



# **Seawind 1160 Owners Manual**

**September 2009**

## INTRODUCTION

Dear Seawind Owner:

You have just received delivery of your new Seawind 1160. We would like to thank you for showing confidence in our product by choosing a Seawind. We are sure you will enjoy your boat for many years to come.

The Seawind family is made to last. For your boat to perform reliably, it is of utmost importance that a careful maintenance program is followed. This will benefit you in the form of safety, as well as protecting your investment and other waterway users.

Your Seawind dealer is at your disposal to give you help and sound advice for all aspects of maintenance. Nevertheless, you are the “captain of your ship”. The sea must never be underestimated. It must be taken seriously at all times.

You and only you, are responsible for checking and regularly maintaining the condition of your boat, including all of its equipment and by always practicing the rules of good seamanship.

This handbook is provided as a guide. While it does not cover every item, it will go a long way toward making ownership of your new Seawind 1160 an exciting and pleasurable experience.

Many years of happy sailing!  
Seawind Catamarans.

**Revision 2.10**

This manual has been compiled to help you to operate your craft with safety and pleasure. It contains details of the craft; the equipment supplied or fitted, its systems and information on their operation. Please read it carefully, and familiarize yourself with the craft before using it.

This owner's manual is not a course on boating safety or seamanship. If this is your first craft, or if you are changing to a type of craft you are not familiar with, for your own comfort and safety, please ensure that you obtain handling and operating experience before "assuming command" of the craft. Your dealer or national sailing federation or yacht club will be pleased to advise you of local sea schools, or competent instructors.

Ensure that the anticipated wind and sea conditions will correspond to the design category of your craft, and that you and your crew are able to handle the craft in these conditions.

Even when your boat is categorized for them, the sea and wind conditions corresponding to the design categories A, B and C range from severe storm conditions for category A, to strong conditions for the top of category C, open to the hazards of a freak wave or gust. These are therefore dangerous conditions, where only a competent, fit and trained crew using a well maintained craft can satisfactorily operate.

This owner's manual is not a detailed maintenance or trouble-shooting guide. In the case of difficulty, refer to the boat builder or his representative. If a maintenance manual is provided, use it for the craft's maintenance.

Always use trained and competent people for maintenance, fixing or modifications. Modifications that may affect the safety characteristics of the craft shall be assessed, executed and documented by competent people. The boat builder cannot be held responsible for modifications that he has not approved.

In some countries, a driving licence or authorization are required, or specific regulations are in force.

Always maintain your craft properly and make allowance for the deterioration that will occur in time and as a result of heavy use or misuse of the craft.

Any craft, no matter how strong it may be, can be severely damaged if not used properly. This is not compatible with safe boating. Always adjust the speed and direction of the craft to sea conditions.

If your craft is fitted with a liferaft, carefully read its operating manual. The craft should have onboard the appropriate safety equipment (lifejackets, harness, etc.) according to the type of craft, weather conditions, etc. This equipment is mandatory in some countries. The crew should be familiar with the use of all safety equipment and emergency manoeuvring (man overboard recovery, towing, etc.), sailing schools and clubs regularly organize drill sessions.

All persons should wear a suitable buoyancy aid (life jacket/personal floatation device) when on deck. Note that, in some countries, it is a legal requirement to wear a buoyancy aid that complies with their national regulations at all times.

**PLEASE KEEP THIS MANUAL IN A SECURE PLACE, AND HAND IT OVER TO THE NEW OWNER WHEN YOU SELL THE CRA**

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## GENERAL INFORMATION

### *Builders Plate*

The hull identification number (HIN) is displayed on the Builders Plate onboard the vessel. For Yard No. 1216 an example HIN is AU-SWD0075FC909. The Hull Identification plate is located on the front of the helm console, on the vessel's starboard side (next to the Builders Plate).

### *Engineering Class*

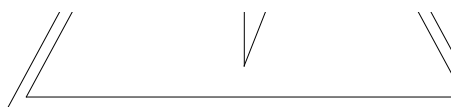
DESIGNER & BUILDER: Seawind Catamarans  
25 York Place  
Russell Vale, NSW 2517, Australia  
Tel: +61 2 42859985 Fax: +61 2 42859984  
Email: [Info@seawindcats.com](mailto:Info@seawindcats.com)  
Web : [www.seawindcats.com](http://www.seawindcats.com)

ENGINEERING: High Modulus  
New Zealand

PLAN APPROVAL: Germanischer Lloyd  
Vorsetzen 35  
20459 Hamburg  
Germany

### *Design Category*

This boat is given a design category **A** and is considered to be designed for waves up to 4 m significant height and a wind of Beaufort force 8 or less. Such conditions may be encountered on offshore voyages of sufficient length or on coasts where shelter may not always be immediately available. Such conditions may also be experienced on inland seas of sufficient size for the wave height to be generated. Winds are assumed to gust to 21 m/s (40knots).



### WARNING - Capsize

This boat may capsize and remain inverted if excessive sail is carried. It is designed not to sink if this occurs. The working sail plan should be reduced if the average wind exceeds Force 5 on the Beaufort scale. The Beaufort scale with relative wind strengths can be found in the stability section of this manual can be found in the stability.

Other stability hazards would include violent winds or confused or breaking seas, and additional caution should be exercised in these conditions.

In the event of a severe gust,	FREE SHEETS
If wind is close hauled	LUFF UP
If wind is abeam	FREE SHEETS
If wind is abaft the beam	BEAR AWAY, <i>see note below</i>

Special care should be taken when turning from a following wind onto a beam reach, because both the apparent wind speed and heeling effect will increase. Such turns should not be made rapidly, and consideration should be given to a reduction in sail before such a manoeuvre.

### Stability

For intact stability the vessel fulfils the requirements of ISO standard ISO/FDIS 12217-2:2001 (E) design category A-option 2, as shown in the vessel stability booklet.



**Specifications**

Type	Sailing Catamaran
Duty	Pleasure Craft
Vessel Crew	2
Guest Accommodation (max)	10
Maximum Load	3000Kg
Maximun Persons	30

**WARNING: Do not exceed the maximum recommended number of persons. Regardless of the number of persons on board, the total weight of persons and equipment must never exceed the maximum recommended load. Always use the seats/seating spaces provided.**

LOA	11.6 mtrs	38'0"
LWL	11.3 mtrs	37'0"
BEAM OA	6.5 mtrs	21'4"
BEAM CL - CL	4.9 mtrs	16'5"
DISPLACEMENT	7,000 kgs	15,400 lbs
MAST HEIGHT ABOVE WATER	17.9 mtrs	58'9"
HULL DRAFT	1.15 mtrs	3'9"
RUDDER DRAFT	0.95 mtrs	3'1"
UNDERWING CLEARANCE	0.71 mtrs	2'3"
MAINSAIL	57 mtrs <sup>2</sup>	633 ft <sup>2</sup>
JIB	21.8 mtrs <sup>2</sup>	242 ft <sup>2</sup>
WATER TANK CAPACITY	700 litres	170 gal
HOT WATER	40 litres	11 gal
FUEL TANK CAPACITY (2 TANKS)	320 litres	84 gal
HOLDING TANKS (2 TANKS)	240 litres	63 gal

**SAFETY EQUIPMENT**

Life Jackets - Owner Supplied - Coastal Lifejackets

***Portable Fire Fighting Equipment***

Portable fire extinguishers to be located in the following locations:

Galley/Engine bay (STBD) -	Fire blanket also located in galley draw)
Accommodation (STBD) -	FWD cabin
Accommodation (PORT) -	FWD cabin Other
Midship/Engine Bay (PORT) -	Port Aft Cabin

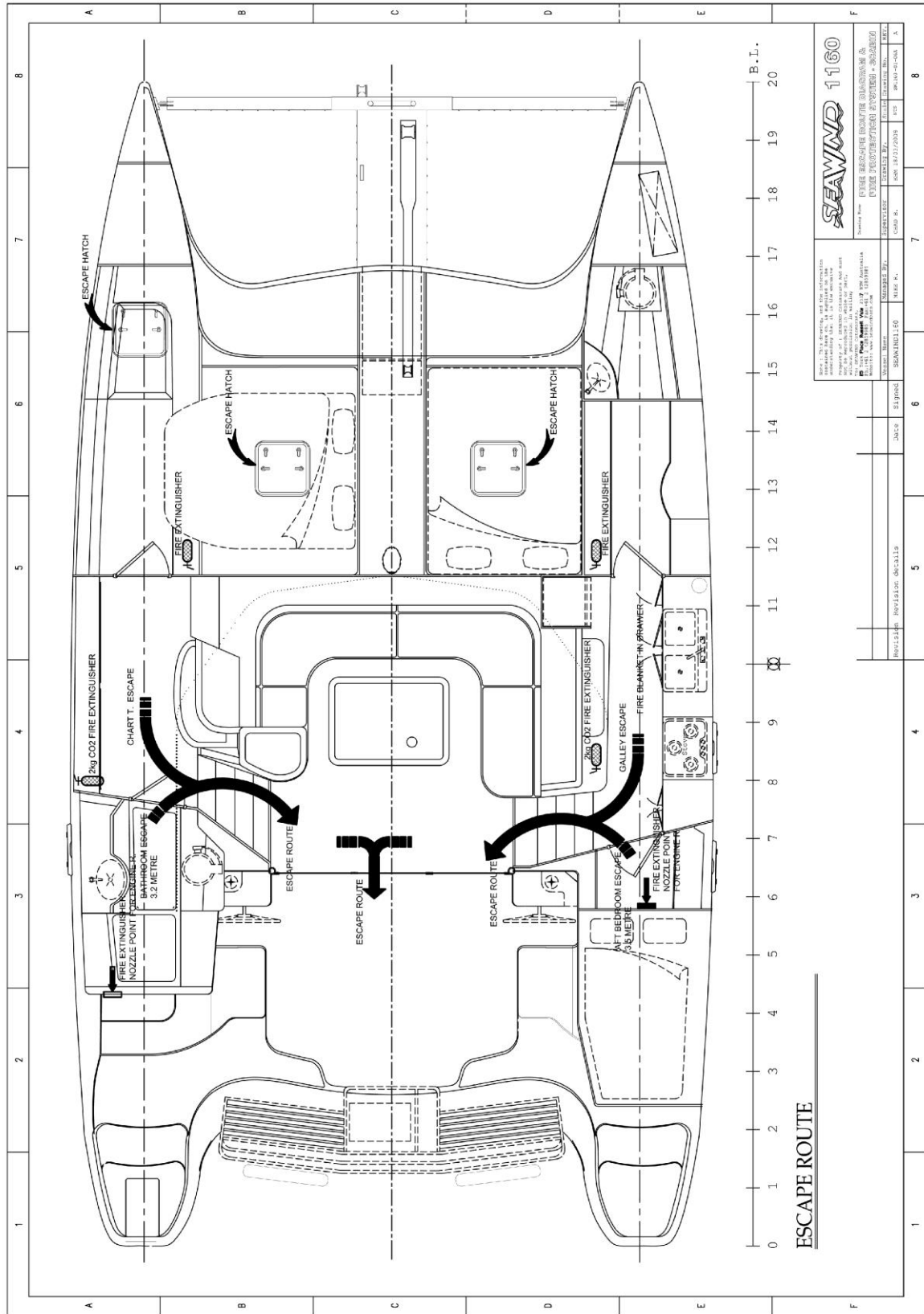
See drawing SW1160-01-06A, Fire Protection System.

**WARNING: Do not store large items near the extinguishers so as to obstruct the quick removal and use.**

***Fixed Fire Fighting Equipment***

This vessel is not equipped with a fixed fire fighting system, however the engine bay is fitted with an extinguisher nozzle. In the event of an engine fire, point the nozzle of the fire extinguisher into the hole. Discharge extinguisher until fire is completely extinguished. Vent area only after fire has been extinguished.

Fire Fighting Equipment and Escape Route - 3 Cabin



## **EXTERIOR MAINTENANCE**

### ***Gelcoat***

Your Seawind 1160 gelcoat is a polyester known as “Isothalic NPG Gelcoat”. It has been chosen for its very high performing properties of water resistance, UV resistance and colour fastness.

**Maintenance:** Like all finishes, your Seawinds’s gelcoat will suffer over time from the harsh properties of the sun and its UV rays. All gelcoat will oxidise and fade under constant severe sun. However, an easy maintenance program will give good protection and ensure that your gelcoat will give many years of beautiful finish.

Regularly wash down the boat to remove salt. A build up of salt crystals will magnify the rays of the sun and intensify the heat. Polish the decks and topsides every 3 to 4 months using a non-cutting polish with wax.

Repair any gelcoat chips immediately. This can be done using any polyester or epoxy gelcoat repair kit. Seawind use Polar White Gelcoat from FGI.

### ***Stainless Steel***

The bow rails, stern rails, and stanchions are all constructed from Marine Grade 316 Stainless Steel and finished with Electropolish. All external fastenings (bolts, nuts & washers) are also Grade 316 Stainless Steel.

