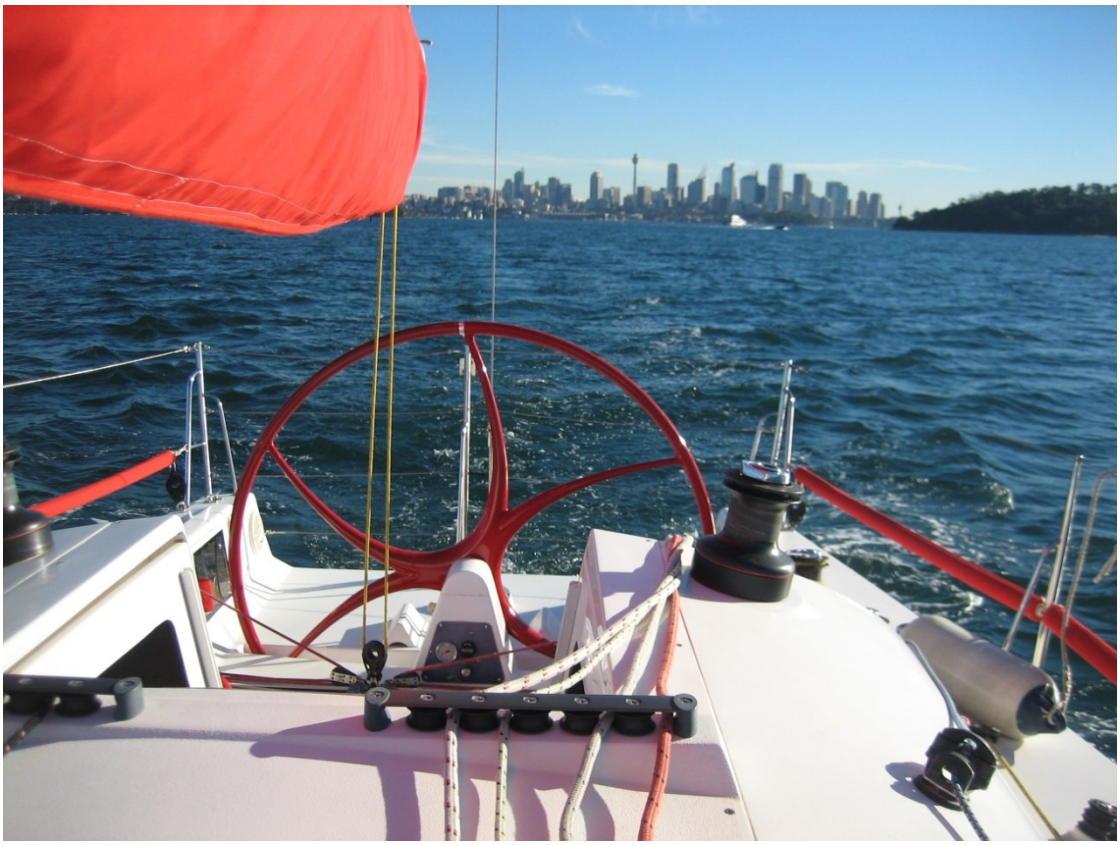
JESSICA RABBIT

Sydney 32 Owner's Manual



Registration	**AFS505N**
Sail Number	1309
L.O.A.	9.68m
L.W.L.	8.65m
BMAX	3.2m
Draft	2.05m
Displacement	3100kg
Safe Mast Height	15m from WL to a clearance above wind gear
Sydney Yachts #	3215
Diesel capacity	68L
Water Capacity	150L

Table of Contents

F2

SYDNEY 32 ONE DESIGN CERTIFICATE

YACHT NUMBER: 3215

HULL

Measured by: MARK ROWLEY
Class Measurer

Date measured: 8/12/2003

MAST & BOOM

Measured by: R. PRITCHETT
Class Measurer

Date measured: 4/12/2003

Confirmed and Issued by Sydney 32 Chief Measurer: John Anderson

Date issued: 20/12/2003.

CORRECTOR WEIGHTS

D2.3 i) Forward Corrector Weights 0 **Kgs**

D2.3 ii) Aft Corrector Weights 0 **Kgs**

OPTIONAL EQUIPMENT

COMPASS, POWER SUPPLY, PRESSURE WATER, STOVE, STERO, VHF RADIO, COCKPIT SEAT LOCKERS,

JL.

OWNER'S DECLARATION AND YACHT DESCRIPTION

Boat Name: ----------

Sail Number: ----------

Owner: ----------

Address: ----------

OWNER'S DECLARATION

"I certify that I understand my obligations under the Sydney 32 One Design Class Rule"

Signed: ----------

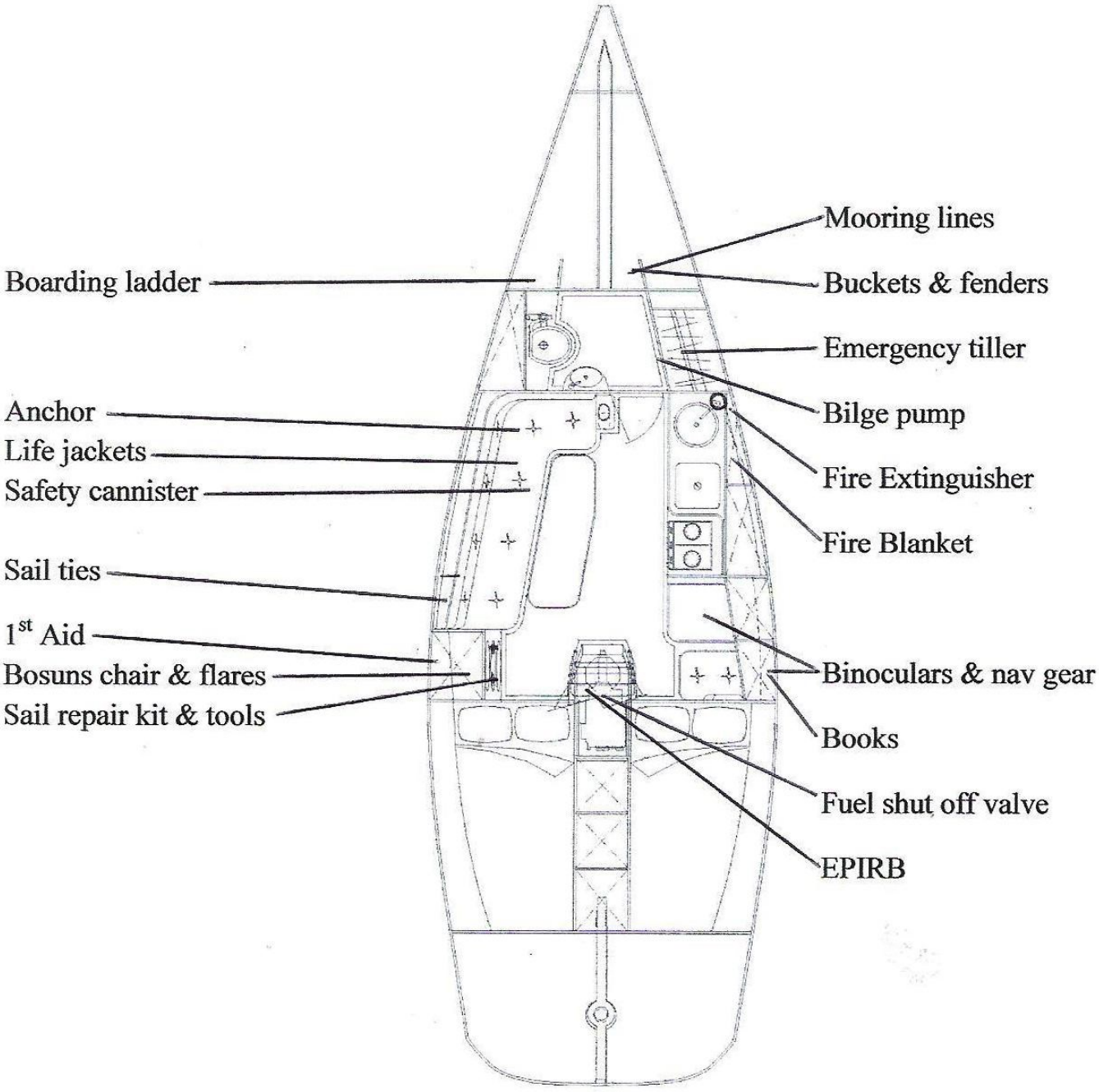
Owner

SYDNEY 32 EQUIPMENT ENTRIES

Mast Measured		Boom Measured		Mainsail Stamped		Large Jib Stamped		ORC Heavy Weather Jib Stamped		No 1 Spinnaker Stamped		No2 Spinnaker Stamped	
No.	Date	No.	Date	Date	Brand	Date	Brand	Date	Brand	Date	Brand	Date	Brand
3215-1	4/12/03	3215-1	4/12/03										

