

Crewsaver®

SERVICE MANUAL

275N SEACREWSADER 2010 LIFEJACKET

275N CREWFIT TWIN 2010 LIFEJACKET



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Service Bulletin and Amendments Register

No.	Description	Date
Issue 2	Repacking drawings of Seacrewsader amended to show CO_2 cylinder above the light retainer.	February 2011
Issue 3	Repacking drawings of Seacrewsader amended to show CO ₂ cylinder UNDER the light retainer (original position). Changes to the packing instructions for both the Seacrewsader and Crewfit Twin. Details of Crewsaver CSL water activated light added. Section outlining the scope of the Manual added on Index page. References to MIRG Seacrewsader added. References to the Seismic Seacrewsader added.	September 2011
Issue 4	Jackets now fitted with 3.5 psi Relief Valves. Jackets now fitted with L6 lights in place of CSL (Except Seismic which still have CSL). Packing Drawings amended. New tools added to Servicing Tool Kit (Section 2.6).	March 2012
Issue 5	Crewfit 2010 repacking drawings 6 & 7 - position of Hammar head altered.	July 2012
Issue 6	References to Seismic Seacrewsader removed (Now in separate Manual). Details of Rope Access, Windfarm and Working Lifejackets	June 2014
	added. Page 4 - change in procedure for accessing manuals on the website. Section 5.4 and Section 6.4 - Expired L6 Lights to be replaced by CSL Lights. CSL Light added to Parts List	
lssue 7	Reference to Venturi Vacuum System added (sections 6.1.3, 8.1.2 and Parts List) Rope Access jackets now have Cylinderlocs and mesh sleeves on cylinders. See Section 8.11 Update to CSL Light	
	Back pressure testing of the operating head added	November 2016

Scope

This manual primarily covers the servicing of the 275N Seacrewsader 2010 and 275N Crewfit Twin 2010 lifejackets. The elements contained within the manual also cover other types of lifejacket as listed below. Training will have been given in these lifejackets and if any aspect is critical to its operation this will be shown in this manual.

- 1. MIRG Seacrewsader 2010 Lifejacket. Note:- Additional accessories for this lifejacket are shown in the Elite Lifejacket manual.
- 2. Seacrewsader 2010 Rope Access Lifejacket.
- 3. Seacrewsader 2010 Windfarm Lifejacket.
- 4. Seacrewsader 2010 Working Lifejacket.

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1.1 Introduction

- 1.1.1. This Service Manual will be published on the Crewsaver website (www.crewsaver.com). Click on PARTNER AREA/LOGIN at the top of the screen. Personnel who have been trained in the servicing procedures for this lifejacket will be issued with a Username and Password to enable them to access the download section. Each manual carries an Issue Number and records of issue are logged by Crewsaver to ensure that the service network maintains correct and up to date servicing information. Emails will be sent regarding any new Issues. Periodically service bulletins may be issued which will be published on the Crewsaver website(www.crewsaver.com). Emails will also be sent. It is the service station's responsibility to regularly check the website for any new bulletins and to ensure inclusion within the servicing manual. The service bulletin register at the front of the Manual should be completed.
- 1.1.2. The information referenced in each section, follows a standard servicing procedure by which the inspection should take place.
- 1.1.3. This servicing manual details information to enable regular maintenance and servicing of the lifejacket to help prolong the life of the product and ensure it functions correctly.
- 1.1.4. The manual should be used as a reference document following training in servicing procedures instructed by Crewsaver approved personnel. The manual also details the equipment and parts needed for correct maintenance to be performed.
- 1.1.5. Servicing must be carried out annually by a Service Station authorised by the manufacturer.
- 1.1.6. The Seacrewsader 2010 is available in Hermetically sealed bags, extending the service life to 5 years.
- 1.1.7. Regular servicing is to be carried out by qualified personnel trained by Crewsaver and holding a valid servicing certificate. Certificates are valid for a period of 3 years.

1.2 Product Description

- 1.2.1. The 275N Seacrewsader 2010 and the 275N Crewfit Twin 2010 are twin chamber 275N inflatable lifejackets. They are identical in design and construction. The only difference is that the Seacrewsader 2010 is fitted with standard United Moulders Mk5i Automatic heads whilst the Crewfit Twin 2010 is fitted with Hammar hydrostatic heads.
- 1.2.2. The lifejacket is approved to both SOLAS/MED (6) and CE approved to BS EN ISO 12402-2.
- 1.2.3. The lifejacket is easy to don and work in whilst still retaining high in-water performance.
- 1.2.4. The buoyancy of the jacket is provided by two chambers with a 3.5 psi relief valve oral tube on each chamber to ensure the full buoyancy is achieved whether on single or double chamber inflation. This feature enables the jacket to continue to operate providing full buoyancy even in the eventuality that one of the firing heads fails.
- 1.2.5. The high buoyancy of this lifejacket allows it to be suitable when the user is wearing heavy clothing and immersion suit or carrying tools.
- 1.2.6. This lifejacket can be inflated manually, as well as automatically when entering the water. This lifejacket has a permanent crutch strap and is fitted with a light that is operated when the lifejacket inflates. The lifejacket can also be supplied with a factory fitted spray hood that conforms to BS EN ISO 12402-8.
- 1.2.7. This lifejacket comes in two different versions, the waist belt version and integral deck safety harness version which both have zip and velcro cover closure. The jacket can also be supplied with a fitted Fall Arrest Harness.
- 1.2.8. The standard outer cover is made from a hard wearing material. The Crewfit Twin 2010 is also available with a Heavy Duty cover. The Seacrewsader is also available with either a Heavy Duty cover or a Fire Resistant cover.

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1.2 Product Description (Cont.)

- 1.2.9 The MIRG version is inflated by UM Mk6 green automatic heads fitted with an extra length lanyard. A manual override system is provided consisting of manual capsules with lanyards and tabs marked L and R for use when the jacket is worn in an aircraft or helicopter. The standard outer cover on the MIRG version is a fireproof aluminised material. The Training version has a heavy duty red Cordura cover. A factory fitted spray hood comes as standard.
- 1.2.10 The Seacrewsader 2010 Rope Access Lifejacket is available in non-harness version only. It can be fitted with an optional factory fitted spray hood.
- 1.2.11 The Seacrewsader 2010 Windfarm Lifejacket is available in a harness version only. It can be fitted with an optional factory fitted spray hood and a PLB pocket.
- 1.2.12 The Seacrewsader 2010 Working Lifejacket is available in a non-harness version only.

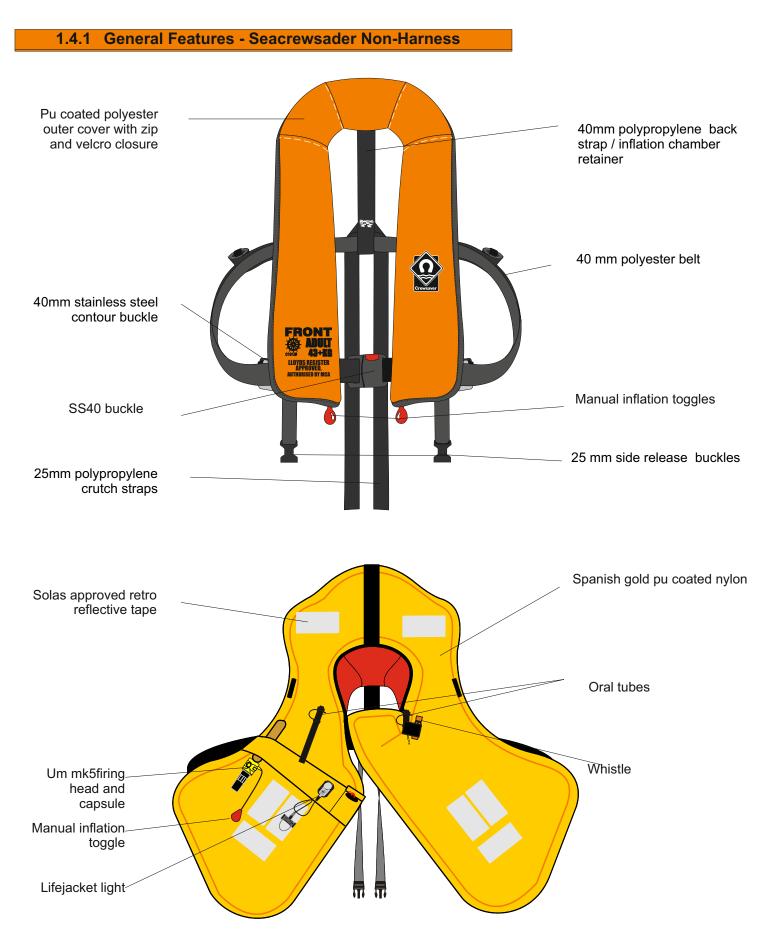
1.3 Data Sheet

Features:	Seacrewsader & Crewfit Twin 2010
Front Chamber Buoyancy:	290N
Rear Chamber Buoyancy:	290N
Total Chamber Buoyancy:	305N
Buoyancy category:	275N
Cover Colour	Orange
MCA (UK) Approved	X
SOLAS Approved	X
CE Approved	Х
Cylinder size	60g
Standard Automatic	Seacrewsader 2010 only
Hammar Automatic	Crewfit Twin 2010 only
Manual Firing head	N/A
Manual Override	Х
Oral inflation tubes	Х
Pressure relief valves	3.5 psi oral tube relief valves
Hard wearing cover	X
Whistle - fitted	X
Retro-reflective tape	X
Lifting Becket - fitted	X
Light - fitted	Permanently fitted
Factory fitted Spray Hood	Optional
Thigh straps	
Fall Arrest Harness	Optional
Closure method	Zip and Velcro
Alternative covers	Heavy Duty - both lifejackets
	Fire Proof - Seacrewsader only

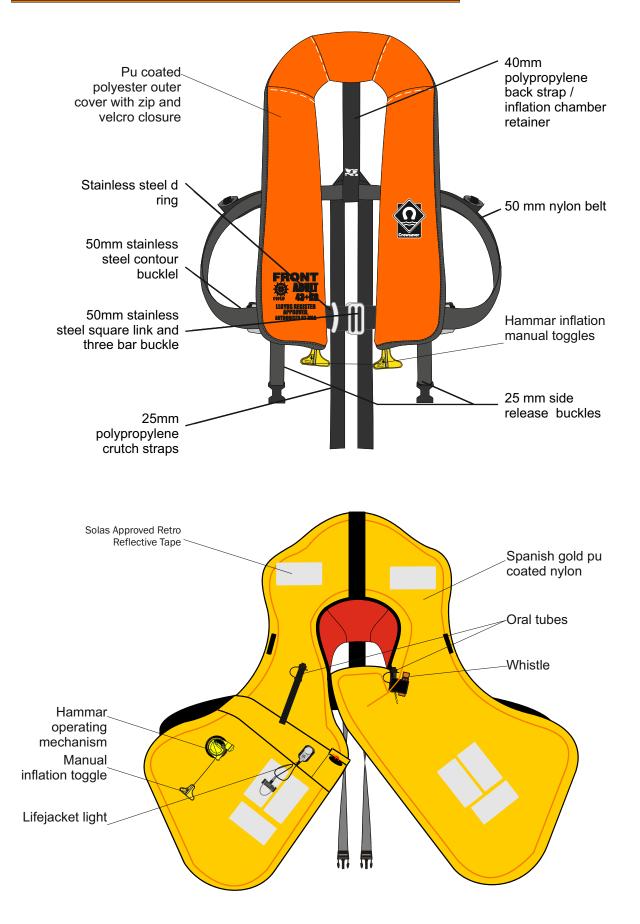
1.3 Data Sheet

Features:	Seacrewsader 2010 variations
Front Chamber Buoyancy:	290N
Rear Chamber Buoyancy:	290N
Total Chamber Buoyancy:	305N
Buoyancy category:	275N
Cover Colour	Orange/Red
MCA (UK) Approved	X
SOLAS Approved	X
CE Approved	X
Cylinder size	60g
Standard Automatic	Rope Access and Working jackets
Hammar Automatic	Windfarm jacket
Manual Firing head	N/A
Manual Override	X
Oral inflation tubes	X
Pressure relief valves	3.5 psi oral tube relief valves
Hard wearing cover	X
Whistle - fitted	X
Retro-reflective tape	Х
Lifting Becket - fitted	X
Light - fitted	Permanently fitted
Factory fitted Spray Hood	Optional
Thigh straps	Permanently fitted
Fall Arrest Harness	N/A
Closure method	Zip and Velcro
Alternative covers	N/A

Section 1

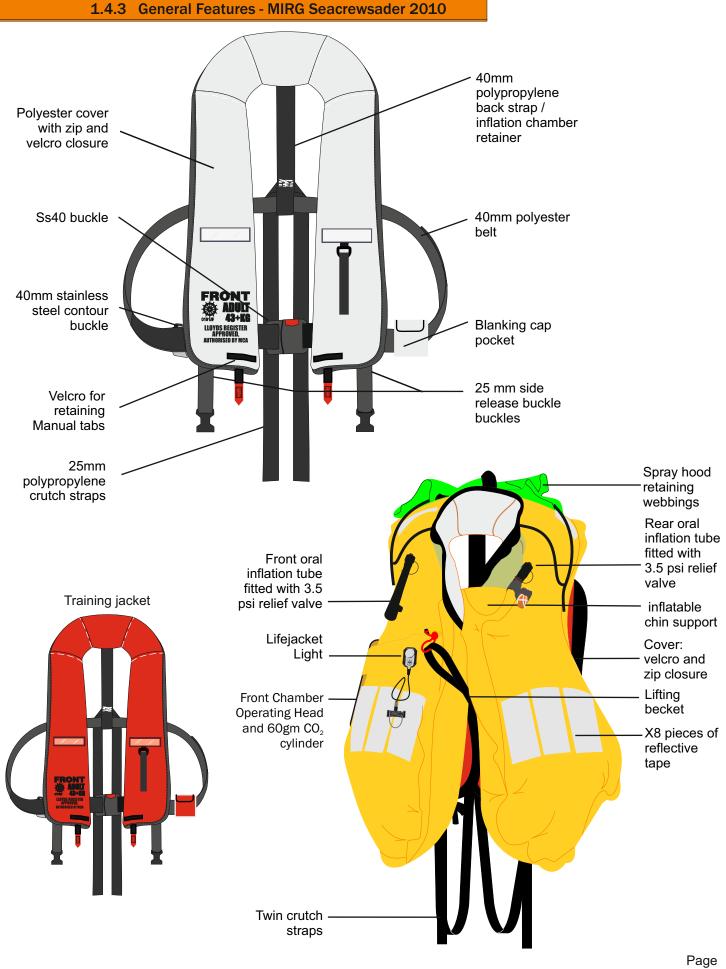


1.4.2 General Features - Crewfit Twin with Harness

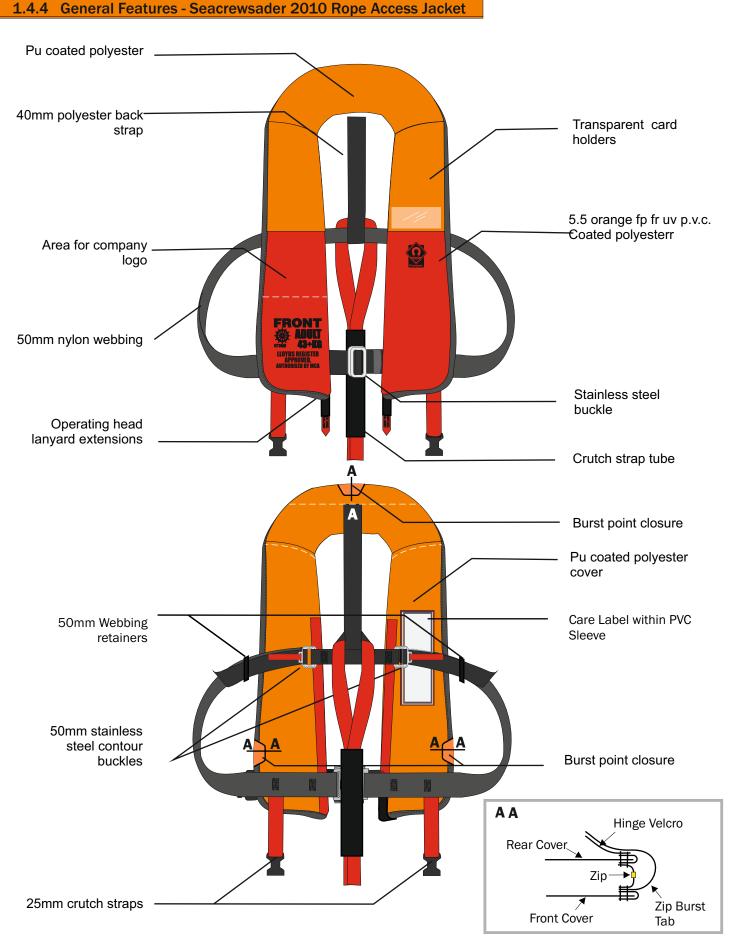


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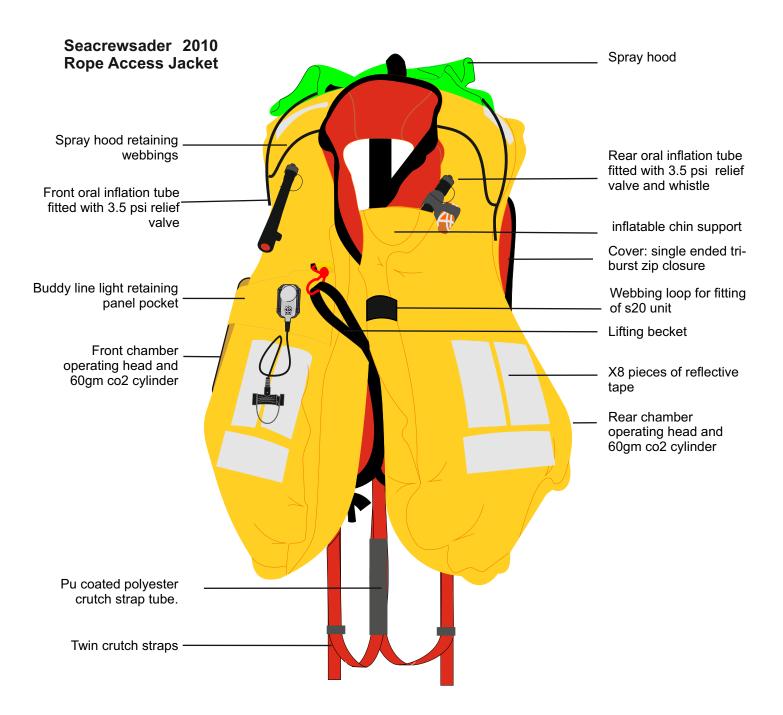
Section 1



