G26

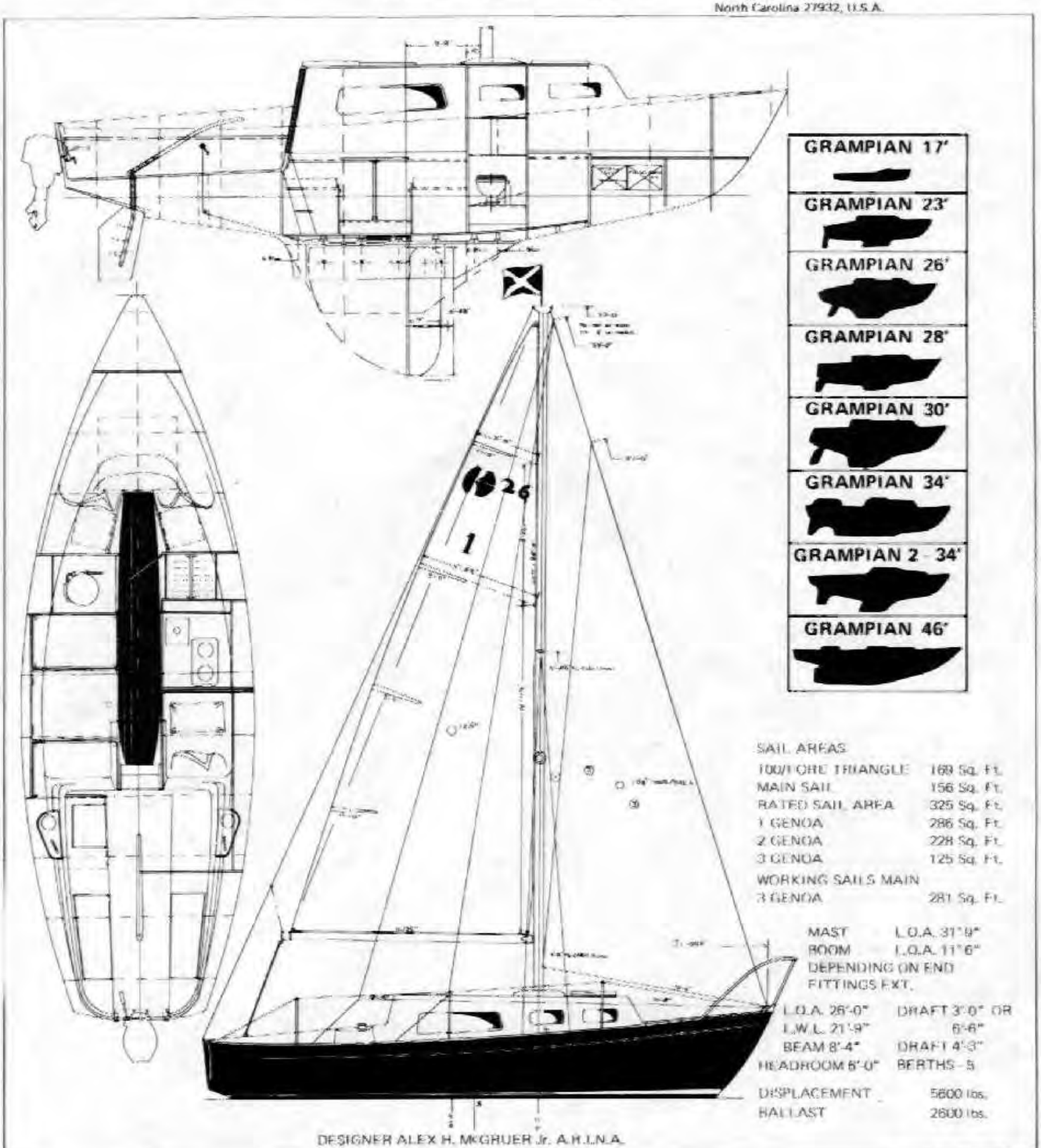
Latest in a famous line

Designed and built in the Grampian tradition of fine craftsmanship, the G26 sets new standards of quality and safety. High speed performance combined with cruising comfort lets you vacation quietly with your family—or boil a wake for your racing rivals to follow!

G26's seaworthy lines and snug double skinned interior brought nearly 200 orders before her first birthday. What finer endorsement of Grampian superiority! Write today for the address of your nearest Grampian Dealer—he'll tell you about colour choices, options and extras—and test sail her yourself!

Grampian Marine Limited,
451 Woody Rd., Oakville, Ontario, Canada.

Grampian Marine Limited,
P.O. Box 68, Edenton,
North Carolina 27932, U.S.A.



GRAMPIAN 17'

GRAMPIAN 23'

GRAMPIAN 26'

GRAMPIAN 28'

GRAMPIAN 30'

GRAMPIAN 34'

GRAMPIAN 2 - 34'

GRAMPIAN 46'

SAIL AREAS	
100% I.O.R.E. TRIANGLE	169 Sq. Ft.
MAIN SAIL	156 Sq. Ft.
RATED SAIL AREA	325 Sq. Ft.
1 GENOA	286 Sq. Ft.
2 GENOA	228 Sq. Ft.
3 GENOA	125 Sq. Ft.
WORKING SAILS MAIN 3 GENOA	281 Sq. Ft.

MAST L.O.A. 31'9"
BOOM L.O.A. 11'6"
DEPENDING ON END FITTINGS EXT.

L.O.A. 26'-0" DRAFT 3'-0" OR 6'-6"
L.W.L. 21'-9"
BEAM 8'-4" DRAFT 4'-3"
HEADROOM 6'-0" BERTHS - 5

DISPLACEMENT 5600 lbs.
BALLAST 2600 lbs.

DESIGNER ALEX H. McGRUER Jr. A.R.I.N.A.

CONTENTS

FOREWORD

Welcome aboard your Grampian. You are joining several hundred other Grampian owners who are sailing in all corners of the globe.

Perhaps you will number among the adventurous bank who have made extended passages in their Grampians to Tasmania, New Zealand, St. Pierre and Miquelon, Bermuda, the West Indies, Panama, the Herbrides or simply through the canals of Europe.

Or, perhaps you will be content to cruise your home waters.

Whatever, we at Grampian wish you Bon Voyage and will be glad to be of help whenever possible.

CHAPTER ONE

INTRODUCTION TO MANUAL:

The purpose of this booklet is to acquaint owners with some of the features of their new Grampian sailboat and to offer assistance and advice concerning upkeep and maintenance of the boat. While all boats in the Grampian line come extremely well equipped and are ready for sailing, they may require minor adjustments after delivery and launching. Most of these adjustments the owner can make with a minimum of expertise and effort.

All new Grampian boats are covered by an extensive warranty. However, a normally handy owner will probably be able to take care of most minor adjustments and problems himself. This will allow the manufacturer to utilize the company's resources and skilled personnel more effectively for any major repairs or warranty work that might be necessary.

The booklet covers the installation of engines, plumbing and electrical systems, offers advice on repairs to gelcoat, and the upkeep of woodwork and rigging and sails. It will also endeavour, in simple terms, to describe certain basic procedures you will follow whenever you first launch, rig and set sail in your boat. Much of this will be "old hat" to the experienced sailor, but some of the tips may prove useful to the newcomer to sailing.

A word of caution: while this booklet endeavours to set out certain information and procedures in effect at the time of writing (1976 Spring), it is possible that changes in regulations, technology, specifications, etc., at any time could also alter the relevence of the related portion of this booklet.

CHAPTER TWO

LAUNCHING AND COMMISSIONING:

The following procedure is recommended for launching, either when the new boat is first launched or after winter storage.

1. Lifting straps should be positioned one in front of the keel and one behind the keel. When the straps have been attached to the hook of the crane tension should be taken slowly and carefully so that the straps do not bear against any sharp angles or rub against lifelines, etc.
2. Do not forget to attach long mooring lines fore and aft. These can be used to control the boat when it is lifted. Put fenders on the side of the boat that is going to be alongside the dock.
3. Close all sea cocks or gate valves to prevent any risk of leakage when the boat is launched. (When the boat is in the water open the sea cocks and gate valves and check that all hose clamps are tight.)
4. If anti-fouling paint has been applied touch up the spots where the boat has been resting on the cradle.
5. Lift and launch the boat.
6. Unhook one part of each lifting strap and carefully pull them clear with the crane.

