

## SERVICING PROCEDURE FOR MIRG ELITE TWIN CHAMBER 275N AUTOMATIC LIFEJACKET

### NOTES:

1. This Service Manual refers specifically to the MIRG Elite Twin Lifejacket. It differs in a number of respects from the standard Crewsaver Elite lifejacket.
2. Diagrams 1 and 2 give a detailed parts explosion of the unfolded MIRG Elite showing the front and rear inflators. Diagram 3 shows the front view of the folded jacket when in automatic mode and Diagram 4 shows the front view when in manual mode. See point 6 below. Diagram 5 shows the rear view of the folded jacket. These drawings show the latest version of the MIRG Elite and may differ in some respects from earlier versions.

### SERVICING PROCEDURE:

1. If the lifejacket is in a dirty condition it is advisable to rinse the jacket thoroughly in a mild solution of soapy water. The cylinders and automatic actuators must be removed first. If inspection is carried out whilst the jacket is in a dirty condition, obvious damage may not be visible.
2. Examine the outside of the Lifejacket cover, the webbing and the stitching for any signs of damage - i.e. holes, tears, fraying and broken stitching. Check the integral crutch straps for signs of damage. Check that the velcro strap is attached to the 'D' ring on the left side of the jacket (when worn).
3. Examine both zips to ensure they run freely and have no broken teeth. Check that the end stops at the tops of the zips are firmly attached. If there is any clogging by salt or dirt, thoroughly clean with fresh water and allow to dry naturally.
4. Unfold the lifejacket from its cover.
5. Examine the rest of the cover now visible and the inflation chambers for any signs of wear or damage as per item 2. Check all labels for legibility and signs of wear.
6. The MIRG Elite is designed so that it can be used in either automatic or manual mode. This is illustrated in Diagrams 3 and 4. When in manual mode the automatic actuators are replaced by special blank actuator capsules. When the jacket is in its normal automatic mode the blank actuator capsules are stored in the special pocket attached to the waistbelt. When manual mode is required the automatic actuators are removed and stored in the special pocket. When the jacket is received for service it may be in manual or automatic mode. When it is sent out after service it **MUST** be in automatic mode.
7. Examine the two automatic actuators to ensure they have not been fired and are in good condition. If they do not pass inspection, replace with new actuators. Please note that **ONLY** Mk. 6 automatic actuators may be fitted to this jacket. Appendix 2 illustrates the Mk. 6 moulded automatic actuator and gives instructions how to check it. The Mk. 6 actuator is green in colour. Do not refit the automatic actuators at this stage.
8. Check the two blank actuator capsules. These should have a yellow manual indicator tab fitted to them. The yellow manual indicator tabs should have the word **MANUAL** printed and one should be marked 'R' and the other 'L'. If the blank actuator capsules are damaged or missing they should be replaced. When putting the blank actuator capsules in the special pocket, check also the presence and condition of the buddy line. One end should be securely tied to the waistbelt. The other end should have a loop and toggle.

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9. Unscrew the two 60gm Super Zinc CO<sub>2</sub> cylinders and inspect them for signs of corrosion, or the sealed end having been pierced. Weigh each cylinder and check this with the gross weight (GW) or total weight (TW) marked on the cylinder. If they fail inspection or are more than 1 gm below total weight, replace with new cylinders. Do not refit the CO<sub>2</sub> cylinders at this stage. Please note that only Super Zinc cylinders should be used.
10. Examine the firing heads for signs of damage. Appendix 1 gives an exploded view of the Mk 6 firing head. The Mk. 6 firing head is green in colour. Test the operation of the firing heads by depressing the button at the opposite end of the cylinder entrance. Ensure that the pin travels forward and that both pin and button return to their original positions. If necessary, replace the security saddle on the Mk. 6 firing head. Replace any defective firing heads as detailed in Appendix 1. Please note that ONLY Mk. 6 firing heads may be fitted to this jacket. Ensure that the locking nuts holding the firing heads to the jackets are fitted correctly by checking with a torque wrench set to 23lbf in. Ensure that the firing heads are fitted with an extra length orange manual operating tab marked 'Jerk to Inflate'. Check the condition of the protective cover and replace if necessary.
11. Examine the pressure relief valves for any signs of damage. The pressure relief valves are situated at the bottom of the oral inflation tubes. To replace these, insert a non-sharp blade (paper knife or similar) between the wall of the oral inflation tube and the valve. With a circular movement work the old valve out. Insert a new valve with firm pressure from the thumb.
12. The L6 Lithium Dry Cell Light is shown in Appendix 3. To test this unit: press the manual activation point and then return it to its original position. Check that the pull cord of the light is attached by a cable tie to the loop at the side of the jacket. When fitting a new light please ensure that the lamp unit is firmly attached to the backing plate. Connect the ring pull of the light to the cord loop on the side of the jacket using a cable tie. Make sure that the cable tie is pulled as tight as possible.
13. Check that the whistle is functioning by blowing it and ensure that it is securely fastened to the lifejacket.
14. Inflate the first chamber of the lifejacket to one pound per square inch (0.07 BAR) using an airline fitted with a controlled gauge. Check for any deflation by measuring the pressure again after 3 minutes.
15. Continue inflating the chamber to a maximum of 2 pounds per square inch (0.14 BAR) to check the operation of the Relief Valve. This is set to operate at 1.5 pounds per square inch. If the Relief Valve fails to operate it must be replaced. See item 11.
16. Deflate the first chamber by reversing the cap on the oral inflation tube and inserting it into the end of the tube. The cap must be held in the end of the tube until deflation is complete.
17. Repeat items 13, 14, 15 and 16 for the second chamber of the lifejacket.
18. There are various other methods available for carrying out the above inflation tests. These should be discussed and agreed with Crewsaver before they are used.

