SUMMIT PARACHUTE SYSTEMS

5219 Jackson Hwy
Toledo, WA 98591

Owners Manual

Rev. 8/15/19

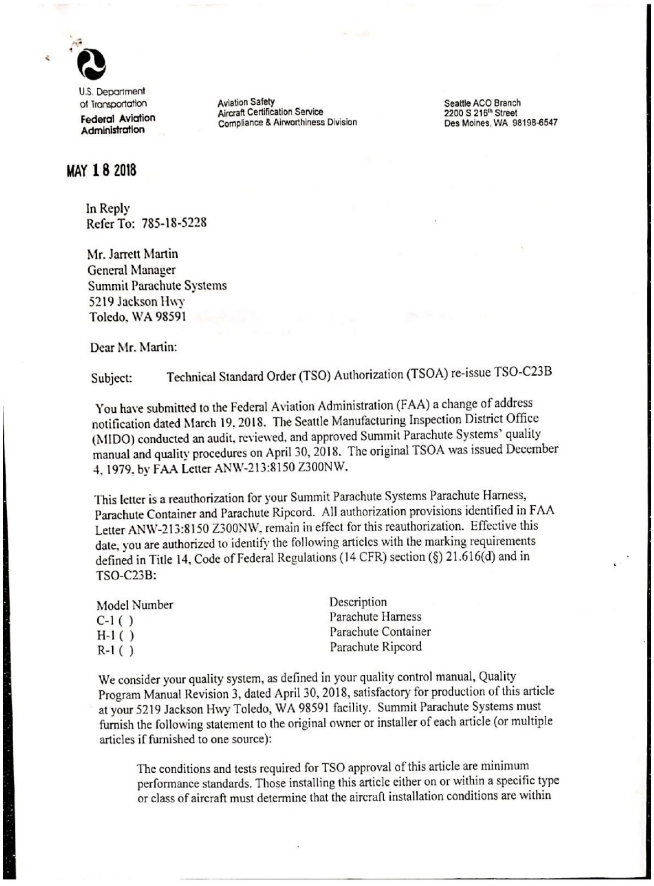
Warning

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 guarantees 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.

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 30 days after its purchase, and which has not been caused by an accident, striking, improper use, alteration, tampering, excessive use, misuse or abuse.

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.

TSO Letters



U.S. Department of Transportation
Federal Aviation Administration

Aviation Safety
Aircraft Certification Service
Compliance & Airworthiness Division

Seattle ACO Branch
2200 S 216th Street
Des Moines, WA 98198-6547

MAY 18 2018

In Reply
Refer To: 785-18-5228

Mr. Jarrett Martin
General Manager
Summit Parachute Systems
5219 Jackson Hwy
Toledo, WA 98591

Dear Mr. Martin:

Subject: Technical Standard Order (TSO) Authorization (TSOA) re-issue TSO-C23B

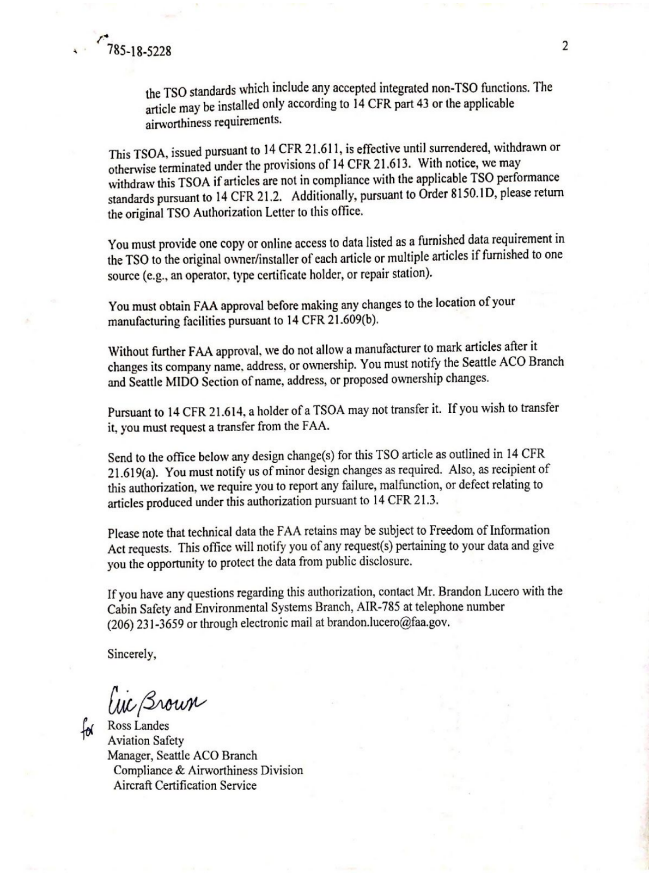
You have submitted to the Federal Aviation Administration (FAA) a change of address notification dated March 19, 2018. The Seattle Manufacturing Inspection District Office (MIDO) conducted an audit, reviewed, and approved Summit Parachute Systems' quality manual and quality procedures on April 30, 2018. The original TSOA was issued December 4, 1979, by FAA Letter ANW-213:8150 Z300NW.

