

Butler Parachute Systems, Inc.

Chest Pack Emergency Parachute System Assembly and Packing Instructions

Document Number: 50-XXXX

Revision A

January 21, 2010



Butler Personnel Parachutes
P.O. Box 6098
1820 Loudon Avenue, N.W.
Roanoke, VA 24017-0098



BUTLER

www.butlerparachutes.com
Phone: 540-342-2501
FAX: 540-342-4037
info@butlerparachutes.com

CONTENTS

1. Introduction.....	3
2. Service Life and Repack Interval.....	4
3. Rigger Responsibilities and Rating Limitations	5
4. Required Tools and Materials	5
5. Methods.....	6
6. Reference	6
7. Installing the Risers	7
7.1 Standard Profile Installation.....	7
7.2 Reverse Profile Installation.....	8
8. Installing the Canopy	8
9. Packing the Canopy into the Container	10

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1. Introduction

The following symbols are used throughout this manual:



WARNINGS indicate a procedure or situation that may result in serious injury or death if instructions are not followed correctly.



CAUTIONS indicate any situation or technique that will result in potential damage to the product, or render the product unsafe if instructions are not followed correctly.



NOTES are used to emphasize important points, tips, and reminders.



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These instructions do not constitute complete instructions for assembling and packing a Butler Chest Emergency Parachute. This manual outlines only the procedures for packing the canopy into the Butler Chest Emergency Parachute system. The manuals titled, *General Folding and Packing Instructions for the HX & Lopo Series Canopies* and *General Information for Parachute Riggers for Servicing BPS Personnel Parachute Systems* are also required to pack this parachute. You may need additional manuals to pack this parachute if it has options that require maintenance and service not covered in the manuals listed above. Contact Butler Parachute Systems if you are not sure you have the manuals you need.

The Butler Emergency Parachute is an important piece of survival equipment. Proper installation of the components and maintenance of the system are necessary for the parachute to deliver the safety performance it is designed to provide. It is important that you become familiar with these instructions to properly install the components. Improper installation of the components may result in failure of the parachute system during use.



IMPROPER USE OR NEGLIGENT CARE OF THIS EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH.

2. Service Life and Repack Interval

All personnel parachutes manufactured by Butler Parachute Systems, Inc. are manufactured and certified under the Technical Standard Order (C23b/c/d) processes of the Department of Transportation, Federal Aviation Administration (FAA). Our products have been sold all over the world, and thus may fall under many other sets of operating regulations. The following guidance is provided to determine the allowable service life and repack interval under the specific circumstances listed:

THE FOLLOWING INFORMATION IS PROVIDED AS GUIDANCE ONLY.

- When used in **civil aircraft in the United States of America**, under the rules and regulations of the Federal Aviation Administration this parachute has an estimated service life of 20 years. However, this parachute must be inspected and repacked in accordance with the applicable Federal Aviation Regulations, every 180 days. If more than 180 days has passed since the last inspection and repack then the parachute is considered unairworthy until such inspection is accomplished.
- When used in **military aircraft operated by the United States of America** (i.e., not under FAA control), this parachute has an estimated service life of 14 years, which may be extended to 20 years upon inspection. However, this parachute must be inspected and repacked in accordance with the applicable service manuals and directives every 180 days. If more than 180 days has passed since the last inspection and repack then the parachute is considered unairworthy until such inspection is accomplished.
- When used in **civil aircraft outside the United States of America**, this parachute has an estimated service life of 20 years and the local regulations pertaining to parachute inspection and repacking (if any) may be applied. However, in no case should the inspection and repack cycle be extended beyond 1 year (365 days).
- When used in **military aircraft outside the United States of America**, this parachute has an estimated service life of 20 years and the local technical orders pertaining to parachute inspection and repacking (if any) may be applied. However, in no case should the inspection and repack cycle be extended beyond 1 year (365 days).

If the parachute equipment is subjected to any unusual or severe conditions such as dust, moisture, impact damage, etc., it should be serviced on a more frequent basis. Please review all information in the user's guide and service manuals before extending your repack cycle.