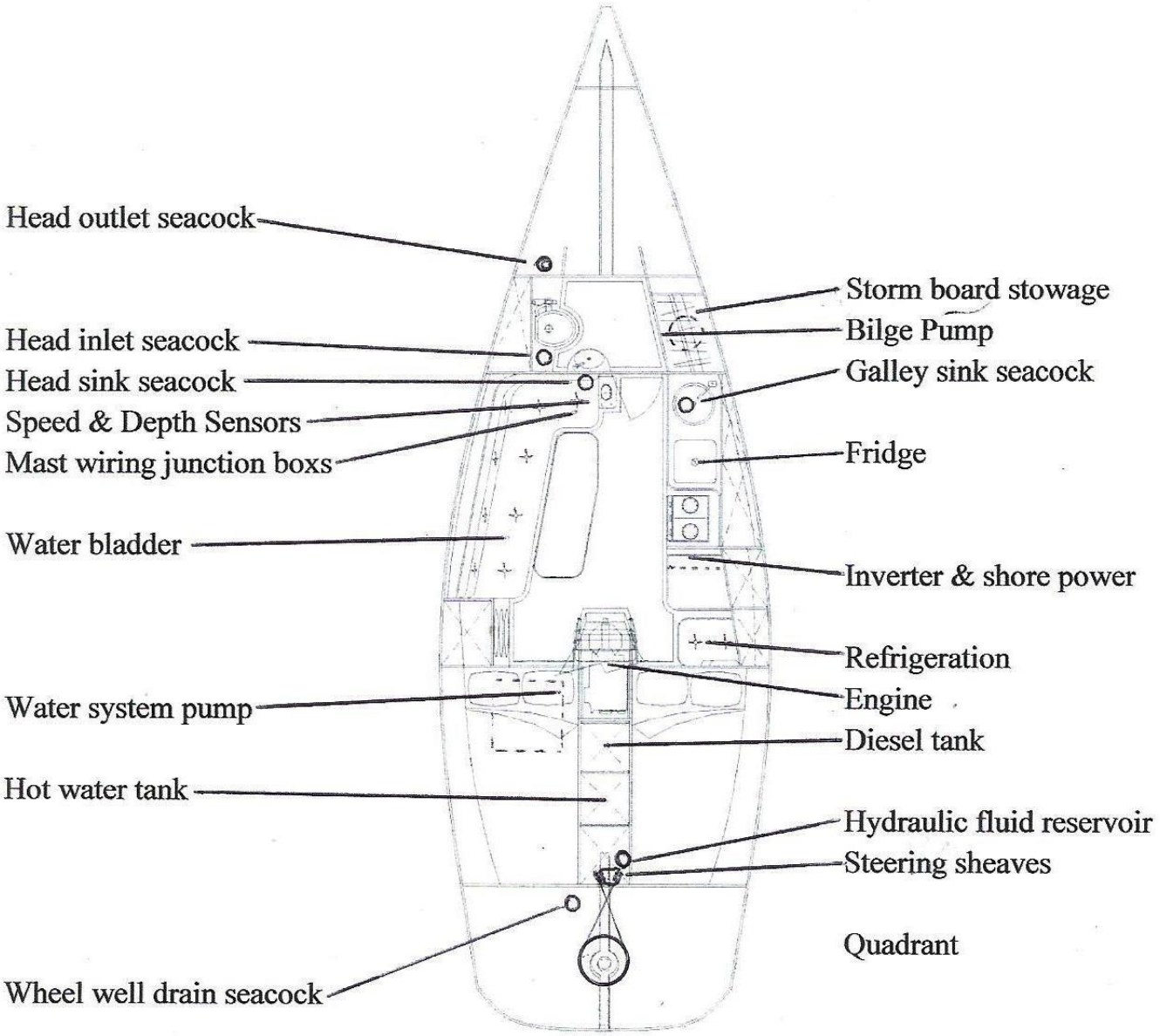
Stowage Plan

Safety & moving items



Stowage Plan

Fixed Items



Sydney 32 Rig Tune Guide

TWS	HEADSTAY	CAP SHROUDS	LOWERS (D1)	UPPERS (D2)	HEADSAIL	SPINNAKER
Base 11 kts	2060mm	RT10 = 50 PT3 = 22	RT10 = 28 PT3 = 11	RT10 = 5 PT3 = 1		
Thread measure (mm) at base						
0 to 6	-6	-2	-3	0	L/M	2S
7 to 10	-3	-1	-2	0	L/M	2S
11 to 15	0	0	0	0	M/H	2S
16 to 20	3	1	1	0	M/H	2S/3S
20+	5	1	1	0	#4	3S

All measurements are turns from BASE. Thread measurement should be between turnbuckle thread tips.

SET HEADSTAY ARC

1/. Swing an arc with the jib halyard from the top of the gooseneck black band to the forestay and mark the forstay.
2/. Measure from the mark on the forestay to the centre of the forestay pin.
3/. Arc measurement = 2060mm. THIS IS BASE HEADSTAY.

Total Headstay length = 12805mm

Target Boat Speeds and True Wind Angles

	UPWIND		*D/WIND*	
TWS	BS	TWA	BS	TWA
6	5.3	44	5.6	140
8	6.2	43	6.6	145
10	6.5	41	6.9	153
12	6.7	40	7.2	165
14	6.7	39	7.7	169
16	6.7	39	8.2	171
20	6.7	39	9.3	169

Amp Meter

The amp meter is an important gauge when, discharging from the batteries or charging the batteries. It is located on the switchboard. The amp meter has three basic settings and readings, found using the V, A, and C buttons.

The V function displays voltage data for the individual batteries, engine battery or house battery. You toggle the V button with repeated presses to display either battery voltage. Always charge when the voltage is reading 12.2 volts minimum. The batteries will get down to 11.7 volts, but starting the engine is unlikely.

The A is for amps. This display only requires one press of the button, but it is simple to read. It either displays CHARGE or DISCHARGE. When the amps displayed are in the negative, you are discharging. When the amps displayed are positive, you are charging. The amp function displays the total amps being used or taking in, at that one point in time. Over 15 amps being used, is a lot.

The C is for capacity remaining. The capacity remaining toggles, by the press of the C button, between ampere (amps/hour) and the remaining percentage of maximum battery capacity. An ampere is the amps per hour that you are using. In the above photo, if the A function shows, 7.8 amps, you will have a maximum of ten hours battery time remaining. To see the percentage of capacity remaining, press the C button again. It is best to charge, if the percentage is between 30-35%, as the batteries perform better with consistent long periods of charge. Do not be surprised if the amps, when charging, drop from 30A to 5A at around 75% of capacity. This is the regulator slowing the charging process down to 5A. The only way to see 100% is on shore power.

Battery Isolator Switches

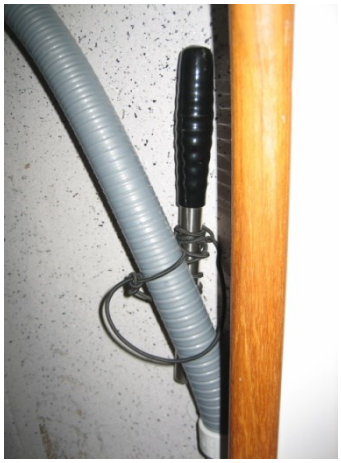
There are three battery isolator red key type switches. These are located under the nav table in front of the seat. The isolator switches are turned off if the red keys are pulled out of the switch or in the switch, but in the horizontal position. To turn the batteries on, simply put the keys into the switch and turn clockwise a “click”. To turn the batteries off, you need to turn the key anti-clockwise and you can pull the key out.

The two top switches are for the house and engine batteries, and the lowest of the switches is part one of turning the inverter on. See “Nav Station” for inverter controls.

Bilge Pump System

There are two Whale Gusher Urchin “underdeck, with removable handle”, bilge pumps onboard.

The pump below deck, is located beneath the rope hanging locker. The bilge pump handle is located in the rope hanging locker, tied onto the bilge pump outlet house on the aft inboard end of the locker. It slots into the hole located on the pump, underneath the plastic cover. To assess the roaming hose, you’ll need to open the inspection port in the bottom of the rope hanging locker. This bilge pump hose reaches the saloon and forward areas of the boat. The pump exhausts straight overboard above the waterline.



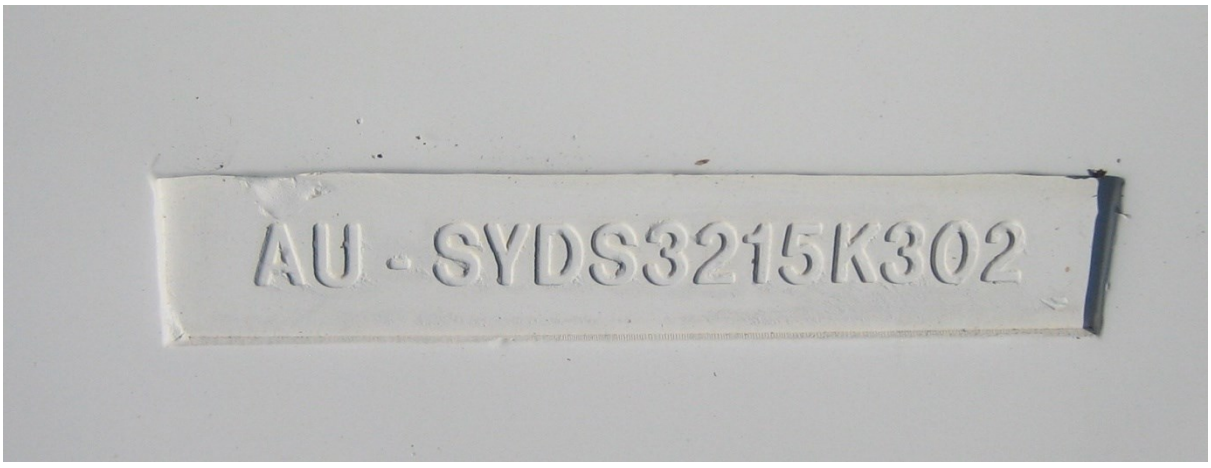
The on deck bilge pump handle is located in the engine control panel box. Yet again, the handle slots into the hole located on the pump underneath the plastic cover. This pump only pumps out of the fresh water system pump compartment (black hose, port side of the engine) and exhausts out of the transom.

Boatcode/HIN Number

The Boatcode number is the yachts official identification number she will keep her whole life. This number needs to be repeated when dealing with change of owner, registration, insurance, etc.

