

Foundations of Flight: Approach with Confidence—Part Six, Final Approach and Landing



Brought to you by AXIS Flight School Instructor Niklas Daniel at Skydive Arizona in Eloy. For more skydiving educational content and professional coaching services, visit axisflightschool.com.

As the name implies, the final approach is the last leg of the landing pattern. Until your feet are safely back on the ground, your landing is not complete. Do not wait until turning onto final to assess your accuracy. Late accuracy assessment often leads jumpers to take risk-increasing actions near the ground, such as engaging front risers, sashaying or going into deep brakes. These are compensatory maneuvers to make up for a lack of accuracy, and they increase risk.

Some situations, such as confined landing areas, require nonstandard techniques and a higher level of skill. Those scenarios fall outside the scope of this article. When refining fundamentals, reduce workload as altitude decreases rather than adding complexity near the ground.

Landing Procedures

Skydivers use the landing priorities to ensure a safe landing. The Skydiver's Information Manual lists the priorities as follows:

- 1 | **Land with a level wing**
- 2 | **Land in a clear and open area** (avoid obstacles)
- 3 | **Flare and PLF**

A level wing is defined as having zero degrees of bank, with the canopy parallel with the horizon. This is important at low altitudes (below 300 feet) as a banked wing has the undesired effect of increasing the system's vertical velocity due to an unstable attitude.

Select an area to land on that is free of obstacles above 1,500 feet, before entering the landing pattern. Intermittently scan the area, especially on the base leg before turning onto the final approach leg. Ensure the landing area is still clear, it may have become congested with jumpers or new obstacles. In the event there is confusion in the landing pattern that results in "jousting," select an alternate area away from the conflict.

Flaring involves gradually pitching the nose of the parachute upward to reduce descent rate, then arresting the forward speed just before touchdown. The objective is to connect with the ground as softly as possible. This can be felt by the pilot and observed by onlookers by how smooth a jumper transfers their body weight from

their harness to the ground. When touchdown speed appears excessive, execute a parachute landing fall to dissipate the impact's energy.

Final Approach: The High-Risk Zone

The average human body incurs enough impact trauma to be life-threatening at and above 25 mph. This threshold explains why residential speed limits are set at 25 mph, as pedestrian survival drops sharply in vehicle collisions above that speed. If a jumper finds themselves in an undesirable situation like a low turn, unavoidable obstacle strike or downwind landing, flaring will ensure that touchdown occurs at a reduced velocity—preferably as slowly as possible to reduce the risk of serious injury.

Low turns near the ground are strongly discouraged, but minor course corrections may be necessary to avoid traffic, obstacles or recover from turbulence. The sooner you are established on the final approach without oscillations, the easier it is to make small lateral adjustments with your harness. This also ensures your movements will be predictable to others in the pattern and make flaring for landing more consistent.

A perceived error during the landing priorities can lead to task saturation and panic, resulting in freezing or an inappropriate response at the most critical phase of flight. While maintaining a level wing is essential, flaring to at least half-brakes will directly reduce touchdown speed and increase your safety margin during landing. Area selection should occur

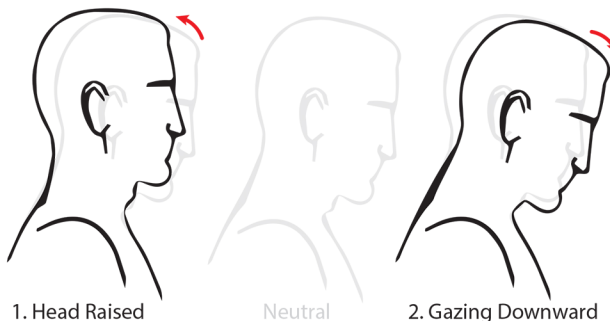
before entering the landing pattern and be reassessed on the base leg, prior to the turn to final.

During final approach, only minor adjustments, such as body posture and harness inputs, should be necessary to facilitate an accurate landing. S-turns effectively reduce distance but increase collision risk and you should avoid them, even when traffic appears minimal. Avoid distractions during this critical phase. For example, checking your altimeter or looking up at your canopy when you are only a few seconds away from touchdown does not yield any actionable information. Doing so decreases awareness and can also cause you to drift off course in the final seconds. Keep your eyes forward in anticipation of flaring and touchdown.

Target Fixation: Don't Risk It for the Biscuit!