3. Rigger Responsibilities and Rating Limitations

We spare no effort in making our equipment the finest emergency parachutes available. However, parachute riggers in the field must also do their part to educate the user so he or she may fully benefit from the level of safety protection our systems offer. Parachute riggers should help the user understand his or her parachute and how to use it. We recommend that you become familiar with the User's Guide and answer any questions the user may have. We also recommend that you allow the user to don the parachute and pull the ripcord before each repack.

All routine maintenance and minor repairs that do not affect airworthiness may be performed by an FAA licensed Senior Parachute Rigger (or foreign equivalent) with the proper facilities and equipment.



MAJOR REPAIRS OR ALTERATIONS THAT MAY AFFECT AIRWORTHINESS MUST BE RETURNED TO BUTLER PARACHUTES OR A DESIGNATED REPRESENTATIVE.

4. Required Tools and Materials

We consider the following tools to be the minimum tools necessary to pack a complete emergency parachute system. While all the tools listed may not be necessary to perform the steps outlined in this manual, they are necessary to perform the packing service of a complete emergency parachute system from start to finish.

The listed materials are consumable items needed for a repack. The number of pull-up cords and temporary pins required depends on the container design. Ensure that you have enough tools to service the parachute you are packing.

- Temporary pins with safety flag
- Pull-up cords – 50" minimum
- Packing weights – 4 minimum
- Line separator
- Packing paddle
- Super Tack cord (80 lb)
- Lite Super Tack cord (50 lb)
- 80 pound break tape (Mil-T-5661, Type 1, 1/4")
- Lead seals and seal thread