The number is usually displayed or stamped into the upper starboard side of the transom.

This boat's Boatcode/HIN is **AU-SYDS3215K302**



Charging Batteries

The boat has two options for charging batteries, shore power or engine/alternator charging. For both types of charging the amp meter, situated on the switchboard, is an important gauge. The amp meter allows you to gauge whether you are actually charging, and what rate of charge you achieving.

To acquire engine driven charging of the batteries, you will need to be motoring at over 1500 rpm. This drives the alternator sufficiently to replace the batteries with charge. The charge going into the batteries is controlled by a regulator, on the port aft wall of the engine room. If the boat is on a mooring or at anchor, you will need to charge the batteries by applying revs to the engine in neutral. 1500 rpm is suitable for this charging as well. This is acquired by pulling the throttle handle towards you with two fingers, then pushing forwards until the desired revs.

The shore power inlet is located behind the throttle. The throttle needs to be pushed into either forward or reverse, pulling the throttle handle towards you, to access the inlet, to plug the shore power lead in. Once the plug is pushed in, tighten the orange screw to acquire a firm fit. Plug the other end of the lead into the dock and switch the power on. There are two ways of checking that you are charging, firstly, the amp meter needs to be reading CHARGING with positive amps, and, secondly, the Tek Trek Switch Mode Charger, in the forward lower nav station locker, will have its charging indicator light illuminated.

Yanmar 2GM20-93 18Hp Engine

Whenever requiring the engine to be worked on, quote the engine as a “Yanmar 2GM20, 18 horsepower, with a Yanmar SD20 saildrive and a folding two blade prop”.

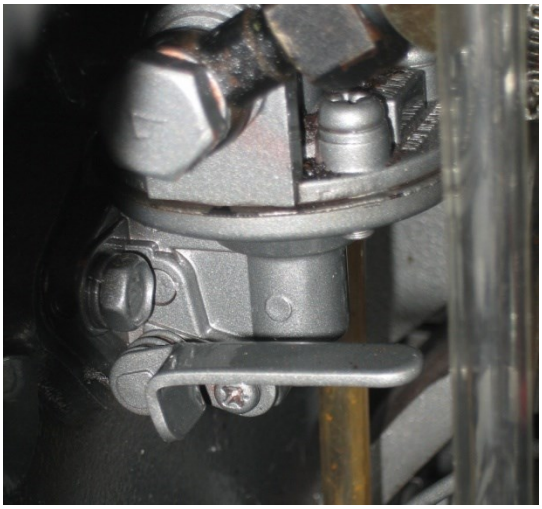
The engine’s Serial Number is M140139202 and saildrive manufacturing number is 9239.

To access the engine bay, the companion way steps need to be unfastened from the wall beneath the hatch, pulling the pins out and lifting the steps off the engine box step. The engine box latches then unfasten to release the engine box.

The primary things to know about the engine for day to day running are quite basic. For checking the oil, there is a dipstick on the port side down low. The oil filler cap is yellow and on top of the engine. Always double check the dipstick oil level, and check again while refilling the oil. Do not refill the oil above the dipsticks maximum marking.

There is a radiator cap that should not be opened when the engine is hot. There should always be water in the radiator, when cool. It has an over spill reservoir attached to the engine, which has a minimum to maximum marking on it.

If you ever run out of diesel, and you need to bleed the engine, once the tank is filled up again, there is a manual fuel pump on the port side near the dipstick that you pump to “bleed” out the air in the fuel system. You need to crack the bolt head half a turn off. This is on the fuel line after the pump. Pump using the fuel hand pump, until more diesel than air is bubbling out of the loose bolt. Tighten the bolt and try to start the engine, while continuing to pump. You may need to crack the next bolt in the system, and then the next one again to get the engine started. Make sure you only have one bolt cracked at a time.

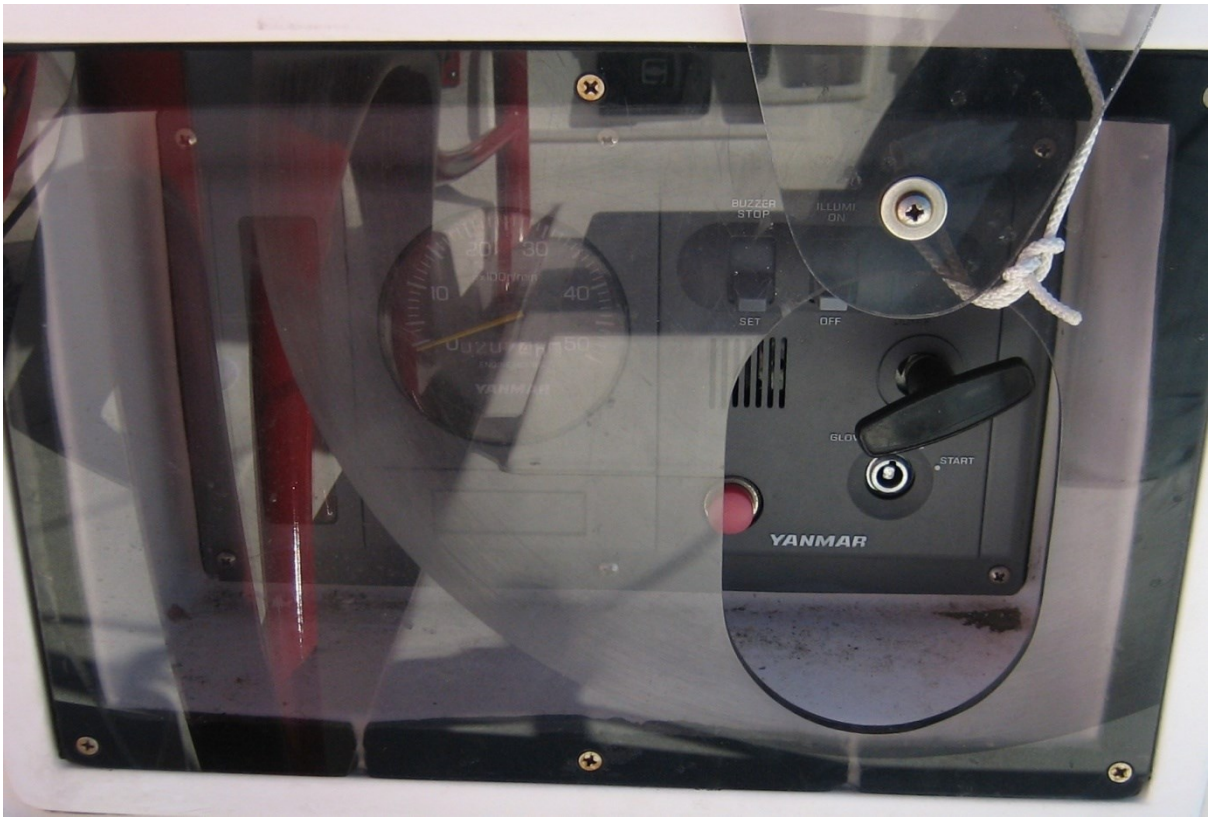


The engine is connected to the saildrive, which controls the propeller. The saildrive has a specific type of oil in it. The dipstick is on the bottom of the filler cap, on top of the saildrive. The saildrive seals should be replaced every four years, otherwise water can get into the gearbox and blow the engine up!

Yanmar 2GM20-93 18Hp Engine

Control Panel

The control panel houses the engine on/off controls and displays the alarms.



To start the engine, put the key in the ignition and turn clockwise until the audible alarm is heard, then press the red button to the left of the key for ignition. To stop the engine, pull the black lever above the key and then turn the key off to remove the alarm.

As well as the key, ignition button and stop lever, the control panel also houses the engine alarms. These alarms can be audible visible or just visible. The reason that alarms arise are oil pressure and engine temperature. There are a number of reasons for the oil pressure alarm to go off. If this occurs, sail home and call your or a professional. The two main reasons the engine temperature alarm goes off, if there is something stuck in the sea water intake, or if the impellor is burnt out. If this occurs, sail home and call your or a professional.

Yanmar 2GM20-93 18Hp Engine

Fuel System

The diesel tank holds 65 litres of diesel. There is a dipstick on the bottom of the filler cap, located in the cockpit. The dipstick is marked at 15 litre increments. The breather for the diesel tank system is placed on the steering wheel pedestal.


There is a fuel shut off valve for engine supply, located on top of the tank in case of an engine fire. This valve is controlled by the handle above the engine box, under the companionway steps. When the handle is placed in the horizontal position, the system is on. You can turn the handle either way to stop fuel supply to the engine.

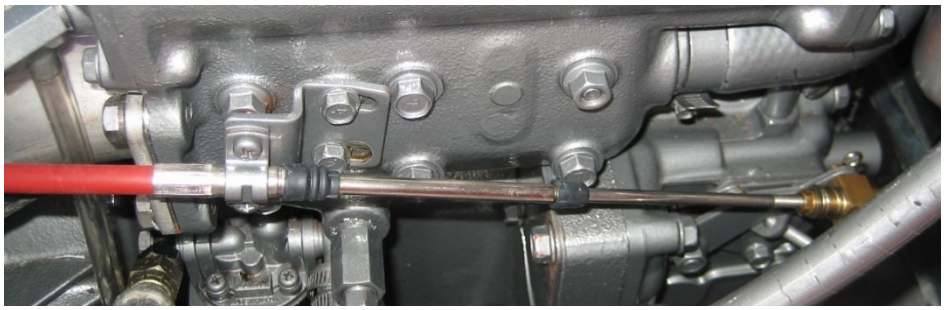
The tank has 4 hoses going into it. These are the diesel supply, stainless steel engine pick up, stainless steel engine return and the tank breather. The engine pick up line has the fuel shut off valve plumbed into it. The diesel supply from the cockpit floor is the largest hose. The engine return is coming from the engine and the breather leads aft to the steering wheel pedestal.

