



INFLATABLE DRY DOCKS
FOR BOATS WITH OUTBOARD OR STERN DRIVE(S)
FOR BOATS 16' to 32' LENGTH

OPERATING MANUAL



FAB Dock - inflatable dry dock

Model No's **FD19, FD21, FD23, FD25, FD27, FD29**

Supplied with

- 12v Dual Bilge Pump 4000 gph system
- Pump Controller boat kit
- Genova battery-powered inflator 12v - 500L/m - dual pressure
- Mooring lines

Specification:

- Dock tube 31cm diameter
- Gate swing 2.0 m
- Material: Polyurethane, 1050 gsm, nylon reinforced
- Colour blue



[Shown with single Leg pocket]

1. Description

FABdock inflatable dry docks are designed to fit a range of boats from length 16' to 32' but the fit depends on the waterline size of the boat.

The FABdock has three inflatable air chambers forming a large ring tube. There is a bulkhead at the front (bow), and two bulkheads in the orange panels forming a hinge for the drop-down gate at the rear (stern).

The gate is fitted with a perimeter weight beam made up of PVC pressure pipes which run through containing sleeves on the gate sponson (= the inflatable tube). When the dock is installed, steel weights are enclosed in the perimeter pipe and sealed with entrapped water.

When the gate is deflated, the weights pull down to open and flood the dock, and a vessel can enter or exit.

When the gate is re-inflated it rises against the weights and the vessel is enclosed.

A 12V electrical connection is made from the client boat to the dock bilge pumps and the dock is pumped dry and kept dry.

2. Handling

FABdock inflatable dry-dock materials are extremely robust when lubricated by water. However

- *Always* keep valves closed and caps fitted when not actively inflating or deflating.
- Never allow spinning propellers to make contact with any part of your FAB Dock.
- Never haul a rope across the dock at any time, neither inflated nor bundled (results in friction burns).
- **Never** drag any inflatable when bundled (if relocating). Dragging results in holes. The bundled dock may be lifted or rolled only, and carefully.
- Be careful in dragging draped material across sharp objects or snags - e.g bollards or oysters or weathered jetties - during deployment or recovery.

3. Installation

For the purposes of this manual it is assumed that the FABdock will be installed at a marina berth alongside a floating jetty finger pontoon which is about 0.5 m above water level. If your situation is different please modify the procedure accordingly.

Gate considerations

This FABdock requires a water depth of 2.0m to fully open the gate.

Tidal currents greater than 1/4 knot will affect the opening and closing of the gate.

3.1. Inflatable Tube Arrangement

The main forward tube is permanently inflated and is divided by a bulkhead into two separate air chambers so there will always be buoyancy in the event of a puncture. **The two valves for these are situated in the main tubes near the orange hinge panels.**

After initial installation, the forward air-chambers will be checked and the pressure self-maintained every time the gate is raised.

3.2. Operation of 12v Inflator

Used to inflate the dock at installation, and to operate the dock gate on an as-required daily basis, the Genovo 80D inflator has two motors which operate automatically depending on back pressure.

- On initial inflation, the Genovo primary motor runs a turbo blower up to 3 kPa (0.5 psi) and 500 L/min. This enables fast inflation for the initial filling of the targeted air chamber.
- When 3 kPa pressure is reached, the first motor shuts down and the second motor cuts in, driving a 2-piston positive displacement pump. Note the change of tone.



- The cut-out pressure for the inflator is user-selectable and should be **preset to 25 kPa** on the digital face panel. This setting is retained even when powered off.
- The inflator is fitted with miniature ball bearings and thermal overload protection and is robust and reliable. It should be good for at least 15 minutes on a hot day. However if the pump does stop working because of overheating, allow to cool and then re-start.

3.3. Inflation Valves

To lock the valves open for deflation, *press the internal stem down with a fingertip and twist 1/4 turn clockwise.*

To close the valves for inflation, *press stem down, twist 1/4 turn anti-clockwise, and release.*

Always keep valves closed and caps fitted when not actively inflating or deflating.

3.4. Sharp Edges

Your FAB Dock is an inflatable built from polyurethane material. It is robust but can be subject to damage from abuse.

All sharp edges or points of the contained vessel which could come in contact with the FAB Dock are hazards and must be checked. In particular check all hard edges below water line. Check the perimeter edges of the swim platform. Check the corners of any trim tabs.

4. Operation

ENTERING YOUR FAB DOCK

- Drive into your FAB Dock in a slow and controlled manner.**

Too much forward thrust may result in the floor being drawn into your prop(s) or excess forward hydraulic force applied to the dock. Prevention of damage is your responsibility.

- Raise Drives / Outboard Motors to the up position.**

Stern Drives -

Although the floor of the dock will accommodate the drive units in their down position there is unnecessary water pressure on the floor material against the sharp edges of the props.

If you do happen to leave the stern drive units down and have evacuated the water from your FAB Dock, the drives will be encapsulated by the floor pockets. **DO NOT** then try to raise the drive units or damage will occur.