**Maintenance:** To maintain a high shine on your stainless steel, wipe over regularly (every 3 to 4 months) with a non abrasive chrome or stainless polish or metal wax.

Despite our endeavours to always use the best marine grade stainless steel on your boat, some stainless will always have a higher percentage of ferrous metal and rust staining can occur. Most polishes with Oxalic acid will remove any rust or water stains as well as leave a durable protective coating.

### ***Solar Panels***

The Solar Panels require regular cleaning to maintain good output efficiency. Dirt smears or bird droppings will significantly affect the amperage output. Clean with water and light detergent - avoid abrasive compounds.

### ***Windows***

The windows on the Seawind 1160 are made from 10mm and 6 mm toughened tinted glass (10mm on the front windows and 6mm on the side windows). To clean windows use a good quality glass cleaner.

### ***Opening Hatches***

All opening deck hatches have been tested to the relevant ISO standard.

**WARNING: All deck hatches / front opening windows must remain closed whilst at sea.**

### ***Cockpit Tri-fold Door***

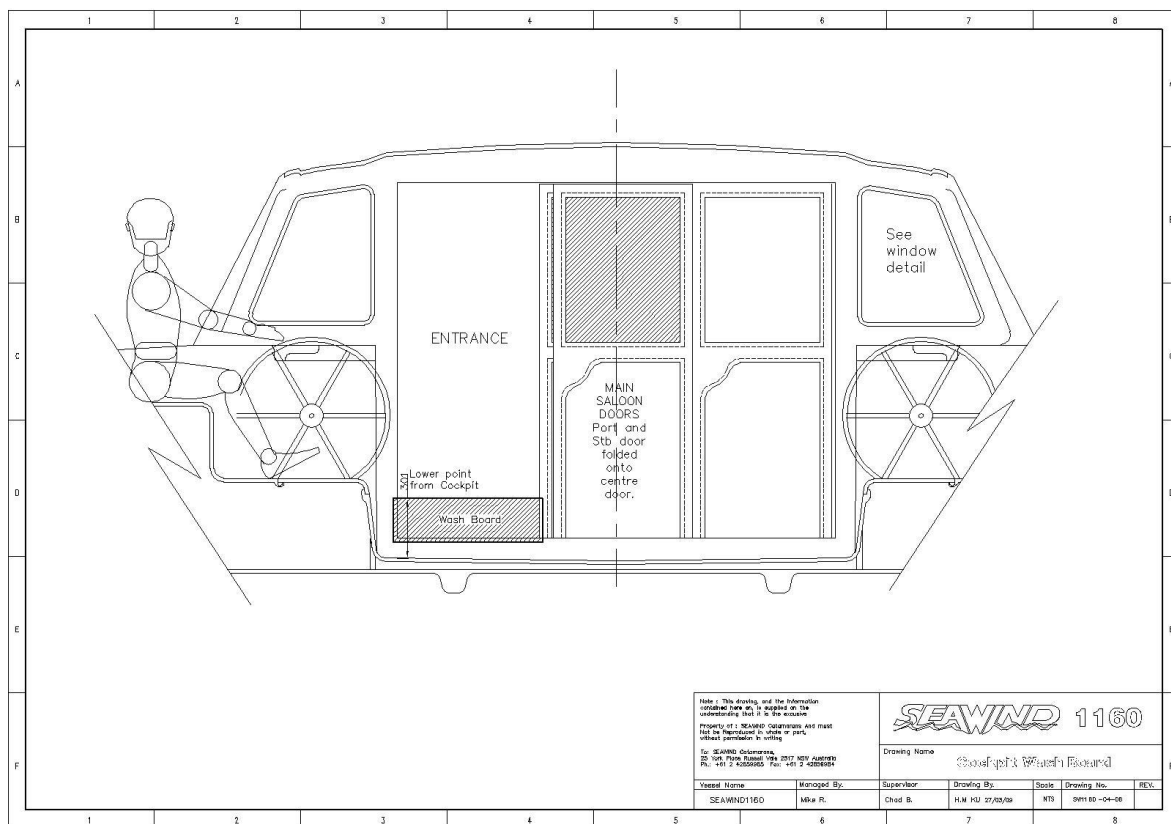
**WARNING - When in the open position, the tri-fold door must be fastened using BOTH the rope jammer as well as locked off using the safety bar at the base of the door.**

Whilst offering fantastic access from the cockpit to the interior whilst in the fully open position, the trifold door must only be opened with a continuous assessment of weather conditions. Although unlikely, there is potential for the cockpit to flood as a result of following seas or alike. Consequently, the following warning must be adhered to:

**WARNING - Tri-fold door must only be fully opened in conditions of beaufort scale 5 or less (wind 17-21 knots – wave height 2 – 2.5m). Above beaufort force 5, all tri-fold doors to remain closed and portside washboard to be in place.**

Your vessel maybe fitted with a temporary washboard that is stored on the vertical face of the main saloon settee. As per conditions above, the white fiberglass board can be positioned in the lower section of the port doorway to raise the downflooding height of the cockpit whilst still allowing access to/from the cockpit.

**Cockpit Weather Board Details**



**Troubleshooting**

Gelcoat scratches, chips and air bubbles - chip out and fill.

Stubborn stains - from stainless steel rust, water line scum, bird droppings. Deck and fittings best cleaned with light detergent such as dishwashing liquid and fresh water. For persistent stains scrub with white kitchen cleanser such as Jif diluted with water if required. For stubborn stains use mild acid such as oxalic acid available in powder or liquid form some hardware or marine stores.

**INTERIOR MAINTENANCE**

The interior of your Seawind 1160 is a blend of timber with modern lightweight materials and fabrics. General household cleaners and detergents can be used throughout.

Timberwork - The interior timberwork is coated with two-pack polyurethane

lacquer to give a tough, high gloss surface. The only maintenance required is a regular wipe down with a damp cloth. The occasional use of a good furniture polish will also help to keep the timber looking its best.

Bench tops - The bench tops are made from scratch resistant moulded Polystone. These can be cleaned in the usual way.

Galley cupboard doors - These are made from acrylic and are transparent. Any solvents or harsh detergents must not be used, as they will permanently mark the doors.

Fabrics - The fabrics in your Seawind 1160 vary from boat to boat. When cleaning these materials, general household fabric cleaners should be used. It is advisable to first try any new cleaner on a small patch of material that will not be noticed should the cleaner mark the fabric.

### ***Troubleshooting***

Water incursion. Identify source by light running water over suspect areas. Reseal problem area with silastic.

Timber stains, lightly sand back. Carefully bleach black stains out. Touch up very small areas with clear matt can spray. Larger areas use clear two-pack polyurethane 60% sheen

Mould - Hard Surface - Remove with soapy water. Remove light mould with algaecide cleaner such as Glen 20. For accumulated mould on hard surfaces use bleached based products such as Exit Mould. Carpet or cloth surfaces - use soap and water on first appearance. Never use bleaching product as it will leave a light stain permanently

## **MAST, BOOM AND RIGGING**

The rig on your Seawind 1160 is designed to be efficient and can be easily handled by two persons. It features a self tacking, roller furled headsail and single line slab reef mainsail with lazy jacks and boom catcher.

The mast, manufactured by Tempo Spars, is a 7/8th fractional rig with single spreader. Both mast and boom are clear anodised aluminium. It is fitted with 10mm spectra 2:1 main halyard, 8mm spectra jib halyard, 12mm braid spinnaker halyard and 10mm braid topping lift.

The mainsail is triple stitched reinforced construction. It has full-length fibreglass battens with adjustable end caps and roller bearing batten cars.

Three single line reefing points are provided with the first interchangeable with the third by snatch blocks. Each reef takes in around 20% of the sail area. The third reefing point meets AYF Cat1 ½ luff storm sail requirements.

The standing rigging consists of forestay and side stays of 10mm 316-grade 1x19 dieform wire. The diamonds are 8mm 316 grade 1x19 wire. All are terminated with open body rigging screws.

All halyards, reefing lines and sheets lead through turning blocks and organizers to clutches, cleats and winches in the cockpit. The self tacking headsail on curved traveler track sheet and tack control is also in the cockpit.

The Jib may be controlled or put away with the Profurl headsail furler control in the cockpit. The headsail has Sunlight UV Protection in its fully furled position. The mainsail is also protected from Sunlight UV while zipped in the lazy jack and main sail catcher system.

### ***Rig Tension***

When your boat was first launched the mast was stepped and the rig set to the correct tension. During the first month or so of sailing the wire rigging will stretch a small amount. This is quite normal and any slack can be taken out by taking up the rig tension. After this initial “bedding down” period, the rigging wires should not change too much and examination on a six monthly basis should be sufficient.

The spreader diamonds control the mast pre-bend and ensure that it cannot bend sideways. The mast is initially set up with approximately 75mm of pre-bend, that is, the mast has a gentle bend along its length so that at the midpoint it is approximately 75mm from an imaginary straight line between each end of the mast. This is achieved by first tensioning the outer diamonds. With the correct pre-bend achieved, continue to adjust the spreader wires to get the mast straight in a sideways plane. Second, take up the inner diamonds equally until they are firm and sharing the load. For advanced tuning this pre-bend should match the cut of the mainsail.

Having set pre-bend you now need to look at the stay tension. The forestay length has been determined to allow the top of mast to have an aft rake of approximately 15ins (400mm). This rake affects the overall balance of centres of effort for the boat. Take up the outer side stays on both sides evenly, changing each side a few turns at a time. Do not over tension; take them up evenly until the stays feel firm.

Last, take up the lower stays evenly until they are firm against the pre-bend provided by the spreader diamonds. Their purpose is to contribute to holding the mast in column with the pre-bend and stop it from “pumping”.

Now go sailing. The correct rig tension can be best checked at sea. In a reasonable sail to windward (say, in 15 knots or more), the lee stay will normally go slack but not flop around. This is acceptable. If it does “flop” around take up the slack with a few turns (count the number of turns). Tack and take up the same amount on the opposite side so as to balance the tension on each side.

Once you have completed all the above steps, the rig should be well set up and should not need further adjusting. However, one last check is worthwhile. When sailing hard to windward (say, in 15 knots), go to the base of the mast & look up its length. It should be perfectly straight in its side-ways plane all the way up to the jib halyard exit. Above this point, the mast is unsupported & it is normal that this top part will fall away to leeward. In a fore & aft plane, the mast will be bending slightly aft but not S bending or pumping.

### ***Troubleshooting***

If shroud turnbuckles are at full extent or main sheet blocks too close - take up forestay adjustment

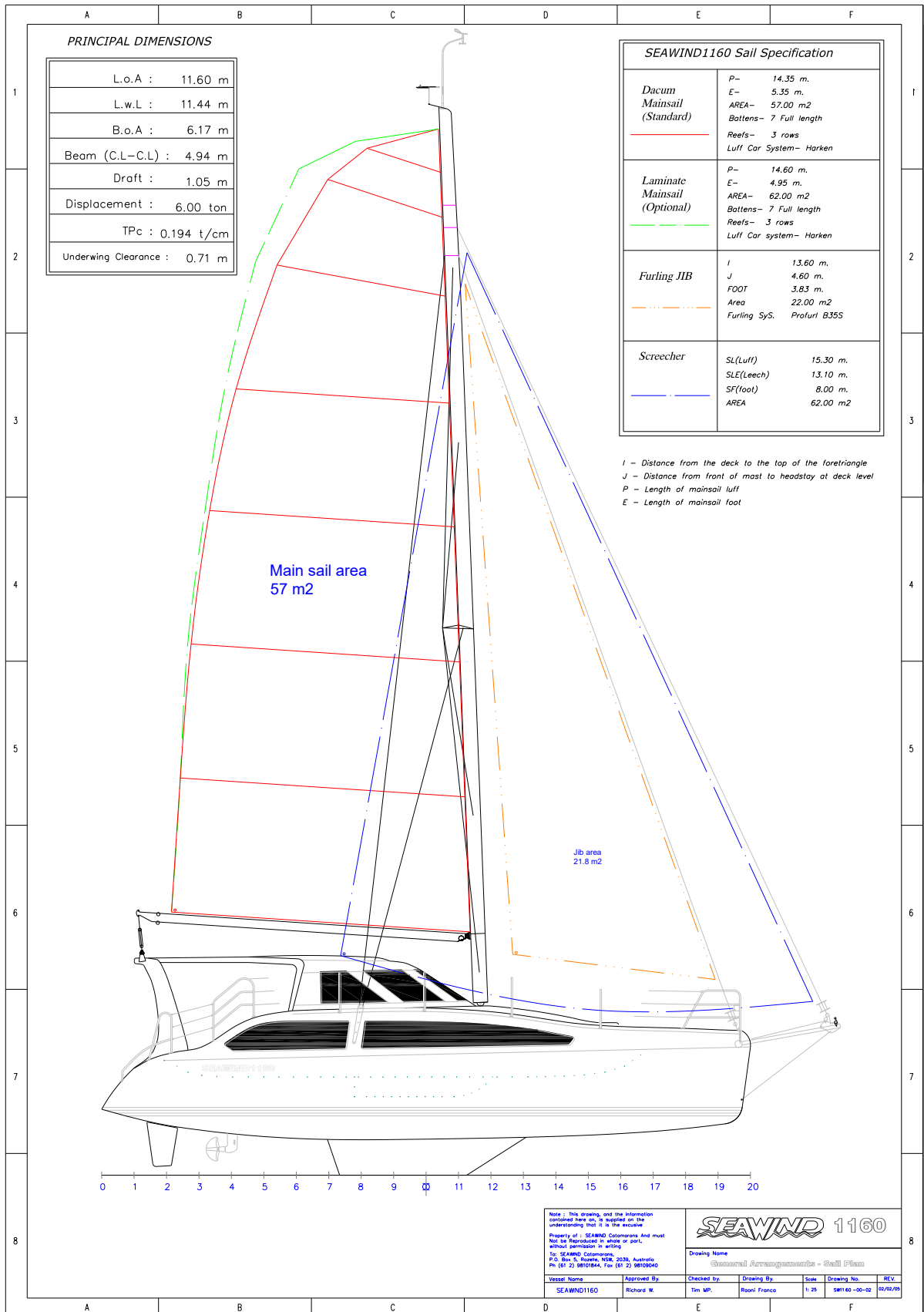
Mainsail wearing on shrouds - have sailmaker repair rubbing strips. Sail with main not touching shrouds by making more use of very high main roach not twisting out by having main traveler fully out, main sheet on harder and tacking down wind.