The stainless steel fuel supply to the engine has a pick up in the bottom of the tank, which takes the diesel to the fuel pre-filter on the aft engine room wall, then the fuel flows through the fuel pump located on the port side of the engine and then through the primary filter located on the engine. After the primary filter, the diesel is dispersed to the pistons via a manifold. The excess diesel that was not required in combustion returns to the tank in the stainless steel return line.

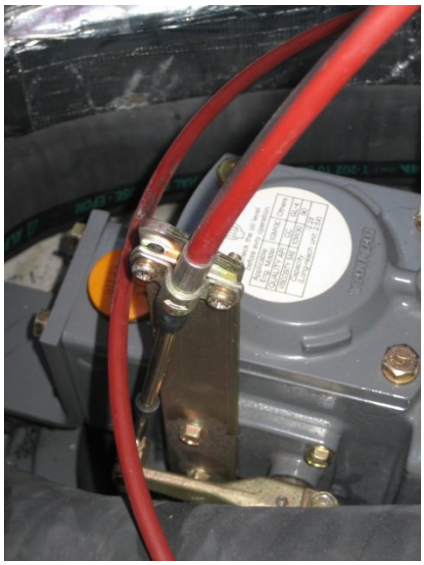
Yanmar 2GM20-93 18Hp Engine

Throttle Controls

The engine throttle is controlled by a “Morse” system. This system is run by cables from the on deck throttle to the engine below.



The throttle has two principles of operation. One is to control the engine revs, and the other is to control which gear the saildrive is running (forward or reverse).



To obtain forward gear, simply push forward one click from the handles vertical position, which is neutral. Reverse is obtained by pushing the handle aft one click. To obtain revs in either forward or reverse, push the handle in the specific direction until you get to the desired revs.

When charging the batteries on the mooring or whilst sailing, when you do not want the boat in gear, you can rev the engine whilst in neutral. To obtain revs in neutral, pull the bottom of the throttle handle inboard (towards you, with two fingers), and then push the handle forward until you achieve the desired revs.

Fire Fighting & Fire Safety

There is one fire extinguisher onboard, located at the forward end of the galley, and a fire blanket in the forward galley locker. A bucket, with lanyard, is also useful in event of fire. They are stowed under the forward V berth.

The fire extinguishers are used to put out fire in an excessive extinguishing/smothering way. To extinguish a fire with the extinguisher, aim the extinguisher at the bottom of the flames. The fire blanket is more of a neat smothering device. Fire blankets are also useful for clothing fires. You can also pick up sea water with a bucket. Splashing water from a bucket can be more effective than throwing the entire contents at once.

Fresh Water System

The fresh water system holds a capacity of 150L, held in one bladder below the saloon table seat on the port side. The filler is on deck, amidships on the port side. The breather for the water bladder goes through a port side stanchion base.

The Johnston pump has an accumulator plumbed in, which holds pressure in the system. There is a filter plumbed in before the pump to catch any contaminants before the water flows through the pump. The pump is in the forward locker, under the port bunk.

There are three water outlets, these being the head, galley and cockpit shower. The head and galley taps are kitchen sink mixers.

The Woody's Marine Hot Water Heater heats the water supply when either under motor or on shore power. This hot water only comes out of the hot water components of the taps at the sinks.

Galley

Metho Stove

The methylated spirits stove onboard is an Origo 3000. The metho stove has two cook top burners the supply flames from the metho chambers below. These chambers dry out after longish periods of no use, so it is always handy having a 1L bottle of metho onboard.

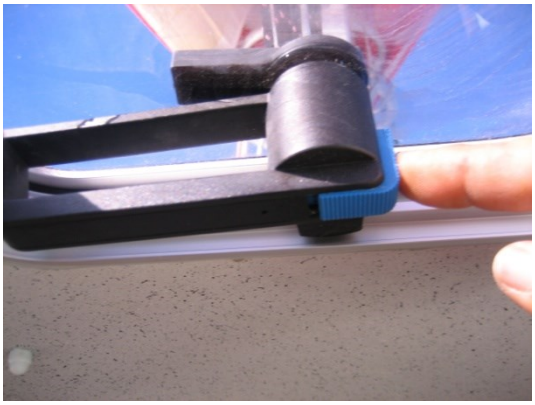
To assess the metho chambers for refuelling, you will need to press the clip on the front of the unit and rotate the top of the cook top lid up and back until you can remove the two chambers. It is best to refill the chambers on the galley countertop, as the unit will not sit flat and level easily with the lid swung back. To refill the chambers, holding the chamber on an angle, slowly pour metho into the hole in the top of the chamber until you see a level of metho at the bottom of the hole. These chambers should hold about 1 litre each. Replace the chambers when done and close the lid until the clip holds everything in.

The cook top valves control the amount of flame allowed to rise out of the chamber. Max flame, max heat. When you turn the valve on, this opens the cover plate that sits over the chamber. To light the burner, open the valve all the way to 4, and using a long-nosed lighter sticking through the burner down to the chamber, light the chamber until you see flames. Happy cooking. Simply turn the valve to 0, to turn the cook top off.

Hatches

The Gebo hatches have two latching points. The first is having the hatch pulled all the way down and latched, the other is having the hatch slightly cracked and latched to allow air inside the boat. Once the hatch is latched in the desired position, you can lock the hatch by pushing the blue tab in towards the handle. To unlock, press your thumb along the top of the blue tab, and push it away from the handle.






There is a long round tool in with the manuals folder for hatch maintenance. This tool is used to tighten the friction in the hinges to make the hatch hard or easier to move.

The cockpit has a Lewmar porthole on each side above the bunks. These open by pulling each latch towards you, and the pothole will open. To close, push the porthole window closed, and each latch then gets pressed into place to lock the porthole closed.

Head Instructions

The head is a Jabso head and pump. The workings of the head are fairly basic. The sea water outlet seacock is underneath the V berth, on the port side, in front of the small bulkhead, and the sea water inlet seacock is underneath the inspection port just aft of the actual head. These both need to be open, with the handle facing away from the hull in line with the fitting. They are closed when the handle is parallel to the hull.

The actual head pump has two settings, flush and dry bowl. The handle pumps flushing water and waste, it also locks down into position to prevent damage and also help keep the pump sealed, so that water does not flow into the bowl when not being used. The handle is locked by pushing it down (with the handle aligned with the pump). Once the handle is all the way down, rotate it anti-clockwise to lock handle into place.

With the handle unlocked, you can pump it up and down smoothly. If it does not pump smoothly, the seacocks are closed or you have a blockage. After doing your business, put the flush/dry toggle to the left and pump until the waste is finished getting through the pump, and then pump another 15 times. To dry the bowl, push the flush/dry toggle to the right and pump 20 times. This will clear the bowl. When finished pumping lock the handle again. You can leave the flush/dry toggle in either position.

Instrumentation

B&G h1000

The h1000 instrument has three main control buttons. The lighting button, on the left hand side, scrolls the lighting sequence through high-medium-low-off and back to high if pressed again, and through the sequence. It is best to leave lighting off if not using it. To work out whether the lighting is on or off during daylight hours, cup your hands over the screen and see if you notice a reddish glow, if so the instrument lights are on, so scroll through the light button until there is no reddish glow. The up/down arrow buttons in the centre are used to move through the various display pages and to scroll through options. Pressing the enter key, on the right side, displays the main menu, it is also used to select highlighted items.

Switching on the instrument switch on the switchboard will turn the h1000 system on, and the B&G logo will display on the screen. The h1000 will then perform a series of tests and checks and will display and failures found. After a few seconds, if no failure has been found, the screen will display the previous data page that was used the last time the system was on. Once the data page is shown, you can move through the page options using the up/down key.

The main menu stores the setting for using the timer, page content, memories, calibrations and system settings. To assess the main menu, press enter from any data page. I will not run through all of the menu adjustments, but the timer is useful, and adjusting instrument displays is essential knowledge. If the main menu is not touched for six seconds, the instrument will

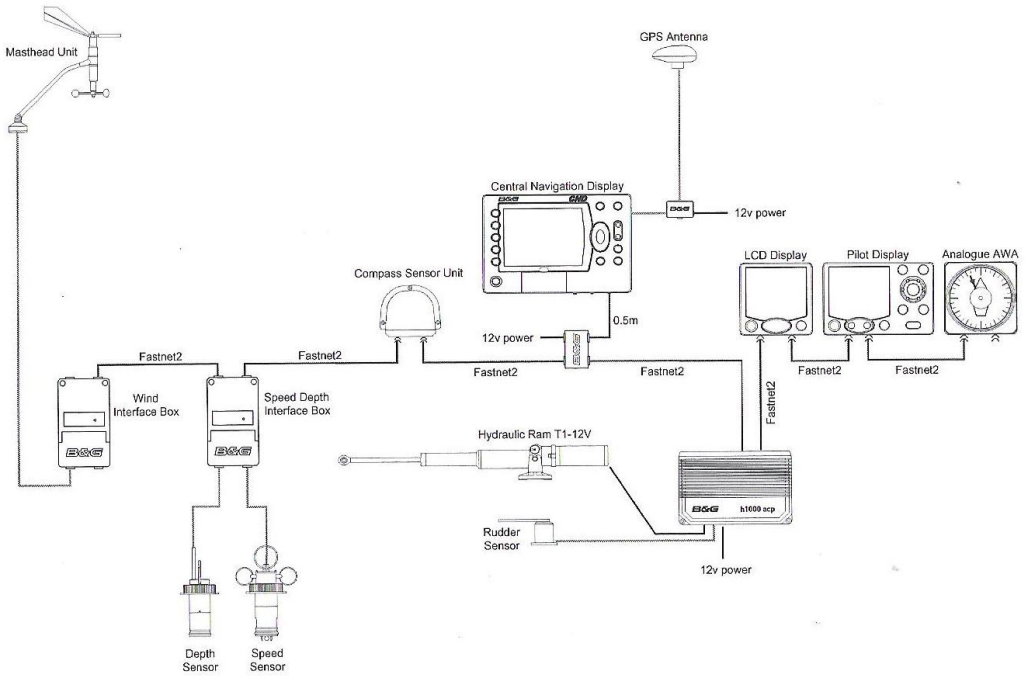
automatically refer back to the previous data page. Please see B&G h1000 user manual for more information.

