



**MFC**International

by RESPIREX

ENGINEERED INFLATABLE PRODUCT SOLUTIONS

# Air Force X1 Lifting Bags

Product **Manual**



Technical Data / Capacity Parts	3
Parts List	4
Materials List	5
Operational Instructions	6
Packing	9
Storage	9
Maintenance & Test Procedures	10

**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.

	Air Force X1 Bag
Product Code	LB0075
Diameter (cm)	Ø80
Inflated Height (cm)	60
Deflated Height (cm)	5
Lift at Max Pressure (t)	5.13
Max. Pressure (bar)	1
Air Requirements (ltr)	302
Packed Size (cm)	Ø80 x 20
Packed Weight (kg)	34

MATERIALS	
Working Surfaces	3 ply neoprene coated belting. 5mm normal thickness.
Inflation Port	Moulded neoprene Flange/Tube fitted with quick release safety lock coupling.
Side Wall	Heavy duty neoprene fabric (coated both sides)
Relief Valve	Pre set to 1 bar

MFC SERIES A-D DELIVERY HOSE
10mm I/D (16mm O/D), Reinforced PVC Hose. (Alt. Rubber covered hose can be supplied if specified).
Max Working Pressure: 16 Bar
Standard length: 5 metres
Standard issue as separate item with couplings each end.
Extension hose lengths can be supplied to customers requirements complete with couplings

## Parts List

Use 1 bar regulator if used with air cylinder.

A 1 bar controller will regulate pressure output and give independent control to each cushion.

The lever actuated control valves are three positional providing for inflation or deflation (example: see DK-E controller below). They are supplied with spring loaded “deadman” automatic return to off control. The Relief Valve is spring loaded with nitrile rubber seals, re-seating within -10% of pre-set pressure.



**CAUTION:** Take all the normal precautions against the danger of outbreak of fire, such as laying out a charged line of hose or foam branch as appropriate.

1. Make a careful assessment of the operational scenario to determine different hazards and risks and select the best position for inserting airlift cushions.
2. Unpack Airlift Cushion(s) from the valise and ensure the side walls are folded inwards in regular fashion and that the upper working surface is “square” with the lower working surface.

**CAUTIONS:**

- When placing airlift cushions in position, avoid contact with sharp or jagged surfaces, particularly on side walls as they may puncture the surface causing the cushion to fail.
- Hot exhausts should be covered with a folded fire and heat resistant blanket. Failure to do so may damage the surface of the cushion.

3. Position Airlift Cushions as far as possible under load.
4. Connect delivery hoses between the Airlift Cushions and controller. Ensure delivery hoses are well laid out and not ‘Kinked’, maintaining a clear line to respective Airlift Cushions.
5. Connect high-pressure hose from cylinder’s regulator to centre port on rear of controller.

**CAUTION:** Ensure controller levers are in ‘off’ position before opening air supply.

**WARNING:** Before inflations the Airlift Cushions, consider the effect of the lift stability. Remember a three point lift is the safest i.e. one side or end of a vehicle in contact with the ground and two Airlifts is the safest. MFC Acknowledge that almost every operational rescue/recovery will have a different scenario with differing risks and hazards.

6. When inflating two Airlift Cushions, commence inflation by operating both control levers. The operator should deliver the air flow to both cushions at approximately the same rate (adjust to suit), this will ensure a stable lift.
7. Pack and block the load as the lift proceeds, taking care to position blocks so that if necessary, they can support the load.
8. Web loops are provided to “hang” cushions between shuttering, collapsed trenches, vehicles or skips etc., which may be tight to walls.
9. Should a change of cylinder be required, close the cylinder valve. Disconnect by means of cylinder adaptor hand wheel and reconnect to charged cylinder (see regulator manual).
10. After use, deflate by selecting relevant position of control lever. Deflation is the reverse of the inflate procedure.

## 1. GENERAL

Air Force X1 bags are constructed to a standard which achieves a minimum burst pressure of three times working pressure.

It should be noted that, due to the type of fabrics used in its construction, when the Air Force X1 bags are wet, there may sometimes be visual evidence of minuscules white bubbles which form a line of froth at the seams of the units. 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 the 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.

## 2. LABEL

Each bag will have a label placed prominently on the cushion giving the following information:

1. Maximum working pressure
2. Serial number
3. Series Identification
4. Date of manufacture
5. MFC Logo

**The following Maintenance and Test Procedures should only be carried out by properly qualified personnel.**

## 3. AFTER OPERATIONAL USE:

- 3.1. Following operational use and drills, the Air Force X1 bags should be inflated to approximately 2 psi and thoroughly washed down with the warm soapy water and allowed to dry.
- 3.2. Check side walls thoroughly for evidence of scuffing by abrasion.
- 3.3. Wash down the valise, ensuring no grit or gravel adheres to inner surfaces.
- 3.4. Deflate the Air Force X1 bags and pack in a flat state with side walls folded in place and back into valise. Secure the closure points on valise.

#### **4. DELIVERY HOSES**

Periodically or after operational use, check for abrasion marks. Change hose to working pressure with hose disconnected from the bag, use soapy water to check air holding integrity or connections. Tighten loose fittings where necessary.

- 4.1. Visually inspect controller for damage.
- 4.2. Check mechanical operation of control levers.
- 4.3. Connect controller to regulator.
- 4.4. With control levers in the 'OFF' position, turn on air supply. Check integrity of inlet supply connections.

NOTE: Connect delivery hoses to controller **but not to the Air Force X1 bags**.

1. After every use, especially on mudflats, the bag should be hosed down in its inflated state, to remove as much debris as possible.
2. Allow the bag to become as dry as possible before packing.
3. Lay the bag on a clean, debris free area.
4. Deflate the bag.
5. Roll the bag to expel as much air as possible.

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

6. Lay the valise on the ground as an 'open box' and place the bag into the valise. Close valise and secure straps.



1. On return to base the bag should be unpacked and checked for wear or damage. If none is found it should be repacked in the valise.
2. If any damage is found, please contact MFC International in the UK on +44 (0)1443 433 075.
3. Where possible the packed bag should be stored on the floor or suitable shelving, ensuring no damage can be caused by it's proximity to other items of equipment.

## 1. **GENERAL**

It should be noted that, due to the type of fabrics used in its construction, when the bag is wet, there may sometimes be visual evidence of minuscule 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 - Using safety equipment e.g. glasses, ear plugs etc.**

- 2.1. Check control equipment as per relevant manual.
- 2.2. Inflate bag to working pressure.
- 2.3. Whilst inflation system is charged, check connections and valves using brush and soapy water.
- 2.4. 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.)
- 2.5. After this time, the bag should still be firm.
- 2.6. If the bag has become soft, the air-loss should be located by applying a soapy-water solution.
- 2.7. Any significant leaks (See 1 above) please contact MFC International in the UK on +44 (0)1443 433 075.

## 3. **RECOMMENDATIONS**

- 3.1. The bags should undergo an annual test carried out by the manufacturer, or people certified by MFC International. If in doubt contact the service department.





**MFC**International

*by RESPIREX*

ENGINEERED INFLATABLE PRODUCT SOLUTIONS

**MFC International**

Naval Yard

Tonypandy

Rhondda Cynon Taff

CF40 1JS

T. +44 (0) 1443 433 075

[sales@mfc-international.com](mailto:sales@mfc-international.com)

[www.mfc-international.com](http://www.mfc-international.com)

A Respirex International Limited Group Company

**SA-MA100-02**