Target fixation is a cognitive trap where a canopy pilot, usually subconsciously due to stress or fear, steers the parachute toward where they are looking. This can occur even when the pilot doesn't intend to change direction. Target fixation can result in ground impact, obstacle strikes or colliding with other jumpers.

Maintain composure and execute a safe landing using the landing priorities, especially when in an emotionally charged state when the landing appears to be going very well or very poorly. Even when flying toward your desired target, you may notice that you will come up short or overshoot. Pay attention to where your nose (the one on your face) is pointing:



Head position cues during final approach: A raised head (1) indicates undershooting, while a downward gaze (2) indicates overshooting. Neutral head position appears at center for reference.

1 | **Head raised: undershooting the target**

If, during your final approach, you start raising your head (neck extension) in order to keep looking at your target, you will likely come up short. This posture shifts your gaze toward the horizon and often delays flare timing because the ground appears farther away. Late or low flares frequently follow. Correct this by shifting your gaze slightly downward and reducing your body profile by lifting your legs. This adjustment increases glide without altering canopy shape.

2 | **Gaze downward: overshooting the target**

As you fly over a target, your gaze shifts toward your feet (neck flexion).

This creates the illusion of increased ground speed and often leads to an early or high flare. To correct this, shift your gaze slightly upward and increase your body profile by extending your legs. This can help decrease glide without changing canopy configuration.

3 | **Fixed target: failure to flare**

Some jumpers approach a target that appears stationary in their field of view and grows only larger. In surprise, they may delay or skip the flare to avoid changing trajectory, resulting in a hard landing. Aim slightly short of the target on final approach so the glide generated during the flare carries you onto the intended landing point.

Staring at a target and wishing to land on it does not mean you will. As a general rule, visually fixating on anything for a long time while flying is bad practice as it narrows awareness, causing you to miss crucial details which lead to mistakes or accidents. Effective canopy control depends on active visual scanning. When your nose moves up or down while observing your target during the final approach, know that you must readjust your sight picture to conform to the glide slope if you wish to time your flare correctly.

Information about AXIS' coaching and instructional services is available at axis-flight-school.com. The author intends this article to be an educational guideline. It is not a substitute for professional instruction.

Safety Check: Sharpening the Safety Margin

The USPA Board of Directors conducted a focused evaluation of recent tandem data including incidents, which revealed a pattern that warrants the attention of the tandem skydiving community. Most of these occurrences did not result from rare equipment failures or unpredictable conditions, but rather from breakdowns in the fundamental procedures performed on every jump. The analysis found that the most common contributing factors include delayed or incorrect emergency procedures, inadequate gear checks, improper student harnessing, and the absence of a hook knife.

The results of the board's review reinforced a critical lesson: Serious outcomes rarely result from a single catastrophic failure, but rather a sequence of small errors aligning—often described as the "Swiss cheese effect." In several cases, preventable procedural deficiencies, such as improper harnessing, served as the final gap in that alignment.

New Requirements and BSR Updates

In response, the USPA Board has unanimously approved updates to tandem instructor renewal requirements and the Basic Safety Requirements. Effective June 1, the following standards apply:

- **Hook Knives:** All tandem rating holders must be equipped with a readily accessible hook knife capable of severing Type 7 nylon webbing.

- **Aircraft Safety:** All jump aircraft must carry a hook knife with the same capability, accessible to both the pilot and occupants.
- **Expanded Reviews:** The existing six-month emergency procedure review now formally includes pre-jump safety elements. Instructors must demonstrate proficiency in:
 - Malfunction responses (via simulated handle pulls).
 - Correct student harnessing techniques.
 - Thorough gear checks and aircraft hook-up/exit procedures.

All demonstrations must align with the standard operating procedures specified by the equipment manufacturer.

These updates are not intended to add an unnecessary burden; they are designed to reinforce the fundamentals that have the greatest impact on tandem safety. While student harnessing and gear checks are routine, data shows that errors in these areas have compounding consequences. By integrating these elements into the renewal process, USPA aims to establish a consistent baseline of accountability across all drop zones.

To support this transition, USPA—in coordination with equipment manufacturers—will host a comprehensive webinar for instructors, drop zone operators and safety and training advisors. This session will provide practical guidance for integrating



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these requirements into Tandem Safety Days and pre-season seminars.

Clear communication is the bridge to a safer culture. By outlining these expectations well ahead of the June implementation, instructors and drop zones have the lead time necessary to prepare and ask questions. Through proactive education and collaboration, these updates represent a meaningful step toward reducing preventable incidents and strengthening the foundation of tandem skydiving.

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