



Report of the CIVA Safety Working Group

CIVA Plenary meeting 2023

Krakow, Poland, from the 18th to the 19th of November 2023

Safety Working Group (SWG) Members

Hanspeter Rohner, SUI, Chairman

Tamas Abranyi, HUN

Pekka Havbrandt, SWE

Pierre Varloteaux, FRA

Keith Doyne, USA

Victor Lalloué, FRA

Patrick Paris, FRA, Advisor

A. Introduction

CIVA has always made Safety an important and integral aspect of the operation of its international aerobatic events.

Organizers are incorporating safety into event organization and including safety in their daily briefings. The International Jury serves as a de facto safety advisor, reviewing operational procedures, checking aerobatic sequences (mainly Free Unknowns) for potential safety issues, and providing advice on safety matters during aerobatic events. The Chief Judge has a clear responsibility to assure the safety of competition flights and he/she has the right to order a pilot to land for safety reasons.

CIVA documentation, such as the FAI Sporting Code Section 6, Part 1 and Part 2, as well as the Guide to Championship Organization (GCO), includes multiple section and paragraphs on safety.

CIVA Delegates, the Bureau, championship officials, coaches and pilots had been talking for some time about having a more structured approach to safety at CIVA.

During the review of the newly introduced Governance Document at the Plenary Meeting of 2022, an important discussion took place regarding the creation of a permanent safety working group or a safety committee. Both options involve elections by Plenary.

To avoid waiting for another year, Plenary decided to proceed with the establishment of a temporary Safety Working Group and tasked the Bureau to select members and setting it up.

A list of potential SWG members was accepted by the Bureau and the first CIVA Safety Working Group (SWG) was established as follows:

Hanspeter Rohner, SUI, Chairman

Tamas Abranyi, HUN

Pekka Havbrandt, SWE

Pierre Varloteaux, FRA

Keith Doyne, USA,

Alexandre Orłowski, FRA,

Patrick Paris, FRA, Advisor

Many thanks to the newly appointed members of the SWG for their commitment.

Alexandre Orłowski left the group for professional reasons in September 2023 and was replaced by Victor Lalloué.

B. SWG Meetings

1. First SWG Zoom Meeting, 26.06.2023

The first Zoom meeting of the SWG was held on the 26th of June 2023. All members were present.

Each member listed his view of priorities for the working group. Following were the main points:

- Share knowledge of unsafe situations and risks
- Create a depository of incident reports, recommendations and other safety information accessible by all in the aerobatics community, best in CIVA News
- Recognize unsafe situations, risks, recommend reduction of those risks
- Pilot physical conditions, g-loc, grey-out/black-out, wobbles
- Focus on safety at championships and official training
- Propose rule changes (FAI SC S6, P1 and P2) and recommendations for championship organizers (GCO)
- Aircraft limitations

2. SWG meeting during EAC 2023 in Pavullo nel Frignano 14.09.2023

An SWG meeting was held during EAC 2023 in Pavullo on the initiative of the President of the International Jury and the fact that 5 members of the SWG (including SWG Advisor Patrick Paris) were present.

Several safety issues have been discussed and recommendations were made. Focus was on observations regarding safety during EAC 2023 so far, including official training days.

The full meeting report is attached to this document.

3. SWG Zoom Meeting, 18.10.2023

Following topics were discussed:

- Review the minutes/report from the SWG meeting during EAC 2023 in Pavullo
- Review the issues/incidents where the SWG was informed or was asked for advice
- Patrick's proposal on a study of G-loc and grey/black-out and forward looking in actions in general
- Outline/draft safety proposals for the CIVA Plenary Meeting in Krakow 18-19 November 2023

It has been decided during this meeting that several safety proposals would be submitted to CIVA plenary in agenda item 8.3. Safety, Expedited and CIVA President's proposals.

This has been done and concerns following:

- Proposal regarding density altitude.
- Proposal regarding radio communication during final free style programme.
- Proposal regarding penalty and repeat flight in case of defects in flight.
- Proposal regarding RWY direction change.
- Proposal regarding mandatory safety manoeuvres.

The full Zoom meeting report is attached to this document.

