SAFETY MANAGEMENT SYSTEM (SMS)

Occurrence and Risk Mitigation Reporting

AIM Analysis as of October 2025

Canadian Sport Parachuting Association
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1 - TANDEM

1.1. Accident

2025T-01

- **Category:** Landing
- **Passenger Age:** 26
- **# of skydives:** 410
- **# of tandem skydives (instructor):** 3150
- **Container:** UPT Sigma
- **Main Canopy:**
- **Details:** On landing, the Tandem Instructor had an uneven flare which resulted in a turn through the landing. Tandem Instructor's left foot touched the ground first. The ground was very soft due to recent spring rains. When the left foot touched the ground, it dug in resulting in the tandem pair being spun in a 180-degree manor. The Tandem Instructor had a knee sprain and was sent for medical attention. The Tandem Passenger was uninjured.
- **DZSO Recommendations:** Even flares create more predictable landings. Beware of hazards of soft ground where feet can get stuck resulting in injury to lower extremities.
- **CSPA Recommendations:** Review the manufacturer's recommendations for external factors that can alter flight cycle and/or flare performance including, but not limited to, winds, passenger weight, outside temperature changes, terrain, and altitude. Assess, flag, and/or repair potential obstacles and hazard areas in landing areas, such as uneven ground, animal holes, drainage, and so forth to minimize potential injury.
- **Action by:** Tandem Instructors; DZSO

2025T-02

- **Category:** Landing
- **Passenger Age:** 54
- **# of skydives:**
- **# of tandem skydives (instructor):** 4081
- **Container:** UPT Micro Sigma
- **Main Canopy:** Icarus World TX2 330
- **Details:** During the course of the landing pattern, while on base leg the wind gusts switched direction from SW to SSE with a very large strength causing the canopy to stall and be unresponsive. Unable to turn into the direction of the gust, Tandem Instructor was forced to land side wind. Inputs had little to no effect, fully flared at approx. 15 feet and maintained full flare until on the ground. Hard landing. Tandem Student was advised to not move and after a very brief conversation with tandem student, 911 was called. Tandem Instructor sustained minor scrapes. Winds were observed prior to and during jump. No gusts above 20mph were observed at any time.
- **DZSO Recommendations:** Information about the accident has been reported to UPT for review by DSO. UPT followed up noting: It appears that changing weather conditions were a contributing factor here.
- **CSPA Recommendations:** Review the manufacturer's recommendations for external factors that can alter flight cycle and/or flare performance including, but not limited to, winds, passenger weight, outside temperature changes, terrain, and altitude.
- **Action by:** Tandem Instructors; DZSO

2025T-05

- **Category:** Landing
- **Passenger Age:** 51
- **# of skydives:**
- **# of tandem skydives (instructor):** 500
- **Container:** UPT Sigma
- **Main Canopy:** UPT Sigma
- **Details:** Tandem Instructor performed the pre-skydiving briefing with the Tandem student and their daughter. When the TI described the landing protocol (knees & feet raised high), the Tandem student asked, "What happens if I can't lift my legs?". TI answered they would practice lifting knees and legs following parachute deployment. Following parachute deployment, the Tandem student immediately expressed significant discomfort in their legs. TI asked the tandem student to stand on their feet which seemed to help. However, after releasing the side connectors and re-attaching the side connectors, the TI asked the Tandem student to practice lifting their knees and use both hands to pull up each knee. Tandem student expressed they could not raise their knees. The TI had the Tandem student stand on their feet for the entire canopy ride. The TI planned to flare a little higher to prevent the Tandem student's feet from touching the ground and then pushing the Tandem student's feet ahead with theirs, however witnesses expressed that the Tandem student put their right foot on the ground (reached down with their

foot) before the TIs feet touched the ground. The Tandem students' right lower leg experienced a bone fracture. Noteworthy: The next tandem jump the TI took was with the Tandem student's party and they expressed they would be certain to lift their legs on landing as well mentioned that the other Tandem student can't lift their legs. This left the impression that the inability for the Tandem students to lift their legs was a known condition and was not shared with the TI.

- **DZSO Recommendations:**
- **CSPA Recommendations:** Advise passengers of potential hazards from not fully lifting legs before landing, in advance of skydive. Have passenger demonstrate prior to jump and ensure proper technique, if unable to demonstrate the ability to lift legs do not take on jump. Technique should also be practiced under canopy prior to 1500 feet. "Preparing the student will make a great difference in how successful the jump is. A well conducted practice will help the student understand the program, eliminate confusion, increase the student's confidence in the equipment and you (the tandem master) all of which will keep the experience an enjoyable one. The following tips will ensure that the practice is effective:
    - Clearly explain what will happen.
    - Practice with realism.
    - Repetition of skills results in instinctive performance of skills.
    - Obtain feedback from your student. This will let you know if further explanation is needed, and whether they are actually learning.
    - Practice until perfect and remember: What is performed on the ground will almost certainly be performed in the air." (Sigma Tandem Manual Chapter 1: preparation)
- **Action by:** Tandem Instructors; DZSO

2025T-06

- **Category:** Landing
- **Passenger Age:** 46
- **# of skydives:**
- **# of tandem skydives (instructor):** 111
- **Container:** UPT Sigma
- **Main Canopy:** UPT Sigma
- **Details:** The tandem student called several days after the tandem jump reporting a suspected pelvis fracture after attempting the tandem jump. X-rays did not show a fracture after being examined by the tandem student's chiropractor, but pelvis resulted to be mis-aligned. After reviewing all three tandem landing videos, it was concluded that the Tandem landing looked nothing out of the ordinary. The tandem student was then called and informed about the above. Nothing could have been done better to make the students experience more pleasant. The tandem student being in better physical state would have probably prevented the tandem student from getting injured.
- **DZSO Recommendations:** Unsure if this was a skydiving incident or not but next safety meeting will be brought up if a Tandem student is short and weighs this much (and age) if they should be jumping.
- **CSPA Recommendations:** Review the manufacturers' recommendations for external factors that can alter flight cycle and/or flare performance including, but not limited to, winds, passenger weight, outside temperature changes, terrain, and altitude.
- **Action by:** Tandem Instructors; DZSO

2025T-18

- **Category:** Freefall
- **Passenger Age:** 23
- **# of skydives:** 1
- **# of tandem skydives (instructor):** 250
- **Container:** UPT
- **Main Canopy:** UPT SG
- **Details:** Tandem passenger experienced a shoulder injury during freefall, TI taped arms to indicate student could release harness, at that point, student recoiled in pain and grabbed hand with the other arm. Mechanism of injury horizontal abduction and external rotation. Instructor was able to safely open canopy at prescribed altitude and land safely in the intended landing area. Tandem passenger was conscious and able to self-recover off the drop zone. They were recommended to go to local hospital to undergo a medical examination and any required treatment. Tandem passenger was taken to hospital by next of kin. Tandem passenger did not disclose any previous injury prior to the tandem jump.
- **DZSO Recommendations:** Discussed how to help the student get into a more comfortable position during canopy flight.
- **CSPA Recommendations:** It is recommended that tandem instructors confirm with passengers during pre-jump briefings that they are free of any pre-existing injuries that may be aggravated during any phase of the skydive.
- **Action by:** Tandem Instructors; Manifest; DZSO

2025T-21

- **Category:** Landing
- **Passenger Age:**
- **# of skydives:** 1
- **# of tandem skydives (instructor):** 313
- **Container:** UPT Vector
- **Main Canopy:** Icarus TX2
- **Details:** Tandem Instructor misjudged final turn, turning too low. The passenger hit the ground and immediately suffered back pain. Tandem passenger reportedly suffered a minor lower back injury and went to the hospital where they were treated.
- **DZSO Recommendations:** Tandem Instructor to be more vigilant about altitude during final turns.
- **CSPA Recommendations:** Review the manufacturers' recommendations for external factors that can alter flight cycle and/or flare performance including, but not limited to, winds, passenger weight, outside temperature changes, terrain, and altitude. Additionally, review of UPT Sigma Tandem Manual Chapter 4: Canopy/Landing should be conducted with a certified Tandem Examiner and/or DZSO.
- **Action:** Tandem Instructors; DZSO

1.2. Incident

2025T-03

- **Category:** Deployment
- **Passenger Age:** 31
- **# of skydives:**
- **# of tandem skydives (instructor):** 2500
- **Container:** UPT Micro Sigma
- **Main Canopy:** Icarus World TX2
- **Details:** Very hard opening - no identified reason. Normal freefall. Deployed and had an immediate opening less than 2 seconds. No identified issue with drogue and/or slider. Both instructor and tandem student landed without incident.
- **DZSO Recommendations:** Inspected equipment and saw no concerns. Discussed with the packer to see if any changes in procedures were noted but none seemed to be indicated.
- **CSPA Recommendations:** Review of equipment and specific packing procedures should be completed consulting with a Rigger if necessary. CSPA is working with the PIA Technical Committee in tracking and analyzing hard openings. CSPA strongly encourages reporting any experiences with hard openings.
- **Action by:** Tandem Instructors; DZSO, Packers, Riggers

2025T-07

- **Category:** Other
- **Passenger Age:** 28
- **# of skydives:** 1
- **# of tandem skydives (instructor):**
- **Container:** Vector
- **Main Canopy:** PD SG
- **Details:** The tandem student insisted that they wear their personal sunglasses and the Dropzone provided over the glasses goggles for the student. During freefall, the goggles started to rise up on the student's head taking the sunglasses with them. The Tandem Instructor and videographer both noticed, the videographer moved in and grabbed the goggles glasses right as they were coming off the student's head. The videographer was only able to hold onto the student's sunglasses, and the goggles fell to the ground.
- **DZSO Recommendations:** Reviewed with the Tandem Instructor the importance of tightening the over the glasses goggles so they remain secured on the student's head. Discussed with the videographer the risks of moving in that close on the tandem, especially given the proximity to pull time.
- **CSPA Recommendations:** CSPA supports the root cause analysis and recommendations of the DZSO as provided.
- **Action by:** Tandem Instructors; DZSO, Camera Flyers

2025T-08

- **Category:** Other
- **Passenger Age:** 38
- **# of skydives:**

- **# of tandem skydives (instructor):** 500
- **Container:** UPT
- **Main Canopy:** UPT Sigma 2
- **Details:** It was noticed on take-off that post-donning equipment checks had not been completed. AADs were checked first as a result and the Tandem AAD had not been turned on. The aircraft took off, completed a normal circuit, landed, and the AAD was turned on and equipment checks completed. The remainder of the flight and jump was completed without incident.
- **DZSO Recommendations:** On days when staff are transitioning between different types of jumps, it is important to slow down and ensure pre-donning checks are completed. DZ is reviewing morning routines and responsibilities, especially for nonstandard tandem days.
- **CSPA Recommendations:** Review of CSPA PIM 1: 4.4 Inspection - Every parachutist, prior to boarding the aircraft for a parachute descent, shall have their equipment safety-checked by another CoP/FAI rated parachutist. As per the Sigma Training Manual, Section 3: Instructor Techniques, Chapter 1: Preparation, "Automatic Activation Device: The AAD must be on when boarding the aircraft and during jump. The AAD must be either dedicated TANDEM, or in TANDEM mode if using a multi-mode AAD. (Please refer to the documentation supplied by your manufacturer.)"
- **Action by:** Tandem Instructors; DZSO, Camera Flyers

2025T-11

- **Category:** Landing
- **Passenger Age:** 52
- **# of skydives:** 1
- **# of tandem skydives (instructor):** 490
- **Container:** UPT Micro Sigma
- **Main Canopy:** UPT Sigma
- **Details:** The Tandem Instructor did a normal landing circuit. On final, facing the wind and close to the ground, the thermal caused a slight ascent to the duo followed by a faster descent than normal. The Tandem Instructor applied brakes completely to try to reduce vertical speed as much as possible and moved legs forward to absorb impact and protect the Tandem Student. Despite this manoeuvre the buttocks of the Tandem Student touched the ground on landing. The Tandem Student mentioned to the Tandem Instructor that they felt a slight pain in their tailbone after landing.
- **DZSO Recommendations:** The Tandem Instructor reacted adequately under the circumstances to protect the Tandem Student.
- **CSPA Recommendations:** Review the manufacturers' recommendations for external factors that can alter flight cycle and/or flare performance including, but not limited to, winds, passenger weight, outside temperature changes, terrain, and altitude.
- **Action by:** Tandem Instructors; DZSO,

2025T-13

- **Category:** Exit
- **Passenger Age:** 21
- **# of skydives:**
- **# of tandem skydives (instructor):** 3000
- **Container:** UPT Sigma
- **Main Canopy:** Icarus TX2
- **Details:** The first load of the day went up with what was looking like thin fog above the dropzone. Upon climbing to altitude, it was noticed that it was a cloud base starting at 900 feet. While climbing up to 9000 feet the clouds became denser, but it was still possible to see the dropzone. The Tandem Master was confident about jumping. The green light to jump was lit later than what was planned for the load. Therefore, being far from the dropzone mixed with the low visibility from the clouds made the tandem master decide to choose another safe landing area. The tandem pair landed safely and were picked up fast by the ground crew.
- **DZSO Recommendations:** The incident was caused by two aggravating factors:
  1 - The plane pilot was being disturbed by instructors wanting to help with the drop (saying they should tell them when we were right over the DZ to inform the jumper, info about the clouds etc.). Even though this made the pilot late on jump run, we still proceeded with the drop. Recommendations: As soon as there is an uncertainty with the jump run, a second one should be made. Especially on the first load of the day where we are testing the winds for the first time.
  2- The tandem instructor decided to jump, disregarding the fact that they couldn't see the landing zone anymore since we were far on jump run. Recommendations: The instructor should have the judgement necessary to refuse jumping when visibility does not permit the jump. The dropzone should be visible during the entire jump, during freefall, opening and the ride under canopy. The ground crew should also be able to see the tandem and report during the whole jump.
- **CSPA Recommendations:** CSPA supports the root cause analysis and recommendations of the DZSO as provided.

