



# Poseidon NZ

SAFETY SURVIVAL SOLUTIONS

*Leaders in Land, Marine and Aviation Safety and Survival Solutions*

## Poseidon NZ MODULAR LIFE PRESERVER, **POSEIDON™**

**PSV411 Survival Vest / Life Preserver**  
**PLJ2010 Upper Torso Harness Life Preserver**  
**PLJ204 Full Torso Harness Life Preserver**  
**PPL0965 Pouch Life Preserver**  
**PRSH1196 Rescue Swimmer Harness**  
**PLPS910 Life Preserver Stole (no Harness attachment)**

## DESCRIPTION AND MAINTENANCE INSTRUCTIONS OCTOBER 29, 2015, REV: 3.0 – UK English Version



**PLJ204**  
Shown



**PRSH1196**  
Shown



**PLJ2010**  
Shown



**PPL965**  
Shown



**PSV411**  
Shown

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## 1.0 INTRODUCTION

Poseidon Life Jackets are designed of a Modular construction, allowing all items to adapt to the varying Operational and or Environmental Requirements. This form of Modular construction allows ease of parts replacement with wear and tear, and ensures Poseidon has no “End of Life” dating

The Poseidon range of Life Jackets are designed to offer a uniformity and consistency in:

- Use
- Training
- Inspection and
- Maintenance

Poseidon offers the following design options:

PSV411	Survival Vest / Life Preserver
PLJ2010	Upper Torso Harness Life Preserver Yoke Style Harness
PLJ204	Full Torso Harness Life Preserver
PPL965	Pouch Type Life Preserver
PRSH1196	Rescue Swimmer Harness/Life Preserver
PLJS910	Life Preserver without attaching Harness

No matter the Design Option, the uniformity for Operation remains consistent, and also the entirety of the overall design.

Poseidon Life Jackets offer a unique “Retainer Component” which the Inflation Cells are loose packed in to. This Retainer Component and loose packing of the Inflation Cells allows the volume of the Inflation cells to be varied from 157 Newton's or 300 Newton's and vice versa.

In addition, the Inflation Cell designs can be varied to suit the Operational Theatre requirements, these include:

- Dual Chamber Floating Baffle
- Damage Resistant
- Single Chamber

Further, the Stoles can be varied with the Environmental use, such as changing a Stole to suit activities such as oil recovery processes – the use of the Poseidon Hot Dipped Vinyl Orange Stole is easily cleaned of contaminants and extremely robust.

The Survival Vest / Life Preserver design (PSV411), offers the unique features:

- Integrated Fall Arrest/Restraint/Winching Harness
- Unique expansion Gussets either side of the Survival Vest is to allow for the integration of the Poseidon Internal Body Armour without the need to have a secondary larger sized Vest to accommodate the Armour
- MOLLE Webbing for Pockets
- Ergonomic design, which guarantees Users, the garment will not ride up, nor restrict the wearer in the day to day duties
- The choice of two D Ring attachment points on the rear for Users – **(1)** Dorsal - for Fall Arrest and Restraint, and **(2)** Waist - Restraint only
- Detachable Stole
- Aviation Version Nomex FR
- Marine Version Nylon FR



Poseidon covers the following Approvals, either in process or have been awarded:

ASNZS1891.1	Fall Arrest/Restraint	Awarded
NZ CAA	Aviation	In Process
IMO/SOLAS	Marine	In Process
TSO-C13f	Aviation	In Process
TSO-C13d	Aviation	In Process
ISO12402	International	In-Water Performance Awarded

## 1.1 ADAPTABLE ASPECTS TO THE LIFE PRESERVER FORMAT

1.1.1 Via the Modular Design Concept, and the unique patented Retainer Component Module, aspects such as the following can be adapted to the Life Preserver format:

- a) Outer Stole Colour
- b) Outer Stole Capability – Non FR Nylon, FR Nylon and FR Nomex capability
- c) Inflation Cell Design Buoyancy requirement 157 – 300 Newton's – both SOLAS and FAA Approval in process
- d) Inflation Cell Design, such as Dual Chamber Floating baffle, or Damage Resistant Life Preserver Design – both SOLAS and FAA Approval in process
- e) Inflation Cell Single Chamber
- f) Torso Harness integration
- g) Upper Torso Harness Integration
- h) Survival Vest/Load Bearing Vest Integration
- i) Rescue Swimmers Harness
- j) Pouch Life Preserver

1.1.2 All variants of the Poseidon Life Preserver design offering the Users exactly the same method of Operational Activation.

## 1.2 INFLATION CELLS – DAMAGE RESISTANT

1.2.1 Damage Resistant Inflation Cells (POSEIDON LIFE PRESERVERS) are each comprised of a Life Preserver and a choice of three mounting harness assembly, or one Survival Vest/Load Bearing Vest. These devices are designed to operate in any scenario regardless of ballistic damage or penetration of either of the Inflation Cells, separately.

## 1.3 INFLATION CELLS – DUAL CHAMBER - FLOATING BAFFLE

1.3.1 Dual Chamber – Floating Baffle Inflation Cells (POSEIDON LIFE PRESERVERS) are each comprised of a Life Preserver and a choice of four mounting harness assembly, or one Survival Vest/Load Bearing Vest. These devices are designed to operate in any scenario capable of sustaining damage or penetration of either of the Inflation Cell chambers separately. See Section 2.2 of this Manual



## 1.4 CO2 HYDROSTATIC ACTUATORS

- 1.4.1 Are designed primarily for Maritime Operations, Marine Boarding parties, and General Maritime Operations that are performing operations on water borne activities. In the event of an accidental man-overboard or in the possible event of being struck by firearm discharge, or abrasion in a harsh environment, this device automatically inflates and self-rights an unconscious user. The Hydrostatic Actuators have the ability to be converted to Manual Operation by the fitting of the Manual Conversion Plug Part No. PA4015. See Section 2.0 of this Manual

## 1.5 CO2 MANUAL ACTUATORS

- 1.5.1 Are designed primarily for Aviation Operations, that are performing operations within airframe activities. This item has no ability to automatically activate and therefore will not operate with incapacitated Users. See Section 2.2 of this Manual.

## 1.6 CO2 ACTUATOR BLANKING PLATE

- 1.6.1 Poseidon design offers a consistency in parts and design, as such all Inflation Cells variations offer Dual Chambers, utilizing Dual Co2 Inflator Mechanisms.

Where Users do not require Dual Actuators, the option of the PA4035BLANK Blanking Plate allows Users to have the option to use the Inflation Cell utilizing One Co2 Inflator.

This unique design allows Users the ability to fit a secondary Co2 Inflator at a later date or design review. See Section 23.0 of this Manual

## 1.7 DESIGN FEATURES

PLJ2010 (YOKE STYLE {upper torso} LIFE PRESERVER)  
PLJ204 FULL TORSO HARNESS LIFE PRESERVER  
PRSH1196 RESCUE SWIMMERS HARNESS/LIFE PRESERVER  
PLJS1259 LIFE JACKET WITHOUT HARNESS SYSTEM  
PPL965 POUCH LIFE PRESERVER

- 1.7.1 Life Preservers listed in 1.7 are universal in size and fit, and utilizes the Users choice of automatic or manual inflators, with a further choice of (a) Inflation Cells (b) Designs and (c) Buoyancy, including:

**300 Newton's**

- a. Dual Chamber Floating Baffle Design, with ability for actuators on one or both Inflation Chambers and Oral Inflators/Over Pressure Valves on both independent Inflation Cells
- b. Damage Resistant Inflation Cells
- c. Single Chamber Inflation Cell

**157 Newton's**

- a. Dual Chamber Floating Baffle Design, with ability for actuators on one or both Inflation Chambers, and Oral Inflators/Over Pressure Valves on both independent Inflation Cells
- b. Damage Resistant Inflation Cells
- c. Single Chamber Inflation Cell



## **1.8 AVAILABLE FABRIC OPTIONS**

- 1.8.1 **NOMEX FLAME RESISTANT (FR)**
  - a. Olive Drab/Sage Green
  - b. Navy
  - c. Orange
- 1.8.2 **NYLON FR FABRIC**
  - a. Navy
  - b. Olive Drab
- 1.8.3 **NON FLAME RESISTANT (NON FR) nylon**
  - a. Hot Dipped Hi-Vis Orange Vinyl
  - b. Hi-Vis Lime with Retro Tapes
  - c. Navy
  - d. Black

## **1.9 RETAINER COMPONENTS**

- 1.9.1 **SOLAS/IMO and FAA/CAA**
  - a. Hi-Vis Orange or Yellow Construction meeting SOLAS/IMO and FAA/CAA requirements with fixed Retro-flective tapes
- 1.9.2 **Covert Tactical Theatre Operations**
  - b. Tactical Black for Covert Operations with deployable / concealable Retro-flective tapes

## **1.10 SURVIVAL VEST / INTEGRATION / SIZING**

- 1.10.1 The Survival Vest/Load Bearing Vest has been developed to integrate to the Poseidon Life Preserver design. There are material variants being FR Nomex and FR Nylon fabrics. Sizes are:
  - a. XSmall                      32" – 36"
  - b. Small                        36" – 40"
  - c. Medium                     40" – 44"
  - d. Large                        44" – 48"
  - e. XLarge                      48" – 52"
  - f. XXLarge                     52" – 56"

## **1.11 AVIATION VERSION THE PLJ2010 – PLJ204**

- 1.11.1 Is primarily used by aviation aircrew and passengers in hostile operating environments. The PLJ2010 is configured with a manual inflator and in the event of an emergency egress or in the possible event of being struck by firearm discharge, this device self-rights a conscious user when inflated.
- 1.11.2 The Olive Drab/Sage Green and Navy, flame-retardant PLJ204 conforms to Air Standard ASCC 61/102/18 requirements. The Full Torso Harness can be adjusted with the eight adjustment points to fit an individual, and the Survival Vest/Load Bearing Vest comes in 6 sizes.



- 1.11.3 There are two choices of Harness type systems:
- i. Full Torso Harness PLJ204
  - ii. Upper Torso/Sailing Harness PLJ2010

## **1.12 AVIATION VERSION THE PRSH1196**

- 1.12.1 The PRSH1196 is primarily used by Aviation Rescue Swimmers. The PRSH1196 is configured with a manual inflator, standardized in Rescue Orange Colour and manually activated when the Rescue Swimmer requires assisted buoyancy.

## **1.13 MARITIME VERSION THE PRSH1196**

- 1.13.1 Is primarily used by Vessel Boarding Parties. The PRSH1196 is configured with a Hydrostatic inflator, standardized in Rescue Orange Colour and activated automatically when the User needs assisted buoyancy.





## 1.14 CONTACT

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## 1.15 RIGHTS RESERVED

Velcro<sup>®</sup> is a trademark of American Velcro<sup>®</sup> Inc.  
Poseidon<sup>®</sup> is a trademark of Safe Defence Ltd

## 1.16 RESPONSIBILITIES

- 1.16.1 The individual to whom the POSEIDON LIFE PRESERVER is issued or assigned, following internal (Poseidon OEM Certified) training, assumes responsibility for pre and post use inspections and for returning the POSEIDON LIFE PRESERVER to the Maintenance Shop for periodic inspection and testing on required dates.
- 1.16.2 Each operational organisation is responsible for the instruction and survival training of all POSEIDON LIFE PRESERVER users in the following:
- Fitting and Operation of the POSEIDON LIFE PRESERVER.
  - Purpose, Use and Operation of all POSEIDON LIFE PRESERVER furnished equipment accessories.
  - Importance and method of Visual Pre and Post use Inspections.
- 1.16.3 The Maintenance Shop is responsible for:
- Periodic Inspection and Testing of the POSEIDON LIFE PRESERVER.  
NOTE: The inspection interval should not exceed 365 days (see section 37 Maintenance reporting Back of manual)
  - Inspection when first issued from a Supply Depot or contractor and prior to issue for service.
  - Maintenance, Cleaning, and Repair if and when required.
  - Ensuring that a fully charged carbon dioxide (CO<sub>2</sub>) cylinder, automatic actuator and manual actuator and functional CO<sub>2</sub> inflation device are properly installed prior to issue.
  - Requisitioning and maintaining stocks of spare parts.
  - Maintenance of Inspection Records of all Poseidon products used.
  - Current OEM Certification of all Employees and Contractors and Inspection Bay Certification and Testing Equipment.

## 1.17 TESTING

- 1.17.1 All POSEIDON LIFE PRESERVER'S are tested to ensure the highest level of reliability and performance. Safe Defence Ltd offers superior quality under rigid QA standards of our factories which are certified to ISO-9001, and FAA Approved

## 1.18 FIT

- 1.18.1 When a POSEIDON LIFE PRESERVER unit is initially issued to personnel, it is to be individually fitted to the wearer. The wearer is to be fully instructed in the donning and adjustment procedures.
- 1.18.2 **NOTE:** when the PSV411 Survival Vest / Life Preserver is to be used within any winching exercise, the Legs Straps and Waist Belt should be adjusted from the usual snug comfort fit (two fingers gap) to a tight secure fit to ensure the Survival Vest does not ride up.



## 2.0 FEATURES

### 2.1 DESIGN AND CONSTRUCTION

- 2.1.1 The Safe Defence Ltd POSEIDON LIFE PRESERVERS are designed to provide flotation in case of immersion in water, minimising the risk of drowning. The POSEIDON LIFE PRESERVERS inflates manually or automatically, upon water immersion. It is also designed to worn over the top of body armour and in the event of direct ballistic penetration to one lobe (where fitted with the DRLP Inflation Cells), has a redundant system that will provide a fully functional Life Preserver.
- 2.1.2 The Aviation FR version is made of Nomex fire retardant materials.
- 2.1.3 The Marine version is made of treated fire retardant Nylon conforming to FAR 25.853
- 2.1.4 The Reverse Left Hand side of all Poseidon Life Preserver is a User Inspection Window – this windows contains an Inspection Card – this Inspection Card allows Users to immediately identify the:
- (1) Configuration of the Life Preserver,
  - (2) Valid Inspection period, and
  - (3) Essential Data of that Life Preserver
- 2.1.5 The Card is coloured:
- a. BLUE to signify the configuration for MANUAL setting of the Actuators this is the standard fit for all Aviation Products and
  - b. YELLOW to signify the configuration for Automatic settings of the Actuator for Marine products
  - c. A split BLUE and YELLOW card indicates one Actuator set to Automatic and one to Automatic with the Manual Conversion Plug fitted
- 2.1.6 Data on the Card shows:
- a. Product Serial Number
  - b. Expiry Date
  - c. Co2 Actuator setting
  - d. Barcode for digital scanning
- 2.1.7 Familiarise yourself with all the features of the POSEIDON LIFE PRESERVER to maximize its effectiveness. Illustrations are provided to support the text.

***NOTE: All location reference points in this section are based from the perspective of the person wearing the POSEIDON LIFE PRESERVER.***



## 2.2 ASSEMBLED POSEIDON LIFE PRESERVER

## 2.3 PLJ204 SHOWN FULL TORSO HARNESS

### Full Torso Harness Assemble & Visual User Identification

Figure 2a Component Locations (front view) Full Torso Harness





**Figure 2b Tactical Vest Attachments**



**Figure 2c Duty Belt with Upper Torso Harness Configuration**





## 2.4 UPPER TORSO/SAILING HARNESS CONFIGURATION

Figure 2d Component Locations (rear view) Upper Torso/Sailing Harness



## 2.5 LIFE PRESERVER

2.5.1 The Life Preserver assembly consists of five major components:

- i. Inflation Cell(s)
- ii. Retainer Component
- iii. Outer Stole
- iv. Harness Assembly
- v. Co2 Actuators

## 2.6 OUTER STOLE

2.6.1 The Life Preserver Outer Stole (protective cover) is attached directly to the mounting harness assembly with an interlocking webbing and snap system up to eight points, and or a Dutch Speed Lacing method, and is easily removable. Attached to the Life Preserver cover, also with an interlocking webbing and snap system at four points, is the Inflation Cell Retainer Component and associated Inflation Cells. The four attachment points for both interfaces are at each lobe (right and left) and the two at the collar (right and left). The Inflation Cell, when folded and packed, is contained within the Outer Stole by means of a perimeter zipper closure system and a Velcro patch located at the rear at the zipper ends at the rear collar.





## 2.7 RETAINER MODULE

Figure 2e Inflation Cell Retainer Component





## 2.8 INFLATION CELL

- 2.8.1 The Inflation Cells are made from either **(1)** HT Nylon or **(2)** polyurethane coated nylon fabric. The perimeter of each Inflation Cell is sealed using radio frequency (RF) bonding.

## 2.9 INFLATION CELL DESIGNS

- 2.9.1 The Life Preserver has a choice of a number of variant Inflation Cell designs, This feature allows Users / Fleet Managers to integrate the design of Inflation Cell to the Environmental / Operational Theatre requirement:

### 2.9.2 **Option 1: Damage Resistant Life Preserver - 300 Newton's:**

Comprises two discrete Inflation Cells (right and left), each of which operate independent of one another. Each Inflation Cell is partly inverted on itself and placed into one half of the Retainer Component (either right or left). When activated, the device will operate as a fully functional Life Jacket 300 Newton's with either or both Inflation Cells deployed. If both Inflation Cells are deployed, either Inflation Cell will inflate into either one another to fill the Retainer Component. If only one of the two Inflation Cells is activated, the Inflation Cell will inflate into the opposite chamber (i.e.: the non-activated side) to fill the Retainer Component. Excess inflation gas is vented through an Over Pressure Valve (or Dump Valve) on each Inflation Cell located in the base of the Oral Inflator.

### 2.9.3 **Option 2: Damage Resistant Life Preserver – 157 Newton's:**

Inflation Cells (right and left), each of which operate independent of one another. Each Inflation Cell is partly inverted on itself and placed into one half of the Retainer Component (either right or left).

When activated, the device will operate as a fully functional Life Jacket 157 Newton's with either or both Inflation Cells deployed. If both Inflation Cells are deployed, either Inflation Cell will inflate into either one another to fill the Retainer Component.

If only one of the two Inflation Cells is activated, the Inflation Cell will inflate into the opposite chamber (i.e.: the non-activated side) to fill the Retainer Component. Excess inflation gas is vented through an Over Pressure Valve (or Dump Valve) on each Inflation Cell located in the base of the Oral Inflator.

### 2.9.4 **Option 3: Dual Chamber – Floating Baffle Design – 300 Newton's:**

A single Inflation Cell which utilises a Floating Baffle between the front and rear of the Inflation Cell (a separation) in design with a 300 Newton Capacity. The Inflation Cell incorporates an Oral Inflator, Over Pressure Valve, and a Co2 Actuator on each side of the Inflation Cell chamber. When either Co2 Actuator is initiated, the Inflation Cell will fully inflate, and any excess pressure is vented through the Over Pressure Valve. Each side of the Floating Baffle of the Inflation Cell accommodates 300 Newton of buoyancy. In the event one Inflation Cell is damaged, and does not hold pressure, the back side of the Inflation Cell can be inflated using the Co2 Activation, or by means of the Oral Inflation Device.



**2.9.5 Option 4: Dual Chamber – Floating Baffle Design – 157 Newton’s:**

A single Inflation Cell which utilises a Floating Baffle between the front and rear of the Inflation Cell (a separation) in design with a 157 Newton Capacity. The Inflation Cell incorporates an Oral Inflator, Over Pressure Valve, and a Co2 Actuator on each side of the Inflation Cell. When either Co2 Actuator is initiated, the Inflation Cell will fully inflate, and any excess pressure is vented through the Over Pressure Valve. Each side of the Floating Baffle of the Inflation Cell accommodates 157 Newton of buoyancy. In the event one Inflation Cell is damaged, and does not hold pressure, the back side of the Inflation Cell can be inflated using the Co2 Activation, or by means of the Oral Inflation Device.

**2.9.6 Option 5: Single Chamber 300 Newton’s:**

A single Inflation Cell incorporating a Co2 Actuating Device, Over Pressure Valve, and Oral Inflator. The Single Inflation Cell Chamber device offers 300 Newton’s of buoyancy and cost effective operations.

**2.9.7 Option 6: Single Chamber 157 Newton’s:**

A single Inflation Cell incorporating a Co2 Actuating Device, and Oral Inflator. The Single Inflation Cell Chamber device offers 157 Newton’s of buoyancy and cost effective operation.

**2.10 WARNING FOR THE MARINE VERSION POSEIDON LIFE PRESERVER**

2.10.1 The Marine POSEIDON LIFE PRESERVERS are configured with an Hydrostatic automatic inflation system and will inflate when immersed in at least 4 inches (10 cm) of water.

2.10.2 Normal manual or automatic inflation by carbon dioxide gas (CO<sub>2</sub>) from a stored cylinder, fully inflates either Inflation Cell. Either Inflation Cell may be inflated by oral, and provides for redundancy in an event one of the Inflation Cells is damaged, requires topping up, or fails to operate for any reason. Air can also be vented using the same Over Pressure Valve to provide lower pressure Inflation Cells for additional comfort or mobility. The Dump Valve/Over Pressure Valve provides for rapid deflation.

2.10.3 When inflated, the Inflation Cell forms a yoke around the back of the User’s neck, extending into two lobes down either side of the User’s chest.

2.10.4 A webbing and snap assembly is used to attach the components to one another. Webbing straps are flaked in and out of small 25mm slots and doubled back on one another before being secured with a ‘pull-the-dot’ snap. This provides a secure anchor that prevents mobility or rotation about these attachment points.

2.10.5 The largest Inflation Cell is designed to provide a minimum buoyant force of 29.5 kg (68 lb – 300 Newton), when fully inflated with 60 grams of carbon dioxide (CO<sub>2</sub>) gas stored in a cylinder in ambient temperatures above 0° C (32° F).



## 2.11 AUTOMATIC CO<sub>2</sub> INFLATION DEVICE

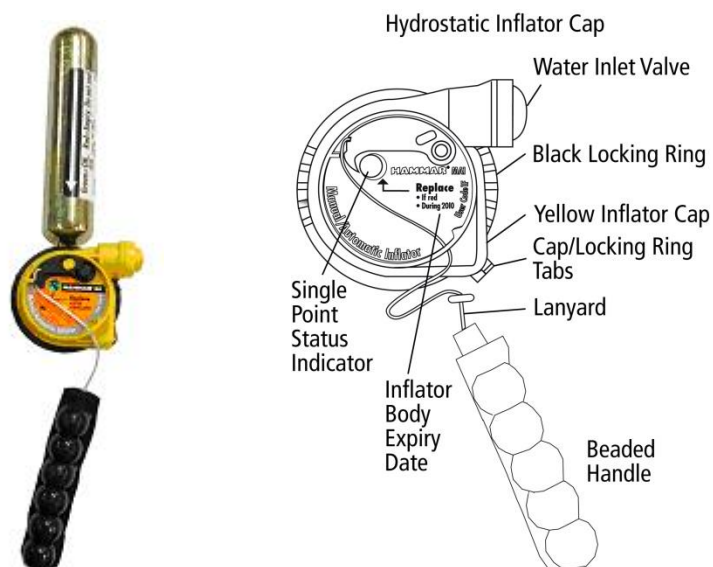
### 2.11.1 Hydrostatic Actuator

The PLJ2010, PLJ204, PRSH1196, and PSV411 Marine Versions incorporates an automatic Hydrostatic operated inflation device. This device can also be converted to a Manual operation by the User, but fitting the Manual Conversion Plug Part No. PA4015. The operating components of the automatic inflation device (Hammar Auto Inflator) are shown in Section 21 - The Manual Conversion Plugs in Section 21.

### 2.11.2 Choice of Inflators

For the PLJ2010, PLJ204, PRSH1196, and PSV411 Marine Versions, there are two automatic inflation devices: one located on each Inflation Cell. The inflation device for the left Inflation Cell is located on the rear left lobe towards the body, and the inflation device for the right Inflation Cell is located on the front of the right lobe (away from the body on the front side of the inflatable). The inflation device is secured with an inner and outer component which interfaces with either side of the sealing ring (RF welded to the inflation cell). A 60g carbon dioxide (CO<sub>2</sub>) cylinder is threaded and glued into the inner portion of the inflation device for the 300 Newton Inflation Cells, and a 35g carbon dioxide (CO<sub>2</sub>) cylinder is threaded and glued into the inner portion of the inflation device for the 157 Newton Inflation Cells. Hydrostatic pressure is applied to objects submerged in water. The hydrostatic inflator needs only to be submerged 4 inches (10 cm) for the hydrostatic pressure to open a pressure valve releasing a firing mechanism, automatically inflating the LIFE JACKET. Inflating under hydrostatic pressure, the LIFE JACKET will not inflate prematurely due to rain, humidity or water contact (the Life Jacket can be inflated manually by pulling the Beaded Handle activation cord). This device can also be converted to a Manual operation by the User, but fitting the Manual Conversion Plug. Easily view the inflator replacement date and inflator status through the Actuator Inspection Pockets - green indicates ready for use. See re-arm instructions in Section 22.0

**Figure 2f Automatic/Manual CO<sub>2</sub> Inflation Device – Non-Operated/Ready Position**





## 2.12 MANUAL CO2 INFLATION DEVICE

### 2.13 PLJ2010, PLJ204 AND PSV411 PRSH1196 AVIATION VERSIONS

#### 2.13.1 Manual Actuator

The PLJ2010, PLJ204, PRSH1196 and PSV411 Aviation versions incorporates a manually operated inflation device. The operating components of the manual inflation device - Hammar Device. See re-arm instructions in Section 22.0.

**Figure 2g Manual CO<sub>2</sub> Inflation Device**



## 2.14 BEADED CO2 INFLATION HANDLE

2.14.1 The Beaded Inflation Handles are constructed of seven black plastic beads threaded onto a loop of nylon webbing. The handles are attached with a lanyard to the operating levers of each CO<sub>2</sub> inflation device and snapped to the lower side of each lobe of Outer Stole. The beaded handle is designed to be easily visible and provide a positive grip for inflation of the preserver with cold, wet or gloved hands.

## 2.15 ORAL INFLATOR VALVE AND PRESSURE RELIEF VALVE

2.15.1 Two Oral Inflator valve and pressure relief valve assemblies are attached to the Inflation Cells (one each Inflation Cell Chamber). The assemblies are RF (Radio-Frequency) bonded to the Inflation Cell. Each oral valve and pressure relief valve accesses a separate independent inflation chamber.

2.15.2 The Oral Inflator located on the rear left lobe of the Inflation Cell inflates/deflates the left chamber. This relief valve is used to regulate the pressure in the left lobe of Life Preserver or can be manually activated to dump the gas from the Inflation Cell in an emergency.

2.15.3 The Oral Inflator located on the front right lobe of the Inflation Cell inflates/deflates the right chamber. This relief valve is also used to regulate the pressure in the right lobe of the Life Preserver or can be manually activated to dump the gas from the Inflation Cell in an emergency.



2.15.4 Both inflators also provide a means of "topping-up" the Inflation Cell to compensate for normal leakage or under-inflation due to excessively cold temperatures. As well, these Oral Inflators provide a means for Inflation Cell deflation, which may be necessary in the event when both cylinders are simultaneously inflated (either manually or automatically). The relief valve is designed to begin venting at pressures approximately 2.5 psi to ensure proper inflation to form and breakout of the Outer Stole. The POSEIDON LIFE PRESERVER Damage Resistant Inflation Cells concept requires a higher dynamic working pressure during the inflation stages.

## **2.16 RETAINER COMPONENT**

2.16.1 The Retainer Component is a unique Patented (NZ Patent Pending) item which has the ability to hold either 300 Newton capacity Inflation Cells, or 157 Newton capacity Inflation Cells.

2.16.2 The Retainer Component is secured to the Poseidon Life Jacket Outer Stole, via means of interlocking webbing and snap system at four points and is easily removable. Two interlocking webbing and snap system are located at the neck area and two further attachment points at the base of each side of the lower Outer Stole at the waist belt area.

2.16.3 At the base of the Retainer Component is a unique Expanding Pocket, sized by a zipper when fully opened expands the Retainer Component from the 157 Newton Inflation Cells size to accommodate the larger 300 Newton Inflation Cells.

2.16.4 The unique expanding pocket has a portion within the expansion area with the buoyancy rating clearly visible through a Viewer Window in the Outer Stole, to signify the expansion sizing for the 300 Newton Inflation Cells.

2.16.5 Correct fitting of the larger 300 Newton Inflation Cells to a Retainer Component which has not had the expansion pocket opened is not possible – therefore it is not possible to place an Inflation Cell of too larger capacity on to the undersized Retainer Component.





## **3.0 OUTER STOLE**

### **3.1 GENERAL**

3.1.1 The Outer Stole is detachable from both the Harness and Retainer Component. The modular aspect allows for the Outer Stole to be changed to suit the Operational Theatre and Environmental use of the time, without the need to have additional stores of complete Life Jacket items for that environmental requirement – the additional benefits of this is, one Life Jacket Platform that Users will not require additional Training in the Use and Maintenance for – User familiarity and Training will remain constant.

### **3.2 OUTER STOLE MODULAR ATTACHMENT**

3.2.1 Interlocking - via means of interlocking webbing and snap system at four points, and Dutch Speed lacing, it is easily removable. Two interlocking webbing and snap system are located at the neck area and two further attachment points at the base of each side of the lower Outer Stole at the waist belt area, with the Dutch Speed Lacing position from the left Shoulder area, running around the back of the Neck, and back down the right Shoulder.

### **3.3 OTHER VARIATIONS OF THE OUTER STOLE**

3.3.1 Nylon FR treated (usually associated with the Maritime Operations)

- a. Navy
- b. Olive Drab/Sage Green

3.3.2 Non FR colour formats including: (usually associated with Maritime Leisure activities)

- a. Navy
- b. Black
- c. Hi-Vis Hot Dipped Vinyl Orange, offering extremely durable with resistance to Petroleum Oils, Fish Oils and Abrasion – with ease of cleaning

3.3.3 FR Nomex Colour formats including (usually associated with the Aviation Operations)

- a. Navy
- b. Olive Drab/Sage Green
- c. Orange



### 3.4 CO2 ACTUATOR INSPECTION PORTS LOCATION ON THE STOLE

- 3.4.1 The Outer Stole provides Two access Port Pockets – one on each side of the Stoles (Left and Right) Figure 3a – 3d.
- 3.4.2 The Port Pockets allow the User to access the Co2 Actuator for the fit or removal of the Manual Conversion Plugs (Poseidon Maritime Versions), which alter the Actuation from either a Manual or Automatic operation Non-Aviation use only.

