

2007 ACCIDENT SUMMARIES

By Joe Gregor and Bacil Dickert

This month we summarize those accidents reported during 2007 that have not been described in our earlier columns. Anecdotal evidence indicates to us that this is but a small subset of the total number of mishaps that actually occurred in 2007. If you experience an event from which others could learn a valuable lesson (and virtually every mishap qualifies in this regard), please report it. If you experience one sufficiently noteworthy to fill an entire column, consider writing a "there I was" story. Help others to benefit from your experiences. We are all in this together. The online accident report form is here: www.ushpa.aero/emailacc.asp.

Time of Year: Winter

Accident Site: Virginia

Type of Launch: Foot Launch

Summary: An advanced pilot, after a 30 minute soaring flight, went out to land. The pilot circled the LZ, entered and completed the downwind leg of a DBF approach. While turning on final, the pilot determined the wind was cross, so he elongated turn to correct his heading but lost altitude by prolonging the turn. This resulted in a low final approach. The glider hit a small tree with the left wing tip, turning the glider 90 degrees. The glider impacted the ground sideways, sliding 40 feet. There were no injuries to the pilot; the glider suffered a bent downtube.

Lesson learned: Flying an approach with plenty of safety margin (altitude in this case) is key for dealing with unexpected sink. Maintaining an easy glide into the field and well above obstacles even if sink is experienced should always be done. The pilot felt that the error he committed was lengthening the turn.

Time of Year: Spring

Accident Site: Virginia

Type of Launch: Foot Launch

Summary: An advanced rated pilot was attempting to land in a restricted LZ on a single surface glider during turbulent conditions. The pilot encountered wind shear and severe turbulence on final approach, resulting in a plunge from a low altitude and severe impact with the ground before the pilot had time to react. The pilot sustained shoulder and wrist fractures. The glider's control frame was damaged.

Lesson learned: Be very wary of landing in a restricted field during peak thermal activity. If available, consider an out landing in a friendlier field, even though there is no real guarantee that the conditions will be less turbulent in the friendlier field than those in the initial LZ choice. A second observation is that there were no wheels on the control frame of this glider. Had there been sizable, preferably pneumatic, wheels on the control frame, there is a distinct possibility that a good portion of the impact's energy may have been absorbed/dissipated by the wheels.

Time of Year: Summer

Accident Site: California

Type of Launch: Static Winch Tow

Summary: An uneventful tandem tow to 1,300' AGL. A left-hand aircraft approach was entered. A long final ensued, with good speed through the gradient. The tow pilot executed a well-timed flare, but several steps were still required to run it out to bleed off the excess energy. The tandem pilot/passenger fell instead. The tandem pilot broke his humeral head and upper humerus bone. The tandem passenger sustained a spiral fracture of his right humerus.

Lesson learned: From the tandem pilot: "I should have landed on the wheels, as we were at 5,100' msl, with a light surface wind, although I regularly foot land".

Time of Year: Summer

Accident Site: Utah

Type of Launch: Static Winch Tow

Summary: An advanced instructor launched normally and climbed normally. He began to overfly the tow vehicle while at about 100 feet AGL. Instead of increasing pitch, he elected to pin off. He fumbled with the release and the nose of the glider climbed. At that point, the tow line was under very high tension. Upon release, the stored energy in the line and its tension departed from the glider. The glider whip stalled. The pilot did not have sufficient altitude to recover. The pilot suffered multiple injuries, spending the night in the hospital.

Lesson learned: The pilot failed to control pitch during the tow and improperly released from the tow line. Pitch control and properly releasing from the tow are critical to the safety of the tow. Other contributing factors to the accident were that the glider was an older glider design with poor stall recovery characteristics, and that the pilot was not highly experienced with towing and had only a few successful tows in the previous two years.

Time of Year: Summer

Accident Site: Michigan

Type of Launch: Aerotow

Summary: The pilot was flying about 30 mph at 20-25 feet agl in preparation to land when the glider tucked and did not recover prior to hitting the ground, nearly vertical. An ER qualified surgeon and a paramedic were on hand. 911 was called immediately, but was then cancelled when the pilot was found to be unhurt. It looked like the glider encountered a bullet thermal just breaking off (maybe invisible dust devil) and went over the falls without enough altitude to recover. The horizontal tail on the glider may have contributed to the problem. The pilot was unhurt, but his chin guard was broken and his parachute container was ripped from his harness. Initial inspection revealed that the tail of the glider was broken, the control frame was broken in many places, and a wing rib was broken. It was unknown at the time if the glider suffered more serious structural damage.

Lesson learned: This incident may be classified as one where s**t happens out of our control. We do everything right, yet an unforeseen thermal lifts off right when we are on final descending to the round out phase of the approach. Luckily the pilot escaped injury, and the glider bore the brunt of the impact. One thing to consider is that with more performance comes less stability in pitch and roll.

Time of Year: Summer

Accident Site: California

Type of Launch: Foot Launch

Summary: During landing the pilot had overshot the LZ and impacted a tree. The LZ had a bit of a slope to it. The pilot came into the slight wind, but down slope. When it was realized that the approach the pilot was flying to fit into the LZ was not working, the secondary plan was to fit between two trees and flare and the end of the green area. While flying into the gap between two trees, the glider clipped the left wing into one of the trees. The glider was about 10 feet above the ground. A left turn ensued, induced by the tree clipping, with a little bit of nose up. The glider impacted into a pine tree (mostly dry branches on the lower half of the tree), about 10 feet from the ground. There was significant damage to the glider - broken left leading edge, keel, and a ripped sail. The pilot did not suffer any significant injuries, other than minor shoulder pain that went away after a few days. there was a little pain in the left shoulder, which went away after few days.

Lesson learned: The accident pilot was distracted when the senior pilots were giving instruction on the various approaches used to land in the main LZ. He admitted playing around with his new vario while the approach instructions were being given. It was also a new site to the pilot, and his first cliff launch. And to add even more to this dangerous cocktail, the pilot had been taking

paraglider lessons exclusively for a month and a half leading up to this hang glider flight.

Time of Year: Summer

Accident Site: California

Type of Launch: Foot Launch

Summary: The pilot was warned a half hour before the accident about previously flying into area that was known to have rotors. The pilot's response was "I have been flying here since 197?!" The pilot then flew again and crashed. He was doing wingovers and said he did a few too many at a low altitude. Realistically, he was doing wingovers behind the ridge on a south wind day. The pilot suffered a broken right clavicle, sore wrist, and a minor concussion. The glider suffered a broken right inboard leading edge and right downtube. There was no sail damage. The pilot claims he was stupid and lucky.

Lesson learned: Aerobatics close to the ground have very little safety margin. The small safety margin is further compromised if the surrounding air is not smooth and ideal. The pilot said it best.

Time of Year: Summer

Accident Site: California

Type of Launch: Foot Launch

Summary: A blown tandem launch resulted in a gentle crash in the bushes below launch. The tandem pilot and 235 pound student were flying in the mid afternoon in moderately strong winds of 20+ mph. Due to modest ground handling problems w/ the large glider, the tandem instructor elected to wait for a conservative lull. The tandem pilot launched in what he thought was a momentary lull and start of another cycle of wind, and was not adequately prepared for the large reduction in wind speed and the longer than expected duration of the lull. In retrospect, the tandem pilot launched in winds lighter than he was capable of managing safely. Although there was a significant potential for injury, fortunately the area below launch was thickly vegetated and the glider nestled in without as much as a scratch to the student and the instructor.

Lesson learned: Conduct a more thorough and lengthy evaluation of launch conditions before developing launch tactics. Provide a greater safety margin before launching.

Time of Year: Summer

Accident Site: California

Type of Launch: Foot Launch

Summary: On an XC flight the pilot found himself scratching low and finally made the decision to land. The pilot did not heed his instructor's advice about having plenty of altitude for setting up an approach and basically flew directly away from the mountain into final. The pilot flew slow to extend his glide to get closer to the road. At under 100' AGL, the pilot was sharply turned 180 degrees by turbulence. The pilot was 10-20' AGL headed downwind in 5-10 MPH winds. The pilot aimed for a bush and braced for impact. The glider hit hard, causing the right leading edge and right downtube to break cleanly. Luckily the pilot suffered only scratches and bruising on the arms.