* WARNING: Do not allow lifting straps to rest on prop, shaft or bearing.

LAUNCHING:

7. If the boat is to be moved under power - either by inboard or ourboard engine, check engine manual and see engine section in this booklet. Ensure that procedure for installation and startup has been throughly carried out.

8. Fit of Joinery Work.

All joinery work (such as doors, drawers, etc.) is made to close tolerances in the shop to ensure optimum fit. Frequently you will have to ease components which may swell through humidity or temperature changes after delivery.

RIGGING - New Boat:

Each piece of standing and running rigging is carefully marked and packed on the boat. The rigging procedure is as follows:-

1. Place the mast on trestles or two boxes.
2. Feed the jib halyard over the sheaves at the top of the mast on the same side of the mast as the jib halyard winch, with rope tail on aft side of mast. This is usually the port side.
3. Feed main halyard over the sheaves on the other side of the mast, this time with the rope tail on the forward side of the mast. (Usually starboard side)
4. Topping Lift:-

   The purpose of the topping lift is to support the boom when sails are lowered, and there are three types of topping lifts in use. See drawing for the type used on your boat and attach as in the drawing.
5. Fix the forward and aft lower shrouds to their respective tangs, (on the mast).
6. Attach the main shrouds to tangs at side of spar.
7. The forestay is attached to the toggle on the forward side of the mast head fitting.
8. The back stay is fixed in the aft toggle.
9. Remove the locking pins on turnbuckles and remove the clevis pins. The turnbuckles should be opened halfway and should all turn the same way when tightened.

10. Attach the spreaders to the mast and put the main shrouds in the grooves on the spreaders and tape or cover the ends to prevent the sails from chafing.
11. If a wind indicator is required, attach it to the head of the mast.
12. Attach the backstay to the chain plate on the stern of the boat.
13. If a crane is being used to step the mast a large rope or strap should be put around the mast under the spreaders. A line should be attached to the strap which can be used to pull the strap and crane hook clear when the mast has been stepped.
14. Check that all the turnbuckle pins in the rigging are locked with cotter pins. Tape over the sharp ends of cotter pins.
15. Lift the mast into position and connect the plugs for lights.
16. Attach all stays and shrouds to their respective chainplates. When the mast can stand by itself the crane hook can be removed. Tighten the rigging and lock the the turnbuckles.
    N. B. The aft lower shrouds should be tightened lightly but the others should be tightened hard.
17. Boom can then be attached.

CAUTION:

NEVER OVER TIGHTEN RIGGING. IT SHOULD BE TAUT BUT NOT TENSE.

18. After sailing some time the rigging should be checked and tightened again if necessary. You may wish to continue making tuning adjustments thereafter. (See Section "Balancing - Tuning")

CHAPTER THREE

WINTER STORAGE AND SPRING COMMISSIONING:

When stored for the winter the Grampian should stand on it's cradle or have blocks under the keel and braces fore and aft. A winter cover can be anything from a complete boathouse to a simple cover. Many owners find plastic pool covers the answer to the cover question, although others perfer to leave their boats uncovered to avoid the risk of the cover staining the gelcoat. If you have a cover, a support or ridge pole should be used to prevent the cover from sagging in the cockpit or behind stanchions and lifelines if they are left on over winter. If the mast is used as a ridge pole it should be well supported so that the weight of snow or water will not do permanent damage to the mast. Care should be taken that covers or ropes will not chafe the gelcoat.

MAST STORAGE:

The mast should be supported straight and stored in a dry place. The spreaders should be taken off, but standing and running rigging may be left attached to the mast. Do not use masking tape to tie the rigging to the mast; it is extremely difficult to remove masking tape marks after a long period of time.

Before covering up, all loose equipment should be removed and the boat cleaned thoroughly. To avoid damage from freezing take the following precautions:

1. Winterize the engine. (See engine manual.)
2. Remove batteries. Remove gas containers on outboard models.

3. Clean and drain the bilge of any water.
4. Pump out and drain the toilet and pumps.
5. Empty the water tank.
6. Allow air passage through boat, whenever possible.

WINTER STORAGE - 2

In spring most boat yards and marinas have a lot to do, and the earlier the boat is ready the better it is for both the yard and the owner. Spring preparation includes:

1. Cleaning deck and hull.
2. Painting the bottom. (You should consult your paint supplier for correct type of bottom paint for your area, and application instructions.)
3. Oiling teak. Any proprietry brand of furniture oil such as Liquid Gold.
4. Waxing and polishing fiberglass surfaces, a good automotive wax should be used.
5. The rigging, engine, fuel system and gear should be checked carefully and adjusted.

Much of this work can be done after the boat goes in the water but, of course, painting the bottom and checking the propeller stuffing box, etc.; must be done before the boat goes in the water.

CHAPTER FOUR

SAILS

RAISING THE SAILS

Foresail:

To raise the foresail start with the tack which is fastened to the bow casting by means of a ¼" or 5/16" shackle which is supplied in the standard box of rigging. The sail is then fastened to the fore-stay with piston hanks. This process should begin with the hank closest to the tack, being careful that all piston hanks face the same way and are not twisted. The jib halyard, which is located on the port side of the mast is then fastened to the head of the foresail, and left ready for hoisting. The jib sheets are then fastened to the clew of the sail and led outside of stanchions and shrouds to snatch blocks on the toe-rail and a figure of eight knot tied at the very ends of the lines to avoid sheets being accidentally pulled back through the snatch blocks. Position of snatch blocks on toe-rail will be discussed further in section. If you have jib furling gear follow special instructions for type of gear installed.

Mainsail:

Nearly all Grampian masts and booms are, at time of writing, designed for a mainsail that has plastic slides for the luff, with a bolt rope being used for the foot of the sail. Taking hold of the sails's foot, the clew is fed into the boom groove and pulled aft along the boom. The tack of the main is then fastened at the gooseneck end by inserting the tack pin through the grommet and tightened. Taking the outhaul rope, fasten one end of this line to the strap-eye located

RAISING THE SAILS, cont.

Mainsail, cont.

at the outer end of the boom. This line is then fed through the outhaul grommet and pulled hand tight before being cleated. Now that the sail is on the boom, insert the luff slides into the internal track of the mast. Starting at the tack of the mainsail, run your hand up the luff until you find the headboard. This process eliminates any chance of the sail being twisted before the main is hoisted. After removing the slide pin from the mast, insert the sail slides beginning at the head of the sail and working down to the tack. When this step is finished replace slide pin in mast to prevent slides from slipping out. Now the battens should be put in.

Insert Battens:

Since the leach of the sail has a Roach, meaning it is cut in a convex curve, battens are required to extend the leach, otherwise it would curl inward. Battens should taper fore and aft with the thinner, more flexible part in the leading edge of the batten pocket. The main halyard can now be fastened to the head of the sail, first making sure it is free of spreaders or other lines.

N. B. Great care must be taken to avoid the rope ends of both the jib and main halyard running up the mast accidentally. It is wise to feed each of the halyard tails through the mast cleats and tie figure of eight knots in the ends.

Sails can now be hoisted with the boat heading into the wind, beginning with the main which should set 6" below the top of the mast. This will prevent chafing of the headboard against the backstay.

RAISING THE SAILS, cont.

Topping Lift:

Release topping lift from boom and secure. On a Grampian 23 and 26 the topping lift is a short wire suspended from backstay. On the other models it is a seperate wire from mast head.

Downhaul adjustment is made by fastening the Downhaul line with shackle to a strap-eye located about one foot from the foot of the mast. Run this line up to a single block which should be attached to the gooseneck unit; then back to a cleat opposit the strap eye, where it is made fast. Enough tension should be placed on the downhaul until small wrinkles found along the luff disappear. Outhaul tension is now made, allowing the small vertical lines in the foot of the sail to disappear. Both the outhaul and downhaul adjustments are crucial in putting shape into the mainsail, therefore utmost care should be taken.