C. Operational involvement of the SWG during 2023

1. FreeKnown Glider UNL sequences 2023

In April 2023 the GAC has received 2 complaints from pilots about the glider UNL FreeKnown sequence. The sequence was considered too hard for some pilots and some aircraft, with too many negative push-outs or push-ups and a possible safety concern. The SWG was informed but the investigation was conducted by the GAC. After an individual review by experienced UNL glider pilots on the request of the GAC, the decision was taken to keep the selected sequence without changes as the official 2023 glider UNL FreeKnown sequence.

2. Swift S-1 control column incident

The President of the International Jury, Philippe Kuchler, at WGAC/WAGAC 2023 in Torun, informed the SWG of an incident a Swift S-1 incident during a training flight in France prior to the championship.

The French Swift was grounded because of a broken tube that connects the control column to the elevator. This was a serious incident which could have been catastrophic. Unfortunately, it was not communicated to other Swift pilots and owners prior to the start of the championship. The JP found out about it when he asked why the French Swift was not on location.

The International Jury grounded all Swift S-1 planes present at WGAC/WAGAC 2023 and ordered an immediate visual inspection of all Swift aircraft. A technical committee performed

the inspection on all 12 aircraft on location. All Swift S-1 aircraft passed the inspection and the championship continued.

The manufacturer had already issued a mandatory service bulletin in April 2005 for exactly this problem.

This incident highlights the importance of communication of technical problems via the manufacturer and/or the concerned community.

3. MDM-1 Fox accident at WGAC/WAGAC 2023 in Torun 4.08.2023

On the 4th of August 2023 the SWG was informed by Nick Buckenham of an accident involving an MDM-1 Fox glider aerobatics aircraft with the email quoted below:

“To keep you informed, there has been a Fox glider destroyed at the Torun WAGAC in Poland *after the tow rope rings became lodged in the glider elevator immediately following release at 1200m.*

The pilot used his parachute and is totally uninjured, although somewhat shocked. Pik Kuchler is on-site and managing the situation for the jury. No further action is necessary at the moment. The championship has been stopped and is thus fully completed, although not all programmes have been flown.

End.

Nick Buckenham, CIVA President. “

The President of the International Jury, Philippe Kuchler, followed up with additional written and verbal information.

Fortunately, there was no injury, as Nick has mentioned in his message, and there was no mechanical or airworthiness issue with the aircraft involved.

The tow plane landed safely, but it sustained damage when the tow rope weak point broke after tow rope became lodged in the glider elevator.

The State Commission on Aircraft Accidents Investigation (PKBWL) published its investigation report on the 31st of August 2023.

Action by the SWG:

- A copy of the email trail concerning the accident was sent to Steve Todd and to all CIVA Delegates.
- It contained the SWG following:
 - o Confirmation that there was no injury
 - o Confirmation that there was no mechanical or airworthiness issue
 - o Wait for the accident investigation before possible SWG action
 - o SWG immediate recommendation: *“In the mean time, and in view of the fact that the incident happened right at the time of releasing the tow rope, the SWG recommends to review the tow release procedures with all glider aerobatic pilots and their tow pilots, particularly at international and national championships as well at any local competition. “*
 - o Pekka Havbrandt, Chairman of the GAC and member of the SWG, will submit a tow release procedure to the GAC and CIVA Plenary.

4. Other actions

- The meeting reports of the Pavullo SWG meeting and the follow-up Zoom meeting have been sent to Mike Heuer, President of the International Jury at WAAC 20023 in Las Vegas as well as to Duncan Koerbel, Contest Director of WAAC 2023. The

objective was to implement applicable “lessons learnt” as soon as possible at CIVA championships.

- SWG meeting reports are distributed to all CIVA delegates.
- Discussions with Nick Buckenham on inclusion of a “Safety Tab” on the CIVA News website.
- The KAWG report for FreeKnown figure-sets for 2024 was sent to the SWG for comments on safety.

D. Plan for 2024

1. Design and implementation of a “Safety tab” on the CIVA News website
2. Design of a depository of incidents and/or safety forum
3. Study on G-loc, grey-out/black-out and wobblies. Patrick Paris proposed this study based on the risk profile and of the potentially catastrophic result if such conditions occur during flight.
4. Design of a structured safety management system for CIVA.
5. Safety information bulletins as necessary.
6. Quarterly SWG Zoom meetings.