Lesson learned: The pilot left the ridge too late, sacrificing precious altitude that he needed to set up a proper approach. At altitudes near the ground you must have plenty of extra airspeed to combat turbulence and gradients. Flying slow is not the way to go.

Time of Year: Summer

Accident Site: California

Type of Launch: Foot Launch

Summary: Two pilots landed at midday in thermal conditions. The first pilot reported turbulence on final. The accident pilot landed 5 to 10 minutes later, aiming for dirt next to a cement runway. There were no problems until about 10 feet above ground. The glider stopped flying forward, and began a near 90 degree progress to the left. The wings stayed near level, and

the glider did not turn. The pilot pulled in, but did not try to steer into the new wind direction, planning to land crosswind. The glider came down harder than most landings, and the pilot could not run it out sideways. The pilot let the glider down on the basket, but not without letting some impact of the glider dislocate his shoulder. The impact of the crash did bend the down-tube breakaway bars.

Lesson learned: Always try to land as much into the wind as possible. If there are wind indicators nearby (such as a windsock by an airport runway), try to land as close to the windsock as possible, if practical. If a pilot has already landed, try to have them indicate the wind direction repeatedly, especially if you are landing in midday thermal conditions.

Time of Year: Summer

Accident Site: Maryland

Type of Launch: Foot Launch

Summary: The accident pilot got down in the slot but apparently not far enough and waited for the wind to decrease. The pilot cleared the gentleman on his nose wires, made sure the wings were level and started his run. About three steps into the run the nose just sharply turned down and the glider power whacked into the ground. The pilot ended up requiring ten stitches in his lips from kissing terra firma.

Lesson learned: An accident eyewitness offered this explanation: "mechanically the accident pilot's nose was simply too low. His wings were level and the winds looked good, but he put the wire person on his nose and kept the nose very low because he was worried about a strong gust lifting him. He then held the nose low after clearing the wire person and started running with the nose too low due to the same fear".

Time of Year: Summer

Accident Site: Tennessee

Type of Launch: Foot Launch

Summary: A student was attempting first mountain launch under instructor supervision. Conditions were typical for a summer evening first flight. There were occasional cycles in, a slight tailwind at times, but the conditions were mostly calm. The student seemed nervous on launch, which is not unusual for first high flights. The student said "clear", and then began the launch sequence. The student's launch was very weak. The glider never got up to launch speed. The glider slid off the student's shoulders and went nose high. The student continued off the ramp with no airspeed. The glider nosed over. As the student went down the ramp, the rear of the glider's keel caught a safety net at the foot of ramp. This brought the nose back down. The glider went into the trees directly below the launch ramp and came to rest in treetops about 25-30 feet off the ground. A lengthy mountain rescue ensued. The student was ultimately retrieved from the treetop with no injuries.

Lesson learned: The first mountain launch is a very trying experience. The latter of the two authors had the same thing happen to him (blown launch caused by nose high and weak run) on his third mountain launch (first time at site). The fundamentals learned on the training hill must be applied. The correct AOA must be established, the wings must be balanced, and a strong launch run must ensue when the time is right to launch. A nose high attitude coupled with a weak launch run is a recipe for disaster.

Time of Year: Fall

Accident Site: Nevada

Type of Launch: Foot Launch Tow

Summary: The pilot was foot launch towing on a dry lake bed using a payout tow rig. On the first tow the glider veered to the left upon takeoff. The pilot was able to correct for the turn before the tow was aborted and the rest of the tow was normal. Once the pilot landed, he disassembled and reassembled the glider in hopes of correcting the left turn. On the second tow, the pilot was connected to the release and the tow vehicle pulled out 200 feet, and waited for the start signal

from the pilot. Instead of the start signal, the pilot gave the halt signal. After the pilot did some adjusting to his hang point and/or harness, a second tow commenced. Another left turn ensued. The pilot did not correct for the turn. The tow operator aborted the tow and released all pressure. The pilot leveled out and released from tow. At 30' AGL, the pilot dropped out of the glider and hit the ground. The pilot was seriously injured, with a broken hip, arm, nose, and both legs seriously broken. Post flight inspection revealed the hang strap, harness, and carabiner were normal. Immediately after the accident, the pilot had no recollection of what happened. A week later his memory of the accident came back. He reported forgetting to hook into the glider. At the beginning of the tow he knew he was not hooked in, yet still held onto the glider, and released from the tow line. Fatigue forced him to let go of the glider.

