AMERICAN PAPILLON

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OWNERS MANUAL

AMERICAN PAPILLON

This manual is intended expressly for the use of individuals owning a PAPILLON and applies to no other parachute except the PAPILLON. The manual contains the latest information available regarding performance, packing, care and handling of the PAPILLON, and is not to be considered as any kind of warranty by Para-Flite, Inc..

The PAPILLON is recommended for use by experienced parachutists and careful study of the information presented herein will enable you to get the utmost performance and enjoyment out of your PAPILLON.

*MANUFACTURED UNDER THE FOLLOWING U.S. PATENTS:
US #3099 426
US #3228 636
US #3508 726
OTHER U.S. & FOREIGN PATENTS IN EFFECT AND/OR APPLIED FOR.

Introduction

The present design of the Papillon was developed by Etudes et Fabrications Aeronautiques of Clichy, France. The design originated from the very successful "Olympic" and "Super-Olympic" competition parachutes. The goal was to develop a competition parachute with a somewhat higher forward speed, faster and flater turns, more progressive braking without disturbing the stability of the parachute.

The result of this design and development effort by E.F.A. was the "PAPILLON".

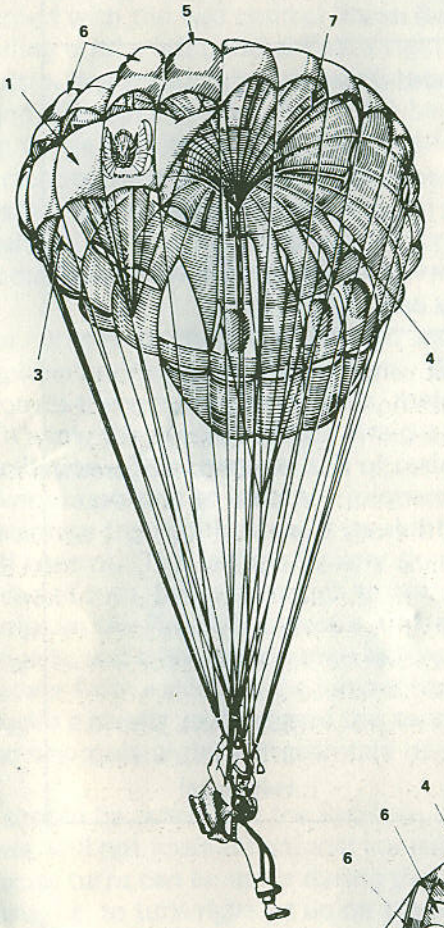
This already proven superb competition parachute is now being manufactured in the U.S.A., under exclusive license from E.F.A. by Para-Flite, Inc..

The use of American materials plus some detail modifications, such as the 42" shorter lines and the addition of individual steering line guide rings have made this great parachute even better.

Description

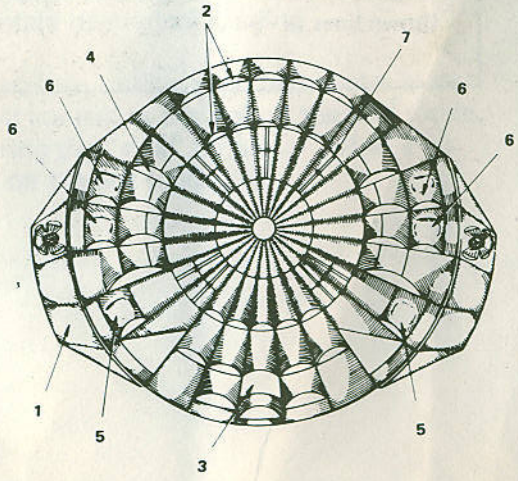
The Papillon has patented front vents which funnel a steady airflow over the front skirt, increasing lift to drag ratio, canopy reaction and provide for very desirable stall characteristics. Air captured in the canopy during descent is directed rearward. As it flows through the rear vents a constant lift force is created forward. As air flows through the side vents, without any action of the jumper on the control lines, two complementary lift forces are generated, the left one equaling the right one. Each of them can be decreased, reduced to nothing and even reversed by applying tension to either one or both control lines. In addition to the control slots the Papillon has 6 specially shaped and patented vents. These vents are responsible for some of the unique handling features of the Papillon. Control lines are attached to 4 of these special vents, causing quicker turns with reduced oscillations. The special vents also provide more progressive and effective braking while keeping the parachute on its initial flight path.

By temporarily unloading the canopy high pressure area during deployment, the anti-snatch slits reduce opening shock.



