



*Fédération  
Aéronautique  
Internationale*



## **CIVA Rules, Judging, and Glider Aerobatics Committee Meetings**

### **Rules Proposals for 2020 (Power and Glider Aerobatics)**

**GAC Meeting to be held in  
Deva, Romania  
16 July 2019**

**Joint RC/JC Meeting to be held in  
Châteauroux, France  
21 August 2019**

Version 1.0 / 2 July 2019

## INTRODUCTION

The deadline for the submission of rule “Normal Proposals” to CIVA (25 June 2019) has now passed. CIVA Delegates responded accordingly and these proposals now go to Committees, as every year.

Proposals can take four different forms:

**Normal Proposals (NPs):** These are proposals submitted each year by Delegates or the President of CIVA in accordance with our normal rules process and deadlines. By extension such proposals may be submitted on request of CIVA by specially appointed Working Groups.

**Safety Proposals (SPs):** Proposals to be submitted which relate to safety problems and merit consideration by plenary at CIVA’s next meeting. These usually come in after Championships.

**Expedited Proposals (EPs):** Proposals to be submitted as a result of experiences at Championships and merit discussion by plenary at CIVA’s next meeting. The guideline here would be minor changes which do not require full Committee consideration.

**Correction Proposals (CPs):** Purely editorial remarks (e.g. typos, missing reference,...). Such proposals may be sent anytime to the RC or GAC Chairman as appropriate, and implemented as relevant in the next issue of Section 6’ corresponding Part without going through the full-fledged approval process, and hence save time in RC/JC/GAC discussions as well as in CIVA’s plenary meeting. Proposals are classified as CP by the RC (respectively GAC) Chairman; however if anyone of the respective Committee members objects to this classification, the proposal automatically goes into NP status.

“Urgent” proposals submitted after Championships, in accordance with a deadline set by the CIVA President each year, are classified as a SP, EP, or NP (and in this latter case set to be examined by the relevant Committees in the following year), at the discretion of the President.

CIVA has the following rule related Committees in 2019 (elected each year at Plenary, each composed of five members plus a Chairman):

- CIVA Rules Committee (RC): Matthieu Roulet, Chairman (FRA)
- CIVA Judging Committee (JC), Pierre Varloteaux, Chairman (FRA)
- CIVA Glider Aerobatic Committee (GAC), Manfred Echter, Chairman (GER)
- CIVA Catalogue Committee (CC), Manfred Echter, Chairman (GER)

**Note:** Following an extra consultation vote at the 2018 Plenary, two proposals were submitted this year with label “Strategic Proposal” (NP2020-10 SPA#3, and NP2020-11 SPA#4). As a reminder, what was adopted is: “*Strategic proposals of this nature are relevant to Plenary and therefore are to be voted in Plenary*”. It is the view of this RC Chairman that in absence of a definition or criteria for “*Strategic proposals of this nature*” and governance on deciding whether a proposal falls into this category, CIVA is not in a position to implement that consultation vote. Therefore at this stage the RC will consider these proposals exactly as all other proposals relevant to Part 1, and then the CIVA Bureau may take any appropriate action on the way forward.

The GAC meeting in Deva on 16 July, as well as the joint RC/JC meeting in Châteauroux on 21 August, will be open to observers. Observers however are not allowed to participate to the debates unless invited to do so by the Chairman on a specific topic. For logistics purposes, Delegates are requested to let the respective Chairman know as soon as possible whether they foresee any observers from their respective NACs.

The RC/JC on the one hand, and the GAC on the other hand, will strive to harmonize decisions on rule proposals wherever this makes sense, in order to avoid as much as possible diverging options in Parts 1 and 2.

Comments on the enclosed rule proposals are welcome. After holding their meetings in the summer of 2019, the Committees will issue their recommendations to the Plenary meeting of CIVA. That meeting will be held in Duxford, UK, on 9-10 November 2019.

The new version of Sporting Code, incorporating those changes, will take effect on 1 January 2020.



