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# ARMY PERSONAL EQUIPMENT HANDBOOK

April 2011

A joint collaboration by :



9 DIV/INF



CSSCOM



HQ SUPPLY



## **Preface**

Army Personal Equipment plays an important part in enhancing the combat effectiveness of our soldiers.

Our Army has invested a great deal of effort in designing these equipment, ensuring that it provides the highest level of safety, durability and comfort.

This Army Personal Equipment handbook serves to help the soldier understand his equipment better so he can fully utilize them effectively. This handbook should be read and kept by the soldier for reference.

The Editorial Committee, led by SWO Tang Peck Oon, SM 9 Div/Inf, MWO Devendran, SM Supply, and the Army Personal Equipment Expert (APEX) Team have contributed significantly to the design and material selection as well as the conduct a series of trials, tests and experiments, to ensure the right equipment is delivered to each soldier. We are sure this has been a positive and extraordinary experience for the team to work together and produce this wonderful piece of work.

Lastly, we would like to thank SWO Joseph Koa, Sergeant Major of Army, for his valuable insights and advice to the committee. We congratulate the committee for this excellent compilation.

**Read well and enjoy your PE experience!**

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## INTRODUCTION TO ARMY PE HANDBOOK



Personal Equipment (PE) is essential to our soldier and is issued upon enlistment. PE such as combat helmet and No.4 Pixelised Uniform will be used throughout your service in the Singapore Armed Forces.

It is important for you to get acquainted with your own Personal Equipment so that you can better appreciate the functions and required maintenance in order to achieve maximum combat effectiveness.

**Learn how to use and maintain your Personal Equipment well so that they can serve you well.**

## INTERESTING TRIVIA

1. Helmets have a 4-Point Suspension System, absorb impact forces of bullets, improve comfort and ventilation due to air gap and crown mesh design.
2. Non-Linear Earplug uses **Hocks noise breaker**, blocks off loud sounds harmful to the ear (85dB and above) but you can still hear sounds within conversational level.

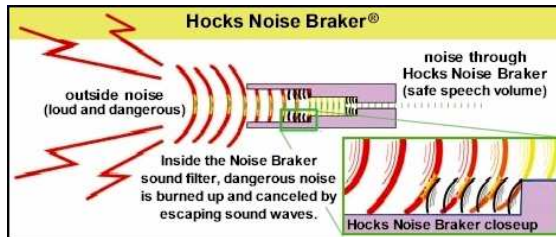


Fig 1. Illustration of how Non Linear Earplug works

3. Integrated Load Bearing Vest (iLBV) uses Modular Lightweight Load-carrying Equipment (MOLLE) design to attach various modular pouches depending on mission-type onto the vest. The iLBV also has a quick-release mechanism which allows for swift jettison during an emergency.
4. SAF Field Pack provides the flexibility of attaching additional pouches to increase its carrying capacity.

5. SAF Physical Training Kit provides comfort and performance which are comparable to commercial brand sports wear. SAF Physical Training Kit has **high wicking property**, which adsorbs sweat away from your skin and enables faster evaporation.

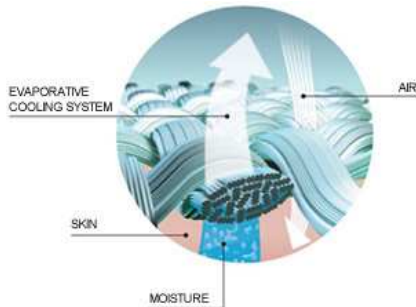


Fig 2 Illustration of how wicking works

6. No.4 Pixelised Uniform uses **Micro patterns** and introduces many pixels of appropriate size which makes it harder for the enemy to spot the soldier. No.4 Pixelised Uniform is weaved using a method known as **Ripstop**. This is why No.4 Pixelised Uniform is light in weight yet durable enough for intense training.

7. e-Mart Credits The allocated credits are solely for the replacement of Personal Equipment to ensure that you are adequately equipped for training. Buy what is necessary. For more information about eMart credits allocation, please refer to page 5-10.



## **CONTENTS PAGE**

| <b>Chapter</b> | <b>Subject</b>      | <b>Page No.</b>                  |
|----------------|---------------------|----------------------------------|
| <b>1</b>       | <b>HEADGEAR</b>     |                                  |
|                | Combat Headgear     |                                  |
|                | Section 1           | Helmet 1-1                       |
|                | Section 2           | Pixelised Cover for Helmet 1-6   |
|                | Section 3           | Non-Linear Earplug 1-9           |
|                | Admin Headgear      |                                  |
|                | Section 4           | Jockey Cap 1-12                  |
|                | Section 5           | Beret 1-13                       |
| <b>2</b>       | <b>BODYGEAR</b>     |                                  |
|                | Combat Bodygear     |                                  |
|                | Section 1           | iLBV 2-1                         |
|                | Section 2           | Pixelised Raincoat 2-9           |
|                | Section 3           | No.4 Pixelised Uniform 2-10      |
| <b>3</b>       | <b>FOOTGEAR</b>     |                                  |
|                | Combat Footgear     |                                  |
|                | Section 1           | Combat Boots 3-1                 |
|                | Admin Footgear      |                                  |
|                | Section 2           | Running Shoes / White Socks 3-6  |
| <b>4</b>       | <b>GENERAL GEAR</b> |                                  |
|                | Section 1           | SAF Field Pack 4-1               |
|                | Section 2           | Water Bag 4-3                    |
|                | Section 3           | Personnel Identification Tag 4-4 |
|                | Section 4           | ½ Finger Leather Gloves 4-7      |
|                | Section 5           | Toggle Rope 4-8                  |
|                | Section 6           | Swiss Blade 4-10                 |



| Chapter | Subject             | Page No.                                 |
|---------|---------------------|--|
| 5       | GENERAL INFORMATION |  |
|         | Section 1           | Different configurations of the iLBV 5-1 |
|         | Section 2           | Fixing of iLBV Groin Carrier 5-2         |
|         | Section 3           | Fixing of iLBV Neck Carrier 5-3          |
|         | Section 4           | iLBV Quick Release Feature 5-4           |
|         | Section 5           | Recovery of Quick-Release Mechanism 5-5  |
|         | Section 6           | Ballistic Goggle 5-8                     |
|         | Section 7           | Knee and Elbow Guard 5-9                 |
|         | Section 8           | eMart and the Credit system 5-10         |

## CHAPTER 1 – HEADGEAR

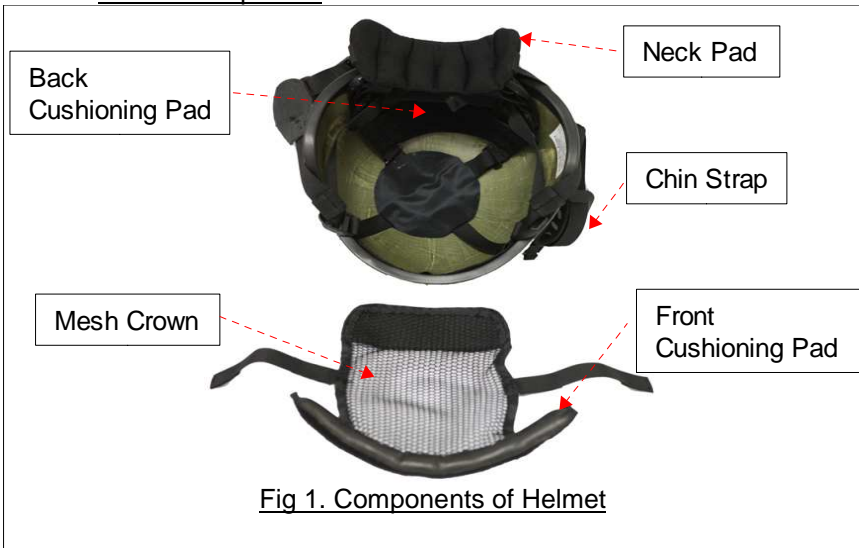
### Combat Headgear

#### **Section 1 : Helmet**

##### 1. Helmet

Helmet serves as a basic protective equipment for the head against grenade shrapnel, mortar fragmentation and other dangerous high speed objects.