Excessive Halyard or sheet wear. Check for clear run for all running rigging. Avoid slack lines and running over sharp edges. Remove sharp edges with very fine small half round file.

Sheet or halyard slipping on winch. Ensure minimum four turns around winch, increase friction with more turns if necessary.

Leeward side stay or windward diamond shroud flopping. The rig should remain firm, not flopping on either tack. The cat rig swept back leeward side stay tension will become soft due to imperceptible torsion or twisting of the hull. Take up excess rigging slack at side stay turnbuckles - see rig tension instructions.

Sail Plan



## PLUMBING

**WARNING: All Seawater Valves must be “off” when the vessel is not in use.**

### *Fresh Water System*

The diagram included with this section will allow you to identify the main areas and components of the Seawind 1160 fresh water system. The 13L/M 40psi freshwater pump is located under the forward starboard bench settee forward starboard in the saloon.

There is one water tank with a total capacity of 700 litres (185 US gallons) in the central wing deck. The tanks are moulded fibreglass with the gelcoat surface on the inside providing long lasting taste free water supply. A charcoal water filter is also fitted to the cold galley tap to ensure clean drinking water.

The tanks are filled via the screw-on filler cap centrally located on the forward deck near the mast. The tank is fitted with an overflow and air vent. When the tank is full, excess water will flow out of this vent.

A fresh water level indicator is located in the Navigation area.

**WARNING: Do not fill the water tank with a hose that is too large (eg. Fire hose) or too much pressure as it may damage the tank and its fittings.**

### Other recommendations

- The water can be sterilised before use with Chloramine tablets (obtainable from a chemist).
- Do not fill the water tank with a hose that fits too tightly into the filler opening or with too much hose pressure. Doing either of these may cause high pressure within the tank and damage to the tank or its fittings.
- Ensure that the hose and your hands are clean before filling the tank. Be aware that only very minor contamination in the tank will spoil the fresh water taste.
- If the water system has been unused over an extended period of time, it may be advisable to flush the system with fresh water a number of times before re-use. The use of Chloramine tablets may be advisable at this time.

The fresh water system supplies the galley sink, shower in heads, wash basin in heads and transom shower.

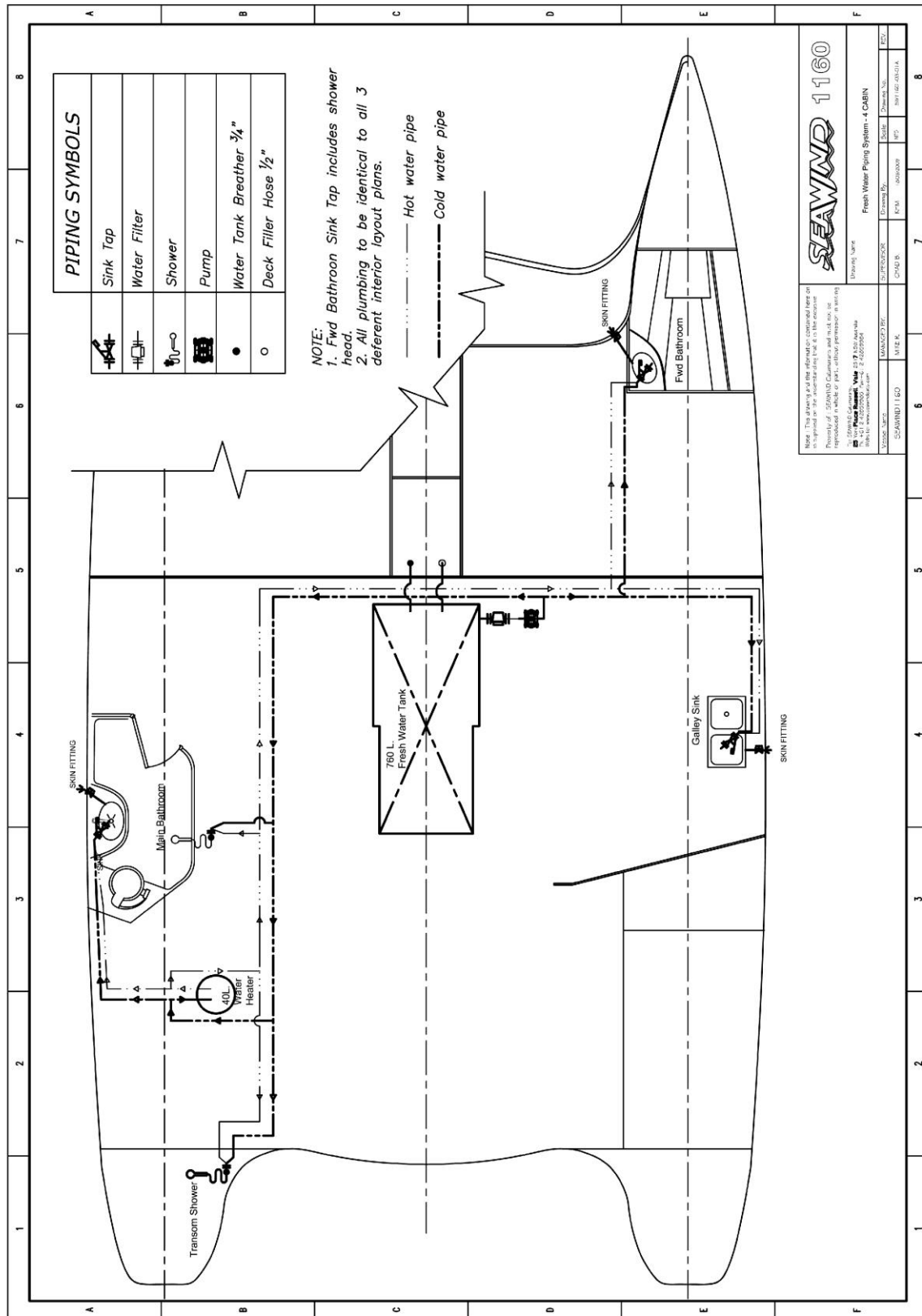
The sink and wash basins drain directly overboard (except when required for Survey construction). There are no shut-off valves on these outlets because they are well above the waterline. The shower drains in each head are pumped out via a shower sump pump located under the floor in each head. This pump operates when the pull switch is out. Regular checks should be carried out to

ensure that there are no blockages from hair etc.

Hot water is provided to the galley, toilets and (optional) transom shower from a 40L/8.8G storage tank heated by exchange from the port engine or from optional shore power when connected. The Port Engine must be run for at least 30mins for this water to be heated depending on the ambient temperature.



Fresh Water Piping Diagram - 4 Cabin



Heads

The toilets installed are of a high marine standard and should be trouble free if used according to manufacturers' instructions.

**WARNING:** To avoid toilet blockage *objects that do not break down immediately must not be put in the toilet.*

The toilet is flushed using salt-water supplied by a 3/4" hose leading from under the waterline and is able to be closed off with a 1/4 turn levered ball valve. The valve is open to the sea when the 1/4 turn handle is in line with the hose and closed when it is at right angles.

The sullage is pumped through 1-1/2" hose up to a Holding Tank in each hull that is installed above the water line. Immediately under each Holding Tank is a 1/4 turn ball valve for selecting Sea Discharge. The Deck Discharge is located on each deck for Marina Pump out. Sea Discharge enables the Holding Tank to be discharged by gravity directly to the sea. The Sea Discharge is through a valve in the hull to the sea which is open when the 1/4 turn handle is in line with the hose and closed when it is at right angles.

**WARNING:** It is important to flush the toilet and holding tank well to not to let solid waste remain in the pipe or tank for an extended time as it will consolidate and cause a blockage.

Other recommendations:

- Always ensure that both the salt-water inlet valve and the waste outlet valve are open before using the toilets.
- The Deck Discharge can also be used for inserting the optional salt water hose to flush the holding tank.
- With manual toilet each use, pump the toilet around 15 times to ensure all waste matter has been thoroughly cleared through the outlet hose.
- With optional electric toilets press the operate button for around 3-5 seconds to ensure all waste is flushed into the holding tank.
- At regular intervals, rinse the head system through with fresh water and chemical holding tank cleaner.
- The inlet and outlet ball valves should operate easily. If the valve is hard to operate it is most likely blocked with sullage. Flush the holding tank if possible and use chemicals to breakdown the sullage if required.
- It is good seamanship to keep wooden bungs of the right size (shaped like cones) at hand so that they can be used to plug the inlet or outlet in the event of a valve failure.

### ***Bilge Pumps***

Electric Bilge Pumps are located centrally in the keel sump area. For these Pumps to operate the Bilge Pump Circuit Breaker Switch on the Main Switch Panel must be on. These switches are directly connected to the House Battery and do not depend on the Main House Battery Switch.

In addition to Electric Bilge Pumps, Manual Bilge Pumps capable of removing 50L/M are located in each hull. To operate the manual pump insert pump handle and pump.

### ***Troubleshooting***

**Pressure Plumbing.** Pressure plumbing leaking will be evident by the pressure pump continually running intermittently. The fresh water pump is located under the Saloon stb fwd settee, the optional salt water pump in the aft stb engine bay.

All water tubing run direct with connectors clearly visible inside cupboards or behind detachable panels. Blue tube is fresh cold water, red is fresh hot water and green salt water. Visually check each connector by following the pressure tubing. Reseat only those connectors that are clearly leaking.

All pressure plumbing use Guest System 15 clip lock connectors. Water leakage will usually occur at a screw or clip lock connector. The outer ring of these connectors clips out to lock the connector to the hard tubing. The clip lock needs to be clipped with no pressure in the tubing to reset the fitting.

Take care tightening screwed plumbing fittings, especially Guest plastic connectors on the hot water reservoir and transom shower, as they depend on a seal and over-tightening can easily break the fitting.

If the Johnston water pressure pump is not operating it is most likely the micro switch in the pressure detector head is burnt out. The pump will sometimes restart by tapping the pump head. Johnson Pumps will provide a replacement micro switch.

Relative slow flow of the Galley cold water compared to the hot will be caused by the optional cold water filter needing to be replaced. The cold fresh water filter is located under the galley sink cupboard.

**Heads.** Blocked black water holding tank sea run out. This may be caused by the macerated black water (mainly toilet paper) settling over the holding tank sea outlet. It is most evident by the outlet valve being hard to close.

The deck outlet spigot is deliberately located over the black water holding tank outlet in the holding tank to facilitate churning up this settling. A water hose or flexible rod pushed down the deck outlet will be directed to the sea outlet.

A persistent blockage will need the black or grey water to be pumped out at a marina pump out station. Only when the black water holding tank is empty may the sanitary piping between holding tank outlet valve and sea cock be removed and cleared.

If the toilet does not drain then either the black water holding tank is full and needs to be emptied or there is a blockage in the piping up to the tank. This most often occurs with feminine sanitary objects or too much toilet paper blocking either the piping or macerator. The macerator can only be cleared by disassembly.

While the black water holding tank toilet hose enters at the bottom of the tank an internal spigot discharges it near the top. It is most important to have a bucket handy to catch all the black water in the toilet hose as it will discharge when this hose is removed to access the macerator or unblock the piping. All the black water in the toilet needs to be removed also.