**Figure 3a – 3d Location of CO2 Actuator Inspection Ports in the Stole**



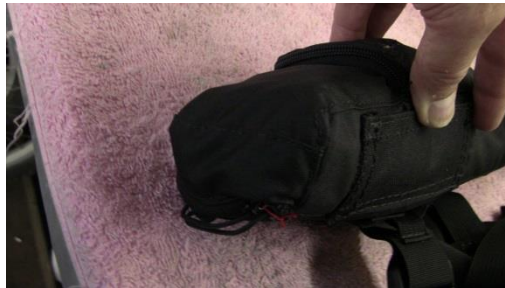
- 3.4.3 Access to the Co2 Actuators via the Actuator Port Pockets does not give the User Access to the Inflation Cell – Access is limited to the Co2 Actuators only, therefore no possible corruption of the Inflation Cell folding is possible
- 3.4.4 Water Ingress Eyelets for the Hammar Hydrostatic Co2 Actuator are located in the Actuator Port Pockets – Figure 3a and 3b
- 3.4.5 When the BLUE Manual Conversion Plugs are fitted, the BLUE colour is clearly visible through these Eyelets, signifying Manual Operation is in effect (note the Eyelets are a secondary visual notification of Manual Operation Mode – see sections later in this manual for Visual notifications of Operational Mode) – Figure 3b
- 3.4.6 On the Right Hand Side Actuator Access Port Pocket is a Clear Window. This window offers two Visual confirmation functions:
- Confirmation of the buoyancy rating of the Inflation Cells fitted – i.e. 157 or 300 Newton's, and
  - The Operational Theatre Retainer Component fitted – i.e. Black for Tactical or Rescue Orange – Hi-Vis Yellow for SOLAS/IMO / FAA requirements – see Figure 3c
- 3.4.7 Both Actuator Port Pockets have the ability for the Security Tags to be applied, where the Fleet Managers / Operations Managers may deem unauthorized access to the C02 Actuators is not warranted. See Figure 3d



### 3.5 OUTER STOLE MAIN ACCESS

- 3.5.1 Access to the Inflation Cells Retainer Component via the Outer Stole, is achieved via the two main Outer Stole Zippers, one on each lobe (Left and Right sides). The Zippers open the Outer Stole exposing the Retainer Component housing the Inflation Cells.
- 3.5.2 The Outer Stole Main Zippers have the ability to secure the enclosures closed, by means of three Security Tags. The Security Tags are located at the base of each Stole, through the Zipper Selvedge, to the eyelet, each side, and one Security Tag positioned through the Neck Velcro Tab at the top of the Life Jacket. With these three Security Tags in place, it is impossible for the User to access the Inflation Cells of the Life Jacket. See Figure 3d and Figure 3e.
- 3.5.3 Where a Security Tag(s) are removed or broken, the Life jacket should be removed from service and the appropriate Inspection process undertaken by the approved personnel for that level of Inspection process.

**Figure 3e Security Tag**



**Figure 3f Security Tag**





## 4.0 RETAINER COMPONENT

### 4.1 MANUFACTURING FABRIC

4.1.1 The Retainer component is manufactured from Nylon 210D Cordura WR PU 60GR 58”

### 4.2 RETAINER COMPONENT FEATURES

- i. The Retainer Component features the following aspects:
- ii. Inflation Cell Access Zippers
- iii. 3 Zipper Access Ports, from which the Inflation Cells are accessed
- iv. Essential Safety items Storage Box Pockets
- v. Retro-Flective tapes

### 4.3 RETAINER COMPONENT SAFETY ITEMS

4.3.1 The Retainer Component also holds the following essential safety items:

- Buddy Line Retainer
- SOLAS/FAA Rescue Light
- Safety Blade knife for cutting Webbing and other entanglements

#### 4.3.2 Inflation Cell Devices

The Retainer Component also features two portals, via which the Inflation Cell Operations Devices protrude for User and Inspection access:

- i. Co2 Actuator Device
- ii. Over Pressure Valve/Oral Inflator

#### 4.3.3 Retro-reflective tapes

*NOTE: the Tactical Black Retainer Component has deployable/concealable retro-reflective tapes for use in Tactical Operational Theatres – The IMO/SOLAS and FAA Hi Vis Orange and Hi Vis Yellow have fixed Retro-reflective tapes*

4.3.4 The Retainer Component is available in three colour formats:

- a. SOLAS/IMO and FAA Hi-Vis Orange,
- b. SOLAS/IMO Hi-Vis Yellow and
- c. Black Tactical format

#### 4.3.5 Modular Construction of the Retainer Component

The Retainer Component is detachable from Outer Stole. The modular aspect allows for the Retainer Component to be changed to suit the Operational Theatre of the time, without the need to have additional stores of complete Life Jacket items for that environmental requirement.

#### 4.3.6 Outer Stole Modular Attachment

Via means of interlocking webbing and snap system at four points it is easily removable. Two interlocking webbing and snap system are located at the neck area and two further attachment points at the base of each side of the lower Outer Stole at the waist belt area.



**Figure 4a Inflation Cell Retainer Component**

RETAINER COMPONENT –  
LEISURE/COMMERCIAL  
RETRO FLECTIVE TAPE  
VERSION



RETAINER COMPONENT –  
TACTICAL – RETRO-  
FLECTIVE  
TAPES CONCEALED



RETAINER COMPONENT –  
LEISURE/COMMERCIAL/MILITARY  
Expansion Pocket Zipper

RETAINER COMPONENT –  
TACTICAL – RETRO-FLECTIVE  
-TAPES DEPLOYED





#### 4.4 STOLE ATTACHMENT OVERVIEW

4.4.1 The Poseidon Stole Life Preserver containing the Retainer and Inflation Cells is design to integrate to varying forms or Harness systems.

4.4.2 Poseidon offers a range of Harness integration options including

- Full Torso Harness
- Upper Torso Harness
- Survival Vest
- Rescue Swimmers Harness
- Pouch

4.4.3 The one design Poseidon Life Preserver Stole is designed to integrate to all items covered in Sections 10 - 16 without any interfacing webbings or special tools.

4.4.4 **NOTE:** Poseidon Integration Straps are available for integration to other OEM Harness's and Load Bearing Vests

#### 4.5 FULL TORSO HARNESS INTEGRATION – SECTION 10.0

4.5.1 The Stole (on the reverse side) contains:

- Two Neck Webbing Attachments either side of the centre
- Two Webbing attachments on the upper location at the base of the Stoles either side

**Figure 4b Webbing Attachments (Full Torso Harness)**





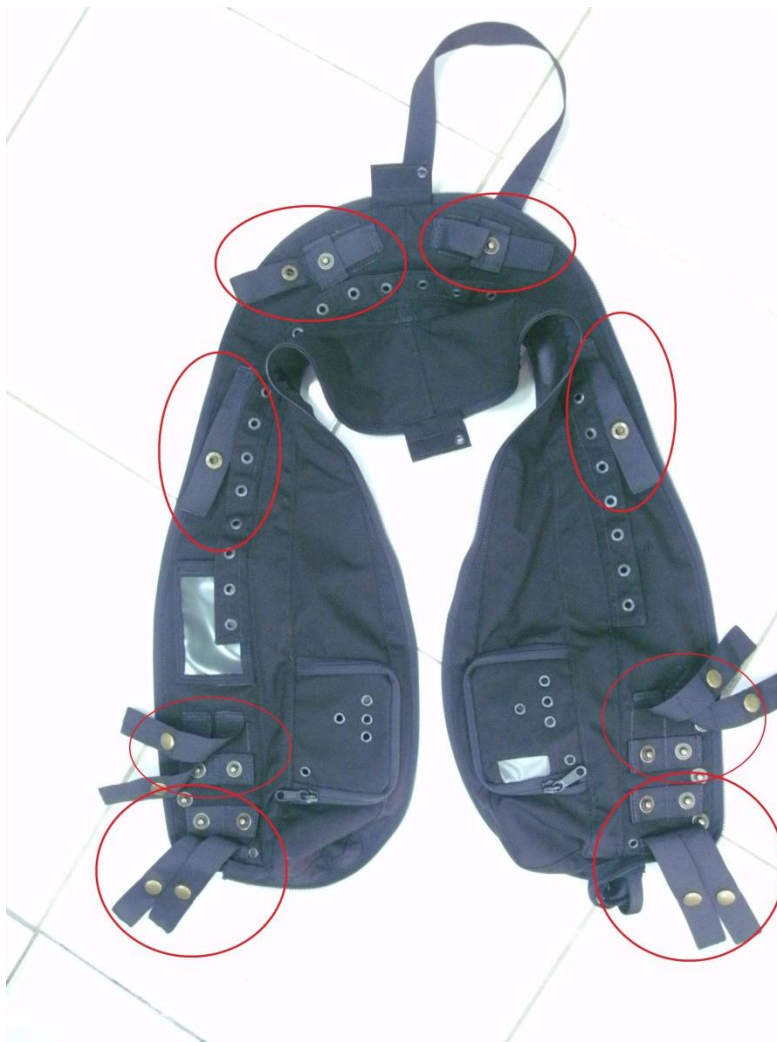


## 4.6 UPPER TORSO HARNESS INTEGRATION – SEE SECTION 12.0

### 4.6.1 The Stole (on the reverse side) contains:

- Two Neck Webbing Attachments either side of the centre
- Two Webbing attachments on the upper location at the base of the Stoles either side
- Dutch Speed Lacing Left Hand side of chest, around the Neck and down the Right Hand side of the chest
- Two Webbing attachments on the Upper portion of the Lower Lobes at the base of the Stoles, and
- Two Webbing attachments on the Lower Lobe at the base of the Stoles

**Figure 4c Webbing Attachments (Upper Torso Harness)**





## 4.7 SURVIVAL VEST INTEGRATION – SEE SECTION 13.0

- 4.7.1 The Stole (on the reverse side) contains
- Two Webbing attachments on the lower location at the base of the Stoles either side
  - Two Webbing attachments on the upper location at the base of the Stoles either side
  - Dutch Speed Lacing Left Hand side of chest, around the Neck and down the Right Hand side of the chest
  - Two Webbing attachments on the Upper portion of the Lower Lobes at the base of the Stoles, and
  - Two Webbing attachments on the Lower Lobe at the base of the Stoles

**Figure 4d Webbing Attachments (Survival Vest, the Stole)**

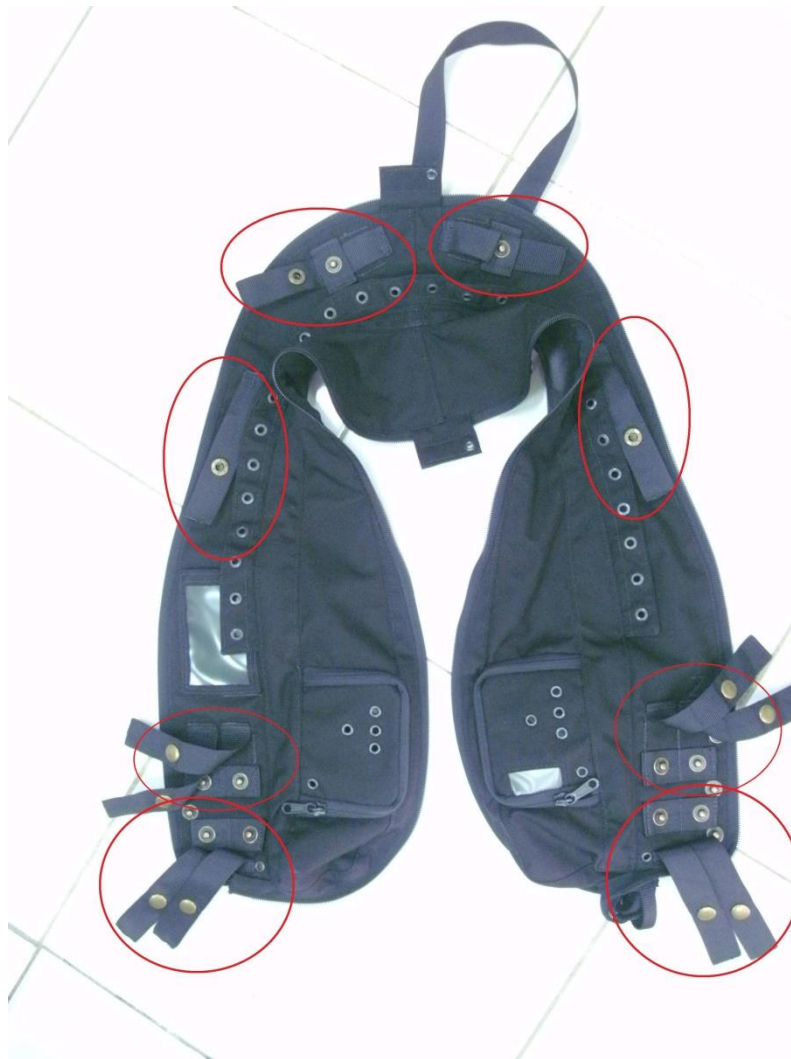




## 4.8 RESCUE SWIMMERS HARNESS INTEGRATION – SEE SECTION 14.0

- 4.8.1 The Stole (on the reverse side) contains
- Two Neck Webbing Attachments either side of the centre
  - Two Webbing attachments on the lower location at the base of the Stoles either side
  - Two Webbing attachments on the upper location at the base of the Stoles either side

**Figure 4e Webbing Attachments (Rescue Swimmers Harness, the Stole)**





#### 4.9 POUCH LIFE PRESERVER INTEGRATION – SEE FIGURE 4F

- 4.9.1 The Retainer (on the reverse side) contains
- Two Neck Webbing Attachments either side of the centre – for the RED back Strap
  - Two Webbing attachments on the lower location at the base of the Stoles either side via the Ladder Loc attachments

**Figure 4f Webbing Attachments (Pouch Life Preserver, the Stole)**







## 5.0 HARNESS SYSTEMS

### 5.1 PLJ204 FULL TORSO HARNESS

See Section 10 for Harness Configuration information

- 5.1.1 The Life Preserver is intended to be secured to the User using the Full Torso Harness system. The standard harness system consists of a light-weight Full-Torso body harness that covers the torso or, and thighs. The harness has multiple attachment points that secure the Life Preserver Stole to the front (2) and back (2) of the torso section using a webbing and snap attachment system. The front attachment has two adjacent snaps on either attachment point to improve Life Preserver stability. The webbing on the Full Torso harness crosses over the back, crosses over each hip, and runs around the waist and thighs of the user. The device is donned by opening and closing 3 side-release buckles: one at the waist and one at each thigh.

**Figure 5a Full Torso Harness**





## 6.0 PLJ2010 UPPER TORSO HARNESS (SAILING HARNESS)

### 6.1 PLJ2010

6.1.1 The Upper Torso Harness is secured to the Poseidon Life Jacket Outer Stole, via means of interlocking webbing and snap system at six points plus a Dutch Speed Lacing method, and is easily removable. Two interlocking webbing and snap system are located at the neck area, two at the Shoulder area each side, and two further attachment points at the base of each side of the lower Outer Stole at the waist belt area.

### 6.2 UPPER TORSO HARNESS DESIGN

6.2.1 The Upper Torso Harness is designed for use where the User is not carrying extensive additional weight.

6.2.2 The optional Leg/Crotch Straps are deployable or stowable as required.

6.2.3 The Upper Torso Harness also features a Double hi-tensile D Ring either side of the Main Entry Buckle, when used in conjunction with the ITW Plastic Quick Release Buckles, for attachment to a Tether Line in such use as RHIB, or Life Line Attachments. The Cobra Quick Release Alloy buckle rated at 1.2Tonnes requires the use of only one hi-tensile D Ring

6.2.4 Once the Inflation Cells and Retainer Component have been assembled, they can be attached to the other components of the Life Preserver.

**Figure 6a Single hi-tensile D Ring – used with the Cobra Buckle**







## 7.0 PSV411 HARNESS CONFIGURATION

### 7.1 SURVIVAL VEST / LOAD BEARING VEST CONFIGURATION

#### 7.2 GENERAL

7.2.1 The Survival Vest / Load Bearing Vest is designed to integrate to the Poseidon Life Preserver. The Survival Vest / Load Bearing Vest is designed to accommodate a number of varying roles, including:

- Nomex Flame Retardant predominantly for the Aviation and Special Tactics environments
- FR Treated Nylon for the Maritime environment
- Construction of both variants consists of Mesh Fabrics for greater User Comfort, supported by
- Woven fabric for support and strength

Figure 7a Survival Vest



7.2.2 The Vest is designed to locate above the central hip points, this ensure Users a free range of movement without the Vest riding up, or restricting movement, especially in Climbing, Stepping situations or Seated positions.

7.2.3 MOLLE Webbing has been placed throughout the design for the personal fit of Pockets for essential items.

7.2.4 The Vest has two rear D Rings Fall Arrest, and Restraint attachment Points (Figure 7b):

- i. The D Ring located in the Upper Shoulder Dorsal area, for (1) Restraint, and (2) Fall Arrest and the other
- ii. In the **lower waist area – centre back** – for **RESTRAINT ONLY**, these two positions are for User preference of the Tether Line attachment

Figure 7b D Rings Fall Arrest and Restraint Attachment Points





- 7.2.5 Located behind the Inflation Cell Stole are two Lifting Harness attachment points (Figure 7c) for Winching Rescue. In any use of these attachment points, a Karabiner must be applied to connect the two Lifting Loops.

**Figure 7c Lifting Harness Attachment Points**



- 7.2.6 Deployable Leg Straps are designed using an expansion webbing (Figure 7d), which allows greater User Comfort and Mobility. In general use the Leg Straps should be fitted with a loose Two Finger comfort gap. When the Vest is used in any Winching Operation the Leg Straps should be tightened to a snug fit to avoid the Vest riding up.

**Figure 7d Leg Straps**



- 7.2.7 Unique Expansion Gussets are located either side of the Vest. These unique Expansion Gussets allow for the integration of internal Body Armour - the Gussets can be opened to allow for the extra girth required when fitting the internal Body Armour.

**Figure 7e Expansion Gussets**



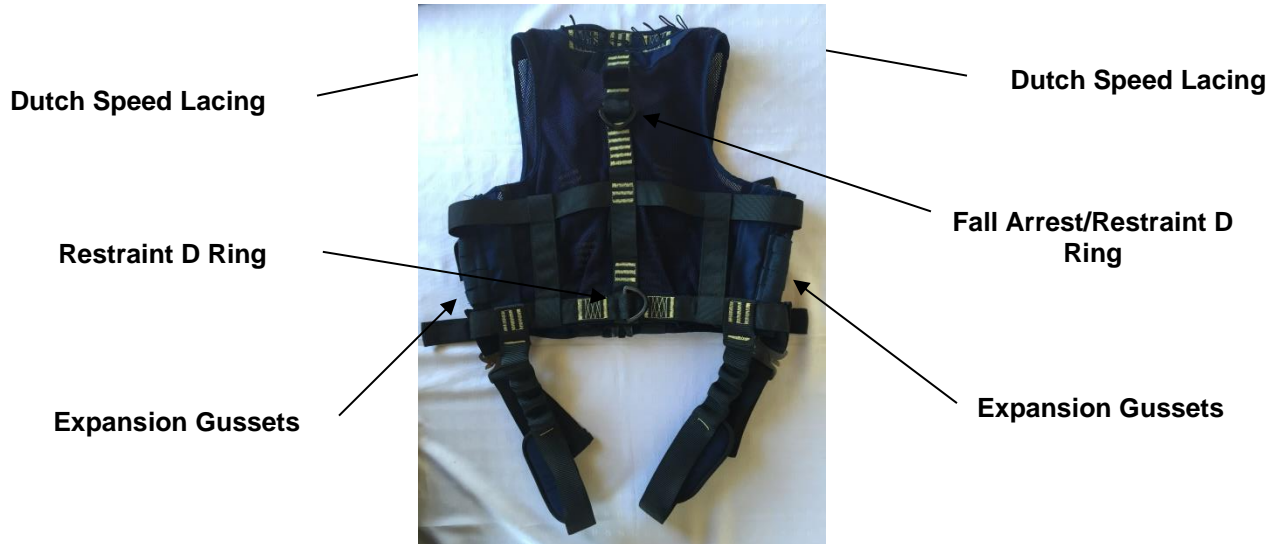
- 7.2.8 The Armour is fitted in to the Vest via two zips either side of the main entry zipper, and a rear Neck area Velcro Tab.



7.2.9 Located on the rear of the Vest are 4 Attachment Tabs, for attachment of an optional 2 litre Hydration Pack.

7.2.10 The Survival Vest / Load bearing Vest is approved to ANZS1891.1 Standards

**Figure 7f ANZS1891.1 Standards**





## 8.0 PRSH1196 HARNESS – RESCUE SWIMMERS HARNESS

### 8.1 GENERAL

8.1.1 The Rescue Swimmers Harness is designed to integrate to the Poseidon Life Preserver PLJ2010. The Rescue Swimmers Harness is designed to accommodate a number of varying roles, including: (Figure 8a)

- A winching Harness with the Poseidon PLJ2010 attached to it predominantly for the Aviation Rescue missions – Manual Actuator
- A Fall Arrest Approved item, associated with Maritime Operations when climbing or Boarding a vessel – Hydrostatic Actuator
- The design is constructed of unique expansion webbings which allow the Rescue Swimmers a greater range of essential body movement.

### 8.2 RESCUE SWIMMERS HARNESS MOUNTING POINTS

Figure 8a – 8c Rescue Swimmers Harness Mounting Points



Figure 8a



Figure 8b



Figure 8c



## 9.0 PPL965 HARNESS POUCH CONFIGURATION

### 9.1 GENERAL

- 9.1.1 The Pouch Life Preserver Harness is designed to integrate to the Poseidon Life Preserver. The Pouch Life Preserver is designed to accommodate a number of varying roles, including: (Figure 9a)
- Nomex Flame Retardant predominantly for the Aviation and Maritime environments
  - FR Treated Nylon for the Maritime environment
  - Woven fabric for support and strength
- 9.1.2 The Pouch Life Preserver is designed to locate above the central hip points (Figure 9b), this ensures Users a free range of movement.
- 9.1.3 Leg Straps (Figure 9c) ensure the Life Preserver does not ride up.
- 9.1.4 The RED central back strap (Figure 9d) attached to the Inflation Cell Retainer at the Neck position, which comes down between the legs and connects to a RED central Crotch Waist Buckle (Figure 9e).
- 9.1.5 The back strap ensures the Over The Head Fit of the Stoles, does not suffer any “Float Off” in any Ship Abandonment jump over 10 metres.

**Figure 9a Pouch Life Preserver Harness**



**Figure 9b Location of Pouch Life Preserver**







**Figure 9c Leg Straps**



**Figure 9d Red Central Back Strap**



**Figure 9e Red Central Crotch Waist Buckle**



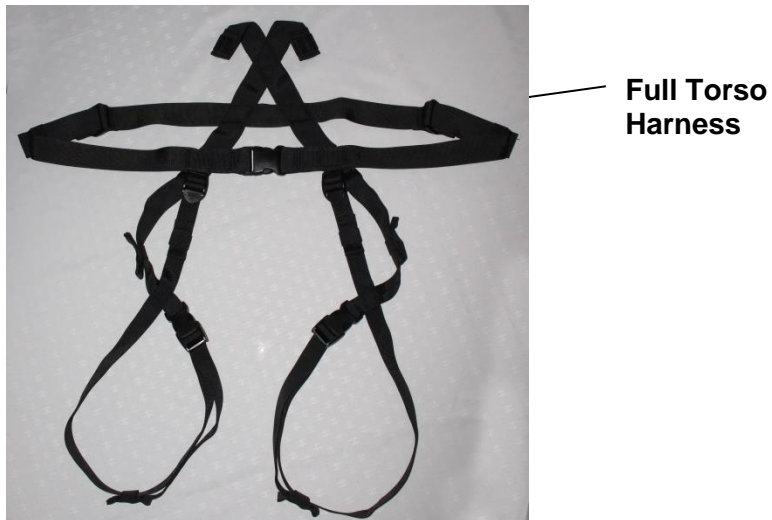


## 10.0 ATTACHMENT OF THE VARYING HARNESS TO THE STOLE:

### 10.1 PLJ204 FULL TORSO HARNESS / LIFE PRESERVER

- 10.1.1 The Life Preserver is intended to be secured to the User using the varying harness system options. The standard harness system consists of either a light-weight Upper Torso or Full-Torso body harness that covers the torso or, and thighs. The harness has multiple attachment points that secure the Life Preserver Stole to the front (2) and back (2) of the torso section using a webbing and snap attachment system. The front attachment has two adjacent snaps on either attachment point to improve Life Preserver stability. The webbing on the Full Torso harness crosses over the back, crosses over each hip, and runs around the waist and thighs of the user. The device is donned by opening and closing 3 side-release buckles: one at the waist and one at each thigh.

**Figure 10a Step a. Harness Assembly and Mounting**



**NOTE: If the harness assembly has not been disassembled, proceed to step m**

- a. Beginning with the harness, lay the unassembled unit flat out onto the work space, with the back facing the work table.



**Figure 10b Step b. Full Torso Component Mounting Points**

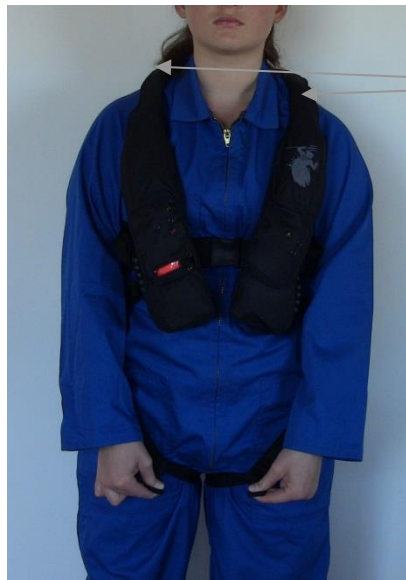
**Mounting  
Points on  
each side**



- b. Using the four mounting points (2 on the back and 2 on the front waist belt), assemble the Stole Component to the harness assembly. Ensure that the webbing is oriented correctly prior to assembly, as shown in Step b. The back mounting points are folded forward to attach to the back of the collar. The right and left lobe each have 2 discreet webbing and snap assemblies at their respective mounting points to prevent Inflation Cell rotation when in the water.



**Figure 10c PLJ204 Full Torso Harness System**



**Collar  
Mounting  
Points**

- 10.1.2 All attachment points are typical and are referred to as “webbing and snap attachment systems”. They consist of flaking a webbing strap in and out of small webbing pass-throughs and securing with a “pull-the-dot” snap fastener for secure mounting (see Figure 10 Step d). The pass-through on each respective sub-assembly runs adjacent to one another to make a continuous tunnel for the webbing strap.

**Figure 10d Step c. Webbing and Snap Attachment System at the Collar**



- c. Lay the Stole face down on a clean flat surface, then lay the Full Torso Harness face down over the Stole, so the Webbing and Pass Throughs approximately line up together.



### Figure 10e Step d. Snap Attachment Assemblies

**“Pull-the-Dot”  
Snap Fastener**



- d. The Full Torso's Harness Webbing are mounted to the back collar of the Stole similarly (as illustrated in Step e, f, g, Figure 10), except there are two adjacent webbing and snap attachment assemblies on each side of the neck area. Each step must be simultaneously performed on each of the adjacent straps in order to complete both assemblies. Repeat the same process for both mounting points on the opposite lobe.

**WARNING:** *Failure to close both snap and webbing assemblies on each lobe may result in malfunction of the Life Preserver by improper flotation performance.*





Figure 10f – 10h Step e. Closure Sequence of the Webbing and Snap Attachment System

“Pull-the-Dot”  
Snap Fasteners



10f

10



10h

- e. The strap mounted on the Stole Component is fed through the harness assembly's pass-through. It is then fed through the Stole Component's passed-through, effectively “lacing” the two bodies together. The webbing is then turned over the second pass-through loop and attached to the “pull-the-dot” snap socket mounted on the assembly. Once the snap dome is secured, the excess webbing can be tucked back into the loop assembly. If the excess webbing is typically long, it can be re-flaked until all excess lengths have been secured. Repeat the same process for both mounting points on the back collar.

**NOTE: The first pass-through or loop that the webbing strap passes through is always on the opposite device that the strap is mounted on. For example, if the strap is mounted onto the Retainer Component, then the first pass-through is on the respective harness loop being mounted to.**

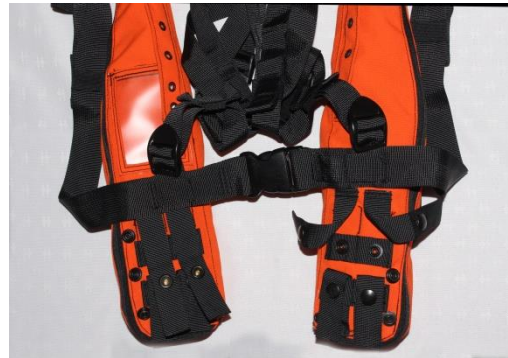




### Figure 10i – 10j Step f. Webbing and Snap Attachment System at the Lobe



10i



10j

- f. The Stoles lobes are mounted to the back collar similarly (as illustrated in Step d, Figure 10), except there are two adjacent webbing and snap attachment assemblies on each lobe. Each step must be simultaneously performed on each of the adjacent straps in order to complete both assemblies. Repeat the same process for both mounting points on the opposite lobe.

Turn the Waist Buckle over so the leg straps are facing upwards – this exposed the Upper Torso's Pass Through's for the Stoles Webbing attachments – see Figures 10i and 10j.

### Figure 10k – 10n Step g. Insert Webbing Attachments



10k



10l



10m

- g. Insert the Webbing attachments of the Stole through the Upper Torso's waist Pass Through webbings see Figures 10k, 10l, 10m, 10n.



10n



### Figure 10o – 10q Step h. Stole Webbing and Upper Lower Pass Throughs



10o



10p



10q

- h. Feed the Stoles Webbing back through the Upper Lower Pass Throughs of the Stole – see Figure 10o, 10p, 10q

### Figure 10r – 10t Step i. Locking the Webbing



10r



10s



10t

- i. Snap the Domes together locking the Webbing to the Pass Throughs, and tuck the excess Webbing back under the Full Torso's Pass Throughs – see Figures 10r, 10s, 10t.

This completed the integration of the Stole to the Full Torso Harness



## 11.0 ATTACHMENT OF THE VARYING HARNESS TO THE STOLE:

### 11.1 PLJ2010 UPPER TORSO HARNESS / LIFE PRESERVER

- NOTE: The Upper Torso Harness is available in two formats:
- Aviation incorporating the Cobra Quick Release Buckle and 40mm Webbing
  - Maritime incorporating the Plastic Buckle and 50mm Webbing

See Section 10 for Harness Configuration information.

- 11.1.1 The Life Preserver is intended to be secured to the User using the varying harness system options. The standard harness system consists of either a light-weight Upper Torso harness that covers the torso or, and thighs via the accessory detachable Leg Straps. The harness has multiple attachment points that secure the Life Preserver Stole to the front (2) and back (2) of the torso section using a webbing and snap attachment system. The front attachment has two adjacent snaps on either attachment point to improve Life Preserver stability. The webbing on the Upper Torso harness crosses over the back, and runs around the waist of the user. The device is donned by opening and closing the side-release buckle of the User.