This letter is a reauthorization for your Summit Parachute Systems Parachute Harness, Parachute Container and Parachute Ripcord. All authorization provisions identified in FAA Letter ANW-213:8150 Z300NW, remain in effect for this reauthorization. Effective this date, you are authorized to identify the following articles with the marking requirements defined in Title 14, Code of Federal Regulations (14 CFR) section (§) 21.616(d) and in TSO-C23B:

Model Number	Description
C-1 ( )	Parachute Harness
H-1 ( )	Parachute Container
R-1 ( )	Parachute Ripcord

We consider your quality system, as defined in your quality control manual, Quality Program Manual Revision 3, dated April 30, 2018, satisfactory for production of this article at your 5219 Jackson Hwy Toledo, WA 98591 facility. Summit Parachute Systems must furnish the following statement to the original owner or installer of each article (or multiple articles if furnished to one source):

The conditions and tests required for TSO approval of this article are minimum performance standards. Those installing this article either on or within a specific type or class of aircraft must determine that the aircraft installation conditions are within



785-18-5228 2

the TSO standards which include any accepted integrated non-TSO functions. The article may be installed only according to 14 CFR part 43 or the applicable airworthiness requirements.

This TSOA, issued pursuant to 14 CFR 21.611, is effective until surrendered, withdrawn or otherwise terminated under the provisions of 14 CFR 21.613. With notice, we may withdraw this TSOA if articles are not in compliance with the applicable TSO performance standards pursuant to 14 CFR 21.2. Additionally, pursuant to Order 8150.1D, please return the original TSO Authorization Letter to this office.

You must provide one copy or online access to data listed as a furnished data requirement in the TSO to the original owner/installer of each article or multiple articles if furnished to one source (e.g., an operator, type certificate holder, or repair station).

You must obtain FAA approval before making any changes to the location of your manufacturing facilities pursuant to 14 CFR 21.609(b).

Without further FAA approval, we do not allow a manufacturer to mark articles after it changes its company name, address, or ownership. You must notify the Seattle ACO Branch and Seattle MIDO Section of name, address, or proposed ownership changes.

Pursuant to 14 CFR 21.614, a holder of a TSOA may not transfer it. If you wish to transfer it, you must request a transfer from the FAA.

Send to the office below any design change(s) for this TSO article as outlined in 14 CFR 21.619(a). You must notify us of minor design changes as required. Also, as recipient of this authorization, we require you to report any failure, malfunction, or defect relating to articles produced under this authorization pursuant to 14 CFR 21.3.

Please note that technical data the FAA retains may be subject to Freedom of Information Act requests. This office will notify you of any request(s) pertaining to your data and give you the opportunity to protect the data from public disclosure.

If you have any questions regarding this authorization, contact Mr. Brandon Lucero with the Cabin Safety and Environmental Systems Branch, AIR-785 at telephone number (206) 231-3659 or through electronic mail at brandon.lucero@faa.gov.

Sincerely,

for Ross Landes
Aviation Safety
Manager, Seattle ACO Branch
Compliance & Airworthiness Division
Aircraft Certification Service

Introduction

Congratulations on the ownership of a Summit Parachute Systems pilot emergency parachute. Our philosophy is safety and simplicity. This company started initial production in 1978. Through the decades we have made it our mission to supply parachutes of the highest quality and technological standards.

