



**mfcSurvival**

by RESPIREX

innovation in SAFETY + SURVIVAL

# Stak Jak

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.

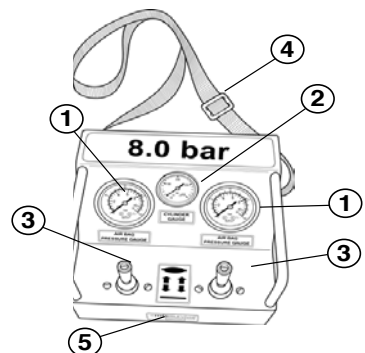
	KSM11	KSM15	KSM25	KSM40
Product Code	HB0031	HB0042	HB0048	HB0043
Length (cm)	52	62	84	92
Width (cm)	52	62	84	92
Inflated Height (cm)	17.5	17.5	17.5	18
Deflated Height (cm)	2.5	2.5	2.5	3
Max. Lift Capacity at Min. Lifting Height (tonne)	12.9	20.1	42.8	51.4
Max. Lift Capacity at Max. Lifting Height (tonne)	4.8	9.5	26.4	33.2
Max Flat Area (cm)	24x24	34x34	57x57	64x64
Air Requirements (ltr)	305	465	915	1074
Weight (kg)	8	10.5	14	23
Max. Pressure (bar)	8	8	8	8

## MFC COMBINED CONTROLLER/ REGULATOR TYPE 530/855

The Type 530/855 Combined Controller regulates pressure output and gives independent control to each cushion. The lever actuated control valves are three positional providing for inflation or deflation. They are supplied with spring loaded "dead man" automatic return to off control.

The Relief Valve is spring loaded with nitrile rubber seals, re-seating within -10% of pre-set pressure.

1	8.0 Bar Panel Mount Gauge. Lum. Ctd. Dial (Airbag pressure).
2	0-400 Bar Panel Mounted Gauge (Cylinder pressure).
3	Lever actuated spool valve.
4	Nylon web adjustable carrying/handling shoulder strap.
5	MFC Prod/Serial No. Label.
W 22.3 x D 20 x H 15.5 cmsW eight: 5.54kgs (12lbs).	



Note: all dimensions are accurate to  $\pm 3\%$  and all weights are accurate to  $\pm 5\%$

### SCOPE OF USE. Category D.

The Rescue Craft are 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.

- Ensure that this equipment is used only by trained personnel.
- Stak Jaks should only be inflated using MFC Survival control equipment.
- Never exceed the working pressure of 8 bar.
- Under no circumstances should the Stak Jak be inflated to working pressure whilst not under load.
- Ensure that Stak Jaks are protected from hot exhausts.
- Keep clear of loads which are unsupported by chocks during lift operations.
- Operator should be positioned away from the direction of anticipated thrust particularly when making space with partially-inserted Stak Jaks.
- Never work under a load without safety supports.
- Do not use delivery hose for retrieving or repositioning Stak Jak.
- Ensure all gauges are reading zero before disconnecting hose.

## Standard components

2 x Stak Jak (A).

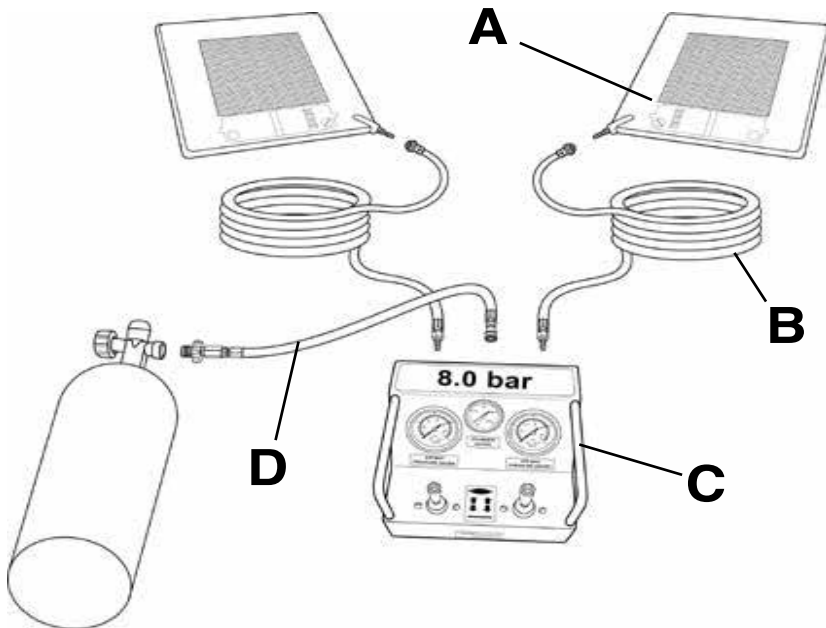
2 x 10m Delivery Hose c/w safety lock couplings (B). 1 x Dual Controller/ Regulator type 530/855 (C).