*Matthieu Roulet*  
*Chairman, CIVA Rules Committee*

*2 July 2019*

**RC 2019:**

- *M. Roulet (Chairman)*
- *N. Buckenham*
- *E. Klimovich*
- *Ph. Kuchler*
- *J. Leukefeld*
- *P. Varloteaux*

**JC 2019:**

- *P. Varloteaux (Chairman)*
- *J. Gaillard*
- *Ph. Kuchler*
- *J. Leukefeld*
- *V. Machula*
- *M. Mamistov*

**GAC 2019:**

- *M. Echter (Chairman)*
- *M. Delcroix*
- *P. Havbrandt*
- *Ph. Kuchler*
- *J. Makula*
- *F. Toth*

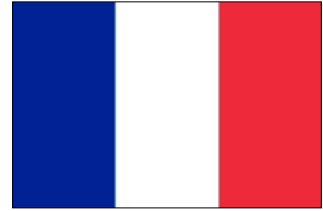
**CC 2019:**

- *M. Echter (Chairman)*
- *A. Belov*
- *M. Delcroix*
- *P. Havbrandt*
- *B. Howard*
- *P. Varloteaux*

**RULE PROPOSALS CHECKLIST**

Highlighted in Yellow: Proposals for which the GAC and the RC/JC should aim for a common position.

<b>CIVA#</b>	<b>NAC</b>	<b>#</b>	<b>Subject</b>	<b>Allocation</b>	<b>Page</b>
NP2020-1	FRA	1	<b>Judges Positioning</b>	RC / GAC	4
NP2020-2		2	<b>European Open</b>	RC	5
NP2020-3		3	<b>Rolling Turns</b>	CC (RC / JC / GAC)	6
NP2020-4		4	<b>Order of Flights</b>	RC / JC / GAC	7
NP2020-5		5	<b>Known Programme</b>	RC / JC / GAC	9
NP2020-6		6	<b>Practice Manoeuvres for Programme 1</b>	RC	10
NP2020-7	SAF	1	<b>Final Freestyle / Advanced</b>	RC	11
NP2020-8	SPA	1	<b>Upward flick rolls in Tailslides</b>	RC	12
NP2020-9		2	<b>Direction of rolling circles</b>	RC / GAC	13
NP2020-10		3	<b>Remove Gender Distinction in Power Unl</b>	RC / Bureau	14
NP2020-11		4	<b>Philosophy regarding aircraft restrictions</b>	RC / SPG / Bureau	16
NP2020-12	SWE	1	<b>Rolls on top of looping</b>	GAC	17
NP2020-13		2	<b>Selection of Judges</b>	JC	18
NP2020-14		3	<b>Media exposure</b>	SPG / Bureau	19
NP2020-15	UKR	1	<b>Selection of Judges</b>	JC	20
NP2020-16		2	<b>Successive terms</b>	Bureau	21
NP2020-17	UK	1	<b>Judging of aircraft axis alignment</b>	RC / JC / GAC	22



NP2020-1

RC

GAC

**FRANCE PROPOSAL #1**

Document: Section 6 Part 1

Subject: **Judges Positioning****Proposal**

Add as 1.3.2.6.b) an obligation for organisers to publish ahead of the contest the actual positions of the Board of Judges, i.e. distance from the end point of the secondary axis for each operational position. Addition is shown below (underlined).

## 1.3.2.6. Position of Judges

- a) The judges (under 1.3.2.1.c) will be posted by the Chief Judge at positions appropriate for observing the competitors, the positions of the judges being at least 15 m apart. The distance of the positions of the judges from the end point of the secondary axis will be a minimum of 150 m and a maximum of 250 m.
- b) The contest Organiser shall publish, at least 15 days before the first competition day, the actual average distance of the positions of the judges from the end point of the secondary axis, for each operational position.

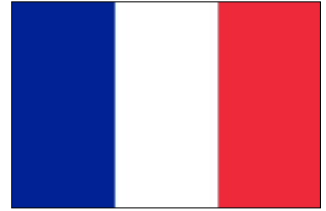
**Rationale**

The 150-250m range specified in 1.3.2.6.a) is large. A 100m difference may considerably change perception of an aircraft in the box by the judges. Such advance notice would allow competitors to prepare and anticipate accordingly.

