OWNER'S MANUAL

BELIZE

Fountaine Pajot

CATAMARANS

IDENTITY CARD

- **Builder**: Fountaine-Pajot.
- **Address**: Zone Industrielle. 17290 Aigrefeuille.

- **Type of craft**: Catamaran

- **Series**: BELIZE

- **Hull number**: FR FPA 14096 A303

- **Category A "open sea"**: the craft has been designed for ocean cruising during which the wind force may exceed 8 on the Beaufort scale and the mean maximum wave height may exceed 4 meters, for which such craft are to a large extent self-sufficient.

➲ **WARNING**: the craft has been designed for ocean-going under wind and sea conditions acceptable for safety. However, it has not been designed to face exceptional weather conditions such as storms. Moreover, it is advisable to take into consideration the geographical characteristics of the ocean floor which can make sea conditions more severe.

Certification:
- Vessel designed and built in compliance with the basic requirements of EC Directive 94 25
- "EC type test" (module B) carried out by the following body:

I.C.N.N.
Technoforum

17071 LA ROCHELLE CEDEX 9
Body ID: **0607**

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I. INTRODUCTION

This manual was prepared to help you use your boat pleasurably and safely. It provides details on the boat, the equipment mounted or on board, its installations and information on use and maintenance. Please read it carefully and familiarize yourself with the boat before going to sea.

If this is your first boat or if you are unfamiliar with this type of boat, for your safety and comfort, make sure you take time to get the feel of your boat and how to use it before taking command. Your vendor, your national boating federation or your yacht club will be happy to advise you on local sailing schools or competent instructors.

STORE THIS MANUAL IN A SAFE PLACE AND HAND IT OVER TO THE NEW OWNER IF YOU SELL THE BOAT.

II. CHARACTERISTICS

- **Length overall:** 13 m / 42.7 ft
- **Beam**: 7 m /23 ft
- **Draught**: 1.30 m / 4.2 ft
- **Vertical clearance (excl. antenna)**: 19.10 m / 62.5 ft
- **Light displacement (unloaded+safety equipment+2 people)**: 8,620 kg
- **Max. loaded displacement**: 11,500 kg
- **Max. load**: 3,410 kg

(weight that can be added to the standard boat)

N.B.: broken down as follows:

- full water tanks: 600 kg
- full fuel tanks: 240 kg
- 10-person crew: 750 kg
- safety equipment (for 10 people): 380 kg
- provisions (2.5 kg/pers./day): 2.5*10*15=375 kg
- options + miscellaneous: 1,065 kg

- **Sail area**:

Mainsail: 67 m² / 721 sq ft

Genoa : 44 m² / 474 sq ft

Spinnaker : 115 m² / 1,238 sq ft

- **In-board engines:**

Standard power: 2*27 CV / hp

Max. power: 2*125 CV / hp

	Mark	Reference	Power	Cruising speed	Maximum speed
Engine installed	YMAR	3b1130fc	27cv	21.0c	26cc

- **Tank capacity**:

Fresh water: 2*300 l

Fuel: 300 l

Water heater: 40 l

Gas (option): 13 kg

Holding tank per W.C : 45 l

- **Electricity**:

DC	12 V
AC	220 V/50Hz
Battery capacity:	70 Ah

- **Davits**:

Max. static load per davit 100 kg

- **Equipment and storage for life raft** :

Description	Location	Capacity
Polyester compartment	In the rear beam on the port side	10 persons maximum
Extra stainless steel bracket (optional)	In the rear beam on the starboard side	10 persons maximum

III. OPERATION OF THE CRAFT

A. Start-up.

B. Sails.

C. Fire protection.

D. Electrical installations.

E. L.P.G. installation.

F. Fresh water, sea water and waste water circuits.

G. Steering system

NOTICE

The meanings of the abbreviations used throughout this manual are given below:

"**D**" (danger): Risk of death or disabling injuries.

"**M**" (warning): Risk of serious injury.

