Operation Manual

Kinthia Sun Odyssey 419
2017

Control Panel

1 - Water heater 220 V power switch.
2 - Voltmeter / 220 V.
3 - Battery charger switch.
4 - Internal lighting switch.
5 - Auxiliary unit (electro valve for U.S. version).
6 - Refrigerated unit switch.
7 - Deck floodlight switch.
8 - Navigation instruments switch.
9 - LCD screen.
10 - 220 V socket switch.
11 - Line-reversing switch (US version).
12 - 12 V socket.
13 - Pressure water pump switch.
14 - Bilge pump switch.
15 - Anchorage light switch.
16 - Engine light switch.
17 - LCD screen control (fresh water / fuel gauge, voltmeter, ammeter, battery alarm).

Yacht Control Panel Overview

The yacht control panel is an essential electronic device that allows remote control of various onboard systems, including:

✅ **Windlass** (anchor control)

✅ **Thrusters** (maneuvering assistance)

✅ Navigation lights

✅ Alarms & video surveillance

✅ Windshield wipers

✅ **Engines** and fuel, water, and oil levels

✅ Generators and other equipment

Why the control panel is important:

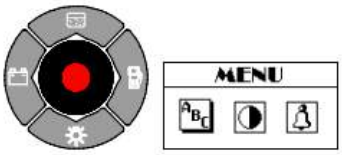
- Monitors the yacht's health – Ensures all systems are functioning properly.
- Keeps you safe – Provides control over critical safety features and alerts.

Batteries / Water/ Diesel Levels

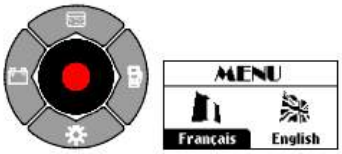
RUNNING OF THE PANEL

Choose the language

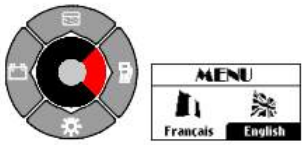
To get in the menu, press on the central button.



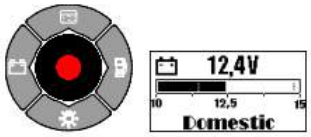
To select the menu « Languages », press again on this central button.



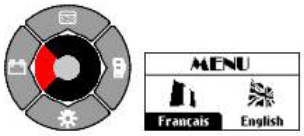
To select the English language, press on the right button.



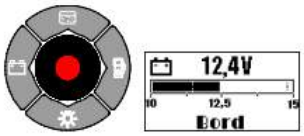
To validate, press on the central button: you then have once again the voltages displayed on the screen.



To select the French language, press on the left button.

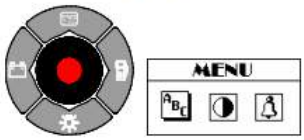


To validate, press on the central button: you then have once again the voltages displayed on the screen.

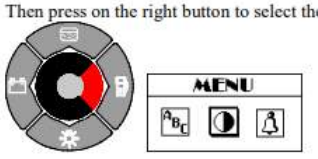


Adjustment of the contrast of the screen

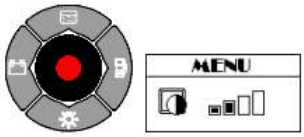
To get in the menu « Contrast », press on the central button,



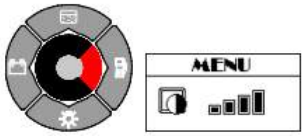
Then press on the right button to select the menu.



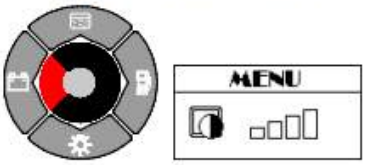
To validate, press on the central button. The menu « Contrast » is then displayed on the screen.



To increase the contrast, press on the right button.



To reduce it, press on the left button.

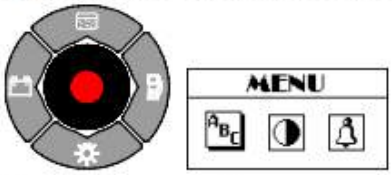


To get out of the menu and save the new setting, press on the central button.

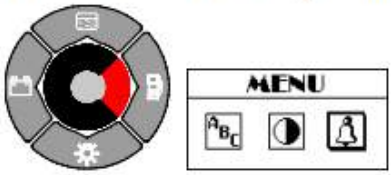
To get out of the menu without saving the new setting, press on the lower button.