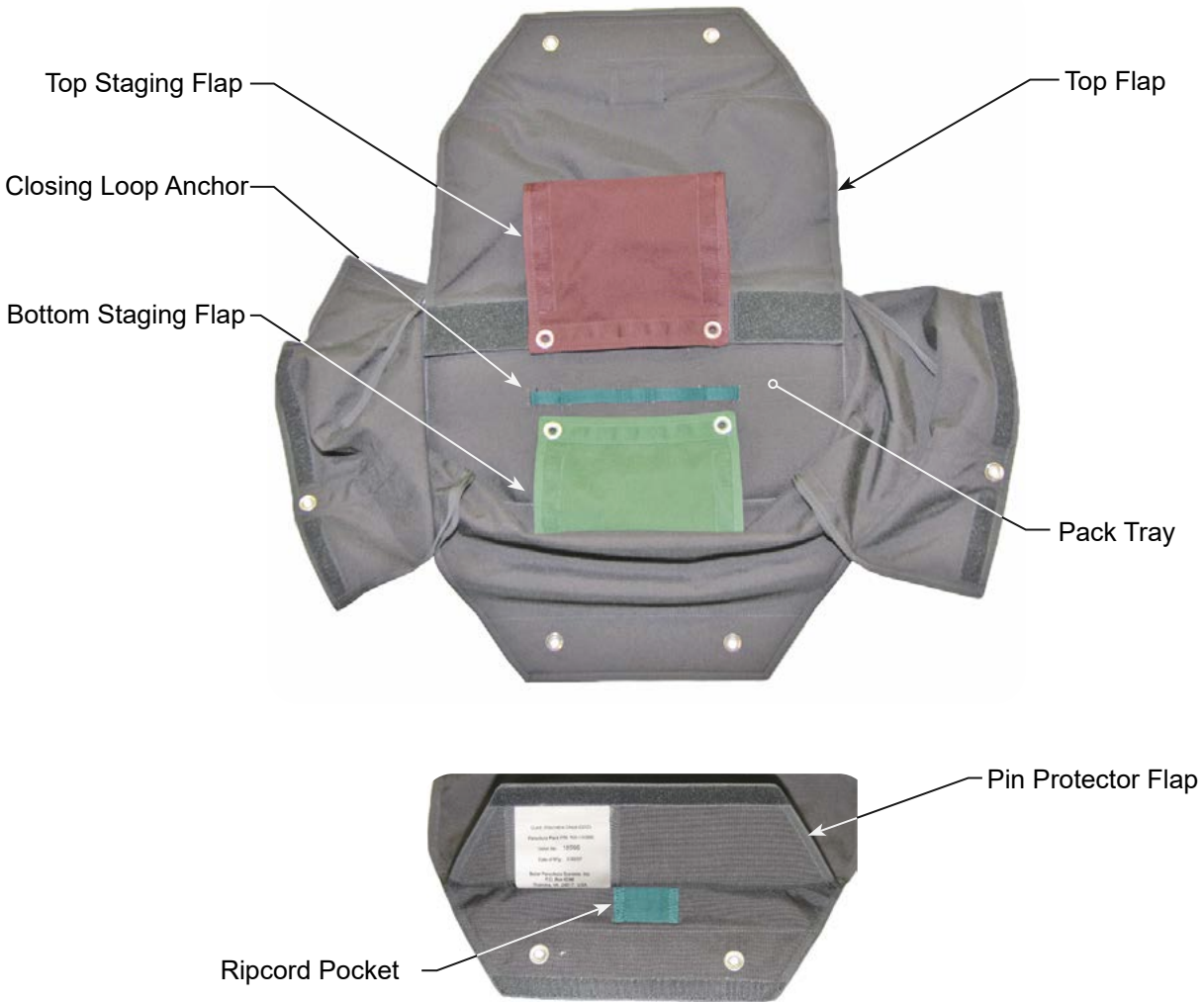


FAILURE TO CAREFULLY FOLLOW THE INSTRUCTIONS IN THIS MANUAL MAY RESULT IN SERIOUS INJURY OR DEATH.

5. Methods

Secure all hand tacks and ties called for in this manual with a surgeons knot and locking knot.

6. Reference



7. Installing the Risers

There are two ways to install the risers on the container. The standard profile extends straight from the chest pack. The reverse profile is folded over and tacked upside-down onto the chest pack.

Use the reverse profile method for users who prefer to wear their chest pack high on their torso.



7. Standard profile.



7. Reverse profile.

7.1 Standard Profile Installation

7.1.1

Place the riser on the pack tray with the snap facing down.

Mate the Velcro on the riser to the Velcro on the pack tray.

Tack* the riser to the pack tray below the Velcro.

*ONE TURN OF LITE SUPER TACK (50 LB.) TACK CORD.



7.1.1 Tacking the riser to the pack tray.

7.2 Reverse Profile Installation

7.2.1

Place the riser on the pack tray with the snap facing up.

Mate the Velcro on the riser to the Velcro on the pack tray.

Tack* the riser to the pack tray below the Velcro.

*ONESINGLETURNOFLITESUPERTACK(50LB.)TACKCORD.



7.2.1 Tacking the riser to the pack tray.

7.2.2

Fold the snap over until it is against the pack tray.

Tack* the snap to the pack tray.

*THREEDOUBLE TURNS OF SUPER TACK (80 LB.) TACK CORD.



7.2.2 Tacking the snap.

8. Installing the Canopy

Refer to the publication titled *General Folding and Packing Instructions for the HX & Lopo Series Canopies* for instruction regarding assembly, flaking and stowing the lines of the canopy.

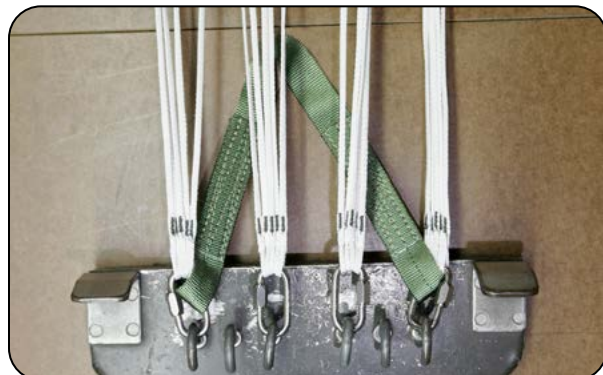


PERFORM LINE CONTINUITY AND FOUR-LINE CHECK BEFORE YOU INSTALL THE CROSS CONNECTOR STRAPS.