#### Figure 11a Step a. Harness Assembly and Mounting

**NOTE: If the harness assembly has not been disassembled, proceed to Step m**



Upper Torso Harness

- Beginning with the harness, lay the unassembled unit flat out onto the work space, with the back facing the work table.





**Figure 11b Step b. Retainer Component Mounting Points**



- b. Identify Retainer component mounting points.

## 11.2 INTEGRATION OF THE STOLE

**Figure 11c Step a. Align the Dutch Speed Lacing**



- a. Lay the stole over the Upper Torso Harness – aligning the Dutch Speed Lacing of the Stole to align with the lacing on the Upper Torso Harness – see figure 11c



### Figure 11d - 11e Step b. Lacing Harness to Stole



11d



11e

- b. Starting on the Right Hand side of the Upper Torso Harness - Pass the Lacing of the Harness through the lacing eyelets of the Stole – see Figure 11d and 11e. (note – it is easier to undertake the placement of approximately 5 Laces at a time, to ensure the Laces do not inadvertently retract from the Stoles eyelets) – see Figures 11d, and 11e. Continue this process until all the lacing is completed to the last laces on the Left Hand side of the Upper Torso Harness

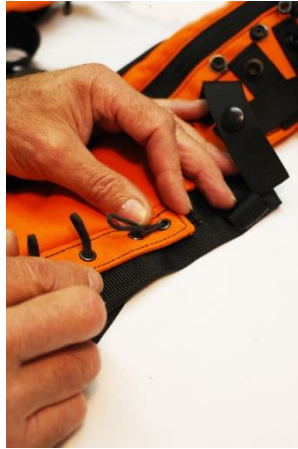
### Figure 11f Step c. Continue Lacing



- c. Pass the second Lacing through the first lacing – see picture 11f



### Figure 11g Step d. Tension on the Second Lacing



- d. Place tension on the second lacing, and strain the lacing back towards the third lacing, until the first lacing is sitting over the eyelet of the second lacing – see Figure 11g

### Figure 11h – 11i Step e. Last Lacing To Be Left Standing



Figure 11h



Figure 11i

- e. Continue the process until the last Lacing on the Left hand side is left standing through the eyelet of the Stole – see Figure 11h and 11i.





### Figure 11j Step f. Placement of the Cable Tie



- f. To secure the final Lacing, the use of a Cable Tie CT4001 UV and Heat Resistant Nylon 3.6mm is used (L51A). Place the Cable Tie through the loop of the second to last Lacing Loop and the last Lacing loop – see Figure 11j.

### Figure 11k Step g. Closing the Tie



- g. Placing the end of the Cable Tie through the zipper end of the Tie, pull the Cable Tie tight to close the Tie. Cut the Cable Tie close to the end of the zipper, to ensure the Tie is not protruding which could cause chaffing damage to the Stole – see Figure 11k.

11.2.1 This process concludes the application of the Dutch Speed Lacing to the Upper Torso Harness.



11.2.2 The next integration is the Webbing located on the following locations:

- i. **Neck** – two webbings either side of the neck  
The Neck webbings ensures the Head Pillow support lays flat and does not move freely.
- ii. **Shoulders** – two webbings either side of the Stole Lobes  
The Shoulder webbings ensure the Stoles lay flat and ensure the Stole remains in a lay flat position and restricts free movement of the Stole.
- iii. **Waist** – two locations either side at the base of the Stole Lobes  
The Waist webbings form the main anchor point of the Stole to the waist location. These anchor ties form a critical anchor point to ensure the correct flotation angle of the Life Preserver.

**Figure 11L Pass Through Webbings (Neck - Upper Torso Harness)**



Figure 11L

11.2.3 The Upper Torso Harness has two Pass Through Webbings located either side to the centre line of the Neck of the Upper Torso Harness. These Pass Throughs Webbings on the Upper Torso Harness co-late to the matching Webbings and Pass Through Webbing on the Stole of the same location – see Figure 11L

**Figure 11m - 11o Orientation of Webbing**



Figure 11m



Figure 11n



Figure 11o

11.2.4 The Pass Through Webbing on the Stole should neatly fit through Webbing and Pass Through Webbing of the Harness. Ensure that the webbing is oriented correctly prior to assembly, as shown in Figures 11m, 11n and 11o.



- 11.2.5 All attachment points are typical and are referred to as “webbing and snap attachment systems”. They consist of flaking a webbing strap in and out of small webbing pass-throughs and securing with a “pull-the-dot” snap fastener for secure mounting (see Figure 11m). The pass-through on each respective sub-assembly runs adjacent to one another to make a continuous tunnel for the webbing strap.
- 11.2.6 The strap mounted on the Stole Component is fed through the harness assembly’s pass-through. It is then fed through the Harness Component’s pass-through, effectively “lacing” the two bodies together. The webbing is then turned over the second pass-through loop and attached to the “pull-the-dot” snap socket mounted on the assembly. Once the snap dome is secured, the excess webbing can be tucked back into the loop assembly. If the excess webbing is typically long, it can be re-flaked until all excess lengths have been secured. Repeat the same process for both mounting points on the back collar.

### Figure 11p – 11t Process for Shoulder Webbings and Upper Waist Webbings



Figure 11p



Figure 11q



Figure 11r



Figure 11s



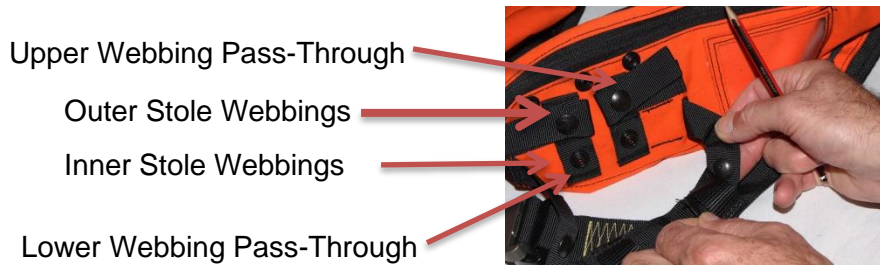
Figure 11t

- 11.2.7 Repeat the process for the Shoulder Webbings and Pass throughs on both the Left and Right Hand sides of the Stole Lobes in Figures 11p, 11q, 11r, 11s, and 11t.
- 11.2.8 Repeat the process for the Upper Waist Webbings and Pass throughs in Figures 11p, 11q, 11r, 11s, 11t.



**NOTE: Aviation Upper Torso Harness 40mm Webbing** – only the Stoles Webbing on the Inner side of the Harness are utilised, the Outer Side Stole Webbing remains flaked and not used. Maritime Upper Torso Harness 50mm Webbing – Both of the Stoles Webbing on the Inner and Outer Harness are utilised.

### Figure 11u Stole Pass Through's – Inner & Outer Pass Through's



11.2.9 Feed the Stoles Webbing through the Upper Lower Pass Throughs of the Upper Torso Harness – see Figure 11u.

### Figure 11v – 11x Lock Webbing to Pass Throughs



Figure 11v



Figure 11w



Figure 11x

11.2.10 Feed the Stoles Webbing back through the Upper Lower Pass Throughs of the Stole and Snap the Domes together locking the Webbing to the Pass Throughs, and tuck the excess Webbing back under the Upper Torso's Pass Throughs – see Figures 11v, 11w and 11x.





### Figure 11y Feed Stole Webbing Back Through Lower Bottom Pass Throughs



Figure 11v

11.2.11 The Upper Torso Harness also utilises the Lower Bottom attachment points – these Lower Stole Webbing fasten from the bottom and feed upward, as opposed to the usual orientation of from the top to the bottom. Feed the Stoles Webbing back through the Lower Bottom Pass Throughs of the Harness – see Figure 11y.

### Figure 11z – 11ac Attachment of Stole Webbing to the Harness Lower Pass Through's



Figure 11z



Figure 11ab

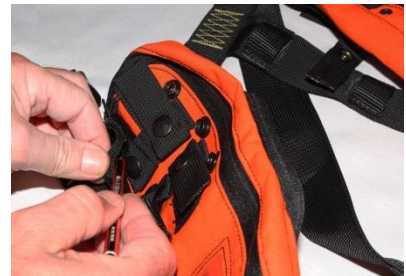


Figure 11ac

11.2.12 Feed the Stoles Webbing back through the Lower Bottom Pass Throughs of the Stole and Snap the Domes together locking the Webbing to the Pass Throughs, and tuck the excess Webbing back under the Upper Torso's Pass Throughs – see Figures 11z, 11ab and 11ac.



**Figure 11ad PLJ2010 Upper Torso Harness System (Yoke Life Preserver)**



### **11.3 ADJUSTMENT POINTS**

11.3.1 There is one adjustment points on the Upper Torso Harness system, the Right Hand side of the Main Buckle, by pulling the webbing. The adjustment should be made so that the harness and Life Preserver is snug on the body, but allows user flexibility and mobility. Elastic retainers are fitted onto each adjustment webbing to secure excess strapping after the harness has been adjusted. The excess strapping can be flaked into the elastic retainers where significant lengths are left after adjustment. The harness should fit snug and secure to the body to ensure proper performance of the Life Preserver. Proper fit should be verified by testing the in-water performance of the deployed device.

11.3.2 Depending on the Environment of use, Optional/Detachable Accessory Leg Straps are available to enhance the performance of the Upper Torso Harness

**IMPORTANT:** *When properly donned, the smallest portion of the inflatable should be on top of the shoulder, in the neck area. The back collar should be off the neck and positioned down the back for optimum comfort.*

11.3.3 If the device is worn with a tactical webbing vest, the Life Preserver can be separated from the harness and affixed to such a vest using the webbing and snap attachment system. Excess strap length is left on the back collar snap and webbing assemblies to allow either snapping or tie closure for fit variability.

**CAUTION:** *The Life Preserver should not be worn on the inside of a ballistic vest to avoid secondary impact injuries.*





**Figure 11ae POSEIDON LIFE PRESERVER Tactical Vest Front and Rear Attachment Points**



- 11.3.4 The POSEIDON LIFE PRESERVER may be attached to load carriage or tactical vests or law enforcement webbing and harness assemblies using the two side-by-side attachment points, on the front of each lobe and at the back of the LP (as shown).

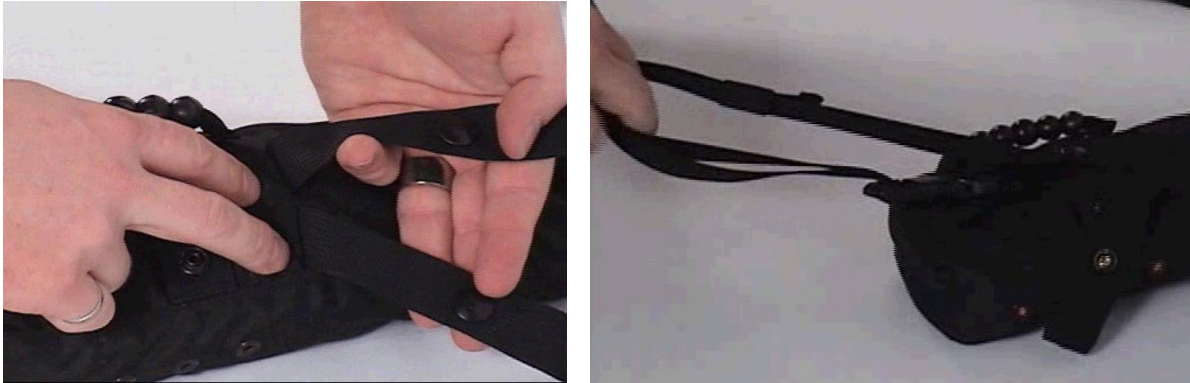
**Figure 11af Side-release Buckles**



- 11.3.5 Four-point attachment accessory straps may use side-release buckles for quick reconfiguration.



**Figure 11ag Accessory Strap Addition**



11.3.6 Accessory straps may be added to accommodate a law enforcement belt or attach to a tactical vest.



## 12.0 ATTACHMENT OF THE VARYING HARNESS TO THE STOLE:

### 12.1 PSV411 SURVIVAL VEST / LIFE PRESERVER

See Section 10 for Harness Configuration information.

- 12.1.1 The Life Preserver is intended to be secured to the User using the varying harness system options. The Survival Vest system consists of a light-weight Fall Arrest/Restraint/Winching ASNZS1891.1 Approved harness that covers the torso and thighs. The harness has multiple attachment points that secure the Life Preserver Stole to the front (4) and the perimeter of the Chest, around the Neck and back down the opposite side of the Chest utilizing the Dutch Speed Lacing system. The front attachment has four dual adjacent snaps on either attachment point to improve Life Preserver stability. The webbing on the Survival Vest Harness (integrated to the Survival Vest) crosses over the back of the Neck and vertically down the centre of the back to the waist strap. The Leg Straps are located between the legs from the rear to the front and fastened by Cobra Quick Release Buckles. The device is donned by opening and closing 2 side-release Cobra Quick Release buckles at the centre waist and chest, and the main entry front located zipper.

### 12.2 SURVIVAL VEST ASSEMBLY AND MOUNTING

Figure 12a Step a. Unassembled Unit Placed on Work Table



- a. Beginning with the Survival Vest, lay the unassembled unit flat out onto the work space, with the back facing the work table.



**Figure 12b Step b. Stole Component Mounting Points**



- b. Identify Stole Component mounting points.

### 12.3 INTEGRATION OF THE STOLE

**Figure 12c Step a. Alignment of Dutch Speed Lacing Eyelets**

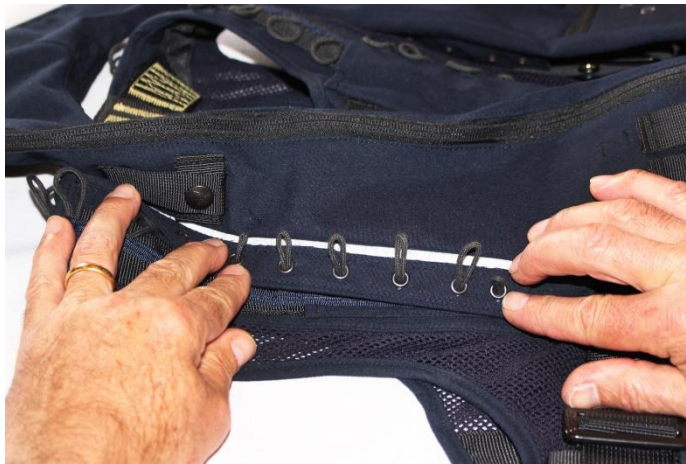


- a. Lay the Stole over the Survival Vest – aligning the Dutch Speed Lacing Eyelets of the Stole with the lacing on the Survival Vest Harness.





**Figure 12d Step b. Lacing Through Lacing Eyelets**



- b. Starting on the Right Hand side of the Upper Torso Harness - Pass the Lacing of the Survival Vest through the lacing eyelets of the Stole – see Figure 12d. (note – it is easier to undertake the placement of approximately 5 Laces at a time, to ensure the Laces do not inadvertently retract from the Stoles eyelets) – see Figure 12d.

Continue this process until all the lacing is completed to the last laces on the Left Hand side of the Upper Torso Harness

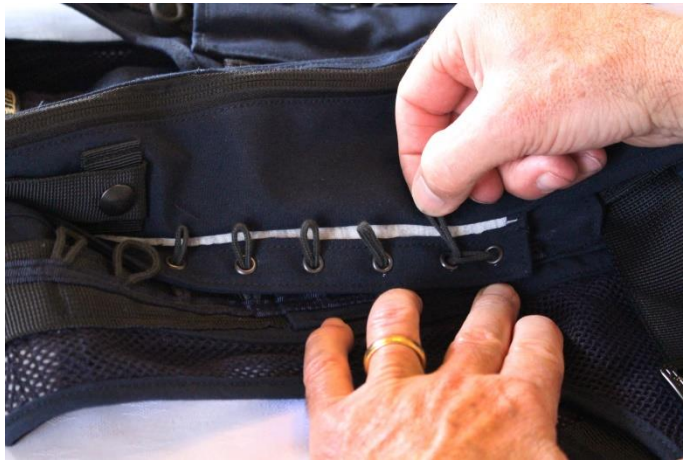
**Figure 12e Step c. Second Lacing**



- c. Pass the second Lacing through the first lacing – see Figure 12e



**Figure 12f Step d. Tension on the Lacing**



- d. Place tension on the second lacing, and strain the lacing back towards the third lacing, until the first lacing is sitting over the eyelet of the second lacing – see Figure 12f.

**Figure 12f – 12g Step e. Last Lacing Left Standing**



12f



12g

- e. Continue the process until the last Lacing on the Left hand side is left standing through the eyelet of the Stole – see Figure 12f and 12g.





### Figure 12h – 12i Step f. Secure the Final Lacing



12h



12i

- f. To secure the final Lacing, the use of a Cable Tie CT4001 UV and Heat Resistant Nylon 3.6mm is used (L51A). Place the Cable Tie through the loop of the second to last Lacing Loop and the last Lacing loop – see Figure 12h and 12i.

### Figure 12j Step g. Closing the Tie



- g. Placing the end of the Cable Tie through the zipper end of the Tie, pull the Cable Tie tight to close the Tie.  
Cut the Cable Tie close to the end of the zipper, to ensure the Tie is not protruding which could cause chaffing damage to the Stole – see 12j.

12.3.1 This process concludes the application of the Dutch Speed Lacing to the Upper Torso Harness.



12.3.2 The next integration is the Webbing located on the following locations:

- i. **Rear Pillow Tab** – A central Rear Pillow Tab is located in the centre portion of the Neck of the Stole – this forms two functions:
  - a. Retains the Stole in a closed position, and forms a Security Tab to prevent unauthorised access to the Life Preserver, and
  - b. Holds the Rear Pillow of the Stole neatly to the Survival Vest to prevent undesirable movement of the Rear Pillow of the Stole
- ii. **Mid Chest** – two webbings either side of the Stole Lobes.  
The Mid Chest Webbings ensure the Stole lays flat and ensure the Stole remains in a lay flat position and restricts free movement of the Stole.
- iii. **Waist** – two locations either side at the base of the Stole Lobes.  
The Waist webbings form the main anchor point of the Stole to the waist location. These anchor ties form a critical anchor point to ensure the correct flotation angle of the Life Preserver.

12.3.3 The Survival Vest has one central Tab secured by Velcro, located in the upper central position of the back of the Survival Vest.

**Figure 12k – 12l Central Tab**



12k

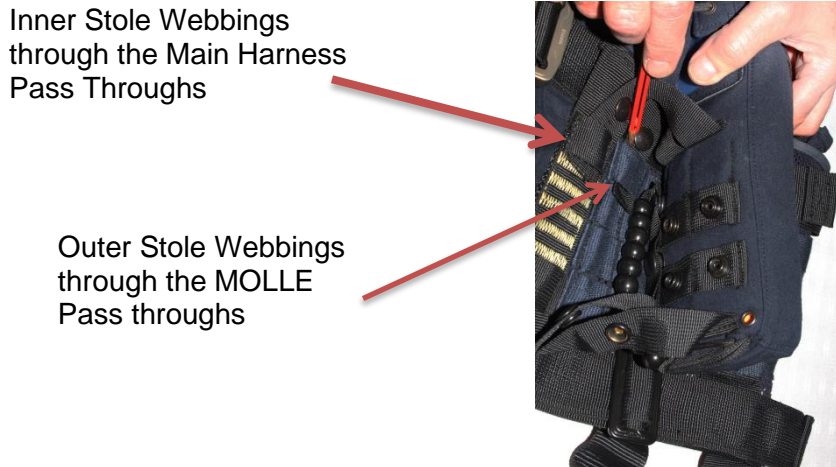


12l

12.3.4 This central Survival Vest Tab Webbing is placed between the Velcro Central Tab Velcro closure in the Neck area of the Stole – see Figure 12k and 12l.



**Figure 12m Correct Webbing Orientation Prior to Assembly**



- 12.3.5 The Pass Through Webbing on the Stole should neatly fit between Pass Through Webbing of the Survival Vest, .Ensure that the webbing is oriented correctly prior to assembly, as shown in Figures 12m, 12n, and 12o.
- 12.3.6 Feed the Stoles Webbings through the Upper Lower Pass Throughs of the Survival Vest – see Figure 12m.

**Figure 12n – 12p Locking the Webbings to the Pass Throughs**



- 12.3.7 Feed the Stoles Webbings back through the Upper Lower Pass Throughs of the Survival Vest and Snap the Domes together locking the Webbings to the Pass Throughs, and tuck the excess Webbings back under the Survival Vests Pass Throughs – see Figures 12n, 12o and 12p.



- 12.3.8 The Survival Vest also utilises the Lower Bottom attachment points – these Lower Stole Webbing fasten from the bottom and feed upward, as opposed to the usual orientation of from the top to the bottom.

**Figure 12q Lower Stole Webbing**

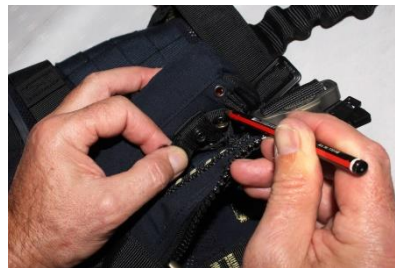


- 12.3.9 Feed the Stoles Webbing back through the Lower Bottom Pass Throughs of the Survival Vest – see Figure 12q.

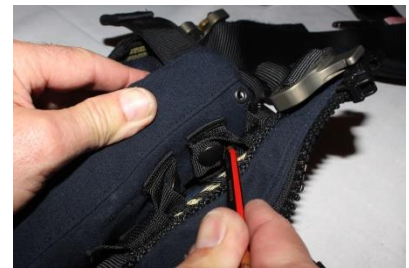
**Figure 12r – 12t Locking the Webbing to the Pass Throughs**



12r



12s



12t

- 12.3.10 Feed the Stoles Webbing back through the Lower Bottom Pass Throughs of the Survival Vest and Snap the Domes together locking the Webbing to the Pass Throughs and tuck the excess Webbing back under the Upper Torso's Pass Throughs – see Figure 12r, 12s and 12t.



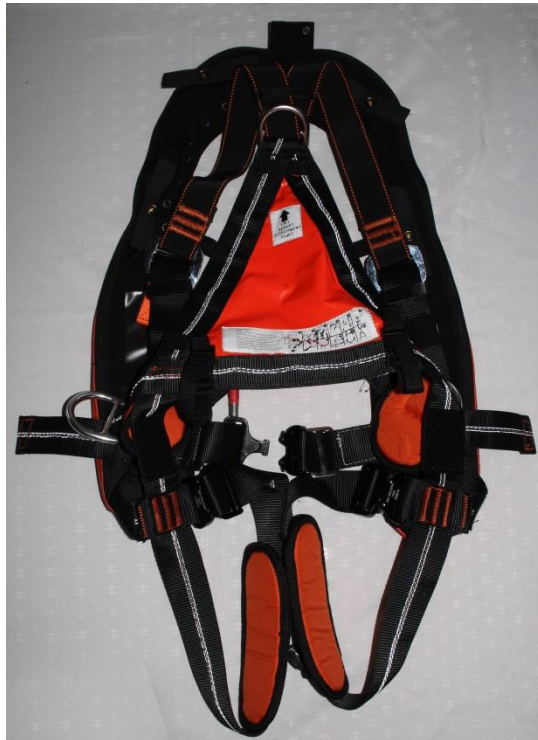


## 13.0 PRSH1196 HARNESS – RESCUE SWIMMERS HARNESS

### 13.1 FITTING OF THE LIFE PRESERVER STOLE

- 13.1.1 The Life Preserver is intended to be secured to the User using the varying harness system options. The Rescue Swimmers Harness system consists of a Fall Arrest/Restraint/Winching ASNZS1891.1 Approved harness that covers the torso and thighs. The harness has multiple attachment points that secure the Life Preserver Stole to the front (4) and the perimeter of the Chest (2) and the Neck (2). The front attachment has four dual adjacent snaps on either attachment point to improve Life Preserver stability. The Leg Straps are located between the legs from the front to the rear and fastened by Cobra Quick Release Buckles. The device is donned by opening and closing 1 side-release Cobra Quick Release buckle at the centre and two on the legs.

**Figure 13a Step a. Rescue Swimmers Harness Assembly and Mounting**



- a. Beginning with the Rescue Swimmers Harness, lay the unassembled unit flat onto the work space, with the back facing the work table.  
Lay the Stole over the Rescue Swimmers Harness Webbing at the base – aligning the Mid Chest Webbing of the Stole to align with the Pass Through's on Rescue Swimmers Harness – see Figure 13a



13.1.2 The first integration is the Webbingings located on the following locations:

- i. **Neck** – two webbingings either side of the neck.  
The Neck webbingings ensures the Hear Head Pillow support lays flat and does not move freely.
- ii. **Shoulders** – two webbingings either side of the Stole Lobes.  
The Shoulder webbingings ensure the Stoles lay flat and ensure the Stole remains in a lay flat position and restricts free movement of the Stole.
- iii. **Waist** – two locations either side at the base of the Stole Lobes.  
The Waist webbingings form the main anchor point of the Stole to the waist location. These anchor ties form a critical anchor point to ensure the correct flotation angle of the Life Preserver.

**Figure 13b Step b. Pass Through Webbingings**



- b. The Rescue Swimmers Harness has two Pass Through Webbingings located at the Neck either side to the centre line of the Torso Harness.  
These Pass Throughs Webbingings on the Rescue Swimmers Harness co-late to the matching Webbingings and Pass Through Webbing on the Stole of the same location – see Figure 13b.

13.1.3 The Pass Through Webbing on the Harness should neatly fit between Webbing and Pass Through Webbing of the Stole, .Ensure that the webbing is oriented correctly prior to assembly, as shown in Figures 13c, 13d, and 13e.

13.1.4 All attachment points are typical and are referred to as “webbing and snap attachment systems”. They consist of flaking a webbing strap in and out of small webbing pass-throughs and securing with a “pull-the-dot” snap fastener for secure mounting (see Figure 13f). The pass-through on each respective sub-assembly runs adjacent to one another to make a continuous tunnel for the webbing strap.





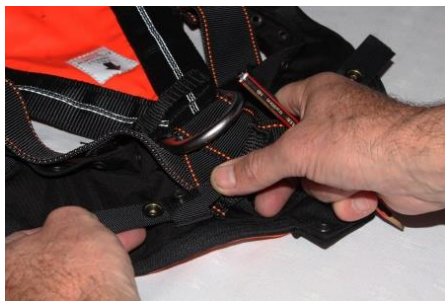
**Figure 13c – 13f Step c. Lacing the Two Bodies Together**



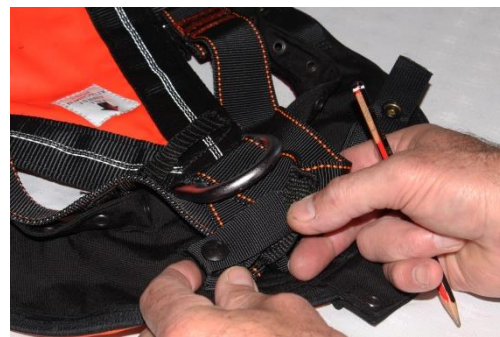
13c



13d



13e



13f

- c. The strap mounted on the Stole Component is fed through the harness assembly's pass-through. It is then fed through the Stole Component's passed-through, effectively "lacing" the two bodies together. The webbing is then turned over the second pass-through loop and attached to the "pull-the-dot" snap socket mounted on the assembly. Repeat the same process for both mounting points on the back collar as shown in figures 13c, 13d, 13e and 13f.

**Figure 13g – 13i Step d. Left Hand Side of Stole**



13g



13h



13i

- d. Repeat the process for the Webbing and Pass throughs on the Left Hand side of the Stole in area as shown in Figures 13g, 13h, and 13i.



### Figure 13j – 13m Step e. Webbing Pass Throughs on Shoulder of Stole



13j



13k



13l



13m

- e. Repeat the process for the Webbing and Pass throughs on the Shoulder area of the Right Left Hand side of the Stole in Figures 13j, 13k, 13l and 13m – flake any excess webbing back under the Pass Through of the Rescue Swimmers Harness

### Figure 13n Step f. Upper Base of Stole



- f. Repeat the process for the Webbing and Pass throughs on the Upper Base area of the Right Left Hand side of the Stole in Figures 13o, 13p, 13q, and 13r.

13.1.5 The Webbing of the Stole flake any excess webbing back under the Pass Through of the Rescue Swimmers Harness.

13.1.6 **Note:** the Webbing on the Stole use the Plastic Retainer Slide on the Harness as the Pass Through, pass both webbings through this Retainer slide – see Figure 13n



### Figure 13o – 13r Step g. Flaking Process



13o

13p

13q

13r

g. Continue the flaking process as shown in Figures 13o, 13p, 13q, and 13r.

### Figure 13s – 13u Step h. Webbing and Pass Throughs - Lower Base Area of Stole



13s

13t

13u

h. Repeat the process for the Webbing and Pass throughs on the Lower Base area of the Right Left Hand side of the Stole in Figures 13s, 13t and 13u.

13.1.7 **Note:** the orientation of the webbing in this case runs from the base of the Stole upwards

13.1.8 This completes the assembly of the Stole to the Rescue Swimmer Harness.





## 14.0 FITTING OF THE RETAINER COMPONENT

### 14.1 RETAINER COMPONENT INTEGRATION

Figure 14a Step a. Webbing and Snap Attachment System at the Collar

“Pull-the-Dot”  
Snap Fastener



- a. Using the four mounting points (2 on in the Neck area and 2 on the lower Lobes each side), assemble the Retainer Component to the Stole assembly. Ensure that the webbing is oriented correctly prior to assembly, as shown in Figure 14a Step a. The Retainer mounting points are folded forward to attach the Stole. The right and left lobe each have 2 discreet webbing and snap assemblies at their respective mounting points to prevent Inflation Cell rotation when in the water.

- 14.1.1 All attachment points are typical and are referred to as “webbing and snap attachment systems”. They consist of flaking a webbing strap in and out of small webbing pass-throughs and securing with a “pull-the-dot” snap fastener for secure mounting (see Figure 14a Step a.). The pass-through on each respective sub-assembly runs adjacent to one another to make a continuous tunnel for the webbing strap.

Figure 14b – 14c Step b. Closure Sequence of the Webbing and Snap Attachment System



14b



14c

- b. The strap mounted on the Retainer Component is fed through the Stoles assembly's pass-through. It is then fed through the Retainer Component's passed-through, effectively “lacing” the two bodies together.



The webbing is then turned over the second pass-through loop and attached to the “pull-the-dot” snap socket mounted on the assembly. Once the snap dome is secured, the excess webbing can be tucked back into the loop assembly. If the excess webbing is typically long, it can be re-flaked until all excess lengths have been secured. Repeat the same process for both mounting points on the back collar.