Next, hoist the foresail, being sure to allow enough slack on the jib sheets for the sail to swing freely. When the sail is raised the halyard must be snugged up tight so no wrinkles or loops form in the luff. This leading edge, the first to strike the wind when under way, must always be kept tight. Should the luff hang loose, the shape of the sail will be destroyed. It will lose much of it's driving power, especially when sailing into the wind. Not only does a correctly set jib give greater efficiency, but most skippers sail by the actions of a tight jib. From it's action - whether shivering, violently shaking, or quietly full - they can tell if the boat is being sailed correctly.

LOWERING SAILS: Sails should be lowered as vessel heads into wind. Foresails, (jib and genoa) can be stowed, with sheets attached. Remember to attach topping lift to support boom before you drop the main.

CHAPTER FOUR, cont.

STORING SAILS FOR THE OFF-SEASON

Although most sails today are made from synthetic fibres, you will only get the best use of your sails if you store them for the off-season carefully. Sails should be checked, cleaned and then stored.

Sail Inspection:

Sails should be inspected closely for chafe, you may find two or three stitches gone in the sail and even though they may seem minor, they should not be neglected. The fault will only spread the following season and may result in unnecessary loss of sailing time during the summer.

The areas to scrutinize closely are where the main rubs the upper shrouds; check that the adjustable topping lift has not been allowed to rub the leach of the main, or the backstay chafe the mainsail headboard. Finally, check the batten pockets at both the inner end and the leach.

All grommet holes should be checked for distortion, along with seizings for mainsail slides and piston hanks on the jib. It is recommended that one drop of oil be put on each piston once a year.

Cleaning:

Small sails can be washed in a bathtub, and the larger ones on a clean concreat floor using a soft scrub brush, luke warm water and a mild, non-abrasive houshold detergent. Rinse sails thououghly with fresh water and then spread them in the open air to dry. If you perfer

Cleaning, cont.

to hang your sails to dry they should be hung from the head to the tack, not the head to the clew as this will cause the leach to stretch. Sails should not be hoisted and allowed to dry flapping in the wind.

Ironing is not recommended as this will cause localized fusing of the filaments and distortion of the cloth which can never be cured. The safest treatment for sails that are badly creased is to hose them down with water and either spread them out or hang them as mentioned previously. Sails may also be laundered in their bag in a machine using a mild detergent and a setting at permanent press.

Storage:

Sails should be completely dry before being stored for any length of time to prevent discolouration. For best results, they should be stored loosely in a dry area where the air can circulate freely. Although storage like this can rarely be found, the important things are a dry area and avoiding creases. Provided the sail bags are large enough, sails may be folded parallel to the foot and rolled lightly along the luff and placed into the sail bags. Avoid any heavy articles being placed on your bagged sails. Best results for storing your main would be to roll the sail around the boom and hang from rafters during the off-season.

CHAPTER 5

ENGINES:

Inboard engines on Grampian boats are flexible mounted on fiberglass or hardwood engine beds. A flexible coupling is also installed between the propeller shaft and the engine, with an adjustable stuffing box where the shaft goes through the hull. A bilge-blower - to clear the engine of fumes - is installed under the starboard cockpit coaming. The starboard vent is the intake and the port vent the air outlet. Fuel tanks are normally located in the starboard locker, except for the G2-34 which is under the cockpit sole, with access to it from under the companionway. All engines should be run in accordance with the engine manual provided by the manufacturer and any problems should be directed to the manufacturer or his representatives. The engine mount and through hull fittings are warranted by Grampian. Each engine carries seperate Warranty covered by the manufacturer.

(1) Stuffing Box/Packing Gland

The shaft is constructed so that on its outboard end it is supported by a strut and water lubricated cutless bearing and on its inboard end by a packing gland. The packing material in this gland is standard gland packing which can be purchased at most hardware or automotive stores.

ENGINES, cont.

The packing is held in place by a large gland nut visible behind the engine/shaft coupling. When the engine and shaft are fitted, this packing nut is tightened down hard to seat the packing. When the boat is first put into the water this packing nut should be inspected to see if it is letting water through. If a dribble of water is noted, then the packing nut should be gently tightened until the dribble ceases.

When the engine is started for the first time and put into gear, there should be a very slow drip from the packing gland. This water is essential to lubricate the shaft. If no water is coming through the packing gland when the engine is running in gear, the packing material will ware the shaft and cause heat friction. Any boat yard will be able to advise you on the amount of water which should pass through this packing gland. It should be enough to lubricate the shaft, but not enough to cause a large amount of water to accumulate in the bilge.

NOTE: When the correct setting of the packing nut is found it should be secured by the lock nut.

To replace packing material, remove gland nut then packing material and replace with new, making sure that the new material is the same length and size of the old.

(2) Fuel

The fuel tanks and deck fill plate are grounded to a common ground system. A fuel shut-off valve is installed for each tank and

ENGINES, cont.

Fuel, cont.

hoses should be thoroughly checked for leaks whenever they are filled, as part of a normal preventative maintenance.

When gasoline engines are tested at the factory a small portable tank is used and because of the volatility of gasoline, no fuel is put in the boats tank. With diesel engines the fuel filter and fuel system is filled in order to bleed any air from the system.

The tanks are not stainless. It is important to follow the procedure described for winter storage to minimize corrosion, and also to check at regular intervals for any sign of leaks. Fuel tanks should be drained before storing and left open to allow air to circulate through. Tanks should be flushed before re-filling with gasoline for the new season.

Starting the Engine:

The following are some general procedures and precautionary measures with which the operator should be familiar:

(1) Before starting, turn battery safety switch to "on" and run bilge blowers for five minutes. Never start an engine until certain that no gasoline fumes are present in the engine compartment or the bilge.

(2) Check the engine oil level, as stated in the operator's manual.

(3) Open seacock on the engine cooling water intake, and open the gate valve in the exhaust system at the transom.

(4) Start engine as instructed in the engine operator's manual.

(5) Check all guages for normal reading, as outlined in manual.

(6) Check for proper water circulation by looking for water being discharged through the exhaust outlet. N. B. If you are operating in waters that are dirty or weedy, check periodically to ensure water intake is not plugged. You may also in these circumstances wish to install a filter at the thru-hull intake.

Engine Alignment:

Your engine and propeller shaft are aligned at the factory, and double-checked for accuracy. After the boat has been launched and used for forty-eight hours, the alignment should be checked again to compensate for any changes in hull shape, which can often occur after launching. To check alignment, remove flexible coupling, and using feeler guages, (i.e. similar to spark plug gap guage) test gap between propeller shaft and engine shaft flange. Viberation can be a sign of mal-alignment.

Laying-up Procedure:

The complete procedure described in the engine handbook must be carried out to ensure the dependability and the life time to the engine. This is also a condition of the engine manufacturer's guarantee. The batteries should be removed and stored fully charged in a dry area protected from frost. On winterizing, it is a good precaution to disconnect engine from shaft and then re-fit and align on launching.

CHAPTER SIX

ELECTRICAL

Electrical System - D. C.

(1) Ship's Circuit:

The direct current (D.C.) electrical system derives it's power from the 12 volt batteries which supply power through a central switch panel to the various fuses and then to the lights and other 12 volt accessories. There is a master switch on inboard models only. The negative terminals ground to a grounding strip next to the fuse box, which in turn is connected to the battery ground. The ground wire in all cases is black. This is an internal 12 volt ground only, and cannot be used for 110 volt. The interior lights are powered from the fuse panel with a blue positive wire. Care should be exercised in use of lights as they can run batteries down quite quickly. The running lights are powered from the fuse panel with a white positive wire. All extras are powered on orange wires. The fuse panel and grounding bar are located as follows: -

a. On the bulkhead next to the ice box on a G-26.
b. Location on G-34, G2-34, G-30 is in the engine compartment.
c. Location on G-23 is inside the quarter berth.
d. Location on G-28 is behind the switch panel on starboard side.

(2) On boats with inboard engines, the batteries are charged by an alternator. The battery switch can control two batteries which can be used as follows: as battery one alone; as battery two alone; or one and two together. This switch must be in the "All" position while the engine is running, to charge both batteries. This switch must not be

ELECTRICAL, cont.

turned off while the engine is running. Damage to the regulator might result.