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19. If either chamber shows signs of deflation re-inflate and check the following:
  - a) Oral Inflation Tube Valve: Immerse the Oral Inflation Tube in water. If it is leaking the Oral Inflation Tube Valve should be replaced. To do this, insert a thin, non-sharp blade (paper knife or similar) between the wall of the tube and the valve. With a circular movement work the old valve out. Insert new valve with firm pressure from the thumb.
  - b) Firing heads: Remove the each firing head and check the Schraeder valve for tightness. If tightening does not solve the problem it may be necessary to replace the Schraeder valve. Refit the heads according to the instructions given in Appendix 1.
  - c) Relief valve: Spray with soapy water to detect any leaks. If any leaks are found, replace the valve.
  - d) Spray the inflator with soapy water to detect any leaks. If any leaks are found they should be marked and the jacket returned to Crewsaver.
20. When all air has been removed, replace the valve caps in their correct positions.
21. Re-fit the automatic actuators and CO<sub>2</sub> cylinders, ensuring that they are screwed on securely.
22. Unfold and examine the sprayhood for any sign of wear or damage. The visor of the hood should be examined for any sign of cracking. Make sure that the velcro holding straps of the hood are firmly fastened.
23. Sign and date the service label on the inside of the cover.
24. Re-fold the jacket in accordance with the repacking instructions (Appendix 4). Please note that these drawings show the latest version of the MIRG Elite and may differ in some respects from earlier versions.
25. Record the jacket number in the appropriate log(s), with note of any faults found, action taken and the date.
26. Only personnel certified by Crewsaver and working for the company which is approved by both MCA and Crewsaver are permitted to carry out servicing.
27. Personnel certificated, as 26, are deemed to be competent in determining terms such as "corroded", "worn" or "damaged" detailed in service procedures.

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**NOTES**

**PERMISSIBLE REPLACEMENTS**

**PART NUMBER**

Mk.6 (Commercial) firing head with extra length orange manual operating tabs	
Security Saddle for Mk. 6 firing head	10111
Mk.6 (Commercial) Automatic Actuator	
Manual blank actuator capsules – left and right	
60 gm Super Zinc CO <sub>2</sub> Cylinder	11028
Oral Inflation Valve	10208
Schraeder valve	10049
Whistle	10287
L6 Light	10219
Cylinder seating washer for Mk. 6 Head	10382
'O' ring for Mk. 6 Head	10393
Pressure Relief Valve 1.5 (Crewsaver Elite)	10391
Velcro strap	
Protective cover for Firing Head	
Cable Tie (for light)	

When ordering spare parts please specify that they are for the MIRG Elite lifejacket.

**TOOLS REQUIRED**

Torque wrench set to 23 lbf in  
Schraeder valve tightening tool  
Paper knife (or similar)

