

FROM OVERSIGHT TO INSIGHT: WHY GEAR CHECKS ARE NON-NEGOTIABLE IN SKYDIVING

*Written on behalf of the CSPA Technical & Safety Committee
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Every skydive begins long before the aircraft door opens. It starts with a pause - a ritual that is as essential as the parachute itself: the gear check.

For skydivers under the Canadian Sport Parachuting Association (CSPA), this ritual is not optional. It is a mandated safeguard under the CSPA Basic Safety Rules (PIM1 Section 4.4), reinforced by decades of lessons learned and incident reports across the globe. Gear checks are the invisible line between routine and risk, between oversight and insight. Gear checks are more than a box to tick before boarding the aircraft. They are a living, evolving practice - rooted in psychology, shaped by human factors, and reinforced by a culture of mutual accountability. For the skydiving community, understanding why gear checks are non-negotiable means looking beyond routine to the deeper systems and mindsets that keep us safe.

This feature dives into the anatomy of gear checks, drawing on Canadian and international incident data, safety audits, and the latest thinking in risk management. We'll explore how gear checks intersect with Safety Management Systems (SMS), Just Culture, and peer review, and why even the most experienced jumpers must guard against the silent creep of complacency. Along the way, you'll find real-world case studies, expert insights, and a checklist you'll want to keep handy for your next jump.

Gear Checks as Risk Mitigation: Lessons from Fatality Data

It's almost certain that anyone reading this has their own "near miss" story; a moment when a gear check caught something small that could have become something serious. These stories are not just cautionary tales; they are proof of the vigilance and shared responsibility that define our sport. Sharing them reinforces the message that gear checks are not personal routines, but collective safeguards, and every catch is a reminder that safety is sustained through community awareness and discipline.

The following three cases illustrate tragic but potentially preventable gear errors that highlight the critical importance of thorough gear checks before every jump.

Case 1: Missed Leg Straps

On a wingsuit jump, the jumper had not put their legs through the harness straps, which were concealed by the wingsuit, and no gear check was performed. No witnesses reported seeing this jumper's actual detachment from the harness, but it apparently occurred shortly after deployment. The case highlights the critical importance of strict gear checks to ensure harness straps are properly secured before every jump.

Case 2: Harness Ejection

A jumper exited at 13,000 feet but was later found separated from their rig. The leg straps were loose, opened to the farthest point, and the chest strap was not threaded through its friction adapter. The rig was second-hand and too large for the jumper's frame. Additionally noted, was that this jumper had left their chest strap undone on jumps in the past. The coroner ruled accidental death, underscoring the need for properly fitted equipment and repeated gear checks before boarding and exiting the aircraft.

Case 3: Instructor Gear-Check

The main-side instructor, an experienced skydiver with over 3,000 jumps, became separated from the student during an unstable 2:1 exit and subsequent freefall. A critical equipment factor identified in the analysis was that the instructor's Automatic Activation Device (AAD) was found turned off. With no AAD activation and no audible altimeter noted, the instructor deployed their main parachute at an altitude too low for full inflation. The report emphasizes the essential role of pre-boarding gear checks, specifically verification of AAD power status, and the consistent use of altitude-awareness tools for all instructional staff.

The Anatomy of a Gear Check: More Than a Checklist

What Is a Gear Check?

A gear check in skydiving is a systematic inspection of all critical equipment components before every jump. This process is not just about ticking off items; it's about cultivating a mindset of vigilance and respect for the inherent risks of the sport. CSPA emphasize that gear checks are a cornerstone of safe operations, regardless of a jumper's experience level.

The standard practice is to perform at least three gear checks before each jump:

1. **Before putting on the rig** - refer to CSPA video resource: [CSPA Parachute Equipment Check](#)
2. **After gearing up, before boarding** - refer to CSPA video resource: [CSPA Parachute Equipment – Pre-Boarding Check](#)
3. **Prior to exit, at altitude**

Each check serves a distinct purpose, catching errors that may have been missed or introduced at different stages. The process is designed to be methodical, with many jumpers adopting a consistent order to avoid missing steps - a principle rooted in human factors research on routine and error prevention.

The “Check of Threes” and Mutual Accountability

The “Check of Threes” is a widely adopted mnemonic that focuses on three critical areas:

- **Three Handles:** Main deployment, cutaway, and reserve (in order of use)
- **Three Straps:** Chest and two (2) leg straps
- **Three-Ring Release System:** Proper assembly and maintenance

This approach is reinforced by mutual gear checks - having another qualified jumper inspect your rig, especially the areas you can't see yourself. CSPA stresses, “a second set of eyes could save your life”.