##### 2. Helmet component



The Mesh Crown is designed for quick heat dissipation.

The Cushioning Pad and Neck Pad are meant for stability and will absorb impact received on the helmet.

They are removable and can be hand washed if necessary.

### 3. Helmet Assembly

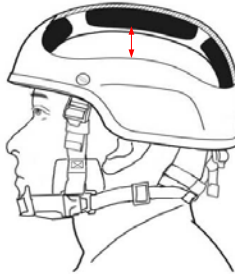


Fig 1. Diagram illustrating spacing between helmet and net

When fitted and worn properly, there should be approximately a 12mm distance between the mesh crown and the helmet for the purpose of good ventilation and protection.



Fig 2. Helmet facing towards user



Fig 3. Helmet facing away from user

#### **Step 1**

Ensure suspension net and padded leather headband are installed properly.

Begin by fixing the suspension net to the rear of the helmet. (All components are Velcro connected)

#### **Step 2**

Fix the padded leather headband of the suspension net to the front of the helmet.

The headband should be centered and the Velcro connection should be maximised.



Fig 4. Adjustment buckles (Rear)  
(Placeholder)



Fig 5. Adjustment buckles (Front)

**Step 3**

Adjust the buckles such that only the suspension net should be in contact with the soldier's head, not the harden part (shell) of the helmet.

The “depth” of the helmet and position of the rear of the suspension net can be adjusted using the four adjustment buckles (circled).



Fig 6. Rear adjustable strap  
compartment



Fig 7. Inside the strap  
compartment

**Step 4**

The rear of the helmet contains the adjustable straps. They are kept within a Velcro covering that can be opened as shown in Fig 6.

After opening the Velcro covering, you will see 2 Velcro straps. Use these straps to adjust the circumference of the helmet as necessary. Pull the straps towards each other for a smaller circumference, and vice versa for a larger circumference.



**Step 5**  
 Adjust the the chin strap buckle and the two front adjustment buckles on the inside of the helmet to secure the helmet.

The chin strap of the helmet will be snug when the helmet is worn properly.



**Step 6**  
 The front of the helmet should be level, covering up to the eyebrows so as to provide maximum protection to the forehead without restricting vision.

**Step 7**  
 The helmet should not slide backward, forwards, or sideways during combat or training related activities.



**Fig 12. Rear view**

**Step 8**

A gap between the suspension net and the shell of the helmet ensures that any shock absorbed by the helmet will not be transferred to the soldier's skull.

The helmet should be tight against a soldier's head, however it should not be uncomfortably tight.

**4. Care and Maintenance of your helmet**

| <b>DO</b>  | <b>DO NOT</b>   |
|--|---|
| <ul style="list-style-type: none"> <li>•Air your helmet, especially after training, this is to prevent mold from growing on the paddings.</li> <li>•Check regularly for rusty or loose screws and report them to your superiors once spotted.</li> <li>•Store the helmet in a cool and dry environment.</li> </ul> | <ul style="list-style-type: none"> <li>•Machine wash.</li> <li>•Expose the padded leather headband directly to sunlight.</li> </ul> |

**5. Where to get replacement for your helmet?**

Should there be a need to replace your helmet, please approach your superiors/ Quarter Masters (QM) department and they will make the necessary arrangement for you.

## Section 2 : Pixelised Cover for Helmet

### 1. Pixelised Cover for Helmet

The Pixelised Cover provides the same Pixelised pattern as the No.4 Pixelised Uniform and Integrated Body Armour / Integrated Load Bearing Vest. It serves to break the outline of the helmet, this helps the soldier to blend into the environment, making them harder to be spotted.

### 2. Attaching the Pixelised Cover to the Helmet



#### **Step 1**

First place the Pixelised Cover over the helmet.

Ensure that the Front Slit in Pixelised Cover-corresponds with front of helmet as shown is Fig 1.

The helmet should look like Fig 2 when the Pixelised cover is properly covering the helmet.



Fig 3. Fixing the rear straps

**Step 2**

Begin by fixing the back of the helmet cover to the back of the helmet. The Velcro straps should go **UNDER** the straps of the helmet's suspension cradle and then back over them in a looping motion.



Fig 4. Fixing the other straps



**Step 3**

Finish attaching the helmet cover by fixing the front Velcro straps. The Velcro strap should go behind the suspension cradle (as per the rear and side Velcro straps) but should come back out between the suspension cradle and the padded leather headband.

The headband may need to be shifted slightly in order to fix the helmet cover properly.

When finished, the helmet cover's Velcro straps should **NOT** be covering the padded leather headband.



|   |  |
|---|--|
|  <p style="text-align: center;"><u>Fig 5. Finished helmet</u></p>  |  <p style="text-align: center;"><u>Fig 6. Testing your pixelised cover</u></p>  |
| <p><b>Step 4</b><br/>Check the that all the velcro straps have been fastened and that there are no loose ends.</p> <p>When finished, the helmet cover should be firmly attached onto the helmet. The size of Pixelised Cover should be the same size as your helmet</p> | <p><b>Step 5</b><br/>To test whether is your helmet cover been fixed properly, grip the top of the helmet cover as shown in the diagram.</p> <p>Apply an upward pulling force, the helmet cover should not move around and remains tightly fixed on your helmet.</p> |

3. Care and Maintenance of your Pixelised Cover for Helmet

| <b>DO</b>   | <b>DO NOT</b>  |
|---|--|
| <ul style="list-style-type: none"> <li>•Hand wash the Pixelised cover of the helmet with detergent.</li> <li>•Wait for it to dry completely before fitting it onto your helmet.</li> <li>•Refer to the washing instructions.</li> </ul> | <ul style="list-style-type: none"> <li>•Bleach.</li> </ul> |

4. Where to get replacement for Pixelised Cover for Helmet?

Should there be a need to get a replacement, stocks are available at eMart.