8.1

Attach a cross connector strap to the front line groups.

The cross connector must be routed under the back line groups.



8.1 Installing the front cross connector.

8.2

Attach a cross connector strap to the rear line groups.



8.2 Installing the rear cross connector.

8.3

Thread a 14" piece of 80 lb. cotton tape through the center loop at the bottom of the pack tray.

Thread the closing loops* through the outside loops at the bottom of the pack tray and anchor the loops with a larks-head knot.

Place the pack tray behind the canopy links so the risers are on top of the container, and the top flap of the container is below the risers.

Install the links on the risers and tighten the links†. The top risers go to the back line groups and the bottom risers go to the front line groups.

* Refer to the manual titled *General Information for Parachute Riggers for Servicing BPS Personnel Parachute Systems* for information regarding closing loop length.

† Hand tight plus one-quarter turn.



8.3 Preparing the pack tray.



8.4

Tack* the risers below the canopy links.

Tack* the cross connectors at the canopy links.

Figure-eight a piece of tack cord* through each group of the suspension line loops at the link and tie the lines together.



8.4 Tacking the assembly.

*ONETURN OF SUPERTACK (80LB.) OR LITE SUPERTACK (50LB.) TACK CORD.



DO NOT TIE ANY LINES TOGETHER FROM DIFFERENT RISER GROUPS.

9. Packing the Canopy into the Container

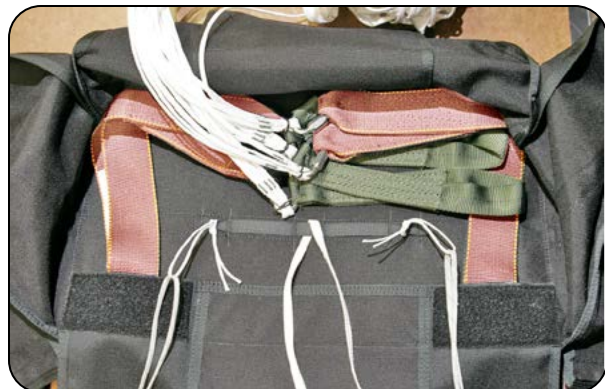
9.1

Flake the canopy and stow the lines.

Refer to the publication titled General Folding and Packing Instructions for the HX & Lopo Series Canopies for instruction regarding assembly, flaking and stowing the lines of the canopy.

9.2

Stow the risers and cross connectors in the bottom of the container as shown.



9.2 Stowing the risers.

9.3

Form a stow-loop with the suspension lines and tie the stow with the 80 lb. break tape on the bottom of the container.

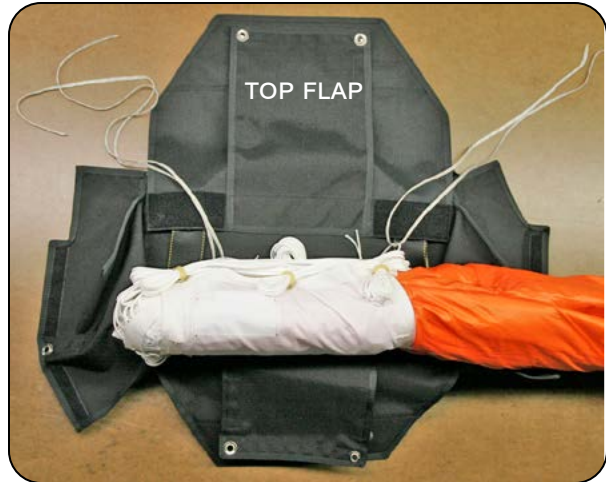


9.3 Forming the break-tie stow.

9.4

Turn the container under the canopy diaper so the top flap is above the diaper.

Place the diaper at the bottom of the container below the closing loops.



9.4 Folding the canopy.

9.5

Make one S-fold in front of the diaper and behind the closing loops.



MAKETHES-FOLDSSLIGHTLYLONGERTHAN THEPACKTRAYTOFILLOUTTHECORNERSOF THE PACK.