"**A**" (caution): Risk of injury or damage.

A. START-UP.

1. Operation.

Before leaving the port:

1. **Unlock** all doors and lockers (chain locker and safety hatches) and **check** that there is no water in the bilges.

2. **Fill** the **water** tanks to either side of the anchor locker cover and the **fuel** tanks in the cockpit bench locker.

3. Make sure that the **safety equipment** (ring buoys, liferaft, etc.) is in position on deck.

4. **Check** for the absence of fuel or gas fumes down below.

5. **Turn the** battery switches to on (engine port compartment).

6. **Switch the engines on**, disengage by pushing the two levers apart, position the level ½ forward, start the engines and let them run 5 min at 1000 rpm (low speed).

7. **Check** that cooling water escapes from the exhaust outlet as well as from the antisiphon thru-hull pipe.
   In the event of a malfunction, read the engine instructions carefully.

8. **Enable** the electronic instruments: speed indicator, log, GPS, VHF, etc.

9. In strong wind, carefully **secure** any movable objects. Check that the **navigation lights** are working properly before any night-time voyages.

10. **Close** all hull portholes (including **safety hatches**) and deck hatches. Also, **close the seacocks** on the toilets and sinks, each of which are located near the appliance itself.

Entering the port:

1. **Turn the engines off** by first pulling out the "arrêt moteur" (engine off) tab or activating the electric stop button and only then switching the ignition off. **Never reverse that order**.

2. **Switch off** all electrical installations on the switch board.

3. **Turn off** all the gas feed cocks (on the cylinder, on the appliances).

4. **Check** that there is no water in the bilges.

5. Switch the battery switches off when stopping for a prolonged period of time.

In the event of a breakdown:

1. The liferafts are **accessed from the rear beam**. A strap is used to **remove** them from their holders.

2. The tow fixtures are:
   - the **central deck cleat** located next to the anchor locker
   - the **2 bow deck cleats**, using a martingale

2. Safety.

"A" **Check** that the load taken on board does not exceed the maximum authorized load.
Caution: the weight of any optional equipment must be subtracted from the maximum load (see "Characteristics").

"A" **Check** that the load taken on board is distributed evenly to avoid any additional strain on the boat's structure. For example, avoid overloading the bow or loading one hull more than the other.

"A" **Never hold the engine starter on** for more than about ten seconds to start the engine, or water may be drawn into the exhaust chamber and damage the engine.

"A" **Always find out about the weather conditions** before setting out to sea.

Make sure that everyone on board knows where to find the safety equipment and how to use it.
Bring along food and water, even for short trips.

Check that navigation charts are **up-to-date**.

Keep the logbook up-to-date.

B. SAILS.

1. Operating principle.

For your safety and comfort, and to avoid any fatigue of the craft and rigging in general, **the sails should be shortened in accordance with the wind force**. Our recommendations depending on **tack** and **apparent wind force** are given below:

Close to the wind and close reach		**Rear wind and broad reach**	
0 to 18 knots:	Mainsail and genoa	**0 to 15 knots**:	Mainsail and genoa
18 to 24 knots:	Mainsail to 1 reef Genoa unrolled 1st mark	**15 to 20 knots**:	Mainsail to 1 reef Genoa unrolled 1st mark
24 to 30 knots:	Mainsail to 2 reefs Genoa unrolled 2nd mark	**20 to 25 knots**:	Mainsail to 2 reefs Genoa unrolled 2nd mark
30 to 34 knots:	Mainsail to 3 reefs Genoa unrolled 3rd mark	**25 to 30 knots**:	Mainsail to 3 reefs Genoa unrolled 3rd mark
34 to 40 knots:	Mainsail to 3 reefs Genoa unrolled 4th mark	**30 to 35 knots**:	Mainsail lowered Genoa unrolled 4th mark

2. Safety.

"A" The limit of stability of a catamaran is reached at a slight heel.

"A" For the first few times you go to sea, it is advisable to shorten the sails.

"A" Take care when you decide to change tack.