**RC Chairman Note:** Potentially applicable to Part 2 as well.

NP2020-2

RC

**FRANCE PROPOSAL #2**

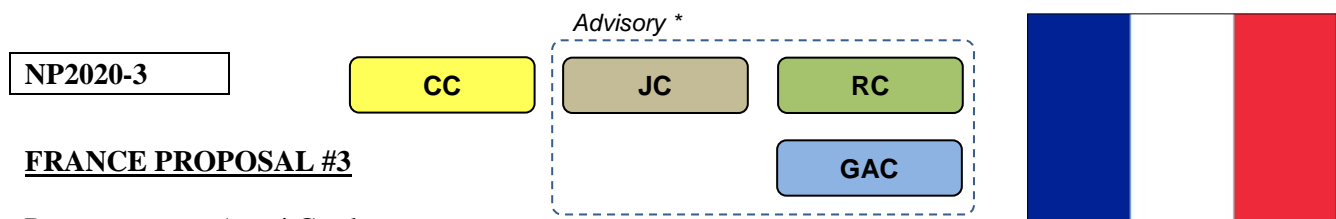
Document: Section 6 Part 1

Subject: **European Open****Proposal**

Replace European Championships by European Opens (i.e. open to all countries), while maintaining titles/trophies for European champions.

**Rationale**

Such a move would allow to increase attractiveness of current EAC/EAAC competitions to non-Europeans – by allowing them to actually compete in an Open format instead of only as ‘Hors-Concours’, participation to these competitions would be bound to increase and at the same time, non-European pilots – who do not enjoy the stability and reach of the existing European Championships – would benefit from an annual international competition.

**FRANCE PROPOSAL #3**

Document: Aresti Catalogue

Subject: **Rolling Turns**

**Proposal**

Eliminate from the Aresti Catalogue Family 2 all rolling turns that include any half roll equal to or exceeding 90deg of turn (lines 2.1.2, 2.2.2, 2.3.2, 2.3.3, 2.4.2, 2.4.3, 2.4.4).

**Rationale**

It is arguably impossible to fulfill all criteria for these figures.

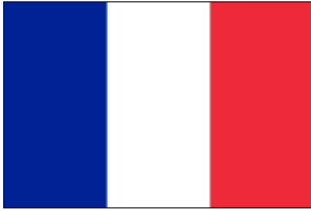
**\* RC Chairman Note:** The Catalogue Committee is invited to consider advice from the JC/RC and GAC on this topic.

NP2020-4

RC

JC

GAC



**FRANCE PROPOSAL #4**

Document: Section 6 Part 1

Subject: **Order of Flights**

**Proposal**

The sequence of flights for Programme 1 (determined by drawing of lots as in current rules) is then split into 4 equally-sized ( $\pm 1$ ) sections, which will remain fixed for the whole competition. The sequence of sections will follow a varying scheme according to the table below.

For Programmes 2, 3 and 4, a drawing of lots (manual or computer) will be applied within each section – all at the start of the contest.

In case a cut is necessary in Programme 4 as per 2.1.2.2, the section concept is discontinued, and a new drawing of lots is carried out among all pilots making the cut.

	<b>Prog 1</b>	<b>Prog 2</b>	<b>Prog 3</b>	<b>Prog 4</b>
	Section A	Section B	Section C	Section D
	Section B	Section C	Section D	Section A
	Section C	Section D	Section A	Section B
	Section D	Section A	Section B	Section C

**Rationale**

This proposal is directly derived from the FAI Aeromodelling F3A regulations and has proven to work very well.

Our sport is subject to quite a few external factors that may impact results (e.g. wind and other weather conditions). As we want to promote mastership, accuracy and regularity – skills which are not acquired by chance – we must strive to establish a level-playing field to the maximum extent we can.

With current rules, a pilot can draw several times a very low number, which is certainly detrimental in particular for Unknowns. Sheer luck – or lack thereof – thus may have a considerable influence on the competition results. This proposal :

- keeps the advantage of a random order of flights (this is not going back to previous experiences such as reverse order of ranking, nor groups based on ranking);
- while ensuring a fair situation for each pilot.