The purpose of this manual is to out-line the product, provide an overview of how to use this system, as well as a packing manual to perform FAA mandated periodic inspections.

Product Overview

The pilot emergency parachute is an important safety item for pilots. It is designed with many features.

- Certified under TSO-c23b
- Small and Lightweight
- Adjustable harness
- Custom Dimensions
- Velcro-free container

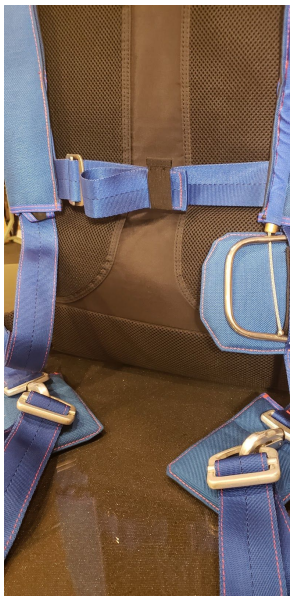
Limitations:

Summit Parachute Systems Harness/Container products are limited for use only with a compatible and airworthy TSO approved parachute. The weight and speed limits are mandated by the parachute manufacturer and should be strictly followed.

Preflight Checklist

Check parachute log to make sure it has been inspected by a certified rigger in the previous 180 days as mandated by the FAA

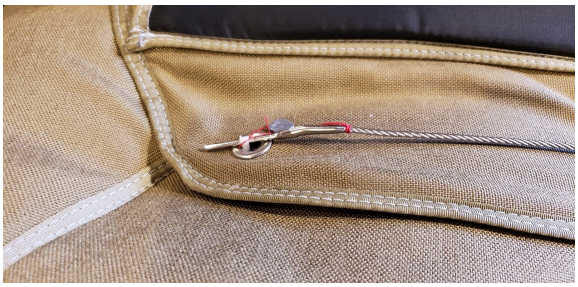
Check weight and speed limitations



Inspect the harness webbing and pack material for any excessive wear or damage

Check function of hardware buckles and adaptors

Make sure ripcord handle is secured



Inspect pins making sure they are secure and rigger seal is present

How to Wear

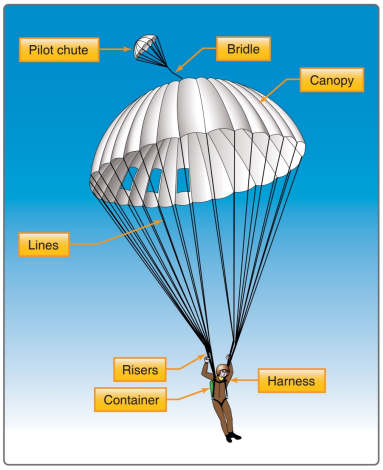
The parachute wears similar to a backpack with the addition of chest and leg straps. Make sure all straps are untwisted before threading the webbing through the adaptors or buckling the snaps.

The harness must be worn with all straps tightened snug around the body.

The harness can be adjusted to accommodate different sized pilots.

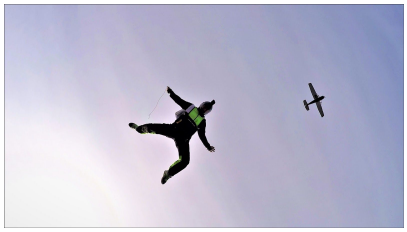
To adjust: On the inside of the harness there is velcro that can be reset by lengthening or shortening the strap. Longer for bigger pilots, shorter is for smaller pilots. Make sure that both left and right sides of webbing are the same length.

How to Use

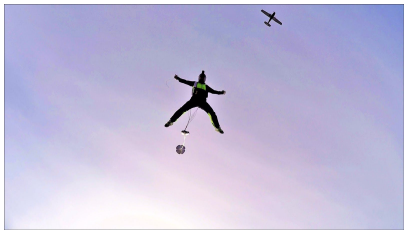


By pulling the ripcord, the pack will open ejecting a spring loaded pilotchute. The pilotchute will act as an anchor extracting the canopy/lines from the falling jumper.

