ASIA PACIFIC YACHTING

SIROCCO

STANDARD OPERATING PROCEDURES

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REVISION RECORD

Changes are to be added to any hard copies of this document and the table below completed to allow simple verification that all published changes have been incorporated.

VERSION	DATE IN FORCE	REVISION TITLE	UPDATED BY
A.2013	25/06/2013	Initial Release	CRF
A.2014	14/01/2014	Updates to SOPs and equipment instructions	CRF
A.2015	28/09/2015	Update to MOB instructions	CRF
A.2016	11/03/2016	Updates to reflect the rewiring on the yacht	CRF
B.2016	25/11/2016	Minor updates. Added Appendix 11 Start-up Procedure and all subsequent Appendixes numbed increased by one.	CRF
C.2016	20/12/2016	Update to Start-up/Close-down procedures	CRF
SOP007	31/10/2017	Minor updates to Appended 11 (Start-up/Closedown).	CRF
SOP008	02/12/2017	Reordered Appendixes	CRF
SOP009	28/04/2018	Updated servicing sections.	CRF
SOP010	06/07/2018	Updated safety location and through hull fittings	CRF
SOP011	14/08/2018	Updated safety location and through hull fittings	CRF
SOP012	05/10/2018	Minor changes to Appendix's 5, 8,9 and 10.	CRF
SOP013	13/11/2018	Combines Appendixes 12 & 13	CRF
SOP014	18/03/2019	Minor changes to Appendix 2	CRF
SOP015	13/05/2019	Air conditioner and shore supply instruction update	CRF
SOP016	26/10/2019	Update to MOB instructions. Sections updated to make it easier to find information.	CRF
SOP17	16/11/2019	Added Appendix 3 Crew List & Responsibilities. All subsequent appendix numbers have increased by one.	CRF
SOP18	11/04/2020	Added SOP 12 for rudderless steering/downwind speed control in a storm and SOP 13 for towing and being towed.	CRF
SOP19	12/04/2020	Added SOP for Search Patterns and Helicopter rescue. Appendix number from 10 to 19 have been renumbered.	CRF
SOP20	14/06/2020	Added SOP for TRS	CRF
SOP21	05/07/2020	Updated engine and saildrive spares lists	CRF
SOP22	08/09/2020	Minor text changes	CRF
SOP23	22/03/2022	Minor updates to Appendix 5 & 7	CRF
SOP24	06/11/2022	Updated Radio/CD Player (new device) Appendix 9 changed from MOB to POB Appendix 21 Signoff sheet changed.	CRF
SOP25	07/02/2023	Changed to say water depth now set to waterline Add new items for Appendix 2	CRF
SOP 26	05/01/2024	Appendix 17 updated maintenance register list	CRF
SOP 27	27/02/2024	Correction to Appendix 7	CRF
SOP 28	29/02/2024	Correction to Appendix 7	CRF
SOP 29	03/12/2025	Added master negative switch, updated Appendix 2	CRF
SOP 30	06/01/2026	Appendix 18 added column to show what spares are onboard	CRF

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DISTRIBUTION LIST

This document is distributed as follows:

COPY NUMBER	APPOINTMENT / NAME
1	Training Centre Principal
2	Yacht Sirocco
	All instructors

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INTRODUCTION

This document details the Standard Operating Procedures for the yacht. All staff, instructors and volunteers involved in using this yacht shall read and apply these SOPs and any appropriate RYA standards and guidance.

All staff, instructors and volunteers involved in using training yacht are to sign the master copy of the yacht SOP Sign Off sheet held by the RTC Principal to confirm they have read the SOPs document.

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YACHT DETAILS

Registration

Built: 2001

Boat Type: Bavaria 47 / 3 cabin

Hull Identification: DE-BAVN47KE101

Name: Sirocco

Design Category: A (Ocean)

Max Pax: 12 [HK Max Pax = 14]

Max 12 Pax + Luggage: 1,800kg

Dimensions:

Length Overall:	14.4m	Length Waterline:	11.9m	Draught Keel:	2.2m
Mast Height:	19.4m	Beam:	4.4m	Draught Rudder:	1.7m

Depth Readings

The depth shown on the instruments is the depth from the water line.

Weight

Mass (empty): 15.2MT

Mass (full): 19.8MT

Tanks

Fuel: 210 litres

Water: 2 x 245 litres (490 litres total)

Engine

Type: Volvo

Model: MD22P-B (originally based on Perkins British Leyland Austin/Rover Montego car engine)

Product number: 868773

Serial number: 5100707064

Power: 44kW / 59hp

Fuel Consumption: 3ltr/hr @ 2,000rpm, 6ltr/hr @ 3,000rpm (60hrs on a full tank, range 400M)

Saildrive

Model: 120S-E 2.20

Model number: 3856829

Serial number: 3101109049

Propeller

Type: Volvo 3 bladed folding (18x14x3 LHS) or 3 blade fixed (18x16x3 LHS)

Hong Kong

Certificate of Ownership No.: 140032

Operating Licence Renewal: 04 Nov each year.

Radio

Call Sign: VRS8125

MMSI: 477991411

Licence Renewal: 01 APR each year.

Generator

Output: 5.7Kw

Voltage: 12V

Output: 240V / 25.9A / 9HP

Engine: Westerbeke 5.7BTD (3 cylinder)

YACHT PROCEDURES

These SOPs are split into several Appendixes detailing the yacht procedures for both normal operation and emergency situations as follows:

Appendix	Title	Covers
1	**Pre-voyage Checks**	Checks is to be completed at east 24hrs before all voyages
2	**Start-up & Close-down**	Procedure to be performed on the first and last day of the voyage
3	**Crew List & Responsibilities**	All crew members, responsibilities and emergency duties
4	**Familiarisation and Safety Brief**	Brief to be given to all crew before the start of the voyage
5	**Safety Equipment Location**	All crew must be familiar with the location of the safety equipment
6	**Through Hull Fittings**	All crew must be familiar with the location of the through hull fittings
7	**VHF Radio Emergency & Standard Procedures**	All crew must be familiar with the method to communicate a request for assistance via VHF DSC
8	**Heavy Weather Actions**	Procedure to be implemented when the likelihood of poor weather is imminent
9	**Man Overboard (MOB) Recovery**	Procedure to be adopted on a person falling overboard
10	**Search Patterns**	Procedure to be adopted when an overboard casualty can't be found
11	**Being Towed & Towing**	Procedure to be adopted for being towed or towing
12	**Rudderless Steering & Storm Speed Reduction**	Procedure to be adopted on loss of rudder and for storm speed reduction
13	**Fire & Gas Emergency Procedure**	Procedures to be adopted for fire and gas emergencies
14	**Helicopter Rescue**	Procedure to be adopted for helicopter rescue
15	**Tropical Revolving Storms (TRS)**	Characteristics and procedure when encountering a TRS
16	**Abandoning Ship**	Procedure to be adopted when abandoning ship
17	**Safety Equipment Maintenance Register**	Vessel safety equipment servicing and expiry register
18	**Main Engine & Sail Drive Servicing**	Main engine and saildrive details, parts lists and servicing
19	**Generator Servicing**	Generator details, parts and servicing
20	**Spares Suppliers**	List of spares suppliers

Crew Responsibilities & Safety Brief

It is mandatory that all crew are assigned suitable responsibilities and these are documented by completing Appendix 3 (shall be put on display for all to see). As a minimum, a Skipper and Mate shall be designated.

Prior to the start of the voyage all crew shall receive a safety brief as detailed in Appendix 4.

Anchoring

WARNING. *The anchor windlass is a very dangerous piece of machinery. No person on-board is to operate the anchor windlass unless they have received the necessary safety and operating training.*

Set (lowering)

1. Turn on the 12V Distribution Panel **Switch No.10**.
2. Turn on the engine running in neutral at 1200rpm.
3. Open the anchor hatch and secure back with the clip on the end of the shock cord.
4. Placing a foot on the anchor chain in front of the windlass to bring the anchor inboard and then release the safety strop on the front of the anchor.

5. Use the windlass control to pay out a small amount of chain and then feed the anchor forward by hand to the tipping point on the bow roller.
6. Use the windlass control to lower the anchor and pay out the required chain using the coloured ties to gauge the length (see table on underside of the anchor hatch).
7. When anchoring overnight use the anchor snubber onto the starboard cleat to take the weight off the windlass once the anchor is down and then close the anchor hatch i.e. no pressure on the anchor chain to the windlass.

WARNING. *If anyone needs to get close to the windlass, anchor chain or anchor then the windlass control must be placed into its holder in the anchor locker to ensure the windlass does not operate unexpectedly.*

Weighing (raising)

1. Start the engine and drive the yacht slowly towards the chain to reduce the loading on the windlass but careful not to drive over the chain.
2. Use the windlass remote in the anchor locker to raise the anchor.
3. Watch for the anchor coming to the surface of the water.
4. Lift the anchor to the point the shank is just on the tipping point on the bow roller.
   WARNING. *Do not lift the anchor until the chain to the windlass goes tight as this could result in damage to the windlass or its mounting.*
5. Replace the windlass control into its holder.
6. Place a foot onto the anchor chain just behind the anchor to bring it inboard.
7. Connect the safety strop to the front of the anchor.
8. Close the anchor hatch and secure with the latch.

Bilge Pumps

Manual

The hand bilge pump is located on the starboard side below the helmsman's seat. The handle is stowed under the lid of the starboard cockpit locker. Pump with slow even strokes. It will take about 10 strokes just to prime the pump. After the last of the water is removed pump a further 20 strokes to remove any gas in the bilges.

Electrical

The electric bilge pump is operated from the 12V Distribution Panel **Switch No. 11** (top right). This operates 3 pumps, one under the bow berth, one under the cabin sole aft of the saloon centre seat and one in the engine compartment.

The bilge pump located in the bow and engine compartment is permanently supplied with power direct from the Service batteries i.e. works when the Service battery switch is off. These pumps are operated by a float switch and will operate automatically if water is sensed in these areas.

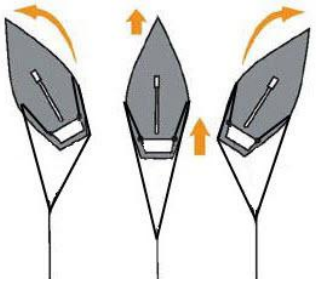
Emergency Steering

Rudder Intact

In the event of a steering failure the emergency tiller location is shown on the Safety Equipment Location diagram. Insert the tiller into the top of the rudder stock located under the aft centre seat.

Rudderless

In the event of the loss or inability to turn the rudder use the proven method of steering as detailed in Appendix 12. Note that the bridal must be rigged to go from the primary winches then through the centre cleats to the aft of the yacht so there is sufficient leverage to pivot the yacht.



Fire Extinguishing

For small fires, particularly gally fires, there is a fire blanket located on the bulkhead on the aft end of the gally. To use, pull the straps and then rotate your writs so that your hands are covered by the blanket before placing the blanket over the fire.

A 2kg powder fire extinguishers are located in each cabin and a 5kg at the aft end of the saloon. The large fire extinguisher has a hose that's to be sued for putting out an engine fire via the extinguisher port on the companion way steps.

See Appendix 13 for the fire and gas emergency procedure.

Lifejackets

With Hong Kong having warm water all year round there is less of a problem from cold water shock as seen in colder climates. However, falling overboard from a yacht still poses risk to the casualty as they may have been injured or rendered unconscious in the process. Lifejackets are of no use unless worn so it's important the correct balance is struck between being comfortable in the hot climate of Hong Kong and safety. To this end, lifejackets shall always be worn in the following circumstances:

- Water temperature below 20°C.
- At all times if a non-swimmer.
- From 30 min before sunset to 30 min after sunrise.
- Wind of Force 5 or before the 1st reef is set.
- When the instructor declares lifejackets shall be worn.
- Any time a student so wishes to wear a lifejacket.
- Reduced visibility e.g. fog, heavy rain, etc.
- Emergency situation.

Lifejackets will be issued to each crew member at the start of the voyage along with a lifeline. These are to be adjusted to the individual when issued and then kept with the crew member's personal equipment.

Person Overboard

For details on the actions to be taken when someone falls off the vessel and how they are to be recovered see Appendix 9.

Medical

Two first aid kits are carried on-board the yacht. A basic First Aid kit for cuts, grazes and minor medication located behind the starboard saloon cushions (location marked by a First Aid symbol). The second is a CAT C medical pack located in the yacht emergency grab bag.

All incidents requiring medical treatment are to be recorded in the Medical Log located in the bookshelf by the navigation station. It's important to record any supplies used so they can be replaced on returning to the operating base.

Seacocks

The yacht seacocks are shown Through Hull Fittings diagram in Appendix 6. Those to be opened while the yacht is in use are shown in green text. Before leaving the yacht all seacocks except the forward heads top aft must be closed (as shown in the diagram).

Smoking

There is no smoking permitted below decks, when handling sails or the gas is in use. There is absolutely no smoking permitted in the dinghy at any time.

Towing

For towing or being towed see Appendix 11 for how to configure the bridals.

Weather Warnings

During all voyages a close eye must be kept on the weather via the Hong Kong Observatory (www.hko.gov.hk). If there is a possibility of a T3 of Red/Black Rainstorm Warning being brought into force during the course the following actions are to be taken:

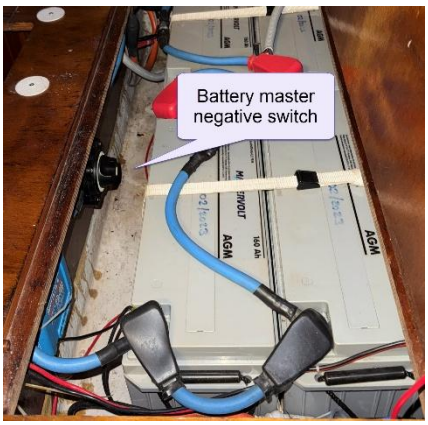
- **T3**: If a T3 is brought into force the yacht must return to the Typhoon Shelter at Causeway Bay for the duration of the T3 or higher being in effect. Depending on when this event occurs it will be the Principals decision whether the course has to be cancelled.
- **Red/Black Rainstorm**: If a Red/Black Rainstorm is brought into force suitable measures are to be taken to ensure the yacht is put in a safe position in anticipation of very poor visibility and possible high winds.

For tropical revolving storms see Appendix 15 for how to determine their track and strategies to mitigate the damage.

DC POWER (12V), INSTRUMENTS, LIGHTS & RADIOS

DC Power (12V)

Battery Master Switches

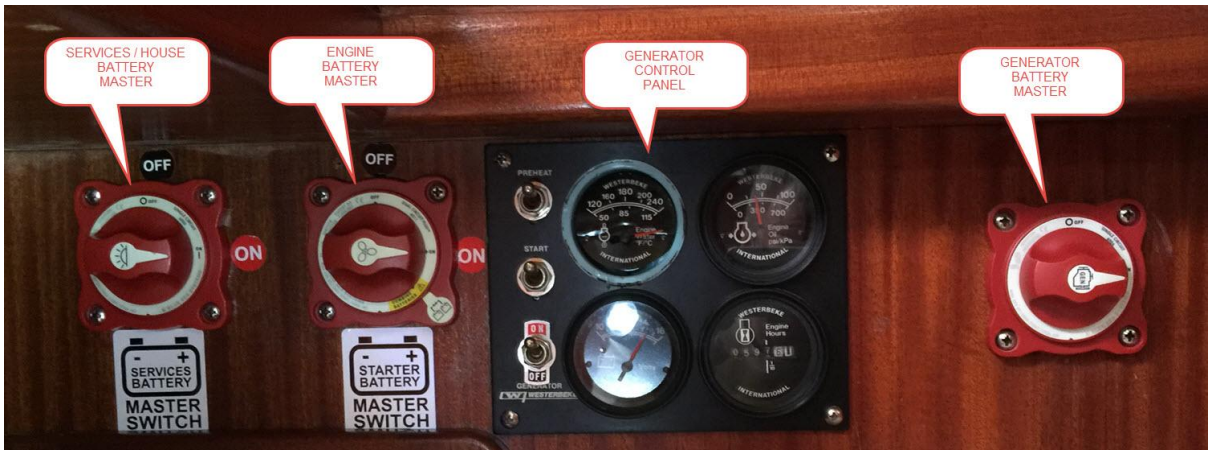


Master Negative. The master negative switch is in the service battery bay. This switch is turned off any time the yacht is to be left for more than a few days.

