



SAFETY REMINDERS

August 28, 2015

Dear Fellow Free Flight Pilot,

There are some recent trends in fatal hang gliding and paragliding accidents that you, as a pilot, should know, so that you can make better decisions managing the inherent risks of our chosen pastime.

First a few facts to add to the graphs below showing fatality trends:

- From 2005 through 2014, combined hang glider and paraglider fatalities per annum have ranged from five to nine, averaging about six.
- In 2014, we experienced nine total fatalities in the US.
- Since the beginning of this year, we have experienced *fifteen fatalities*: 8 Hang Gliding and 7 Paragliding. The 2014 fatality rate was high. The 2015 rate is already **more than double** the annual fatality rate for the last decade—and the year is not yet over.
- There have been twenty-four pilot fatalities since the beginning of 2014:
 - Of the sixteen pilots flying hang gliders or traditional paragliders (not mini-wings), almost all were experienced pilots, with only two hang glider pilots at novice level or below and two paraglider pilots at novice level or below. Lack of pilot experience was not a common factor in these incidents.
 - Of the seven pilots flying mini-wings, three were novice pilots that were not mini-wing rated, one was not a USHPA member, two were advanced mini-wing pilots, and one was an advanced paraglider pilot without a mini-wing rating. The fact that over 70% of the pilots involved in fatal accidents flying mini-wings were not mini-wing rated suggests inexperience on that wing type is a factor.
 - Problems with conditions, equipment or intentional maneuvers that arose while flying in close proximity to the terrain was present in all nine hang gliding fatalities and at least fourteen of the fifteen paragliding & mini-wing fatalities. This represents almost 95% of all fatal accidents.
 - Loss of control of the wing due to encountering turbulence was involved in almost half of all the fatalities - and all of those occurred in close proximity to terrain.

While digesting the above facts, please consider the following suggestions:

Your Personal Flying Risk Management

Flying a hang glider or paraglider is not a safe activity. Debating which type of ultralight is safer misses the point—neither are inherently safe. Active risk management can improve the chances of not being hurt, but can never make flying safe.

You can make decisions that have a tendency to improve your safety margin in a flight. “The overriding determinant of pilot safety in hang gliding is the quality of pilot decision making.” That quote is right out of [Why Can't We Get a Handle on This Safety Thing?](#), the excellent risk management analysis written by Mike Meier almost two decades ago, and yet so relevant today. Mike also pointed out: “Just because you got away with it does not mean it's safe”.

Two other excellent resources on the topic are Paul Voight's [The Target on Your Back](#) and Irene Revenko's [Risk Management in Paragliding](#). Michael Robertson's [Charts of Reliability](#) is another valuable resource for evaluating the decision to launch.

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Please take a break from your flying and re-read the excellent articles that your fellow pilots have penned on this topic over the years. The USHPA web site has a collection of these articles at <http://ushpa.aero/safety.asp>. Think about what has been written on the subject. Discuss the topic with your local pilots and make your personal flying risk management the first priority on every flight.

Although we have not seen fatalities from use of "GoPro" style video cameras, we have seen incidents where pilots were distracted, fiddling with their cameras, or appeared to fly more aggressively, and with less of a margin of safety in order to capture the "cool" maneuver or dramatic shot on their video. Those safety margins often involve altitude, proximity to terrain, complexity of the maneuver, and weather conditions. While the value of such videos in training, marketing and just fun cannot be argued, please prepare by thinking through the risks involved and make a list for yourself of the margins of safety that you will not cross while using the video camera.

A closing thought about risk management is the value of backing up our fellow pilots' decision making and preflight by offering our opinions and oversight. Don't be the pilot that has to wonder what might have been if they had offered their input before our friends launched on their accident flight.

Complacency

Complacency can lead to the deterioration and loss of safety margin. There are many areas where complacency can creep in. Our equipment, the weather conditions we choose to fly in, deviations from standard procedures, how well the flight is going compared to how we thought it should go, the potential wind/turbulence conditions that we deem acceptable before we launch, and other decisions are all subject to complacency.

By its very nature complacency grows with repetition. The worst type of complacency comes from the repetition of getting away with higher risk events, but it also comes from just repetition of flights. You lose the fear, the hyper-vigilant edge, the immediate reflexive response to dangerous conditions or developments (throw chute now!!!). That hyper-vigilant reflexive stance is replaced with the misguided confidence that "I can handle this" based on the repetition of flights in circumstances where the pilot did handle it – or perhaps better stated "got away with it". That complacency erodes the margin required to deal with the almost inevitable (if you fly long enough) circumstance where only decisive, immediate and efficiently executed action leads to survival.

Before each and every flight, remind yourself that flying is inherently unsafe and ask whether you are satisfied with what you have done to minimize the risk so that this flight will not be your last.