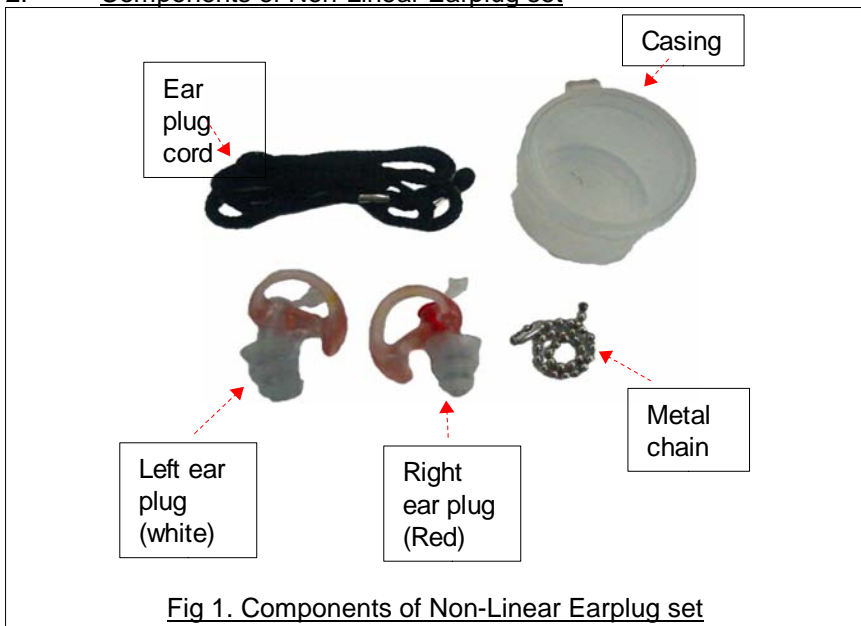
### Section 3 : Non-Linear Earplug

#### 1. Non-Linear Earplug

Non-Linear Earplug is an essential item for protecting our ear drums against the vibrations caused by the high decibel noise from gunfire, for instance during range.

Non-Linear Earplug will filter away noise that are (85 dB) and above which are damaging to our ears. While wearing the ear plugs you can still hear and talk normally without having the need to remove the ear plugs so as to facilitate communication during firing and not blocking out commands.

#### 2. Components of Non-Linear Earplug set



### 3. Wearing of Non-Linear Earplug



Fig 1. Earplug in left ear  
(white colour)



Fig 2. Earplug in right ear  
(red colour)

Wear the ear plug like how you would put on an ear piece. It should fit nicely onto your ear.

\*Take note of the "Cap" on the top of the ear plug, if covered it will block off all sounds like a normal ear plug.

### 4. Tying of metal chain for Non-Linear Earplug Carrier



Fig 1. Fixing of Metal Chain



Fig 2. Locking of Metal Chain

#### **Step 1**

First insert the Metal Chain into the Metal catch as shown in Fig 1.

Next, apply force on in-between the last 2 ball bearing.

Fig 2 is how it would look like when it is done correctly. The Ball Bearing is secured in the metal catch.

5. Tying the Non-Linear Earplug cord



Fig 1. Tying the Non-Linear Earplug

**Step 1**

Loop the Earplug Cord through the Earplug and tie a knot to it. As shown in Fig 1.



Fig 2. Properly tied Non-Linear Earplug

A properly tied Non-Linear Earplug with Earplug Cord and Carrying case.

6. Care and Maintenance of your Non-Linear Earplug

**DO**

- Clean your Non-Linear Earplug by hand washing them with soap and water.
- Dry them before keeping them in the carrying case.
- Store in a cool and dry environment.

7. Where to get replacement for Non-Linear Earplug?

Should there be a need to get a replacement, stocks are available at eMart.

## Admin Headgear

### **Section 4 : Jockey Cap**

#### 1. Jockey Cap

The No.4 Pixelised Cap is commonly known as the “Jockey Cap”. Jockey Caps are don with No.4 Pixelised Uniform for training and field duties. To maintain the shape of the cap, a layer of stiffener has been added in the fabric of the cap.



Fig 1. Jockey Cap

Jockey cap should be worn just above the eye level.

The top of the Jockey should be flat. Hair should not protrude in front of the cap.

#### 2. Care and Maintenance of your Jockey Cap

| DO  | DO NOT  |
|---|---|
| <ul style="list-style-type: none"><li>•Hand wash your Jockey Cap with soap and water.</li><li>•Ensure that the Jockey cap has dried completely before storage.</li><li>•Refer to the washing instructions</li></ul> | <ul style="list-style-type: none"><li>•Machine wash.</li><li>•Bleach.</li></ul> |

#### 3. Where to get replacement for Jockey Cap?

Should there be a need to get a replacement, stocks are available at eMart.

## Section 2 : Beret

### 1. Beret

Beret is the headdress to be worn together with No.3 Uniform or No.4 Pixelised Uniform. The colour of the beret represents the vocation you are from. It is made of a composition of wool and nylon. A new beret will need “seasoning” before it looks good on the wearer.



Fig 1. Beret

Beret should be worn slightly (2.5CM) above the eye level.

The Crest should always be on top of your left eye and the beret will rest on the right side of the head.

Adjust and tuck the strap of the beret into the back of your head.

### 2. Care and Maintenance of your Beret

| DO   | DO NOT   |
|--|--|
| <ul style="list-style-type: none"><li>•Season your beret when not in use.</li><li>•Dry clean if necessary.</li><li>•Refer to washing instructions.</li></ul> | <ul style="list-style-type: none"><li>•Wash with water as it would cause the beret to shrink.</li><li>•Bleach.</li></ul> |

### 3. Where to get replacement for Beret?

Should there be a need to get a replacement for beret or crest, stocks are available at eMart, each sold separately.



## CHAPTER 2 – BODYGEAR

### Combat Bodygear

#### **Section 1 : iLBV**

1. iLBV

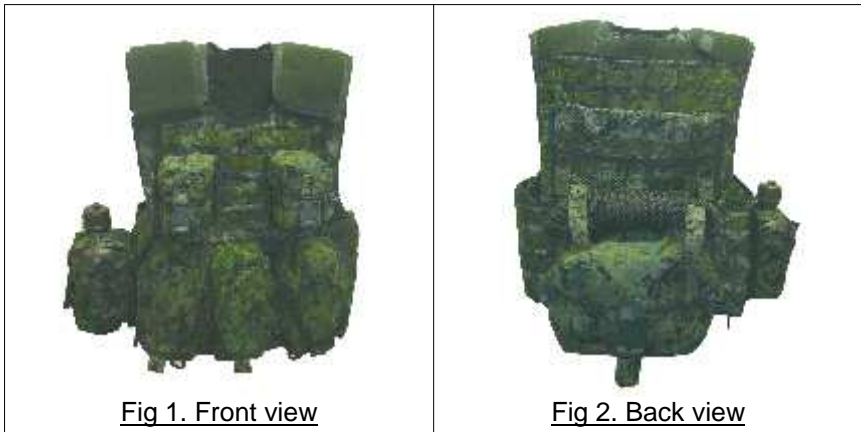
iLBV stands for “integrated Load Bearing Vest”. It helps the soldier to carry various important combat equipment.

2. Components of iLBV

The standard iLBV accessories in BMT are as follows :

- 2 Grenade pouches
- 3 Magazine pouches
- 1 Water bottle pouch
- 1 Hydration bladder carrier
- 1 Utility pouch

The following pictures serve as a guide to the arrangement of iLBV accessories weaved on the iLBV in BMT.





3. Identifying parts and accessories of iLBV

The following pictures labels the different parts and accessories of iLBV.



Fig 1. iLBV Vest Carrier (front)



Fig 2. iLBV Vest Carrier (rear)



Fig 3. Hydration bladder carrier



Fig 4. Neck and groin insert carrier



Fig 5. (Top) Grenade pouches  
(Bottom) Magazine pouches



Fig 6. (Top Left) Water bottle  
pouch (Bottom Right) utility pouch

4. Weaving of accessories onto the iLBV



Fig 1. Front of iLBV



Fig 2. Magazine pouch

**Step 1**

For this example, the SAR21 Magazine pouch will be woven.



Fig 3. Initial fastening of pouch



Fig 4. Weaving of straps

**Step 2**

Pull the straps from the magazine pouch through the third row of the iLBV from the bottom.

**Step 3**

Weave the straps through the back of the magazine pouch. As shown in the picture arrow 1 then arrow 2.



