

**Instructions for the packing and use  
- the REAL-X  
Container OP-103 /Harness PS-034 U  
Container OP-103 /Harness PS-055**

**Technical Description of the REAL-X**

**P – 001 – 05**



17th issue

in Jevíčko 03/2015

**List of Changes**

In case of necessity to change or amend this manual, the holder will be notified by means of bulletins. New (corrected) sheets will be enclosed to such bulletins. The holder of the manual is obliged to record all obtained changes into the List of Changes and replace out-of-date sheets with valid sheets. Changed or amended manual parts will be marked with a vertical line on sides, they will be further marked with the number and issue date of the change at the bottom of the page.

Sequence No. of the Change	Chapter	Sheet nos. with Changes	Date of Issue of New Sheets	No. of the Bulletin with Issued Changes	Date of the Bulletin Approval	Date of execution Signature

## WARNING!

**It is necessary to pass appropriate parachutist training program to minimize the risk of serious injury or death or destruction or damage of the parachute set Real-X.**

**Never use this parachute set in case that you have not read this warning, have not finished the prescribed training program, and you have not understood all appropriate handbooks for operating of this parachute set.**

**To prevent the risk of death, serious injury, destruction of the canopy or its damage, we recommend to meet following:**

<b>MAXIMUM EXIT SPEED</b>	<b>240 km/hour / 130 KNOTS</b>
<b>MAX. LOAD WEIGHT</b> <b>(of the parachutist + gear + equipment)</b> <b>M O D E L / T Y P E</b>	<b>120 kg / 265 lb</b>  <b>OP-103/PS-034 U</b>
<b>MAX. LOAD WEIGHT</b> <b>(of the parachutist + gear + equipment)</b> <b>M O D E L / T Y P E</b>	<b>126 kg / 277 lb</b>  <b>OP-103/PS-055</b>

This parachute is certified under TSO C 23d.

MarS a.s.

Okružní II 239

569 43 Jevíčko

THE CZECH REPUBLIC

**CHAPTER I.**

## Technical Description of the Container/Harness

1. Purpose
2. Tactical and technical parameters
3. Functions of the container
4. Parts of the container/harness
5. List of replaceable parts
6. Parts of the container/harness - technical description

**CHAPTER II.**

## Instructions for Packing and Use

1. General instructions
2. Inspection of the container before use
3. Removal of faults/Troubleshooting
4. Guidelines for the replacement (assembly) of parachute parts
5. General conditions for assembling the safety devices into the reserve canopy package
6. Assembly of AAD an m2 device
7. Assembly of AAD a Cypres EXPERT device
8. Assembly of AAD a Vigil device
9. Packing Tools
10. Packing of the Container

**CHAPTER III.**

## Storage and Transportation of the Parachute (container)

1. Preparation of the parachute (container) for storage
2. Storage of the parachute (container)
3. Transportation of the parachute

**CHAPTER IV.**

1. Removal of Dirt, Washing, Cleaning

**CHAPTER V.**

1. Ecological disposal instructions

## CHAPTER I.

### ***Technical Description of the Real-X (OP-103) Container***

#### **1. Purpose**

- 1.1. The aim of this technical description is to provide basic parameters, parts and guidelines for the use of the container/harness.
- 1.2. The container/harness is designed for sports jumps, mostly RW disciplines and it is used only for free falls.

#### **2. Tactical and Technical Parameters**

##### **2.1. Basic parameters**

SIZE OF THE REAL-X CONTAINER	MAX. SPEED AT THE CONTAINER OPENING km/hour/knots
02 (100/100)	240/130
03 (120/120)	240/130
04 (130/130)	240/130
05 (150/150)	240/130
06 (175/175)	240/130
07 (175/200)	240/130
08 (210/250)	240/130
09 (210/282)	240/130

##### **2.2. Functional parameters of the container**

The container assures proper functioning on condition that:

- Flight speed ranges between 90 to 240 km.h<sup>-1</sup>
- The canopy is disconnected from the harness by means of the cutaway release
- Freefalls last 3 seconds in minimum.

### 2.3. Operational Conditions

- Main and reserve parachutes can be packed for jumps for 12 months in maximum, unless the manufacturer of the main and reserve parachutes do not specify a different period.
- The functioning of the container/harness is assured when stored between - 40 to + 93.7 °C at relative air humidity corresponding to such temperatures.
- The gear of the parachutist must be attached to the parachutist 's body in such a manner that assures the proper functioning of the container

### 2.4. Parameters Assuring Reliability

#### Warranty period

- a) Lasts 24 months on condition that repairs and replacements of used parts are carried out, storage conditions are maintained and regular inspections connected with the airing of the parachute are performed
- b) Begins with the date of the shipment of the parachute
- c) During warranty period the manufacturer will not accept claims in the following cases of:
  - Damage of parachute parts caused by their catching on gear
  - Violation of conditions of packing, storage and maintenance of the parachute by the user
  - Missing parachute log book or its improper records
  - Failure to follow the instructions of this technical description
  - Any unskilled handling with the parachute

### 2.5. General Overhaul

- Parachutes are accepted for general overhaul if a user/a representative of the user evaluates further use of such a parachute as not suitable.
- General overhaul is performed either directly by the manufacturer or by a organization or person authorized by the manufacturer.