Activate / Deactivate the sound alarms for the voltage of the batteries

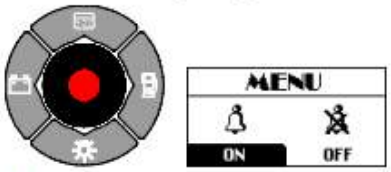
To get in the menu, press on the central button.



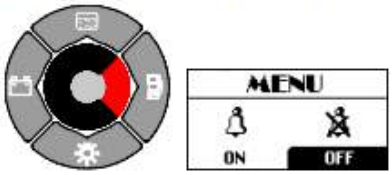
To select the menu « Alarm », press twice on the right button,



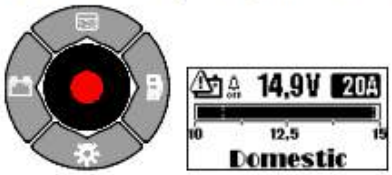
Then to validate, press again on the central button. The menu « Alarm » is then displayed on the screen.



To deactivate the sound alarms for the voltage of the batteries, press on the right button,

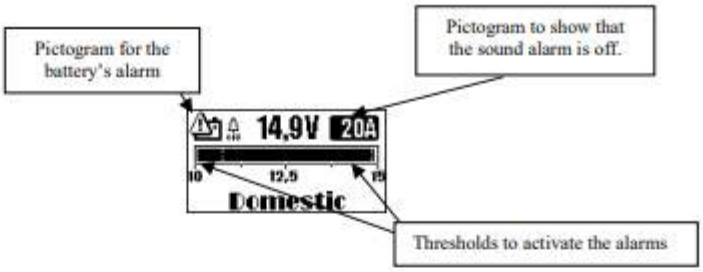


Then, to validate, press again on the central button. The voltages are then once again displayed on the screen.

