

2019 Soaring Accident Summary

By SSF Trustees

For the twelve-month period ending October 31, 2019, ten (10) gliders, six (6) motorgliders, and one (1) tow-plane were involved in seventeen (17) separate accidents meeting the reporting requirements of NTSB Part 830 of the Code of Federal Regulation. This represents a 37.0% decrease in the number of accidents reported during the previous reporting period. The five-year average for the FY15 – FY19 reporting period is 21.0 accidents per year, representing a 10.2% decrease in the average number of accidents from the previous five-year period.

While the average number of accidents per year has shown a steady decline since 1981 (averaging 45.6/year in the 80's, 38.6/year in the 90's, 33.5/year in the 00's, and 24.8/year for this decade) the number of accidents each year remains too high. In addition, the average number of fatalities has remained nearly constant, at just under 6 per year since the mid 1990's and is also considered too high. In the FY19 reporting period seven (7) accidents resulted in fatal injuries to seven (7) pilots and one (1) passenger. In addition, two (2) pilots and one (1) passenger received serious injuries while eight (8) pilots and one (1) passenger received minor or no injuries.

While the number of accidents reported to the NTSB is easy to track (Figure 1), and that number has been declining for both Gliders and General Aviation as a whole, it is important that this number must be combined with flight hours or launches to determine the accident rate. Several years ago the SSF Trustees began asking all soaring organizations (clubs, chapters, commercial operators) to submit their flight times/launches in a confidential manner. This is done by mailing postcards to the organization representative listed in the SSA's database. For the past two (2) years approximately 30% of the organizations have returned these postcards. In February 2020, another mailing occurred, readers of this article are encourage ask their organization to respond.

In addition to requesting data from soaring organizations, the FAA sends survey requests to some glider owners. That data is available via the FAA's web site and currently used by the SSF as a proxy to calculate accident rates (see Figure 2). The On-line Contest (OLC) also posts data on its web site allowing the SSF to gain another proxy for flight time/launch data. Finally, the SSA Contest committee has indicated that they will gather this type of data during sanctioned contests. While the SSF Trustees are not convinced that the times/launches provided by any of these proxies are accurate, the trends from all of them show an alarming rise in accident rates over the past 3 years. Getting better data via soaring organizations confidentially reporting this data will help clarify this situation.

A review of the Seven (7) fatal accidents showed that the ATP rated pilot of a DG-300 glider in WA was fatally injured while landing after failing to make a low altitude save. A commercial pilot of an LAK-17 motorglider in PA was fatally injured after impacting mountainous terrain while ridge running. The pilot of a JS1-C in TX was fatally injured after impacting terrain in a nose low attitude. The pilot of a Phoebus glider in OR was fatally injured after impacting terrain during a failed auto-tow launch. The pilot of a Grob 103 in MS was fatally injured after striking a tree and coming to rest inverted during an off-airport landing. The pilot and passenger were both fatally injured after their Arcus impacted the side of a mountain in UT. The pilot of a LS-4A made an off-airport landing in heavy vegetation in NM



and was found dead in the cockpit with minor external injuries. All fatal accidents are still under investigation by the NTSB, more details may be given in the full report available at (<http://www.soaringsafety.org/accidentprev/ssfreports.html>).

Continuing a long historical trend, the largest number of accidents occurred during the landing phase of flight during this reporting period. In FY19 landing accidents represented 58.8% of all accidents. Continuing the historical trend, half (50%) of the landing accidents occurred during off airport landings while the other half (50%) occurred while landings at the home field. Details of these accidents are given in the full report.

Proper training and an operational focus on safe arrivals can go a long way toward addressing the landing accident problem. The SSF continues to promote that pilots and instructors adopt a 'goal oriented approach' to pattern planning and execution. The 'goal' is to stop at a predetermined point. This same procedure should be used during every landing, either at an airport or in a field. In addition, for off-airport landings it is important that the pilot mentally transition from cruise flight mode to landing mode with enough altitude to examine the prospective field to determine what obstacles the pilot must deal with. A good rule of thumb is 3-2-1, at 3,000 ft AGL the pilot should have at least one landable field within gliding range. At 2,000 ft AGL the pilot should select a specific field and examine it for obstacles and obstructions. At 1,000 ft AGL the pilot is committed to an out-landing, and mentally switches to landing mode. Making last minute changes while on short final to deal with obstructions is a leading cause of off-airport landing accidents.

Two (2) non-fatal and one (1) fatal aborted launch accidents, called PT3 (premature termination of the tow) events, occurred in FY19 accounted for 17.6% of the accidents. The fatal accident involving the Phoebus pilot was mentioned above. Other accidents are: A commercial tow-pilot was not injured after the PA-18 Supercub tow-plane landed hard, skidded between 2 electric poles and ended up inverted in a ditch after the right horizontal stabilizer attach fitting failed. The private pilot of a SZD-56-2 (Diana) was not injured after the glider weather-vaned off the runway and impacted a sage brush during a failed aerotow. See the full report for more detail.

Pilots can, and should, mentally prepare for a failed launch by developing a specific set of action plans to deal with several contingencies. This plan must be day specific taking into account the glider, tow vehicle, wind, density altitude, runway heading and surface, obstacles and any other factors that might come into play. This typically requires multiple plans, or that the pilot consider different factors at different points during the launch. The task is then to execute the proper plan at the proper time. Flight instructors should continue to emphasize launch emergencies during flight reviews, check rides and flight training.

There were six (6) motorgliders involved in accidents during the FY19 reporting period. In addition to the two (2) fatal accidents noted above, the following accidents occurred. The pilot of a Stemme S-10 received minor injuries when one wing struck a tree after landing long and overrunning the departure end of the runway. The sport pilot received minor injuries after the Silent 2 struck a tree and house 2.7 miles NE of that runway while under power. The private pilot of a Sinus was not injured after striking a fence 1.5 miles short of the approach end of the runway while under power. The private pilot and passenger in their DG-500M were seriously injured after impacting trees and terrain at the approach end of the runway. See the full report for more details.



Flight instructors play an important safety role during every day glider operations. They need to supervise flying activities and serve as critics to any operation that is potentially unsafe. Their main job is to provide the foundation upon which a strong safety culture can be built. Flight instructors also need to emphasize aeronautical decision making (ADM) and risk management (RM) principles during initial and recurrent training, including flight reviews. The FAA “Wings” program provides an excellent recurrent training platform which also meets the flight review requirements. The emphasis on ADM and RM can be seen in the new Airman Certification Standards (ACS). The FAA is currently revising all Practical Test Standards (PTS) to this new standard which will eventually include glider training and testing.

Other pilots and people involved with the ground and flying activities also need to be trained to recognize and properly respond to any safety issues during the daily activity. Everyone, students, pilots, ground operations staff, and instructors, should continuously evaluate both ground and flight operations at US chapters, clubs, commercial operations and at contests. An operations safety culture should train everyone to raise safety issues with fellow pilots, club officers, and instructors. By addressing issues before they become accidents, we can improve soaring safety. Only by the combined efforts of ALL pilots can we reduce the number of accidents.

The Soaring Safety Foundation offers both anonymous Site Surveys as well as Safety Seminars at your location as a part of our ongoing commitment to safety. The SSF also offers Flight Instructor Refresher Courses for Flight Instructor recurrent training. More information on these and our growing collection of on-line safety and training programs can be found on our website. <http://www.soaringsafety.org>