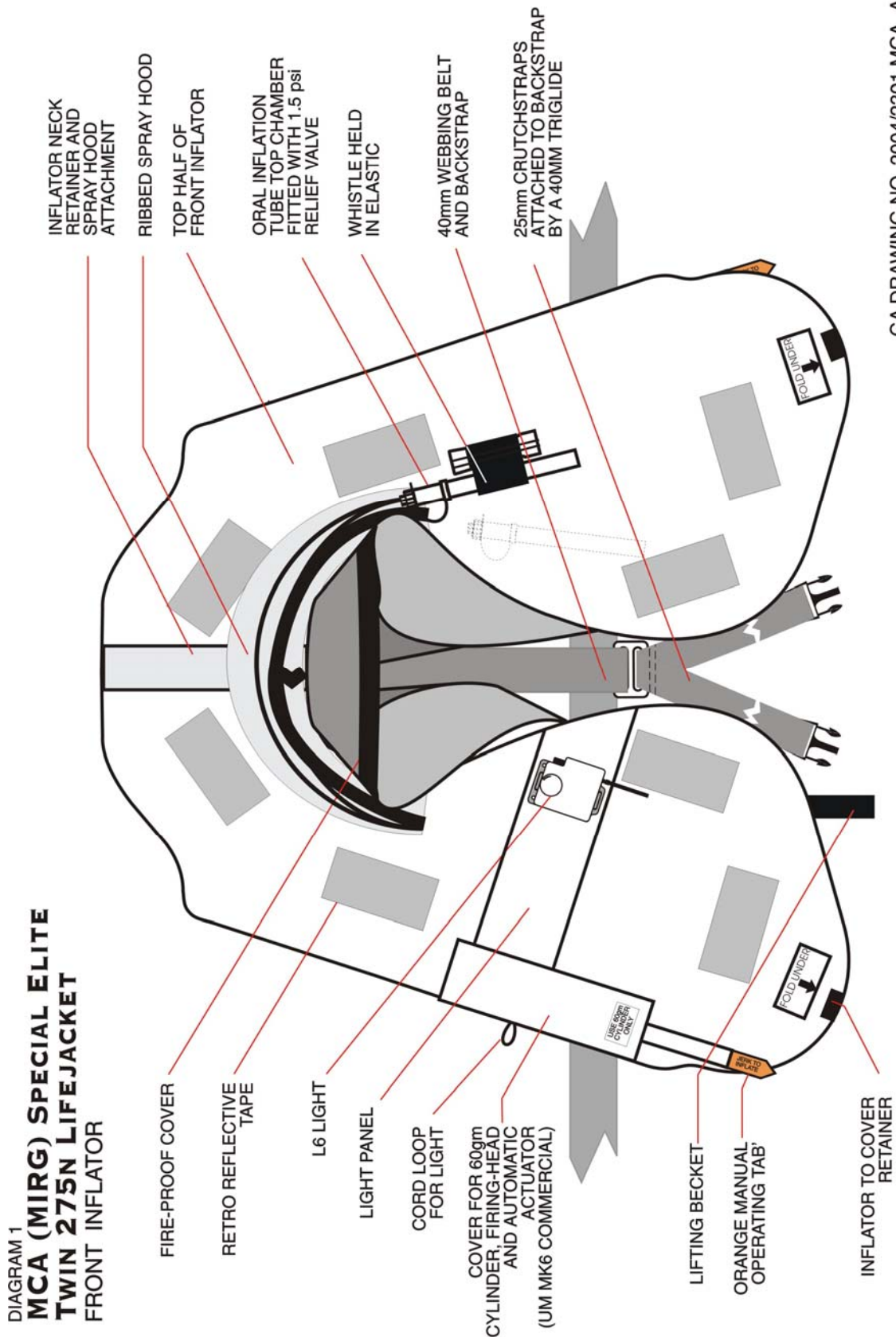
**NO OTHER REPAIRS ARE PERMISSIBLE.**

**CREWSAVER IS NOT LIABLE FOR ANY SERVICING CARRIED OUT  
BY UNAUTHORISED PERSONNEL.**

**SERVICING PROCEDURE FOR MIRG ELITE  
TWIN CHAMBER 275N AUTOMATIC LIFEJACKET**

**DIAGRAM 1**

**MIRG ELITE UNFOLDED – FRONT INFLATOR**

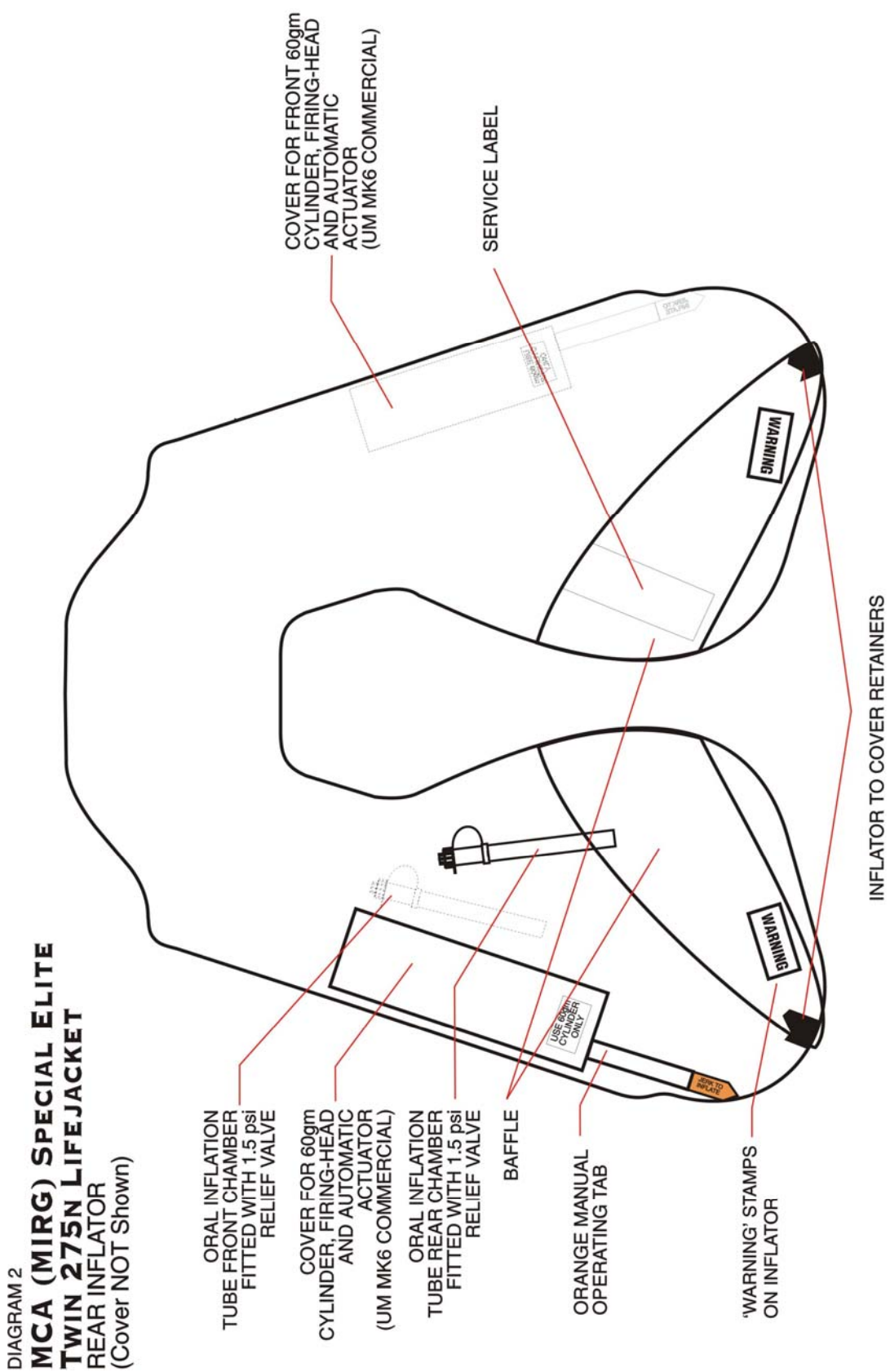


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ISSUE 5. DATED 13/01/06

