



---

# Report of the CIVA Safety Working Group

## CIVA Plenary meeting 2024

Athens, Greece, 2<sup>nd</sup> and 3<sup>rd</sup> of November 2024

### **A. Introduction**

The CIVA Safety Working Group has now been active for the second year after its creation in 2023.

We were welcoming two more members to the group in 2024, Maurizio Costa, ITA, and Poul Nielsen, DEN, and Victor Lalloué, FRA, has replaced Alexandre Orłowski, FRA.

#### **Safety Working Group (SWG) consists now of following Members:**

Hanspeter Rohner, SUI, Chairman

Tamas Abranyi, HUN

Pekka Havbrandt, SWE

Pierre Varloteaux, FRA

Keith Doyne, USA

Victor Lalloué, FRA

Maurizio Costa, ITA

Poul Nielsen, DEN

Patrick Paris, FRA, Advisor

### **B. SWG activity plans for 2024**

The year's activities were kicked off at a SWG ZOOM meeting on the 17<sup>th</sup> of January 2024. During the meeting the SWG agreed on following themes of priority for 2024:

1. Website / Forum. The dissemination of information is seen as the most urgent part to set up.
2. G-loc project
  - a. Redesign a 10-point recommendation page for easy reference along the lines of on an existing French brochure on this topic.
  - b. To conduct a more in-depth study wrt frequency of occurrence of GO/BO, wobbles and g-loc and conditions when it occurs including external circumstances and pilot history/condition.
3. Aircraft integrity in view of new figure combinations such as opposite snap rolls on the same line.
4. Design of a Safety Management System SMS.
5. Quick response to queries and incidents presented to the SWG.
6. Safety of training on championship sites

## C. Progress report

### 1. Website / Forum:

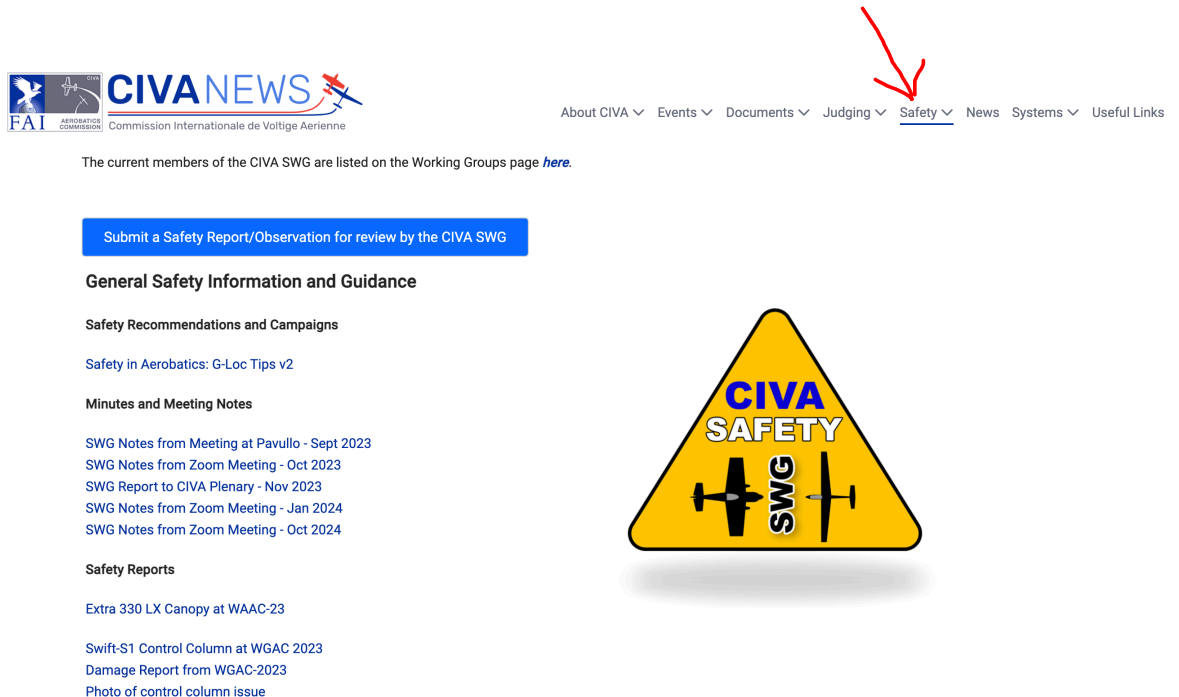
Initially we were investigating the set-up of a CIVA Safety website based on commercially available forum software.

The “Thinking Fox” team proposed some solutions, but it became clear that this route would involve a lot of work and time, as well as recurring cost to CIVA.