1 x High Pressure Connecting Hose c/w bleed valve (D). 2 x Stak Jak Restraining Straps (not shown).

## Optional accessories

Carrying Valise for 2 x Stak Jaks (not shown).

Carrying Valise for Delivery Hose (not shown).



MFC Survival acknowledge that almost every operational rescue/recovery will have a different scenario with differing risks and hazards. The selection and application of an air bag depends on various factors such as the lifting requirements, capacity, lift height and shape of objects. MFC Survival assumes no responsibility for personal injury or material damage arising from misuse of lifting air bags and their constituent parts.

- Assess the weight to be lifted and select the size and number of Stak Jaks to be used – Two Stak Jaks placed side by side double the lift potential. The Stak Jak System allows the user to safely stack up to 3 Stak Jaks to achieve greater lift height. Stability of the lifting operation should be monitored throughout.
- When stacking, both retaining straps must be connected from each Stak Jak to the next to ensure stability.
- Insert the Stak Jaks well under the load to achieve stability and maximum surface contact.

**CAUTION:**

- Avoid contact with sharp or jagged surfaces as they may puncture the surface causing the Stak Jak to fail.
- Hot exhausts should be covered with a folded fire and heat resistant blanket. When the surface temperature of the object to be lifted exceeds 55°C, the part of the air bag in contact with the object is to be protected from the heat. Failure to do so may damage the surface of the Stak Jak.
- Take all the normal precautions against the danger of outbreak of fire, such as laying out charged line of hose or foam branch as appropriate.

**WARNING:** With any lifting operation, safety support structures are essential. Carrying out work under a load supported only by an inflated air bag is extremely dangerous and is contrary to all safety guidelines and instructions.

**Lifting Using a single air bag**

- Connect the delivery hose between the Stak Jak and controller. Ensure delivery hose is well laid out and not 'kinked', maintaining a clear line to the Stak Jak.
- Connect high-pressure hose from cylinder to centre port on rear of controller (Max. controller inlet pressure is 300 bar).

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

- Commence inflation by moving control levers to inflate position. When the required height or maximum operating pressure of 8 bar is reached, release the inflation lever.

**WARNING:** Under no circumstances should the Stak Jak be inflated to working pressure whilst not under load.

- Pack and block as lift progresses, taking care to see blocks are placed so that they can support the load.
- Once inflated, do not attempt to disconnect the hose couplings from the Stak Jak. Doing this will cause the Stak Jaks to deflate uncontrollably.
- Should a change of cylinder be required, close the cylinder valve. Disconnect by means of cylinder adaptor hand wheel and reconnect to charged cylinder.
- After use, deflate by moving the control lever to the down position. Deflation is the reverse of the inflate procedure.

### Lifting using two or three Stak Jaks

If lifting with two or three air bags to achieve a higher lift, always use bags of the same dimensions.

It is wrong to believe that lifting capacity can be increased by stacking air bags one upon another. With a stack of two air bags, there will only be an increase in lift height. Lifting capacity can only be increased by placing air bags side by side, provided that the bags are being inflated simultaneously.

- Up to three Stak Jaks can be stacked in order to increase lifting height. Attach the Restraining Straps to link the air bags together.