To use the timer, highlight timer in the main menu and press enter. This displays the timer page on this instrument. To adjust the time to start, highlight the 00 (or 05 or 10, whatever the previous setting was) and press enter to use the up/down arrow to select what countdown to use. Press enter when adjusted and with the up/down arrow, highlight start and press enter to start the countdown. When counting down, the display will read, time to start, after the countdown reaches 0, the display will continue to count and read elapsed time. To reset counter, highlight reset and press enter. The timer continues to operate when not displaying the timer page, and can be repeated on other instruments.

To change an individual instrument's data display, press enter when on the data page. This will display the main menu. Using the up/down arrow, highlight Page Contents and press enter to decide what format you would like data to be read at, i.e. one, two, three or four items of data. Using the up/down arrow, highlight the format you wish to use and press enter. This puts you onto selecting which data is going to be displayed in which pane of the screen. If you have only selected one pane (one item of data), highlight the one pane, and press enter. Use the up/down arrow to select which item of data to use, and press enter to select. If using more than one pane, repeat this process. After selecting the final item of data, highlight OK and press the enter button to save. You will then be taken back to the main menu.

The mast repeater is a B&G h1000 3fd. The 3fd repeats three pieces of data, and you can configure each line with data that suits your requirements. The lighting is controlled from the h1000 instruments. Please see h1000 user manual for more information.

The diagram below shows the system.



system expansion diagram

The command pages from the user manual for the timer and page contents are below.

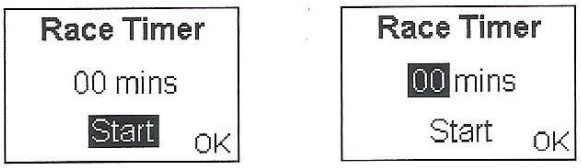
timer

timer

When the timer is selected from the **Main Menu** for the first time, the display will show **Time to Start**. To adjust the start time, highlight 00 mins and press the **ENTER** key when ready. Alter the countdown start time by using the **UP/DOWN** keys and press the **ENTER** key to move between the digits.

To start the timer, use the **UP/DOWN** keys to highlight Start and press the **ENTER** key when ready. If the timer is counting down to the start of a race, the Title will remain as **Time to Start**. When the timer reaches zero, the title will change to **Elapsed Time** and continue counting up until Reset is selected.

The timer function continues to operate even when the timer page is exited. This allows access to other pages if necessary or perhaps even configure a data page to show the **Race timer** function.



changing display format

display formats

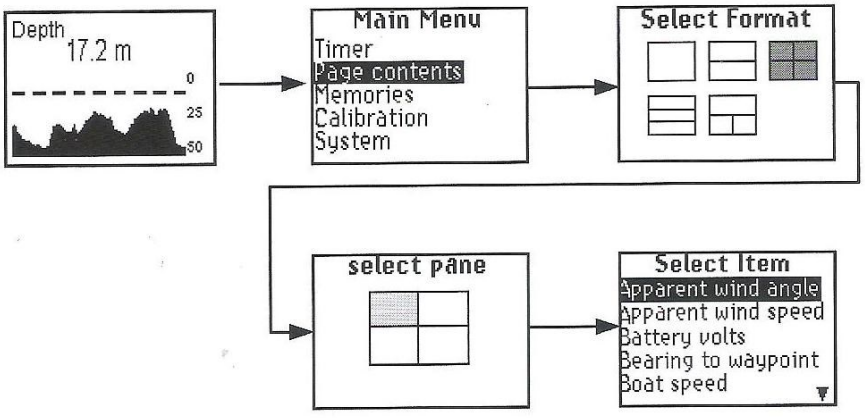
The display can be customised for personal preferences using the page contents menu.

changing pages

Pressing the **ENTER** key from a data page will display the main menu. Select the Page Contents menu to change the format of the data page previously displayed.

Select one of the pre-defined display formats using the **UP/DOWN** keys and then press **ENTER** to select.

Once a display format has been selected, you can then choose which information is displayed in each panel. Use the **UP/DOWN** keys to scroll through the choices and then press the **ENTER** key to select.



Repeat the selection process until you have made a choice for each pane. Highlight OK and press the **ENTER** key to save. You will then be taken back to the **Main Menu**.

Instrumentation

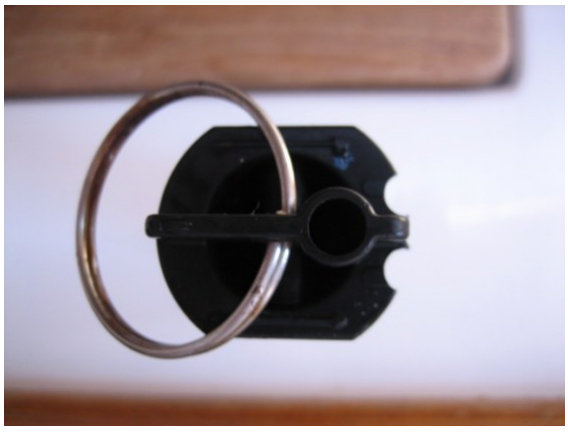
Speedo/Log Impellor

The speedo/log is located in the compartment beneath the seat on the port side of the mast. The forward of the two sensors is the depth transducer. The mast wiring, also runs through and junctions in this compartment.

The speed that is repeated by the instruments is taken from the boats “Log”. The log is read from the speed of the impellor that is at the bottom of the sensor. This sensor needs to be taken out each time after sailing as to avoid growth, which makes the reading inaccurate and slow.

The impellor has a blank plug which pushes into the skin fitting when the sensor is not in place.

Both the sensor and the plug have two ways of achieving the correct plane, both fore/aft and vertically. The first alignment, while pushing the sensor/blank down, is the two slots on the top forward face of the sensor/blank and skin fitting. When sensor/blank is pushed down all the way (with cable forward), the slots in both fittings line up to a firm fit. The only other way to know that the sensor/blank in aligned correctly is if the horizontal pin fits through the fittings to secure them into place.



The snail pins secure the horizontal pin into place. These can be pulled out from either end.

There is a brush in this compartment for cleaning the impellor area of the sensor. To get the impellor off the sensor, push the small impellor pin with a small allen key. The pin slides out enough to get the impellor off for proper cleaning. To put the impellor back on, you will need to push the pin inwards, with impellor in place, until the pin is inside the sensor again. If the pin is sticking out at all, you can damage the o-rings that keep the boat watertight.

Leave the depth sensor in place at all times.

You can bail this area out with a sponge and bucket.

Instrumentation

Mast Wiring Junction

You need to disconnect the mast wiring to un-step the mast. The mast wiring runs out of the mast on the portside and into the speedo/depth locker.

There are three junction boxes in the speedo/depth locker at the base of the mast. The junction box's, try to help keep the connections, from the mast wiring to the boat wiring waterproof. This waterproofing helps prevent the corrosion and fizzing of connectors.

The two yellow box's are both B&G h1000. One of these is for the speedo and depth sensors. THIS NEVER GETS TOUCHED. The second yellow B&G box is for the input masthead wind readings and B&G 3fi mast repeater. Get an electrician to deal with this if the mast is coming out or in.

The whitish junction box contains the connectors for the VHF antennae on the masthead and the anchor light on the masthead. These can be done yourself. The cover comes off the box using a slot or Philips head screw driver. The VHF antennae, has a two part plug, which unscrew from each other, or screw up to each other. The anchor light connection is a simple two wire connector that requires a small slot head screwdriver to connect or release.

Lighting

Cabin Lighting

There are three cabin light switches on the switchboard. The top cabin light switch, controls the power to the lighting in the cabin forward of the mast. The middle cabin light switch, controls the power to all of the other cabin lights and the steering compartment light, except the two overhead lights above the saloon table on the port side. These two lights are turned on and off, by the third and lowest of the cabin light switches, labelled cabin lights mid.

Once the cabin light switches are turned on, you can switch all the individual lights on and off at the actual lighting unit. The steering compartment light is located on the deck head in the steering compartment above the access hatch on the port side, with a black toggle for on/off.

If you are not using any lighting, the lights should all be turned off at their individual unit, and turned off at the switchboard when everything is not in use..

Nav Lights

The bow and stern lights switch on with the navigation lights switch, on the switchboard. There is also an anchor light on the masthead, which uses the mast light switch, on the switchboard. Use the bow and stern light at night time when motoring or sailing.

All the nav lights are Aquasignal. To replace a, 12V 10W, light globe in the bow and stern light, you will need a small Philips head screw driver to undo the bolt in that holds the lens case onto the light fitting. After undoing the bolt, lift the lens case off and pull the globe out of its contacts. It does not matter what way the new globe is placed in the contacts, so once the globe has been replaced, place the lens case on, making sure it fits into its top clasps, and tighten the bolt securely.

