PRO

Owner's Manual

Volume 2

PRO 420

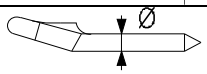
VOLUME 2
DESCRIPTION - BUOYANCY CHAMBER PROPULSION SYSTEM INSTALLATION AND CIRCUITS

CONTENTS

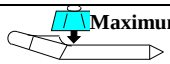
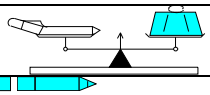
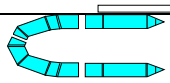
DESCRIPTION - Technical characteristics

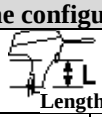
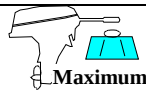
I-1-TECHNICAL CHARACTERISTICS

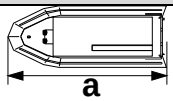
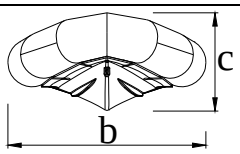
ENGLISH

Dimensions		
	(m)	4.20
	(ft)	13’ 9“
	(m)	2.90
	(ft)	9’6’’
	(m)	1.90
	(ft)	6’ 3"
	(m)	0.95
	(ft)	3’ 1"
	(m)	0.455
	(ft)	1’ 6"

Design category	
CE (Directive 94/25/EC)	C

Capacity		
(ISO)		7
 **Maximum**	**Kg** (1)	780
	lb. (1)	1720
	**Kg** (2)	181
	lb. (2)	399
 **Compartment**		3

Engine configuration			
 **Length**			
	Minimum power recommended	HP (3)	15
		KW (3)	11
	Maximum power recommended	HP	40
		kW	30
	Maximum power allowed	HP (3)	50
		kW (3)	37
 **Maximum**	Maximum engine weight	Kg	115
		Lbs	254

Overall dimensions		
 **a**	a (4)	3.63 m
		11’11”
 c b	b (4)	1.24 m
		4’
	c (4)	0.69 m
		2’3’’

DESCRIPTION - Technical characteristics

NOTE	**Dimension tolerance: +/- 4 %**

NOTE	**(1) The maximum payload has been calculated according to ISO 6185 standards. Operating at or near maximum payload is only advised in calm water and at reduced speeds.** **(2) Weight shown not including accessories** **(3) The recommended power corresponds to optimum operation of the boat's capabilities for an average load (4 people.) The minimum power is exploitable in relaxed activities, such as fishing, while the maximum recommended power is destined for performance activities such as water-skiing.** **(4) Hull dimensions without buoyancy chamber.** **Use the maximum authorized power with extreme caution (see "Sailing advice" chapter of Volume 1 of the manual.)**

 **WARNING**	**THE MAXIMUM LOAD INDICATED ON YOUR DOCUMENTS MUST NOT BE EXCEEDED, WHEN THE ENGINE, FUEL, ACCESSORIES, PASSENGERS, THEIR KIT AND ANY OTHER LOAD HAS BEEN ADDED**.

