



**RIGGING INNOVATIONS, INC.**

# ***P - 124 AVIATOR***

***AIRCREW EMERGENCY ESCAPE PARACHUTE SYSTEM  
OWNER'S MANUAL***

RI-1317-(1) Revision 1.0

Printed - 2/4/2008

# **WARNING !**

- 1. Training and/or experience are required to lower the risk of serious bodily injury or death.**

**NEVER use this equipment unless you have:**

- A. Read the warning label and completed a “controlled program of instruction” in the use of this parachute assembly.**

**- OR -**

- B. Read the warning label and all appropriate owners / flight manuals, packing instructions and completed at least 100 ram-air parachute jumps.**

- 2. Lower the risk of death, serious injury, canopy damage and hard openings by never exceeding the limits shown on the warning label.**

**Warning labels may be found in the following locations:**

**Ram-Air parachute - center cell top skin at trailing edge.**

**Harness/Container System - backpad.**

## **DISCLAIMER - NO WARRANTY**

Because of the unavoidable danger associated with the use of the parachute system, the manufacturer makes NO WARRANTY, either expressed or implied. The system is sold with all faults and without any warranty of fitness for any purpose. Manufacturer also disclaims any liability in tort of damages, direct or consequential, including personal injuries resulting from a defect in design, material or workmanship or manufacturing whether caused by negligence on the part of the manufacturer or otherwise. By using this system, or allowing it to be used by others, the buyer WAIVES any liability of or the manufacturer for personal injuries or other damages arising from such use.

If the buyer declines to waive liability on the part of the manufacturer, buyer may obtain a full refund of the purchase price by returning the system, before it is used, to the manufacturer within 15 days of the date of the original purchase with a letter stating why it was returned.

## **●●● WARNING ●●●**

You can substantially reduce risk by ensuring that each component of the system has been assembled and packed in strict compliance with the manufacturer's instructions, by obtaining proper instruction in the use of this system, and by operating each component of the system in strict compliance with owner's manual. However, parachute systems sometimes fail to operate properly even when properly assembled, packed and operated so that you risk serious injury or death each time you use the system.



**P - 124 AVIATOR P/N 6611 - ( ) S/N \_\_\_\_\_**

**DATE OF MANUFACTURE: \_\_\_\_\_**

***Manufactured by: Rigging Innovations, Inc.  
4900 N. Tumbleweed Rd. Bldg. 1,  
Eloy AZ 85231, USA***

***Telephone: (520) 466.2655  
FAX: (520) 466.2656  
E-mail: [info@rigginginnovations.com](mailto:info@rigginginnovations.com)***

© All Material is Copyright 2007 by Rigging Innovations Inc. All rights reserved.  
Reproduction in whole or in part without permission is prohibited.

**RIGGING INNOVATIONS, INC.**

# TABLE OF CONTENTS

---

|                                  |            |
|----------------------------------|------------|
| <b>WARNING.....</b>              | <b>ii</b>  |
| <b>DISCLAIMER.....</b>           | <b>iii</b> |
| <b>SERIAL NUMBER RECORD.....</b> | <b>iv</b>  |

|                                             |               |
|---------------------------------------------|---------------|
| <b>Section 1 - General Information.....</b> | <b>Page 1</b> |
|---------------------------------------------|---------------|

- 1.1 Aviator TSO Certification
- 1.2 Rigger Qualifications
- 1.3 Am I Qualified to Jump this Equipment?"
- 1.4 Emergency Bailout Procedure
- 1.5 Customer Service
- 1.6 Table I - Parts List

|                                                 |               |
|-------------------------------------------------|---------------|
| <b>Section 2 - Component Compatibility.....</b> | <b>Page 8</b> |
|-------------------------------------------------|---------------|

- 2.1 Parachute
- 2.2 Orange Warning Label Placard Data
- 2.3 Table II - P124 Weight / Deployment Speed Limitations
- 2.4 Deployment Bag and Bridle
- 2.5 Pilot Chute
- 2.6 Ripcord

|                                          |                |
|------------------------------------------|----------------|
| <b>Section 3 - User Information.....</b> | <b>Page 10</b> |
|------------------------------------------|----------------|

- 3.1 Harness Adjustments and Fitting
- 3.2 Maintenance
- 3.3 120 Day Maintenance
- 3.4 Major Alterations / Repair
- 3.5 Service life
- 3.6 Cleaning: - Cordura® - Recommended Stain Removal Methods

|                                            |                |
|--------------------------------------------|----------------|
| <b>Section 4 - Rigger Information.....</b> | <b>Page 14</b> |
|--------------------------------------------|----------------|