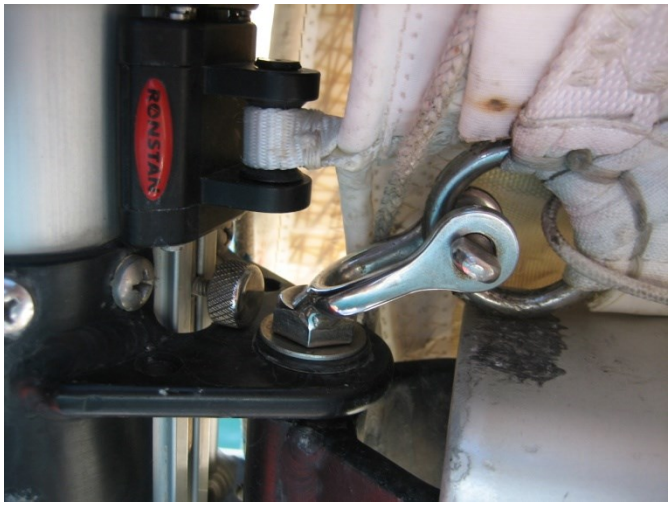
Get a rigger to replace the mast anchor light globe, as it on the masthead. It uses the same globe as the nav lights. You would use this light during night hours, when at anchor or in an unusual mooring location. The bow and stern lights should not need to be on at the same time as the anchor light.

Mainsail, Jib & Spinnaker

Mainsail

The mainsail is attached to the boom and mast before being pulled aloft. Before you put the mainsail on the boom, you will need to put the battens in. The battens are labelled one to five, starting from the top batten. They are held in the sail by the velcro tabs that get pushed into the batten pocket using a batten poker, located in the nav table. Once the tab is pushed into the pocket, pull the batten poker out and press the pocket down for the two sides of the Velcro to grab. Tie the safety string over the batten end to finish off.

To start putting the mainsail on the boom, flake the sail on the side deck, upside down, so that the foot of the mainsail is on top. The tack of the mainsail then connects onto the shackle, at the boom to mast junction, which is, the gooseneck.



The outhaul strop, at the end of the boom, shackles onto the clew of the mainsail. The velcro clew strop then connects the clew of the mainsail to the boom.

Along the luff of the mainsail are a series of black lugs in webbing attached to the mainsail. Pull the first (bottom) lug to the mast and align the lug with the bracket on the bottom Ronstan mast car (making sure that the webbing will not twist when the sail goes up). Then get a car pin, with the locking slot half way along, and push the pin into the hole in the car aligning the lug on the sail with the pin. The pin will stop half way, where the lug's locking device catches. The pin needs to be pushed all the way in, so either press harder, giving the pin a wiggle, or give the pin a small tap with a light tool, e.g. pliers.

The top batten of the mainsail is a full length batten, going from leech to luff. This batten has a Fredrickson batten car. Instead of being attached with a pin, the sail attaches to the car using a “dick” pin, which locks into the car, using the locking system on the car. The locking system is made up of two components, the vertical cone shaped pin and the horizontal springed & slotted locking pin. It takes two small screwdrivers or allen key type tools to operate it. Without the sail on, and looking forward onto the car, you will see a hole in the top of the car, a hole on the upper aft side of the car, the barrel where the dick fits into, the locking pin, going into the car, and the cone shaped pin that the locking pin holds down. If the cone shaped pin in the barrel of the car is down into the circular area of the barrel, the car is locked. You will need to push the locking pin in, through the upper aft hole, while pushing the cone shaped pin up through the barrel. The dick on the sail, will then slot into the circular hole in the barrel, and then you need to press the cone shaped pin down from the top slot until the locking pin pops out, to lock the dick into the car.

The mainsail headboard slots into the Ronstan headboard car. The headboard car is actually two cars connected by the same flange that the sail's headboard secures to. Take the snail pin out of the headboard pin on the car and place the headboard into the flange. Align the hole on the front of the headboard up with the hole in the car flange and press the pin through, making sure the plastic washer are between the flange walls and the pin ends. Push the snail pin through the headboard pin to secure. The halyard goes in the forward hole of the headboard for hoisting.

To unplug the mainsail from the mast, undo the headboard and replace the headboard pin into the car. To get the pins out of the cars, you will need a medium Phillips head screwdriver. Place handle of the screwdriver on the top of the car beneath and place the head (top) of the screwdriver on the bottom of the pin you wish to get out. Holding onto the screwdriver, sail and pin, tap the top of the car, with the empty car/cars from above, for the pin to pop up and out of the locking device in the lug on the sail. Gently persuade the pin, screwdriver and sail away from the car to make sure you still have all components.

Jib

The jib battens are the same as the mainsail battens, only with the jibs, there is a set of battens for each jib, so be sure to keep each of the sets together and not to mix them up, otherwise you find yourself trying individual battens in individual pockets.

The tack of the jib, corner below the bolt rope, clips onto the tack clip on the forestay chainplate. The halyard is clipped onto the head of the jib, which is lead through the pre-feeder and into the foil. Pull the halyard up to this height and put the white bunjy around the remaining front part of the sail until use. Clip the already run sheets on and pull it up when ready.

Spinnaker

If you cannot connect the spinnaker properly, don't use it!

Microwave

Work it out for yourself. I think the inverter and engine needs to be on.

Nav Station

The nav station comprises of two lights, builders plaque, GPS plotter, VHF radio, stereo, speaker switch, inverter control and switchboard.

The switchboard area houses:

NAVIGATION LIGHTS	Bow and stern light
MAST LIGHT	All round white light on the masthead
CABIN LIGHTS	Individual lights onboard
CABIN LIGHTS	Individual lights onboard
CABIN LIGHTS MID	Overhead lights on port side of saloon
GPS	VDO MAP 11C/CS CHARTPLOTTER
INSTRUMENTS	B&G data instruments
STEREO	Sony stereo
VHF	ICOM VHF radio
DC OUTLETS	12v outlets
FREEZER	Refrigeration
FRESHWATER PUMP	Head, galley and cockpit shower water supply

There is a toggle switch for cockpit speakers to receive either VHF or stereo output. The inverter control button is on the carbon fibre pad. The lower battery isolator switch needs to be on for the inverter control button to work. The switch on top of the inverter also needs to be on. The inverter is located in the same locker as the battery charger. When the button is pressed and the light goes on, the inverter is operable. The engine should also be revving.

There is a 12V power outlet, a 240V power outlet located behind the strip light underneath the nav panel. There are audio and visual plugs for the entertainment system.

Nav Station

Builder's Plaque

The Builder's Plaque relays the boat type, hull number, completion date and builder. This is found all production yachts and most custom yachts.

This Builder's Plaque relays the information, that this yacht is a Sydney 32, hull number 3215, launched 9th December, 2003 and built by Sydney Yachts.

Some plaques will also displayed what certification the boat is built to, e.g. ABS (American Bureau Shipping).

Nav Station

VDO GPS Plotter

As you can see, the chart plotter is a VDO MAP 11C/CS Chartplotter. Different plotters use different cards, and this one uses C-Map's, **C-Card**. The plotter has seven basic functioning buttons, and a cursor key (the button with four arrows). These functions are ZOOM IN, ZOOM OUT, ENTER, MENU, CLEAR, MODE and the POWER buttons to control the unit with. The basic controls are on/off, GO-TO, MOB (man overboard), marking positions (fishing spots, etc), vessel's track, and many more. Please see the VDO manual for more options. There is a laminated cheat sheet in the nav table.

To turn the unit on, press and hold the power button until the screen lights up. The plotter will go through a series of checks, until the on screen commands show. Evaluating the current position is one of these checks. The power button is also used to adjust the plotter's backlight and contrast. The backlight is adjusted from day to night by pressing the power button for one second and adjusting using the cursor button, and then, following the prompts to the main page. To turn the unit off, hold the power button down for 3 seconds. The screen prompts you when to release your finger from the button.

One of the easiest forms of navigation is the GO-TO button. This button allows you to create a waypoint off in the distance very quickly, and it lets you do your best to aim at it (and get there as quickly as possible). It is often a dangerous way to navigate, as it creates a straight line between you and the waypoint, and there could possibly be a hazard or two between you and the new GO-TO waypoint. Always make sure you are aware of the hazards on the chart along and around your passage making areas. To place a go-to waypoint on the chart plotter, place the cursor cross where you want to place that waypoint, press enter, then select GOTO and press enter again. If you use the plotter in another sense, you may need to get back to that waypoint. When you have the chart shown up, find your go-to waypoint, place the cursor on it and press enter. Select GOTO and press enter, and it will show your bearing and range to the waypoint and eta/duration. Once you have arrived or changed destinations, you can easily delete your go-to waypoint from the chart plotter, by placing the cursor on the offending waypoint, pressing enter, selecting STOP NAV and pressing enter again.

Man overboard is one of the most critical situations on any vessel, and should always be drilled with respect for the environment around you. Techniques change at high speeds, but the principle is the same, if you have a GPS plotter, press the MOB button as soon as possible. To record a MOB, press enter, select MOB, and press enter again. Once you are finished with the MOB, press enter, select MOB, then DELETE, and then press enter.

You could have a landmark or fishing spot to mark on the plotter, place the plotter, press enter, select MARK, and then enter again. You can create the mark into a go-to by placing the cursor on the icon and pressing enter.

You can control the repeat/overlay of the vessel's track by using the menu button.

It is a fairly basic plotter, in the fact, that you press the enter button as your first command, and the plotter gives you a series of functions, and you follow the prompts from there. In most of the commands, either, the enter button or menu button are being used.

Nav Station

Stereo

The Sony stereo has a VDO cover to try help waterproof the unit. Once it is switched on at the switchboard, you press the latch at the bottom of the case in the centre. The cover screen will open to access the stereo. Press one of the blue buttons for the stereo face to appear.

