

HP-14 Accident That Almost Happened

by
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After a [successful two week](#) 2007 Idaho Soaring Regatta held in early August, several of the local Boise, Idaho area pilots decided to join Tim Taylor in Logan, Utah for three days of ridge soaring.

In preparation for the trip I gathered up all the normal items (maps, GPS, flight recorder, PDA, parachute, etc.) The pressure in my oxygen bottle was a little low for three days of flying, so I took it to Norco to be topped of and picked up the next day. With everything in my pickup and the trailer hooked up, I was ready.

The drive from Nampa to Logan takes a little over four hours. If a person got an early start Friday morning, he could get to Logan in time to assemble and fly in the afternoon. But in order to avoid being rushed, I decided to drive down on Thursday.

I arrived in time to assemble prior to checking into the motel. When I installed the oxygen bottle it became evident that it had *not* been refilled. This was frustrating; however, I went ahead and completed assembly, except for taping of the turtle-back and associated fairings.

Friday morning I was able to get the oxygen bottle filled at the Logan FBO. After the O2 bottle was installed, I was able to attach and tape the turtle-back and fairings. The rest of the group arrived about 10 am. After I assisted with assembly, all the gliders were towed to the runway 28 staging area. Once there, I removed the HP-14's wing cuffs and "V" tail gust-locks.

I was third to launch. The conditions were fairly stable, so my plan was to tow to about 3,000 AGL (7,500 MSL.) I normally take off using 10 degrees of flap with the stick forward in order to get the tail off the runway as soon as possible. When the takeoff roll commenced, the glider headed toward the right side of the runway. I corrected by applying left rudder; however, the tail didn't lift off as soon as expected.

Once airborne I struggled to keep the yaw string centered and noticed the response of the controls wasn't as effective as I had remembered. However, I didn't have a major problem following the tow plane.

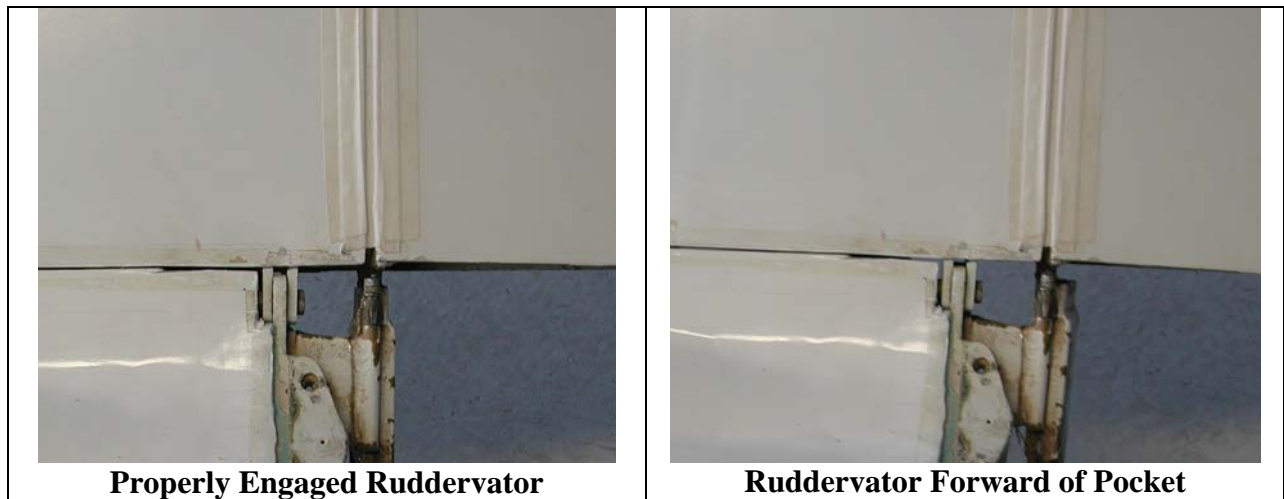
At about 2,700' AGL we flew through a strong thermal, so I released. This is where I realized I had a real a problem. When attempting to pull up into the thermal, I noticed the stick was already all the way back. The glider would not slow below 65 kts. The thought of bailing out flashed across my mind; however, the glider was in stable flight and I still had some degree of control. I could make un-coordinated turns in either direction.

Beneath me were Utah State University and the town of Logan. Looking toward the airport I determined that, even with limited control, I could land somewhere on the airport (if not on one of the three runways, on the grass between the runways, which was being mowed.)

After turning toward the airport I cranked the flaps down to 30 degrees. As the flaps went down, the nose came up, and airspeed decreased. When the stick was pushed forward to maintain approach airspeed; however, the glider yawed to the right. Left rudder application centered the yaw string. At this point the glider was in position for a long straight- in approach to runway 28. In informed Logan traffic I was making an emergency landing on runway 28.

As the approach continued, it became evident that more flaps equaled more control (not full control, just more control.) But as I approached the runway, psychological pressure increased. The huge infield mowing machine rolled onto the runway at the point I was committed to land. I vented my frustration on the radio; however, the mowing machine cleared the runway prior to my touch down. The landing was smooth. I touched down at 45 kts with a flap setting of 70 degrees and I stopped at the first taxi way intersection.

My post flight inspection revealed the right ruddervator was not engaged in the actuator pocket. It was sitting in front of the pocket. This prevented ruddervator actuation when the stick was pulled back although it provided ruddervator movement when the stick was pushed forward.



I removed the tail cone; folded the ruddervator, then spread and properly engaged; and, then the tail cone was reattached and taped. After a positive control check, I launched, released at 2000 feet AGL and had a great flight on the Logan ridge.

Post flight analysis:

I believe the mental distraction associated with my frustration with Norco not having filled the O2 bottle was a factor in my overlooking the ruddervator/actuator disengagement. In addition, the rush to launch caused me to skip the “positive control check.”

I know Dick Schreder had an accident under similar circumstances. I reread his November 1973 *Soaring* RS-15 accident article, found in the “Stories of Delight/Terror” section of the “Schreder Sailplane Designs” website. (<http://tinyurl.com/2n4j3b>) It started me wondering, why my incident was so much less dramatic than Dick’s.

My HP-14’s ruddervators are 12 inches longer than the standard HP-14. It is likely the additional area provided more control authority. As stated earlier, the disconnected ruddervator rests in front of the actuator pocket. Nothing happens when the stick was pulled back; however, the actuator pocket pushes against the ruddervator when the stick was pushed forward. Taking off with 10 degrees of flap requires forward stick pressure allowing a bit more control.

Conclusions:

To help avoid the kind of near-accident I experience I offer the following suggestions:

1. A homebuilt sailplane does not have an owner’s manual with an assembly check list, so create one, *AND USE IT!*
2. Check and re-check ruddervator engagement prior to attaching the tail cone.
3. Always perform a positive control check after assembly.
4. Finally, if you ever should find yourself flying a Schreder sailplane with a ruddervator disengaged, lower the flaps.



With the gust locks installed a disengaged ruddervator caused pedals to be offset.