Exit the aircraft
Locate Ripcord



Pull Ripcord

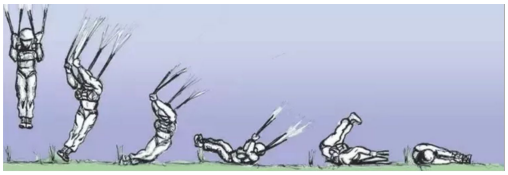


Parachute Activated

Steer parachute into the wind by pulling downward while holding the rear risers.

How to Use

If using square (ram-air) parachute steer the parachute into the wind by pulling on the control toggles. Once height is 8-10 feet pull both toggles down to initiate a flare for landing.



Perform a parachute landing fall (PLF) to distribute the force of the landing through the most robust areas of the body. Contact points: Balls of your feet, side of calf and thigh, roll through from one shoulder to the other.

Disclaimer

It is highly recommended that you seek professional instruction from an experienced parachute instructor on how best to use your parachute.

Parts list

Harness/Container

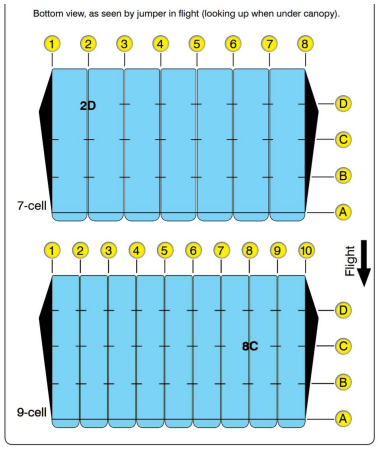
Pilotchute

- Ripcord
- Steering toggles (square parachute)
- Bridle
- Elastic keepers (3)
- Closing Loop
- Parachute record log

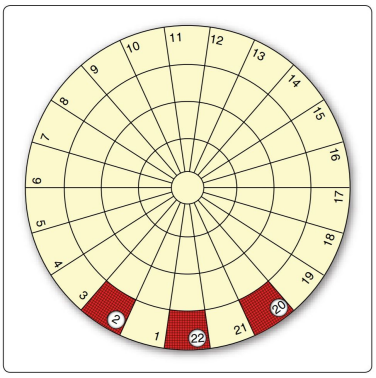
Deployment bag/ bridle (square parachute)

- Elastic Safety stow

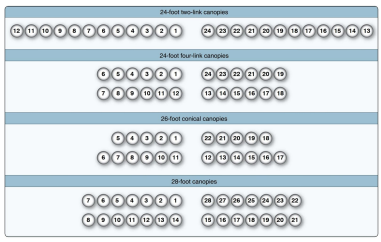
Assembly



For assembling a square (ram-air) parachute, use the diagram the attach lines evenly and systematically to the links/risers.



Using the diagram orientate the parachute to the harness. Panels 2, 22, 20 are the vented panel and should face the rear of the jumper. Panel 11 is the deployment device and should be toward the front of the canopy.

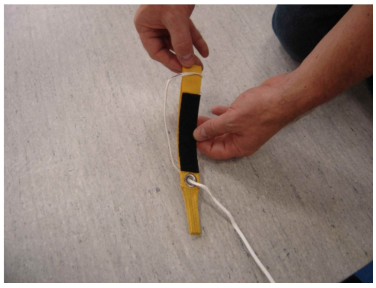


Depending on the type of parachute would depend on the line continuity. Use the diagram as a guideline for parachute assembly.

Several types of links may be used. Secure them correctly. Do not over tighten the links as it may cause damage.

If using softlinks, make sure they are manufactured for certified parachute use. Follow instructions provided by the manufacturer.

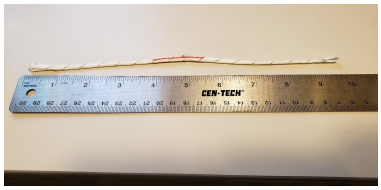
Assembly



Attach the control line to the steering toggle with a larks head knot

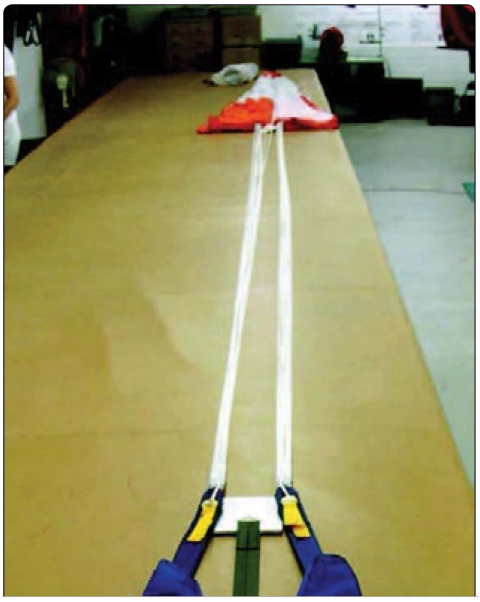
Attach the bridle to the apex. Tack bridle so that it's restricted from cynching.

