

*Guided*

*Mayday*



*Manual*

**APCO Aviation**   
*Setting Future Standards*

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## Introduction

Even pilots flying the safest paragliders, can sometimes find themselves with their glider damaged, disabled or tangled and out of control. In such cases a reliable Emergency system with a fast opening parachute can make the difference between a simple scare and a fatal accident. Your emergency system has been designed for a fast opening at a low air speed. Do not, under any circumstances use this emergency system for free fall parachuting.

APCO is happy and proud that its emergency systems, developed and perfected over nearly three decades have saved the lives of many pilots, from beginners to world champions.

### **WARNING**

Your emergency system has been designed for a fast opening at a low air speed. Do not, under any circumstances use this emergency system for free fall parachuting.

### **Disclaimer of Liability and Warranty**

In designing and manufacturing the Mayday parachutes and any of its subassemblies or accessories, our aim has been to create a rescue system that will allow the user to engage in the sport of paragliding in a safe and confident way.

However, paragliding is a high risk activity, which may cause or result in serious injury or death. When you take it upon yourself to participate in this sport, you accept the risk inherent therein. You may reduce the risk by receiving proper instruction and by following the basic safety requirements. The Mayday Reserve Parachute System is a sensitive device, which may easily be damaged. Before each flight, the container should carefully be inspected for evidence of damage or wear and proper closure. Any deviation from the manufacturer's specifications concerning maintenance, repair, alterations and modifications constitutes willful negligence. It is expressly understood and agreed that by the use hereof by the buyer or any subsequent user that Apco Aviation Ltd. And/or the seller shall in no way be deemed or held liable or accountable and makes no warranty, either expressed or implied, statutory, by operation of law or otherwise, beyond that expressed herein. Paragliding equipment is sold with all faults and without any warranty of merchantability or fitness for any purpose, expressed or implied. Apco Aviation Ltd. disclaims any liability in tort for damages, direct or consequential, including personal injuries, resulting from a malfunction or from a defect in design, manufacturing, materials or workmanship, whether caused by negligence on the part of Apco Aviation Ltd. or otherwise.

By using any Paragliding equipment manufactured or sold by Apco Aviation Ltd Or allowing it to be used by others, the buyer and/or user waives any liability on the part of Apco Aviation Ltd., for personal injuries or any other damages arising from such use. The liability of Apco Aviation Ltd. is limited to the replacement of defective parts found under examination by manufacturer to be defective in material or workmanship within 120 days after purchase, and which has not been caused by an accident, striking, improper use, alteration, tampering, excessive use, misuse or abuse. The damages of the buyer and/or user shall be deemed liquidated in the costs of replacement as above.

### **Maintenance**

The materials we use to manufacture the Mayday range of parachutes are carefully selected from the best mil. spec. products available on the market today. These materials are however sensitive to sunlight (UV). The container or harness will protect the canopy from ultra-violet rays. When storing the parachute it should be kept in a cool dry place. Beware of mildew.

Should your parachute be exposed to any moisture, it must be opened and air dried, out of direct sunlight, and repacked when completely dry.

### **Cleaning**

If your parachute requires cleaning, it should be soaked in luke warm water with a little mild soap. No rubbing or scrubbing of the canopy fabric! It should then be thoroughly and repeatedly rinsed with fresh water and allowed to drip dry out of direct sunlight.

### **Repairs**

Should your Mayday parachute require any repairs or you suspect it may be damaged, it must be referred back to APCO Aviation Ltd. or a professional parachute loft, with a certified parachute rigger to carry-out the repair.

### **Periodical Repacks**

Even though the Mayday Emergency System should remain in good condition and work properly over a number of years, that the parachute be repacked by a qualified person once every six months. Packing by a unqualified person is undertaken at the pilots own risk, and is not recommended by Apco.

### **Identification**

In the corner where the #1 suspension line meets the skirt, there is an Apco stamp, along with the individual serial number, canopy type and manufacture date. This data is repeated on a label attached to the bridle in post 1995/6 models. In any correspondence to apco regarding your Mayday, please quote this information.

### **Attachment Procedure**

There are many different harnesses on the market today, with several different reserve stowing systems. Make sure your harness is certified and has a adequate instruction manual.

For attaching and fitting your reserve to your harness follow your harness manual instructions carefully.

### **Preliminary Notes on Packing**

The following Instructions apply to ALL models of the Mayday Range, unless otherwise stated.

