

SAILPLANE ACCIDENT INVESTIGATION
COCKPIT DAMAGE REPORT

issue: June 15, 2006

Brief explanation and instruction

The aim of this study is to improve pilot survivability and protection from injury in sailplane accidents.

Information on the flight characteristics at impact, the estimated impact loads and the impact surface are required. Also required is information on the behavior of the sailplane cockpit and associated structures on impact, both undamaged cockpit structures and those that failed. The simplest way of passing this information is by a series of photographs (samples on page 3-4). Add further photos as necessary for precise damage description. **Please, use the appropriate compression on photos in electronic format** to facilitate the mailing and storage of reports! (Less than 200kB per photo - maintain readability!)

The following details would be of help in the accident assessment:

1. The type of accident as described overleaf or the flight characteristics of the sailplane at impact.
2. Estimate the impact velocity, the height of the stall or similar information.
3. Undercarriage details (extended, retracted, any visible damage, undamaged parts, suspension frame).
4. Number and weight (if available) of aircrew, weight of water ballast (if carried), weight of fuel (if significant).
5. Describe the motion of the sailplane after first impact.
6. Give the characteristics of the impact surface (e.g. paved runway, hard grass or soil, soft grass or soil). Describe or photograph the impact mark.
7. Describe the seat cushions, if present, and whether they were as originally supplied. If possible, describe details of seat cushions.
8. Describe the type of harnesses (4 or 5 point), describe any failure of the harness anchor points, the harness webbing or the quick release fitting.
9. Did the pilot "submarine" down and forward under the seat harness?
10. Behavior of loose objects.
11. Medical information may be considered confidential. However, if possible, describe the injuries received as follows: fatal, serious, slight, none.
Information on any injury to the spine and legs would be of special value.

YOUR INFORMATION COULD HELP TO IMPROVE THE DESIGN OF SAILPLANES AND INCREASE THEIR PASSIVE SAFETY, SAVE LIVES AND REDUCE INJURIES.

The appropriate Form for reporting the results of cockpit damage investigation is enclosed on page 5. The filled-in Form and enclosed photos should be sent to the **OSTIV Crashworthiness Monitoring Group*** as part of the System for Collection, Investigation and Analysis of the Data, defined in the Requirements for Certification Procedures, JAR/CS 21.3.

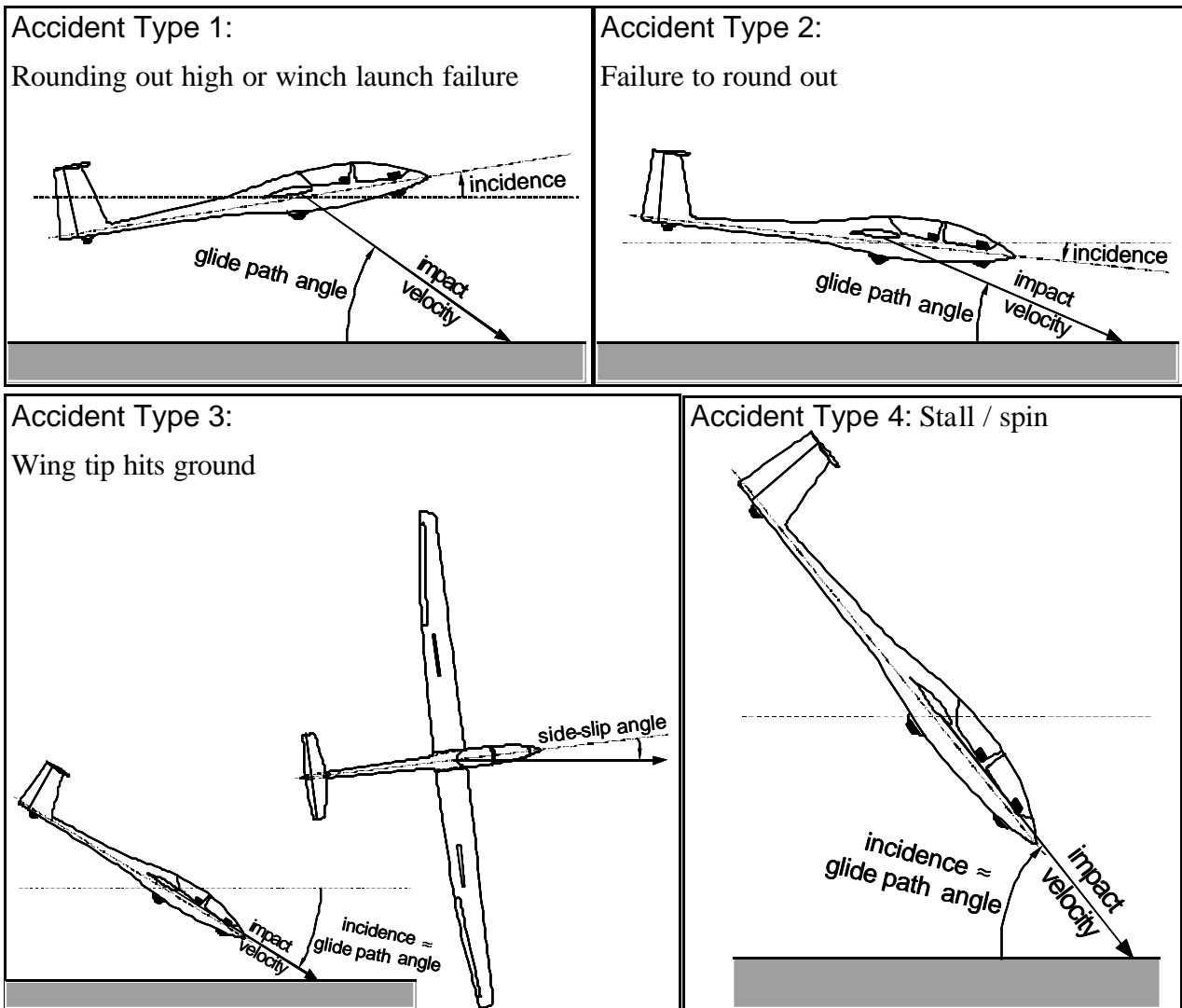
THE INFORMATION MUST BE CONSIDERED AS CONFIDENTIAL AND MUST NOT BE PUBLISHED IN ANY MEDIA!