Our objective was to make important information available to the CIVA community as soon as possible.

Therefore, we decided on a rather simple set-up with a dedicated tab on the CIVA NEWS website.

This tab can be used to submit safety reports, download safety recommendations/campaigns and it displays meeting minutes and safety reports.



The screenshot shows the CIVA NEWS website header with the FAI Aerobatics Commission logo and navigation menu. A red arrow points to the 'Safety' menu item. Below the header, there is a blue button to 'Submit a Safety Report/Observation for review by the CIVA SWG'. The main content area lists various safety-related items under 'General Safety Information and Guidance', 'Safety Recommendations and Campaigns', 'Safety in Aerobatics: G-Loc Tips v2', 'Minutes and Meeting Notes', and 'Safety Reports'.

The current members of the CIVA SWG are listed on the Working Groups page [here](#).

[Submit a Safety Report/Observation for review by the CIVA SWG](#)

**General Safety Information and Guidance**

**Safety Recommendations and Campaigns**


Safety in Aerobatics: G-Loc Tips v2

**Minutes and Meeting Notes**

SWG Notes from Meeting at Pavullo - Sept 2023  
 SWG Notes from Zoom Meeting - Oct 2023  
 SWG Report to CIVA Plenary - Nov 2023  
 SWG Notes from Zoom Meeting - Jan 2024  
 SWG Notes from Zoom Meeting - Oct 2024

**Safety Reports**

Extra 330 LX Canopy at WAAC-23  
 Swift-S1 Control Column at WGAC 2023  
 Damage Report from WGAC-2023  
 Photo of control column issue



## 2. G-loc project:

Priority was given to fast deployment of tips for pilots on how to reduce or prevent the effects of high g-loads during an aerobatic programme. The planned study was put on hold for the time being.

The decision was taken to draft a one-page flyer titled “SAFETY IN AEROBATICS GREY-OUT, BLACK-OUT AND G-LOC: TIPS TO HELP REDUCE THE RISK”. It is based on “the doc’s 10 commandments” by Dr. PH Deschamps-Berger (France). The flyer is published under the safety tab of CIVA NEWS and it is highly recommended to display it at aerobatic events and to raise awareness amongst pilots.



### SAFETY IN AEROBATICS GREY-OUT, BLACK-OUT AND G-LOC: TIPS TO HELP REDUCE THE RISK



#### WEATHER CONDITIONS

- Heat can cause dehydration – drink water regularly, optionally add electrolyte replacements
- Avoid staying in the sun – apply sun protection and put on a hat
- Stay in a cool place before your flight – shade, room with A/C

#### PREPARE YOUR BODY AND MIND

- Exercise regularly – keep fit – interval training, hiking, strengthen your abdominal muscles
- No alcohol, no drugs, medications compatible with aerobatics flying only (if in doubt check with MD)
- Don't fly if you are not well, have a cold, feeling sleepy, just after eating while still digesting
- Avoid designing long negative and then positive g-load combinations
- Know which figures are prone to g-loc, grey-out or black-out and prepare, g-loc can happen very quickly in flight without physical warning

#### BEFORE YOUR AEROBATIC FLIGHT

- Comfort break
- Put on your aerobatics outfit – allows free movement, sleeves don't catch, loose items, if any, in securely closed pockets, compression socks can help
- Dedicate at least 10 minutes to prepare your body mentally and physically
- Stretching, breathing exercises, warm-up exercises, mental preparation
- Make sure you are hydrated - have somebody give you water while strapping in
- Plan meals and pre-flight snacks to maintain your physical and mental energy during the flight, preferably slow-digesting carbs, avoid fast sugars. If in doubt seek advice from your coach or a dietician.

#### DURING YOUR AEROBATIC FLIGHT

- Use Warm-up and Safety maneuvers to accustom your body to g-loads, include alternate turns \*
- Anticipate positive g-loads, known techniques are tightening the muscles of the abdomen/diaphragm and blocking your breath for a brief period, repeat as needed
- Be careful after prolonged negative g-load figures, example long negative line - negative spin to positive P-loop
- Stop your flight immediately if you doubt your g-resistance, experience grey-out/black-out and/or disorientation/confusion or you do not feel well
- Don't extend your training flight unnecessarily, shorten flight if high outside temperatures
- Give yourself time to prepare for the landing – it is a crucial phase of the flight

Disclaimer: These tips help the pilot to prepare for and to anticipate the effects of g-loc, grey-out/black-out and make him/her aware of the danger of these effects. The recommendations in this flyer are not exhaustive and, if followed, do not guarantee that the pilot will not experience g-load effects. If unsure about any of the recommendations, discuss with your coach or seek professional/medical advice. \* Refer to SC6 P1 3.9. for permitted warm-up and safety maneuvers in power aerobatics.