When first delivered, your new emergency parachute system has been inspected and packed

by Apco or an Apco approved dealer and is ready for use. The following set of folding instructions is intended for a qualified packer familiar with conventional parachute packing, to

guide him/her in packing of these particular types of parachutes.

## 1. Technical Specification of Rescue Parachute GUIDED MAYDAY

### 1) Intended Use:

Rescue parachute GUIDED MAYDAY is intended for paragliding, and installed into paragliding harnesses.

### 2) Technical data:

- canopy area 37 m<sup>2</sup>
- weight 2,9 kg
  
- Pilot weight 60-130 kg
- descending speed at 90 kg load 2,8 m/s
- forward speed at 90 kg load 15 k/h
- Glide ~ 1.5

### 3) Warranty:

The warranty period is 6 months and is valid from the date of dispatch. The manufacturer shall not honor claims in the following cases:

- If the user breaches conditions for parachute packing, storage and treatment
- If the parachute is damaged when used for purposes other than those intended and designed
- If the parachute is damaged by catching on other equipment, trees or other fixed objects

### 4) Parachute Durability:

If any damage or wear of parachute material is found, contact the manufacturer or your dealer immediately.

The parachute owner is obliged to inspect and check the condition of the parachute after every use, and after 10 uses the parachute must be returned to the manufacturer or authorized person for thorough inspection.

### 5) Operating Conditions:

The parachute functions are guaranteed in an air temperature range from - 30°C to +60°C and relative humidity corresponding to this temperature range.

### 6) Storage time:

The parachute may be packed for a maximum period of 1 year prior to use.

### 7) Parachute Installation

The parachute is designed for use in paragliding harnesses as a rescue parachute. The parachute is attached to the harness by means of threaded buckles (type Maillon) with a minimum declared strength of 15000 N. The left riser, which is marked L (left), is attached to the left eye of the harness for the rescue parachute, control handles to the rear; the right is attached in the same way to the right side. The placement of the rescue parachute into the rescue parachute casing is subject to technical specification of the harness in use. The parachute can be used for all standard locations (in front, under the harness, on the side). Only qualified persons or the manufacturer may install the rescue parachute into the harness.

#### 8) Parachute Function:

The rescue parachute is used as a safety measure for paragliders. The parachute is activated by pulling out the release handle is fixed to the container where the rescue parachute is located, and throwing this container to the side. The container must be thrown in such a manner as to avoid it getting tangled in the paraglider. After the container is thrown aside it opens, the lines extend, and the rescue parachute canopy is released and filled with air. Provided the pilot has sufficient height and weather conditions are suitable, the control handles can be used to adjust the descend trajectory to avoid obstacles or to land in a suitable area.

#### 9) Parachute Assembly:

The parachute has the following main parts:

- I. Container
- II. Canopy with lines
- IV. H-shaped support risers
- V. Control handles

#### 10) Technical Specification of Individual Parachute Parts:

##### 10.1. Container:

The container accommodates the folded canopy and lines. The release handle is attached to the container. The release handle can be connected to the centre or side of the container. The container has four flaps. The container is closed by a loop of lines inserted into a closing rubber eye.

##### 10.2. Canopy with lines:

The canopy with an area of  $37 \text{ m}^2$  is made of nylon. The canopy is delta shaped and has 25 support lines. Forces from the line eyes are distributed into the canopy through tapes (15 and 25 mm wide). Other stressed canopy sections are reinforced by 15mm thick tapes.

##### 10.4. Support risers:

These H-shaped risers are used to connect the rescue parachute to the harness. The left riser is marked with the letter L (left).

##### 10.5. Control handles:

These are used to control and parachute. The control lines are terminated at the control handles.

