



*Fédération  
Aéronautique  
Internationale*

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# Agenda

of the **Plenary Meeting** of the  
**FAI Aeromodelling Commission**

To be held in **Lausanne, Switzerland**  
on **15 & 16 April 2011**

issue 1a

*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)*

# **AGENDA**

## **CIAM PLENARY MEETING 2011**

to be held in the Olympic Museum - Lausanne (Switzerland)  
on Friday 15 April and Saturday 16 April 2011, at 09:15

### **1. PLENARY MEETING SCHEDULE AND TECHNICAL MEETINGS**

According to the rules, and after confirmation at the 2010 CIAM December Bureau Meeting by the relevant Subcommittee Chairmen, the following scheduled Technical Meetings will be held: F1, F3A, F3B, F3C, F3D, Education. F5 interim Technical Meeting will be held.

The Technical Meetings will take place in the meeting rooms and in the Auditorium of the Olympic Museum, and other venues that may be available to the CIAM.

### **2. DECLARATION OF CONFLICTS OF INTEREST**

Declarations, according to the FAI Code of Ethics (ANNEX 1) will be received.

### **3. MINUTES OF THE APRIL 2010 BUREAU & PLENARY MEETINGS, AND OF THE DECEMBER 2010 BUREAU MEETING**

#### **3.1. 2010 April Bureau**

3.1.1. Corrections

3.1.2. Approval

3.1.3. Matters Arising

#### **3.2. 2010 Plenary**

3.2.1. Corrections

3.2.2. Approval

3.2.3. Matters Arising.

#### **3.3. 2010 December Bureau**

3.3.1. Corrections

3.3.2. Approval

3.3.3. Matters Arising

### **4. MINUTES OF THE APRIL 2011 BUREAU MEETING**

Distribution and comments of the April 2011 Bureau Meeting.

### **5. NOMINATION OF BUREAU OFFICERS AND SUBCOMMITTEE CHAIRMEN**

#### **5.1. CIAM Secretary role**

#### **5.2. CIAM Officers**

President

1st Vice President

2nd Vice President

3rd Vice President

Secretary

Technical Secretary

**5.3. Subcommittee Chairmen to be elected**

- F1 Free Flight
- F3 RC Aerobatics
- F3 RC Soaring
- F3 RC Helicopter
- F3 RC Pylon Racing

**5.4. Subcommittee Chairmen to be confirmed**

- F2 Control Line
- F4 CL/RC Scale
- F5 RC Electric
- F7 RC Aerostats
- S Space Models
- Education

**6. REPORTS**

**6.1. 2010 FAI General Conference, by the FAI Secretary General, Stéphane Desprez**

**6.2. 2010 CASI Meeting, by CIAM President, Bob Skinner**

**6.3. 2010 World Championships, Jury Chairmen (ANNEX 2)**

6.3.1. F1A, F1B, F1P Free Flight Juniors. Romania. (1 to 7 August). Ian Kaynes on behalf of Pierre Chaussebourg

6.3.2. F2A, F2B, F2C, F2D Control Line Seniors and Juniors. Hungary (23 to 31 July). Jo Halman

6.3.3. F3J Gliders Seniors and Juniors. France. (31 July to 8 August). Tomas Bartovsky

6.3.4. F4B, F4C Scale. Poland (30 July to 8 August). Narve Jensen

6.3.5. F5B, F5D Electric. USA. (19 to 25 August). Dave Brown

6.3.6. S Spacemodelling. Seniors and Juniors. Serbia. (21 to 28 August). Srdjan Pelagic

**6.4. 2010 Sporting Code Section 4: CIAM Technical Secretary, Mrs Jo Halman (ANNEX 3)**

**6.5. 2010 Subcommittee Chairmen (ANNEX 3)**

- 6.5.1. Free Flight: Ian Kaynes
- 6.5.2. Control Line: Bengt-Olof Samuelsson
- 6.5.3. R/C Aerobatics: Michael Ramel
- 6.5.4. R/C Gliders: Tomas Bartovsky
- 6.5.5. R/C Helicopters: Horace Hagen
- 6.5.6. R/C Pylon: Rob Metkemeijer
- 6.5.7. Scale: Narve Jensen
- 6.5.8. R/C Electric: Emil Giezendanner
- 6.5.9. Lighter-than-Air: Marcel Prevotat
- 6.5.10. Space Models: Srdjan Pelagic
- 6.5.11. Education: Gerhard Woebeking

**6.6. 2010 World Cups, by World Cup Coordinators (ANNEX 4)**

- 6.6.1. Free Flight: Ian Kaynes
- 6.6.2. Control Line: Peter Halman
- 6.6.3. F3A R/C Aerobatics: Pierre Pignot
- 6.6.4. Thermal Soaring and Duration Gliders: Tomas Bartovský
- 6.6.5. Space Models: Srdjan Pelagic.

- 6.7. **2010 Trophy Report, by CIAM Secretary, Massimo Semoli (ANNEX 5)**
- 6.8. **Aeromodelling Fund- Budget 2011, by the Treasurer, Andras Ree (ANNEX 3)**
- 6.9. **CIAM Flyer, by the Editor, Emil Giezendanner**
- 6.10. **World Air Games, by Jean-Marc Badan (ANNEX 3)**
- 7. **2010 PRESENTATION OF WORLD CUP AWARDS CEREMONY**

**INVITATION TO THE  
PRESENTATION CEREMONY FOR**

The 2010 World Cup awards for classes F1A, F1A junior, F1B, F1B junior, F1C, F1E, F1E junior, F1P junior, F1Q, F2A, F2B, F2C, F2D, F3A, F3B, F3J, S4A, S6A, S7, S8E/P and S9A,

will be held on Friday, 15 April 2011, at 16.30 in the Olympic Museum.

- 8. **PLENARY MEETING VOTING PROCEDURE**  
Confirmation of the voting procedure for the Plenary Meeting.
- 9. **SCHOLARSHIP APPROVAL**
- 10. **NOMINATIONS FOR FAI-CIAM AWARDS (ANNEX 6)**
  - Alphonse Penaud Diploma**  
Tetsuo Onda (Japan)  
Antonio Mazzaracchio (Italy)  
Stefan Mokran (Slovak Republic)
  
  - Andrei Tupolev Diploma**  
Vincent Labrouve & Georges Lentin (France)
  
  - Antonov Diploma**  
Leszek Szwed (Poland)
  
  - Frank Ehling Diploma**  
No candidates
  
  - Andrei Tupolev Medal**  
No candidates
  
  - FAI Aeromodelling Gold Medal**  
Dr. Laird Jackson (USA)  
Pierre Pignot (France)  
Tom-Erik Sorensen (Norway)

*Item 11 Sporting Code Proposals begins overleaf*

## 11. SPORTING CODE PROPOSALS.

The Agenda contains all the proposals received by the FAI Office according to rules A.6 and A.7.

Additions in proposals are shown as **bold, underlined**, deletions as ~~strikethrough~~ and instructions as *italic*.

Any Bureau proposals now appear in the appropriate rule section of item 11.

Each section begins on a new page.

### 11.1 Volume **ABR, Section 4A** (*CIAM Internal Regulations – page 13 (2009 Edition)*)

#### a) **A.4. Sub-Committees** **Scale Sub-committee**

We propose to make the F4H class a World/Continental Championship class ( and at the same time remove the F4B as no longer relevant)

##### A.4.2

World Championships are held as follows:

World Championships in Odd years	World Championships in Even Years
F1A-B-C Seniors	F1A-B-P Juniors
F1E	F1D (Seniors & Juniors)
F3A	F2A-B-C-D
F3B	F3J
F3C	<b><u>F4BCH</u></b>
F3D	F5B
F3K	F5D

Space Modelling (Seniors & Juniors)

**Technical Secretary's Note:** *F4B was removed in the 2011 edition of the F4 Sporting Code.*

##### Reason:

#### A.14. CHANGE FROM PROVISIONAL TO OFFICIAL RULES

A.14.1. Before being considered for adoption by the CIAM as official FAI rules, provisional rules must first have been used in at least five international contests, involving a total of at least five FAI member countries (but not necessarily five countries per contest).

Supporting data: 2007 Nordic Championship 4 nations, 2008 Nordic Championship 4 nations, 2009 Open international at the European Championship 6 nations, 2010 Open international at the World Championship 7 nations, 2010 Nordic Championship 3 nations

**Technical Secretary's Note:** *this proposal is not requesting a change from provisional to official rules; it is requesting World Championship status.*

**11.2** Volume **ABR, Section 4B**  
(General Rules for International Contests – page 35 (2009 Edition))

a) **B.10.1.** **Bulgaria**

*Amend the paragraph as follows:*

B.10.1. Provide a protective wire enclosure at C/L speed and T/R contests ~~2.5 m~~ 2.0 **m** high to ensure the safety of spectators. The circuit surface shall be firm, smooth and free of grit or dust. The radius of all circles shall be clearly marked with a white line at least 25mm wide. Provision of adequate areas shall be made before and during World Championships.

Reason: 2.0 m is standard for safety fences and mobile safety fences.

b) **B.11.2. Radio Control** **United Kingdom**

*Add a new paragraph B.11.2 and re-number the subsequent paragraphs.*

**The organiser shall list the radio frequencies which are permitted to be used for each Championship. He shall also provide information about the maximum permitted radio frequency power and any special exemptions to maximum radio frequency power which are available. This information must be published in the bid document.**

Reason: To clarify the situation about which radio frequencies may be used and to ensure that competitors know in well in advance of any championship which frequencies and RF power outputs are legal in the country where the championship is being held. This is particularly important when multiple championships are held at the same venue.

Important Note: Consequential changes will be required to Annex A.1a “Guide for Submitting a Bid to Plenary to Host a World or Continental Championship” and Annex A.1.b “Guide for Submitting World and Continental Championship organiser Bulletin 0s to CIAM Bureau for Approval” as shown below:

**Annex A.1a**

The bid must include:

Year

Type of championship where the championship name conforms to CIAM championship naming policy (see Annex A.1c for the list of appropriate championship names).

Category/categories of model flying

Submitting country

Submitting NAC

Organiser of championship including contact name, telephone & fax numbers & email address

Proposed month of championship

Class(es)

**Radio frequency information (see B.11.2) (For R/C championships only)**

*cont/...*

b) Annex A.1a .../cont

Venue

Flying site details ....

..... management of spectators

### **Annex A.1b**

Organiser Bulletin 0s ...

... Bulletin 0s must comprise, at a minimum, the following information, in the order listed as follows:

#### **Front Page**

Year & championship title, country, “from” & “to” dates (arrival & departure), FAI, NAC & sponsor logos & Bulletin Number (0).

Note: the title of the championship must be in line with CIAM championship naming policy and a list of appropriate championship names appears in Annex A.1c.

#### **Class(es)**

List the class(es) to be flown by F designation and description.

#### **R/C Frequencies**

#### **List the frequencies that will be available.**

Anti-Doping ...

... spectators and media.

c) **B.16. Classification and Awards at World and Continental Championships** **F3 Aerobatics Subcommittee**

Amend as follows and re-number the paragraphs, if appropriate.

B.16.1.

- f) For R/C Aerobatic classes where there are at least four juniors from at least four different nations, there will be an additional junior classification with the winner earning the title of Junior World or Continental Champion.”**

Reason: Appreciation of competing juniors

***Volume ABR, Section 4C, Part One begins overleaf***

## 11.3 Volume ABR, Section 4C, Part One

(General Regulations for Model Aircraft – page 68 (2010 Edition))

a) **1.3.1 Category F1 – Free Flight** **F1 Subcommittee**

*Change text in first paragraph.*

Closed loop control systems with active sensors and operating aerodynamic flight controls **or moving mass** are not allowed, except for steering in F1E.

Reason: To close a loophole that the ban on closed loop controls applied explicitly to aerodynamic controls only. Similar complication could be generated with a closed loop control system moving ballast or other mass to control the aircraft.

b) **1.3.1 Category F1 – Free Flight** **F1 Subcommittee**

*Add at the end of first paragraph.*

**Unless specifically stated in the rules for a class, free flight models must be launched with at least one hand holding the fuselage of the model**

Reason: To remove the possibility of discus-style launching by one wing tip for general free flight models. Such launching can give potential performance benefits at the possible cost of some safety. Such performance gain goes against the general aim of keeping model performance within reasonable bounds, and should be eliminated before people invest effort in developing such launches. In another proposal an exception is requested for F1N, which class already uses such launching and has launch conditions which are suitable for its use.

c) **1.3.2 Category F2 - Control Line Circular Flight** **USA**

*Amend the paragraph as follows:*

A safety strap connecting the competitor's wrist to the control handle must be provided by the competitor and used during all flights. A pull test shall be applied separately to the safety strap ~~when attached to the competitor's wrist~~. This pull test will be applied according to each class specification concerning the lines' pull test

Reason: Serious physical harm can occur when the strap is attached to the wrist during the pull test. Since a pilot may make many flights, each time requiring a pull test, it is highly likely that the high level of force required for the pull test coupled with the duration of the test will result in damage to the pilot's wrist.

Common practice is to pull test the strap separately with the pilot holding the handle and the pull test mechanism attached to the strap. That is a sufficient test and avoids possible physical injury to the pilot.

*cont/...*

d) **1.3.2 Category F2 - Control Line Circular Flight**

**USA**

*Amend the paragraph as follows:*

**For all classes of F2 except F2C and F2F, a** safety strap connecting the competitor's wrist to the control handle must be provided by the competitor and used during all flights. A pull test shall be applied separately to the safety strap when attached to the competitor's wrist. This pull test will be applied according to each class specification concerning the lines' pull test.

Reason: The danger in F2C/F2F stems NOT from a pilot releasing the handle, but rather from the shrapnel that results when a model crashes violently. It has been shown repeatedly that the ability for a pilot to change the handle from one hand to another when a major "incident" happens in the center prevents many crashes. Imposing a wrist strap on F2C/F2F competitors will result in more crashes with the associated danger.

As an example, the largest insurance claim paid by the AMA for ANY aeromodeling claim was as the result of a model crashing and the pitman being hit with the engine and other parts. What was left of the model was still attached to the lines attached to the handle which was still in the pilot's hand.

Another safety issue that must be considered is to avoid wrapping the lines of a flying model around another pilot. This frightening possibility can result in line breaking or even garotting of a pilot. The ability for a pilot to move a handle from one hand to another must not be diminished

Supporting data: Experience in both F2C and F2F as well as similar racing classes held throughout the world has illustrated time and again that the ability of a pilot to move the handle from one hand to another is, in fact, a **safety manoeuvre!** The introduction of the wrist strap for F2 racing has resulted in several serious incidents where models have crashed due to the inability of the pilot to extricate himself from a dangerous situation, situations which happen almost instantaneously and which cannot be prevented.

e) **1.4.2 Weight**

**United Kingdom**

*Amend the paragraph as follows:*

The weight taken to determine the ~~minimum~~ **wing** loading, ~~and~~ minimum ~~and or~~ **maximum** weight is that of the complete model aircraft in flying order but without fuel. **The weight shall be measured in kilograms and/or grams.**

Reason: To clarify the specification and the measuring standard which is to be used.

cont/...

**f) Annex 1.1 World Championship Events For Model Aircraft** **Germany**

*Request for World Championship status and amend as follows:*

3. RC category for Seniors

**i) F3N Radio controlled helicopter freestyle**

7. RC category for Juniors

**c) F3N Radio controlled helicopter freestyle**

Reason: F3N has been established for many years now as an international event popular all over the world. The F3 Helicopter Sub-committee takes already care of regular reviewing of the rules. After becoming an official class in 2009 the Championship status is still missing.

Supporting data: Despite of international competitions organized in other countries the German Open Championship show a growing interest during the last years (in brackets the number of nations participating)

2003: 22 pilots (1)

2004: 21 pilots (1)

2005: 17 pilots (2)

2006: 27 pilots (4)

2007: 35 pilots (5)

2008: 40 pilots (5)

2009: 45 pilots (6)

2010: 36 pilots (6)

Participating nations: AUT, CZE, DEN, GER, NED, SUI, SWE, USA, ITA, FRA

**g) Annex 1.1 World Championship Events For Model Aircraft** **Germany**

*Request for World Championship status and amend as follows:*

3. RC category for Seniors

**i) F3P Radio controlled indoor aerobatic model aircraft**

7. RC category for Juniors

**c) F3P Radio controlled indoor aerobatic model aircraft**

Reason: F3P has been established for many years now as an international event popular all over the world. Flown in F6, F3P was one of the most exciting shows during the World Air Games in 2009. The F3 Aerobatic Sub-committee takes already care of regular reviewing of the rules. After becoming an official class in 2009 the Championship status is still missing.

***Volume F1 – Free Flight begins overleaf***

## 11.4 Section 4C Volume F1 - Free Flight

### F1 Covering all volumes except ABR

F1 Sub-Committee

a)

*Change the numbering system in the technical volumes to replace the leading numbers of the current numeric system x.x.x by the class abbreviation.*

Reason: The numbers used in the Sporting Code originally related to its position as part numbers of the Sporting Code. Since the Code now appears only as separate volumes it is redundant to continue the use of the numbering system starting with 3 and higher for specific classes.

Instead it is proposed that all paragraphs in volume F1 start with “F1” , those in volume F2 start with “F2”, etc. This serves to identify the volume within the current format of the Sporting Code. Furthermore by adding the class letter, the specification for each class can be considered alone with completely self-explanatory evidence of the class to which the rules apply. Any cross-references to rules (for example from Annexes) are also made more comprehensible. You do not need to make the mental conversions such as “3.4 applies to F1D” or “5.2 applies to F3D” since it is obvious which class a rule covers. When rule changes are being considered there is also greater clarity in knowing which class is affected by a specific paragraph. The system also resolves the anachronism of both Scale and Promotional classes have volumes numbers beginning with “6.”.

To give some examples:

In volume F1 Free Flight paragraph 3.4.7 in the F1D rules becomes F1D.7.

In Volume F2 Control Line paragraph 4.3.6 in the F2C rules becomes F2C.6.

In Volume F5 Electric paragraph 5.5.4.7 in the F5B rules becomes F5B.7

In Volume F4 Scale paragraph 6.3.4 in the F4C rules becomes F4C.6

In Volume F6 Promotional Classes para. 6.2.3 in the F6B rules becomes F6B.3.

The annexes to the volumes can continue with the current numbering system, possibly with the addition of a class indicator.

This change was proposed in 2009 for volume F1 but was withdrawn without submission to Plenary under the objection that all the technical volumes should have consistent format. The application of the system to all other categories has been investigated and no problem was found which would hinder application to all technical volumes. A paper summarising this study was submitted to the CIAM Bureau and agreement reached that subcommittee chairmen make the changes to their volumes to identify any problems. News of this investigation should be available to the Plenary meeting.

**Technical Secretary's note:**

- ***Although this proposal may afford some clarity in having the paragraphs of the Sporting Code comprise the class abbreviation rather than the part number, the Sporting Code is still a single Code that happens to be published in separate volumes for expediency.***
- ***The Parts that govern the existing numbering still exist and still govern the categories and cannot be summarily ignored.***
- ***The proposal may resolve the anachronism of F4 & F6 paragraph numbering but***

*creates a further problem in those categories that have general category rules as there will no longer be a logical progression from the general rules to the class rules.*

- *The current volume annexes do need some standardisation which should be included in any future Code restructuring.*
- *The work involved in this paragraph re-numbering including all the cross-references, the subsequent checking and the correlation between the old number and the new numbering for future proposals is out of proportion to the benefit that would be achieved.*
- *There are greater anomalies in the Sporting Code that need addressing and the Technical Secretary has already devised a restructure & renumbering system that brings all the categories, the rules and the annexes in line and allows for the easy addition in a logical sequence for any of the categories, of any new classes in the future. This system has not been fully explored by the Subcommittee Chairmen.*
- *Finally, in December 2010 the President set up a Working Group under the Chairmanship of the Technical Secretary to investigate a radical restructuring that will eradicate all the anomalies, simplify the addition of new classes – especially RC classes – and take our Sporting Code into the future.*

## Free Flight Indoor

### F1D Indoor

#### a) 3.4.7 Steering

Finland

*Restructure and amend as follows and re-number subsequent existing paragraphs from c – f to d –g.*

#### **a) Steering of the model is only allowed to avert collision with the structure of the building, its contents or other models.**

~~ba) A balloon(s) with its the line attached line, or a rod, may be used to alter the course of the model, or to reposition it in another part of the flying space. **Altitude of the model must not change during the steering.** There will be no time limit or restriction to the number of steering attempts, except that all steering shall be done from the front end of the model and never from behind. **Note: If the model is moved laterally, or the model's altitude changes more than one half metre, or one metre for each 25 m of altitude (whichever is larger) the timekeeper will warn the competitor. Disregard of the timekeeper's warning will result in further warnings. Three warnings will result in a terminated flight.**~~

~~b) Steering must only be used to avert collision with the structure of the building, its contents or other models. Movements of the model must be primarily in a horizontal plane **Note:** If, in a timekeeper's opinion, a model's altitude change is approaching one half metre, or one metre for each 25 m of altitude (whichever is larger) he will warn the competitor. Continued disregard of the timekeeper's warning will result in a terminated flight.~~

#### **c) There is no restriction on the number of steering attempts. All steering must be from the front end of the model and never from behind.**

Reason: Clarification. In the current rules paragraph a) stating that "steering may be used ... to reposition [the model] in another part of the flying space" and paragraph b) stating the "steering must only be used to avert collision" are in a contradiction, as repositioning the model can also be used to move the model to a preferable spot of air conditions, which is against the original, sole reason to avoid immediate danger for the model. Removing the sentence allowing the repositioning

of the model and emphasizing the sentence of using steering only to avoid immediate danger to the model defines the single reason for steering. The timekeepers must verify that only course changes of the model are performed.

## Free Flight Outdoor

### F1A Gliders

#### b) 3.1.3 Number of Flights F1 Sub-Committee

*Amend the paragraph as follows:*

- b) Each competitor is entitled to one official flight in each round of the event. The duration of rounds must be announced in advance and may not be less than 30 minutes or greater than 90 minutes. **The competitor must tow and release his model during the round for the official flight, including attempts and repeated attempts**

Reason: To clarify that flights must be made during the round including any reflights and second attempts.

### F1B Model Aircraft with Extensible Motors

#### c) 3.2.3 Number of Flights F1 Sub-Committee

*Amend the paragraph as follows:*

~~See 3.1.3~~

**a) See 3.1.3.a.**

- b) Each competitor is entitled to one official flight in each round of the event. The duration of rounds must be announced in advance and may not be less than 30 minutes or greater than 90 minutes. The competitor must wind his rubber motor and launch his model during the round for the official flight, including attempts and repeated attempts**

Reason: To clarify that flights must be made during the round including any reflights and second attempts. Competition procedures are simplified by the proposal that rubber motors must be wound during the round, the same as is currently specified for flyoffs.

### F1C Power Model Aircraft

#### d) 3.3.2 Characteristics of model aircraft with piston motors F1C F1 Sub-Committee

*Amend the paragraph as follows:*

F1C models may use radio control only for irreversible actions to ~~restrict~~ **terminate** the flight, that is motor stop or dethermalisation. **(dethermalisation). This may include stopping the motor if it is still running.** Any malfunction or unintended operation of these functions is entirely at the risk of the competitor.

Reason: To state that it is not permitted to use radio as an alternative way to stop the motor during a regular flight. There are safety implications when using radio in this manner

e) **3.3.3 Number of Flights** **F1 Sub-Committee**

*Amend the paragraph as follows:*

See 3.1.3

**a) See 3.1.3.a.**

**b) Each competitor is entitled to one official flight in each round of the event.**

**The duration of rounds must be announced in advance and may not be less than 30 minutes or greater than 90 minutes. The competitor must start his motor and launch his model during the round for the official flight, including attempts and repeated attempts**

Reason: To clarify that flights must be made during the round including any reflights and second attempts. Competition procedures are simplified by the minor change that motors must be started during the round, the same as is currently specified for flyoffs

f) **3.3.8 Classification** **F1 Sub-Committee**

*Amend the paragraph as follows:*

e) See 3.1.8.e. ~~The maximum duration of the motor run is 5 seconds~~

Reason: It is unnecessary to refer to the motor run at this point in the code since 3.3.2 defines the motor run for all flights

**F1E Gliders with Automatic Steering**

g) **3.5.3 Number of Flights** **F1 Sub-Committee**

*Add to the following sentence to the end of the paragraph:*

**For each official flight, including second attempts and repeated attempts, the model must be launched between the starting and closing time of the round.**

Reason: To clarify that flights must be made during the round including any reflights and second attempts.

**F1G Model Aircraft with Extensible Motors**

h) **3.G.3 Number of Flights** **F1 Sub-Committee**

*Amend paragraph b) as follows:*

b) Each competitor is entitled to one official flight in each round of the event. The duration of rounds must be announced in advance and may not be less than 30 minutes or greater than 90 minutes. **The competitor must wind his rubber motor and launch his model during the round for the official flight, including attempts and repeated attempts.**

Reason: To clarify that flights must be made during the round including any reflights and second attempts. Competition procedures are simplified by the proposal that rubber motors must be wound during the round, the same as is currently specified for flyoffs F1G.

.../cont

F1 .../cont

### F1H Gliders

**i) 3.H.3 Number of Flights** **F1 Sub-Committee**

*Amend paragraph b) as follows:*

- b) Each competitor is entitled to one official flight in each round of the event. The duration of rounds must be announced in advance and may not be less than 30 minutes or greater than 90 minutes. **The competitor must tow and release his model during the round for the official flight, including attempts and repeated attempts.**

Reason: To clarify that flights must be made during the round including any reflights and second attempts.

### F1J Power Model Aircraft

**j) 3.J.3 Number of Flights** **F1 Sub-Committee**

*Amend paragraph b) as follows:*

- b) Each competitor is entitled to one official flight in each round of the event. The duration of rounds must be announced in advance and may not be less than 30 minutes or greater than 90 minutes. **The competitor must start his motor and launch his model during the round for the official flight, including attempts and repeated attempts**

Reason: To clarify that flights must be made during the round including any reflights and second attempts. Competition procedures are simplified by the minor change that motors must be started during the round, the same as is currently specified for flyoffs

### F1K Model Aircraft with CO<sub>2</sub> Engines

**k) 3.K.3 Number of Flights** **F1 Sub-Committee**

*Amend paragraph b) as follows:*

- b) Each competitor is entitled to one official flight in each round of the event. The duration of rounds must be announced in advance and may not be less than 30 minutes or greater than 90 minutes. **The competitor must launch his model during the round for the official flight, including attempts and repeated attempts.**

Reason: To clarify that flights must be made during the round including any reflights and second attempts.

### F1P Power Model Aircraft

**l) 3.6.3 Number of Flights** **F1 Sub-Committee**

*Amend paragraph b) as follows:*

- b) Each competitor is entitled to one official flight in each round of the event. The duration of rounds must be announced in advance and may not be less than 30 minutes or greater than 90 minutes. **The competitor must launch his model**

**during the round for the official flight, including attempts and repeated attempts.**

Reason: To clarify that flights must be made during the round including any reflights and second attempts

**F1Q Electric Power Model Aircraft**

**m) 3.Q.2 Characteristics**

**F1 Sub-Committee**

*Add the following to the end of the first paragraph:*

**The cells must be in original manufactured condition.**

Reason: There is a safety risk from competitors modifying cells, which is eliminated by this proposal.

**n) 3.Q.2 Characteristics**

**Germany**

*Amend the first paragraph as follows:*

Batteries should be wrapped in a transparent covering **shrink tube** to allow their classification. The battery pack will power the motor(s) as well as the controller(s) if they are used.

Maximum weight of battery pack (including connectors on the battery; **lithium type batteries of more than one cell need to have a balancer connector**):

Reason: Competitors may try to reduce the overall battery weight removing the cables for balancer and the covering of the single cells. This will not only increase the risk of physical damage. Charging lithium battery packs without balancer connected may overcharge one or two cells of the bundle, causing fire or an explosion.)

**o) 3.Q.2 Characteristics**

**F1 Sub-Committee**

*Amend the second paragraph as follows:*

Maximum weight of battery pack (including connectors on the battery):

125g for NiCd or NiMH batteries

90g for Li batteries

**Maximum number of cells in battery:**

**10 for NiCd or NiMH batteries**

**3 for Li batteries**

**Maximum mass of the motor including a connector and the cables from the motor to the connector must not exceed 8% of the mass of the model (including motor and batteries) with an upper limit maximum motor mass 45g.**

Reason: To reduce the performance of F1Q models. The limitation of the motor mass restricts the power which can be used in a scale according to the size of the model. The 45g upper limit on motor weight restricts the advantage of the heaviest model so that the freedom of design approach is maintained.

*cont/...*

F1 .../cont

**p) 3.Q.2 Characteristics Denmark**

*Amend paragraph 3.Q.2 as follows. There will be consequential changes in paragraphs 3.Q.5, 3.Q.8 and 3.Q.9 as shown.*

~~Nickel Cadmium (NiCad), Nickel Metal Hydrate (NiMH) and Lithium (Li) batteries can be used.~~

~~Batteries should be wrapped in a transparent covering to allow their classification. The batterypack will power the motor(s) as well as the controller(s) if they are used.~~

~~Maximum weight of battery pack (including connectors on the battery):~~

~~.....125g for NiCd or NiMH batteries~~

~~.....90g for Li batteries~~

~~External Battery packs are required to have a safety tether to the fuselage.~~

**Maximum used energy from the battery during motor run: ..... 4 Joule/g total weight of model.**

Safety locks must be used to prevent unintentional restarting of motor(s) after motor(s) have been stopped.

Rule B.3.1.a. of Section 4b does not apply to class (No builder of the model requirement. )

~~Maximum duration of motor run: time to be specified by the organisers up to a maximum duration of 25 seconds from release of the model~~

~~Motor runs may be timed statically on the ground by timing the motor cut-off. The motor run will also be timed from the instant of launch until it becomes apparent from the model attitude that the motor has stopped. If the motor run cannot be determined by observation of the model in flight then the static ground run time is taken, if that had been demonstrated.~~

F1Q models may use radio control only for irreversible actions to restrict the flight, that is motor stop and/or dethermalisation. Any malfunction or unintended operation of these functions is entirely at the risk of the competitor.

**3.Q.5. Definition of an Unsuccessful Attempt**

*Consequential change: delete paragraph a) and renumber the two subsequent paragraphs.*

~~An attempt is classed as unsuccessful if the model is launched and at least one of the following events occurs. If this happens on the first attempt then the competitor is entitled to a second attempt.~~

~~a) the time of the motor run from the release of the model exceeds the time specified in 3.Q.2 or 3.Q.8~~

~~b) **a)** when a part of the model becomes detached during the launch or during the flight.~~

~~c) **b)** the duration of the flight is less than 20 seconds.~~

**3.Q.8. Classification**

*Consequential change: amend paragraphs b) and d) as follows:*

- a) The total time for each competitor for each of the official flights defined in 3.Q.3 is taken for the final classification.

- b) In order to decide the individual placings when there is a tie, additional flights shall be made after the last flight of the event has been completed. ~~The motor run allowed for the first of the deciding flights shall be 5 seconds shorter~~ **The maximum allowed energy from the battery for the first of the deciding flight shall be 1 Joule/g total weight of model lower** than that used in the rounds. ~~The motor run will be reduced further by 5 seconds~~ **The maximum allowed energy from the battery will be reduced further 1 Joule/g total weight of model** for each subsequent flight, subject to a minimum ~~run of 5 seconds.~~ **of allowed energy from battery of 1 Joule/g total weight of model**  
The maximum time for the deciding flights will remain at that defined in 3.Q.7.
- c) The organiser will establish a 10 minute period during which all fly-off competitors must launch their model. Within these 10 minutes the competitors will have the right to a second attempt in the case of an unsuccessful first attempt for an additional flight according to 3.Q.5. Starting positions will be decided by draw for each fly-off.
- d) The Jury may permit the maximum for a round to be changed and/or ~~the motor run~~ ~~The~~ **Joule/g** to be changed from that given under 3.Q.8.b according to conditions.
- e) ~~The motor run~~ **The Joule/g** and maximum must be announced before the start of the round.

### 3.Q.9. Timing

*Consequential change: delete paragraph c).*

- a) See Section 4b, para B.13.
- b) The timing of flights is limited to the durations specified in 3.Q.7 and 3.Q.8. The total flight time is taken from the launch of the model to the end of the flight.
- ~~c) The motor run must be timed by two timekeepers with quartz controlled electronic stopwatches with digital readout, recording to at least 1/100 of a second. The motor run is determined as the average of the two registered times, and this average is reduced to the nearest 1/10th of a second below.~~

#### Reason:

- Using the Energy-limiter Principle minimizes the need for the newest and lightest (and often most expensive) technology
- Makes different model types and configurations comparable
- Promote innovation (Avoid "uniform" models.)

In F1A the energy is a 50m long towline plus the ability of the competitor to run and release the model at high speed. In F1B the energy is extracted from 30 grams of rubber, of which the best stuff tends to become more and more scarce and therefore almost impossible to pay for.

In F1C and F1J the engine size plus 5 seconds engine run is the limiting factor, and very difficult to time correctly. With an ENERGY-Limiter in F1Q the amount of energy/gram available is exactly the same for each competitor, and the challenge is solely to use it in the best way.

### q) 3.Q.2 Characteristics

**Germany**

*Replace all the paragraphs of 3.Q.2*

~~Batteries should be wrapped in a transparent covering to allow their classification.  
The battery pack will power the motor(s) as well as the controller(s) if they are used.~~

Maximum weight of battery pack (including connectors on the battery):

— 125g for NiCd or NiMH batteries

— 90g for Li batteries

**Lithium type battery packs must be in manufacturing condition, with the covering around the single cells and a balancer connector if the pack contents more as one cell.**

External Battery packs are required to have a safety tether to the fuselage.

Safety locks must be used to prevent unintentional restarting of motor(s) after motor(s) have been stopped.

Rule B.3.1. of Section 4b does not apply to class (No builder of the model requirement. )

**The motor run time will be determined by a maximum energy amount. In addition, motor runs over 20 seconds are regarded as overruns. The energy budget of each model is 5 joules per gram of the total weight. For energy calculations, weight exceeding 600 grams is to be ignored.**

**The allowed energy amount starts to be calculated with the launch of the model. If the energy limiter doesn't has the capability detecting the launching moment it may start its calculation from the beginning of the motor run. The measuring device has to calculate the energy consumed in real time. After coming to the end of the limited energy supply, the motor(s) must stop irreversibly. The timer stays independent, but the device may inform the timer about the end of the energy supply.**

F1Q models may use radio control only for irreversible actions to restrict the flight, that is motor stop and/or dethermalisation. Any malfunction or unintended operation of these functions is entirely at the risk of the competitor.

Reasons: A weight to energy based ratio suits to a wide range of models providing a comparable potential energy to reach similar altitudes. Any sportsman may decide which kind of flight pattern he prefers. Different model configurations are competitive within one event.

With a limiter, there is no need any more for the newest, most powerful and lightest motors and batteries. Both, an endless and expensive rush to the most advanced components and the unwanted “uniform” models (like in the other free flight classes) will be avoided. Each sportsman needs just one energy limiter - if it's adjustable - for all of his models, reducing the overall costs.

Cutting the energy calculation at the 600 gram limit avoids models too large, and allows converting of F1C models into F1Q. Furthermore, if needed in the future, it's simple to reduce the energy amount which is permitted. Such an adjustment of the rule doesn't need to change the models.

Neither a type nor a weight limit of a battery has to be defined. The energy limit per gram determinates the performance possible.

Supporting data: Fixing an energy amount of 5 joules per gram of the total model weight will reduce the performance of current high performance models for about 1/3. As an example, the WCup 2010 winning model from Matti Lithamo:

- Model weight round about 550 grams, energy consumption for 6 seconds is 4200 joule (input on average about 700 watts), enough to reach an altitude of 150 meters.

*cont/...*

q) 3.Q.2 Characteristics .../cont

- The limited energy budget of the proposed formula will be 550 grams x 5 joules = 2750 joules. So the estimated altitude is 100 m.
- Successful models with a spiral climb pattern like those of Frank Pollard or Klaus Salzer reach the same altitude with motor runs between 12 and 15 seconds.

Energy limiting makes different model configurations comparable.

r) **3.Q.2 Characteristics**

**F1 Sub-Committee**

*Amend the sixth paragraph as follows:*

Maximum duration of motor run:

time to be specified by the organisers up to a maximum duration of ~~25~~ **20** seconds from release of the model

Reason: To reduce the upper limit on motor run to reflect model performance, a lower value has been used in many competitions.

s) **3.Q.2 Characteristics**

**USA**

*Amend the sixth paragraph as follows:*

Maximum duration of motor run:

~~time to be specified by the organisers up to a maximum duration of 25 seconds from release of the model~~

**a) The energy budget of each model is up to 4.5 (four and a half) watt-sec per gr. Calculated motor runs under 4 (four) seconds or above 15 (fifteen) seconds will be rounded up/down to 4/15 seconds respectively. A +0.2 second will be considered an over run.**

**b) The motor's energy in watt-sec over the motor run is calculated as the average wattage over the motor run multiplied by the motor run, using a freshly charged battery (4.15 volts per Li cell, 1.2 volts per NiCad or NMH cells). Average wattage is calculated as:**

**i) Statically (the default): averaging of the initial wattage as the motor is powered and the terminal wattage just before it's powered down by measured by a commercial wattmeters via 3.5 mm male and female bullet connectors furnished by the contestant.**

**ii) Using pre or post flight controller dumps. Controllers with this feature can display a wattage profile over time on a PC from which the initial and terminal wattage figures can be read. The contestant is responsible for the appropriate display device.**

**c) Motor run satisfying (a), rounded to the closest 0.5 second will be posted on the model. Motor runs exceeding 0.1 second are considered overruns.**

**d) If programmable energy limiters are used, then only (a) applies.**

Reason: Each model will have its own motor run, depending on its weight and power train. A common watt-second per gram ceiling allows all models to attain the same potential altitude. The efficiency of electric models, accounting for losses due to the controller, motor, (gear) and propellor, as well as aerodynamic losses is between 30-35%. A 4.5 watt\*sec/gram value allows models to reach altitudes of

115-135 meters.

The upper motor run limit is designed to prevent heavy low powered models from cruising up with 40 second motor runs. The 4 second lower bond marginally effects the very high powered models, as it is difficult to build them under 500 grams. Furthermore, timing sub 4 second motor runs is likely to be inaccurate. (Note that motor runs can be measured statically before or after the flight, independent of whether the battery is fully charged.)

An energy/weight approach allows a wide range of models in the event. A 250 gram model with an average power of 125 watts would have a 15 second motor run while a 600 gram model with an average power of 700 watts would have a 4 second motor run. These examples correspond to very successful models by Frank Pollard (USA) and Matti Lihtamo (Finland).

Programmable energy limiters will obsolete motor run timing. Until they become available, motor runs would have to be timed, per paragraphs (b) and (c).

Reason:

Height in meters

ws/g	Efficiency			
	35%	30%	25%	20%
3	107.1	91.8	76.5	61.2
4	142.8	122.4	102.0	81.6
4.5	160.6	137.7	114.7	91.8
5	178.5	153.0	127.5	102.0
6	214.2	183.6	153.0	122.4

Motor runs  
for 4.5 WS/G

Grams	watts						
	100	200	300	400	500	600	700
250	11.3	5.6	4.0	4.0	4.0	4.0	4.0
300	13.5	6.8	4.5	4.0	4.0	4.0	4.0
350	15.0	7.9	5.3	4.0	4.0	4.0	4.0
400	15.0	9.0	6.0	4.5	4.0	4.0	4.0
450	15.0	10.1	6.8	5.1	4.1	4.0	4.0
500	15.0	11.3	7.5	5.6	4.5	4.0	4.0
550	15.0	12.4	8.3	6.2	5.0	4.1	4.0
600	15.0	13.5	9.0	6.8	5.4	4.5	4.0
650	15.0	14.6	9.8	7.3	5.9	4.9	4.2
700	15.0	15.0	10.5	7.9	6.3	5.3	4.5

cont/...

F1 .../cont

**t) Q.2 Characteristics** **F1 Sub-Committee**

*Amend the eighth paragraph as follows:*

F1Q models may use radio control only for irreversible actions to ~~restrict~~ **terminate** the flight, ~~that is motor stop or dethermalisation.~~ **(dethermalisation). This may include stopping the motor if it is still running.** Any malfunction or unintended operation of these functions is entirely at the risk of the competitor

Reason: To state that it is not permitted to use radio as an alternative way to stop the motor during a regular flight. There are safety implications when using radio in this manner.

**u) 3.Q.3 Number of Flights** **F1 Sub-Committee**

*Add text to item (b)*

- b) Each competitor is entitled to one official flight in each round of the event. The duration of rounds must be announced in advance and may not be less than 30 minutes or greater than 90 minutes. **The competitor must launch his model during the round for the official flight, including attempts and repeated attempts.**

Reason: To clarify that flights must be made during the round including any reflights and second attempts.

**Free Flight World Cup**

**v) Annex 1 –Rules for Free Flight World Cup** **Canada**

*Amend the paragraph as follows*

3. Contests

A maximum of two contests may be selected for any ~~one~~ **European** country. **A maximum of three contests may be selected for none European countries**

Reason: It will give a better chance for none European modellers to compete for World Cup points. The idea is also supported by the international community of competitors. Requesting a World Cup status for the “Pan American Cup”

**Volume F2 Control Line** begins overleaf

## 11.5 Section 4C Volume F2 - Control Line

### F2A Speed

- a) **4.1.5 Length of Course and Flight Circle.** F2 Sub-Committee

*Add new paragraph b)*

**b) A pilot's circle 3 metres in radius and a safety circle 21 metres in radius shall be clearly marked on the ground. See Appendix IV Annex 4E F2A Circle dimensions.**

Reason: Safety. With the increasing use of non-permanent sites, it is now necessary for safety reasons to have a more detailed instruction of the layout of the F2A circle.

- b) **4.1.12 Number of Helpers** F2 Sub-Committee

*Delete old paragraph b) and insert new paragraph b), c), d), e), and f). Amend existing paragraph c) and re-number as g).*

~~b) Two helpers and the team manager are admitted to the contest area. Only team members (including the team manager) are allowed to start and adjust the motors(s).~~

**b) Two helpers may assist the pilot in the contest circle.**

**c) The team manager may be one of the two helpers.**

**d) In the case of a complete team, the two helpers must be the other two team members or one team member and the team manager**

**e) Only team members and the team manager, if he is one of the two helpers, may start and adjust the motors(s).**

**f) In any case, the team manager may also enter the contest circle.**

~~g) In the case of an incomplete national Speed team, supporter(s) **supporters** may act as helper(s) **helpers** provided that he (they) is (are) **they are** registered as such to no more than one national team from the beginning of the contest through its close **for the duration of the contest.** and provided that the team member(s) plus the helper(s) do not exceed three persons. A maximum of four people may enter the circle, the pilot plus two helpers and the team manager.~~

Reason: Clarification. An incident at the 2010 World Championships showed that the current wording is not clear, and in order to avoid future problems, it is necessary to clarify these rules, as proposed.

- c) **Annex 4A Class F2A Judges guide** F2 Sub-Committee

*1st consequential change relating to 4.1.12 Number of Helpers.*

Bullet point 3: in the case of a complete team, the two helpers will **normally** be the other team members, **but one of them may be the team manager.**

New bullet point 4: **In addition to the two helpers, the team manager may enter the contest circle. When this is the case he may not assist the pilot or helpers, but he is permitted to carry and hold any equipment which the pilot and helpers require to use.**

*cont/...*

c) Annex 4A Class F2A Judges guide .../cont

2nd consequential change relating to 4.1.12 Number of helpers, delete the following paragraph

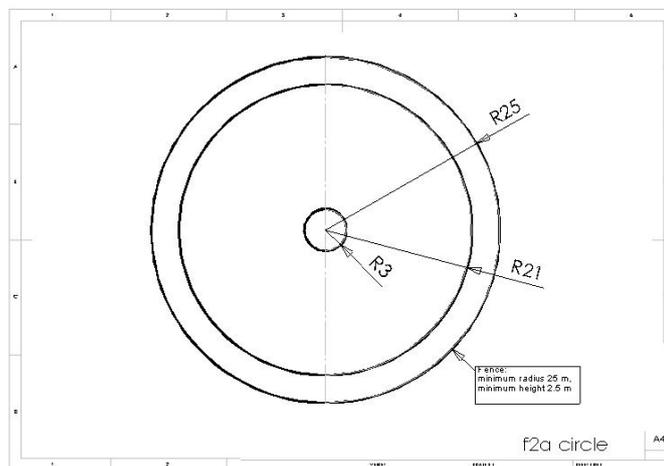
Bullet point 7 “It is almost impossible to enforce the second sentence of this rule .....

Reason: Consequential changes after the clarification to 4.1.12

d) **Annex 4E Class F2A**

**F2 Sub-Committee**

Add a new appendix (IV) and insert drawing



Reason: Consequence of safety change to rule 4.1.5

**F2C Team Race**

e) **4.3.1 Definition of a Team Racing Event**

**Australia**

Add a new paragraph as follows:

**h) For safety, F2C is exempt from any wrist strap requirements.**

Reason: Safety. We strongly believe that the inclusion of F2C in a blanket proposal will have serious and detrimental effects on the event.

In some emergency situations, an F2C pilot requires the ability to swap their control handle from one hand to the other during a flight to avoid dangerous consequences, typically where another pilot in the race accidentally causes a temporary impediment to clear vision or proper control of the model.

An inability to swap the control handle to the other hand can result in the model striking the ground (which can result in parts of the model becoming detached and

presenting missile hazards to others) or the lines becoming wrapped around a pilot (presenting a personal injury danger).

An additional safety aspect is the ever present possibility of the lines wrapping around another pilot. The importance of the pilot being able to change hands is a vital safety aspect in avoiding this situation

Supporting data: Typical F2C situations where swapping the control handle to the other hand can avoid danger and injury are:

- a model which has just overtaken a slower model suddenly loses power, but cannot be brought down to a lower altitude quickly enough to allow the other model to safely re-overtake normally
- a model which has just taken off rises too high before coming up to normal speed, catching the other pilots unprepared for an overtaking manoeuvre

f) **4.3.1 Definition of a Team Racing Event**

**USA**

*Add a new paragraph as follows:*

**h) For safety, F2C is exempt from any wrist strap requirements.**

Reason: Safety. The ability for a pilot to move the handle from one hand to the other during a race is a very significant safety action. It is often used to avoid crashes when a bad situation occurs in the center of the circle.

The danger in F2C stems NOT from a pilot releasing the handle, but rather from the shrapnel that results when a model crashes violently. It has been shown repeatedly that the ability for a pilot to change the handle from one hand to another when a major “incident” happens in the center prevents many crashes. Imposing a wrist strap on F2C competitors will result in more crashes with the associated danger.

As an example, the largest insurance claim paid by the AMA for ANY aeromodeling claim was as the result of a model crashing and the pitman being hit with the engine and other parts. What was left of the model was still attached to the lines attached to the handle which was still in the pilot's hand.

Another safety issue that must be considered is to avoid wrapping the lines of a flying model around another pilot. This frightening possibility can result in line breaking or even garotting of a pilot. The ability for a pilot to move a handle from one hand to another must not be diminished.

Supporting data: Incidents at the recently completed F2 World Championships resulted in model crashes when the pilot was not able to change the handle from one hand to another. In the (perhaps) most serious, the engine of the crashed model impacted the leg of another pitman leaving a serious bruise. It was fortunate that it was only his leg that was impacted since the same hit in the head could have resulted in very serious consequences. In another instance, the pilot was able to extricate himself from the wrist strap and successfully prevent the model from crashing. .

cont/...