(3) Trickle Charger:

To charge batteries with a trickle charger hooked to shore power, the following steps should be taken:

a. It is essential to plug into the 110 volt power outlet first. Make sure power is reaching charger - (i.e. light is on)

b. Connect trickle charger to battery, making certain it is attached positive to positive and negative to negative.

Do not disconnect 110 volt power until charger has been disconnected from battery.

(4) 110 Volt (Shore Power) Circuit:

You may have a 110 volt shore power circuit on your boat as an option. This circuit is seperate from your boat's 12 volt circuit. There is a circuit breaker between you and the shore power. If Grampian supplied you with a ship-to-shore cable, the shore coupling is probably the one recommended by the U. S. Coast Guard. However, many marinas do not have receptacles suitable to accept these couplings, and you may have to purchase an adapter to fit any of the several different types of outlets still used in different parts of the country.

A word of caution: Be sure that the shore power where you tie up is in fact 110 volt, especially if cruising abroad. Also, domestically in rare instances, 110 volt outlets have been found to be improperly supplying 220 volt.

In areas where marina codes are lax, the potency of the shore

outlet has the hot wire reversed, or if the receptacle in question is of the older two prong type, the danger of severe electrical shock will be present when using any appliance in the boat, including the hot water shower.

Kits are available to run a simple test on any shore circuits before using so you can verify their safety. This is a good investment !

(5) Refrigerator: Your refrigerator, if the standard unit supplied by Grampian, will operate on both 110 volts and 12 volts. Changeover is automatic, but we suggest checking the refrigerator manual before using.

CHAPTER SEVEN

PLUMBING:

The plumbing system is an extremely simple one and can be traced using the drawings in this handbook. The system should be checked for leaks periodically, and hose clamps should be checked especially where attached to thru-hull fittings.

Through-Hull Fittings:

All through hull fittings, except for the engine cooling water which has a sea cock, are normally equipped with gate valves. These should be opened and closed at least once a month to keep them in working order. Do not force gate valves. Should the gate valve handle ever continue to turn without engaging or stopping, it means the valve is worn and inoperative. No water will pass the gate and the valve will have to be replaced. Also, again we repeat - check hose clamps regularly on connections to thru-hulls. While it may seem a nuisance, it is wise to shut off all thru-hulls when not in active use.

Toilets:

There are several different types of toilets installed. It is important that the manufacturer's instructions be read before using.

The basic type of units are as follows:

1. Regular marine toilet with direct overboard flush of untreated waste. This may be used in certain ocean locations only.
2. As above with holding tank to take the effluent.
3. Recirculating chemical toilet which is self-contained.
4. Flush toilet with recirculating holding tank. This type of

unit may draw water through a thru-hull fitting.

5. As many areas in the U.S. do not have pump-outs, many U.S. boats will in future be fitted with a regular marine toilet with macerator/chlorinator systems which permit overboard discharge. These are not legal in Canada.

Some hints which may be helpful:

1. In re-circulating systems it is always best to use the chemical recommended by the manufacturer of the unit.

2. While pumping out it is important to flush very throughly both the holding tank and the toilet unit with clean water.

3. It is not advisable to leave the waste sitting for prolonged periods without being pumped out and flushed. A weekly pump-out is recommended.

4. On flush toilet installations which draw water through a thru-hull fitting, make sure that the valve or sea cock is open before flushing - otherwise the system can become blocked.

PRESSURE WATER:

The pressure water system depends on the 12 volt system. Therefore when using be sure power is switched on to the pump unit so the system can re-charge itself after water usage. Care should be taken to watch the water level in tank, which can be depleted by profligate usage.

HAND PUMPS - On Galley and Sink Units:

Sometimes these units can become plugged. If this happens, remove whole pump from sink and strip and clean to remove small particles of foreign matter from ball valve system.

HAND PUMPS, cont.

Also occasionally the pin that connects the pump handle to the working parts inside has been known to slip, so that the handle does not engage the pump. In this event again remove the entire pump unit from sink, strip and position pin.

HOT WATER SYSTEMS:

Refer to pressure water instructions on previous page and to hot water tank manufacturer's instructions, re: setting of temperature, etc. Also see caution re shore power in Electrical chapter.

ICE BOX:

The ice box drains into the bilge by means of a hose. This can be plugged to keep water in the ice box until you wish to drain it into the bilge or into a bottle or container for easy disposal.

STOVE:

On stoves that have the optional pressure tank, when filling the tank please observe the following before removing the stopper:

1. All burners are OFF.
2. Main alcohol shut-off valve on top of pressure tank is closed.
3. Tank pressure is zero.
4. Remove stopper.
5. Fill the tank three quarters full to allow for air pressure.
6. Replace stopper and screw down tight.

CHAPTER EIGHT

WHEEL STEERING:

1. The gland packing box (that sits on the rudder post tube) on wheel steering installations, requires periodic adjustment. It is located under the quadrant on the rudder post and should be checked about once a month for seepage. It can be tightened by the three bolts at the top of the unit. (Other models - i.e. 1974 and prior - did not have the gland packing box.)

2. NOTE: All sheaves are self-lubricating.

3. Cable adjustment is located on quadrant.

4. NOTE: The engine control cables (throttle and gears) run down in the stainless steel tubes either side of the steering pedestal.

EMERGENCY TILLER:

The emergency tiller is supplied with all wheel steering units. Removal of small plate or cover on cockpit sole exposes the rudder post.

CENTER BOARDS:

See drawings for centerboard assembly. System should be checked at least once a year for fraying cables, etc. In southern waters where electrolytic action is greater, it is advisable to check more often.

Boards that will not drop are usually fouled by foreign matter.

Center Boards, cont.

In an emergency, where the board cannot be raised, a weighted rope slung under the bows and walked aft should snag the board and hold it in raised position until repairs can be effected.

CHAPTER NINE

CARE AND MAINTENANCE OF YOUR FIBERGLASS:

The outside of the hull and deck is called the 'gelcoat'. This is a specially formulated resin which is a 'skin' coat of about 15 Th. thick. The color or pigmentation of the gelcoat is affected by the ultra-violet rays of the sun and therefore subject to a surface color breakdown over a period of time. In the event you need to do repairs to chips or scuffs, a small repair kit is provided which when not in use, should be stored in a cool place. The D.D.M. catalyst or hardner is a potentially dangerous liquid and should be handled with care and kept away from children. The ratio of hardner to gelcoat should be 1% by volume. As an easy guide, use ½ cap full of hardner to ½ of the gelcoat supplied. Usually however, you will be working with small areas. (See instructions following.) A solid wax such as a Carnauba is the best protection for your hull. You might consider waxing once or twice a year. Never use abrasives or bleach. Surface cracks can appear on the gelcoat as the boat works and flexes. This is in no way detrimental to the structural strength and is merely cosemetic. Treat your new boat as you would a new car, and it will retain it's factory looks much longer.

INSTRUCTIONS FOR USE OF GELCOAT KIT IN MAKING MINOR REPAIRS:

NOTE: Air temperature should be over 60 degrees F. and it should be a dry day.

1. Remove any loose gelcoat around chip or scratch.

Gelcoat Repairs, cont.

2. Mix up thoroughly small quantity of gelcoat and D.D.M.

Proportion: About 1" in the bottom of a paper cup usually suffices, with a few drops of D.D.M.

3. Apply mixture to abrasion. More than one application to the area might be necessary to bring level of gelcoat above surrounding area. Do small amounts at one time. Allow to dry hard - approximately 1 hour.

4. When starting to sand, protect the area surrounding the repair with masking tape.

5. Start with #400 sandpaper and when patch is sanded down almost to the surrounding area use #600.

6. Finish up by polishing with buffering, using an auto polishing wax.

NOTE: Acetone is the solvent for gelcoat and should be used with care.

IMPORTANT:

A. Add D.D.M. (hardner) to the gelcoat. Do not add gelcoat to D.D.M.

B. Clean hands with acetone and then wash hands thouroughly with soap and water after use.

C. Do not get material in eyes, etc.

D. Keep all material out of reach of children.

WARNING: D.D.M. catalyst is highly volatile and explosive.