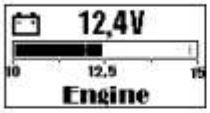


Display of the voltages of the batteries

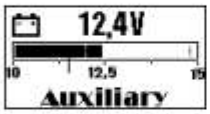
DOMESTIC Battery



ENGINE Battery

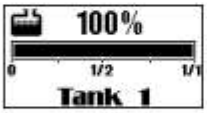


AUXILIARY Battery

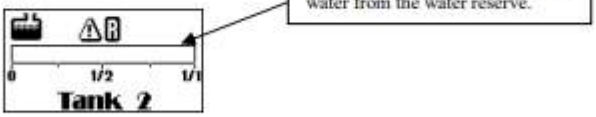


Display of the water tanks' levels

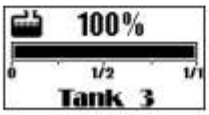
Tank 1



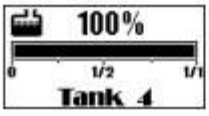
Tank 2



Tank 3

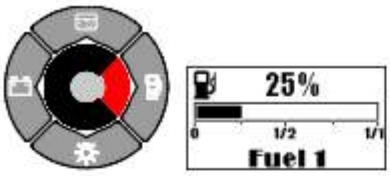


Tank 4

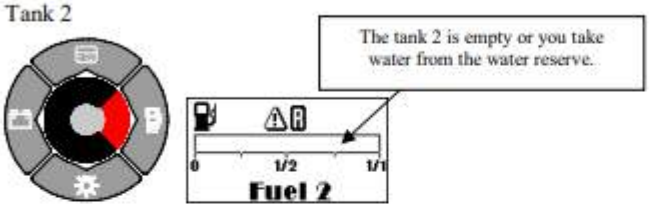


Display of the fuel tanks' levels

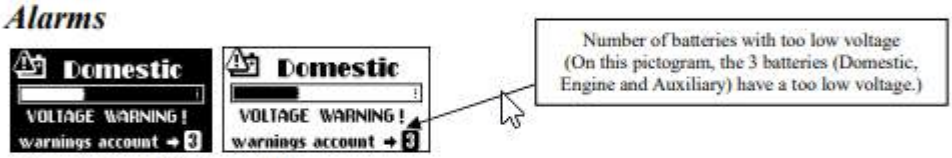
Tank 1



Tank 2

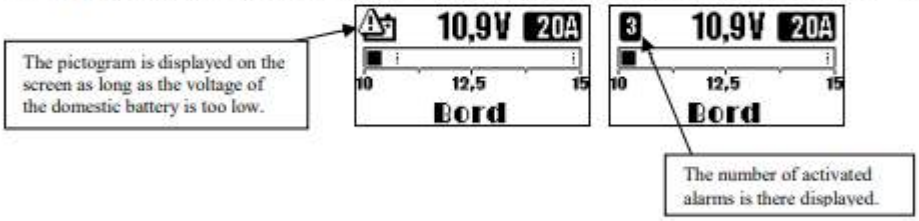


Alarms



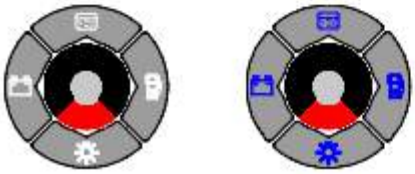
+ Sound alarm (if it is not off)

If you press on one of the 5 buttons, it stops the sound alarm. You then return to the menu "Voltage".



Put on / off the back-light of the pictograms

ON / OFF

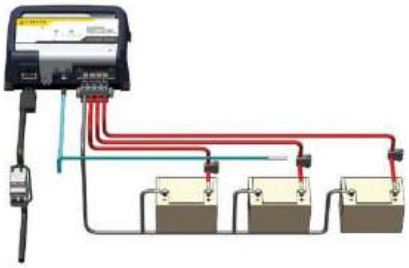


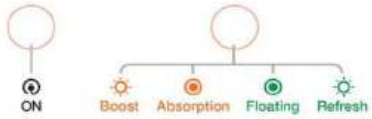
Battery Charger Location

Battery Charger (Cristec Charger) Overview

A **battery charger** (or recharger) is a device that **stores energy** in a battery by running an electric current through it.

The **Cristec Charger** ensures **maximum power supply** with **auto-ranging**, meaning it can adapt to different voltage inputs wherever you are.





INDICATORS		STATE	MEANING
Green LED 1 "ON"		On	Charger is ON
		Off	No or poor quality AC current Input fuse is blown Internal charger malfunction
Orange LED 2 "BOOST/ABSORPTION"		Flashing (1 sec. ON, 1 sec. OFF)	Charger in BOOST phase (switch E = '1')
		On fixed	Charger in ABSORPTION phase (switch E = '1')
Green LED 2 "FLOATING/REFRESH"		On fixed	Charger in FLOATING phase
		Flashing (1 sec. ON, 1 sec. OFF)	Charger in REFRESH phase (switch F = '1')
		Off	Internal charger malfunction or output fuse blown

Interior / Exterior Radio

How the Radio Works

Radio communication operates by transmitting and receiving electromagnetic waves.

🔷 Transmission:

✅ A **radio signal** is an electronic current that moves back and forth rapidly.

✅ A **transmitter** sends out this signal via an **antenna**.

🔷 Reception:

✅ A **receiver** picks up the transmitted waves.

✅ The signal is then converted into **sound**, which is heard through the radio speaker.

⚠️ **Tip**: Ensure the radio is properly tuned to the correct frequency for clear communication.

VHF

VHF Transceiver Overview

A **Very High Frequency (VHF) transceiver** is a communication device that includes both a transmitter and a receiver, operating in the **30 MHz to 300 MHz** frequency range.

🔷 **Key Features:**

✅ **Frequency Range**: 30 MHz – 300 MHz

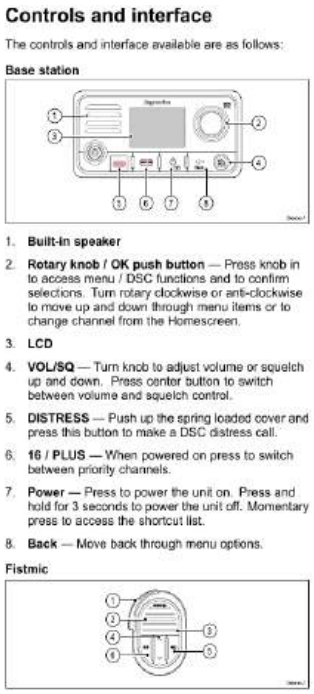
✅ **Wavelength**: 1 meter (39.37 inches) to 10 meters (393.70 inches), depending on the frequency used

✅ **Used for**: Marine communication, aviation, emergency services, and broadcasting

⚠️ **Tip**: Ensure the VHF radio is set to the correct **channel and frequency** for clear and effective communication.