"A" Running free, it is preferable to block the traveller leeward rather than easing the mainsheet, to avoid chafing on the leeward shroud, particularly for long tacks in strong winds.

"A" Under sail, the engine must be disengaged.

3. Additional information.

	Diameter	Length
HALYARDS		
Mainsail	14 mm	54 m
Jib	14 mm	31 m
Spinnaker	14 mm	37 m
Topping lift	12 mm	37 m
REEF POINTS		
1st	14 mm	15 m
2nd	14 mm	21 m
3rd	14 mm	27 m

C. FIRE PROTECTION.

1. Operation.

1. **Read** the user manuals carefully to learn how to use the **fire protection equipment**.
2. In case of fire, **the extinguishers** are positioned and marked as per fire plan No. BEL.AM.16.
3. In case of fire in **the engine compartment**, the extinguisher nozzle is fitted on the duly marked hole located nearby in the aft cabin (under the mattress).
4. Identify the **escape routes** on fire plan No. BEL.AM.16.
5. **Inform** crew members on how the **fire protection equipment** is used and where it and the boat's **escape routes** are located.

2. Maintenance.

- **Inspect** the fire-fighting equipment regularly, **replace** it on the expiry date and **recharge** it after use if necessary, in accordance with the instruction manuals.
- **Make sure** the bilges are kept clean and free of fuel and gas fumes.
- When **replacing** any of the components in the fire-fighting system, use only **similar components,** of either the same description or offering equivalent technical properties and fire resistance.

3. Safety.

"M" You must never:

- **obstruct access** to safety controls (diesel valves, gas stop cocks, electrical circuit-breakers, etc.), fire-fighting equipment or the craft's exits.
- **alter** the installations on the craft.
- **fill** the fuel tanks when the engine is running or when the gas cooker is turned on.
- **store** inflammable materials in the engine compartment.
- **smoke** while handling fuel or gas.
- **use** gas lamps.
- **install** curtains without a bottom rail near appliances with an open flame.

"D" Watch out for the vertical clearance when crossing under electric wires.

4. Additional information.

- When in service, **the craft must be equipped with portable extinguishers** (not provided as standard equipment):
  - The extinguishers must comply with the regulations in force in the craft's flag of registry country.
  - The type, capacity and location of the extinguishers must comply with plan No. BEL.AM.16.

- **During thunderstorms**, everyone must, to every extent possible, remain inside the closed craft and avoid any contact with water or with metal parts of the rigging, spars, fittings or lifelines on the craft.

- If the craft is struck by **lightening**, all electrical and electronic appliances should be examined. **In the event of a malfunction**, consult the corresponding handbook or call on a specialist.

D. ELECTRICAL INSTALLATIONS.

I. Electrical systems.

1. Operation.

12V DC system : (see plan BEL.ELEC.01)

1. Energy on board **is produced by the engine's alternators** and stored by 12V DC batteries.

2. The batteries are arranged in two separate groups, port and starboard. Each bank of batteries supplies, independently of the other bank:

   - part of the 12-volt functions on the switchboard (chart table)
   - the engine on the same board.

3. Batteries in the same bank are connected in parallel.

4. Each bank of batteries is recharged by the 2 engines. The engines have to run **about 1 hour,** depending on the energy consumption during the day.

5. If **the voltage** of one of the 2 banks of batteries **is too low** to start the engine, use the *emergency start-up switch* to connect both banks of batteries. This emergency switch does not have a key. The **key on the common port/starboard negative switch** should be used.
   After starting the engine, **reclose** the negative switch to put the 12V equipment on board back on line.

220V AC system (option):

1. **Switch off the 30mA differential circuit breaker on the 220V switch board** (connected to the dockside supply) **before** connecting or disconnecting the boat/dockside supply cable.

2. **Connect the** boat/dockside **supply cable** to the dockside plug.

3. **Close** the 30mA differential circuit breaker on the 220V distribution panel, and then the circuit breakers for the desired functions.