### 2.6. Total Time Life

The total time life of the parachute is set to 20 years since the production date in maximum. However, it depends on the technical condition of each container. Therefore it is required to meet the following conditions:

- a) Replace damaged parts in time and without any delay. Any replacement of parts must be recorded in the parachute log book.
- b) Repair the parachute and its parts in time and without any delay, always according to technical conditions of repairs. Each and every repair must be recorded in the parachute log book.
- c) After the elapse of 5 years carry out overall technical inspections (validity - 2 years inmaximum, result to be recorded in the parachute log book) till its unworthiness for jumps
- d) In Main Risers VK – 33/ ... (mini-system) replace the Main Risers at the latest upon completing 300 dives or after 5 years of use.
- e) In Main Risers VK – 44/ ..., the Main Risers must be sent to the manufacturer or person authorised by the manufacturer (parachute technician, senior parachute technician with valid authorization) to perform specialist inspection and evaluate the actual condition of Main Risers at the latest upon completing 300 dives or after 5 years of use.

The evaluation of the technical condition of the parachute (technical inspection) is performed directly by the manufacturer or by an authorized organization or person.

### 3. Functions of the Container

#### Free falls with manual opening

After the exit out of the aircraft and after 3 seconds have passed in minimum, the parachutist throws away the pilot chute. The parachute container opens and the pilot chute withdraws the container with a stowed canopy. Suspension lines are unlaced from rubber loops on the container and the closing flap of the container becomes released. ATTENTION use only loops that encircle the bundle with lines tightly.

After the lines are extended in full length, the container is pulled off the canopy and canopy cells are gradually inflated with air.

The spreading of the canopy is slowed down by the slider, which is anchored on four bundles of suspension lines.

After all cells of the canopy are inflated with air and the slider moves to the risers of the supporting harness, the parachute is opened. The parachutist releases the steering loops and by their pulling (to their chest), steering lines are released from brake rings at risers. After all these operations are completed, the canopy begins gliding in the air. The parachutist controls the parachute with steering lines to a set place for landing.

### 4. Parts of the Container/Harness

4.1	Container (OP – 103)	1 piece
4.2	Harness (type PS – 055 or PS – 034 U)	1 piece
4.3	Ripcord Handle Reserve (U – 064 or U – 051)	1 piece
4.4	Three Ring Release Ripcord (U – 079)	1 piece
4.5	Reserve pilot chute bag (PV – 055)	1 piece
4.6	Free bag (VV – 075)	1 piece
4.7	Reserve steering toggles (RP – 006)	1 pair
4.8	Main parachute risers (mini-system)	
	(VK – 33/430/17 Jh, VK – 33/510/20 Jh for size 02-07)	1 pair
	Main steering toggles (RP – 008 Jh for size 02-07)	1 pair
	or	
	Main parachute risers	
	(VK – 44/400/RP, VK – 44/500/RP for size 08, 09)	1 pair
	Main steering toggles (RP – 002 R for size 08, 09)	1 pair
4.9	Main Deployment bag (VV – 074 –1)	1 piece
4.10	Kill line pilot chute	
	PV-042 / PV-043 / PV-052 / PV-053	1 piece
4.11	Hard aluminium knife NK – 02	1 piece

Assembly chart of parts of specific container sizes 02 - 05

	<i>Container Size (INDEX)</i>			
<i>Type specification of parts</i>	100/100	120/120	130/130	150/150
	size 02	size 03	size 04	size 05
Reserve pilot chute	PV-055			
Free bag	VV-075/02	VV-075/03	VV-075/04	VV-075/05
Reserve steering toggles	RP-006			
Reserve parachute	WP 110	WP 130	WP 130 (WP 150)	WP 150
Softlines MarS lengths 145 mm or Softlines P.D. (PD Slink) or Rapid links WIRT CZ (4 kN)				
Container, Harness	OP-103, PS-055 or OP-103, PS-034 U			
Main Deployment bag	VV-074-1/02	VV-074-1/03	VV-074-1/04	VV-074-1/05
Kill line pilot chute	PV-042 or PV-043 or PV-052 or PV-053			
Main parachute risers	VK-33/430/17 Jh or VK-33/510/20 Jh			
Main steering toggles	RP-008 Jh			
Three Ring Release Ripcord	U-079			
Ripcord Handle Reserve	The U-064 or U-051 with the PS-034 U harness, only the U-064 with the PS-055 harness.			

Assembly chart of parts of specific container sizes 06 - 09

	<i>Container Size (INDEX)</i>			
<i>Type specification of parts</i>	175/175	175/200	210/250	210/282
	size 06	size 07	size 08	size 09
Reserve pilot chute	PV-055			
Free bag	VV-075/06	VV-075/08	VV-075/08	VV-075/08
Reserve steering toggles	RP-006			
Reserve parachute	WP 175	WP 175	WP 210	WP 210
Softlines MarS lengths 145 mm or Softlines P.D. (PD Slink) or Rapid links WIRT CZ (4 kN)				
Container, Harness	OP-103, PS-055 or OP-103, PS-034 U			
Main Deployment bag	VV-074-1/06	VV-074-1/07	VV-074-1/08	VV-074-1/09
Kill line pilot chute	PV-042 or PV-043 or PV-052 or PV-053			
Main parachute risers	VK-33/430/17 Jh or VK-33/510/20 Jh		VK-44/400/RP or VK-44/500/RP	
Main steering toggles	RP-008 Jh	RP-008 Jh	RP-002 R	RP-002 R
Three Ring Release Ripcord	U-079			
Ripcord Handle Reserve	The U-064 or U-051 with the PS-034 U harness, only the U-064 with the PS-055 harness.			