- **Action by:** Tandem Instructors; DZSO, Jumper, Coaches, Instructors

2025T-15

- **Category:** Freefall
- **Passenger Age:** 46
- **# of skydives:** 1
- **# of tandem skydives (instructor):** 246
- **Container:** UPT Sigma
- **Main Canopy:** Sigma Tandem
- **Details:** Tandem pair exited aircraft stable, drogue was deployed roughly 5 seconds after exit. Drogue got stuck in the burble and then wrapped around passenger's foot (drogue bridle). Tandem Instructor tried to clear bridle but after several attempts was unable. TI pulled reserve handle, reserve deployed normally canopy open at 8000ft. TI then disconnected RSL, cutaway and cleared main risers to avoid two canopies out in the event one of the drogue releases were accidently pulled. Tandem pair landed safely on the airfield and both TI and passenger were uninjured.
- **DZSO Recommendations:** None
- **CSPA Recommendations:** "Drogue Entangled with Instructor / Student Attempt to free entanglement • Once drogue clears, systems check
  • If unable to clear entanglement, Total Malfunction EP" UPT Sigma Emergency Procedures https://uptvector.com/wp-content/uploads/2025/05/Sigma-Emergency-Procedures-Rev-1-COPYRIGHTED.pdf
- **Action by:** Tandem Instructors; DZSO

2025T-17

- **Category:** Freefall
- **Passenger Age:** 36
- **# of skydives:** 1
- **# of tandem skydives (instructor):** 600
- **Container:** UPT Sigma
- **Main Canopy:** UPT Sigma
- **Details:** The instructor was the sixth parachute executed during the day. The jump took place with the forfalt handcam (only the one appropriate for the day). The aircraft exit was stable. In a freefall, the drogue was not deployed by the instructor as required by procedure, thus causing a fall at a constant speed. The Instructor doesn't remember performing their handle check in freefall, but in the video, it seems to be the case, given the camera's shift toward the left handles. Feeling terminal velocity, the TI thought there was a malfunction with the detached handle. At 8,000 feet, TI attempted to open the main handle. First with the right handle, then the left handle, and then both at the same time. TI later thought it was a bag lock, seeing as nothing was happening. The Instructor then performed an emergency procedure in the following sequence (RSL, cutaway, detach the risers, and reserve handle). The reserve parachute was then deployed at an altitude of 6,000 feet. Upon landing, the instructor landed near the trees, causing turbulence that led to a lack of effective flare during braking. Thus, the arrival on the ground was more brutal, causing pain to the passenger which seems to be in the coccyx
- **DZSO Recommendations:** None
- **CSPA Recommendations:**
  - Drogue deployment:
    - Locate drogue handle and grasp firmly.
    - Pull drogue from pouch and throw aggressively to your side at full arm extension.
    - Release immediately once forward of the line of your shoulders.
    - Watch drogue inflate over your right shoulder (you may or may not feel the drogue inflate)" - (Sigma Tandem Manual Chapter 3: Freefall/Drogue Fall)
    - Additional reference to Sigma Tandem Manual Section 4: Malfunctions & Emergencies, Chapter 1 - Reserve Procedures with a focus on "Un-inflated drogue".
  - Review the manufacturers recommendations for external factors that can alter flight cycle and/or flare performance including, but not limited to, winds, passenger weight, outside temperature changes, terrain, and altitude.
  - Review of CSPA PIM2B; Section 6.3.1 Factors Affecting Human Performance, will assist in recognizing possible performance inhibiting factors.
- **Action by:** Tandem Instructors; DZSO

2025T-19

- **Category:** Other
- **Passenger Age:** 59

- **# of skydives:**
- **# of tandem skydives (instructor):** 2500
- **Container:** UPT
- **Main Canopy:** Icarus TX2
- **Details:** The Instructor went for their 10th tandem of the day. After an uneventful tandem from 9000' the instructor opened the parachute at 5500'. The parachute started to open normally with a standard snivel followed by an aggressive unbalanced opening. One side opened much faster than the other causing fast line twists. The Instructor attested that they tried everything they could do to undo them but felt like they were locked in place with several twists. At their hard deck altitude which is 3000' the TI decided to cutaway. The reserve canopy opened perfect and quickly with the Skyhook system. The Instructor landed safely in the designated tandem landing area.
- **DZSO Recommendations:** A meeting was held with the packers even though the canopy started to snivel normally. We looked at the video and talked about line twist prevention on packing. A meeting was done with the Instructor as well to talk about line twist clearing manoeuvres.
- **CSPA Recommendations:**
  - "Line Twists Keep hands out of the risers while the twists are being generated
  - Maintain altitude awareness • Grasp the risers (thumbs down) and either pull them apart or push them together
  - Kick legs in a manner which will generate momentum in the direction needed to turn
  - Do not unstow brakes until line twists are clear • Be prepared to conduct Partial Malfunction EP" UPT Sigma Emergency Procedures https://uptvector.com/wp-content/uploads/2025/05/Sigma-Emergency-Procedures-Rev-1-COPYRIGHTED.pdf
  - Review of equipment and specific packing procedures should be completed consulting with a Rigger if necessary.
- **Action by:** Tandem Instructors; Riggers; Packers; DZSO

2025T-22

- **Category:** Other
- **Passenger Age:** 23
- **# of skydives:** 1
- **# of tandem skydives (instructor):** 338
- **Container:** UPT Sigma
- **Main Canopy:** Sigma 2
- **Details:** Tandem Instructor was doing a tandem jump with handcam. After opening main parachute, TI noticed one of their GoPro cameras was gone. Reporting in the event the camera hit something on the ground. Wear and tear on the mount was most likely the contributing factor.
- **DZSO Recommendations:** None
- **CSPA Recommendations:** It is recommended that instructors regularly inspect and maintain all camera mounts and attachments as part of their routine gear checks before each jump.
- **Action by:** Tandem Instructors; Jumpers; Coaches; Instructors; DZSO

2025T-23

- **Category:** Landing
- **Passenger Age:** 62
- **# of skydives:** 1
- **# of tandem skydives (instructor):** 700
- **Container:** UPT Micro Sigma
- **Main Canopy:** Icarus TX2
- **Details:** Received an email from Tandem Student October 1st, 2025, indicating that during a Tandem Skydive on September 18th, 2025, they stated "When we landed my tail bone hit first and was pretty bruised." They continued to state, "Other than that the experience was incredible and I would do it again but with some extra butt padding just in case."
- **DZSO Recommendations:** DZSO recalls the skydive and had a discussion at the time with the Tandem Instructor about their misjudged turning height and therefore got caught between flight cycles. At the time the Tandem Student did not report any discomfort or showed any indication of injury.
- **CSPA Recommendations:** Review the manufacturers' recommendations for external factors that can alter flight cycle and/or flare performance including, but not limited to, winds, passenger weight, outside temperature changes, terrain, and altitude.
- **Action by:** Tandem Instructors; DZSO

2025T-24

- **Category:** Deployment
- **Discipline:** Other
- **Age:** 25
- **# of skydives: 615**
- **Container:** Vector
- **Main Canopy:** PD Sabre 2
- **Details:** Tandem Instructor: Jumped at 12500', tandem student was really nervous and at 5100' went and grabbed something at their hip level. TI felt unsafe pulling in this situation, adjusted student's position, causing TI pull at 4700'. TI/Camera pairing was last out on the pass.
  Videographer: Last out of the aircraft doing a video for a tandem. Slight delay in the door as TI was adjusting tandem student prior to exit. Freefall had no issues until pull time. At 6000' the TI had to correct the student's position, releasing the canopy at 5000'. Videographer tracked for 1000' deploying at 4000'. Parachute was fully opened at 3300', and decision was made to land off dropzone. Located a farmer's field and landed safely. Jumper was approx. 2.5km from DZ.
- **DZSO Recommendations:** TI: Discussed if the tap to bring arms in at pull time is necessary and discussed how events like the above might occur when doing so.
  Videographer: Discussed not tracking away after you see a tandem with a good canopy. Discussed audible altimeter settings. Discussed bailing at 5000' if TI's haven't pulled, turn and burn in this scenario. Applauded their decision making for finding an alternate DZ, as well as providing fantastic google picture of their location once landed.
- **CSPA Recommendations:** Tandem Instructors should refer to the Sigma Tandem System Owner's Manual, Chapter 1: Student Skills, specific to Exit and Freefall Positions. Additionally, review of Chapter 2: Other Activities, specifically RW Tandem Briefing is recommended.
- **Action by:** Tandem Instructors, Camera Flyers, DZSO

1.3. Malfunction

2025T-04

- **Category:** Deployment
- **Passenger Age:** 38
- **# of skydives:**
- **# of tandem skydives (instructor):** 45
- **Container:** UPT Sigma
- **Main Canopy:** Precision
- **Details:** Normal exit and freefall followed by an opening with sever line twists involving risers. TI was unable to raise their head to assess the canopy and decided to cutaway. The cutaway and reserve ride were uneventful, and they landed in the normal landing area. There were no injuries to either of the parachutists. The cutaway equipment landed on a car in the DZ parking area hard enough to break the windshield.
- **DZSO Recommendations:** All procedures appear to have been followed properly. No root cause found. Cutaway equipment was tangled and there was no way to tell if or what have caused the line twists.
- **CSPA Recommendations:** "Immediately after drogue release as the "trap door effect" develops, the Tandem Instructor should immediately return to a neutral box-man position or hands in a more forward position above the head causing a more head up potion and fly the tandem pair through the deployment and trap door effect." (Sigma Tandem Manual CHAPTER 3: Freefall/Drogue Fall). Additionally, "Attempt to kick out of the line twist, instructing the student to assist if necessary. If unsuccessful, perform emergency procedures by pulling the cutaway handle, ensuring full release of the main risers, physically assisting if necessary. Immediately pull the reserve handle." (Sigma Tandem Manual Chapter 3: Deployment Problems). Review of equipment and specific packing procedures should be completed consulting with a Rigger if necessary.
- **Action by:** Tandem Instructors; DZSO, Packers, Riggers

2025T-09

- **Category:** Deployment
- **Passenger Age:** 23
- **# of skydives:** 1
- **# of tandem skydives (instructor):** 2300
- **Container:** UPT Sigma
- **Main Canopy:** UPT Sigma 2

- **Details:** Normal exit and freefall. Stable at opening, extremely hard opening highspeed spinning malfunction. Cut away to reserve, reserve opened with two-line twists with normal flight. Once line twists cleared and canopy control check completed, Tandem Instructor checked on Tandem Student's condition. Student said that their groin and legs hurt. Instructor and student worked together to determine how badly the student was hurt. The student was able to raise their legs with no additional pain. They landed back at the DZ and had a normal sit-down landing. Injuries: Tandem Student follow up the next day reported bruising in the groin area and general soreness. Tandem Instructor reported sore ribs on the left side, left side knee minor hyper extension, and general soreness. Equipment damage - main canopy with two blown out cells, one on each side, along with other minor holes. Lines damaged but not broken, left riser wase completely destroyed with big ring completely stripped off. Right toggle keeper string that the brakes are set to was broken as well.
- **DZSO Recommendations:** Investigation consisted of a detailed hand camera video review and a thorough investigation of the main and container. Video reveals proper orientation of the three rings and proper orientation of the Tandem Master during main activation. Tandem system is maintained consistent to manufactures specifications. Packing of the main was conducted by a very experienced rigger. No significant wear was noticed during the packer's inspections or with the TMs prejump inspection. Tandem Master is a highly experienced skydiver. Discussions on the SIGMA educational forum found a similar type of malfunction has occurred elsewhere. There are no conclusive causes of this malfunction.
- **CSPA Recommendations:** Regular review of UPT Sigma Tandem Manual Chapter 1: Reserve Procedure. CSPA is working with the PIA Technical Committee in tracking and analyzing hard openings. CSPA strongly encourages reporting any experiences with hard openings.
- **Action by:** Tandem Instructors; DZSO, Packers, Riggers

2025T-10

- **Category:** Deployment
- **Passenger Age:** 55
- **# of skydives:** 2
- **# of tandem skydives (instructor):** 4000
- **Container:** Sigma
- **Main Canopy:** Sigma
- **Details:** Jump was smooth. Deployed at 5500 feet canopy opened aggressively into a dive to the left. Looked to be a significant tension knot. Tandem Instructor tried to flare to see if they could get it to pop. Unsuccessful on both attempts after about 5 revolutions the Tandem Instructor cut away around 4000 feet. Reserve ride was smooth and landed safely.
- **DZSO Recommendations:** Rigger went over lines and found them to be okay. Looks like a brake misroute as it was still on loop. Packing error. Packing crew will be informed.
- **CSPA Recommendations:** Regular review of UPT Sigma Tandem Manual Chapter 1: Reserve Procedure. Review equipment and specific packing procedures should be completed consulting with a Rigger if necessary.
- **Action by:** Tandem Instructors; DZSO, Packers, Riggers

2025T-12

- **Category:** Deployment
- **Passenger Age:** 24
- **# of skydives:**
- **# of tandem skydives (instructor):** 2600
- **Container:** UPT Micro Sigma
- **Main Canopy:** Icarus TX2
- **Details:** Normal skydive, however student flied a little awkwardly but managed to keep the student stable. Upon deployment canopy opened in immediate line twists (greater than 10). Cutaway performed at 4000 feet. Good reserve opening and landed safely at dropzone.
- **DZSO Recommendations:** Canopy not recovered as it landed in heavily treed area, therefore unable to inspect. Review of packing and tandem/student stability at deployment to be discussed.
- **CSPA Recommendations:**
    - As per UPT Sigma Emergency Procedures (https://uptvector.com), "Line Twists - Keep hands out of the risers while the twists are being generated
        - Maintain altitude awareness
        - Grasp the risers (thumbs down) and either pull them apart or push them together
        - Kick legs in a manner which will generate momentum in the direction needed to turn
        - Do not unstow brakes until line twists are clear
        - Be prepared to conduct Partial Malfunction EP".
    - Review of equipment and specific packing procedures should be completed consulting with a Rigger if necessary.