Quick-Reference Gear Check Guide

Step	What to Check	Why It Matters
Three Handles	Main, cutaway, reserve—secure and accessible	Emergency response readiness
Three Straps	Chest and two (2) leg straps—routed, snug, stowed	Prevents harness failure or slippage
Three-Ring System	Proper assembly, white loop, yellow cable	Ensures reliable cutaway functionality
AAD	Turned on, calibrated, secure	Backup reserve deployment
Pins & Bridle	Main/reserve pins seated, bridle routed	Prevents premature or failed deployment
Helmet & Goggles	Proper fit, secure	Head/eye protection
Altimeter	Set, visible, functioning	Altitude awareness
Footwear	Laced, secure, no open hooks	Prevents loss or snagging
Final Buddy Check	Peer review of all above	Catches what you might miss

A gear check is only as effective as the attention and intention behind it. As one CSPA Technical and Safety Committee member puts it, “It’s not about paranoia—it’s about respect. Every time you check your gear, you’re making a conscious choice to come home safe”.

Human Factors: Decision-Making Under Pressure and the Psychology of Routine

The Human Element: Why Good Jumpers Make Bad Mistakes

Skydiving is a discipline in which human factors such as attention, memory, stress, and social dynamics significantly shape safety outcomes. Research by Jose Narvaez and others in the field of aviation human factors has shown that **most skydiving accidents are rooted not in equipment failure, but in errors of judgment, attention, or routine.**

Key human factors influencing gear check effectiveness:

- **Cognitive Load:** The pre-jump environment is busy and distracting. Jumpers are managing manifest calls, weather updates, group briefings, and personal nerves. Under pressure, the brain is prone to “heuristic traps” - mental shortcuts that can lead to skipped steps or overlooked details.
- **Routine and Automation:** With increasing experience, gear checks may shift from conscious practice to rote repetition, losing mindful attention. This “automation bias” is a double-edged sword: while routine can enhance efficiency, it also opens the door to complacency and missed errors.
- **Social Facilitation and Peer Pressure:** The desire to fit in, impress others, or keep up with a fast-paced load can lead jumpers to rush or skip checks. The “expert halo” effect - assuming that experienced jumpers don’t need reminders - can further erode vigilance.

The Psychology of Complacency: The Silent Killer

Complacency is perhaps the most insidious threat to skydiving safety. As Rosy Booker, a USPA Safety and Training Advisor, writes: “Complacency arises when skydivers become overly comfortable or accustomed to the risks associated with the sport. This false sense of security can lead individuals to lower their guard, neglect safety protocols and underestimate hazards. The consequences can be catastrophic”.

How complacency creeps in:

- **Routine Behaviours:** Gear checks become mechanical, performed without full engagement.
- **Overconfidence:** Experienced jumpers may believe that “it won’t happen to me,” dismissing the need for thorough checks.
- **Normalization of Risk:** As jumpers accumulate uneventful jumps, the perceived necessity of safety rituals can fade.

Guarding against complacency requires:

- **Self-reflection:** Regularly assessing one’s own attitudes and behaviours.
- **Continuous training:** Refreshing emergency procedures and gear knowledge.
- **Mindfulness:** Slowing down, focusing on each step, and starting over if distracted.

As one instructor puts it, “The moment you think you’re too good for a gear check is the moment you’re most at risk. Humility is a safety device”.

Safety Management Systems (SMS), Just Culture, and Peer Accountability

Integrating Gear Checks into SMS Safety Management Systems (SMS) are becoming the norm in Canadian and international parachute operations. An SMS is a structured framework that integrates policies, procedures, risk assessments, and continuous improvement into daily operations.

How gear checks fit into SMS:

- **Policy:** Gear checks are codified as mandatory procedures, with clear expectations for frequency, documentation, and mutual review.
- **Risk Management:** Incident data is analyzed to identify trends and target training or equipment improvements.
- **Safety Assurance:** Regular audits and spot checks verify compliance and effectiveness.
- **Safety Culture:** Gear checks are promoted as a visible marker of professionalism and mutual care.

As Allison Cooney, CSPA SMS Analyst observes, “Systems alone do not prevent accidents; habits do. When gear checks are embedded as non-negotiable, they become the daily proof that safety is more than a document - it is a discipline.”

Just Culture: Learning from Mistakes, Not Hiding Them

A “Just Culture” is an environment where honest mistakes are treated as learning opportunities, not grounds for punishment - unless there is willful negligence or repeated violations. This approach encourages incident reporting, open discussion of near-misses, and continuous improvement.

Key principles:

- **Confidentiality:** Jumpers can report errors or concerns without fear of reprisal.
- **Accountability:** Deliberate or reckless behaviour is addressed appropriately.
- **Learning:** Incident reports are analyzed for systemic issues, not just individual blame.

The CSPA's SMS and Occurrence and Risk Mitigation Reporting (AIM) system reflect these values, with all stakeholders encouraged to share lessons learned from both successes and failures.

Peer Accountability: The Power of Mutual Checks

Peer accountability is the glue that holds safety culture together. Mutual gear checks, open communication, and the willingness to “call out” unsafe practices are hallmarks of healthy drop zones. As one load organizer explains, “It’s not about policing each other - it’s about having each other’s backs. If you see something, say something. That’s how we keep the sky safe for everyone”.