Service. The Service battery master switch is located under the chart table and is the left most switch. The vertical position is off and the horizontal is on.

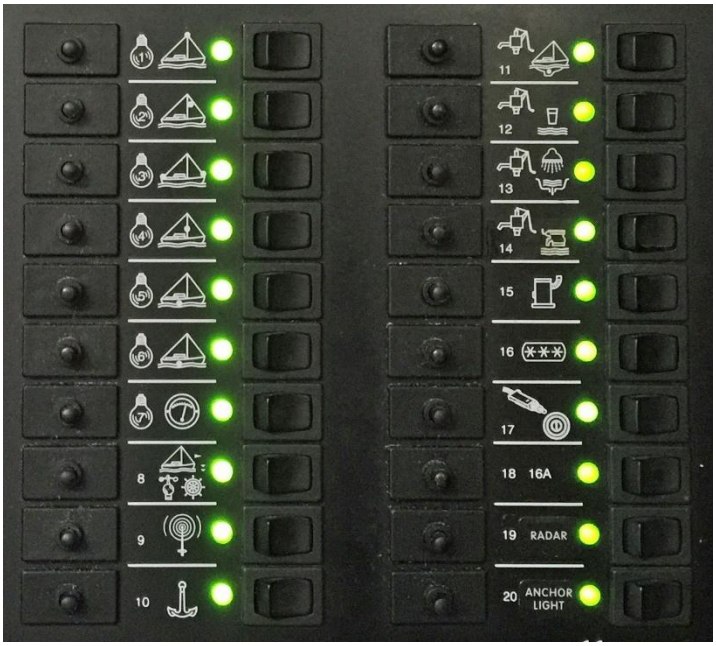
Engine. The engine Starter battery master switch is located under the chart table and is the second from the left. The vertical position is off and the horizontal is on. There is an emergency position to be used if the engine Starter battery is flat that permits the engine to be started from the Service batteries. On starting the engine, the switch must be moved back to its normal on position.

Generator. The Generator battery master switch is located under the chart table and is the furthest right switch. The vertical position is off and the horizontal is on.



12V Distribution Panel

The 12V Distribution Panel is located on the starboard side of the yacht adjacent to the chart table. The main part of the panel has switches 1 to 20 and to the right of each switch is a LED to confirm when the supply is on and a fuse reset button for each circuit.



Low Current Fuses

In addition to the fuses on the 12V Distribution Panel, there are other fuse boxes located behind the panel. To open the 12V Distribution Panel press the button to the left of the panel to open.

High Current Fuses

The 12V Distribution Panel and winches are protected by large fuses located behind the starboard saloon seat just in front of the chart table. Spare fuses can be found in the electrical stowage area in the same location.

Battery Monitor

To the right of the DC panel and below the HF there is a battery monitor. This device can tell you the battery voltage (anything below 12.0v the batteries are discharged) and current flow to/from the batteries. To get the required reading press the **+** or **-** buttons.

- **V** = Service battery voltage
- **VS** = Engine Start battery voltage
- **I** = Service battery charging/discharging current.
- **CE** = Consumed Energy. Amount of current taken in Ah (0.0Ah is a full battery)
- **SOC**= State-of-Charge. Gives the % discharge state of the battery.
- **TTG**= Time-to-Go. Estimate on how long the batteries can sustain the present load.

Instruments

The following 12V Distribution Panel switches operate the instruments.

SWITCH	FUNCTION	INFORMATION
8	**Instruments**	Instruments on the aft of the cockpit table i.e. log, depth, wind and autohelm
19	**Radar (MFD)**	Power to the MFD (Multi-Function Display) radar/plotter above the chart table. To turn on the MFD press the left-hand power button. The MFD instruction manual is located under the chart table in the open fronted locker

Under the chart table in the open fronted locker there is a folder with quick guides to all the instruments.

Speed Transducer

The log (speed) transducer is located under the forward cabin bunk (aft end) and accessible from the small hatch near the floor.

To insert the log transducer, unscrew the retaining ring on the blanking plug and lift out the plug. There will be some water come in while you then inset the log. Ensure the white arrow on the top of the log is facing forward (there is a keyway that needs to be aligned) as you screw down the securing ring. Once inserted, pump out the water taken in during the changeover by operating switch 11 on the DC panel until dry.

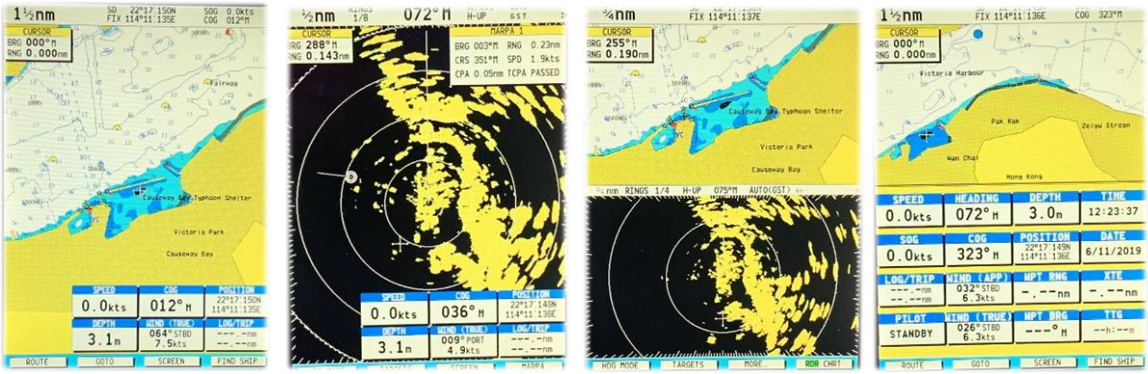
Before leaving the yacht, the log transducer must be removed and the blanking plug inserted to prevent the log getting covered in marine growth. To replace the blanking plug, reverse the above process.

***WARNING**. Ensure the blanking plug is properly fitted and there is no water leaking into vessel before leaving the yacht.*

MFD

The MFD is a very capable device and can display:

- **Charts**. Due to the charting restrictions in Hong Kong these charts are not corrected.
- **Radar**. Very effective radar, particularly and when used with the split screen chart.
- **Instruments**. All the data from the yacht instruments.
- **Log**. Keeps a track of your passage.



Under the chart table in the open fronted locker there is a folder with quick guides for the MFD.

iPad

The yacht's iPad had several navigational tools and it can connect to the yachts WiFi to display ships AIS data.

- **eSeaGo**. Local Hong Kong Marine Department app to display both sea and land charts. The sea charts are kept up to date with the latest Marine Department Notices.
- **iNavX**. A very powerful chart plotter which has charts for the China Sea and beyond. These charts are <u>not</u> corrected. This application can also be used to display AIS data:
  - Tap **Settings** > **WiFi** and ensure its connected to **DY-AIT3000-8231**.
  - Tap on **iNaxX** then **More** (bottom right) > **Settings** (top left) > **TCP/IP NMEA Client** and ensure **Port** is set to **2000**.
  - Slide the **Link** control to the right to turn on. At this point a stream of data should be seen at the bottom of the screen which is the AIS data.
  - Tap **Chart** (bottom left) to see the chart and AIS data from vessel.

Lights

The following 12V Distribution Panel switches operate the lights.

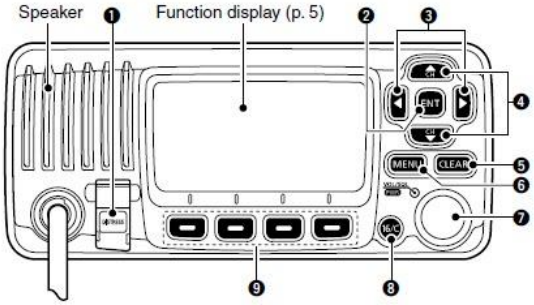
SWITCH	FUNCTION	INFORMATION
1	**Tricolour**	Sectored red/green/white located at top of mast when sailing to minimise power consumption
2	**Masthead**	White located on front of mast for when under power (used with Low Level Navigation lights)
3	**Low Level Navigation**	Red/Green on the bow and white stern for when under power (in conjunction with Masthead) or when low level sailing lights are preferred to the tricolour
4	**Deck Flood**	White downlight to illuminate the bow
5 & 6	**Internal**	Interior lights
7	**12V Distribution Panel & Compass**	Panel lights for the 12V Distribution Panel and compass lights
20	**Anchor**	All-round white at the top of the mast for when anchored

Radios

The following 12V Distribution Panel switches operate the radios.

SWITCH	FUNCTION	INFORMATION
N/A	**VHF Radio**	The VHF is permanently wired to the Service batteries. To turn on just press and hold the bottom right circular button on the VHF for 1s.
N/A	**MF/HF Radio**	The MF/HF is permanently wired to the Service batteries. To turn on press the MF/HF power button.
9	**FM/AM/CD**	Power to the FM/AM/CD

VHF



To turn **On** the icom VHF radio, press **Button 7** for 1s. This button also changes the volume and squelch.

To send a **DSC Distress** lift the red flap and hold down **Button 1** for 3s.

To get quickly to **Ch16**, press **Button 8**.

To select a channel press **Buttons 4**.

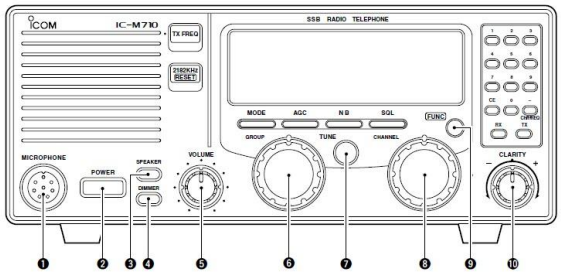
To change **High/Low** power transmit there is a button on the microphone.

To cancel a **DSC Distress** call, push soft key **CANCEL**, push **CONTINUE**, push **FINISH**. Ch16 will be automatically selected and send this voice message:

"*All Stations, All Stations, All Stations. This is SIROCCO, SIROCCO, SIROCCO, CALL SIGN VRS8125, MMSI 477991411, POSITION. Cancel my distress alert of DATE, TIME, SIROCCO, CALL SIGN VRS8125, OUT.*"

For VHF emergency and standard procedures see Appendix 7.

HF

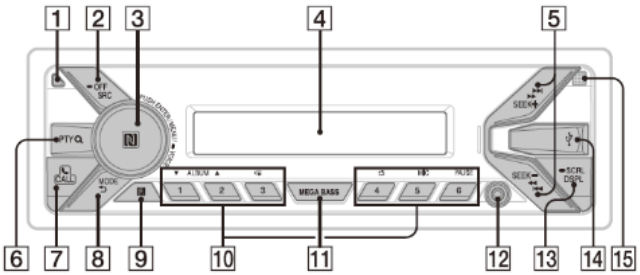


To turn **On** the icom HF radio, press **Button 2**.

To change **Volume Rotate 5**.

For other operating instructions, see the quick guide to the right of the radio.

Radio/CD Player



[2] Turn **On** and change **Source**. Press for 1s to turn **OFF**.

[3] Rotate for **Volume**. Push to enter selected items.

[14] **USB** port (slide the side).

NFC. To connect a smart device by NFC, activate the NFC on the device and touch the device to **[3]**.

BLUETOOTH. To connect a smart device using Bluetooth, press **[7] CALL**, rotate the **[3]** Control dial to select **[SET PAIRING]**, then press it. The Bluetooth light flashes. Use the smart device Bluetooth function to locate **[DSX-M55BT]** to establish a connection.

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MAIN ENGINE

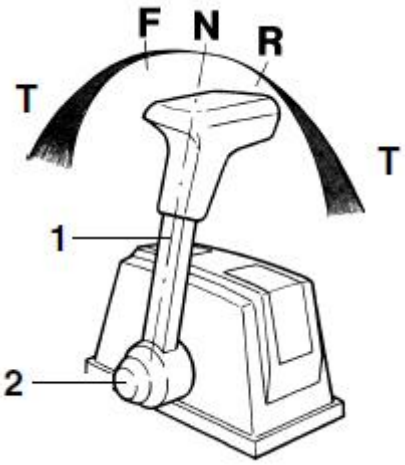
Daily Checks

At the start of each day, engine checks are to be undertaken on both the main engine and the generator:

SAFETY. *Ensure the key is out of the ignition, battery starter switches are off and crew knows engine checks are under way e.g. the companion way steps will be up.*

- Check for any sign of leaks under the engine.
- Check engine oil level.
- Check raw water filter.
- Check coolant water level.
- Check belt tension (max 13mm deflection from centre at mid of longest section).
- Check engine gearbox oil level (weekly).

Engine Control



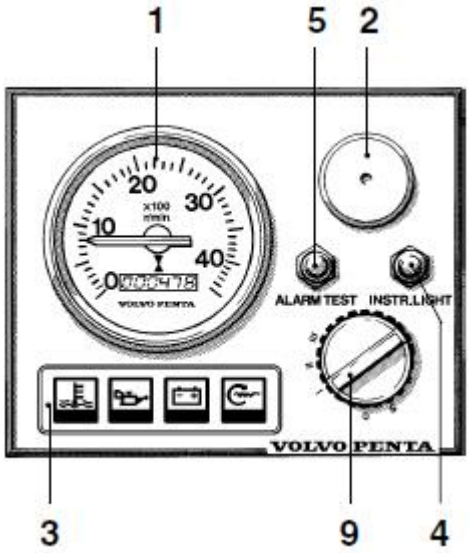
The engine control lever is in front of the starboard wheel.

The lever (1) engages gear in either a forward or backward direction and the angle of the leaver dictates the engine speed.

The button (2) when repressed and at the same time moving the control lever either forward or backwards keeps the gearbox in neutral and only the engine speed is changed.

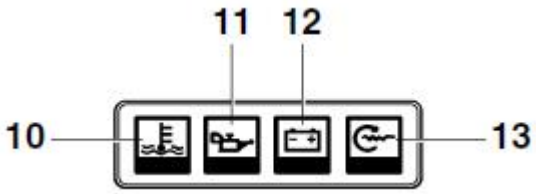
Engine Instrument Panel

The engine instrument panel as the following parts:



1. Tachometer and hour counter. Displays engine speed and to get the actual speed multiply this value by 100 for revolutions per minute. The hour counter displays engine operating time in hours and tenths of an hour.
2. Siren for acoustic alarm.
3. Warning display (see below)
4. Switch for instrument lighting.
5. Alarm test/acknowledgment switch. To test the alarms, press the switch. All warning lights light and the acoustic alarm sounds. It the alarm sounds, press the switch if there is an alarm. The acoustic alarm stops but the relevant warning lamp continues to illuminate until the malfunction is corrected.

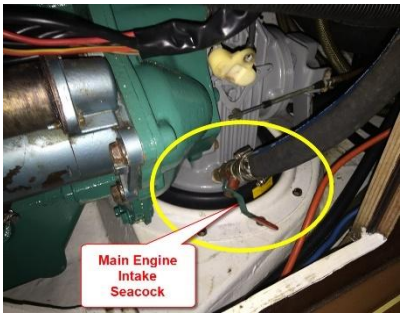
Warning Lights



If the acoustic alarm sounds, one of the three warning lamps (10-12) on the instrument panel illuminates to indicate the source of the alarm.