DESCRIPTION - Inventory

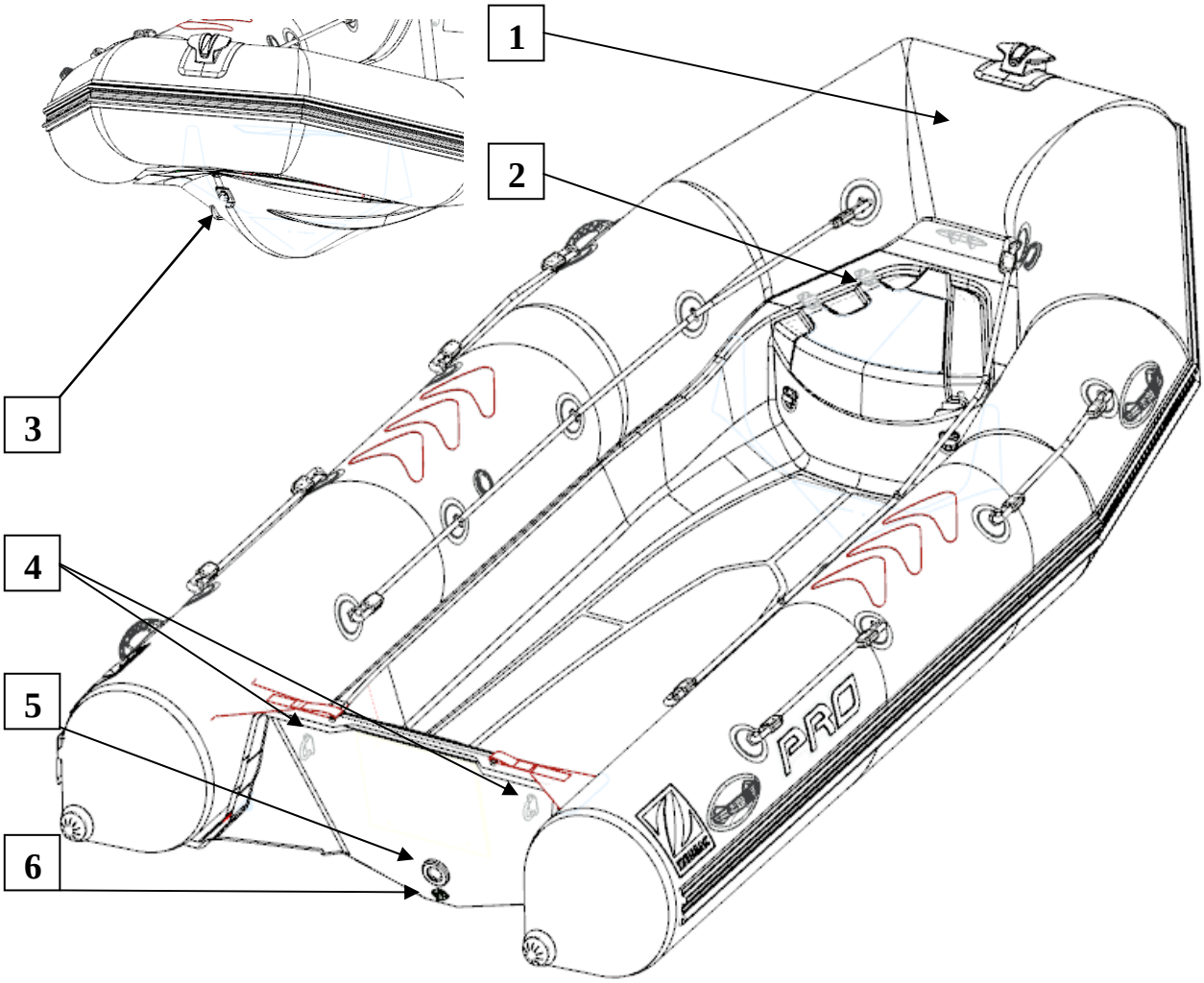
I-2-INVENTORY

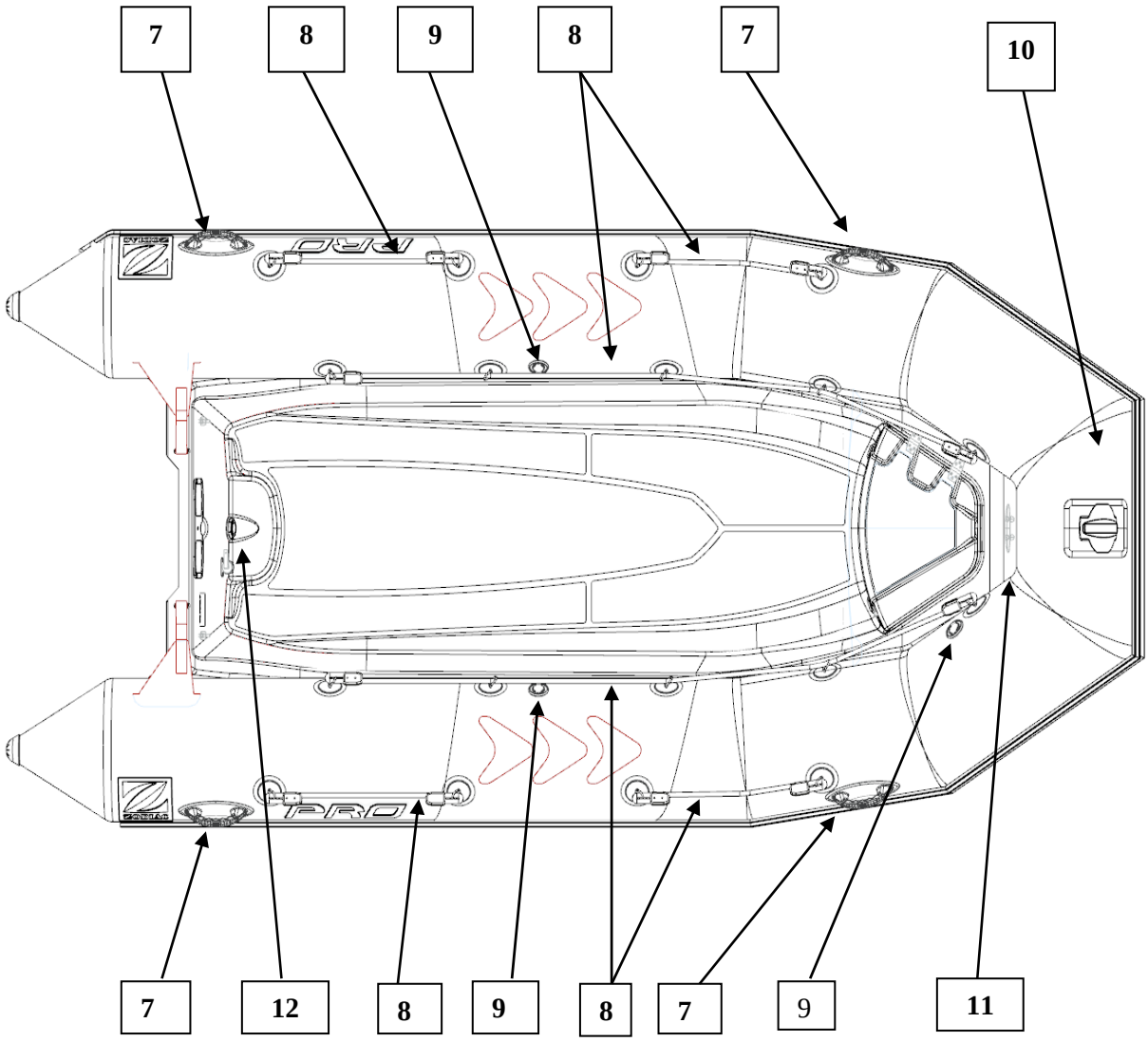
HULL
• Polyester hull
• Non-slip deck
• 1 Bow ring
• 1 Anchor locker
• 2 traction chain plates
• 1 Hull drain hole
• 1 high flow rate self-bailers with stern well
• 1 self-bailer plug
BUOYANCY CHAMBER
• Removable buoyancy chamber
• Easy push valves
• Anti-chafing band with wide profile
• 4 Exterior handles
• Water shield
• Rails + lashing
• Short cones
• Bow roller

OPTIONAL ACCESSORIES
• Anchoring tarpaulin
• Roll bar
• Console
• Seat
• Side ladder
• Deck pump

DESCRIPTION – Location of items

I-3-LOCATION OF ITEMS





ITEM REF.	DESIGNATION
1	Buoyancy chamber
2	Anchor locker
3	Bow ring
4	Towing chain plates
5	High flow rate self-bailer
6	Hull drain hole
7	Handle
8	Lashing
9	Valve
10	Bow roller
11	Bollard
12	Self-bailer plug