**WARNING: Never stack more than three bags one upon another.**

- When lifting a load with two air bags placed one upon another, first inflate the lower bag until the upper bag touches the object. Then fully inflate the upper bag and if required, the lower bag until the required height is reached.
- When lifting a load with three bags placed one upon another, first inflate the middle bag until the upper bag touches the object. Then fully inflate the upper bag. When the upper bag is fully inflated, inflate the middle bag and if required, the lower bag until the required object height is reached.
- Safety supports are to be added under the load as the lift progresses to prevent falling if there is a bag failure.
- Do not inflate Stak Jaks above 4 bar (58 psi) without a load.
- When using Stak Jaks, balance air input by attention to controller gauges. Never allow more than 3 bar difference between stacked bags.
- Never inflate Stak Jaks above 8 bar.

Each Stak Jak carries the following information:

- Maximum Working Pressure
- Date of Manufacture
- Serial Number
- MFC Logo
- Series Identification
- Volume
- Lifting Capacity

The following Maintenance and Test Procedures should be observed, and carried out by properly qualified personnel.

### After Operational Use

1. Wash down Stak Jaks surface thoroughly with warm soapy water.
2. Examine surface area thoroughly before Initially inflating the Stak Jak to 0.5 bar. Carry out a further thorough examination and mark off any cuts or abrasions with chalk. Increase the pressure to 2.4 bar (35 psi) and repeat the visual check. Allow to stand for 3 minutes.
3. Examine marked areas and look for any further cuts and abrasions. Pay particular attention for evidence of damage to the inner Polyaramid core. The strength of the Stak Jak is essentially the Polyaramid core and if this is found to be damaged, the Stak Jak should be withdrawn from service.
4. Shallow surface cuts or abrasions will not affect the efficiency of the Stak Jak. In case of holes or cuts, through which the armature is visible, the air bags should be withdrawn from operation. If a Stak Jak leaks, it is NOT repairable. If the user is uncertain about the condition of a damaged Stak Jak, it should be returned to the supplier for expert examination
5. Inflate the Stak Jak to 4 bar (58 psi) maximum and check the inlet spigot with soapy water. Thoroughly wipe dry before returning to storage.

**WARNING:** Under no circumstances should the Stak Jak be inflated to working pressure whilst not under load.



### Delivery Hoses

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

### Annually

Annual test to be carried out by the manufacturer.

Stak Jaks should be hydraulically tested to 12 bar (174 psi) whilst restrained in a jig for 3 minutes, in addition to the described operational procedure. Pressurising should be carried out at a steady and constant rate. The Stak Jak will be certified with date of test and signed.

UK: MFC Survival Ltd has a facility for testing, which customers and brigade personnel may observe. Also available is an on-site service vehicle, please contact our servicing division (Primeserve) for further information (See below).

Overseas: Contact agent for advice of facilities available.

Dual Controller Type 530/855 - Quarterly and after Operational Use

1. Visually inspect controller for signs of damage.
2. Check mechanical operation of flow control levers.
3. Connect control unit to air source by means of reduced-pressure hose from cylinder or directly from compressor (maximum inlet pressure 300 bar).
4. With control levers in the "OFF" position turn on air supply. Check integrity of inlet supply connections.  
Connect delivery hoses to controller but not to Stak Jaks. Move control levers to inflate position. Check functioning of relief valves by reference to discharge pressure line on face of gauge. The relief valves should vent at 8.0 bar +/-10%.
5. With controller pressurised check for leaks. A leak is indicated by a pressure decrease on the Airbag Pressure Gauge (NOTE: allow the pressure relief valves to re-seat before checking for leaks). If a leak is detected, please contact Servicetech immediately.
6. Thoroughly wipe down and dry controller before storing.

### Storage

Stak Jaks should be stored in a clean, dust free environment and in accordance with BS 3574 which states:

- Storage Temperature between 10° C and 25° C. Humidity below 75%
- Protection against light, particularly direct sunlight or intense artificial light with high ultra violet content.
- Avoid equipment capable of generating ozone e.g. high voltage electrical equipment.



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 Survival Ltd.

a) Repairs that are manageable at the base workshops will be minor punctures to any area of the Stak Jak. 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 side-walls 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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