- **No. 10**: Engine coolant temperature too high.
- **No. 11**: Low oil pressure.
- **No. 12**: Battery not charging (alternator fault).
- **No. 13**: Indicator lamp comes on when the glow plugs are activated.

Main Engine Starting



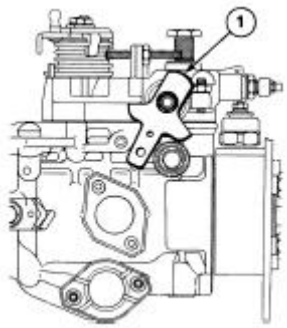
To start the main engine:

1. Ensure the daily engine checks have been completed.
2. Ensure the engine intake seacock at the Sail-drive is open and put away the Warning Sign in the chart table.
3. Check for free movement on the steering wheels and the engine control leaver.
4. Turn on the main engine Starter battery master switch located under the chart table, second from the left.
5. Take the key from the chart table and insert into the ignition key slot aft of the starboard wheel.
6. Ensure the engine control leaver is in neutral.
7. Turn the engine turn the key clockwise to position “I” and check the 3 warning lamps are functioning and press the “Alarm Test” to check the acoustic alarm is functioning.
8. Check the fuel level on the aft of the cockpit table.
9. Turn and hold over in position “III” until the engine starts (maximum 5 seconds).
10. When the engine starts immediately release the key so it returns to position “I”.
11. Check that engine cooling water is coming out of the exhaust. If no water is detected, stop the engine and perform the engine checks.
12. Run the engine for 10 minutes at 1200rpm in neutral by pressing the black button on the bottom of the control leaver while at the same time moving the leaver either forward or back (direction depended on the safest direction in case the engine should start to drive the propeller) to accelerate the engine.
13. To engage drive, move the control lever to the vertical position which will cause the black button to pop out. Moving the control lever forward or aft will now drive the yacht in the desired direction.
14. Maximum rpm should not exceed 2,000.

Engine Stopping

To stop the main engine:

1. Put the engine into neutral and let the engine cool down for 10 minutes.
2. Turn the ignition key anti-clockwise to the "S" position and then hold over until the engine stops.
   ***Note**: If the engine fails to stop then use the Emergency Stop which can be found on the fuel injection pump located on the port side of the engine. Twist the leaver (1) [marked in red] backwards until the engine stops.*
   ***WARNING**. Approaching or working on a running engine is dangerous. Watch out for rotating components and hot surfaces.*



3. Once the engine stops, release the key so it returns to the vertical "0" position.
4. Remove and stow in the chart table.
5. Turn off the main engine Starter battery master switch located under the chart table (second from left).
6. Close the raw water intake at the Sail-drive leg.
7. When leaving the yacht, put the Warning Sign located in the chart table that the raw water inlet has been closed onto the floor opposite the companion way steps.

Gear Position when Sailing

Depending on the type of propeller fitted there are different procedures to be followed.

- **Folding Propeller** (default). Move the gear lever to the reverse (aft) position to lock and fold the propeller.
- **Fixed Propeller**. When sailing more than 7 knots, put the control lever in the neutral (vertical) position i.e. the propeller will spin freely. If this is not done it could result in damage to the gearbox.

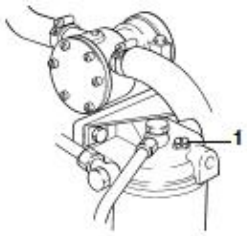
Fuel Cut-off:

The fuel cut-off is usually left open. If you need to stop the fuel flow to the engine permanently then use the fuel cut-off valve. This valve is located under the rear starboard had bunk. The valve is on the tank output nearest the centreline of the yacht.

Bleeding the Fuel System

The fuel system must be bled after fuel filters have been replaced or after refilling the fuel tank when it has been run dry.

***WARNING**. Approaching or working on a running engine is dangerous. Watch out for rotating components and hot surfaces.*



1. Ensure the fuel cut-off is open.
2. Open vent screw (1) on the fine filter mounting approximately three turns. Avoid fuel spillage by using rags around the venting point.
3. Pump the fuel using the lift pump (2) until there are no more air bubbles visible in the fuel. If the pump effect is poor, turn the engine over slightly so that the pump drive cam changes position.

4. Continue pumping and at the same time tighten the vent screw (1).
5. Turn the engine using the starter motor until it starts and allow it to idle for several minutes.
6. Stop the engine and check for leaks.

Refuelling

The diesel filler point is located at the starboard aft of the yacht. The filler cap might not be connected to the yacht so take special care to ensure it's not dropped when removing. Take care to prevent diesel from overflowing when filling by knowing how much fuel to request.

WATER, COOKING & HEADS

Fresh Water

Filling Water Tanks

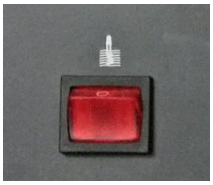
There are two water filler points for the forward and aft tanks located on the deck (see Through Hull Fittings diagram). Be careful when removing the caps as they might not be secured to the yacht to prevent their loss.

Operate Fresh Water Pump

To operate the freshwater pump, turn on 12V Distribution Panel **Switch No.12**. The tank levels can be seen using the meter on the 12V Distribution Panel by pressing the rocker switch to the desired tank. The tank switchover valve is in the aft heads, forward locker and clearly marked to show which tank is in use.

Water Heater

The hot water is usually generated from running the main engine and this is the preferred method. If there is a need to have hot water without using the engine it can be generated from the hot water tank internal heater.



To turn on the water heater either turn on the generator or connect the shore supply and then turn on the 240V supply (see relevant sections). Then turn on the large red switch in the middle left part of the 12V Distribution Panel.

***Warning**. It's possible to run the Water Heater on the Service batteries via the Victron box but this will run down the Service batteries quickly and should not be done for any significate time.*

Food & Cooking

Fridge

The fridge is located at the aft of the galley worksurface. To operate, turn on **Switch No.16** on the 12V Distribution Panel and on the fridge control, located to the left of the oven, select **NORMAL•AUTO**. If the fridge control light starts flashing, the fridge is having issues starting. To resolve, run the engine or generator until they stop flashing (about 30min).

Note: The fridge drains into a container located below the fridge which must be emptied and cleaned every day and at the end of the voyage.

Gas Oven

To operate the gas oven:

1. Check the bilges for any smell of gas by lifting the small cabin floorboard to the rear of the central saloon seat and do a sniff test.
2. Check all the oven burner controls are in the off position.
3. Under the port helmsman's seat, open the gas bottle valve (vertical position).

4. Open the valve in the locker behind the galley sink (in line with the pipe).
5. Using the lighter stick, turn on the required burner, press in and light the gas.
6. Keep the knob pressed in for 10 seconds to allow the safety device to warm up.
7. Release the knob and adjust the flame.

When finished with the cooker:

1. Turn the burners off.
2. Close the valve in the locker behind the galley sink (across the pipe).
3. Turn off at the gas bottle at the aft of the yacht (turn to horizontal).

***WARNING**. The gas bottle must always be turned off at the bottle when not in use.*

Changing Gas Bottles.

Should the gas bottle need changing, turn off the gas bottle. Lift the black release catch on the regulator to remove the regulator. Get the new bottle from the locker opposite the current bottle and press the regulator onto the new gas bottle and make sure the black release catch is fully in the down position or it won't be possible to turn on the gas bottle valve.

Heads (Toilets)

Electric Heads (Forward)

To use the forward electric heads, ensure the through hull fittings for the toilet are open (see the Through Hull Fitting diagram). Ensure the 12V Distribution Panel **Switch No.12** (fresh water) and **Switch No. 14** (electric toilet) are on. After using the toilet **nothing** but toilet paper is to be placed into the toilet bowl. To flush, on the heads control (aft of the heads) press the furthest button to add water and then the nearest button to flush. Note that it takes about 20s before the heads can be flushed again.

Marine Heads (Aft)

To use the aft marine heads, ensure the through hull fittings for the toilet are open (see the Through Hull Fitting diagram). After using the toilet **nothing** but toilet paper is to be placed into the toilet bowl. Move the pump selector switch to the aft position (red danger triangle) and flush. Then return the pump selector switch to the forward (safe) position and empty the toilet bowl.

MAINS SUPPLY (240V)

The mains power supply (240V) can be generated from the Victron inverter in the Generator Room using the 12V Service batteries or straight from the 240V generator or shore supply.

Invertor/Battery Charger

Turn On

To turn on the Victron invertor to generate 240V from the Service batteries or get the 240V direct from the generator or shore supply:

1. In the **generator room** on **Victron box** (blue) depress the rocker switch so the **top** is down.
2. On the **Chart Table** distribution panel top left, **blue power control**:
   a. Press **right** button **2s** to **boot up**.
   b. Press **right** button to turn on 240V power supply.
   c. Press the **centre** round button to monitor the supply input/output.

Turn Off (< 24hrs)

When not requiring the 240V for a short period when powered from the Service batteries.

1. On **blue power control** press the **right** button briefly.
2. The control will turn off the 240V supply.

Turn Off (> 24hrs)

When leaving the yacht for an extended period.

Warning. Failure to turn off the inventor fully when leaving the yacht will result in the Service batteries becoming fully discharged.

1. On the **blue power control** press the **right** button briefly to turn off the 240V supply.
2. On the **blue power control** press left button **2s**.
3. **Blue power control** will **shut down**.
4. In **generator room** on **Victron box** rocker switch select the **middle** position.

***Note**: If blue power control is unresponsive, **shut down** (press left button) then **bootup** (right button).*

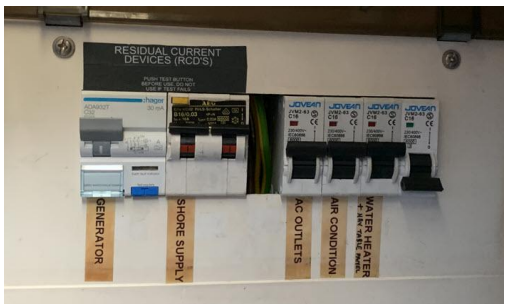
Generator Power Supply (240V)

Start

1. Ensure the daily engine checks have been completed.
2. **Open** the **Generator seacock** (located under companion way steps and front of main engine).
3. Ensure the diesel stop cock is open (under the generator).

4. Turn **On** the **Generator battery master switch** (above the navigator seat).
5. On the **Generator Control Panel** (above the navigator seat) move the **ON/OFF** switch to **ON**.
6. **Hold down** the **PREHEAT** switch for **15 seconds**.
7. While **holding down** the **PREHEAT**, at the same time **press and hold down** the **START switch** until the engine starts then **release** the **START** switch but continue to **hold down** the **PREHEAT** for another **5 seconds**.
   ***Note**: If the **PREHEAT** is released too early the low oil pressure will cause the oil pressure warning to stop the engine. The **PREHEAT** switch overrides the warnings when held down.*

8. **Immediately** check for water coming out of the exhaust at the aft port side of the yacht. If no water is detected, stop the engine and perform the engine checks.
9. In the generator room 240V fuse panel (forward bulkhead) turn **On** the **Generator Supply** switch.
10. Follow the **Invertor/Battery Charger** instructions to turn on the 240V to the mains power sockets.

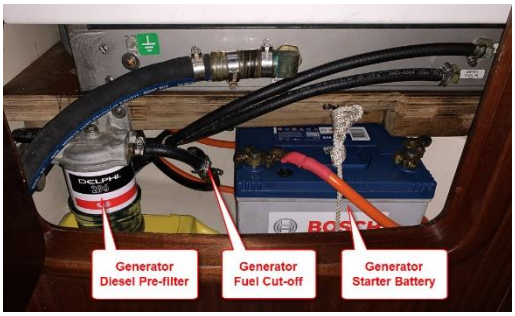


Stop

1. On the **Generator Control Panel** turn the **ON/OFF** switch to **OFF** position to stop the generator.
2. Turn **Off** the **Generator battery master** switch above the navigator seat.
3. **Close** the **Generator seacock** (located under companion way steps and front of main engine).
4. Follow the **Main Supply** instructions to turn off the 240V to the mains power sockets.

Generator Room

The generator is located in the starboard aft cabin. The generator is in a sound reducing box and the external components are shown opposite.



Shore Power Supply (240V)

Connect Shore Supply

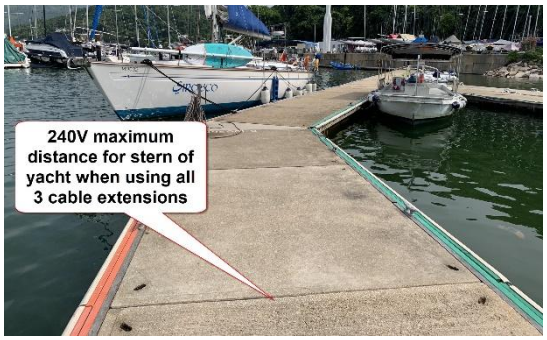
1. Ensure the shore supply is compatible with the yacht system i.e. 220-240V.
2. Connect one end of the shore supply cable onto the socket at the aft starboard side of the yacht.
3. Connect the other end of the shore supply cable to the shore supply. Use one of the shore supply adaptor connectors if the standard plug does not fit the shore supply.
4. Ensure the shore supply is switched on at the shore side box (there is usually a trip switch).
5. In the generator room 240V fuse panel (forward bulkhead) turn **On** the **Shore Supply** switch.
6. Follow the **Invertor/Battery Charger** instructions to turn on the 240V to the main sockets.

Disconnect Shore Supply

1. In the generator room 240V fuse panel (forward bulkhead) turn **Off** the **Shore Supply** switch.

2. Disconnect the shore supply cable.
3. If required, follow the **Invertor/Battery Charger** instructions to turn off the 240V to the main sockets.

When moored at Shelter Cove using all 3 extension leads the maximum distance the cable will stretch is shown opposite.



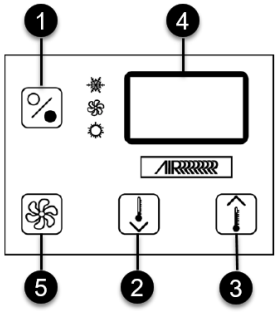
Air Conditioner

To run the air condition, either the Generator must be running or Shore Supply connected.

Warning. *It's possible to run the Air Conditioner on the Service batteries via the Victron box but this will run down the Service batteries quickly and should not be done for any significate time. If this might occur, turn off the Air Conditioner master switch in the 240V AC panel.*

Turn On

1. Start the Generator or connect the Shore Supply (see section for details).
2. In the generator room 240V fuse panel (forward bulkhead) switch on **Air Conditioner**.
3. Open the Air Conditioner seacock (in the Bosun's locker near the mast). Ensure the filter has water near to the top. If needed crack open the filter top to fill and close again.
4. In the forward cabin on the port side is the Air Conditioner control panel, give a short press to the power **Button 1**.
   *[**Note**. Do not hold down this button or you will enter the setup mode which can result in disabling the air conditioner].*
5. To change the operation mode further presses to Button 1 will cycle through cooling, fan, heating.
6. To **Decrease/Increased** the set temperature use **Buttons 2 & 3** and the newly requested temperature will be on Displayed 4. It then will revert to showing the current temperature.



7. To adjust the **Fan** speed, use **Button 5**. Its recommended to set this to **Auto** (**A** displayed).

Turn Off

1. In the forward cabin on the port side on the Air Conditioner control panel give a short press to the power **Button 1**.
2. Close the Air Conditioner seacock (in the Bosun's locker near the mast).
3. In the generator room 240V fuse panel (forward bulkhead) switch off **Air Conditioner**.