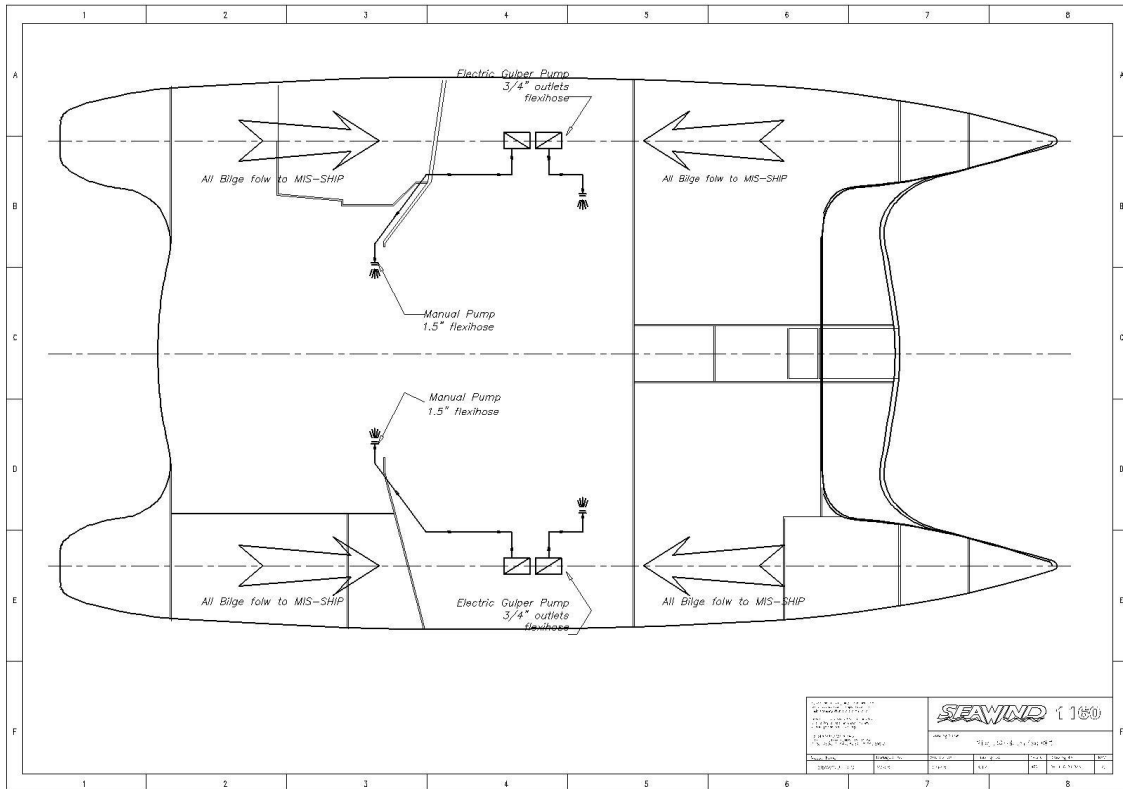
A strong smell from putrid salt flushing water left standing alone for some time can be overcome by flushing the water well before leaving the boat. Flushing with a bucket of fresh water is even better. Over time (one or two years) salt water calcification of the sanitary piping will form blocking the smooth flow of black water. This can be minimized by flooding the system with diluted acid each month. Be sure to flush all the diluted acid out after standing in the system for at most 10 minutes.

**Bilge Pumps.** The Johnston electric bilge pumps are directly connected to the house batteries and may be disabled by circuit breaker at the Saloon Electrical Circuit Box. A bilge pump running continuously without discharge may be caused by either lint blocking the inlet, debris blocking a non return valve if fitted or incorrect height of the water level switch. The water level switch needs to be at least 6mm higher than the bottom of the pump.

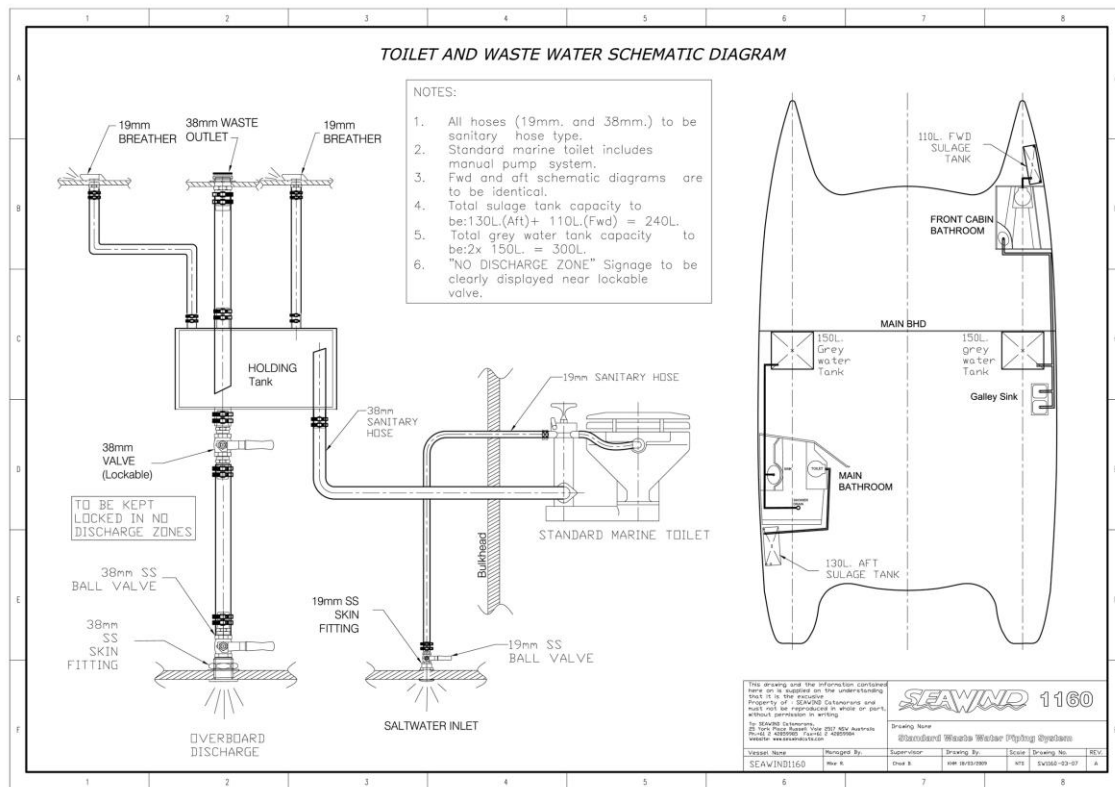
**WARNING:** Check the function of all bilge pumps at regular intervals. Clear pump inlets from debris. If seacocks are fitted in the fore and aft peak bulkheads, they shall be kept closed and shall only be opened to let water drain into the main bilges.

**WARNING:** The bilge pumping system is not designed for damage control.

**Bilge Diagram**



Waste Piping Diagram



Troubleshooting

**Pressure Plumbing.** Pressure plumbing leaking will be evident by the pressure pump continually running intermittently. The fresh water pump is located under the Saloon stb fwd settee, the optional salt water pump in the aft stb engine bay.

All water tubing run direct with connectors clearly visible inside cupboards or behind detachable panels. Blue tube is fresh cold water, red is fresh hot water and green salt water. Visually check each connector by following the pressure tubing. Reseat only those connectors that are clearly leaking.

All pressure plumbing use Guest System 15 clip lock connectors. Water leakage will usually occur at a screw or clip lock connector. The outer ring of these connectors clips out to lock the connector to the hard tubing. The clip lock needs to be clipped with no pressure in the tubing to reset the fitting.

Take care tightening screwed plumbing fittings, especially Guest plastic connectors on the hot water reservoir and transom shower, as they depend on a seal and over tightening can easily break the fitting.

If the Johnston water pressure pump is not operating it is most likely the micro switch in the pressure detector head is burnt out. The pump will sometimes restart by tapping the pump head. Johnson Pumps will provide a replacement

micro switch.

Relative slow flow of the Galley cold water compared to the hot will be caused by the optional cold water filter needing to be replaced. The cold fresh water filter is located under the galley sink cupboard.

**Heads.** Blocked black water holding tank sea run out. This may be caused by the macerated black water (mainly toilet paper) settling over the holding tank sea outlet. It is most evident by the outlet valve being hard to close.

The deck outlet spigot is deliberately located over the black water holding tank outlet in the holding tank to facilitate churning up this settling. A water hose or flexible rod pushed down the deck outlet will be directed to the sea outlet.

A persistent blockage will need the black or grey water to be pumped out at a marina pump out station. Only when the black water holding tank is empty may the sanitary piping between holding tank outlet valve and sea cock be removed and cleared.

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**Bilge Pumps.** The electric bilge pumps are directly connected to the house batteries and may be disabled by circuit breaker at the Saloon Electrical Circuit Box. A bilge pump running continuously without discharge may be caused by either lint blocking the inlet or debris blocking a non return valve.

## **LP GAS**

The LP (Liquid Propane) Gas system in your Seawind 1160 has been installed by a licensed Gas fitter and a compliance certificate issued. A metal compliance plate is riveted onto the lid of the gas bottle locker as a permanent certificate. This plate identifies the date of fitting and the licensed fitter who installed the

system.

There are two 4.5kg bottles located in the gas bottle locker inside the anchor locker. To remove or swap the gas bottles over you must:

1. Check that all appliances are in the off position.
2. Turn of gas at the bottle top.
3. Then turn the inline shut-off valve in LPG locker to off position.
4. Unscrew gas fitting on bottle top and swap over bottle.
5. Reconnect gas line.
6. Turn gas bottle top to on position.
7. Check for any hissing / pressure drop on gauge as per “LPG Testing” detailed below.
8. Turn inline shut-off valve to on position.

The bottles can be removed for re-filling by simply loosening the strap and lifting the bottles. The LPG locker is the only location for LPG storage is vented in accordance with ISO standards.

Your SW 1160 is fitted with a remote gas solenoid facility that will shut the gas off when not in use from the Galley. A shut-off valve is also located next to the LPG bottle. Before the Galley Stove or BBQ may be operated the LPG Gas Circuit Breaker Switch and LPG Gas Solenoid Switch must be on. Further, the LP Gas Bottle and LP Gas appliance shut-off valves must be on. The LP Gas appliance valve is off when the in-line tap is 90° to the direction of the line.

It is recommended that the LP Gas Solenoid is switched off when gas appliances are not in use. When leaving your boat for any extended period (eg. a few days) it is advisable to turn off the LP Gas supply at the bottle as well.

These can be removed for re-filling by simply loosening the strap and lifting the bottles.

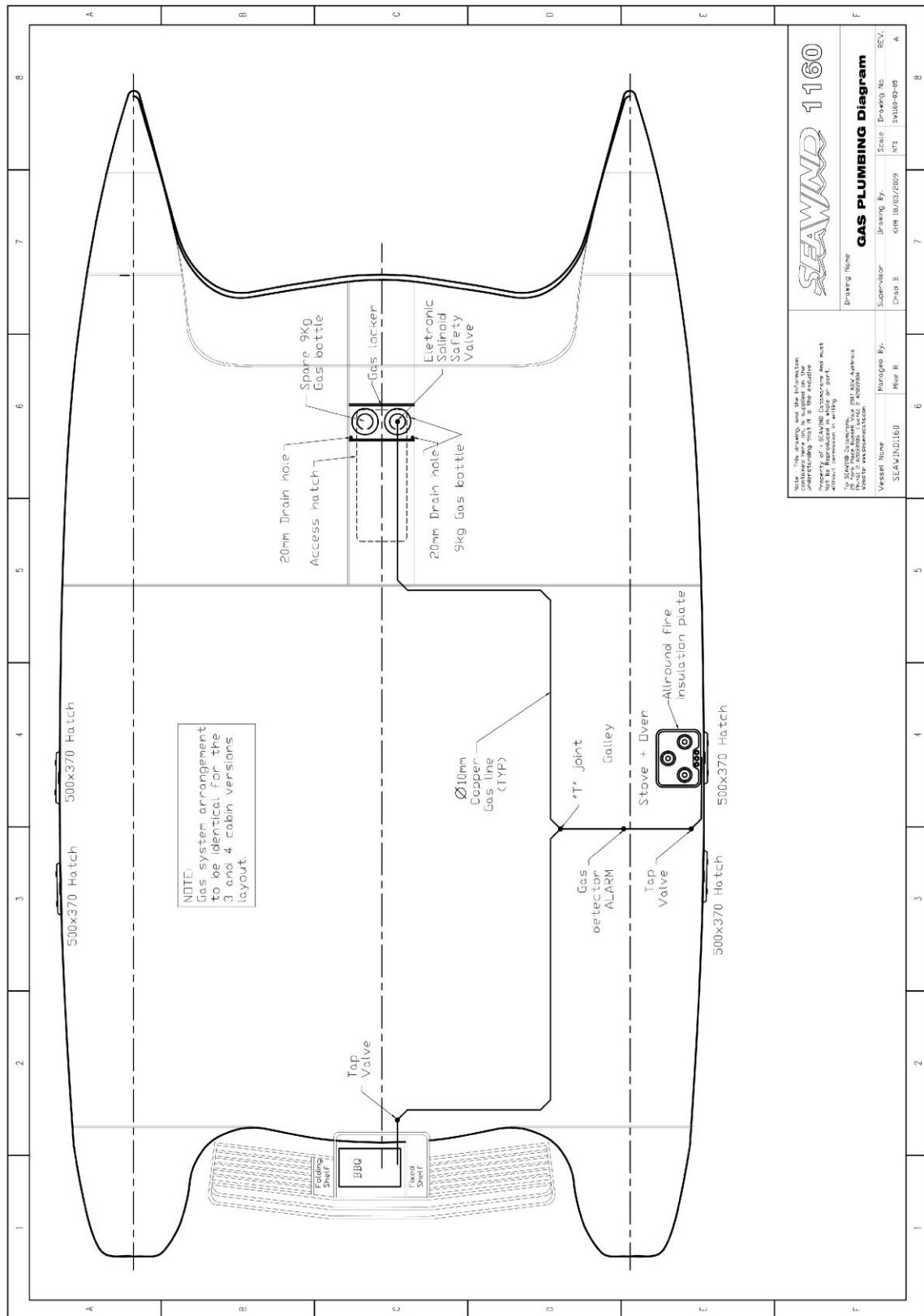
Your SW 1160 is fitted with a remote gas solenoid facility that will shut the gas off when not in use from the Galley. Before the Galley Stove or BBQ may be operated the LPG Gas Circuit Breaker Switch and LPG Gas Solenoid Switch must be on. Further the LP Gas Bottle and LP Gas appliance shut-off valves must be on. The LP Gas appliance valve is off when the in-line tap is 90° to the direction of the line.