- 4.1 Recommended Tools List
- 4.2 Parachute Packing Instructions
  - 4.2.1 Assembling and Folding the Parachute
  - 4.2.2 Table - IV Closing Loop Lengths
  - 4.2.3 Dressing the Folded Parachute
  - 4.2.4 Putting Parachute in the Deployment Bag
  - 4.2.5 Placing Deployment Bag in Container
  - 4.2.6 Closing the Container

# ***Section 1.0***

# ***General***

# ***Information***

## **1.1 Aviator TSO Certification**

The Aviator parachute system is approved under FAA TSO-C23d: The approval specifies weight and speed limitations for each size of the P-124 parachute. The weight and speed limits are indicated in Table II of this manual (page 8).

---



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

**TRANSPORT AIRPLANE DIRECTORATE  
AIRCRAFT CERTIFICATION SERVICE  
LOS ANGELES AIRCRAFT CERTIFICATION OFFICE  
3960 PARAMOUNT BOULEVARD  
LAKEWOOD, CALIFORNIA 90712-4137**

JAN 16 1996

Rigging Innovations Inc., Aviator Emergency Parachute System;

Technical Standard Order C23d

Rigging Innovations Inc.  
Mr. Sandy R. Reid, President  
27235 Watson road,  
P O Box 1398, Romoland CA 92585

Gentlemen:

Your application dated December 15, 1995, requesting issuance of Technical Standard Order (TSO) authorization in accordance with the procedural requirements of Federal Aviation Regulation (FAR) Part 21, Subpart 0, has been reviewed. Based upon your data and statement of conformance certifying your article(s) have met the requirements of FAR Part 21 Subpart 0, and the minimum performance standards of TSO C23d (Ref. FAR 21.305 (b)), authorization is hereby granted for the following:

| <u>PART NUMBER</u> | <u>DESCRIPTION</u>                 |
|--------------------|------------------------------------|
| 6611-( )           | Aviator Emergency Parachute System |

The technical data submitted with your letter of application has been accepted as fulfilling the requirements for a TSO authorization and will be retained in our files. For your information, the conditions and tests required for TSO approval are minimum performance standards. The article(s) may be installed on or within a specific type or class of aircraft only if further evaluation by the user/installer documents an acceptable installation that is approved by the Administrator.

The quality control procedure contained in your quality control manual, currently on file at the Los Angeles Manufacturing Inspection District Office, and your statement that those procedures will be applied to the manufacture of the subject article(s) at the above address, are considered adequate in accordance with FAR 21.143.

Effective this date, your authorization to use TSO procedures is extended to include the subject article(s). You may identify the article(s) with the applicable TSO markings as required by TSO C23d.

As a recipient of this TSO authorization, except as provided in FAR 21.3(d), you are required to report any failure, malfunction, or defect in any product or part manufactured by you or your contracted suppliers, and which you have determined has resulted or could result in any of the occurrences listed in FAR 21.3(c). The report should be communicated initially by telephone to the Manager, Technical and Administrative Support Staff, ANM-103L (310) 627-5300, within 24 hours after it has been determined the failure has occurred and followed up with a written notice. FAA Form 8010-4 (Malfunction or Defect Report) or other appropriate format is acceptable in transmitting the required details. As required by FAR 21.613(b), you must also notify the FAA when you no longer manufacture a TSO approved article.

This authorization pertains only to manufacturing operations at the above address. This office must be notified in advance of any proposed name change and/or facility relocation to preclude interruption while awaiting quality control approval of that facility.

Sincerely,

Michael A. Murphy  
Manager, Technical & Administrative  
Support Staff, ANM-103L

## **1.2 Rigger Qualifications**

In order to pack and maintain the Aviator parachute system, the *FAA Senior or Master Rigger - or foreign equivalent* - must possess a BACK rating endorsement to their certificate. Since the P-124 / AVIATOR system is radically different from old-style round parachutes, the rigger should be trained to pack ram-air parachutes prior to certifying the Aviator for emergency use.

***FAR Part 65.127( ) No certificated parachute rigger may -***

- (e) Pack, maintain, or alter a parachute in any manner that deviates from the procedures approved by the administrator OR the manufacturer of the parachute; or
- (f) Exercise the privileges of his certificate and type rating unless he understands the current manufacturer's instructions for the operation involved.

**ANYONE** who circumvents Rigging Innovations, Inc. instructions is in violation of FAR Part 65.127 and is therefore performing an illegal procedure.