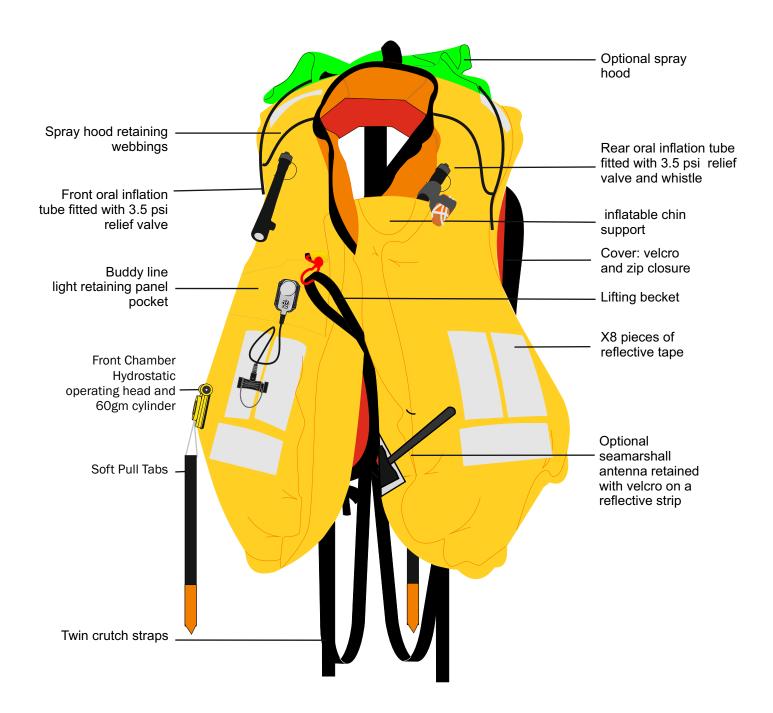
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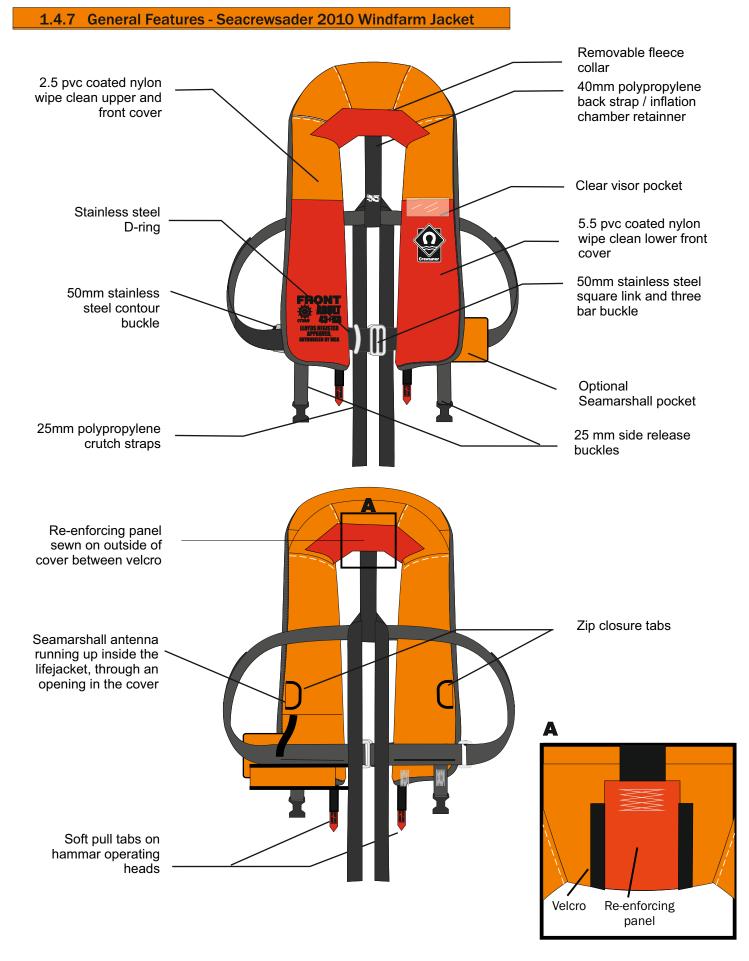


1.4.5 General Features - Seacrewsader 2010 Rope Access Jacket

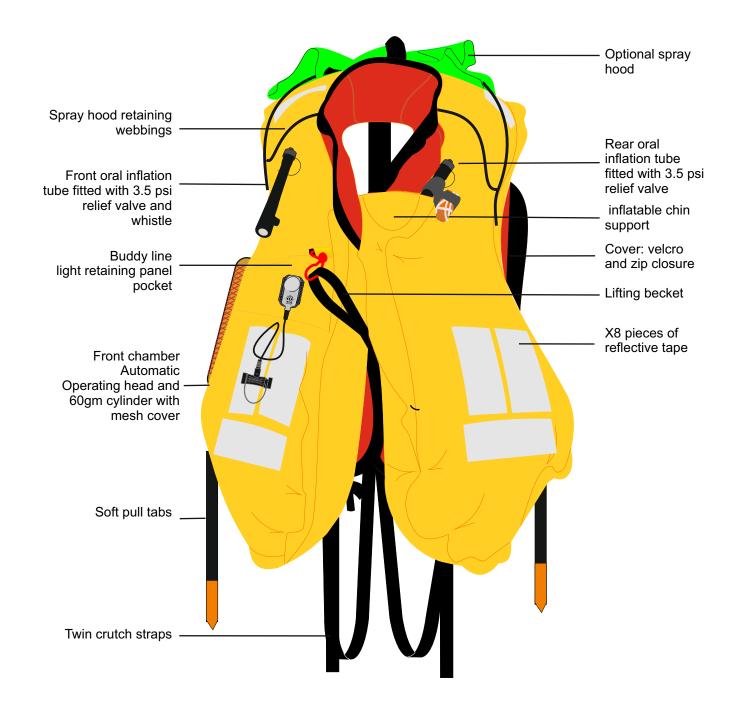


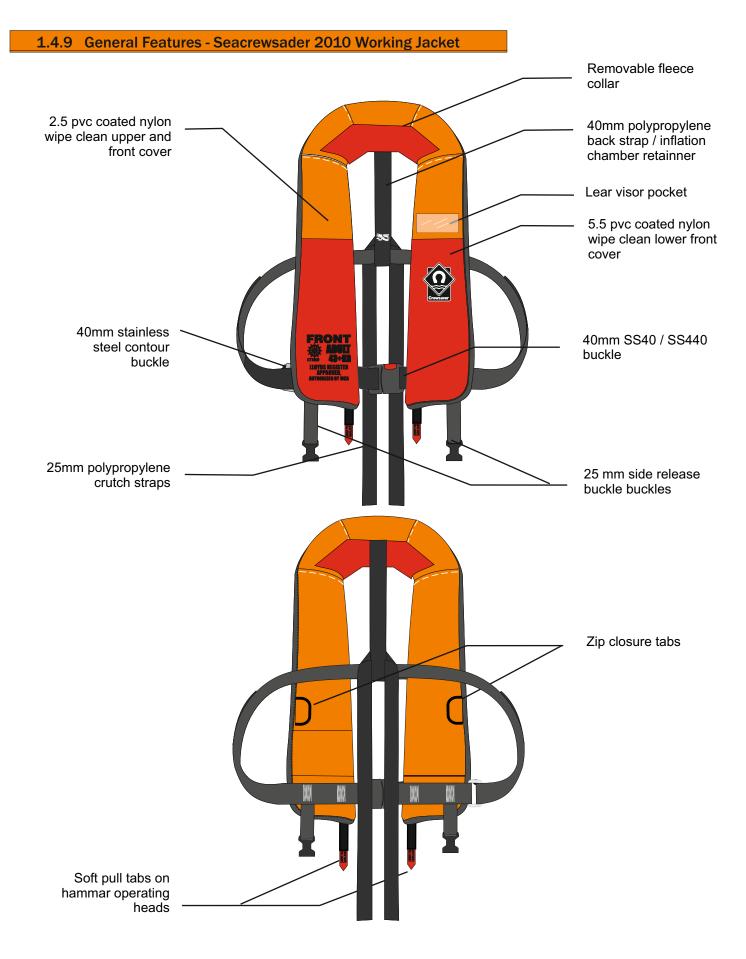
1.4.6 General Features - Seacrewsader 2010 Windfarm Jacket



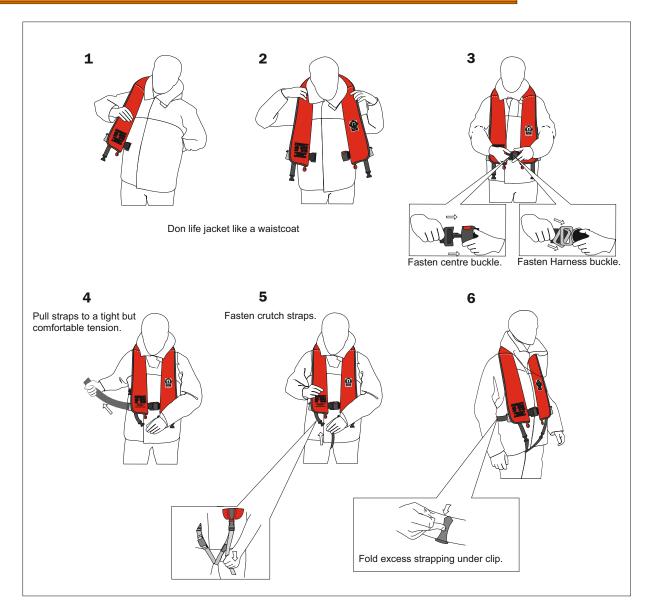


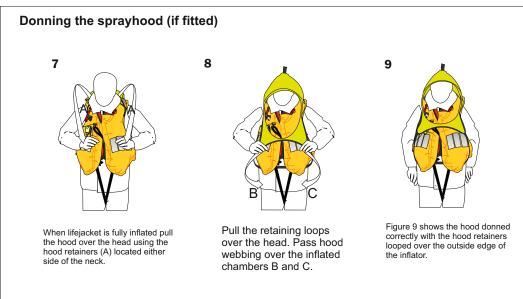
1.4.8 General Features - Seacrewsader 2010 Working Jacket





1.5.1 Donning Instructions





2.1 Service Stations

- 2.1.1 Service stations shall comply with the following as a minimum;
- 2.1.2 Servicing of Inflatable Lifejackets shall be carried out in a fully enclosed area only.
- 2.1.3 The area shall be well lit and protected from direct sunlight
- 2.1.4 The temperature and humidity shall be sufficiently controlled to ensure that the servicing of inflatable Lifejackets may be carried out successfully.
- 2.1.5 The area shall be efficiently ventilated but free from draught
- 2.1.6 Sufficient Tools (including specialist tools) shall be available to ensure Lifejackets may be disassembled, tested and reassembled in accordance with this Manual. These shall include but not be limited to:
 - 2.1.6.1 Manometers and pressure gauges
 - 2.1.6.2 Oil free and dry air supply
 - 2.1.6.3 Scales for weighing Gas Cylinders
 - 2.1.6.4 Crewsaver Service tool kit (See 2.6). This is recommended but similar calibrated devices may also be used.
- 2.1.7 Stock of materials and components shall be held to allow efficient servicing with readily available replacement parts to ensure a prompt service for the customer.
- 2.1.8 Only personnel trained and certified in accordance with Crewsaver requirements are approved to carry out Servicing and Maintenance. They must be holders of a valid Certificate issued by Crewsaver.
- 2.1.9 The service station shall be of an approved standard.
- 2.1.10 Procedures shall be introduced to ensure that service bulletins, Manuals and replacement parts are obtained from Crewsaver.
- 2.1.11 Subsequent to initial approval and thereafter the service station shall be subject to regular surveillance by Crewsaver.
- 2.1.12 The service station must comply with and have met all QA criteria in the Crewsaver servicing protocol file.

2.2 On Receipt Inspection

- 2.2.1 On receipt of the Lifejacket(s), check the state of the packaging before opening and notify the owner and the company delivering the package of any defects or damage.
- 2.2.2 On opening the package, check the contents for their general condition and quantity
- 2.2.3 Prepare Servicing Record Sheet
- 2.2.4 Visually inspect the Lifejacket cover and the inflatable chamber for damage, abrasion, contamination etc. in accordance with this manual
- 2.2.5 Note repairs or replacements required on the record sheet
- 2.2.6 Unless obvious damage is evident test the Lifejacket in accordance with Section 6. If it is considered that the damage found would cause the Lifejacket to fail the tests then corrective action shall be carried out prior to testing.
- 2.2.7 Damaged areas shall only be marked using wax based crayon. Marks shall be with a small circle or cross. Ballpoint, rollerball or other forms of ink shall not be used. If in doubt refer to Crewsaver for guidance.
- 2.2.8 Repairs to the Lifejacket cover are limited to those detailed in Section 7.1.
- 2.2.9 Repairs to welded components including the inflatable chambers are expressly forbidden.

2.3 General Care

- $2.3.1 \quad \text{This automatic jacket should be stowed in accordance with the manufacturer's instructions}$
 - 2.3.1.1 Lifejackets should be stowed in a dry compartment. Avoid high humidity, such as a car boot.2.3.1.2 Automatic Lifejackets should have stowage facilities which are provided with a method to encourage moisture removal.
 - 2.3.1.3 Lifejackets should be stowed vertically, for example hung on hooks, in order that any trapped water or condensation can drain away naturally.
 - 2.3.1.4 Lifejackets should be rinsed in fresh water and dried thoroughly after use.

WARNING

Prior to sponging or washing remove automatic capsules from the firing mechanism. Allow to dry thoroughly afterwards.

- 2.3.2 Contaminants such as oil or diesel fuel may be sponged off immediately with clean water and allow to dry naturally.
- 2.3.3 Mud can be removed with a stiff (not wire) brush when dry.
- 2.3.4 The Lifejacket cover may be hand washed in good quality mild detergent in cool water (40°C) rinse well, drip dry naturally in air.
- 2.3.5 Sponge the inflatable chamber with pure soap solution only. Rinse in clean water immediately, inflate and allow to dry naturally in air.

WARNING

Do not use proprietary cleaning fluids, thinners, spirits or similar substances.

- 2.3.6 In cases of severe contamination the unit shall be deemed beyond economic repair and the customer advised to purchase a replacement lifejacket
- 2.3.7 It is advised that personnel are familiarised with the operation of all lifejackets and lifesaving appliances.