#### 12) Materials:

<b>NO</b>	<b>Name</b>	<b>Description</b>	<b>Quant</b>	<b>Size</b>
<b>.1</b>	Gore	F III Type Cloth (PN1)		26lm
<b>.2</b>	Reinforcement Tape (V-Tab Tape 15 mm)	MIL-W-4088-I-9/16" 4168/15	25	0.5x15x300mm Total 7.5m
<b>.3</b>	Reinforcement Tape Radial seam tape (15mm)	MIL-T-5038-III-9/16" 4166/15		82m
<b>.4</b>	Line	180 kg (nylon line)		148.5m
<b>.5</b>	Bridle -Polyester	Bridle mutra 25mm	2	2x25x1740mm Total 3.5m
<b>.6</b>	Bridle bridge	Polyester Mutra10mm	1	1.5x10x820mm
<b>.7</b>	Ring mounting	Polyester Mutra10mm	2	1.5x10x80mm Total 160mm
<b>.8</b>	Brake Line sleeve	p/p Suflen tape 24mm	2	1x24x510mm Total 1020mm
<b>.9</b>	Binding Tape	MIL-T-5038-III-1" 25mm	4	0.5x25x40mm Total 160mm
<b>.10</b>	Protector PVC	PVC Adhesive tape	2	0.2x20x300mm Total 600mm
<b>.11</b>	Brake Handle mounting	Tiktak Butten male	2	
<b>.12</b>	Brake Handle mounting	Tiktak Butten female	2	
<b>.13</b>	Brake Line Ring	Round ring 3x15 s/s	2	3x15 s/s
<b>.14</b>	Brake Handle webbing	Tubular webbing 25mm	2	25x420mm Total
<b>.15</b>	Brake Handle Ring	D-Ring 3x25 s/s	2	3x25 s/s
<b>.16</b>	Brake Handle Foam	Polyethylene Foam	2	5x20x300mm
<b>.17</b>	Label	APCO label	1	
<b>.18</b>	Thread for canopy	NTB White #60		Bonded
<b>.19</b>	Thread for lines	NTB White #40		Bonded
<b>.20</b>	Thread for Bridle	NTB Black #20		Bonded
<b>.21</b>	Thread for Bridle	NTB Black #10		Bonded

## 2. Instructions for Parachute Use

1) Preparing the parachute prior to takeoff:

Prior to takeoff the parachute and release system must be checked. If any defects are found, takeoff must be aborted.

2) Opening the Parachute:

The rescue parachute is deployed when the paraglider is defective or damaged to such an extent that it doesn't allow for safe landing. The parachute is activated by pulling out the release handle fixed to the container where the rescue parachute is located, and throwing this container to the side. The container must be thrown in such a manner as to avoid it getting tangled in the paraglider. After the container is thrown aside it opens, the lines extend, and the rescue parachute canopy is released and filled with air. At this moment the rescue parachute is fully functional. The non-functional paraglider must be suitably collapsed or otherwise disposed of, so that it doesn't affect the reliable function of the rescue parachute.

If the connection between the paraglider and harness allows for quick release, this function should be used to dispose of the paraglider and land using only the rescue parachute.

One must remember that the rescue parachute has quite a high forward speed and an inappropriate procedure during its opening and handling with a defective paraglider could lead to both becoming entangled and collapsing.

### 3) Controlling the Parachute:

The parachute is controlled using control handles located on the support risers. The rescue parachute parameters enable sufficient maneuvering capability for emergency landing. Control is done in a typical manner, i.e. pulling on the right control handle turns the parachute to the right, pulling on the left control handle turns the parachute to the left. Pulling on both control handles simultaneously slows the parachute speed and descend rate only slightly. Avoid unnecessary interference with steering, alternately pulling on both control handles, etc. could cause the parachute to swing dangerously during landing. When flying and landing with a collapsed paraglider we recommend controlling the rescue parachute with one hand. The other hand should continuously keep check of the collapsed paraglider to avoid unwanted inflation and potential entangling with the rescue parachute. If conditions allow, always land with the rescue parachute into the wind. We recommend turning into the wind towards the selected landing area and not interfering with the steering below a height of 40 m.

## 3. Parachute Storage Instructions

### 1) Storage Conditions:

Parachutes should be stored in a dry, dark and well ventilated area. If the parachute is stored for longer than one year, it must be stored unpacked. Parachutes shall under no circumstances be stored together with acids, oils, diluents or other aggressive substances.

## 4. RESCUE PARACHUTE PACKING INSTRUCTIONS GUIDED MAYDAY

### 1) Checking the canopy:

Prior to actual packing, the parachute must be thoroughly checked and in case any defects are found the parachute must not be packed for use.

Take care that the lines are tensed throughout the packing procedure.

### 2) Checking lines:

Lay the canopy on the packing table with the front section facing up and separate the lines from one another.

Anchor the hook in points of the "H" risers facing up (fig.1) and not the bridge riser (fig.2)

The canopy and lines should now be arranged. If the lines are tangled, they must be untangled and straightened out. Folding should be done by an authorized packer. Check the right procedure by rechecking the lines.