### 1.3 "Am I Qualified to Use this Equipment?"

As the new owner of an **Aviator** emergency parachute system, before you use it, it is very important that you can answer yes to several questions. Only by answering these questions that follow can you be assured that you have the necessary training and/or experience to safely utilize modern parachutes.

**Question 1:** *Does my training qualify me for using this equipment?*

Advanced equipment such as the P-124 Aviator has features requiring experience and training to be used safely. For example, the ground school portion of a first jump course will teach the basics of steering and landing modern ram-air parachutes.

**Question 2:** *Have I been briefed or trained in the operation of this equipment by qualified personnel such as an instructor or licensed rigger?*

If you have been trained on older types of round parachutes, there may be certain features of the Aviator that are unfamiliar. Make sure that you receive a thorough briefing from a certified instructor or rigger for the Aviator and ram-air parachute you are about to use.

**Question 3:** *Does the Aviator harness fit properly?*

Can you see and/or reach the ripcord handle? The P-124 Aviator, is built in a variety of lengths, and widths, and has an adjustable harness. These configurations along with options such as flotation, oxygen, etc., make adjustment to fit the individual extremely important to the safe operation of the system. If the system does not fit properly, the ripcord handle may be either inaccessible or it may move during egress causing difficult or impossible deployment.

The above questions dealt with your ability to safely wear and use the P-124 Aviator. If you have answered "Yes" to all the questions, you should feel comfortable in using our equipment. However, there are additional factors that do not relate to our product that may influence your decision and ability. If you have any questions or feel uneasy about using this parachute equipment in an actual emergency, do not hesitate to ask a qualified Parachute Instructor, FAA Certified Parachute Rigger, or contact Rigging Innovations at 520-466-2655 for any further information or training you feel necessary.

## 1.4

## **EMERGENCY BAILOUT PROCEDURES**

Conscientious pilots establish and practice emergency procedures on a regular basis. When an emergency occurs they can quickly and correctly handle the emergency without having to stop and think through each step.

Here is a brief outline of a typical bailout. Procedures must be reviewed and modified for each different type of aircraft.

Make the decision to bailout early, while you still have time.

- Remove headgear - headset or oxygen mask.
- Jettison canopy or door, release seat belts and exit the aircraft.
- As soon as you are clear of the airframe (about 1 second), look at the ripcord. Grasp and pull the ripcord with both hands. Throw it away so it cannot entangle with the deployment of your parachute.
- Look up at the parachute. Grab the yellow steering toggles. A tacking thread holds them in place while packed. Break the thread by pulling both toggles down to shoulder level simultaneously.
- Steer towards the nearest open area.
- Face into the wind for landing. Do this with enough altitude to avoid turning near the ground.
- Prepare for landing by pressing legs together with knees slightly bent. This action will prepare your legs to absorb landing forces.
- Prepare to slide.
- Collapse the canopy by pulling in one suspension line hand over hand.
- Stand up, dust yourself off and congratulate yourself on successfully handling an inflight emergency and choosing an Aviator.

# **RIGGING INNOVATIONS INC.**

## **1.5**

### **Customer Service Policy and Limits**

#### **Harness and Containers**

RI will provide no charge repair service for repairs that RIGGING INNOVATIONS INC. has determined to be the result from defects in material or workmanship for a period of SIX MONTHS from the DATE OF PURCHASE. Date of purchase and proof of purchase must be supplied to RI by the customer with the item to be repaired free of charge.

#### **Safety**

RI will perform all MANDATED Service Bulletins repairs or modifications due to SAFETY concerns free of charge.

#### **Unauthorized Modifications/Alterations**

RI will charge for repair service when the damage is determined to be caused by unauthorized modification or alteration of the product. RI reserves the right to refuse to repair any product so modified or altered.

#### **Improper Use**

RI will charge for repairs caused by improper use, or abuse such as exposure to chemicals, saltwater, improper washing, improper packing, excessive exposure to sunlight, or negligence of the part of the user (i.e. jumping already damaged equipment).

#### **Limits**

RI reserves the right to refuse to service equipment for which material and/or manufacturing patterns and specifications no longer exist.

#### **Configuration**

Articles sent in for repair should be sent in with all parts. RI may request and require additional information pertaining to the product.

#### **Accessory Part - Replacement**

RI will recommend replacement of harness and container component parts based on inspection when safety is a factor due to normal wear and tear or maintenance of the product.

#### **Product Improvement**

Product improvements will be available as an option to customers.