Acetone is also highly volatile

CHAPTER TEN

CARE OF INTERIOR AND EXTERIOR WOOD:

Oiling:

The interior wood in the Grampian is either teak, mahogany or mahogany plywood. The exterior wood is finished with a 50% mixture of boiled linseed oil and turpentine. The wood should be cleaned regularly and re-oiled as often as necessary to prevent checking or splitting. (i.e. Once a month in hot weather.) Before oiling, the wood should be sanded with a very fine sandpaper or bronze wool, to remove all marks or discoloration. Never use steel wool, as the particles left behind will rust.

STICKING PARTS:

Please note that all joinery parts are made with a fairly snug fit before leaving factory. Temperature and humidity changes can cause swelling and expansion and the affected parts may have to be eased.

CHAPTER ELEVEN

WINDOWS:

The new windows supplied in 1975 boats are frameless, and are made of Rohaglas, bronze tinted plexiglas #1826. To keep clean simply wash with soap and water and wipe with a soft cloth or chamois. The plexiglas is weather resistant and will tolerate most non-abrasive cleaning products. Sharp objects, such as diamond rings and sandpaper will mar the finish.

As a precaution and in the event of leaks, tighten windows with a screwdriver from the outside after delivery of the boat.

If any screws are removed be sure and re-bed with an approved marine sealant.

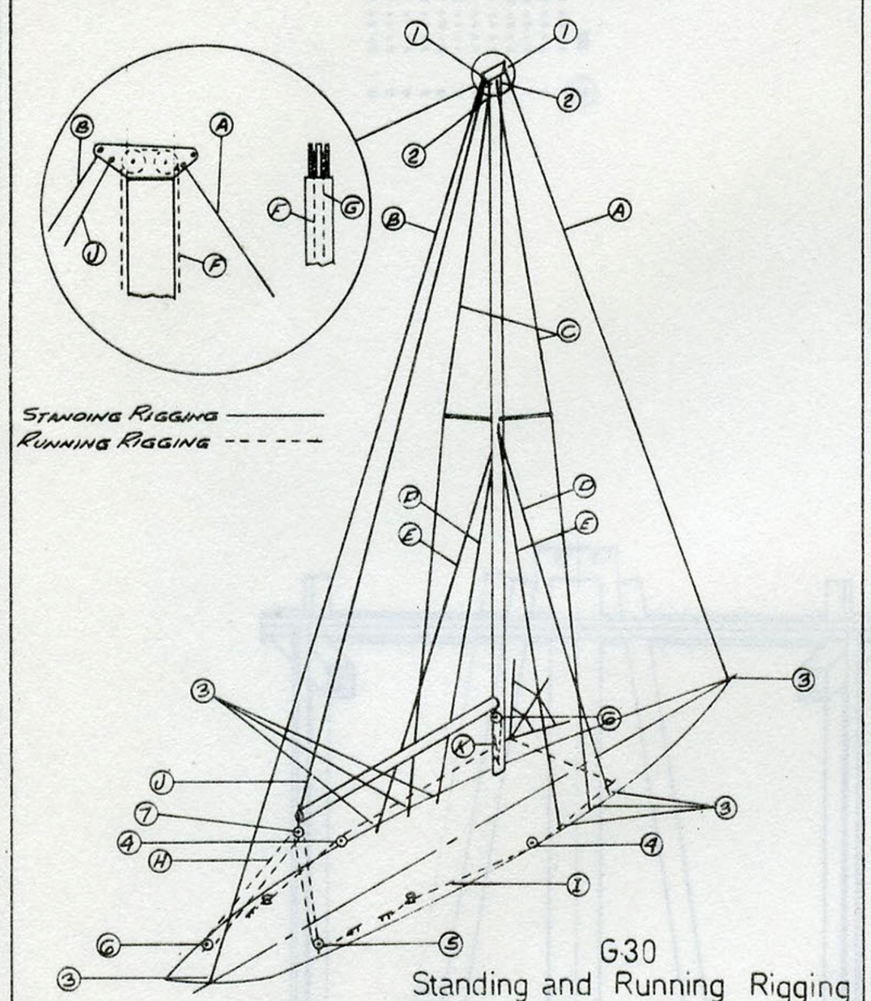
CHAPTER TWELVE

BALANCING THE HELM FOR BETTER SAILING AND TUNING THE BOAT:

Helm balance has to do with the ability of a boat to hold a straight course when her helm is left alone. If your boat tends to head up into the wind, she has a weather helm, but if she heads away from the wind, she has a lee helm. Every boat should be tuned to carry a slight weather helm. Not only will the helmsman have a better feel of the boat, up-wind sailing performance will be improved. Should the helmsman accidentally lose his tiller grip, the boat will have a natural tendancy to lose headway and round up into the wind. This can be a built-in safety factor. However, a boat with too much weather helm will cause the rudder to act as a brake, therefore stalling the boat when the tiller is held over too far.

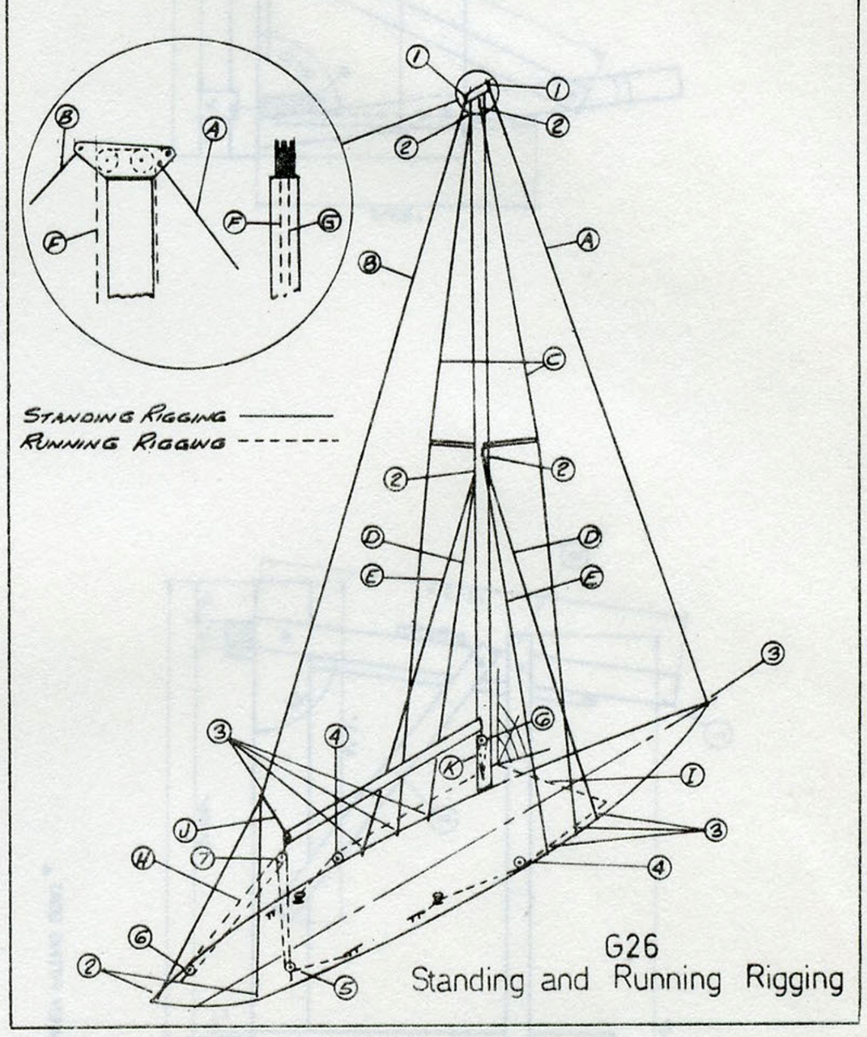
Weather and lee helm are caused by a slight inbalance between the center of effort of the sails and the center of lateral resistance of the hull and keel. If the center of lateral resistance is forward of the center of effort the boat will tend to head up into the wind, meaning the boat has weather helm. Lee halm will occur if the center of lateral resistance is aft of the center of effort. Therefore, weather helm can be "introduced" by raking the mast aft and decreased by the reduction of rake. The mast angle is only one of many factors which will give the boat a better balance. Mast rake, sail trim, weight distribution, cut of sails, reduction of sail area forward or aft and angle of heel, must all be taken into consideration when balancing your boat. Many owners will continue to experiment with different permutations and combinations for as long as they are sailing.

