AGENDA ITEM 8

Report of the Chairman of the Glider Aerobatics Sub-Committee of CIVA

Minutes of the GASC meetings

held during the 7th European Glider Aerobatics Championships 2004 in Moravska Trebova, Czech Republic, 6-7 July 2004.

On March 8th I sent a reminder to all members of the Glider Aerobatics Sub-Committee (GASC) to be aware that all proposals for CIVA for 2005 are due by 1st April 2004. On May 4th , CIVA President Mike Heuer announced the publishing of this years proposals on line available at www.fai.org/aerobatics/documents/proposals/ and the meetings of the sub-committees. With e-mail from April 6th then I announced date, time and location for the GASC meeting to all GASC members, followed by an invitation letter on May 7th with all glider aerobatics proposals attached after arranging all organisational details with the organizer of EGAC.

The GASC meeting was opened on time on Tuesday, July 6th, at 10.00 in Moravska Trebova. The agenda of the meeting was published in the invitation letter.

The full agenda was discussed and decided in three meetings: on July 6th, July 14th, and July 15th. In the first meeting, all proposals about rules changes were discussed and decided as well as the CIVA Known Compulsory Programme for 2005. A working group with Mady Delcroix, Manfred Echter, and Jerzy Makula was set to coordinate their proposals for a new championships format. These coordinated proposals were discussed and decided then in the second meeting and a final editing of all proposals was made at the third meeting.

Additional to these meetings, the GASC had to meet also on July 7th to decide on a proposal made by Dietmar Poll last year to approve a new height measurement device, the MHMD (Meierhofer HMD resp. MGT PM234). In addition to the GASC members present at this meeting, Dietmar Poll (proposal maker), Günter Meierhofer (designer), and Heinz Dahl (Technical Commission) also attended. The GASC recommended the use of this device (see attachment).

Members of the GASC present at these meetings were: Karl Berger (Austria, chairman); Premysl Vavra (Czech Republic), Madelyne Delcroix (France), Manfred Echter (Germany), Ludwig Fuß (Germany), Bela Guraly (Hungary), Carlo Marchetti (Italy), Erik Houtman (Netherlands), Jerzy Makula (Poland), Helmut Stas (Poland), Georgi Kaminski (Russia). Observers present (without the right to vote): Konrad Zeiler (Austria), Stanislaw Makula (Poland), Nikolai Nikitiuk (Russia), Dick Happs, Judy Jones, Paul Conran (United Kingdom).

Most of the proposals were agreed unanimously or by majority (some of them after alteration). Only two proposals were refused, and one was withdrawn.

All proposals which were agreed by the GASC are attached, and the GASC recommends these proposals be adopted by CIVA.

Attachments:

Minutes of the GASC meeting regarding the approval of the MHMD
Proposal/Recommendation of the GASC regarding the approval of the MHMD
Proposal/Recommandation of the GASC regarding the Changes to Sporting Code, Section 6 and CIVA-Regulations, Part 2, as agreed by the GASC at its Meeting in Moravska Trebova, CZE, July 2004

Minutes of the GASC meeting

held during the 7th European Glider Aerobatics Championships 2004 in Moravska Trebova, Czech Republic, on July 7th 2004 regarding the

Approval of the MHMD (MGT PM234)

The GASC had to deal last year with a proposal of Dietmar Poll (Austria) and Günter Meierhofer (Austria) to approve a new height measuring device. The GASC recommended last year to proceed on the development of that device and CIVA approved that in its meeting in November last year.

Now we had an official testing of this device in the morning of July 7th in Moravska Trebova with good results. After that testing the Glider Aerobatics Sub-Committee (GASC) had a meeting ending with the decision that the GASC strongly recommends to CIVA to approve this device officially for using in CIVA glider aerobatics contests. The voting was 9 (nine) in favour and 1 (one) abstention.

Then the GASC voted on a proposal, to use this device in the forthcoming EGAC, and the GASC agreed also on this with 8 (eight) in favour, 1 (one) against, and 1 (one) abstention.

With this positive result I sent on behalf of the GASC a request to CIVA President Mike Heuer for the agreement of the CIVA Bureau to use this device in this Championships, which was approved by Mike Heuer a few hours later.

