



Riggers' Subcommittee

Thursday 6 April 2017 at 1600

at BPA HQ, 5 Wharf Way, Glen Parva, Leicester LE2 9TF

Present: Paul Applegate (AR) - Riggers' Subcommittee Chair
Dave Major (AR)
Rick Boardman (AR)
Gary Stevens (PR(nv))
Pete Sizer (RE)
Karen Saunders (AR)
Mark Bayada (PR(v))

Key:

RE = Rigger Examiner

AR = Advanced Rigger

PR(v) = Parachute Rigger (voting)

PR(nv) = Parachute Rigger (non-voting)

Apologies: Noel Purcell

In Attendance: Tony Butler - Chief Operating Officer
Jeff Montgomery - Chair STC/STO
John Hitchen - Vice Chair STC
Trudy Kemp - Assistant to COO/STO

Observers: Steve Saunders, Sara Orton.

ITEM

1. DECLARATIONS OF INTEREST

The Chair invited declarations of interest relating to items on the agenda for this meeting. None were stated.

2. MINUTES AND MATTERS ARISING FROM THE RIGGERS' SUBCOMMITTEE MEETING OF THE 2 FEBRUARY 2017

Page 1, Item 2 – Next & Next Century Tandem Systems. As there had been nothing reported from the WG set up to look at the various issues surrounding reserve loops on Next and Next Century Tandem Systems, the Committee felt that this item could now be drawn to a close.

Page 1, Item 2 – Tandem Mods Website & Supporting Documentation. This item was still ongoing.

Page 1, Item 2 – Mars 2 AAD. Karen Saunders reported that she had received reports from a number of Advanced Packers who were working independently from a PTO who were struggling with the barometric pressure testing when conducting the yearly maintenance on the Mars 2 AAD. One of the reasons was that the reading on the barometric reading device was different from the reading on the unit itself. The only time that they were only able to get a correct reading was when they managed to compare it against a Vigil AAD unit.

During the discussion that followed, it was noted that some barometric pressure reading devices on the market may not be good enough or suitable for conducting the barometric pressure test.

The Committee reiterated that it was important that the comparative barometric pressure check was done against a suitable instrument. If there was any doubt at all, Packers should not release the equipment back into service until they were satisfied that the reading was accurate.

The Committee also referred Packers to the manufacturers video, which explained how the various checks can be completed.

Page 2, Item 2 – Rigging Syllabus Update Project (Various Updated Rigging & Packing Related Forms). This item was on the main agenda for this evening.

Page 3, Item 5 – Y Mod Strap for Paratec Tandem Student Harness. This item was on the main agenda for this evening.

Page 9, Item 12 – AOB (iii). At the last the meeting, the Committee had agreed to look into a number of areas in an effort to try and encourage more participation from Packers & Riggers:

- Karen Saunders was looking into compiling a list of older BPA safety notices and bringing them up to date with a view to educating Packers
- Rick Boardman reported that it is the intention to hold Riggers convention on the Friday prior to 2018 AGM. He stated that a number of ideas were being considered for various topics presentations at the convention.

Page 9, Item 12 – AOB (iv) – A draft Tandem Student Harness Repair/Modification Record Log has been produced for consideration. This item was on the main agenda for this evening.

There being no further matters arising, it was proposed by Rick Boardman and seconded by Karen Saunders that the Minutes of the Riggers Subcommittee Meeting of 2 February 2017 be accepted as a true record.

Carried Unanimously

3. **MATTERS ARISING FROM THE STC MEETING OF THE 2 FEBRUARY 2017**

There were no matters arising from the previous meeting.

4. **'Y' STRAP MODIFICATION FOR PARATEC TANDEM STUDENT HARNESS**

At the Riggers' Subcommittee Meeting of 2 February 2017, the Committee had granted a blanket acceptance for the modification to add a Y strap to a Paratec Tandem Student Harness.

Karen Saunders has now requested a number of variations to the original Y modification, and had submitted a Student Parachutist Equipment Change Proposal Application together with the relative paperwork and drawings, copies of which had been circulated with the Agenda.

Karen presented a mock-up of the proposed modification, and reported that she had improved the design slightly from the photos and drawing originally submitted.

Following consideration, it was proposed by Karen Saunders and seconded by Rick Boardman that the above modification be accepted.

Carried Unanimously

The relevant paperwork and photos for this modification, including a revised drawing and photographs would also be attached to the Minutes for information (Appendix A).

5. TANDEM HARNESS & CONTAINER SYSTEM INITIAL ACCEPTANCE REQUEST

A proposal from Rick Boardman & David Gould together with supporting paperwork had been circulated with the Agenda requesting that the SWS 'Fire' 2R-C Tandem container and harness system be accepted for use. Included in the paperwork were the emergency procedures for the equipment from the 'Fire' Tandem manual, together with the draft BPA emergency drills for the system.

Rick Boardman reported that the manufacturers stipulate that the use of the Strong Master reserve is not to be used in the equipment. However, other suitably sized reserves are permitted. Also, when replacing parts, only the manufacturers original components can be used.

Following consideration, it was proposed by Rick Boardman and seconded by Dave Major that that the SWS 'Fire' 2R-C Tandem container and harness system including the Emergency Drills be accepted for general use.

Carried Unanimously

The relevant paperwork, drawings and emergency drills for this equipment would also be attached to the Minutes for information (Appendix B).

6. PROPOSED AMENDMENTS TO BPA OPERATIONS MANUAL, SECTION 9 - RIGGERS

At the Riggers' Subcommittee meeting on the 16 November 2016 it was agreed that the qualifications to attend the various Rigging courses should be included in the BPA Operations Manual to bring them in line with the Instructor's inclusions in the Manual.

Therefore, the following changes had been proposed to Section 14 (Rigging) of the BPA Operations Manual:

Paragraph 3 (Parachute Rigger). Sub-para 3.1, Change to read:

- 3.1. The requirements to attend the Parachute Rigger course are as follows:
 - 3.1.1. Must be a full BPA member
 - 3.1.2. Must be a Basic Rigger
 - 3.1.3. Must have a BPA Advanced Packing Certificate Grade (S)
 - 3.1.4. Must hold a BPA Approved Packing Certificate that includes a Tandem system (i.e. a Tandem main packing certificate)
 - 3.1.5. Provide a written recommendation to attend the course from the supervising rigger

3.1.6. Provide a log of rigging work carried out since the BPA course signed

[REDACTED]

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[REDACTED]

[REDACTED]

- 4.1.4. Provide a written recommendation to attend the course from an Advanced Rigger who has known the candidate for at least 6 months
- 4.1.6. Log of rigging work carried out in the preceding 12 months
- 4.2. The candidate will attend an Advanced Rigger Course as per the Advanced Rigger Course Syllabus (BPA Form 201).

Paragraph 5 (Rigger Examiner). Change Sun-para 5.1. & 5.2. to read:

- 5.1. The requirements required to attend a Rigger Examiner Course are as follows:
 - 5.1.1. Must be a full BPA member
 - 5.1.2. Must have been an Advanced Rigger for at least 2 years
 - 5.1.3. Must have attended a "Methods of Instruction" lecture on a BPA Instructors' Course or can demonstrate good instructional experience and background
 - 5.1.4. Provide a written recommendation to attend the upgrade to Examiner from a Rigger Examiner who has known the candidate for at least 6 months
 - 5.1.5. Provide a log of the rigging work carried out in the preceding 12 months
- 5.2. The candidate will attend the 3 phases of the Rigger Examiner Course as per the Rigger Examiner Course Syllabus (BPA Form 202).

It was proposed by Andrew Hilton (proxy) and seconded by Pete Sizer that the amendments to Section 14 (Rigging) of the BPA Operations Manual be accepted.

Carried Unanimously

7. DRAFT ADVANCED PACKER & RIGGING RELATED FORMS FOR FINAL ACCEPTANCE

Andrew Hilton had re-drafted various Advanced Packer and Rigging related forms, which required final acceptance by the Committee, copies of which had been circulated with the Agenda. These included:

Registration of Basic Rigger for Assessment Training (BPA Form 138)

Advanced Packer Course Syllabus (BPA Form 169)

The Committee noted a slight amendment to this form, which had arisen from the amended Advanced Packer Course Training Record (BPA Form 175), which had been accepted at the previous meeting.

Basic Rigger Course Syllabus (BPA Form 199)

Parachute Rigger Course Syllabus (BPA Form 200)

Advanced Rigger Course Syllabus (BPA Form 201)

Rigger Examiner Course Syllabus (BPA Form 202)

Following consideration, it was proposed by Pete Sizer and seconded by Karen Saunders that the above BPA forms be accepted together with the slight amendment to Form 169.

Carried Unanimously

The updated forms would be uploaded to the BPA Forms page of the BPA website:

<http://www.bpa.org.uk/bpa-forms/>

8. DRAFT REPAIR/MODIFICATION RECORD LOG TO ADD TO BPA FORM 112D (TANDEM STUDENT HARNESS AIRWORTHINESS INSPECTION)

Karen Saunders had drafted a repair/modification record log to add to the Tandem Student Harness Airworthiness Inspection (BPA Form 112D), a copy of which had been circulated with the Agenda.

Following consideration, it was proposed by Karen Saunders and seconded by Pete Sizer that the above BPA form be accepted.

Carried Unanimously

The updated form would be uploaded to the BPA Forms page of the BPA website:

<http://www.bpa.org.uk/bpa-forms/>

9. EQUIPMENT RELATED INCIDENT REPORT RESUME

The office had received several Incident / Malfunction / or Deployment problems reported since the last Riggers Subcommittee meeting:

i) Incident

On the 19 of February 2017, at approximately 14.55 hrs an A Licence Parachutist with 39 descents, carried out a Solo Flat jump. The exit and freefall phase went without incident, right up to the point of deployment. At approximately 4000 ft AGL as the main canopy deployed, the parachutist saw something over his right shoulder. It is believed that this might have been the reserve pilot chute. Another parachutist who witnessed the incident described that the reserve pilot chute was trailing behind the parachutists whilst he flew the main canopy for approximately 15 seconds, after which point the reserve continued to inflate and ended up in a Bi plane configuration, reserve flying below and behind the main. The parachutist landed both canopies without further incident.

The Equipment was a Student Zerox container, the main was a navigator 260, the reserve was a raven 3 and the AAD was a student Cypres 2. The reserve canopy was packed in around Oct / Nov 2016. Also, the equipment had been jumped that same day and the reserve pin was also inspected by the rigger after the main had been packed, prior to the jump in question. After the incident and on close inspection of the equipment, the PTO rigger could not identify what may have been the cause of the incident. Both the RSL and Reserve ripcords were measured and found to be of the same length as those on all the other containers. The Rigger concerned has informed the manufacturer and is monitoring the situation.

ii) Incident

On the 24 of February 2017 at approximately 15.00 hrs a 'C' Licence parachutist carried a solo flat descent. On deployment by 3000ft a hard opening was experienced followed by line twists which were causing the canopy to dive to the right. A brake fire was suspected at this point so once the twists were cleared the parachutist released the brakes expecting to level the canopy only to find that the left brake line had been severed. The parachutists then imitated his emergency procedures and landed without further incident.

On inspection of the canopy it was discovered that the steering line was severed where the lower section joins the higher section, i.e. the finger trap and that there was a tear in the fabric of the slider which is believed this may have been the cause as the brake line broke and slashed through the slider.

The line set from the Sabre 2 had approximately 19 jumps, the reserve was a PDR 176, container was a Vector sport (V350) and the AAD was a Cypres Mode Expert.

On further inspection of the container, which was manufactured in October 2016, it was noticed that there were some sharp edges within the seams inside the riser covers. The edges had been clearly hot knifed but were not tacked down to prevent any damage. The PTO has informed the manufacturer.

The manufacturer stated that the damage caused pointed to a hard opening due to poor packing and if they wished they could have a rigger shave the sharp edges off. This has now been done and the damage to the slider repaired.

iii) Incident Reporting

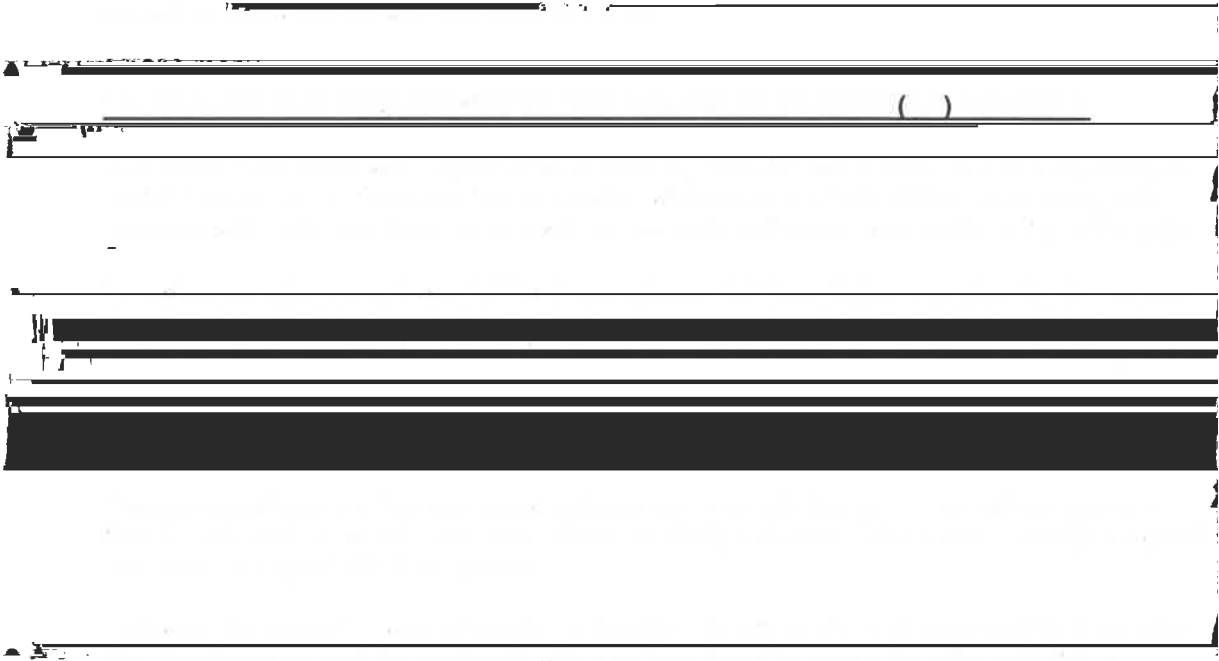
One report related to an SWS Fire container manufactured in 2016, which was found with signs of oxidation on the metal work. The rig was stored over the winter, with several other older containers and in the same environment. The SWS container had black hardware.

The Advanced packer has contacted the manufacturer to find out if the container was airworthy. The manufacturer replied to say, that they could not determine the airworthiness without seeing the container and testing it, along with sending the hardware back to the metal manufacturer for their testing.

The container is currently grounded, and it is understood that it has gone back to the manufacturer.

Karen Saunders reported that she had been made aware by a jumper that UPT had recalled a container, which had also been manufactured with black hardware.

The Committee felt that these could just be isolated incidents. However, Karen Saunders



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10. TO DISCUSS THE REQUIREMENTS FOR ADVANCED PACKER AP COURSES

Discussion took place with regard to what packing tools AP candidates should bring along on an AP Course, as currently we had a situation whereby some candidates come along fully prepared with their own tools, others will borrow tools and some candidates bring nothing all.

Following consideration, it was felt by those present that candidates attending an AP Course should bring with them a selection of their own basic packing tools, and that perhaps some guidance notes could be produced that could be incorporated into the Reserve Packing Guide.

11. PERMISSIONS

George Panagopoulos has requested extensions to the BR ratings of Clint McKenzie and Martin Cole, both of whom had been unable to attend the latest PR Course. George's request has been circulated with the Agenda.

Following discussion, it was proposed by George Panagopoulos and seconded by Pete Sizer



STUDENT PARACHUTIST EQUIPMENT* CHANGE PROPOSAL - APPLICATION

* Equipment used by Student Parachutists; Tandem, AFF (including consolidation jumps), Category System

Applicant Details

Karen Saunders AR250
Membership No. 938089

Equipment Details

Paratec Tandem Student Harness

Synopsis of Proposed Change

To add Y strap to prevent student slipping out of the harness

Method of Change

Type 8 wrapped around the leg straps joined near coccyx, with an adjustable strap in type 17 up to meet the horizontal back strap.

It is proposed that the horizontal back strap is passed through a separate buckle attachment (similar to the design from UPT) buckle is attached to the front of the type 17 (see photo) to protect the student's back from coming into contact with the buckle.

A foam pad will be attached to the back of the y-strap buckle to further improve comfort.

Materials

Type 8, type 17, type 3 1"buffer, 1"chest strap buckle

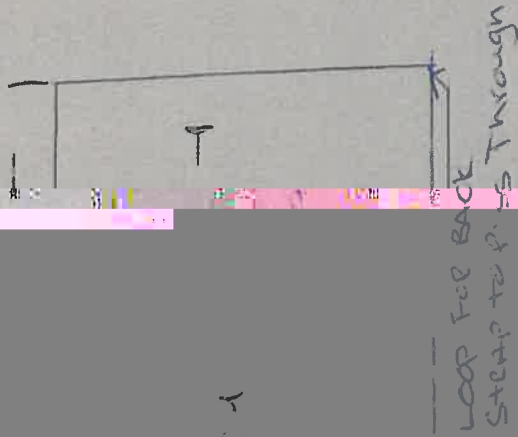
Equipment

Lock stitch machine, Harness Machine, Hot Knife, Bar tack machine

- . .
- . .
- . 1) Make loop holding chest strap buckle and sew buffer piece in place, create loop to the front and back encasing the buckle attachment. Bar tack into place
- . 2) wrap lengths around leg straps and sew. These are not attached to leg straps – just fitted tightly around leg straps. ■
- . 3) Create a confluence with ends and wrap vertical strap around and sew 4 point pattern. ■

Type 17
1x 1" Buckle
Type 3 Chaffing Strip

OR
Types
2" Buckle
Type 12 Chaffing Strip



900



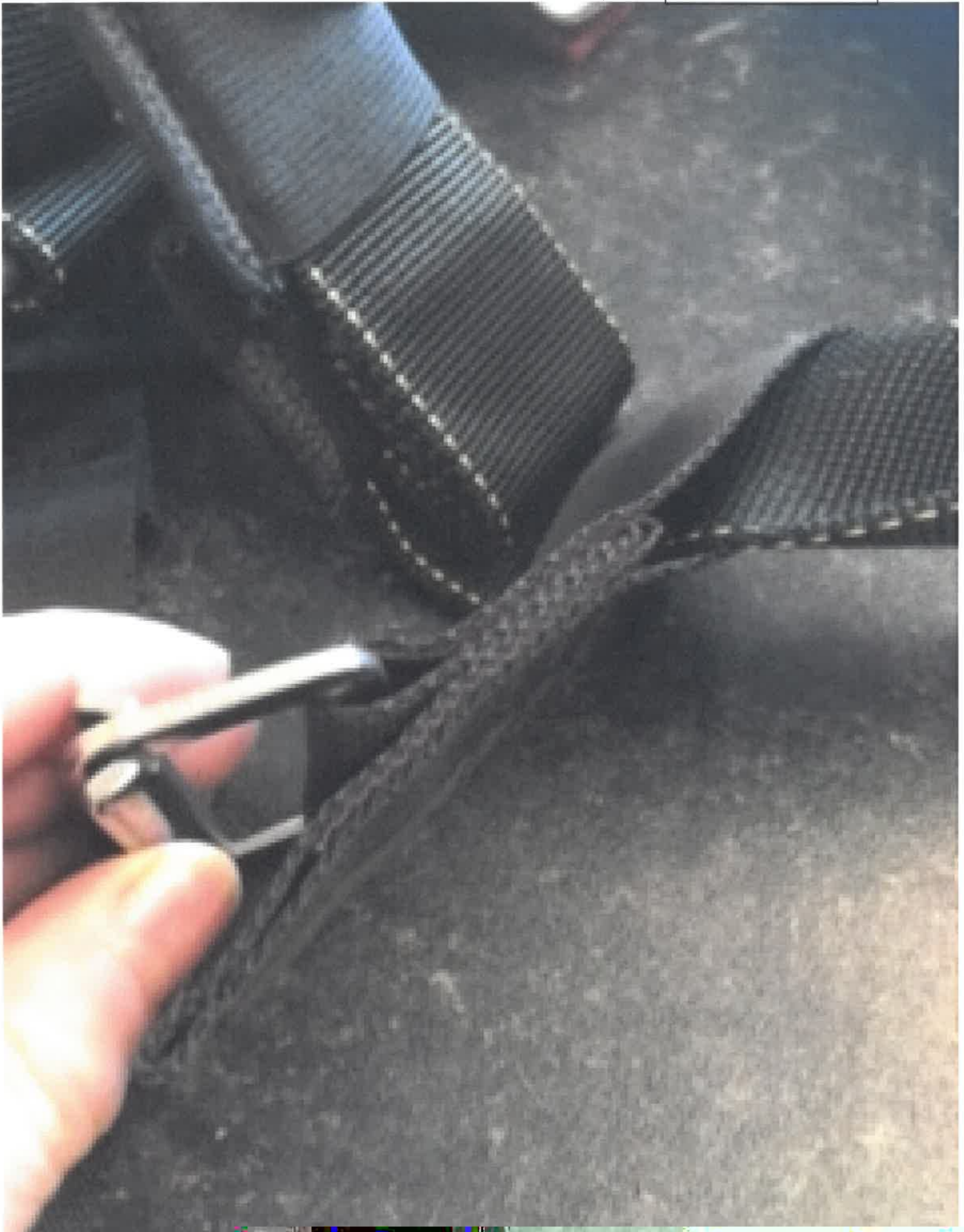
3x BAR TACK

Buck

2 1/2" or Stronger if







CONTAINER DETAILS:

- a: AAD set up type: 'Cypres' type Y Other?:
- b: AAD Manufacturer, make and model: Airtec
- c: Postal Address Mittlestrasse 69, 33181, Wunnenberg, Germany
- d: Website Address: www.cypres.aero
- e: Main deployment: Primary Ripcord
Secondary Ripcord
- f: Other relevant details:

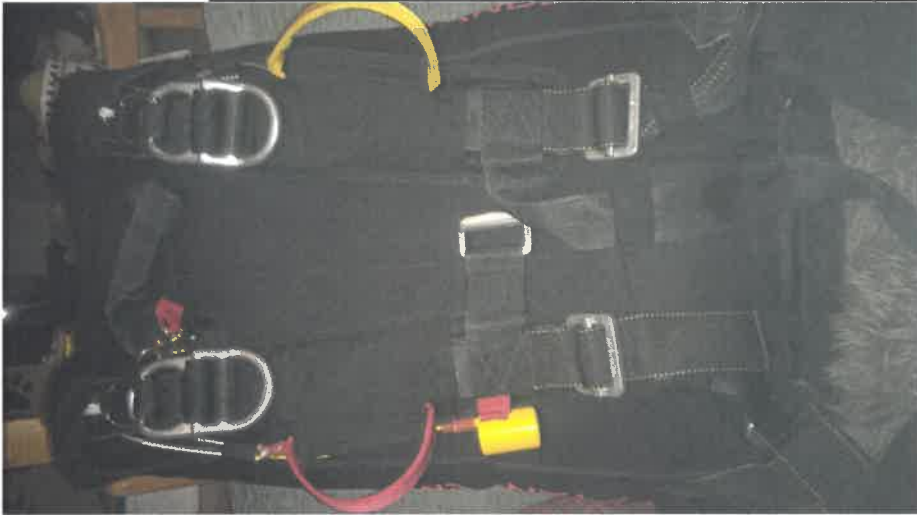
RESERVE CANOPY DETAILS:

- a: Name and Model: Twinspeed 340 R
- b: Size of reserve:.....340 Sq Ft
- c: Serial number:.....TW 3400 009 R
- d: Manufacturer's Name: Paratec
- e: Postal Address: Weingartstrasse 12, 66798, Wallerfangen, Germany
- f: Website Address: info@paratec.de

STUDENT HARNESS DETAILS:

- a: Name and Model: Fire Tandem Passenger Harness
- b: Manufacturer's Name:..... Sky Wide Systems
- c: TSO Type & Category:..... FAA TSO – C23 d
- d: Postal Address: Budmash Factory, Building 111, 4th Floor, Office 404, Borispolskaja Street 9,
Kiev, Ukraine
- e: Website Address: www.sws.aero
- f: Harness Type: Hip rings: Y Chest rings Y Adjustable MLW Y/N
- h: Legstraps: B12 Snaps Y Step in Y
- i: Main Attachment: Large butterfly with pin N Large butterfly no pin Y
B12 with pin N B12 no pin N
- e: Side adjusters: Snap ejectors Y Other:
- f: Other relevant details: Clubs are to apply an identifying serial number to harness.

FURTHER USEFUL INFORMATION SUGGESTION



a: Front of container

b: Back of rig

c: Deployment area

SWS
Fire Tandem
Owner's Manual

7.4. Tandem Emergencies

Exit Phase (Before Drogue fall)

Bag out immediately on exit:

Deploy drogue, release drogue immediately and expect a malfunction. If cannot deploy drogue, cut-away and deploy reserve.

Unstable on exit:

Try to physically rectify student's position to gain stability, if unsuccessful deploy drogue preferably in a face to earth position.

Side spin:

If left side down deploy drogue. If right side down initiate reserve deployment. It may still be advantageous to deploy drogue even if right side down.

Drogue release handle pulled prior to deployment of drogue:

Immediately deploy drogue.

Unable to locate drogue:

Make second attempt to locate drogue again, check drogue has not prematurely deployed, if not, immediately initiate reserve deployment.

Drogue handle comes off

Drop handle, reach back to drogue pouch, grab fabric and throw as normal.

Drogue fall

Collapsed drogue:

Pull drogue release handle after 6-8 seconds of freefall. Immediately initiate reserve deployment.

Cannot locate (or pull) drogue release handle:

Pull secondary drogue release handle

Cannot locate (or pull) secondary drogue release handle:

Immediately initiate reserve deployment.

Drogue detaches / breaks:

Immediately initiate reserve deployment.

Drogue becomes entangled:

Have one attempt to clear the entanglement, if unsuccessful, immediately initiate reserve deployment.

Main container opens during drogue fall:

Pull drogue release, be prepared for a malfunction.

**SWS
Fire Tandem
Owner's Manual**

Left arm incapacitated by injury or by student:

Pull secondary drogue release handle.

Right arm incapacitated by injury or by student:

Pull primary drogue release handle, if cannot find primary drogue release handle, immediately initiate reserve deployment.

Unable to locate either drogue release handle:

Immediately initiate reserve deployment.

Drogue release handle pulled

Main malfunction:

Cut-away and initiate reserve deployment.

Inflated drogue does not release:

Pull secondary drogue release handle.

Inflated drogue in tow:

Immediately initiate reserve deployment.

Drogue deflates but does not release:

Pull secondary drogue release handle.

Deflated drogue in tow:

Immediately initiate reserve deployment.

Drogue detaches / breaks on drogue release pull:

If main does not deploy initiate reserve deployment. If main canopy starts to deploy after reserve deployment, cut-away the main canopy.



Tandem Emergencies

SWS FIRE

Appendix B



Exit Phase (Before Drogue Fall)

Bag out immediately on exit

Deploy drogue, release drogue immediately and expect malfunction – (If cannot deploy drogue) disconnect RSL, cut-away and deploy reserve

Unstable on exit

Try to physically rectify student's position to gain stability, if unsuccessful deploy drogue preferably in a face to earth position

Side spin

If left side down, deploy drogue, if right side down initiate reserve deployment. It may still be advantageous to deploy drogue even if right side down

Drogue release handle pulled prior to deployment of drogue

Immediately deploy drogue

Unable to locate drogue

Check drogue has not prematurely deployed, if not immediately initiate reserve deployment

Unable to deploy drogue

Immediately initiate reserve deployment

Drogue Fall

Drogue does not inflate

Pull drogue release handle after 6-8 seconds

Drogue detaches / breaks

First check for bag out, if not then immediately initiate reserve deployment

Cannot locate (Or Pull) drogue release handle

Pull secondary drogue release handle

Cannot locate (Or Pull) secondary drogue release handle

Immediately initiate reserve deployment

Drogue bridle becomes entangled

Have one attempt to clear, if unsuccessful initiate reserve deployment

Main container opens during drogue fall

Pull drogue release, be prepared for a malfunction

Left arm incapacitated by injury or by student

Pull secondary drogue release handle, if cannot locate secondary drogue release handle, with right hand immediately initiate reserve deployment using RSL.

Right arm incapacitated by injury or by student

Pull primary drogue release handle, if cannot locate primary drogue release handle immediately initiate reserve deployment

Unable to locate either drogue release handles

Initiate reserve deployment immediately

Primary Drogue Release Handle Pulled

Main Malfunctions

Cut-away and initiate reserve deployment

Inflated drogue does not release

Pull secondary drogue release handle

Inflated drogue in tow

Immediately initiate reserve deployment

Drogue deflates but does not release

Pull secondary drogue release handle.

Deflated drogue in tow

Immediately initiate reserve deployment.

Drogue detaches / bridle breaks on drogue release pull

If main does not deploy initiate reserve deployment. If main canopy starts to deploy after reserve deployment, cut away main canopy.