**Table I. Parts List**

| QUANTITY | DESCRIPTION                                         | PART NUMBER |
|----------|-----------------------------------------------------|-------------|
| 1        | AVIATOR HARNESS/CONTAINER ASSEMBLY                  | 6611 - ( )  |
| 2        | STEERING LOOPS                                      | 2613 - (1)  |
| 1        | RIPCORDER                                           | 2511 - (1)  |
| 1        | CLOSING LOOP                                        | 2913 - (4)  |
| 1        | STEALTH PILOTCHUTE                                  | 2237 - ( )  |
| 1        | PARACHUTE DEPLOYMENT BAG AND BRIDLE                 | 2117 - ( )  |
| 1        | PRECISION AERODYNAMICS<br>P-124 EMERGENCY PARACHUTE | P-124 - ( ) |
| 1        | OWNER'S MANUAL AND REGISTRATION CARD                | 1317 - ( )  |

**NO SUBSTITUTION OF COMPONENT PARTS IS AUTHORIZED !**

# ***Section 2.0***

# ***Component***

# ***Compatibility***

## ***2.1 Parachute***

**Only P-124 series parachutes manufactured by Precision Aerodynamics, Inc. are compatible with and may legally be packed into Aviator containers. IF INCOMPATIBLE CANOPIES ARE USED WITH THIS SYSTEM, IT COULD FAIL TO OPERATE AS DESIGNED RESULTING IN SERIOUS INJURY OR EVEN DEATH.**

## ***2.2 Orange Warning Label Placard Data***

The following table shows the four sizes of the P-124 currently compatible with the Aviator system. The orange warning label will be stamped with the appropriate information to inform the user of the weight and speed limitations of the particular system in use. It is important for both the user and the Parachute Rigger to know and understand these limitations.

**2.3 Table II. P-124 Weight / Deployment Speed Limitations**

| Manufacturer           | Model       | Max. deployment speed<br>(knots) | Max. gross weight<br>(lbs/kg) |
|------------------------|-------------|----------------------------------|-------------------------------|
| Precision Aerodynamics | P-124 / 179 | 150                              | 186 / 85                      |
| Precision Aerodynamics | P-124 / 212 | 150                              | 227 / 103                     |
| Precision Aerodynamics | P-124 / 246 | 150                              | 263 / 119                     |
| Precision Aerodynamics | P-124 / 280 | 150                              | 300 / 136                     |

## ***2.4 Deployment Bag and Bridle***

Only a Rigging Innovations deployment bag and bridle assembly of the correct size and properly labeled with P/N 2117 - ( ) is compatible with the Aviator. **No other deployment bag is approved for use with the Aviator system.**

## ***2.5 Pilot chute***

Only the Rigging Innovations Stealth pilot chute P/N 2237 - ( ), is compatible with the Aviator system. The design of the Stealth pilot chute, together with the Aviator deployment bag is integral part of the thin profile this system offers and provides superior deployment characteristics. **No other pilot chute is approved for use with the Aviator system.**

## ***2.6 Ripcord***

The Aviator system uses a 28" long stainless steel cable, 1-pin ripcord with a mini trapezoid handle Rigging Innovations P/N 2511 - (1). **No other ripcord is approved for use with the Aviator system.** The handle is located chest high on the wearer's left side and is mounted in a pocket covering the chest strap. The ripcord pocket is designed to help prevent the threading of the chest strap through the ripcord handle.

**CAUTION: Threading the chest strap through the ripcord handle would result in an impossible ripcord pull and death.**

# Section 3.0

## User Information

### 3.1 Harness Adjustments and Fitting

The Aviator harness has five points of adjustment. They are, chest strap (a), two leg straps (b) and two main lift webs (c). The main lift webs may be adjusted to compensate for different torso lengths. Adjustments should be made in the following manner:

1. Open Velcro harness covers (d) to preset main lift webs to small, medium or large. (The ripcord pocket is mounted on the left harness cover.) Tuck both Adjust-a-Tabs into like colored pockets. Yellow is small and Red is medium. For the large position the harness is fully extended and the tab is stowed under the wrap-around velcro strap. (Figure 2) Close the harness cover.
2. Put on the Aviator.
3. Fasten and tighten leg straps. Secure the running end in the elastic provided.
4. Fasten the chest strap so there is no slack when standing erect. (Not too tight.) Secure the running end in the elastic provided.