**NOTE: The first pass-through or loop that the webbing strap passes through is always on the opposite device that the strap is mounted on. For example, if the strap is mounted onto the Retainer Component, then the first pass-through is on the respective Stole loop being mounted to.**

Figure 14d – 14e Step c. Webbing and Snap Attachment System at the Lobe



“Pull-the-Dot”  
Snap Fasteners

14d



Lobe  
Mounting  
Points

14e

- c. The Retainer Component’s lobes are mounted to the Stole similarly (as illustrated in Step 14d, and Figure 14e), except there are two adjacent webbing and snap attachment assemblies on each lobe. Each step must be simultaneously performed on each of the adjacent straps to complete both assemblies. Repeat the same process for both mounting points on the opposite lobe.





**WARNING:** *Failure to close both snap and webbing assemblies on each lobe may result in malfunction of the Life Preserver by improper flotation performance.*

**Figure 14f Step d. Webbing and Snap Attachment System at the Lobes**



- d. After the Retainer Component has been secured to the Stole, using the four mounting points (2 on the back of the collar and 1 on each lobe), integration of the Inflation Cells to the Retainer Component, can be undertaken



## 15.0 PPL965 POUCH LIFE PRESERVER HARNESS

### 15.1 FITTING OF THE HARNESS TO THE POUCH

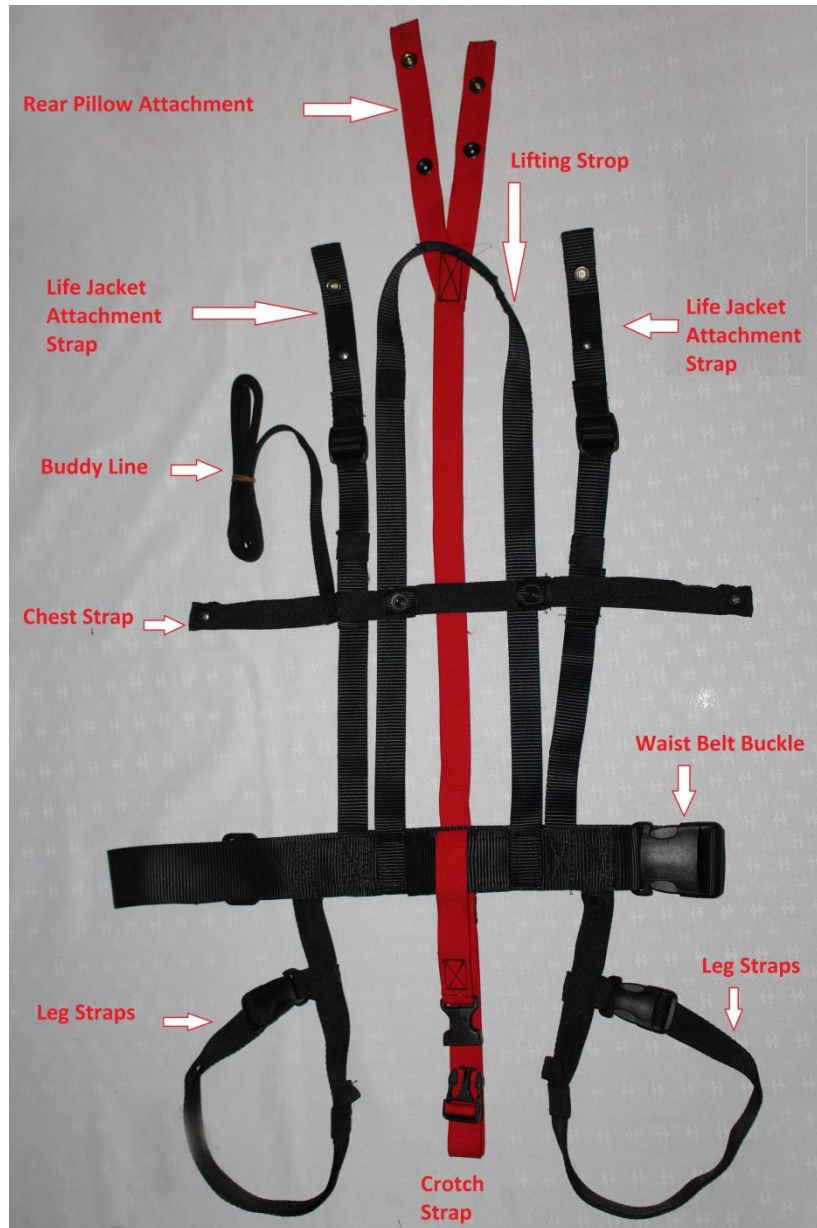
### 15.2 POUCH COMPONENT INTEGRATION

- 15.2.1 The Poseidon Pouch Life Preserver is constructed in a manner that all sub-assembly items are modular and replaceable when required from wear and tear, damage or Operational Theatre / Environmental User Requirements.
- 15.2.2 The Pouch Life Preserver Harness consists of the following items:
- Main waist buckle and Adjustment
  - Adjustable Leg Straps
  - Rear Pillow restraint buckle
  - Pouch retaining straps
  - Lifting Strop
  - Retainer (acting as a Stole in this case) Attachment / Adjustment Points
- 15.2.3 The Pouch entails 3 Portals – one each side of the Pouch for the Waist Belt to be passed through, and one rear Portal for the Rear Pillow Restraint buckle to be passed through.
- 15.2.4 All attachment points are typical and are referred to as “webbing and snap attachment systems”. They consist of flaking a webbing strap in and out of small webbing pass-throughs and securing with a “pull-the-dot” snap fastener for secure mounting (see Figure 34). The pass-through on each respective sub-assembly runs adjacent to one another to make a continuous tunnel for the webbing strap.
- 15.2.5 The Harness has two Webbings with Snap Dome fasteners located on the waist band for attachment to the Pouch.
- 15.2.6 The Pouch has two Pass Through webbings which enable the Webbings on the Harness to be applied.
- 15.2.7 The detachable Pouch allows the Pouch to be varied in Colour Format and Materials to adapt to the User requirement and Wear and Tear.
- 15.2.8 The unique design of the Pouch Life Preserver, ensures the fit to a wider variant of Body shapes and sizing, without compromise to OEM design operations. This is essential in the consideration of Ship Abandonment jumps in excess of 10m.



### 15.3 ASSEMBLY OF THE POUCH TO THE HARNESS

Figure 15a Step a. Harness



- a. Lay the harness on a flat surface, facing upward with the Waist buckle to the left hand side of centre.



### Figure 15b Step b. Main Waist Buckle Inset to Pouch



- b. Lay the Pouch face up next to the waist webbing Buckle. Pass the main waist buckle through the Portal on the right hand side, sliding the buckle in to the Pouch – see Figure 15b.

15.3.1 The Pouch Harness is constructed of three separate parts:

- i. The Main Waist Harness and Leg Straps with the Lifting Stop – see Figure 15c
- ii. The Chest Strap with attached Buddy Line – see Figure 15d
- iii. The Rear Pillow Support Webbing – see Figure 15e

### Figure 15c – 15e Pouch Harness



15c



15d



15e

**Figure 15f Step c. Waist Band Webbing**



- c. Pass the waist band webbing in to the Pouch, to the point of the Right Hand Retainer Webbing lays inside the Pouch – the RED Head Pillow Retainer webbing should lay approximately to the centre of the Pouch – see Figure 15f.





### Figure 15g – 15h Step d. Harness Component and Pouch Lacing



15g

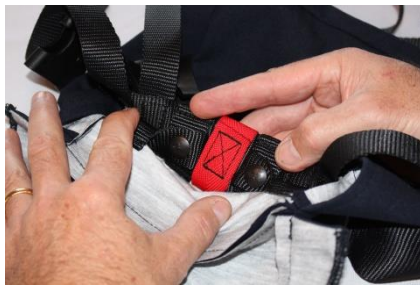


15h

- d. Pass the strap mounted on the Harness Component through the Pouch assembly's pass-through. It is then fed through the Harness Component's passed-through, effectively "lacing" the two bodies together. The webbing is then turned over the second pass-through loop and attached to the "pull-the-dot" snap socket mounted on the assembly. Once the snap dome is secured, the excess webbing can be tucked back into the loop assembly. If the excess webbing is typically long, it can be re-flaked until all excess lengths have been secured – Figure 15g and 15h.

Repeat the same process for both mounting points on the Pouch.

### Figure 15i – 15j Step e. Red Retainer Head Pillow Webbing



15i



15j

- e. Ensure the RED Retainer Head Pillow Webbing buckles is located central of the Webbing attachments to the Pouch and pass the RED Retainer Head Pillow Webbing buckle through the rear Pouch portal see Figure 15i and 15j.



### Figure 15k – 15l Step f. Main Waist Buckle and Left Leg Crotch Buckle



15k



15l

- f. Pass the main waist buckle and left leg crotch buckle through the left hand side Pouch Portal to exit the buckle to the outside of the Pouch.

### Figure 15m Assembled Pouch Harness Integrated to the Pouch



- 15.3.2 Turned over, now face down, the complete assembled Pouch Harness integrated to the Pouch item should look as per Figure 15m.



## 16.0 PPL965 POUCH LIFE PRESERVER HARNESS

### 16.1 RETAINER COMPONENT INTEGRATION

- 16.1.1 Prior to assembly of the Retainer to the Pouch harness, the RED Head Pillow Restraint requires attachment to the Retainer.

**Figure 16a – 16b Step a. Retainer Face Up and Upside Down**



16a



16b

- a. Lay the Retainer face up and upside down on a flat smooth surface, and fold the Pillow portion back over itself to expose the Webbing and Pass Through attachment points – see Figures 16a and 16b.

**Figure 16c Step b. Retainer Component Assembly's Pass Throughs**



- b. The strap mounted on the Retainer Component is fed through its own assembly's pass-throughs.



**Figure 16d – 16e Step c. Red Retainer Head Pillow Webbing (left hand side)**



16d



16e

- c. Pass the “Y” section of the RED Retainer Head Pillow Webbing through the Left Hand side Retainers Pass Through – ensure the Male Snap Dome Fitting on the RED Webbing is face down and snap this closed to the female Snap Dome Retainer Webbing, then attached the RED female Webbing Snap Dome to the Retainers male Snap Dome fitting Webbing Pass Through – see Figures 16d and 16e.

**Figure 16f – 16g Step d. Red Retainer Head Pillow Webbing (right hand side)**



16f



16g

- d. Repeat the process for the Right Hand side of the Retainer Head Pillow support, passing the RED Head Pillow Restraint Webbing through the Retainers Pass Through ensuring the Male Red Webbing Snap Dome is face down, fasten this to the female Retainer Snap Dome fitting, fold the Red Strap over and fasten this female Snap Dome fitting to the Male Snap fitting on the Retainer Pass through – see Figures 16f and 16g.





### Figure 16h – 16i Step e. Pouch and Harness Module



16h



16i

- e. Lay the Pouch with Harness module integrated flat face up (Figure 16h) on a smooth flat surface – lay the Retainer Module over the Harness Webbing attachment straps (Figure 16i)

### Figure 16j – 16k Step f. Retainer Webbing



16j



16k

- f. Fold the inner edge of the left lobe of the Retainer back over itself to expose the Retainer Webbing Pass Through attachment points – see Figure 16j, from the bottom moving upwards, pass the Pouch Harness Webbing with the Snap Dome fasteners through both the Retainers Pass Through Webbing – see Figure 16k.





**Figure 16l – 16n Step g. Harness Webbing Snap Dome**



16l



16m



16n

- g. Snap close the Harness Webbing female (top) Snap Dome fitting to the Retainers top male Snap Dome fitting, and pass the webbing through and under the bottom Retainer Pass Through – see Figure 16l, and snap the dome fastening closed – see Figure 16m.

**Figure 16o – 16r Step h. Right Hand Side Lobe of Retainer**



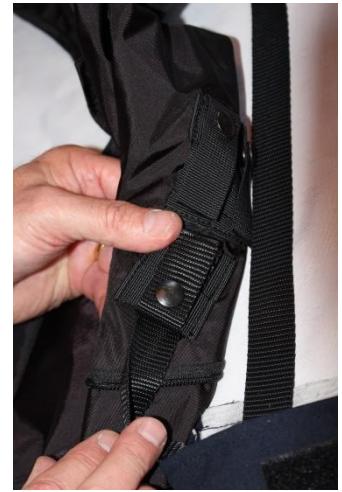
16o



16p



16q



16r

- h. Repeat the process for the right hand side lobe of the Retainer

16.1.2 This completes the Pouch Retainer attachment to the Harness.



## **17.0 INFLATION CELL DESIGN**

### **17.1 GENERAL**

17.1.1 Poseidon Life Jackets, via the unique Patented Retainer Component, have the ability to alternate the design and buoyancy capacity of the Inflation Cells. A choice of three varying Inflation Cell designs are available, pending the Operational Environment / Theatre required.

### **17.2 DUAL CHAMBER FLOATING BAFFLE**

17.2.1 The Dual Chamber Floating Baffle design incorporates one Inflation Cell, separated by a floating baffle. In the event one chamber of the Inflation Cell is damaged, the opposite Chamber can be inflated. Each Chamber of the Inflation Cell incorporates:

- 1 x Co2 Actuator
- 1 x Oral Inflator/Over Pressure Valve

17.2.2 Buoyancy capacity of the Dual Chamber Floating Baffles are in two formats:

- i. 300 Newton's, and
- ii. 157 Newton's

17.2.3 The Dual Chamber Floating Baffle design is commonly used within the Maritime and Aviation environments.

### **17.3 DAMAGE RESISTANT LIFE PRESERVER**

17.3.1 The Damage Resistant Life Preserver (DRLP) design incorporates one Inflation Cell in each side of the Life Jacket (two independent Inflation Cells per Life Jacket) - In the event one Inflation Cell is damaged, the opposite Inflation Cell can be inflated.

17.3.2 Each Inflation Cell of the Life Jacket incorporates:

- 1 x Co2 Actuator
- 1 x Oral Inflator/Over Pressure Valve

17.3.3 Buoyancy capacity of the Damage Resistant Life Preserver are in two formats:

- i. 300 Newton's, and
- ii. 157 Newton's

17.3.4 The Damage Tolerant Life Preserver design is designed for use within high risk Operational Combat Theatres, where the Life Preserver is likely to experience exposure to significant damage.

17.3.5 Inflation Inversion Burst Out is assisted by the injection of CRC Silicone 808 to the Inflation Cells – training in the process is given at the time of Inspection Certification.



## **17.4 SINGLE CHAMBER INFLATION CELLS 300 NEWTON'S**

17.4.1 The Single Chamber Inflation Cell design incorporates one Inflation Cell in the Life Jacket. The Inflation Cell incorporates:

- 1 x Co2 Actuator
- 1 x Oral Inflator/Over Pressure Valve

17.4.2 The Single Chamber Inflation Cell is design for use in low risk areas and offers economic buoyancy systems.

## **17.5 SINGLE CHAMBER INFLATION CELLS 157 NEWTON'S**

17.5.1 The Single Chamber Inflation Cell design incorporates one Inflation Cell in the Life Jacket. The Inflation Cell incorporates:

- 1 x Co2 Actuator
- 1 x Oral Inflator/Over Pressure Valve

17.5.2 The Single Chamber Inflation Cell is design for use in low risk areas and offers economic buoyancy systems.



## 18.0 OPERATION

**CAUTION: Over Pressure Valve blockage can cause valve malfunction. Malfunction of both Over Pressure Valves will cause over-pressurization and will over-stress the Inflation Cell. Both Inflation Cells of the Life Jacket must be completely evacuated of any residual air or carbon dioxide gas prior to CO<sub>2</sub> inflation.**

### 18.1 MANUAL OPERATION FOR THE LIFE PRESERVER

18.1.1 Manual operation of the Life Preserver is accomplished by grasping either or both beaded inflation handles located on the lower side of the Outer Stole. Jerking sharply downwards rotates the operating lever of the CO<sub>2</sub> inflation device, which in turn forces the piercing pin to puncture the neck of the CO<sub>2</sub> cylinder and allows the compressed gas to flow into the Inflation Cell. Only one of the Inflation Cells needs to be manually activated (either left or right, whichever is most accessible) for the Life Preserver to be operational. When the Maritime hydrostatic design comes in contact with the water, the un-deployed Inflation Cell will fire (but vent to atmosphere), unless configured manually.

18.1.2 Firing both Inflation Cells simultaneously will also deploy the device and excess gas will be vented through the pressure relief valves. It is recommended that only one Inflation Cell be inflated at one time.

18.1.3 The Maritime hydrostatic design can be configured manually if desired (consult Safe Defence Ltd for this modification). Advantages to manual inflation are: minimized probability of inadvertent inflation, movement through “over-the-waist” water without inflation, and conservation of inflation cylinders. Disadvantages to manual inflation are: no automatic inflation for unconscious users, no automatic inflation for incapacitated users, and no automatic redundancy. The Aviation design has no automatic inflation capability and must be manually activated.

18.1.4 The pressure of the expanding gas forces the fasteners around the periphery of the Outer Stole to separate, automatically opening the Outer Stole and allowing the Inflation Cell to reach its fully inflated shape.

**NOTE: Carbon dioxide gas does not remain in the Life Preserver indefinitely. Either of the Oral Inflator Valves can be used as a means of compensating for normal Inflation Cell leakage. The Oral Inflators are also provided as an emergency back up in the unlikely event that the CO<sub>2</sub> Inflation Device fails.**

18.1.5 The configuration of the Poseidon Life Preservers can be configured to the Operational Requirement of that particular Theatre Requirement of that time, without the need to carry secondary design Life jackets.

18.1.6 The Inflation Cell O Ring Co<sub>2</sub> Actuator blanking devices are available, for Users who determine only one Co<sub>2</sub> Actuator Device is required. The Inflation Cell which does not require the Co<sub>2</sub> Actuator, can be fitted with the Blanking Plate Device (Part No, PA4035BLANK) – see Section 23.0



## **19.0 OPERATIONAL METHOD - MANUAL**

### **19.1 USER OPERATION FOR THE LIFE PRESERVER – MANUAL MODE**

- 19.1.1 Grasp the Life Preserver Stoles adjacent to your chin on both Stoles
- 19.1.2 Slide your hands down the Stole until your fingers locate the beaded Handles – located toward the rear face of the Stole
- 19.1.3 Grasp the Beaded Handles firmly with each hand
- 19.1.4 Rotate your wrists outwards to break the Dome Snap Fasteners of the Beaded Handles from the Stole
- 19.1.5 With a sharp forceful action force your arms down towards your knees
- 19.1.6 The Life Jacket will inflate





## 20.0 RE-ARMING THE HYDROSTATIC DEVICE

### 20.1 RE-ARMING THE MARITIME VERSIONS

### 20.2 PLJ2010 – PLJ204 – PSV411, PRSH1196, - HYDROSTATIC ACTUATORS ONLY

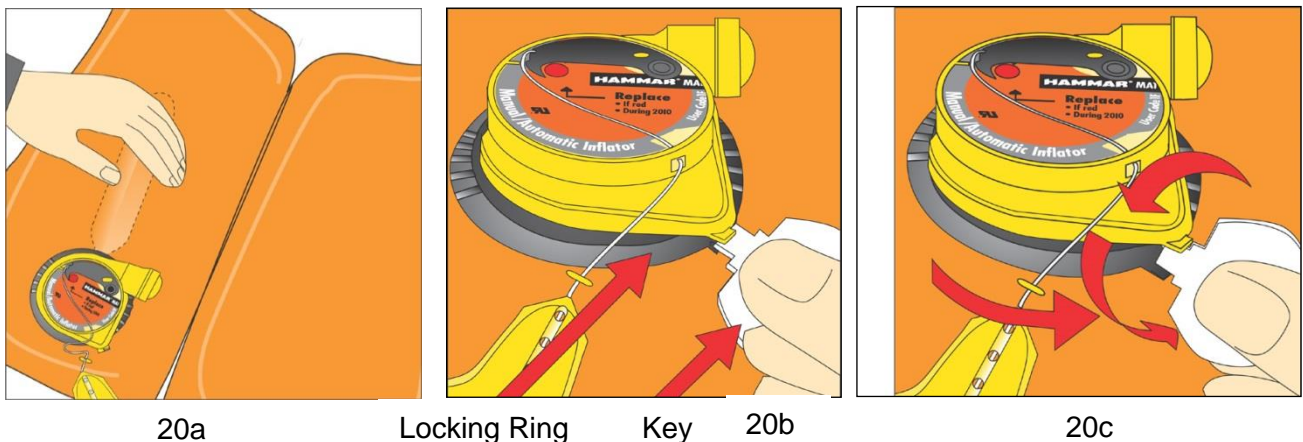
**NOTE:** Use a valid Safe Defence Ltd Re-Arm Kit (PA4013HYDRO) for this procedure. Use of other Re-Arm Kits may result in improper operation or failure to operate and will void the product's warranty.

### 20.3 ACCESS INFLATOR SYSTEM FROM AN INFLATED LIFE JACKET

#### 20.3.1 In order to access the Inflator system from an INFLATED Life Jacket:

- i. Deflate any air that may be in the Inflation Cells, this can be achieved by depressing the Over Pressure Valve, or depressing the Valve in the Oral Inflator.
- ii. Break any Security Tags fitted to the Actuator Port Pockets.
- iii. Ensure the Beaded Handles are detached from the Outer Stole, and pass these behind the Outer Stole Main Zipper.
- iv. Remove the Inflation Cell from the Retainer Component, and lay this on a flat table
- v. Hold the CO<sub>2</sub> cylinder through the fabric, using one hand (Figure 20a).

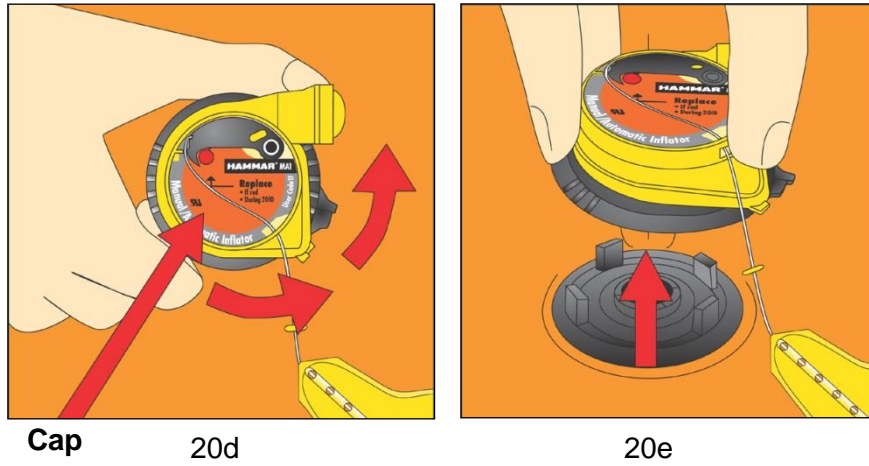
Figure 20a – 20c Step a. Re-Arming Your Poseidon Life Jacket



- a. Insert the metal key between the black locking ring and labeled yellow cap. Turn the key counter-clockwise (Figure 20c).

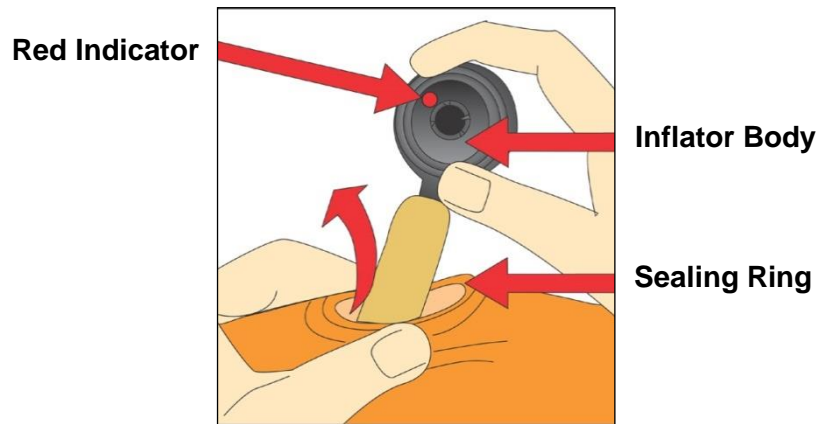


**Figure 20d -20e Step b. Re-Arming**



- b. Turn the black locking ring counter-clockwise and lift off the cap (yellow inflator operating head Figure 20e). Dispose of the used cap immediately in a waste container (never place the old used Cap back on the table next to you).

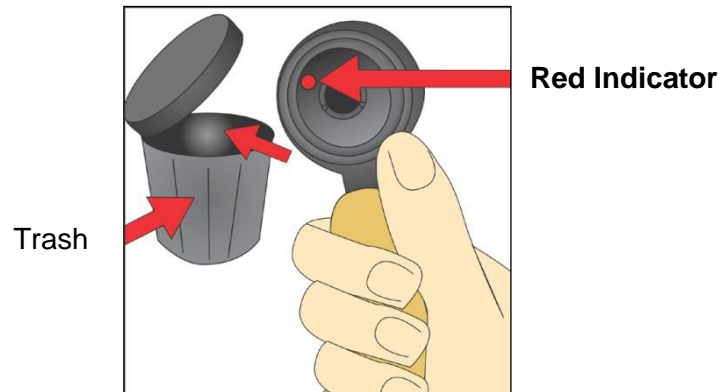
**Figure 20f Step c. Re-Arming**



- c. Squeeze the sealing ring to elongate and remove the inflator body through the sealing ring (Figure 20f).

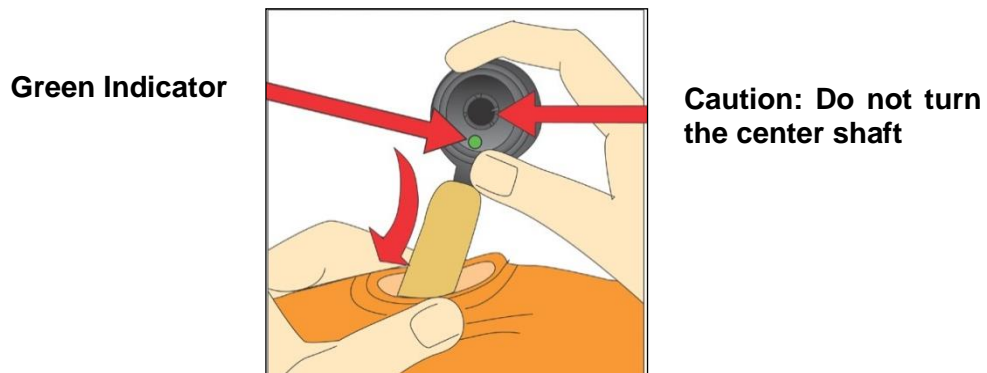


**Figure 20g Step d. Re-Arming**



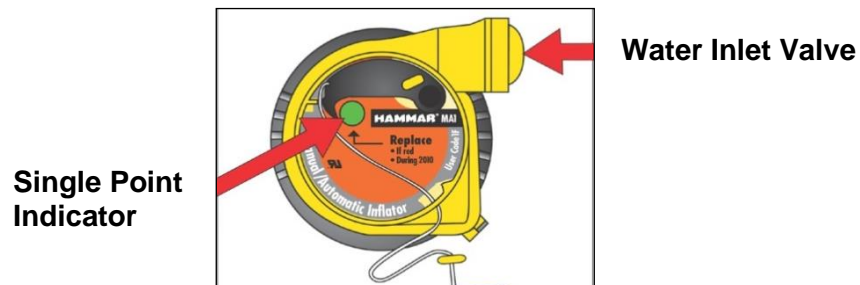
- d. Dispose of the used inflator body (Figure 20g)

**Figure 20h Step e. Re-Arming**



- e. Check that the new inflator body indicator is green, and within weight limits printed on the label. Insert the new inflator body with CO<sub>2</sub> cylinder pointing upward inside the Inflatable LIFE JACKET (Figure 20h). Let the sealing ring rest on the adapter around the four lugs.

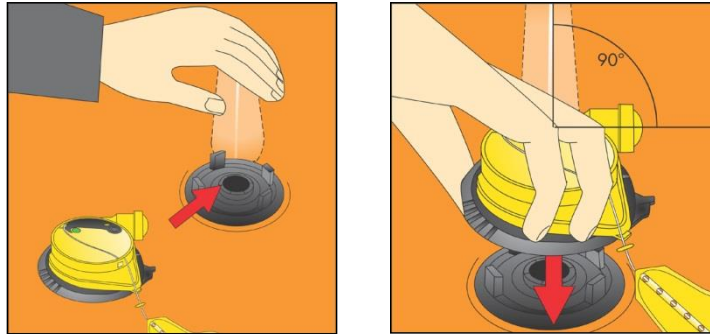
**Figure 20i Step f. Re-Arming**



- f. Now check the new Hydrostatic automatic cap as follows (Figure 20i):
1. Is the single point status indicator showing green?
  2. Is the expiry date OK?
- If YES is the answer to both questions, then proceed as follows.  
If the answer is NO to either question, get a new cap.



**Figure 20j Step g. Re-Arming**



- g. Hold the CO<sub>2</sub> cylinder through the fabric of the Inflatable LIFE JACKET (Figure 20j). Position the replacement cap with the water inlet valve pointing to the right and press firmly onto the inflator body and sealing ring (Fig. 27).

**Figure 20k Step h. Re-Arming**



**Black Locking Ring**

- h. While pressing FIRMLY onto the inflator body, turn the BLACK locking ring clockwise into the locked position (Figure 20k). Pull on the cap to make sure it has locked onto the inflator body.

Check: To see that the single point status indicator on the cap is green, the pull to inflate lanyard is present and that the locking ring is locked.



## 21.0 MANUAL CONVERSION PLUGS

### 21.1 HYDROSTATIC CO2 ACTUATOR CONVERSION (PA4013HYDRO)

#### 21.2 CONVERSION PROCESS

#### 21.3 THE HAMMAR HYDROSTATIC ACTUATOR

21.3.1 From automatic operation to manual operation:

21.3.2 Conversion of the Hammar Hydrostatic Actuator from automatic to Manual Operation has the following User disadvantages:

- No automatic inflation for unconscious users,
- No automatic inflation for incapacitated users, and
- No automatic redundancy

21.3.3 The benefits offered to the User from Manual Operations are:

- Ability to wade through Chest deep water without the Life Jacket inflating
- Ability to swim a short distance to shallower water without inflation

***NOTE: When entering any air frame the Hydrostatic Actuator MUST be converted to MANUAL OPERATION. This is in the event of any water ditching where egress from the air frame may be inhibited by an inflated Life Jacket***

#### 21.4 ACCESS TO THE HYDROSTATIC ACTUATORS

21.4.1 Access to the Hydrostatic Actuators is via the Co2 Actuator Port Pockets in the Outer Stole:

**Figure 21a Step a. Expose Hammar Actuator**



- a. Unzip the Co2 Actuator Port Pocket to expose the Hammar Actuator  
Remove the Manual Conversion Cap from the Pocket inside the Pocket Flap





### Figure 21b Step b. Conversion Cap Positioning



- b. Position the conversion cap over the inflator's hydrostatic valve opening. The conversion caps metal clip should be placed along the top of the inflator's Hydrostatic valve.