After this approval the MHMD (MGT PM234) was used successful for the whole competition. Thanks to the organizer for their technical assistance to provide the contest aircrafts with the necessary mounting.

Proposal / Recommendation of the GASC to CIVA for Approval of the MHMD (MGT PM234)

In accordance with the decision of the Glider Aerobatics Sub-Committee on July 7th at EGAC 2004 and approved by the Bureau of CIVA, I recommend the following amendment to the CIVA Regulations, Part 2, Glider Aerobatics.

Amendments regarding the Height Measuring Device (HMD)

1.4.4.2 Change the third paragraph:

For use of the HHMD, see Appendix 7. Whether or not the HHMD or another CIVA approved Height Measuring Device (see 1.4.4.6) will be used will be decided by the GASC and stated in the Local Regulations.

1.4.4.6 Electronic height measuring devices (HMDs)

a) Electronic height measuring devices (HMDs) can be used. The electronic height measuring system used, as well as the rules to operate the system, must be approved by CIVA.

b) At present there are two systems approved by CIVA: The Huber Height Measuring Device (HHMD), and the Meierhofer Height Measuring Device (MHMD or MGT PM234 Altitude Measurement Device). The MHMD works on the same rules as the HHMD as laid down in Appendix 7. If additional information is necessary, they will be stated in the Local Regulations.

Changes to Sporting Code, Section 6 and CIVA-Regulations, Part 2 as agreed by the GASC at its Meeting in Moravska Trebova, Czech Republic - July 2004

Amendments to Sporting Code, Section 6:

1.2 GENERAL REGULATIONS

1.2.1 Contest Categories

1.2.1.1. World Championships

***Insert under* "a)":**

"G"

The duration of World Glider Aerobatic Championships is recommended to be no more than 9 days between opening and closing ceremonies. Opening and closing dates should be selected so as to allow competitors to travel to/from the contest site on weekends.

1.3. CLASSIFICATION OF AEROBATIC CONTESTS

1.3.1 World Championships

1.3.1.1 Programmes

"G" ***(New Paragraph)***

a) The championship consists of the following six programmes:

Known Programme (Programme 1)
Unknown Compulsory 1 (Programme 2)
Free Programme (Programme 3)
Unknown Compulsory 2 (Programme 4)
Unknown Compulsory 3 (Programme 5)
Unknown Compulsory 4 (Programme 6)

1.3.1.3. Champions

Champions "G" ***(New Paragraph)***

World Champions will be:

a) **World Champion in the Known Compulsory Programme**:
The competitor who gains the highest number of points in Programme 1.

b) **World Champion in the Free Programme**:
The competitor who gains the highest number of points in Programme 3.

c) **World Champion in the Unknown Compulsory Programmes**:
The competitor who gains the highest aggregate number of points in Programmes 2, 4, 5 and 6.

d) **Overall World Champion**:
The competitor who gains the highest total number of points in all programmes flown.

e) **World Champion Team**:
Will be that team with the highest total number of points in those Programmes which were flown by all the competitors, taking into account the three highest individual scores in that team.

f) Awards will be given in compliance with CIVA Regulations for the Conduct of International Aerobatic Events (Part Two), paragraph 1.5.

1.3.2. Continental Championships and International Competitions

"G" ***(New Paragraph)***

Rules 1.3.1.3. a) through f) should be applied.

1.6 FINAL REGULATIONS

1.6.3 Supplementary Rules

1.6.3.4 "G"

Add the following sentence:

Organisers must ensure that at the time of the formal opening of the championship all technical preparations are completed and all required personnel are available.

Amendments to CIVA Regulations, Part 2:

1.1.7. Familiarisation Flights *(New Chapter)*

1.1.7.1. Each competitor at World or Continental Championships, timely arrival provided (minimum one day), will be given the opportunity to make at least one flight over the marked performance zone for familiarisation with the local conditions.
Organisers should offer a minimum of three days for familiarisation flights and plan to hold judges' briefings and practice judging sessions during this period.
Familiarisation flights must be completed prior to the formal opening of the championship.

1.1.7.2. Familiarisation flights are subject to the same safety regulations and minimum heights as for contest flights and will be conducted according to the organiser's schedule on a "first come – first served" basis.

1.1.7.3. For familiarisation flights, Visual Flight Rules (VFR) of the organising country must be observed, but contest weather minima as specified in chapter 1.4.2. need not be fulfilled.