**SERVICING PROCEDURE FOR MIRG ELITE  
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**DIAGRAM 2**

**MIRG ELITE UNFOLDED – REAR INFLATOR**

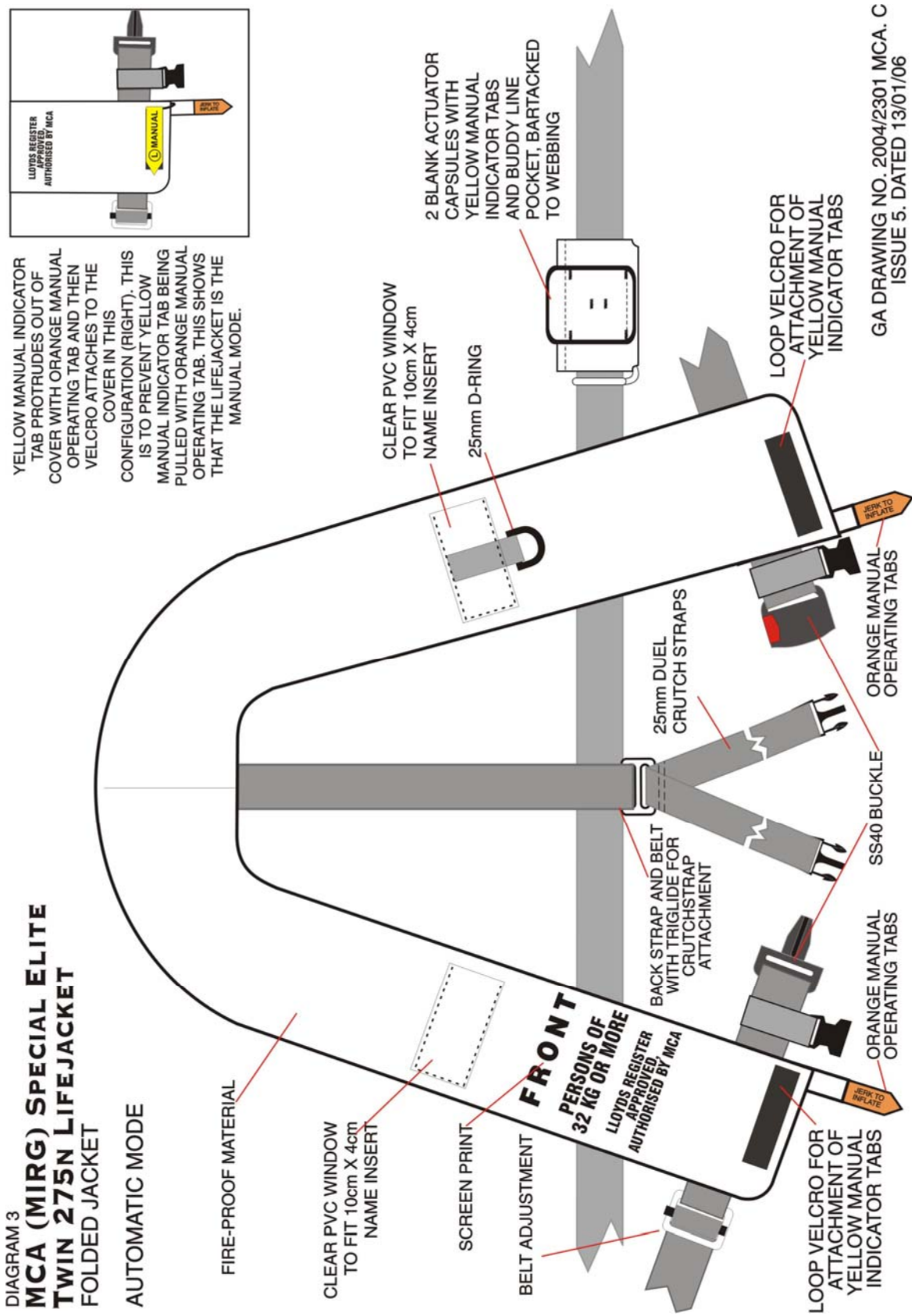


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**SERVICING PROCEDURE FOR MIRG ELITE  
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**DIAGRAM 3**