Fig 5. First row fastened



Fig 6. Tightening of strap

**Step 4**

Repeat step 3 for each of the rows on the iLBV till all the slots of the magazine pouch have been weaved through.

**Step 5**

Towards the end, the strap of the magazine pouch will get shorter, thus requires more force to weave through it.



Fig 7. Insertion of loose end into iLBV



Fig 8. Properly woven pouch

**Step 6**

To complete the weaving, tuck the strap of the pouch into the back of the iLBV.



Take note that there should not be any loose straps when magazine pouch is weaved properly.



**Step 7**

Repeat the above steps for all the other pouches / bags that require weaving to the iLBV.

A properly woven magazine pouch can take a lot of weight.

5. Wearing the iLBV

|   |  |
|---|--|
|  <p><u>Fig 1. Unfastening of velcro</u></p>                          |  <p><u>Fig 2. Fastening of Shoulder velcro</u></p>  |
| <p><b><u>Step 1</u></b></p> <p>Completely open both the Right shoulder Velcro and Waist securing Velcro on the right.</p> | <p><b><u>Step 2</u></b></p> <p>There are a total of 3 layers of Velcro, overlapping onto each other. Ensure that the Velcro is secured properly and overlapped neatly.</p> |

|   |  |
|---|--|
|  <p><u>Fig 3. Opening of waist Velcro</u></p>   |  <p><u>Fig 4. Fastening of waist Velcro</u></p>        |
| <p><b><u>Step 3</u></b></p> <p>Peel the <u>Waist securing Velcro</u>. from the <u>Right side of the iLBV</u> as shown in the picture.</p> | <p><b><u>Step 4</u></b></p> <p>The way of securing the waist Velcro is the same as the right shoulder.</p> |

## 6. Proper iLBV Fitting and Wearing Test

The following pictures serve as a guide to check if the iLBV has been worn correctly.



### **Step 1**

**Length Test.** The lower seam of the iLBV should be higher or aligned to the wearer's belly button. The vest should not slide up the wearer's body when in half kneeling position.



### **Step 2**

**Chest Circumference Test.** When worn, the vest should be snug yet allowing sufficient space for the wearer to take deep breaths. The wearer should not feel restricted when breathing.

7. Mollying the Hydration bladder carrier



Fig 1. Tucking the top 2 Straps into the Water Bladder Carrier



Fig 2. Tucking the bottom 2 straps into the Water Bladder Carrier

**Step 1**

Insert all the 4 straps into the carrier through the 4 vents(found at the 4 corners of the carrier) forming a bladder pouch.



Fig 3. Securing the Cover Flap of Water Bladder Carrier



Fig 4. A properly Tucked Water Bladder Carrier

**Step 2**

Slide the 3 short weave straps through the weave loops at the front of the pouch so as to close the cover flap. If the above step is done correctly it would look like Fig 4.

8. Using the hydration bladder carrier as a hydration pack



Fig 1. Removing the Carrying straps from the Vents



Fig 2. Joining the Carrying Straps

**Step 1**

Pull out the 4 carry straps from the inside of the carrier through the 4 vents(each corner).

**Step 2**

Form a loop on each side of the carrier by joining 2 carry straps on each side of the carrier.

9. Attaching Bayonet / Scabbard to iLBV



Fig 1. Attached Bayonet / Scabbard to iLBV



Fig 2. Close up of attached Bayonet / Scabbard to iLBV

**Step 1**

Attach the Bayonet / Scabbard to the upper left hand side on the back of your iLBV with cable tie, beside your Hydration Bladder Carrier.

**Step 2**

Using cable tie secure the Bayonet / Scabbard to iLBV as shown in the picture above. Ensure that it is tightly secured before cutting off the excess cable tie.

10. Care and Maintenance of your iLBV

| DO   | DO NOT   |
|--|--|
| <ul style="list-style-type: none"><li>•Air your iLBV, especially after training.</li><li>•Remove all the pouches before using washing machine.</li><li>•Wait for it to be completely dry before weaving all the pouches on it.</li><li>•Refer to the washing instructions.</li></ul> | <ul style="list-style-type: none"><li>•Bleach.</li></ul> |

11. Where to get replacement for iLBV and accessories?

Should there be a need to replace your iLBV please approach your superiors / Quarter Master (QM) department and they will make the necessary arrangement for you.

**Section 2 : Pixelised Raincoat**

1. Pixelised Raincoat

The Pixelised Raincoat is to provide protection for the soldier against rain and wind in the field. The iLBV is worn outside of the raincoat to facilitate retrieval of ammunition and magazine or any other items from the iLBV pouches.



The Pixelised Raincoat is to be worn only with No.4 Pixelised Uniform.



2. Care and Maintenance of your Pixelised Raincoat

| DO   | DO NOT  |
|--|---|
| <ul style="list-style-type: none"><li>•Lightly rinse with tap water and hang dry to remove mud stain.</li><li>•Wait for it to be completely dry before storage.</li><li>• Refer to the washing instructions.</li></ul> | <ul style="list-style-type: none"><li>•Bleach.</li><li>•Machine wash.</li></ul> |

3. Where to get replacement for Pixelised Raincoat?

Should there be a need to replace your Pixelised Raincoat please approach your superiors/ Quarter Masters (QM) department and they will make the necessary arrangement for you.

**Section 3 : No.4 Pixelised Uniform**

1. No.4 Pixelised Uniform

The No.4 Pixelised Uniform is issued to the PES A,B,C and E (Security Trooper) recruits during BMT. The No.4 Pixelised Uniform is made of a composition of cotton and nylon. The cotton contents enhances the level of air permeability and comfort whereas the nylon contents provides the resistance to wear and tear.

The No.4 Pixelised Uniform can have its sleeves rolled-up (“Smart 4”) or rolled-down (“Long 4”).

Note that the wearing of green utility shirt or singlet inside No.4 Pixelised Uniform is not allowed during strenuous activities such as route march or Standard Obstacle Course.

## 2. Folding of No.4 Pixelised Uniform



Fig 1. Folding of sleeves step 1

### **Step 1**

Start by folding the sleeve (inside out) into half, the line there on Fig 1 is the half way mark of the sleeve. You should fold the sleeve to that mark.



Fig 2. Sleeve folded up half way

This is how the sleeve should look like if step 1 is done correctly.



**Step 2**

Fold the sleeves upwards, each fold should be the same length as the sleeve cuff as shown in the diagram above.



**Step 3**

Tuck the folded sleeves neatly into the sleeve cuff, it should look like the diagram above.

### 3. Using the Bandage Button Slot

In the case of emergencies in which there is a need to immobilize and elevate the hand, the No. 4 shirt can also be used as an arm sling.

A button slit sewn at both corners of the shirt allows the soldier to fold the shirt up as a triangular bandage to secure an injured arm until medical aid arrives.

First Aid Dressing (FAD) is always put into the bottom left pocket of your No.4 Trousers.



Fig 1. Buttons to be unbuttoned



Fig 2. Uniform used as arm sling

#### **Step 1**

Unbutton the 2 buttons below the rank holder. It may be necessary to unfasten the Velcro, depending on your body build.

#### **Step 2**

On both corners of the uniform, there are button slots. Fasten the button slot to the button above the rank holder.