1.1.7.4. No further training flights are allowed after the start of the championship. In case of violations there will be penalties (see 2.4.4) or disqualifications (see 1.2.3.9).
The International Jury may authorize additional familiarization flights after the opening of the contest for weather or other compelling reasons.

1.1.7.5. If it is necessary for purposes of media coverage, competitors may be authorized to fly a demonstration programme which must be approved by the International Jury, the Chief Judge and a two-thirds majority of the Chief Delegates.

1.1.7.6. For International Competitions the same procedures apply.

1.1.8. Sequence of Flights (Drawing of Lots) *(New Chapter)*

1.1.8.1.

a) For the entire contest (except Programmes 4, 5 and 6) the sequence of flights of Championships and International Competitions will be determined by drawings of lots, to be arranged by the Contest Director or his assistant in the presence of a representative of the International Jury.
Each competitor (or their representative) will draw their own lot.
If available, the drawing of lots can be done by a CIVA approved random programme under the supervision of the International Jury.

b) In Programmes 4 and 5, the leading 20% of competitors, but not less than 10, according to the provisional overall results of the previous programmes will fly at the end of the sequence of flights in reverse order of ranking.
The sequence of flights for the remaining pilots is determined by drawing of lots in the usual manner.

c) Programme 6 is flown in reverse order of ranking according to the provisional overall results of the previous 5 programmes.

1.1.8.2. The sequence determined by lot may be altered with approval by the International Jury if special circumstances require (e.g. use of the same glider by different competitors).
The first three places must not be altered for the Unknown Compulsory Programmes.
After any drawing of lots, the first competing pilot should have an allowance of one hour between drawing of lots and taking off.

1.1.8.3. The first two flights of each competition day and each programme will be by non-competing pilots, if available.

1.2. PROGRAMMES FOR WORLD AND CONTINENTAL CHAMPIONSHIPS

1.2.1. Sequence of Programmes *(New Chapter)*

(Sporting Code, Section 6, 1.3.1.1 "G")

1.2.1.1. The championship consists of the following 6 programmes:

Known Programme (Programme 1)
Unknown Compulsory 1 (Programme 2)
Free Programme (Programme 3)
Unknown Compulsory 2 (Programme 4)
Unknown Compulsory 3 (Programme 5)
Unknown Compulsory 4 (Programme 6)

1.2.1.2. The above sequence of programmes is mandatory.
Any changes due to weather or other compelling reasons must be authorized by the International Jury.

1.2.1.3. If it is foreseeable due to weather or other compelling reasons that this will be the last programme, the International Jury may authorise a cut of up to 50% of the competitors for Programmes 4 through 6 on the basis of the final results of the preceding programmes.

1.2.2. Known Compulsory (Programme 1) *(No Change)*

1.2.3. Unknown Compulsory Programmes 1, 2, 3 and 4 (Programmes 2, 4, 5 and 6) *(New Chapter)*

1.2.3.1. Unknown Compulsory Programmes 1, 2, 3 and 4 must contain a minimum of 28 figures or figure combinations, selected by the Chief Delegates or Team Managers (at the discretion of the National Aero Club concerned) from Appendix 3.
4 figures maximum can be chosen in each of the families 2, 5, 6, 9.9, 9.10, and 9.11/12.
No figure or combination of figures may be selected with a K higher than 35.
In composing the programmes they must not be replaced by other figures.
The International Jury may select additional figures.

1.2.3.2. Figures shall be selected, taking into account the flight characteristics and operating limits of the competing gliders and the safety of all pilots.

1.2.3.3. The list of figures in Appendix 3 for Programmes 2, 4, 5 and 6 (Unknown Compulsory 1, 2, 3 and 4) will be approved by CIVA according to the GAF Catalogue. The operating limits of gliders available (full aerobatic certification) must be considered in compiling the list. This list should be re-approved at the CIVA-Meeting prior to a World Championship, if necessary.