*Petr Kousal, Air Consul ZLIN, tr.T. Bati 481, CR-76001 Zlin; email: airconsul@avonet.cz, chairman of the OSTIV Crashworthiness Subcommittee, with copy to: prof. Dr. Josef Mertens, Fachhochschule Aachen - FB 6, Hohenstaufenallee 6, D-52064 Aachen, Germany, email: J.Mertens@fh-aachen.de

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Accident Type



Other

(impact velocity or height of stall, incidence, glide path angle, side slip angle etc.)

Figures from Martin Sperber, TUV Rheinland:
"Crashworthiness of Glider Cockpits", XXV. OSTIV Congress, St. Auban, 1998

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Sample photographs of undamaged sailplane cockpit (two seater):

Inside cockpit:



Forward seat and legs room

to show damage to cockpit structure, instrument panel, leg room and pedals, sharp edges, belts/harness, seat cushions.



Rear seat and legs room

to show damage to cockpit structure, instrument panel, leg room and pedals, sharp edges, belts/harness, seat cushions.



Rear seat backward view

to show damage to cockpit structure, belts/harness, anchor points, back rest, head rest, sharp edges, seat cushions.

Impact site:



Impact mark

to show impact site with impact mark in foreground and indication of final cockpit position in background.

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Outside cockpit:



Left hand side (flight direction)

to show the amount of damage or prove of no damage on the left hand side of the sailplane.



Front

to show the amount of damage or prove of no damage to the sailplane's front.



Left fuselage nose (flight direction)

to show the amount of damage or prove of no damage on the left front side of the sailplane.



Right fuselage nose (flight direction)

to show the amount of damage or prove of no damage on the right front side of the sailplane.

Undercarriage

to show damage or prove of no damage to the landing gear and to the landing gear suspension frames of the fuselage.

**ONLY DAMAGE CLEARLY VISIBLE
AT THE CRASH SITE!**

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COCKPIT DAMAGE FORM

Sailplane's Model/Version:

Serial Number:

Country:

Accident Report Reference No.:
(if available)

1. Type of accident / flight characteristics at impact	
2. Impact velocity / height of stall	
3. Landing gear	down <input type="checkbox"/> remarks: up <input type="checkbox"/>
4. Mass at impact (kg)	Empty mass: crew front seat: crew rear seat: water ballast: fuel (if significant):
5. Sailplane motion following initial impact	
6. Characteristics of impact surface and impact mark	
7. Seat cushions	
8. Type of harness, failures	
9. Submarining ?	
10. Loose objects ?	
11. Occupant injuries	
12. Additional significant information such as: Damage to the structure beneath the seats. Description of damage to the nose of the sailplane; whether the nose absorbed impact energy. Any sharp edges inside the cockpit. Damage to the cockpit sill.	

Notes: Use additional sheets for description of individual items if necessary!

Photos enclosed on following pages.

name:

organization:

position:

date:

contact details: address:

telephone:

email: