

Aviator

Pilot Emergency Parachute System



Letter from the President

Dear valued Customer !

Thank you for choosing a AVIATOR Emergency Parachute System. It has been designed, tested and built not only to JTSO and TSO minimum performance standards, but mostly with our passion for the upmost quality workmanship, system functionality and longevity. We strongly recommend, that you and your rigger thoroughly inspect your new rig and carefully read this manual.

Should you find anything that does not look right to you or your rigger, please contact us immediately.

Again, thank you for choosing a Paratec Product. We are very confident it will be dependably at your service, when you need it most.

Sincerely

Eva Schumann
Stefan Ertler
Managing Directors
Paratec GmbH

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Operation Limitations Speed 2000

This Parachute has been certified under JTSO C23d and TSO C23d

Certification Nr.: LBA.O.40.014/06 JTSO

FAA design approval No : CB/vk/04/03:0056-03

**THIS PARACHUTE IS LIMITED FOR USE UP TO
A PACK OPENING SPEED OF 150 KTS TAS
AT A MAXIMUM OPERATING WEIGHT OF 115 KG**

Technical Specifications

Size	170	190	220	250
Measurements (L/W/H)	430 x 340 x 50		530 x 360 x 60	
Weight	5 kg	5,5 kg	6 kg	6,75 kg
Minimum rate of descent	2 m/s			
Maximum rate of descent	6-7 m/s			
Minimum forward speed(stall speed)	2-4 m/s			
Maximum forward speed	12 m/s			
Minimum pack opening altitude	500m			
Minimum pack opening speed	60 KTS			
Maximum pack opening speed	150 KTS			
Minimum suspended weight	45 kg	60kg	75 kg	85kg
Maximum suspended weight	60kg	80kg	100kg	115kg
Operating temperatures	-55°C - 70°C			

Notice:

Maximum pack opening speed is defined as the speed of the parachute system at canopy activation and/or container opening.

All flight performance data refer to maximum suspended weight

Maximum suspended weight is defined as the weight of the jumper (s) including parachute system and all auxiliary equipment attached when exiting the aircraft.

Pack opening altitude is defined as the altitude at canopy activation and/or container opening

Operating temperature range is defined as the ambient temperature at parachute deployment and/or container opening.

General Information

This manual can not substitute for the knowledge and training you get in a proper riggers course. The scope of this manual is also not to enable you to pack this reserve parachute without any basic skills.

It is in the responsibility of every trained and licensed rigger, to assemble inspect and pack to the manufacturers instructions, recommendations and to his best knowledge and ability before he seals and signs any pack job.

It is also in the responsibility of every user to stay within the limitations set by the manufacturer regarding maintenance cycles, wing loading and pack opening speeds to not endanger himself.

This manual is rather a guideline and a source of compact information, both for the owner, the user and the rigger.

1. About Packing

Paratec recommends the Pro Packing Method for the Speed 2000 Reserve. Should you wish to Flat Pack, this is also acceptable. The Speed reserves look, handle and pack no different than any other 7 cell reserve on the market. The Pro packing Method is probably the most logical and efficient method of packing a reserve today. Nevertheless, the packer should pay extra attention to the following steps:

Always keep your lines under tension, tying them together at the connector links

clear stabilizers, perform neat S-folds, clearing all line groups

while folding the tail, make sure your steering lines stay in the centre of the pack

split the nose part in a left and right half, keeping the center nose exposed

seat the base of the reserve with the slider properly, so it won't shift

match your packing (fabric distribution) to the dimensions of the individual free bag

after the canopy is in the bag, follow the manual of the rig manufacturer.

And most important of all: Inspect before your pack!

Inspection Procedures

1. Read before assembling

Since parachutes are manufactured and inspected by people, there is always the possibility of human error in terms of defects. Therefore, inspect the entire parachute system, Reserve, Harness/Container, Main Parachute and all other functional components, before you begin to assemble, pack or use this parachute system.

