INCIDENT REPORT: SIMULTANEOUS LANDING

This summer at Stanton Airport, two gliders entered base (one on a right-hand pattern, the other on a left-hand pattern) at the same time and touched down seconds apart, on runway 27.

From 3,000' and 1.5 miles away, as they flared and rolled out, they appeared a wingspan apart at their closest.

Both pilots wrote their account of this landing:

High Pilot in the Left-Hand Pattern

"Did you see the other glider?" Huh . . . other glider? Did I cut in front of another glider while in the pattern?

Those are frightening words for anyone at the end of a landing, and make no mistake – they were for me. Shortly afterwards, I did hear other pilots repeat what they saw and it was unlike what I had first imagined and did not see or hear.

The day had progressed well. I had assembled my glider early in the morning so that I could fly it after my scheduled rides for Stanton Sport. Those rides went well and thermals began to reach 2,000 feet during the last ride so I knew that a local flight in my glider would complete a fine day.

After stowing Stanton's glider, I was able to complete the final preparations for my glider and then bring it to the runway where I was one of two remaining gliders on the grid ready to go with no pressure to launch. Several pilots had already launched and managed to sustain their flights.

Upon staging, I called the tow pilot, declaring my intent followed by his recitation of my directions. After the launch, I released low in what I thought was a thermal, struggled to sustain my altitude and then slowly descended as I returned towards the airport. Anticipating that other gliders would fall-out soon, I chose to enter a left-hand pattern to Runway 27 while no other gliders tried to do the same. My pattern included a call on the radio, execution of my do and landing checklist, and a plan to clear the runway at the end of my ground roll. My usual higher pattern, aided with great flaps and good airbrakes, provided me with extra options in the pattern even at the last moment.

Of course, my opening sentence says it all. But that first impression turned out to be false. Events and equipment problems had another pilot fly a right base to 27 at the same time as I flew my left-hand pattern. This was the other glider - a glider that I did not see or hear. Witnesses on the ground heard my radio call and saw me in a left-hand pattern, but they failed to notice the other pilot, flying to the same runway from the opposite side of the airport.

Since then, I flew more than a few times, extending my downwind leg and base leg. My hopes have been to find more time to scan the opposite side of the airport above, at and below the horizon. But these flights leave me to believe that finding another glider in the ground clutter while looking below the horizon is less than easy. Yet, we still need to look above, at and below the horizon.

A number of years ago at Faribault Municipal Airport, I flew a right-hand pattern to the grass parallel and right of Runway 30 while the tow plane flew a left-hand pattern to 30. This was a usual practice in order to avoid crossing a final leg to Runway 30 in order to land on the parallel grass. After his announcement to turn to base, I sensed that he did not hear my radio calls, so I extended my pattern and landed after him in order to avoid that view of an on-coming tow plane while on base. After four weeks of chasing parts to facilitate a repair, my radio was in working order and so I returned to flying.

I knew of another glider pilot who flew a standard left-hand pattern with a working radio at Osceolo. He saw an airplane in the pattern, but he never heard it over the radio and likely the airplane never heard the glider's radio call. The airplane flew under the glider while both were on final, landing well ahead of the glider. The airplane pilot later learned from the glider pilot of the near miss.

Both incidents taught me that one important consideration about pattern traffic at the airport is to consider other landing options. This is the "Emergency" that we don't include in our landing checklist. I have avoided other traffic with the intent of enhancing the safety of another departing or landing aircraft and myself by taking the crosswind runway or other option if it appears safe for me.

What should I do? Make sure my radio works correctly. Fly a pattern that gives me an extra moment on the base leg to look again, and expect a non-standard pattern when other gliders soar.

Low Pilot in the Right-Hand Pattern

I have been asked to describe the incident from my point of view. I will do this in two parts: first what I saw and heard and did, then what I didn't see and hear. Others will analyze the mistakes.

I was towed from runway 27 in a light headwind. After an hour flight I found myself low north of the field. I was not sure I could make the downwind leg of the standard left pattern, so I decided to use a right pattern. On entering the pattern at base leg I made a radio announcement for right base. I looked around carefully, especially straight ahead for aircraft on left base, and also to the left for one on long final. I didn't see any. My turn to final was somewhat lower and closer than normal. On touchdown, I was surprised to see a glider about 100 feet above me and a little ahead. I turned off the runway to the right and stopped short. The other glider landed several hundred feet ahead and made a normal left turn off the runway.

