the hull, shall be ten (10) years from the date of commissioning. The Limited Warranty covering the other items as listed in paragraph 2 above shall be for one (1) year from the said date of commissioning.

All other implied warranties including those of fitness and merchantability, shall continue for one (1) year from the said date of commissioning. Some jurisdictions may not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

8. C&C shall not be responsible for any damage or defect which shall occur upon the unreasonable use of the yacht by the original purchaser after said purchaser has notice of any defect.

9. This Limited Warranty does not extend to any other damages which the original purchaser claims to have suffered by reasons of such defects. Some jurisdictions do not allow the exclusion of limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

10. To the extent that this Limited Warranty creates additional rights, such rights are intended to be in addition to and not a modification of any other statutory rights you may have. To the extent this warranty is a limitation on statutory rights, such limitation is only to the extent permitted by law.





# Change of Address or Change of Ownership

We would appreciate your filling out this card if you have a change of address or are the purchaser of this boat as a used unit. It will assist us in keeping you up to date on any modifications that become available or information circulars on the maintenance and upkeep of your boat. Thank you for your cooperation.

change of address  change of ownership

Name in full \_\_\_\_\_

Home Address — Street, Number, Apt. \_\_\_\_\_

City \_\_\_\_\_ State/Prov. \_\_\_\_\_ Zip/Postal Code \_\_\_\_\_

Dealer Order Number \_\_\_\_\_ Hull Identification Number \_\_\_\_\_

Manufacturer Ref. Number \_\_\_\_\_ Sail Number \_\_\_\_\_

Engine Make/Model \_\_\_\_\_ Engine Serial Number \_\_\_\_\_

Hull Color \_\_\_\_\_ Deck Color \_\_\_\_\_

Cove Stripe \_\_\_\_\_ Boot Top \_\_\_\_\_

Purchase Date \_\_\_\_\_

Owner's Signature \_\_\_\_\_

Name of Dealer or Person Boat Purchased from \_\_\_\_\_

Thank you for taking the time to complete this form. It will assist in keeping our records up to date.



# Change of Address or Change of Ownership

We would appreciate your filling out this card if you have a change of address or are the purchaser of this boat as a used unit. It will assist us in keeping you up to date on any modifications that become available or information circulars on the maintenance and upkeep of your boat. Thank you for your cooperation.

change of address  change of ownership

Name in full \_\_\_\_\_

Home Address — Street, Number, Apt. \_\_\_\_\_

City \_\_\_\_\_ State/Prov. \_\_\_\_\_ Zip/Postal Code \_\_\_\_\_

Dealer Order Number \_\_\_\_\_ Hull Identification Number \_\_\_\_\_

Manufacturer Ref. Number \_\_\_\_\_ Sail Number \_\_\_\_\_

Engine Make/Model \_\_\_\_\_ Engine Serial Number \_\_\_\_\_

Hull Color \_\_\_\_\_ Deck Color \_\_\_\_\_

Cove Stripe \_\_\_\_\_ Boot Top \_\_\_\_\_

Purchase Date \_\_\_\_\_

Owner's Signature \_\_\_\_\_

Name of Dealer or Person Boat Purchased from \_\_\_\_\_

Thank you for taking the time to complete this form. It will assist in keeping our records up to date.

