SSF Soaring Safety Foundation

2007 Soaring Safety Report - Executive Summary
Richard Carlson – SSF Chairman

This report covers the FY07 (November 1, 2006 to October 31, 2007) reporting period. A review of the NTSB accident database shows US soaring accidents during this time period increased over 25% compared to the FY06 reporting period. FY07 also saw a 133% increase in the number of fatal accidents, ending a four year trend of decreasing fatalities. These numbers indicate that the US soaring community needs to rededicate itself to improving their soaring organizations operations. Only by instilling an "operational safety culture" can we reduce the number of accidents that impact us all.

For the twelve month period ending October 31, 2007, thirty-eight (38) gliders, six (6) motorgliders, one (1) towplane, and one (1) airplane were involved in forty-four (44) separate accidents meeting the reporting requirements of NTSB Part 830 of the Code of Federal Regulation. This represents a 26% increase in the number of accidents compared to the FY06 reporting period. The five-year average for the FY03 – FY07 reporting period is 34.2 accidents per year, representing a 11% increase in the number of accidents from the FY02 – FY06 reporting period.

While the average number of accidents has shown a steady decline since 1981 (averaging 45.6/year in the 80's, 38.6/year in the 90's and 34.1/year so far this decade) the number of accidents each year remains unacceptably high. In addition, the average number of fatalities has remained nearly constant, at just over 6 per year since the mid 1990's. In the FY07 reporting period seven (7) accidents resulted in fatal injuries to the pilot. In addition, eight (8) pilots received serious injuries while thirty-five (35) pilots and four (4) passengers received minor or no injuries during the FY07 reporting period.

Of major concern is the continuing high percentage, over 64%, of accidents that occur during the landing phase of flight. It should also be noted that of the twenty-nine (29) landing accidents, twenty-two (22), or 68%, of them occurred while the pilot was attempting to land on an airport. Twelve (12) of these accidents involved the glider striking an object (i.e., tree, cactus, fence, etc) while on final approach, and wind shear was a contributing factor to eight (8) of those accidents. Two landing accidents occurred when the pilot overshot the intended landing area, once during an off-airport landing, and the other following an encounter with a thermal on short final.

Pilots should consider that there are numerous 'tools' or maneuvers that can be used to correct an overshoot condition. These include slips (forward and turning), more spoilers, full spoilers plus increased airspeed, and 'S' turns on final. These flight maneuvers increase the sink rate of the glider – allowing for a steeper approach, or increase the flight time – allowing the glider to lose more altitude. In contrast closing the spoilers and increasing the airspeed is the only available 'tool' when the undershoot condition is detected. Pilots should practice, with a qualified instructor, the techniques and maneuvers needed to land safely from an overshoot condition, and they should refrain from putting themselves in an undershoot position.

Proper training and repeated practice are two important steps that a glider pilot can take to master the skills needed to safely land a glider. Pilots and instructors should also

consider using a low-cost GPS logger as a training aid to help evaluate these landing skills. Low-cost hand-help GPS units are available on the used market and they can be carried in the training glider. The approach and landing portion of the flight can be extracted from the logger and displayed to determine how the pilot is handling various conditions. It is also possible to download other pilot's traces from multiple Internet web sites (e.g., OLC) and examine how others tackle this demanding task.

Takeoff accidents, accounted for 20% of the FY07 accidents. Both PT3 (Premature Termination of The Tow) and motorglider go-around accidents occurred in the FY07 reporting period. In FY07 nine (9) accidents occurred during the take-off phase of flight. One (1) tow-plane and five (5) gliders being aerotowed and three (3) gliders on ground launch were involved in these accidents. Pilots can mentally prepare for an emergency and develop a specific set of action plans to deal with several contingencies. The task is then to execute the proper plan at the proper time. Flight instructors should continue to emphasize launch emergencies during flight reviews, club check rides and flight training.

Adding the letter "E" to the pre-takeoff checklist is a helpful reminder to concentrate on the emergency plan of action. Treating the wing runner as a member of the launch crew and using good Single Pilot Resource Management (SPRM) techniques can reduce the pilot's pre-launch workload. The wing runner can remind the pilot of the possibility of a launch emergency ("Are you ready for an emergency?") and be observant for various discrepancies such as: dive brakes left open, canopy unlatched, tail dolly left on, or positive control check not accomplished.

The tow pilot or winch operator also needs special training to be alert for signs of potential trouble. Is the glider pilot being hurried? Are conditions too gusty; is there fuel in the tow plane? Is the takeoff area clear of people and other obstructions? Has the tow pilot added the letter "E" to the pre-takeoff checklist and is he/she prepared for an emergency? Tow planes need a good rear view mirror, one that is located close to the tow pilot. Radios are highly recommended.

Six (6) motorgliders were involved in a variety of accidents in the FY07 reporting period. Motorglider pilots also have an additional responsibility during self-launch operations. They are the tow pilot and thus need to consider everything listed above. Fixing any problem before beginning a launch will help reduce the take-off type of accident.

Flight instructors play an important safety role during everyday glider operations. They need to supervise flying activities and serve as critics to any operation that is potentially unsafe. Other pilots and people involved with the flying activity also need to be trained to be alert to any safety issues during the daily activity.

All these tasks need to be performed on every flight. Failure to do so can result in another accident.