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DINGHY

Unpacking

1. Lift the dinghy out of the aft port locker (do not drag or it will damage the locker seal).
2. Move the dinghy to the bow area and unpack.
3. **Never step inside the dinghy when not in the water.**
4. On the dinghy pump, ensure the hose is connected to the inflate side.
5. Ensuring the dinghy valves are shut (turn the valve until it pops out).
6. Inserting the dinghy pump hose onto the dinghy inflate fitting and twist to secure.
7. Inflate the sections until firm i.e. should be very little movement when pressed firmly.

Safety

Statistically the dingy is one of the most dangerous pieces of equipment onboard. The following safety checks must be undertaken before use.

- **All dinghy crew are always to wear a lifejacket while in the dinghy**.
- Check the paddles are in the dinghy and secured.
- Check the dinghy safety bag is on-board containing:
  - Torch
  - Whistle
  - Anchor
  - Repair kit.
- Carry a VHF.
- If snorkelling is to be performed from the dinghy the “diver down” equipment is to be carried and used consisting of a diver down flag and flagpole.
- If using the outboard, check there is enough fuel for the journey.
- When lowering the dinghy into the water do not drag over the stanchions or the ground.
- Step into the centre of the dinghy and keep your centre of gravity low.

Packing Away

1. Wash the dinghy down with fresh water with a small amount of dishwasher detergent.
2. Wash inside then flip over and wash bottom.
3. Wash the oars and seat with fresh water.
4. Let the dinghy dry.
5. On the dinghy pump, disconnect the hose and reconnect to the deflate side.
6. Ensuring the valves are shut (turn the valve until it pops out).
7. Inserting the dinghy pump hose onto the dinghy inflate fitting and twist to secure.
8. As a section is deflated, keep the tubes as flat as possible with minimum wrinkles.
9. When a section has been deflated put the cover back on the valve.

10. Fold the dinghy in a Z fold.

11. Put dinghy into the cover.
12. Stow the dinghy in port hand aft locker, forward. Place it in the locker across the yacht and do not drag it into the locker as this damages the locker seal.
13. Keep the kedge anchor shaft away from the dinghy (push anchor aft).
14. Stow the seat and oars down the forward part of the dinghy and the inflator on top at the back.

Outboard Engine

Check the outboard motor is securely fastened. Check the kill cord is in place (stored in the chart table) and fastened round the operator's thigh. If the engine is in the up position, pull the engine towards you by the top and pull up on the tilt lock arm on the port side and lower the engine. Open the air vent on the fuel filler and the fuel valve located on the starboard side of the engine. Check the shift lever on the starboard side is in the neutral position. Set the twist throttle to the Start mark and pull out the choke. Give one or two long pulls on the starting cord. Once started, do not rev the engine excessively in neutral. To stop the engine, push and hold in the stop button until the engine stops. Turn off the fuel and close the air vent.

MAINTENANCE

It's the responsibility of the skipper to ensure the yacht is properly maintained. When something breaks it shall be recorded in the Bosun's Log located in the small open locker at the chart table.

All breakages shall be repaired as soon as possible. Leaving a repairable item untouched is not acceptable and can have serious unintended consequences.

On return from a training course all outstanding repairs are to be reported to the RTC Principal.

Pre-voyage Checks

The yacht must be checked for serviceability at least 24hrs before each voyage using the checklist (see Appendix 1).

Safety Equipment Servicing

For details on servicing and expiry dates of yacht safety equipment see the Safety Equipment Maintenance Register at Appendix 17.

Engine Servicing

For details on engine, saildrive and generator servicing requirements and logs see Appendix 18 to 19.

Suppliers

For spares supplier see Appendix 20.

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APPENDIX 1: PRE-VOYAGE CHECKS

The checks below are to be completed as early as practicable before the start of the voyage to ensure the yacht is properly prepared but no later than 24hrs prior the voyage this checklist it to be returned to the RTC Principle.

COURSE No.	COURSE TYPE	FROM	TO

ITEM	CHECK	CHECKED BY
Service Record Sheet	Checked yacht SOP folder Appendix 17, Service Record that item are in date	
Boson's Book	Check the Boson's book for entries that must be addressed	
First Aid Log	Check for missing first aid equipment	
Emergency Equipment	Check equipment in assigned location (Safety Equipment Location diagram)	
Fire Extinguishers	Up to pressure and free from corrosion	
Water	Sufficient for the journey with a reserve	
Fuel	Diesel and petrol sufficient for the journey with a reserve	
Gas	One spare bottle	
Lifejackets	Correct number for crew, plus 2 spare and serviceable	
Batteries Charged	Engine start, Service and Generator batteries fully charged	
Engine Checks	Check belts, water level, water filter, fuel filter, oil levels, mounts, leaks	
Engine Controls	Operate smoothly and when engine started there is propulsion	
Steering	Free from stiffness or excessive play, emergency steering checked	
Generator Checks	Check belts, water level, water filter, fuel filter, oil levels, mounts, leaks	
Seacocks	Working smoothly	
Bilge Pumps	Operational and strum boxes/filters clear	
Charts	Chart folio complete, in date, in order and clean of pencil annotations	
Navigation Electronics	All electronic navigation aids are serviceable	
VHF	Fixed and handheld operational	
Toolkit	Complete, serviceable and free from corrosion	
Spares	Sufficient engine, generator, electrical and sailing spares	
Internal Lights	Internal lights are serviceable	
Liferaft	Secure with painter attached	
Deck	Check all screws and fixtures on deck	
Anchor	Windlass operational, anchor secure and chain free from corrosion	
Navigation Lights	All navigation lights are serviceable	
Standing Rigging	Mast checked, wires, spreaders, rigging pins, shroud bases	
Running Rigging	Free from fraying, blocks free, winches and handles serviceable	
Yacht Clean	The yacht is in a high standard of cleanliness	
Crew List	Fill in the crew list and assign responsibilities and safety equipment	

YACHT: …….. DATE: ……..

NAME: …….. SIGNATURE: ……..

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APPENDIX 2: START-UP/CLOSE DOWN PROCEDURE

Start-up

The procedure below is used to prepare the yacht for sea.

ITEM	ACTION
ASHORE	
Boat Keys	Remove from locker No. 5 (code 3944)
Grab Bag*	Remove from locker No. 1 (code 2013) and place into central saloon seat
Lifejackets*	Remove from locker No. 1 and place into forward cabin forward locker
BELOW DECKS	
Washboard	Remove and place in holder in port aft cabin engine access door (once in place)
Engine	Open the raw water seacock on the sail-drive and close engine cover (stored in bow)
Generator	Open the raw water seacock in front of the main engine
Engine/Gen Seacocks Warning	Put the Eng/Gen seacock closed warning sign into the chart table
Engine Daily Check	Perform standard engine check routine
Generator Daily Check	Perform standard engine check routine
Transducer	Change blank to speed/depth transducer (ensure arrow facing forward)
Seacocks	Open all seacocks as per Through Hull Fittings diagram (shown in green)
Master Negative	Turn on the master negative switch (in the service battery bay)
Master Switches	Turn on required master switches (Service, Engine, Generator)
DC Panel	Turn on switches: 8, 10, 12, 13, 14, 16, 17, 19 (and others as required)
VHF	Turn on the VHF
Invertor/Battery Charger	Switch on the invertor (see separate instructions)
Hatches	Ensure all roof (escape) hatches are in the unlocked position
ABOVE DECKS	
Cockpit Lockers	Open and put locks in chart table
Pushpit Safety Equipment	Install the Jon Buoy attached to lifebuoy, lifebuoy, throwing line and rescue sling
Jack Stays	Install to the inside of the shrouds
Pennants	On chart table ledge, put RHKYC pennant to starboard and RYA to port burgee halyards
Ensign	From starboard cockpit locker to rear position on radar post
Coach-roof Winch Handle	On chart table, place in cockpit winch pocket
Wheel Covers	Remove and stow in port cockpit locker
Instrument Covers	Remove and place inside navigator seat
Bimini Windows	Open
Sail Bag	Detach front cover and open bag zip
Mainsail	Attached main halyard and loop down onto a mast cleat to hold down
Rear Cockpit Seat	Put in the up position and secure by the catch under the seat
Aft Safety Lines	Close the aft safety lines
Aft Mooring Lines	Disconnect anti-chafe bungies from pushpit (don't remove bungies from pushpit)
Stow Solar Panel	Unplug the solar panel and place under the port aft bunk cushions (don't bend)
Anchor Control	Get the anchor control from the chart table and plug into the socket in the anchor locker
SAFETY	
Crew List	Enter crew names onto the Crew List sheet on the bulkhead and assign duties
Safety Brief	Give crew safety brief, including fitting of lifejackets
PRE-DEPARTURE	
Steering	Unlock the wheels and check for free movement
Engine Controls	Check for free movement
Fuel	Check level and ensure have 25% spare
Engine	Warm up main engine for 10 minutes before departing
Boat Stowage	Crew to perform below decks and above decks walk round check

Close-down

The procedure below is to be followed when leaving the yacht.

ITEM	ACTION
ABOVE DECKS	
Anchor Control	Unplug from anchor locker and place on the chart table
Main Halyard	Put the main halyard onto the back of the boom
Sail bag	Close zip and attached front cover
Pennants	RHKYC and RYA pennants on chart table
Port Coach-roof Winch Handle	Remove from winch pocket and place on chart table
Ensign	Remove to starboard cockpit locker
Pushpit Safety Equipment	Remove all to starboard cockpit locker
Jack Stays	Remove to the starboard cockpit locker
Gas	Check valve is in the off position in port gas locker
Steering	Lock both steering wheels in the amidships position (use port wheel lock only)
Wheel Covers	Remove from port cockpit locker and fit on wheels
Instrument Covers	Remove from chart table seat and place cover over instruments
Bimini Windows	Close
Install Solar Panel	Place solar panel in front of mainsail track and run cables to panel (don't bend)
Fenders	Place at bottom of each stanchion/gate post positioned with tops 5cm below topsides
Aft Mooring Warps	Ensure mooring lines lead straight to mooring buoy and connect anti-chafe bungies
Pickup Line	Place the small buoys over the lifelines and the line over the centre cleat (out of water)
BELOW DECKS	
Transducer	Change speed/depth transducer to blank (ensure arrow facing forward)
VHF & HF	Turn off
Bin Heads	Empty, clean and put in new liner
Bin Galley	Empty, clean and put in new liner
Fridge Drain	Empty and rinse out drain container under fridge and replace
Fridge Lid	Open one side to ventilate
Engine	Close the raw water seacock on the sail-drive and stow the cover in the bow
Generator	Close the raw water seacock in front of the main engine
Engine/Gen Seacocks Warning	Put the Engine/Gen seacock closed warning sign from the chart table onto the floor
Heads	Flush water through both heads
Seacocks	Close all seacocks (except for one marked 'DO NOT CLOSE' on Through Hull Fittings dia)
Forward Heads Doors	Leave open
Cabin Doors	Leave open
Hatches	Close and hatches and lock
Cabin Windows	Check all are firmly closed
Inverter/Battery Charger	Switch off the invertor (see separate instructions)
Master Switches	Turn off all 3 master switches (Service, Engine, Generator)
Master Negative	Turn off the master negative switch (in the service battery bay)
PRE-DEPARTURE FROM YACHT	
Rear Cockpit Seat	Put in the **up** position and secure by the catch under the seat
Aft Safety Lines	Open the aft safety lines and secure back i.e. do **NOT** leave them across the stern.
Grab Bag*	Remove from central saloon seat and place into storage locker No. 1
Lifejackets*	Place in lifejacket bag, remove from vessel and place into storage locker No. 1 (2013)
Course Forms	Put the Course Folder with Yacht Checklist and Course Enrolment Forms in locker No. 1
Bedding	Put dirty bedding on Locket No. 1
Washboard	Put in place and lock
Boat Keys	Put in locker No. 5 ashore (code 3499). Do not remove spare keys in the chart table.

* Confirm with Chief Instructor.

APPENDIX 3: CREW LIST & RESPONSIBILITIES

The Crew List & Responsibilities sheet is to be completed before the crew arrives and responsibilities assigned commensurate with the type of passage being undertaken.

No.	WATCH	NAME	DUTY	EMERGENCY DUTY	TEA/COFFEE		
					Tea or Coffee	Milk Tick = YES	Sugar No. of cubes
1				MoB: Abandon:			
2				MoB: Abandon:			
3				MoB: Abandon:			
4				MoB: Abandon:			
5				MoB: Abandon:			
6				MoB: Abandon:			
7				MoB: Abandon:			
8				MoB: Abandon:			
9				MoB: Abandon:			
10				MoB: Abandon:			

NUMBER: IS THE NUMBER OF YOUR LIFEJACKET, CUP NUMBER, NUMBER USED IN ROLE CALL E.G. IN LIFERAFT
WATCH: WATCH NUMBER, PREFIXED WITH 'L' IF WATCH LEADER
DUTY: SKIPPER, MATE, BOSUN, RADIO OP
MOB DUTY: DSC CALL, MOB GPS, ENGINE START, LIFESLING, RESCUE SWIMMER
ABANDON DUTY: EPIRB, SATPHONE, VHF, TRACKER, BINOCULARS, GRAB BAG, FLARES, EMERGENCY WATER, FOOD, TORCHES

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APPENDIX 4: FAMILIARISATION AND SAFETY BRIEF

Introduction

1. Complete Enrolment forms (in course pack or at back of Yacht Documentation folder)
   - Review swimming ability (if can't swim 50m with clothes, must always wear a lifejacket)
   - Review medical issues e.g. sea sickness, asthma, diabetes, claustrophobia, medication, etc
2. Crew introductions
3. Issue RYA publications
4. Outline of schedule using Hong Kong planning chart

Safety

Below Decks

1. ***Crew List & Responsibilities**: Confirm crew names and responsibilities
2. ***Emergency Equipment Location**: See "Safety Equipment Location Chart" in companionway
3. ***Emergency Exits**: Main companionway and forward cabin
4. ***Fire**: Blanket and extinguisher locations, usage and action on fire (see Fire SOP)
5. ***Electrical**: Master switch locations & DC Panel important switches
6. ***Radio**: How to switch on and send a Mayday call (see "VHF Emergency Procedures" SOP card)
7. ***First Aid**: Day-care, Cat-C pack location and Incident book
8. ***Flares**: Location and how to use
9. ***Marine Toilets**: Sea cocks and usage
10. ***Stowage**: Lockers firmly closed, stow personal kit away while sailing
11. ***Hatches**: Check before departing and stay closed at sea
12. **Bilge pumps**: Location and usage i.e. manual pump and record wet pumps in log
13. **Gas Routine**: Bottle, valves, lighting, use oilskin bottoms at sea, gas alarm (see Gas SOP)
14. **Hygiene**: Cleanliness, especially food preparation (see Food Hygiene SOP)
15. **Ships Log**: Keeping, record position regularly and when an event occurs
16. **Grab Bag**: Location, contents and assign to crew member(s)
17. **SOPs**: Point out MoB, Fire, Gas & Abandoning SOPs in chart table
18. ***Lifejackets**: Check fitting, know your number (see crew sheet), stow with own kit, when to use i.e. if you can't swim, at night, restricted visibility (fog), before 1st reef set, when they want to, when the skipper says, emergency situations

Topside

1. ***Trips & Falls**: Walk, don't run, no jumping from wharf to boat or vice-versa
2. ***Deck Safety**: Boom, accidental gybes, preventer, coming on deck
3. ***Harness and Jackstay**: How to use, where to clip on/not clip on, one hand for yourself
4. ***Safety Equipment**: Location and usage (horseshoe, Jon Buoy, throw line, life-sling, liferaft)
5. ***Anchor**: How to deploy using windless and manually
6. ***Engine Starting**: Check for warps, safety, starting, check exhaust water, stopping
7. ***Lookout at Sea**: Keep a good lookout at sea, don't assume helmsman/skipper has seen
8. **Emergency Equipment**: Location of emergency water, kedge anchor, drogue, buckets

****Short trip safety brief*

Safety is a shared responsibility and a state of mind.
The skipper cannot watch all of you all the time! If in doubt about something, ask!