- **Action by:** Tandem Instructors; DZSO, Packers, Riggers

2025T-14

- **Category:** Deployment
- **Passenger Age:** 25
- **# of skydives:** 1
- **# of tandem skydives (instructor):** 2400
- **Container:** UPT
- **Main Canopy:** Icarus TX2
- **Details:** On an uneventful tandem skydive, the Instructor opened their main parachute at 5500ft, immediately realizing it was opening in line twists. Once the canopy was fully opened, they noticed they were stuck in a specific orientation, still in line twists. The Instructor reported trying everything they could to get out of them but unfortunately to no avail. Tandem Instructor proceeded to do emergency procedures at 3000 feet. As the TI was going to pull their reserve ripcord, the reserve parachute opened as it was assisted by the skyhook system from the cutaway. The tandem pair landed safely in the landing area of the drop zone.
- **DZSO Recommendations:** Since the canopy was opening in line twists as soon as it was out of the bag, a briefing will be done with the parachute packers. Topics like line loop lengths, elastic wear and line excess from d-bag will be discussed and reviewed during their packing. A meeting with the instructors will also be had talking about line twist malfunction and recovery.
- **CSPA Recommendations:**
    - As per UPT Sigma Emergency Procedures (https://uptvector.com), "Line Twists - Keep hands out of the risers while the twists are being generated
        - Maintain altitude awareness
        - Grasp the risers (thumbs down) and either pull them apart or push them together
        - Kick legs in a manner which will generate momentum in the direction needed to turn
        - Do not unstow brakes until line twists are clear
        - Be prepared to conduct Partial Malfunction EP".
    - Review of equipment and specific packing procedures should be completed consulting with a Rigger if necessary.
- **Action by:** Tandem Instructors; DZSO

2025T-16

- **Category:** Deployment
- **Passenger Age:** 30
- **# of skydives:** 3
- **# of tandem skydives (instructor):** 281
- **Container:** UPT Micro Sigma
- **Main Canopy:** Icarus TX2
- **Details:** Uneventful skydive. Upon deployment canopy was in several line twists. Despite attempts to get out of line twists nothing was working. Proceeded to Emergency Procedures at 4000 feet. Landed safely at Dropzone.
- **DZSO Recommendations:** Tandem Instructor followed appropriate EPs. Discussed possible stable body position with students during deployment.
- **CSPA Recommendations:**
    - As per UPT Sigma Emergency Procedures (https://uptvector.com), "Line Twists - Keep hands out of the risers while the twists are being generated
        - Maintain altitude awareness
        - Grasp the risers (thumbs down) and either pull them apart or push them together
        - Kick legs in a manner which will generate momentum in the direction needed to turn
        - Do not unstow brakes until line twists are clear
        - Be prepared to conduct Partial Malfunction EP".
    - Review of equipment and specific packing procedures should be completed consulting with a Rigger if necessary.
- **Action by:** Tandem Instructors; Riggers; Packers; DZSO

2025T-20

- **Category:** Other
- **Passenger Age:**
- **# of skydives:**
- **# of tandem skydives (instructor):** 310

- **Container:** UPT Sigma
- **Main Canopy:** Icarus World TX2
- **Details:** None
- **DZSO Recommendations:** None
- **CSPA Recommendations:** Regular review of UPT Sigma Emergency Procedures https://uptvector.com/wp-content/uploads/2025/05/Sigma-Emergency-Procedures-Rev-1-COPYRIGHTED.pdf
- **Action by:** Tandem Instructors; DZSO

1.4. Equipment

2 – STUDENT

2.1. Accident

2025S-02

- **Category:** Landing
- **Student Type:** IAD
- **Age:** 38
- **# of skydives:** 2
- **Container:** Javelin
- **Main Canopy:** Aerodyne Solo 270
- **Details:** Jumper dispatched IAD from 3500 feet AGL. Jumper conducted canopy control check and then was under radio instruction from GCI. Jumper responded and listened well during the altitude in their safe zone and flew a nice precision approach under direction. When jumper was on the final leg, they were in good preparation to land position. GCI directed jumper "wait, wait, wait, flare, flare, flare". Jumper was slow to react to the flare and made contact with the ground reaching with their right leg awkwardly landing on that leg. Jumper broke their leg due to a hard landing caused by improper technique and failure to properly execute a parachute landing fall (PLF). The combination of a slow response and improper PLF technique resulted in a fracture. Jumper's leg was splinted on site and was transported by ambulance to local hospital.
- **DZSO Recommendations:** SSI was briefed on strongly emphasizing appropriate flare technique and efficient PLF. The students were reminded of the proper timing of the flare and completely finishing the flare.
- **CSPA Recommendations:** Review educational material on Landing Techniques (CSPA PIM2A-2009; Section 6.7) and Landing Problems and Solutions (CSPA PIM2A-2009; Section 6.17.5). Students should be taught, review, and practice the Parachute Landing Fall (PLF) referencing SSI Reference Manual, Appendix - Skydiving Technical Knowledge PLF Landing. Student to review and practice flare technique on the ground prior to skydive, including but not limited to, the guidance from Ground Control Instructor (GCI) to students in the landing of their canopies, through use of a recognized method of signaling. GCI should ensure accurate coaching and currency reviewing the Ground Control Instructor Reference Manual; Communication Rules.
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025S-03

- **Category:** Landing
- **Student Type:** PFF
- **Age:** 40
- **# of skydives:** 4
- **Container:** UPT
- **Main Canopy:** PD Navigator 240
- **Details:** Upon landing, at the radio instructor's signal, the student began braking but did not complete to 100% flare. At the lowest point, their hands stopped at waist level. The student touched the ground with the tips of their toes. The student felt a pain under their right foot. The student refused to go and be evaluated by medical professionals.
- **DZSO Recommendations:** It is very important to brake (flare) 100% and land on flat feet. If you think the impact will be stronger than normal, don't hesitate to do drop-roll (PLF).
- **CSPA Recommendations:** Review educational material on Landing Techniques (CSPA PIM2A-2009; Section 6.7) and Landing Problems and Solutions (CSPA PIM2A-2009; Section 6.17.5). Students should be taught, review, and practice the Parachute Landing Fall (PLF) referencing SSI Reference Manual, Appendix - Skydiving Technical Knowledge PLF Landing. The student to review and practice flare techniques on the ground prior to skydive, including but not limited to, the guidance from Ground Control Instructor (GCI) to students in the landing of their canopies, through use of a recognized method of signaling. GCI should ensure accurate coaching and currency reviewing the Ground Control Instructor Reference Manual; Communication Rules.
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025S-04

- **Category:** Landing
- **Student Type:** PFF
- **Age:** 57
- **# of skydives:** 7
- **Container:** UPT
- **Main Canopy:** PD Navigator 240

- **Details:** During the final approach, the student suddenly descended vertically. The radio instructor then immediately ordered a full brake application. However, the student was unable to complete the brake application adequately. Due to jumper's impact with the ground being a little harder than normal, the student injured their left ankle.
- **DZSO Recommendations:** The student should have drop-rolled (PLF) when they saw that the ground was coming quickly and that they could possibly be injured. Do not hesitate to drop-roll (PLF) if in doubt.
- **CSPA Recommendations:** Review educational material on Landing Techniques (CSPA PIM2A-2009; Section 6.7) and Landing Problems and Solutions (CSPA PIM2A-2009; Section 6.17.5). Students should be taught, review, and practice the Parachute Landing Fall (PLF) referencing SSI Reference Manual, Appendix - Skydiving Technical Knowledge PLF Landing. The student to review and practice flare techniques on the ground prior to skydive, including but not limited to, the guidance from Ground Control Instructor (GCI) to students in the landing of their canopies, through use of a recognized method of signaling. GCI should ensure accurate coaching and currency reviewing the Ground Control Instructor Reference Manual; Communication Rules.
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025S-08

- **Category:** Landing
- **Student Type:**PFF
- **Age:** 22
- **# of skydives:** 1
- **Container:** Vector
- **Main Canopy:** PD Navigator
- **Details:** PFF group exit, student de-arched out the door and the trio flipped 2 times. Reserve side instructor let go, main side instructor stabilized the student. Reserve side instructor rejoined, main side instructor gave pull indication. Student deployed main parachute at approximately 5000 feet. Main side instructor made the student LZ, reserve side instructor made the main LZ. GCI saw student parachute open, watched student perform visual check/control check. GCI established radio contact with student by 180 turn back towards the dropzone. Student was holding into the wind not getting much penetration. GCI realized that student would not make the LZ they were at and radioed to manifest to have a radio sent out to the reserve side instructor at the main LZ who was closer to the student. Reserve side instructor established radio comms with student, at that point the GCI and main side instructor got in the truck and drove back to the hanger. Reserve side instructor recognized that the student wasn't going to clear the head pond and instructed the student to turn 180 degrees and find an open field on the other side of the head pond. Reserve side instructor talked student through finding open landing areas/field, that they would have to flare on their own, and talked them through flare altitudes and the two-stage flare. A truck was then sent out to locate the student, EMS was called, the student was recovered. The student sustained non-life-threatening injuries as a result of landing in a treed area and was treated at local hospital.
- **DZSO Recommendations:** Re-emphasize with students the importance of wind velocity and direction for canopy control. Review landing off dropzones procedures with students, emphasizing open fields. Whistle in water gear to help communicate with recovery group.
- **CSPA Recommendations:** "Direction of the Canopy and the Landing Circuit: The physical repetition of the Canopy Control consists of bringing the student back to the landing area and to simulate the time of the descent under canopy. This last repetition will include the opening point, the "play zone", penetration checks, entry into the landing circuit (downwind), the crosswind leg (beginning of the base) and the final approach. Ideally this repetition will be made right before boarding in order to take account of the speed and the direction of the ground winds at that time. Ensure that your student simulates with their hands the position of the steering toggles for each operation including the final flare of the canopy." (CSPA Reference Manual: PFF Instructor; The PFF Program: The 6 Phases of the PFF Program Skills Grid). Instructors should review CSPA Sport Canopy Endorsement Section 2: Pre-Boarding Considerations (Canopy Information). Students should be familiar with Section 2: Post Opening Priorities, specifically "If you are unable to make the intended landing area, make a decision early to locate your predetermined alternate landing area. This should be considered by 2,000 ft. AGL. Remember, if you are not going to make your intended landing area, you should apply the same pattern (right hand, left hand, or modified pattern) that you were going to use for your intended landing area and apply it to your alternate landing area."
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025S-11

- **Category:** Landing
- **Student Type:** PFF
- **Age:** 50
- **# of skydives:**
- **Container:** Vector

- **Main Canopy:** PD Navigator
- **Details:** Student Version: Jump went really well, pulled on time, under canopy realized they had no/poor radio communication. Flew to holding area, proceeded with pattern, was in good position. On final, corrected to the right to avoid the pickup trailer at the same time the wind gusted and pulled jumper hard to the left. Managed to flare last minute but hit the ground in a side superman. Didn't notice ankle/toe injuries until they got home and took shoe off. Went to emergency for x-rays, 1 broken toe, sprained ankle.
  GCI/Instructor Version: Student flew a good pattern until 100'. It appeared the student lost focus on steering the parachute straight ahead and when the student felt the wind buffet the parachute they looked towards the perceived direction of drift and then steered the parachute in that direction causing it to gain speed rapidly and land on the runway behind and to the left of their position. No trailers played any role in the event; jumper was approx. 1000' from the pickup vehicles.
- **DZSO Recommendations:** When student returns to PFF, we will review landing priorities, how to manage different wind conditions, and the importance of flying our parachute all the way to the ground.
- **CSPA Recommendations:** Review educational material on Landing Techniques (CSPA PIM2A-2009; Section 6.7) and Landing Problems and Solutions (CSPA PIM2A-2009; Section 6.17.5). Students should be taught, review, and practice the Parachute Landing Fall (PLF) referencing SSI Reference Manual, Appendix - Skydiving Technical Knowledge PLF Landing.
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025S-14

- **Category:** Landing
- **Student Type:** IAD
- **Age:** 43
- **# of skydives:** 1
- **Container:** Sidewinder
- **Main Canopy:** Manta
- **Details:** First Jump Course student under radio for landing (supervised GCI). Student followed radio directions. At just below 20 feet off the ground student was instructed to flare. Student flared well and landed flat footed on the ground. The student did not take a step forward or PLF as trained and rehearsed in the course. Student went down to the ground grasping left ankle which they reported was injured. Upon reaching student the left ankle appeared swollen. Student was encouraged to have us call an ambulance but refused and instead proceeded to go with friends to their local hospital. An ice pack was provided to help reduce swelling. Upon follow up the next day, the student informed us they had still not seen a doctor but planned to in the next day or two. Follow up a couple days later the student reported an x-ray revealed a hair line fracture of the ankle that did not require surgery just 6 weeks in an air cast.
- **DZSO Recommendations:** Students to remember to PLF.
- **CSPA Recommendations:** Students should be taught, review, and practice the Parachute Landing Fall (PLF) referencing SSI Reference Manual, Appendix - Skydiving Technical Knowledge PLF landing.
- **Action by:** Jumper; Coaches; Instructors; DZSO

2.2. Incident

2025S-01

- **Category:** Landing
- **Student Type:** IAD
- **Age:** 37
- **# of skydives:** 1
- **Container:** Sidewinder
- **Main Canopy:** Sabre2 230
- **Details:** Student responded well under canopy and performed left and right 90 degree turns as well as 360 degree turns in both directions. On landing pattern, the student started their landing pattern perfectly. Downwind started at about 1000 feet. At approximately 600 feet, the student initiated their base leg. GCI felt the student was not in the ideal position so directed the student to turn slightly to the left. The student turned about 60 degrees. The GCI then instructed the student to turn towards them (the GCI) in the field. There was no immediate response, so the GCI also gave the command to turn 180 degrees. The student then at approximately 250 feet, initiated a half flare. GCI noticing the flare and the altitude instructed the student to maintain current position. Once the student was about 15 feet from the ground the GCI gave instructions to flare. The student flared, fell onto knees and then slid into a shallow pond. The student had no major injuries other than a small cut on their nose from the goggles and being cold from being in the water for about 5 minutes prior to two other jumpers assisting in getting the student and canopy out of the pond. Followed up with student the next day - They stated they

were doing well and anticipating returning for their next jump that weekend. Additional Note: Upon inspection of the gear, it was identified that the AAD had fired after the student had contacted the water.