Once the face has appeared, press SOURCE on the stereo to decide what option to take, i.e. tuner or CD.

The tuner or track skip is on the right hand side.

The volume on the left.

Nav Station

VHF Radio

The yacht's VHF radio is the white ICOM radio on the nav station panel. The switch for VHF on the switchboard needs to be turned on, and then turn the power on the unit using the volume (top) knob, until you are at the desired volume. If you cannot hear anything, you need to turn the squelch (bottom) knob anti-clockwise until you hear loud crackling. Turn the volume down until desired, and then turn the squelch back up slightly until the crackling goes away. This is the squelch level.

Channel 16 is the emergency channel around the world. If you need to talk to anybody/somebody out there, channel 16 is your best bet. Coast Guards and Volunteer Marine Radio groups will receive your call on channel 16, and then ask you to change to another channel. To acquire channel 16 easily, if on another channel, press the blue button below the screen once. Channel 16 should always be monitored/on if offshore.

To change channels, toggle up or down using the up or down arrow buttons, to the left of the blue channel 16 button, until the desired channel is found. You should check the squelch level once on the desired channel.

The only other control worth noting is the H/L button below the screen. If you feel you should be able to get out, but nobody is receiving, press the H/L button to activate high powered transmitting. The unit is generally kept on low.

The red DISTRESS button and DSC (Digital Selective Calling) buttons are obsolete on this model, and the CH/WX/DUAL is a bit complicated, see ICOM manual.

Refrigeration

The Danfoss refrigeration system is turn on at the Freezer switch on the switchboard. This switch supplies power to the fridge unit under the nav seat, which in effect chills the plate in the fridge box. The lid is held up with a spring. To close the fridge lid, hold the lid and press the spring, letting the lid fall slowly.

The fridge unit under the nav seat has a control box, air cooling grill, fan and a compressor which cools the gas in the system.

If the batteries are low, you'll need to be charging to run the fridge.
If anything goes wrong with the fridge, it is generally not a cheap exercise to repair.

Rigging

Hydraulic Backstay System

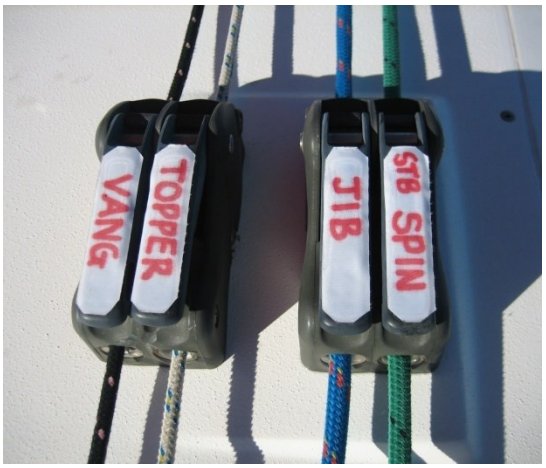
The hydraulic backstay system is comprised of a hydraulic pump & handle, round black valve, gauge, hydraulic ram and the reservoir. The reservoir houses the hydraulic fluid that the pump presses into the ram, which controls the backstay tension. Between the reservoir and the pump, there is a filter to catch any impurities in the fluid. The hydraulic panel is located on the steering wheel pedestal. This backstay tension controls mast bend, forestay tension and mainsail leech tension.

To pump the backstay on, make sure the round valve is turned clockwise (to hold the pressure) and pump with the stainless steel handle into the pump shaft, until you reach the desired pressure. To release the pressure, you need to turn the round valve slightly anti-clockwise (release pressure), until happy.

The backstay pressure is read off the gauge on the hydraulic panel. The pressure reads in KPa or Psi. We usually read Psi, pounds per square inch.

Rigging

Permanent Running Rigging



There are fourteen permanently run pieces of running rigging. Many of these run through the clutches in the pit area. All halyards, and the topping lift come out of the mast above deck and lead to the pit clutches. They are;

1 x set of traveller lines (red), in front of the wheel at the mainsheet.

1 x mainsheet (yellow), that leads to the two winches in front of the wheel. From the traveller blocks, the mainsheet leads up to the boom, along the boom, down to the deck at the mast, and then aft to the winches.

1 x set of jib car pullers (blue), that cleat off in front of the primary winches. These control the position of the car that the jib sheet leads through.

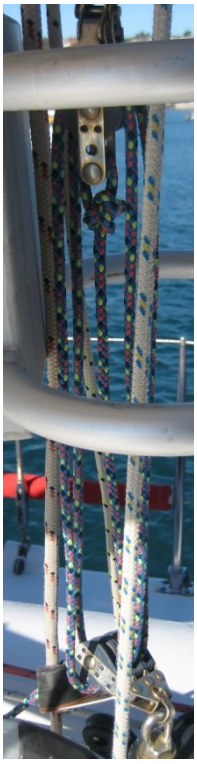
1 x kicker line (blue/black), these cleat off on either side of the coachroof. The kicker controls the spin/jib pole from lifting from the upward force of the sail. It acts opposite to the topping lift and brace.

1 x Vang and purchase (pulley) system. The vang holds the boom up while not sailing. It holds the boom down from the upward force of the mainsail. The vang rope (black), leads to the inboard pit clutch on the starboard side of the coachroof.

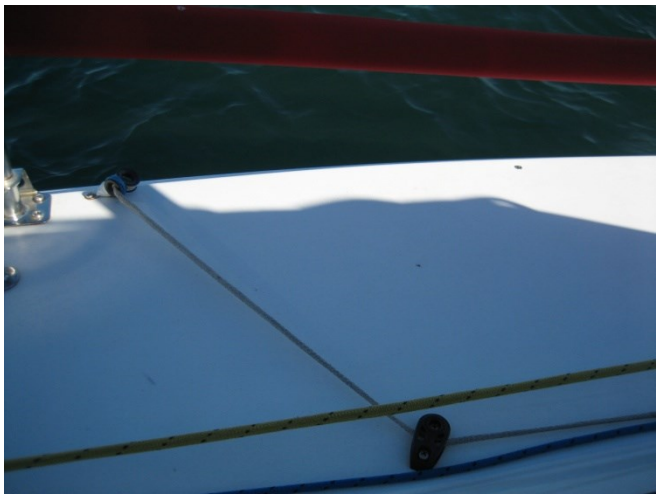
1 x outhaul system. The outhaul tensions the foot of the mainsail. The purchase system is in the boom, with the outhaul tail (white) leading to the inboard middle port pit clutch.

1 x outboard reef line (white) runs from the end of the boom and leads to the inboard port pit clutch. The outboard reef line is used with the cunno to reef the mainsail in windy conditions.

1 x Cunningham eye system. The cunno tensions the luff of the mainsail. This purchase system (blue/black rope) is at the base of the mast, with a built in cleat, this leads to a strop that hooks onto the mainsail just above the tack of the sail.



1 x set spin sheet tweakers (blue), that lead from a 2:1 system at amidships and lead back to the cleats just forward of the primary winches.



1 x main halyard (white), that leads to the outboard middle port pit clutch. The shackle is stowed at the end of the boom. For hoisting, the halyard connects to the forward hole of the headboard.

2 x spin halyards. The starboard spin halyard (green), leads to the outboard starboard pit clutch. The port spin halyard (red), leads to the outboard port pit clutch.

1 x jib halyard (blue), this leads to the outboard middle starboard pit clutch. Clip the halyard onto the head of the sail with the ring on the pin facing away from the stay.

1 x topping lift (white), that leads to the inboard middle starboard pit clutch.

1 x spin pole butt (mast end) up/down (purple) permanently attached to the mast and spin pole car.

Rigging

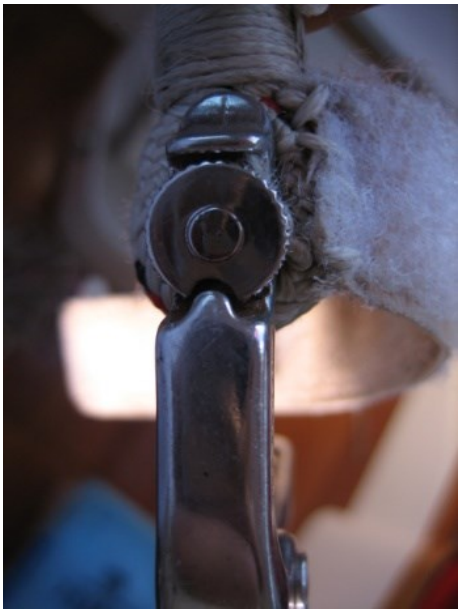
Running Rigging

The non-permanent running rigging only has three sets of rigging to “rig up” before sailing. For non-spinnaker outings, the jib sheets are only required, which have extra, optional, outboard sheets for long periods of reaching. When you are planning on using the spinnaker, you will also need to rig up the spin sheets and braces as well.

Before running any rigging, it is always a good idea to run the sheet out through your hands to reduce any knotting up while running the sheet down the length of the deck and into the cockpit.

The jib sheets start being rigged up at the mast area. Running the bitter end of the sheet, they lead through the sheave on the jib car on the track, and then aft to run through the top sheave of the double foot block just forward of the primary winch, and then straight to the primary winch. Clip the two sheets together before running the second sheet.