### Figure 21c Step c. Placement of Conversion Cap over Actuator Ingress Port

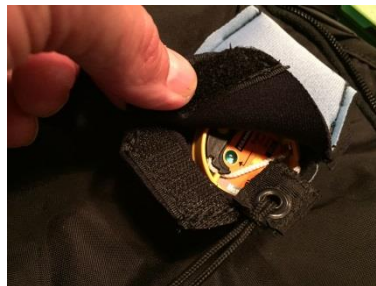


- c. Place the bottom of the Conversion Cap over the Actuator Ingress Port. Then, rotate the top of the Conversion Plug over the top of the Actuator ingress Port ensuring the Steel Teeth portion of the clip, snaps over the rear recess of the Actuator Ingress Port

### Figure 21d – 21g Step d. Placement of Blue Neoprene Cover



21d



21e



21f



21g

- d. Replace the BLUE neoprene cover over the Hydrostatic Actuator. This Blue Cover will now be visible through the Water Ingress Eyelets of the Outer Stole.



**Figure 21h – 21i Step e. Inflation Cells/Chambers**



21h

21i

- e. Repeat the process on both Inflation Cells/Chambers.  
Close the Co2 Inflation Port Pocket, pushing the Zippers Slide Grasp up inside the zipper entry.

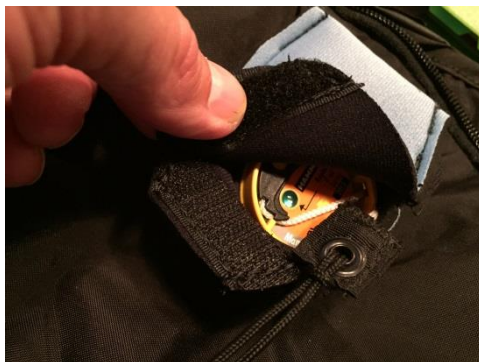
## **21.5 REMOVAL OF THE MANUAL CONVERSION PLUGS**

21.5.1 Removal of the Manual Conversion Plugs changes the Operational Format of the Life Jacket from a Manual Operation, to an Automatic Operation.

21.5.2 The process to remove the Manual Conversion Plugs is:

- i. Slide the Blue Neoprene Cover off the Hydrostatic Actuator
- ii. Grasp the Manual Conversion Plug Lanyard tightly
- iii. With a downward constant pull, pull the lanyard down and in a circular action upward, as though you were to wrap the Lanyard around the actuator. This will pull the bottom of the Manual Conversion Cap away from the base of the Actuator Port and off the face of the Actuator Port.
- iv. Place the Blue Neoprene cover back in to the pocket of the Co2 Actuator Port Pocket
- v. Close the Co2 Actuator Port Pocket by closing the Zippers as per detail 12.5.6

**Figure 21j - 21k Manual Conversion Plug Removal**



21j



21k



## 22.0 RE-ARMING THE MANUAL DEVICE

### 22.1 RE-ARMING THE AVIATION

### 22.2 VERSIONS PLJ2010 – PLJ204 – PSV411, - PRSH1196 - MANUAL ACTUATORS ONLY

**NOTE: Use a valid Safe Defence Ltd Re-Arm Kit for this procedure. Use of other Re-Arm Kits may result in improper operation or failure to operate and will void the product's warranty.**

### 22.3 CO2 CYLINDER ANNUAL INSPECTION

- 22.3.1 Co2 Cylinders do not indefinitely hold their full capacity, and over time the Co2 will deteriorate and loose volume
- 22.3.2 The Co2 Cylinder should be weighed annual to ensure it meets the minimum weight stamped on the label
- 22.3.3 It should be noted the weight of the black backing body, which the Co2 cylinder is fastened in to, the combined weight and minimum weight is clearly identified on the label adhered to the Co2 Cylinder
- 22.3.4 Any Cylinder not meeting the minimum weight should be discarded.

### 22.4 ACCESS INFLATOR SYSTEM FROM AN INFLATED LIFE JACKET

- 22.4.1 In order to access the Inflator system from an INFLATED Life Jacket:
  - i. Deflate any air that may be in the Inflation Cells, this can be achieved by depressing on the Over Pressure Valve, or depressing the Valve in the Oral Inflator.
  - ii. Break any Security Tags fitted to the Actuator Port Pockets.
  - iii. Ensure the Beaded Handles are detached from the Outer Stole, and pass these behind the Outer Stole Main Zipper.
  - iv. Remove the Inflation Cell from the Retainer Component, and lay this on a flat table
  - v. Hold the CO<sub>2</sub> cylinder through the fabric, using one hand (Figure 22a).



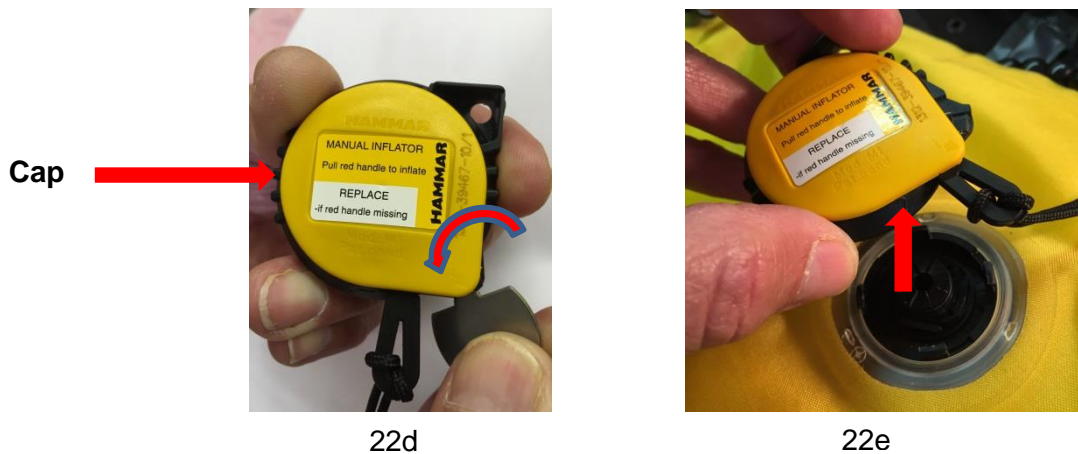
## 22.5 RE-ARMING YOUR POSEIDON LIFE JACKET

Figure 22a – 22c Step a. Inserting and Turning the Key



- a. Insert the metal key between the black locking ring and labeled yellow cap. Turn the key counter-clockwise (Figure 22c).

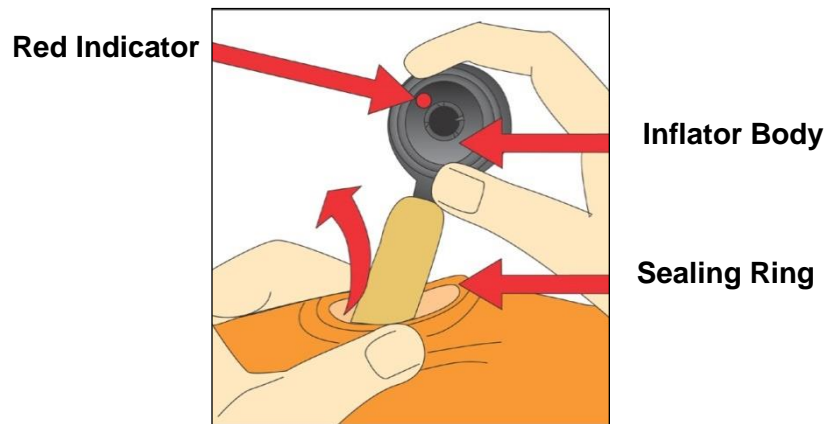
Figure 22d – 22e Step b. Re-Arming – Removal of Yellow Cap



- b. Turn the black locking ring counter-clockwise and lift off the cap (yellow inflator operating head Figure 22e). Dispose of the used cap immediately in a waste container (never place the old used Cap back on the table next to you).

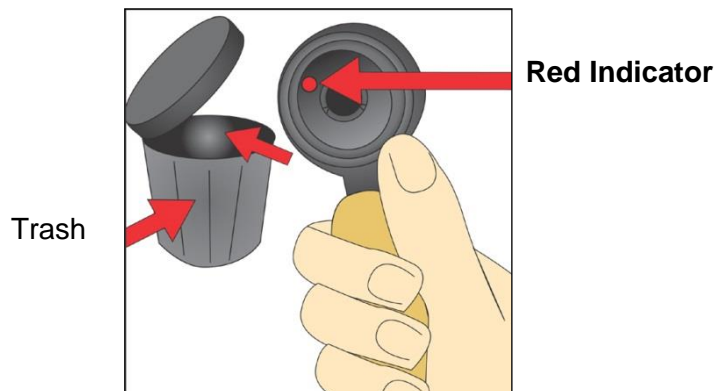


**Figure 22f Step c. Re-Arming – Removal of Inflator Body**



- c. Squeeze the sealing ring to elongate and remove the inflator body through the sealing ring (Figure 22f).

**Figure 22g Step d. Re-Arming – Disposal of Inflator Body**

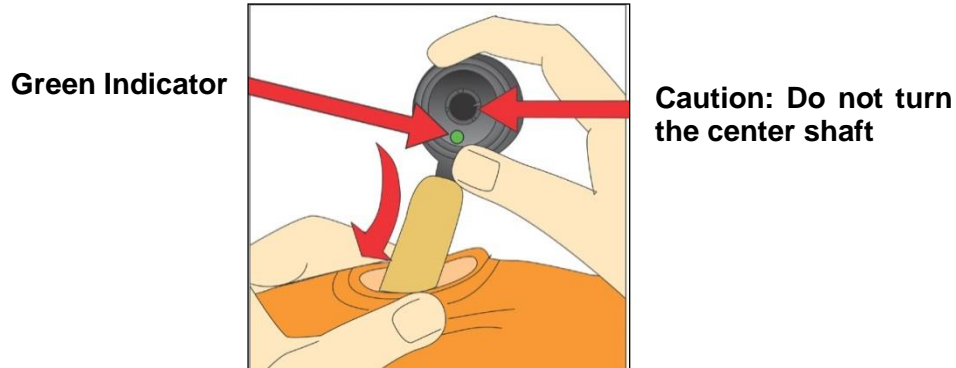


- d. Dispose of the used inflator body (Figure 22g)





**Figure 22h Step e. Re-Arming – New Inflator Body**



- e. Check that the new inflator body indicator is green. Insert the new inflator body with CO<sub>2</sub> cylinder pointing upward inside the Inflatable LIFE JACKET (Figure 22h). Let the sealing ring rest on the adapter around the four lugs.

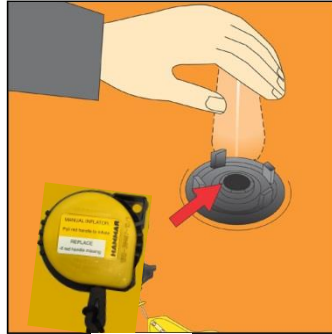
**Figure 22i Step f. Re-Arming – New Manual Cap**



- f. Now check the new Manual Cap as follows (Figure 22i):
  - 1) The Manual Cap does not have an Expiry Date
  - 2) The Manual Cap does not have a Single Point Indicator, due to it not having an expiry date
  - 3) Check the Lanyard attachment point is not broken



### Figure 22j – 22k Step g. Re-Arming – Position of Replacement Cap



22j



22k

- g. Hold the CO<sub>2</sub> cylinder through the fabric of the Inflatable LIFE JACKET (Figure 22j). Position the replacement cap with the Lanyard attachment loop pointing downwards and press firmly onto the inflator body and sealing ring (Figure 22k).

### Figure 22l Step h. Re-Arming – Locking Ring

**Black Locking Ring**



- h. While pressing FIRMLY onto the inflator body, turn the BLACK locking ring clockwise into the locked position (Figure 22l). Pull on the cap to make sure it has locked onto the inflator body.

Check: To see that the Lanyard attachment Loop is not broken, the pull to inflate lanyard is present and that the locking ring is locked.



## 23.0 BLANKING PLATE – CO2 ACTUATOR

### 23.1 BLANKING PLATE – DUAL CHAMBER FLOATING BAFFLE INFLATION CELLS

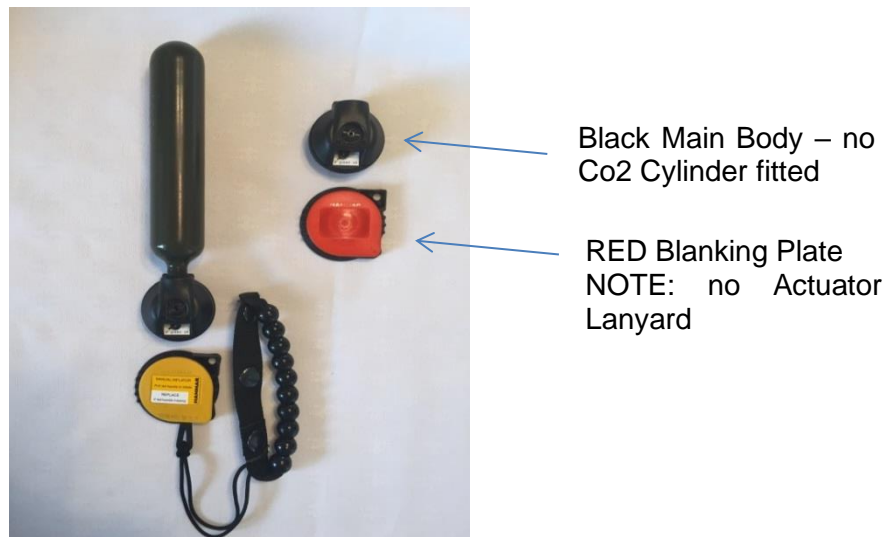
**NOTE: THE FITTING OF THE BLANKING PLATE SHOULD ONLY BE APPLIED TO ONE OF THE CHAMBERS OF THE FLOATING BAFFLE INFLATION CELLS.**

### 23.2 BLANKING PLATE – CO2 CYLINDER

### 23.3 FLOATING BAFFLE – DUAL CHAMBER INFLATION CELLS

- 23.3.1 The Co2 Blanking Plate consists of a RED Manual actuation type Cap, however this device does not have a Lanyard.
- 23.3.2 The RED Cap is interfaced to the usual Black main body, contained within the Inflation Cell – (NOTE) this black main body does not entail the Co2 Cylinder – the valve in the Black Main body stops the entrapped air within the Inflation Cell from leakage.
- 23.3.3 The function of the Blank Plate is to offer Fleet Managers the option to fit only one Co2 Actuator device to the Inflation Cells.
- 23.3.4 The CO2 Cylinder Blanking Plate can be applied to the Float Baffle Dual Chamber Inflation Cells, allowing for the option of the fit of only One Co2 Inflation Device.
- 23.3.5 This process allows for one Chamber to be fitted with the Co2 Actuator and the back-up of the Oral Inflator with the Over-Pressure Valve.
- 23.3.6 The Chamber on the opposite side of the Inflation Cell containing the Blank Plate off Users Oral Inflation only via the Oral Inflator Tube.
- 23.3.7 This unique design, allows Fleet Managers the option to retro fit a secondary Co2 Actuator Device, should later Safety requirements be deemed necessary.

**Figure 23a Black Main Body and Red Blanking Plate**





## 24.0 PACKING AND DONNING INSTRUCTIONS

**WARNING:** *The Poseidon Life Preserver range must be worn with all Life Preserver components fully assembled. The modules are not to be worn separately unless otherwise stated in this document. A loss of protection and wear resistance may result if worn improperly.*

### 24.1 ASSEMBLY, FOLDING AND PACKING INSTRUCTIONS

### 24.2 DAMAGE RESISTANT LIFE PRESERVER FORMAT INFLATION CELLS

#### 24.2.1 150 Newton and 300 Newton ratings:

**NOTE:** *All location reference points in this section are based from the perspective of the person wearing the POSEIDON LIFE PRESERVER (i.e.: “right” is the wearer’s right side).*

**NOTE:** *These instructions are illustrated from the Life Preserver when it is completely disassembled. Disassembly of the Life Preserver is performed by following the instructions in reverse order.*

**NOTE:** *If the POSEIDON LIFE PRESERVER has not been deployed, or one of the Inflation Cells has not been deployed, then the Inflation Cell does not need to be removed from the Retainer Component. Proceed to step h. (for the un-deployed Inflation Cell only).*

### 24.3 TO ASSEMBLE, FOLD AND PACK THE POSEIDON LIFE PRESERVER:

#### 24.3.1 Lay the POSEIDON LIFE PRESERVER and it’s sub-components out on a flat, clean surface.



**Figure 24a Step a and Step b. Evacuated Inflation Cell**



- a. If the POSEIDON LIFE PRESERVER is fully assembled, remove the Inflation Cells by unzipping the Retainer Component from the Velcro™ break-out tab at the back of the collar, removing the Inflator lanyard tab, removing the automatic or manual inflator assemblies (see Step e. Figure 24i - 24j) and removing the Inflation Cells from the Retainer Component via the 3 Inflation Cell access zippers. Beginning with the removed Inflation Cells (both right and left), ensure that each Inflation Cell chamber is completely evacuated of Co2 prior to proceeding. Once all residual gas has been removed from the Inflation Cell, lay the Inflation Cell flat and pull all significant wrinkles out of the evacuated Inflation Cell. If the Inflation Cell has not been deployed it may still be in an inverted orientation. If it is in the inverted position, then skip to Figure 24e as the Inflation Cell can be evacuated without fully flattening the device in its single-layer.
- b. At the bottom lobe opposite to the Inflator manifold and oral tube assembly begin to invert the Inflation Cell on itself (this will be the left side of the right Inflation Cell and vice-versa). Using the fingertips, grasp both sides of the Inflation Cell wall at the bottom of the lobe and separate the Inflation Cell walls under vacuum. As the bottom edge of the lobe is drawn inward, assist it further into the Inflation Cell cavity by pushing with the tip of your fingers to begin the inversion of the Inflation Cell on itself. Continue to invert the left lobe until it is mostly pushed into the inner cavity of the right lobe. Flatten the lobe by ensuring that the left lobe is forced into the extremities of the right Inflation Cell. Once the Inflation Cell is flattened, the finished shape will be less than half of the initial Inflation Cell shape. Repeat the same process for the second Inflation Cell. The correctly inverted Inflation Cell should show the Neck area of the Inflation Cell exposed to what would be the shoulder area of the opposite side (Three Quarter shape) – see Figure 24a.





**NOTE: Both Inflation Cells are identical and only differ by how they are packed into the Retainer Component. Each Inflation Cell can be substituted for one another (i.e.: right for left, or vice-versa) as long as it passes inspection and testing criteria outlined in Section 37.9 – 37.14**

**CAUTION: Proper operation of the device depends on the proper packing sequence. Complete evacuation, flattening of the Inflation Cell and careful folding will ensure proper deployment.**

**Figure 24b – 24e Step c. Inflation Cell Inversion Sequencing (Left to Right)**



24b



24c



24d



24e

- c. Once both Inflation Cells are inverted into three quarter-Inflation Cell shapes (Figure 24e), they will be placed opposite each other to make up the left and right Inflation Cells. The left Inflation Cell will have the manifold and oral tube assemblies facing toward the work table, and the right Inflation Cell will have these assemblies facing away from the table.



Figure 24f – 24h Step d. Layout of the Three Quarter-Inflation Cell Shapes



- d. Beginning with the left (wearing the jacket) Inflation Cell, place the left (the Inflation Cell with the assemblies facing down toward the table) Inflation Cells into the Retainer Component through the left Cell access zipper. Feed the oral tube and inflator assemblies through the respective pass-throughs (on the left lobe, these should be on the bottom face of the Retainer Component on the same side of the inflation system). Push the Inflation Cell out to the seams of the Retainer Component so that the entire assembly is flattened. Ensure that the top end of the Inflation Cell is on the underside of the baffle in the collar section of the Retainer Component (right side looking down on the item on the table). Repeat the same process for the second Inflation Cell, except ensure that the top end of the Inflation Cell is on the upper side (or opposite) side of the baffle in the collar of the Retainer Component. Close all 3 access zippers on the Retainer Component.

**WARNING: Failure to place the Inflation Cells on opposite sides of the separation baffle in the collar section of the Retainer Component in the correct sequence may result in malfunction of the Life Preserver by improper deployment of the Inflation Cell.**

**WARNING: Failure to close the access zippers on the Retainer Component could result in malfunction or catastrophic failure of the Life Preserver by improper restraint.**



**Figure 24i – 24j Step e. Placement of the Inflation Cell into the Retainer Component**

**Retainer Component  
Right Hand side  
wearing the jacket –  
Left hand side  
viewing this on the  
table looking down**



24i



24j

e. Feed Inflation Cell into the Retainer Component (Figure 24i and 24j).

#### **24.4 TWIN CHAMBER - FLOATING Baffle FORMAT INFLATION CELLS:**

24.4.1 **150 Newton and 300 Newton ratings:**

#### **24.5 POSEIDON LIFE PRESERVER – 6.3.1 – 6.3.2:**

24.5.1 To assemble, fold and pack:

**NOTE:** All location reference points in this section are based from the perspective of the person wearing the POSEIDON LIFE PRESERVER (i.e.: “right” is the wearer’s right side).

**NOTE:** *These instructions are illustrated from the Life Preserver when it is completely disassembled. Disassembly of the Life Preserver is performed by following the instructions in reverse order.*

**NOTE:** *If the POSEIDON LIFE PRESERVER has not been deployed, then the Inflation Cell does not need to be removed from the Retainer Component. Proceed to step h. (for the un-deployed Inflation Cell only).*



**Figure 24k Step a and Step b. Evacuated Inflation Cell**



- a. Lay the POSEIDON LIFE PRESERVER and it's sub-components out on a flat, clean surface.  
If the POSEIDON LIFE PRESERVER is fully assembled, remove the Inflation Cell by unzipping the Outer Stole from the Velcro™ break-out tab at the back of the collar, removing the Inflator lanyard tabs, removing the automatic or manual inflator assemblies (see Sections 20.0 – 22.0) and removing the Inflation Cell from the Retainer Component via the 3 Inflation Cell access zippers. Beginning with the removed Inflation Cell, ensure that each chamber of the Inflation Cell is completely evacuated of Co2 prior to proceeding. Once all residual gas has been removed from the Inflation Cell, lay the Inflation Cell flat and pull all significant wrinkles out of the evacuated Inflation Cell.
- b. Beginning with the left (wearing the jacket) side of the Inflation Cell, place the left (the Inflation Cell with the assemblies facing down toward the table) Inflation Cells into the Retainer Component through the left Cell access zipper. Feed the oral tube and inflator assemblies through the respective pass-throughs (on the left lobe, these should be on the bottom face of the Retainer Component on the same side of the inflation system). Push the Inflation Cell out to the seams of the Retainer Component so that the entire assembly is flattened. Ensure that the top end of the Inflation Cell is on the upper side of the baffle in the collar section of the Retainer Component. Continue feeding the Inflation Cell down the Right Hand side down past the baffle in the Neck area, down to the Right Hand side (or opposite) side of the Retainer Component. Ensure the Inflation Cell is laid flat and meeting the edges of the Retainer Component. Close all 3 access zippers on the Retainer Component.



**Figure 24I Step c. Mounting the Inflator Assembly**



- c. **For the Halkey Roberts Inflator only** (by Customer request only). Once the access zippers have been closed on the Retainer Component, the inflator assemblies can be re-mounted onto the manifold valve on each Inflation Cell. Ensure that a new bottom gasket and top gasket are used if the existing components are old or show any degradation for proper sealing. Using a 9/16" calibrated torque wrench, install the cap nut and tighten to a torque of 8.0 inch-pounds measured. Repeat the same process for both inflator assemblies on each Inflation Cell.

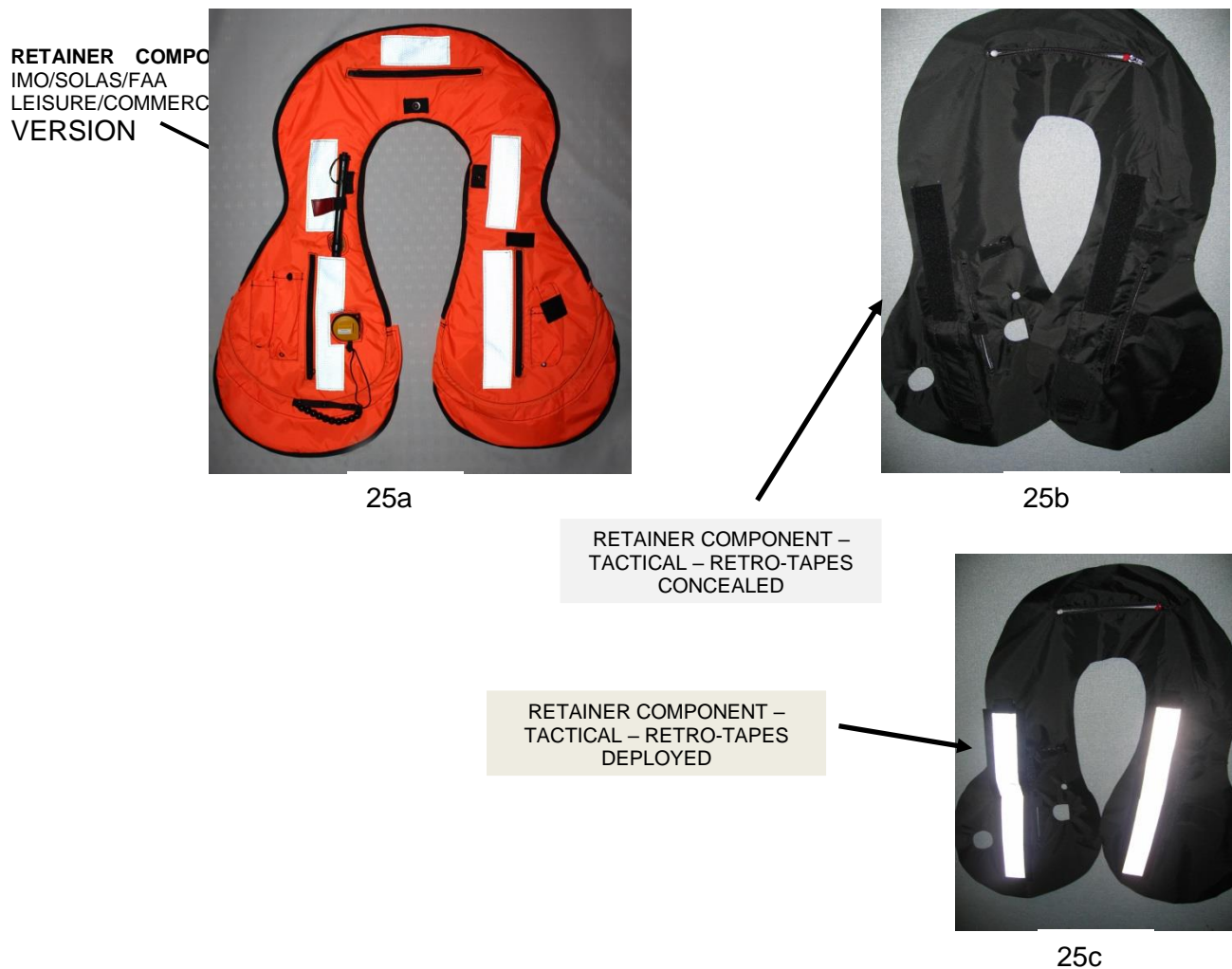
Proceed to the Harness Configuration section to ensure the harness is properly configured.





## 25.0 RETAINER COMPONENT

Figure 25a – 25c Step a. Inflation Cell Retainer Component



- a. Once the Retainer Component/Inflation Cell assembly has been attached to the Outer Stole and Harness, the attachment of the major sub-components is complete and the device is ready for arming and packing. Ensure the buddy-line has been placed inside the Retainer Component. Lay the device out flat on the table.



## 26.0 RETAINER FOLDING PROCESS – 300 NEWTON INFLATION CELLS

All models except the PPL965

### Figure 26a – 26b Step a. Layout and Packing Fold 1, Right Lobe

NOTE: The Retainers Expansion Pocket is in the open and “Extended” position – see 2.5 Retainer Module for the location of the Expansion Pocket.



26a



26b

- a. Begin the folding procedure with the right lobe (wearing the Life Jacket). See Figure 26a. The first fold is made by flaking the edge of the lobe next to the Oral Inflator back under the itself. The inflator should be on top of the Inflation Cell assembly at this point  
Ensure the device is properly armed, see Section 20.0 – 22.0 for re-arming instructions. Once the Inflators are armed the device is ready for folding.

**NOTE:** *The entire folded assembly of each lobe is required to be contained within the footprint area of the back panel of the Retainer Component. Use this panel as a reference area when packing the Life Preserver.*



### Figure 26c – 26e Step b. Packing Folds 2, Right Lobe



26c



26d

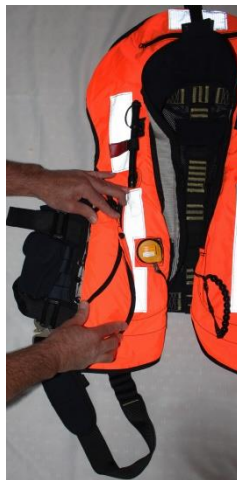


26e

- b. Fold the entire bottom of the Lobe back over itself, to expose the zipper. (Undertaking the first fold, ensures the Actuator Lanyard is not placed under too much pressure, which may cause accidentally activation)  
Bring the ends of the Zipper together, and place the Slide on with the Slide Toggle facing away from you. (ensure the tail of the Slide is protruding the base of the Retainer between the retainer and the Zipper – Failure to do this will make sliding the Zipper Slide through the opening more difficult – see Figure 24b and 24c)  
Slide the Zipper Slide along, by approximately 25mm, this will assist the start of the zipping process see Figure 24d

Fold the Inflation Retainer back down to continue the folding process

### Figure 26f Step c. Packing Folds 3, Right Lobe



26c

- c. The second fold is made by folding the outer side of the Cell over itself to the Retainer Component forming a straight line of the outer edge, and the edge of the fold lays in line with the Inspection Port Zipper. See Figure 24e



**Figure 26g – 26h Step d and Step e. Packing Folds 4, and 5 Right Lobe**



26g



26h

- d. The 3<sup>rd</sup> fold is by folding the small side of the lobe, now laying next to the Actuator, back over itself so the edge meets the outer side of the Retainer, exposing the Access Zipper Portal – see Figure 26g
- e. The 4th Fold is made by Concertinaing (S fold) back over itself, so the C02 Actuator sits directly on top, and faces directly upwards – see Figure 26h

**WARNING:** *Failure to ensure that the lever and lanyard have a clear sweep and pull path toward the centre of the device may result in Life Preserver malfunction by failure to activate manually.*



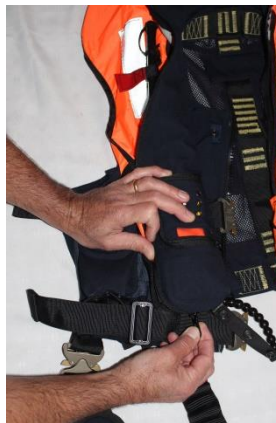
**Figure 26i Step f. Packing Fold 6, Right Lobe**



26i

- f. The 5<sup>th</sup> fold is to fold the bottom of the Lobe under the Co2 Actuator, back up and over itself, so the fold sits on top of the Cell just below the base of the Actuator  
Once the 5<sup>th</sup> fold is in place, you will note that the 300 Newton stencil is showing – this 300 Newton stencil will be visible via the Transparent Inspection Window of the Outer Stole – signifying the fit of the 300 Newton Inflation Cells.