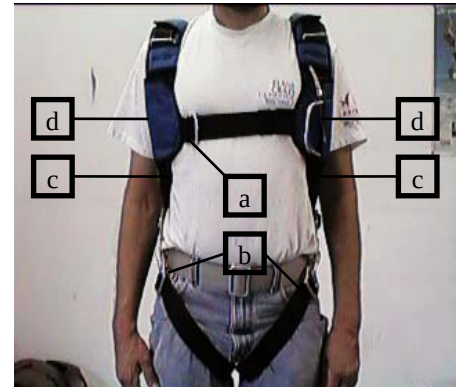


Figure 1



Figure 2

### 3.2 Maintenance Procedures

The Aviator begins its life as one of the finest pieces of emergency equipment you can buy. It is up to the owner to maintain it in top condition. Below are certain areas that you and your rigger should check on a regular basis to ensure proper operation and long life of your Aviator.

### ***Before Each Flight You Should Check:***

1. Ripcord pin, cable, housing handle and pocket. Pin should be seated in the closing loop and the rigger's seal in place as shown. *(Figure 3)* Cable should move freely inside its housing. Handle should be securely held in the pocket by Velcro fastener.
2. Harness adjustment and hardware, check for condition and proper operation. Harness adjustments must be the same on both sides. Leg strap fasteners must snap closed. If the spring gate sticks in the open position, a screwdriver can be used to slightly spread the gate as shown. *(Figure 4)* No damage to harness or legstrap webbing is acceptable. Return your damaged Aviator to Rigging Innovations for repair.
3. Check that pin protector flap tucked in *(Figure 5)*.

**IF ANY WEAR OR UNUSUAL CONDITION IS FOUND,  
CONSULT THE MANUFACTURER OR A QUALIFIED  
PARACHUTE RIGGER IMMEDIATELY!**



*Figure 3*



*Figure 4*



*Figure 5*



### **3.3 120 Day Maintenance**

Your rigger should thoroughly inspect your Aviator at every repack cycle to ensure that all components are in airworthy condition. ***These areas should include:***

1. Pilotchute, bridle and deployment bag.
2. Parachute fabric and lines.
3. Connector links tight.
4. Ripcord pocket secure.
5. Harness and container in good airworthy condition.
6. Flex-Ring buffers. Inspect inside of buffers for excessive wear.

Buffers are designed to prevent wear to the harness webbing. The inside should look shiny and smooth and may be discolored from the hardware finish. If the buffers are cut or frayed, it may be caused by damage to the hardware or foreign matter imbedded in the webbing. If buffer damage is excessive, the Aviator should be returned to Rigging Innovations for inspection and repair.

### **3.4 Major Alterations / Repair**

Rigging Innovations, Inc. does **NOT** authorize major alterations or repairs to the Aviator harness and container system. Any major alterations or repairs must be made by the manufacturer or a designated representative. Contact Rigging Innovations, Inc., at **520-466-2655**, for the name of a designated representative or authorized service center in your area.

### **3.5 Service Life**

With the use of modern first quality materials, Rigging Innovations, Inc. and Precision Aerodynamics, Inc. have established a **15-year service life** from the component date of manufacture for the Aviator system. At that time the component must be returned to the manufacturer or its authorized representative for inspection and evaluation. Based on condition, a service life extension may be granted at that time.