DESCRIPTION - Handling

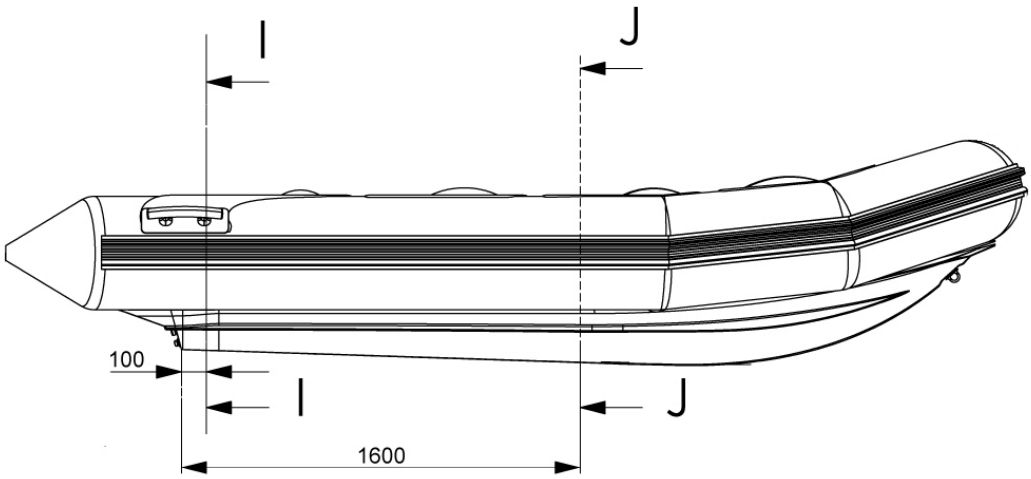
I-4-HANDLING

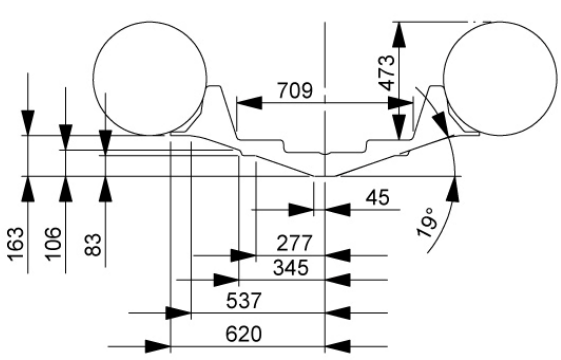
I-4-1-Transporting

• The trailer installation recommendations are specified in VOLUME I of the owner's manual.

