



What are your stresses?

By Tom Johnson - SSF Trustee

In a Mechanical Engineering laboratory class, we had to put stress and strain gauges on various materials and shapes. We would then measure what happened when a load was placed on the shape and analyze what we measured.

The lab class was a lot of fun, especially for a Nuclear Engineer used to counting neutrons all day long, and allowed us to see the theory put into practice. It also allowed us to predict what would happen when practically applied to a real-life situation.

We can and should do the same when we strap on the sailplane and go soaring.

When you think about it, our mind and bodies are constantly stressed when we fly. We enjoy and relish this stress. What we feel and sense is our stress and strain gauges. And what we decide to do and how we react to these inputs is our personal real-life application.

During the last couple of years, I have watched two experienced pilots land their sailplanes gear-up after a challenging task. I, myself, forgot to dump the water ballast after a very difficult task with thunderstorms and a possible low finish.

A common theme I hear from fellow pilots and on-lookers questions how an experienced pilot can do something like that.

This brings us back to the stresses of flight.

In my case, I was focused on getting around the storm back into the lift area. I was diligently making sure I had an airport within gliding distance. I was monitoring the storm, the wind, and the potential lift. All my mental bandwidth was being used to get me safely back to the glider-port.

Once I had the field made, I breathed a huge sigh of relief, started to configure the aircraft, and then...

On the runway was a glider that had landed gear up. Instead of doing my landing checklist and flying my sailplane over the glider, I decided to warn the three gliders behind me of the obstruction on the runway.

The glider felt odd in the flare close to the ground. Upon further review, it behaved exactly how a glider full of water with the flaps set to cruise and not landing.

I chose to communicate before I aviated and navigated.



Why?

I started to analyze what my stresses were.

I was hot, tired, thirsty, in need of a bathroom break, thinking about the storm, and relieved and elated I had made it back. And instead of flying my aircraft, I tried to be the good guy and warn the others behind me. A warning they most likely did not need because the obstruction was so obvious.

All of these stresses combined to get me out of my routine for the landing. Configure the glider for landing, do the landing checklist, fly a good pattern.

This is easy to say but can be hard to do.

First off, we must recognize the stresses WILL be there.

We will be hot and sweaty, and maybe thirsty. You will be mentally and physically tired. You will have external factors (glider blocking the runway, etc.) in play. And there will be a bit of a mental let-down because you have made it back, now just go land.

We have identified threats, now let's identify mitigation strategies.

For being hot. Make sure the vents and window are open and directing the air onto you. Take some water and splash your face. My shirt is usually soaked with sweat, so a little water won't matter.

Drink a big swig of that water while you have it out. Don't worry about a bathroom break, you will have plenty of time on the ground.

Deal with the mental fatigue by having a routine for landing. Personally, my landing routine begins when I extend the landing gear. Check the flaps are set, trim for 60-65 KIAS, dump the water, and complete the landing checklist.

Fly the aircraft and land.

I have often compared soaring to tactical military flying. The hardest task of any carrier tactical mission was getting back on the boat. So it is with glider flying. A successful approach and landing demand your full attention and effort.

Why did I not follow my own advice and habits this time?

The stress we encounter can impede our ability to make good decisions. The stress can take all of your bandwidth and attention. In hindsight, the experienced pilots behind me did like I did and just landed over the glider on the runway.



The pilots who landed gear up most likely have a similar tale to tell. And if they are honest with themselves, they should be able to point to a specific point in the flight where they deviated from their normal habit pattern.

Analyze yourself and identify the stresses you regularly encounter. Identify the warning signs and develop mitigation strategies.

Come out of a thermal, take a drink of water.

Make it to a turnpoint, splash your face with water.

After you put the landing gear down and configure the aircraft, say the landing checklist to yourself out loud and touch each item.

Finally, once the landing checklist is complete and you are ready to turn from downwind to final, fly the aircraft to the exclusion of all else. And when in doubt about what to do, fly the aircraft.

Leave the stress testing to the Mechanical Engineers and test pilots, neither of which I am.