DESCRIPTION (Continued)

1. Stabilizer
2. Front vent
3. Rear vent
4. Turn slot
5. Shaped vent (non cont.)
6. Shaped vent (variable)
7. Anti-snatch slits



Specifications

Performance data	
Rate of descent : 220 lb suspended weight	15.7 ft/sec
Forward speed	18.4 ft/sec
L/D (Lift to drag) Ratio	1.15
Maximum braking (rearward speed)	2 ft/sec
360° turn	2.3/4 sec
Maneuvers : turn, brake, stall,	

Technical data	
Number of gores	24
Number of stabilizing panels (1)	2
Total area	61 sq. yd
Fabric	1.80 oz 0-3 porosity
Front vents (2)	10
Back vents (3)	15
Side turn slots (4)	8
Side vents with) stabilizing (5)	2
variable section) propelling and turn (6)	4
Anti-snatch slits (7)	7
Suspension lines	550 lb MIL C 5040
Crown lines	375 lb MIL C 5040 (with core)

Flight Characteristics

Turning, braking, sinking, stalling and stall recovery are all accomplished with the two control lines. A left turn is produced by pulling on the left control line, a right turn by pulling the right control line and braking and stalling is done by pulling both control lines. The rate of turn can be controlled by the distance the toggle is pulled down. After stalling, the forward speed of the parachute must be restored as follows to avoid exessive rate of descent and oscillations: return both toggles to the half brake position, and back down to the full brake position rapidly, then gradually let both toggles up to return to normal flight.

For competition jumping, the stall and sink characteristics of the Papillon are its greatest advantages. When the jumper, by braking, exceeds the vent inversion limits, thereby stalling, the shaped vents will allow the canopy to rock straight back without any sideways oscillation. This characteristic of maintaining a heading in a stall is very important to accuracy jumpers. But the most important advantage the Papillon has, **is its ability to sink straight down under full control.** This is done by very slowly reducing the forward speed to zero, but not enough to stall. It usually takes a few jumps on the Papillon, before a jumper learns where the sink range is, and a few more jumps before he is able to utilize it. To recover from a sink, all the jumper has to do is let up on the toggles partially or fully, and the parachute will accelerate quickly and smoothly and it will maintain its original heading.

It should be noted that the Papillon, unlike other parachutes in its class, will not loose directional control in the sink or the stall mode. Precise turns can be made during the "sink" by using "off-side" turns, i.e. to turn right let up on the left toggle.

Packing

NOTE: These packing instructions are intended for experienced parachutists and or riggers who are familiar with packing sport parachutes. Novices should seek instructions from qualified parachute riggers.

Step 1: Lay the Papillon out in the conventional manner. Remove all twists and tangles from both the crown lines and the suspension lines.

Step 2: Run a "four-line" check. The center lines and all the control lines should be in the center.(Fig. 1)

Step 3: The pleating of the canopy is done conventionally. Pay special attention to the stabilizer panels, they must be free from the suspension lines and should be folded as neatly as possible.

Step 4: With the canopy pleated, but before the sleeve or bag is pulled over it, make sure that the control lines are free and in the middle, between the left and right riser groups. Fold the excess control lines like it is shown in Fig. 2.

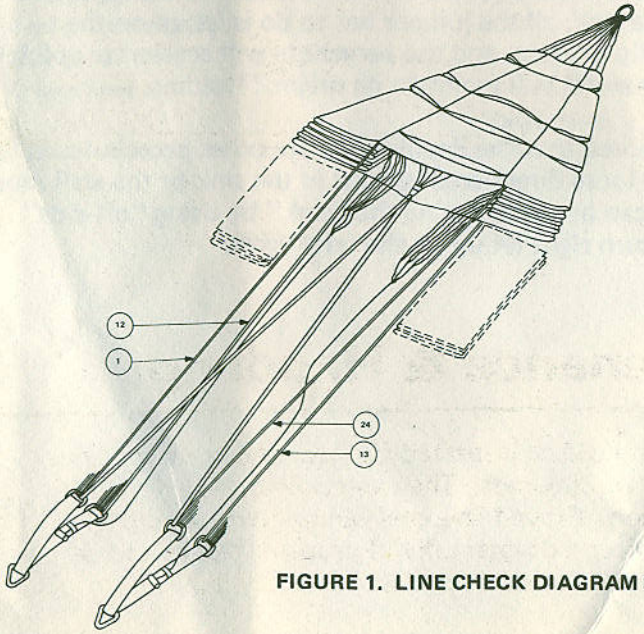


FIGURE 1. LINE CHECK DIAGRAM SKETCH

Step 5: Pull the sleeve over the canopy or fold the canopy into the bag, like you would on any sport parachute.

NOTE: *YOU MAY USE ANY DEPLOYMENT BAG OR SLEEVE, ON THE PAPILLON, THAT WAS DESIGNED FOR USE WITH PARA–COMMANDER TYPE SPORT PARACHUTES.*

Step 6: Stow the suspension lines, conventionally.

Step 7: Pack the Papillon into your container like any other parachute.

