SSF Soaring Safety Foundation

Preventing Rollout Accidents

By Burt Compton, SSF Trustee and Pat Costello, SSA Group Insurance Plan Broker

You are on the downwind leg of your landing pattern ready to turn base leg and keeping your touchdown spot in sight. Airspeed? Just right for the conditions. Spoilers or flaps? Adjusting as needed for a moderate sink rate and a good angle to the runway. Traffic? You think you are the only one in the pattern and there are no aircraft or vehicles on the runway, but a few are lined up along your landing zone. Wind? The windsocks indicate that the wind is light with a slight crosswind.

Tense? A little. After all, you have a passenger (or a FAA Pilot Examiner) who expects a smooth landing. Over the runway you begin the round-out by adjusting pitch. Holding your breath, you make smooth touchdown. You exhale. Then your shoulders relax; as does your grip on the stick (do you know that feeling?) As you start to silently compliment yourself, the left wing drops and the glider veers towards a runway light and into a shallow drainage ditch on the side of the runway. Bump. Bump. Bump. Then a loud thump as you come to an unexpected and unwelcome stop.

As you wonder if your passenger is alright you notice your heart is beating faster and cold sweat (from being thoroughly embarrassed) begins to run down your red face.

What happened? You flew the appropriate “goal-oriented” pattern. Everything looked perfect on final. The round-out and touchdown was one of your best but now an aircraft is damaged. Your passenger may never fly with anyone again and your pride---well, hurt is an understatement. The old “Any landing you can walk away from” saying just does not seem appropriate.

Rollout losses! It's as if the pilot stopped flying their aircraft the instant the tires met the runway. Exhilaration, followed by satisfaction, resulted in relaxation, causing complacency which ended in a preventable accident. The SSA's insurance representative, Pat Costello, indicates that he has seen too many of these preventable accidents over the years.

Some rollout accidents have contributing factors such as gusting winds, a bad bounce perhaps from too much energy on landing, a runway incursion by a vehicle and more. However, some glider pilots and tow pilots are thinking only as far ahead as the touchdown then relaxing and not applying the appropriate applications of the flight controls therefore leaving the rollout or taxi direction to chance.

Costello Insurance and the Soaring Safety Foundation has to wonder if a noticeable number of roll out losses are being reported, how many near-accidents are actually occurring? How many pilots just got lucky?

“Fly it to a stop” is what glider and tow pilots must do. Managing the energy in the rollout and noticing the “trend” of any amount of wing drop or yawing off of the center of your landing area after touchdown is essential. On a narrow landing area or off-airport landing we work especially hard to maintain precise control and even dodge a rock or hole if possible. So even on a wide and long runway, practicing precise directional control on every “normal” landing may prevent a rollout accident.

Learning to keep the wings level may be practiced by “wind-jamming”, a term describing the old-school CFIG teaching technique that helps students acquire the skills to keep the wings of a glider near level to a complete stop on rollout or during the takeoff roll. Wind-jamming is practiced while stationary, clear of the active runway, with the glider pointed into a fair breeze, just enough to give the glider pilot some aileron authority. As the wind ebbs or gusts, the pilot must move the ailerons quickly but smoothly to keep the wings level and use peripheral vision to sense if a wing is dipping to the ground.

Rolling out in a crosswind (and it is a rare day when you do not have some crosswind) requires anticipating exactly where the glider will stop as it “weathervanes” into the crosswind. Do not leave it to chance! Thinking ahead, the pilot might adjust the landing “stop point” to finish the rollout a bit shorter where there are less obstacles, aircraft, people or vehicles on the upwind side of the landing area.

Repeated swerving of the glider or towplane after touchdown can be the result of the pilot seeing a slight deviation left or right, then correcting by pushing hard on the proper rudder pedal. But if the pilot keeps pushing, waiting for the correcting effect, then the glider or towplane swerves through the desired centerline track and off in the opposite direction. Flight instructors often teach pushing on the rudder pedal to correct the deviation of the rollout track then neutralizing rudder and wait to see if the correction is working. In just a very few seconds the pilot learns to “recognize and react” to any trend of the aircraft nose off of the desired track. This also applies after an aborted aerotow takeoff, where the glider deviates from the desired track due to a yaw into a crosswind, sometimes combined with a CG hook or a wingrunner that shoved or held-back the glider wingtip.

Purposely taxiing to the very edge of the landing area, or towards a hangar or close to your glider trailer also increases the risk of an expensive incident. Practice managing your rollout energy on every landing to safely arrive at a wings-level stop to your pre-determined point, never relying on the small single wheel brake found on most gliders nor the brakes of the towplane. Tow pilots must also be aware of the towrope if they are dragging it around the airport to avoid hooking it on runway lights, vehicles or aircraft.

On every landing, a proficient pilot will anticipate what the aircraft might do after touchdown, especially in a crosswind (or downwind) landing rollout, then recognize and react appropriately to maintain absolute control until the aircraft energy is finally at zero.