2.4 Lifejacket Servicing Tools

Description	Туре
Crewsaver Servicing Tool Kit A fine screw driver or tool suitable for removing gaskets Scissors or good quality trimming shears "Chinagraph" pencil Fine point indelible pen 1 off metal calibrated metre stick Scales to weigh gas cylinders Adaptor/tee piece for the testing of inflation chambers. Manometer Timing Device Thermometer Clean and dry air supply 450mm wide bag sealer (3mm element) Back pressure test unit Crewsaver Venturi vacuum system	0-1000gram (+1/-1 grams 0-500Mbar 0-40°C
Suitable large area for the work to be carried out	

2.5 Lifejacket Service Record Sheet

- 2.5.1. An electronic copy of the sheet is available to aid reproduction (or copy next page).
- 2.5.2. Each lifejacket serviced should be recorded either individually or as a batch, showing the serial numbers and the work performed during the service.
- 2.5.3. The service record sheet should be signed and a copy given to the owner certifying that the lifejacket has been serviced.
- 2.5.4. All replacement parts should be noted recording either the serial numbers of the component or the expiry date.
- 2.5.5 The record sheet shown on the next page is a recommended version. Similar record sheets, including the same information, may also be used.

Crewsaver [®]	CERTIFICATE NUMBER:
IFEJACKET SERVICING SCHEDULE	W/O Number:
TYPE	
CUSTOMER	
VESSEL	
LAST SERVICED BY DAT	E OF LAST SERVICE

SERIAL NUMBER/S:

CHAMBER INSPECTION	COMMENTS	INFLATION MECHANISM	VX	COMMENTS
GENERAL CONDITION0		OPERATING		
WELDS		MECHANISM		
WEBBINGS		CORD		
RETRO TAPE		AUTOMATIC CAPSULE		
WHISTLE		WASHERS		
ORAL TUBES		RETAINING NUT		
RELIEF VALVES		RETAINING CLIP		
MANIFOLDS		TOGGLE		
Schrader VALVES		SPRAY HOOD	VX	COMMENTS
CYLINDERS		FABRIC		
LIGHT		ATTACHMENT		
CYALUME POCKET		VELCRO		
BUDDY LINE		<u> </u>	1	

COVER	V X	COMMENTS
MATERIAL		
VELCRO		
ZIP		
PLB POCKETS		

WEBBINGS	X	COMMENTS
WAIST BELT / HARNESS		
BACK STRAP		
LIFTING BECKET		
CROTCH STRAP		
BUCKLES		
STITCHING		

PRESSURE TEST RESULTS

TIME	FRONT CHAMBER	REAR CHAMBER			
ON			RELIEF VALVE TEST RESULTS	FRONT CHAMBER	REAR CHAMBER
OFF			OPEN		
TEMP.	ON	OFF	CLOSE		

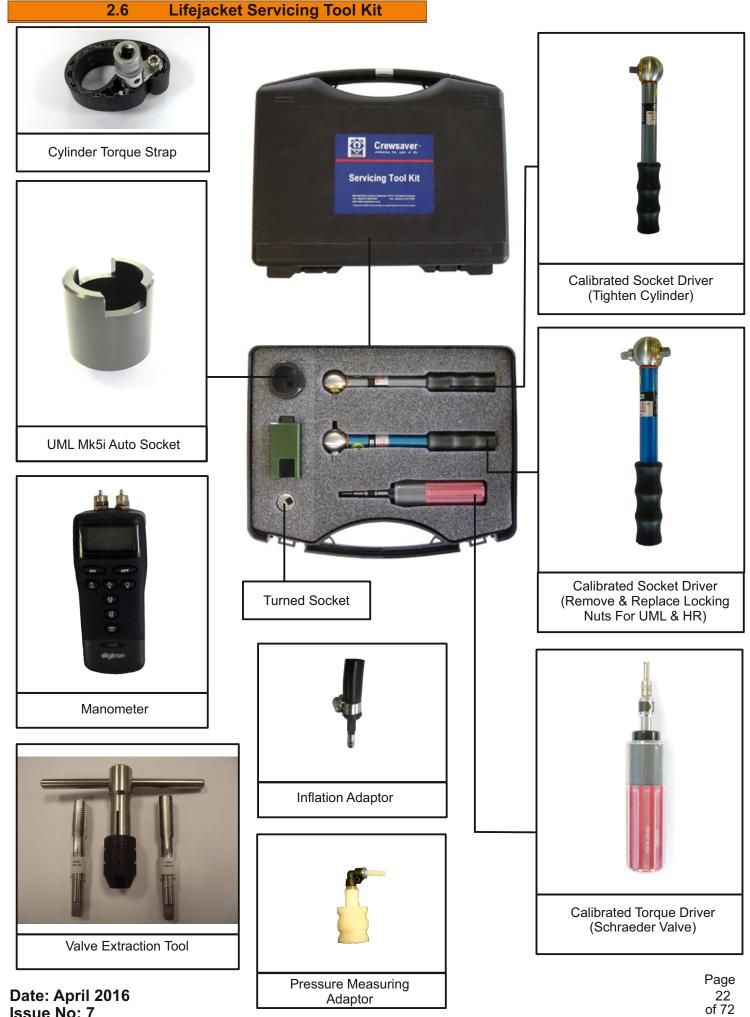
REPAIRED ITEMS (COMMENTS)

SERVICED BY:

DATE:

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Section 2



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3.1 Unpacking

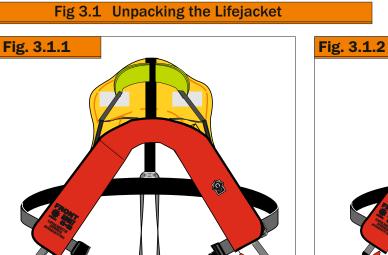
3.1.1. Starting at the operating mechanism side of the cover, unpeel the velcro and pull the zips apart, exposing the operating Mechanism and cylinder. See Fig 3.1

WARNING: Care should be taken not to snag the operating mechanism pull cord

3.1.2. Open the rest of the velcro and zip around the outside of the cover by peeling the fabric apart. Care should be taken not to snag the operating mechanism pull cords.

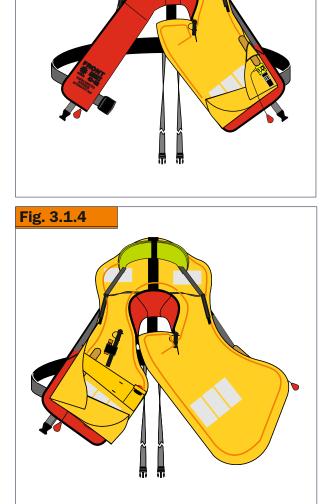
WARNING: All defects should be noted onto the service record sheet.

- 3.1.3. Remove the operating mechanisms. This must be followed in the order outlined below.
 - 3.1.3.1 For lifejackets fitted with United Moulders mechanisms refer to Fig 3.2 Automatic Operation 3.1.3.1.1 Unscrew the Automatic capsule from the operating head. Place to one side for
 - testing and reassembly later. See section 6.
 - 3.1.3.1.2 Carefully remove the CO_2 cylinder by unscrewing it from the operating Mechanism. Retain for further inspection. Refer to Section 5.
 - 3.1.3.1.3 Remove operation mechanisms by unscrewing the retaining nuts. Retain for re-assembly.
 - 3.1.3.2 If a Hammar operating mechanisms are fitted, remove using the special Hammar operating head "Service Key" See Fig 3.3. Place to one side for further inspection. Refer to Section 5.
- 3.1.4. Remove light and battery if required. Place to one side for further inspection. Refer to section 5
- 3.1.5. For Cleaning. Refer to Section 4.
- 3.1.6. Carry out visual inspection. Refer to section 5.



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Fig. 3.1.3



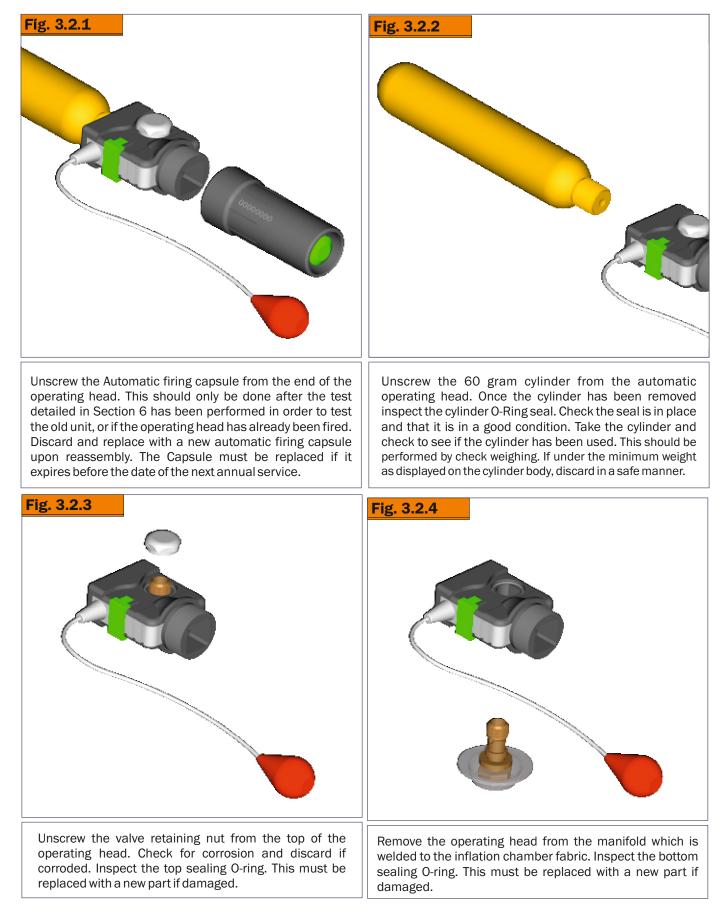
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Fig. 3.1.6



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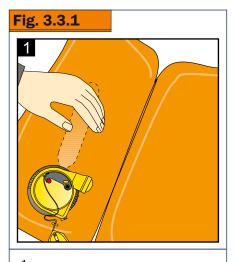
Fig 3.2 United Moulders Operating Head



Please note: The operating head may not match the images above but the processes are always the same.



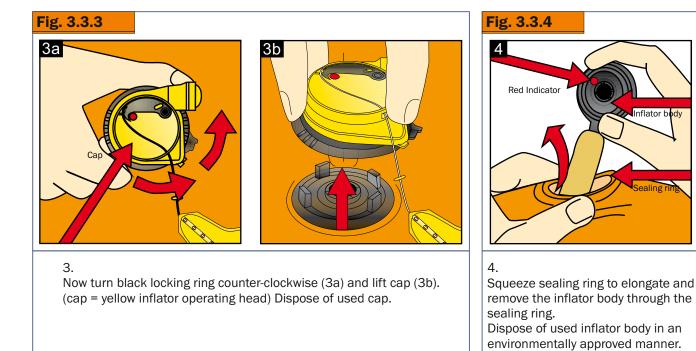
Fig 3.3 Hammar Operating Head



1. Place the lifejacket on a smooth, flat surface and wipe off any water. Hold the gas cylinder through the fabric, using one hand. Fig. 3.3.2



Insert metal key as shown in 2a and turn the key counter-clockwise (2b) between black locking ring and labelled yellow cap. The black locking ring will now turn counter-clockwise.



4.1 Cleaning Lifejackets

- 4.1.1 The standard cover of the Seacrewsader 2010 and the Crewfit Twin 2010 is made from a Polyester fabric that can be cleaned with care. The Crewfit Twin 2010 also comes with a Heavy Duty cover. The Seacrewsader 2010 also comes with a Fire Resistant cover or a Heavy Duty cover. The MIRG Seacrewsader has a silver, aluminised cover (Training version red Cordura).
 4.1.2 For all types of cover, mud can be removed with clean water and the zip can be cleaned with a stiff (not wire) brush when dry.
 4.1.2.1 Contaminants such as oil or diesel fuel may be sponged off immediately with clean water, allow to dry naturally.
 4.1.2.2 Covers may be hand washed in good quality mild detergent in cool water (40°C) rinse well, air drip dry.
 - 4.1.3 Sponge the inflatable chamber with PURE SOAP SOLUTION ONLY. Rinse in clean water immediately, inflate and air dry.

WARNING: Do not use proprietary cleaning fluids, thinners, spirits or similar substances.

5.1 Cover Inspection

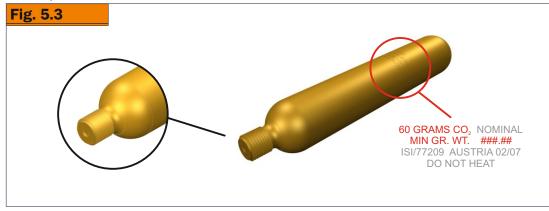
- 5.1.1 Visually inspect the cover material for wear, abrasion, pulled threads, contamination, cuts and holes. On the MIRG version inspect the PVC windows, D-Ring and velcro patches. Check the presence of the manual inflation caps and buddy line in the pouch attached to the waistbelt.
- 5.1.2 If necessary the cover may be washed. Refer to Section 4.
- 5.1.3 Effect repairs if necessary and re-inspect for quality of repaired cover.
- 5.1.4 Carefully examine the zips and the slider for wear, broken teeth or slider and worn or fraying tape.
- 5.1.5 If it is considered that the cover is beyond economic repair the customer shall be advised and offered a replacement lifejacket.
- NOTE: Due to the construction of this lifejacket no individual cover is available for replacement, therefore the lifejacket as a whole must be replaced.

5.2 Inflatable Chamber Inspection

- 5.2.1 Visually inspect the chamber material for wear, pulled threads, contamination or signs of mistreatment .
- 5.2.2 Visually inspect all welds.
- 5.2.3 Visually inspect all webbings in accordance with Section 5.7
- 5.2.4 Visually inspect the whistle and its attachment to the lifejacket for mistreatment, defects, and fraying of the cord and its attachment.
- 5.2.5 Test Lifejacket in accordance with Section 6.

5.3 Disposable Cylinders

- 5.3.1 Visually examine:
 - 5.3.1.1. For Corrosion (All cylinders corroded with red rust or with visible pitting must be replaced).
 - 5.3.1.2. Pierced or damaged piercing disc. (Seacrewsader 2010 only).
 - 5.3.1.3. That the two cylinders have the correct gas charge 60 grams CO₂.
 - 5.3.1.4. ROPE ACCESS JACKET only: Check that the cylinder is fitted with a Cylinderloc and Netlon sleeve. If not, see Sections 8.1.3.1.2 and 8.11 for further instructions.
- 5.3.2 Check Min Weight of Cylinder against that marked on the barrel. The Crewfit Twin 2010 is fitted with an MA1 Hammar Inflation system and the cylinder is glued permanently into the backplate using an epoxy glue. Do NOT attempt to unscrew the cylinder from the backplate. Instead add 22 grams to the minimum weight shown on the cylinder.



Remedial Action: If any of the above conditions are found to be incorrect the cylinder shall be replaced. See Section 9.

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5.4 Light and Battery

5.4.1 Earlier models of the Seacrewsader 2010 and Crewfit Twin 2010 are fitted with the Daniamant L6 light as are models manufactured from January 2012.

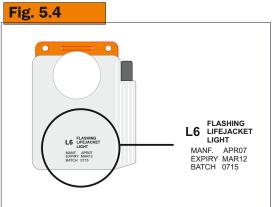
Visually inspect the light for signs of damage to:

5.4.1.1. the trip line; ensure that the toggle is securely attached.

5.4.1.2. the cable.

5.4.1.3. the lens and its mounting or housing.

- 5.4.2 Check expiry date on battery. The expiry date must exceed the date of the next annual service. If the light has expired or expires before the next service then it must be replaced with a Crewsaver CSL Light. (See Section 9).
- 5.4.3 Test the assembly as detailed in Section 6

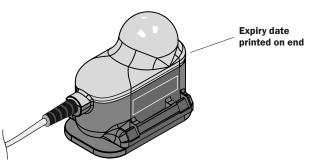


Remedial Action: These items are not repairable refer to Section 9 for replacement Part.

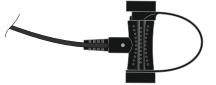
5.4.4 Some models may be fitted with the Crewsaver CSL Water Activated Light.

Visually inspect the light for signs of damage to: 5.4.4.1. The switch. 5.4.4.2. the cable. 5.4.4.3. the lens and its mounting or housing.

5.4.5 Check expiry date on battery. The expiry date must exceed the date of the next annual service. If the light has expired or expires before the next service then it must be replaced. (See Section 9).



5.4.6 Ensure that the switch is in the Auto-on position.



Water activated switch in Auto-on position



Water activated switch in Auto-on position (Later models)

5.4.7 Test the assembly as detailed in Section 6

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5.5 Oral & Relief Valves

- 5.5.1 Visually inspect for damage.
- 5.5.2 Test in accordance with Section 6.

Remedial Action: These items are not repairable refer to Section 9 for replacement Part.

5.6 Operating Mechanism

- 5.6.1 Visually inspect the Operation of the United Moulders Automatic Mechanism for:
 - 5.6.1.1 Operation of the Manual override lever. This shall move easily and freely.
 - 5.6.1.2 Operation of the firing pin cam action. Similarly this shall be a smooth action when the lever is operated.
 - 5.6.1.3 Firing Pin centre discharge hole clear.
 - 5.6.1.4 Pull cord for frays and damage.
 - 5.6.1.5 Moulded body for cracks and damage. Special attention to be given to the areas
 - around the operating lever/body connection pin.
 - 5.6.1.6 Check the Automatic plunger.