Before takeoff, the tow pilot did not respond to my request for a radio check. I heard his pattern announcement on landing from the previous tow, so I let it go. I did not know my radio was receiving but not transmitting. As a result my announcement on right base was not heard by the other glider or on the ground. Near the airport I did not hear the two radio announcements on downwind by the other glider. They were heard on the ground. The vent window was open and possibly I didn't have the volume loud enough. Scanning in the pattern I looked above my level, but did not raise my head to look directly overhead. If I had done that, I would have seen the other glider sooner.

ANALYSIS

This is the second incident of a glider flying above another glider in the pattern in Minnesota Soaring Club's history. (In the previous incident two gliders flew downwind, one directly above the other.) While this is not a frequent problem, the potential severity of consequences prompts this article.

Neither pilot saw the other pilot until late on final. It is likely that, on the base leg, the low glider was in the high glider's blind spot. This blind spot created by the fuselage and control panel. The low pilot failed to look up, but rather scanned ahead and below. It is likely that as both gliders turned onto base they were between one mile and one-half mile apart. At a mile, a glider appears so small that an acorn held at arm's length would hide it. At a quarter mile a softball would hide the glider.

Both pilots reported using the radio in the pattern. Neither pilot heard the other pilot's report. This, likely, could be attributed to the low glider's radio transmitting poorly (or not at all) and the volume too low to receive. This serves as a caution in assuming that because your radio works well and you transmit appropriately, you are safe.

It is notable that the high glider landed first. Raising the specter of one glider landing atop the second.

The decision train had two principal errors, the first of faulty radio transmission, and the second of lookout. The radio problem is more easily resolved by assuring the glider radio sends and receives by establishing two-way radio contact with the tow pilot before starting the takeoff role.

The scanning issue is more complex. Following is a proposed pattern scanning procedure:

Dogleg

During the dogleg look: 1) behind your glider (135 degrees to left of straight ahead) for aircraft already in the downwind; and 2) to the left (45 degrees to the left of straight ahead) for aircraft on a crosswind or who are taking off and turning into the pattern.

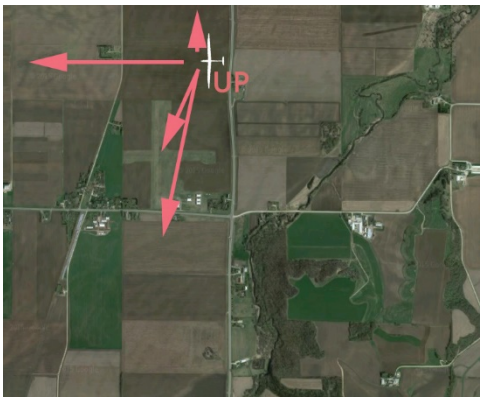
Downwind

Before crossing the cross-wind runway look: 1) to the left for aircraft taking off—as long as you are scanning left check the wind sock and the runway, 2) to the right for aircraft landing on the crosswind—and as long as you scanning to the right look for aircraft further out in downwind; and 3) directly above.

Before turning base look: 1) to the right for aircraft turning on an extended downwind turning earlier base (this should be done repeatedly for the last half of the downwind leg); and 2) to the left for aircraft on a right hand pattern.

Base

On the base leg look: 1) to the right for aircraft on a long final; 2) directly overhead; 3) straight ahead for aircraft on a right hand pattern; 4) at the runway for anything or anyone on the runway and a last glance at the windsock; and 5) at the far end of the runway for aircraft landing downwind. (The amount of scanning needed on base leg argues for extending the base leg to allow adequate time.)



Final

On final look: 1) straight ahead for anything on the runway, 2) at the crosswind for aircraft landing or taking off; and 3) at the other end of the runway for a glider landing downwind.

NASA in coordination with the FAA runs the Aviation Safety Reporting System (ASRS) as a system for pilots who make mistakes and/or have near misses to self-report and (generally) avoid further FAA sanctions. This is a good program because it promotes learning, diminishes fear of acknowledging mistakes, allows pilots to benefit from the errors of others, and increases safety. This article emulates the ASRS.

Following the incident at Stanton pilots were thoughtful, accountable, and humble. Both pilots acted gallantly towards the other pilot. Both pilots wrote their version of the events for our membership to benefit from. I am confident they are safer pilots.

As chief flight instructor I welcome your thoughts and concerns about the safety of our club and our instruction and flight reviews.

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