## Assembly chart of parts of specific Reserve parachute PZS-92

	<i>Container Size (INDEX)</i>	
<i>Type specification of parts</i>	210/250	210/282
	size 08	size 09
Reserve pilot chute	PV-055	
Reserve parachute	PZS-92	PZS-92
Rapid links WIRT CZ (4 kN)		
Container, Harness	OP-103, PS-055 or OP-103, PS-034 U	
Main Deployment bag	VV-074-1/08	VV-074-1/09
Kill line pilot chute	PV-042 or PV-043 or PV-052 or PV-053	
Main parachute risers	VK-44/400/RP or VK-44/500/RP	
Main steering toggles	RP-002 R	
Three Ring Release Ripcord	U-079	
Ripcord Handle Reserve	The U-064 or U-051 with the PS-034 U harness, only the U-064 with the PS-055 harness.	

## 5. List of Replaceable Parts

Except for the container/harness, all other parts can be replaced.

## 6. Technical Description of Parts of the Container/Harness

### 6.1. The Container OP – 103 (fig. 1, 2)

Container / Harness OP-103 (the front part, back pad and shoulder pads) are made of PAD fabric (applies for size 02 and 06) or the front part of PAD fabric and back pad with shoulder pad are made of black pressed fabric (applies for size 02 and 06).

Container / Harness OP-103 (the front part, back pad and shoulder pads) are made of PAD fabric (applies for size 07, 08, 09).

The main and reserve parachutes are stowed in the trapezoidal container with rounded edges. The back pad, main parachute container and reserve parachute container are sewn together and form one unit. The container of the main parachute consists of: the back pad on the bottom and the circumferential part of the main parachute container on sides. The bottom flap, left side flap and right side flap of the main parachute container are sewn on the circumferential part. The bottom part of the central flap covers the main parachute container from the top and its top part overlaps the area of the reserve parachute container. The reserve parachute container consists of the main part that leads into the right and left flaps of the reserve parachute. The top closing flap and the covering flap of the reserve parachute are sewn on the neck-hole of the back pad. The covering flap is inserted into the top part of the central flap. Bushings for the closing line of the reserve parachute container are pressed-on to the bottom of the reserve parachute. The closing line of the main parachute container is led through the grommet on the bottom flap of the main parachute container.



fig. 1



fig. 2

## **6.2. Harness**

The PS-055 or PS – 034 U harnesses are delivered together with the container.

### **The Harness PS-055**

Is made of a PAD strap and is designed for the attachment of the parachute container to the body of the parachutist. The supporting harness consists of main straps, leg straps, chest straps, back straps and lumbar strap.

The main strap is doubled and bifurcates into two parts above the cutaway ring. The divided strap forms ends with loops for the attachment of the reserve parachute. Pockets for the release of the reserve and main parachutes are sewn on the main straps. Another cutaway ring is sewn in the bottom part of the main strap. The lumbar strap, a part of the leg strap with a tightening buckle and part of the leg strap for drawing through the buckle lead from the cutaway ring. The main straps placed at the chest straps are divided with cutaway rings, to which chest straps are attached.

Reserve parachute brakes are sewn on the back strap.

The back strap leads from the cutaway ring placed after the bifurcated main strap.

Leg pads are sewn on leg straps, inner sides of leg pads are equipped with sewn-on loops for lacing through the rounded rubber designed for the tightening of the container to the parachutist's body. The size of the pressure strength can be regulated by different positions of knots made on the rounded rubber.

### **The Harness PS-034U**

Is made of a PAD strap and is designed for the attachment of the parachute container to the body of the parachutist. The harness consists of main straps, leg straps, chest straps, back straps and a lumbar strap.

The main strap is doubled and bifurcated into two parts above the cutaway ring. The bifurcated strap forms ends with loops for the attachment of the reserve parachute. Pockets for the release of the reserve parachute and cutaway are sewn on the main straps. Another cutaway ring is sewn in the bottom part of the main strap. The lumbar strap, a part of the leg strap with a tightening buckle and part of the leg strap for drawing through the buckle lead from the cutaway ring. Chest straps are sewn on main straps.

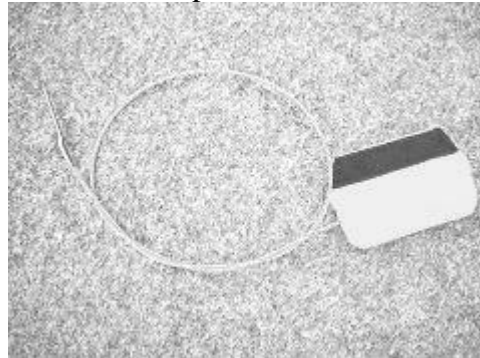
Reserve parachute brakes are sewn on the straps to secure the attachment of the reserve parachute.

The back strap leads from the cutaway ring placed after the bifurcated main strap.

Leg pads are sewn on leg straps.