1.2.3.4. If there are more than 28 teams, 28 representatives will be determined by secret drawing of lots each to select a figure used in composing Programmes 2, 4, 5 and 6.
If there are less than 28 teams, their representatives will first select one figure. Then the teams will draw lots a second, third and fourth time if necessary in order to determine which teams will choose a second, third and eventually fourth figure until a total of 28 is reached.
In the case of teams who select two (three or four) figures, one must be a reversing figure and the sum of coefficients of two figures must not exceed 55. If they choose 3 figures the sum of the coefficients of the figures cannot be more than 70. If a team has to choose 4 figures, the sum of the K must not be more than 85.
All additional figures will be selected by the International Jury.

1.2.3.5. The same catalogue number cannot be chosen twice (except for rolls) and except in the figures selected by the International Jury.

1.2.3.6. The sequence of figures for Programmes 2, 4, 5 and 6 will be composed by the International Jury from the proposed figures and the additions of the International Jury.
The figures they select may be solely for the purpose of aiding the composition of the sequence; nevertheless, they may add figures in order to reach the minimum of 175 K if necessary. Figures changing the direction may also be added. For this purpose and to avoid exceeding the maximum coefficient for the programme, the International Jury is entitled to modify one or more of the proposed figures without changing its basic characteristics.
In any case, the total of figure coefficients must not exceed 190, nor be less than 175. This may be exceeded by 3 points to facilitate composing the programmes.

1.2.3.7. If the representative of a team or a single competitor is able to show within 30 minutes after publication of a programme that the sequence of figures for an Unknown Compulsory Programme designed by the International Jury is a risk to flight safety, then the International Jury must design a revised sequence, without changing the figures selected according to 1.2.3.1.

After this time (30 minutes) the Unknown Compulsory Programme is considered as approved by the pilots.

1.2.3.8. The Unknown Compulsory Programme can be flown not earlier than 12 hours after approval by the pilots (1.2.3.7.).

1.2.3.9. Training for Unknown Compulsory Programmes is not allowed. Competitors violating this regulation will be disqualified (see also 2.4.4).

1.2.4. Free Programme (Programme 3) *(New Chapter)*

1.2.4.1.

a) The Free Programme is selected by competitors according to the GAF catalogue. Catalogue numbers may be used only once, except for horizontal lines (sub-family 1.1) and slow rolls (family 9.1).

b) The final sum of figure coefficients must not exceed the amount of 220 with a maximum of 13 figures. The sum of the normal figure coefficients may be as high as 223, but will be reduced to 220, starting with the highest value, by removing one point from the highest coefficient figure that has not yet had a point removed. In form "A" the original figure coefficient will be given as well as the reduced value (see also 1.2.5).

c) A bonus score will be added to the total score before penalties for each figure less than 13, but not less than 10, which goes to make up the total sequence. Bonus points will be calculated using the percentages in the following table and added to the competitor's final score automatically by the computer scoring programme.

Number of figures	12	11	10
Bonus (Percent)	1.5	3.5	6.5

1.2.4.2. Versatility

Free Programmes must contain at least one figure each from family 2 and families 5 through 9 of the GAF catalogue as specified in the following:

a) From family 2 (turns and rolling turns) sub-families 2.3 through 2.20, at least a rolling turn with one full roll.

b) From family 9 (rolls and spins) at least:

– ½ slow roll (sub-family 9.1)

– 2 successive elements of a hesitation roll (sub-families 9.2, 9.4 or 9.8)

– ½ positive flick roll (sub-family 9.9)

– ½ negative flick roll (sub-family 9.10)

– 1 full rotation upright or inverted spin (sub-families 9.11 or 9.12)

– ½ super-slow roll (sub-family 9.13)

1.2.4.3. The beginning of the Free Programmes can be in normal or inverted horizontal flight, but must be finished in normal horizontal flight.

1.2.4.4.

a) Not later than at the opening briefing for the contest, each competitor must submit three standard CIVA forms with their Free Programme to the Contest Director in order to make sure that the Programme is composed according to the rules. The forms must be completed in readable black writing.
If any pilot has not submitted their Free Programme by the opening briefing, they will not be allowed to take part in Programme 3.

b) Form "A" will show all symbols, catalogue numbers and coefficients.

c) Form "B" will show the continuous sequence of the programme as it would be flown with the wind blowing from right to left.

d) Form "C" will show the continuous sequence of the programme as it would be flown with the wind blowing from left to right.

e) Form "B" and "C" must show clear symbols for the wind direction.

f) Only standard GAF symbols, catalogue numbers and coefficients shall be entered. All other writings or notation will be disregarded.

