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*Fédération  
Aéronautique  
Internationale*

FAI Hang Gliding & Paragliding Commission

## Report and Proposals of the PG Aerobatics Subcommittee

January 2012

*Maison du Sport International  
Av. de Rhodanie 54  
CH-1007 Lausanne  
(Switzerland)  
Tél. +41 (0)21 345 10 70  
Fax +41 (0)21 345 10 77  
E-mail: [sec@fai.org](mailto:sec@fai.org)  
Web: [www.fai.org](http://www.fai.org)*

<b>Subcommittee or Working Group:</b> Aerobatics	<b>Date:</b> 20 January 2012
<b>Name:</b> Claudio Cattaneo	<b>Confidential to Bureau:</b> N <b>For publication:</b> Y

<p><b>Summary of subcommittee activity since the last Plenary:</b></p> <p>Discussions on rules at Cat 2 competitions during the year, and subsequently by email.</p> <p>Training seminars at competitions in Austria and Turkey</p> <p>Support to organisers of Cat 2 events (7)</p>
<p><b>Issues raised, discussed, actioned and resolved:</b></p> <p>New format competition and scoring software developed. See proposal below.</p> <p>Development of proposal for PG Aerobatics World Records</p>
<p><b>Issues still ongoing to be resolved; suggested/anticipated actions &amp; timescales:</b></p> <p>More Cat 2 competition organisers needed.</p> <p>Still no Cat 1 organisers on the horizon – cost of running an event too high.</p>
<p><b>Issues or concerns requiring Plenary or Bureau guidance/response:</b></p> <p>Proposal for new competition format (Formulated in revision to S7b aerobatics rules - attached)</p> <p>Proposal for funding to perfect the scoring software program (below and in separate file)</p> <p>Proposal for funding to continue to train new judges (below)</p> <p>Proposal for World PG Aerobatics Records (below)</p>
<p>Issues of potential interest/relevance to other SCCs:</p>

## **CIVL 2012 Plenary – PG Aerobatics Subcommittee**

### **Proposal 1: New format for PG Aerobatics Competition**

The proposal is the introduction of an entirely new competition concept for Aerobatics Paragliding World Cup events that can be used as an alternative to the standard system in use, so that two competition styles and scoring concepts are available.

The choice of the system is made by the organizer of the event in agreement with the appointed senior judge.

The description is added into the relevant section of the PG Aerobatics Annex to Section 7b. (See separate document)

#### **Background:**

The concept and software (developed by Claudio Cattaneo and Gilles Berruex) includes live presentation on a big screen of the athletes and a display of the results in real time. The final version is intended to include the participation in score giving of non formed judges (VIPs or other personalities) and of the spectators (decibel measuring of the applause).

The technical criteria for scoring remains mainly the same.

A first version has successfully been tested at the official Swiss Aerobatics championships in 2011, and the feedback from pilots and public was very positive.

Some light adaptations have to be made to the calculation system of the world cup ranking, in order to be compatible with both competition formats.

**December 2011**

**Claudio Cattaneo, on behalf of the Paragliding Aerobatics Subcommittee**

# PARAGLIDING AEROBATICS SUBCOMMITTEE

## FUNDING REQUEST FOR 2012

### FOR A NEW COMPETITION FORMAT'S SCORING SOFTWARE AND FOR JUDGES' TRAINING

#### THE CURRENT APWC FORMAT

The **FAI AEROBATIC PARAGLIDING WORLD CUP (APWC)** season consists of up to 5 aerobatic paragliding competitions, which are restricted to the World's best pilots and teams for the disciplines solo and/or synchro. A defined amount of points are awarded at the end of every APWC competition. The winning pilot/team of the overall season ranking is awarded with the **FAI AEROBATIC PARAGLIDING WORLD CUP CHAMPION** title. All APWC events are FAI Category 2 sanctioned.

The APWC competitions are currently conducted according to a complicated and uninteresting format for the spectators, where pilots must announce prior to the run, all manoeuvres to be flown, and in which order.

Additionally, a very long time is needed to enter all results in a software program: final standings are usually available only around one hour after the end of the competition, when the public has already left the area of the event.

Pilots and judges are looking forward to the implementation of a new format, where the athletes can express themselves with fewer limitations and more space for originality.

#### THE NEW COMPETITION CONCEPT

The new competition concept consists of a series of unannounced free program runs, with no limitations in quantity and type of manoeuvres and no forbidden connections. Pilots are completely free to perform any series of manoeuvres without having to interrupt their program until the landing on the raft.

After one or two qualification runs, couples are formed on the basis of the last updated standings (first against last, second against second last...) and pilots/teams compete one against one, with direct elimination. Qualified for the next round are the pilots/teams winning their battle and some lucky losers (the ones who lost their series with the best score). The number of pilots/teams decreases progressively, until a final run with 12 pilots and 8 teams remains, where competitors will start in the reverse order of the ranking after the semi-final run.

The format of the competition can be modified depending of the number of pilots/teams, the number of scheduled competition days, and in case of doubtful weather forecast. If the competition can't be completed according to the program (due to bad weather or any other reason) the ranking after the last completed run will become the final ranking.

#### THE SCORING SYSTEM

The judging panel consists in a group of 3 to 8 persons:

- 3 FAI judges
- 1 to 5 VIP judges chosen between, journalists, representatives of sponsors, authorities, non participating pilots...