Mark	Description	Mark	Description
A	FORESTAY	1	EYE SWAGE
B	BACKSTAY	2	FORK TERMINAL
C	UPPER SHROUD	3	TURNBUCKLE
D	LOWER SHROUD(FWD)	4	SNATCHBLOCK
E	LOWER SHROUD(AFT)	5	SINGLE BLOCK WITH BECKET
F	MAIN HALYARD	6	SINGLE BLOCK
G	JIB HALYARD	7	DOUBLE BLOCK
H	MAIN SHEET		
I	JIB SHEET		
J	TOPPING LIFT		
K	DOWNHAUL		



G30
Standing and Running Rigging

Mark	Description	Mark	Description
A	FORESTAY	1	EYE SWAGE
B	BACKSTAY	2	FORK TERMINAL
C	UPPER SHROUD	3	TURNBUCKLE
D	LOWER SHROUD(FWD)	4	SNATCH BLOCK
E	LOWER SHROUD(AFT)	5	SINGLE BLOCK WITH BECKET
F	MAIN HALYARD	6	SINGLE BLOCK
G	JIB HALYARD	7	DOUBLE BLOCK
H	MAIN SHEET		
I	JIB SHEET		
J	TOPPING LIFT		
K	DOWN HAUL		



G26
Standing and Running Rigging

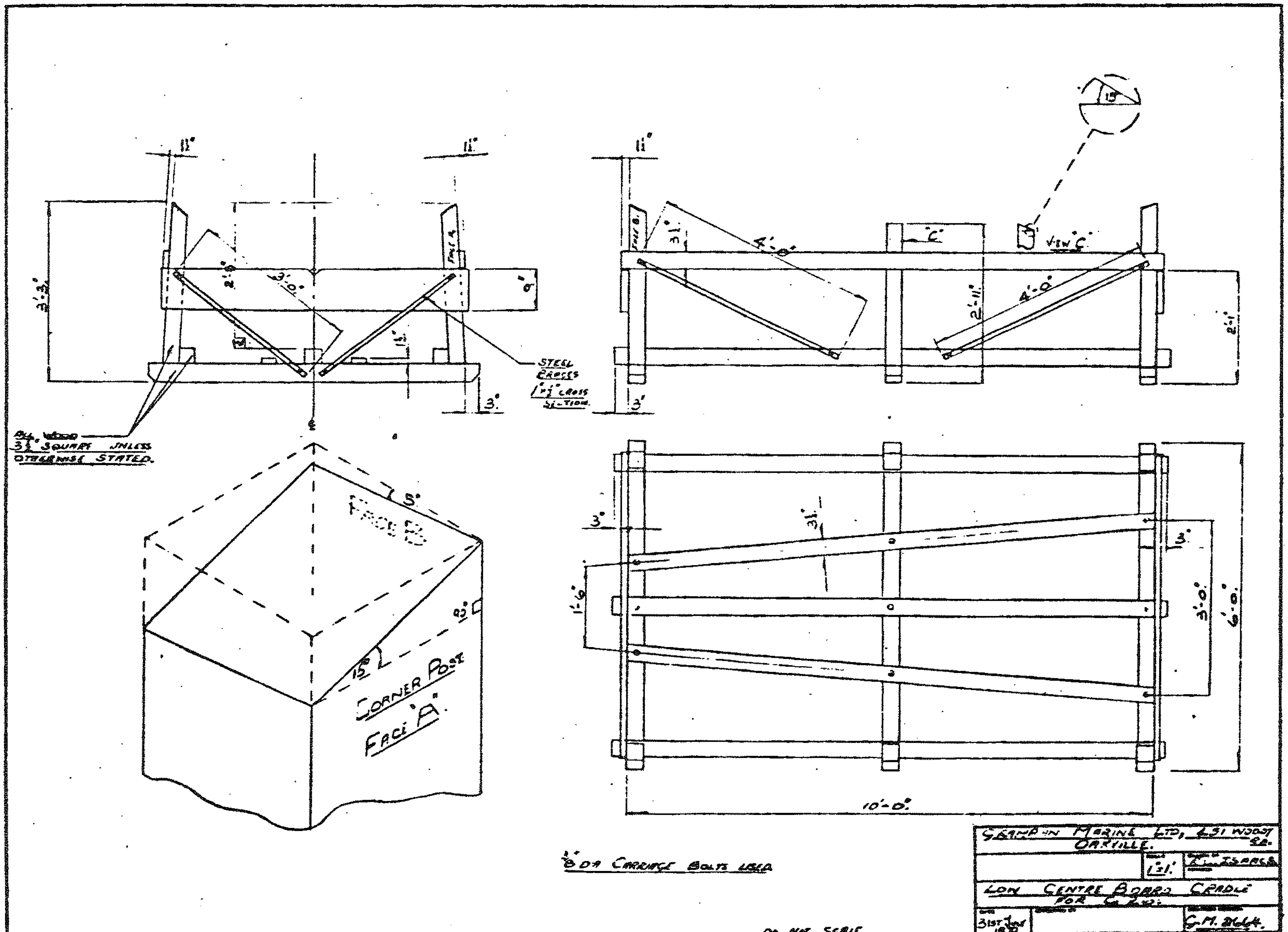
REV.	DATE	DESCRIPTION	CHK'D.

GRAMPIAN MARINE LIMITED
451 WOODY RD.
OAKVILLE, ONTARIO, CANADA

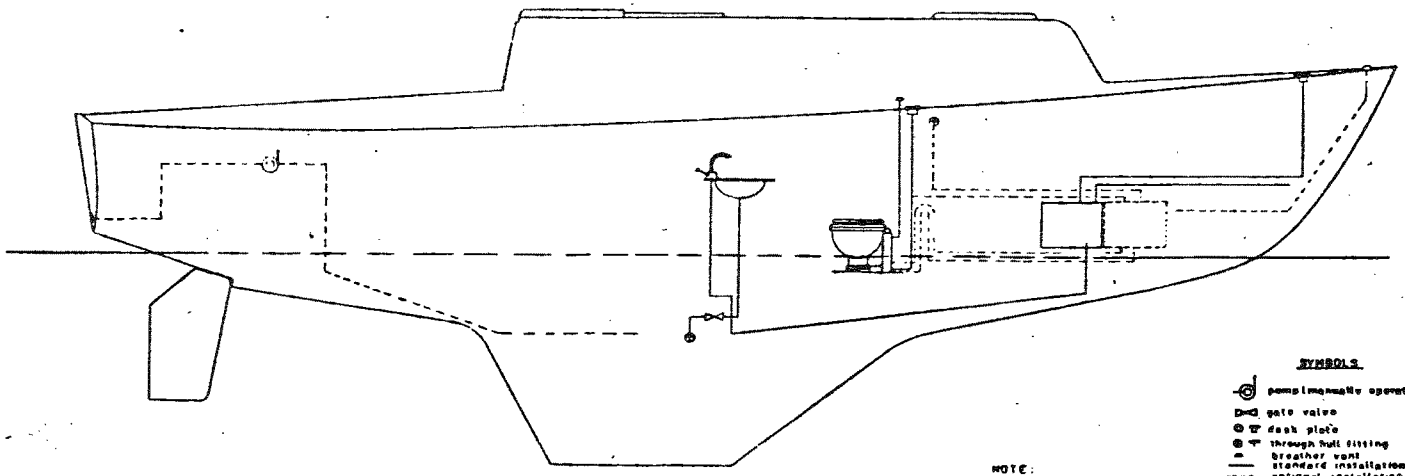
TITLE: G30 and G26
Standing and Running Rigging

