MFC International
by RESPIREX
ENGINEERED INFLATABLE PRODUCT SOLUTIONS

RC4000 Rescue Craft

Community Design number: 2520494

Product Manual

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WARNING: Carefully read this manual before operating

NOTICE: The manufacturer takes no responsibility for the consequences of actions not complying with the instructions given in this manual.

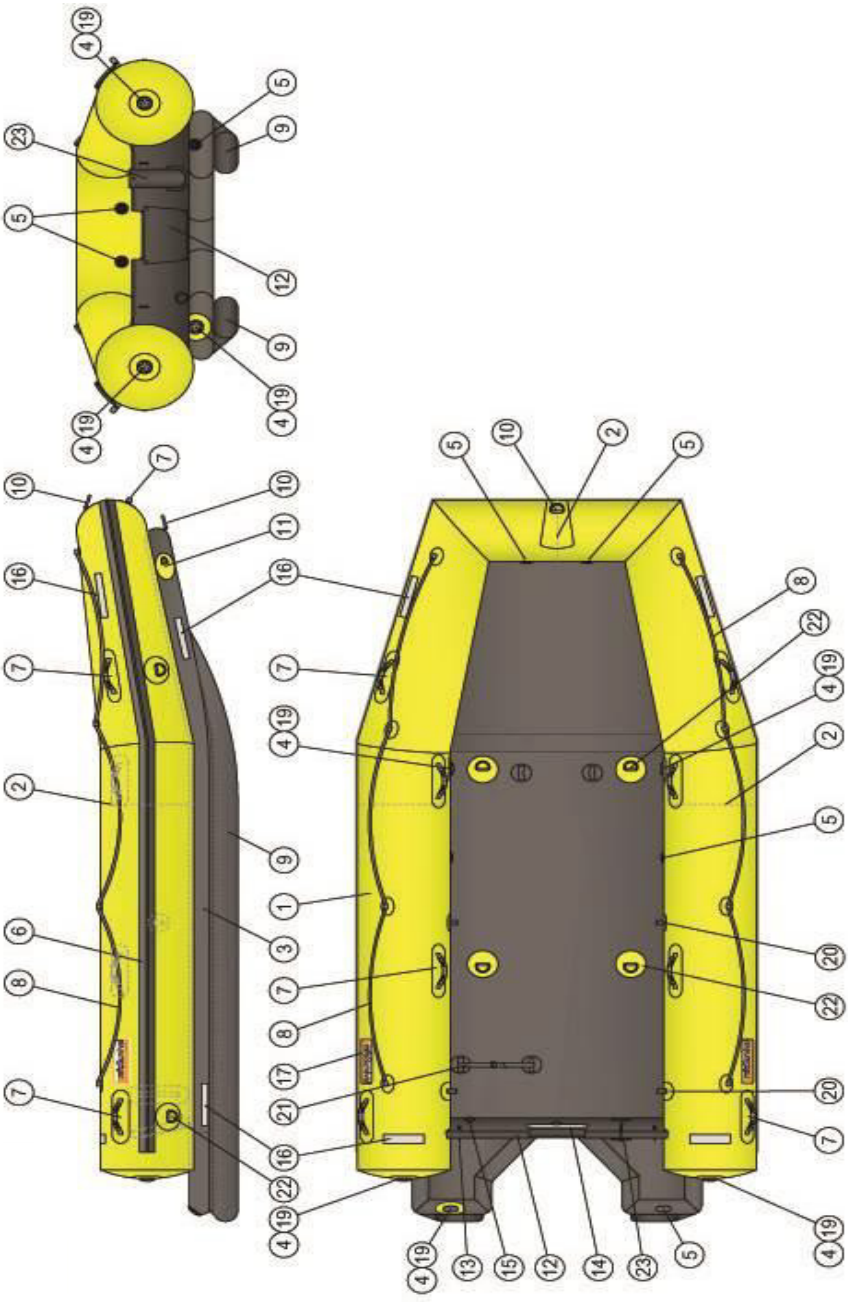
		RC4000
No. of persons		10
Length (cm)		400
Width (cm)		200
Height (cm)		80
Tube diameter (cm)	**Stern**	48
	Bow	36
Floor Thickness (cm)		12.5
Working pressure - Tube (bar)		0.2
Working pressure - Floor (bar)		0.4
Number of Chambers		4(tube) +floor
Capacity (kg)		800
Air requirement (litres)		2900
Pack size L x W x H (cm)		140x50x35
Packed Weight inc. Paddles (kg)		62
Max Motor power		22.1 Kw
Max engine, short shaft (Hp)		25/30
Max engine weight (kg)		65
Recommended Regulator		Type 646 2 bar

Note: all dimensions are accurate to ± 3% and all weights are accurate to ± 5%

SCOPE OF USE. Category D.