- **DZSO Recommendations:** Students with English as a second language be sure to practice all 90-, 180-, and 360-degree canopy turns (with indication of right and/or left) on the ground to help identify and underlying communication issues.
- **CSPA Recommendations:** Review educational material on Landing Techniques (CSPA PIM2A-2009; Section 6.7) and Landing Problems and Solutions (CSPA PIM2A-2009; Section 6.17.5). Students should be taught, review, and practice the Parachute Landing Fall (PLF) referencing SSI Reference Manual, Appendix - Skydiving Technical Knowledge PLF Landing. The student to review and practice flare techniques on the ground prior to skydive, including but not limited to, the guidance from Ground Control Instructor (GCI) to students in the landing of their canopies, through use of a recognized method of signaling. GCI should ensure accurate coaching and currency reviewing the Ground Control Instructor Reference Manual; Communication Rules. Have equipment inspected by a rigger for serviceability.
- **Action by:** Jumper; Coaches; Instructors; DZSO; Packers; Riggers

2025S-05

- **Category:** Exit
- **Student Type:** Supervised freefall
- **Age:** 26
- **# of skydives:** 18
- **Container:** Javelin
- **Main Canopy:** Aerodyne Solo 270
- **Details:** First load of the day. The student was off radio (no longer required a GCI) but was wearing one as a back-up. The winds at exit altitude and at opening altitude changed 90 degrees from the predicted winds that were used to plan the exit point. The student was pushed back until an off-DZ landing in the forest was inevitable, even with the help of the GCI. The student aimed to land in a small clearing but was pushed into a small tree, where they landed without injury. The main canopy was damaged beyond repair.
- **DZSO Recommendations:** The predicted winds were not accurate to actual winds. The pilot recommended to the JM that winds were different. Both were briefed on the importance of clear communication and strongly advised that the pilot has command of the aircraft. The JM was briefed to adhere to the pilot's recommendations.
- **CSPA Recommendations:** CSPA supports the root cause analysis and recommendations of the DZSO as provided. Additionally, Jump Master should review the Jump Master Reference Manual Section 2.7: Spotting for Students. Jumpers and pilots should review PIM 2A Section 4.5: Spotting. Review educational material on Hazards Near the Ground (CSPA PIM2A; Section 6.17.4)
- **Action by:** Jumper; Coaches; Instructors; DZSO; Pilot

2025S-06

- **Category:** Exit
- **Student Type:** Supervised freefall
- **Age:** 33
- **# of skydives:** 17
- **Container:** Conquest
- **Main Canopy:** Aerodyne Solo 270
- **Details:** First load of the day. The student was off radio (no longer required a GCI) but was wearing one as a back-up. The winds at exit altitude and at opening altitude changed 90 degrees from the predicted winds that were used to plan the exit point. The student was pushed back until an off-DZ landing in the forest was inevitable, even with the help of the GCI. The student aimed for a large clearing littered with small trees and deadfall, where they landed without injury and without damage to the equipment.
- **DZSO Recommendations:** The predicted winds were not accurate to actual winds. The pilot recommended to the JM, that winds were different. Both were briefed on the importance of clear communication and strongly advised that the pilot has command of the aircraft. The JM was briefed to adhere to the pilot's recommendations.
- **CSPA Recommendations:** CSPA supports the root cause analysis and recommendations of the DZSO as provided. Additionally, Jump Master should review the Jump Master Reference Manual Section 2.7: Spotting for Students. Jumpers and pilots should review PIM 2A Section 4.5: Spotting. Review of educational material on Hazards Near the Ground (CSPA PIM2A-2009; Section 6.17.4)
- **Action by:** Jumper; Coaches; Instructors; DZSO; Pilot

2025S-09

- **Category:** Landing

- **Student Type:** PFF
- **Age:**
- **# of skydives:** 4
- **Container:** Aerodyne
- **Main Canopy:** Solo
- **Details:** On the landing approach, the student briefed for a left-hand west pattern. Student was on a self-pattern and needed to be told when to turn onto the base leg and then to turn left into the wind for final. However, the student continued south over a creek into the piles of asphalt. The student flared themself and PLF'd at an appropriate height. Student was not injured. Student's recount was that "small inputs on final wouldn't turn the parachute enough".
- **DZSO Recommendations:** DZ has removed piles of asphalt. Student was further schooled on use of toggles.
- **CSPA Recommendations:** Review educational material on Landing Techniques (CSPA PIM2A-2009; Section 6.7) and Landing Problems and Solutions (CSPA PIM2A-2009; Section 6.17.5). GCI should ensure accurate coaching and currency reviewing the Ground Control Instructor Reference Manual; Communication Rules. Review educational material on Hazards Near the Ground (CSPA PIM2A-2009; Section 6.17.4) and Recreational Canopy Control Skills Section 6.7 Group Pattern Approach (CSPA PIM2B Section 6). Assess, flag, and/or repair potential obstacles and hazard areas in landing area, such as uneven ground, animal holes, drainage, and so forth to minimize potential injury.
- **Action by:** Jumper; Coaches; Instructors; DZSO; Pilot

2025S-10

- **Category:** Landing
- **Student Type:** PFF
- **Age:** 34
- **# of skydives:** 2
- **Container:** Sidewinder
- **Main Canopy:** PD Sabre 3
- **Details:** Turned down to final and failed to perform a full flare on the landing. Performed half flare and extended brakes (lifted hands up) which student shouldn't have done which resulted in a more abrupt than normal landing. Student attempted to PLF but in the process resulted in bruising of the right and left knee. Didn't jump again that day and iced and elevated.
- **DZSO Recommendations:** Student had listened to GCI commands all the way until flare. Flare was early and despite being told to hold the flare, they continued to lift arms back up. Student walked off the field on their own. Student was debriefed on listening to GCI commands as well as effective flare techniques. Student was encouraged to take a couple days to allow for a rest of their knee. They came back two days later and proceeded skydiving without incident.
- **CSPA Recommendations:** Review educational material on Landing Techniques (CSPA PIM2A-2009; Section 6.7) and Landing Problems and Solutions (CSPA PIM2A-2009; Section 6.17.5). Students should be taught, review, and practice the Parachute Landing Fall (PLF) referencing SSI Reference Manual, Appendix - Skydiving Technical Knowledge PLF Landing. Student to review and practice flare technique on the ground prior to skydive, including but not limited to, the guidance from Ground Control Instructor (GCI) to students in the landing of their canopies, through use of a recognized method of signaling. GCI should ensure accurate coaching and currency reviewing the Ground Control Instructor Reference Manual; Communication Rules.
- **Action by:** Jumper; Coaches; Instructors; DZSO; Pilot

2.3. Malfunction

2025S-07

- **Category:** Canopy
- **Student Type:** PFF
- **Age:** 37
- **# of skydives:** 6
- **Container:** Sidewinder
- **Main Canopy:** Manta
- **Details:** Jump started with controlled freefall. Deployment was clean, however when the student did the canopy control check, the right side of the canopy was flapping and not opening completely. Student pumped their steering lines multiple times to open the canopy enough to see it split right through and made the call that it was unflyable and wet to their cutaway procedures. Flew the reserve to the landing area and landed without incident.

- **DZSO Recommendations:** Canopy inspected for wear but nothing unusual was detected to indicate a reason for the tear at the seam. Student followed all Emergency Procedures as taught.
- **CSPA Recommendations:** Have equipment inspected by a rigger for serviceability. Reviewing malfunctions often will help jumpers deal with most situations that can occur at opening (PIM2B; Section 6.1.1 Canopy Malfunctions Review).
- **Action by:** Jumper; Coaches; Instructors, DZSO, Packers, Riggers

2025S-12

- **Category:** Deployment
- **Student Type:** PFF
- **Age:** 39
- **# of skydives:** 7
- **Container:** SunPath
- **Main Canopy:** PD Navigator
- **Details:** After an uneventful PFF jump, the student opened their canopy and realized they had a Line Over on the main. After a quick assessment of the situation, the student performed emergency procedures without any assistance from the GCI. The reserve canopy opened well with the skyhook system before the student could pull the reserve ripcord and landed safely in the student landing area.
- **DZSO Recommendations:** A meeting was held with the packers of the DZ on how a line over could be caused by packing, we discussed packing techniques such as excessive wrapping of the fabric before laying it on the ground as well as changing worn but unbroken elastics in order to prevent out of sequence openings that could lead to such malfunctions.
- **CSPA Recommendations:** Review of equipment and specific packing procedures should be completed consulting with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors, DZSO, Packers, Riggers

2025S-13

- **Category:** Deployment
- **Student Type:**– PFF
- **Age:** 34
- **# of skydives:** 3
- **Container:** Sidewinder
- **Main Canopy:** PD Sabre 2
- **Details:** Reserve side riser cover on student container opened during the freefall exposing the toggle. Toggle fired just before opening wrapping into the lines at opening causing a bag lock. Main side instructor pulled cutaway handle to reserve. Clean reserve opening and student landed safely at dropzone.
- **DZSO Recommendations:** Inspection of equipment showed damage to the toggle keeper resulting in the premature release of the toggle. Inspection of the riser covers indicated the bartack on the riser cover was worn out and a main closing loop was 2 and a half inches too long. Container and canopy has been grounded until repaired. Discussion with riggers and packers regarding regular inspection and appropriate closing loop lengths. DZSO looking at updates to SOP regarding equipment inspection procedures since the increase in the CSPA reserve repack cycle.
- **CSPA Recommendations:** Recommendation to review https://www.cspa.ca/en/resources-skydivers specifically: the CSPA "Equipment - Main Parachute Inspection Guide" and the following CSPA videos "Parachute Equipment Check" and "Inspect While You Pack". Have equipment inspected by a rigger for serviceability. Educate packers on regular gear checks when packing parachutes. Ensure Standard Operating Procedure (SOP) in place for packers and/or riggers to report any equipment concerns.
- **Action by:** Jumper; Coaches; Instructors, DZSO, Packers, Riggers

2025S-15

- **Category:** Deployment
- **Student Type:** IAD
- **Age:** 34
- **# of skydives:** 3
- **Container:** Sidewinder
- **Main Canopy:** PD Sabre 2
- **Details:** Student - Right rear corner appeared collapsed and placed into a turn. Didn't attempt to kick out and deployed toggles in a twist. Supervising JM - Student turned during exit and likely had a combination of end cell closures & line twists.

Student's deployment of toggles prior to getting out of line twists contributed to increased uncontrollability. Flysight data indicates EPs at 3100 feet. Student landed safely at the DZ under reserve.

- **DZSO Recommendations:** Although student was in the PFF progression due to overcast weather the student was dispatched as an IAD student to support work on landing and canopy skills. Thorough emergency procedures were trained and rehearsed, including the procedure for opening in line twists. Student and instructor debriefed the skydive and appropriate EPs in the situation.
- **CSPA Recommendations:** Student and Instructor to review and physically rehearse climb out and exit procedures (JM Reference Manual, Appendix: Dispatching Techniques for Specific Aircrafts). Jumper should review Basic Correctable Situations (CSPA PIM2A-2009; Section 3.3.1 Line Twists). Additionally, reviewing malfunctions often will help jumpers deal with most situations that can occur at opening (PIM2B; Section 6.1.1 Canopy Malfunctions Review). Review of equipment specific packing procedures should be completed and consult with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors, DZSO, Packers, Riggers

2.4. Equipment

3 – EXPERIENCED

3.1. Accident

2025E-02

- **Category:** Landing
- **Discipline:** Formation Skydiving
- **Age:** 42
- **# of skydives:** 175
- **Container:** Unknown
- **Main Canopy:** Sabre2 170
- **Details:** Alternate landing area is full of big gopher holes. Caught a toe on a no wind landing and rolled ankle. Landing area is hazardous to beginners because it is so uneven.
- **CSPA Recommendations:** Assess, flag, and/or repair potential obstacles and hazard areas in landing areas, such as uneven ground, animal holes, drainage, and so forth to minimize potential injury.
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025E-06

- **Category:** Exit
- **Discipline:** Formation Skydiving
- **Age:** 50
- **# of skydives:** 2640
- **Container:** Curv
- **Main Canopy:** UPT Axon 107
- **Details:** 5 Way FS, 4 outside, jumper inside diving out. Step was crowded, no room to put their foot out. "Dove" from the doorframe but failed to clear the step. Jumper may or may not have bumped their rig on the open-door overhead, leading to insufficient diving distance. Knee/lower thigh impacted step very hard. Instant pain, bruising, and swelling. Jumper thinks it's just bruising, they don't think there is any permanent damage although they will seek medical attention if worsens. Additional note: 5 way was a success! Follow up with jumper 06/18 after seeking medical attention results indicated a grade 1+ tear to the MCL
- **DZSO Recommendations:** Dirt diving with the use of a mockup especially with larger groups exiting a Cessna 206 is beneficial to identifying potential hazards and have a general idea of time it may take the group to get in place. When diving out be sure to take the time needed and not rush.
- **CSPA Recommendations:** Jumper should review CSPA PIM 2B Section 4.9 "Learning Tight Exits" with a specific focus on the C-182/C-206
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025E-13

- **Category:** Landing
- **Discipline:** Hop n Pop
- **Age:** 50
- **# of skydives:** 475
- **Container:** SunPath
- **Main Canopy:** PD Sabre 3
- **Details:** Jumper was on a hop and pop to practice 90-degree front riser turns onto final. Jumper had been high on all previous turns and was steadily bringing them down. Jumper miscalculated height and was too low when they came out of their turn, roughly 10 feet. Jumper immediately stabbed out, hit the ground, bounced, and tumbled across the ground. Injuries: Left leg scraped from ankle to knee; Right elbow small scrape with bruise.
- **DZSO Recommendations:** Discussed reviewing 90-degree front turns with a qualified canopy coach.
- **CSPA Recommendations:** Intentional and unintentional low turns can result in serious injury or death. It is important to recognize your limitations, including but not limited to, currency, skill level, external inputs, and personal inputs. Review of CSPA PIM2B; Section 6.3.1 Factors Affecting Human Performance, will assist in recognizing possible performance inhibiting factors. Additional review of the CSPA Sport Canopy Endorsement, Section 2: Canopy Control Skills #3. Front Riser Turns.
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025E-14

- **Category:** Landing
- **Discipline:** Formation Skydiving
- **Age:** 26
- **# of skydives:** 181
- **Container:** Icon
- **Main Canopy:** Pilot
- **Details:** Jumper exited the aircraft on a three way. Jump went smoothly, deployment went smoothly and the canopy decent was smooth. Upon landing the jumper hit their hand on the ground during the flare resulting in an injury. Jumper planned to go to the doctor to have it checked out.
- **DZSO Recommendations:** Jumper was talked to, and it was suggested if you are stabbing your toggles to do it in front as that may protect hands from contacting the ground first.
- **CSPA Recommendations:** Review of educational material on Landing Techniques (CSPA PIM2A-2009; Section 6.7)
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025E-19

- **Category:** Deployment
- **Discipline:** Other
- **Age:** 29
- **# of skydives:** 1646
- **Container:** UPT
- **Main Canopy:** Icarus Crossfire 2
- **Details:** After filming a tandem, jumper had a very hard opening. It was their 4th jump of the day and first jumping a new Katana. The canopy was packed normally, and body position was good on deployment. Jumper's neck muscles were sore for several days after. Jumper went to the doctor and was cleared of having any concussion. Jumper is being sent for an Xray to confirm no issues.
- **DZSO Recommendations:** Reminded jumper of good packing practice. Also, when filming tandems and getting their opening shot, you are almost in a sit so a good slow down is needed.
- **CSPA Recommendations:** Jumper should review proper body position during deployment, (CSPA PIM2A-2009; Section 5.4 Activation). Review of equipment specific packing procedures should be completed and consult with a Rigger if necessary. CSPA is working with the PIA Technical Committee in tracking and analyzing hard openings. CSPA strongly encourages reporting any experiences with hard openings.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-21

- **Category:** Deployment
- **Discipline:** Canopy Piloting

- **Age:** 29
- **# of skydives:** 1186
- **Container:** Arrow
- **Main Canopy:** Fluid Wings HK2
- **Details:** Boring solo belly jump. Stable deployment. Canopy opened hard and fast with a slight twist to the right. Forces resulted in L3 transverse process fracture on the left side. Jumper drove themself to the hospital a week later because they thought they pulled something in their back.
- **DZSO Recommendations:** Poor body position - improve body position. Poor packing techniques - improve packing techniques.
- **CSPA Recommendations:** Jumper should review proper body position during deployment, (CSPA PIM2A-2009; Section 5.4 Activation). Review of equipment specific packing procedures should be completed and consult with a Rigger if necessary. CSPA is working with the PIA Technical Committee in tracking and analyzing hard openings. CSPA strongly encourages reporting any experiences with hard openings.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-22

- **Category:** Landing
- **Discipline:** Formation Skydiving
- **Age:** 43
- **# of skydives:**1524
- **Container:** Javelin
- **Main Canopy:** PD Katana
- **Details:** 4Way RW and camera, free flown exit, speed star practice. 3 points, good skydive, good break off, good landing pattern, slightly variable - low winds, faster landing, rolled right ankle. Able to bear weight, minimal concerns initial hospital confirmed a fractured fibula.
- **DZSO Recommendations:** Bad luck really. Watched it happen and nothing out of the ordinary. Surprised by the injury.
- **CSPA Recommendations:** Review educational material on Landing Techniques (CSPA PIM2A-2009; Section 6.7) and Landing Problems and Solutions (CSPA PIM2A-2009; Section 6.17.5). Jumpers should review and practice the Parachute Landing Fall (PLF) referencing SSI Reference Manual, Appendix - Skydiving Technical Knowledge PLF Landing.
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025E-27

- **Category:** Landing
- **Discipline:** Formation Skydiving
- **Age:** 43
- **# of skydives:** 33
- **Container:** Vector
- **Main Canopy:** PD Pulse
- **Details:** The skydive was planned and executed as follows: a poised exit rear float position; level changes during freefall descent; track away at 6000 feet; and canopy skill of the novice jumpers choosing (jumper had taken canopy course the week prior). The novice jumper conducted the freefall portion of the skydive with no issues. From the coach's perspective, the canopy flight was uneventful and routine. Upon landing, the coach began filming the novice jumper's pattern and flare. The novice jumper followed the correct pattern but set up too high. This resulted in the novice landing approximately 250m north of the intended landing area. The novice initiated the first stage of their flare approximately 1.5 times system heights above the ground. The novice finished their flare approximately 7-10 feet above the ground. The novice did not have their feet and knees together during their PLF which likely resulted in the injury. Once noticing the novice jumper was injured, the coach ran over and provided first aid. A splint was applied before sending the novice jumper to the local hospital.
- **DZSO Recommendations:** Will review landing patterns, flare height, and PLF with the novice when they return.
- **CSPA Recommendations:** Review educational material on Landing Techniques (CSPA PIM2A-2009; Section 6.7), Landing Pattern (CSPA PIM2A-2009; Section 6.9), and Landing Problems and Solutions (CSPA PIM2A-2009; Section 6.17.5). Jumpers should review and practice the Parachute Landing Fall (PLF) referencing SSI Reference Manual, Appendix - Skydiving Technical Knowledge PLF Landing.
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025E-30

- **Category:** Landing

- **Discipline:** Formation Skydiving
- **Age:** 33
- **# of skydives:** 510
- **Container:** Infinity
- **Main Canopy:** PD Pilot
- **Details:** Opened canopy, completed housekeeping and control checks, canopy in good working order. Jumper recognized they were a ways away from the DZ so got small and flew straight to the DZ area. Could see another canopy ahead and slightly higher setting up for the main landing area where the jumper would be landing and 1 canopy behind them aiming for the student field. Jumper looked to land in the student area but didn't want to joust the incoming jumper as flying to the main field put them in the wrong holding area for pattern set up into the student field (downwind). Opted to try to land in the main field, recognized they were too low to turn the needed 90 to get into the field safely, so chose an alternative space, applied harness input in attempt to turn into a clear pathway. Pushed by the winds sideways overpowering harness input, flared and PLF'd into building with arms outreached. Miscalculation at 1000 feet as jumper should have chosen to land in the student field. Jumper sought medical attention the following day and it was reported they had broken their left wrist and had a serious sprain to the right wrist as a result of outreaching for the building to break the fall in an effort to protect their body and head.
- **DZSO Recommendations:** Making decisions at higher altitudes for safe landing areas and approaches is key. Be mindful of target fixation.
- **CSPA Recommendations:** Review educational material on Hazards Near the Ground (CSPA PIM2A-2009; Section 6.17.4) and Recreational Canopy Control Skills (CSPA PIM2B Section 6). Review of CSPA PIM2B; Section 6.3.1 Factors Affecting Human Performance, will assist in recognizing possible performance inhibiting factors.
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025E-31

- **Category:** Deployment
- **Discipline:** Formation Skydiving
- **Age:** 27
- **# of skydives:** 27
- **Container:** Mirage
- **Main Canopy:** Parachute Systems ZPexe
- **Details:** Shoulder pain during opening. Appears to be a slight dislocation of the right shoulder. Jumper was able to land safely. Pain persisted so jumper stopped jumping pending a doctor's assessment.
- **DZSO Recommendations:** None
- **CSPA Recommendations:** Jumper should review proper body position during deployment, (CSPA PIM2A-2009; Section 5.4 Activation). Review of equipment specific packing procedures should be completed and consult with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-33

- **Category:** Landing
- **Discipline:** Canopy Piloting
- **Age:** 7
- **# of skydives:** 36
- **Container:** Sidewinder
- **Main Canopy:** PD Sabre 3
- **Details:** Witness 1 - On the jumper's third jump of the day during a canopy course, the jumper flew their base leg deep over the trees on the east side of the DZ. You can see the trees come into frame on the video a couple seconds after the jumper turns onto final, the jumper was on quarter brakes until then. In the video, you see the jumper look at their altimeter, at this point the canopy is in the acceleration part of the flight cycle. After looking at the altimeter, the jumper lets the canopy fly, adding to the acceleration of the flight cycle. Three seconds later the lines on the left side of the wing catches a tree causing the left side of the wing to fold under in turn spinning the jumper 180 degrees before impacting the ground on their back on a full dive.
  Witness 2 - Jumpers were doing a left-hand pattern. All the skydivers were in the appropriate holding area. The skydiver in question was on their base leg over the tree canopy. The jumper looked low, but the height is difficult to gauge. The jumper did a gentle left turn onto the final and was pointing in the correct direction but looked low and the final appeared pointed towards the area above the field that contains the piles of junk and other hazards. The jumper's feet approached the treeline and realized the jumper was behind the trees. The jumper's body went into the tree canopy, and their body came out of the tree canopy but the parachute had caught onto a tree branch near the top. The jumper swung around approximately 120

degrees. No flare was noticed. The canopy was deflated and the jumper's weight pulled it off the trees. The jumper fell straight down approximately 30-40 feet. It appeared the jumper's legs impacted the ground first. The jumper was in a bush so witness unable to tell how the rest of the body impacted the ground. Witness called 911 immediately.
Witness 3 - Witness was the second jumper on a four-jumper load. The injured jumper was the third jumper out. While the witness was doing their canopy drills, they could see the jumper in question get below the witness quite quickly. At around 1600-1800 feet the witness watched the jumper in question pull a fast 360-degree turn then start their downwind leg. Shortly after the witness started their base leg, they could see the jumper in question deep past the tree line on their final approach. The witness was flying close to above the jumper in question and could see that the jumper was about to clip the treetops. From the witness perspective, the jumper in question flew through but their parachute caught on a tree, swinging them forward, and then fell straight to the ground. Once landed the witness rushed to the jumper who was unresponsive and the witness began life saving procedures.

- **DZSO Recommendations:** An analysis of the canopy flight plan was reviewed with the course facilitator and participants. The flight path was clearly defined to participants to turn onto their base leg prior to the tree line as this is also in line with dropzone policy and procedures. It is unclear as to why the jumper did not follow this standard procedure. The jumper was in critical condition and transported by ambulance to the local hospital, later being transferred to another hospital specializing in trauma. Follow ups were received daily by the family and the jumper remained in critical ICU for several days before being transferred to a trauma unit. Jumper sustained multiple critical injuries including a pneumothorax, broken pelvis, leg and ankle injuries, and a traumatic brain injury. Follow up in September 2025 has provided an expected long recovery of the injuries sustained.
- **CSPA Recommendations:** Review educational material on Landing Techniques (CSPA PIM2A-2009; Section 6.7), Landing Pattern (CSPA PIM2A-2009; Section 6.9), and Landing Problems and Solutions (CSPA PIM2A-2009; Section 6.17.5). Review of CSPA PIM2B; Section 6.3.1 Factors Affecting Human Performance, will assist in recognizing possible performance inhibiting factors. Additional review of the CSPA Sport Canopy Endorsement A & B CoP specifically Section 3 regarding "Using Effective Glide by Adjusting Flight Modes" will be beneficial. Have equipment inspected by a rigger for serviceability.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-36

- **Category:** Landing
- **Discipline:** Formation Skydiving
- **Age:** 41
- **# of skydives:** 250
- **Container:** Wings
- **Main Canopy:** Spector
- **Details:** Exit and freefall no issue. Upon downwind leg, turned low into wind, flare was only partially successful. Jumper took themself to the hospital.
- **DZSO Recommendations:** Briefed participant on straight in approaches and performing downwind landings in emergency situations.
- **CSPA Recommendations:** Intentional and unintentional low turns can result in serious injury or death. It is important to recognize your limitations, including but not limited to, currency, skill level, external inputs, and personal inputs. Review of CSPA PIM2B; Section 6.3.1 Factors Affecting Human Performance, will assist in recognizing possible performance inhibiting factors. Review educational material on Landing Techniques (CSPA PIM2A-2009; Section 6.7), Landing Pattern (CSPA PIM2A-2009; Section 6.9), and Landing Problems and Solutions (CSPA PIM2A-2009; Section 6.17.5). Jumpers should review and practice the Parachute Landing Fall (PLF) referencing SSI Reference Manual, Appendix - Skydiving Technical Knowledge PLF Landing.
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025E-41

- **Category:** Landing
- **Discipline:** Formation Skydiving
- **Age:** 36
- **# of skydives:** 365
- **Container:** SWS
- **Main Canopy:** Jyro Safari
- **Details:** The group planned an off-site landing zone. The jumper was briefed on the landing area near water. The area is a 550ft offset from the main DZ and includes 200M of long and 20M wide beach front. A PFD was provided and worn by the jumper. The skydiver had an uneventful opening and had a good solid canopy. Skydiver completed a short pattern including

downwind, base, and final. However, they turned in high and used the entire landing area and ran into a fence at the end of the designated LZ. Event first aid responders were on scenes. After attending to the jumper, they called emergency services. The participant asked to walk away; however, the team encouraged them to wait for the paramedic team arrive.

- **DZSO Recommendations:** Recommended that the jumper review of Landing Pattern (CSPA PIM2A-2009; Section 6.9), FS Landing Approach (CSPA PIM2B-2016; Section 6.6), and Group Pattern Approach (CSPA PIM2B-2016; Section 6.7). Additionally recommend reviewing educational material on Landing Techniques (CSPA PIM2A-2009; Section 6.7) and Landing Problems and Solutions (CSPA PIM2A-2009; Section 6.17.5).
- **CSPA Recommendations:** CSPA supports the root cause analysis and recommendations of the DZSO as provided.
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025E-43

- **Category:**Exit
- **Discipline:** Formation Skydiving
- **Age:** 51
- **# of skydives:** 831
- **Container:** Wings
- **Main Canopy:** Jyro Safari
- **Details:** Exited the plane linked, the person that went out first pulled jumper really hard which led to a shoulder injury.
- **DZSO Recommendations**: In the future, switch to gripping the rig or something else so that it will be easier to break away. Jumper was administered first aid by our on-site first aid person, was given a ride to the hospital. They fixed the jumpers shoulder immediately and they were out a few hours later. Jumper is now recovering at home in a sling with Tylenol.
- **CSPA Recommendations:** "Placement is determined by your slot in the formation. Your placement determines your timing and positioning at exit launch. You need to know where to place your body in relation to the others on the team." PIM2B Section 4.12 In Flight Technical Knowledge
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025E-47

- **Category:** Landing
- **Discipline:** Formation Skydiving
- **Age:** 36
- **# of skydives:** 45
- **Container:** Vector
- **Main Canopy:** PD Sabre 3
- **Details:** Jumper on final, left toggle slipped out of hand, surged canopy and harness right. Loaded full weight on right leg on impact. Right leg compressed, fell back and towards left side. Jumper called for help, other jumpers arrived immediately, and femur was noticeably broken. 911 called immediately, paramedics decided to life flight jumper to nearest trauma centre.
- **DZSO Recommendations:** Without being able to discuss with jumper, not being familiar with wearing gloves could have been a factor. Will review how jumper holds their toggles when they return.
- **CSPA Recommendations:** It is recommended that jumpers maintain a secure grip on both toggles throughout the landing sequence, especially during final approach. When wearing gloves—particularly for the first time—jumpers should ensure they are well-fitted and allow for confident toggle control. Regular canopy control practice and pre-jump equipment checks can help reduce the risk of toggle loss. In the event of a toggle slip, jumpers should prioritize regaining control and prepare for a PLF to minimize injury.
- **Action by:** Jumper; Coaches; Instructors; DZSO

3.2. Incident

2025E-03

- **Category:** Landing
- **Discipline:** Freefly
- **Age:** 32
- **# of skydives:** 403
- **Container:** Curv
- **Main Canopy:** Sabre2 135
- **Details:** Higher wind day. Over flared at first stage and gained height about 6 feet. Landed on feet then fell to right knee. Right knee pain immediately and swelling. Treated with ice and compression, as no deformities to affected limb.

- **CSPA Recommendations:** "A hard landing may come at any time, particularly during turbulent conditions or landing downwind from an obstacle, or if landing in high winds." (CSPA PIM2A). Jumpers should review and practice the Parachute Landing Fall (PLF) referencing SSI Reference Manual, Appendix - Skydiving Technical Knowledge PLF Landing.
- **Action by:** Jumper; Coaches; Instructors; DZSO.

2025E-05

- **Category:** Canopy
- **Discipline:** Hop n Pop
- **Age:** 28
- **# of skydives:** 710
- **Container:** Javelin
- **Main Canopy:** Stiletto 150
- **Details:** Jumper tied left control line in a knot around the excess keeper (They believe they reached through break toggle excess), left control line was non-functional. Around 5000 feet pulled left control line above the ring to release the tension knot. Maintained steady left turn and altitude awareness. Knot was untied at 2000 feet and landed safely at the dropzone under the main parachute, with fully functional control lines.
- **DZSO Recommendations:** Be careful when stowing break excess. Not stowing or leaving large loops makes it easier to cause putting your hand through them when unstowing breaks. Pay attention when unstowing breaks, look before reaching/unstowing.
- **CSPA Recommendations:** CSPA supports the root cause analysis and recommendations of the DZSO as provided. Review of equipment and specific packing procedures should be completed consulting with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors; DZSO; Packers; Riggers

2025E-08

- **Category:** Landing
- **Discipline:** Hop n Pop
- **Age:** 27
- **# of skydives:** 800
- **Container:** Fluid Wings
- **Main Canopy:** Gangster
- **Details:** The jumper exited at 5000 feet and then released their main parachute. They removed their slider before heading toward their swoop circuit entry point. The jumper believes they began their break surge at 630 feet in order to initiate a 270-degree turn. The jumper reports that they felt their turn was slow, efficient, and with plenty of power. They finished the turn by pulling the rear risers, then realized once on track that they were too low and therefore applied full braking using the controls. They braced for impact and hit the ground knee first before performing a front flip following the bounce. The ambulance arrived on scene in less than 10 minutes. They suffered a fractured T7 vertebra, which appears to have been the result of the second impact, as well as a cut totheir right ankle following contact with the lines. Their injuries will not require surgery, and the fracture is expected to heal within 6 weeks.
- **DZSO Recommendations:**
    - Human Factors:
        - 1. Complacency: The jumper completed a swoop camp around the end of March (3 months before the accident), approximately 50 jumps in moderately warm conditions. They had gained a lot of experience in a short time, and despite the fact that the jumps were made in the last 3 months, they are close enough to give the feeling of being able to handle the situation without really having to make any additional preparation effort.
        - 2. Skill Atrophy: Since the camp, they jumped only twice, once the previous month of the accident and the day of the accident. There is no doubt that their skill level must have decreased due to the lack of jumps in the months preceding the accident.
        - 3. Weight gain: Since their last jump, the jumper has gained 10-12 pounds. This factor is important to take into consideration given that it has a direct impact on the wing loading of the canopy, and therefore on its behaviour during recovery.
        - 4. External Pressures: The beginning of the season was marked by bad weather almost every weekend. The majority of these were not jumpable at all, and the jumpable days were marginal in terms of wind. There was some performance pressure during the jump; given the rarity of jumpable days, they wanted to launch their swoop. Furthermore, upon arriving at the centre, someone suggested they go for a Hop & Pop even though the flight was less than 10 minutes away. They went against their instincts and decided to seize the

opportunity to jump, without real consideration of the direction and strength of the winds on the ground but also at the altitude of his circuit and above.

- Environment:
  - 1. The ground winds were perpendicular to the swoop axis (12mph) and approximately 18-20 mph at 1000 feet. Since the conditions were not consulted, the jumper found themselves short on base as the winds did not allow them to move forward and had to wait a bit before launching his 270.
- Decision Making:
  - 1. The jumper began their break surge at 580 feet and began pulling on their front risers at 480 feet, which they held for approximately 2-3 seconds before initiating a right turn to begin his 270. Their normal swoop start altitude is between Max 670 feet, Ideal 650 feet, Min 630 feet. The jumper either did not monitor their altimeter by fixation or observed their altimeter between two refresh periods as described in the 'Equipment' section below. In either case, the altitude was too low to begin the maneuver and should have been replaced by a 90 degree.
- Equipment:
  - 1. Altison (auditable altimeter) - During their jump, they were equipped with an altison, which was probably turned off given that they do not remember hearing it during their swoop circuit. They performed their swoop relying on their memory of the 'sight picture'
  - 2. Altimeter - The altimeter used was a VISO 2 type. When watching the video, we can clearly observe a slight delay in the altimeter's refresh rate, which displays 580', then 520', then 480'. It is likely that the altimeter reading was taken between two refresh periods and that the jumper was already too low at that moment.
  - 3. Flysight - The Flysight did not record anything, possibly because it was not turned on.
- CONCLUSION:
  In addition to the existing rules, to compensate for the factors mentioned above, the following rules have been added:
  - 1. Altison - type "Quattro" or similar to have an audible signal for all 3 altitudes is mandatory, and must be turned on, functional, and properly configured before swooping. This rule is intended to add an additional signal to help the jumper make a good decision. It also serves as a double check to compensate for 'lag' or delayed refresh on a visual altimeter and gives the skydiver an additional chance to make a good decision.
  - 2. Refresh - A mandatory 'recertification' program for swoopers has been implemented for anyone who has not swooped for at least 2 months, or who has performed fewer than 4 swoops per month in the last 3 months. It consists of 2 stages.
    - - A: Discussion with a swoop coach to review the swoop rules and discuss the different techniques
    - - B: Under the supervision of a swoop coach, the jumper must perform 5 Hop & Pops at 9000 feet or more and practice the following: Low Turn Recovery, Dive Recovery, and Turn Practice (Slow/Fast/Optimal)
    - - In addition, the jumper will not be able to perform turns larger than 90 degrees upon landing during these 5 jumps.

- **CSPA Recommendations:** CSPA supports the root cause analysis and recommendations of the DZSO as provided. Additionally, Intentional and unintentional low turns can result in serious injury or death. It is important to recognize your limitations, including but not limited to, currency, skill level, external inputs, and personal inputs. Review of CSPA PIM2B; Section 6.3.1 Factors Affecting Human Performance, will assist in recognizing possible performance inhibiting factors.
- **Action by:** Jumper; Coaches; Instructors; DZSO

2025E-09

- **Category:** Other
- **Discipline:** Hop n Pop
- **Age:** 53
- **# of skydives: 31**
- **Container:** Icon
- **Main Canopy:** PD Sabre 2
- **Details:** Jumper has been jumping with a Vigil AAD. After downsizing rigs, they assumed it was the same. Turned on the AAD at the airport (at leastthey thought they did) saw the red-light flash. Followed procedure to turn on a Vigil and saw a 0 and thought it was on. Did not think to ask senior jumpers on the load. When they were asked if it was on, they said yes. Being weary after the jump, jumper asked a rigger/coach when they got to the ground to find out it was not on. Lesson is to turn on at the dropzone.
- **DZSO Recommendations:** It is important to review your equipment prior to your skydive especially when jumping equipment, you may not be familiar with. Refer to manufactures guidelines for correctly using AADs. Never hesitate to ask if

you are unsure about anything regarding your equipment or any aspect of skydiving. It was discussed with staff and all jumpers that all jumpers must adhere to PIM 1 Section 4.4 Inspection - "Every parachutist, prior to boarding the aircraft for a parachute descent, shall have their equipment safety-checked by another CoP/FAI rated parachutist."

- **CSPA Recommendations:** Review of CSPA PIM2B; Section 6.3.1 Factors Affecting Human Performance, will assist in recognizing possible performance inhibiting factors. Jumper should perform and review procedures of full gear checks prior to boarding the aircraft (CSPA PIM2A-2009; Section 3.7.1 Safety Check). Additionally, all jumpers must adhere to PIM 1 Section 4.4 Inspection - "Every parachutist, prior to boarding the aircraft for a parachute descent, shall have their equipment safety-checked by another CoP/FAI rated parachutist." Review CSPA PIM 2A: 6.17.6 Problems on the Ground - "Should you encounter a problem while working with your gear or getting ready for a jump consult a coach/instructor/rigger as necessary. Always feel free to seek help. It is in your best interest to maintain a solid working relationship with your coaches/instructors/riggers. Clear up misunderstandings before they become problems. This helps prevent incidents, accidents or malfunctions."
- **Action by:** Jumper; Coaches; Instructors; DZSO; Packers; Riggers

2025E-24

- **Category:** Landing
- **Discipline:** Movement/Angle
- **Age:** 32
- **# of skydives:** 126
- **Container:** Firebird
- **Main Canopy:** Aerodyne Pilot
- **Details:** Situation: After taking part in a 2Way movement jump, the jumper was attempting to land in the landing area. The landing pattern for this jump was a right-hand pattern with landing being conducted from the North to South corners of the landing area. Opening: Very close to holding area on the South side of the runway. Downwind: Entered pattern too low at roughly 1000 feet, flew downwind leg to far away from the landing area during high winds. Base: Short base leg quickly turned in final in an attempt to make it closer to the landing area. Final: Minimal penetration, failed to reach landing area. Landed very close (approx. 1 foot) to a chain link fence on a neighbouring property roughly 20 meters from the north most corner of the landing area.
- **DZSO Recommendations:** Reviewed with jumper, the impact higher winds will have on our landing pattern. Discussed the importance of not overflying obstacles, as well as using back half of landing area as the target instead of front corner.
- **CSPA Recommendations:** Review educational material on Landing Techniques (CSPA PIM2A-2009; Section 6.7), Landing Pattern (CSPA PIM2A-2009; Section 6.9), and Landing Problems and Solutions (CSPA PIM2A-2009; Section 6.17.5). Review educational material on Hazards Near the Ground (CSPA PIM2A-2009; Section 6.17.4) and Recreational Canopy Control Skills (CSPA PIM2B Section 6).
- **Action by:** Jumper, Coaches, Instructors, DZSO

2025E-32

- **Category:** Landing
- **Discipline:** Formation Skydiving
- **Age:** 42
- **# of skydives:** 94
- **Container:** Aerodyne
- **Main Canopy:** PD Sabre 2
- **Details:** Jumper braked a little too low on a new parachute to them (only 4 jumps with it). Sprained left ankle.
- **DZSO Recommendations:** None
- **CSPA Recommendations:** Review of the CSPA Sport Canopy Endorsement: Section 3: Wing Loading and It's Effects.
- **Action by:** Jumper, Coaches, Instructors

2025E-42

- **Category:** Landing
- **Discipline:** Formation Skydiving
- **Age:** 42
- **# of skydives: 600**
- **Container:** Mirage
- **Main Canopy:** Crossfire 3
- **Details:** On landing, jumper moved very fast due to no winds. Jumper hurt their ankle and tailbone.

- **DZSO Recommendations:** Jumper has many jumps. A bigger canopy on a no wind day might be in order. But because of experience, no recommendations are in order except be aware of surroundings.
- **CSPA Recommendations:** "The only issue is that your perception of speed and altitude will be off. Since you seem to be moving more quickly over the ground when there is no wind (which you actually are), it can seem like a good idea to add just a little brake to slow yourself down before you land. Resist that urge! Keep that speed from your canopy; converting speed to lift is how you can achieve a full flare." CSPA Sport Canopy Endorsement Section 2: A CoP Canopy Control Skills 9. Crosswind and No Wind Landings
- **Action by:** Jumper, Coaches, Instructors, DZSO

2025E-44

- **Category:** Landing
- **Discipline:** Movement/Angle
- **Age:** 26
- **# of skydives:** 1100
- **Container:** Wings
- **Main Canopy:** Crossfire
- **Details:** On landing, person walked in front of landing jumper across landing area while jumper was rounding out swoop. Jumper impacted another person. Person (walking across field) did not look before crossing.
- **DZSO Recommendations:** None
- **CSPA Recommendations:** Where feasible, visual cues such as signage or ground markings should be used to delineate active landing zones and discourage casual foot traffic. Individuals should visually clear the landing area in both directions before entering or crossing. This should be treated with the same seriousness as crossing an active runway.
- **Action by:** Jumper, Coaches, Instructors, DZSO; DZO

2025E-45

- **Category:** Deployment
- **Discipline:** Wingsuit
- **Age:** 29
- **# of skydives:** 204
- **Container:** Javelin
- **Main Canopy:** Jyro Helium
- **Details:** Background - The jumper has started their PFF course and went all the way to C license within one summertime with the objective of starting wingsuiting. Jumper had no accident or incident during the first 200 jumps to report and was a good student in general. Once they hit 200 jumps, the jumper had decided to start their Wingsuit course with a wingsuit coach. This incident happened after their second jump without a coach.
  DECISION MAKING - The jumper had changed the audible settings from the 'course settings' (CS) to what they thought to be a normal setting of: Flare Altitude 5500' (CS: 6500'), Deployment 5000' (CS: 5500') and Decision altitude (DA) 2000' (CS: 3500').
  PHYSIOLOGICAL - It was the first jump of the day, and the jumper got ready, stretched in order to loosen their shoulders that are usually tight. At that point, the jumper noticed that their right shoulder was sore from deploying from the previous day.
  PSYCHOLOGICAL - In the boarding area, a fellow jumper jokingly said that they had to stay away as it was sketchy that the jumper was wingsuiting. During the flight, another joke was made that they did not want something to happen to the jumper while wingsuiting.
  The jumper then proceeded to exit the aircraft and the normal part of the freefall (up to 5000 feet - deploying altitude) was uneventful. At 5000', the jumper tried to deploy but did not have the shoulder mobility to get to the PC. The jumper kept trying until they stalled the WS and started to fall. The jumper thought they had time to continue to try as the deploying altitude was 5k and could touch the rig but could not find to the PC. The jumpers audible was set to 2000', they heard it go off and unzipped their arms (prior or just after the audible went off, the jumper does not recall) and maneuvered their body to a better position and pulled the cutaway handle then the reserve ripcord as the AAD fired. The jumper was then under a good reserve canopy and landed in a corn field with no injury.
  The handles and the freebag got lost in the process.
- **DZSO Recommendations:** Decision Making Analysis
  - 1. Initial Setting Change
    The jumper altered the decision altitude (DA) to what made sense to them based on their previous jumps, without consulting an instructor. They failed to consider that wingsuit flying introduces a distinct set of risks and procedural requirements.

- 2. Response to Malfunction
  Under stress, the jumper deviated from proper emergency protocol:
  • Jumper continued attempting to pull the main parachute instead of aborting after two attempts and deploying the reserve.
  •Jumper spent valuable time unzipping the wings while still in free fall.
  • Jumper pulled the cut away handle rather than proceeding directly to the reserve at the appropriate altitude.
- Conclusion
  • Altitude Adjustments: Adding explicit minimum altitudes for wingsuit jumps can guide both coaches and students.
  Revised rule wording:
  Wingsuiting (fewer than 20 jumps) – Unless explicitly authorized by a qualified wingsuit coach and performed under direct supervision:
  • Deployment altitude: 5,000 ft.
  • Decision altitude: 3,500 ft.
  • Retraining: Before the next jump, the wingsuit "student" must undergo a comprehensive refresher on emergency procedures with an instructor.
- Psychological Analysis
  From 5,000’ down to 2,000’, the jumper resisted acknowledging their limited shoulder mobility—a limitation that, in the jumpers view, would permanently bar them from wingsuiting. Having just achieved their first successful wingsuit jump, the jumper did not want to have to abandon the activity. The jumper also felt pressure from prior comments questioning their suitability, leading the jumper to ignore warning signs.
- Conclusion
  • Pressure Factors: Both internal (self-confidence, ego) and external (peer criticism) pressures significantly contributed to the incident.
  • Confidence Building: Wingsuit "Students" should develop confidence within a controlled “bubble” environment—similar to the progression used for PFF students.
  • Rule Modification Impact: Raising the opening and decision altitudes creates a larger safety margin, fostering confidence and reducing susceptibility to negative external influences.
- Physiological Analysis
  Anyone who doubts their physical readiness should refrain from jumping. After consulting a wingsuit coach, it appears the jumper could physically reach their PC (pilot chute), but it is possible that the jumper mistakenly attempted to pull the PC directly through the wing fabric rather than over the wing itself. Consequently, the jumper may have grabbed the wingsuit material instead of the PC.
- Conclusion
  • Fitness Verification: Emphasize pre jump fitness checks at the next safety meeting.
  • Mobility Work: The jumper is actively improving shoulder mobility to mitigate future risk.
  • Targeted Retraining: The jumper will receive focused ground and airborne instruction from a qualified wingsuit coach.