2. Maintenance.

- Carry spare electric bulbs for all navigation lights.

- When working on the system, be sure to make no alterations in the electrical installation, particularly in the **interrupting capacity** (current intensity) of the circuit breakers.

- Check **the condition of the batteries** and charging system regularly. The batteries on board are of the "no maintenance" or "semi-sealed" type. Under normal usage, the water level in these batteries does not have to be checked or topped off. In very hot weather, the caps on the batteries should be removed to check the water level and add water if needed.

3. Safety.

"D" **Never** work on a **live** electrical installation.

"A" Never **alter** the boat's electrical circuit or the corresponding diagrams. Installation, modifications and maintenance should be carried out by a technician qualified in marine electricity.

"A" Never **change or modify the interrupting capacity** (current intensity) of the overload protection devices.

"A" Never **install** or **replace** electrical appliances or equipment with components exceeding the circuit's current-carrying capacity.

"A" When the **boat is unattended,** never leave the electrical installation connected to a power supply, with the exception of the automatic bilge pump and the fire protection and burglary alarm systems.

220V AC System (option):

"D" **Never let the end of the boat/dockside supply cable** trail in the **water**. An electric field could be formed that might injure or kill swimmers nearby.

"D" **Do not modify** the connections on the boat/dockside supply cable.

"A" Use appliances that are **double-insulated or have three conductors** (2 terminals + earth).

"A" Connect the metal casings or housings of electrical appliances to the **boat's protective conductor** (neutral).

II. Specific electrical equipment

1. The cooling system

a. Operation at sea.

- **The engine alternator** supplies 12V DC power to the house batteries.
- **A dedicated inverter** (locker under the bench in the aft portside cabin) converts this 12V DC into 220V AC power to supply the cold compressor (locker under the bench in the saloon).
- **The compressor supplies cold** to a eutectic plate located in the cold store. The plate stores the cold and, after the compressor has stopped, restores it little by little. The refrigeration compartment is cooled by exchanging air with the cold store. A heater-ventilator inside the refrigeration compartment controls this exchange process.
- The compressor is **cooled by a sea water circuit** supplied by a 12V DC pump.
- Operation of the 220V AC compressor and the 12V DC pump is **controlled** by the dedicated inverter.

b. Dockside operation.

- 220V AC power is supplied directly to the compressor (option) from **the dockside plug**, via the 220V AC distribution panel.
- The system remains under inverter control.

c. Procedure for start-up.

1. **Switch on the** battery switches.
2. . **either** start up the engine,
   . **or** connect the 220V AC dockside plug and enable the *cold system* function on the 220V switchboard (option).
3. **Switch on** the *refrigerator/deep-freeze* function located on the 12V switchboard (chart table).
4. **Adjust** the thermostat to the desired temperature (in the cold store).
5. **Check** that cooling water from the compressor is flowing out of the thru-hull pipe (under the platform).
6. Check that the **yellow light** (if operating on engine) or the green light (if operating on dockside plug) on the inverter is lit.

d. Important remarks.

1. The 12V DC network must be in operation even if the cold system is powered in 220V AC.
2. After careening or beaching, water will have emptied out of the cooling circuit. When you run the refrigeration system, the device protecting the compressor from overheating will come on. Before restarting the system, follow the steps below:

- Wait 3 to 4 minutes after the system has been locked out.
- Reboot the system using a pointed, non-metallic object to press the button. These steps should be repeated until the pump supplying the cooling system kicks in.

3. The system is designed with several protective features. It stops automatically when:
- the voltage supplied by the batteries drops below 12.8V.
- the voltage supplied by the batteries rises above 13.8V.
- there is an electrical fault.
- the temperature in the compressor cooling circuit is too high.
- the pressure in the refrigerating circuit is too low.

For further details on the system, refer to the user manual.

2. Electric windlass.(option)

a. Operating the windlass.

1. Check that **the port engine** is running.
2. **Close the *windlass* circuit breaker** located near the battery switches (aftside port locker).
3. **Press** either the up or down button.

b. Operating the mooring system.