Remedial Action: In the event that the Operating Mechanism fails any of the above inspection procedures, the complete unit shall be replaced. No Repairs are allowed. Refer to Section 9 for the part number of the relevant replacement part.

- 5.6.2 Visually inspect the Automatic Capsule:
 - 5.6.2.1 Check plug is in place at the base of the capsule.
 - 5.6.2.2 New Capsules are to be fitted where the expiry date is before the next annual service of the lifejacket.

5.6.2.2.1 If the capsule is to be replaced – Re-fit the old capsule and carry out operational tests refer to section 6.

- 5.6.3 NB. United Moulders Mk5i Capsules (Black) may now be used to replace Mk6 Capsules (Green) on the MIRG version.
- 5.6.4 Visually inspect the Manual Override Caps on the MIRG version. These are located in a pouch attached to the waistbelt. Ensure that the extra length lanyards and tabs (marked L and R) are attached.

Remedial Action: In the event that the Operating Mechanism fails any of the above inspection procedures, the complete Unit shall be replaced. No repairs are allowed. Refer to Section 9 for the part number of replacement parts.

5.6.5 Where the jacket is fitted with a Hammar Hydrostatic head, visually inspect to ensure that the indicator is green and that the expiry date is before the date of the next annual service. Fit new auto cap if either of these requirements is not met.

5.7 Webbings

- 5.7.1 Visually inspect for damage: 5.7.1.1. Fraying
 - 5.7.1.2. Pulled Threads

5.7.1.3. Broken Stitches

Remedial Action: No repairs are allowed. In the case of damage being found, return the Lifejacket to Crewsaver.

5.8 Buckles

5.8.1 Visually inspect all buckles used on the webbings for signs of damage or corrosion.

Remedial Action: No repairs are allowed. In the case of damage being found, return the Lifejacket to Crewsaver.

5.9 Spray Hood

- 5.9.1 Visually inspect the spray hood for:
 - 5.9.1.1. Damage to the points of attachment to the Lifejacket.
 - 5.9.1.2. Cracking or crazing of the clear plastic face shield.
 - 5.9.1.3. Damage or degradation of the velcro.
 - 5.9.1.4. Fraying of Material.
 - 5.9.1.5. Check stiffening tube of hood.

Remedial Action: No repairs are allowed. In the case of damage being found, return the Lifejacket to Crewsaver.

5.10 Labelling/Markings

5.10.1. Check all Markings and Labelling are clear and legible.

Remedial Action: No repairs are allowed. In the case of damage being found, return the Lifejacket to Crewsaver.

5.11 Hermetically Sealed Products

- 5.11.1 Visually inspect:
 - 5.11.1.1. the integrity of the bag and check it has not been damaged.
 - 5.11.1.2. the tear point for evidence of tampering.
 - 5.11.1.3. the welded seal for wear and tear or holes.

Remedial Action: If the bag is damaged and fails the above inspections then the bag must be replaced and the Lifejacket must be serviced.

5.11.1.2. Labelling and Printing.

5.11.1.2.1. Check that the visible labelling and printing is legible.

NOTE: Capsules are marked with a three year expiry life. When lifejackets are packed into a hermetically sealed bag - that life should be extended to 5 years. Bags must be marked in the space provided - with capsule dates of expiry extended by two years. (Therefore a product marked with replace by: 10 2010 should be written as replace by 10 2012)

Remedial Action: If the labelling on the bag is damaged this may be replaced. Refer to Section 9 for the part number.

5.11.1.2.2. The labelling should be checked to ensure the expiry dates of the components are visible and have not expired and will not expire before the next annual service.

Remedial Action: If any Components have expiry dates exceeding the date marked on the bag or the date shown on the product then the Lifejacket must be serviced.

If the Lifejacket passes the above inspection procedures please fill in the label on the bag shown in 5.11.3.

5.11 Hermetically Sealed Products

5.11.2For servicing larger batches of lifejackets the following actions must be taken:5.11.2.1.100% visual inspection is required every 6 Months.See Section 5.11.1. for inspection procedures or see the Bag label 5.11.3.

5.11.2.2. 20\% of each batch must be serviced every year.

5.11.2.2.1. All Automatic Firing Capsules removed from the 20% of serviced jackets must be tested by plunging the operating head into water. In the event of a failure, Crewsaver must be notified immediately and details of the Capsule provided (Serial and Batch numbers).

Remedial Action: Should any one jacket from the 20% fail, the whole batch must be serviced and the Hermetically sealed bag must be replaced. Ensure that every new bag has a label present and is filled out with the correct information for the lifejacket included.

5.11.3 Hermetically Sealed Bag Label:



Lifejacket Serial No.:	Date of Manufacture: Year: Mont				
		2016	2017	2018	01
Expiry Date of Auto Capsules:	Expiry Date of Light:	2019	2020	2021	02
	THIS LIFEJACKET IS SUBJECT TO SOLAS KET MUST BE FULLY SERVICED EVERY 12	DATE INSPECTE		PECTED BY	03
MONTHS.					
THE VISUAL INSPECTION PROCED VISUAL INSPECTION PROCEDURE: 1. CHECK TEAR POINT FOR EVIDEN					05
	OF BAG, INCLUDING WELDED SEAL FOR WEAR AND				07
3.CHECK ALL VISIBLE PRINTING IS		·			08
BE SERVICED.	ND CAPSULES, IF OUT OF DATE THE JACKET MUST				09
5.IF PASSED FILL IN INSPECTION E					10
APPROVED SERVICE STATION.	BE SERVICED. PLEASE SEND IT TO A CREWSAVER				11
CREWSAVER Survitec House, Lederle Lar Tel: +44 (0)1329 820000, Fax: +44 (0)1329 23					12
		Details c	correct at time	of printing - M	arch 2016i3



6.1 Inflatable Chamber

- 6.1.1. Air Holding Test. (Both Chambers must be tested independently)
 - 6.1.1.1 Connect through a suitable Tee piece and adaptor, the oral tube with the oral valve in the open position, to a graduated water manometer (or a similar digital device for measuring back pressure).
- 6.1.1.2 Slowly inflate the lifejacket from a regulated supply until the relief valve expels excess.

Warning: Regulated supply pressure must not exceed 20psi.

- 6.1.1.3 Close off the air supply and leave for 10 minutes to ensure pressure is stable.
- $6.1.1.4 \ \ \text{Check and record the pressure and temperature reading on the Service Record Sheet}.$
- 6.1.1.5 Leave for 30 minutes.
- 6.1.1.6 Check and record the pressure and temperature reading on the Service Record Sheet.

The maximum difference in the two pressure readings (pressure drop) allowed is 10%. The temperature differential shall be within plus or minus 3 degrees of the original reading. For each degree Centigrade rise in temperature subtract 2.5 mbar. For each degree Centigrade drop in temperature add 2.5 mbar to the readings to obtain the actual pressure variation. Should the temperature variation be outside 3 degrees either way then the test shall be repeated.

PSI	in/H ₂ O	in/Hg	mm/H ₂ O	mm/Hg	kg/cm2	bar	mbar	Pa	kPa
1.0	27.71	2.036	703.1	51.75	0.0703	0.0689	68.95	6895	6.895
1.1	30.48	2.240	773.4	56.93	0.0773	0.0758	75.85	7585	7.585
1.2	33.25	2.443	843.7	62.10	0.0844	0.0827	82.74	8274	8.274
1.3	36.02	2.647	914.0	67.28	0.0914	0.0896	89.64	8964	8.964
1.4	38.79	2.850	984.3	72.45	0.0984	0.0965	96.53	9653	9.653
1.5	41.57	3.054	1054.7	77.63	0.1055	0.1034	103.43	10343	10.34
1.6	44.34	3.258	1125.0	82.80	0.1125	0.1102	110.32	11032	11.03
1.7	47.11	3.461	1195.3	87.98	0.1195	0.1171	117.22	11722	11.72
1.8	49.88	3.665	1265.6	93.15	0.1265	0.1240	124.11	12411	12.41
1.9	52.65	3.868	1335.9	98.33	0.1336	0.1309	131.01	13101	13.10
2.0	55.42	4.072	1406.2	103.50	0.1406	0.1378	137.90	13790	13.79
2.1	58.19	4.276	1476.5	108.68	0.1476	0.1447	144.80	14480	14.48
2.2	60.96	4.479	1546.8	113.85	0.1547	0.1516	151.69	15169	15.17
2.3	63.73	4.683	1617.1	119.03	0.1617	0.1585	158.59	15859	15.86
2.4	66.50	4.886	1687.4	124.20	0.1687	0.1654	165.48	16548	16.55
2.5	69.28	5.090	1757.8	129.38	0.1758	0.1723	172.38	17238	17.24
2.6	72.05	5.294	1828.1	134.55	0.1828	0.1791	179.27	17927	17.93
2.7	74.82	5.497	1898.4	139.73	0.1898	0.1860	186.17	18617	18.62
2.8	77.59	5.701	1968.7	144.90	0.1968	0.1929	193.06	19306	19.31
2.9	80.36	5.904	2039.0	150.08	0.2039	0.1998	199.96	19996	20.00
3.0	83.13	6.108	2109.3	155.25	0.2109	0.2067	206.85	20685	20.69
3.1	85.90	6.312	2179.6	160.43	0.2179	0.2136	213.75	21375	21.37
3.2	88.67	6.515	2249.9	165.60	0.2250	0.2205	220.64	22064	22.06
3.3	91.44	6.719	2320.2	170.78	0.2320	0.2274	227.54	22754	22.75
3.4	94.21	6.922	2390.5	175.95	0.2390	0.2343	234.43	23443	23.44
3.5	96.99	7.126	2460.9	181.13	0.2461	0.2412	241.33	24133	24.13
3.6	99.76	7.330	2531.2	186.30	0.2531	0.2480	248.22	24822	24.82
3.7	102.53	7.533	2601.5	191.48	0.2601	0.2549	255.12	25512	25.51
3.8	105.30	7.737	2671.8	196.65	0.2671	0.2618	262.01	26201	26.20
3.9	108.07	7.940	2742.1	201.83	0.2742	0.2687	268.91	26891	26.89
4.0	110.84	8.144	2812.4	207.00	0.2812	0.2756	275.80	27580	27.58
4.1	113.61	8.348	2882.7	212.18	0.2882	0.2825	282.70	28270	28.27
4.2 4.3	116.38 119.15	8.551 8.755	2953.0 3023.3	217.35 222.53	0.2953 0.3023	0.2894 0.2963	289.59 296.49	28959 29649	28.96 29.65
4.4	121.92	8.958	3093.6	222.33	0.3023	0.2903	303.38	30338	30.34
4.5	121.52	9.162	3164.0	232.88	0.3093	0.3032	310.28	31028	31.03
4.6	127.47	9.366	3234.3	238.05	0.3234	0.3169	317.17	31717	31.72
4.7	130.24	9.569	3304.6	243.23	0.3304	0.3238	324.07	32407	32.41
4.8	133.01	9.773	3374.9	248.40	0.3374	0.3307	330.96	33096	33.10
4.9	135.78	9.976	3445.2	253.58	0.3445	0.3376	337.86	33786	33.79
5.0	138.55	10.180	3515.5	258.75	0.3515	0.3445	344.75	34475	34.48
5.1	141.32	10.384	3585.8	263.93	0.3585	0.3514	351.65	35165	35.16
5.2	144.09	10.587	3656.1	269.10	0.3656	0.3583	358.54	35854	35.85
5.3	146.86	10.791	3726.4	274.28	0.3726	0.3652	365.44	36544	36.54
5.4	149.63	10.994	3796.7	279.45	0.3796	0.3721	372.33	37233	37.23
5.5	152.41	11.198	3867.1	284.63	0.3867	0.3790	379.23	37923	37.92
5.6	155.18	11.402	3937.4	289.80	0.3937	0.3858	386.12	38612	38.61
5.7	157.95	11.605	4007.7	294.98	0.4007	0.3927	393.02	39302	39.30
5.8	160.72	11.809	4078.0	300.15	0.4077	0.3996	399.91	39991	39.99
5.9	163.49	12.012	4148.3	305.33	0.4148	0.4065	406.81	40681	40.68
6.0	166.26	12.216	4218.6	310.50	0.4218	0.4134	413.70	41370	41.37

6.1.1.7. If Lifejacket fails the Air holding test inspect as follows.

6.1.1.7.1 With the lifejacket inflated carefully brush the surface with a weak solution of soap and water or alternatively lower the lifejacket into a tank of water to observe for bubbles.

6.1.1.7.2 Identify and mark the source of leakage. Wash off in clean water and allow to dry naturally in air.

6.1.1.7.2.1 Special Attention to be given to:

- a) Manifold Schrader Core
- b) Oral Tube/ Top-up Valve

c) Oral Tube/ Relief Valve



- 6.1.2 Subsequent to the air holding test in para 6.1 slowly inflate the lifejacket until the relief valve vents (Opens). Record the pressure reading on the manometer. See 6.2.2 below regarding type of Relief Valve.
 6.1.2.1. Allow the pressure to relieve through the valve until the relief valve reseats (Closes). Record the pressure reading. Note: Relief valves should operate at 3.5psi. Relief valves that do not operate within the 3.5 4.0 psi range must be replaced.
 6.1.2.2. The Opening (vent) and closing (reseat) readings shall be within 15% of the original reading. Note: Valves that fail to reseat within the 15% tolerance must be replaced.
- 6.1.3 If the test is satisfactory deflate the Lifejacket in preparation for re-assembly. Refer to Section 8.
 6.1.3.1. Insert the inverted oral valve dust cap into the top of the oral valve and expel the air. Lifejackets may also be deflated using the Venturi Vacuum System. For the part number, refer to Section 9.
- 6.1.4 Effect repairs in accordance with the Repair Procedures within the limits defined in Section 7.
- 6.1.5 Subsequent to remedial action being taken (see Section 7), retest the lifejacket in accordance with Section 6.

6.2 Valves

6.2.1. Oral Valves.

When removing the test adapter from each oral valve check that the oral valve reseats. If in doubt this may be checked by placing the valve underwater.

6.2.2. Relief Valves.

Relief Valves should be tested as detailed in 6.1.2.1, if defective the relief valve must be changed. Refer to Section 9 for replacement part. Jackets manufactured before January 2012 are fitted with 2.5 psi Relief Valves. These MUST be replaced by 3.5 psi Relief Valves

6.2.3 Schrader Valves.

Should a leak be found in the Schrader valve the faulty core must be removed and a new valve inserted using the Torque Screwdriver from the tool kit.

6.3 Operating Mechanisms

- 6.3.1 Operational Test for United Moulders Manual Operation.
 - 6.3.1.1 Remove the operating mechanism from the lifejacket. With the cylinder also removed, pull the lever on the side of the operating head, and check that the firing pin is visibly moving inside the open end.
 - 6.3.1.2 If the lever does not move, or the firing pin is not clearly moving, the operating head must be replaced. Refer to Section 9 for part number.
- 6.3.2 Operational Test for United Moulders Automatic Operating Heads (to be performed when capsules have expired).
 - 6.3.2.1 Remove the operating mechanism from the lifejacket and remove the cylinder.
 - 6.3.2.2 Assemble the expired capsule onto the body of the operating mechanism.
 - 6.3.2.3 Place the complete unit into water and check that the unit operates within 5 seconds.
 - 6.3.2.4 If the mechanism fails to pass this test replace the complete unit. Refer to Section 9 for part Number of the replacement part.

NOTE: all failures of this test must be reported to Crewsaver. Crewsaver may require the failed units to be returned. Please do not discard.

6.4 Lights and Batteries

6.4.1. Testing Procedure for lights fitted to lifejackets.

The following sea lights have been fitted to Crewsaver Commercial and Leisure lifejackets. All light units used have a detailed expiry date, after which the light should be carefully disposed of.

6.4.1.1 Daniamant L6

The Daniamant L6 can be tested using the switch located on the right side (as looked at). If the light does not flash the unit has expired and must be replaced with a Crewsaver CSL Light

6.4.1.2 Crewsaver CSL Water Activated Light.

Test the light by immersing the sensor in water. The light must flash, remove the light from the water and dry it. The light must stop flashing. If the light does not flash the unit has expired and must be replaced.

6.5 Retro Reflective Tape

- 6.5.1 If the retro reflective tape shows any signs of degradation the following tests shall be carried out in accordance with Marine Guidance Note MGN 105 (M+F) Issued by the UK Marine and Coast guard Agency March 1999, the retro-reflective material shall be tested at each service as follows.
 - 6.5.1.1 Place a new piece of the same retro-reflective material to, and on the same plane as, a representative piece of material fitted to the appliance.
 - 6.5.1.2 Pour water over both pieces of material.
 - 6.5.1.3 Using a powerful torch or "Aldis" lamp held at eye level, compare the performance of the two pieces of material from a distance of 10 Metres.
 - 6.5.1.4 If a noticeable deterioration in performance is observed then the retro-reflective material on the appliance should be replaced.
 - 6.5.1.5 Dry off the lifejacket before repacking.