The Instructor and Load Organizer: Setting the Standard

Instructors, coaches, and load organizers carry a special responsibility. Their actions set the tone for the entire drop zone. By modeling thorough gear checks, encouraging questions, and fostering a culture of mutual review, they help inoculate the community against complacency.

As one load organizer puts it, “If you want a safe load, start with a safe example. I never skip a gear check, and I never mind being checked by someone else - no matter how many jumps I have”.

Best Practices and Recommendations: Embedding Gear Checks in Safety Culture

For Jumpers

- **Adopt a consistent gear check routine:** Use the same order every time to build muscle memory and reduce errors.
- **Perform mutual checks:** Don’t be shy - ask a buddy to check your rig, and offer to check theirs.
- **Stay mindful:** Slow down, focus on each step, and start over if distracted.
- **Refresh your knowledge:** Review manufacturer manuals, attend safety seminars, and practice emergency procedures regularly.
- **Report incidents and near-misses:** Sharing lessons learned helps the entire community improve.

For Instructors and Coaches

- **Model best practices:** Perform visible, thorough gear checks and encourage questions.
- **Foster a culture of openness:** Make it safe for students and peers to speak up about concerns.
- **Integrate gear checks into every briefing:** Reinforce the “why” behind each step.
- **Stay current:** Participate in continuing education and stay informed about equipment updates and incident trends.

For Drop Zone Operators

- **Codify gear check protocols:** Make them part of standard operating procedures and SMS.
- **Provide training and resources:** Ensure all staff and jumpers have access to up-to-date checklists and manuals.
- **Encourage reporting and feedback:** Create channels for anonymous incident reporting and regular safety audits.
- **Recognize and reward vigilance:** Celebrate examples of good catches and proactive safety behaviour.

Conclusion: From Oversight to Insight

Gear checks are far more than a procedural requirement—they reflect who we are as a community. They embody the discipline, humility, and mutual care that define safe skydiving operations. From human factors to SMS integration, from complacency to peer accountability, the evidence is clear: consistent, intentional gear checks save lives. They are the simplest, most reliable barrier between a routine jump and a preventable tragedy.

As the sport evolves, so must our habits. Systems, policies, and training can guide us, but it is our daily actions—our willingness to pause, to focus, and to look out for one another—that ultimately shape safety outcomes. Every jumper, from the newest student to the most seasoned instructor, plays a role in reinforcing a culture where gear checks are non-negotiable and vigilance is shared.

The call to action is simple: make gear checks a non-negotiable habit!

Before you gear up again, recommit to the fundamentals: slow down, check with intention, ask for a second set of eyes, and offer yours in return. Encourage your peers, challenge complacency, and model the behaviours that keep our community strong.

The Canadian Skydiver's Gear Check Checklist

Print this. Tape it to your gear bag. Share it with your friends.

The “Check of Threes”

1. Three Handles

- Main deployment handle: Secure, accessible
- Cutaway handle: Properly seated, cable routed
- Reserve handle: Properly seated, cable routed

2. Three Straps

- Chest strap: Routed, snug, ends stowed
- Leg straps: Routed, snug, ends stowed

3. Three-Ring System

- Proper assembly: Small ring through middle, middle through large
- White loop: Intact, not frayed
- Yellow cable: Routed, not kinked
- RSL: Connected, routed correctly

Additional Checks

- **AAD:** Turned on, calibrated, secure
- **Reserve pin and seal:** Seated, seal intact
- **Main pin and bridle:** Seated, bridle routed
- **Helmet and goggles:** Fit, secure
- **Altimeter:** Set, visible, functioning
- **Footwear:** Laced, secure, no open hooks
- **Empty pockets:** No loose items
- **Final buddy check:** Peer review of all above

Remember: If you're ever unsure, ask a rigger or experienced jumper. There are no stupid questions - only preventable accidents.

For more on CSPA safety protocols, incident data, and training resources, visit cspa.ca.

Key resource links:

- **Canadian Sport Parachuting Association (CSPA)**
 - [Occurrence and Risk Mitigation Reporting](#)
 - [Parachutist Information Manual \(PIM 1\)](#)
- **United States Parachute Association (USPA)**
 - [Report & Browse Incidents – “Share Mistakes, Save Lives”](#)
 - [Incident Reports – USPA Safety & Training](#)
 - Narvaez, J. (2022). *Risk Assessment, Decision Making and Skydiving Safety*. [Read the full analysis \(PDF\)](#)
- **Australian Parachute Federation (APF)**
 - [Equipment Standards & Service Bulletins](#)
 - [ATSB Report: Premature Parachute Deployment, Cessna 208, VH-DVS](#)
- **British Skydiving (formerly BPA)**
 - [Safety Notices – British Skydiving](#)
 - [Safety Bulletin – British Skydiving](#)