1.2.4.5.

a) It is the duty of the of the organiser's officials to check Form A of each competitor against the symbols on Form B and C, taking the catalogue numbers of the GAF catalogue (latest edition) as definitive. Any inaccuracies in the drawing of symbols or in the quoting of coefficients or the discovery of any cases of repetition of catalogue numbers will be referred to the competitor's Team Manager so that the Forms may be corrected and re-submitted.
The final responsibility for accuracy and conformance of Forms A, B and C lies with the competitor.
A written record of the Free Programme check showing date, time and name of the checker shall be filed with the original Free Programme forms submitted by the competitor.

Note that the direction of rotation of rolls is not prescribed, i.e. direction of rotation of rolls is at the pilot's discretion. The same applies for direction of turns and rolling turns, as well as direction of rotation of stall turns and normal or inverted spins.

b) In order to avoid possible alteration and resubmission of forms during the contest, National Aero Clubs may submit the competitors' forms to the organisers for checking not less than one month prior to the beginning of the contest.

1.2.4.6.

a) After completion of the examination of the Free Programmes by the Contest Officials, all Free Programmes will be made available to all participants in an appropriate manner. Protests can be made up to 6 hours after the Free Programmes become available.

b) After the beginning of publication of the Free Programmes, changes are only possible in case of an error in a programme. After the end of the protest time no changes are allowed. In case of errors which are found after this moment which are not acceptable (for example too high a sum of coefficients) the programme can be changed by the Chief Judge with the agreement of the International Jury.

1.2.4.7. The organisers will be responsible for reproducing a sufficient number of copies of competitors' forms to meet the contest requirements.

One set of copies of all Free Programmes (Form B or C only) are to be provided to each team prior to the start of Programme 3.

1.2.5. Coefficients for the Programmes ***(New Chapter)***

Programmes	1 (Known)	2, 4, 5 and 6 (Unknown)	3 (Free)
Sum K of figures	max. 190	max. 190 (193) min. 175	max. 220 (223)
Positioning K	35/10	35/10	50/20
Harmony K	30	30	30

(Delete current Chapter 2.2 and re-number following Chapters)

Amendments toAppendix 1

Page 31, Loops and Part Loops, second sentence:

…is not a marking criterion and higher marks must not be given for high-G “square corners”.
If a stall occurs in a loop or part loop, the figure must be marked zero (HZ).

Page 33, Rolling Turns, third paragraph:

When we say that the rolls are integrated, we are saying that in addition to there being a constant rate of turn throughout the figure, there must also be a constant rate of roll and the rolls must be synchronised with the turn.

Page 34, Rolling Turns, Downgrades:

New paragraph:
3. Each clearly visible variation of the rate of roll is a deduction of one half (0.5) point.
Re-number current paras 3. through 9.

Amend:
4. Each stoppage of the rate of roll as well as the rate of turn is a deduction of one (1.0) point.

Page 37, Tailslides, sixth paragraph:

Delete second sentence.

Page 44, Positive Flick Rolls, second paragraph:

After the second sentence, add the following sentences:
Another important clue is rate of roll: In most gliders it is considerably faster when flicked than by ailerons.

Change last sentence to read:
If the judge does not observe all these events, the figure must be marked zero (HZ).

Fifth paragraph:

Delete the current second sentence. Insert after the current third sentence:

…proper execution of a flick roll. When a glider does not stall, it will follow a corkscrew-shaped flightpath, similar to a high-G barrel roll.

Page 45, Spins, second paragraph:

Insert after the second sentence:
In a correct spin entry, the nose of the glider drops and autorotation starts simultaneously around the longitudinal and vertical axes. If autorotation around the vertical axis is visibly delayed in relation to the roll around the longitudinal axis, entry airspeed was too high, the glider was "flicked" into the spin and the figure must be marked zero (HZ).
Delete the current fourth paragraph.

Page 46, Positioning:

Replace second and following paragraphs:
Positioning refers to the placement of the figures in relation to the X and Y axes of the performance zone. Additionally, positioning relates to the placement of each figure at its optimum distance from the judges, taking into account the height of the glider and the nature of the figure being flown. Lastly, positioning also refers to the symmetrical placement of the entire sequence in relation to the lateral (Y) axis of the performance zone.