DRN. BY	DATE	SCALE	CHK'D. BY
R.v.d. Sleen	4/16/73		

DWG. NO. GMG002



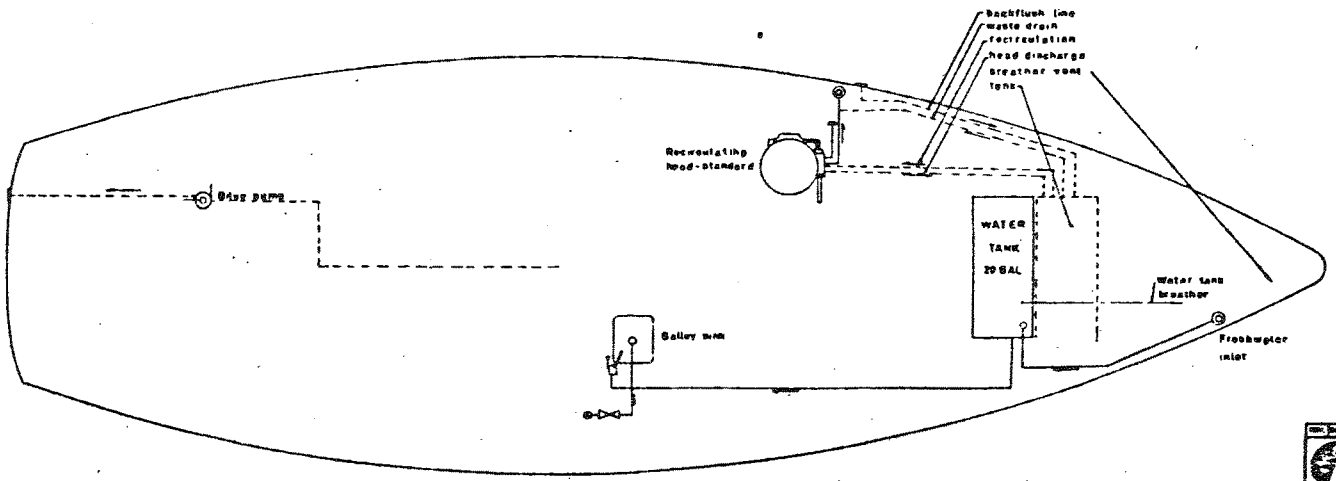
11"
11"
11"
3'-3"
2'-8"
3'-0"
9"
1½"
3"
3"
STEEL BRACES 1"×¼" CROSS SECTION.
ALL WOOD 3½" SQUARE UNLESS OTHERWISE STATED.
CORNER POST
FACE "A"
15°
5"
VIEW "C"
"C"
4'-0"
4'-0"
2'-11"
2'-1"
3½"
15
1'-6"
3'-0"
6'-0"
10'-0"
⅜" Ø or CARRIAGE BOLTS USED
DO NOT SCALE
SEAMAN MARINE LTD, 231 WOOD RD. OAKVILLE.
1:1'
LOW CENTRE BOARD CRADLE
31st Jan 1970
G.M. 2664.



SYMBOLS

- pump (manually operated)
- gate valve
- deck plate
- through hull fitting
- breather vent
- standard installation
- optional installation
- direction of flow

NOTE:
A Kracor recirculating type holding tank is optional



GRAMPIAN MARINE LIMITED
401 WOOD ST.
BACKUS, ONTARIO, CANADA

TITLE:
G 26 PLUMBING

J D H		N.T.S.	