Objective Zero Incident

- End of report -

Hanspeter Rohner
SWG chairman

Attached below:

- Report of the SWG Meeting in Pavullo, 14th of September 2023
- Report of the WG Zoom Meeting, 18th of October 2023



Minutes of the CIVA Safety Working Group (SWG) meeting

Held on
Thursday 14th of September 2023
at the
Pavullo nel Frignano Airport in Italy

A word from the SWG Chairman: This meeting was held during EAC 2023 in Pavullo on the initiative of the President of the International Jury and the fact that 5 members of the SWG (including SWG Advisor Patrick Paris) were present. The objective was to discuss safety issues during the first 3 days of the championship and to make recommendations. It is important to say that the observations written in this report are not personal and they are solely used for learning and to reduce the risk of incidents and accidents during future championships.

Participants

Hanspeter Rohner (SWG Chairman)
Pekka Havbrandt at the minutes (SWG member and member of the International Jury)
Steve Todd (member of the International Jury)
Pierre Varloteaux (SWG member and President of the International Jury)
Nick Buckenham (Chief Judge)
Maurizio Costa (Contest Director)
Patrick Paris (SWG Advisor)
Victor Lalloué (SWG member)

§1 Safety belts became loose

A pilot accidentally opened the top lock of his safety belt in a two-handed vertical snap roll. The sleeve of his flight suit caught on the lock. He noticed the belts hitting the canopy in the following horizontal roll. The Jury decided to let him re-fly. This is maybe not completely according to the rules since nothing was broken. Belts has however been accidentally opened

before and will be accidentally opened in the future. The Jury do not want the next pilot to continue flying with partly opened belts.

A penalty rather than losing the whole or part of a flight may be a better solution for the future.

§2 Landing against the normal traffic without a radio call.

After disconnection of the belts the pilot landed in the “wrong direction” with no radio call.

After the pilot’s take-off the runway direction QFU was changed from 02 to 20.

This was potentially a risk for collision with the next pilot taking off.

We discussed that when the direction of the runway changes, the next competitor does not take off until the previous competitor has landed and vacated the runway.

§3 No radio communication between starter and Chief Judge

Due to the terrain conditions, there was no radio communication between the starter and the Chief Judge. To overcome this, dedicated telephones were given to the starter and to the Chief Judge. At the beginning the next pilot started only after the previous pilot had landed. This was however too slow and the Contest director gave radio clearance to start after the previous pilot had completed the sequence.

For safety and operational reasons, every effort should be made to establish radio communication between the starter and the Chief Judge.

§4 Emergency landing due to engine failure

During training there was an engine failure and the pilot landed safely. Patric Paris suggested that emergency landings should be practiced during the training period.

§5 Density altitude

The elevation of the airfield is 2244 ft and the box floor was raised from 100 m to 200 m due to the terrain. This in connection with temperatures from 22 to 30 centigrade would mean a density altitude around 4000 ft. The jury decided after a day to allow a non-penalized break.

§6 Procedures

The procedures for start, landing etc. may need to be explained in more detail during the morning briefings.

§7 Safety proposals

The rule regarding permitted brakes applicable to Intermediate should be extended to apply to all classes.

The rule regarding technical defects should be changed to include a penalty instead of refusing the pilot a new flight if the defect is regarded to be the pilot’s responsibility.

All Chief Judges and Presidents of the International Jury’s should be allowed to make urgent proposals in order to gather the lessons learned during the competitions.

§8 Forum for information exchange

A forum where safety related issues could be reported and discussed should be created. Nick Buckenham said that he could maybe create something.

Notes made after the meeting by the secretary.

The communication between pilot and Chief Judge was blocked by music transmission to the pilot during Program 5. This is against the rules and created 3 situations where the CJ was unable to tell the pilot to break and land.

Program 5 was performed with clouds in the box.

One pilot disqualified for dangerous flying after the flight, by the contest director after recommendation from the international jury.

Pekka Havbrandt
Temporary secretary

Appendix 1:

Patrick Paris, Advisor to the Safety Working Group, coach and national trainer, made following pertinent observations in an email to the meeting participants, shortly after the end of the championship:

Patrick writes:

My personal view in a tricky situation is simple: on an emotional/rational side: I always ask myself the question: would I let one of my sons fly with this pilot ?

On a legal side: would the DGAC, FAA or CAA appreciate/evaluate the situation as I do ?