AFFIX  
STAMP  
HERE

**C&C Yachts Manufacturing Limited,  
526 Regent Street, Box 970,  
Niagara-on-the-Lake,  
Ontario, Canada.  
L0S 1J0**

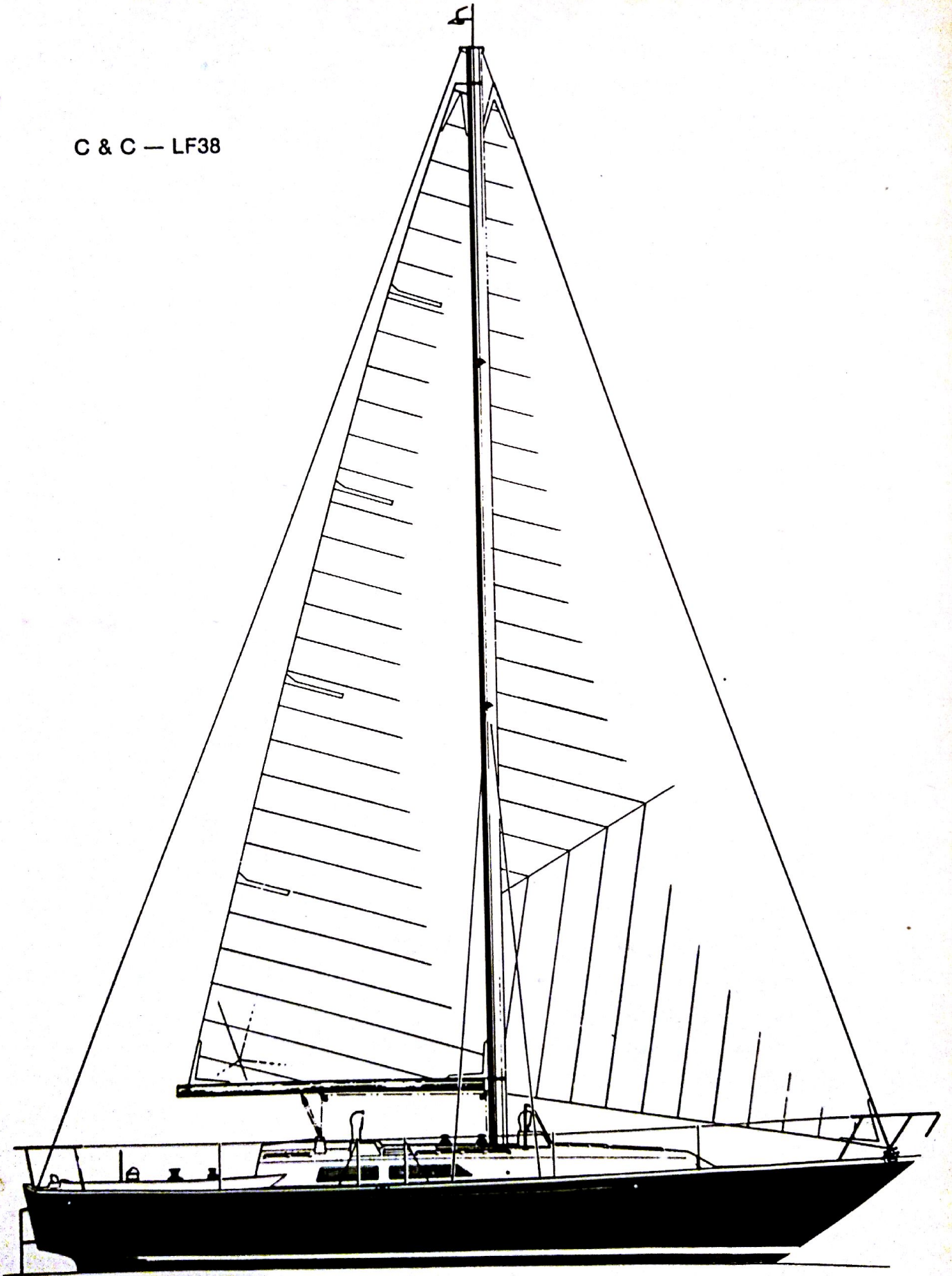
ATTN. CUSTOMER SERVICE DEPT.

AFFIX  
STAMP  
HERE

**C&C Yachts Manufacturing Limited,  
526 Regent Street, Box 970,  
Niagara-on-the-Lake,  
Ontario, Canada.  
L0S 1J0**

ATTN: CUSTOMER SERVICE DEPT.

C & C — LF38



C & C — LF38