6.6 Hermetically Sealed Bags

6.6.1 To test the bag for leaks gently apply pressure to the outside of the bag. If air is escaping from the bag when pressure is applied the bag has a leak and the lifejacket will need to be removed and placed into a new bag.

7.1 Cover

7.1.1 No other repairs are allowed on the outer cover.

7.2 Inflatable Chamber

7.2.1 No repairs are permitted to the chamber fabric or its assembly, due to the construction of this lifejacket.

7.2.2 Components attached to the chambers may be repaired in line with the limits defined below.

Disposable Cylinders

- 7.3.1 No repairs permitted. For the Part No. of the replacement part refer to Section 9
- 7.3.2 Please ensure cylinders are disposed of in accordance with local regulations.
 - Treat empty cylinders as steel for recycling purposes.

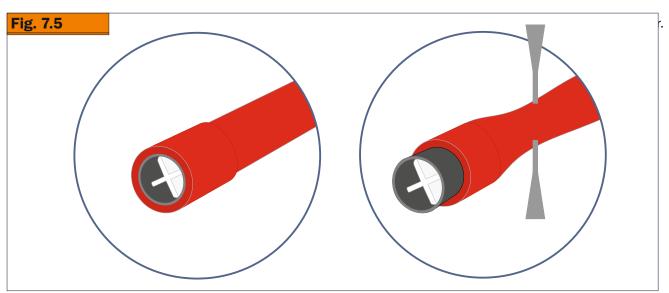
7.4 Light and Battery

7.4.1 No repairs permitted. For the Part No. of the replacement part refer to Section 9

7.5 Valves

7.3

- 7.5.1 No repairs permitted. For the Part No. of the replacement parts refer to Section 9
- 7.5.2 Replacement of the Oral valve may be achieved by.
 - 7.5.2.1 Carefully removing the defective unit by applying force, with a blunt instrument, behind the oral valve Squeezing the tube and gently pushing the valve out. See Fig. 7.5 below. Or remove the inner valve using pliers and use the extraction tool to remove the remainder of the valve.



7.5.2.2 Push the replacement valve into the oral tube.

7.6 Operating Mechanism System

- 7.6.1 A Schrader core is located inside the Valve Stem.
 - 7.6.1.1 Remove and replace using the calibrated torque driver for Schrader valves set to 0.32 0.36 Nm. Refer to Section 9 for the Part No. of the replacement part.

WARNING: Only fit replacement Schrader valves obtained from Crewsaver.

- 7.6.2 Operating Mechanism.
 - 7.6.2.1 No repairs permissible. Replace the complete unit. Refer to Section 9 for the Part No. of the replacement part.

7.7 Webbings

7.7.1 No repairs are permitted to the webbing on the lifejacket. Lifejackets with damaged webbing (including crutch straps) should be returned to Crewsaver.

7.8 Buckles

7.8.1. These components are not repairable or replaceable. Lifejackets with damaged buckles should be returned to Crewsaver.

7.9 Spray Hood

7.9.1. No Repairs Permitted. Lifejackets with damaged Sprayhoods should be returned to Crewsaver.

7.10 Repair Parameters - Stitching

All repairs to stitching must be carried out by a company deemed fit to perform the repair by Crewsaver prior to the work commencing.

- a.) Stitching repairs should be performed when the visible inspection as detailed in section 5,
 Para 5.7 identifies broken or pulled stitches. The following repairs maybe made:
 ai. Repairs to broken stitches should be over sewn following the same line of stitching ,
- ai. Repairs to broken stitches should be over sewn following the same line of stitching , ensuring that the stitching continues for a minimum of 20mm past the repair
 - section, each end must be back tacked twice. aii. Repairs to pull threads should be repaired by first trimming the lose ends and then
 - repeating the process as detailed above.
 - aiii. Any repairs carried out must be made using the correct thread available from Crewsaver. No other types of thread are to be used.
 - aiv. No stitching repairs are to be made to the inflation chamber, or parts stitched to it.
 - av. No stitching repairs are to be made on Harness Lifejackets

8.1 Assembly

- 8.1.1 Ensure the whistle is positioned and tied in correctly.
- 8.1.2 Expel the air from both chambers by inverting the dust cap on the oral tube. Lifejackets may also be deflated using the Crewsaver Venturi Vacuum System. For the part number, refer to Section 9.
- 8.1.3 Assemble the Operating Mechanism to the inflation chamber to be repeated for each chamber.
 - 8.1.3.1 For United Moulders Automatic Operating Mechanisms. See Fig 8.1.
 - 8.1.3.1.1 A new retaining clip must be fitted. Refer to Section 9 for replacement parts.
 - 8.1.3.1.2 Fit the new automatic firing capsule to the operating head, screw hand tight.
 - 8.1.3.1.3 Locate Operating head onto the Manifold.
 - 8.1.3.1.4 Tighten the retaining nut onto the body using the Calibrated torque driver provided in the Crewsaver servicing tools. Note: Retaining nut must be tightened to between 2.5 and 2.7 Nm.
 - 8.1.3.1.5 Firmly screw the cylinder adaptor by hand into the head
 - 8.1.3.1.6 Connect the cylinder adaptor to the pressure test unit
 - 8.1.3.1.6 Pressurise the head to between 25 and 30 psi and release the control to its vertical position.
 - 8.1.3.1.7 There may be a slight decrease in pressure over the first 2 seconds as the unit stabilises. Leave for 10 seconds and check for any further decrease in pressure shown on the gauge
 - 8.1.3.1.8 Release the pressure by turning the control to deflate.
 - 8.1.3.1.9 If there had been any decrease in pressure remove the cylinder adaptor, remove the operating head and check the following.
 - a. Thick and thin washer either side of the head.
 - b. Damage to the D post seating.
 - c. Cross thread chrome nut
 - d. The cylinder seating washer.
 - e. The schrader or pang valve in the 'D' post.
 - f. The operating head

Warning: Care must be taken not to 'cross thread' the connection.

- 8.1.3.1.12 Fit the gas cylinder to the firing mechanism by hand then check using the torque wrench (4Nm) and head adaptor from the tool kit. The operating head is gripped in one hand and the cylinder tightened using the torque wrench with the cylinder tightening tool held in the other hand.
- 8.1.3.2 For Hammar Hydrostatic Operating Mechanisms. See Fig 8.2
 - 8.1.3.2.1 If the operating head has failed the checks in 5.6.3 or is in any other way damaged a replacement operating mechanism must be fitted.
 - 8.1.3.2.2 If the gas cylinder and inner body assembly has failed any of the checks in 5.3 then it is to be replaced. Replacement assemblies are listed in Section 9.1
 - 8.1.3.2.3 Insert the cylinder and inflator body into the inflation chamber through the sealing ring, ensure that the cylinder is vertically positioned in the inflation chamber
 - 8.1.3.2.4 Seat the inflator body underneath the sealing ring. Locate the inflation mechanism to the sealing ring and the inflator body, with the manual pull cord and toggle facing directly down the inflation chamber away from the cylinder. Using the Hammar operating head tightening key, clip the mechanism closed.

Warning: Care must be taken not to 'cross thread' the connection.

- 8.1.4 To re-pack the lifejacket. See 8.4 (150N Seacrewsader 2010), 8.5 (150N Crewfit Twin 2010).
- 8.1.5 Expel additional excess air, during the packing operation, from within the inflation chamber by again inverting the cap on the oral tube and inserting it into the oral valve. When all excess has been expelled replace the cap.
- 8.1.6 Mark Service Label on Lifejacket (using an indelible pen) and Service Record Sheet with the date of the service.
- 8.1.7 Ensure the serial number has been correctly recorded and that it is clearly marked on the Record Sheet.

Warning: The lifejacket folding procedures must be followed accurately to ensure that the lifejacket inflation mechanism operates and the lifejacket deploys correctly. The lifejacket shall not be folded and/or packed using any other method or procedure than that specified.

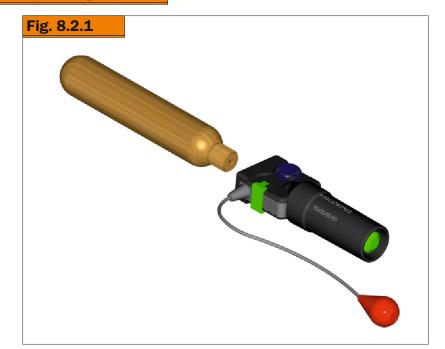
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8.2

other hand.

Check that the cylinder sealing gasket in the end of the operating head has been correctly fitted, or replaced if necessary. Fit the 60 gram CO_2 cylinder. Ensure that the cylinder has been check weighed before fitting to the lifejacket. Fit the gas cylinder to the firing mechanism using the torque wrench (4Nm) and head adaptor from the tool kit. The cylinder is gripped in one hand and the head tightened using the torque wrench held in the

United Moulders Operating Head





Fit the new Mk5i firing capsule onto the operating head. Capsules fitted on the United Moulders Mk5i head are black in colour. The capsule should be screwed tight to the end. Make a note of the batch number and manufacture date on to the service record sheet. Do not attempt to fit the navy blue capsule used with the Crewsaver Mk5i operating head.



With the firing capsule fitted, fit the retaining clip. The clip is fitted by pressing it over the firing arm and in to the recess either side in the centre of the operating head. The clip will click into place, thereby preventing the arm from moving.



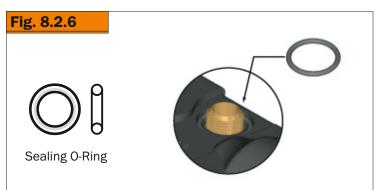
Please note: The operating head may not match the images above but the processes are always the same.

8.2

United Moulders Operating Head



Check the bottom O-ring seal is in place. Before fitting the operating head onto the manifold, check that the Schrader valve is fitted. If fitting a new Schrader valve use a calibrated torque driver set to 0.32 - 0.36 Nm. Then place the operating head onto the manifold, so that the cylinder is pointing upwards.

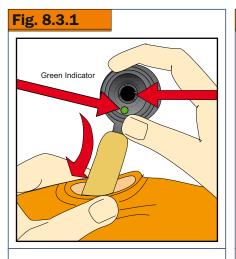




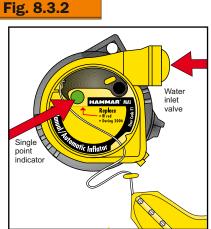
Check the O-ring seal is in the recess on the top face of the operating head. With the top O-ring in place, fit the retaining nut. The retaining nut should be screwed into place using a torque wrench or driver fitted with a 9/16" socket. The wrench or driver should be set to between 2.5 and 2.7 Nm. This will prevent damage to the operating head and ensure a good seal is maintained.

Fig 8.3

Hammar Operating Head



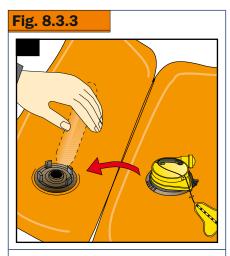
Check that the indicator is green. Insert new inflator body with gas cylinder pointing upward inside the lifejacket (PFD). Let the sealing ring rest on the inflator body around the four lugs.



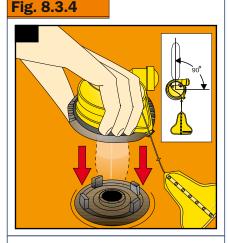
Now check the new manual/ automatic cap as follows:

- 1. Single point indicator showing green?
- 2. Expiry date OK? If YES is the answer to both these questions, then proceed as follows.

If NO get a new cap.



Hold the gas cylinder through the fabric of the lifejacket.

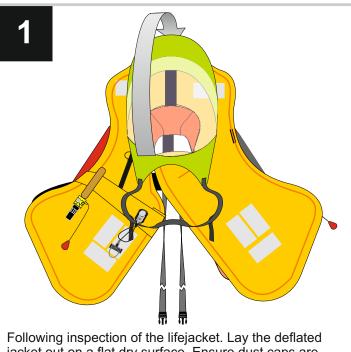


Position the replacement cap with the water inlet valve pointing to the right (7b) and press it FIRMLY onto the inflator body and sealing ring.

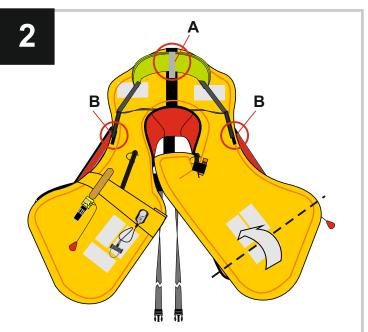




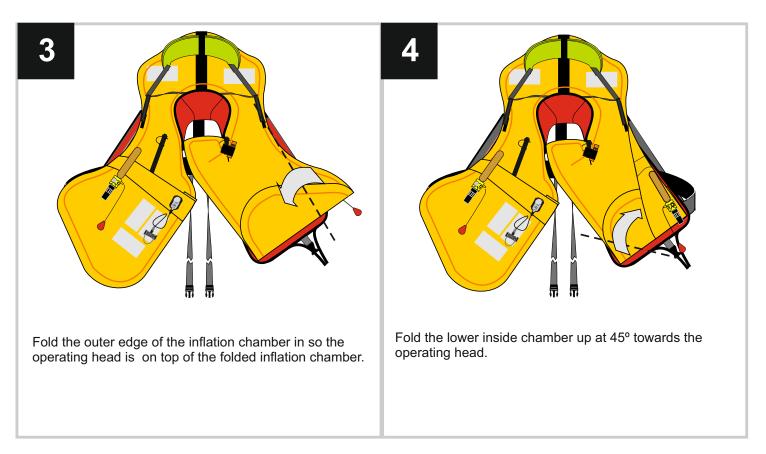
While pressing FIRMLY onto the inflator body turn the BLACK locking ring clockwise into the locked position. Pull on the cap to make sure it has locked onto the inflator body.

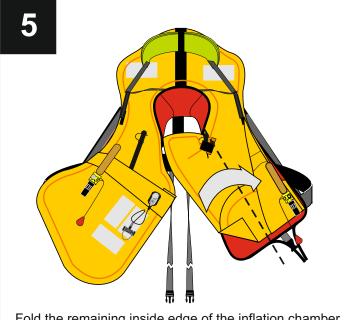


Following inspection of the lifejacket. Lay the deflated jacket out on a flat dry surface. Ensure dust caps are fitted. Concertina fold the sprayhood to the back of the lifejacket.

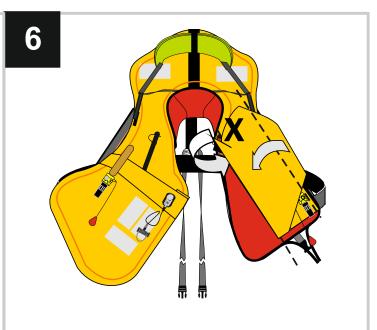


Retain the Spray Hood using the Velcro Tabs A that are attached inside and outside of the hood. Attach the Hood lanyard retainers (B) to the velcro tabs on the inflation chamber. Fold the bottom right hand side of the inflation chamber up

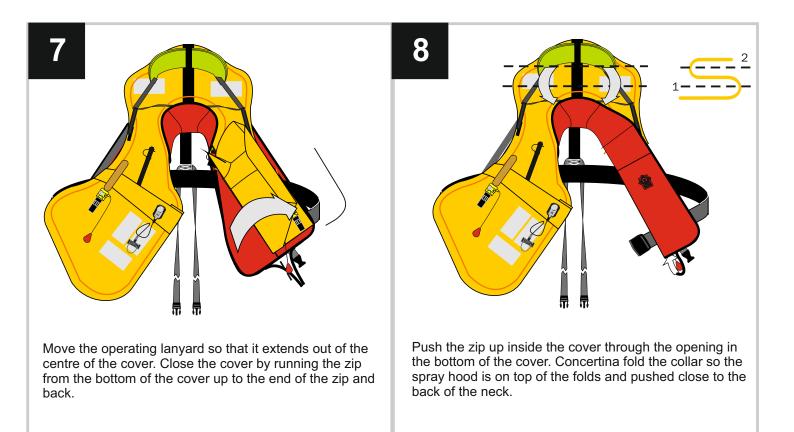




Fold the remaining inside edge of the inflation chamber over exposing half of the cover.



Fold the remainder of the chamber that extends outside the cover back into the centre of the folded chamber tucking the chin support X under the folded chamber.