**6.3. The Ripcord Handle Reserve**

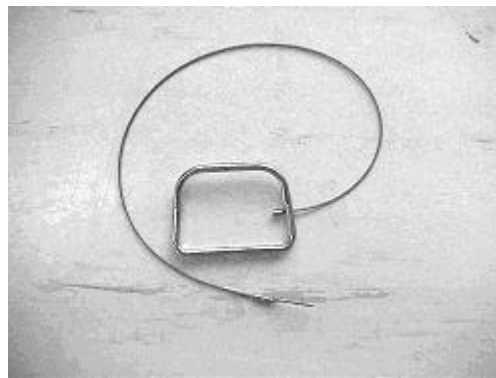
The U-064 (fig. 3a) release secures the opening of the reserve parachute container. It consists of a handle and a cable with a needle. A Velcro strap is sewn on the release handle, which helps fix the release in the pocket on the harness.



**fig. 3a**

or

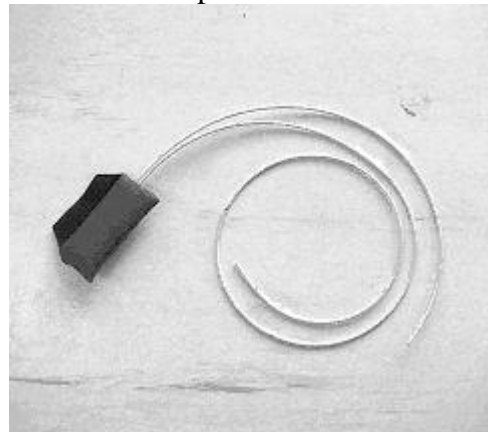
The U-051 (fig. 3b) release secures the opening of the reserve parachute container. It consists of a handle and a cable with a needle. The handle is made of a trapezoidal stainless-steel tube.



**fig. 3b**

**6.4. The Three Ring Release Ripcord U-079 (fig. 4)**

The release secures the disconnection of the main parachute canopy from the harness. It consists of a handle and a plastic-coated steel cable. A Velcro strap is sewn on the release handle, which helps fix the release in the pocket on the harness.



**fig. 4**

**6.5. The Reserve pilot chute PV – 055 (fig. 5)**

The pilot chute secures the opening of the reserve container and pulling the free bag (with a stowed reserve parachute canopy) out of the reserve parachute container. It is made of PAD fabric and net. The bottom is reinforced with duralumin sheet.

The chute is equipped with a coiled spring with the minimal ejection strength of 180 N.

**fig. 5****6.6. The Free bag VV – 075 (fig. 6)**

Is designed for stowing a packed canopy of the reserve parachute into the reserve parachute container. It is made of PAD fabric. A bushing is pressed-on in the middle of the container for leading the closing line of the reserve parachute. A loop for the attachment of the pilot chute is sewn on the other end of the webbing.

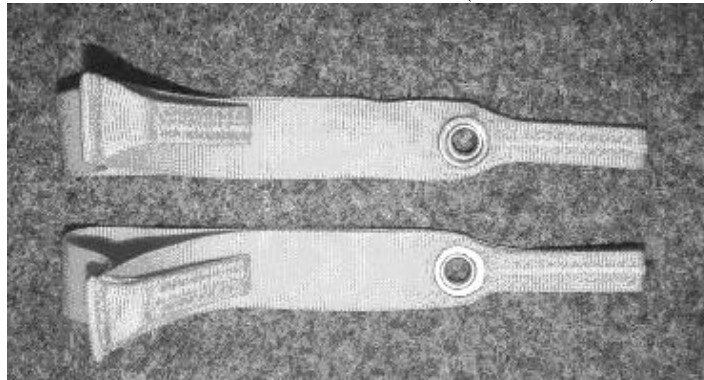
**fig. 6**

**6.7. Reserve steering toggles RP-006 (fig. 7a)**

Are made of a 20mm-wide PAD strap, is designed to control the Wing reserve parachute (RP – 006 without reinforcement). Forms an eye with a pressed-on bushing at its end, which secures the connection of the main steering line.

**fig. 7a****6.8. Main steering toggles**

The RP-008 Jh (fig. 7b) are made of a 25mm-wide PAD strap, is designed to control the main parachute. Forms an eye with a pressed-on bushing at its end, which secures the connection of the main steering line. The RP- 008 Jh are used as a set with the VK-33/430/17 Jh or with the VK-33/510/20 Jh risers (for size 02-07).

**fig. 7b**

The RP-002 R (fig. 7c) are made of a 30mm-wide PAD strap, is designed to control the main parachute. Forms an eye with a pressed-on bushing at its end, which secures the connection of the main steering line. The RP- 002 R are used as a set with the VK-44/400/RP or with VK-44/500/RP the risers (for size 08, 09).

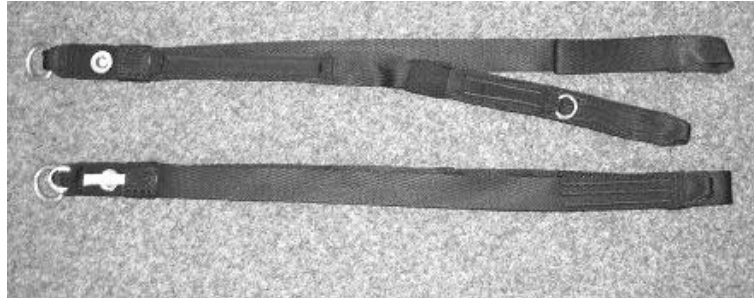
**fig. 7c**

### 6.9. Main Risers of the harness

**VK – 33/430/17 Jh, VK – 33/510/20 Jh, (mini-system), fig. 8a** (for size 02-07).

Are designed for the connection of the main parachute canopy to the PS-034 U or PS-055 harnesses by means of a three-ring system. They are made of a 26mm-wide PAD strap. The bottom part of the division is equipped with a three-ring system securing the connection to the harness. There are loops at the end of the straps, into which suspension lines of the main parachute canopy are connected by means of bolt clips. A 15-mm ring is sewn on the back of the straps securing the leading of the main steering line.