- **CSPA Recommendations:** CSPA supports the root cause analysis and recommendations of the DZSO as provided.
- **Action by:** Jumper; Coaches; Instructors; DZSO;

3.3. Malfunction

2025E-01

- **Category:** Deployment
- **Discipline:** Artistic Freefly/Freestyle
- **Age:** 39
- **# of skydives:** 112
- **Container:** Curv
- **Main Canopy:** Storm 170
- **Details:** Deployed at 4000 feet. Canopy visuals completed. Release of the left toggle good. The right toggle couldn't be released. Slider was also not fully down. Tried to release the toggle 2-3 times. Canopy began to spin to the right side, first slowly then very fast. Alti check at 2700 feet and decided to cut away at 2500 feet. Landed without incident.
- **CSPA Recommendations:** Reviewing malfunctions often will help jumpers deal with most situations that can occur at opening (PIM2B; Section 6.1.1 Canopy Malfunctions Review). Review of equipment specific packing procedures should be completed and consult with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors; DZSO; Packers; Riggers

2025E-04

- **Category:** Deployment
- **Discipline:** Formation Skydiving
- **Age:** 32
- **# of skydives:** 73
- **Container:** Peregrine Glide
- **Main Canopy:** Sabre 3 210
- **Details:** After breaking off from a 2-way, jumper threw pilot chute and had some line twists which they were able to clear. Jumper looked up, grabbed both toggles and when they pulled down only the right one came out. Jumper pulled down hard again on the left toggle a few times while going into a fast spiral. Altitude was dropping fast and about 100 feet from their hard deck they initiated Emergency Procedures. Landed on reserve without incident.
- **DZO Recommendations:** None
- **CSPA Recommendations:** Jumper should review proper body position during deployment, (CSPA PIM2A-2009; Section 5.4 Activation). Jumper should review Basic Correctable Situations (CSPA PIM2A-2009; Section 3.3.1 Line Twists). Additionally, reviewing malfunctions often will help jumpers deal with most situations that can occur at opening (PIM2B; Section 6.1.1 Canopy Malfunctions Review). Review of equipment specific packing procedures should be completed and consult with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors; DZSO; Packers; Riggers

2025E-07

- **Category:** Deployment
- **Discipline:** Wingsuit
- **Age:** 32
- **# of skydives:** 201
- **Container:** Parachute Systems
- **Main Canopy:** Apache
- **Details:** Potential packing error. Wingsuit course, flight #3. Wingsuit fly goes as expected, pulled main at 5000 feet. Immediate spins. Can't see canopy, visor is fogging which impairs vision. Grabbed handles began cutting away main & spinning stops, canopy overhead with line twists. Since cutaway handle partially extracted jumper decided to continue with emergency procedures. Reserve deploys well, landed off DZ but safe.
- **DZO Recommendations:** Possible packing error/body position on opening. Pulling cutaway handle partially before fully assessing situation. Check altitude and make effort to correct twists first.
- **CSPA Recommendations:** Jumper should review proper body position during wingsuit deployment with a CSPA Coach 3 (Wingsuit). Additionally, reviewing malfunctions often will help jumpers deal with most situations that can occur at opening (PIM2B; Section 6.1.1 Canopy Malfunctions Review). Review of equipment specific packing procedures as per the manufacturer should be completed and consult with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors; DZSO; Packers; Riggers

2025E-11

- **Category:** Deployment
- **Discipline:** Wingsuit
- **Age:** 70
- **# of skydives:** 5000
- **Container:** Mirage
- **Main Canopy:** Jyro Helium
- **Details:** Jumper had a great freefall and opened at 6000’. Unstable opening, immediately opened in line twists.
- **DZO Recommendations:** Instructed jumper to review with a wingsuit coach proper body positioning at opening.
- **CSPA Recommendations:** Jumper should review proper body position during wingsuit deployment with a CSPA Coach 3 (Wingsuit). Additionally, reviewing malfunctions often will help jumpers deal with most situations that can occur at opening (PIM2B; Section 6.1.1 Canopy Malfunctions Review). Review of equipment specific packing procedures as per the manufacturer should be completed and consult with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-15

- **Category:** Deployment
- **Discipline:** Hop n Pop

- **Age:** 39
- **# of skydives:** 270
- **Container:** Mirage
- **Main Canopy:** PD Sabre 2
- **Details:** Jumper jumped out in a dive, did a front flip and then stabilized to arch position. Went to pull out their pilot chute and nothing was there. Went straight to EP's and their reserve came out perfectly. Tucked their handles into their coat and landed nicely right close to target. Jumpers on the ground saw the gear coming down so they were able to recover all pieces. We are guessing that the pilot chute may have come out prematurely and not have been fully cocked, as the jumper's main did come out of the bag. Jumper was the last to pack their main and pilot chute.
- **DZO Recommendations:** Reviewed gear, confirmed closing sequence.
- **CSPA Recommendations:** Review of CSPA PIM 1: 4.4 Inspection - Every parachutist, prior to boarding the aircraft for a parachute descent, shall have their equipment safety-checked by another CoP/FAI rated parachutist. Reviewing malfunctions often will help jumpers deal with most situations that can occur at opening (PIM2B; Section 6.1.1 Canopy Malfunctions Review). Review of equipment specific packing procedures should be completed and consult with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-16

- **Category:** Canopy
- **Discipline:** Formation Skydiving
- **Age:** 24
- **# of skydives:** 219
- **Container:** Mirage
- **Main Canopy:** Spectre
- **Details:** Jumper deployed main canopy at 4000 feet. When brakes were unstowed, the right brake became locked and couldn't move. When the canopy was found, it showed that the excess brake line was reached through by jumper before unstowing the toggle, causing a knot. Main was cutaway at 2300 feet. Jumper landed at the DZ with no issues.
- **DZO Recommendations:** Carefully stow your excess break lines when packing. Before unstowing your brake lines, do an inspection to ensure you are not reaching through any excess line.
- **CSPA Recommendations:** CSPA supports the root cause analysis and recommendations of the DZSO as provided. Review of equipment and specific packing procedures should be completed consulting with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-18

- **Category:** Deployment
- **Discipline:** Hop n Pop
- **Age:** 26
- **# of skydives:** 154
- **Container:** Mirage
- **Main Canopy:** PD Sabre3
- **Details:** Jumper exited aircraft and tried to open pilot chute. Their main canopy did not come out, so they went to emergency procedures.
- **DZO Recommendations:** Misrouted bridle resulted in a pilot chute in tow. Jumper needed a pin check from experienced jumper. Further education provided on closing rig properly and how to pin check.
- **CSPA Recommendations:** Review of CSPA PIM 1: 4.4 Inspection - Every parachutist, prior to boarding the aircraft for a parachute descent, shall have their equipment safety-checked by another CoP/FAI rated parachutist. Reviewing malfunctions often will help jumpers deal with most situations that can occur at opening (PIM2B; Section 6.1.1 Canopy Malfunctions Review). Review of equipment specific packing procedures should be completed and consult with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-20

- **Category:** Canopy
- **Discipline:** Movement/Angle
- **Age:** 29
- **# of skydives:** 2207
- **Container:** UPT

- **Main Canopy:** PD Sabre 2
- **Details:** After an uneventful angle jump, the jumper tracked off from the other jumpers at 5000 feet and deployed their main at 3500 feet. The opening was good and the canopy was controllable. On their way back to the dropzone the jumper reports going into line twists because of a left-hand turn mixed with a wind gust. Now being at 2100 feet, the jumper decided to cutaway their main parachute. Their reserve was equipped with a skyhook which made the opening fast and secure. Even with the saved altitude from the MARD system, the jumper decided to land off from the DZ because they calculated that they couldn't make their landing pattern and did not want to land facing the other jumper on final. They visualized a landing pattern in this new field and landed perfectly with his reserve canopy.
- **DZO Recommendations:** After analyzing the video footage of the jumpers camera, we can see the jumper using aggressive turns at the same time as unstowing their brakes which leads to suspicion. After the first turn though, the jumper shut the camera off so we do not actually see the malfunction happen later during the ride down. The weather conditions on this day were gusty on the ground but not above 1000 feet. This is also being their third jump on this canopy platform; the opinion is that it is highly probable that the jumper induced the malfunction themself while doing other aggressive turns later on. Consequently, the jumper will have to do three (3) H&Ps where they will be supervised by a canopy coach while practicing turn reversals (max rate of turn 90 followed by 180) and learning to control their canopy trajectory with rear riser turns. Their main parachute has been inspected and there was nothing unusual.
- **CSPA Recommendations:** If you gain too much momentum in one direction (e.g. multiple coordinated turns in a series), then suddenly turn in the opposite direction, the lines can become slack due to the abrupt direction change and the canopy trying to change direction. Once this happens the suspended weight and the canopy are traveling in different directions, and now there is a potential to induce line twists. This can be particularly daunting for a novice, especially close to the ground, and can create a very dangerous situation." CSPA Sport Canopy Endorsements. Jumper should also review CSPA PIM2A Section 3.11.2 Equipment Transition - Canopy Down-Sizing
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-23

- **Category:** Deployment
- **Discipline:**
- **Age:** 49
- **# of skydives:**
- **Container:** Sunrise W6
- **Main Canopy:** PD Sabre 2
- **Details:** On opening, the canopy went into a spin plus several line twists
- **DZO Recommendations:** Open higher to have more reaction time
- **CSPA Recommendations:** Jumper should review proper body position during deployment, (CSPA PIM2A-2009; Section 5.4 Activation). Jumper should review Basic Correctable Situations (CSPA PIM2A-2009; Section 3.3.1 Line Twists). Additionally, reviewing malfunctions often will help jumpers deal with most situations that can occur at opening (PIM2B; Section 6.1.1 Canopy Malfunctions Review). Review of equipment specific packing procedures should be completed and consult with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-25

- **Category:** Deployment
- **Discipline:** Freefly
- **Age:** 50
- **# of skydives:** 2060
- **Container:** UPT Vector
- **Main Canopy:** PD Sabre 2
- **Details:** Upon opening, the main canopy went into auto rotation.
- **DZO Recommendations:** None
- **CSPA Recommendations:** Jumper should review proper body position during deployment, (CSPA PIM2A-2009; Section 5.4 Activation). Jumper should review Basic Correctable Situations (CSPA PIM2A-2009; Section 3.3.1 Line Twists). Additionally, reviewing malfunctions often will help jumpers deal with most situations that can occur at opening (PIM2B; Section 6.1.1 Canopy Malfunctions Review). Review of equipment specific packing procedures should be completed and consult with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-26

- **Category:** Deployment
- **Discipline:** Canopy Formation
- **Age:** 29
- **# of skydives:** 750
- **Container:** SunPath
- **Main Canopy:** PD Stiletto
- **Details:** Exited aircraft 3-way angle, separation at 9500 feet opened at 9000 feet. Main opened in a left spin, straightened out, went into a right turn. When assessing the turn, recognized left control line was broken. Unstowed right control line to fly straight, kept left toggle stowed in riser keeper. Flew partially back toward the dropzone to create separation from other two jumpers. Intention had been to flock, flew away from jumpers to try to indicate a problem. Disconnected RSL, cutaway at 7500 feet, opened reserve by 6000 feet. Landed at dropzone safely. Control line broke at cateye.
- **DZO Recommendations:** Upon inspection, parachute lines were in good condition. Discussed not disconnecting RSL, maintaining safety system in place enables main to extract reserve, and doesn't risk jumper not being able to find handles. Discussed the impact of disconnecting RSL can have on less experienced jumpers who are low in altitude but thought returning to freefall was cool.
- **CSPA Recommendations:** CSPA supports the root cause analysis and recommendations of the DZSO as provided. Reviewing malfunctions often will help jumpers deal with most situations that can occur at opening (PIM2B; Section 6.1.1 Canopy Malfunctions Review).
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-28

- **Category:** Canopy
- **Discipline:** Hop n Pop
- **Age:** 32
- **# of skydives:** 130
- **Container:** Firebird
- **Main Canopy:** Aerodyne Pilot
- **Details:** Jumper exited the plane at 9000 feet and pulled at 4000 feet. Upon opening jumper noticed their front and rear risers were twisted. When the jumper did their control check, they noticed that the canopy was having very strong reactions to slight toggle inputs. When the jumper reached 2500 feet they decided to cut away. This caused the jumper to enter their pattern late. When the jumper turned onto final they didn't compensate for the crosswind and fell down on the runway. Jumper scraped their right ankle and shin on the tarmac. Other than that, the jumper was fine.
- **DZO Recommendations:** Discussed with the jumper starting pattern higher on a reserve to give additional altitude to fly a "new" canopy. Reviewed cross wind landings and objection fixation.
- **CSPA Recommendations:** Have equipment inspected by a rigger for serviceability. Reviewing malfunctions often will help jumpers deal with most situations that can occur at opening (PIM2B; Section 6.1.1 Canopy Malfunctions Review). Review educational material on Hazards Near the Ground (CSPA PIM2A-2009; Section 6.17.4) and Recreational Canopy Control Skills (CSPA PIM2B Section 6). Review of CSPA PIM2B; Section 6.3.1 Factors Affecting Human Performance, will assist in recognizing possible performance inhibiting factors.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-29

- **Category:** Deployment
- **Discipline:** None
- **Age:** 44
- **# of skydives:** 2900
- **Container:** UPT
- **Main Canopy:** Airwolf
- **Details:** Main canopy was cut away after deployment with diving line twist after passing through the dropzone. Hard deck altitude to cut away sequence was initiated.
- **DZO Recommendations:** None
- **CSPA Recommendations:** When dealing with high performance canopies, small differences in the pack job will create major changes in the way it opens, sometimes leading to malfunctions." CSPA PIM2A, Section 3.8.4 Packing - Deployment Control should be reviewed.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-34