📡 VHF Radio Controls & Interface (Bulleted & Symbol-Based)

🖥️ Base Station Buttons



Controls and interface

The controls and interface available are as follows:

Base station

1. **Built-in speaker**
2. **Rotary knob / OK push button** — Press knob in to access menu / DSC functions and to confirm selections. Turn rotary clockwise or anti-clockwise to move up and down through menu items or to change channel from the Homescreen.
3. **LCD**
4. **VOL/SQ** — Turn knob to adjust volume or squelch up and down. Press center button to switch between volume and squelch control.
5. **DISTRESS** — Push up the spring loaded cover and press this button to make a DSC distress call.
6. **16 / PLUS** — When powered on press to switch between priority channels.
7. **Power** — Press to power the unit on. Press and hold for 3 seconds to power the unit off. Momentary press to access the shortcut list.
8. **Back** — Move back through menu options.

Fistmic

1. **PTT (Push to Talk)** — Press and hold to send a voice message. Release to return to receive mode.

Note: The maximum transmit time is limited to 5 minutes to prevent un-intentional transmissions from occupying the VHF channel.

2. **Speaker**
3. **Microphone location**
4. **Channel Up and Down** — Changes the channel up or down.
5. **HI/LO** — Press to switch between High (25 W) and low (1 W) transmit power.
6. **16 / PLUS** — When powered on press to switch between priority channels.

- 🔊 1. Built-in Speaker
  - Delivers audio output directly from the device.
- 🔄 2. Rotary Knob / OK Push Button
  - Turn for menu navigation (clockwise/anticlockwise).
  - Press for menu/DSC entry or to confirm selections.
- 🖼️ 3. LCD
  - Displays channel, settings, and menu items.
- 🎚️ 4. VOL/SQ
  - Turn: adjust volume or squelch.
  - Press: switch control between volume and squelch.
- 🚨 5. DISTRESS
  - Lift cover and press to send a DSC distress call.
- 1️⃣6️⃣/➕ 6. 16 / PLUS
  - Press to switch between priority channels.
- 🔌 7. Power
  - Press: turn unit on; press & hold (3sec): turn off.
  - Short press: access shortcut list.

- ↩️ 8. Back
  - Move back through menu options.

🎤 Fistmic (Hand Microphone) Buttons

- 🗣️ 1. PTT (Push to Talk)
  - Press and hold to transmit; release to receive.
- 🔊 2. Speaker
  - Audio output.
- 🎤 3. Microphone Location
  - Area where voice is picked up for transmission.
- 🔼🔽 4. Channel Up/Down
  - Press to change channel.
- 🎚️ 5. HI/LO
  - Press to toggle power—High (25W) or Low (1W).
- 1️⃣6️⃣/➕ 6. 16 / PLUS
  - Press to quickly switch to priority channels.

🔋 Dual Energy Power Supplies and Battery Chargers

These units are specifically designed and developed for:

⚡ Charging and maintaining voltage on lead-acid batteries.

🛠️ Providing a consistent and uninterrupted power supply (main or backup).

📍 **Location:**

You will find it in the **chart table area**.

General Switches

Battery Master Switch Overview

The **battery master switch** serves two key functions:

✅ **Battery Isolator** – Disconnects the battery to prevent drain when not in use.

✅ **Theft Deterrent** – Can disable the electrical system to prevent unauthorized use.

🔷 **Features:**

- Commonly used in: Marine, transportation, and automotive applications.
- Impact-resistant housing for durability.
- Detachable key for added security and theft prevention.

General Switch 220V

⚡ General 220V Switch Location

- 🗺️ The main 220V switch is located in the **stern port locker**.
- ⚠️ This switch controls the shore power supply to the boat.

🛠️ How to Use the 220V General Switch

1. 🟢 To Turn On
   - Flip the switch to the **ON** position when connected to shore power.
2. 🔴 To Turn Off
   - Flip the switch to the **OFF** position when disconnecting from shore power or for safety.

Service / Engine

- 🔋 **Battery Switches:**
  Controls for both service and engine batteries.
- 🚤 Location:
  Found in the stern right cabin.

Thruster

- 🔌 Function:
  Controls the thruster battery power.
- 🚤 Location:
  Found in the bow cabin.
- 🛏️ Access:
  Lift the bed mattress to reveal the switch.