The Rescue Craft is designed for use in “sheltered waters” in wind speeds up to and including Beaufort scale 4 with a significant wave height (H1/3; in metres) up to and including 0.5m.

Parts list



Materials list

	Item	Description
1	Buoyancy tube	Hypalon coated polyester - yellow
2	Baffles	Hypalon coated polyester
3	Inflatable floor	Neoprene- coated drop thread - black
4	Inflate/Deflate valves	Leafield D7 - Black Acetal
5	Relief Valves	Leafield A6 - Black acetal
6	Rubstrake	Nitrile/PVC - 70mm wide black
7	Carrying handle	Hypalon coated polyester, webbing strap/rubber handle
8	External Lifeline	10mm Diameter 3 strand rope - Black
9	Keel	Neoprene coated crop thread - Black
10	Towing patch	Hypalon coated polyester, 316 s/s 'D' ring
11	'D' Ring patch	Hypalon coated polyester, 316 s/s 'D' ring
12	Transom	Marine ply, 38mm. PU painted
13	Towing 'U' Bolts	316 Stainless steel
14	Motor clamp plate	Cast aluminium
15	Drain port and plug	Acetal moulding
16	Reflective strips	50mm Reflexite
17	Logo Label	White vinyl digitally printed
18	Capacity Label	White vinyl digitally printed
19	Inflate/Deflate label	White vinyl digitally printed
20	Paddle retainers	Hypalon coated polyester, Webbing strap, velcro
21	Tank retainers	hypalon coated polyester, webbing strap with buckle
22	'D' Ring patch (line control)	Hypalon coated polyester, 316 s/s 'D' ring
23	Drain sleeve	Nylon flange moulding, Neoprene coated polyester sleeve
24	Paddles (not shown)	Alloy shaft, HDPE blade, T handle
25	Valise (not shown)	PVC coated polyester - Orange
26	HP inflation hose (not shown)	1.0m Reinforced hose c/w C7 valve adaptor
27	Repair Kit (not shown)	70ml Neoprene adhesive, Hypalon patches x4

Operational Instructions

1. INFLATION

1.1 At deployment point, select best possible flat debris-free site.
1.2 Unpack the Rescue Craft from its valise and unroll.
1.3 Prepare for Inflation:-
a) Fix regulator to cylinder and connect delivery hose to regulator.
b) Remove dust cap from inflate/deflate valve in Inflatable floor and Buoyancy tube. Ensure the central valve diaphragms are closed; i.e. the internal spindle is raised. (push and turn to release)

1.4 Connect cylinder to floor, **Hold** delivery hose **tight into inflation valve** and inflate until relief valve activates. Close cylinder valve. **Do not release hose during inflation.**

1.5 Connect cylinder to Buoyancy tube at one stern end using the inflation hose. **Hold** delivery hose **tight into inflation valve** and inflate until the relief valve activates. **Wear gloves to protect hands from possible frost damage from inflation gas.** Close cylinder valve. Repeat for remaining stern chamber followed by both bow chambers of buoyancy tube. **Do not release hose during inflation.**

Warning: Failure to do this may result in personal injury

1.6 Ensure dust caps are replaced to prevent ingress of dirt and water.

2. TYPE OF MOTOR AND ADJUSTMENT

2.1 Motor power - The maximum motor power is listed in the Technical Data table.

Warning: Never use a motor power higher than specified in the technical data table. This could cause loss of control which may result in personal injury.

2.2 Motor weight - The motor weight has a great influence on the planning, stability and performance of the Rescue Craft.