**Figure 26j Step g. Zipper Closure, Right Lobe**



26j

- g. Fold the Outer Stole envelope over, and start zipping this up from the base to adjacent to the Oral Inflator where it joins to the Inflation Cell

**CAUTION: When backing up the zipper, be sure not to catch the Retainer Component in the teeth or slider to prevent tearing of the Retainer Component. Use your finger to prevent snagging.**





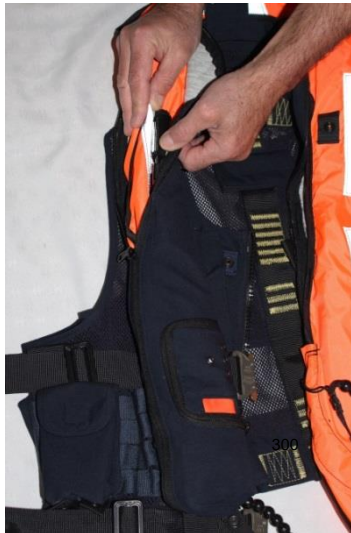
**Figure 26k Step h. Zipper Left Lobe Neck area vertical Fold**



26k

- h. Continue the 4th fold (S fold) of the small portion of the Neck area of the Inflation Cell to the base of the Neck – ensure the Grab Handle is laid neatly outward over the back of the Head Pillow – see Figure 26k

**Figure 26l – 26m Step i. Zipper Left Lobe Neck area vertical Fold**



26l



26m

- i. The 4<sup>th</sup> Fold incorporates a portion of the Left Lobe – making a vertical S Fold down the Left Hand lobe in the small Neck area  
Close the Zipper to the Curve of the Pillow area – see Figure 26l and 26m

The left lobe is similar, but not identical to packing the right lobe.



**Figure 26n - 26p Step j, k, l, and m. Packing Folds 7, Left Lobe**



26n



26o



26p

- j. Fold the entire bottom of the Lobe back over itself, to expose the zipper - ensure the Actuator Lanyard is not placed under too much pressure, which may cause accidentally activation.
- k. Bring the ends of the Zipper together, and place the Slide on with the Slide Toggle facing away from you. (ensure the tail of the Slide is protruding the base of the Retainer between the retainer and the Zipper – Failure to do this will make sliding the Zipper Slide through the opening more difficult – see Figure 26n and 26o.
- l. Slide the Zipper Slide along, by approximately 25mm, this will assist the start of the zipping process see Figure 26p
- m. Fold the Inflation Retainer back down to continue the folding process

**Figure 26q Step n. Packing Folds 7, Left Lobe**

- n. The 1st fold on the Left Hand side (the 7<sup>th</sup> in the entire process) is achieved by folding the outside edge (looking at the Life Jacket on the table, the side of the Lobe right of the Actuator, over itself in a Vertical line adjacent to the edge of the Co2 Actuator, so the edge of the lobe runs adjacent to the Inspection Port Zipper – see Figure 24m





**Figure 26r Step o. Packing Fold 8 Left Lobe**

- o. The 8th fold is achieved by folding the inner edge of the Retainer back over itself in a vertical line adjacent to the edge, forming a straight line, also the edge of the fold will lay adjacent to the Inspection Port Zipper – see Figure 26r



**Figure 26s Step p. Packing Fold 9 – Actuator Upright**

- p. The 9th fold is achieved by folding the 7th fold (the fold with the Co2 Actuator facing the table) back over itself to sit directly on top facing upwards you. – see Figure 26s.





**Figure 26t Step q. Packing Fold 10 Folding the base of the Lobe**

- q. The 10th fold is achieved by folding the lower portion of the Lobe back up over itself, towards the Co2 Actuator, and lay flat below the Actuator – see Figure 24p



**Figure 26u Step r. Zipper Finishing and Final Arming**

- r. Fold the Outer Stole envelope over, and start zipping this up from the base to adjacent to the Oral Inflator where it joins to the Inflation Cell – see Figure 26u

**CAUTION:** *When backing up the zipper, be sure not to catch the Retainer Component in the teeth or slider to prevent tearing of the Retainer Component. Use your finger to prevent snagging.*







**Figure 26v Step s. Zipper Closure, Right Lobe**



- s. Continue the 8th Fold incorporates a portion of the Left Lobe – making a vertical S Fold down the Left Hand lobe in the small Neck area

**Figure 26w Step t Zipper Closure, Neck Area**



- t. Close the Zipper to the Neck area – see Figure 24r and 24s – do not remove the slide off the Zipper





### Figure 26x – 26y Step u. Horizontal Fold of Head Pillow



26x



26y

- u. The 6th Fold is a Horizontal fold of the Head Pillow support and Grab Handle fold the Head Pillow Support back over itself. At this point the main Zipper should be backed up to the Neck Tab, closing the Left Hand side of the jacket – see Figures 26x and 26y.

### Figure 26z Step v Right Hand Stole

- v. Close the Right hand outer Stole cover and remove the side from the zip – see Figure 26z.



### Figure 26aa Step w. Beaded Handles

- w. Attach the Beaded Handles to the Outer Stoles Dome Snap Fitting on either side of the Outer Stole – see Figure 26ab





## 27.0 RETAINER FOLDING PROCESS – 150 NEWTON INFLATION CELLS

### 27.1 ALL MODELS EXCEPT THE PPL965

**NOTE:** The Retainers Expansion Pocket is in the closed and “Inverted” position – see Figure 27c Retainer Module for Expansion Pocket location.

27.1.1 With the Expansion Pocket Closed, the Folding process can begin.

**Figure 27a – 27c Step a. – Step d. Layout and Packing Fold 1, Right Lobe**



27a

Retainer with  
Expansion Pocket  
“OPEN”



27b

Closing the  
Expansion Pocket  
via the Zipper



27c

Retainer with  
Expansion Pocket  
“CLOSED”

- a. The folding process is exactly the same as the 300 Newton Folding process for the Right Hand side of the Retainer – see Figures 26c – 26i.
- b. The folding process is exactly the same as the 300 Newton Folding process for the Left Hand side of the Retainer – see Figures 26n – 26r.
- c. The folding of the base of the Lobe over itself to below the Actuator is not required, due to the shorter length of the 150 Newton Retainer.
- d. Closing of the Outer Stole follows the same process as the 300 Newton process – Left side of the Life Jacket process Figure 26k, 26l, 26m, and Right hand side of the Life Jacket process Figures 26v, 26w.



**Figure 27d – 27e Step e. Folded Retainer fitting within Foot Print of the Stole**



27d



27e

- e. The process of the folding of the bottom of the Retainer over and back on to itself in Figure 27c is **NOT** required, as the 150 Newton Inflation Cell fits within the Foot Print of the Stole sizing.



## 28.0 RETAINER FOLDING PROCESS

### 28.1 MODEL PPL965 POUCH LIFE PRESERVER

Figure 28a – 28b Step a. – Step f. Layout and Packing Fold 1, Right Lobe



28a



28b

- a. Lay the Retainer on a flat surface, with the back of the Retainer facing upwards towards you.
- b. There are 5 Self Locking Velcro Strips which are used to hold the Retainer in the packed position, which ensure the Users have a great mobility, comfort and clear vision of their feet during any abandonment procedures, offering greater Safety of the User. During Inflation these Velcro Strips detach and allow the Inflation Cells to fully form.
- c. One set of Velcro Strips are placed through the bottom Pass throughs of each side of the Lobes of the Retainer. These Velcro Strips hold the bottom Lobes of the Retainer in place.
- d. Place the Velcro restraint strap with the Pile face, facing up towards you, through the lower Retainer Pass Through, so it is equally distributed either side of the Pass Through as shown in Figure 28b above.
- e. Undertake this process to both the Left and Right hand sides of the Stole.
- f. Turn the Retainer over so the Co2 Actuator on the Right hand side of the Retainer is facing you.





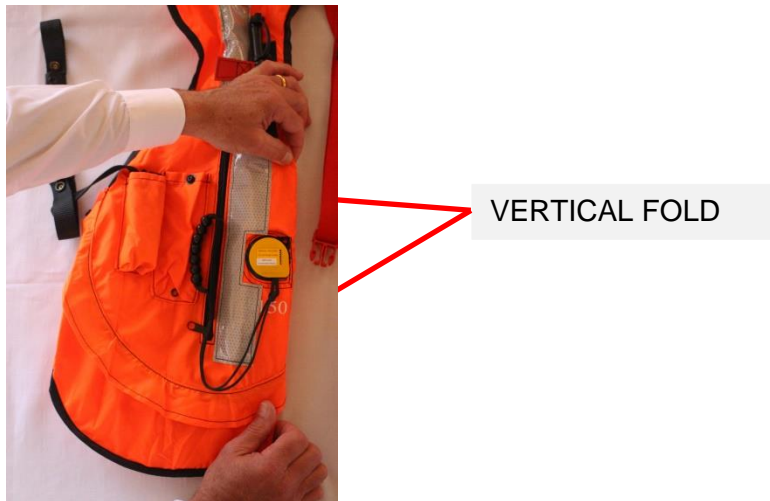
**Figure 28c Step g. Inserting the Buddy Line Into Retainer Buddy Line Pocket**



- g. Insert the Buddy Line (attached to the Chest Strap) in to the Right hand side Retainer Buddy Line pocket (see figure 28c)

28.1.1 The Pouch Life Preserver does NOT integrate the Retainer in to a Stole. The Pouch performs the function of the Stole.

**Figure 28d Step h – Step j Fold 1**



- h. Turn the Retainer over, so the Actuator on the Right Hand Cell is facing upward towards you.
- i. Commence the folding process as shown in Figure 28d
- j. Begin the folding procedure with the right lobe (wearing the Life Jacket). See Figure 28d. The first fold is made by flaking the edge of the lobe next to the Oral Inflator back under itself. The inflator should be on top of the Inflation Cell assembly at this point. Ensure the device is properly armed, see section 20.0 – 22.0 for re-arming instructions. Once the Inflators are armed the device is ready for folding.





**NOTE:** The entire folded assembly of each lobe is required to be contained within the footprint area of the back panel of the Retainer Component. Use this panel as a reference area when packing the Life Preserver.

**Figure 28e Step k. Packing Fold 2, Right Lobe**



- k. The second fold is made by folding the outer side of the Cell over itself to the Retainer Component forming a straight line of the outer edge, and the edge of the fold lays in line with the Inspection Port Zipper. See Figure 28e.

**Figure 28f Step l. Packing Folds 3 and 4 Right Lobe**



- l. The 3<sup>rd</sup> fold is by folding the small side of the lobe, now laying next to the Actuator, back over itself so the edge meets the outer side of the Retainer, exposing the Access Zipper Portal – see Figure 28f.



**Figure 28g Step m. Fold 4**



- m. The 4th Fold is made by Concertinaing (S fold) back over itself, so the CO2 Actuator sits directly on top, and faces directly upwards – see Figure 28g.

**WARNING: Failure to ensure that the lever and lanyard have a clear sweep and pull path toward the centre of the device may result in Life Preserver malfunction by failure to activate manually.**

**Figure 28h Step n. – Step o. Packing Fold 5, Right Lobe**

- n. The 5<sup>th</sup> fold is to fold the bottom of the Lobe under the Co2 Actuator, back up and over itself, so the fold sits on top of the Cell just below the base of the Actuator.
- o. Once the 5<sup>th</sup> fold is in place, you will note that the 300 Newton stencil is showing



**NOTE: using this fold procedure with the 150 Newton Inflation Cells fitted, and the Retainers Expansion Pocket closed for the use of the 150 Newton Cell, this fold is not required and the exposure of the 150 Newton stencil will be visible – signifying the fit of the 150 Newton Inflation Cells.**



**Figure 28i Step p. Fold 6, First Self Fastening Velcro**



- p. Wrap the Self Fastening Velcro around the base of the Retainer to secure the folding process in place – see figure 24i

**Figure 28j – 28k Step q. Fold 7, 2nd Self Fastening Velcro Strip**



28j



28k

- q. The 2nd Self Fastening Velcro Strip is then fed around the Retainer in the Shoulder area, being placed under the Oral Inflator Tube, and then wrapped around the back of the retainer to hold the folds securely in place – turning the Retainer over assists in mating the Velcro together – see figure 24j



**Figure 28l Step r. Packing Fold 8, Left Lobe**



- r. The 1st fold on the Left Hand side (the 8<sup>th</sup> in the entire process) is achieved by folding the outside edge (looking at the Life Jacket on the table, the side of the Lobe right of the Actuator, over itself in a Vertical line adjacent to the edge of the Co2 Actuator, so the edge of the lobe runs adjacent to the Inspection Port Zipper – see Figure 28l.

**Figure 28m Step s. Packing Fold 9 Left Lobe**



- s. The 9<sup>th</sup> fold is achieved by folding the inner edge of the Retainer back over itself in a vertical line adjacent to the edge, forming a straight line, also the edge of the fold will lay adjacent to the Inspection Port Zipper – see Figure 28m.





**Figure 28n Step t. Packing Fold 10 – Actuator Upright**

- t. The 10<sup>th</sup> fold is achieved by folding the 7<sup>th</sup> fold (the fold with the Co2 Actuator facing the table) back over itself to sit directly on top facing upwards you. – see Figure 28n.



**Figure 28o Step u. Packing Fold 10 Folding the base of the Lobe**

- u. The 10<sup>th</sup> fold is achieved by folding the lower portion of the Lobe back up over itself, towards the Co2 Actuator, and lay flat below the Actuator – see Figure 28o.







**Figure 28p – 28q Step v. Fold 11, 2<sup>nd</sup> Self Fastening Velcro Strip**



28p



28q

- v. The 2<sup>nd</sup> Self Fastening Velcro Strip is then fed around the Retainer in the Shoulder area, being placed under the Oral Inflator Tube, and then wrapped around the back of the retainer to hold the folds securely in place – turning the Retainer over assists in mating the Velcro together – see Figure 28p and Figure 28q.

## 28.2 HEAD PILLOW SUPPORT FOLDING

- 28.2.1 The Head Pillow Support of the Pouch Life Preserver is not folded and remains in the lay flat form.

**Figure 28r Head Pillow Support**





28.2.2 Where the Spray Hood is fitted, the Spray Hood should be attached to the appropriate Snap Dome Fasteners on the Retainer – see Section 2.5 of this manual.

28.2.3 The Spray Hood has the following Folding process:

**Figure 28s Step i. and Step ii. Folding the Spray Hood**

- i. Attach the Spray Hood via the 3 Snap Dome Fasteners to the Retainer module.
- ii. Pass the Velcro Strip the through the centre of the centre Spray Hood Snap Dome fitting, with the Pile Face down toward the table – this Velcro Strip tie is only required when the Spray Hood is fitted.



**Figure 28t – 28u Step iii. - Step iv. Fold the Clear Window in Half**



28t



28u

- iii. Lay the Spray Hood open over the Retainer – see Figure 28t
- iv. Grasp the clear window in the centre horizontal position so it folds the clear window in half – see Figure 28u



### Figure 28v Step v. Fold Clear Window up and Over

- v. Holding the centre of the Clear window, fold this up and over itself in line with the top of the Oral Inflators – see Figure 28v.



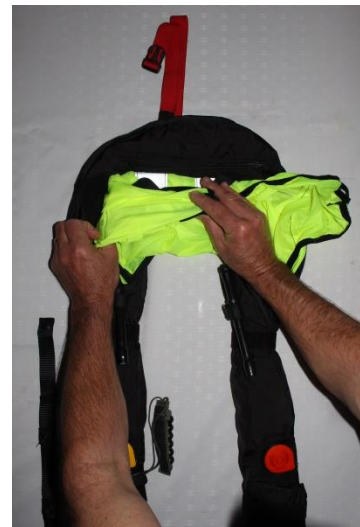
### Figure 28w Step vi. Base of Spray Hood and Elastic Retainers

- vi. Fold the base of the Spray Hood including the elastic retainers over itself to the top of the clear window – see figure r



### Figure 28x Step vii. Left Outer Edge Fold Past the Centre Line

- vii. Fold the outer edge of the Right hand side of the Spray hood inwards towards and past the centreline – see Figure 28x.





**Figure 28y Step viii. Right Outer Edge Fold Past the Centre Line**



- viii. Fold the outer edge of the Left hand side of the Spray hood inwards towards and past the centreline so there is a clear overlapping – see Figure 28y.

**Figure 28z – 28aa Step ix. Securing the Spray Hood With Velcro Strip**



28z



28aa

- ix. Wrap the Velcro Strip around the Spray Hood to secure it in place – see Figures 28z and 28aa.





## 28.3 THE CHEST RESTRAINT STRAP

28.3.1 The Chest Restraint Strap ensures the Pouch Life Preserver, when fitted to the person remains secured on the person. The Chest Restraint Strap ensures the Yoke of the Retainer does not slip off the shoulders of the User, this device also ensures the fit of the Yoke on varying body shapes and sizes of Users.

28.3.2 The Chest Restraint Strap has the following folding process:

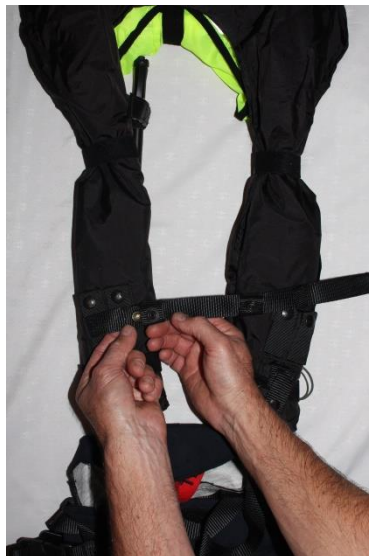
**Figure 28ab Step i. The Chest Restraint Strap**



- i. Turn the Retainer over facing down toward the workspace, and place the Chest Restraint Strap with the Male Snap Dome fasteners facing upward towards you, and over the Lower Pass Through's – see Figure 28ab.

**Figure 28ac – 28ad Step ii. Restraint Strap Pass Throughs and Snap Dome Fasteners**

- ii. Pass the Chest Restraint Strap through the Pass Throughs on the Left side of the Retainer, and secure the Snap Dome fasteners together – see Figures 28ac and 28ad.



28ac



28ad





### Figure 28ae Step iii. Open Webbing and Pass Throughs

- iii. Open the Webbing and Pass Throughs on the Right hand side of the Retainer, and lay the Chest Restraint Strap in line with the Pass Through, so the Buddy Line is on the outer side of the Pass Through – see Figure 28ae.



### Figure 28af – 28ag Step iv. Retainer Webbing Pass Throughs and Snap Dome Fasteners



28af



28ag

- iv. Pass The Webbing on the Retainer back through the Pass Throughs, ensuring the Chest Restraint Strap lays under the Webbing Pass Throughs, and mate the Snap Dome fasteners closed – see Figure 28af and 28ag.



**Figure 28ah – 28ai Step v. Chest Restraint Strap and Snap Dome Fasteners**



28ah



28ai

- v. Pass the Chest Restraint Strap through the Pass Throughs on the Right side of the Retainer, and secure the Snap Dome fasteners together – see Figure 28ah and 28ai.

28.3.3 This completes the folding process for the Pouch Life Preserver.



## 29.0 PACKING THE POUCH LIFE PRESERVER

Figure 29a – 29b Step a. and Step b. Packing the Pouch Retainer into the Pouch



29b

- a. Lay the Retainer and Pouch on a flat surface, facing upwards, with the Retainer at a 90 degree angle to the Pouch. – see Figure 29a.
- b. Ensure the Leg Straps on the outside face of the Waist belt – see Figure 29b.

Figure 29c – 29d Step c. and Step d. Right Lobe Placement

- c. Place the base of the Right hand side Lobe in to the base of the Pouch, hard up against the side of the Pouch – see figure 28c



29c

- d. Push the Right hand Lobe down flat against the bottom of the Pouch – you will notice the Oral Inflator will bend – see figure 28d



29d



### Figure 29e – 29g Step e. – Step g. Left Lobe Placement

- e. Place the Left Lobe in to the Pouch, directly over and on top of the Right Lobe – see Figure 28e.



29e

- f. Ensure the Left Lobe is compressed down over the Right Lobe tightly – see Figure 29f.



29f

- g. Turn the Head Pillow support of the Retainer so this runs in line with the Pouch – the front face of the retainer should be facing the lid of the Pouch – see Figure 28g



29g





### Figure 29h – 29j Step h. Folding the Head Pillow Support



29h



29i



29j

- h. Fold the Head Pillow support in half and over itself, so the Back Restraint Strap Pass Throughs and Webbing are facing upwards towards you, and lay flat in to the Pouch, and push down firmly – see Figures 29h, 29i, 29j.

### Figure 29k Step i. Red Back Strap Within Pouch

- i. Neatly fleet the Red Back Strap so it fits within the width of the Pouch, and lay this through the centre location of the Pouch.



### Figure 29l Step j. Left Leg Strap

- j. Fleet the Left Leg Strap and lay this across the front location of the Pouch. Ensure the Leg Strap enters the Pouch in front of the Waist Strap, to ensure this does not snag when the Waist Belt is placed around the Users Waist – see figure 28j

Leg Strap in front of the Waist Belt







### Figure 29m Step k. Right Leg Strap

- k. Fleet the Right Leg Strap and lay this across the rear location of the Pouch. Ensure the Leg Strap enters the Pouch in front of the Waist Strap, to ensure this does not snag when the Waist Belt is placed around the Users Waist – see Figure 29m.

Leg Strap in front of the Waist Belt



### Figure 29n Step l. Closing Pouch Lid

- l. Close the Lid of the Pouch, ensure the Velcro of the Lid securely meets the Velcro of the Pouch see Figure 29n.



### Figure 29o Step m. Secured Red PULL Tag

- m. Ensure the edges of the Pouch Lid are neatly positioned over the sides of the Pouch, and the Red PULL tag is secured to its Velcro Position. Neatly kneed the pouch in to an even square shape – see Figure 29o.





**Figure 29p Step n. Waist Belt Secured Around Pouch**



- n. Wrap the Waist Belt around the Pouch, and securely fasten the Buckle ensuring the belt is firmly secured around the Pouch – see Figure 29p.



## 30.0 DONNING PLJ204

### 30.1 FULL TORSO LIFE PRESERVER

30.1.1 Once the device is armed, it can be donned like a typical harness. The device is secured by 3 side-release buckles: one at the waist and one at each thigh. After these buckles have been fastened, there are 8 adjustment points on the Full Torso Harness system to assure proper fit, both right and left for each: waist adjustment, back adjustment, hip adjustment and thigh adjustment.

30.1.2 The waist adjustment is made on the lateral sides of waist belt, and is adjusted first. The second adjustment is in each thigh loop. The third and fourth adjustment is to the front (or hip) and back adjustments, respectively. All adjustments should be made so that the harness and Life Preserver is snug on the body, but allows user flexibility and mobility.

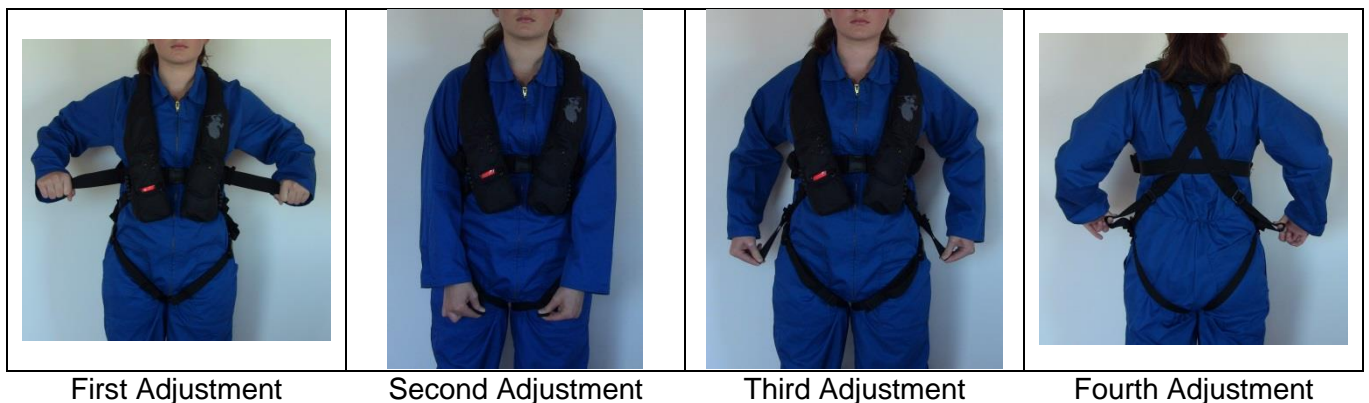
**CAUTION: The Life Preserver should not be worn on the inside of a ballistic vest to avoid secondary impact injuries. The device is designed to take damage when used in conjunction with the Damage Resistant Inflation Cells, and perform as required and should be configured on the outside of any tactical ensemble.**

30.1.3 Elastic retainers are fitted onto each adjustment webbing to secure excess strapping after the harness has been adjusted. The excess strapping can be flaked into the elastic retainers where significant lengths are left after adjustment.

30.1.4 The harness should be fit snug and secure to the body to ensure proper performance of the Life Preserver. Activation of the Marine version Life Preserver is performed automatically if immersed in water or the Aviation version manually by pulling either or both beaded inflation handles.

**CAUTION: Proper fit should be verified by testing the in-water performance of the deployed device**

Figure 30a – 30d Step Donning Closures and Adjustment Points



First Adjustment

Second Adjustment

Third Adjustment

Fourth Adjustment



## 31.0 DONNING PLJ2010

### 31.1 UPPER TORSO (YOKE) LIFE PRESERVER

- 31.1.1 Once the device is armed, it can be donned like a typical Upper Torso Harness. The device is secured by one Waist Buckle, with a size adjustment on either side of the Buckle. Option Leg Straps can be fitted, offering a size adjustment on each leg of the unique expansion webbing.
- 31.1.2 The waist adjustment is made on the lateral right side of waist belt, and is adjusted first.
- 31.1.3 There are two versions of the Upper Torso Harness Life Preserver, these are typically depicted by the environmental use.
- 31.1.4 The Cobra Quick Release Buckle requires only one D Ring Buckle for Restraint by use of the Poseidon Tether Line (Part No.PT1259).
- 31.1.5 The ITW Plastic Buckle version offers two options
  - i. Double D Ring either side of the Plastic Buckle, and
  - ii. No D Rings attachments

**CAUTION:** *The Life Preserver should not be worn on the inside of a ballistic vest to avoid secondary impact injuries. The device is designed to take damage when used in conjunction with the Damage Resistant Inflation Cells and perform as required and should be configured on the outside of any tactical ensemble.*

- 31.1.6 Elastic retainers are fitted onto each adjustment webbing to secure excess strapping after the harness has been adjusted. The excess strapping can be flaked into the elastic retainers where significant lengths are left after adjustment.
- 31.1.7 The harness should be fitted snug and secure to the body to ensure proper performance of the Life Preserver. Activation of the Marine version Life Preserver is performed automatically if immersed in water or the Aviation version manually by pulling either or both beaded inflation handles.

**CAUTION:** *Proper fit should be verified by testing the in-water performance of the deployed device*

Figure 31a – 31d Eight Donning and Adjustment points





## 32.0 DONNING PSV411

### 32.1 SURVIVAL VEST/LIFE PRESERVER DONNING PROCESS

32.1.1 Once the device is armed, it can be donned like a typical Waist Coat. The device is secured by the main Zipper, one side-release Chest Buckle, one Waist Buckle and two Thigh Strap Buckles. After these buckles have been fastened, there are six adjustment points on the harness system to assure proper fit, both right and left for each: Waist and Chest adjustment, side expansion gusset adjustments, and the two Leg Thigh adjustments.

32.1.2 The waist adjustment is made on the lateral sides of Waist and Chest belts, and is adjusted first. The second adjustment is in each thigh loop. The third optional adjustment is to the side expansion gussets, respectively. All adjustments should be made so that the Survival Vest/Life Preserver is snug on the body, but allows user flexibility and mobility.

**CAUTION:** *The Life Preserver should not be worn on the inside of a ballistic vest to avoid secondary impact injuries. The device is designed to take damage and perform as required and should be configured on the outside of any tactical ensemble.*

32.1.3 Elastic retainers are fitted onto each adjustment webbing to secure excess strapping after the harness has been adjusted. The excess strapping can be flaked into the elastic retainers where significant lengths are left after adjustment.

32.1.4 The Survival Vest/Life Preserver should be fitted snug and secure to the body to ensure proper performance of the Life Preserver and integrated Restraint/Fall Arrest/Winching Harness. Activation of the Survival Vest/Life Preserver Maritime version is performed automatically if immersed in water or manually by pulling either or both beaded inflation handles, or when the Manual Conversion Plugs are fitted, converting the Automatic/Hydrostatic operation to Manual Operation.

32.1.5 Activation of the Survival Vest/Life Preserver Aviation version is performed Manually with no Automatic Operation whatsoever.

32.1.6 Pilot/Crew operations should ensure the integrated Restraint/Fall Arrest/Winching Harness fit should be snug allowing a full range of movement. The Leg restraint straps should be adjusted with the “Two Finger” gap fit. The Snug but Comfort fit is recommended for use in Restraint operations.

32.1.7 In any winch operations the Leg Restraints and Chest/Waist adjustments, should be fitted in a manner where the fit is Tight – this ensures the Vest does not ride up in any winching exercise. At the completion of the winch exercise the fit can be loosened to offer a more comfortable fit.