Furthermore, with all drawing of lots performed at the beginning of the competition, planning of the competition and of flight times is greatly facilitated for the organiser and for competitors alike. Knowing in advance his/her competition “rhythm” would allow each pilot to better manage periods of rest, of meals etc, to better deal with high temperatures (and the proposal limits the probability that a given pilot would have to always fly at peak temperatures – each pilot is likely to fly once in the morning, once in the first part of the afternoon, once



towards the end of the day...). All in all, not only does this create a fairer environment for pilots, but also a safer one.

In addition this scheme is also media-friendly, as media can know in advance the expected flight times of top-ranking pilots (or of pilots they want coverage of).

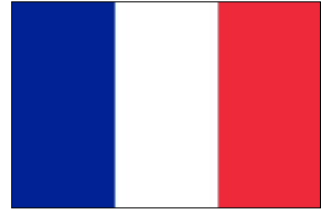
**RC Chairman Note:** Potentially applicable to Part 2 as well.

NP2020-5

RC

JC

GAC

**FRANCE PROPOSAL #5**

Document: Section 6 Part 1

Subject: **Known Programme****Proposal**

Replace the Free Known Programme by a Known Programme. All other Programmes would remain unchanged.

Selection of the Known sequence for that Programme would follow the process below:

- All NACs invited to submit a Known sequence proposal for Year Y+1 before a set deadline in Year Y.
- All sequence proposals to have a total K of 450 (Unl), 320 (Adv), 200 (Y52/I) – and with same criteria of no repetition and versatility as for current Free Known Programme.
- The KAWG (Known Analysis Working Group) composed of aerobatics experts would have the right to eliminate proposals on safety grounds, and would give comments on submitted proposals.
- With support from the KAWG report, Plenary would vote for the Known sequence in each category.

**Rationale**

Better calibration of judges; Simpler competition organisation; More media-friendly (comparability)

**RC Chairman Note:** Potentially applicable to Part 2 as well.

NP2020-6

RC

**FRANCE PROPOSAL #6**

Document: Section 6 Part 1

Subject: **Practice Manoeuvres for Programme 1****Proposal**

Remove specific provisions for Programme 1 safety and practice manoeuvres (in rules 3.9.1.1. and 3.9.1.2) in case official training on competition site is provided (i.e. if each competitor arriving on site at least one day prior to the opening of the competition gets the opportunity to make at least one flight in the box).

Two options for this proposal may be considered:

- Option 1: Make “official trainings” a requirement for Organisers (minimum three days), as in Part 2 – and then remove specific Programme 1 provisions altogether.
- Option 2: Do not make “official trainings” a requirement, and then make streamlined practice for Programme 1 conditional to the existence of official trainings.

**Rationale**

Current rules for Programme 1 allow up to three ‘safety figures’ in addition to two half rolls (rule 3.9.1.1), plus up to five first figures of Programme 1 (rule 3.9.1.2), instead of only two half rolls + one safety figure for all other Programmes.

Those specific provisions for Programme 1 are not justified if official training is provided. Adopting the proposal would therefore save precious time while at the same time better align Part 1 and Part 2. Part 2 requires opportunity for each competitor to have at least one “familiarisation flight” in the competition box, with organisers required to offer a minimum of three days for these official trainings (3.2.1.1).

NP2020-7

RC

**SOUTH AFRICA PROPOSAL #1**

Document: Section 6 Part 1

Subject: **Final Freestyle / Advanced****Proposal**

That Programme 5 – The Final Freestyle Programme be made available for the Advanced Class; the following changes will be applied:

1. Lower Height Limits as per 3.8.1.1. for the Advanced Class i.e. 200m (no rule change necessary)
2. A paragraph 2.4.1.6. be added as follows: -

Advanced Class - This programme will be restricted to pilots with Free Style Experience only, i.e. Experienced Air Show Pilots or those Pilots who have specifically prepared for a “Final Freestyle Programme”.

**Rationale**

*None provided.*

NP2020-8

RC

**SPAIN PROPOSAL #1**

Document: Part 1

Subject: **Upward flick rolls in Tailslides****Proposal**

Permit all kind of flick rolls in climbing lines in figures of family 6 (remove paragraph A.9.1.1), in Unknown programs in power aerobatics.