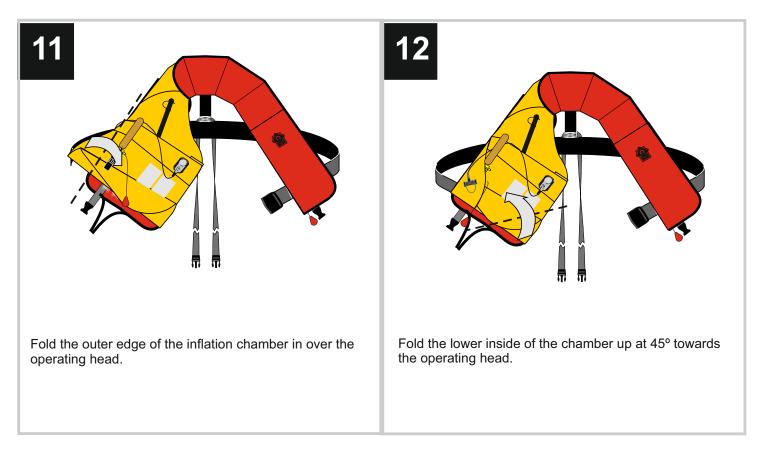


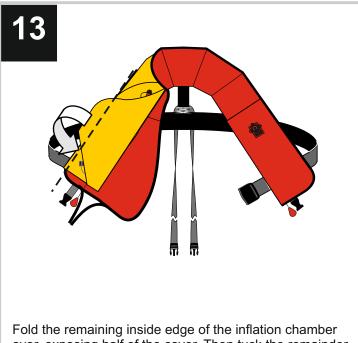


Tuck in the excess of the partially folded chamber and fasten the velcro round the neck. Hang the water activated switch of the light over the cylinder. Ensure that the cylinder is on top of the light retaining strip.



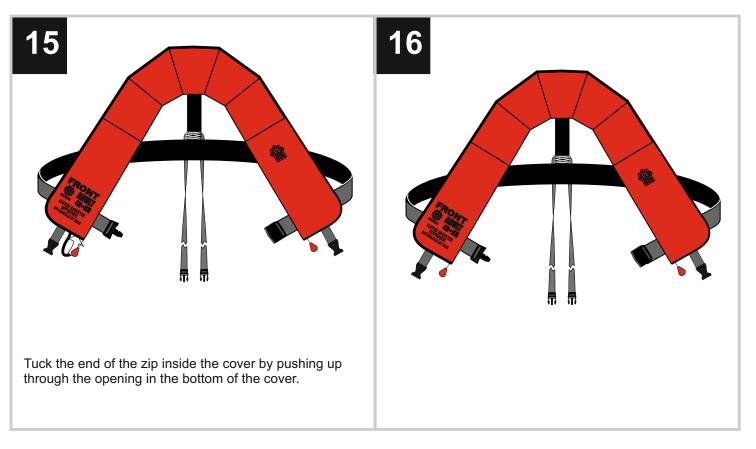
Fold the bottom left hand side of the inflation chamber up under the Automatic capsule and fold the excess chamber back down so that the partly folded chamber does not extend below the cover or cover the Automatic capsule.







Fold the remaining inside edge of the inflation chamber over, exposing half of the cover. Then tuck the remainder of the chamber that extends outside the cover inside the partially folded chamber. Close the cover by running the zip from the bottom of the cover to the end of the zip and back.

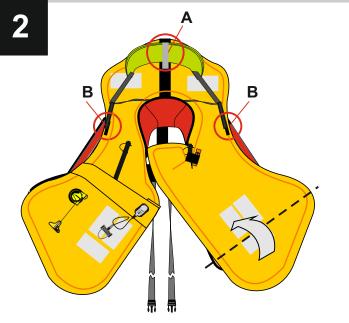


8.5

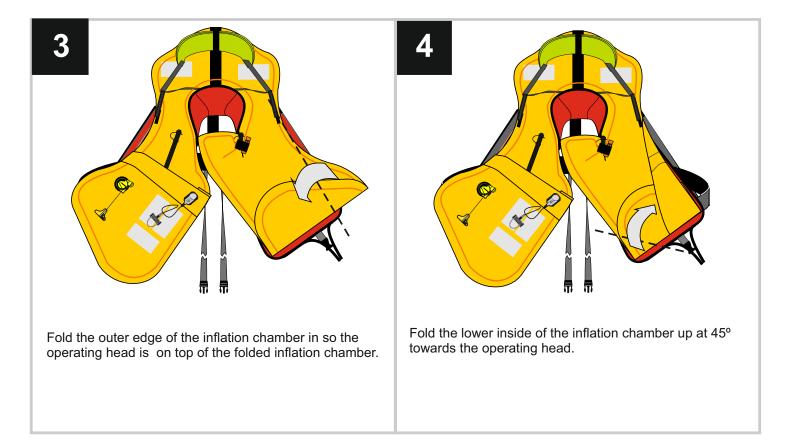
Packing Instructions - Crewfit Twin 2010



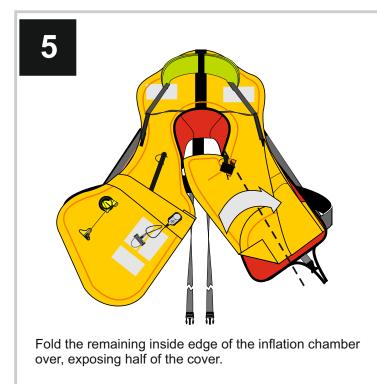
Following inspection of the lifejacket. Lay the deflated jacket out on a flat dry surface. Ensure dust caps are fitted. Concertina fold the sprayhood to the back of the lifejacket.



Retain the Spray Hood using the Velcro Tabs (A) that are attached inside and outside of the hood. Attach the Hood lanyard retainers (B) to the velcro tabs on the inflation chamber. Fold the bottom right hand side of the inflation chamber up

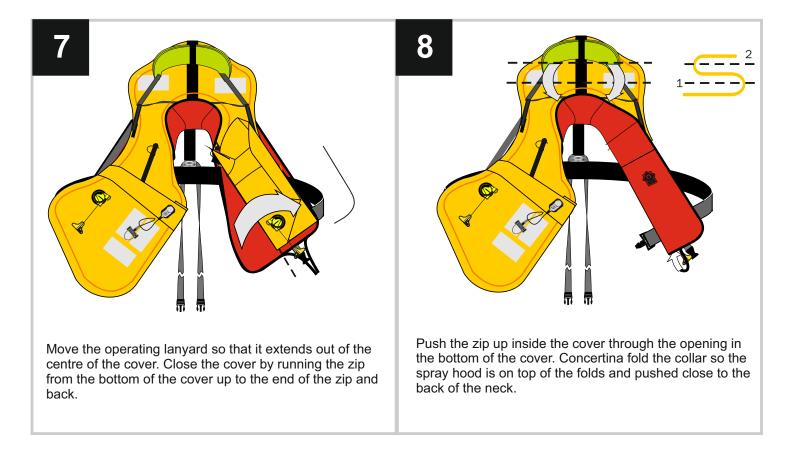


8.5 Packing Instructions - Crewfit Twin 2010



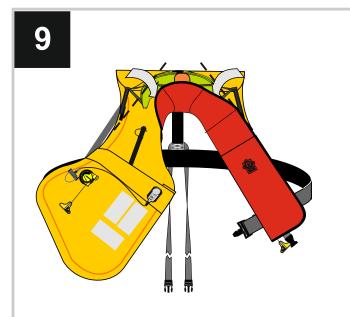


Fold the remainder of the chamber that extends outside the cover back into the centre of the folded chamber tucking the chin support X under the folded chamber.

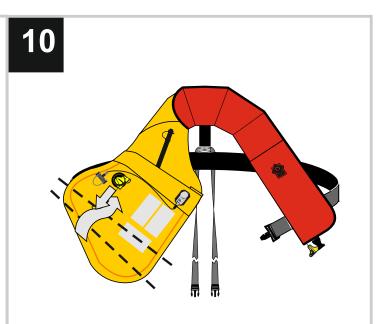


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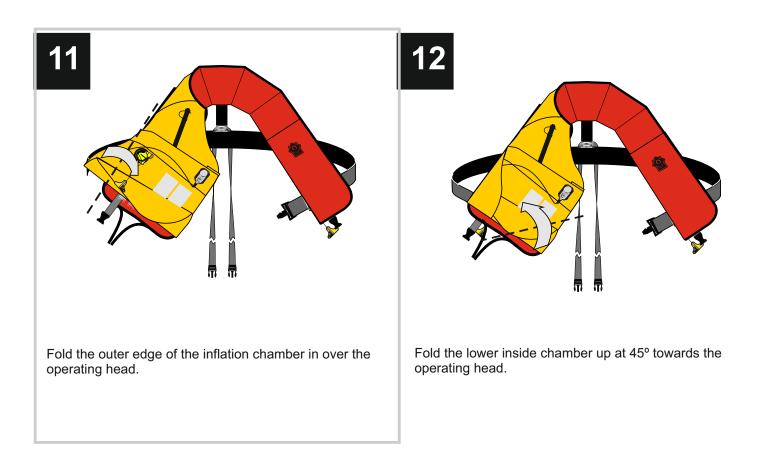
8.5 Packing Instructions - Crewfit Twin 2010



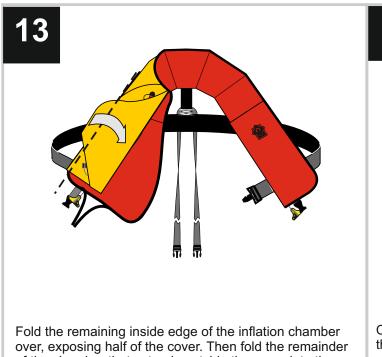
Tuck in the excess of the partially folded chamber and fasten the velcro round the neck. Place the water activated switch of the light above the Hammar head as shown above.

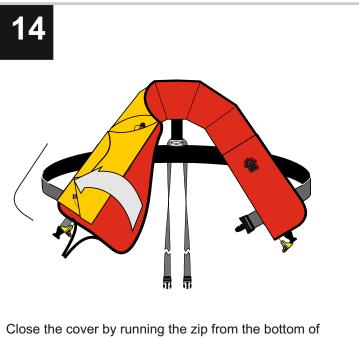


Fold the bottom left hand side of the inflation chamber up to the base of the operating head, under the lanyard and fold the excess chamber back down so that the partly folded chamber does not extend below the cover.



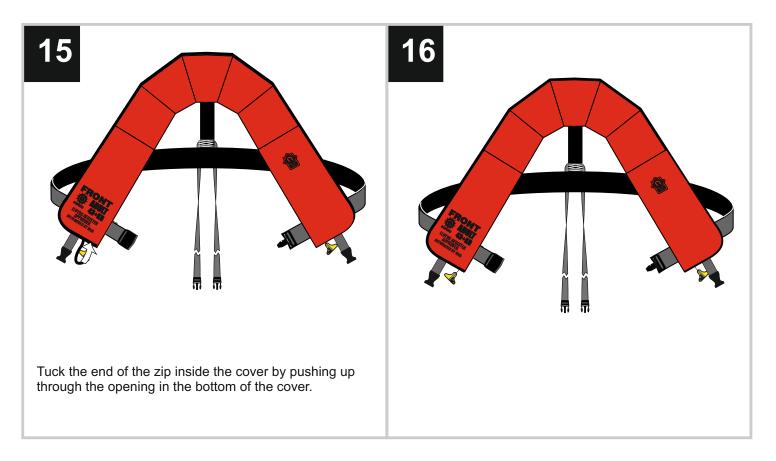
8.5 Packing Instructions - Crewfit Twin 2010

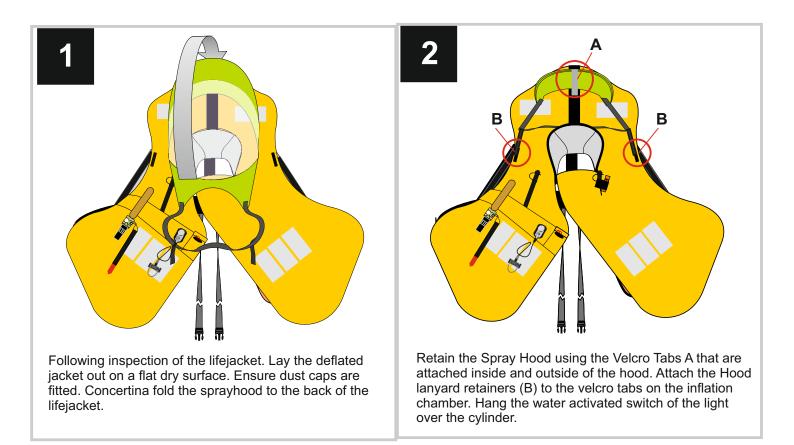


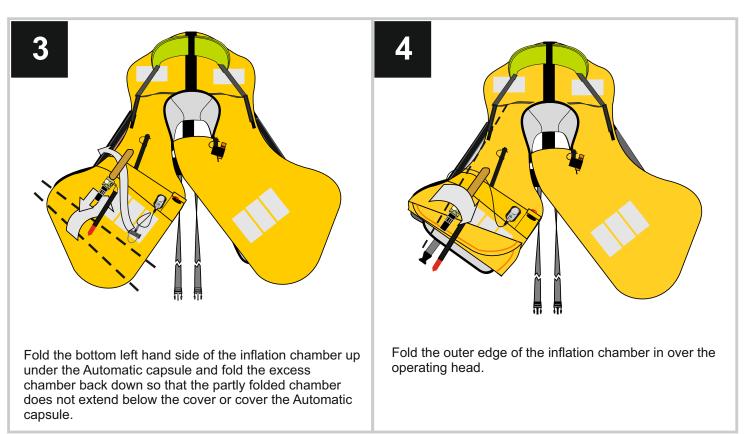


of the chamber that extends outside the cover into the centre of the folded chamber.

the cover up to the end of the zip and back.

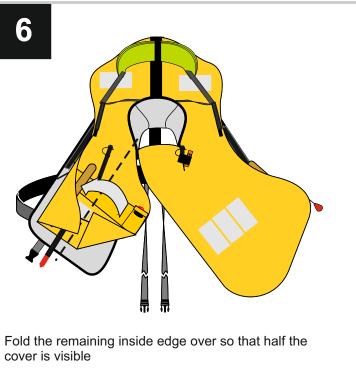


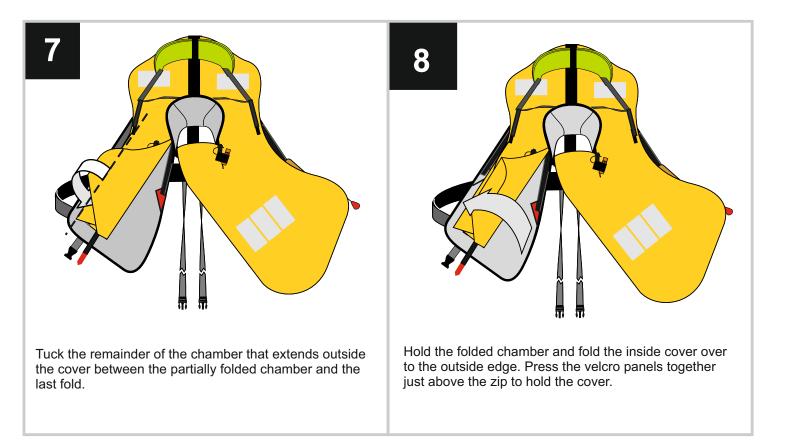




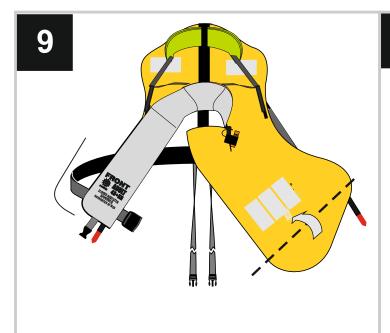
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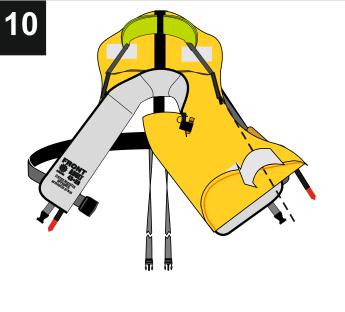