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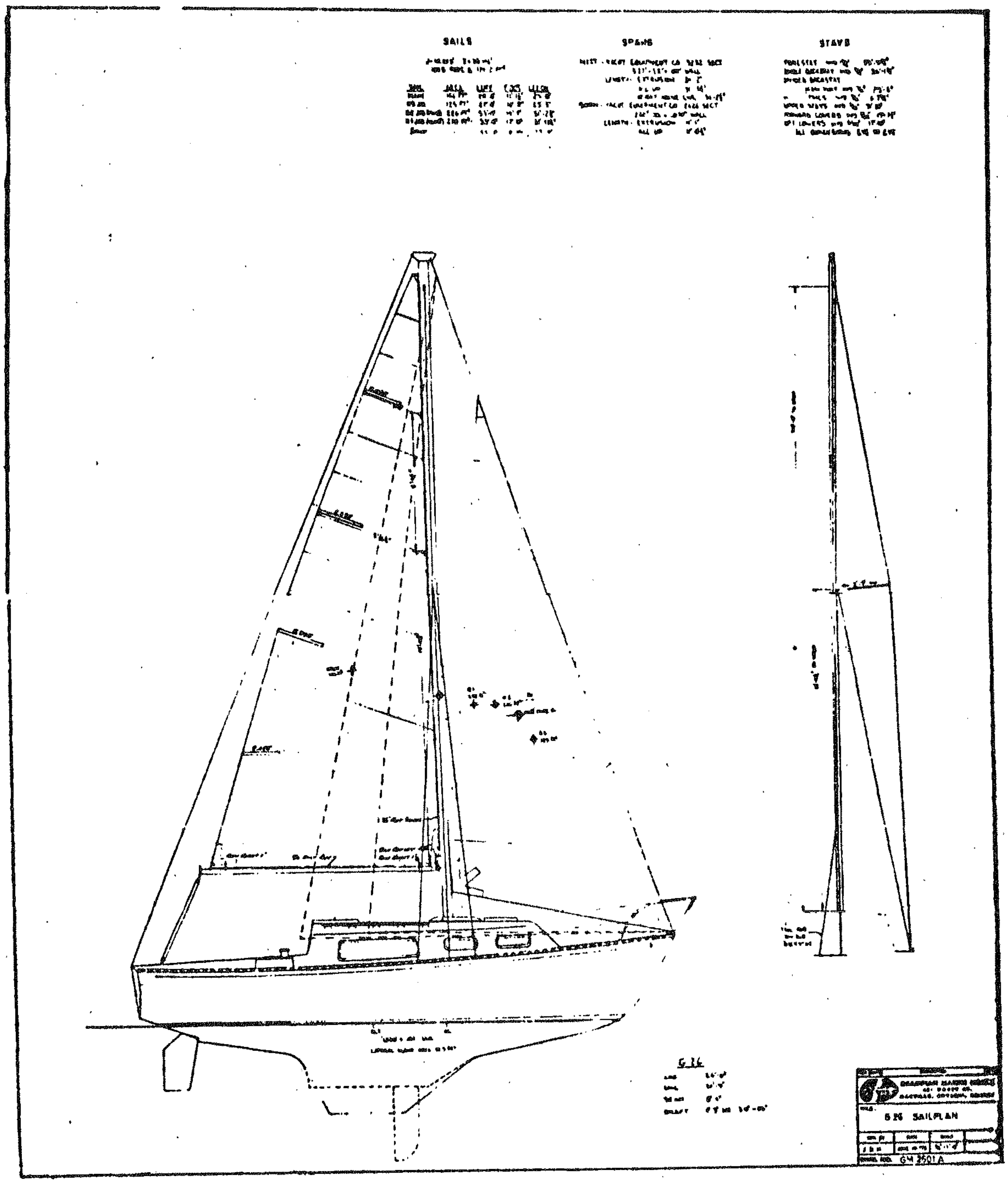
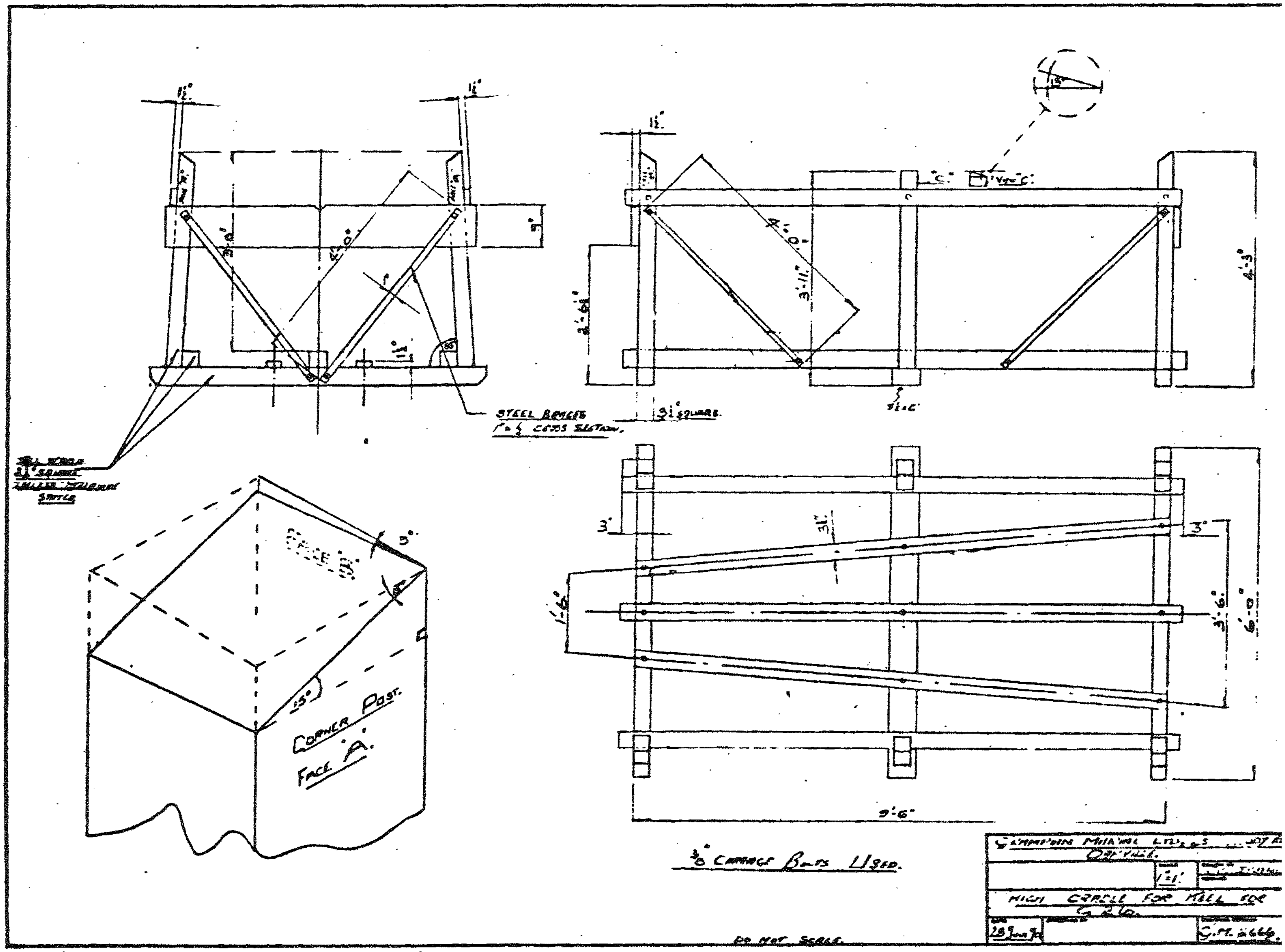
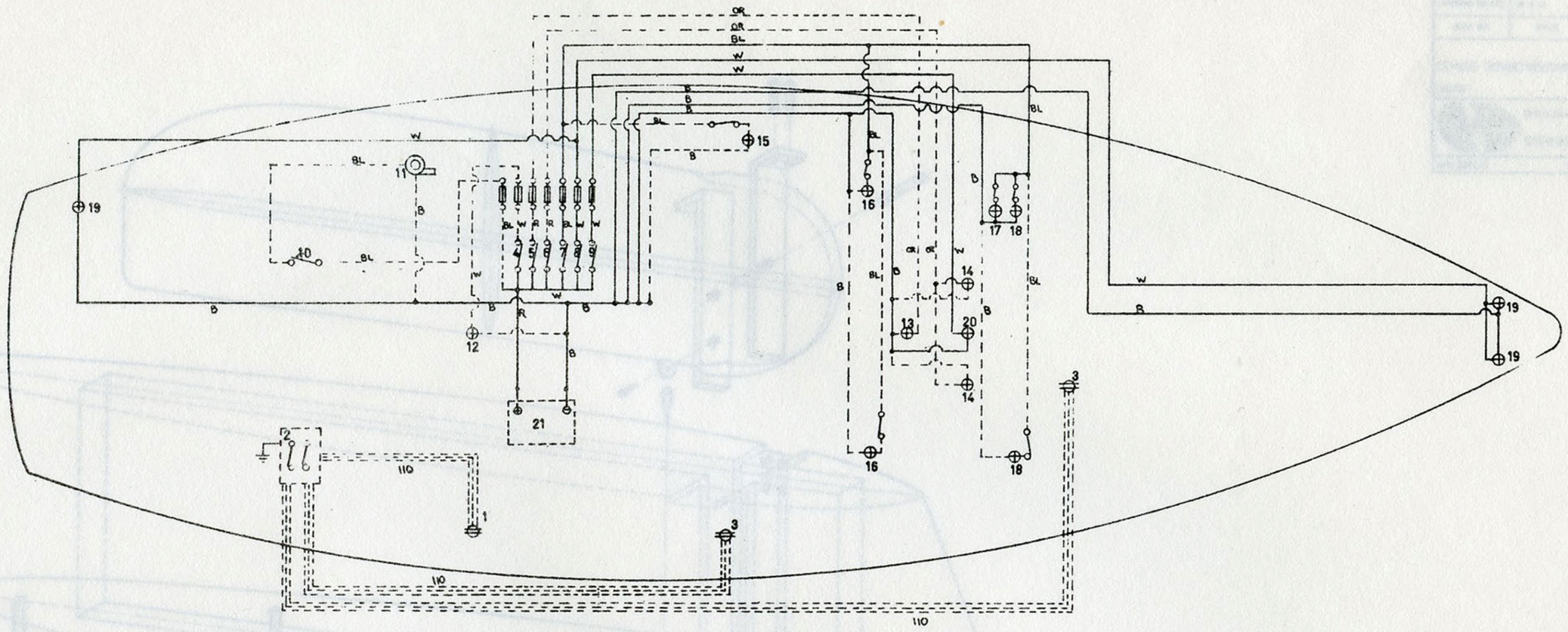


SAILS
SPARS
STAYS
G 26
G 26 SAILPLAN
GM 2501 A



STEEL BRACES
1" x ½" CROSS SECTION.
3/8" CARRIAGE BOLTS USED.
DO NOT SCALE.
CORNER POST.
FACE 'A'.
9'-6"
6'-0"
3'-6"
4'-3"
4'-0"
3'-11"
HIGH CRADLE FOR KEEL FOR



1 110 VOLT SYSTEM SHIP TO SHORE CONNECTOR PLUG
2 110 VOLT SYSTEM CONNECTING BOX WITH 8 CIRCUIT BREAKERS
3 110 VOLT RECEPTACLE
4 COMPASS LIGHT SWITCH
5 MASTHEAD LIGHT SWITCH
6 SPREADER LIGHT SWITCH
7 CABIN LIGHT SWITCH
8 RUNNING LIGHT SWITCH
9 ANCHOR LIGHT SWITCH
10 BLOWER SWITCH (WITH OPTIONAL INBOARD ENGINE INSTALLATION)
11 ENGINE COMPARTMENT BLOWER
12 COMPASS LIGHT
13 MASTHEAD LIGHT
14 SPREADER LIGHTS
15 DOME LIGHT OVER DINETTE
16 MAIN CABIN LIGHTS
17 DOME LIGHT IN HEAD
18 FORE CABIN LIGHTS
19 RUNNING LIGHTS
20 ANCHOR LIGHT
21 BATTERY (OPTIONAL)

SYMBOLS

⊕	LIGHT
o—o	SWITCH
o—▬—o	FUSE
⊤	CONNECTION
——	STANDARD INSTALLATION
- - -	OPTIONAL INSTALLATION
	BLOWER
	110 VOLT RECEPTACLE
B	BLACK
BL	BLUE
OR	ORANGE
R	RED
W	WHITE
⏚	GROUND CONNECTION
110	3-CONDUCTOR 110 VOLT CABLE

ALL SWITCHES TO BE SINGLE POLE

REV.	DATE	DESCRIPTION	CHK'D.

GRAMPIAN MARINE LIMITED
451 WOODY RD.
OAKVILLE, ONTARIO, CANADA

TITLE:
G 26 ELECTRICAL

DRN. BY	DATE	SCALE	CHK'D. BY
J. D. H.	JUNE 15 1973	N.T.S.	

DWG. NO. GM 2624 A

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