32.1.8 Fitting of the Survival Vest/Life Preserver is undertaken as depicted in Fitting Procedures Figures 32a – 32j.

**Figure 32a – 32j Eight Donning and Adjustment points**



**32a**  
**Right Arm/Left Arm**



**32b**  
**Main Zipper**



**32c**  
**Securing Dome**



**32d**  
**Waist Buckle**



**32e**  
**Chest Buckle**



**32f**  
**Adjust Chest Buckle**



**32g**  
**Adjust Waist Buckle**



**32h**  
**Left Leg Strap**



**32i**  
**Right Leg Strap**



**32j**  
**Adjust Waist Buckle**



## 32.2 BALLISTIC ARMOUR

### 32.3 EXPANSION GUSSETS – SURVIVAL VEST/LIFE PRESERVER

32.3.1 Unique Ballistic Armour Expansion Gussets are located at each side of the Survival Vest.

32.3.2 The Expansion Gussets allow the integration of internal armour without the need for additional sizes of Survival Vest, by expanding the Vest size.

**Figure 32k Location of Expansion Gussets**





## 33.0 DONNING PRSH1196

### 33.1 RESCUE SWIMMERS HARNESS/LIFE PRESERVER DONNING PROCESS

33.1.1 Once the device is armed, it can be donned like a typical Fall Arrest/Restraint harness. The device is secured by 3 side-release buckles: one at the waist and one at each thigh. After these buckles have been fastened, there are 5 adjustment points on the harness system to assure proper fit, both right and left for each: waist adjustment, chest adjustment, and thigh adjustment.

33.1.2 The waist adjustment is made on the lateral sides of waist belt, and is adjusted first. The second adjustment is in each thigh loop. The third and fourth adjustment is to the front chest adjustment, respectively. All adjustments should be made so that the harness and Life Preserver is snug on the body, but allows user flexibility and mobility.

**CAUTION:** *The Rescue Swimmer Harness/Life Preserver should not be worn on the inside of a ballistic vest to avoid secondary impact injuries. The device is designed to take damage and perform as required and should be configured on the outside of any tactical ensemble.*

33.1.3 Elastic retainers are fitted onto each adjustment webbing to secure excess strapping after the harness has been adjusted. The excess strapping can be flaked into the elastic retainers where significant lengths are left after adjustment.

33.1.4 The harness should be fitted snug and secure to the body to ensure proper performance of the Life Preserver. Activation of the Marine Version Life Preserver is performed automatically if immersed in water or the Aviation version manually by pulling either or both beaded inflation handles.

**Figure 33a - 33h Step a. – Step i. Donning Process**



33a



33b

- a. Remove harness from packaging and read instructions. Pick up harness by the back “D” ring and shake it so all the straps fall into place.
- b. If any of the leg or chest straps are buckled up, unbuckle them to release the straps.
- c. Once all buckles and leg straps are hanging loose and in the correct position, put the harness on like a jacket with the back “D” ring facing outwards.
- d. The “D” ring must be positioned between the centre of the shoulder blades. All padded areas must sit at the lower back. Adjust the shoulder straps to ensure the back pad is on the lower back.



33c



33d



33e

- e. Fasten the waist belt via the side release buckle and adjust to ensure the harness is fitting correctly. Ensure all excess webbing is fed through the locking buckle. It may take some time to get the correct length of waist belt, but it is critical to ensure a good fit with no slippage.

- f. Pass the right leg strap between the legs coming from the front of the body to the back and fasten to side release buckle on right hand side. Make sure the webbing is not twisted and the adjustment tag is facing outwards.



33f

- g. Repeat procedure on left leg, do not cross the webbing. Ensure the seat of the harness is fitting snug.

- h. Leg straps must be tight but not restrictive, leg straps that are too loose could cause injury to the wearer during a fall.



33g

- i. Once the harness is on and adjust shoulder straps to fit correctly, run your hands along all the straps to ensure they are not twisted. If they are twisted remove the harness and refit.



33h

33.1.5 Ask a colleague to check your harness is laying on you correctly, and all lanyards are attached and closed.





## 33.2 ADJUSTMENT OF HARNESS

**Figure 33i Step a. Fasten Buckles**



- a. To fasten buckles such as leg straps and waist belts, snap the Male and Female 3 release buckles together. Make sure the webbing is not twisted and the two buckles are flush against each other when closed.

**Figure 33j Step b. Tighten Buckles**



- b. Feed the webbing through the buckle and then secure it with the keeper, if the keeper is right up against the buckle it may make it more difficult to adjust.

**Figure 33k Step c Shoulder Straps - Pulling on the Webbing Tag**



- c. Tilt the buckle by pulling on the webbing tag, this will release some of the tension on the webbing, pull the webbing while the buckle is tilted to the required length.





**Figure 33l Step d. Buckle Keeper**



- d. Slide the keeper away from the buckle to give some slack in the webbing, tilt the buckle and pull the webbing through.

**Figure 33m Webbing Flat Must Lay Flat**



- e. Be careful not to twist the webbing or cross the chest or leg straps.

### **33.3 INTENDED USE OF THE RESCUE SWIMMERS HARNESS**

33.3.1 The Rescue Swimmers Harness may be used for: Fall Arrest, work positioning, hoisting of the front webbing loops and Long Lining from the rear D Ring Attachment point

33.3.2 Limitations:

- The harness is only permitted to be used where the maximum allowable free fall distance is less than 2 meters.

33.3.3 All fall arrest connection points are labelled. Front fall arrest “D” rings or webbing loops are to be connected together using a karabiner or similar device. Only the attachment points marked for fall arrest shall be used for the attachment of lanyards or other equipment provided to arrest a free fall.

33.3.4 Only competent users who have received training should use this equipment. (Refer to the AS/NZS 1891-4: 2009 recommendations concerning selection, use and maintenance.)



- 33.3.5 Personal energy absorbers that absorb energy by permanent deformation or destructive action must be discarded if that process has commenced.
- 33.3.6 No modifications or alterations are to be made to the equipment, this will make the warranty null and void.
- 33.3.7 Ensure that the harness or webbing does not come into contact with high temperature surfaces, welding, heat sources, electrical hazards or moving machinery. Specially designed harnesses with high heat webbing are available for specialized heat applications.
- 33.3.8 If the equipment is used in areas, or comes into contact with hazardous chemicals, e.g. cleaning materials or atmospheres that may cause damage to the product, contact the manufacturer to see if it is still suitable for use.
- 33.3.9 All equipment that has been involved in preventing a fall or significant loading must be withdrawn from service and destroyed.

**CAUTION: Proper fit of the Rescue Swimmers Harness/Life Preserver should be verified by testing the in-water performance of the deployed device**



## 34.0 DONNING PPL965 – POUCH LIFE PRESERVER

### 34.1 PPL965 POUCH LIFE PRESERVER DONNING PROCESS

34.1.1 Once the device is armed, it can be donned like a typical waist belt. The device is secured by 1 ITW off centre side-release Buckle at the Waist and two Leg Straps at each thigh. After the buckles have been fastened, there are 3 adjustment points on the harness system to assure proper fit.

34.1.2 The waist adjustment is made on the lateral sides of waist belt, and is adjusted first. The second adjustment is in each thigh loop. All adjustments should be made so that the harness and Life Preserver is snug on the body, but allows user flexibility and mobility – **The fit should be snug so there is no sideways movement of the Life Preserver off the shoulders.**

**CAUTION: The Life Preserver should not be worn on the inside of a ballistic vest to avoid secondary impact injuries. The device is designed to take damage and perform as required and should be configured on the outside of any tactical ensemble.**

34.1.3 Elastic retainers are fitted onto each adjustment webbing to secure excess strapping after the harness has been adjusted. The excess strapping can be flaked into the elastic retainers where significant lengths are left after adjustment.

34.1.4 The waist belt harness should be fit snug and secure to the body to ensure proper performance of the Life Preserver.

34.1.5 The Life Preserver once Donned, should be removed from the Pouch, unfurled and placed over the head to form a Yoke Style Life Preserver.

34.1.6 A further RED central back webbing is fitted from the Head Pillow of the Life Preserver, by bringing this from behind the back, and between the legs and fastens to the RED female side release buckle located at the front of the body, below the Waist Buckle. This webbing performs the function of securing the Head Pillow of the Life Preserver to the User, ensuring the Life Preserver does not detach from the User. This feature is essential in any ship abandonment activity when jumping in excess of 10 metres.

34.1.7 The Head Pillow should be adjusted so it is approximately 50 – 75mm from the base of the Neck – this is achieved by first tightening of the Red Back Strap.

34.1.8 Then adjusting the Webbing located under each Stole, until the fit is snug and close.

34.1.9 Activation of the Hydrostatic Life Preserver is performed automatically when fitted with the Hydrostatic actuator if immersed in 4” or 10cm of water or manually by pulling either or both beaded inflation handles. Activation of the Manual Life Preserver is performed Manually only, by pulling either or both of the beaded inflation handles

**CAUTION: Proper fit should be verified by testing the in-water performance of the deployed device**



**NOTE:** An option of a Blanking Plate Part No. PA4035BLANK is available to close off the Actuator Port O Ring on the secondary Inflation Cell, where two Co2 Actuator devices are not required, and the secondary chamber is solely reliant on the Oral Backup Inflation Device.

The fit of the Actuator Blanking Plate allows Users to reconfigure the Inflation Cell to a Co2 Actuation or solely Oral Inflator inflation method.

This method also allows stores to utilize one form of Inflation Cell design, rather than additional specific Inflation Cells for isolated use only.

## 34.2 DONNING CLOSURES AND ADJUSTMENT POINTS

**Figure 34a. Pouch Placement and Buckle**



Step a. Place the Pouch around the waist and clip the buckle closed.

**Figure 34b. Waist Belt Webbing Adjustment**



Step b. Adjust the Waist Belt Webbing



**Figure 34c. Red Pull Tag**



Step c. Pull the Red Pull tag away from you to open the

**Figure 34d. Life Jacket Pouch**



Step d. Pull the Life Jacket out of the Pouch

**Figure 34e. Placement of Life Jacket**



Step e..Place Life Jacket over the head





**Figure 34f. Placement on Shoulders**



Step f. Place Life Jacket on your shoulders

**Figure 34g. Red Oral Inflator Placement Central to Mid Shoulder Area**



Step g. Position the Red Oral Inflator Tab central to the mid shoulder area

**Figure 34h. Red Back Strap**



Step h. Pull the Red Back Strap from behind between your legs



**Figure 34i. Red Back Strap & Buckle**



Step i. Secure the Red Back Strap to the Buckle in front, behind the Pouch

**Figure 34j. Tightened Red Back Strap**



Step j. Tighten the Red Back Strap so the Life Jacket Head Pillow sits down slightly from your neck.

**Figure 34k. Leg Straps**



Step k. Tighten the Leg Straps

**Figure 34l. Leg Strap Placement Around Legs**



Step l. Place the Leg Straps on around both legs, pass from the front to exit behind your legs and secure.



**Figure 34m. Lobe Adjustment Webbing**



Step m. Pull the Lobe Adjustment Webbing behind the Lower Stole Lobes until the Jacket offers a snug fit. The fit should be sufficiently tight so there is no sideways movement of the Life Jacket

**Figure 34n. Co2 Actuator Beaded Handles Location**



Step n. Co2 Actuator Beaded Handles are stowed adjacent to the Actuator to the rear of the Retainer.

**Figure 34o. Beaded Handles in Pull Down Position**



Step o. Pull down sharply to activate the Life Jacket – do not inflate the Jacket prior to any ship abandonment over 5 metres – inflate once in the water.



**Figure 34p. Spray Hood Elastic Retainers and Inflation Cell Lobes**



Step p. Grasp the Spray Hood from behind your neck, and pass the elastic retainers at the base under each side Inflation Cell Lobes.

**Figure 34q. Spray Hood Deployed**



Step q. Spray Hood deployed

**Figure 34r. Light**



Step r. Remove the Light from the retainer.



**Figure 34s. Light Placement on Spray Hood Velcro Patch**



Step s. Place Light on the top of the Spray Hood Velcro patch  
Spray Hood deployed Light placement on the Hood for unobstructed visual purposes.

**Figure 34t. Tactical Covert Retainers Retro-Flective Tapes**



Step t. Tactical Covert Retainers have concealeable Retro-Flective Tapes.

SOLAS/IMO Retainers have fixed Retro-Flective Tapes.

**Figure 34u. Oral Inflator Tube**



Step u. Should Oral Inflation or Deflation be required, the Oral Inflator should be removed from the Orange Velcro tab.





**Figure 34v. Orange Velcro Tab**



Step v. Should Oral Inflation or Deflation be required, the Oral Inflator should be removed from the Orange Velcro tab.

**Figure 34w. Oral Inflation Tube Position**



Step w. The Oral Inflation Tube position will be directly in front of the mouth.



## 35.0 PRSH1196 GENERAL INSPECTION PROCEDURES

### 35.1 GENERAL

Figure 35a – 35f Step a. – Step f Inspection Process



35a

- a. Inspect every harness before use! Check that the labels, serial numbers and date are on the harness and are legible.



35b

- b. Webbing must be checked for cuts, abrasions, burns, tears, excessive oil stains, paint etc. Check both sides of the webbing and all along the harness.



35c

- c. Check all metal hardware for corrosion, deformation and cracks. Bent buckles are to be failed.



35d

- d. Check the sewing for broken or damaged threads.



35e

- e. If there is any part of the harness that does not comply the whole harness must be failed.



35f

- f. If there is any doubt that the harness should be passed or failed it is safer to fail it.

35.1.1 All damaged equipment must be cut up and discarded in accordance with your company's safety program.



## 36.0 MAINTENANCE AND CARE OF POSEIDON PRODUCTS

### 36.1 GENERAL MAINTENANCE

36.1.1 After immersion in water (other than fresh clean water), the POSEIDON LIFE PRESERVER should be rinsed thoroughly. To increase the life of the device, it is recommended to wash the components of the POSEIDON LIFE PRESERVER only when required.

### 36.2 CLEANING

36.2.1 Laundering Procedures

**NOTE: Do not dry clean.**

**Do not use bleach or other chlorine products.**

**Do not use fabric softeners.**

**Do not tumble dry.**

**Do not iron.**

**Do not dry in front of a radiator or other source of direct heat.**

**Do not store in a wet condition.**

- i. Separate layers: Outer Stole, Harness system or Retainer Component and Inflation Cell.  
**WARNING: The Inflation Cell should not be washed. Hand clean with a moist cotton cloth with water only.**
- ii. Hand wash or sponge down an area of the Outer Stole, Harness System or Retainer Component in warm (100°F) soapy (using mild laundry detergent) fresh water, then rinse with clean water. Do not machine wash any part of Poseidon.
- iii. Hang to dry the layers in a well-ventilated area, which is free from direct sunlight. Ensure the Outer Stole, Harness System or Retainer Component and Inflation Cell are completely dry before reassembling.
- iv. Reassemble the POSEIDON LIFE PRESERVER.
- v. To avoid mildew, hang dry the POSEIDON LIFE PRESERVER after every use, and be sure not to stow the product away while damp.

### 36.3 TREATMENT AFTER IMMERSION

36.3.1 Whenever a POSEIDON LIFE PRESERVER has been immersed in water, it must be treated as specified below and then inspected in accordance with the current authorized servicing schedule.

### 36.4 FRESH WATER IMMERSION

36.4.1 Allow the POSEIDON LIFE PRESERVER to dry naturally, preferably in the open air.

**NOTE: Ensure that each Modular Component is completely dry before re-packing.**

### 36.5 SALT WATER IMMERSION

36.5.1 Disassemble the layers (Life Preserver and Survival Vest) and rinse thoroughly with clean, fresh water. Allow the POSEIDON LIFE PRESERVER modules to dry naturally, preferably in the open air.

**NOTE: Ensure that each layer is completely dry before re-packing.**



## 36.6 CHLORINATED WATER IMMERSION

36.6.1 Immersion of the POSEIDON LIFE PRESERVER in chlorinated water is not recommended. If the POSEIDON LIFE PRESERVER is immersed in chlorinated water, use the same washing procedure as for salt water immediately following immersion.

## 36.7 SERVICE LIFE

36.7.1 The POSEIDON LIFE PRESERVER'S service life is determined on condition rather than age. POSEIDON LIFE PRESERVERS may remain in service if properly maintained and all test and inspection results are satisfactory.

36.7.2 Safe Defence harnesses must be inspected before each use by the user and regularly inspected by a competent person and recorded on a register. If the equipment has been involved in a free fall or fails any of the general inspection criteria it must be removed from service and destroyed.

36.7.3 Although the Harnesses have a recommended withdraw from service date marked on them, this is only for storage purposes and will be reviewed and updated by regular inspections done by a competent person at 6 monthly intervals.

36.7.4 Refer to AS/NZS 1891.4:2009 for inspection on entry or re-entry into service.

**NOTE: Harness must be withdrawn from service 10 years from date of manufacture in accordance with AS/NZS 1891.1:2007 standards.**

## 36.8 WORK AREA

36.8.1 The work area where inspection and maintenance of the POSEIDON LIFE PRESERVER is performed should be smooth and flat, where the POSEIDON LIFE PRESERVER will not snag, tear or otherwise be punctured or damaged and should also be cleared of all non-essential equipment and materials.

36.8.2 The working surface should be free of harmful contaminants such as oil, grease, acids or solvents. Work areas, subject to wide temperature variations, should be avoided.

## 36.9 STORAGE

36.9.1 The Life Preservers should be stored in the following manner:

- i. They are to be stored in a cool, dry area where an even temperature can be maintained.
- ii. They are not to be exposed to sunlight, ozone gas, or ultra violet rays, and must be kept free from petroleum products, acids or other damaging contaminants.

## 36.10 EQUIPMENT REQUIRED

- i. No specialty/non-standard items are required for maintenance of the POSEIDON LIFE PRESERVER.
- ii. Correctly Calibrated Scales are required
- iii. Compressor with moisture trap
- iv. Pressure gauge
- v. Vacuum pump



## 37.0 MAINTENANCE REPORTING

### 37.1 LOGGING AND REPORTING OF MAINTENANCE PERFORMED

37.1.1. Maintenance performed on the POSEIDON LIFE PRESERVER assembly can be logged and reported as per the following Templates supplied:

- A. NZ CAA Form Two, consisting of the following back pages
- B. Part Two Form Release To Service (RTS) Certificate
- C. Individual NZ CAA Form Inspection Sheet for each individual Product Serial
- D. NZ CAA Form Two Back form recording Audit Methodology, and all Serials in the Inspection shipment
- E. Excel Work Sheet of all Serials and required Annual Inspection Serials
- F. Microsoft Scheduler Planner forward Date notification

### 37.2 INSPECTION AND TESTING REQUIREMENTS

37.2.1 OEM Maintenance period should not exceed 12 monthly intervals for Constant Use items or as follows:

37.2.1.1. OEM level Maintenance:

**Maintenance 1** – OEM 12 Monthly – Operational 3 - Annual 12 Month Inspection.

37.2.1.2. User / Depot Level:

**Maintenance 1** – USER/DEPOT Level – Visual Inspection and Re-Bagging  
Operational 2 – Taken out of Bag not inflated within the 12 month Inspection Period.

**Maintenance 2** – User/Depot Level – Out of Bag – Visual Inspection - Parts replacement if required.

37.2.2 All Life Jackets in the bag come with an accompanying certificate – the User should ensure the Serial of the Life Jacket matches the Certificate Serial Number and the date shown for the Next Service Date has not expired

37.2.3 POSEIDON LIFE PRESERVER units deemed not suitable for service should be destroyed by marking “not for service” in permanent marker on the label and slashing the Inflation Cell.

***NOTE: Proper care of this garment is extremely important for best results and extended service.***

### 37.3 PRE-USE AND POST-USE INSPECTION

37.3.1 The individual to whom the POSEIDON LIFE PRESERVER is issued or assigned should carry out a visual inspection of the Life Jacket in its bag with accompanying certification. Upon unpacking the Life Jacket a Visual Inspection of the following parts for conformity is required.





## 37.4 VISUAL INSPECTION

37.4.1 Harness at all stitching points, buckles, adjusters and webbings.

## 37.5 LIFE PRESERVER OUTER STOLE

37.5.1 For any parting of the Outer Stole zipper and Actuator Inspection Port zippers, rips, frays or hardening of the fabric:

- a. Ensure it is dry inside and out.
- b. Check for separation of seams and broken or missing stitching.
- c. Ensure all components are intact and free from damage or corrosion.
- d. Ensure buckles are intact and operating securely.
- e. Ensure all adjustment straps can be adjusted freely and smoothly.
- f. Ensure the beaded CO<sub>2</sub> inflation handle is intact and properly secured to the Outer Stole.
- g. Ensure the Life Preserver Outer Stole is properly secured at the Velcro™ tab found at the back collar zipper terminal.

## 37.6 APPROVED MAINTENANCE INSPECTION

37.6.1 Have qualified and OEM Certified safety systems personnel perform the maintenance inspection, an in-depth inspection, in accordance with this manual.

37.6.2 The Inspection process should be undertaken in an Approved Inspection Facility. The Inspection Facility will require the following:

- Commercial Facility:
  - i. CAA or (in country equivalent) for any Aviation Product inspections
  - ii. SOLAS/IMO of (in country equivalent) for any Marine Product Inspections
  - iii. OEM Certification of Facility
  - iv. Facilities suitable for Inspection processes, Cleaning, Drying, minor Repairs and Storage of Pressurised Inflation Cells
  - v. Facilities are required to maintain Certified and Calibrated, Scales, Compressors, Vacuum Pump, Pressure Gauge with digital read out, Computer system for the storage of Inspection Audits, Backup systems for backing up of Inspection Audits, Clean Workspace, current Manuals
  - vi. Any OEM Recommended Tooling
  - vii. Original OEM Spares
  - viii. Original OEM supplied Inspection Report and Recording Templates
  - ix. Original Poseidon OEM supplied User Inspection Coloured Card for lodgement in the reverse side of the Stole pocket
- Military Facility:
  - i. OEM Certification of Facility
  - ii. Facilities suitable for Inspection processes, Cleaning, Drying minor Repairs and Storage of Pressurised Inflation Cells



- iii. Facilities are required to maintain Certified and Calibrated, Scales, Compressors, Vacuum Pump, Pressure Gauge with digital read out, Computer system for the storage of Inspection Audits, Backup systems for backing up of Inspection Audits, Clean Workspace, Current Manuals
- iv. Any OEM Recommended Tooling
- v. Original OEM Spares
- vi. Original OEM supplied Inspection Report and Recording Templates
- vii. Original Poseidon OEM supplied User Inspection Coloured Card for lodgement in the reverse side of the Stole pocket

37.6.3 Perform the following tests and inspections, forming the overall maintenance inspection, in this order:

- i. Remove the Inflation Cells from the Retainer Component and Outer Stole. The cylinder manifold inflation assembly must be removed to completely remove the inflator Inflation Cell from the Retainer Component
- ii. Perform the Oral Inflator valve test as per section 30.7
- iii. Perform the Inflation Cell test as per section 30.8
- iv. Perform the CO<sub>2</sub> inflation device test as per section 30.9
- v. Perform the CO<sub>2</sub> cylinder weight test as per section 30.10
- vi. Reassemble the POSEIDON LIFE PRESERVER unit and perform the visual inspections as per section 30.4 above.

## 37.7 ORAL INFLATION VALVE TEST

37.7.1 Test both Oral Inflator valves for leaks:

- a. Inflate the Inflation Cell chamber to a gauge pressure of 2.0 psi, through the oral tube, or until the Inflation Cell feels hard to the touch.
- b. Place a small amount of soap & water solution on the stem opening. Use care to prevent the entry of water into the valve. A bubbling of the soap solution will indicate leakage.
- c. To check the oral inflation valve for blockage; lower the pressure in the Inflation Cell chamber to 0.5 - 1.0 psig. Open the air passage by pushing the valve inwards and then blow by mouth through the Oral Inflator valve. The effort required to inflate the chamber should not be excessive and the valve must close tightly when the oral inflation is halted.
- d. Consider the valve non-serviceable if it fails either test and replace it.

## 37.8 OVER PRESSURE VALVE TEST

37.8.1 Test both breather pressure relief valves for proper operation:

- a. Inflate the appropriate Inflation Cell chamber until the relief valve cracks (2.5psi) and relieves the pressure in the Inflation Cell. The internal pressure should not exceed 3.0 psi.



- b. Place a small amount of soap & water solution on the base opening. Use care to prevent the entry of water into the valve. A bubbling of the soap solution will indicate proper operation as will the notable sound of leaking overpressure air.
- c. Consider the valve non-serviceable if it fails this test and replace it.
- d. Use this test opportunity to re-inspect the Retainer Component to look for overstressed or damaged areas.

### 37.9 INFLATION CELL TEST - DAMAGE RESISTANT LIFE PRESERVER

37.9.1 300 Newton's and

37.9.2 157 Newton's

37.9.3 There are two independent Inflation Cells, right and left, both of which must be tested. Prior to any Inflation Cell chamber test, it is imperative that the opposite chamber is first evacuated of all residual gas or air. Each chamber can be accessed through the Oral Inflator assembly and the CO<sub>2</sub> inflation valve.

37.9.4 To test each Inflation Cell:

- i. Remove the Inflation Cells from the Retainer
- ii. Slowly inflate the Inflation Cell chamber, through the oral inflation valve, using an oil free pressurized airline. Inflate to a gauge pressure of 2.0 psi (140 cm/56 inches of water).
- iii. Allow ten minutes for pressure stabilization, then (if necessary) adjust the pressure back to 2.0 psi gauge.
- iv. Hang the Inflation Cell for six hours in an area where the ambient temperature can be maintained, at or near, a constant 22°C (72°F) +/- 5°.
- v. The Inflation Cell chamber is serviceable if, after the six-hour period, the internal pressure in either chamber did not drop below 0.5 psi (corrected for temperature, if necessary). Otherwise the Inflation Cell has to be replaced.

**NOTE: No repairs are allowed to the Inflation Cell, other than Oral Inflator and Over Pressure Valve replacement. Both chambers must be serviceable before the Life Preserver is to be considered usable.**

### 37.10 INFLATION CELL TEST

#### 37.11 DUAL CHAMBER FLOATING BAFFLE LIFE PRESERVER

37.11.1 300 Newton's and

37.11.2 157 Newton's

37.11.3 There is one Inflation Cell, separated between the two layers via a Floating Baffle which must be tested. Prior to any Inflation Cell chamber test, it is imperative that the opposite chamber is first evacuated of all residual gas or air. Each chamber can be accessed through the Oral Inflator assembly and the CO<sub>2</sub> inflation valve, one located on the front of the Inflation Cell, and a mirror image of the same on the reverse side of the Inflation Cell.



#### 37.11.4 To test each Inflation Chamber:

- i. Remove the Inflation Cells from the Retainer
- ii. Slowly inflate the Inflation Cell chamber, through the oral inflation valve, using an oil free pressurized airline. Inflate to a gauge pressure of 2.0 psi (140 cm/56 inches of water).
- iii. Allow ten minutes for pressure stabilization, then (if necessary) adjust the pressure back to 2.0 psi gauge.
- iv. Hang the Inflation Cell for six hours in an area where the ambient temperature can be maintained, at or near, a constant 22°C (72°F) +/- 5°.
- v. The Inflation Cell chamber is serviceable if, after the six-hour period, the internal pressure in either chamber did not drop below 0.5 psi (corrected for temperature, if necessary). Otherwise the Inflation Cell has to be replaced.

**NOTE: No repairs are allowed to the Inflation Cell, other than Oral Inflator and Over Pressure Valve replacement. Both chambers must be serviceable before the Life Preserver is to be considered usable.**

- vi. Evacuate the tested Inflation Cell chamber completely of all residual air and repeat steps (vii) through (x) for the other Inflation Chamber located on the reverse side of the Inflation Cell
- vii. If there is evidence of leakage in any of the valves, replace the suspect valve and repeat steps (vii) through (x).

### 37.12 CO<sub>2</sub> INFLATION DEVICE TEST

37.12.1 To test the inflation device, and perform the following:

- See sections 20.0 to 22.0 of this Manual.

### 37.13 CO<sub>2</sub> CYLINDER INSPECTION AND WEIGHT TEST

37.13.1 All carbon dioxide (CO<sub>2</sub>) cylinders should be weighed and inspected regardless of whether they are new, or previously fitted cylinders that appear to be serviceable.

37.13.2 To inspect the cylinder, perform the following:

- Weigh the cylinder with a scale, which is accurate to 0.1 gram. The measured weight should not be lower than the gross weight stencilled on the cylinder Label. Cylinders not meeting the gross weight specifications should be retained only for training or test purposes and must be clearly marked "NOT FOR SERVICE USE".

### 37.14 VISUAL INSPECTION

### 37.15 INFLATION CELLS AND RETAINER COMPONENT

37.15.1 A visual inspection of the Inflation Cells and the Retainer Component should consist of the following:

- a. Open the Retainer Component by separating the Velcro™ tab at the rear collar and pulling the zipper halves apart.



- b. Ensure the Life Preserver Retainer is properly secured to the Outer Stole.
- c. Open the three Inflation Cell access zippers on the Retainer Component to inspect the Inflation Cell. Pull each Inflation Cell out of the lower access zippers to inspect the Inflation Cells.
- d. Check for condition of all Radio Frequency (RF) seams and bonding. If any damage is found (i.e. bubbling or burns in fabric, breaks, cuts or tears on weld), the Inflation Cell must be replaced.
- e. Check to ensure that each Damage Resistant Inflation Cell has been inverted on itself.

**CAUTION: A DRLP non-inverted Inflation Cell will cause the device to perform other than as designed may cause device malfunction.**

- f. Check to ensure that each DRLP Inflation Cell is on either side of the separator at the back collar of the Retainer Component. Carefully reposition the Inflation Cells back into the Retainer Component making sure that the mid-section of each collar is on opposite sides of the collar baffle.
- g. Floating Baffle Dual Chamber Inflation Cells should be located to the Front of the Retainers Separation Baffle.

**CAUTION: DRLP Inflation Cells on the same side as the baffle may bind, snag or deploy improperly and may cause device malfunction.**

- h. Check the Retainer Component for physical damage and excessive wear, e.g., abrasion, holes, cuts, tears or checking. If any damage is found, the Retainer Component must be replaced.
- i. Check for integrity of both Oral Inflators/relief valve assemblies.
- j. Check for integrity of all grommets, anchor patch assemblies, and seam assemblies. If any damage is found, the respective Retainer Component must be replaced or Inflation Cell must be repaired.
- k. Check the Single Point Indicator of the Hydrostatic Actuator for the Green Visual Indicator.
- l. The Manual Actuator ensuring the Lanyard is the correct Armed position and not the EXTENDED, fired position
- m. Where applicable, check for a green inflator status indicator on the Main Black Body of the Manual Actuator – this process requires the removal of the Firing Cap.
- n. Re-install the Manual Cap and check for security and correct installation of the CO<sub>2</sub> inflation device.
- o. Ensure the Beaded CO<sub>2</sub> inflation Handle is properly attached to the operating lever of the CO<sub>2</sub> inflation device. Note any fraying at the attachment point and replace it if necessary.
- p. Refold the Inflation Cell and secure it within the Outer Stole (see section 23 Packing and Donning Instructions).