Every judge gives 3 marks (from 1 to 10, with half points) for the solo discipline and 4 marks for the synchro. The final mark is composed of the scoring average of the FAI judges (importance 80%) and the scoring average of the other judges (importance 20%).

*Variation: when a sufficient number of spectators is present at the event area, a portion of the score is defined by the applause and cheering of the audience. After the pilot/team has landed, the speaker invites the spectators to applaud. The decibel value is measured or estimated, and integrated to the score (with an importance of 5%, FAI judges score value is then accordingly reduced to 75%, VIP judges importance remaining at 20%)*

All performed manoeuvres are judged according to the criteria and deductions defined by the official manoeuvres board published in the FAI Sporting Code, but there are no penalties applied for any kind of connections and no limitation in quantity and type of manoeuvres. An average mark of all manoeuvres is defined. This mark is then multiplied by the average coefficient of the manoeuvres flown during the run.

No protest will be accepted, all decisions taken by the Judges are definitive and irrevocable.

### SCORING SOFTWARE AND RESULTS DISPLAY

A dedicated software has been developed during 2011 by FAI Aerobatics judges Claudio Cattaneo and Gilles Berruex, and realized by the Swiss company Epyx, based in Lausanne. The system can be adapted at any time for any kind of competition run progress.

Prior to each run, the pilot/team is introduced to the spectators on a big screen with personal data (name, age, glider, FAI ranking, achievements...)



The marks given by the judges are introduced in a software program especially created for aerobatics paragliding, and they are displayed in real time. The score of each pilot is available within 1-2 minutes after landing.



The intermediate results are updated simultaneously.

Aerobatics SC 2011 Synchro Run 2 - Intermediate results		
1	Fluggeil	7.8
2	LuckyClowns	7.7
3	Spaelti Akro Team	7.1
4	Acroholics	6.4
5	Parabotson	5.5
6	Black and White	5.3
7	U shoot	4.7
8	Graitricke Team	4.5

Updated overall standings are displayed only minutes after the flight of the last pilot/team.

Aerobatics SC 2011 Synchro Intermediate results		
1	Fluggeil	2 run(s) 17.2
2	LuckyClowns	2 run(s) 16.7
3	Spaelti Akro Team	2 run(s) 14.6
4	Acroholics	2 run(s) 14.1
5	Parabotson	2 run(s) 11.2
6	U shoot	2 run(s) 11.2
7	Black and White	2 run(s) 10.1
8	Graitricke Team	2 run(s) 10.0

This new competition format and Acropyx scoring software have been tested with great success during the 2011 Swiss Acro Championships. They proved to be reliable, extremely flexible and user friendly. The feedback received from pilots, judges and spectators was very positive.

## SCORING SOFTWARE EVOLUTION

The 1<sup>st</sup> version the scoring software has been personally financed by the promoters. The value of the product is estimated at CHF 15'000.-. This was only possible thanks to the commitment to the cause of the discipline of Yann Savary, one member of Epyx, who personally contributed to the project with many free working hours. The Swiss HG & P Association financially contributed to the project with CHF 1'000.-.

A 2<sup>nd</sup> version of is now under construction, many improvements are expected, especially in the display layout and system flexibility. Special attention will also be given in keeping some space available for pilots' and organizers' sponsor advertising.

The project has already reached a very interesting level: it just needs some updates and a final tuning in order to be used during APWC competitions. But to have it released, we need the support of a professional.

We strongly believe that such a dynamic and fascinating format could attract the attention of media and sponsors.

Important: the software source code has been published under a GNU GPL license, the most widely known free software licence, and will therefore be ideally placed for further development and update.

## **JUDGES TRAINING**

During 2011 the judges' training has been quite intense: unfortunately, a detailed report from the aerobatics subcommittee's chairwoman is not available, but according to our information during the 2 competitions in Austria and one in Turkey, several European trainees started their instruction, and a couple of them have been qualified for solo judging. It would be nice to complete the job and qualify some new judges in 2012. In addition, the 2011 plan to train some US judges did not happen, but we would like to pursue this in 2012.

## **FUNDING REQUEST**

The aerobatic subcommittee requests the following budget for 2012:

- CHF 5'000.- for a scoring software further development
- CHF 2'500.- for judges' training

January 2012

Claudio Cattaneo, on behalf of the Paragliding Aerobatic Subcommittee

# **FAI Paragliding Aerobatic World Records**

## **DRAFT PROPOSAL**

The CIVL Aerobatics Subcommittee proposes to introduce the following World Records:

- Maximum number of Infinity tumbling revolutions
- Maximum number of Helicopter revolutions
- Maximum number of SAT revolutions

Categories:

- Solo and Multiplace
- Women and Men

No limitation for the take off type (heli or balloon drop) and for the altitude/height at which the maneuver can be started.

For safety reasons, the minimum height at which the maneuver should be completed is:

- SAT and Helicopter 150 M/GND
- Infinity tumbling 300 M/GND

Certification by one FAI official observer present at the location. Additionally, video evidence has to be presented to the aerobatics subcommittee, from at least 2 different point of view, one of which must be an on board camera.

January 2012

Claudio Cattaneo, on behalf of the Paragliding Aerobatic Subcommittee