The number under the slash – 430 or 510 shows the strap lengths from the division.



**fig. 8a**

**VK – 44/400 (500) / RP, fig. 8b** (for size 08, 09).

The loose ends of the main parachute's supporting harness are used to connect the parachute canopy to the harness by means of a system of three rings. These ends are made of a 43 mm wide PAD tape. The bottom (divided) part is made of the set of three rings that serve to fasten the parachute to the harness. The tapes end with loops into which the screwing clips introduce the supporting lines of the main parachute canopy.

The number under the slash – 400 or 500 shows the strap lengths from the division.



**fig. 8b**

#### **Caution:**

The strap near the rings, which are a part of a three-ring system, must remain slightly flexible. Therefore it is required to bend it at least once a month to prevent it from hardening which could result in worsening of its proper functions during the disconnection from the three-ring system. This caution applies to all types of risers of the harness.

**6.10 Kill line Pilot Chute PV – 042, 043, 052, 053**

Serves to open the main parachute case and to draw the container of the main parachute canopy from the packaging segment. It is sewn of the PAD fabric, lower part of the canopy is sewn of the porous fabric – micromesh, and it is strengthened with the binding that ends in loops for connecting the connecting binding, that forms a hollow, in which the intermediate line moves freely, with the help of this line the pilot chute is collapsed. On the end of the hollow there is a buffer made of the folded bindings and softlink SFL BP-01, with the help of which the placing of the container on the connecting binding is fixated. Above this buffer a closing needle is sewn. On the end of the connecting line there is a loop made, with which the auxiliary parachute is fastened to the main parachute canopy.

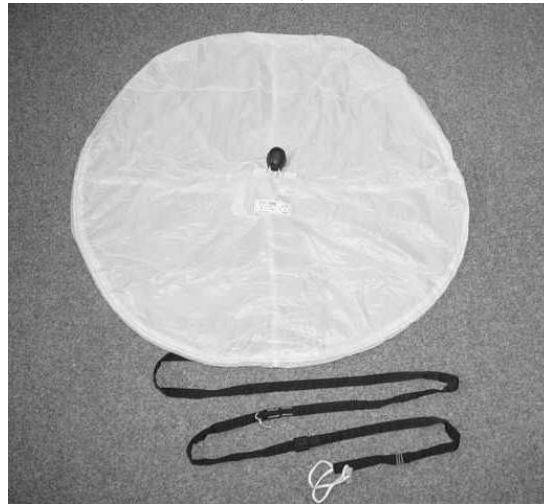
**Types:**

With a anchorage (leather ball – hackey sack):

Ø of the auxiliary parachute PV-042 is 700 mm, PV-043 is 800 mm.

With textile anchorage (free fly handle):

Ø of the auxiliary parachute PV-052 is 700 mm, PV-053 is 800 mm.

**6.11 Main deployment bag VV – 074 – 1**

Serves to store the packed main parachute canopy to the packaging segment of the main parachute. It is sewn of the PAD fabric. On the container there are strengthening bindings of the width 25 mm and loops to thread the rubber loops sewn. On the closing flap there are 3 bushings serving for closing the container moulded. In the middle of the parachute there is moulded hollow that server to connect the connecting binding of the drawing auxiliary parachute of the main parachute to the container, and at the same time the collapsing line of the drawing kill line pilot chute of the main parachute is threaded through this hollow.





### 6.12 Hard Aluminium Knife NK – 02

It is used to cut the suspension lines or the system parts and gear during malfunctions of the system or system parts.



## CHAPTER II.

### *Instructions for the packing of the container*

#### 1. General Instructions

- a) Before packing the parachute, it is necessary to check the entirety and technical condition of the parachute. Damaged parts are either replaced or repaired.
- b) It is not recommended to expose the parachute to direct sunlight during packing.
- c) The parachute is packed by one person. Each packing of the reserve parachute is to be recorded into the log book.
- d) The Real-X container is used as a set with the canopies of the WP series from WP 110 to WP 210 or PZS-92 for sizes 08, 09, each canopy size of the reserve parachute must correspond to a suitable container size.
- e) No adjustment of the parachute container/harness is acceptable.

#### 2. Inspection of the Container before Use

Prior to packing, the user must perform visual inspection of all parts of the parachute set, if the parts are not damaged, the sewing is not interrupted, fabric, binding, straps, race closing, and metal parts. Damaged parts must be repaired or replaced.

In designated parts it is necessary to record the replacement into the parachute log.

#### **WARNING:**

**It is prohibited to perform diving with a parachute set with damaged or worn function parts!**

#### 3. Removal of Faults/Troubleshooting

a) Removal of faults is carried out by an exchange of damaged parts or a repair according to instructions stated in Technical Conditions of Repairs/Technicke podminky oprav.

b) Parts that are permitted to be exchanged during the operation:

- Ripcord Handle Reserve
- Three Ring Release Ripcord
- Exchange of risers of the main parachute harness
- Closing line of the main and reserve parachute
- Steering toggles of the reserve and main parachute
- Free bag / Main Deployment bag
- Reserve Pilot chute / Kill line Pilot Chute.