Lesson learned: A preflight checklist is critical for verifying that glider is assembled correctly, the tow lines are connected and routed correctly, and the pilot's harness is connected to the pilot and glider correctly. An observer with the pilot could observe and verify that the preflight checklist was run successfully.

Time of Year: Fall

Accident Site: Texas

Type of Launch: Foot Launch Tow

Summary: This was an incident, not an accident. There was no crash. The pilot was scooter towing, using a particular brand HG double release with an over/under towbar bridle. The pilot had one uneventful launch with the bridle. The second launch had a knot in the V-bridle slip, causing the towline to come loose. The pilot tied a better knot, and launched successfully. At 200 feet the pilot tried to release the top line, but found it would not release. The pilot signalled to stop the tow, and the tow operator reduced power to let the pilot descend without overrunning the line. The pilot landed safely. Inspection of the release showed that the head of the release pin had gone through the loop of the final string of the release making it impossible to release. The pilot had insufficient altitude to use his hook knife safely, so he did not cut the line.

The design of the release was such that the release loop was about 1" too long, so that the head of the release pin could easily pass through the loop. The pilot's tow operator and the pilot were aware of this problem, and they thought they CAREFULLY inspected the double release for correct assembly each time a launch was attempted, because they were in the habit of not trusting the particular release. The nature of the double release was too often it released both top and bottom lines when the top was released, so they were in the habit of thrusting the pins in quite far so friction would keep the pins in place during the tow. The tow operator commented that the pilot's launch was quite aggressive, and that the pilot may have run faster than the tow rope at the beginning of the launch. They thought that the line slacked, and the release loop may have migrated from the front to the back of the pin. If, in fact, this would have happened with the bottom line instead of the top, the release failure would have been at the top of the tow, rather than 1/3 of the way up the field, and would have been much more serious.

Lesson learned: Such releases should be designed so that there is a positive way to prevent the head of the pin from passing through the release loop. The manufacturer was made aware of the deficiency of his design prior to this incident. He said that it was not a problem and refused to change the design. The pilot decided that he could prevent such problems by careful preflight, so he did not have it modified. The pilot was lucky that the in-flight failure was benign in its consequences.

Time of Year: Fall

Accident Site: California

Type of Launch: Foot Launch

Summary: The pilot's primary glider was a single surface glider. The pilot took recent uneventful demo flights on 2 intermediate gliders at the pilot's home site. On another intermediate glider demo flight, at a new site, the pilot set up for an out landing. The pilot stalled the base leg turn over power lines and sunk into a power line, striking the conductor with the

leading edge of the glider, breaking the conductor, landing hard on the dirt field below. There was minor damage to glider, a broken keel. The pilot suffered lacerations to the face.

Lesson learned: A dangerous cocktail is too many new things at once. The pilot was at an unfamiliar site, with an unfamiliar glider, and attempting to land in an unfamiliar LZ. Ideally a pilot should only introduce one new thing at a time in order to keep a sizable safety margin in their flying. The unfamiliar glider's turn characteristics coupled with the unfamiliar LZ and its unfamiliar obstacles combined to factor in this accident.

Time of Year: Fall

Accident Site: Tennessee

Type of Launch: Foot Launch

Summary: The accident pilot launched in strong cycle, stalled, and got blown back to the left and hit the cliff. The pilot didn't think to check the wind speed with a wind meter. The wind was strong and gusty. The pilot suffered a broken shoulder and a broken ankle. The pilot also required a knee-skin graft.

Lesson learned: Launching in strong conditions increases the risk for uncommanded turns to occur during the critical time period from just leaving the ground to flying directly away from the mountain with good control airspeed. Setting the correct AOA for the conditions and maintaining that AOA is critical for sufficient airspeed for maneuverability against uncommanded turns.