1. **Drop the anchor and chain** to within a few meters of the final length required.
2. **Attach** the **martingale** snap shackle, which is stored in the chain locker, to the chain.
3. **Let out the remaining length of chain** required until the slack is taken up by the martingale.
4. **Unwind the chain from the windlass** and wind it around the mooring cleat.

c. Raising the anchor.

1. **Raise the final meters of chain very slowly**, making sure to seat the anchor properly in its mount.

2. **Remove the chain from the windlass** and secure it with the block intended for that purpose.

3. Put the caps back on the windlass relays and then close the chain locker cover.

4. Turn off the battery switches and open the windlass circuit breaker.

d. Safety.

"A" When operating the windlass, stand well away and keep clear of the chain.

e. N.B.

Should the strain on the windlass become too great, the circuit breaker will open; to restart the windlass, reclose the circuit breaker.

E. L.P.G. INSTALLATION

1. Operation.

1. **Make sure** that the valves for the gas appliances (located right near the appliances) are closed before opening the valve on the gas cylinder (bridgedeck bar).

2. Each gas appliance is fitted with a safety device. **To light the appliance**, press the button and keep it pressed in.

3. **Close** the valves for the gas appliances and cylinder when not in use.

2. Maintenance.

- Periodically run **leakage tests** on the L.P.G. installation.

- Check that all connections are tight **either by looking and listening for leaks** or by using soapy water or a detergent solution (after closing all burner knobs on appliances and opening the valves in the installation and on the cylinder).

3. Safety.

"D"	**Never use solutions containing ammonia or a flame to locate gas leaks.**
"D"	**If a leak is detected**, turn off the valve on the cylinder. Repairs must be made by a **competent person**.
"A"	**Do not obstruct** any openings provided for ventilation (opening hatches in galley), because fuel-burning appliances consume the cabin's oxygen and release combustion products inside the boat.
"A"	**Do not use** the oven to heat the living area.
"A"	**Always check** before going out to sea that the gas cylinder is firmly secured.
"A"	**Always check** before going out to sea that nothing is likely to damage the reducing valve or the flexible hose during navigation.

"D" Never **load gas cylinders** while the engine is running.

"D" Never use **gas lamps**.

"D" Never leave a gas appliances in operation **when not on board**.

4. Additional information.

- The design working pressure of the L.P.G. system is **50 mbar**.
- The reducing valve and gas cylinder are not furnished by the boatyard. They must be fitted with an **overpressure cut-off**.
- The equipment, as furnished by the boatyard, **does not provide for storage of a second gas cylinder** (full or empty) **on board.**

F. FRESH WATER, SEA WATER AND WASTE WATER CIRCUITS.

I. Turning the fresh water circuit on.

1. Operating principle.(see plan BEL.PB.01)

1. **Open** the valve on the **port tank** or on the **starboard tank** (under the bench in the saloon).

2. **Open the inlet valve** on the water heater (aft port cabin).

3. **Switch on the *fresh water pump*** function on the switch board (chart table).

2. Maintenance.

- **Close the valves** when the water circuits are no longer in use (at night, in the afternoon, etc.).
- **Check** that the straps holding the water and fuel tanks are tightly attached, first after 50 hours of navigation and then once a year.

3. Additional information.

- The fresh water circuits port and starboard are independent.
- They may be interconnected by means of 2 straight valves (bridgedeck bar).
- The hot-water circuit supplies the port hull and the bridgedeck bar.
- The deck shower (aft deck portside) may be isolated by **closing a valve** (aft port locker).

II. Turning the sea water circuit on.

1. Operating principle.

1. **Open the inlet valve** located under the sink in the starboard bathroom (see plan BEL.PB.01).

2. **Switch on the sea *water pump*** function on the switch board (chart table).

2. Maintenance.

- **Close the valve** when the sea water circuit is no longer in use (at night, in the afternoon, etc.).