- **Category:** Freefall
- **Discipline:** Formation Skydiving
- **Age:** 29
- **# of skydives:** 21
- **Container:** Mirage
- **Main Canopy:** Parachute System ZPEXE
- **Details:** The solo jumper was unable to find the extractor on opening. The jumper did not try again and waited for the AAD to open the reserve parachute.
- **DZO Recommendations:** The jumper never opened their parachute or attempted emergency procedures. The AAD was triggered. The jumper appears unaware of the seriousness of what happened and is very confused about the events. We consider the jumper to be a danger to themselves.
- **CSPA Recommendations:** A pull problem may be experienced for various reasons, the jumper should review CSPA PIM2A Section 5.22 Freefall Unusual Situations, as well as a full review of CSPA PIM2A Section 3.3 Activation of Reserve (Emergency Procedure). Review of CSPA PIM2B; Section 6.3.1 Factors Affecting Human Performance, will assist in recognizing possible performance inhibiting factors. Jumper should perform and review procedures of full gear checks prior to boarding the aircraft (CSPA PIM2A-2009; Section 3.7.1 Safety Check). Review of equipment and specific packing procedures should be completed consulting with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-35

- **Category:** Deployment
- **Discipline:** Formation Skydiving
- **Age:** 56
- **# of skydives:** 35
- **Container: None**
- **Main Canopy:** PD Sabre 3
- **Details:** Jumper couldn't reach main handle. Straight to reserve.
- **DZO Recommendations:** Talked to jumper the handle was a flat pad that they were not familiar with so more work and practice should have been used on the ground being this was their first jump on this gear.
- **CSPA Recommendations:** Jumper should review CSPA PIM 2A Section 3.11.1 Equipment Transition - System Changes.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-38

- **Category:** Deployment
- **Discipline:** Wingsuit
- **Age:** 50
- **# of skydives:** 482
- **Container:** UPT Vector 3
- **Main Canopy:** PD Horizon
- **Details:** Experienced line twists following opening. Opening altitude 4500 feet. Attempted to clear line twists but was exacerbated due to winds aloft. Executed cutaway and landed safely in a farmer's field. Main was not recovered.
- **DZO Recommendations:** Likely poor body position during open sequence. Work with wingsuit coach to review appropriate body position during deployment.
- **CSPA Recommendations:** Jumper should review proper body position during wingsuit deployment with a CSPA Coach 3 (Wingsuit). Additionally, reviewing malfunctions often will help jumpers deal with most situations that can occur at opening (PIM2B; Section 6.1.1 Canopy Malfunctions Review). Review of equipment specific packing procedures as per the manufacturer should be completed and consult with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-39

- **Category:** Deployment
- **Discipline:** Freefly
- **Age:** 38
- **# of skydives:** 389

- **Container:** Wings
- **Main Canopy:** PD Katana
- **Details:** Poised exit out of aircraft, pulled at 4500 feet canopy was sniveling on opening. Canopy then searched to the right and as it opened started putting the jumper into line twists. Once canopy was open, jumper reached up to start working the line twists and canopy went into a spinning dive. Jumper wasn't able to reach above the line twists to pull it out of the dive and wasn't able to make any progress towards fixing the line twists while spinning in a dive. At this point, the jumper found their handles and cut away the main, pulled the reserve handle and got under their reserve.
- **DZO Recommendations:** Jumper deployed their main, had line twist sand started dive. Unable to control flight and went to reserve. Parachute was inspected; no concerns found or causes determined.
- **CSPA Recommendations:** Jumper should review proper body position during deployment, (CSPA PIM2A-2009; Section 5.4 Activation). Jumper should review Basic Correctable Situations (CSPA PIM2A-2009; Section 3.3.1 Line Twists). Additionally, reviewing malfunctions often will help jumpers deal with most situations that can occur at opening (PIM2B; Section 6.1.1 Canopy Malfunctions Review). Review of equipment specific packing procedures should be completed and consult with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-40

- **Category:** Deployment
- **Discipline:** Hop n Pop
- **Age:** 42
- **# of skydives:** 2500
- **Container:** Vector
- **Main Canopy:** PD Katana
- **Details** Jumper dispatched an IAD student without incident. After providing sufficient time for clearance, the jumper exited the plane and did a poised exit out of the plane and was immediately stable. After 3-4 second delay, jumper activated main. The initial opening felt normal but upon full deployment, the canopy was in severe line twists and beginning to enter a dive. Jumper attempted to clear the twists, but the dive was speeding up and there was significant altitude loss. Full emergency procedures were executed by 2100 feet AGL as determined by the video. The reserve was activated by the skyhook and deployed flying straight but in line twists. Twists were cleared by 1700 feet AGL. Landed without incident in the front landing field on the dropzone.
- **DZO Recommendations:** The jumper did not pack their own gear. Although an experienced jumper did pack for them, possible unfamiliarity with the gear may have led to the malfunction.
- **CSPA Recommendations:** "When dealing with high performance canopies, small differences in the pack job will create major changes in the way it opens, sometimes leading to malfunctions." CSPA PIM2A, Section 3.8.4 Packing - Deployment Control should be reviewed.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

2025E-46

- **Category:** Deployment
- **Discipline:** Wingsuit
- **Age:** 44
- **# of skydives:** 476
- **Container:** Mirage Systems
- **Main Canopy:** Parachute Systems ZP
- **Details**: After a two way and after separation at 5000', jumper executed opening manoeuvres (around 4500') but when deploying lines were twisted several times. Jumper was drifting from the school grounds to the east, or south of the main street. Jumper tried to untangle them for several seconds without any results. Around 2200' after flying over electrical lines and approaching several corn fields, jumper made the decision to do emergency procedures. Jumper landed without any problems on the side of the field and main chute went in the direction of another field near the main street to the south. Main still not retrieved.
- **DZO Recommendations:** The skydiver reacted well and did the right thing.
- **CSPA Recommendations:** Jumper should review proper body position during wingsuit deployment with a CSPA Coach 3 (Wingsuit). Additionally, reviewing malfunctions often will help jumpers deal with most situations that can occur at opening (PIM2B; Section 6.1.1 Canopy Malfunctions Review). Review of equipment specific packing procedures as per the manufacturer should be completed and consult with a Rigger if necessary.
- **Action by:** Jumper; Coaches; Instructors; DZSO, Packers, Riggers

3.4. Equipment

2025E-10

- **Category:** Other
- **Discipline:** None
- **Age:** None
- **# of skydives:**
- **Container:** Mirage
- **Main Canopy:** Aerodyne Pilot
- **Details:** Upon inspection of main canopy, line continuity was incorrect. Front Left Riser - half turn in soft link. Rear Left Riser - half turn in soft link. Front Right Riser - half turn in soft link. The turns in the previously mentioned risers resulted in the inside lines being on the outside. Rear Right - 1.5 turns in soft links. This soft link turn resulted in a complete twist of the suspension lines and the inside lines being on the outside. All line continuity was corrected. Two patches one top skin, one bottom skin center cell near the tail. On inspection, the rigger discovered that the patches had been completed twice. It appears that the patch was completed and then re-completed using different colour thread. One group of thread has now begun to unravel. On one of the patches, the sewing to complete the patch was done using incorrect technique. The rigger was not happy with the quality of the patches, conferred with multiple riggers who agreed that they were questionable. Owner to be contacted to discuss if they want the patches re-done, or main returned to them unpacked.
- **DZO Recommendations:** Line Continuity: After assembly, it is vital that line continuity checks are performed. When re-attaching soft links, it is easy to put twists/turns in them, and riggers need to check each riser/line continuity individually. It is always recommended to have a second person perform a 'rigger' check to ensure human error is minimized. While it may be challenging to find another rigger, any sport jumper can be talked through how to perform a continuity check. While performing continuity checks, it is also extremely important to ensure that there are no twists/turns in the risers, as this will alter continuity. If sport jumpers are changing over main canopies, they need to get a second check performed, ideally by a rigger.
  Patching: Patching is a more complex task than people think. It is important that riggers maintain their currency, even by completing practice patches not on 'live' canopies. Riggers who have not patched in a while should seek out a more current rigger for re-currency. Riggers should also review the written documentation outlining proper patching techniques to ensure canopy airworthiness is maintained.
- **CSPA Recommendations:** CSPA supports the root cause analysis and recommendations of the DZSO as provided.
- **Action by:** Jumper, DZSO, Packers, Riggers

2025E-37

- **Category:** Canopy
- **Discipline:** None
- **Age:** None
- **# of skydives:**
- **Container:** Infinity
- **Main Canopy:** Icarus Safire 2
- **Details:** Upon deployment of main canopy, the left brake line broke at the junction of the upper and lower brake line. Canopy was still flyable, so jumper landed using rear risers.
- **DZO Recommendations:** As per DZ rigger, brake lines were worn. Jumper will inform 3rd party renter, as will the rigger. As a long-term renter some gear goes out for the season, maybe a system needs to be set up where gear is checked by renter on an on-going timely manner. Jumper landed well.
- **CSPA Recommendations:** Have equipment inspected by a rigger for serviceability. Educate packers on regular gear checks, including but not limited to, checking the condition of lines when packing parachutes. Ensure Standard Operating Procedure (SOP) in place for packers and/or riggers to report any equipment concerns.
- **Action by:** Jumper, Coaches, Instructors, DZSO, Packers, Riggers

3.5. Fatality

2025E-17

- **Category:** Development
- **Discipline:** Other
- **Age:** None
- **# of skydives:**

- **Container:**
- **Main Canopy:**
- **Details:** The skydiver was a fifty-six (56) year old with a reported three thousand and sixty-five (3,065) total skydives. They had a reported one hundred and fifteen (115) skydives in the past twelve (12) months. The container system was reported to have an Automatic Activation Device (AAD). It is unknown at this time who the manufacturer of the AAD is. The skydiver was acting in the role as the main-side PFF instructor during the time of the accident. Their last reported jump, prior to that of the occurrence, was the 9th day of May,2025. The analysis was conducted by the Safety Management System Analyst in collaboration with a specialized panel, which included an expert Progressive Freefall Instructor Examiner.

  Root cause analysis of the accident determined that the fatality occurred to the main-side instructor due to a combination of critical factors.
  - The initial 2:1 exit with the student was marked by a "tumble" that resulted in the release of the reserve-side instructor from the student.
  - Continued instability during freefall by the student, led to the release of the main-side instructor from the student.
  - The student continued to be unstable in a belly to earth flat spin
  - The students Automatic Activation Device (AAD) fired due to a lack of main parachute deployment initiation by the student
  - The main-side instructor's AAD was not activated. Further investigation is forthcoming.
  - Following the student's AAD firing, the main-side instructor deployed their own main parachute at an altitude too low for full inflation, resulting in a high-speed impact with the ground.
  - The main side instructor was declared deceased upon impact.
- **DZO Recommendations:** None
- **CSPA Recommendations:** Following an extensive root cause analysis of the fatal skydiving event, each critical phase of the skydive—Equipment preparation, Aircraft Exit, Freefall, Canopy Deployment, and Landing was thoroughly examined. Multiple contributing factors were identified across these stages.
  To address the identified causes and reduce the risk of recurrence, a series of corrective actions should be considered. These measures are aimed at reinforcing safety practices, improving procedural compliance, and upholding the highest standards of risk mitigation.
  - It is strongly advised to use an audible altimeter and an AAD, for your safety, even if this equipment is optional at your dropzone. (CSPA PFFI Reference Manual)
  - Every parachutist, prior to boarding the aircraft for a parachute descent, shall have their equipment safety-checked by another CoP/FAI rated parachutist. (CSPA PIM 1 Section 4.4 Inspection)
  - "Tumble" on Exit: The RSI drops grips and leaves after two rotations, the MSI stabilizes the pair, the RSI re-docks and the exercise begins again. See "Tumble" in 2:1" for more details. (CSPA PFFI Reference Manual: Unusual Situations in Freefall)
  - Student Spinning (Belly to Earth): Regain control by using the technique of stop spin. See "Stopping Spin" for more details. (CSPA PFFI Reference Manual: Unusual Situations in Freefall)
  - Student unstable from the exit and unable to re-establish stability - Open earlier than 6000 feet. (CSPA PFFI Reference Manual: Unusual Situations in Freefall)
  - Loss of two instructors in freefall: Both instructors chase the student to re-dock (ideally in their respective positions, but in the end, just get a hold of the student no matter which side); but never go over top of the student. Both instructors will stop chasing the student by 3000'. The student must know that in such cases where there is no instructor, they are to open the main parachute immediately! (CSPA PFFI Reference Manual: Unusual Situations in Freefall)
  - CSPA PIM 1 Section 2.5 Basic Safety Rules – General: The minimum altitudes (AGL) at which the main parachute must be activated are:
    - 4500' for all Tandem jumps o 3000' for all students, Solo & A CoP holders o 2500' for B, C, and D CoP holders
  - Training program materials should be reviewed and audited regularly to ensure all areas are covered in accordance with CSPA PFFI Reference Manual, including:
    - Introduction
    - Equipment and accessories
    - Aircraft Procedures and Climb-out and Exit
    - Body position in freefall
    - Canopy control and check
    - Landing
    - Unusual situations and emergency procedures
    - Review

- Instructors should routinely review the unusual situations and emergency procedures as listed in the CSPA PFFI Reference Manual.

- **Action by:** Jumper, Coaches, Instructors, DZSO, Packers, Riggers

4 - Aircraft

2025A-01

- **Category:** Pilot
- **Discipline:**
- **Age:**
- **# of skydives:**
- **Container:**
- **Main Canopy:**
- **Details:** The pilot of a Cessna 206 already had completed five hours of airtime that day with multiple skydiving flights, all of which were normal and uneventful. The aircraft performed well on all previous flights. The incident occurred during the final load of the day. The jumpers exited at 12,450 feet with no issue. During the descent, everything remained normal until about 10000 feet, when the pilot noticed a strong burning smell inside the aircraft, similar to a burning tire. The pilot initially suspected a blown tire. However, around 9000 feet the smell intensified, smoke entered the cabin, and the engine began running extremely rough and shaking violently - like riding a bucking horse. A few hundred feet later, the pilot experienced a reduction in engine power, at which point they believed this was likely an engine fire or serious internal malfunction. The pilot immediately followed the engine fire emergency checklist. The pilot declared an emergency on the appropriate frequency and began circling to prepare for an emergency landing. At approximately 1400 feet ASL and 3NM from the runway, the pilot executed a forward slip to reduce altitude without increasing airspeed. With flaps unavailable due to the shutdown of the electrical systems, the pilot performed a power-off glide approach and touched down approximately 1000 feet past the runway threshold. Despite maximum braking, the aircraft did not come to a full stop due to the propeller remaining in fine pitch and spinning at high RPM. The pilot allowed the aircraft to roll into the perimeter fence, which stopped the aircraft safely. There were no injuries.
- **DZO Recommendations:** Upon first glance inspection it appears that the connecting rod on cylinder 4 disconnected from the crankshaft resulting in the loss of power. Further investigation continues to be underway.
- **CSPA Recommendations:** Occurrence remains in the appropriate investigating authorities.
- **Action by:** Pilots, DZO, DZSO