Altitude and Turbulence

A pilot's ability to survive the inevitable unforeseen circumstance (be it weather change, turbulence, equipment failure, preflight error, etc.) is a direct function of safety margin. The amount of altitude you have above terrain is perhaps the biggest determinant of your safety margin, as higher altitude usually gives you more time to deal with the issue. Low altitudes inherently have less margin. To mix low altitudes with likely turbulence (thermic, mechanical, shear/wind – there are many sources) has cost the lives of many of our fellow pilots. As Jim Lee once said to me "If we could see the air we fly in, we wouldn't". Many of us fly in conditions (time of day, good lapse rate, low humidity, good tail wind, etc.) and around terrain (mountains, ridges, etc.) that makes it likely to encounter turbulence strong enough to make our aircraft uncontrollable for at best a short period of time and at worst forever (tuck, fold,

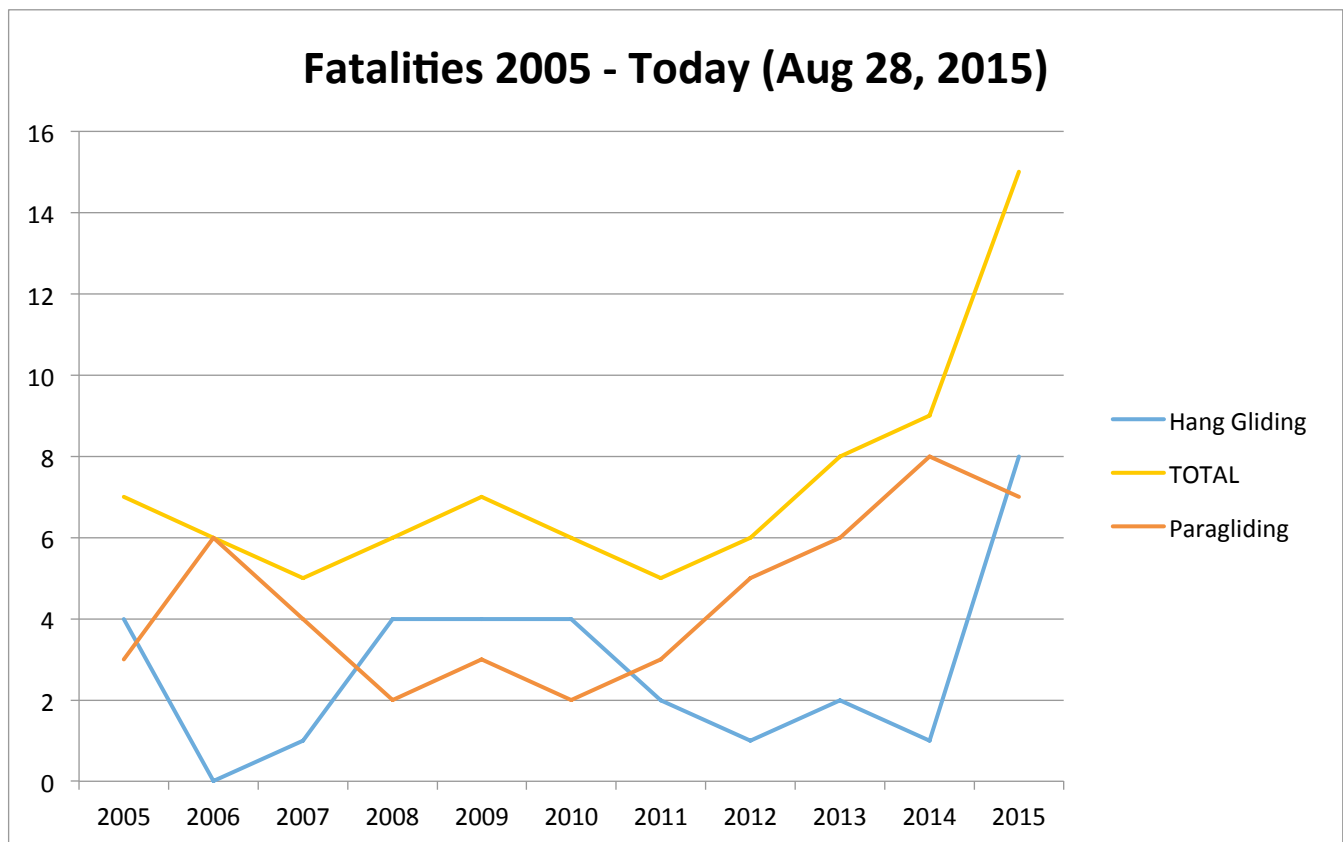
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wrap and break). None of our free flight aircraft are adequately controllable in some of the turbulent conditions we often fly in, so we better be flying with sufficient margin to deal with it.

The scientific framework explaining how all these facts cognitively come into play with regards to how you manage your margin of safety is described in Frank Drews' article [Human Error](#), also available in the Safety section of USHPA's website.

Here is to hoping we fly together for many years to come.

Mitch Shipley, Accident Review Committee Co-Chair (HG)



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