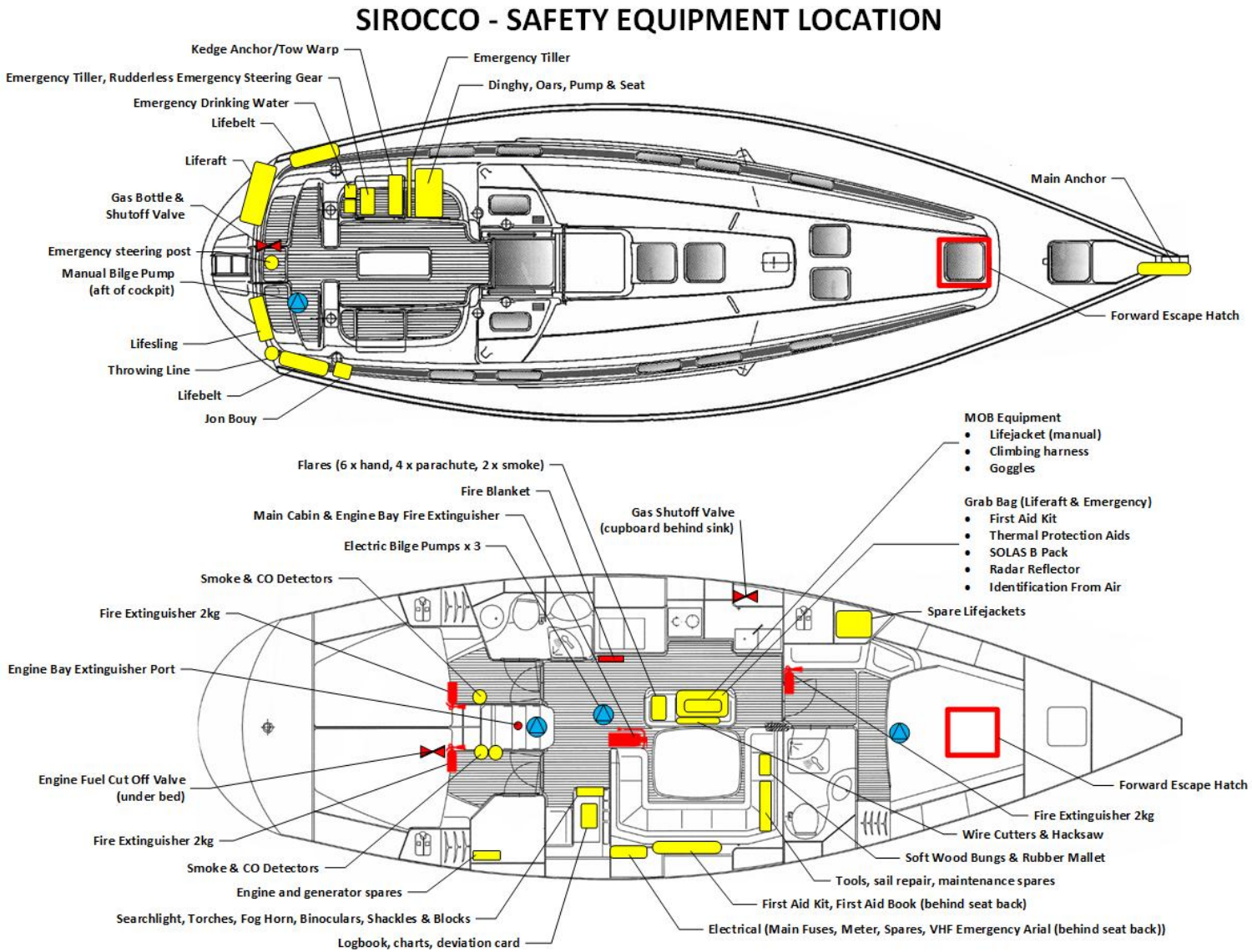
Husbandry

1. Location of water, food, snacks
2. Brief crew that they can help themselves to snacks and drinks
3. Menu & cooking roster
4. Tank water usage and conservation
5. Bottled water usage and drinking (each crewmember has a numbered cup)
6. Keep empty water bottles to refill when in port
7. Power conservation.

Commence Passage

1. Stow gear ready for sea
2. Boat check (stow kit, secure lockers, lock cooker if not using, engine checks)
3. Simple rigging
4. Departure brief
5. Depart

APPENDIX 5: SAFETY EQUIPMENT LOCATION



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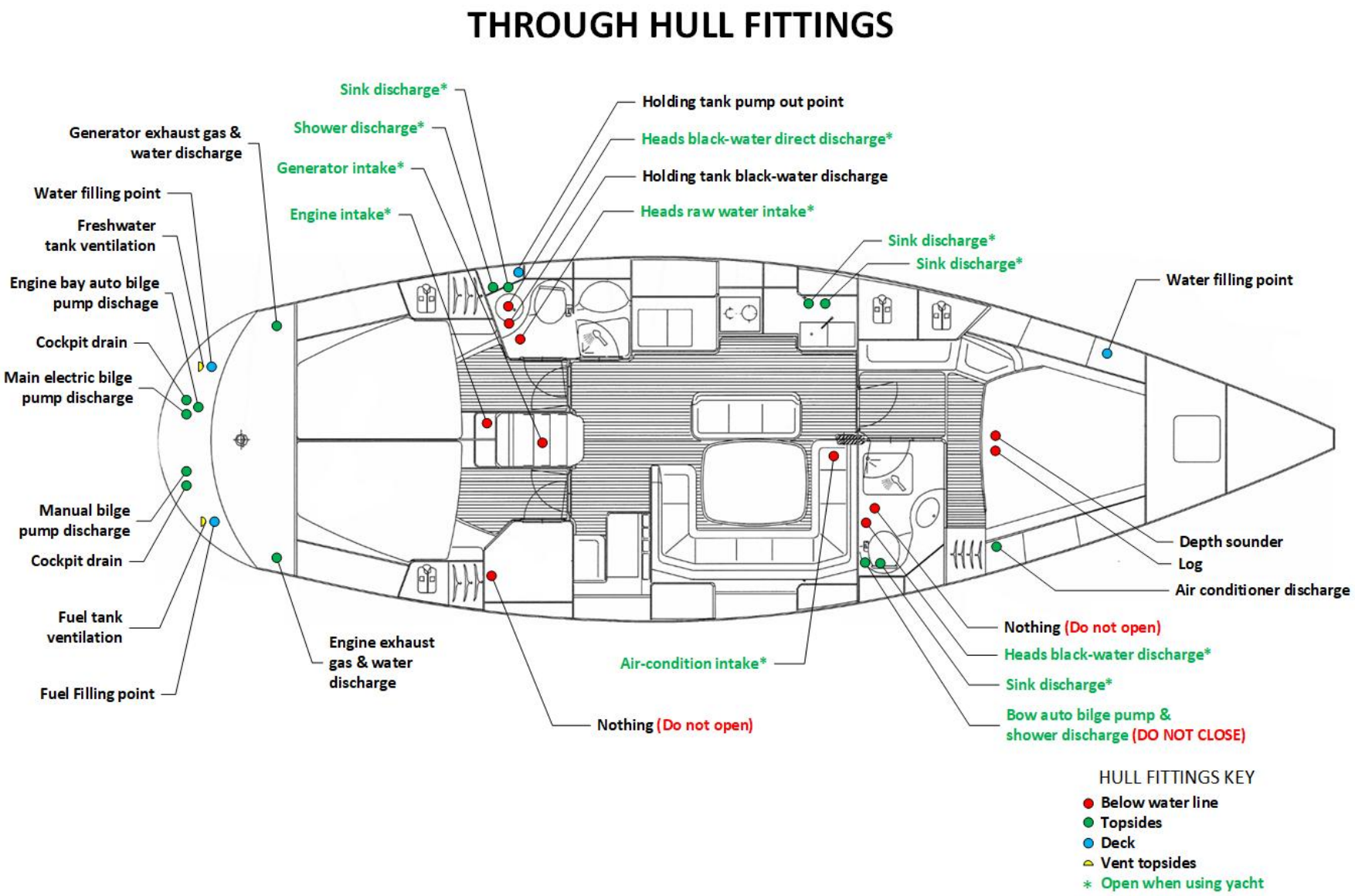
APPENDIX 6: THROUGH HULL FITTINGS



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APPENDIX 7: VHF RADIO EMERGENCY & STANDARD PROCEDURES

MAYDAY

Where in grave and imminent danger and require immediate assistance.

1. On **VHF**, lift **RED COVER** and **press the red DSC button for 5 seconds**.
2. **Wait 15** seconds, **PRESS VHF microphone** transmit button and say:

   "MAYDAY, MAYDAY, MAYDAY"

   "THIS IS YACHT SIROCCO, SIROCCO, SIROCCO"

   "VRS8125, MMSI 477991411"

   "MAYDAY, SIROCCO, VRS8125, MMSI 477991411"

   "MY POSITION IS __ DEGREES __ DECIMAL __ MINUTES NORTH __ DEGREES __ DECIMAL __ MINUTES EAST)" *Read from VHF screen*

   ***Nature of distress* e.g. SINKING, FIRE, INJURED CREW**

   "REQUIRE IMMEDIATE ASSISTANCE"

   "WE HAVE ____ PERSONS BOARD" (*this number includes any MOB*)

   ***Any other information* _____**

   "OVER"

3. Release the transmit button and wait for a response. If no response after 1 minute, repeat the MAYDAY message.

PAN-PAN

Where immediate assistance is **NOT** required, but to send an urgent message concerning the safety of the vessel or crew. On the VHF:

1. **MENU** → **DSC Calls** → **All Ships Call** → Push **ENT** → Select **URGENC**Y
2. Push **ENT** → Select **CH** → Push **ENT** → Push **CALL**
3. **Wait 15s, PRESS VHF microphone** transmit button and say:

   "PAN-PAN, PAN-PAN, PAN-PAN"

   "ALL STATIONS, ALL STATIONS, ALL STATIONS" or "MARDEP x3"

   "THIS IS YACHT ANEMOON, ANEMOON, ANEMOON"

   Give POSITION, NATURE of PROBLEM, ASSISTANCE REQUIRED, NUMBER of PEOPLE ONBOARD, OTHER INFO, "OVER

ROUTINE CALL

1. Select Channel 16 *(* Working channels 68, 69, 72, 77)*
2. "*called station, called station, THIS* IS SIROCCO, SIROCCO OVER"
3. Called station "*SIROCCO THIS* IS *called station OVER"*
4. "called station THIS IS SIROCCO, CHANNEL 72* OVER"
5. Called station "SIROCCO THIS IS *called station*, CHANNEL 72* OVER"
6. On Ch72, "*called station* THIS IS SIROCCO OVER"
7. On Ch72, called station "SIROCCO THIS IS called station OVER"
8. On Ch72, "called station THIS IS SIROCCO, give *message OVER/OUT*"

A = Alpha
B = Bravo
C = Charlie
D = Delta
E = Echo
F = Fox-trot
G = Golf
H = Hotel
I = India
J = Juliet
K = Kilo
L =Lama
M = Mike
N = November
O = Oscar
P = Papa
Q = Quebec
R = Romeo
S = Sierra
T = Tango
U = Uniform
V = Victor
W = Whiskey
X = X-ray
Y = Yankee
Z = Zulu

ALL BEFORE/AFTER
AFFIRMATIVE
CHANNEL
CORRECT/CORRECTION
I SAY AGAIN
I SPELL
I READ BACK
IN FIGURES
IN LETTERS
MAYDAY
MAYDAY RELAY
NEGATIVE
OVER/OUT
PAN-PAN
RECEIVED(~~Roger/Copy~~)
REPEAT
RECEIVED SO FAR
SAY AGAIN
SECURITÉ
SEND
STATION CALLING
THIS IS
UNKNOWN STATION
WAIT OVER/OUT
WRONG

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APPENDIX 8: HEAVY WEATHER ACTIONS

Actions on Imminent Onset of Heavy Weather

1. Plan the best path through the weather system.
2. Brief the crew on tactics and actions.
3. Regular recording of weather i.e. wind speed/direction, barometer.
4. Reconfirm crew emergency responsibilities e.g. MoB, abandoning, boat checks, etc.
5. Take seasickness tablets.
6. Below decks stow any loose items.
7. Secure windows and hatches tightly closed, secure lockers (also in cockpit).
8. Close all unnecessary seacocks.
9. Close off deck ventilators.
10. Check torches are working.
11. Charge batteries.
12. Dress appropriately for bad weather.
13. Position storm sails ready to access.
14. Position heavy weather equipment ready to access e.g. drogue, chain & warp.
15. Plot current position and consider a SECURITY message on VHF giving position.
16. Check safety kit topside i.e. secure and ready to use.
17. On deck, remove/secure large items e.g. outboard motor, sails, etc.
18. Secure the anchor and anchor locker.
19. Lash the spinnaker and A-sail pole.
20. Tape up clips on lifeline exit points.
21. Deploy radar reflector.
22. Secure main halyard with a cable tie (prevent coming loose).
23. Secure halyards (lash to mast).
24. Rig the 3rd reefing pennant.
25. Secure companionway washboards.
26. Check navigation lights.
27. Setup storm sails early.
28. Increase boat checks (pumping bilges, checking chainplates and sheeting points).
29. Setup high visibility panel if no sails set.
30. Crew to wear lifejackets and harnesses.
31. Crew to clip-on at all times.
32. Reduce watch durations.
33. Prepare easy meals.
34. Drink plenty of water.
35. Eat well.
36. Rest the most experienced sailors.

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APPENDIX 9: PERSON OVERBOARD (POB) RECOVERY

Phase 1: Immediate Action

1. The person spotting the POB shouts “Person Overboard” and then continues to point in the direction of the POB until recovered
2. Most senior person takes charge of yacht
3. Deploy the Lifebelts and Jon Buoy into the sea to mark the POB position
4. Press the POB/MOB button on GPS (press for 5 seconds to initiate function)
5. At night use floating lantern and light-sticks to mark location in the water
6. Under engine, helm puts engine in neutral
7. Under sail:
   a) Upwind Hove-to
   b) Under spinnaker in light winds, do a controlled drop
   c) Under spinnaker strong winds, release all 3 corners and steer away from sail
8. Check for lines over side and start engine
9. Transmit a DSC Distress call and then send a voice MAYDAY on CH16
   Note: HK MRCC +852 22337999

Phase 2: The Return

1. If under sail, furl the foresail and centre the mainsail
2. Get Rescue Swimmer ready for a water entry, put on suitable clothing, climbing harness and manual inflation lifejacket (lifejacket No. 8 from under the saloon cabin centre seat), facemask and fins
3. Motor downwind of the casualty
4. Turn and motor upwind
5. If sufficient crew, drop the mainsail into the lazy bag
6. When POB near bow put engine in neutral
7. Turn slightly to put POB on leeward side (preferably starboard as engine control side)

Phase 3: The Recovery

1. Able-bodied POB
   a. Throw Life-sling at POB (see over)
   b. POB puts on Life-sling and pulls down the toggle to secure themself
2. Disabled POB
   a. Rescue Swimmer clips onto a spare halyard and enters the water
   b. Rescue swimmer puts Life-sling onto the casualty and pulls down the toggle
   c. If time, put lifeline under casualty knees to give a near horizontal lift (see over)
3. Pull in Life-sling rope to the loop and clip the Life-sling onto a spare halyard (see over)
4. Consider cutting the lifelines (if safe) to ease bringing the casualty onto the deck
5. Winch the casualty onto the vessel
6. Bring Rescue Swimmer back onboard using his halyard
7. Keep casualty horizontal and move to protected position
8. If required apply First Aid and call MRCC (in HK 999 or 22337999) for medical advice

1a. Throw Life-sling

2c. Use lifeline for horizontal lift

3. Put loop on halyard and hoist

Repacking Lifesling

Wash down the lifesling with fresh water

Feed the yellow rope down into the centre part of the bag i.e. do not coil the rope

Replace the lifeslign legs down either side of the rope and close

APPENDIX 10: SEARCH PATTERNS

If a casualty cannot be found quickly then start using the search patters below in the order shown.