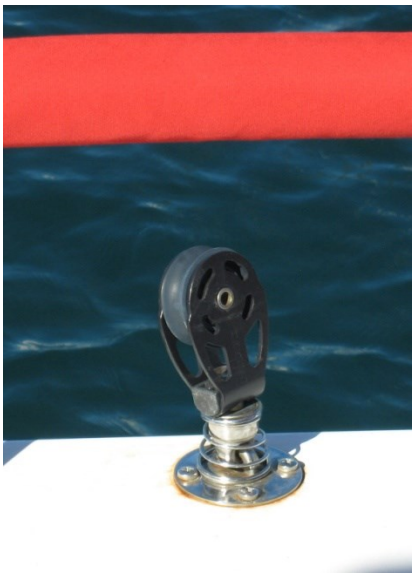
The jib sheet clips have a locking mechanism built in, so they do not un-clip themselves accidently. The clip has a pin, which captures the bail. This pin has a “half moon” type cut out, which aligns with the keyway on the clip. To open the clip (if the bail is closed), make sure the half moon is aligned with the keyway and pull the pin out until the pin end is clear of the keyway. To close the bail, do the same, but make sure the pin springs into the locking mechanism. To lock the clip, you pull the pin slightly and turn it (before the half moon clears the keyway), until the pin end pops into place, which is locked.



The outboard jib sheets run through the thimbles lashed to the stays, and straight up to the cabin top winch.

The spinnaker sheets start being rigged up from the bow. Clip the clip on the sheet onto the rail. With the bitter end, take the sheet outside the mast stays, through the spin tweaker block (outside of the lifelines and stanchions) and all the way aft to the transom. The sheet then runs through the block at the stern and runs forward through the thimbles that are lashed to the next padeye forward and then to either the cabin top winch or primary winch for trimming.

The brace clips onto the spinnaker sheet clip. Running the bitter end, take the brace around the outside of the stays and through the large stand up block at amidships. The brace then runs directly to the primary winches.



Rigging

Turnbuckles

The mast is held up by a series of Dyeform wire stays. These stays, except the backstay, are all at a preset tension. This tension is adjusted by the turnbuckles, or rigging screws, at the base of each stay. The stays were new February 2010.

The turnbuckle has four components, the stay thread, barrel, the threaded stud and the lock nuts. The stay thread is swaged onto the wire stay and threads into the top of the barrel, with a lock nut on the thread to grip against the barrel to prevent it from turning. The threaded stud, which fits into the chainplate, also threads into the barrel, but from the bottom. It also has a lock nut.

You will need two shifters to adjust the turnbuckle. To undo the lock nuts, grip the barrel with one shifter and the lock nut with the other shifter, and turn the nut anti-clockwise. This will work the nut away from the barrel. To tension the turnbuckle, grip the flat spot on the stay thread swage with one shifter, and the barrel with the other shifter. To tension the stay, turn the barrel anti-clockwise. To release the pressure on the stay, turn the barrel clockwise. Once finished adjusting the tension, turn the lock nuts clockwise until they are firm against the barrel, grip the barrel and the nut with the shifters and tighten, still turning clockwise. This locks the nut against the barrel to prevent anything from turning and adjusting itself.

To monitor the tension of the stays, the Loos Gauge is required. Place the Loos Gauge (held with the two white fixed knobs upright) up to the stay, with the stay running between the two white knobs, and pull string handle on the spring held catch, onto the stay. This catch is connected to a needle that reads that stay tension. The mast is tuned according to the tuning guide.

Saloon Table

The port floorboard is fitted around the saloon table pedestal, so you need to take the table off the pedestal when removing the floorboard. Undo the wing nuts underneath the table, connecting it to the pedestal, and remove the table. It is best to store the table on one of the bunks upside down so the bolts do not damage anything.

Seacocks

There are five seacocks onboard. These are the wheel well drain, head inlet, head outlet, and both head and galley sink outlets. All the seacocks have plugs attached to them in aid to an emergency.

All of the seacocks are ball valve type cocks, with lever type handles. When the handle is vertical, the seacock is open and flowing. When the handle is horizontal, or parallel to the hull, the seacock is closed and not flowing.

Whenever the boat is out of the water, is a good idea to clean the skin fittings (holes) with the valve open.

The head seacocks are positioned either side of the head. The inlet fitting is beneath the inspection port that is aft of the head. The outlet fitting is just forward of the bulkhead, below the V-berth on the port side.

The head sink seacock is aft of the main bulkhead, directly behind the sink console, in the locker below the seat cushion.

The galley sink seacock is in the locker directly below the sink.

The wheel well drain seacock is situated in the steering compartment, just in front of the quadrant.

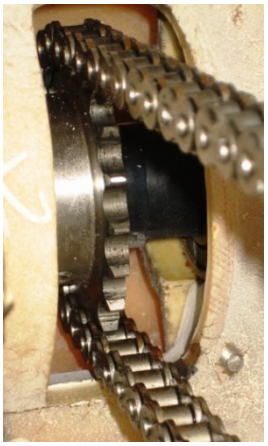
Steering

The Sydney Yachts custom steering system is constructed using a large number of components. These being:

1 x Sydney Yachts custom steering wheel, which revolves around a shaft and bearing situated on the steering console.

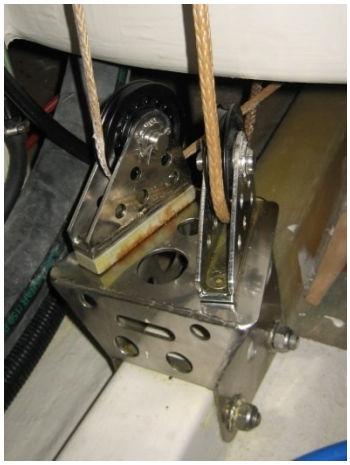
1 x Sydney Yachts custom wheel hub shaft, with keyway, ABC bearings and custom chain gearing, this shaft attaches the wheel to the deck pedestal. The chain revolves around the chain gearing on the shaft.

1 x stainless steel chain, that runs from the wheel shaft to steering strops.



2 x 3mm dynex lashings, connecting the chain to the two steering strops, and 2 x 8mm vectran steering strops, coated with clear Ropecoat. These strops attach the wheel chain to the rudder quadrant.

2 x Harken sheaves in a custom Sydney Yachts bracket, that the steering cables turn through. They cross the steering cables over from these sheaves to the quadrant to create the correct turning direction from wheel to rudder.



1 x Kevlar rudder quadrant, that fits around the rudder stock, with rope stopper on the forward side of the quadrant to the longitudinal frame.

2 x Private Parts rudder Bearings. One deck bearing and one hull bearing.

1 x Sydney Yachts custom rudder, with custom Sydney Yachts stainless steel rudder stock, supporting the foam and fibreglass rudder blade.

To access the steering compartment, unbolt to cover plate on the aft bunk bulkhead on the port side.

Sydney Yachts cheat sheet is shown on the next page.

Sydney 32 – Steering strop tightening procedure:

1. Open inspection hatch behind shelving in port quarter berth.
2. Have someone turn the wheel all the way to port until it stops, then apply a little more pressure in same direction and hold.
3. Undo lacing between chain & strop (A).
4. Re lash the lacing ensuring to keep tight. Use all the lacing and secure firmly with half hitches.
5. You may need to re mark the mid ships point on the wheel; if you play with both lashings, you can have the wheel at its centre but it is a bit of a job.
6. Check the strops every three months at least, if they look worn they are, and will need replacing. Depending on the amount of sailing you do they will need to be replaced every 12 months or so.

(A)

Stowage

To access the utilities area for the diesel tank, hot water unit, hydraulics or steering, unbolt one of the side lockers (port is better) of the aft bunks.

The yachts EPIRB is below the companionway hatch on the starboard side, next to the fuel shutoff valve.

There is a boarding ladder on the bulkhead in front of the head. It slots into the stern. You should always tie it on when it is slotted into the stern.

Torch, tools, spare blocks, tape and the heaving line live in the locker below the main locker.

Bosun's chair (for going aloft), some flares and the sail repair kit are in the bottom of the main locker.

Sunscreen, 1st aid kit and gloves live on the top shelf of the main locker.

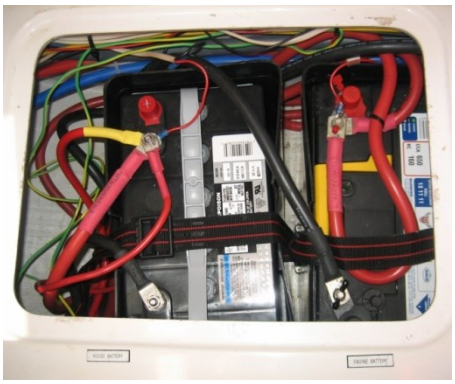
Sail ties and charts are kept on the shelf in front of the main locker.

Foghorns, lifebuoy light, flares, V-sheet and spare bulbs live in the orange canister, under the saloon seat.

Anchor, chain and warp are in the forward area under the seat, and the lifejackets are under the aft area of the seat.

Binoculars are in the little side locker in the nav station.

Batteries are located under the forward area of the starboard bunk.



Winch handles, emergency tiller and ropes live in the rope hanging locker.

The storm board can also live in the rope hanging locker.

Winches

The winches onboard are all Harken. The pit and mainsheet winch model number is HK32st and the primary winches are HK 40st. The mechanical advantage achieved is gained by two ways. The first is by just tailing the line around the winch. The diameter of the winch gains mechanical advantage. The more turns of the line around the winch, the better you off you are, gaining more mechanical advantage. The second is by using the winch handle in the top of the winch. The gearing set up inside the winch is designed to give excellent mechanical advantage. Always try to pull the line by hand around the winch before utilising the winch handle.



The winches are run and geared using a series of gears and pauls. Each gear has a set of pauls in them, with a spring in each paul that ratchets them into the gear housing. The gear housings then make contact with the winch crown, so when the winch handle turns in one of two directions, the winch will turn (always clockwise) in one of two gears. The photo below shows the typical insides of a winch (not Sydney 32).