It is recommended that the LP Gas Solenoid is switched off when gas appliances are not in use. When leaving your boat for any extended period (eg. a few days) it is advisable to turn off the LP Gas supply at the bottle as well.

**WARNING: Fuel-burning open-flame appliances consume cabin oxygen and release products of combustion into the craft. Ventilation is required when appliances are in use. Open designated vent openings while appliances are in use. Never obstruct ventilation openings. Do not use LPG devices for space heating.**

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LP Gas Piping Diagram



Troubleshooting

For LPG to flow the gas bottle in the forward sail locker, the remote solenoid control switch in the galley, device yellow shut off valve as well as device control all need to be on.

If the Gas Control fittings on the BBQ and sometimes stove become stiff the brass valve fittings need to be lubricated with WD40. Note that these valve fittings need to be pressed in before turning anticlockwise.

On survey vessels two gas detectors are located under the stove/oven and floor. These detectors have a small heating coil that sometimes malfunctions with dust or salt humidity. The coil can be cleared by blowing with air. If the alarm problem persists the wiring may be disconnected behind its Galley switch panel and detector replaced.

If the gas solenoid or both gas detectors fail the solenoid may be temporarily disconnected and bypassed by reconnecting pipe fittings at the gas bottle. The gas will need to be shut off at the bottle manually when unattended.

### ***LPG Testing:***

Your gas system has been installed with a pressure gauge in the high pressure zone between the LPG bottle and regulator (in the LPG locker). In order to test the gas system for leaks, follow the below procedure:

1. Check all appliances are shut-off.
2. Check all pre-appliance shut-off valves are on.
3. Check solenoid is on.
4. Open shut-off valve next to pressure gauge.
5. Open LPG bottle valve to pressurize the system.
6. Observe for pressure drop on gauge for a duration of 5 minutes.
7. Shut LPG system off at bottle on completion of test.

**WARNING:** If you observe a drop in pressure from the gas system you must turn gas off at the source (bottle) and ventilate area immediately. Do not use any electrical devices and seek the advise of a LPG professional immediately.

For safe operation of the LPG stove and BBQ, refer to the manufacturers manual supplied

## **ANTIFOULING BOTTOM PAINT**

Prior to its first launching, your Seawind 1160 was prepared for antifouling as follows:

Gelcoat was sanded to remove all traces of mould release wax and to provide a good key for the next coating.

One coat of Epoxy Resin: Interprotect Epoxy Undercoat.  
One coat of ablative Blue antifouling bottom paint: Resene Altex No.5  
One coat of ablative Black antifouling bottom paint: Resene Altex No.5

The first antifouling coat is blue and second black so usage may be observed for your area in the first year of operation.

Altex Marine Paints are distributed by Resene Paints (Australia) Pty Ltd an affiliate of Pettit, USA.

**WARNING: If optional Shore Power or HF Radio is installed an external Earth Plate will be located underwater on the port hull. This Earth Plate must NOT be painted over.**

### ***Maintenance***

The bottom paint on your Seawind 1160 is an ablative-type anti-fouling. This means that the protective coat slowly dissolves as the boat sits in the water. For this reason excessive scrubbing is not required and will only shorten the life span of your anti-foul. Under normal conditions you can expect 9 to 12 months before new anti-foul needs to be applied. When your boat is on the slipway you should use the opportunity to check the rudders, skin fittings and general condition of the underwater sections of the hulls. When re-applying the anti-fouling follow the manufacturers instructions or if in doubt consult a professional shipwright or boat-builder.

### ***Troubleshooting***

Seawind use Altex No5 because it is rated the best value antifouling available. Antifouling effectiveness depends on many factors including prevailing tides, sun light and abrasion. Two different colour coats are applied initially so the rate of use in your area can be determined over the first year.

Barnacles need to be scraped off with a paint scraper and weed growth with a scouring pad. More than two coats are recommended for the waterline and all over in some tropical areas.

## **DECK HARDWARE**

In all areas where the deck fittings are located have been strengthened by marine grade plywood. All deck hardware is bolted through the deck using Grade 316 stainless steel bolts, washers and locking nuts.

The sealant 'Sikaflex' has been used under all fittings to provide a water seal. Access to the washers and nuts can be made via the various removable headliner panels. If water incursion occurs identify the cause with a running water hose and reseal the culprit fastening.

**WARNING:** *Do not generally tighten fastenings in the vicinity of water incursion as this may cause more water seals to be broken.*

Most items of deck hardware are under significant loads and maintenance is important. Any fittings that are damaged or become loose should be repaired or replaced. This is important for the safety of your boat and crew as loose or damaged deck fittings are significantly weakened and could break under load. If in doubt, consult a professional yacht rigger or shipwright.

### **Maintenance**

Frequently scrub down decks with fresh water and a gentle liquid detergent to remove built up dirt and salt from deck fittings. Use a soft bristled dish washing brush to get into hard to reach areas.

After fresh water washing and allowing to dry, lubricate any moving parts with a silicon based lubricant such as “Ronstan Sailfast”. This applies to pulley blocks, traveler cars, rope jammers and rigging screws.

Frequently check all deck fittings to ensure that they are fixed firmly to the deck and that there are no water leaks. Fittings with any movement whatsoever should be immediately attended to.

### **Steering**

The cable steering system consists of two helm positions independently controlling each rudder linked by a common tiller bar in two sections. Firm cable tension is to be maintained at take up eye bolts accessible through the aft cockpit steering locker.

**WARNING:** *The steering system needs to be well lubricated with a long lasting, water and corrosion protective lubricant such as CRC White Lithium Grease available in spray can form.*

### **Winches**

The primary winches on the Seawind 1160 are two Harken ST46 and two Harken ST40 self tailing winches. All sheets and halyards are brought back to the cockpit and held with dedicated clutch or jammers and the winches used for multi purposes.

The winches will gradually get stiffer to use after prolonged use. This is because of salt and dirt build-up within the winch and because of hardening of the internal grease. At least once a year, winches must be thoroughly cleaned inside and re-greased.

When dismantling a winch or any deck fitting, have a bowl close at hand to put

parts into. A good practice is to circle the area with a rolled towel as a barrier to stop any dropped parts rolling overboard. Be especially careful when dismantling winches as they contain small springs that, when released, can fly overboard.

### ***Troubleshooting***

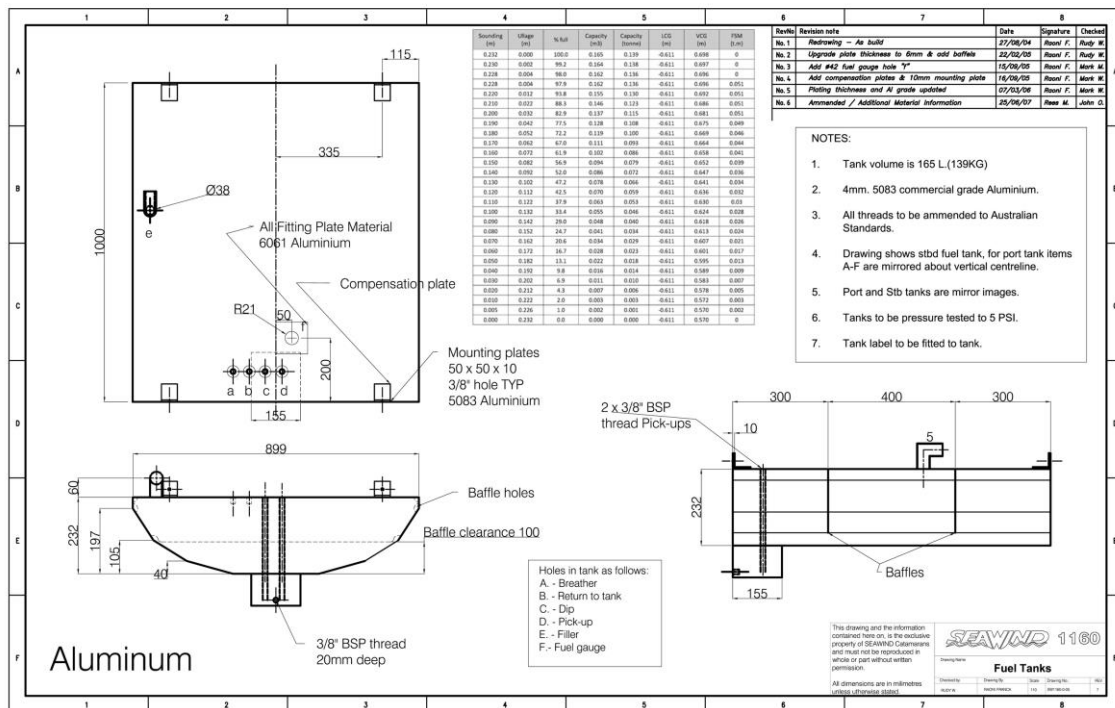
All deck hardware should be regularly washed down with fresh water to minimise seizing, rust and salt build up. Deck equipment that is stiff or has not been used for some time is best lubricated with a silicon based lubricant to provide a protective coating and avoid jamming. Only winches need annual disassembly and greasing.

## FUEL TANKS

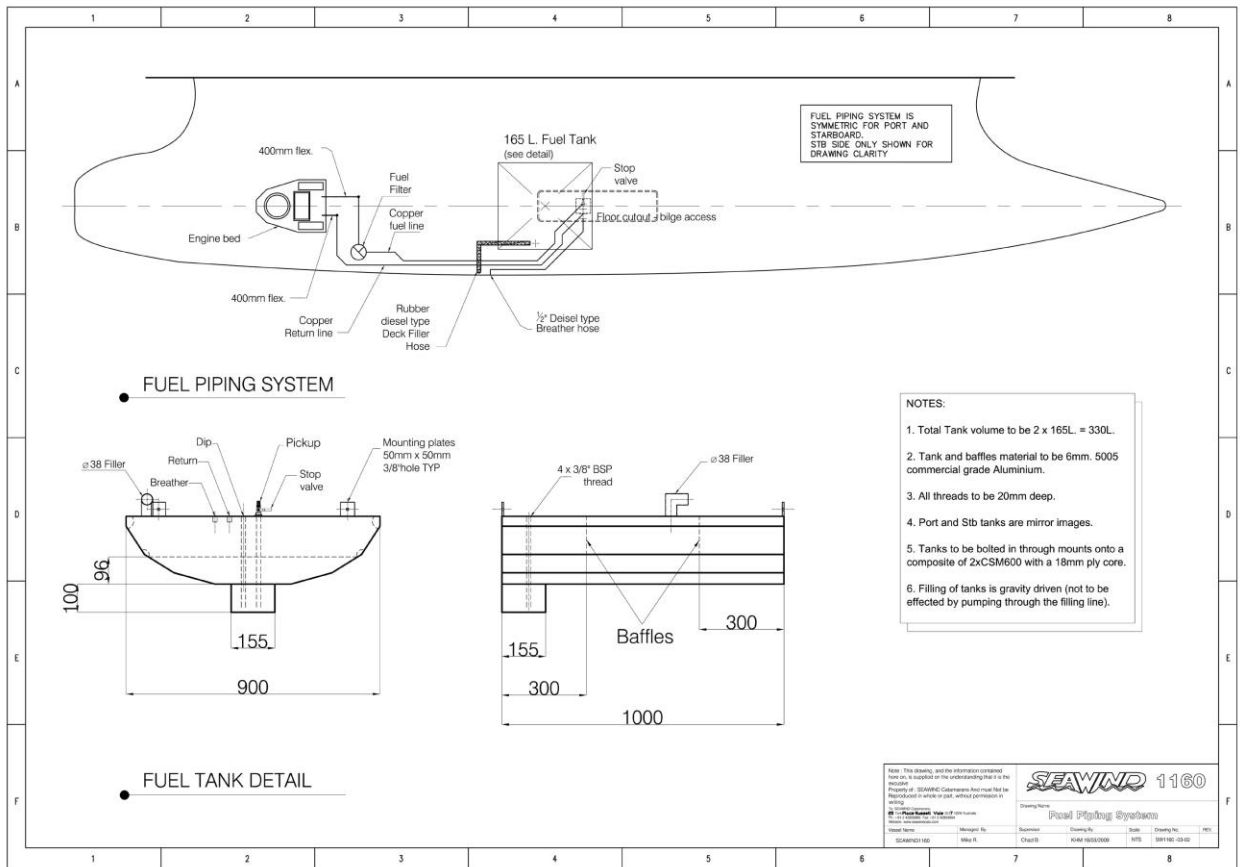
There are separate fuel tanks in each hull, with a total capacity of 360 Litres (95 Gals). The tanks are constructed from marine grade aluminium and pressure tested prior to installation to meet Australian survey standards.