2.3 Motor shaft length - The Rescue Craft is to be fitted with a Short shaft motor.

3.0 Fitting the motor - Fit the motor in the centre of the cut out in the transom. Tighten the motor clamp bolts onto the motor clamp plate until they are hand tight. Secure the motor to the eye of the clamp plate with a cable or strong cord. Check and re-tighten the motornclamps after approximately 10 minutes of use. All motors above 4 Hp. are fitted with an emergency stop switch lanyard which must always be used as instructed in the motor manual.

Note: The motor must be **fitted and used** in accordance with the motor manufacturer's instructions.

4.0 Motor position (trim) - As a general rule the recommended trim angle should be set so the axis of the propeller shaft is parallel with the water surface when the craft is at operational speed. Trim motor closer to transom when craft is lightly loaded or going into wind.

The Rescue Craft generally works best with the tilt / trim pin 3 holes out from the transom.

Warning: Only make changes to the trim position with the motor switched off. Failure to do this may result in personal injury.

3. DEPLOYMENT & USE

3.1 A visual risk assessment of the operating conditions should be carried out prior to deploying the craft.

3.2 **For safe operation of the Rescue Craft it should only be operated by a minimum of the helmsman plus one crew member.**
The preferred location for the crew is positioned centrally just aft of the kink in the buoyancy tubes and floor, holding on to the internal grab handles.
If the operational conditions warrant, an additional crew member should also be used.

Warning: During use on water, mud or suspect surfaces, personnel should wear a ”Lifejacket” or Personal Floatation Device.

Always use the Emergency Stop Switch lanyard supplied with the outboard motor. This is to prevent a runaway boat if the operator falls overboard. Wear it around your wrist or securely attached to your clothing.

Ensure you have sufficient fuel and oil for your anticipated operational requirements and that the fuel tank is secured.

Ensure you carry paddles on board in case of motor failure.

Avoid the risk of explosion or fire hazard. Ensure the fuel system is in good condition and properly maintained.

Avoid persons smoking near the fuel system, especially when refuelling.

If fuel spills onto the floor of the craft wash off with water.

Take care when docking. Arms and legs may be injured if they are outside the craft.

Aggressive docking may cause damage to the craft, resulting in air loss.

Warning: Avoid contact with sharp or abrasive objects as they may puncture the fabric causing a loss of buoyancy.

Stability. Wherever possible evenly distribute the weight of persons on the Rescue Craft to avoid instability that may lead to poor performance or capsize.

Do not exceed the authorised number of persons or weight.

Casualties should not be seated on the buoyancy tube as they may fall back into the water and drown. Casualties should be seated facing each other across the inflatable floor holding onto the lifelines for security.

No bow riding, if the person falls they may get hit by the propeller

Keep clear of swimmers and divers. Shut off the motor when operating near persons in the water.

Avoid sharp turns at high speed. If craft is lightly loaded, crew should lean into the turn as if riding a motorbike to keep the inside keel pressed into the water.

3.3 Towing the Rescue Craft - The craft may be towed behind a parent craft at a maximum speed of 5 mph. The craft must be towed with the tow line attached to the towing patch on the bow. The length of tow line should be adjusted to suit the conditions. Remove or secure any loose equipment before towing.
If the craft is to be towed in rough water, over mud or for an extended time, an additional tow line should be attached to a bridle secured between the 'D' ring patches on either side of the floor in the bow.

3.4 Towing another craft - If another craft has to be taken in tow, the tow line should be connected to a bridle attached to the 'U'bolts in the transom. Only use a speed appropriate to the conditions and the craft being towed.
Remove or secure any loose equipment in the towed craft before towing it.

3.5 Tandem boat control- An additional 'D'ring patch is fitted on top of the bow and 4(four) internal control line 'D'ring patches are fitted to the floor for this purpose. These can also be used in conjunction with the 'U'bolts in the transom.

3.6 Control lines - When the Rescue Craft is used for control line operation, use lines attached to the 'D' ring patches on both sides of the inflatable tube to manoeuvre and/or secure the Rescue Craft to convenient tie points on the bank/ shore.

3.7 Boarding from the water - The inflatable floor extends behind the transom either side of the motor and may be used to assist boarding. On board rescue personnel should assist less able casualties.

Warning: Ensure the motor is switched off before attempting to board the Rescue Craft in this way. Propellers can cause serious injury.

3.8 Lifelines are fitted for survivors to hold on to.

3.9 Hull drainage- A high volume drain sleeve and a drain port with removable plug are fitted in the transom for evacuation of water.