4. No.4 Pixelised Uniforms



5. Care and Maintenance of your No.4 Pixelised Uniform

| DO  | DO NOT  |
|---|---|
| <ul style="list-style-type: none"><li>•Machine washed and iron</li><li>•Wait for it to be completely dry before storage</li><li>•Refer to washing instructions.</li></ul> | <ul style="list-style-type: none"><li>•Bleach</li></ul> |

6. Where to get replacement for No.4 Pixelised Uniforms?

Should there be a need to get a replacement, stocks are available at eMart.

## CHAPTER 3 – FOOTGEAR

### Combat Footgear

#### **Section 1 : Combat Boots**

##### 1. Combat Boots / Green Socks / Garters

Combat Boots effectively protects your feet from sharp objects as well as preventing sprains, abrasions and other foot injury when soldiers do their Standard Obstacle Course (SOC).

Green Socks helps to absorb sweat from your feet and they provide additional cushioning to absorb impact from jumps and falls.

Garter is for tucking in the excess of No.4 Pixelised Trousers as this will make the soldier look neater and smarter.

##### 2. Lacing of Combat Boots Lace

The following pictures serve as a guide on lacing the Combat Boots.



Fig 1. Lacing of boot lace step1

#### **Step 1**

First, insert the boot lace across the bottom eyelet of the boots as shown in the diagram above. It is recommended that a simple knot should be tied inbetween the bottom eyelet of the boots (indicated by a "X") this is to prevent the boot lace from sliding to either side of the boots.



Fig 2. Lacing of boot lace step 2

**Step 2**

Next weave the boot lace diagonally to the opposite eyelet as shown in the diagram above.



Fig 3. Lacing of boot lace step 3

**Step 3**

Repeat for the other boot lace. Notice that when it is done correctly it would form a "X".



Fig 4. A properly laced boot

### 3. Tying the Lazy Chain

The lazy chain is used to tie up the excessive boot lace and tucked into the No.4 trousers. The following picture serve as a guide as to how to tie the lazy chain.



Fig 1. Tying the Lazy Chain Step 1



Fig 2. Tying the Lazy Chain Step 2

#### **Step 1**

Align the boot lace together and form a loop with it.

#### **Step 2**

If done correctly it would look like the diagram above. Pull the boot lace through the loop.





Fig 3. Tying the Lazy Chain Step 3

**Step 3**

Pull the lace through the loop in an upward manner, a knot will be formed.



Fig 4. Tying the Lazy Chain Step 4

**Step 4**

Tighten the knot by pulling both ends of the lace while not losing the loop.



Fig 5. Tying the Lazy Chain Step 5

**Step 5**

From the loop pull the remaining boot lace through.



Fig 6. Tying the Lazy Chain Step 6

**Step 6**

Repeat steps 3 to 5 until there is very little remaining boot lace.



Fig 7. A properly tied lazy chain

4. Releasing the Lazy Chain



Fig 1. Releasing the Lazy Chain  
Step 1



Fig 2. Releasing the Lazy Chain  
Step 2

**Step 1**

Untie the first knot, and pull. The entire roll knots should be untied.

**Step 2**

Pull to release the Lazy Chain.

5. Using the Garter



Fig 1. Using the Garter  
Step 1



Fig 2. Using the Garter  
Step 2



Fig 3. Using the Garter  
Step 3

**Step 1**

Fold your No.4 Pixelised Trousers and place the Garter slightly above the boots.

**Step 2**

Neatly tuck the folded No.4 Pixelised Trousers into the Garter.

**Step 3**

Lastly tuck the Lazy Chain into the Garter.

Garter is something that is commonly lost, due to it's size. As a guide, place the garter into your boots after removing them.

6. Care and Maintenance of your Combat boots

| <b>DO</b>   | <b>DO NOT</b>   |
|---|---|
| <ul style="list-style-type: none"><li>•Wash the exterior your boots after field training.</li><li>•Machine or hand wash the Green Socks.</li><li>•Remove excess dirt from the boots with a stiff brush or damp cloth.</li><li>•Kiwi the boots regularly to maintain the long-life of the leather.</li></ul> | <ul style="list-style-type: none"><li>•Over stretch your garter, it will lose its elasticity.</li></ul> |

7. Where to get replacement for Combat Boots?

Should you require an additional pair of boots, socks or garter, stocks are available at eMart each sold separately.



**Admin Footgear**

**Section 2 : Running Shoes / White Socks**

1. Running shoes / White Socks

There are 2 types of running shoes available, one for flat foot and the other one is for soldiers with high arch foot. It is important to wear the correct running shoes to your matched foot type to avoid injuries as well as to maximize your performance.

Running shoes and white socks

|   |   |
|---|---|
|                      |  |
| <p><u>Fig 1. Properly worn 2E Running Shoes with White Socks</u></p>                                  | <p><u>Fig 2. Properly worn 4E Running Shoes with White Socks</u></p>              |
| <p>Note: White Sock is not an ankle sock.<br/>                 2E – Normal fit      4E – Wide fit</p> |   |

2. Care and Maintenance of your Running shoes / White Socks

| <b>DO</b>   | <b>DO NOT</b>   |
|---|---|
| <ul style="list-style-type: none"> <li>•Air your running shoes between wearing to reduce sweat odor and prevent fungus growth.</li> <li>•Keep the running shoes in a cool and dry environment.</li> </ul> | <ul style="list-style-type: none"> <li>•Place your running shoes over or next to a heat source such as car radiator, stove or heating element.</li> </ul> |

3. Where to get replacement for Running shoes / White Socks?

Should there be a need to get a replacement, running shoes and socks are available at eMart each sold separately.



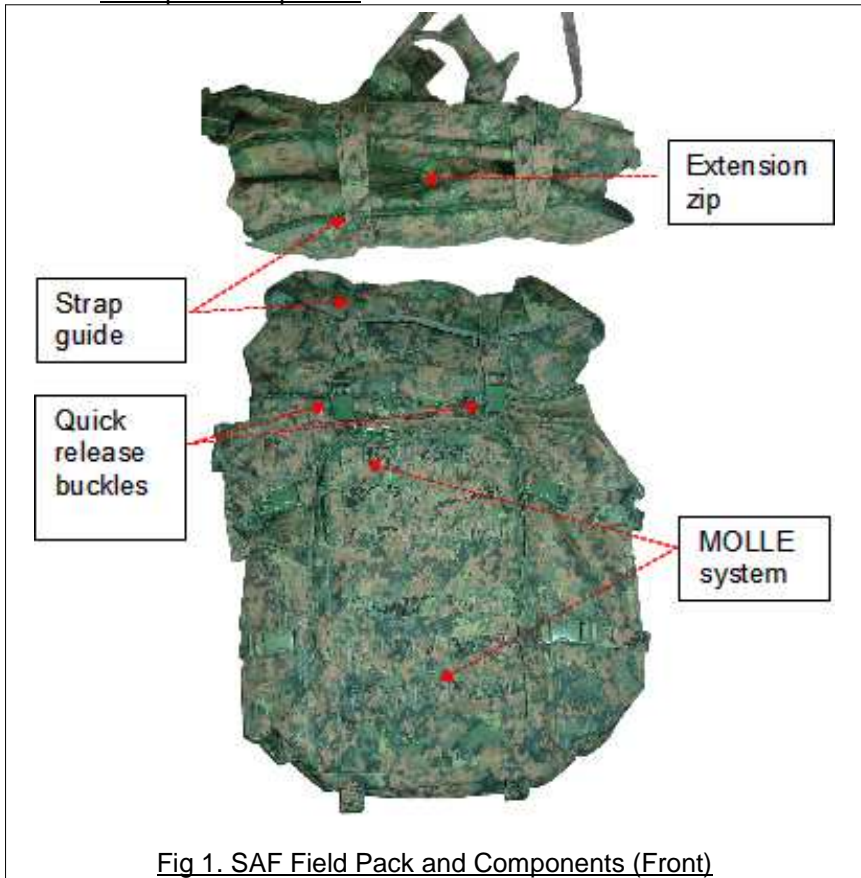
## CHAPTER 4 – GENERAL GEAR

### **Section 1 : SAF Field Pack**

#### 1. SAF Field Pack

The SAF Field Pack, allows the soldier to carry essential combat equipment to the field in the most effective and secure manner. The pack can withstand a load of up to 80 kg and a capacity of 30 litres and can be extended vertically to increase its carry capacity. The Field Pack is design in such as way that it will evenly distribute the weight across the back.