The fuel tanks are located under the cabin sole and are accessed through the lift out floor hatches in the galley on the starboard side and at the fwd end of the centre bathroom on the port side. Each tank provides 180L/48G fuel capacity for each engine; there is no changeover facility.

### Fuel Tank Details



### Fuel Piping Diagram



### Troubleshooting

The Cruzpro Fuel gauge is programmed to take into account the actual tank hull shape. The Cruzpro Scale is accurate to within one litre.

Another accurate method of estimating fuel tank level and avoid spillage is to determine average litre usage per hour by logging engine hours and fuel required to fill full. Litres used or required for each fuel tank are calculated from the engine hours metered.

The fuel tanks have air vents at the top of the safety rails, pointing inward to avoid taking on water during a heavy weather. As some diesel is captured in this breather during refueling a small catcher bucket to avoid spillage on the deck is recommended.

Diesel fuel spillage on deck, bilge or into the ocean can be dissipated with diluted dishwashing liquid (10:1) best kept at hand in a manual spray bottle.

Contaminated fuel usually has one of two causes - water or algae. Water contamination will be evident with water in the transparent separator bowl of

the fuel pre-filter located in each engine room. Water in the bowl may be drained off through a bottom valve. Water that remains in the fuel tank will collect in a small sump at end. Water contamination may be drained off through an outlet in the side of this sump. The extent of water contamination will be evident in a clear container with the heavier water separating at the bottom of the container.

Algae contamination may not be evident until the fuel pre-filter is examined and found to be blocked with black sludge. Algae can grow in diesel fuel at any time, particularly in the tropics when unattended. Water condensation can occur with diesel fuel tanks partly filled. Both algae and water condensation can be minimized with readily available diesel fuel additives. They dissipate the contaminants into the fuel but can cause sludge in the worst cases.

Two or more spare fuel filter sets should be carried at all times. Diesel fuel tanks should be kept near full to minimise water condensation particularly in the tropics. A diesel fuel additive to dissipate algae and water should be used all the time.

## **MOTORS**

Two 29 hp diesel motors power the Seawind 1160. They are usually Yanmar 3YM30C's with Saildrive legs. Two blade folding propellers are standard. Optional 3 blade folding propellers deliver more thrust. These combinations have proven to provide reliable, quiet propulsion.

**WARNING: Due to the technical nature of servicing and maintaining engines, our policy is to direct owners / operators to the Manufacturer Handbook instructions. All work performed on the engines must be undertaken within the guidelines and conditions set out in the manufacturers warranty terms and conditions.**

A suitably qualified and experienced diesel mechanic should undertake any work performed in the engine bays. There are many hazards and potential dangers if work or adjustments are made without appropriate understanding of the implications. For this reason, only have qualified trades people and technicians perform any work in the engine rooms.

Inspection of the sail drive leg anodes should be undertaken at regular intervals to monitor the rate of corrosion of these sacrificial anodes and to ensure they are in good working condition. These anodes protect the sail leg from corrosion and if allowed to corrode away or otherwise fail to perform their function the sail drive leg will be vulnerable to corrosion damage.

**WARNING: Connection to shore power can accelerate the rate of corrosion of the anodes significantly and it is recommended more frequent inspections of the sacrificial anodes are undertaken in this instance.**

The frequency of inspections should be related to the observed rate of corrosion of the anodes. Anodes should be repaired/replaced well before their service life to ensure the sail drive leg is always protected.

### **Service Spare Part Numbers**

#### **20HP YANMAR 3YM30C**

YP11983142290	FAN BELT
YP10451178780	V BELT 2GM 3GM 3HM 2GM203GM30 3HM35
YP11930535151	YANMAR OIL FILTER GM YM 3JH LD16 65EFOZ
YP10450055710	YANMAR FUEL FILTER 1GM 2GM 3GM 2QM20 3QM30 1GM10
YP09810B1	JOHNSON IMPELLER F4B 12MM ID
YP24341000440	YANMAR O-RING 1A S-440 1GM10 3GM30 2GM20 2QM15 Y

#### **SD20 SAILDRIVE ANODES**

YP27210200550	YANMAR ZINC UPPER UNIT
YP19642002652	YANMAR ZINC LOWER ROUND

#### **GORI PROP 15"-16.5" ANODES**

YP1552750000	ZINC RING ANODE
YP1407710000	3 RUBBER STOPPERS
YP1407210000	TRIANGLE ANODE
YP1472100000	INCLUDES BOTH STOPPEES AND THE TRIANGLE ANODE

### **Troubleshooting**

Refer to the Yanmar manual for service and troubleshooting guide. Diesel engines have a reputation for being very reliable provided they are serviced regularly and best quality diesel engine oil, fuel filters and water impellers are used. There is an old adage for diesel engines that give them clean fuel, the best oil and good cooling water flow that they will go forever.

Air or air bubbles in the fuel will stop the engine. They will be evident in the fuel pre-filter bowl. The source of this air will most likely be seating of the fuel pre filter but other fuel hose connections need to be checked also. An engine will usually start once the air is passed through the fuel injectors. If it does not start then a more technical process of bleeding the fuel system is required. This is a simple process for a qualified mechanic and can be done by technically inclined owners.

Overheating will also stop an engine. A check that good coolant water flow is coming out the exhaust should be done every time an engine is started. Poor flow is most likely caused by coolant water pump impeller failure or debris covering the sail drive leg water inlet. The sail drive water inlet can be checked by snorkeling under the boat. Coolant water inlet grates are located on each side of the sail drive leg about half way down. Coolant water impellers would normally be replaced with every engine service. Impellers can fail prematurely that are poor quality or take in abrasive material such as sandy silt. Spare impellers should be kept on board.

Engine controls should be regularly lubricated and adjusted if necessary to ensure smooth operation. Engine controls that are not smooth to operate should be immediately serviced.

## **AIRCONDITIONING**

Optional 16000BTU Cruisair Air-conditioning may be provided for both forward Cabins and central Saloon. This air-conditioning uses a salt water cooling pump and water inlet located below the starboard forward cabin sole.

The salt water-cooling inlet must only be “on” while the air-conditioned is in use. The salt-water inlet is “on” when the handle is in line with the hose and “off” when the handle is at right angles to the hose. As air-conditioning requires considerable 240/110 AC Power It can only be operated while connected to Shore Power at a Marina or with 4.5KVA Generator.

### ***Troubleshooting***

An air-conditioner requires considerable more current to start than run. The air-conditioner may not start if too much load is put on the AC source. Check that the air-conditioner and power distribution circuit breakers are on. The load can be reduced by switching devices off. A battery charger will demand a high load when first switch on but will decrease this demand over around 10 minutes. The Mastervolt or Xantrex Freedom 2000 Charger/Inverter will manage this load sharing.

The air-conditioner may not cool or ice up. It depends on salt water flow from a pump located in the centre starboard hull. Check that the water inlet valve is on and this pump is operating with salt water flowing freely out the inside starboard hull above the waterline. If the pump is operating and water not flowing, clear the water inlet by snorkeling under the boat.

If the air-conditioner ices up then the in or out air flow is most likely restricted. The variable outflow vents are designed to allow zoning cabin and saloon areas but the equivalent of two large out vents must be fully open all the time.

## **ELECTRICAL**

The Seawind 1160 has both a 12V DC and optional 110/240V AC electrical systems. The 12V DC system consists of 400A/hr House Battery Bank located under the saloon settee port side and 700 CCA Motor Starting Battery also located under the saloon settee.

All batteries are sealed AGM (Absorbed Glass Mat) type and require no maintenance apart from keeping the terminals clean. It is important to understand battery-charging facilities, as usage will vary considerably. It is

preferable to monitor battery usage with optional amp-hour monitor.

**WARNING: Battery life will be reduced considerably if discharged below 50% of capacity (Voltage less than 12.20V).**

Generally while at a marina the optional shore power should be set to charge the house batteries continually. While living on the boat it will generally be necessary to run one motor for at least one hour every day to recharge the house batteries. While unattended the optional two 125W Solar Panels will generally provide sufficient power to run either refrigeration or freezer units continually.

The batteries banks are switched “on” by a Battery Switches located in the port Navigation area. The House Battery switch must be on for any 12VDC facility except automatic bilge pumps. The Start Battery Switch must be “on” to start and run either motor. The Emergency Parallel Battery Switch combines both House and Start battery banks for emergency starting only and should be normally “off”.

### **Switch Panels**

The 12V DC Switch Panel includes combined on/off switches and automatic circuit breakers. All Circuit Breaker Switches are individually labeled. To increase reliability and simplify trouble shooting all circuit wiring is run directly between electrical devices avoiding the use of intermediate junction boxes. A schematic circuit diagrams are included in this manual.

**WARNING: If more than one Electric Winch is used at the same time the 100A Circuit Breaker located below the Electrical Distribution Panel in the Navigation area may trip.**

The optional 110/240V AC Switch Panel and wiring uses Nth America or Australian Standard wiring and separation. General Purpose Outlets have automatic Earth Leakage Detection and through the hull Earth Plate connection with the Shore Power option.

### **Battery Charging**

Each Motor has an independently Regulated 80A Alternator directly connected to the 700 CCA Start Battery through the Start Battery Switch.

**WARNING: To avoid Engine Alternator damage the Start Battery Switch must be “on” at all times a motor is running.**

The 700 CCA Starting Battery is recharged whenever either motor is running. Only when the Cranking Battery is fully charged to approximately 13.2 volts a Voltage Sensitive Relay diverts the charging current to the House Battery Bank. This highly reliable redundant charging facility shares the load to provide

whatever the Battery will absorb up to a maximum 160A. Note that high current usage devices such as Electric Anchor Winch are best operated with motor running to efficiently use the alternator capacity.

Optional two 120W Solar Panels are connected directly through their own circuit breaker to the House Battery Bank through an independent solar panel voltage regulator. The House Battery Switch does not need to be on for the Solar Panels to be recharging. There is no overflow to the Start Battery.

An optional Battery Charger/Inverter may be directly connected to the House Battery Bank through circuit breaker switches. Suitably switched 110V or 240V Generator or Shore Power provides additional power resources.

### ***Emergency Starting***

Should the 700 CCA Start Battery not be able to start the motors an independent Emergency Parallel Battery Switch connects both House and Cranking Battery Banks. This Emergency Parallel Battery Switch should be “on” only for the duration of starting, it is normally “off”.

### ***Generator***

An optional Generator may be installed in the forward sail locker to provide additional 240/110 AC Power. This Generator is necessary for high 240/110 AC Power usage devices such as Air-conditioning. The AC Switch Panel selector must be set from Shore Power to Generator.