**Rationale**

No safety issues. To perform these kind of figures properly, is only a question of flight technic.

NP2020-9

RC

GAC

**SPAIN PROPOSAL #2**

Document: Part 1 / Part 2

Subject: **Direction of rolling circles****Proposal**

To be consistent with paragraph B.6.1.5, if a rolling circle is flown in B-axis, the initial direction of Rolling must be flown as indicated in the programme, into the wind or downwind.

**Rationale**

Consistency.

NP2020-10

RC

CIVA Bureau



### SPAIN PROPOSAL #3

Document: Section 6 Part 1

Subject: **Remove Gender Distinction from Unlimited World and Continental Aerobatic Championships (Power)**

#### **Proposal**

All references to gender distinction (male v. female) would be removed from the Sporting Code, Section 6, Part 1. That would include, but not necessarily be limited to: Unlimited team composition, Final Freestyle selection criteria, Unknown figure nominations, awards, and titles.

#### **Background**

Currently, Unlimited Power is the only category within the World and Continental Aerobatic Championships which maintains any distinction between male and female competitors. No such distinction exists within the other power categories (I, Y52 or A), or within any of the glider categories. In fact, the gliders eliminated gender from their rules almost 30 years ago at the 1987 plenary meeting. For power, Advanced, Intermediate, or the Yak 52 categories never had gender distinction.

The number of women participating in Unlimited Power has declined to the extent of often not even having sufficient numbers of female pilots for even the largest NACs to field a women's team. Instead, we have seen "mixed gender" teams more frequently. At several WACs in recent years, the "FAI Challenge Trophy" has not been awarded because of the lack of enough women's teams to present the trophy. In 2015, two of the three top-ranked teams were mixed gender. In 2017, there were no women present at WAC.

#### **The Data**

Looking at the data table attached to this proposal note the number of women, as a percentage of the total number of competitors, there were in earlier years compared to now. Taking 1990 for example, women composed 21.5% of the total pilots (17 out of 79). Ten years later, in 2000, women pilots still made up 31% of the total pilots (15 out of 48).

Starting in 2007 the number of female pilots, both in absolute terms and in percentage of total, began a rapid decline while the total number of competitors remained fairly constant. By the year 2015, the number of female competitors had declined to 12% of the total (only 7 women out of 58 total pilots). In 2017, it reached its lowest point since 1962 without a single woman participating at WAC in South Africa.

Awarding FAI and CIVA medals to small groups of pilots cheapens the value of these prestigious awards, not to mention the considerable expense to CIVA in having double the medals in Unlimited Power compared to other categories.

#### **The Arguments and Rationale**

Those who have argued for retaining the women's classification have said that without it, the number of women would decline. They have stated we need to keep the existing rules to grow the number of women competitors. The opposite has happened and the effort has failed.

Why the number of women competing in World Aerobatic Championships has declined is unknown and open to speculation. Women today are more active in aviation and occupy more positions in both civilian and military aviation than ever before in history.

Women know that they are just as capable, just as competitive, and just as skilled as any male pilot in aerobatic competition. They fly the same aircraft, they are judged according to the same criteria, they fly during the same times, and they are judged by the same panel of judges. It is only when we come to the awards that they are treated differently.

We believe this is outdated, obsolete thinking and does not recognize the reality of the presence and abilities of women in aviation today. We do believe it is important to have programs that encourage women to enter aviation, either as a profession or as a recreational activity, but there is no justification for keeping mid-20 th century rules in place that seems to imply that women are somehow less capable than men and need to be treated separately.

Ultimately, it is the responsibility of each NAC to develop programs which encourage female aerobatic pilots to enter competition. Exactly how those programs are structured will likely vary from country to country, but the first step is to amend the rules so that each NAC can assure any future women competitors that their skills and hard work will be rewarded and recognized on an absolutely equal basis with the men.