Outboards

Outboards must be raised else the floor will be punctured.

There is no provision in FAB Dock Outboard models for accommodating the motors in the down position.

- Raise the FAB Dock gate.**

- Remove the Gate Valve hose from it's holding clips.
- Remove the Valve Cap. The inflation valve yellow poppet should be out (in the closed position).

- **Connect your FAB Dock inflator** to the gate hose, ensuring it is set to 25 kPa, and press Start.
- The inflator will change tone as it moves into second phase. It will turn off automatically when it reaches the preset pressure.
- **Disconnect the inflator** and pack it away in a dry part of your boat.
- **Replace the Valve Cap**, and replace the Gate Valve hose in it's holding clips. A slight backwards roll of the hose will allow it to snap easily into place.
- **Tie off your boat** independently of the FAB Dock.

d. Buffer (fender) your boat on the jetty side by about 150mm so there is a space between it and the perimeter tube.

After the water is pumped out, the floor membrane “freezes” the boat into that position both stabilising the boat against listing at berth and preventing it from touching the perimeter tube and rubbing – annoying because of it's sound and over time causing possible chafing on the boat's gel coat finish.

After the water is pumped out the fenders can be removed.

e. Pump out the FAB Dock.

- **Connect the electrical cable** from the FAB Dock into the 12V controlled outlet in your boat.
- The **pumps will start** automatically and empty the water from your FAB Dock. This will take anywhere from 30 minutes to two hours depending on the size of the dock.
- After the initial pump-out phase, the pumps will restart momentarily after 5 minutes (3 times) then 15 minutes (3 times) then 2-hourly. If there is water present the pumps will remain on long enough to evacuate, otherwise they will stay off.

- **Leave the bilge pump cable connected** while your boat is in the dock.

Rainwater, wash water and wave slop can add significant water to your FAB Dock and while you may choose for it to not be pumped out – it will not be a problem so far as marine growth is concerned – the down side is that your boat will no longer be gripped by the floor membrane and becomes free to move around inside the FAB Dock.

EXITING YOUR FAB DOCK

a. Lower the FAB Dock gate

- **DISCONNECT** the electrical lead from your FAB Dock. Towing the dock to sea is not a feature we intended!
- **Cap the plug** attached to the dock cable and coil it securely on your FAB Dock.
- **Remove the Valve Cap** from the Gate Valve (attached to the hose which is clipped to the side of the FAB Dock).

Be sure the valve is not dropped in the water while it is left open.

- The **inflation valve yellow poppet** should be pressed in with your finger and given a ¼ turn clockwise rotation to lock it open.
- **Allow 15 minutes** for the gate to deflate and lower, and for the dock to flood.
- **Check** that the gate and the floor is down deep and clear of trim tabs and drives.
- If the gate does not initially drop in good time, a prod with a boat hook to get water flowing will help.
- **Close and cap the gate valve** on the end of the gate air hose and leave it parked in the hose clips on the FAB Dock tube.

b. Cast Off your boat

- It is good practice to **ease the boat out** with a push for a metre or so to be sure it is free.
- In any event, if your vessel does not reverse easily do not persist or gun the engines.

c. Enjoy a great day on the water.

5. Battery Charger

Maintenance of your batteries is critical to the operation of your boat, not only for convenience but for safety and economy. And now that it is supplying the needs of your FAB Dock as well, addressing this aspect is essential.

Too often, at the time of FAB Dock installation it has been discovered that batteries which owners were sure were in top condition were actually ruined because they had been unknowingly left in a flattened state. So it is to advantage to review this important part of boat care.

Lead acid batteries which have been discharged below about 50% of capacity actually lose some of their capacity each time this occurs, and the degree of discharge determines the degree of damage.

And for whatever reason, unattended boat batteries get drained.

An average FAB Dock with 2 bilge pumps running for 45 minutes (the time taken to drain it) on a 12V battery consumes 12 AHrs of capacity. This is of no consequence to a 75 AHr (or bigger) battery in good condition, and it is obvious that with the installation of FAB Dock it is timely to be sure your boat is equipped with a top quality 4-stage (or more) charger.

A 5-Amp charger is enough for a single 75 AHr battery, and 10-Amp is better for bigger batteries.

The multi-stage intelligent charger will work at optimum charging conditions right across the voltage range, eventually switching itself off when the battery is at its optimum voltage. It may even recharge the battery if it is in a low state. The charger should be connected to your battery and running for whenever the craft is not in use.