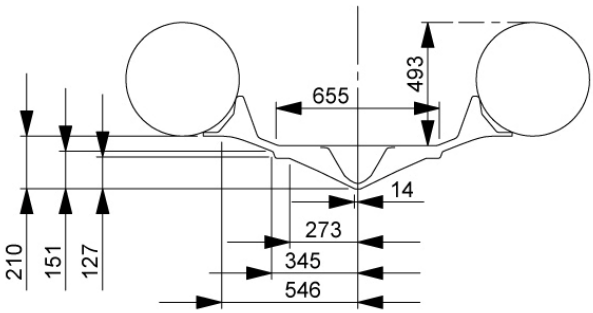
I-4-2-Storage

WARNING	**THE BOAT MUST REST ON THE BOW LINE (SEE SKETCH BELOW).**





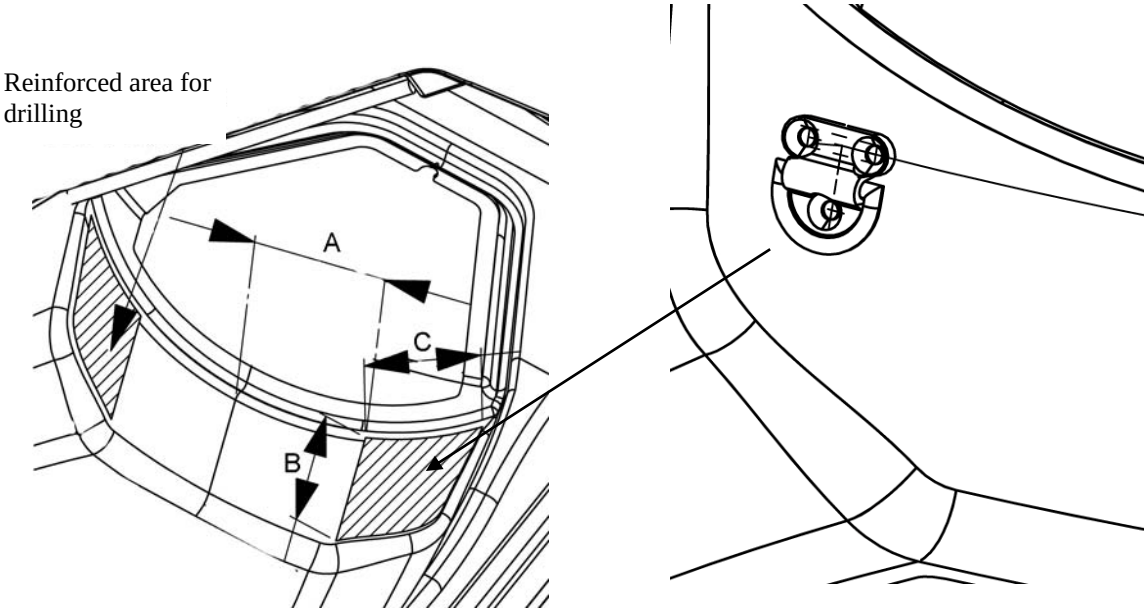
SECTION I-I



SECTION J-J

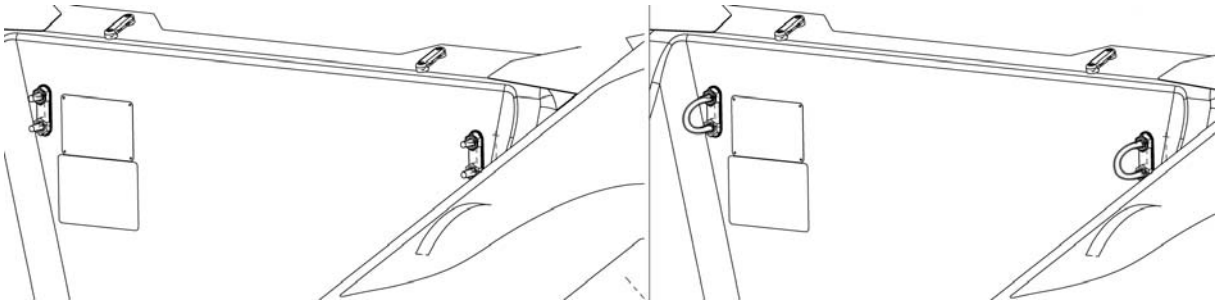
I-4-3-Lifting rings (not supplied)

- The PRO 420 has a reinforced area under the forward cover for securing the hoisting rings.



ITEM REF.	DIMENSIONS (mm)
A	185
B	163
C	159

- The aft transom chain plates can also be turned over inboard.



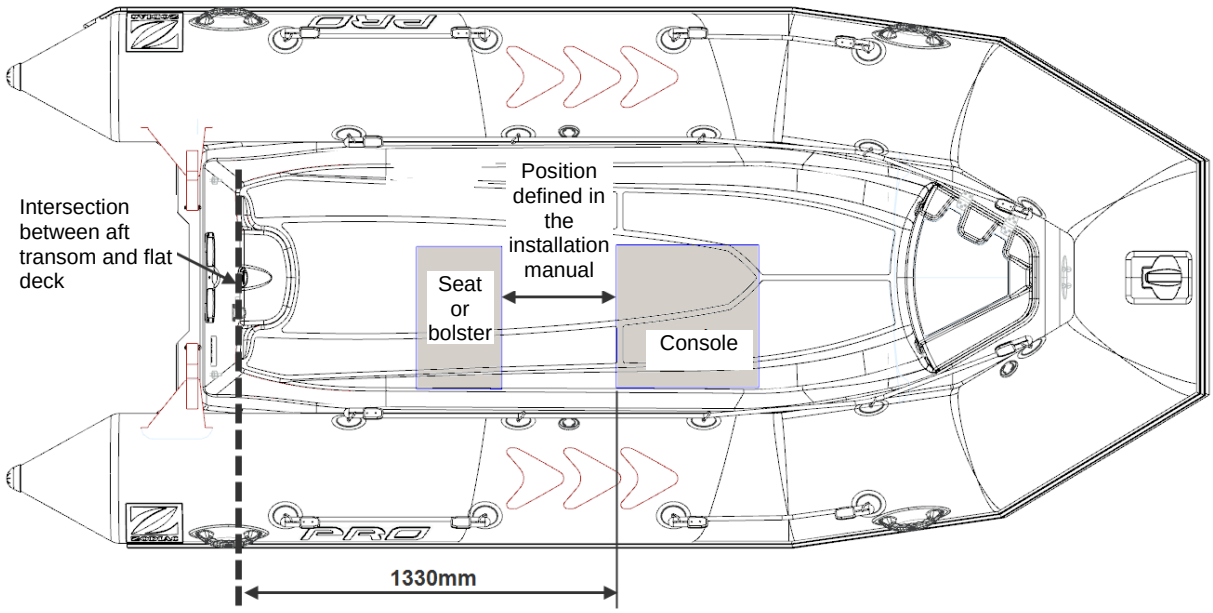
DESCRIPTION – Location of accessories

I-5-LOCATION OF ACCESSORIES

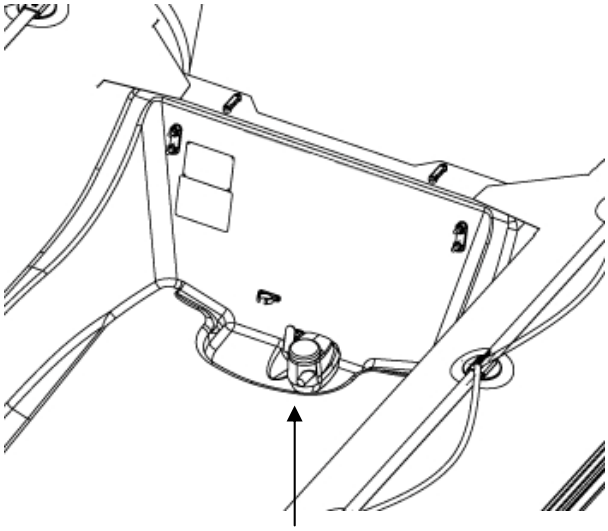
I-5-1-Console / Seat (OPTION)

Your boat can accept certain optional accessories (console / seat). Position them in the locations indicated below to optimise use of the boat.