### 3.6 Cleaning

#### CORDURA® Recommended Stain Removal Methods\*

| STAIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | REMOVAL METHOD                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Coffee, Fruit Juice, Milk, Soft Drinks, Tea, Tabasco Sauce, Wine, Urine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Detergent <sup>1</sup> /blot/water/blot                                                            |
| Catsup, Chocolate, Blood                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Detergent/blot/ammonia <sup>2</sup> /blot/water/blot                                               |
| Mustard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Detergent/blot/vinegar <sup>3</sup> /blot/water/blot                                               |
| Spicy mustard (turmeric), Kool- Aid®                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Solvent <sup>4</sup> /blot/detergent/blot/vinegar/blot/water/blot                                  |
| Cooking oil, Crayon, Lipstick, Mayonnaise, Motor oil, Show polish                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Solvent <sup>4</sup> /blot/detergent/blot/water/blot                                               |
| Chewing gum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Freeze with ice cube/ scrape/solvent/blot/ detergent/blot/ water/blot                              |
| Furniture polish, Ink (Permanent)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Paint remover <sup>5</sup> /blot/solvent/blot/detergent/blot/ ammonia/blot/vinegar/blot/water/blot |
| Furniture polish, Shoe polish                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Seek the help of a professional upholstery cleaner                                                 |
| <b>Notes on Cleaning Agents</b><br>The following procedures should be used with all cleaning agents. A clean, white cloth dampened with the recommended cleaning agent should be used in an inconspicuous place to test for colorfastness. Optimum cleaning will be achieved by not overwetting the cloth and by turning it frequently to keep it clean. Rings can be avoided by working from the outer edge of the spot toward the center. This process should be repeated until the spot is removed or there is no further transfer to the cloth.<br><sup>1</sup> Detergent.....One teaspoon neutral powder detergent (e.g. Tide or All) in 1 pint warm water.<br><sup>2</sup> Ammonia.....A 3% solution.<br><sup>3</sup> Vinegar.....White vinegar or a 10% acetic acid solution<br><sup>4</sup> Solvent.....Dry cleaning fluid - preferably 1.1.1 trichlorethane<br><sup>5</sup> Paint remover.....Paint remover with no oil in it. |                                                                                                    |
| NOTE: Oily and greasy stains --- In addition to the recommended method, some stains (e.g. perspiration/body oils) respond well to dry cleaners such as "HOST" (Racine Industries), "CAPTURE" (Milliken) and "K2R" (Texize). Carefully follow directions on the label.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                    |
| * Recommendations based on fabrics finished with Du Pont Teflon® WBC Soil and Stain Repellent for CORDURA®. The methods were effective on stains that were allowed to sit untreated overnight. Removal is usually easier when stains are cleaned immediately.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                    |

# ***Section 4.0***

## ***Rigger Information***

### ***4.1 Recommended Tools List:***

- 1- tie cord - red or brightly colored
- 1-packing weight, 22 Lbs. (10 Kg.)
- 5-plastic or rubber tipped packing clamps, (PONY size 3202)
- 1-Packing Paddle at least 18" (46 Cm.)
- 1-Pull-up cord, 72" (1.82 M)
- Gun Cleaning Rod, .22 CALIBER (5.56 MM)
- 1-Closing Plate
- 1-Temporary pin



*Figure 6*

***WARNING:*** Note: T-Bars or "Positive Leverage Closing Devices" are prohibited. Never use T-Bars to pack Aviators. These tools can cause impossible ripcord pull forces and damage containers.

## 4.2 Parachute Packing Instructions

**NOTE:** Minimum qualification; FAA Senior or Master Parachute Rigger or foreign equivalent.

### 4.2.1 Assembly and Folding the Parachute.

Rigging Innovations mandates PRO (Proper Ramair Orientation) packing on the floor. This is the method used in the testing and certification and, for Aviator emergency parachutes, results in the best bulk distribution and the greatest comfort for the wearer. The molar method is used to insert parachute into deployment bag.

**Step 1** Assemble P-124 parachute to AVIATOR Emergency Parachute System ensuring the following:

- a) Line continuity is correct.
- b) Connector links are tightened according to canopy manufacturer's instructions. Tight is usually considered to be finger tight plus one quarter turn of the barrel. **WARNING:** If Maillon Rapide links are too tight, barrels will crack.
- c) Connector links are marked with a "slip indicator" dot of nail polish.
- d) Steering lines are routed correctly through slider.
- e) Steering toggles are attached to end of steering line and routed through guide straps on backside of rear risers. Break tacking with one double-turn read seal thread at bottom center of toggle through riser.
- f) Closing loop length is correct. (See Table IV).
- g) Ripcord is installed into housing at left chest strap. Secure ripcord handle in ripcord pocket. Locate ripcord cable where it exits at left shoulder. Insert ripcord cable between two layers of top flap.

### 4.2.2 Closing Loop Length

A - Loop length from knot to end. (Figure 7)

B - Loop length installed. (Figure 8)

|   | 172/212      | 246/280      |
|---|--------------|--------------|
| A | 4.0"/ 102 mm | 4.0"/ 102 mm |
| B | 2.5"/ 64 mm  | 2.5"/ 64 mm  |

**Table IV** - Closing Loop Lengths



Figure 7



Figure 8

**Step 2** Using the tie cord, anchor the risers securely and evenly at connector links. (Figure 9) Lay 22 pound (10 kilogram) packing weight on container. Check that bottom center of toggle is tacked to center of riser with one double-turn of red safety seal thread or equivalent.

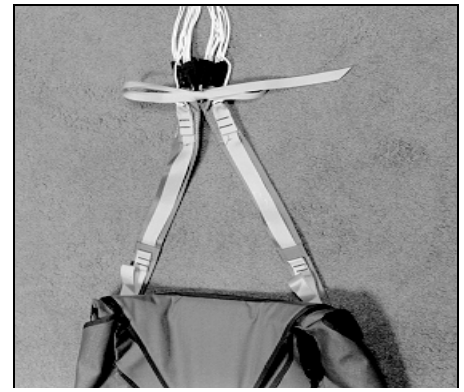


Figure 9

**Step 3** Lay parachute neatly on its left side. Pull top skins until top skins and line groups are evenly tensioned as shown in (Figure 10).