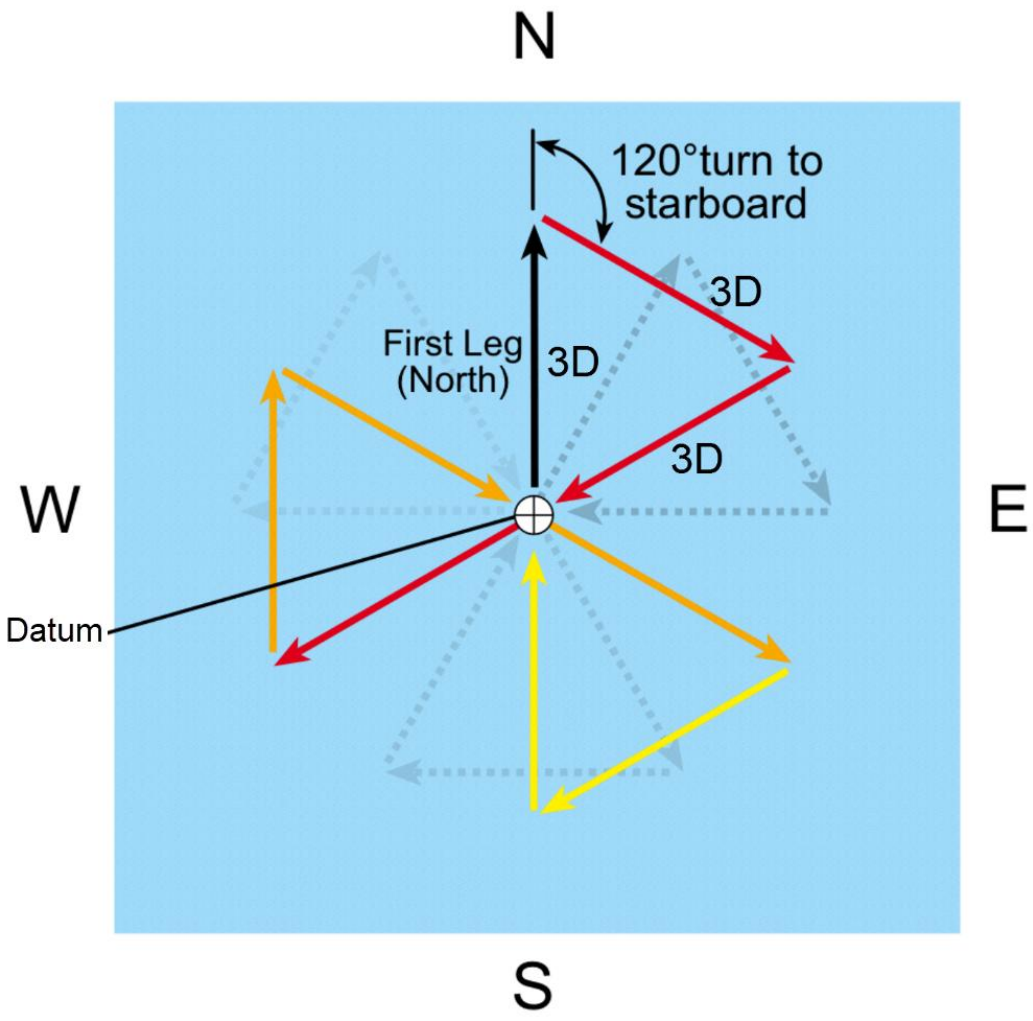
Definitions

Datum = Marks the last known position and can be a GPS position or floating marker

Detection Range (D) = Can see an object of similar sized 50% of the time from the vessel

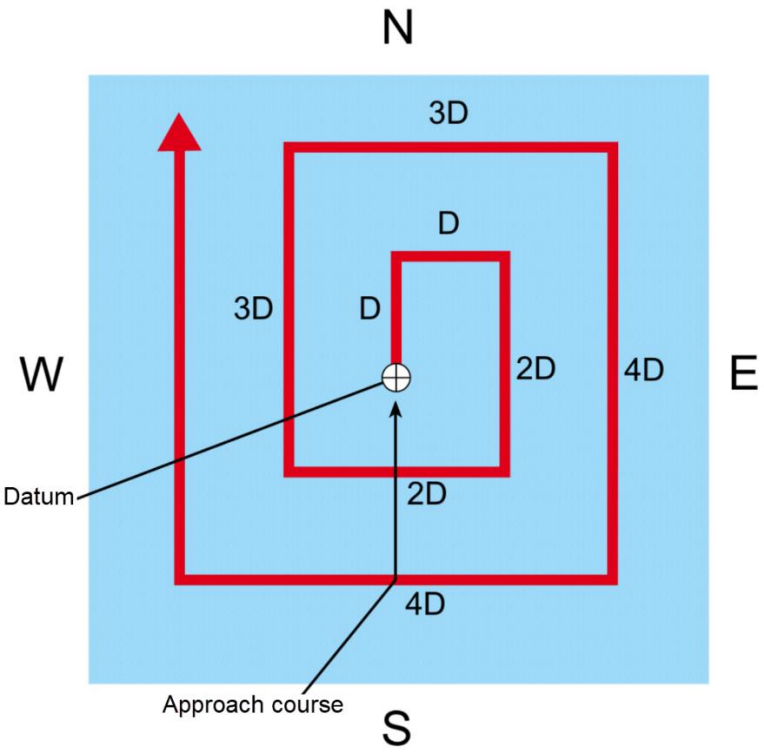
Sector Search

Used when the position of the casualty is likely to be very close (less than 6 x Detection Range). This method will require the use of the compass to steer the given directions and the log to measure distance through the water (do not use the plotter). If the casualty is not found on the first pass add 30° to courses and repeat. If not found again then add 30° to courses and repeat for a final time.



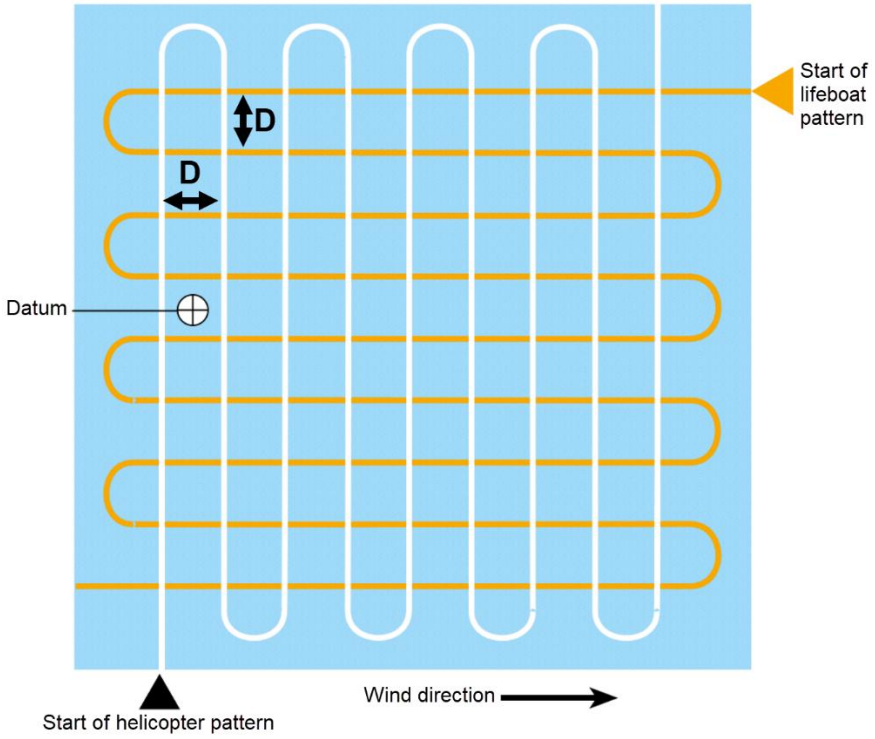
Expanding Square

Use when the casualty position is likely to be more than 6 x Detection Range.



Creeping Line

Use then the casualty position is not well known. Not that the "D" for an aircraft will be much later then a vessel.



APPENDIX 11: BEING TOWED & TOWING

Being towed and towing can be a hazardous procedure and must be done with extreme care.

ASSISTANCE COMPENSATION

If possible, before agreeing to being towed agree compensation for the service. If its not possible to have an agreement signed, then record all verbal communications e.g. mobile smart phone.

As part of an agreement, consider using the Lloyd's Standard Form of Salvage Agreement (LOF) https://www.lloyds.com/market-resources/lloyds-agency/salvage-arbitration-branch/lloyds-open-form-lof.

BEING TOWED

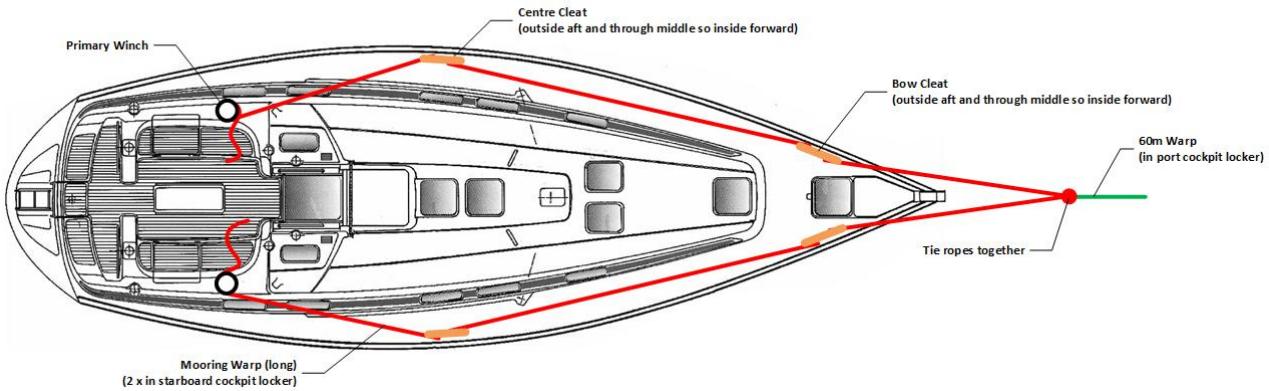
Rigging

1. Gather the following equipment:
   - 2 x long mooring warps (starboard cockpit locker).
   - 1 x kedge anchor warp (port cockpit locker).
2. Rig bridal as shown in the diagram below.
3. Attached the towing warp or wait to receive a tow line from the towing vessel.
4. Establish communication by VHF and agree hand signals for non-verbal communication.
5. Attempt to agree a price with the vessel doing the towing and complete the Lloyd's Standard Form of Salvage Agreement (in front of chart folio pack). Voice record all communications using a phone.

Tow

1. Watch for extreme loads.
2. Be prepared to release the tow lines round the primary winches if tow becomes unsafe.
3. Watch for chafe through the cleats and if evident, ease a little rope to move the chafe point.

RIGGING FOR BEING TOWED



TOWING

Rigging

1. Gather the following equipment:
   - 2 x long mooring warps (starboard cockpit locker).
   - 1 x kedge anchor warp (port cockpit locker).
2. Rig the bridal as shown in the diagram below. Note that as the winches are normally loaded from the front this must also be done even when the pull is to be towards the aft of the vessel.
3. Attached the towing warp or wait to receive a tow line form the vessel being towed.
4. Establish communication by VHF and agree hand signals for non-verbal communication.
5. Attempt to agree a price with the vessel doing the towing and complete the Lloyd's Standard Form of Salvage Agreement (in front of chart folio pack). Voice record all communications using a phone.

Towing

1. Watch for extreme loads.
2. Be prepared to release the tow lines round the primary winches if tow becomes unsafe.
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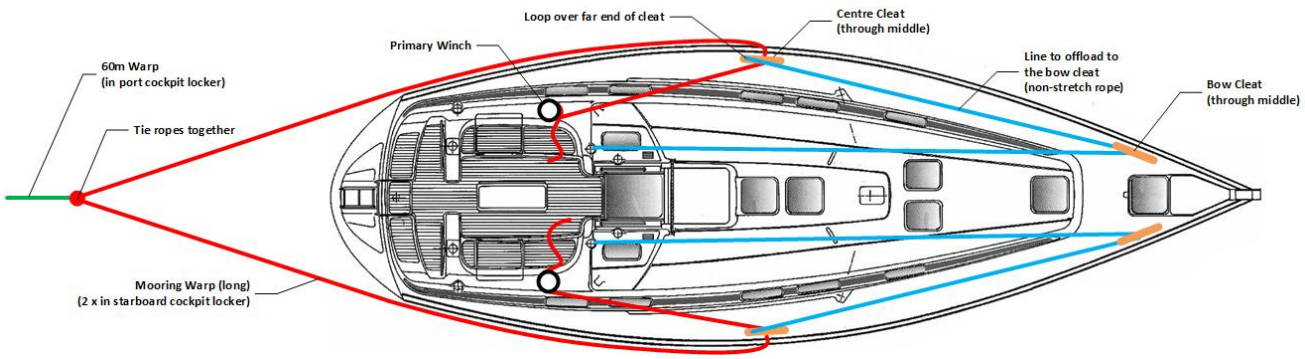
RIGGING FOR TOWING



TOWING COMMUNICATION

When towing ensure there is an effective means of communication between the vessels.

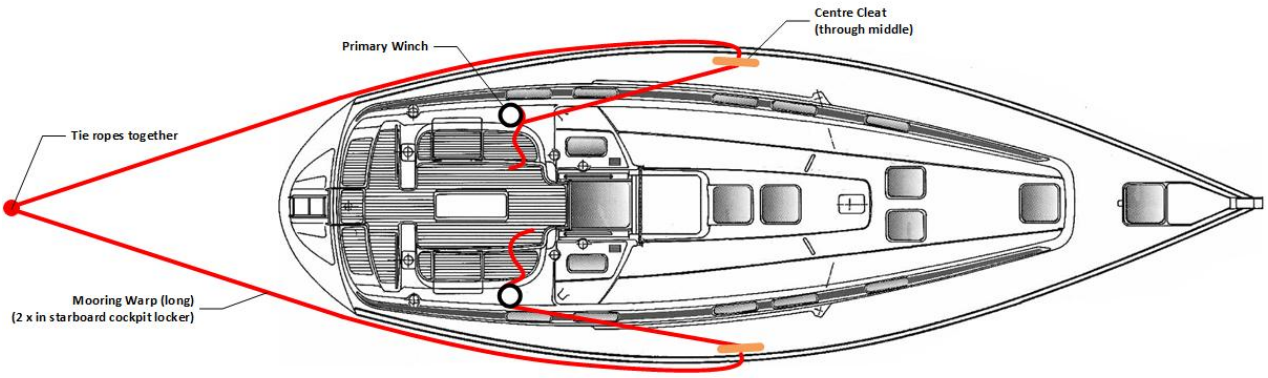
- **VHF**. Agree a working channel and test the VHF communication.
- **Hand Signals**. As a backup or where language is an issue simple hand signals are effective.
  - **Faster**. Forearm vertical with index finger pointing upwards and rotate hand in small circles.
  - **Slower**. Arm downwards with index finger pointing downwards and rotate hand in small circles.
  - **Stop**. Horizontal extended arm with clenched fist.
  - **Release tow**. Palm flat and in a horizontal cutting motion across the neck.