Thermal Fuses

Fuses: Function & Usage

Fuses are protective mechanisms placed in an electrical circuit to interrupt power supply when excessive current flows due to short circuits or overloads. Their primary purpose is to protect wiring and electrical components from damage.

⚡ Key Characteristics:

✅ Interrupt power in case of overload or short circuit.

✅ Always installed after circuit breakers for additional safety.

✅ Never installed in-ground conductors to avoid grounding issues.

🛠️ Usage of Fuses:

1️⃣ Protect electrical wiring from overheating or damage.

2️⃣ Ensure onboard electrical safety by preventing fire hazards.

3️⃣ Automatically break the circuit when an excessive current surge occurs.

⚠️ **Tip:** Regularly check and replace blown fuses to maintain proper electrical function on the yacht.

Anchor fuse

- 🔍 **Identify the Fuse:**
  The image shows the Windlass fuse.
- ⚠️ **Check Fuse Position:**
  If the fuse has tripped, the yellow plastic part will be in the **0 (zero)** position (almost vertical).
- ☝️ **Reset the Fuse:**
  Use your fingers to press the yellow plastic down until it moves to the horizontal **1 (one)** position and clicks into place.
- 🧪 **Test Operation:**
  Run a test to ensure the Windlass is now functioning properly.

Batteries Location

🔋 What is a Battery?

A **battery** is a device that:

⚡ Stores chemical energy and converts it into electrical energy.

🔄 Uses chemical reactions to create the flow of electrons between electrodes.

🔌 Generates electric current to power various devices.

Service / Engine

Service & Engine Batteries Location (with Symbols & Bullets)

- 🔋 Batteries:
  - Both **service** and **engine batteries** are installed here.
- 🚪 Location:
  - Found in the **stern right & left cabin** of the yacht.
- 🛏️ Access Method:
  - **Lift the bed mattress** to reveal the batteries.

Thruster

Thruster Batteries Location (with Symbols & Bullets)

- 🔋 Thruster Batteries:
  - Found in the **bow cabin**.
- 🛏️ Access Details:
  - Located **under the bed** in the bow cabin

Water System

Location of fresh water pump / Location of Water valves

- 💧 Fresh Water Pump Location:
  - In the saloon area.
- 🛠️ Valve Controls:
  - Two small white valves are present.
  - Only one valve should be open at a time; the other must remain closed.
- ⚠️ Note:
  - Correct valve use ensures proper water flow and helps prevent system problems.

Location bilge pump

💧 Bilge Pump Details:

• Function: Removes bilge water from the yacht 🚤.

⚙️ Operation Tips:

• The bilge pump is **automatic** 🤖.

• Ensure the corresponding button is always ON ✅.

Operation of toilet pumps

Toilet Details:

• **Importance**: One of the most used pieces of equipment on your boat .

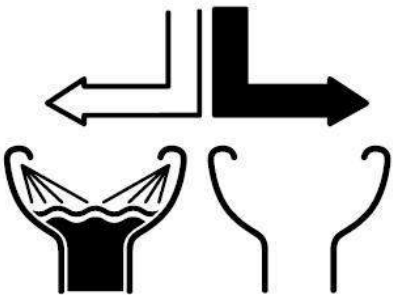
• **Operation**: Correct usage is crucial for:

  ◦ Safety of the crew

  ◦ Comfort onboard

1. Open inlet and outlet seacocks (and secondary valves if fitted).
2. Half fill the bowl with warm, fresh water.
3. Keeping the Flush Control Lever in the Shut ( ) position, pump out the warm water.

Normal use



Open inlet and outlet seacocks (and secondary valves if fitted).
Before use, ensure that there is enough water in the bowl to prevent the toilet paper from becoming compacted at the bottom of the bowl. If the bowl is empty, move the Flush Control Lever to the Open ( ) position and pump the handle up and down until the flushing pump is primed and water enters the bowl. Then Shut ( ) the Flush Control. Operate the pump with long, smooth strokes for efficient and easy operation. During use, pump as necessary to keep the contents of the bowl low enough for comfort.

After use, keep the Flush Control Shut ( ) and pump until the bowl is empty.
When the bowl is empty, Open ( ) the Flush Control again, and continue to pump until all waste has either left the boat or reached the holding tank (allow 7 complete up/down strokes per meter (yard) length of discharge pipework).