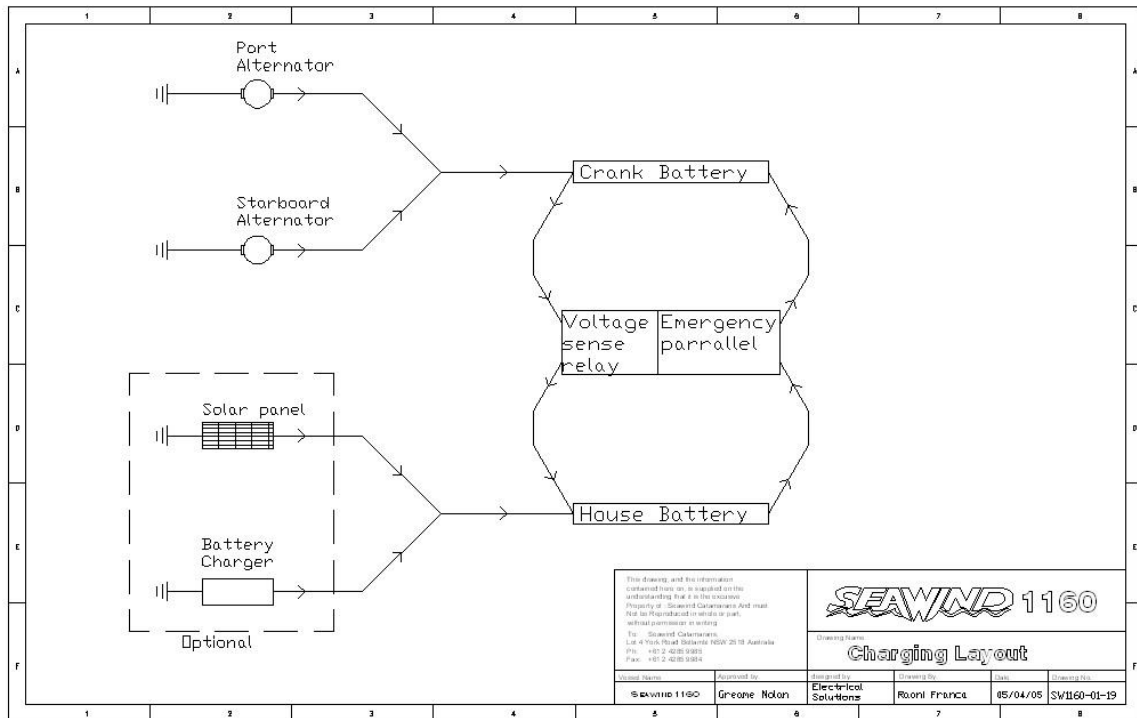
This Generator uses salt-water cooling whose inlet is located below the starboard forward cabin sole. The salt water-cooling inlet should only be “on” whilst the generator is in use.

The salt water inlet is “on” when the handle is in line with the hose and “off” when the handle is at right angles to the hose.

***WARNING: To avoid Generator Salt Water Impellor damage the saltwater inlet strainer must be full before starting the generator.***

The salt water strainer is located in the forward sail locker and may be topped up by unscrewing the top.

### ***Charging Layout***



**Shore Power**

Your Seawind 1160 can be fitted with an optional 240V 15A or 110V 30A AC Shore Power with inlet located the port helm position. Double General Purpose Outlets are located in the navigation, galley and optional other areas for small appliance operation.

A master residual current device “RCD” safety circuit breaker with rated tripping current not exceeding 30ma is located below the electrical control panel in the navigation area for operator safety. This RCD is connected to the underwater Earth Plate located on the port hull.

As salt water provides a connection for dissimilar metals on or between vessels galvanic corrosion can occur with the shore power earth connection to the marina. This galvanic corrosion with shore power connection can rapidly erode sacrificial anodes and sail drive leg. To minimise this effect a “galvanic blocker” is installed on the shore power earth circuit. This device will block galvanic DC voltages less than 1.2V and pass AC currents providing earth leakage protection.

**WARNING: In the case of a shore power lead being damaged it must be replaced to avoid being a life threatening electrical hazard.**

**WARNING: Do not work on a live electrical fitting**



## **Troubleshooting**

The start battery switch operates a high current relay that connects the start battery to both engines. If the engines are receiving no power the remote operation of this relay may have failed. This start battery bank relay may be manually reset by turning off then on. This relay is located in the bottom level of the Electrical Circuit Breaker box in the Saloon port forward settee.

If an engine RPM indicator is at zero while the engine is running it is most likely the fan belt that operates both the alternator and water cooling has failed. Stop the engine immediately and check the fan belt and replace if broken. If not broken restart the engine and carefully watch that the engine is not overheating.

If the engine RPM indicator is slow to indicate a change in the engine speed the fan belt is most likely slipping causing reduced alternator charging and engine cooling. Stop the engine and follow the engine manufacturers recommendation for checking the fan belt tension and reset or replace if necessary. Spare fan belts should be carried at all times.

**Electrical Switch Panels.** All switched circuit breakers required for normal operation such as lights and refrigeration are located on DC Switch Panel in the Navigation Area. The House Battery Bus Switch must be on for operation of these circuits.

Master and other circuit breakers in the Electrical Switch Box located below the Saloon port settee are normally left on. Stereo Memory, Port and Starboard Bilge Pump switch circuits are operated through the Un-switched Master Circuit Breaker. High power electric winches operate through a large circuit breaker on the aft side of the Electrical Switch Box accessible under the settee cushion beside the coffee table. All other circuit breakers operate through the Switched House Master Circuit Breakers.

**Battery Charging.** While multiple independent regulated battery charging sources are provided directly by the solar panels, each engine alternator when running, or optional shore power or generator chargers when connected, if the battery is very low then the only way to restore charge is charging for several hours. The best source for prolonged charging is shore power.

**Emergency Starting.** The emergency starting switch operates the same high current relay that the charging voltage sensitive relay uses to parallel the house and start battery banks. This relay is located in the bottom level of the Electrical Circuit Breaker Box in the Saloon port forward settee. If remote or auto operation of this relay fails it may be manually reset by turning off then on. To return to auto mode it needs to be turned off then on to auto.

**Generator.** The Generator may overheat and stop if there is insufficient water cooling. This is usually caused by the water inlet valve not open or water leaking

when idle indicated by the water strainer not remaining full to the top. The effect is a worn out impellor that needs to be replaced. A spare generator impellor should always be carried.

**Shore Power.** Shore facilities often use US Standard switching “up as on”. Earth leakage protection is also provided by the shore facility when connected needs to be set on.

The best on indication of Shore Power operating correctly is with the Battery Charger and DC Battery Monitor indicating around 40A charge when first turned on. This will drop rapidly depending on the battery state of charge.

For General Purpose Outlets (GPO’s) to be powered from the shore the Shore Power/Generator selector circuit breaker switch needs to be on Shore Power and AC power Circuit Breakers on. If the Charger/Inverter is “on” and Shore Power “off” the GPO outlets will still have AC power.

For GPO’s to have AC Power both GPO Switch on the AC Switch Panel in the Navigation Area and RCD circuit breaker need to be on indicated by a lamp on the RCD.

**Electrical Diagram.** The Navigation Area Switch Panel provides both circuit breaker and switch function. All other circuit breakers are located in the Electrical Box under the port forward settee.

All Electrical Box Circuit Breakers should normally be on. Non Switched Circuits refer to normally left on when the house Battery Switch is “off”, such as bilge pumps and radio memory.

All electrical wiring is direct between devices with no intermediate junction panels. Connection is mostly soldered with some plug connectors. Electrical problems mainly occur at point of connection.

## **REFRIGERATION**

The Seawind 1160 is fitted with a Vitrifrigo 130 litre front opening fridge and a two compartment ICEER 60L electric eutectic freezer

### ***Fridge Operation***

To turn the fridge on, use the circuit breaker located in the port passageway electrical panel. Use the thermostat control inside the fridge to adjust the temperature required.

### ***Freezer Operation***

The freezer can be turned on using the circuit breaker in the port passageway electrical panel. Temperature adjustment of the freezer is self-setting to approximately -12C. After first switching on the freezer, it will take between 10-16 hours to pull down to normal operating temperature. When left on the freezer fan will run at varying speeds and will switch on and off. Indicator lights located at the base of the freezer operate as follows:

Green	Normal Running
Yellow	Standby
Red	Low Volts

### ***Cleaning Outside***

The outside of the cabinets need only to be rubbed down with a dry duster. Any dirt can be washed off with hot water. After washing dry the cabinets thoroughly.

**WARNING** - Do not use abrasive cleaners of any kind. Once a year a high grade non-abrasive automotive wax may be used to polish the exterior if desired.

### ***Cleaning Inside***

To maintain freshness and hygiene, the insides of the fridge and freezer should be washed periodically. Use lukewarm water to which a little baking soda has been added (1 teaspoonful to 1 litre). Always rinse using a cloth dipped in clean warm water. Thoroughly dry all surfaces. Door seals and the surface in contact with the door opening should be cleaned with warm water and then dried. After drying wipe all around. Do not clean the interior with abrasive, scented or soapy materials. Do not use car cleaning or household wax or polish on the interior.

### ***Troubleshooting***

Refrigeration and Freezer circuit breaker switches at the Switch Panel in the Navigation Area and House Battery Master Switch need to be "on". The 2x120AH Solar Panels may keep either refrigerator or freezer on continually while unattended indefinitely but not both.

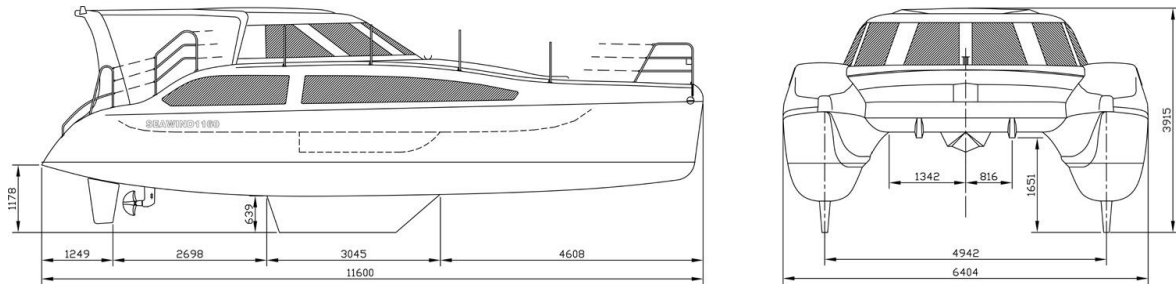
## **SLIPPING**

The diagrams below should be used as a reference when slipping the Seawind 1160.

The weight of the boat should be supported on its keels. In addition props must be positioned near the bow and stern to ensure the boat does not rock fore and aft. Care should be taken to ensure that the sail-drives and rudders do not make

contact with the cradle or any other object likely to damage them.

**Slipping Diagram**



**Troubleshooting**

Both underside of the centre wing and hull keels are designed to hold the complete weight of the boat provided the weight is distributed along the complete length of the boat and not at concentrated points.

It is particularly important that the vessel is supported at the front and back while on the hard so it will not topple over. The rudders are not to be used to support the boat weight as permanent damage may occur.

**ANCHORING**

Your Seawind 1160 carries a 45lb CQR anchor as standard with 55m of 8mm short link galvanized chain. An optional second 35Kg anchor with 10m of chain and 50m of rope may also be included.

Your boat will also be fitted with a Muir Cougar HRV1200 Electric Winch with up and down controls operated from the helm. An electric up foot control can be operated from the front deck and down with manual clutch.

When anchoring your boat the length of anchor warp should be about 4-5 times the depth of the water. Your Seawind will sit comfortably and securely on a mooring or at anchor using the forward bow roller.

There may be occasions however that the use of a bridle may make resting at anchor more stable and less susceptible to chain shock loads. A bridle will reduce the tendency of your boat to swing around its anchor or mooring.