Attach bridle to pilotchute attachment point with larks head knot

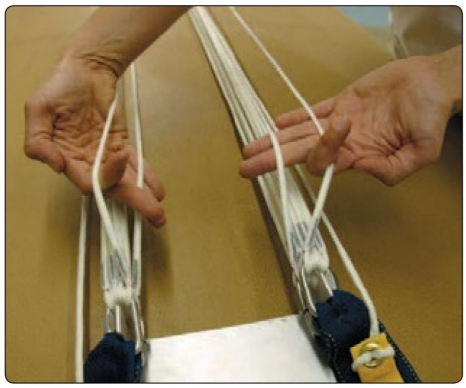


A closing loop measuring 9.5-10.5 inches must be installed.

Packing Round Parachute



Apply tension from the links through the lines/canopy to the apex lines.



Perform a 4 line check. Start at the links and hold the inside line of each link

Running your hands up the lines to the canopy should have you holding the center air channel. Mesh vent on top. Deployment device on bottom.

Flake each panel from skirt to apex. Inspect each panel.

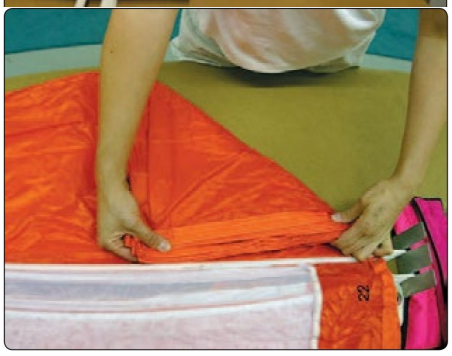
Packing Round Parachute (cont)

Distribute equal panels on both sides of the packjob.

Fold the edges of the skirt towards the center.

Progressively and systematically fold the edges inwards

Use clamps an/or weights to hold in place



Packing Round Parachute (cont.)

If a full stow diaper is used, use these pictures as a guideline

Route the lines as shown

Perform the first locking stow

Finish the remaining locking stows

Stow the remainder of the lines. Remember to leave 12-18 inches of excess line from the last stow to the end of the riser.

Packing Round Parachute (cont.)

Route pull-up cords through closing loop.

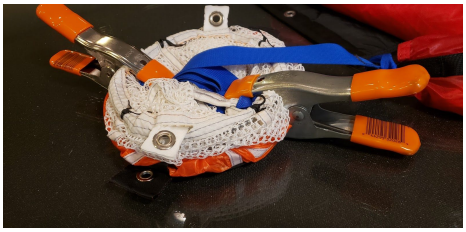
The rigger has the authority to distribute the bulk as necessary as to allow maximum comfort. Fold parachute as to not affect airworthiness.

A common method is to route the deployment device in the bottom of the container.

'S' fold parachute

Route the pull-up cords through canopy folds

If a pilotchute launch flap is installed, route the pull-up cords through the grommets accordingly



Compress the pilotchute spring with clamps. Align the grommets. Fold the
fabric/mesh between the coils of the spring.
'S' fold the bridle and secure with clamps.

If launch flap is used place the pilotchute on top. Route the Pull-up cords through the guide tabs on the pilotchute

If a launch flap is not used, place the pilotchute on top of the canopy and route the pull-up cords through the guide tabs on the pilotchute.

Route the pull-up cords through the top and bottom flaps.
Place temporary pins to hold in place

Remove clamps
Route pull-up cords through side flap grommets.
Take note of which flap has the pin cover as this will be the Last flap to close.

