Four out of Five isn't bad.
By Richard Carlson – SSF Chairman

For the past few years the Soaring Safety Foundation (SSF) has been working with our international peers and soaring friends to introduce the Safety II concept to the global soaring community. Most of these efforts have focused on introducing this concept to a wide variety of pilots and organizations. This includes the OSTIV Training and Safety Panel members, the Canadian General Aviation Joint Safety Committee, and Flight Instructors in North America, Europe, and Scandinavia.

The next task is to move from talking about the concept to providing concrete examples of how Safety II augments our current Safety I culture. More details about Safety II concepts can be found in the SSF's 2024 annual report https://www.soaringsafety.org/accidentprev/SSF_2024_annual_report.pdf, or in the May 2025 Safety Corner article in SOARING (reprint available at https://www.soaringsafety.org/publications/soaring-articles.html).

Briefly, Safety II encourages pilots to document when good safety related decisions are made that prevent an accident or incident, instead of just the accident or incident itself. The real benefits are two fold. Other pilots learn that 1) everyone will sometimes make a mistake; and 2) lessons can be learned from those mistakes, helping you to manage it when you make it yourself.

However, the SSF trustees believe that understanding HOW a pilot recognized that they just made a mistake is as, if not more, important in teaching others how to react when THEY make that same mistake. In part, that means identifying which of the five senses the pilot used to recognize their error.

Let's explore how others have done this in the past.

Sight – Recently a pilot entered a right downwind to land on the grass runway at their local glider port. This grass runway parallels a hard surface runway that the club uses for take-offs. As the glider pilot entered downwind and made the radio call, they saw the towplane begin to back taxi down the hard surface runway heading for the towplane hangar. It was apparent that the glider and towplane would cross paths at the approach end of the grass runway as the towplane used the taxiway leading from the runway to the hangar. Turning base the glider pilot confirmed via radio with the towplane pilot that the towplane would not enter the taxiway until after the glider had landed. Thus by seeing a potential threat the glider pilot was able to mitigate it by communicating with the towplane pilot.

Sound – Recently a glider pilot began an aerotow take-off in their personal single place glider. Despite using the pre-launch checklist multiple times, the pilot heard an unusual sound immediately after the glider became airborne. Recognizing that this was might be an unlocked canopy the pilot activated the tow release and then landed safely on the runway while the towplane continued the take-off. Indeed, the glider pilot confirmed that the canopy have been closed, but was not locked. Thus by listening for unusual sounds the pilot was able to recognize and mitigate a potential threat and avoided having to figure out how to fly with the canopy open or missing.

Smell – Some time ago a glider pilot preparing for their practical test was making a solo flight when they noticed a burning smell coming from the cockpit. The pilot pulled full spoilers and expedited an off-airport landing and quickly exited the glider as it came to a stop. It appears that the battery, which had been installed in the rear cockpit to power a radio, had started a fire. Even though the glider was substantially damaged before the fire could be extinguished, the pilot only received minor fire related

injuries. Thus by reacting to the unexpected smell, the pilot was able to quickly land and avoid serious injury.

Touch – Decades ago some friends and I pulled a Blanik L-13 out on a nice February afternoon in Chicago to do some currency flights. During my take-off I must have bounced and caused the dive brake handle to come out of its detent. The dive brakes slowly opened as the tow speed increased, but the cool winter conditions allowed the towplane to adequately climb. The tow pilot got me to 1,000 ft AGL on a downwind leg just opposite the normal touchdown point before waving me off. Releasing, I decided that the best option was to deploy full dive brakes and use then to complete a normal landing. By feel, I extended my left arm and was surprised to find my hand did not close on the blue dive brake handle. Looking inside I saw the gray flap handle and put my hand on it. Moving the handle out of its detent I said to myself, "my arm is in the wrong position for the dive brake handle". I put the flap handle back in its detent and looked inside the cockpit. I then realized that the dive brake handle was in the full open position and outside my field of vision. Turning my head I saw the blue dive brake handle and realized what was happening and why I had been waved off in a position to make a normal landing. Thus knowing how my arm and hand should be positioned to grasp the dive brake handle, as opposed to the flap handle, let me realize that something was wrong and led me to figuring out my mistake.

Taste – I haven't figured out how to use this sense in the glider to recognize that something is wrong.

We can see that using four of our five senses can let us detect a potential threat. Having the skills to mitigate that threat comes from experience and training. Sharing your experience with others is part of that training. Including the details that allowed you to recognize this emerging threat does a better job of teaching others how they can recognize and mitigate that threat. After all, they may happen to find themselves in the same, or similar, situation sometime.

The SSF trustees encourage every club, chapter, and commercial operator to implement a formal reporting program to capture potential threats. Then you should encourage your friends and peers to report how they used one or more of their five senses to recognize and mitigate that threat. Augmenting your existing Safety I culture in this manner will help you use Safety II concepts to lessen the need to respond to real accidents and incidents.