**MIRG ELITE FOLDED – FRONT VIEW – AUTOMATIC MODE**

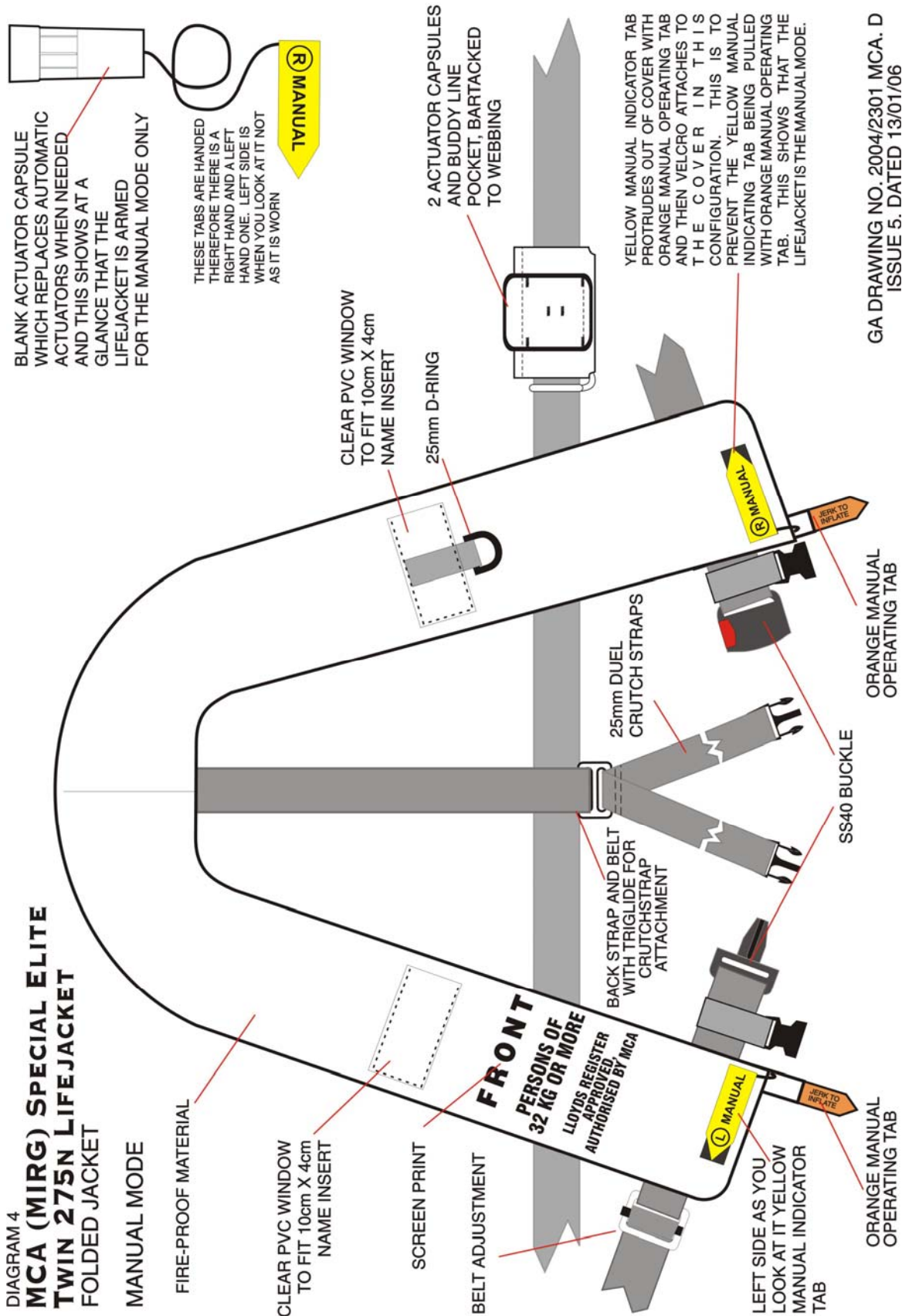


Crewsaver, Mumby Road, Gosport, Hants. PO12 1AQ, England.

**SERVICING PROCEDURE FOR MIRG ELITE  
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**DIAGRAM 4**

**MIRG ELITE FOLDED – FRONT VIEW – MANUAL MODE**



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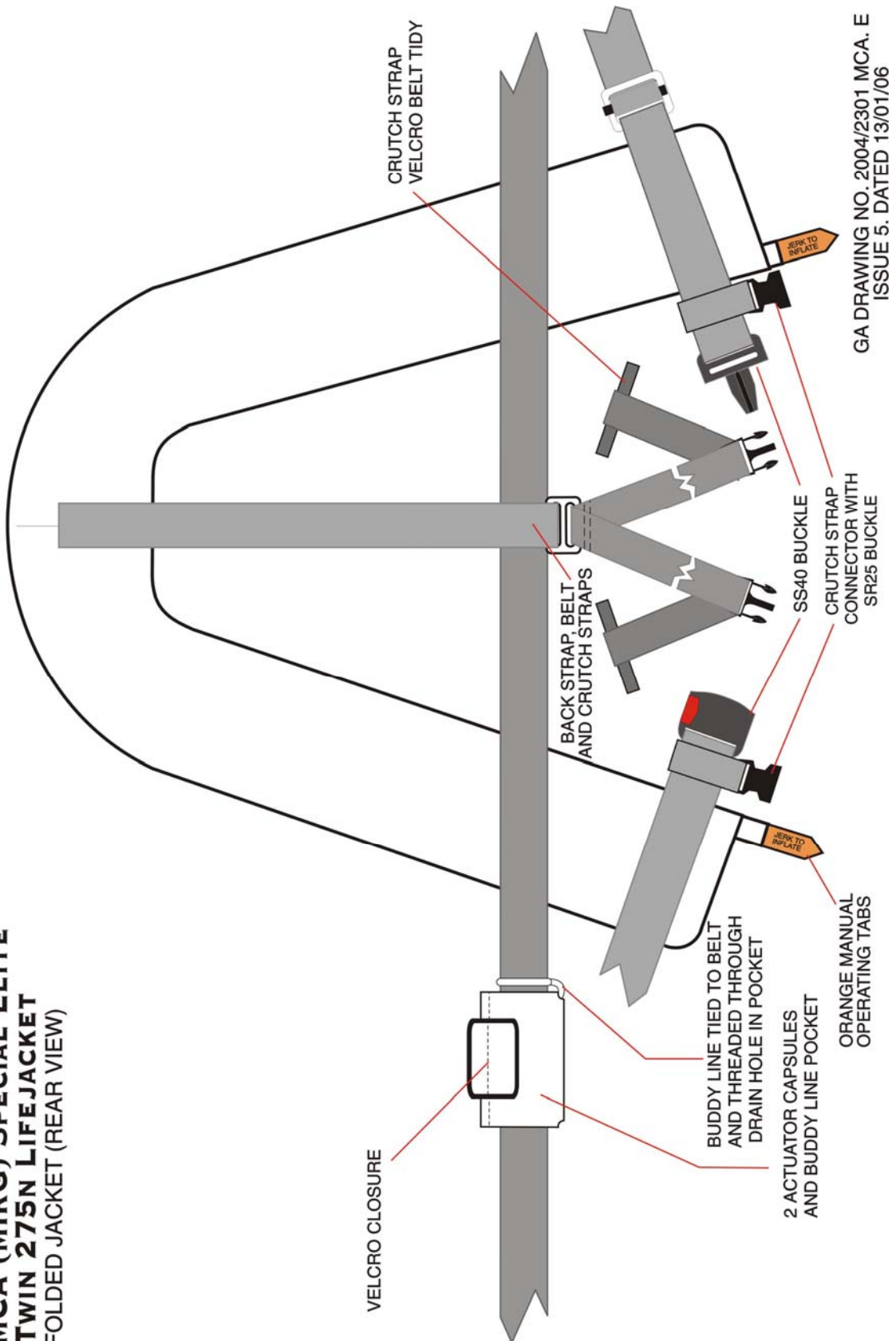