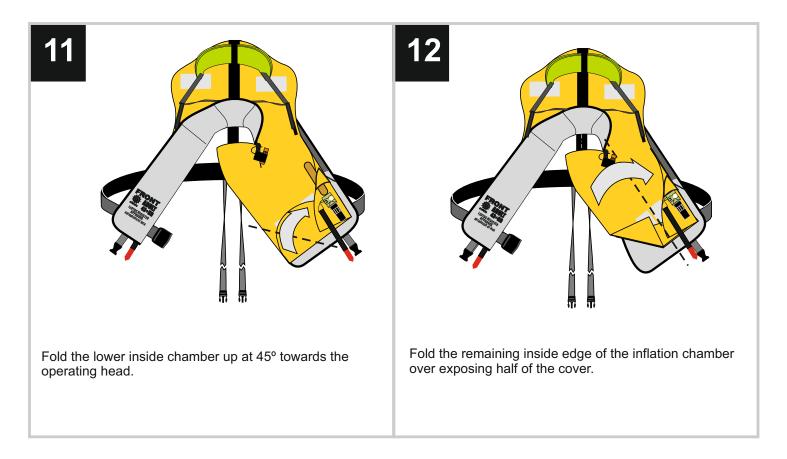
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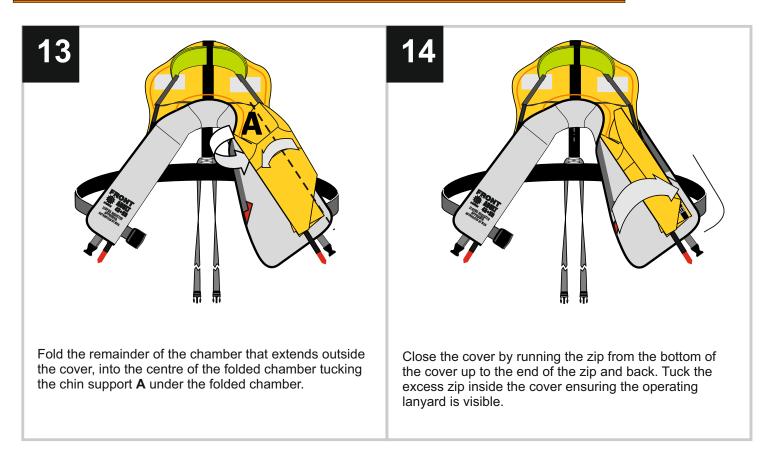


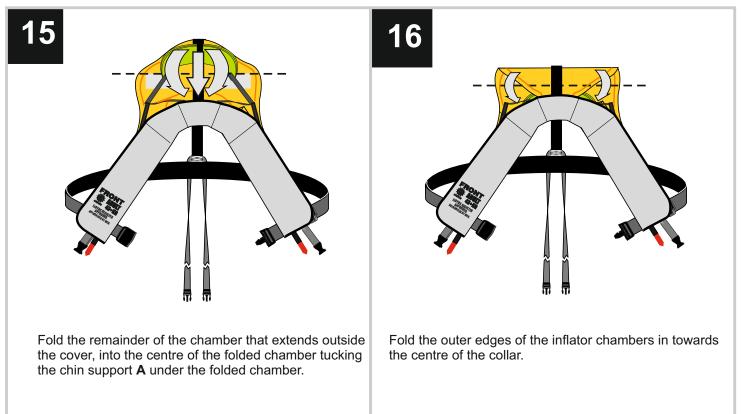
Close the cover by running the zip from the bottom of the cover up to the end of the zip and back. Tuck the excess zip inside the cover ensuring the lanyard is visible. Repeat the folding of the right side of the chamber by folding up the bottom of the chamber.



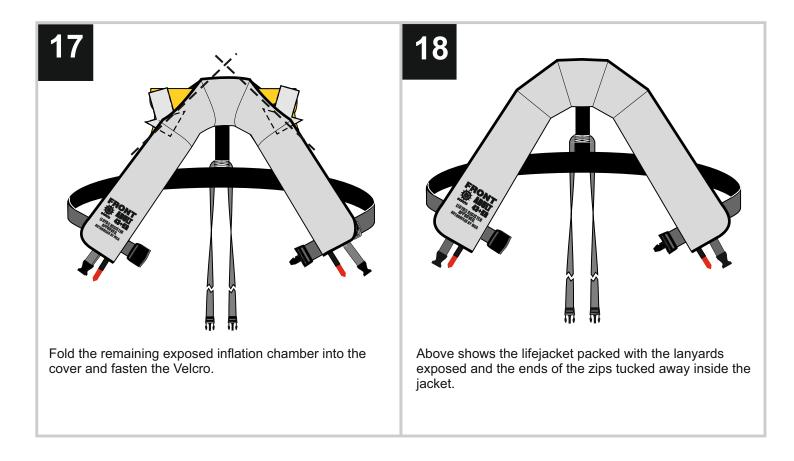
Fold the outside edge of the chamber so the operating head is upper most with the lanyard extending down outside the cover

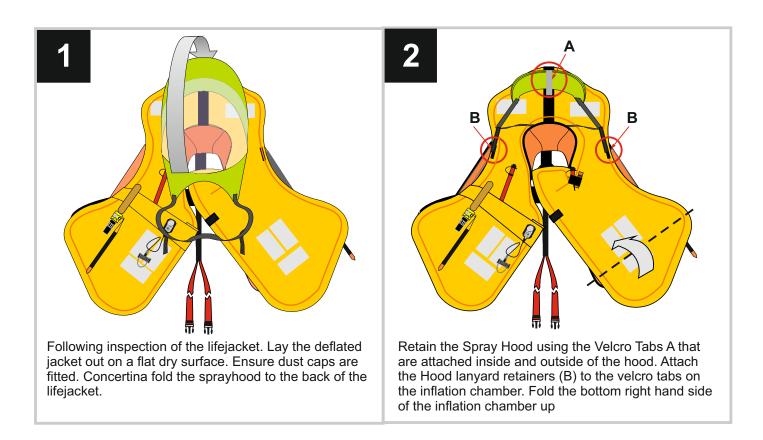


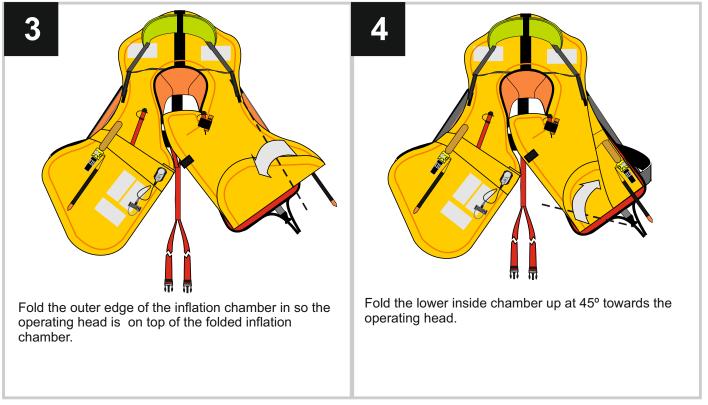




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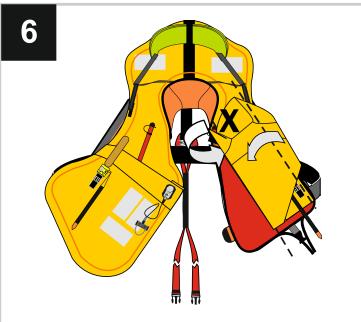




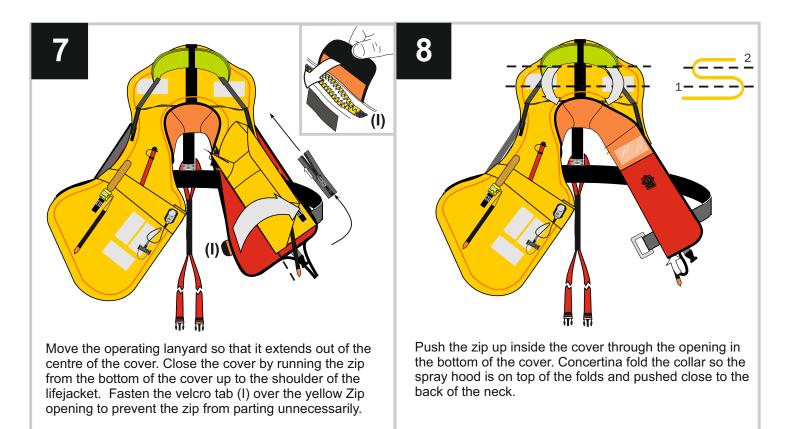


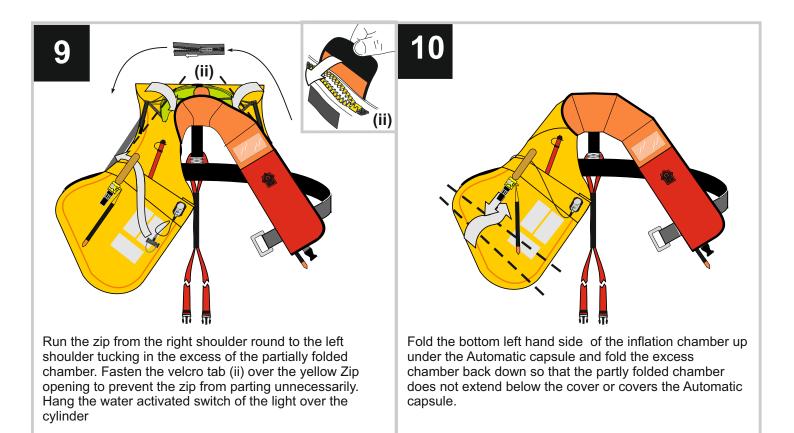


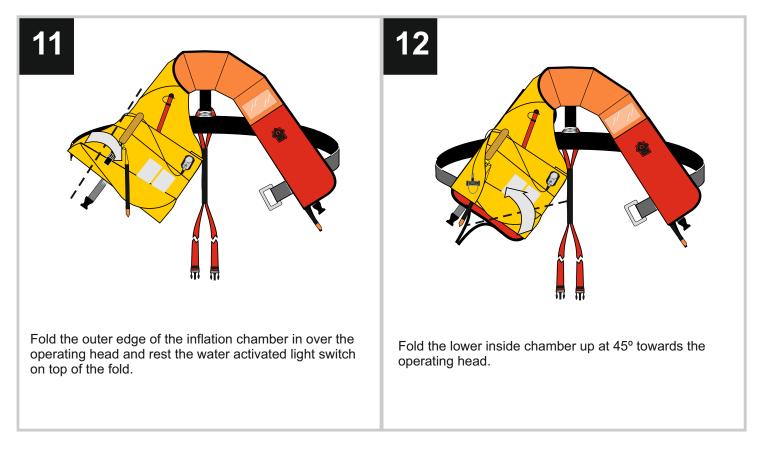
Fold the remaining inside edge of the inflation chamber over exposing half of the cover.



Fold the remainder of the chamber that extends outside the cover back into the centre of the folded chamber tucking the chin support X under the folded chamber.

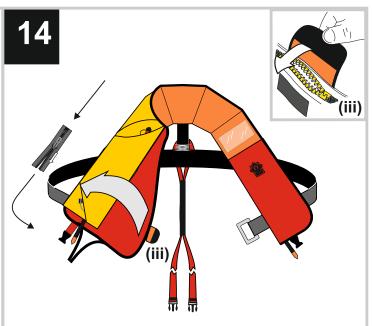




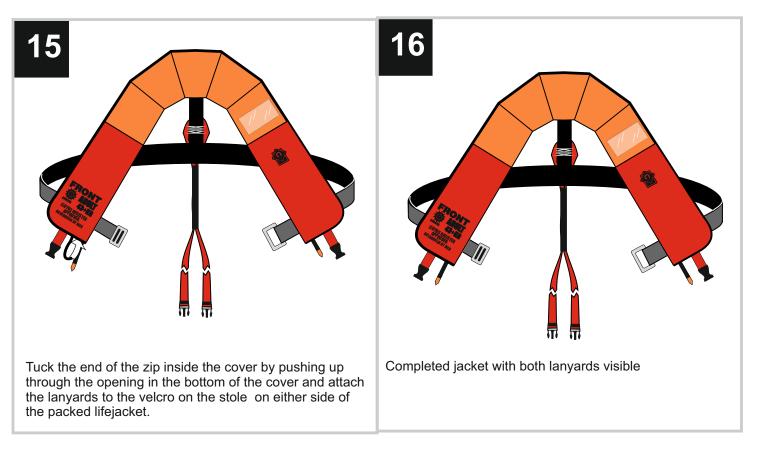




Fold the remaining inside edge of the inflation chamber over, exposing half of the cover. Then tuck the remainder of the chamber that extends outside the cover insider the partially folded chamber. Fasten the extension lanyard to the velcro on the outer cover.



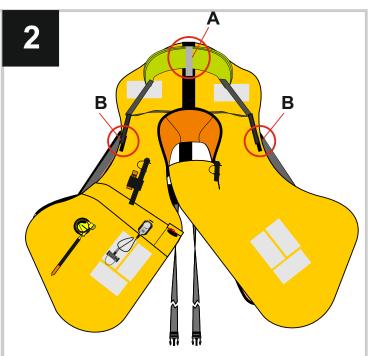
Close the cover by running the zip from the shoulder down to the bottom of the jacket. Fasten the velcro tab (iii) over the yellow Zip opening to prevent the zip from parting unnecessarily.



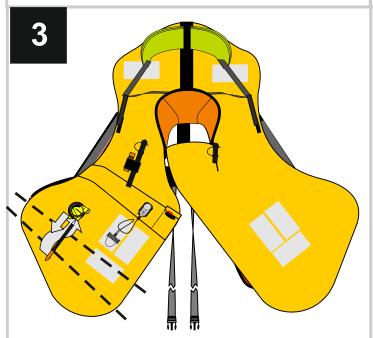
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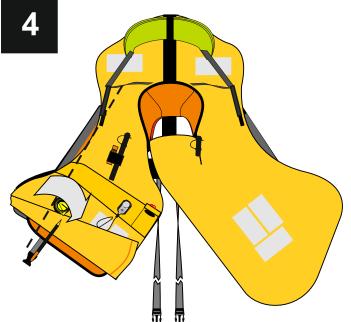
Following inspection of the lifejacket. Lay the deflated jacket out on a flat dry surface. Ensure dust caps are fitted. Concertina fold the sprayhood to the back of the lifejacket.



Retain the Spray Hood using the Velcro Tabs A that are attached inside and outside of the hood. Attach the Hood lanyard retainers (B) to the velcro tabs on the inflation chamber

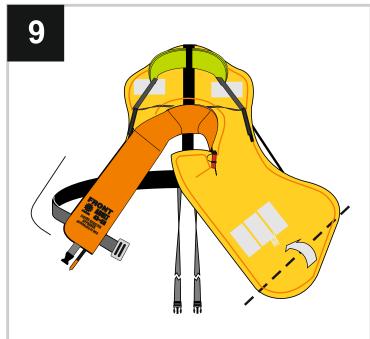


Fold the bottom of the left hand inflation chamber up and back a couple of times towards the operating head. Ensuring that the operating head lanyard is on top of the partially folded jacket.



Fold the outer edge of the inflation chamber in over the operating head.





Close the cover by running the zip from the bottom of the cover up to the end of the zip and back. Tuck the excess zip inside the cover ensuring the lanyard is visible.

Repeat the folding of the right side of the chamber by folding up the bottom of the chamber up



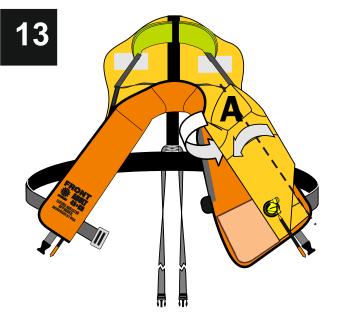
Fold the outside edge of the chamber in towards centre of the jacket



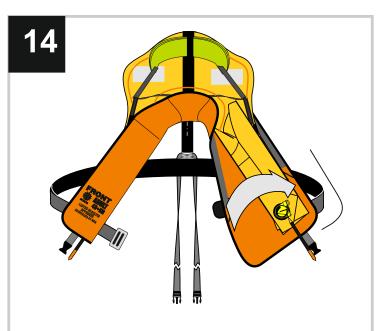
Fold the lower inside chamber up at 45° towards the centre of the jacket.



Fold the remaining inside edge of the inflation chamber over exposing half of the cover so the operating head is on top of the partly folded inflation chamber and that the lanyard extends beyond the cover.

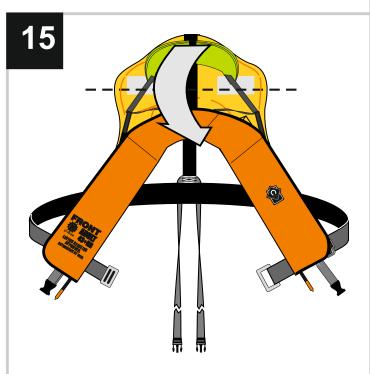


Fold the remainder of the chamber that extends outside the cover, into the centre of the folded chamber tucking the chin support \bf{A} under the folded chamber.

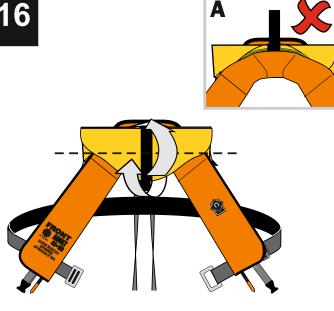


Hold the folded chamber and fold the inside cover over to the outside edge. Close the flap over the end of the zip / Velcro to hold the cover.