Figure 10

**Step 4** Using 4 packing clamps, place one clamp directly above each line group holding all 7 cells of the parachute together at top skin. Clamps are in place in Figure 10.

**Step 5** Split the nose of parachute by folding 3 cells under against the floor, leaving 4 cells laying flat.

**Step 6** Kneeling at top of parachute - facing harness - slide your left hand under the top 3 cells halfway between A clamp and B clamp. (Figure11) Holding light tension on B lines, raise B clamp and move it left until B clamp is in line with A clamp and flake the top three cells out to your left. (Figure12) Still holding B clamp, shift left hand to other side of center cell and flake 3 cells back to your right. B clamp is now in line with A clamp on floor.



Figure 11

**Step 7.** Repeat Step 6 with "C" and "D" clamps making B-C and C-D folds as in Step 6.



Figure 12

**Step 8** Kneel on right side of parachute. Gently push tail panels away from you. Locate and grab all 8 "D" line attachment points. Gently flake 4 bottom skins outboard between line groups to dress the C-D folds. Repeat for A-B and B-C folds to both sides. (Figure 13)



Figure 13

**Step 9** Grasp all "A", "B", "C" and "D" lines at base of stabilizers. Gently flake stabilizer fabric until it is all outboard of the lines. (Figure 14)

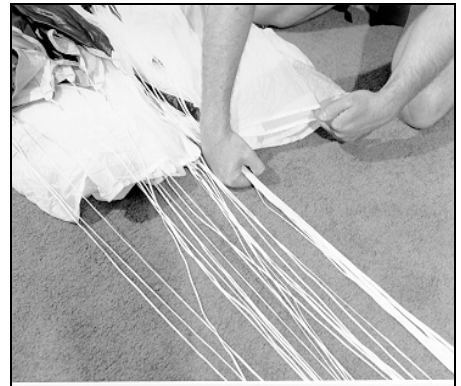


Figure 14

**Step 10** Spread tail of parachute placing one set of steering lines to each side of parachute. Pull center of tail up toward top of parachute and double check that folds between line groups are neat and continuous between top skins and bottom skins. Check that all lines and line attachment points are in center (in wind channel). (Figure 15)



Figure 15

**Step 11** Flake tail with an even number of panels to each side (7 folds per side). Double check that stabilizers are still flat and laying outboard of lines. (Figure 16)

**Step 12** Pull slider up to slider stops at base of stabilizers. Lay slider flat in wind channel. Lay slider grommets side by side to minimize lumps.

**Step 13** Kneel on parachute label to prevent shifting. Beginning at right corner of tail, fold right edge under until it is the same width as D-bag. Place 5th clamp onto right corner of tail. Move "D" clamp to hold left corner.



Figure 16

**Step 14** Continue folding edges of parachute until 3 nose cells are visible. Use “C” and “D” clamps to clamp 3 nose cells to sides of parachute. (Figure 17) Note: the “A” clamp is still in place at top skin.



Figure 17

**Step 15** Open zippers on both sides of D-bag. Lay D-bag on floor with line stow pocket on top. Fold top flap of D-bag towards pilot chute. (Figure 17)

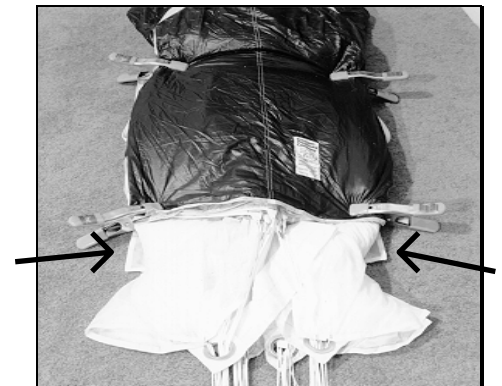


Figure 18

**Step 16** Gently lift the parachute and slide deployment bag under until lower corners of deployment bag are 4 inches (10 centimeters) below corners of tail. (Figure 18)