NOTE: Do not put in: Sanitary Towels, Wet Strength Tissues, Cotton Wool, Cigarettes, Matches, Chewing Gum, or any solid objects, Petrol, Diesel, Oil, Solvents of any kind, or water more than hand hot.

Operation of shower pumps

🚿 **Pump Type:**

- The shower pumps on this boat are manual, not automatic.

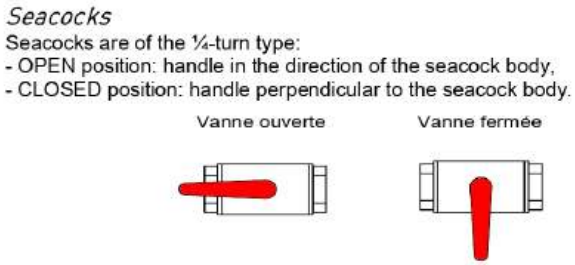
🔘 **Activation:**

- Press the button to start the pump when needed.

Operation / Location of Waste Tanks / Valves

👆 Stop-and-Waste Valve Operation

A **stop-and-waste valve** is used in irrigation systems to prevent waste from freezing and to manage wastewater. Here's how it works on the yacht:



1. Operation:

- **When the valve is vertical** to the tube, it is **closed**, and the waste goes to the waste tank.
- **When the valve is parallel** to the tube, it is **open**, and the waste is emptied into the sea.

👆 Waste Valve Function:

- Stops and directs toilet waste to the appropriate tank or sea outlet.

- ⚙️ Operation:
  - **Closed:** Valve is **vertical** to the tube—waste goes to the tank.
  - **Open:** Valve is **parallel** to the tube—waste can go to the sea.

- 📍 Valve Locations:
  1. Stern Left Toilet: Inside the cap
  2. **Stern Right Toilet:** Inside the cupboard
  3. **Bow Toilet:** Inside the cupboard

Oven/Stove

🔥 Turning On the Oven or Hob

To safely turn on the oven or hob, follow these steps:

1. Press the respective switch inwards.
2. Turn the switch clockwise while holding it in.
3. **Light the hob** with a lighter and **hold for 5 seconds** to ensure the flame stays on.
4. Release the switch after 5 seconds.
    - If the flame does not stay on, try holding the switch in for a bit longer.

Location of gas valves inside

🔒 Gas Inlet Insulation in the Kitchen

If you need to insulate the gas inlet under the oven, follow these steps:

1. **Location:** Open the cupboard under the oven to find the gas outlet valve.
2. Operation:

- Parallel to the pipe: The valve is open.
- Perpendicular to the pipe: The valve is closed.

Fridge Interior Operation

❄️ Proper Refrigerator Use

Essential for maintaining cooling efficiency, saving energy, and extending its lifespan.

✅ Best Practices:

🔷 Pre-cool before the trip 🍷

- If possible, turn on the refrigerator while connected to 220V power before departure.

🔷 Use pre-chilled products 🧊

- Placing already frozen or chilled food and drinks reduces the fridge's workload.

🔷 Minimize door openings 📏

- Each time you open the door, warm air enters, increasing power consumption.

🔷 Fill the fridge properly 📦

- A full fridge maintains temperature better.
- If not full, use ice packs or frozen water bottles.

🔷 Set the correct level ⚙️

- Ideally, set the temperature between 4–5.

Engine

⚓ Marine Engine

A **marine engine** is a machine that:

🔋 Converts energy from fuel into mechanical energy.

🚤 This mechanical energy is used to create motion, powering boats, ships, or other watercraft.

🚨 Emergency Engine Shutdown

In case of **emergency** (and **only** in this case), follow these steps to turn off the engine:

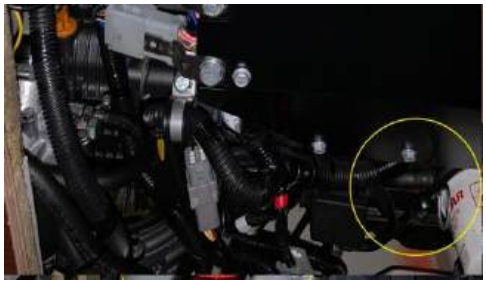
1. **Location**: Go to the rear right cabin where you'll find a picture of the engine, similar to the one shown in the photo.

2. Shutdown Process:

- Press the red button down.
- Rotate the button to the left to turn off the engine.