As a matter of fact, three situations have put my red light ON:

One during the Aresti competition, while a pilot landed downwind even if two calls from CD asking him to turn right and go around, I know the story about harness and the change of QFU, but it did not look that the situation required an absolute priority to land: emotionally, rationally and legally: red light, responsibility partial on the pilot, partial on « the system »

The second one was the dangerous flying during freestyle, (whom at the beginning of the results publication was not DQ.....for most of us it looked weird), while I believed someone should have stopped him at the very first attempt to fly so low and especially not fully under control, even if I do know that while under stress we can be freeze and even watching the situation and evaluating the danger we remain stuck and we can be unable to say something especially when the decision process belongs to different people CD CJ PIJ: emotionally, rationally and legally : red light, responsibility partial on the pilot, partial on « the system »

The third one was when some pilots flew in the clouds or obviously behind the clouds during the freestyle (Programme 5). Even if I know it is the pilot's responsibility to stop his flight in such a situation, I do believe « the system » let it happen and actually put the responsibility on the pilot's shoulders.

One of those pilots, while I asked him why he did not stop he replied: I did not want to be the one who stops the contest and make Programme 5 not valid: emotionally, rationally and legally: red light, responsibility partial on the pilot, partial on « the system »

While some could say it's easy to make comments and critics after the action, I just want to say that those 3 situations were for me a big wake up call to push safety forward and quickly create a safer ambiance/culture.

I do understand that in general people want to be kind especially while we have so few pilots, we don't want to disqualify pilots, and people want to be kind with the organizers and don't want to deprive them of the final freestyle for several reasons, however we reached a dangerous border.

I am convinced that those two previous points can have an insidious impact on decisions either on pilots or on the « system », however the DDAC, FAA, CAA would have probably said something rough after those events.

Luckily everybody got back home safely and it looks that no aviation authorities were on site.

While talking about safety we can say things kindly but at some point, we cannot be kind, limits have to be defined, to be clearly announced, to be respected by the pilots and to be enforced by the « system »

Appendix 2:

Comments and recommendations from Patrick Paris with regards to paragraph §5 Density altitude

Regarding density altitude, the permitted break with stopwatch is a first point. However, in order not to put pressure on the pilots (and particularly those who make an involuntary break), the flight time allocated should at least be lengthened according to the density altitude, i.e., here (in Pavullo) it takes 30/35 seconds longer than sea level to climb to 1000 meters, and on top of that everyone climbs to 1100 or 1200 meters. So that's another 10/15 seconds and after the safety and the warm-up you lose another 15/20 seconds to get back into the box and the parameters.

So, my conclusion is to increase the maximum flight time by 1 minute, i.e., 13 minutes instead of 12 (to be calculated according to density altitude).

In addition, we need to look at an outside temperature limit for competition flights, like 36 or 37, to limit the risk of G-lock or grey/black out, because the hotter it is, the more fluid the blood becomes and the more it goes down into the legs, increasing the risk of G-lock and grey/black out.



Report of the CIVA Safety Working Group (SWG) Zoom meeting

Held on
18th of October 2023, from 15:00 to 17:00 Hours

Participants

Hanspeter Rohner HPR
Pekka Havbrandt PH
Pierre Varloteaux PV
Nick Buckenham NB
Keith Doyne KD

Topics for discussion:

- Review the minutes/report from the SWG meeting during EAC 2023 in Pavullo
- Review the issues/incidents where the SWG was informed or asked for advice
- Patrick's proposal on a study of G-loc and grey/black-out and forward looking in actions in general
- Outline/draft safety proposals for the CIVA Plenary Meeting in Krakow 18-19 November 2023

A. Review of Pavullo meeting minutes

1. Safety belt became loose:

- Fastening of harness and prevention of accidental opening of latches
 - **KD** will send a video for proper harness fastening
 - Pilots should follow harness donning recommendations
 - Pilots to assure that no loose clothing or loose sleeves could accidentally catch and open one of the harness latches (i.e. use of gloves, closed sleeves)

- Penalty instead of no-repeat of flight:
 - o The SWG recommends to change the penalty for technical problems due to pilot error from not allowed to repeat the flight to a point penalty i.e. same number of penalty points as for a “low” call. The idea is to motivate pilots to discontinue a flight in unsafe conditions.
 - o **PV** will write an urgent safety proposal and send it to the CIVA President as well as add it to the EAC 2023 Jury Report. Concerns SC Section 6 part 1 3.12.2.4.

