SAFETY MANAGEMENT SYSTEM (SMS)

Occurrence and Risk Mitigation Reporting

AIM Analysis as of May 2025

Canadian Sport Parachuting Association
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DISCLAIMER

The data and information used in the Safety Management System ("SMS") of CSPA is privileged and to be kept confidential. Any publication of any data or information from the CSPA's SMS by CSPA is for safety information purposes only and to enhance the safety awareness of parachutists.

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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 Micro Sigma
- **Main Canopy:** Icarus World TX2 330
- **Details:** On landing the Tandem Instructor had an uneven flare which resulted in a turn through the landing. Tandem Instructors 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 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. 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:** Tandem Instructors; DZSO

1.2. Incident

1.3. Malfunction

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 a 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 his 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. Jumpers 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 on 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. Student touched the ground with the tips of his toes. The student felt a pain under their right foot. Student refused to go and be evaluated by medical professional.
- **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. 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-04

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

- **Details:** During the final approach, 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 jumpers impact with the ground being a little harder than normal, 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. 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

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 student to turn slightly to the left. Student turned about 60 degrees. The GCI then instructed the student to turn towards him 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 the instruction to flare. Student flared, fell onto knees and then slid into a shallow pond. 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. Follow 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. 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. 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 of the importance of clear communication and strongly advised that the pilot has command of the aircraft. The JM was briefed to adhere to the pilots 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 of the importance of clear communication and strongly advised that the pilot has command of the aircraft. The JM was briefed to adhere to the pilots 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-2009; Section 6.17.4)
- **Action by:** Jumper; Coaches; Instructors; DZSO; Pilot

2.3. Malfunction

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 area, 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 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 mock up 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

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 with 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 (believes 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

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 fat and about 100 feet from their hard deck they initiated Emergency Procedures. Landed on reserve without incident.
- **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

3.4. Equipment