The positioning dimensions are taken from the aft transom (distances in millimetres).

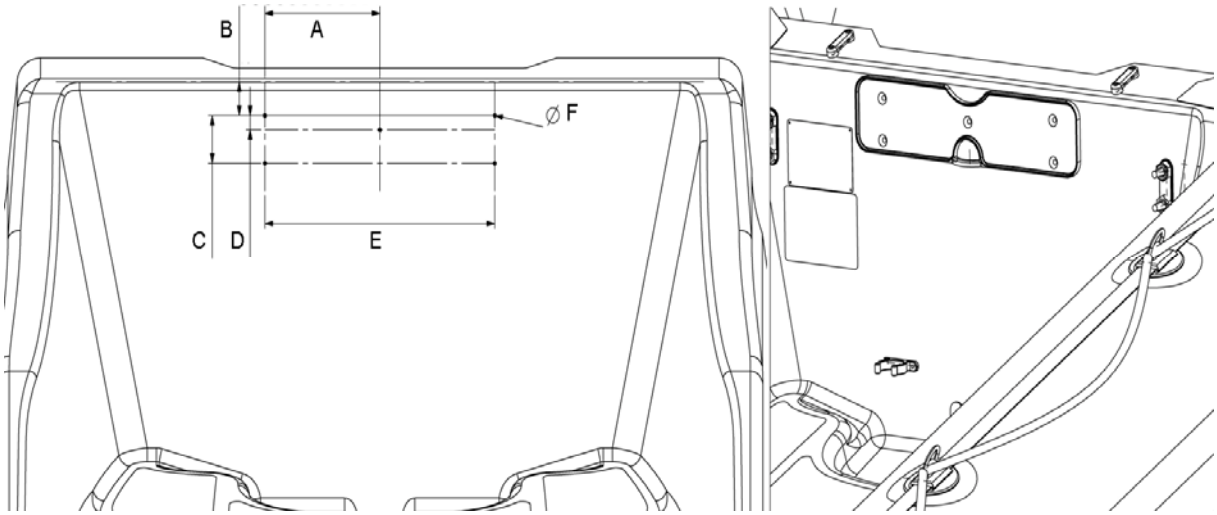


I-5-2-Bilge pump (OPTION)



Bilge pump placed at the bottom of the aft well DB420

I-5-3-Engine plate (to be fitted with 5 plate screws FZ 4.2x25)



ITEM REF.	DIMENSIONS (mm)
A	147
B	35
C	50
D	15
E	294
F	3.5

BUOYANCY CHAMBER – Main steps

II-1-SETTING UP THE BUOYANCY CHAMBER – MAIN STEPS

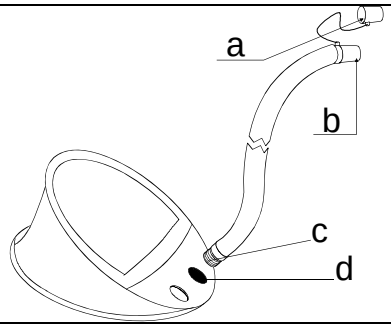
When assembling the boat, it is important that you follow the procedure in the correct order. Proceed step by step, referring each time to the pages indicated for explanations.

INFLATION PROCEDURE	PAGE	SECTION
1. Make an inventory of all your boat's components and learn to recognize them	5 - 6	**Inventory** **Location**
2. Start inflating the boat using working pressure.	9 & 10 11 & 12	**Inflating the boat** **Air pressure**

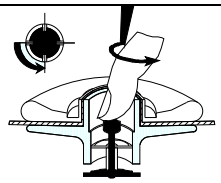
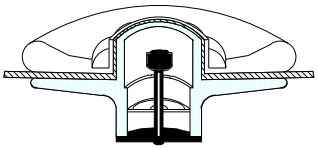
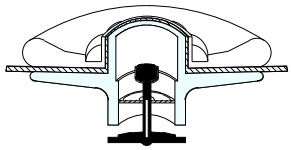
II-2-INFLATION SYSTEM