Close the cover by running the zip from the bottom of the cover up to the end of the zip and back. Tuck the excess zip inside the cover ensuring the operating lanyard is visible.

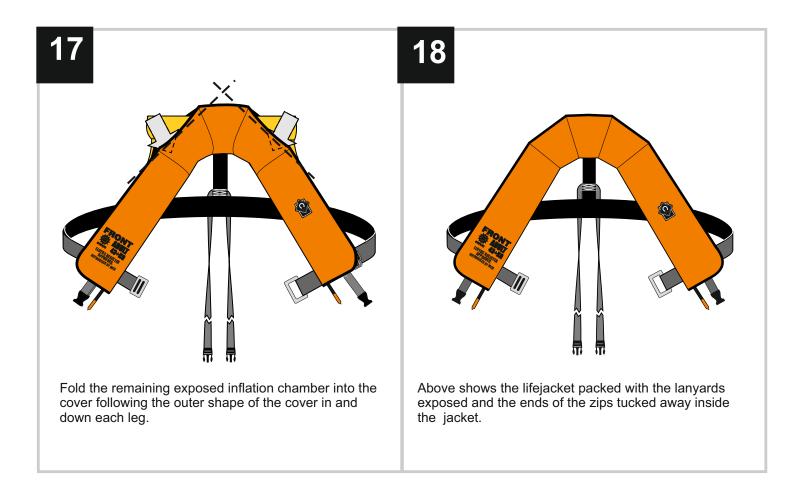


Fold the lower third of the inflation chamber down to expose the Velcro on the rear cover.



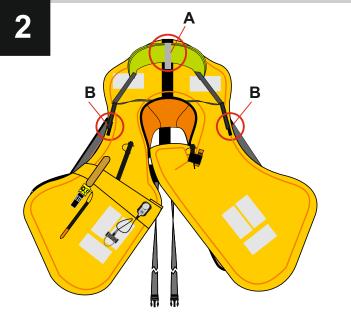
Fold half of the partially folded chamber, together with the neck retaining webbing, back up to just below the Velcro on the rear cover, keeping the webbing in contact with the chamber.

DO NOT ALLOW RETAINING WEBBING TO PROTRUDE AS (A) AND DO NOT FOLD ON TOP OF THE CHAMBER Pull the front cover over the folded chamber and fasten the Velcro

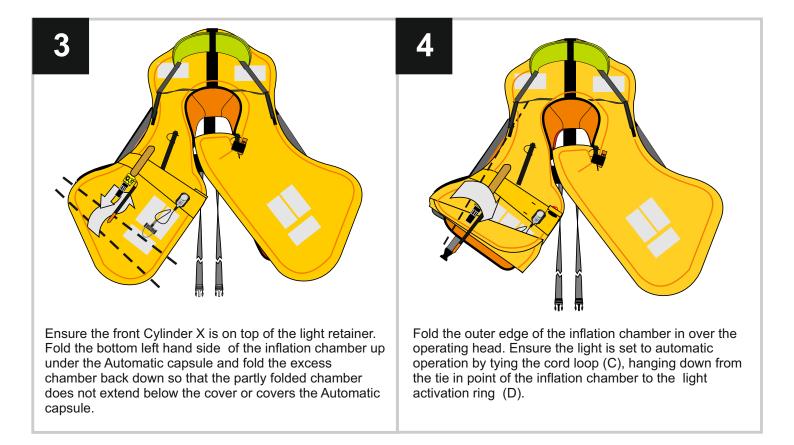


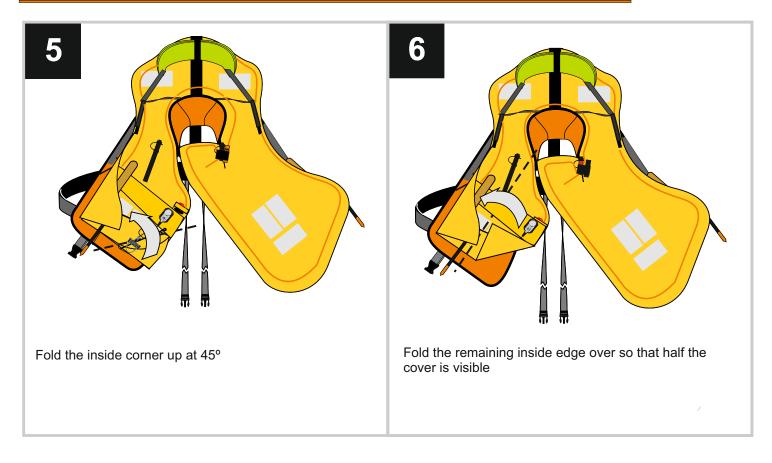


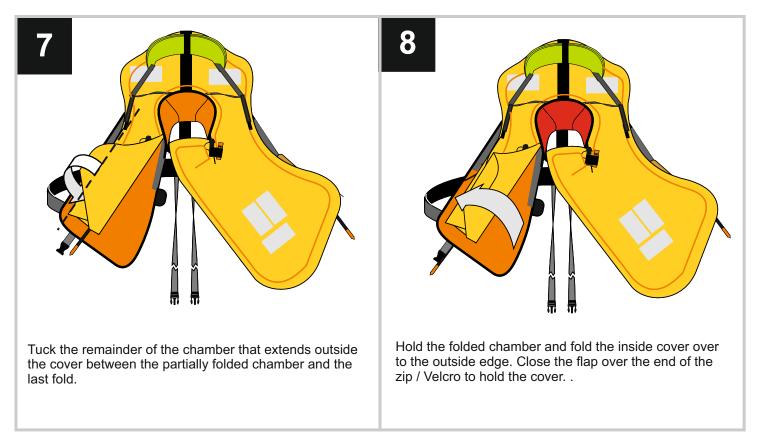
Following inspection of the lifejacket. Lay the deflated jacket out on a flat dry surface. Ensure dust caps are fitted. Concertina fold the sprayhood to the back of the lifejacket.



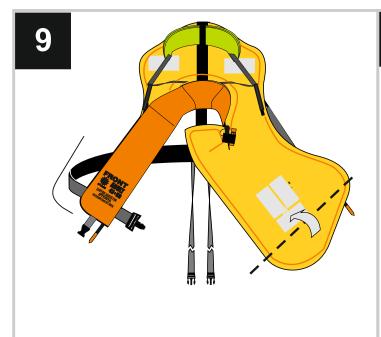
Retain the Spray Hood using the Velcro Tabs (A) that are attached inside and outside of the hood. Attach the Hood lanyard retainers (B) to the velcro tabs on the inflation chamber



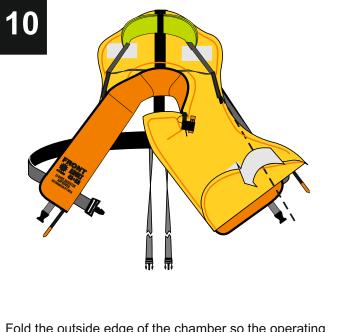




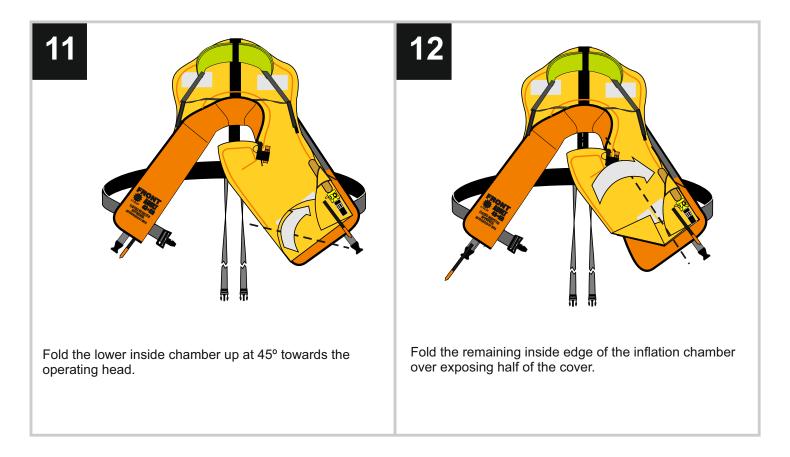
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Close the cover by running the zip from the bottom of the cover up to the end of the zip and back. Tuck the excess zip inside the cover ensuring the lanyard is visible. Repeat the folding of the right side of the chamber by folding up the bottom of the chamber.



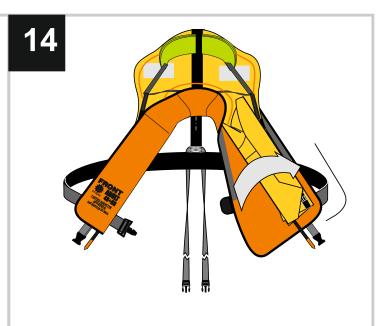
Fold the outside edge of the chamber so the operating head is upper most with the lanyard extending down outside the cover



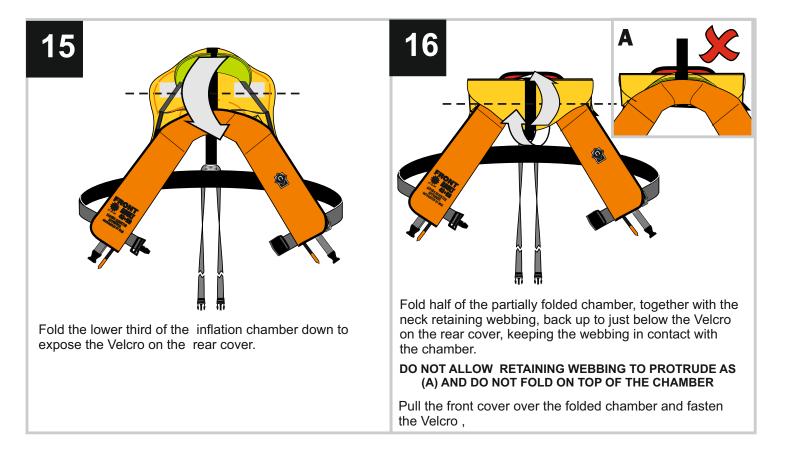
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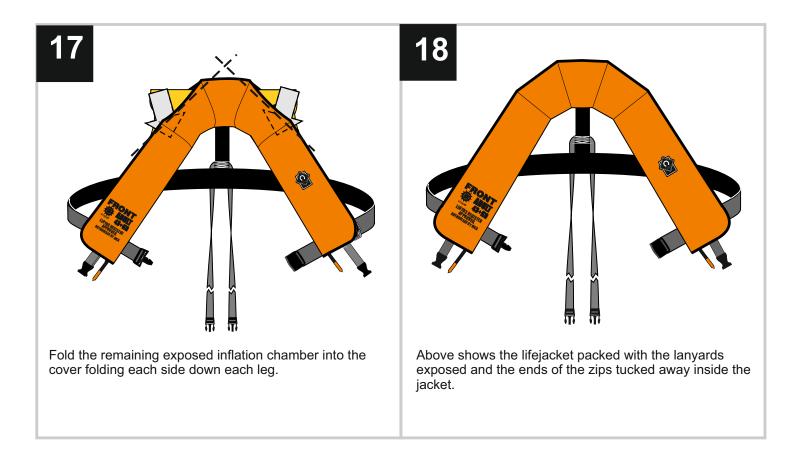


Fold the remainder of the chamber that extends outside the cover, into the centre of the folded chamber tucking the chin support **A** under the folded chamber.



Close the cover by running the zip from the bottom of the cover up to the end of the zip and back. Tuck the excess zip inside the cover ensuring the operating lanyard is visible.





8.10 Hermetically Sealed Bag Packing Instructions

8.10.1 When packing a Lifejacket into a Hermetically Sealed Bag the following items are required 8.10.1.1 1 x 25g Desiccant Sachet

NOTE: Ensure the desiccant sachets are kept in the airtight container they are supplied in and that it is only opened in the controlled packing area.

- 8.10.1.2 1 x Foil Bag
- 8.10.1.3 1 x Seacrewsader Self Adhesive bag label
- 8.10.1.4 1 x Packed Seacrewsader 275N Twin Lifejacket

8.10.2 The Controlled packing area must be dry and clean. Relative humidity should be 20-25% and ambient temperature of 18-23°C.

8.10.3 Prepare bag for label application. The self-adhesive label has a perforation line running horizontally across the label; this perforation line must be aligned with the notches on the sides of the foil bag when applied. Check the print is legible before applying the label.

- 8.10.4 Tick the correct option boxes that relate to the Seacrewsader that is being packed. Options below. NOTE: This may not appear on some labels, continue to 8.5.5 if the options are not available.
 - 8.10.4.1 Standard Waist Belt and Hood
 - 8.10.4.2 Standard Waist Belt and Without Hood
 - 8.10.4.3 Deck Harness EN1095 and Hood
 - 8.10.4.4 Deck Harness EN1095 and Without Hood

8.10.5 Fill in the Lifejacket Serial number, light expiry date and automatic capsule expiry date (this is five years from date of packing even if capsule does not match) in relevant spaces on the label using a black waterproof pen. In the date of manufacture area, put a line through the boxes that correspond with the month and year it is packed into the bag. Also in the top left hand corner fill in the box below the Ships Wheel with the last two digits of the year. e.g 09 for 2009.

8.10.6 Follow the Seacrewsader packing specification to prepare the lifejacket for insertion into the foil packing bag. **IMPORTANT: Exceptions to a packed lifejacket** - Make sure the Waist Belt buckle is left open and that the Waist Belt is adjusted to its largest size. Fold the end of the Waist Belt back on itself and into a Waist Belt tidy creating a loop for the user to easily grab hold of quickly during Emergency donning. Leave the crutch strap buckle closed but with enough slack to adjust quickly.

8.10.7 Ensure the Lifejacket is fully dry. Put the Lifejacket in the foil bag with the desiccant sachet.

8.10.8 Try to push as much air out of the bag as possible. Seal the bag immediately after placing the desiccant sachet in the bag. Make sure there is no creases in the bag seal. If there is the bag must be sealed again parallel to the last weld. Make sure that all of the Lifejacket lies inside the bag below the weld line.

8.10.9 When batches of Lifejackets have been packed and are ready to dispatch visually inspect all bags.

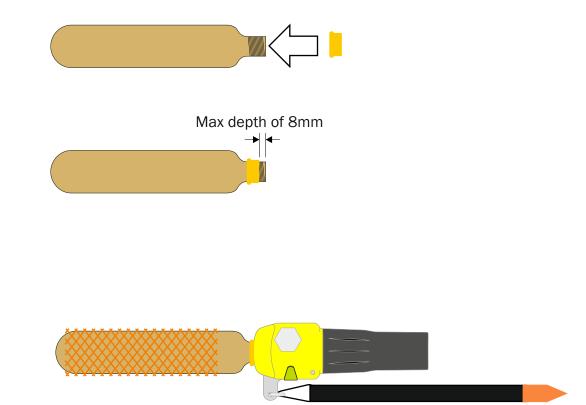
8.10.10 Make sure the desiccant sachets are kept away from any damp areas and the bags are always rolled closed in between use to prevent excess air getting into them. Always reseal the bags of desiccant after use trying to remove any excess air in the bag.

8.11

Fitting Cylinderlocs and Netlon Sleeves.

The following instructions refer to the cylinders on the Rope Access Lifejacket ONLY.

- 1. Fit the Cylinderloc to the cylinder thread. This can be done by using a screwing motion.
- 2. A depth gauge must be used to ensure that the Cylinderloc is fitted to a maximum depth of 8mm. The Cylinderloc should be screwed into the firing head ONCE ONLY. A new Cylinderloc must be used every time every time the cylinder is screwed into the head.
- 3. After the Cylinder has been fitted to the firing head fit the net cover to the Cylinder.



9.1 Parts Lists

Product Description

Part Number

60 gram CO ₂ Cylinder United Moulders Mk5i Auto Capsule United Moulders Mk5i Automatic Head United Moulders Mk6i Automatic Head with extended lanyard United Moulders Mk6 Green Automatic Head Manual Capsule with Lanyard and Tab Auto Head Retaining Clip Auto Head Sealing Gasket (Top and Bottom) Auto Head Cutter 'O' Ring Hammar Auto Cap Ma1 Hammar (MA1) Back Plate with 60gm CO ₂ Cylinder Whistle CSL Light Mouth Inflation Valve Mouth Inflation Valve Cap 3.5psi Pressure Relief Valve Schrader Valve Retaining Nut Foil Bag (including label and desiccant sachet) Venturi Vacuum System Cylinderloc Netlon Cylinder Cover Depth Gauge	12050 11042 11044 R16923 R16913 R16917 11043 10373 11048 11007 11034 10677 10226 10208 10151 11059 10049 11047 10113 10481 R16893 R18051
Servicing tool kit	10467
Cylinder adaptor for back pressure System	900032
Back pressure test unit	900031
Cylinder tightening tool	900030