**SERVICING PROCEDURE FOR MIRG ELITE  
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**DIAGRAM 5**

**MIRG ELITE FOLDED – REAR VIEW**

**DIAGRAM 5  
MCA (MIRG) SPECIAL ELITE  
TWIN 275N LIFEJACKET  
FOLDED JACKET (REAR VIEW)**



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**SERVICING PROCEDURE FOR MIRG ELITE  
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**APPENDIX 1**

**REPLACEMENT OF Mk. 6 FIRING HEAD**

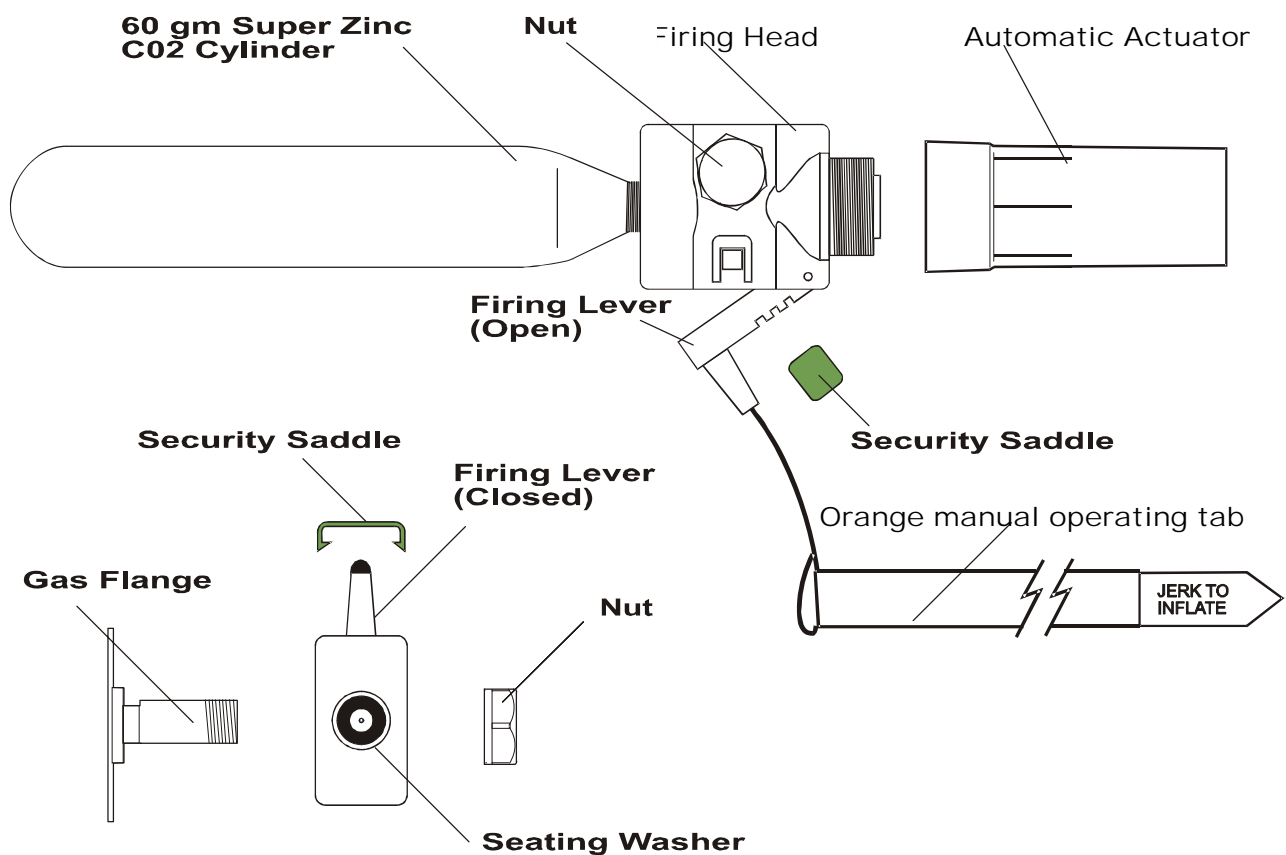
Remove nut and firing head. Re-fit serviceable head with nut torque loaded to 23 lbf in.

Check that the two 'O' rings are present in the head, top and bottom, where the head fits on the gas flange and also that there is a rubber washer where the cylinder screws into the head. Ensure that the head is fitted with an extra length orange manual operating tab marked 'Jerk to Inflate'.

Ensure that the operating lever is parallel to the body and that the firing pin is retracted. Ensure that the green security saddle is in place.