#### 4. Guidelines for the replacement (assembly) of parachute parts

- a) Replacement of the packing line of the reserve parachute for AAD m2, Cypres, Vigil (fig. 9 a,b, c)



fig. 9 a

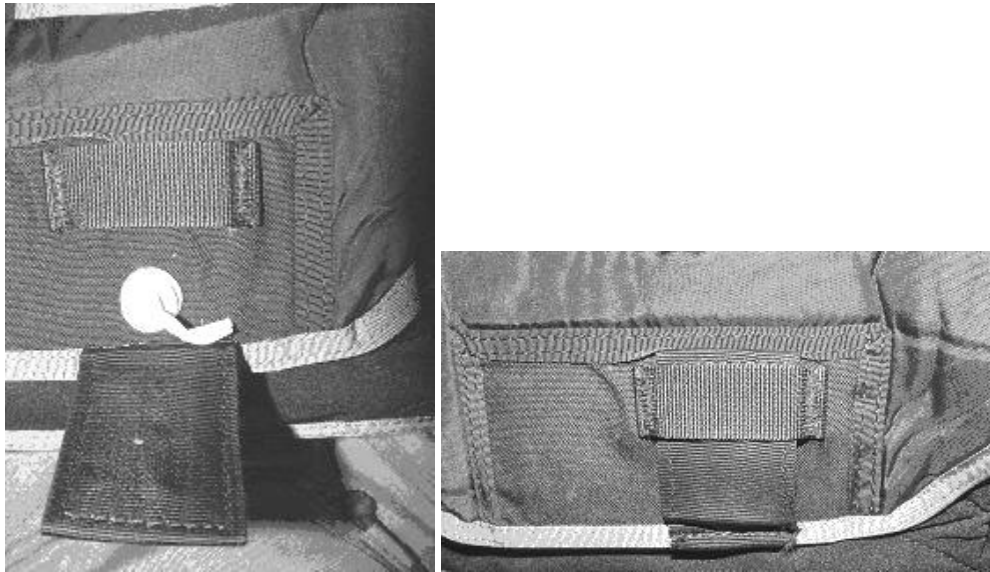


fig. 9 b



fig. 9 c

- b) Replacement of the packing line of the main parachute container (fig. 10a, 10b)



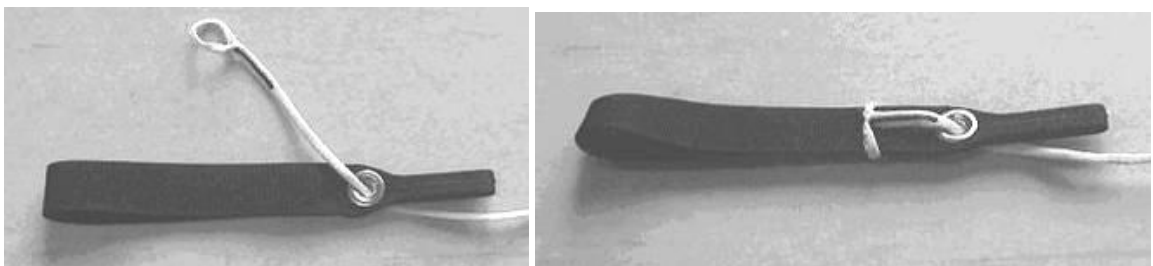
**fig. 10a, b**

- c) Attachment of the pilot chute to the deployment bag webbing (fig. 11)



**fig. 11**

- d) Connection of the RP – 006 steering toggle to the main steering line (fig. 12a, 12b)



**fig. 12 a, b**

e) Braking of the reserve parachute (fig. 13 a,b,c)



**fig. 13 a**



**fig. 13 b**



**fig. 13 c**

- f) Connection of the Main riser of the harness of the main parachute to the harness (fig. 14 a, b, c,d)



**fig. 14 a**



**fig. 14 b**



**Connected harness riser seen from the bottom**  
**fig. 14c**



**Connected riser seen from the top**  
**fig. 14d**

## **5. General conditions for assembling the safety devices into the reserve parachute package:**

Installation of the safety device into the package part can be performed **solely** by a trained person with authorization of 'Senior parachute Technician'.

The safety device **must be installed** only in the original set supplied by MarS and installed into the package directly by the manufacturer or another authorized person.

### **WARNING:**

**The closing cord designed for closing the reserve parachute package must always pass through the aperture in the cutter of the safety device!**

## **6. Assembly of AAD an m2 device**

The assembly is carried out according to Instructions for use - the Users' Manual of m2.

## **7. Assembly of AAD a Cypres Expert Device**

The assembly is carried out according to Instructions for use - the Users' Manual of Cypres.

## **8. Assembly of AAD an Vigil device**

The assembly is carried out according to Instructions for use - the Users' Manual of Vigil.

## **9. Packing Tools**

We use the following tools for packing reserve parachutes:

- a) Accessory needle with a webbing
- b) Line for the limitation of the container extension
- c) Packing line.

## 10. Packing of the Container

The packing of the reserve parachute WP is carried out according to instructions for the packing of the reserve parachute canopy. Step: packing of the canopy of the reserve parachute into the container. Then follow the steps as shown in next fig.

The flap is closed according to the numbering, i.e. no.1 – 6.

