Optimal Placement of Figures
Accurate flying is best assessed when the judge's sightline is neither too high nor too low above the horizon. On the other hand, a glider continuously loses height whilst flying an aerobatic sequence. In practise this means for the pilot, in order to place his figures optimally that he should not fly too close to the forward edge of the performance zone whilst high up and not too far away from the judges towards the end of the sequence at lower altitude.
This must also consider the character of the figure flown. For example:
– A loop or a 45 degree line cannot be judged accurately when flown too close to the judges.
– A rolling turn at low altitude, flown away from the judges is much harder to assess than flown towards the judges.
If a figure is flown in a position where it is difficult to assess, the judge may deduct one half to one point (0.5 - 1.0) from the positioning mark for each occurrence.

Sequence Symmetry
A sequence should be flown so that it is symmetrically placed in relation to the lateral (Y) axis of the performance zone. Particularly under wind influence, the pilot must try to balance his sequence so it remains centered on the lateral axis.

Page 46, Harmony: ***(New Chapter)***
(See CIVA Regulations, Part 2, chapter 2.1.6)

The harmony of a glider programme is judged on the following criteria:
- Energy management
- Appropriate and even rhythm
- Figure separation
- Figure spacing
- Directional Control

The basic idea behind the harmony mark is to measure the quality of those aspects of a glider sequence which are not covered by the marks for the individual figures nor the positioning mark.

Excessively hard, high-G manoeuvring in a glider programme is poor energy management and violates the principle of harmony. If a pilot flies unnecessarily hard pull-ups or shows excessively long vertical and/or 45 degree lines throughout his sequence, the harmony mark should be reduced by two (2.0) points.

The entry airspeed for the next figure should be established upon exiting the previous figure (para 2.1.6.1.). If a pilot uses the lines between figures to gain or dissipate speed, this indicates poor energy management and must be reflected in a reduced harmony mark.
Changing the flightpath angle within an entry/exit line is also a one half (0.5) point deduction per occurrence.

There will be no downgrade on harmony if the competitor is forced to gain or dissipate speed between figures due to unharmonious construction of a compulsory programme (para 2.1.6.1).

Another important factor of harmony is an appropriate and even rhythm throughout a glider programme. The competitor should fly his figures with clear separation and even spacing. The lines between figures must have a constant flightpath angle and should be of even length, taking into account varying speeds. Flying unduly long horizontal lines or lines of greatly varying length, as long as this is not necessary to compensate for strong winds (para 2.1.6.1) should be downgraded by one half point (0.5) per occurrence.

A programme interruption must result in a reduction of the harmony mark by two (2.0) points.
If the judge is overruled on a programme interruption, his harmony mark will nevertheless not be adjusted afterwards.

Good directional control is paramount for harmony. If there is a directional deviation greater than 45 degrees in a figure or coming out of a figure and the competitor must correct his alignment in the horizontal plane, the harmony mark should be reduced by one (1.0) point per occurrence. When this correction is done in the vertical plane, even if the figure is zeroed for directional deviation, it will not influence the harmony mark.

Any figure flown in the wrong direction reduces the harmony mark by one (1.0) point. If the judge is overruled on this HZ, the harmony mark must not be adjusted afterwards.

Hard Zeroes given for any other reasons (omitted figures, wrong figures, figures started behind the judges etc.) have no influence on the harmony mark.

Amendments to Appendix 3

Rename Appendix 3 to read:

APPENDIX 3 TO C.I.V.A. REGULATIONS (PART TWO)
LIST OF FIGURES FOR PROGRAMMES 2, 4, 5 AND 6

Enter at bottom of page56:
Note: No vertical rolls permitted in figures of column 4.

Delete Figure 7.6.4 from page 59

Add following note at bottom of page 59:
No rolls permitted at bottom of downward loops.

Delete following figures from pages 60 through 62:
7.22.2. 7.26.4. 7.30.1. 7.35.1. 7.35.3. 7.35.4. 7.36.1. 7.36.2. 7.36.3. 7.36.4. 7.37.2. 7.38.1. 7.38.4.

Delete following figures from page 63:
8.16.3. 8.19.1. 8.19.2. 8.20.1. 8.20.2.

Insert at bottom of page 70:
No inverted exit after more than ½ negative flick vertically down.