3.10 Manoeuvring without power- The craft can be manoeuvred in calm conditions by two persons using paddles. It can also be manoeuvred in shallow water by persons walking alongside holding the carrying handles.

3.11 Carrying handles - The Rescue Craft should only be carried by the moulded handles provided (2 each side + bow). Do not use the lifelines.

Caution: Do not drag the Rescue Craft, as this may puncture the fabric causing a loss of buoyancy.

Warning: The fitting of a motor of greater power than the maximum specified is not permitted. Modification to the Rescue Craft is not permitted without prior written approval from MFC International Ltd.

Any non-approved modification will invalidate the warranty and may result in personal injury or death.

Packing

1. After every use, especially on mudflats, the craft should be hosed down in its inflated state, to remove as much debris as possible.

2. Allow the craft to become as dry as possible before packing.

3. Lay the craft on a clean, debris free area.

4. Deflate the craft. This is achieved by depressing the central spindle in all the inflation and deflation valves, (push and turn to lock open).

5. Roll the craft from bow to stern to expel as much air as possible. Close inflate/deflate valves and replace dust caps.

Caution: To prevent possible damage, do not walk on the deflating Rescue craft to expel the air.

6. Un-roll the craft to its full length once again. Fold each side of the buoyancy tube towards the centre of the floor. Fold transom forward, flat onto floor. Check buoyancy tubes are tucked neatly under transom.

7. Fold floor and ends of buoyancy tube on top of transom and roll towards the bow, taking care to maintain the width of the roll.
8. Lay the valise on the ground as an ‘open box’ and place Rescue Craft into valise. Close valise and secure straps.
9. On return to base, flush the motor through with clean fresh water in accordance with motor manufacturer’s instructions.

Storage

1. On return to base the Rescue Craft should be unpacked, inflated and left to dry.

2. When it is completely dry it should be checked for wear or damage. If none is found it should be repacked in the valise.

3. If any damage is found it should be repaired immediately in accordance with the repair instructions.

4. Where possible the packed Rescue Craft should be stored on the floor or suitable shelving, ensuring no damage can be caused by its proximity to other items of equipment.

Maintenance & Test Procedures

1. **GENERAL**

It should be noted that, due to the type of fabrics used in its construction, when the Rescue Craft is wet, there may sometimes be visual evidence of miniscule white bubbles, which form a line of froth at the seams and joints of the unit. This is recognised within the industry as 'lateral leakage', and is simply air that is trapped in the layer of nylon between the rubber coatings, forcing its way to the nearest available edge of the fabric. This type of leakage will not affect the performance of any inflatable product over the course of an operational procedure, and can be safely ignored.
However, if there is evidence of large, transparent bubbles, this is clearly evidence of a leak that must be repaired at the earliest convenience.

The following is a recommended regime for maintenance & test.

2. **QUARTERLY**

2.1 Check control equipment as per relevant manual.

2.2 Inflate Rescue Craft to working pressure.

2.3 Check audible relief valve operation.

2.4 Whilst inflation system is charged, check connections and valves using brush and soapy water.

2.5 When relief valve has operated, and the unit is at working pressure; it can be left to stand for a length of time that would be comparable to an operational situation (e.g. 2 to 3 hours.)

2.6 After this time, the Rescue Craft should still be firm.

2.7 If it has become soft, the air-loss should be located by applying a soapy-water solution.

2.8 Any significant leaks (See 1 above) should be marked and repaired using the repair kit provided.

2.9 Maintain motor and fuel system in accordance with motor manufacturer's recommendations.

3. RECOMMENDATIONS.

Rescue Craft should undergo an annual test carried out by the manufacturer, or people certified by MFC International Ltd. If in doubt contact the service department.

Repairs

As a general rule, punctures and other damage will need to be assessed in two categories: a) that which is repairable at the base, or b) serious damage that will need to be repaired by MFC International Ltd.

a) Repairs that are manageable at the base workshops will be minor punctures to any area of the craft. These can normally be repaired by the application of a small repair patch.

b) Repairs that should be carried out by MFC will be the more serious kind, such as damaged valves, badly torn fabric (either on the sidewalls or the flat surfaces) and the replacement of damaged fittings.

If in doubt as to the extent of the damage and the level of repairs necessary, please contact :-

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