RSL

The packing of the reserve parachute PZS-92 is carried out according to instructions for the packing of the reserve parachute canopy PZS-92 no. P-003-93. Step: packing of the canopy of the reserve parachute into the container. Then follow the steps as shown in next fig. The flap is closed according to the numbering, i.e. no.1 – 6.















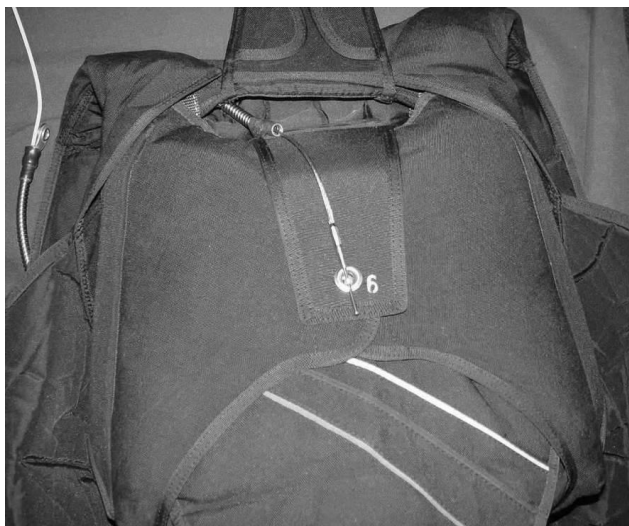
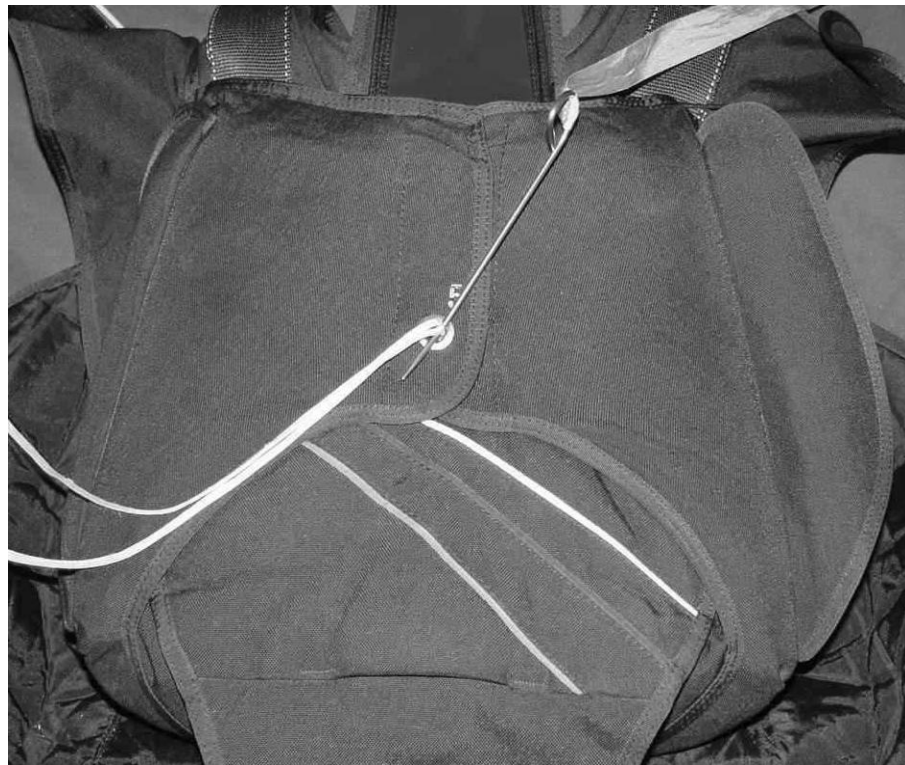












RSL

Storage of risers in the container



Risers are stored together-beside each other



Inserting risers

Risers are inserted between the snap and the cover of risers



**Packing the Main risers**

Must be fitted with a loop RSL for connection of the Reserve static line RSL with the stainless carabine.



**Connecting the connection binding of the kill line pilot chute with the main deployment bag VV-074-1**

Soft link SFL (with a strap) is made from Microline cord with minimum strength 1300 lb. One end of the cord includes a sewn strap, and the injected cord passes through the strap lug creating another lug.

The second end of the soft links forms a lug which provides a connecting connection upon assembly by means of passing through the binding.

The connecting binding of the kill line pilot chute passes through the bushing in the bag upper part so the lugs on the connecting binding are passed into the bag internal part.



Loose lug of soft link passes through the lugs created on the connecting binding of the kill line pilot chute.



Then pass the lug through once again around



The loose end of soft link passes through the lug formed by the injected cord of the soft link passing through the binding on the opposite end of soft link.



Pass the opposite end of soft link with binding through the loose end lug, and fasten the connection until it is sufficiently solid. Pull the formed connection to fasten by means of pulling the connecting binding of the kill line pilot chute and the bag.

**WARNING:**

**Prior to each use, it is necessary to check if the soft link connection is not damaged!**

Packing of the main parachute is carried out according to technical description of the main parachute packing.



When the main canopy container is closed and main canopy lines are placed on it, the pilot chute has to be decollapsed in such way to see green mark of middle line in the control window of the connecting webbing.



**Warning! In case that the red mark is in the control window, the pilot chute has not been decollapsed, so the main container will not be opened!**

The container flaps are closed in the following order: bottom, top, right, left

The remaining length of suspension lines of the main parachute that could not be put into rubber loops of the deployment bag are placed to the container bottom of the main parachute.