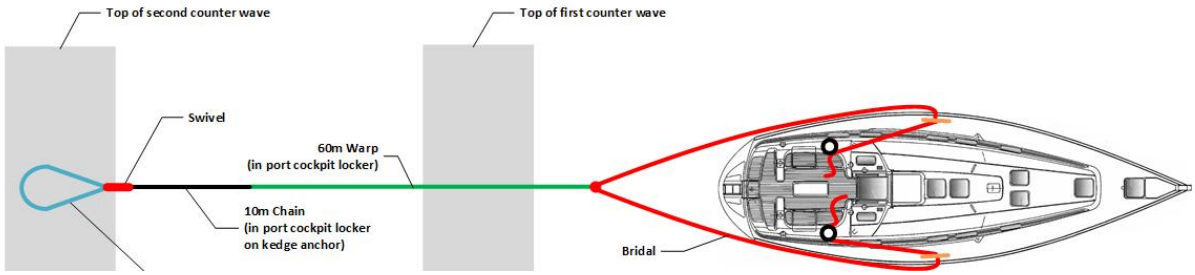
APPENDIX 12: RUDDERLESS STEERING & STORM SPEED REDUCTION

The drogue can be used both for steering on loss of the rudder and for speed control when going downwind in storm conditions. The rigging of the drogue is the same for both uses.

Rigging

1. Gather the following equipment:
   - 2 x long mooring warps (starboard cockpit locker).
   - 1 x kedge anchor warp (port cockpit locker).
   - 1 x kedge anchor chain (port cockpit locker).
   - 1 x swivel (attached to drogue in port cockpit locker).)
   - 1 x drogue (port cockpit locker).
2. Rig drogue bridal as shown in the first diagram below.
3. Rig the drogue to the towing warp and attach to the bridal as per the second diagram.





Deploying the Drogue

1. To prevent injury or damage to the yacht, do not deploy above 2kns of boat speed.
2. Carefully lower the gear into the water and set the drogue so it's in the second counter wave to prevent it surfacing.

Using the Drogue

1. Pull the drogue in on the side of the yacht you wish to turn e.g. pull in port to turn to port.
2. It helps to tape points on the free end of the lines to judge how far to pull in/release.
3. Watch for chafe through the centre cleats and if evident, ease a little rope evenly on both sides to move the chafe point.

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APPENDIX 13: FIRE & GAS EMERGENCY PROCEDURE

Fire

Action in the event of a fire:

1. Raise the alarm to the rest of the crew.
2. Helm puts the bow of the yacht downwind.
3. Crew to put on lifejackets and evacuate the cabin. On their way out and if safe to do so:
   a. Close all hatches and doors.
   b. Take the Grab Bag from under the saloon cabin centre seat.
   c. Take the handheld VHF located at the chart table.
4. Move to a place on deck that is upwind of the fire.
5. If it is safe to do so and your escape route is clear and you have been trained, use either the Fire Blanket or Extinguisher to douse the fire.
   WARNING: Confirm the escape route as visibility is zero when using the extinguisher
6. If it is an engine fire **do not** open the engine bay. Take the saloon large fire extinguisher, put the hose through the small hole above the 2nd companionway step and discharge the extinguisher into the engine space.
7. Further actions will be determined by the Person-in-Charge.

Gas

On the sounding of the gas alarm or the smell of gas take the following actions:

1. Alert all crew members to the danger.
   WARNING: No naked flame or electrical actions until the danger has been eliminated
2. Crew put on lifejackets and evacuate the cabin to the stern of the yacht. On their way out and if safe to do so:
   a. Open all hatches and doors.
   b. Take the Grab Bag from under the saloon cabin centre seat.
   c. Take the handheld VHF located at the chart table.
   d. Turn off the cooker burners.
   e. Turn off the gas tap located in the cupboard behind the galley sink.
3. Turn off the gas bottle tap located at the rear of the yacht.
4. Further actions will be determined by the Person-in-Charge.

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APPENDIX 14: HELICOPTER RESCUE

The Hong Kong Government Flying Service use the 'hi-line' method of recovery from a vessel. The process is as follows:

1. Clear decks of loose equipment, lower the boom and keep port quarter clear of aerials, etc.
   Note: Consider using the liferaft for multi-casualty helicopter pickup from a vessel.
   Note: If in a liferaft get out and on top of the canopy.
2. Signal helicopter using heliograph, liferaft light, torch, smoke, hand flares.
   Warning: Avoid rockets if possible & not towards helicopter/aircraft.
3. Communicate on VHF Ch16 and use clock notation (12 is their front).
4. Understand instructions before helicopter overhead (VHF impossible once overhead).
5. Under power motor head to wind, under sail on port close hauled.
   Note: Helmsman must concentrate of steering straight.
6. Get a bucket, put on gloves and put the sandbag and 'hi-line' in bucket.
   Note: Don't touch the 'hi-line' until it's earthed by dropping in water.
   Warning: Do not secure 'hi-line' to the vessel.
7. Keep tension on 'hi-line' to stabilise the rescue person and to assist them onto the yacht.
8. Follow the rescue person's instructions.

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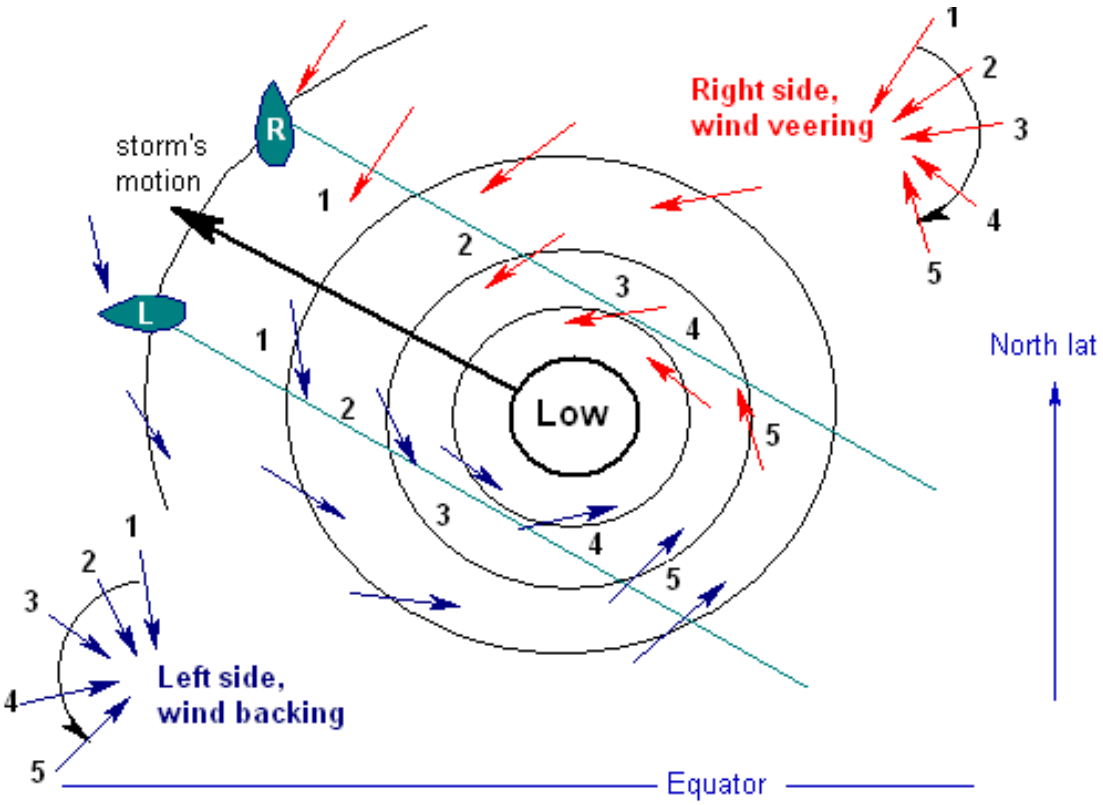
APPENDIX 15: TROPICAL REVOLVING STORM (TRS)

The following is based on a TRS in the northern hemisphere. If in the southern hemisphere then reverse wind directions and yacht tacks.

Anatomy of TRS



In the dangerous semi-circle, the rotational speed and the forward speed of the storm add together to make the winds in this area stronger. In the navigable semi-circle, the forward speed of the storm gets subtracted from the rotational wind speed.

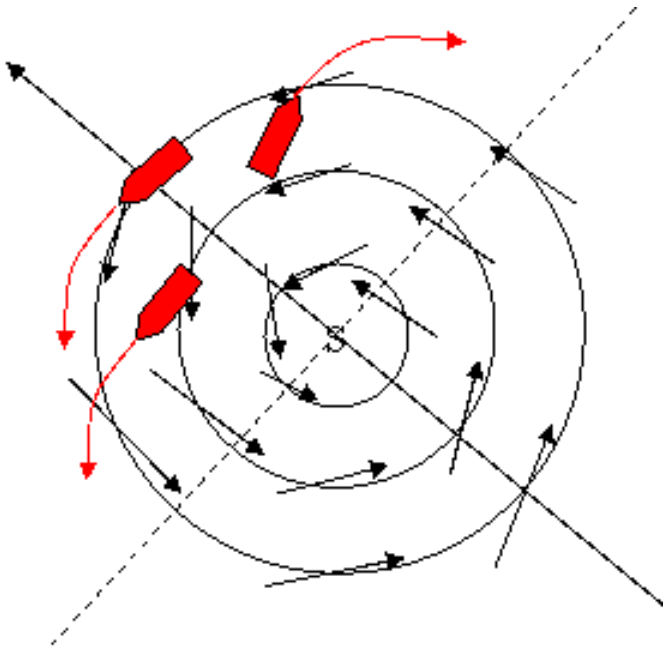
If to the north of a TRS there is always the possibility the storm will recurve onto the alternative track towards the pole.

Indication of a TRS

- Drop of 3mb from the area average needs to be taken seriously and 5mb the storm could be 200M away
- Short significant swell that can travel 1,000M
- Cirrus cloud 300-600M
- Exceptionally good visibility (until close).
- Put your back to the wind and eye of TRS will be 115° forward on left side when 200M away.
- To understand your position in relationship to the TRS log the TWD regularly:
    - **Veering Wind**. You are to the north of the TRS path (dangerous semi-circle)
    - **Constant Direction**. You are located directly in the path of the TRS
    - **Backing Wind**. You are to the south of the TRS path (navigable semi-circle)

Strategy

No matter what strategy is to be taken an early decision is essential to get as far from the TRS as possible to reduce the danger. This is particularly true if in the dangerous semi-circle as making progress away from the storm is much harder then when on the navigable semi-circle. Also review the Heavy Weather Actions SOP.



North of TRS Path.

If you are too far north of the TRS path to make it into the navigable semi-circle, then go onto close-hauled on starboard tack and follow the wind as it veers. Early on this should be good sailing but will be harder to achieve as the pressure increases. Try and avoid getting to far off close-hauled as this will result in running with the storm and if it recurves you could get a direct hit.

South of TRS or On Path.

If you are on the path of the TRS or to the south of its path, then go onto broad reach on starboard tack and follow the wind round as it backs. Consider what to do if the boat speed might get too great e.g. use a drogue or trail warps (needs to be set before conditions get too dangerous).

APPENDIX 16: ABANDONING SHIP

For more information on abandoning ship see the RYA Sea Survival book in the yacht library. Here is a brief summary of the procedure.

Prior to abandonment

1. Initiate EPIRB located in Grab Bag.
2. Make a DSC Distress call and send a voice MAYDAY (HK MRCC +852 22337999).
3. Fire 2 parachute rockets at one-minute intervals if likely to be seen (5 miles).
4. Put on suitable clothing for the weather conditions.
5. Check everyone has donned lifejackets.
6. Drink as much as you can and take sea sickness tablets.
7. Take the Grab Bag into the cockpit and clip it on.
8. Locate the handheld VHFs radios (at chart table).
9. Locate the emergency water (port cockpit locker).
10. Standby to launch in case the vessel must be abandoned rapidly.

Abandoning

1. Check the painter is secured to a strong point.
2. Check water is clear of debris.
3. Launch the liferaft to leeward.
4. Pull the painter quickly before the raft drifts away.
5. Two fittest, strongest enter the liferaft first and stay either side of the entrance.
6. One or two crew enter the liferaft and go to the back to stabilize and receive equipment.
7. Load in the EPIRB, Grab Bag, emergency water.
8. Remaining crew enter the liferaft (injured last but one person).
9. Cut the painter (keep as much as possible) using the safety knife near the entrance.
10. Paddle clear of sinking vessel.
11. Pickup other survivors.
12. Stream the drogue.
13. Close the entrance if necessary.
14. Maintain the raft by:
    a. Apply First Aid.
    b. Read the survival notes.
    c. Deploy the SART or the Radar Reflector (never both together).
    d. Deploy the Laser flare periodically or if ship/aircraft sighted (don’t point at aircraft).
    e. Deploy suitable pyrotechnics if vessel/aircraft sighted (no rockets towards aircraft).
    f. Check for leaks and use the repair kit if necessary.
    g. Urinate overboard within 2hrs of entering the raft to prevent urine retention.
    h. Establish a routine.

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APPENDIX 17: SAFETY EQUIPMENT MAINTENANCE REGISTER

Safety Equipment Servicing Schedule

ITEM	SERVICE TYPE	DUE	NOTES
Liferaft	Full service		
Danbuoy	Full service		
Gas Alarm Panel	Check operation		Press button
Gas Alarm Sensor	Check operating		Use unlit gas lighter on sensor
Cooker	Check flame cut-offs		
Fire Blanket	Remove and check		
Fire Extinguishers (All)	Condition check		Corrosion, pressure, condition
First Aid Kit	Condition check		
Cabin Emergency Torches	Change batteries		
SART	Change battery		

Lifejackets Servicing Schedule

SET	No.	NEXT SERVICE	AUTO CARTRIDGE	LIGHT	NOTES
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				

Safety Equipment Expiry Register

ITEM	REPLACE	NOTES
Flare, Red Handheld (6 of)		
Flare, Red Parachute (4 of)		
Smoke, Orange (2 of)		
Lifeline Tensioning Ropes		
Liferaft SRU		
Horseshoe Light 1		
Horseshoe Light 2		
Spare Lifejacket Auto Cartridges		
Luminescent Sticks		
Smoke Alarm (Aft Port Cabin)		
Smoke Alarm (Aft Stbd Cabin)		
CAT C Kit I		
CAT C Kit II		
Grab Bag Water		
Grab Bag Food		
Grab Gab Spare Batteries		
CO Detector (aft Stbd cabin)		

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APPENDIX 18: MAIN ENGINE & SAIL DRIVE SERVICING

Engine Specification

Maker: Volvo	**Product No.**: 868773
Model: MD22P-B (originally Perkins engine)	**Fuel Consumption**: 3ltr/hr @ 2,000rpm, 6ltr/hr @ 3,000rpm
Power: 44kW / 59hp	**Oil Capacity**: 6ltr
Direction of rotation: Anti-clockwise (LH)	**Coolant Capacity**: 7.5ltr
Engine Serial No.: 5100707064	

Engine Spares:

Name	Part Number	Spares	Onboard	Price
Coolant	Glycol/Water Mix	1ltr	1ltr	
Oil	15W40	1ltr	1ltr	
V-Belt (Coolant Water and Alternator)	966912	2	1	£21
Drive Belt (Raw Water Pump)	3580835	2	2	£21
V-Belt (Alternator 200A)	Premium XL 25-9290	2	2	
Fuel Pre-filter Racor (20 micron)	Parker 2010TM-OR	2	2	
Fuel Filter (Fine)	21624740	2	1	£14^
Impeller Kit (includes seals)	21951346	2	2	£20
Thermostat	6210419	1	1	
Raw Water Pump Rebuild Kit (bearings, seals, impeller)	1210-0001B†	1	1	£90†
Fuel Lift Pump Rebuild Kit	3582250	1	1	
Starter Motor		1	1	
Oil Filter	3517857	2	0	£8^
Exhaust Elbow Gasket	A1739†	2	0	£3†
Exhaust Elbow Side Gasket	859835	2	0	£3Veach
Heat Exchanger O-Rings	358818	8	0	£10Veach
Heat Exchanger/Exhaust Manifold Gasket	859785	1	0	£21Veach