2. Landing against the normal traffic without a radio call Runway direction change whilst a competitor is in the air

- The SWG concluded that a change of QFU (only RWY direction change, not box direction change) whilst a competitor is in the air, needs to be addressed as follows:
 - o No further take-off until all planes have landed and vacated the RWY
 - o The next competitor will wait at the holding position.
 - o In the case where there is no taxi way, the RWY is to remain clear, no back tracking prior to landing of all planes.
 - o **HPR** will write an urgent safety proposal and send it to the CIVA President. Insert in SC S6 P1 as paragraph 3.7.1.3. and change current paragraph 3.7.1.3. to 3.7.1.4.

3. No radio communication between starter and Chief Judge Terrain prevented radio communication between CJ and Starter

- SC S6 P1 para 1.2.10. clearly states the importance of radio communication for safety reasons.
- The Championship Organizer is responsible that direct radio communications between CJ Starter and/or CD and are functional prior to any championship flight.

No radio communication between CJ and pilot during Programme 5

- Music was played over the radio to pilots and it was preventing the CJ from contacting the pilot on the box frequency. The concerned pilots could not hear the instructions from the CJ during the competition part of the flight. This is a safety issue.
- The radio link between CJ and pilot has to be free of any other transmission (SC S6 P1 para 1.2.10.).
- If pilots do want to hear the music during Programme 5, other means have to be found, without preventing the pilot from hearing any instructions/calls from the CJ, as clearly stated in SC S6 P1 para 2.4.1.5.c).
- **HPR** will add this issue to the SWG report to CIVA Plenary.

4. Emergency landing due to engine failure During training there was an engine failure. The pilot landed safely.

- It is every pilot’s responsibility to be prepared for emergencies. Teams and pilots should familiarize themselves with these procedures for the Championship site during preparation and execution of training flights.

5. Density altitude Density Altitude at Pavullo was close to 4000 ft during a large part of the flights

- Team managers and pilots need to mention their concerns about density altitude and high temperatures to any member of the International Jury and/or the CD.
- The International Jury has the right to take appropriate measures in order to assure the safety of the pilots for their flights, i.e., permitted break for all pilots or no flights during the hottest hours.

- **PV** will enter this topic into the report of the International Jury and **HPR** into the report of the SWG to CIVA Plenary.
- **NB** will submit a President's Proposal to change SC S6 P1 paragraph 3.6.2.6. as a general safety measure for all categories.

6. Procedures

- Ground and air movements, take-offs, circuits and landings need to be clearly explained during the main Briefing and daily Briefings.
- Same goes for safety points in general.
- **PV** recommends that safety maneuvers such as minimum 2 half rolls, stick push pull, are mandatory for each flight.
 - o **PH** will write an urgent safety proposal and send it to the CIVA President. This concerns SC S6 P1 as paragraph 3.9.1.1.

B. Review of issues where the SWG was contacted during the year 2023

1. Safety of selected Free Known figure sets

- Concerns for safety of FK UNL Glider figures were submitted to the SWG and the GAC.
- The GAC made its investigation and found the figures safe for the construction of UNL FK programmes.
- **HPR** will send the actual figure sets submitted by NACs for 2024 to all SWG members. Those figure sets are currently with the KAWG Experts for review.

2. Swift glider control column, crack in the welded joint at the attachment points of the control column

- Information of this recent issue in France has not reached other Swift owners and pilots.
- Action: The SWG will initiate an information bulletin/forum on-line.

3. Fox glider crash during WGAC 2023. Tow rope became entangled in the tail/elevator section of the Fox glider shortly after tow release.

- Fortunately there were no injuries.
- **PH** will write a "Tow release procedure" for championship flights.

C. Proposed study on G-loc and grey-out/black-out

- Patrick Paris recommends to undertake a study of causes and conditions which cause G-loc and grey-out/black-out
 - o The **SWG** will outline a project plan
 - o **PV** will send an existing poster issued by the French Aeronautical Federation FFA to help pilots to prepare for aerobatic flights in view of potential G-loc and grey-out/black-out

D. Forum for information exchange

- It is apparent that we need an information bulletin/forum or similar for "CIVA Safety".
 - o **NB** has contacted Melanie of Thinking Fox to outline the project. The SWG will contact them again after Plenary
 - o In the mean time we will create a CIVA Safety tab on CIVA News where we can store SWG meeting reports, list incidents, deposit investigation reports, safety video's etc. accessible publicly.
 - o **HPR** to send existing material to **NB** for publication

- End of Report -