III. Turning the waste water circuit (option) on.

1. Operating principle.

1. Each toilet is equipped with its own **holding tank**:
   - central bathroom: closet over the toilet;
   - aft bathroom (option): behind the shelf with the mirror;
   - owner's bathroom (option): behind the large shelf opposite the sink.

2. The outlet for the toilet hand pump is **hooked up directly** to the tank

3. The tank empties **straight into the sea** via a thru-hull pipe with a valve.

4. - **If the valve is open**: sewage is emptied directly into the sea.
   - **If the valve is closed**: sewage is stored in the tank.

CAUTION:
- **Never exceed the tank's storage capacity.**
- **Never continue pumping if it gets hard to push (the tank is full).**

2. Maintenance.

- Each tank has a cleanout gate.

- **Clean the circuit periodically** with a suitable disinfectant.

G. STEERING SYSTEM.

1. Operating principle.

1. The steering system comprises the following components:

   - The steering wheel drives the tiller ropes.
   - The tiller ropes in turn drive a **crossbar** linking the 2 rudder arms.
   - The autopilot cylinder (option) directly drives one of the two 2 rudder arms.

2. The **emergency tiller** is mounted on one of the two rudder stocks (plugholes on the steps of the aft platform).

2. Maintenance.

- Regularly check that the tiller ropes are tensioned properly, especially after the first few hours of navigation.
- The tension of the tiller ropes is adjusted at the point of attachment to the crossbar.
- Regularly check that the tiller ropes to not **chafe anywhere** on the circuit.

IV. ENVIRONMENTAL PROTECTION.

The following measures are recommended in order to protect the marine environment.

1. At sea.

- **Avoid accidentally discharging** pollutants of any sort into the water (e.g., spent oil).
- **Store** all non-biodegradable wastes **on board**. Waste glass may be stored in a special space in the cockpit bench locker.

2. At dock, at anchor or in protected waters.

- Store sewage in the holding tanks (see page 22)
- Dispose of wastes and refuse at port, in special bins provided for that purpose and in accordance with the sorting arrangements.

3. For the maintenance of your boat.

- **Use** natural cleaning products whenever possible.
- **Use antifouling paint** which is approved and complies with regulations in force in your geographical area.

V. GENERAL MAINTENANCE OF THE BOAT.

INTRODUCTION:

We recommend that you consult **the user manuals** for the equipment installed on the boat in the event of a malfunction.
Furthermore, for your safety, check all the rigging hardware and replace any worn parts.
Finally, to prolong the life of the boat, we advise that you follow the following recommendations regarding maintenance.

1. Cleaning.

- **Rinse** the boat regularly with fresh water, and especially any parts made of wood or stainless steel.
- **Avoid** scraping, scouring or sanding the hull.
- **Do not use** a high-pressure cleaner or corrosive solvents or detergents.
- Wherever possible, **call on** service companies specializing in yacht maintenance.

2. Displacement.

Haulout:

- **Adjust the position of the slings** so that the craft remains horizontal when hanging.
- **Place the slings on either side of the keel,** watching out for the boat speed transducer mounted on the forward part of the port hull.(see plan BEL.ACC.21)

Safety:

"D" **Do not stand underneath the craft.**

"D" For any lifting operation, it is advisable to call on a **professional operator**.

3. Repairs.

- We recommend **regular inspections** of the upper works, underwater hull and all technical components on the boat, more particularly after damage has occurred or before setting sail for a long voyage.

- **Use compatible** materials and appropriate components to ensure the homogeneity and strength of the various elements composing the boat.

- **In choosing paint**, observe the recommendations made by the supplier or by professionals in yachting maintenance.

4. Wintering.

- **To ensure effective protection of the engine**, consult the recommendations given in the maintenance manual.

- **Drain any water** from the craft and protect it from the rain.

- **Check** that the batteries are fully charged.

- **Empty the fresh water and waste water tanks** to avoid any problems due to freezing or pollution(bacterial growth).