**CAUTION: Ensure that the Inflation Cells are repositioned properly to prevent Life Preserver malfunction.**





## 38.0 REPAIRS

### 38.1 GENERAL

- 38.1.1 It is extremely important that damaged POSEIDON LIFE PRESERVERS are handled in accordance with the following repair requirements.
- 38.1.2 Qualified repair personnel can perform some repairs, with adequate OEM Approved facilities. The manufacturer should do all major repairs, unless otherwise authorized by Safe Defence Ltd. This section provides some information to assist with minor or emergency repairs to the POSEIDON LIFE PRESERVER and related components. The Retainer Component is a load bearing component and is not repairable and should be slashed and disposed of if damaged, as also the Inflation Cells.
- WARNING: No repair or sewing alteration of the Retainer Component is permitted, under any circumstance, to prevent premature inflation or catastrophic failure.***
- 38.1.3 The proper work area is defined in section 30.6 of this document.
- 38.1.4 Qualified personnel should only perform repair and overhaul of the POSEIDON LIFE PRESERVER.
- 38.1.5 The Service and Maintenance Reporting procedures are OEM guidelines only, User Requirement governed by the user's preference or existing systems may exceed the OEM procedures, but not lessen it

### 38.2 IDENTIFICATION OF DEFECTS

- 38.2.1 Defects should be identified in accordance with the inspection and testing procedures detailed in section 30.6.

### 38.3 HARNESS OR OUTER STOLE

- 38.3.1 Any Harness or Outer Stole failing inspection should be repaired using the following guidelines:
- a. Replace missing parts or components from stock.
  - b. Clean heavily soiled areas using mild soap and water and a soft, non-abrasive nylon or synthetic bristle brush. Other cleaning agents or solvents must not be used.
  - c. Re-sew worn, broken or missing stitching where permitted.
  - d. NOTE: the Survival Vest Restraint Harness does NOT permit repairs
  - e. Replace damaged fasteners.
  - f. Replace corroded or damaged metal parts.
  - g. Damaged or underweight CO<sub>2</sub> cylinders must be disposed of and replaced.
  - h. Replace, repair or patch components with damaged fabric.
- 38.3.2 Those repairs requiring sewing shall be done in accordance with Section 38.4



## 38.4 SEWING

- 38.4.1 All repairs involving sewing should be done with nylon CSB bonded thread. Do seam repairs, stitching, and joining using a single needle lockstitch, 8 to 10 stitches per inch (25 mm).
- 38.4.2 Securely backstitch all ends of stitching, including breaks in thread, not less than 0.5 inch (12 mm). Any raw edges of aramid fabric, which become exposed as a result of repairs, must be surged using a four-thread serger, 10 to 12 stitches per inch (25 mm), to prevent unravelling. The construction of all POSEIDON LIFE PRESERVER units use  $\frac{5}{16}$  □ □  $\frac{1}{16}$  inch seam allowances. There shall be no sewing repairs to the Inflation Cell.

## 38.5 DAMAGE TREATMENT

- 38.5.1 Cut away and patch singed, burnt or worn areas of the Outer Stole. See section 38.7 for Outer Stole fabric patching procedure.

**NOTE: Cut away material no more than 50 mm (2 inches) in diameter.**

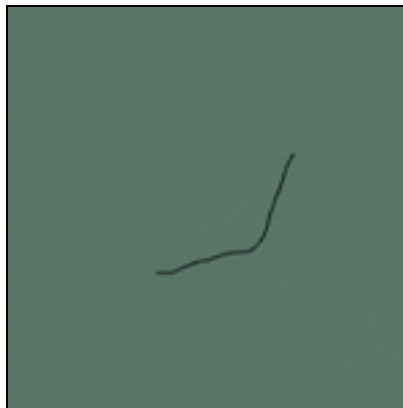
## 38.6 REPAIR MATERIALS

- 38.6.1 The full description and part numbers of the materials required for repairs are detailed in section 36.0 of this manual.

## 38.7 OUTER STOLE FABRIC PATCHING

- 38.7.1 The fabric colour in the following example does not reflect the actual Poseidon Outer Stole fabric colour.
- 38.7.2 To patch minor tears and holes on the Outer Stole fabric follow this process:

**Figure 38a Step a. Patching**



- a. Clean the area around the tear of foreign material (see Figure 38a).

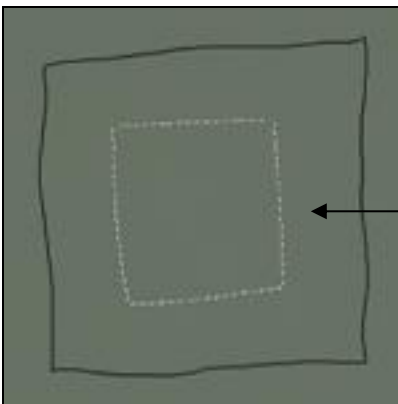


**Figure 38b Step b. Patching**



- b. Cut a square, or rectangle, in the damaged fabric slightly larger than the hole (see Figure 38b).

**Figure 38c Step c. – Step e. Patching**

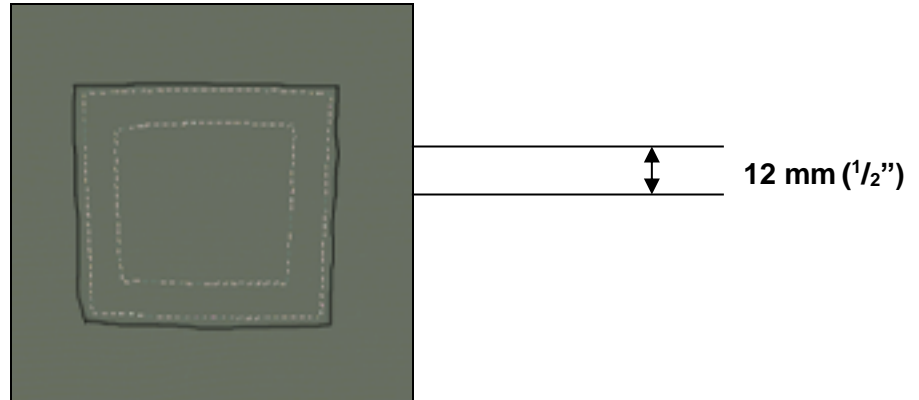


← **Patch stitched to  
the outside layer  
of the liner**

- c. Cut a patch of the original material being repaired, exceeding the hole in size by not less than 37 mm (1 ½ inch).
- d. Apply the fabric patch to the outside layer of the Outer Stole and ensure that the weave corresponds to that of the material surrounding the repair area.
- e. Single-stitch the patch to the fabric 6 mm (¼ inch) from the edge of the hole (see Figures 38c).



**Figure 38d Step f. and Step g. Patching**



- f. Roll an edge of the patch under itself and single-stitch approximately 12 mm ( $\frac{1}{2}$  inch) from the original stitch.
- g. Repeat this for each edge of the patch, until it is secured (see figure 52). Repair closely grouped small holes or tears with one large patch, rather than several small ones.

### **38.8 INFLATION CELL**

- 38.8.1 Use the Inflation Cell Test (section 37.9) to determine if replacement is required.  
**NOTE: The Inflation Cell only serves as an air barrier, where the Retainer Component is the structural shell.**

### **38.9 CO<sub>2</sub> INFLATION DEVICE**

- 38.9.1 The CO<sub>2</sub> inflation device is not repairable and must be replaced when proven defective. See section 20.0 for Maritime automatic CO<sub>2</sub> inflation device re-arming instructions and section 20.0 – 22.0 to replace the CO<sub>2</sub> inflation device:

### **38.10 RETAINER COMPONENT**

**NOTE: There shall be no repairs to the Retainer Component. It is an essential structural component and must be replaced if found defective in any way.**

### **38.11 CO<sub>2</sub> CYLINDER**

- 38.11.1 The carbon dioxide (CO<sub>2</sub>) cylinder must be replaced when it fails the weight test as detailed in section 31.2, or when there is damage to the Actuator Main Body, or the surface of the cylinder. Use the appropriate re-arm kit for the Hydrostatic Maritime units and re-arm kit appropriate re-arm kit for the Manual Aviation units.



## 39.0 SUMMARY

The Safe Defence Ltd PSV411 Survival Vest/Life Preserver and PLJ2010 Upper Torso Harness Life Preserver Marine Hydrostatic devices are an emergency use POSEIDON LIFE PRESERVER that protects boarding parties in harsh marine environments by providing flotation and maintaining the individual in a face-up position. The PSV411 Survival Vest/Life Preserver and PLJ2010 Upper Torso Harness Life Preserver Manual devices are primarily used by Aviation aircrew and passengers in hostile operating environments. These POSEIDON LIFE PRESERVERS are easily donned, maintained and stored.





## **40.0 OEM CERTIFIED INSPECTION AND MAINTENANCE REQUIREMENTS**

### **40.1 APPROVED TECHNICIANS**

- 40.1.1 Safe Defence Ltd OEM Certified and Qualified Approved Technicians who hold a current Safe Defence Ltd OEM Approved Certification, with proper equipment, or Safe Defence Ltd only may Inspect and Maintain Safe Defence Ltd products. A well-maintained POSEIDON LIFE PRESERVER means survival in emergency situations for which normal clothes were not designed for that purpose.

**Personnel and Inspection Plant approvals require 3 yearly written certification approved by Safe Defence Ltd.**



## **41.0 PARTS LIST**

### **41.1 CONTACT FOR POSEIDON LIFE PRESERVER ACCESSORIES**

41.1.1 Contact Safe Defence Ltd to obtain the following POSEIDON LIFE PRESERVER accessories.

### **41.2 PA4006 INTEGRATION STRAP**

41.2.1 The PA4006 Integration Strap, which may be used with the PLPS910, is available from Safe Defence Ltd.

**Figure 41a PA4006 Integration Strap**



### **41.3 PA4013HYDRO (AUTOMATIC) RE-ARM KIT**

41.3.1 The PA4013HYDRO Re-arm Kit, is to be used with the Maritime 60grm (300N Cell) versions, is available from Safe Defence Ltd. The PA4013HYDRO Re-arm Kit includes a Hammar Inflator with 60 gr. CO<sub>2</sub> cylinder, re-arm key and re-arm instructions.

41.3.2 The PA4023HYDRO Re-arm Kit, is to be used with the Maritime 33grm (150N Cell) versions, is available from Safe Defence Ltd. The PA401333HYDRO Re-arm Kit includes a Hammar Inflator with 33 gr. CO<sub>2</sub> cylinder, re-arm key and re-arm instructions.

41.3.3 Two re-arm kits will be required if both inflators are fired.

### **41.4 PA4012 MANUAL RE-ARM KIT**

41.4.1 The PA4012MANUAL Re-arm Kit, is to be used with the Aviation 60grm (300N Cell) versions, is available from Safe Defence Ltd. The PA401260MANUAL Re-arm Kit includes a 60 gr. CO<sub>2</sub> cylinder, re-arm key and re-arm instructions.

41.4.2 The PA4022MANUAL Re-arm Kit, is to be used with the Aviation 33grm (150N Cell) versions, is available from Safe Defence Ltd. The PA401233MANUAL Re-arm Kit includes a 33 gr. CO<sub>2</sub> cylinder, re-arm key and re-arm instructions.

41.4.3 Two re-arm kits will be required if both inflators are fired or do not meet the minimum weight requirements



## 42.0 DESIGN CODE ALLOCATION

### 42.1 LEGEND FOR POSEIDON LIFE JACKET BUILD CODE ALLOCATIONS

(see example below)

# PRODUCT CODES ANALYSIS

MODEL PART NUMBERS		Column1
DESCRIPTION	MODEL NUMBER	
Pouch Life Preserver	PPL965	
Survival Vest Life/Preserver	PSV411	
Upper Torso (Yoke Style) Life Preserver	PLJ2010	
Full Torso Life Preserver	PLJ204	
Harness Tether	PT1259	
Rescue Swimmers Harness/Life Preserver	PRSH1196	
Life Preserver Stole only (no Harness attachments)	PLPS910	



COMPLETE LIFE PRESERVERS/SURVIVAL VESTS									
BUILD CONFIGURATION									
CODE	BUOYANCY RATING	FABRIC	INFLATION CELL	RETAINER	ACTUATOR OPERATION	ACTUATOR SINGLE/DUAL/NONE	COLOUR	HARNESS DESIGN	SIZE
Poseidon Survival Vest - PSV Poseidon Life Jacket - PLJ Poseidon Pouch Lifejacket - PPL Poseidon Life Jacket PLJS no harness attachment	AVIATION FAA/CAA APPROVALS								
	300 NEWTON 150 NEWTON	AVIATION NOMEX FR 2	FLOATING BAFFLE 1 DTLP 2 -	HI-VIS ORANGE IMO 2 HI-VIS YELLOW 3	MANUAL NO ACTUATOR 3	SINGLE 1 DUAL 2 NONE 3	ORANGE O NAVY N	SURVIVAL VEST SV UPPER TORSO UT	SURVIVAL VEST XS - S - M - L - XL - XXL - XXXL - OSFA
	MARINE SOLAS/IMO APPROVALS								
	300 NEWTON 150 NEWTON	FABRIC NYLON FR 1 CORDURA 1000D - 3 NYLON 4	FLOATING BAFFLE 1 DRLP 2 SINGLE CELL 3	BLACK COVERT 1 HI-VIS ORANGE IMO 2 HI-VIS YELLOW 3	MANUAL 1 HYDROSTATIC 2 NO ACTUATOR 3	SINGLE 1 DUAL 2 NONE 3	NAVY NR NAVY NA BLACK B SAGE GREEN SG LIME GREEN LG ORANGE OV KHAKI GREEN - KG	FULL TORSO FT UPPER TORSO COBRA UTC UPPER TORSO NTW – UTNTW SURVIVAL VEST SV NO ATTACHMENT NA POUCH P	SURVIVAL VEST XS - S - M - L - XL - XXL - XXXL - OSFA
Part Number PSV	300	2	1	2	3	3	N	SV	S
Poseidon Life Jacket	Buoyancy Rating	Nomex FR	Floating Baffle/Dual Chamber	Hi-Vis Orange	No Actuator	No Actuator	Navy	Survival Vest	Small
<b>PSV 300 2 1 2 3 3 N SV S</b>									



STOLES					
CODE	FABRIC NON FR 1 - FABRIC FR 2	NOMEX FR 1 NYLON FR 2 NYLON NON FR 3	YOKE STYLE 1 - POUCH STYLE 2	OFFSET	COLOUR: BLACK B NAVY NR NAVY NA SAGE GREEN SG ORANGE O
PS	1	2	1	0	B
<b>PS1200B</b>					

HARNESS FOR YOKE STYLE JACKETS					
CODE	UPPER TORSO 1 FULL TORSO 2 POUCH STYLE 3	WEBBING FR 1	BUCKLE AUSTRIALPIN 1 NTW - 2	TETHER D RINGS 1 NO TETHER D RINGS 2	LEG STRAPS 1 NO LEG STRAPS 2
PHT	1	1	1	2	1
<b>HARNESS FOR YOKE STYLE LIFE JACKETS</b>	UPPER TORSO	FR FABRIC	NTW	D RINGS	LEG STRAPS
<b>PHT12121B</b>					





<b>INFLATION CELLS</b>				
<b>CODE</b>	<b>NEWTON'S 150 - 1 300 - 2</b>	<b>DESIGN FLOATING BAFFLE 1 DAMAGE RESISTANT 2 SINGLE CHAMBER 3</b>	<b>HAMMAR ACTUATOR MANUAL 1 AUTOMATIC 2</b>	<b>NUMBER OF ACTUATORS NO ACTUATOR 0 SINGLE ACTUATOR 1 DUAL ACTUATOR 2</b>
<b>PIC</b>	1	2	1	1
<b>PIC1211</b>				

<b>POCKETS</b>			
<b>CODE</b>	<b>DESCRIPTION EMERGENCY BEACON 1 STROBE LIGHT 2 SPARE AIR 3</b>	<b>MATERIAL NOMEX 1 NYLON FR 2</b>	<b>COLOUR: BLUE 1 SAGE GREEN 2</b>
<b>PP</b>	1	2	3
<b>PP123</b>			



## 43.0 PARTS LISTING

(see example below)

<b>PARTS LISTING</b>					
<b>PART No.</b>	<b>DESCRIPTION</b>	<b>FR RATING</b>	<b>SIZE</b>	<b>COLOUR</b>	<b>MATERIALS</b>
PR3024RB	RETAINER INFLATION CELLS	NON FR	OSFA	BLACK	CORDURA
PR3022RO	RETAINER INFLATION CELLS	NON FR	OSFA	HI-VIS ORANGE	CORDURA
PR3026RY	RETAINER INFLATION CELLS	NON FR	OSFA	HI-VIS YELLOW	RIVERTEX
<b>STOLES</b>					
PS1012B	STOLE OUTER	NON FR	OSFA	BLACK	CORDURA
PS1022NR	STOLE OUTER	FR	OSFA	NAVY Rivertex	NYLON
PS1032L	STOLE OUTER	NON FR	OSFA	LIME GREEN	NYLON
PS1052O	STOLE OUTER	NON FR	OSFA	ORANGE	NYLON
PS2012N	STOLE OUTER	FR	OSFA	NAVY	NOMEX FR
PS2022SG	STOLE OUTER	FR	OSFA	SAGE GREEN	NOMEX FR
PS1023NA	STOLE OUTER	NON FR	OSFA	NAVY Apex	NYLON ex Rivertex
PS2110O	STOLE OUTER	FR	OSFA	ORANGE	NOMEX
<b>SURVIVAL VEST</b>					
PSV1L0N	SURVIVAL VEST	NYLON FR	L	NAVY	NYLON
PSV2L0SG	SURVIVAL VEST	FR	L	SAGE GREEN	NOMEX FR
PSV2L0SN	SURVIVAL VEST	FR	L	NAVY	NOMEX FR



<b>HARNESS</b>					
PHT121B	HARNESS UPPER TORSO	NOMEX FR	OSFA	BLACK	NOMEX FR
PHT221B	HARNESS UPPER TORSO	NOMEX FR	OSFA	BLACK	NOMEX FR
PHT102B	HARNESS TORSO FULL	NOMEX FR	OSFA	BLACK	NOMEX FR
PHT122B	HARNESS TORSO FULL	NOMEX FR	OSFA	BLACK	NOMEX FR
<b>CELLS INFLATION</b>					
PIC15011	FLOATING BAFFLE	150 NEWTONS	MANUAL		
PIC15012	FLOATING BAFFLE	150 NEWTONS	HYDROSTATIC		
PIC15021	DAMAGE RESISTANT	150 NEWTONS	MANUAL		
PIC15022	DAMAGE RESISTANT	150 NEWTONS	HYDROSTATIC		
PIC15031	SINGLE CHAMBER	150 NEWTONS	MANUAL		
PIC15032	SINGLE CHAMBER	150 NEWTONS	HYDROSTATIC		
PIC30011	FLOATING BAFFLE	300 NEWTONS	MANUAL		
PIC30012	FLOATING BAFFLE	300 NEWTONS	HYDROSTATIC		
PIC30021	DAMAGE RESISTANT	300 NEWTONS	MANUAL		
PIC30022	DAMAGE RESISTANT	300 NEWTONS	HYDROSTATIC		
PIC30031	SINGLE CHAMBER	300 NEWTONS	MANUAL		
PIC30032	SINGLE CHAMBER	300 NEWTONS	HYDROSTATIC		
<b>LIGHT RESCUE</b>					
PA4422	LIGHT	MARINE			
PA4433	LIGHT	AVIATION			



<b>ACCESSORIES</b>				
PA5440	HOOD SPLASH			
PA7181	BEADED HANDLE - INFLATION CELLS			
PB4000	BAG - STOWAGE SECURITY			
PA3322	WHISTLE - SOLAS			
PAKNIFEA4635A	KNIFE - CUTTER	NSN 22C5670707		
<b>ACTUATORS CO2</b>				
PA4012MANUAL	RE-ARM KIT	60GRM - 300 NEWTON CELLS		
PA4013HYDRO	RE-ARM KIT	60GRM - 300 NEW TON CELLS		
PA4015	MANUAL CONVERSION KIT	CONVERSION FOR PA4013HYDRO & PA4023HYDRO		
PA4022MANUAL	RE-ARM KIT	35GRM - 150 NEWTON CELLS		
PA4023HYDRO	RE-ARM KIT	35GRM - 150 NEWTON CELLS		
PA4035BLANK	INFLATION CELL O RING BLANKING PLATE	ALL MODELS		
PA7700	Cable Tie CT4001 UV and Heat Resistant Nylon 3.6mm is used (L51A)	DUTCH SPEED LACING		
PA7500	VELCRO STRAPS POUCH RETAINER			



## 44.0 REPORTING FORMS

### 44.1 12 MONTH ANNUAL INSPECTION RELEASE TO SERVICE FORMS

<b>CAA FORM TWO</b>				
<b>1. New Zealand Domestic Part Label :</b>  Poseidon Life Preserver	<b>2. PRODUCT REFERENCE No :</b>  -	<b>3. Organisation :</b> Safe Defence Ltd 92 Annett Road - RD1 Kumeu - Auckland - New Zealand		
<b>4. Order Number/Contract :</b>			<b>5. Description of Item :</b>	
<b>6. IPC :</b>	<b>7. Log Card :</b>  No	<b>8. Part No.</b>  PSV411	<b>9. Serial No.</b>	<b>10. TSN / TSO :</b>
<b>11. Removed From / WORK ORDER NUMBER:</b>		<b>NEXT SERVICE DATE</b>	<b>12. Hours / Cycles :</b>  12 MONTHS	<b>13. Date :</b>
<b>14. Remarks :</b> INSPECTED SERVICEABLE. ANNUAL SURVEY CARRIED OUT I.A.W. MNF MANUAL				
<b>15. Release To Service:</b> The maintenance recorded has been carried out in accordance with requirements of New Zealand Civil Aviation Rule Part 43 and in respect of that maintenance the aircraft/component is released to service.				
<b>16. Name :</b> David Manzi	<b>17. Date :</b> ____/____/____	<b>18. CAA Maintenance Approval Number :</b> 73807		
<b>19. Signed :</b> SIGNED DIGITALLY - DAVID MANZI				
<b>20. Installed On:</b>	<b>21. Hours / Cycles:</b> 12 month annual Inspection		<b>22. Date:</b>	
<b>23. Work Order / Contract:</b>				
<b>24. Remarks: 12 MONTH FULL INSPECTION</b>				





**44.2 06 MONTH ANNUAL INSPECTION – HARNESS RELEASE TO SERVICE FORMS**

<b>CAA FORM TWO</b>				
<b>1. New Zealand Domestic Part Label :</b>  Poseidon Survival Vest		<b>2. PRODUCT REFERENCE No :</b>		<b>3. Organisation :</b> Safe Defence Ltd 92 Annett Road - RD1 Kumeu - Auckland - New Zealand
<b>4. Order Number/Contract :</b>			<b>5. Description of Item :</b>	
<b>6. IPC :</b>	<b>7. Log Card :</b>  No	<b>8. Part No.</b>	<b>9. Serial No.</b>	<b>10. TSN / TSO :</b>  ASNZS1891.1
<b>11. Removed From / WORK ORDER NUMBER:</b>		<b>NEXT SERVICE DATE</b>	<b>12. Hours / Cycles :</b>  06 MONTHS	<b>13. Date :</b>
<b>14. Remarks :</b> INSPECTED SERVICEABLE. ANNUAL SURVEY CARRIED OUT I.A.W. MNF MANUAL				
<b>15. Release To Service:</b> The maintenance recorded has been carried out in accordance with requirements of New Zealand Civil Aviation Rule Part 43 and in respect of that maintenance the aircraft/component is released to service.				
<b>16. Name :</b>  David Manzi		<b>18. Date :</b>  13-07-10	<b>19. CAA Maintenance Approval Number :</b>  73807	
<b>17. Signed :</b> SIGNED DIGITALLY - DAVID MANZI				
<b>20. Installed On:</b>		<b>21. Hours / Cycles:</b> 06 Month Annual Harness Inspection	<b>22. Date:</b>	
<b>23. Work Order / Contract:</b>				
<b>24. Remarks: 06 MONTH HARNESS INSPECTION</b>				



**44.3 VISUAL INSPECTION – RELEASE TO SERVICE FORMS**

<h1>CAA FORM TWO</h1>				
<b>1. New Zealand Domestic Part Label :</b>  Poseidon Life Preserver	<b>2. PRODUCT REFERENCE No :</b>	<b>3. Organisation :</b> Safe Defence Ltd 92 Annett Road - RD1 Kumeu - Auckland - New Zealand		
<b>4. Work Order/Contract :</b>		<b>5. Description of Item :</b>  Life Jacket		
<b>6. IPC :</b>	<b>7. Log Card :</b>  No	<b>8. Part No.</b>	<b>9. Serial No.</b>	<b>10. TSN / TSO :</b>
<b>11. Removed From :</b>		<b>NEXT 6 MONTH TECHNICAL INSPECTION</b>	<b>12. Hours / Cycles :</b>	<b>13. Date :</b>
			<b>VISUAL REPACK</b>	
<b>14. Remarks :</b> INSPECTED SERVICEABLE. ANNUAL SURVEY CARRIED OUT I.A.W. MNF MANUAL				
<b>15. Release To Service:</b> The maintenance recorded has been carried out in accordance with requirements of New Zealand Civil Aviation Rule Part 43 and in respect of that maintenance the aircraft/component is released to service.				
<b>16. Name :</b> David Manzi	<b>18. Date :</b> 13-07-10	<b>19. CAA Maintenance Approval Number :</b> 73807		
<b>17. Signed :</b> 4				
<b>20. Installed On:</b>  WORK ORDER No.		<b>21. Hours / Cycles: VISUAL REPACK</b>	<b>22. Date:</b>	
<b>23. Work Order / Contract:</b>				
<b>24. Remarks: VISUAL REPACK INSPECTION PROCESS ONLY</b>				





## **44.4 TWELVE MONTH ANNUAL INSPECTION FORMS**

- 44.4.1 PLJ2010
- 44.4.2 PLJ204
- 44.4.3 PPL965
- 44.4.4 PRSH1196
- 44.4.5 PSV411
- 44.4.6 PLPS910



## **45.0 VISUAL REPACK**

### **45.1 VISUAL INSPECTION FORMS**

- 45.1.1 PLJ2010
- 45.1.2 PLJ204
- 45.1.3 PPL965
- 45.1.4 PRSH1196
- 45.1.5 PSV411
- 45.1.6 PLPS910





## **46.0 MANUAL CONVERSION**

### **46.1 MANUAL/AUTOMATIC – AUTOMATIC/MANUAL INSPECTION FORMS**

- 46.1.1 PLJ2010
- 46.1.2 PLJ204
- 46.1.3 PPL965
- 46.1.4 PRSH1196
- 46.1.5 PSV411
- 46.1.6 PLPS910



## **47.0 PRSH1196 SIX MONTH HARNESS INSPECTION**

### **47.1 SIX MONTH ANNUAL VISUAL INSPECTION FORMS**

#### **47.1.1 PRSH1196**



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## **48.0 POSEIDON TRAIN THE TRAINER AUDIT FORMS**

### **48.1 TRAIN THE TRAINER AUDIT FORMS**



## 49.0 PRODUCT LABELS

### 49.1 IDENTIFICATION LABEL 001

<b>150 / 300 NEWTON LIFE JACKET</b>			
ADULT ONLY	> 40KG	150N	300N
<b>MODEL</b>		<b>SERIAL NUMBER</b>	
PSV411			
PLJ2010		LIFE JACKET MANUFACTURING DATE	
PPL965			
<b>ACTIVATION</b>		AVIATION	
MANUAL		MARINE	
HYDRO			
MATERIAL MANUFACTURING BATCH			
WEBBING MANUFACTURING BATCH			
Full performance may not be achieved using water-proof clothing or in other circumstances - refer manual			
ANNUAL INSPECTION PERIOD - 12 MONTHS			
READ MANUAL PRIOR TO USE			
PRODUCTION RUN SEQUENCE			
CAA APPROVED	LIFE JACKET LEVEL 150 / 300N ISO 12402-2-6		



***Poseidon Life Preservers  
Leaders in Safety and Survival Solutions***





## 49.2 IDENTIFICATION LABEL 002

# POSEIDON SURVIVAL VEST / LIFE PRESERVER

**MODEL** PSV411

SIZE	SMALL	MEDIUM	LARGE	XLARGE	XXLARGE	XXX LARGE

**MANUFACTURING  
DATE**

**MATERIAL BATCH No.**

**MATERIAL  
CONSTRUCTION**



### 49.3 IDENTIFICATION LABEL 003

<b>POSEIDON HARNESS</b>		
<b>MODEL    PHT</b>		
<b>SIZE</b>	<b>OSFA &gt; 40KG</b>	<b>MATERIAL CONSTRUCTION</b>
<b>MANUFACTURING DATE</b>		<b>MATERIAL BATCH No.</b>



**49.4 IDENTIFICATION LABEL 004**

<b>LIFE JACKET DEVICE</b>		<b>ISO 12402-2 TO ISO 12402- 6</b>	
APPLICATION		PERFORMANC E LEVEL	
OFFSHORE, EXTREME, SPECIAL PROTECTIVE CLOTHING, HEAVY EQUIPMENT		<b>LIFEJACKETS</b>	275+
OFFSHORE, FOUL WEATHER CLOTHING			150
MANUFACTURED BY:		SAFE DEFENCE LTD 92 ANNETT ROAD RD1 - KUMEU AUCKLAND 0891 NEW ZEALAND	
<b>WARNING :</b> LIFE JACKETS ONLY REDUCE THE RISK OF DROWNING  THEY DO NOT GUARANTEE RESCUE			
TRAIN YOURSELF TO USE THE DEVICE - DO NOT USE AS A CUSHION			



**49.5 IDENTIFICATION LABEL 005**

<b>Safe Defence Ltd</b>			
92 Annett Road RD1 - Kumeu Auckland 0891 New Zealand			
<b>INFLATION CELL INSPECTION RECORD</b>			
<b>Lot Number</b>			
<b>Manufacturing Date</b>			
<b>Serial Number</b>			
<b>NAME</b>	<b>DATE</b>	<b>NAME</b>	<b>DATE</b>







## 49.6 IDENTIFICATION LABEL 006

**RAN PERSONAL ABANDONMENT LIFE JACKET**

**NSN 4220-98-208-1105**





**PAL POUCH**

**00001**





**49.7 IDENTIFICATION LABEL 010 – FOIL PACKING – FRONT FACE**

<b>RAN PERSONAL ABANDONMENT LIFE JACKET</b>	
<b>NSN 4220-98-208-1105</b>	
	<b>PAL POUCH</b>
<b>NEXT SERVICE DATE</b>	 <b>DATE OF MANUFACTURE</b> <b>13 DECEMBER 2015</b>