6. Bilge Pump Controller

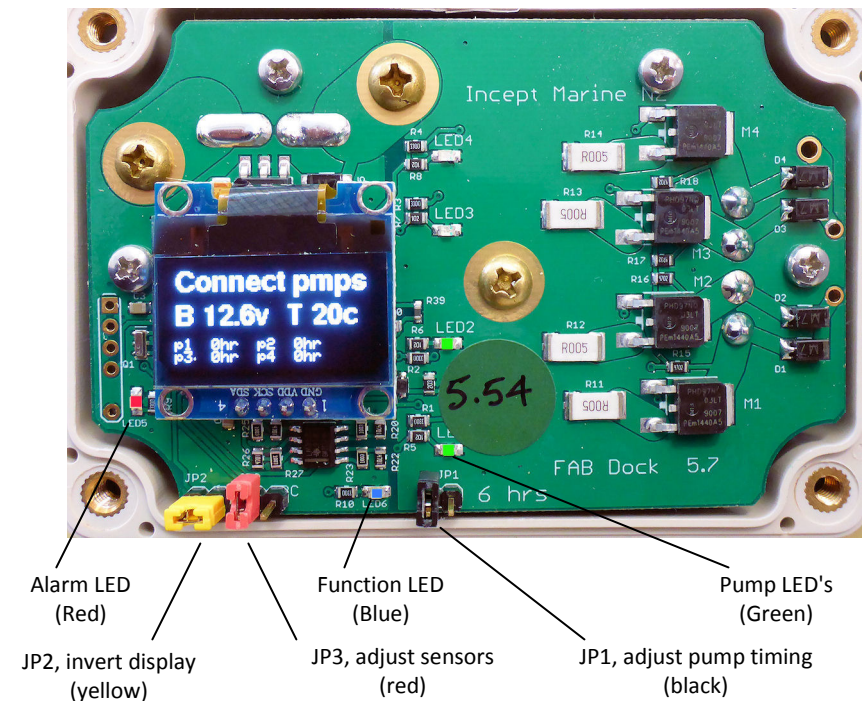
FAB Dock's Bilge Pump Controller is a proprietary development solving the inevitable failures of immersed switch gear. It is an intelligent device which works by testing the load condition of the pumps when they are operating and switches them off when they have gained air, and it lives on board your boat usually in the engine compartment. It is not warranted as waterproof and must be protected from full weather exposure.

The wiring loom is fused and is directly connected to the boat battery (if there is more than one battery choose the one which drives the on-board accessories) and runs to a sheltered location in the cabin adjacent to the drydock connection point.

- The **Black terminal** connects to the **Negative (-)** side of the battery.
- The **Red terminal** connects to the **Positive (+)** side of the battery.

CAUTION. Reverse connection of the controller to battery will result in instantaneous damage to the controller which is remedied only by replacement.

- **Power_On** occurs when the battery cable is connected and is followed by the controller *fab dock* screen, then 3 flashes of a **blue** LED indicating successful **boot** (or reset).



CONTROLLER FUNCTIONS:

- Pumps are monitored and run in separate channels. Green lights indicate pumps running.
- Pumps run momentarily every 2 hours to check if water is present. JP1 selector can change the testing period to every 6 hours ("6").
- If there has been wave wash or a rain shower the pumps will run as needed. If one pump stops the other will continue until all water is gone.
- Each time the dock cable is unplugged the controller resets (reboots). When the cable is re-connected the controller runs an initialisation to find which pumps are present. Depending on internal configuration, the controller can monitor up to 4 pumps and can run a lesser number of pumps on any combination of the 4 channels. At the end of the initialisation the blue Function LED flashes 3x.

- **Signal Indications (Red LED):**

Flash once every 5 seconds	Battery has dropped below 12.3V (if pumps are off) or 11.8V (if pumps are on). Requires voltage to increase (recharge) to 12.6V before pumps will restart, and then only after present pump time sequence has elapsed (5 min, 15 min, or 2 hrs).
Flashes 6x every 5 seconds	Battery system is 24V. Will not run.

- **Signal Indications (Blue LED):**

Flashes 1 - 7x after pumps stop, and does not repeat	Indicates pump sequence. When cables are first connected, pumps run again after: <ul style="list-style-type: none"> 1 5 minutes 2 5 minutes 3 5 minutes 4 15 minutes 5 15 minutes 6 15 minutes 7 2 hours
Flashes 1x every 5 seconds	Pump 1 has over-current fault
Flashes 2x every 5 seconds	Pump 2 has over-current fault
Flashes 3x every 5 seconds	Both pumps have over-current fault. This may signal reversed polarity in the cable connectors.

7. Reminders

- **Never** allow open valves to drop below water level.
- ***Always close and cap valves*** when not actively inflating or deflating.
- ***Always cap*** and seal electrical connectors when disconnecting cables.

8. Warranty

This **FAB Dock™** is warranted for a period of three years from supply for the main inflatable portion, and 1 year for the electrical/mechanical components.

For docks installed by FAB Dock any manufacturing defect in materials or workmanship found during that period will be made good at no cost, providing that the issue is referred to the agent from whom purchased or to FAB Dock Australia.

For docks purchased without included installation, any manufacturing defect in materials or workmanship found during that period will be made good at no cost provided the dock is returned to the dealer from whom purchased, freight paid.

Spare parts or componentry which may remedy any warranty issue will be supplied freight paid. Parts which are replaced under warranty or unused shall be returned to dealer and not be charged.



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