The head should then be inspected as per Item 10.

## Firing Head Mk 6

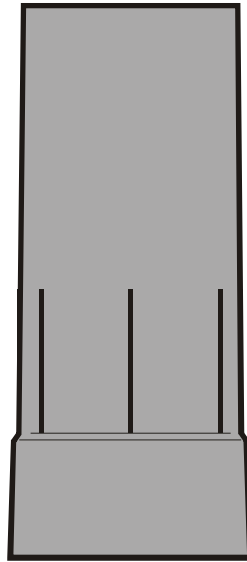


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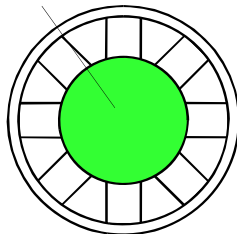
**APPENDIX 2**

**AUTOMATIC ACTUATOR Mk. 6**

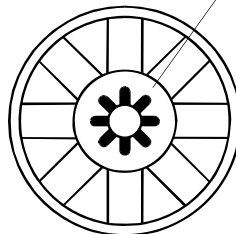
It is very important to check that the actuator has not been fired inadvertently. An unused actuator will show a green disc (a) in the bottom of the actuator. If a red dot (b) shows, **the actuator is no longer effective and must not be screwed onto the firing head**. If it is used in this condition it will activate the head and inflate the lifejacket. The Mk 6 automatic actuator is green in colour.



(a)



(b)



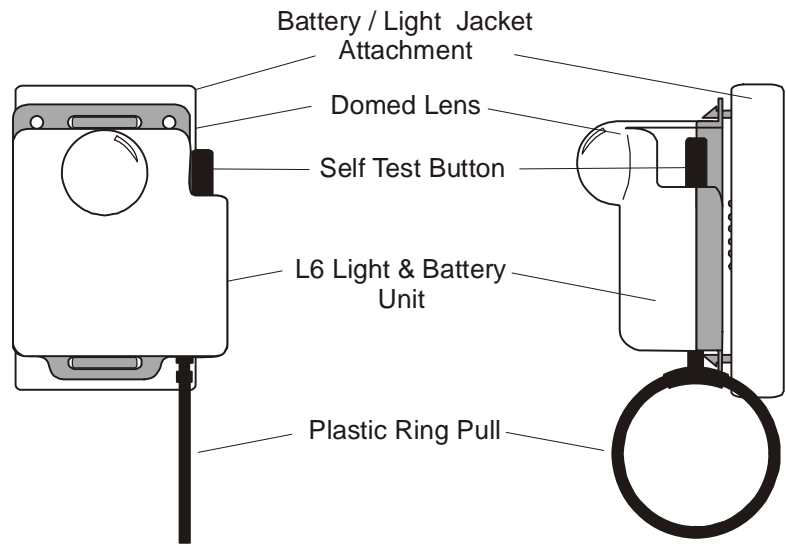
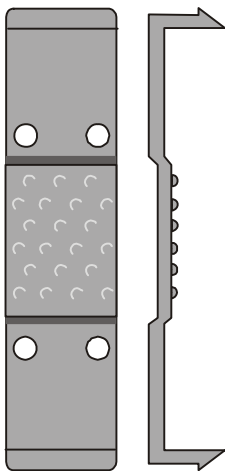
**SERVICING PROCEDURE FOR MIRG ELITE  
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**APPENDIX 3**

**L6 LIFEJACKET LIGHT**

The L6 light is shown below. To test this unit, press the manual activation point and then return it to its original position. The battery is date stamped and should also be replaced if the expiry date has been reached or if the expiry date is less than nine months from the date of service. The light is fixed, by means of the plastic fixing bracket, to a strip of yellow material across the right front (when worn) of the opened jacket. The ring pull cord should be connected to the cord loop at the side of the jacket using a cable tie. Make sure that the cable tie is pulled as tight as possible.

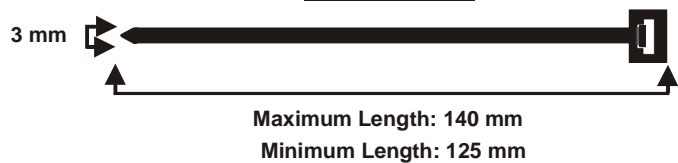
**PLASTIC FIXING  
BRACKET**



**FRONT VIEW**

**SIDE VIEW**

**CABLE TIE**



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**APPENDIX 4**

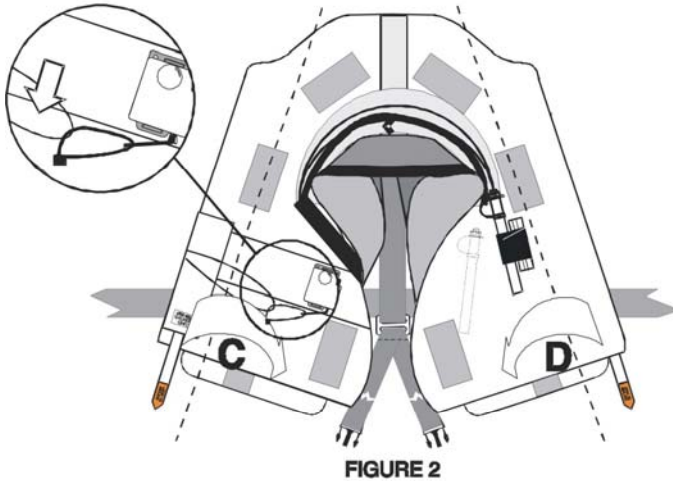
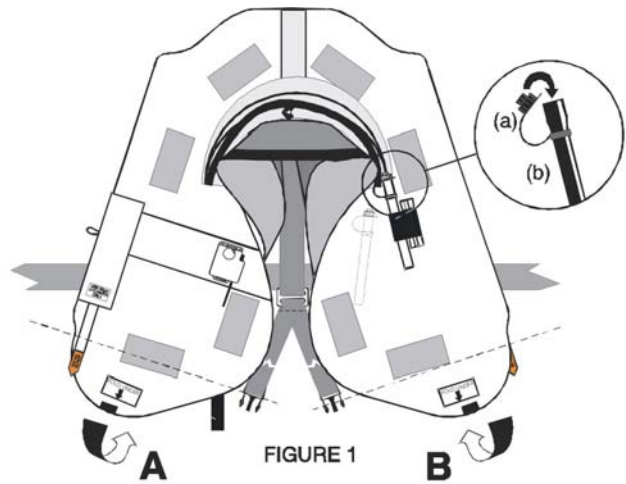
**PACKING INSTRUCTIONS FOR MIRG ELITE TWIN**