**Step 17** Clamp lower corners of tail to edges of deployment bag.

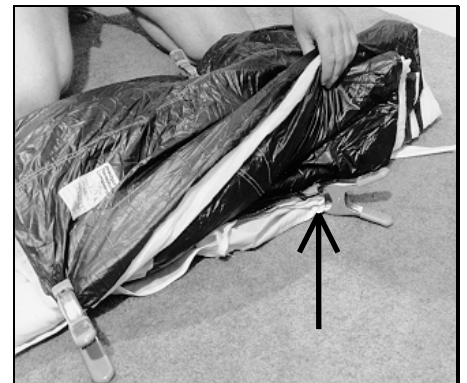


Figure 19

**Step 18** Locate 3 nose cells and clamp only the nose to top corners of deployment bag. (Figure 19)

**Step 19** Remove A clamp. Following center seam, split top skin until it clears grommet in center of D-bag. Clamp center seam with A clamp. (Figure 20)



Figure 20



**Step 20** One at a time, dress and fold "ears" to same width as "ear" in deployment bag. Remove side clamp and stuff ear into top of deployment bag. (Figure 21) **Hint:** a packing paddle inside your fold will help push the ear up into the bag. The ears should be full and firm so the finished pack job will be softer at the bottom.



Figure 21

**Step 21** Slide packing paddle under all lines at slider grommets. Hold all lines together and fold upward bringing slider grommets almost to grommet in center of D-bag. (Figure 22)



Figure 22

**Step 22** Remove A clamp from center cell. Fold D- bag top flap over lower part of deployment bag and parachute. Close the mouth of the deployment bag by making locking stows using 3 inch bights of suspension lines. Remove clamps. Dress canopy to width of deployment bag and close zippers. (Figure 23) Use caution to avoid catching canopy fabric in zippers.



Figure 23

**Step 23** Open line stow pocket and fold up towards bridle. Stow suspension lines in black elastic loops. Distribute bulk evenly to minimize lumps. Leave last 8 to 10 inches of suspension lines exposed. (Figure 24) Close line stow pocket. Do not allow hook Velcro to snag lines.



Figure 24



#### 4.2.5 Placing Deployment Bag in Container

**Step 24** Remove tie cord from connector links. Grab all four connector links with one hand. Grab bridle with other hand. Pivot D-bag on safety stow and lay it upside down on bottom flap.



Figure 25

**Step 25** Lay risers along outboard edges of pack tray. Lay front risers just inboard of rear risers. Close internal riser covers. (Figure 25)

**Step 26** Thread pull-up cord through closing loop and grommet in center of deployment bag. Pivot D-bag on safety stow to lay right side up on container, centered on loop. Line stow pocket faces up. S-fold bridle into channel on deployment bag. (Figure 26) Leave 5 feet of bridle exposed.



Figure 26

#### 4.2.6 Closing the Container

**Step 27** Close inner top flap (#1 flap) and secure with temporary pin.

**Step 28** S-fold last 5 feet of bridle lengthwise on top of inner top flap #1. (Figure 27)

**Step 29** Use gun cleaning rod to thread pull-up cord through grommet in Stealth pilotchute from the bottom and out the top.



Figure 27

**Step 30** Center base of pilotchute on grommet in #1 flap. Compress pilotchute while stuffing fabric and mesh inside spring coils. Point yellow arrow on top of pilotchute toward top or bottom of container. Secure with temporary pin. (Figure 28)  
**WARNING: Do not leave fabric or mesh outside coils as a coil lock could occur and pilotchute launch may be inhibited.**



Figure 28

**Step 31** Close bottom flap (#2 flap) and secure with temp pin. Mate Velcro along sides of #2 flap. (Figure 29)



Figure 29

**Step 32** Close right side #3 flap, then left side #4 flap. Secure with temporary pin. (Figure 23) Double check that free bag is clear of pilotchute cap. You should only be able to pull about 1/2 inch (11mm) of loop through the first 4 flaps. If you can pull more, loop is too long. Open container and shorten loop.



Figure 30

**Step 33** Close top flap (#5 flap) and secure with ripcord.

**CAUTION:** Place closing plate on bottom edge of top flap. Placing closing plate on outside pin protector flap will kink or break pin protector flap. (Figure 31)

Rigger should determine how tight closing loop is, and decide whether to perform a pull test. **WARNING: MAXIMUM ALLOWABLE PULL FORCE ON THE RIPCORD IS 22 POUNDS (10 KILOGRAMS).** Once the rigger is satisfied that pull force is less than 22 pounds (10 kilograms) seal ripcord and log pack job. Tuck the pin protector flap into pouch on bottom flap. (Figure 32)



Figure 31

**Step 34 COUNT YOUR TOOLS!**



Figure 32