#### 2. Field pack component



**Fig 1. SAF Field Pack and Components (Front)**

**PACK EXTENTION** - The pack can be extended vertically by unzipping the the Extension Zip to increase its capacity. With the extension, the pack has a capacity of 40 litre.

**STRAP GUIDE** - The Strap Guide are used when the pack is extended. It is to keep the top cover compact to ensure the cover stay in position.

**COMPACT STRAP** - The Compact Strap is to tighten the Field Pack from the side for easy carrying.



Fig 2. SAF Field Pack and Components (Back)

The Quick Release Buckles shown here are for adjusting the length of Field Pack Strap.

### 3. Care and Maintenance of your SAF Field Pack

| <b>DO</b>  | <b>DO NOT</b>  |
|--|--|
| <ul style="list-style-type: none"><li>•Wash plain canvas pack in the washing machine only if there is no decorative items sewn on or other features that would be damaged by machine washing.</li><br/><li>•Pre-treat any stains on the pack with laundry stain removers.</li><br/><li>•Scrub the bag by hand. Use a soft scrub brush or an old terry cloth.</li><br/><li>•Dip the brush or cloth in soap water. Shake off or wring out excess water and clean using a circular motion.</li><br/><li>•Dry in a dryer or a clothesline under shade.</li></ul> | <ul style="list-style-type: none"><li>•Bleach.</li><br/><li>•Dry under strong sun light.</li></ul> |



## **Section 2 : Water Bag**

### 1. Water Bag

The Water bag is a compact water bottle that allows the soldier to drink from even on the move. The Water Bag offers a hands free way of drinking up, which encourages the soldiers to drink up reducing the chances of heat related injury.



2. Using the Water Bag

|  |   |
|--|---|
|  <p style="text-align: center;"><u>Fig 1. Water Bag</u></p> |  <p style="text-align: center;"><u>Fig 2. Hydration Bladder Carrier with Water Bag</u></p> |
| <p>Insert the Water Bag into the Hydration Bladder Carrier with the Cap on the top and facing outwards.</p>                                  | <p>Slot the Water Bag into the Hydration Bladder Carrier and pull the Drinking tube through the top Right vent of the Carrier.</p>  |

3. Care and Maintenance for your Water Bag

| <b>DO</b>  | <b>DO NOT</b>  |
|--|--|
| <ul style="list-style-type: none"> <li>•Keep the Water Bag in a cool and dry environment.</li> <li>•Rinse the Water Bag with water only, do not use soap.</li> <li>•Unscrew the cap and air dry before storing.</li> </ul> | <ul style="list-style-type: none"> <li>•Do not pour hot water into the Water Bag.</li> <li>•Put any other fluid(s) other than plain water inside.</li> </ul> |

**Section 3 : Personnel Identification Tag**

1. Personnel Identification Tag

A Personnel Identification Tag is primarily used for the identification of soldiers along with providing religion and essential basic medical information. Wearing of the tag is required at all times by soldiers in the field.

2. Tying the Identification tag

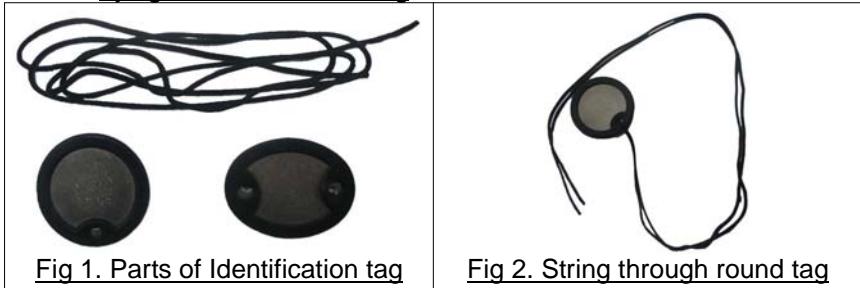


Fig 1. Parts of Identification tag

Fig 2. String through round tag

**Step 1**

The Identification tag is issued separately from the rubber muffers. Fit the muffers around the Identification tag.

There is text engraved only on 1 side of the Identification Tag, that side will be denoted with an O. The rear side (without text) will be denoted with an X.

**Step 2**

Pull the string through the round tag. The string should be of approximately equal length.

You may want to leave the tag about 1cm longer on the right side (text facing down).



Fig 3. First knot



Fig 4. Second knot

**Step 3**

Tie a knot above the tag. A simple overhand knot will suffice.

**Step 4**

Tie a second knot about 2-3 cm above the first knot.



Fig 5. Knot on the right string

**Step 5**

Tie a knot on the right string approximately 2-3 cm away from the second knot.



Fig 6. Oval tag



Fig 7. Front view

**Step 6**

Slide the oval tag down the right string. It should rest on the previous knot.

**Step 7**

Tie a knot above the oval tag, and the tag should be secured in place.



Fig 8. Completed Identification tag

**Step 8**

Tie the ends of the string together.

You may use either a dead knot or a sliding knot. If tying a dead knot, ensure that the Identification tag can still go around your head.

**Section 4 :  $\frac{1}{2}$  Finger Leather Gloves**

1.  $\frac{1}{2}$  Finger Leather Gloves

It protects the soldier's palms from cuts and scratches during movement in vegetation and during proning. The improved grip and dexterity enables the soldier to better hold / grip onto objects while the holes on the back of the gloves are meant for ventilation.



Fig 1.  $\frac{1}{2}$  Finger Leather Gloves  
Front



Fig 2.  $\frac{1}{2}$  Finger Leather Gloves  
Back

Take note that the  $\frac{1}{2}$  Finger Leather Gloves should fit firmly onto your hands and they come in Small, Medium and Large sizes.

2. Care and Maintenance for your ½ Finger Leather Gloves

| DO  | DO NOT  |
|---|---|
| <ul style="list-style-type: none"><li>•Wipe the gloves with a damp cloth to remove stains.</li><li>•Air dry it in a cool and dry environment.</li></ul> | <ul style="list-style-type: none"><li>•Expose to strong sunlight for prolonged periods when not in use.</li></ul> |

3. Where to get replacement for ½ Finger Leather Gloves?

Should there be a need to get a replacement, stocks are available at eMart

**Section 5 : Toggle Rope**

1. Toggle Rope

The Toggle rope is a multipurpose tool used in operations and training. It is capable of withstanding heavy weight and pressure. The Toggle Rope's heavy duty properties is highly suitable for SAF's training requirement. It can be use on a wide variety of situations such as securing of people to ensure safety or tie objects together.

2. Tying the Toggle Rope

Toggle rope is required to be neatly packed at all times when not in use. The following pictures serve as a guide on how to tie your toggle rope neatly in SAF style.