1

Lay the jacket out as shown in Figure 1.

Ensure the oral inflation tube cap (a) is replaced on both oral inflation tubes (b), after deflating both chambers.

Fold back the bottom of both sides of the inflator A and B along the dotted lines shown in the diagram.



2

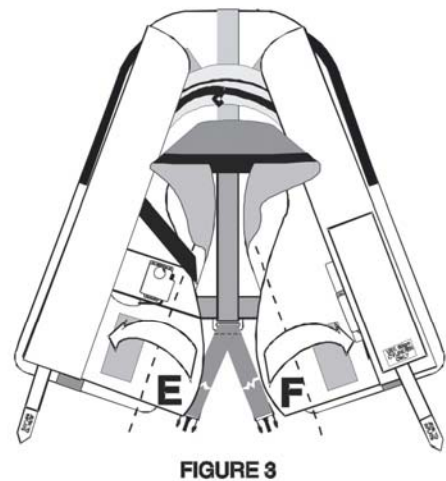
Connect the ring pull of the L6 light to the cord loop using the cable tie supplied

Fold the sides of the inflator C and D Inwards along the dotted lines. As shown in the diagram

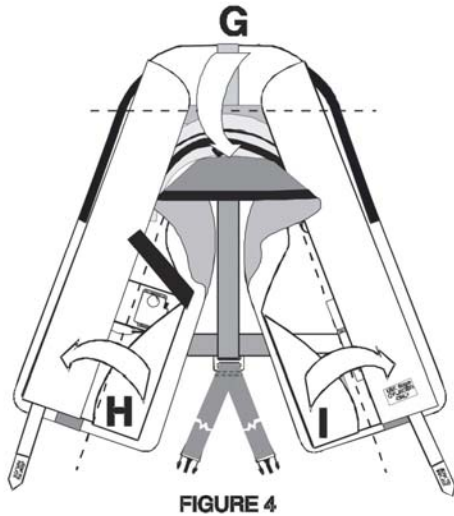
3

Figure shows the part folded lifejacket.

Fold the lapels E and F across the front along the dotted lines.



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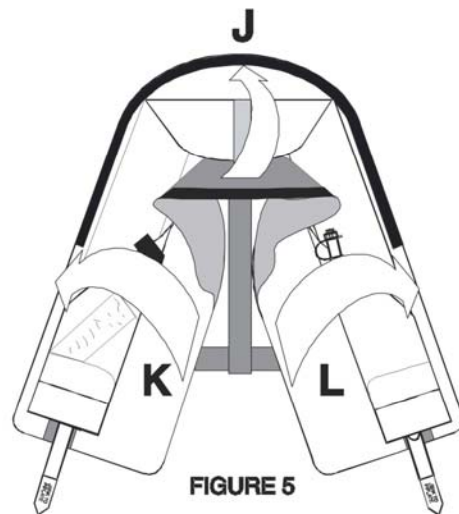
4

Figure shows the part folded jacket

Fold down the collar flap G along the dotted line.  
Fold the lapels H and I across the front again along the dotted lines.

5

Fold the cover legs K and L over. Fasten zips by pulling the sliders up to the top of the zip and fasten the velcro tab. Then pull the zip sliders back down to close the zip. Fold the neck cover J over and attach Velcro.



6

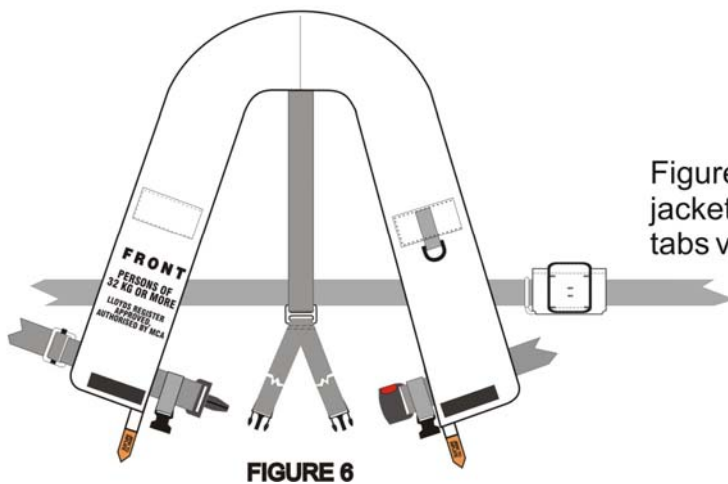


Figure shows the correctly folded jacket with orange manual operating tabs visible and ready for use.

Crewsaver, Mumby Road, Gosport, Hants. PO12 1AQ, England.