Engine Oil Check

🛢️ Checking Engine Oil



To check your engine oil, follow these steps:

1. Location: Go to the **right rear cabin**, where you'll find a picture of the engine oil, similar to the one shown in the photo.

2. Check the Oil: Use the visual reference in the cabin to inspect the engine oil levels and condition.

Engine Control Panel

⚙️ Engine Control Unit (ECU)

An Engine Control Unit (ECU), also known as an Engine Control Module (ECM), is:

💻 A type of electronic control unit.

🛠️ It controls a series of actuators on an internal combustion engine.

⚙️ Its primary role is to ensure **optimal engine performance** by regulating critical functions such as fuel injection, ignition timing, and air intake.

⚙️ Turning On the Engine

To start your engine:

1. Press and hold the power button.

2. While holding the power button, **press and hold the start button** until the engine starts.

⚙️ Turning Off the Engine

To stop your engine:

1. Press and hold the stop button.

2. While holding the stop button, **press and hold the power button** to turn off the engine.

Thruster Controller Operation

⚓ Thrusters on a Boat

Thrusters are specialized propulsion devices used on boats:

- 🚤 **Propellers face sideways**, allowing the boat to move **sideways through the water** (either bow or stern).
- **Function**: When turned on, they push the bow or stern in the desired direction.

⚠️ If only **one thruster** is used (for example, in the bow), the boat will also turn and change its orientation.

⚙️ Using the Thruster

Before Using the Thruster

- **Open the F6** from the control panel before using the thruster.

Turning On the Thruster

1. Press and hold the ON/OFF button (marked with the symbol).
2. Wait for the **orange lights** to appear.
3. **Wait a few minutes** for the system to stabilize.
4. To move the boat:

- **Press right** to move right.
- **Press left** to move left.

Turning Off the Thruster

1. Press and hold the ON/OFF button (marked with the symbol).
2. Hold it down until the orange light turns off.

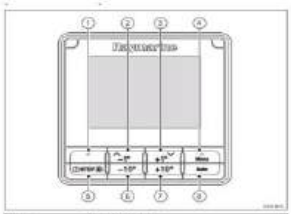
Autopilot Operation

🕹️ Raymarine Autopilot Control Panel Functions (Bullets & Symbols)

- 1 **Left Soft Button:** ⬅ BACK Cancel, Back, Mode selection
- 2 **Up Button / -1:** 🔼 Up navigation, Increase value/angle, Adjust up
- 3 **Down Button / +1:** 🔽 Down navigation, Decrease value/angle, Adjust down
- 4 **Right Soft Button:** ✅ Menu, Select, OK, Save
- 5 **Standby Button:** ⏸ Disengage autopilot, Manual control, Power, Brightness adjustment
- 6 **-10 Button:** ↙ Decrease angle by 10°
- 7 **+10 Button:** ↗ Increase angle by 10°
- 8 **Auto Button:** 🤖 Engage autopilot

🔄 Rotary Knob Functions

- ⏩ Clockwise:
  - Down navigation in lists
  - Adjust up / Increase value (locked heading)
  - Adjust numerical values, Power steer
- ⏪ Anti-Clockwise:
  - Up navigation in lists
  - Adjust down / Decrease value (locked heading)
  - Adjust numerical values, Power steer
- ⭕ Rotary End Push Button:
  - Menu, Select, OK, Save



Item	Description
1.	**LEFT SOFT BUTTON** Cancel, Back, mode selection.
2.	**UP BUTTON / -1** Up navigation, Adjust Up, Decrease angle.
3.	**DOWN BUTTON / +1** Down navigation, Adjust Down, Increase angle.
4.	**RIGHT SOFT BUTTON** Menu, Select, OK, Save.
5.	**STANDBY BUTTON** Disengage pilot, Manual control, Power, Brightness.
6.	**-10 BUTTON** Decrease angle.
7.	**+10 BUTTON** Increase angle.
8.	**AUTO BUTTON** Engage Auto pilot.

Item	Description
1.	**LEFT SOFT BUTTON** Cancel, Back, mode selection.
2.	**STANDBY BUTTON** Disengage pilot, Manual control, Power, Brightness.
3.	**ROTARY CLOCKWISE** Down navigation in list, Adjust Up, Increase angle (locked heading), adjust numerical values, power steer.
4.	**ROTARY ANTI-CLOCKWISE** Up navigation in list, Adjust Down, Decrease angle (locked heading), adjust numerical values, power steer.
5.	**RIGHT SOFT BUTTON** Menu, Select, OK, Save.
6.	**AUTO BUTTON** Engage Auto pilot.
7.	**ROTARY END PUSH BUTTON** Menu, Select, OK, Save.