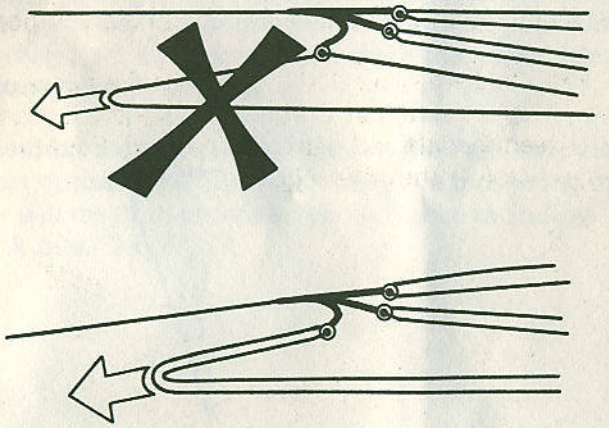


FIGURE 2. CONTROL LINE STOWAGE

Maintenance & Handling

The Papillon should be inspected for wear and or frayed lines, once every 20 or 30 jumps. The control lines should receive special attention. Frayed lines and canopy tears should be repaired by a licensed rigger only. For major repairs and or Papillon parts and materials contact Para-Flite, Inc.

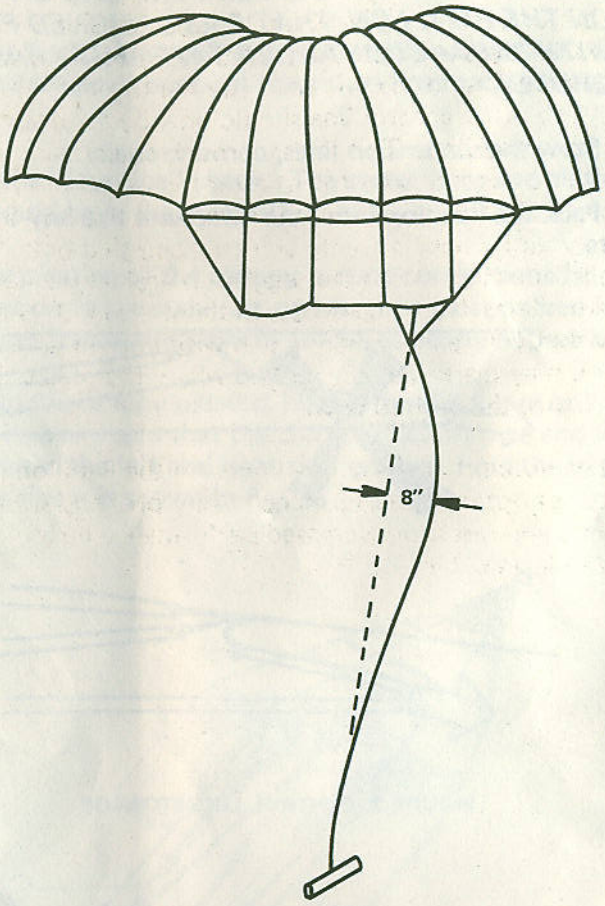


FIGURE 3. CONTROL LINE ADJUSTMENT
(SUSPENSION LINES OMITTED FOR CLARITY)

Trim

NOTE: *IT MAY BE NECESSARY TO ADJUST THE CONTROL LINES BEFORE THE NEW PARACHUTE IS JUMPED.*

CONTROL LINES: To adjust the control lines, lay the Papillon out on a packing table, apply about 10 lbs of tension with a tension board, take all the slack out of one of the control lines without putting any tension on the line and retie the toggle to this new position. The other control line should now be adjusted to be the same length as the first. This is just a rough adjustment and you will have to do the fine adjustment after the parachute is jumped a few times. The fine adjustment is done with the Papillon flying. Make sure your harness is evenly adjusted and that both "Capewells" are even. With the toggles up against the keepers both steering lines should have bow in them. (Fig. 3) It may be necessary that you take a marking pen with you on your jump, so that you may mark the control line where the toggle should be tied to produce the desired bow.

It should be noted that the control lines on the Papillon must be "loose" to get optimum performance. Any pre tensioning of control lines will result in decreased performance including increased sink rate. See Fig. 3.