9.5 Folding the canopy.

9.6

Pull the closing loops through the bottom staging flap grommets and secure them with temporary pins.



9.6 Closing the bottom staging flap.

9.7

S-fold the remainder of the canopy in front of the closing loops.



MAKETHES-FOLDSSLIGHTLYLONGERTHANTHEPACKTRAYTOFILLOUTTHECORNERSOF THE PACK.



9.7 Folding the canopy.

9.8

Pull the closing loops through the top staging flap grommets and secure them with temporary pins.

Route the pilot chute bridle to the outside between the grommets.



9.8 Closing the top staging flap.

9.9

Pull the closing loops through the side flap grommets and secure them with temporary pins.



9.9 Closing the side flaps.

9.10

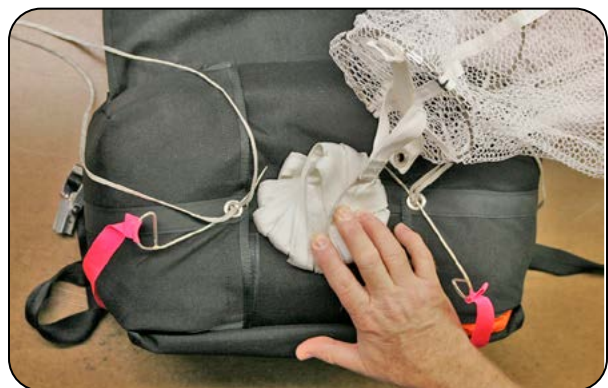
Dress the top corners of the container.



9.10 Dressing the corners.

9.11

Fold the pilot chute bridle between the grommets in a circular pattern so it will fit under the pilot chute.



9.11 Folding the pilot chute bridle.

9.12

Place the pilot chute on top of the bridle.

Pull the closing loops through the bottom grommets and secure with temporary pins.



9.12 Stowing the pilot chute.

9.13

Pull the material away from the spring as you compress the pilot chute.



9.13 Compressing the pilot chute.


9.14

Fold the material under the pilot chute cap at the grommets.

Pull the closing loops through the grommets on the top cap and secure them with temporary pins.



9.14 Folding the pilot chute material.

 **CAUTION** DONOTPUSHANYOFTHEMATERIALINSIDE THE PILOT CHUTE SPRING.

9.15

Fold the pilot chute material on the bottom-flap side so it is flat. It is not necessary to fold this section under the cap.



9.15 Folding the pilot chute material.

9.16

Pull the closing loops through the grommets on the bottom flap and secure them with temporary pins.



9.16 Closing the bottom flap.

9.17

Fold the pilot chute material on the top-flap side so it is flat. It is not necessary to fold this section under the cap.



9.17. Folding the pilot chute material.

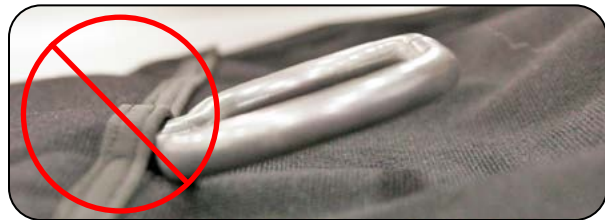
9.18

Insert the ripcord into the elastic pocket on the top flap.

The handle is bent at an angle. Insert the ripcord so the handle is angled into the container.



CORRECT RIPCORD PLACEMENT.



WRONG RIPCORD PLACEMENT.

9.18 Stowing the ripcord.

9.19

Pull the closing loops through the grommets on the top flap and insert the ripcord pins.



9.19 Closing the top flap.

9.20

Remove the pull-up cords and dress the container.

Seal the pins and record your work on the packing data card.

Count your tools.



9.20. Completed pack.



BUTLER PARACHUTE SYSTEMS, INC.
1820 LOUDON AVENUE, N.W.
P.O. Box 6098
ROANOKE, VA 24017-0098
TELEPHONE: (540) 342-2501 FAX: (540) 342-4037
E-MAIL: INFO@BUTLERPARACHUTES.COM
WEB SITE: WWW.BUTLERPARACHUTES.COM