The pilot controller supports the following combination button presses:

Combination button press

Buttons	Action
STANDBY and **AUTO.**	Puts pilot in to Wind Vane mode.
-1 and **-10** or **+1** and **+10**.	AutoTack (in wind vane mode), AutoTurn

Outboard

Starting the Outboard Engine

Follow these steps to start the outboard:

1. Ensure plenty of gasoline/petrol is in the outboard fuel tanks.
2. **Open the fuel valve** to allow fuel flow.
3. **Open the air valve** from the top to ensure proper airflow.
4. Set the outboard to neutral to prepare for starting.
5. **Place the ignition key** into the ignition slot.
6. **Set the throttle to 2/3** for optimal starting performance.
7. **Pull the rope** until the outboard starts running.

Entry Water

💧 Yacht Water Tanks

🔷 First Water Tank

📍 **Location:** Middle (Center), Left Side

🟦 **Access:** Water cap labeled "Water"

🔷 Second Water Tank

📍 **Location:** Stern (Back), Right Side *(Under Locker)*

🟦 **Access:** Water cap labeled "Water"

Entries Diesel

- 🛢️ Diesel Tank & Refueling
  - 🔶 Diesel Tank:
    - ✔️ This yacht has **ONE diesel tank** 🛢️
  - 🔶 Refueling Location:
    - ✔️ Stern Port Locker ⚓
    - ✔️ Look for the **Diesel Cap** labeled "**DIESEL**" 🔍

Chain marking

⚓ Chain Markings and Anchor Operation

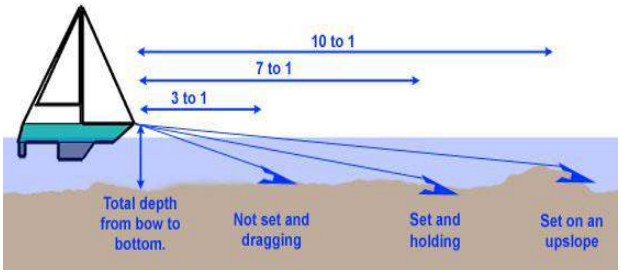
The yacht has approximately 80 meters of chain, with markings every 10 meters as follows:

- 10 meters: ⚪ (White)
- 20 meters: 🔵 (Blue)
- 30 meters: 🟢 (Green)
- 40 meters: 🟡 (Yellow)
- 50 meters: 🔴 (Red)
- Last 10 meters: 🔴 (Full Red, secured with rope)

Important Attention Points:

1. When dropping the anchor:

- Be cautious not to damage the ⚓ bow side while releasing the chain.



2. When retrieving the anchor:

- When the 🔵 Blue mark appears, it means the anchor is approximately 15 meters below the surface.
- Proceed slowly at this point to avoid damage to the ⚓ bow and 🚤 bowsprit.

3. Windlass motor:

- Ensure the engine is running when using the windlass motor to operate the anchor chain.

Sails

⛵ Main Sail Operation

- The yacht uses a **full batten main sail** with **3 reefs**.

Opening the Main Sail:

1. **Release all reefs** (all three) at once.
2. Pick up the main halyard at the same time.

Closing the Main Sail:

1. **Take back the reefs one by one** (start with the first, then second, then third).
2. **Release the main halyard** as you close the sail.

These steps allow for smooth and safe operation of your yacht's main sail system.

Genoa Sail

Opening the Genoa Sail

1️⃣ Release the Genoa Sheet

- Gradually release the **genoa sheet** to allow the sail to unfurl.

2️⃣ Pull the Genoa Furling Line Out

- At the same time, **pull out the genoa furling line** to open the sail.

🛑 Important:

- These actions **must be done simultaneously** to prevent damage and ensure smooth deployment.

Closing the Genoa Sail

1️⃣ Release the Genoa Furling Line

- Gradually release the **furling rope** to allow the sail to roll in.

2️⃣ Pull the Genoa Sheet

- At the same time, **pull in the genoa sheet** to assist furling.

🔴 **This procedure must be done simultaneously** to prevent unnecessary strain on the sail and rigging.