Finally, it must be noted that aerobatic competition is one of the few “Olympic-level” sports which has no component which favours one gender over the other. A male pilot has no real advantage, physical or otherwise, over a female pilot. Why not let all aerobatic pilots, regardless of gender, compete on the same level with the same rewards and recognition for excellence in performance? Gliders and the other power categories have recognized this for a long time. Why should Unlimited power be singled out for this discrimination?

For additional rationale, we direct your attention to the Strategic Planning document that was circulated to all delegates by Castor Fantoba early in 2018.

Event	Women	Men
2013 WAC	6	46
2014 EAC	5	31
2015 WAC	7	51
2016 EAC	5	35
2017 WAC	0	36
2018 EAC	4	32

**RC Chairman Note:** Submitted by Spain with label “Strategic Proposal”.



NP2020-11

RC

SPG

CIVA Bureau

**SPAIN PROPOSAL #4**

Document: Section 6 Part 1

Subject: **Decide which philosophy we want to follow in order to define a long-term strategy for the sport****Proposal**

Begin to move the sport in a specific direction, but not only with single actions but with defined objectives and strategy:

1- No restriction in type of plane for any category, or

2- Limit the power/planes in each category

If we choose the first option, where any pilot can fly any plane in any category, the differences between categories is down to just the skill of the pilot, in which case it would be logical to have only one World Champion (Unlimited), and one ranking (this doesn't apply to YAK WAC as it is a monotype competition, and the Champion is the best in the world in that type).

If we choose the second option, we would have different mechanical performance categories so, the best in each category would be World Champion of the category, as it is now in YAK WAC.

The second option is almost impossible and extremely expensive to implement (it is easy to "tune" engines and planes to get better performance. CIVA does not have the knowledge or money to check properly all engines/planes to ensure a fair competition and so our preferred and realistic option is the first one.

So, we propose to vote if we decide to proceed in the future according 1 or 2.

Note: This proposal doesn't mean that we directly cancel the World and European titles in Advanced or the title in Intermediate. This proposal is just asking to choose which model to follow going forward.

**Rationale**

Begin to move the sport in a specific direction, but not only with single actions but with defined objectives and a strategy.

**RC Chairman Note:** Submitted by Spain with label "Strategic Proposal".

NP2020-12

GAC

**SWEDEN PROPOSAL #1**

Document: Part 2

Subject: **Rolls on top of looping****Proposal**

Add a comment “A.9.1.3 No more than one roll on top of 7.4.1.1”

A.9.

Sporting Code, Section 6  
Part 2 - Glider Aircraft Version 2019-1

Family 7.4, Full Loops

- A.9.1.1 No rolls on figures 7.4.1.3 and 7.4.1.4.
- A.9.1.2 No hesitation rolls in the top of figure 7.4.1.2.
- A.9.1.3 No more than one roll on top of 7.4.1.1

**Rationale**

According to current rules it is possible to have two full rolls on top of a looping. The energy in a glider does not allow this to be performed without severely violating the loop shape.

NP2020-13

JC

**SWEDEN PROPOSAL #2**

Document: Part 1 / Part 2

Subject: **Selection of Judges****Proposal**

In 1.3.2.3 Representation on the Board of Judges, insert new paragraph after b)

- a) At World and Continental Championships, judges will be invited to apply for selection, irrespective of their nationality, based on their previous RI performance data as recorded in the CIVA Judges Performance Database (JPD). New judge applications for those without International RI performance data can be made by NACs or individuals, but must be accompanied by current RI data produced by the FPS scoring system at a National Competition (not necessarily in their own country). These applications must be made by the deadline published by CIVA in the year in which the Championships are to be held.
- b) Judges are subsequently selected in accordance with procedures established by CIVA. The selection process includes a ranking of judges by the RIs in the JPD from past Championships.
- c) Priority should be given to one fully qualified judge with no ranking from previous world or continental championships in the selection.

**Rationale**

Today it is very difficult to be selected without the ranking from previous championships. In some parachute disciplines the rules require one rookie judge (With no prior world championship experience) to be elected at every world championship. This is a way to get more new judges to the international judging line. The proposal should be applicable for both glider and power aerobatics.