VVolspec, ^ASAP Supplies, †Parts4Engines, *TOA

Engine Maintenance Schedule

Item \ Period	Daily	50hrs	200hrs	400hrs	600hrs	2000hrs		
Oil level	X							
Coolant level	X							
Belt tension	X							
Sea water filter	X							
Drain fuel/water separator		X						
Replace fuel pre-filter			X					
Replace fuel fine fuel filter			X					
Clean fuel feed pump			X					
Replace seawater pump impeller			X					
Check seawater pump belt tension			X					
Replace alternator/freshwater belt			X					
Check anti-siphon valve			X					
Check exhaust elbow for carbon/corrosion			X					
Replace engine oil and filter			X					
Check rubber hoses and clamps			X					
Check wiring connections			X					
Check timing gear belt			X					
Replace coolant (anti-freeze)				X				
Check injector pressure					X			
Replace timing belt						X		
Adjust valve clearances						X		
Clean crankcase ventilation						X		

Engine Servicing Report

Engine Hours		**Completed By**	
Service Type		**Date Completed**	

ITEM	HRS	DATE COMPLETED	NOTES
Drain fuel/water separator	50		
Replace fuel pre-filter	200		
Replace fuel fine fuel filter	200		
Clean fuel feed pump	200		
Replace seawater pump impeller	200		
Check seawater pump belt tension	200		
Replace alternator/freshwater belt	200		
Check anti-siphon valve	200		
Check exhaust elbow for carbon/corrosion	200		
Replace engine oil and filter	200		
Check rubber hoses and clamps	200		
Check wiring connections	200		
Check timing gear belt	200		
Replace coolant (anti-freeze)	400		
Check injector pressure	600		
Replace timing belt	2000		
Adjust valve clearances	2000		
Clean crankcase ventilation	2000		

OTHER ITEMS	DATE COMPLETED	NOTES

NOTES

Sail Drive Specification

Sail-Drive			
Maker: Volvo		**Model No.**: 3856829	
Model: 120S-E		**Serial No.**: 3101109049	
Rotation: Anti-clockwise when viewed from astern (LH)		**Oil Capacity**: 3ltr	
Name	**Part No.**	**Details**	**Price**
Volvo Propeller Folding 3 blade			
Propeller Volvo Folding Blades	3583391	Volvo, Dia 18" x Pitch 14" x 3 Blade Kit, LH	US$1,300
Propeller Volvo Hub	3858955	Hub for Volvo Folding Blades	US$750
Volvo Fixed 3 Blade			
Propeller Volvo Fixed SD	21381042	Volvo, Dia 18" x Pitch 16" x 3 Blade, LH	US$290
Gory Propeller Folding 3 Blade and Overdrive			
Propeller Gory		Gory, Dia 18" x Pitch 14" x 3 Blade, LH, Ser No. 77873	

Sail Drive Spares:

Name	**Part Number**	**Spares**	**Onboard**	**Price**
Sail-Drive				
Oil	(API GL5 / 75W-90 synthetic)	1ltr	1lt	
Zinc Ring Split Volvo Saildrive 120 (propeller not removed)	00706[†]	2	2	£24
Spacer (between sail-drive and propeller)	3582887[V]	1	0	£30
Propeller Shaft Seals	3593663*	2	0	US$39
Magnetic Plug (Oil Drain)	852904*	1	0	US$53
Magnetic Plug O-Ring (Oil Drain)	~~955974~~ 941905*	1	0	US$1
Dipstick	873087*	1	1	US$29
Dipstick O-Ring	925055*	1	1	US$1
Rubber Diaphragm & Gasket Kit	21389074[††]	1	0	£210
Volvo Propeller Folding 3 blade				
Zinc Anode Kit (3 parts around hub)	3858399^	2 sets	1	£14.50
Lock Washer	3851994	2	0	GBP 3
Hexagonal Screw	946730	2	0	
Volvo Fixed 3 Blade				
Propeller Cone Kit (cone and screw)	22629322	1	0	US$80
Nylon Washer (between cone and propeller)	850888	1	0	£5
Gory Propeller Folding 3 Blade and Overdrive				
Propeller Flexible Stops	#1407510000	0	0	
Propeller Zinc Aft End	#1407310000	0	0	
Propeller Spares Pack (Flexible Stops + Zinc Aft End)	#1473510000	0	0	

[V]Volspec, ^ASAP Supplies, †Parts4Engines, *TOA, ~BoatZincs

Sail Drive Maintenance Schedule

Item / Period	Daily	100hrs	200hrs	500hrs (5 years)	7 years
Visual inspection	X				
Oil level	X				
Inspect/Replace folding propeller corrosion protection		X			
Inspect/Replace sail-drive anode		X			
Check rubber seal (hull/drive)		X			
Oil change			X		
Sail-drive propeller shaft seal				X	
Replace rubber seal between drive and hull					X

Sail Drive Servicing Report

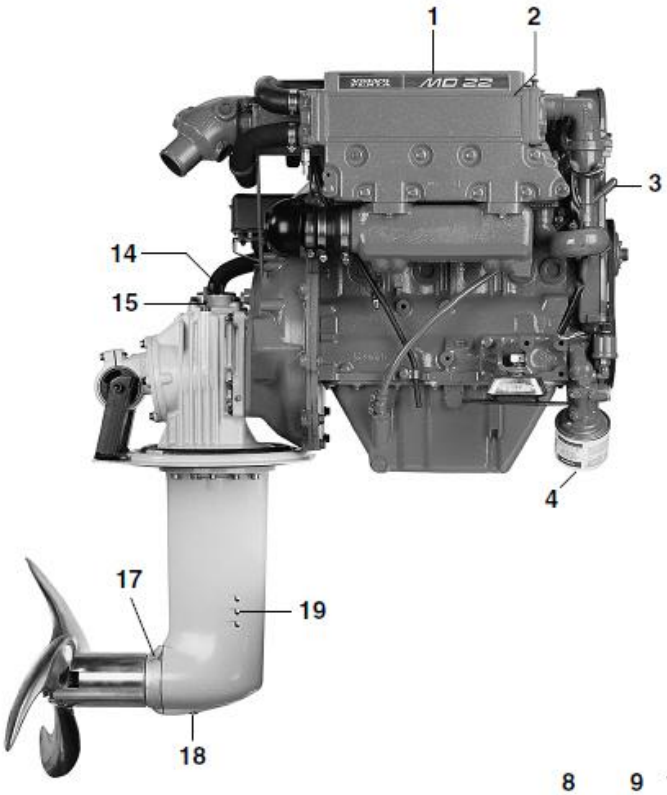
Engine Hours		**Completed By**	
Service Type		**Date Completed**	

ITEM	HRS	DATE COMPLETED	NOTES
Inspect/Replace folding propeller corrosion protection	100		
Inspect/Replace sail-drive anode	100		
Check rubber seal (hull/drive)	100		
Oil change	200		
Sail-drive propeller shaft seal	500		
Replace rubber seal between drive and hull	7yr		

OTHER ITEMS	DATE COMPLETED	NOTES

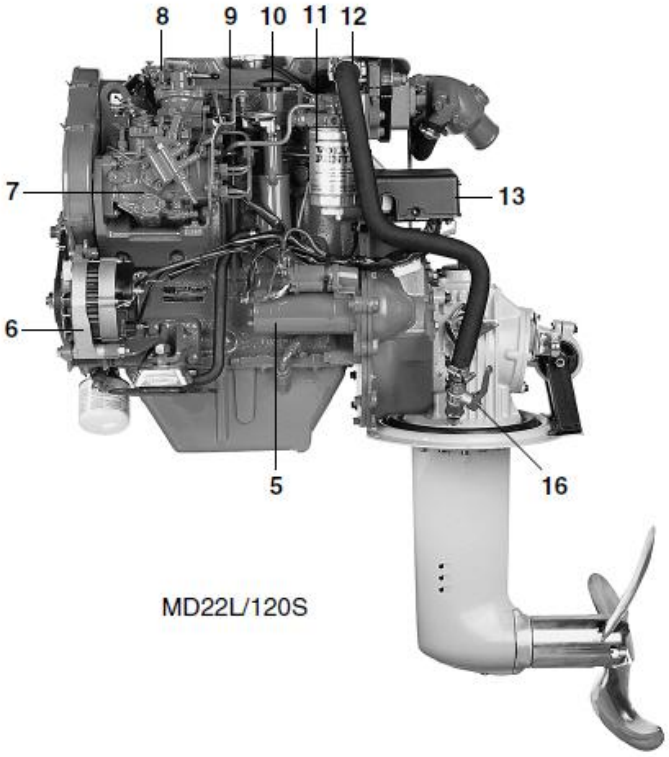
NOTES

Engine & Sail Drive Components



MD22L/120S

1. Coolant filler cap
2. Heat exchanger
3. Oil scavenging/bilge pump pipe
4. Oil filter
5. Starter motor
6. Generator
7. Injection pump
8. Fuel feed pump
9. Dipstick (engine)
10. Oil filler cap (engine)
11. Fuel filter
12. Seawater pump
13. Central electronics module
14. Oil filler (drive)
15. Oil dipstick (drive)
16. Seacock
17. Sacrificial anode
18. Oil draining (drive)
19. Seawater intake



MD22L/120S

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APPENDIX 19: GENERATOR SERVICING

Specification

Maker: Westerbeke	**Model**: 5.7 BTD 50Hz, 3 Cylinder Diesel
Power: 5.7kW, 230V, 24.8A	**Fuel consumption**: 2.6ltr/hr at full load
Oil Pressure: 35-55 psi	**Oil Capacity**: 3ltr
Water Temp: 77-88°C (170-190°F)	**Coolant Capacity**: 3.8ltr

Spares:

Name	Part Number	Spares	Price
Oil	15W-40	0.5ltr	
Oil filter	036918	1	HK$128
Belt	301073	2	HK$130
Fuel Pre-filter and O-ring (1 x large) CAV Type, 5 micron	Delphi HDF296	1	HK$100
Fuel Pre-filter Glass Bowl O-rings (2 x large & 1 x small)	523864	1	HK$30
Fuel Fine Filter and O-rings	030200	1	HK$173
Heat Exchanger Zinc Anode (ensure comes with brass cap)	011885	2	HK$66
Heat Exchanger End Cover Gasket	022851	2	HK$38
Heat Exchanger End Cover O-ring	019321	2	HK$7
Gasket, Rocker Cover	037007	1	US$34.6
Cap, Pressure	024306	1	US$8.9
Thermostat	037043	1	HKD648
Thermostat Gasket	036956	1	HK$63
Water Pump Impeller Kit (O-ring, Glycerine & 2 x cover screws)	048500	2	HK$483
Lamp, Instrument Wedge Base	035114	2	US$2
Water Injected Elbow 45 (Kit includes clamp, gasket, brass water inlet)	037402	0	US$115

Maintenance Schedule

Item \ Period	Daily	100hrs	250hrs	500hrs	750hrs	1000hrs
Visual inspection	X					
Oil level	X					
Coolant level	X					
Belt tension	X					
Clean sea water filter	X					
Check fuel/water filter	X					
Change engine oil and filter		X				
Check engine hoses		X				
Change fine fuel filter			X			
Change fuel/water separator filter			X			
Check exhaust and anti-siphon system for carbon/corrosion			X			
Check/Change heat exchanger zinc anode			X			
Check Alternator mounting, connections replace belt			X			
Sea water impeller check/replace				X		
Coolant Drain, Refill				X		
Check pre-heat circuit and glow plugs				X		
Output Frequency (Engine Speed)				X		
Torque cylinder head bolts				X		
Adjust valve clearances				X		
Starter Motor (Lubricate Pinion Drive)					X	
Check fuel injectors					X	
Check starter motor solenoid and lubricate pinion drive					X	
Engine compression test					X	
Clean heat exchanger						X

Generator Servicing Report

Engine Hours		**Completed By**	
Service Type		**Date Completed**	

ITEM	HRS	DATE COMPLETED	NOTES
Change engine oil and filter	100		
Check engine hoses	100		
Change fine fuel filter	250		
Change primary fuel filter/clean water separator	250		
Check exhaust and anti-siphon for carbon/corrosion	250		
Check/Change heat exchanger zinc anode	250		
Check alternator mounting, connections replace belt	250		
Replace sea water impeller	500		
Drain and refill coolant	500		
Check pre-heat circuit and glow plugs	500		
Check output frequency (controlled by engine speed)	500		
Torque cylinder head bolts	500		
Adjust valve clearances	500		
Check starter motor solenoid and lubricate pinion drive	750		
Check fuel injectors	750		
Engine compression test	750		
Clean heat exchanger	1000		

OTHER ITEMS	DATE COMPLETED	NOTES

NOTES

APPENDIX 20: SPARES SUPPLIERS

Engine

Volspec Ltd, Woodrolfe Road, Tollesbury, Essex, CM9 8SE, United Kingdom.
Phone: +44 1621 869756
Email: andy@volspec.co.uk
Web: https://www.volvopentashop.com/volspec/en-GB/Details/PentaPartsCatalog/

Ropewalk Ltd, Lymington Yacht Haven, Kings Saltern Road, Hampshire, SO41 3QD, United Kingdom.
Phone: +44 1590 677073
Email: mail@ropewalkmarine.com
Web: www.ropewalkmarine.com

Parts4Engines, Unit 9, Riverside Park, Sheaf Gardens, Sheffield, S2 4BB, United Kingdom
Phone: +44 114 272 8626
Web: www.parts4engines.com

ASAP Supplies

Reed House, Ellough Industrial Estate, Beccles, Suffolk, NR34 7TD, United Kingdom

Web: https://www.asap-supplies.com/

TOA, 51500 Birch St., Suite C, New Baltimore, MI 48047

Web: https://shop.toadmarinesupply.com/

SVB, Germany

Supply Bavaria specific parts.

Web: https://www.svb24.com/

Boatersland, USA

Volvo and general parts.

Web: https://www.boatersland.com/

UsedDieselEngineCentre, Europe

Various Volvo parts.

Web: http://useddieselenginecenter.com/

SailDrive

Volspec Ltd, Woodrolfe Road, Tollesbury, Essex, CM9 8SE, United Kingdom.
Phone: +44 1621 869756
Email: andy@volspec.co.uk
Web: www.volsoec.co.uk

Ropewalk Ltd, Lymington Yacht Haven, Kings Saltern Road, Hampshire, SO41 3QD, United Kingdom.
Phone: +44 1590 677073
Email: mail@ropewalkmarine.com
Web: www.ropewalkmarine.com

TOA, 51500 Birch St., Suite C, New Baltimore, MI 48047

Web: https://shop.toadmarinesupply.com/

UsedDieselEngineCentre, Europe

Has S120 top and bottom sections.

Web: http://useddieselenginecenter.com/

BoatZincs

Anodes: www.boatzincs.com

Generator

Piercey Marine Ltd, 93 Che Keng Tuk Road, Sai Kung.
Phone: 2791 4106
Email: info@pierceymarine.com
Web: www.pierceymarine.com

TOA, 51500 Birch St., Suite C, New Baltimore, MI 48047

Web: https://shop.toadmarinesupply.com/

SELDON

TOA, 51500 Birch St., Suite C, New Baltimore, MI 48047

Web: https://shop.toadmarinesupply.com/

APPENDIX 21: APY SIROCCO SOP SIGNOFF SHEET

All staff, instructors and volunteers involved in using this vessel for any voyage shall apply the Asia Pacific Yachting Standard Operating Procedures (SOPs) and confirm they have read the yacht SOP document by signing below.

DATE: _____

NAME: _____

SIGNATURE: _____

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