1. Inspection

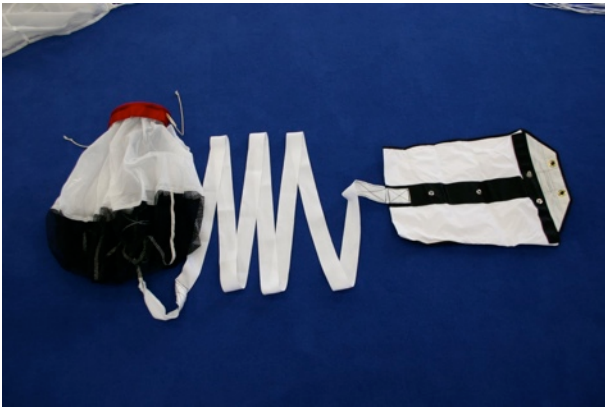
To be carried out at assembly, before every repack and after emergency use. According to the manufacturer's regulation, every Aviator System and/or its components must be inspected by qualified personnel, before it is used for the first time, before every reserve repack, no matter if it was used or not and after it was handled in an improper way such as after water jumps etc. The periodic inspection and repack cycle for this Harness Container System is 12 months. Other countries may have different regulations, so please check with your responsible governing body.

Read the instructions in this manual completely before you begin.

Inspection Plan

Points of Inspection	
Harness / Container	Inspect for
Main Lift web	damaged edges, velcro damage, broken stitches, ravelled stitches
Reserve rip cord, ripcord pocket, cable housing	tight fit in pocket, bent pin, enough excess cable, worn out velcro, broken stitches, loose tacking on MLW and / or reserve flap
Chest and leg straps	damaged edges, velcro damage, broken stitches, ravelled stitches, worn out elastic keepers
Container flaps	broken plastic stiffeners
Grommets	sharp edges, bad or improper setting
AAD set up	according to manufacturer's installation, damaged cables
Free bag and pilot chute	velcro damage, bent rings, damaged closing loop, hardened webbing on 3-ring, good toggle fit,
Closing loop	proper length, not frayed, general condition, proper type for AAD used
Entire hardware	rust, sharp edges, cracks, correct installation
Canopy	
Links	Assure the barrel nuts are tight, not stripped or cracked.
Slider	Check for correct assembly, the fabric for weave imperfections, the grommets for proper setting, knicks and dents.
Lines	Check for continuity, trim, burns and excessive fraying. Check for complete existence of all bartacks.
Stabilizer Attachments Line Attachments	Check for proper slack to the connecting lines, the slider stops and for imperfections in the fabric.
Seam starts	Check for back stitches and the existence of bartacks.
Seam work	Check for loose stitches, continuity and snags.
Fabric	Check each cell (ribs, Top Skins, Bottom Skins) for imperfections.

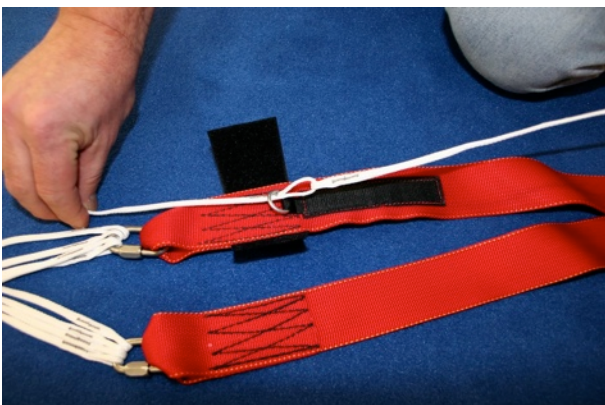
Folding the Parachute



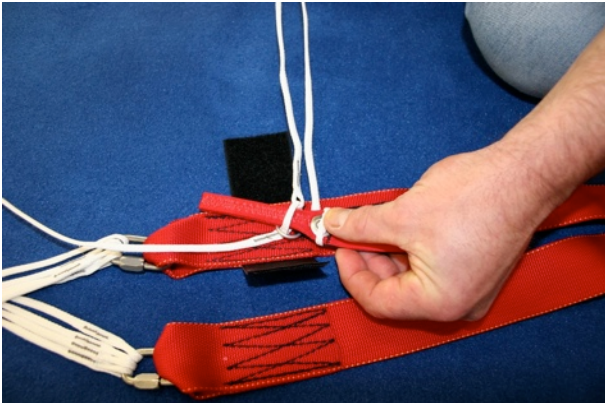
Prepare packing and lay out the freebag with pilot chute and bridle