Fig 1. Folding the Toggle Rope

Fig 2. Folded Toggle Rope

**Step 1**

Take about 25cm of the toggle rope and fold them up 8 times, start from the other side of the rope where the wooden cork is.

Fig 2 is how the toggle rope will look like when step 1 is done properly.



Fig 3. Tying the Toggle Rope



Fig 4. Toggle Rope Tied

**Step 2**

Tie the remaining rope around the folded toggle rope, the remaining toggle rope should cover just  $\frac{3}{4}$  of the folded toggle rope, as shown in the diagram .

Should there be a lot of excess of Toggle Rope, try going back to step 1 and increase the number of folds.

Place the wooden cork into the loop of the toggle rope. That will secure the toggle rope and prevent it from opening up.



Fig 5. A Properly tied Toggle Rope

**3. Care and Maintenance for your Toggle Rope**

| <b>DO</b>  | <b>DO NOT</b>  |
|--|--|
| <ul style="list-style-type: none"> <li>•Check for signs of tearing on the rope.</li> <li>•Wipe with a damp cloth to remove excess dirt.</li> </ul> | <ul style="list-style-type: none"> <li>•Attempt to cut the toggle rope.</li> </ul> |

**4. Where to get replacement for toggle Rope?**

Should there be a need to get a replacement stocks are available at eMart.

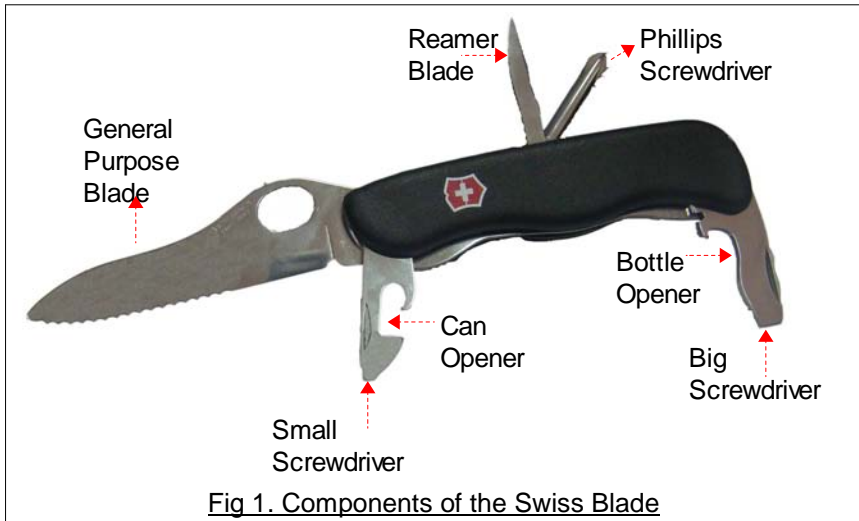
## Section 6 : Swiss Blade

### 1. Swiss Blade

The Swiss Blade is a multipurpose tool that has 7 different functions. It should always be kept folded for safety reasons. The Swiss Blade contains 7 tools, making it a handy tool for situations whereby there is a need to do some basic maintenance work. For example, the replacement of screws or nuts, cutting wires and opening canned or bottled items.

### 2. Components of Swiss Blade

The following are the various components and functions of the Swiss Blade.



### 3. Care and Maintenance for your Swiss Blade

| DO   | DO NOT   |
|--|--|
| <ul style="list-style-type: none"><li>•Wipe off any excess water or dirt on the Swiss Blade.</li><li>•Oil the joints to maintain smooth opening and closing.</li></ul> | <ul style="list-style-type: none"><li>•Do not attempt to modify the the Swiss Blade.</li></ul> |

### 4. Where to get replacement for Swiss Blade?

Should there be a need to get a replacement, stocks are available at eMart.

## CHAPTER 5 – GENERAL INFORMATION

### Section 1 : Different configurations of the iLBV



Fig 1. iLBV 1 Training

Vest only, without armour plate carrier cases.

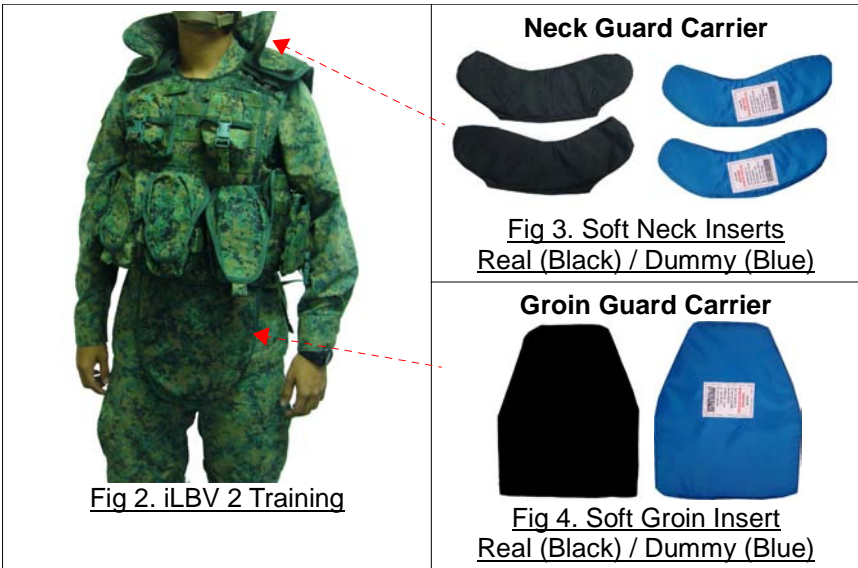


Fig 2. iLBV 2 Training

#### **Neck Guard Carrier**



Fig 3. Soft Neck Inserts  
Real (Black) / Dummy (Blue)

#### **Groin Guard Carrier**



Fig 4. Soft Groin Insert  
Real (Black) / Dummy (Blue)

Vest with soft plates with all associated carrier cases.



|  |   |
|--|---|
|  <p><u>Fig 5. iLBV 3 Training</u></p> | <p><u>Soft / Hard Plate Carrier</u></p>  <p><u>Fig 6. Soft Body Insert<br/>Real (Black) / Dummy (Blue)</u></p> |
|  |  <p><u>Fig 7. Hard Body Insert<br/>Real (Black) / Dummy (Blue)</u></p>   |
| <p>Vest with soft plates with all associated carrier cases.</p>  |   |

## Section 2 : Fixing of iLBV Groin Carrier



|   |   |
|---|---|
|  <p><u>Fig 1. Fixing of Groin Carrier step</u><br/><u>1</u></p> |  <p><u>Fig 2. Fixing of Groin Carrier step</u><br/><u>2</u></p> |
| <p><b><u>Step 1</u></b><br/>Attach the groin carrier by taking out the wide straps fixed inside the vest carrier.</p>                             | <p><b><u>Step 2</u></b><br/>Slide them through the molly straps on the groin carrier.</p>   |



Fig 3. Fixing of Groin Carrier step

3



Fig 4. Fixing of Groin Carrier step

4

**Step 3**

Round back to the inside of the vest and secure them to the velcro within.

**Step 4**

Slide the groin carrier back in the vest carrier.

**Section 3 : Fixing of iLBV Neck Carrier**



Fig 1. Fixing of Neck Carrier step 1



Fig 2. Fixing of Neck Carrier step 2

**Step 1**

Attach the neck carrier to the velcro around the neck region of the vest carrier.

**Step 2**



Ensure the neck carrier does not cover the pulling handle under the zipper.