NP2020-14

SPG

CIVA Bureau

**SWEDEN PROPOSAL #3**

Document: N/A

Subject: **Media exposure****Proposal**

Create a small group of interested people to promote media exposure (see below). The group would need a small budget, say 5000 Euro, for 2020.

**Rationale**

Today exposure in all the different social media is the key to have any chance to have sponsors interested or to get exposure in the main stream media. FAI CIVA has only the bare minimum with a Webb page and World Aerobatics on Facebook, (which has 6 entries 2019). We should have Instagram, twitter and Facebook full of entries from all participants to all competitions showing their videos from their training and making the CIVA media busy.

We should also do some edited entries like presentation of the competitors. We should also make the videos taken on the competition at the judge line available after the protest time has elapsed. I am sure that everybody would like to see their own and a few competitors' flights.

NP2020-15

JC

**UKRAINE PROPOSAL #1**

Document: Part 1 / Part 2

Subject: **Selection of Judges****Proposal**

All Judges must be selected based on rating only, according to Sport Code. Results of Selection carried out by Judge Committee must be public and open for analysis. Additional Judge Brigades can be selected for expenses of national air clubs.

**Rationale**

Sport Code describes the basic principle of Judge Selection – the Principle of Equality of all Judges based on rating and performance, received during past competitions.

## Point 1.3.2.3 Representation on the Board of Judges

- b) Judges are subsequently selected in accordance with procedures established by CIVA. The selection process includes a ranking of judges by the RIs in the JPD from past Championships.

The Sport Code has been ignored by CIVA in 2019 (judge selection was not rating based, but carried out based on Voting of Judge Committee Members, who, driven by personal impressions have selected a couple of judges either with no rating or with low rating ). Thus the rights of all sportsmen were violated; pilots pay huge expenses for training and have the right to hope that their performance will be evaluated by the most experienced judges, selected according to rating and not based on “other factors”. Rules are the key document, which should be clear for everyone, exclude double meaning with wording “other factors”, unite representatives from different countries, who have different cultures, different experience in aerobatics. Goal of Rules is to serve primarily the transparent evaluation of flights and prevent double interpretation of same points in rules.

NP2020-16

CIVA Bureau

**UKRAINE PROPOSAL #2**

Document: N/A

Subject: **Successive terms****Proposal**

One person can be elected only to one CIVA Committee for the term of 2 years (committee members, chief judges and jury board members, secretaries). The same person can be re elected to position, which he processed before, not earlier than in 4 years.

**Rationale**

In the meantime the principle of democratic elections to Executive Positions of CIVA is being restricted . The same Committee Members possess the committee positions for 10 year -This can lead to the possibility of protectionism and lobbying of interests or violation of rights in relation to individual countries.



NP2020-17

GAC

RC

JC

**UK PROPOSAL #1**

Document: Section 6 Part 1 / Part 2

Subject: **Judging of aircraft axis alignment vs. the box axes****Proposal**

Paragraphs in Section 6 Part 1 would be revised as follows (changes are shown in bold type, deleted text is not shown).

**4.4.1. Downgrades**

4.4.1.2. At the initiation or completion of every figure **and at comparable moments within the figure**, each deviation from a wings level, horizontal flight path **with the aircraft longitudinal axis** parallel to the relevant box axis, in accordance with paragraph B.6.1.1, will attract a reduction of 0.5 point per 2.5° of deviation, 1 point per 5° of deviation.

**B.3. Flight Path and Attitude**

B.3.1.1. Think of the **aircraft** condensed into a single dot, and watch the path this dot takes through the sky. This is the flight path or track of the aircraft's centre of gravity. Judging the flight path **or the track over the ground** consists of comparing the observed path with fixed references such as the horizon or the **main** and **secondary** axes of the Aerobatic Box. (Figure 1)

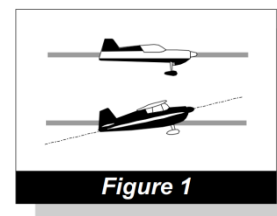


Figure 1

**B.6. Box Axes**

B.6.1.1. Except in the Final Freestyle Programme, at the entry and exit of every figure the aircraft longitudinal axis must be exactly aligned with either the main or secondary axis of the Aerobatic Box. Any angular deviations visible to the judge must be downgraded by one point per five degrees. (*unchanged*)

**B.7. Wind Correction**

B.7.1.5. A common **flight mode** is to crab into the wind as **is** done in navigational flight (see Figure 7). Crabbing means that the aircraft's **longitudinal axis** is at an angle to the **track over the ground**. The downside to this approach is that if **the aircraft longitudinal axis is** detected by the Judge **to be at an angle to the competition axis (main or secondary)**, a deduction of one (1) point per five (5) degrees will be given.