Set the quickloop by pulling on each loop to enlarge it. This will make packing much easier



Start setting the brakes by pulling the steering lines through the lead rings down to the break loop



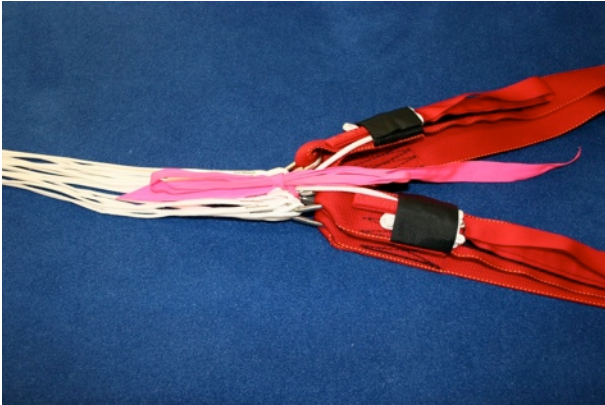
Insert the toggle



Velcro it down and fold the excess brake line to the side of the toggles



Use Velcro to cover and secure the break setting



To stay symmetrical throughout the pack job, tie the connector links together using a bright coloured tape or string



Pick up the canopy with the slider up and start flaking it



Keep line groups apart as you go through your S folds



Flake the tail and pull up the centre cell



Lay the canopy down and re dress it. Take extra care of the upper brake lines and make sure the slider grommets touch their corresponding stops on the stabiliser



Additional picture showing the above step on the opposite side



Once dressed properly, pull down the trailing edge of the centre cell



Kneel on the trailing edge and move forward of the centre seam until you reach the top leading edge of the centre cell.



This indicates the centre of the canopy which is now being spread to the side, leaving the centre cell exposed



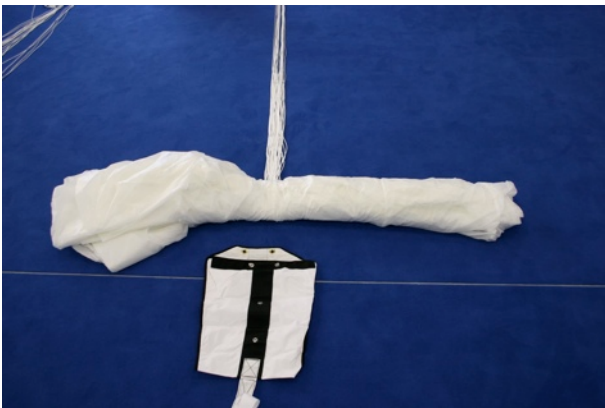
Roll down the centre cell towards you, beginning at it's top leading edge



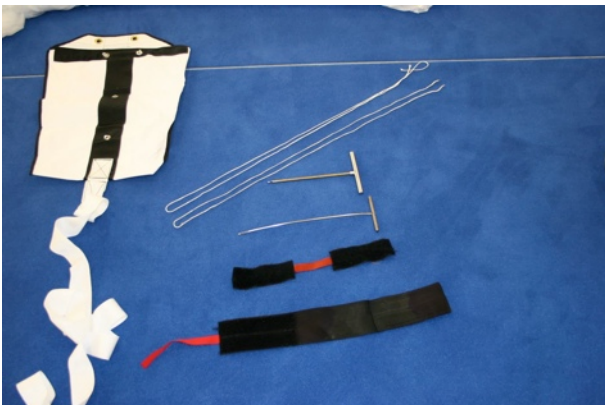
Fold it down to the narrow most position, creating a compact base



Dress the sides, referred to as ears. Make sure to control the base by kneeling on it as you work on said ears.



Overview picture



Pack tools needed :
2 T bars, also referred to as bodkins
2 long pull up cords
1 Velcro strap to cover line pouch velcro
1 compression strap for Pop Top pilot chute. (self made aid)



Prepare freebag by inserting the bodkins through the grommets



Cover up velcro with strap



Grasp the canopy, lift it up slightly and pull the freebag underneath it



Place canopy onto freebag



Control the base, grasp the ear....