## Section 4 : iLBV Quick Release Feature

### 1. iLBV Quick Release Feature

The iLBV Quick Release Feature is a mechanism that allows the soldier to quickly drop the iLBV in an emergency situation.

### 2. How to Activate iLBV Quick Release Feature?

|  |  |
|--|--|
|  <p><u>Fig 1. Pulling the Quick-Release Strap</u></p>                                   |  <p><u>Fig 2. iLBV sliding off</u></p>                      |
| <p><b><u>Step 1</u></b><br/>Locate the quick-release loop positioned on the bottom right of the vest carrier and pull it strongly in a 45 degree downward direction.</p> | <p><b><u>Step 2</u></b><br/>The quick-release buckles will separate immediately with the vest sliding off in the same pulling direction.</p> |

## Section 5 : Recovery of Quick-Release Mechanism



Fig 1. Quick-Release buckle on Left Shoulder



Fig 2. Quick-Release buckle on Left Shoulder

### **Step 1**

Start by joining the 2 box like buckler on the right to the box like strap on the left.

### **Step 2**

If done correctly this is how it should look like in the diagram above.



Fig 3. Joining buckle on Left Shoulder



Fig 4. Quick-Release buckle on Left Shoulder joined

### **Step 3**

Next, Join the strap into the buckler.

### **Step 4**

If done correctly this is how it should look like in the diagram above.



Fig 5. Inserting of buckles through Left Shoulder

**Step 5**

Insert the 2 buckles through the opening on the shoulder.



Fig 6. Buckles Covered inside the Left Shoulder Flap

**Step 6**

Ensure that the buckles are fixed correctly and protected inside the shoulder flaps.



Fig 7. Joining Quick-Release buckles on the Left Waist Flap

**Step 7**

Similar to what was done to the Left shoulder, now it is on the Left Waist Flap.



Fig 8. Joining Quick-Release buckles on the Left Waist Flap

**Step 8**

Join the Buckles from the Left Waist Flap to the Buckles on the iLBV as shown.



Fig 9. Joining Quick-Release buckles on the Left Waist Flap



Fig 10. Joining Quick-Release buckles on the Left Waist Flap

**Step 9**

If the above step is done correctly this is how it should look like in the diagram above.

**Step 10**

Next Join the strap into the buckler.



Fig 11. Joining Quick-Release buckles on the Left Waist Flap



Fig 12. Joining Quick-Release buckles on the Left Waist Flap

**Step 11**

If the above step is done correctly this is how it should look like in the diagram above.

**Step 12**

Repeat for both bucklers. Take note to ensure that it is fixed properly.



Fig 13. Covering the Quick-Release buckles on the Left Waist Flap



Fig 14. Recovered Quick-Release buckles on the Left Waist Flap

**Step 13**

Lastly properly Velcro up the Left Waist. Ensure the buckles are fixed correctly and protected inside the waist flap.

**Section 6 : Ballistic Goggle**

1. Ballistic Goggle



Fig 1. Ballistic Goggle

**Step 1**

Take note that the Ballistic Goggle are to be nicely fitted on your head, there is an adjustment buckle on the Ballistic Goggles for best fit.

## Section 7 : Knee and Elbow Guard

The method of wearing the Knee and Elbow guard is as follows :



Fig 1. Front view of Elbow Guard



Fig 2. Back view of Elbow Guard



Fig 3. Front view of Knee Guard



Fig 4. Back view of Knee Guard

The straps on the back of both Elbow and Knee guards are Velcro for easy adjustment and wearing.

Please ensure that that it is tightly secured, try doing a few sets of jumping jacks to test and see if further adjustment is required.



## Section 8 : eMart and the Credit System

### 1. Introduction

The SAF eMart is a kit replacement system that allows servicemen to purchase their personal equipment and expendable items with their allocated credits via e-ordering or walk-in purchase at any eMart outlets.

The purpose of eMart Credits is to support the replacement of worn out kit that had deteriorated due to fair wear and tear e.g. uniforms/boots etc.

The SAF Smart Card (11B) is used as a form of authentication purchase in eMart using the eMart Credits. The eMart operator will scan and check the person against the photo on the Smart Card. If the serviceman doesn't have his SAF Card, he can use other official identity documentation with photograph such as camp pass and driving license to validate the credit purchase.

### 2. Credit Allocation

eMart credits will be allocated to each soldier for new procurement of PE for replacement when their existing PEs are worn off. The credit allocation, as listed below, is based on the average estimated lifespan of the items and the average utilisation.

#### Regulars and NSF's

|                          |                           |
|--------------------------|---------------------------|
| Active service vocations | 170 credits every year    |
| Active combat vocations  | 260 credits every year    |
| PES E servicemen         | 120 credits every year    |
| Active Nsmen             | 113 credits every 2 years |

All new enlistees will receive an initial allocation of 56 credits during the BMT period, after which the remaining credits will be allocated based on their service status. Unused credits can be carried over 1 year.

### 3. Change of Serviceman

Servicemen who changes services, ie Army, RSAF or RSN, will have their existing credit withdrawn and replaced by the credit of their new Service.

#### 4. Change of Status

Servicemen who ORD from active service, their unused credits will be withdrawn and fresh allocation will be initiated if he still serves as an active Nsmen. Similarly, Nsmen who rejoins the service as an active regular uniformed serviceman, their unused credits allocated for his NS service will be withdrawn and a new allocation will be given based on his new service status.

#### 5. Rollover Policy

The unused credits are allowed to rollover for one cycle only, ie 1 year for Regulars and NSFs, and 2 years for active Nsmen. In other words, credits allocated are valid for 2 years for Regulars and NSFs, and 4 years for Nsmen.

#### 6. Advance eMart Credit System

Nsmen Advance eMart Credit system was introduced to provide flexibility in the credits usage. This will allow Nsmen to take an advance credit of up to 113 (for Army and RSAF Nsmen) or 105(for RSN Nsmen) credits from the next top-up cycle.

#### 7. Eligibility

With consideration of the PE replacement need abating towards the end of National Service Training System (NSNT) the advance eMart credits initiative would only be available to Nsmen who have completed no more than the 6<sup>th</sup> high-key In Camp Training (ICT)

#### 8. Misuse of Credit

Servicemen are reminded to be prudent in using the eMart Credit. Any misuse of the eMart Credit, such as unauthorised use of another person's identification card to carry out purchase, and using the credit for profiteering are subject to disciplinary action. Servicemen are not allowed to engage in cross-gender purchase and discouraged from excessive purchase of eMart items using eMart credit.

#### 9. e-Order Purchase

Servicemen can also order eMart items and check their credit balance through the eMart website via [www.ns.sg](http://www.ns.sg). A list of approved credit items is posted on the website and servicemen can select the items they wish to purchase. Only credit items are available for online purchase.

Servicemen can collect their orders from the eMart outlets stated in the website or request for home delivery where the serviceman will need to pay a delivery charge using cash. Besides e-ordering, servicemen can also retrieve information in the SAF eMart website for credit balance, next allocation date, past transaction details etc.



## **FEEDBACK AND ENQUIRIES**

We value all feedback and enquiries, as it will help us in reviewing the effectiveness of Singapore Armed Forces Personal Equipment.

For all feedback and enquiries with regards to your Personal Equipment please send an e-mail to :

Head, System Development Section  
HQ SUPPLY

Based on the feedback/ enquiries received, HQ SUPPLY will work closely with the relevant authorities such as Defence Science Technology Agency (DSTA) and suppliers to review and address the feedback/ enquiries accordingly.