**Troubleshooting**

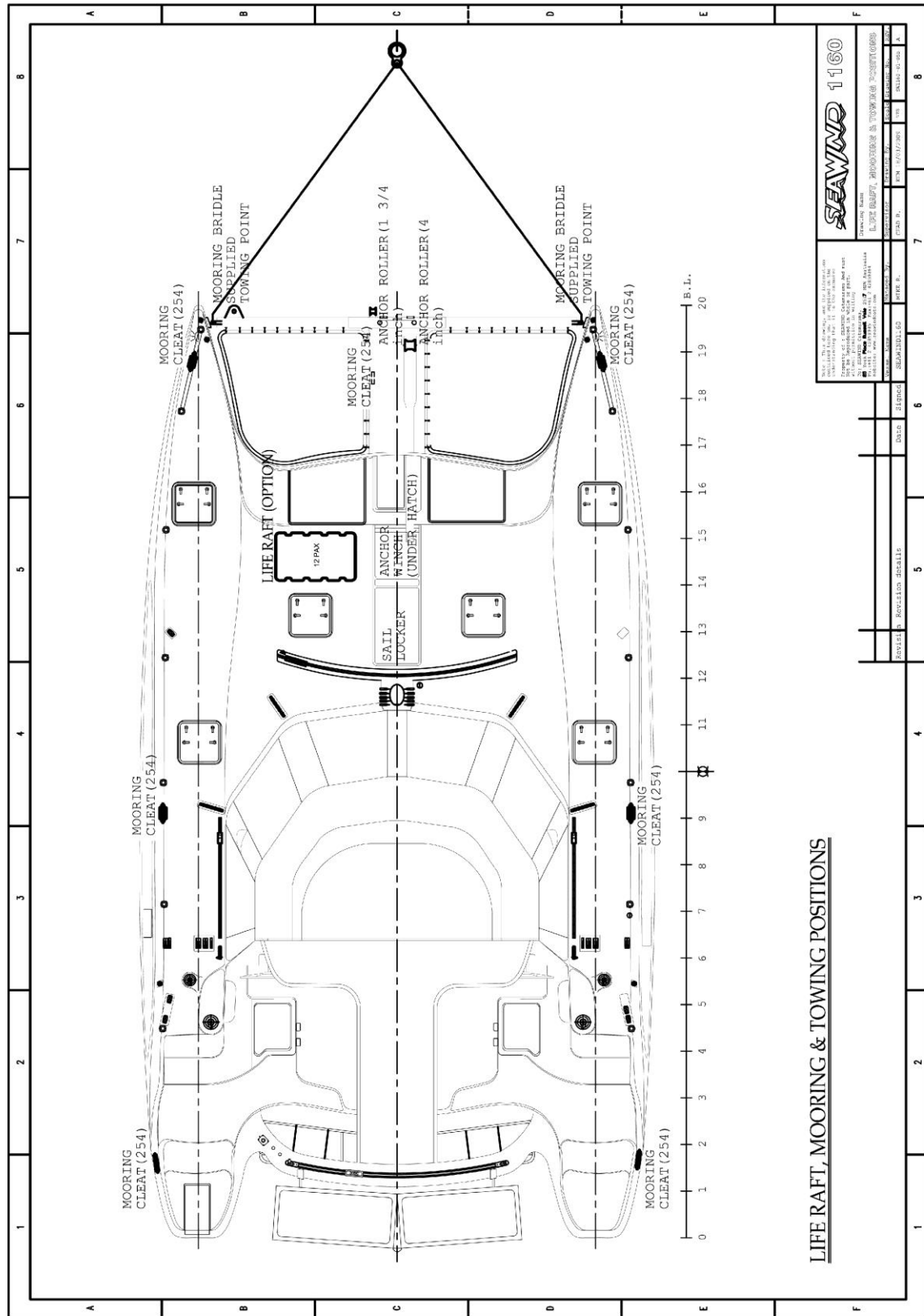
The 100A Electrical Winch Circuit Breaker is located on the aft side of the Electrical Switch Box in the port forward saloon area. It is accessible under the settee cushion next to the coffee table. If both sheet and anchor electrical winches are installed they share the same circuit breaker. Only one device may be operated at a time.

If House Battery Voltage is low, the higher than usual current may trip the circuit breaker. It is important to run at least one engine when operating the anchor or sheet winch for more than 10 seconds.

If an anchor drags best let out more chain if your position allows. Early advice of an anchor dragging can be provided by the GPS Plotter set to Track 0.001nm and Anchor Watch 0.01nm (18.6m).

In restricted anchorages a running moor with an anchor astern and another ahead can be set off the front anchor roller so the vessel is free to move with the wind (never run an anchor off the stern).

Life Raft, Mooring & Towing Position Diagram:



## INSTRUMENTATION

### *Log/Speed Indicators*

The Log/Speed instrument uses a mechanical impellor usually installed through the starboard forward hull. This transducer is prone to blockage with weed and barnacles in as short a time as one week. The Log/Speed transducer can be removed, cleaned and replaced with a dummy plug provided to reduce exposure when not in use. Spongeing from this watertight compartment best removes the small amount of water that enters with this changeover procedure. Note: a GPS Plotter Display will provide absolute Speed Over Ground (SOG) and Log/Speed/Depth Indicator relative speed through the water. The difference is relative current speed if the Log/Speed indicator is calibrated correctly (See Manufacturers Handbook) and transducer is clear.

**WARNING:** Removing the transducer whilst the boat is in the water **WILL** result in the hull filling rapidly with water. A dummy plug / bung must be readily available and to size when removing the transducer.

### *Depth Indicator*

The Depth Indicator may be calibrated to be water depth (the keel is 1.05m below the waterline) by setting the transducer offset to +0.4m. See Manufacturers Handbook for offset procedure. If Digital Fish Finder (Graphical Sounder) option is on depth is provided by the Plotter/Sounder.

### *Troubleshooting*

The Raymarine Navigation instrumentation is highly robust and sophisticated. Basically Raymarine instruments are daisy chained together with Seatalk plug connected cabling. With the first instance of malfunction check the Seatalk cable connections. Some instruments can operate unattended eg. Plotter, Autohelm. Consider isolating faulty instruments as a second approach.

The Fluxgate Compass and Autohelm Actuator are located in the port aft engine room. The Autohelm Controller and Seatalk cabling are located in the compartment ahead of the port helm (with TV) accessed by removing the four screws of the port toilet vanity cabinet. Access to the starboard instrument cables is through the aft cabin hanging locker.

Instrument problems usually occur at cable connections. There is usually only one problem so check one connection at a time to avoid causing multiple problems.

## NOTES ON SAILING

Your Seawind 1160 is set-up to be easily sailed by a small crew. You should have many years of trouble free sailing. There are, however, a few points to consider that are unique to catamaran sailing and are outlined below.

### *Reefing and Sail Control*

The Seawind 1160 has Single Line Reefing meaning one line taken up in the cockpit reefs both clew and tack of the sail. The Mainsail has three reef points. Reef 3 is set at the AYF Cat1 Storm Sail point (1/2 luff height) for extreme heavy weather conditions. Reef 2 is permanently set up and Reef 1 Sheet blocks can be snap shackled to Reef 3.

**WARNING: For safety, the Mainsail must be fully down to attach Reef 3.**

For many people who are new to multi-hull sailing, the first question they ask is “When do I reef?” When sailing on a mono-hull yacht it is easy to tell the boat is overpowered by excessive heel and a heavy helm. On a cat like your Seawind however, there is limited heel and the balanced spade rudders provide a light, neutral feel on the helm. As a guide we have outlined some suggested reefing wind strengths below.

**WARNING: The following reefing wind strengths are recommended**

20 knots	-	Mainsail First Reef.
24 knots	-	Mainsail Second reef.
28 knots	-	Mainsail Third Reef.

When you are about to put a reef into the mainsail, luff the boat up until you are head to wind. When there is no pressure on the mainsail ease the halyard and take up on the single reefing line 1 or 2. Once the reefing point is secure re-tension the halyard.

### *The Traveler*

The mainsail shape can be further controlled with the traveler. Unlike many keelboats which have a vang to prevent the boom from lifting, a catamaran uses its mainsheet and long traveler to control sail shape. The traveler would normally be held in the centre of the track while pointing into the wind and eased off as the boat’s course falls off reaching. While running the traveler is fully extended with the sheet on hard enough to keep the mainsail off the side stays. The traveler is trimmed by using the continuous winch on the port side of the targa.

The Seawind 1160 has a particularly safe traveler arrangement on top of the targa. By locking off both traveler and mainsheet, the boat has an effective “preventer” so that the boat cannot accidentally gybe, while sailing down wind. Nevertheless, when you decide to gybe, ease enough mainsheet tension so that you can move and lock the traveler on the centreline. Next, as the boat is slowly turned, pull in the mainsheet so that it is on centreline as the stern passes through the eye of the wind, and then smoothly feed it out as the boat goes onto the new tack. After completing the gybe, ease the traveler back down and trim the sail with the mainsheet. This method will ensure safe, controlled gybing even in very windy conditions.

### ***Reeching and Running***

By far the most comfortable point of sailing the Seawind 1160 is running with the wind abeam at 120 degrees relative. When running the traveler needs to be fully out and mainsheet on sufficiently to hold the main sail off the swept back stays.

***WARNING: The Mainsail must be kept off the Side Stays to prevent premature wear of the sail.***

The Seawind 1160 should not be run directly down wind as it increases risk of damage from an uncontrolled gybe. Better downwind performance can be achieved by tacking and using the optional Screecher or Multi Purpose Spinnaker.

***WARNING: The optional Screecher headsail or Multi Purpose Spinnaker must not be used in more than 15 Knots apparent wind speed.***

The optional Bowsprit may be raised to detach the Screecher but needs to be fully down when in use. The Screecher is a very large headsail and should not be left unattended under sail or furled. The Screecher is for reaching and running in up to 15 Knots apparent wind speed only. It is not a “Code Zero”.

### ***Heavy Weather***

It is prudent to avoid heavy weather conditions wherever possible. Should you find yourself in strong wind conditions the Seawind 1160 will hove to well because of fullness in its hulls and wide beam. It behaves like a life raft and is remarkably calm considering the conditions while you wait for the storm to pass.

***WARNING: To hove to there needs to sufficient room downwind to drift at around one knot.***

To hove to the jib must be fully furled and mainsail reefed to suit the wind strength at the time. Set the main sail traveler fully out and mainsheet on. Turn and possibly motor the boat so the mainsail is pointing into the wind, with the boat about 40 degrees off the wind. Stop the boat and lash the rudders fully on the opposite tack to the main. This is an active hove to position with the boat falling off to around 60 degrees, moving forward under sail to be turned up under rudder to around 20 degrees. The net effect is to zigzag down wind at around one knot.

It is also prudent to triangulate the main boom with the topping lift, main sheet and preventer to the aft mooring cleat. With the boom set to carry its own weight, the weight of the furled main and any trapped water, the fully battened mainsail is in the best position to look after itself when hove to in very strong wind conditions.

### ***Troubleshooting***

Continually check that all shackles and fastenings are not worn and firmly nipped up. Do not nip up fastenings that are sealed as this may break the seal and cause water incursion.

At a time of crisis caused by breakage or excessive weather, first stabilize the situation to get things under control (see Heavy Weather - Hove to). Then resolve the problem.

## CONCLUSION

At Seawind Catamarans, we are always trying to improve our boats and as such welcome any input from our customers. Should you have any thoughts regarding improvements to the boat please contact us on the details below.

Seawind Catamarans  
25 York Place  
Russell Vale NSW 2517  
AUSTRALIA

Telephone: (612) 4285 9985  
Facsimile: (612) 4285 9984

E-mail : [info@seawindcats.com](mailto:info@seawindcats.com)

## **WARRANTY POLICY**

Your Seawind 1160 is warranted to be free from defects in material and workmanship for a period of one year from the date of delivery to the original purchaser. In addition we warrant the hulls and decks for blistering or structural failure for a total of five years. Our sole obligation under this Warranty shall be limited to replacing, correcting or repairing any part manufactured or installed by Seawind which is determined to be defective by reason of faulty workmanship or material.

This warranty shall not apply to:

- Defects caused by accident, misuse, neglect, improper repair, lack of proper maintenance, normal wear and tear, negligent operation or improper modifications by persons other than Seawind employees.
- All parts and accessories not supplied by Seawind and any part not manufactured by Seawind. Any warranty on such parts, if possible, will be passed on to the Equipment Supplier, and Seawind will agree to act as the Purchaser's agent in warranty claims on these parts.

The purchaser shall be responsible for returning the SW1160 or any defective part to Mariglass Sales P/L's Factory (Seawind Catamarans) or The Agent / Dealer from whom the SW1160 was purchased or An independent repair facility approved by Seawind or our Agent / Dealer. For any needed replacements, corrections, repairs. Purchaser agrees to promptly notify Seawind of any condition of part that Purchaser believes to be defective.

NOTE: The extent of the warranty is limited to the above conditions.

The warranty does not cover the following: loss of the use of the boat, loss of time, inconvenience, or commercial loss, direct, special or consequential damages or otherwise arising out of the use of the boat.

### **What To Do In The Event Of A Warranty Claim**

Seawind Catamarans must approve any warranty work prior to that work being performed. Seawind Catamarans also recognises the need to act quickly in resolving warranty problems and thus minimize any inconveniences.

Complete **Warranty Notification Form** and Fax to either your Agent or Seawind Catamarans directly - depending on whom the boat was purchased through.

Where the warranty involves having work performed by another party, quotations must be sought and included in the completed **Warranty Notification Form**. Where Seawind Catamarans considers it necessary - we reserve the right to seek alternative quotations for work to be undertaken and will have the final say as to who will ultimately perform the warranty work.

### **Warranty Notification Form**

Email to: [factory@seawindcats.com](mailto:factory@seawindcats.com)

NOTE: before any warranty work is to be performed - Seawind Catamarans must first approve it.

Date of Notification: .... / .... / .

Name of Owner: .....Name of Agent .....

Phone ..... Fax ..... Email .....

Boat Name: ..... Sail No. SW ..... Factory No. SC ....

Location of Boat: .....

General Description of Problem: Please provide supporting evidence where possible eg. digital photos etc.

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 .....  
 .....  
 .....  
 .....  
 .....

Urgency of Problem:

Boat Unable to be Used

Inconvenient but Usable

Minor/Annoying

Cost Estimate for Repairs: Please provide copy of Quotation (where applicable)

Materials	Description	Cost
Labour	Hours	Hourly Rate
TOTAL		

Final

Comments

.....  
 .....  
 .....

Fax Completed Form to either Agent (from whom boat was purchased) or Direct to Seawind Catamarans Fax Number +61 2 4285 9984