Fig.1



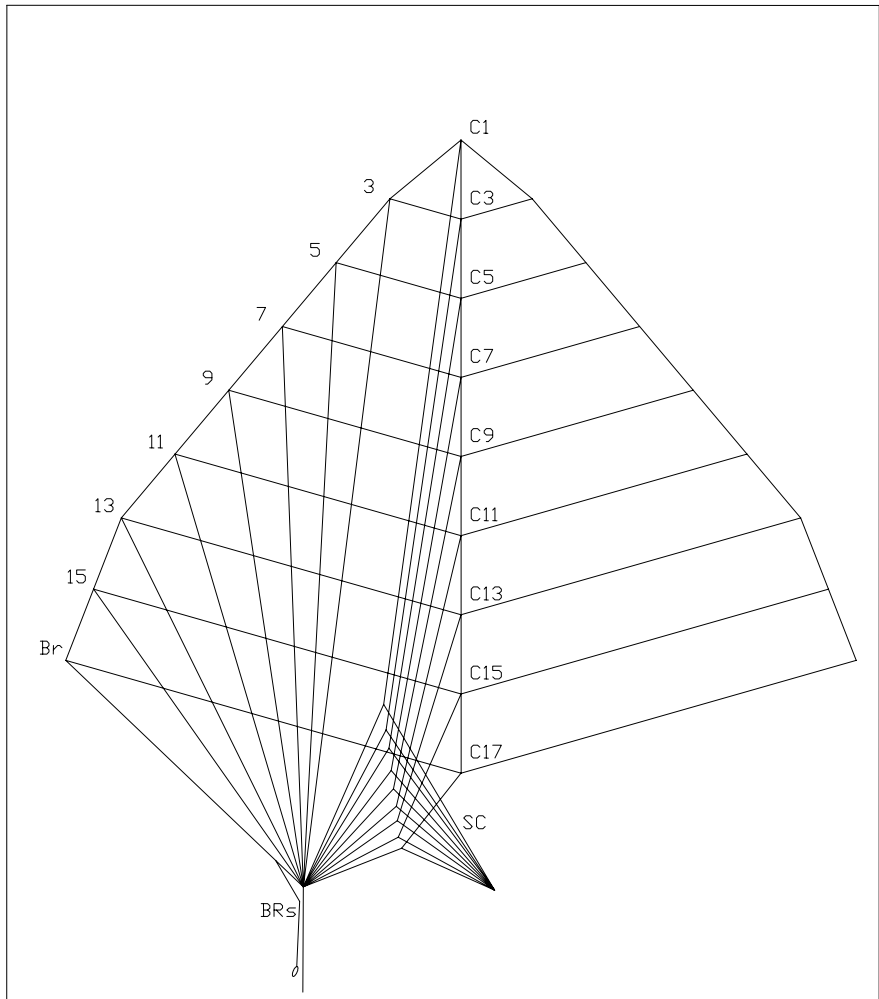
Fig.2

Divide the lines into a right and left half. The border between the left and right section in the canopy is a 2,5 cm thick riser with central lines. With the parachute arranged in this manner, lay it on the packing table with the trailing edge towards the ground and tip pointing upwards.

Check that lines pass freely from the "H" riser to the canopy in the following order: Br, C17, 15, C15, 13, C13, 11, C11, 9, C9, 7, C7, 5, C5, 3, C3, C1(fig.3).

The first line from the centre of the parachute at the "H" riser leads to the canopy tip and the last line at the loose ends leads to the centre of the trailing edge.

Fig. 3



Note :  
 1) CS (Short Center line)


Drawn by Adam Wechsler	Part N	Toll±	Quantity per glider	
Date 16.11.06	Name	Line drawing		Drawing N
Scale -				Rev.
Approved Anatoly Cohn	Product		A	
APCO Aviation LTD. 		Guided Mayday		



Fig.4

3) Arrange the centre of the parachute so that the centre row of lines lies on top of each other (in order C17, C15, C13, C11, C9, C7, C5, C3, C1)(fig) and fold the right canopy side (In direction of flight) to the left side (fig.6).



Fig. 5



Fig. 6

**Note:** Fold the canopy from the trailing edge towards the tip, left and right side separately. Take care that lines are tensioned at all times during packing (pull from the marking dots shown in fig .8 to tension the lines).

4) Fold the first part into a trapeze according to Fig. 7.

Fold the entire section in half towards the centre of the parachute into a triangle according to Fig.9.

The centre line marked C17 is used as the first and basic line for packing, to handle the following lines are added in the given order.