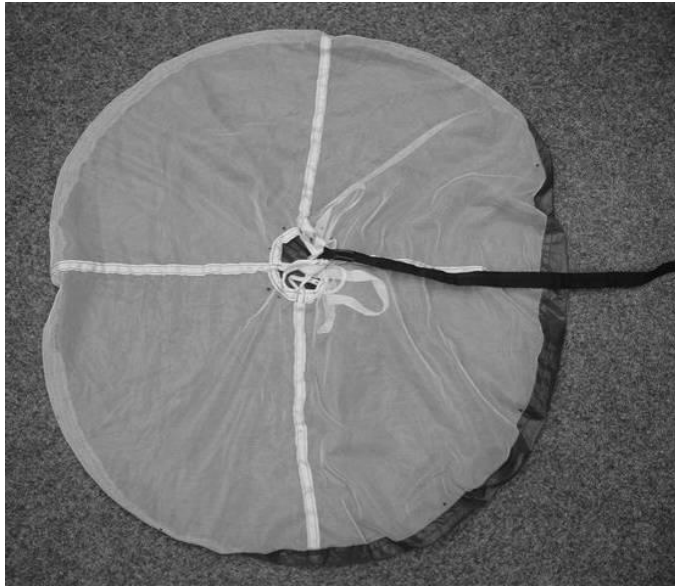


















**WARNING:**

**Prior to entering the airplane, check the complete arrangement in the parachute:**

- **Correct fastening of the bearing harness buckles**
- **Correct connection of loose ends with the bearing harness (three-ring system)**
- **Correct inserting of the reserve parachute releaser needle**
- **Correct connection of Reserve static line (RSL) if applicable**
- **Activation of applied safety device AAD (m2, CYPRES, VIGIL).**

## CHAPTER III.

### Storage and Transportation of the Parachute

#### 1. Preparation of the parachute for storage

Before the parachute is stored, its inspection must be carried out, if necessary its repair, replacement of damaged parts and airing. The parachute is stored inside a portable bag either packed (for 12 months in maximum) or unpacked. The parachute log-book is put into the portable bag pocket.

#### 2. Storage of the parachute

Before storing the parachute set carry out its check and the check of its completeness.

Before storing the parachute in the bag, fold the unpacked canopy of the main parachute in the following way: smooth the canopy field, draw the slider with its intermediate part to the canopy, roll the back part of the canopy on the front part (leading edge), and fold the canopy from the top to the bottom edge. Braid the carrying line in a chain. Store the packed canopy in such way that it is not in direct contact with metal parts. Put the parachute in the bag and close the bag.

Put the parachute logbooks in the pocket on the portable bag.

Store the parachute set and all its parts in shelves in dry, dark, well ventilated room without direct sunlight. The parachute sets must not touch the walls, floor, or heating units. Parachute sets may be stored in shelves in two layers maximally. In rooms, where parachute sets are stored, it is not allowed to store metal objects which do not belong to the stored parachutes, nor oils, acids or substances evolving active gases. Smoking is forbidden here.

If the parachute set is stored for a longer period of time, it must be aired at least once in 6 months for at least 24 hours. Airing is done in shade.

The record of the carried-out airing is made in the parachute logbook.

During long-term storing of the parachute sets, these climatic conditions must be kept in the storage rooms:

- |                     |                |
|---------------------|----------------|
| - temperature       | + 14 to + 25°C |
| - relative humidity | 35 to 73 %     |

Storability of the parachute sets and their accessories in storage room is for their whole operating life, when fulfilling the storage conditions above.

#### 3. Transportation of the parachute

On operational conditions, parachutes are transported in portable bags.

During the transportation it is required to prevent:

- Moistening of the container
- Contamination of the container with oils and chemicals
- Mechanical damage

## CHAPTER IV.

### Dirt Removal, Washing, Cleaning

Dirt (sand, soil, mud, etc.) on the parachute container and supporting harness contaminated during the use can be cleaned mechanically (e.g. by brushing, shaking or rubbing off).

Dirt that cannot be removed mechanically, can be removed with a damp piece of cloth moistened in lukewarm water with soap or cleaning detergents. After such cleaning the container with the harness are to be dried on a place designated for such purposes.

The manufacturer warns the user that using a larger amount of water with detergents may cause the occurrence of stains of various colours or soaking of colours from the inside layer of material into the outside layer of material, in particular with containers of light colours. The warranty does not apply to such cases.

Washing of containers/harnesses manually or in any washing machines **is forbidden**.

Cleaning of containers/harnesses using chemical agents containing chlorine or organic solvents **is forbidden**.

## CHAPTER V.

### Ecological disposal instructions

Upon the total service life completion or due to wear and tear, terminate the parachute set.

Disposal of terminated parachute sets is performed as follows:

Metal parts

- Useable metal parts can be used within manufacturing upon inspection and repair work;
- Unused metal parts shall be delivered to the waste metal collection.

Textile parts can be disposed of as follows:

- Placing in the waste collection centre suitable for PAD, PES waste;
- Burning whilst complying with the conditions required for the waste disposal type, in cooperation with companies performing the disposal method.



**2015**

MarS a.s., Okružní II 239, 569 43 Jevíčko, THE CZECH REPUBLIC

phone: +420 461 353 841; fax: +420 461 353 861

<http://www.marsjev.com>, e-mail: [mars@marsjev.cz](mailto:mars@marsjev.cz)