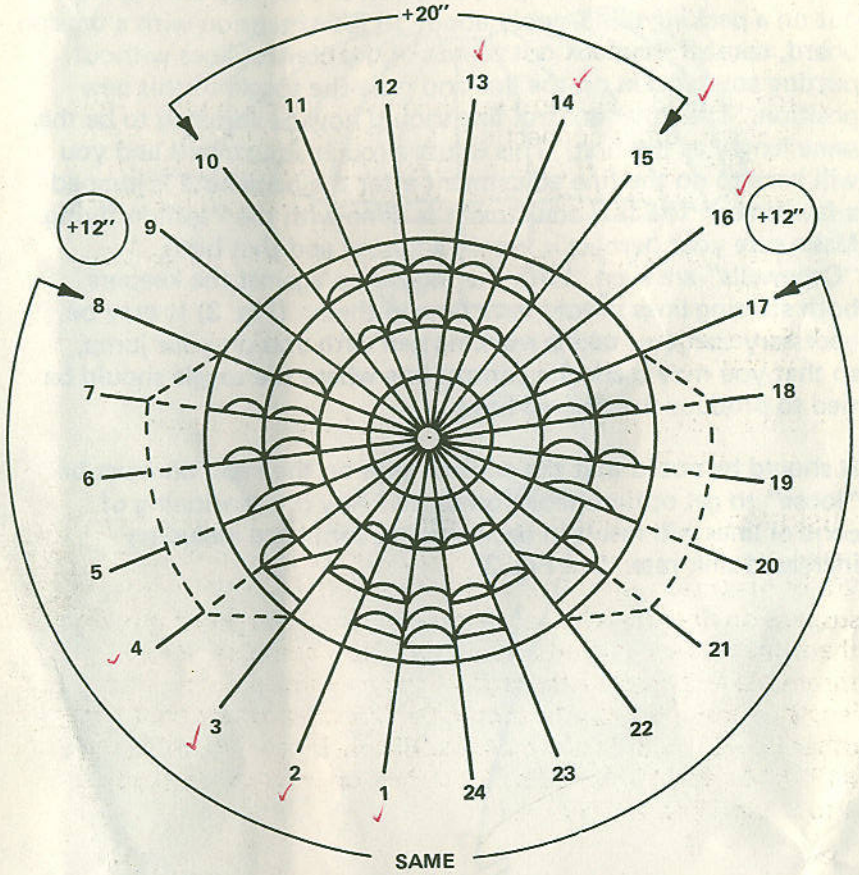


FIGURE 4. LINE TRIM

Center Lines

The center apex retaining lines should be adjusted periodically (as required) to maintain the optimum handling and glide characteristics of the Papillon parachute. The following method should be used:

1. Layout the canopy on the packing table
2. Before pulling up tension, disconnect the center lines from each respective connector link. *DO NOT ALLOW THE LOOSE CENTER LINES TO BECOME MIS-ROUTED WITH THE OTHER LINES DURING THIS PROCEDURE!*
3. Now apply approximately 30 lbs. tension to the tension board.
4. Retie centerlines with all slack removed *DO NOT TIE WITH ANY TENSION!*
5. Do a final re-check on the routine of the center lines and suspension lines after trimming.

SUSPENSION LINES: Lay the canopy out on the packing table, make sure the lines are straight and untangled. Apply about 10 to 20 lbs of tension with the tension board. (NOTE: For the suspension line trim check, the canopy should be layed out with the front of the parachute facing up.) Now compare lines 1 through 8 and lines 17 through 24 they should all be the same length. Lines #9 and #16 should be 12 inches longer then the other lines (1 to 8, & 17 to 24, see Fig. 4) Lines #10, #11, #12, #13, #14 and #15 should be 20 inches longer than the group of 1 to 8 and 17 to 24. (Fig. 4.)

WARNING – NO WARRANTIES – DISCLAIMER

It is expressly understood and agreed that by the use hereof by the Buyer or any subsequent user that the Seller shall in no way be deemed or held liable or accountable, upon or under any guaranties or warranties, expressed or implied, statutory, by operation of law or otherwise, beyond that expressed herein. It is sold with all faults and **Without Any Warranty** of **Merchantability** or **Fitness for Any Particular Purpose,** expressed or implied for the particular purpose the Buyer intends to use it.

It must be understood that this is a gliding type parachute which has flight characteristics unlike conventional parachutes, and therefore must be used and controlled by persons who thoroughly understand these performance capabilities and limitations. Certain control maneuvers, improperly executed by the user may cause serious injury and death, especially if these maneuvers are performed at too low an altitude. Further, this is a sensitive device which may be easily damaged, and a malfunction may occur from improper use, accidents, striking, alteration, excessive use, misuse or abuse, for any and all of which the Seller will not be liable.

It must also be understood that this device is designed for intentional parachute jumping and should not be solely relied upon by the user. The liability of the Seller is limited to replacement of defective parts found upon examination by the manufacturer to be defective in material or workmanship within 90 days after its purchase, and which has not been caused by an accident, striking, improper use, alteration, tampering, excessive use, misuse or abuse.

The period is limited to 90 days because after that period of time, its normal use without inspection by the Seller may affect it. The damages of the Buyer and/or user shall be deemed liquidated in the costs of replacement as above. The Seller and/or manufacturer shall in no event be liable for personal injuries or for any other damages, whether direct or consequential to any person, and have no other liability in connection with this device, and the Seller further DISCLAIMS and the Buyer and/or user hereby waives any such liability.