Sources: "Les 10 commandements du Doc" and "Le voile en voltige aérienne" by Dr. PH Deschamps-Berger, Patrick Paris - Coach French Unlimited Team, Nicolas Ivanoff – Coach French Advanced Team, "Exercices de renforcement musculaire pour la pratique de la voltige aérienne", Alexandre Orlovski and Sandrine Lacaille, « Gs and Aerobatic Pilots » by R.E. Van Patten Ph.D., P.E., websites and publications by the Fédération Française Aéronautique FFA – France and The International Aerobatic Club IAC – USA

### 3. Aircraft integrity with regards to new UNL figure combinations:

Do the new UNL figure combinations have an impact on the safety of aerobatic aircraft? The SWG would like to have answers and we decided to discuss this question with Extra Aircraft.

HPR exchanged on the topic via email and via phone with Extra Aircraft.

The question was if new figure combinations, such as opposite flick rolls or other unlinked opposite roll combinations on the same line (vertical, horizontal or 45°), are exerting heavier loads on the various sections of the aircraft compared to when those figure combination were not allowed in Free Unknown programmes. Would this require special inspection procedures.

Extra stated that as long as their aircraft were flown inside the allowed flight parameters, the new figure combinations would have no additional impact on the reliability/integrity and limitations of the aircraft. Extra further stated that their aircraft testing programmes are covering the above-mentioned flight conditions. Those statements were verbal only.

So far, no other aerobatic aircraft manufacturers have been contacted.

### 4. Design of a CIVA Safety Management System:

The design of a Safety Management System for CIVA was given low priority by the SWG.

HPR proposed to draft an outline of such an SMS, but this has been pushed back to 2025.

### 5. Quick response capability of the SWG:

We have set up a SWG WhatsApp group to handle:

- Quick response to incidents when reported to the SWG
- Internal SWG discussions on safety issues

### 6. Safety during official training at championship sites:

The SWG strongly recommends that the same operational and safety rules apply during training at championship sites as during the championships themselves.

We recommend to change paragraph 1.2.8.1. of Sporting Code Section 6, Part 1 and paragraph 1.2.8.2. of Sporting Code Section 6, Part 2 as follows:

All competitors must observe and adhere to the regulations currently in force in the Organiser's country for air safety as well as the special regulations in force at the contest aerodrome – **add - ”, starting from the arrival at the championship site of the competitor to his/her departure after the championship, including but not limited to training and official training flights”**. To facilitate this, the Organiser must ensure that an English translation of applicable rules, issued by the Aviation or Customs Authorities of the host country, is available in advance in an event bulletin or on the competition website.

The GCO should also be amended accordingly.

## **D. SWG Meetings** (Meeting notes are published on CIVA NEWS)

### **1. SWG Zoom Meeting, 17.01.2024**

During this meeting the SWG members discussed priorities for the group in 2024. A list of activities and priorities was established. See paragraph B. SWG activity plans for 2024.

### **2. SWG Zoom Meeting, 9.10.2024**

The SWG members discussed following points:

1. Figures with potential safety or health issues.
2. RC Report: Statement for the 2 proposals which the RC has asked for an opinion of the SWG (NP2025-3 and NP2025-6).
3. Review the letter received from the Safety Officer of the Swiss Aerobatic Gliding Association.
4. Aircraft canopy lock safety: Decide on a letter to be sent to Aircraft manufacturers.

Subsequently following action was taken:

1. The SWG forwarded a proposal (LUX proposal) to Nick Buckenham to be presented as a President's proposal at CIVA Plenary.
2. PV submitted the SWG recommendation for NP2025-3 and NP2025-6 to the RC.
3. The letter of the Swiss Aerobatic Gliding Association was forwarded to the GAC.
4. HPR drafted a letter to aerobatic aircraft manufacturers with regards to canopy lock safety.

*Draft letter: Based on discussions with pilots and a quick review of the history of incidents where aircraft canopies opened unintentionally, the CIVA Safety Working Group would like to make following recommendation to aircraft manufacturers: To install a system which clearly warns the pilot if the canopy is not fully and securely closed and locked i.e. with a red LED warning, and also an indication that the canopy is fully and securely closed and locked.*

## **E. Operational Involvement of the SWG**

The SWG did not have any operational involvement in 2024. No incidents have been reported to the SWG.

The report of by the CD of WGAC/WAGAC 2024 mentions 2 serious glider incidents and loss of power of a tow plane during take-off. All aircraft landed safely and no injury was reported.

These incident/accident reports should be published under the safety tab of the CIVA NEWS website.

- End of report -

Hanspeter Rohner  
SWG chairman