Bring it forward and perform a S fold towards you



Hold the top of the ear...



And start pushing it into the freebag while keeping control of the base



Continue feeding the ear into it's corresponding side of the freebag



continue



Once all the ear is inside the bag, lock off with your knee



The following pictures show the same procedure with the opposite side of the canopy



continued



continued



continued



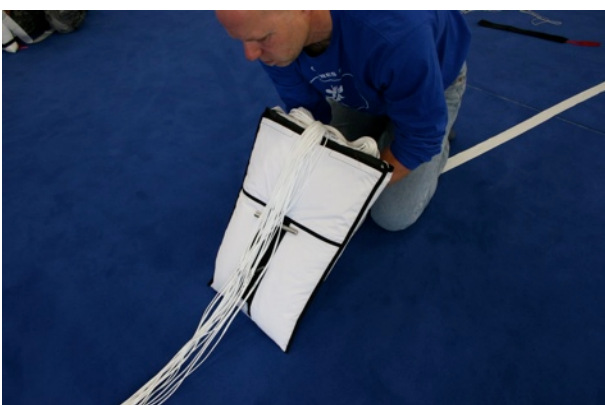
Once both ears are inside the bag, gently push the base inside making sure all lines are under tension



Start closing off the mouth of the bag by stowing the lines into the running loop



continued



Lift up the bag and prepare for stowing all excess lines



continued



continued



continued



continued



At this stage we prepare to put the bag into the container and close it

Closing the Container



Open all containerflaps and prepare to flip freebag with risers onto the pack tray



continued



Pull bodkins out of freebag and insert them again through the corresponding grommets inside the container bottom and back through the bag again. This step needs a bit of practice. To make it easier, so called „auto bodkins“ can be used where the top of the bodkin can be screwed off to avoid getting out of the freebag. These are available through the known sources for riggers tools.



Bottom view of the container with bodkins installed



Kneel on the bag and push the freebag into the lower corners of the container



continued



Perform 2 long S folds on each side of the top bodkin to form a V. Leave ca 1,5 m of bridle outside the container.



Begin to close the flaps by placing the grommets over the bodkins



continued



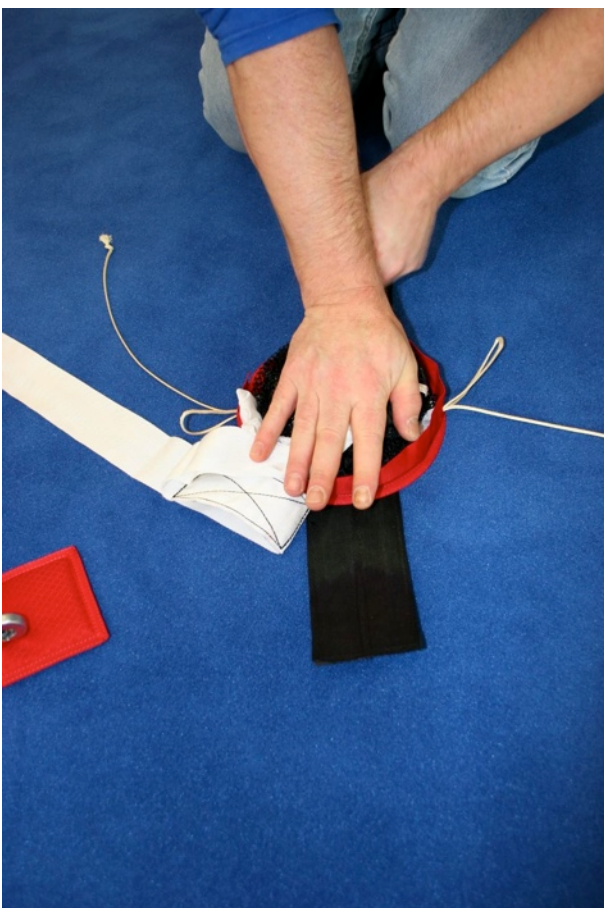
Close the riser covers and velcro them down their corresponding counterparts. Make sure the risers are placed underneath the protecting covers to avoid contact with the hook tape.



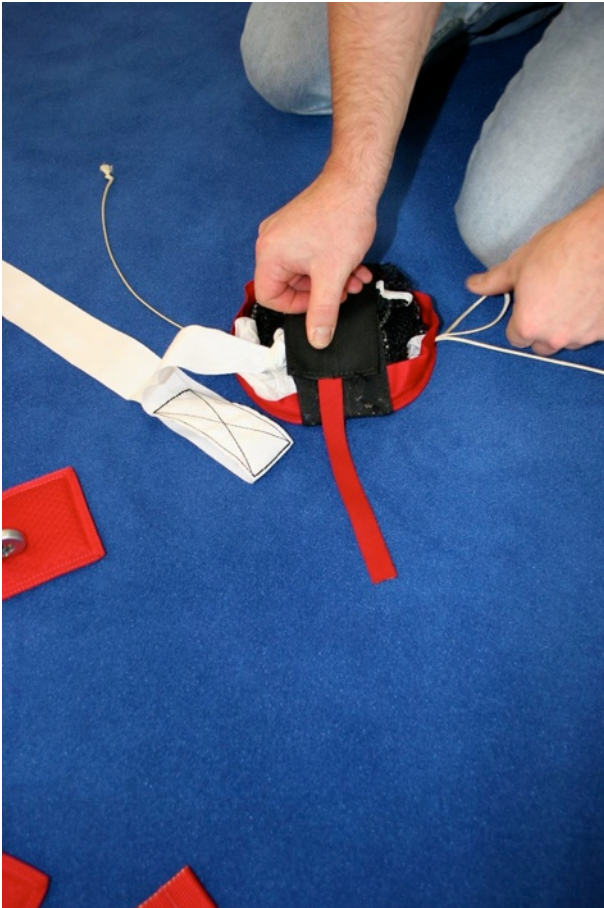
Continued



Place pilot chute upside down onto the compression strap



Compress pilot chute by pushing the fabric inside the coils



Close compression strap



continued



Fold excess bridle into small S folds not wider than the pilot chute top plate and position it between the bodkins on top of the closed side flaps



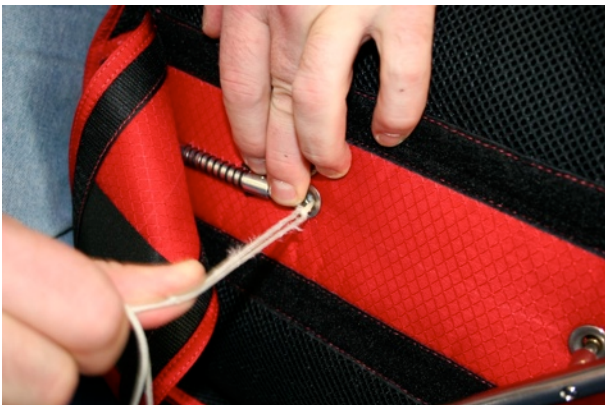
Feed the pull up cords through the quick loops and then through the corresponding bodkins.
This is the point where you should check to have lengthened the quickloop for easier packing



continued



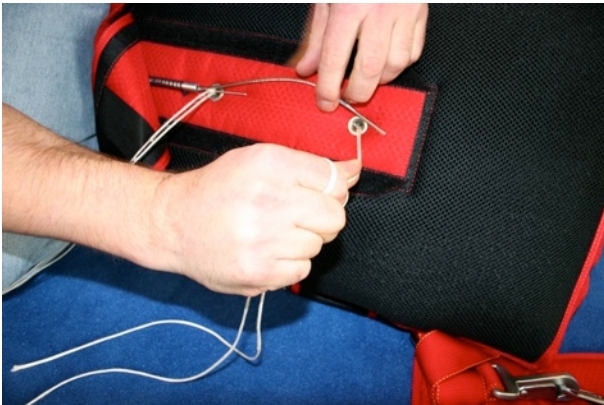
Move the rig onto it's side to access the bodkins and start pulling them out until you see the top of the loops. Beginn setting the pins with the top one first.



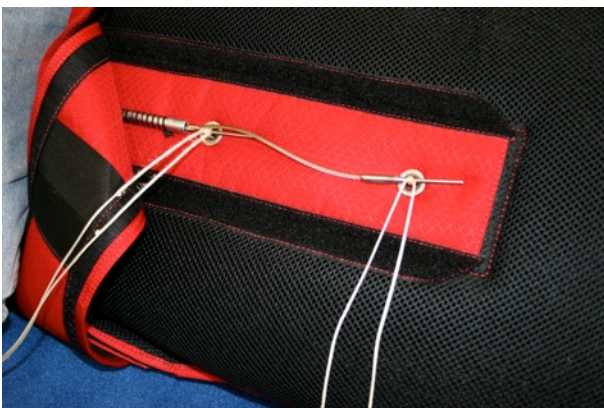
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Once top pin is set, continue to the bottom pin



continued



Both pins set, with pull up cords still in place.
Keep the pull ups inside the loops to avoid a repack should your pilot chute cause any problems



Remove the compression strap to apply tension to the quick loop and pins.
Adjust the seating of the spring to avoid any tilting



Shorten the quickloop by pulling on the open ends (top and bottom) and fully compress the pilot chute onto the pack. Use your bodkin or packing paddle for best results.



Continued



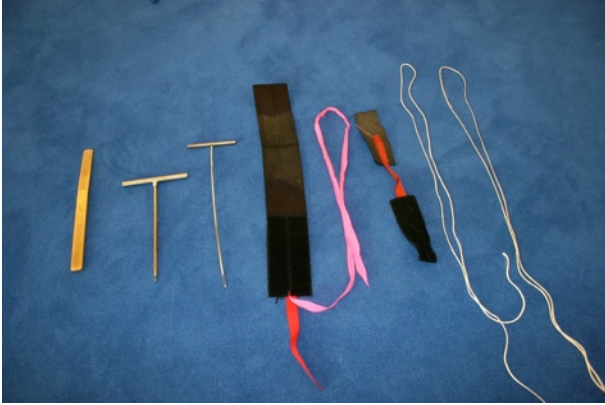
Once pilot chute is fully down, remove the pull up cords



S fold the loose ends and use a packing paddle to push them under the rim of the pop top cap



continued



Count your tools



Seal and log your pack job

Maintenance

Types of maintenance (Actions to obtain and maintain airworthiness)

Any kind of maintenance on this personal parachute system and its components has to be carried out by trained and validly licensed technical personnel, or qualified person with a acknowledged certification by following the instructions in this manual.

The procedures, laws and regulations of the individual countries in which this personal parachute system is used, can supersede the will and the intention of the manufacturer.

Please check with your national parachuting organisation and/or your civil aviation authorities for potential legal collisions with the procedures set forth in this manual.

Type of maintenance	Manufacturer or certified loft	Senior rigger	Master rigger Without certified loft	Intervall
Assembling and compatability check	yes	yes	yes	Before initial use according to manufacturers instructions
Inspections and reserve repacks	yes	yes	yes	- before use
Minor repair	yes	yes	yes	- within 12 months
Minor alteration	yes	yes	yes	- after emergency use
Major repair	yes	no	no	- after water landings
Major alteration	yes	no	no	- after improper use

Minor repair

„A repair any other than a major repair“. Pointer manual, Volume I, Glossary / Index.

Such as: Replacing (assemble) canopies, harness/container systems (rigs), pack opening bands, cable housings, automatic actuation devices and harness hardware, where major stitching is not required.

Making repairs to containers, repair of stitching (re-stitch), patching holes in canopies.

Major repair

1. That, if improperly done, may affect weight, balance, structure strength, performance, flight characteristics or other qualities affecting airworthiness
2. That is not according to accepted practices or cannot be done by elementary operations
3. Which includes replacement of panels, ribs, lines, lateral bands, back straps, main liftwebs (Pointer Manual, Volume I, Chapter 7.01. and 7.02).

Parts list

Part name	Part number
Aviator Harnes / Container	35030301
Speed 2000 Reserve 170	20020104
Speed 2000 Reserve 190	20020109
Speed 2000 Reserve 220	20020105
Speed 2000 Reserve 250	20020106
Free Bag	35030320
Pilot Chute, complete	35030330
Running loop	35030340
Pilot chute cap	35030331
Adjustable closing loop	35030341
Ripcord	35030351
Static line	35030355
Transport bag	54050423