Alternate releasing temp pins and closing flaps.
Best technique is to secure one pin a time

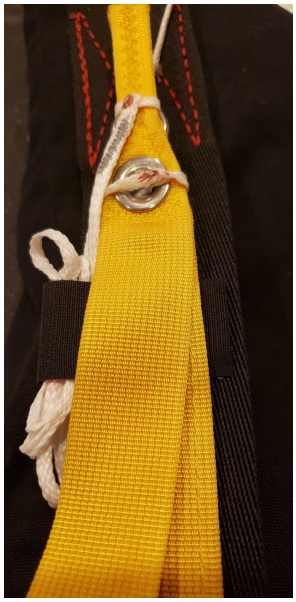
Secure second pin

Smooth out flaps and form riser covers

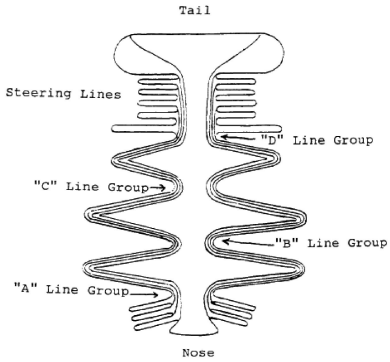
Remove pull up cords.
Count Tools
Seal Rig
Document work

Packing a Square (Ram-Air)

Suspend canopy by the trailing edge. Inspect fabric, lines, and attachments.



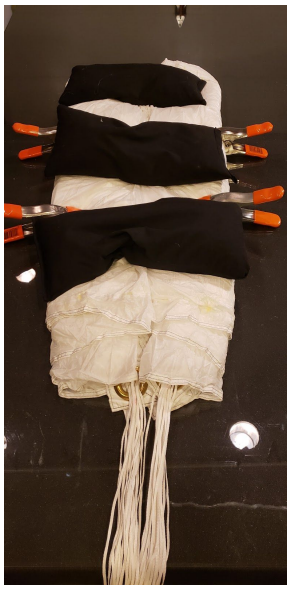
Set the control toggles to half brakes. Stow the excess as shown



Flake the parachute using the proper ram-air orientation (PRO) as shown in the diagram.

Flake the parachute carefully. Keep air channels clear of lines and fabric.

Position the slider grommets all the way against the slider stops.



Make reductions folds to reduce the width of the parachute

Fold the parachute to allow even distribution once in the freebag

As a guideline it is common for only one small ‘S’ fold to be performed.

Split the parachute into a molar shape by reefing the center cell

Evenly distribute the material into the deployment bag

Stow the lines first by performing two locking Stows. Stow the remaining lines in the Line pouch

Place the bag in the container. Use a bodkin to bring the pull-up cords through the freebag.

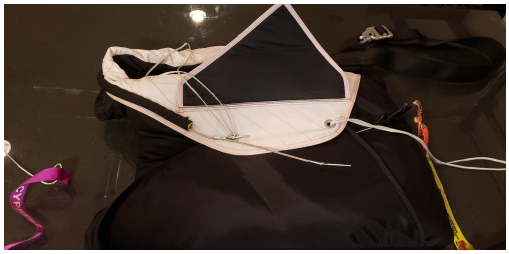
If a launch flap is used, route the pull-up cords accordingly through the flap grommets.

Using clamps. Secure the pilotchute on top of the launch flap. ‘S’ fold the bridle under the pilotchute.
Route pull-up cords through pilotchute guide tabs.

If a launch flap is not used, place the pilotchute on top of the deployment bag. Route pull-up cords through the pilotchute guide tabs.

Route the pull-up cord through the top and bottom flaps.
Use temporary pins to secure in place.
Remove clamps

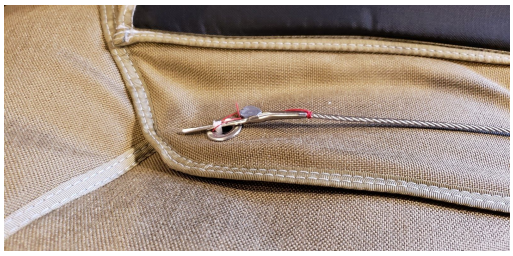
Thread the pull-up cords through the right and left flaps. Note which flap has the pin cover as this will be the final flap to close



Alternate temp pins one at a time while closing flaps. It is common to secure the top pin first.

Secure both pins

Smooth out flaps and form riser covers



Remove pull up cords
Count Tools
Seal Rig
Document work