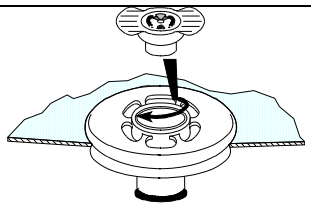
THE INFLATION PUMP

a. adaptor
b. tube nozzle
c. tube connector
d. inflation port



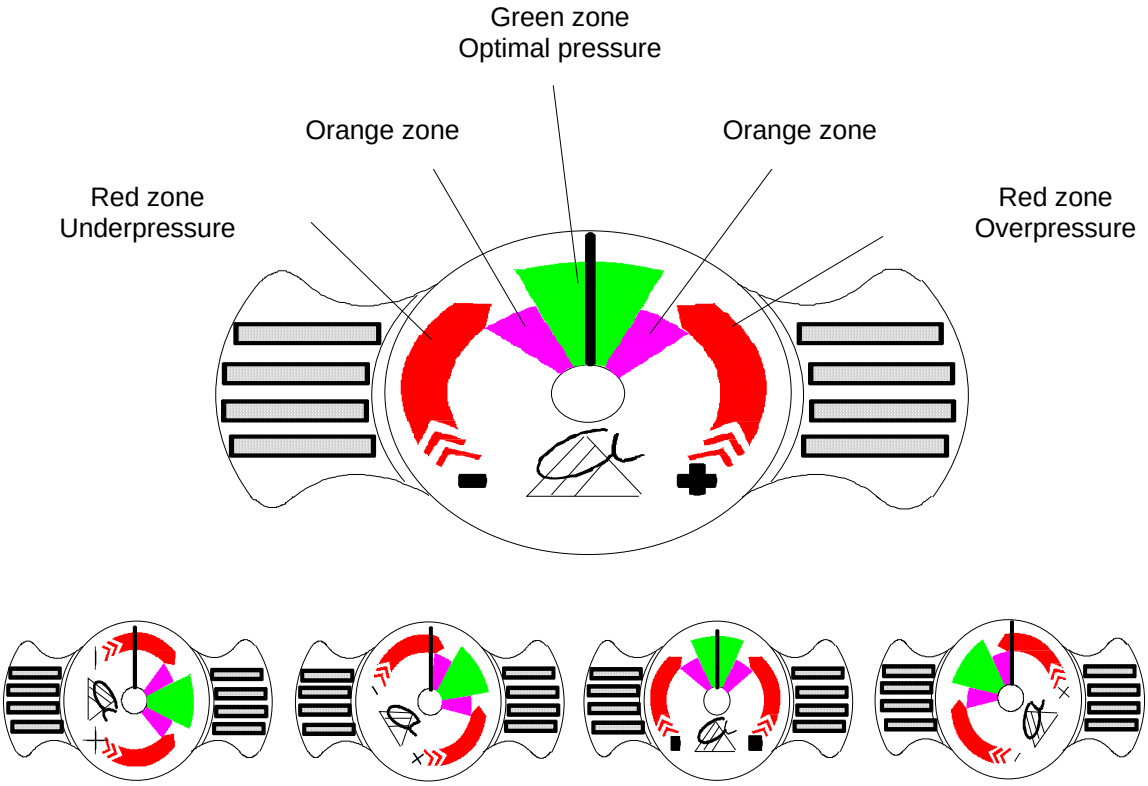
SEMI FLUSH-MOUNTED VALVES

To activate the valves	In inflating position	In deflating position
		
Push	**The membrane is closed, the knob is up**	**The membrane is open, the knob is down**

NOTE:	**The caps of the easy-push valves are designed to screw and unscrew in a ¼ turn. Never force the caps, as you will run the risk of unscrewing the whole deflation system.**	

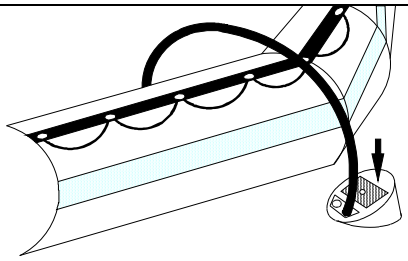
BUOYANCY CHAMBER – Inflation system

PRESSURE INDICATOR (Screw it in using a ¼ turn replacing the valve cap)



Atmospheric pressure	Pressure too low INFLATE	Correct pressure	Pressure too high DEFLATE

BOAT INFLATION

Activate all valves in the inflation position. Attach the hose connector to the inflator inflation port. To inflate your boat properly, the inflator should be correctly placed on the ground. The boat inflates rapidly if the inflator is used smoothly and without haste.	