The first added line is marked BR (control line) is placed next to centre lines. The shape of the first field in the bottom section is dictated by a tape between lines BR and C17; in the top section there is a piece of fabric between the centre tape and the "marking dot". The "marking dot" is determined by extending the axis of line C17 through to the point of crossing reinforcement tapes. The bottom tape of the first field is folded towards the centre so that it is parallel to the lines axis. Now repeat the entire operation (the result is a folded field in the shape of a triangle). Take care that the lines remain under tension at all times.



Fig. 7



Fig. 8





**Fig. 9**

Arrange the other sections so that the tape from the support line lies immediately next to and parallel to the arranged parachute centre. The bottom edge of the section is folded towards the parachute centre (Fig. 9)

5) Place the next line 15 onto BR towards the centre of the parachute, at the same time pull outside the excess cloth between the 1<sup>st</sup> and 2<sup>nd</sup> marking dots according to Fig.10-11.



**Fig. 10**



Fig. 11

5) Pull outside the excess cloth between BR line and line no 15 according to Fig.12.



Fig. 12

6) Fold the next sections in exactly the same way according to Fig.13-14,  
Until you reach the tip line (no C1).  
Make the folds so that individual support line rows are next to each other and lines are tensioned.



Fig. 13



Fig. 14



7) Weigh down the folded half of the parachute with weights; fold the remaining half (unfolded) over this first half according to Fig.15, and fold it in exactly the same way according to Fig.16. and take off the weights !!!



Fig. 15



Fig. 16



Fig. 18

10) Fold the two outer edges (quarter of width) under the center half according to Fig.19-21.



Fig. 19



Fig. 20



Fig. 21

11) Clip one side with padded clips, fold it on the other side, Weigh down the parachute with weights and unclip it according to Fig.22-23.





Fig. 22



Fig. 23

12) Bend all the lines next to the trailing edge and bind them tightly together with a thick rubber band according to Fig.24-25.



Fig.24



Fig.25

13) Fold the canopy transversely (zig zag) into a pyramid so the base should be the size of the container according to Fig.26-29.

**Don't forget to take the weights off !!!**



Fig. 26



Fig. 27



Fig. 28



Fig. 29



14) Place the parachute in the container; Close the container by passing the rubber eye through a grommet on the opposite side flap and then through the grommet on the right and left flaps.

Close the container with a loop made of lines inserted into the rubber eye, then fold the lines in an S shape, secure with rubber bands, close the last flap, finally close the container with a loop made of lines inserted into the rubber eye according to Fig.30-34.

**Caution! Do not pass the riser with lines through the closing rubber.**



Fig. 30



Fig. 31





Fig. 32

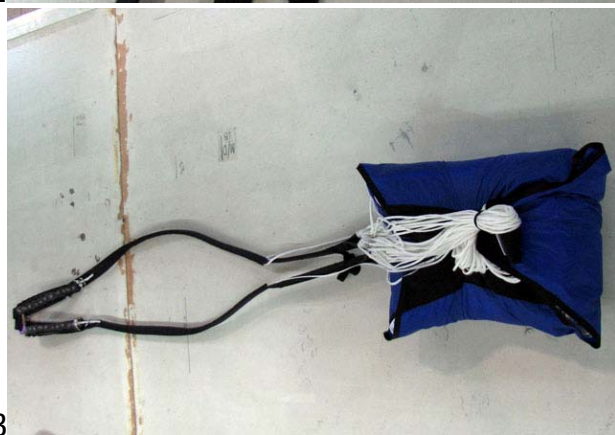


Fig. 33



Fig. 34

15) Open the knot in the riser bridge, fold it in an "s" shape and wrap it with a rubber band according to Fig.35.



Fig. 35

16) Test the opening of the container by grabbing the risers of the rescue parachute and attempting to lift the parachute. If the last loop of lines become loose and the container opens, your packing was correct; if not then you made a mistake somewhere (see Caution in Article 14-15.).

17) Close the container again according to Article 14-15.

**Important:**

If during packing you used "weights" or other objects to hold down the already folded section of the parachute, check that you have the same number after finishing packing.

**Weights or any other objects must not be packed into the rescue parachute!**

18) Place the container with rescue parachute into the harness as per technical specification of the harness used. The parachute can be used in all standard locations (front, rear, sides).

Installation of the rescue parachute into the harness must be done by a duly qualified and authorized person or the manufacturer.

**FINAL NOTES**

If any questions or doubts arise during assembly or folding of the Guided Mayday, please contact APCO Aviation or a qualified person

Your APCO emergency system has been designed to provide maximum protection in emergencies. Please help it to fulfill the task by taking good care of the product