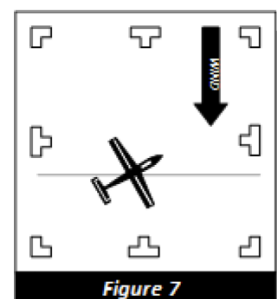


Figure 7

B.7.1.6. It is possible for the competitor to correct for wind in such a manner that **the aircraft longitudinal axis** remains true to the correct geometry of the figure but the flight path has a **modified** sideways component (see Figure 6). It goes beyond the scope of this document to **review** how this may be accomplished, but what is clear is that if **there is no deviation in the aircraft longitudinal axis** or bank angle visible to the Judge **then no marks should be deducted**.

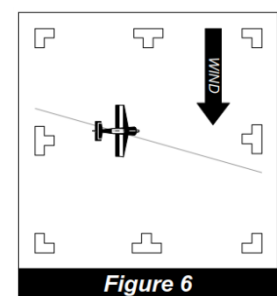


Figure 6

B.7.1.7. Please note, however: ~~even if it is plainly evident that the aircraft has moved laterally within the Aerobatic Box, no deduction for such correction must be made.~~

*(paragraph deleted as not necessary or relevant)*

### **B.8.1 Lines**

B.8.1.1. All lines are judged in relation to the true horizon and the Aerobatic Box axes. Horizontal lines are judged on flight path, not attitude. Different aircraft at different airspeeds will employ different attitudes to maintain a horizontal flight path. (Figure 1) While maintaining a horizontal flight path, the **aircraft's longitudinal axis** must remain parallel to the **main** or **secondary box** axis. The deduction for deviation in either axis is one (1) point per five (5) degrees from the correct geometry.

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Note that in part 1 it would make sense to transpose the numbering of figures 6 and 7.

The paragraphs in Part 2 (gliders) relating to this subject are substantially the same as in Part 1 as shown above, and similar revisions to the text can easily accomplish the same objectives.

### **Rationale**

In Section 6 Part 1 and Part 2 the terms “heading”, “longitudinal axis”, “aligned”, “direction of flight”, “flight path”, “track”, “attitude”, “sideways”, “laterally”, “crab” and “yaw” are all used in various places to describe similar or closely related aspects of how the longitudinal axis and/or the flight path of the aeroplane should be aligned with the main or secondary box axes during sequence flights. It would clearly be helpful if both documents used a common set of words when discussing this requirement. Currently it is not always clear if the instruction is to use the flight path or the axis of the aeroplane when considering downgrades for errors seen.

We suggest the fundamental requirement is that the longitudinal axis of the aircraft should be parallel to the appropriate box axis whenever judgement must be made for accuracy; anything else must be downgraded at the usual rate of 1 point per 5° or 0.5 points per 2.5° of error detected.

An alternative requirement could be to require that the aircraft's track over the ground is also maintained parallel to one or other box axis, but as achieving this could significantly compromise control of the aircraft and in any case such movement is disregarded in vertical lines (e.g. part 1 para 3.2.2) and looping segments (e.g. part 1 para B.9.120.1.) it should be clear that the same freedom must apply to the aircraft's track over the ground in horizontal lines.

A suitable approach would be to define preferred words or phrases to describe the required condition, and use them consistently in all subsequent texts. We suggest the phrases “aircraft longitudinal axis” and “track over the ground” and no other should be used throughout parts 1 and 2 to remove ambiguity when referring to any instance where a comparison must be made between a box axis and the aircraft's longitudinal axis and/or its track over the ground.