WARNING	**DO NOT USE A COMPRESSOR OR COMPRESSED AIR CYLINDER.**

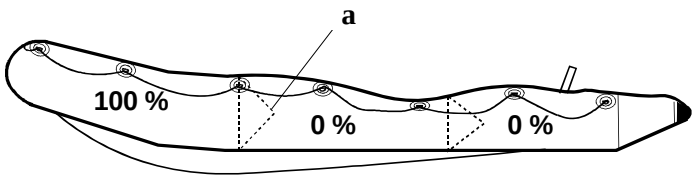
BUOYANCY CHAMBER - Pressure

INFLATING THE BUOYANCY CHAMBER

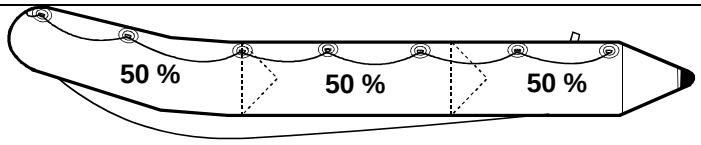
- Place the adapter corresponding to the diameter of the semi built-in valve at the inflator hose nozzle.

Inflate the buoyancy mechanism, **balancing the pressure between the different compartments until the partitions (a) are no longer visible (pressure = 240 mb)**

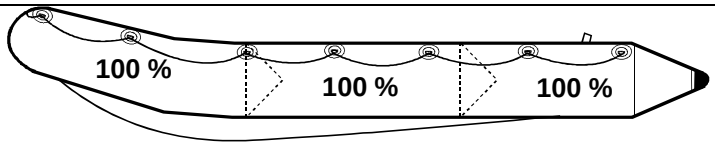
NEVER PUT A COMPARTMENT UNDER PRESSURE WHILE THE OTHERS ARE STILL FULLY DEFLATED.



1



2



Inflating is complete: Screw on the inflating valve caps.

NOTE:	**A slight loss of air is normal before the cap is screwed on. Only the caps guarantee final air tightness.**

II-3-PRESSURE

The correct pressure for the buoyancy chamber is 240 mb/ 3.4 PSI (middle of the green sector of the pressure gauge).

Your boat is fitted with an ***ACCESS*** pressure indicator which provides a quick, efficient readout during inflation (see explanations for use in the "Inflation system" section).

The temperature of the surrounding air or water will proportionally influence the level of internal pressure in the buoyancy chamber	Ambient temperature	buoyancy chamber internal pressure
	+1°C	+4 mb / 0.06 PSI
	-1°C	-4 mb / 0.06 PSI

Thus, it is important to anticipate:
Check and adjust the pressure of the inflatable compartments (inflating or deflating according to the case) according to the temperature variations (especially when there is a considerable difference in temperature between morning and evening in particularly hot areas) and make sure that the pressure remains within the recommended pressure range (from 220 to 270 mb / green sector).

BUOYANCY CHAMBER - Pressure

RISK OF PRESSURE LOSS:

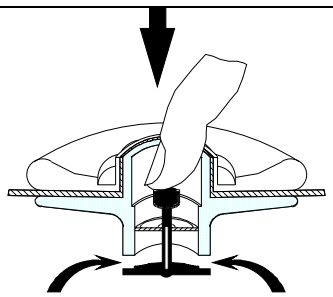
EXAMPLE: Your boat is exposed to direct sunlight on the beach (temperature=50°C) at the recommended pressure (240 mb/3.4 PSI). When you launch it (temperature=20°C), the temperature and internal pressure of the inflatable compartments will drop simultaneously (up to 120 mb) and **YOU WILL THEN NEED TO REINFLATE** until you regain the millibars lost due to the difference between the ambient air and water temperatures. A drop in pressure at the end of the day, when the outside temperature is dropping, is normal.

RISK OF OVERPRESSURE:

EXAMPLE: Your boat is inflated to its recommended pressure (240 mb/3.4 PSI) at the beginning or end of the day (low outside temperature = 10°C). Later in the day, your boat is exposed in the sun on the beach or on a yacht deck (temperature = 50°C). The temperature inside the inflatable compartments may rise to 70°C (particularly for dark buoyancy chambers), doubling the initial pressure (480 mb). **YOU WILL THEN NEED TO DEFLATE** the boat to return to the recommended pressure.

WARNING	**IF YOUR BOAT IS OVERINFLATED, THERE WILL BE UNDUE PRESSURE ON THE INFLATABLE STRUCTURE THAT MAY RUPTURE IT.**

IN CASE OF OVERPRESSURE

EASY PUSH VALVE: Release air by depressing the valve plunger	

PROPULSION SYSTEM

Complies with Z Marine's recommendations and with the engine manufacturer's recommendations.

For optimum use of your boat, seek advice from your dealer.