F2 Control Line .../cont

## F2F Team Race

**g) 4.G.1 Definition of a Diesel Profile Racing Event Australia**

*Add a new paragraph as follows:*

**g) For safety, F2F is exempt from any wrist strap requirements.**

Reason: We strongly believe that the inclusion of F2F in a blanket proposal will have serious safety effects on the event.

In some emergency situations, an F2C or F2F pilot requires the ability to swap their control handle from one hand to the other during a flight to avoid dangerous consequences, typically where another pilot in the race accidentally causes a temporary impediment to clear vision or proper control of the model.

An inability to swap the control handle to the other hand can result in the model striking the ground (which can result in parts of the model becoming detached and presenting missile hazards to others) or the lines becoming wrapped around a pilot (presenting a personal injury danger).

An additional safety aspect is the ever present possibility of the lines wrapping around another pilot. The importance of the pilot being able to change hands is a vital safety aspect in avoiding this situation.

Supporting data: Typical F2F situations where swapping the control handle to the other hand can avoid danger and injury are:

- a model which has just overtaken a slower model suddenly loses power, but cannot be brought down to a lower altitude quickly enough to allow the other model to safely re-overtake normally
- a model which has just taken off rises too high before coming up to normal speed, catching the other pilots unprepared for an overtaking manoeuvre

**h) 4.G.1. Definition of a Diesel Profile Racing Event USA**

*Add a new paragraph as follows:*

**g) For safety, F2F is exempt from any wrist strap requirements.**

Reason: Safety. The ability for a pilot to move the handle from one hand to the other during a race is a very significant safety action. It is often used to avoid crashes when a bad situation occurs in the center of the circle.

The danger in F2C and F2F stems NOT from a pilot releasing the handle, but rather from the shrapnel that results when a model crashes violently. It has been shown repeatedly that the ability for a pilot to change the handle from one hand to another when a major “incident” happens in the center prevents many crashes. Imposing a wrist strap on F2C/F2F competitors will result in more crashes with the associated danger.

cont/...

*h) 4.G.1. Definition of a Diesel Profile Racing Event .../cont*

As an example, the largest insurance claim paid by the AMA for ANY aeromodeling claim was as the result of a model crashing and the pilot being hit with the engine and other parts. What was left of the model was still attached to the lines attached to the handle which was still in the pilot's hand.

Another safety issue that must be considered is to avoid wrapping the lines of a flying model around another pilot. This frightening possibility can result in line breaking or even garotting of a pilot. The ability for a pilot to move a handle from one hand to another must not be diminished

Reason: Experience in both F2F and similar racing classes held throughout the world has illustrated time and again that the ability of a pilot to move the handle from one hand to another is, in fact, a **safety maneuver!** The introduction of the wrist strap for F2 racing has resulted in several serious incidents where models have crashed due to the inability of the pilot to extricate himself from a dangerous situation, situations which happen almost instantaneously and which cannot be prevented.

***Volume F3 Aerobatics begins overleaf***

## 11.6 Section 4C Volume F3 - RC Aerobatics

### F3A Aerobatics

- a) **5.1.1. Definition of a Radio Controlled Aerobatic Power Model Aircraft** **F3 Aerobatics Sub-Committee**

*Amend as follows and re-number the paragraphs, if appropriate.*

#### *Paragraph 1*

A model aircraft, but not a helicopter, which is aerodynamically manoeuvred by control surface(s) in attitude, direction, and altitude by a pilot on the ground using radio control. **Variable thrust direction of the propulsion device(s) is not allowed.**

Reason: F3A model aircraft are not restricted to be manoeuvred by control surfaces only, but also i.e. by power setting. Though, manoeuvring by variable thrust direction would affect the basic characteristics of F3A aerobatics.

- b) **5.1.2. General Characteristics of RC Aerobatic Power Models** **F3 Aerobatics Sub-Committee**

*Amend paragraphs 3, 4, 9, 10 & 12 and re-number the sub-paragraphs in paragraph 12.*

#### **Paragraph 3**

**The propulsion device(s) must automatically shut-off or fully idle at the moment a R/C signal failure should occur.**

#### **Paragraph 4**

Paragraph B.3.1.a) of Section 4B...

#### **Paragraph 9**

In the event...supervision of the flight line director **while the propulsion battery must be fully recharged.** The model aircraft shall be re-tested within ~~30~~ **90** minutes by a second noise steward...

#### **Paragraph 10**

Radio equipment shall...aircraft to the ground, **except of the stipulations in Volume ABR B.11.2).** Auto-pilot control utilising...

#### **Paragraph 12**

Not permitted:

3. Auto-pilots or gyros for automatic wing levelling or other stabilisation of the model aircraft.

#### **4. Automatic flight path guidance.**

**5.** Propeller pitch change with automatic timing mode.

**6.** Any type of voice recognition system.

**7.** Conditions, switches, throttle curves, or any other mechanical or electronic device that will prevent or limit the **sound level** maximum power or rpm of the propulsion device during the sound/noise test.

*cont/...*

b) 5.1.2. General Characteristics of RC Aerobatic Power Models .../cont

**8.** Any type of learning function involving manoeuvre to manoeuvre or flight to flight analysis.

Reasons:

Para 3: A model aircraft out of control is less dangerous while the propulsion device(s) are shut-off or on full idle.

To prevent dangerous autostarting of an electric propulsion, i.e. if the transmitter is switched-off prior to the receiver with fail-safe having been programmed on power.

Para 4: Points out exceptions in ABR

Para 9: Rule must address specific handling for electric propulsions. Recharging of propulsion battery may require 60-90 minutes.

Para 12: Technical progress calls for additional bans to maintain the character of the class. In the sound test we measure the sound level, not the rpms.

c) **5.1.5. Definition of an Attempt** **F3 Aerobatics Sub-Committee**

*Amend second paragraph as follows.*

If the propulsion device ~~stops~~ **fails** after the take-off...

Reason: ie an electric propulsion device can be deliberately stopped and restarted during a flight, what we mean is failure.

d) **5.1.8. Marking** **F3 Aerobatics Sub-Committee**

*Amend paragraphs 1,2,3,4,5,6,8,10, as follows:*

**Paragraph 1**

**Each judge has to assess each manoeuvre and any other relevant action of the competitor individually and independently from the other judges. The criteria for judging are contained in the Description of Manoeuvres (Annex 5M) and in the Manoeuvre Execution Guide (Annex 5B)**

Each manoeuvre may be awarded marks.....multiplied by a coefficient (K-Factor) which ~~varies with~~ **depends from** the difficulty of the manoeuvre, ~~usually from one to five.~~

**Paragraph 2**

Any manoeuvre not completed, or flown out of sequence with the stated **schedule** ~~manoeuvre on the judge's score sheet~~, shall be scored zero (0). Zero scores need not be unanimous, except in cases where an entirely wrong manoeuvre was performed. Judges must confer after the flight in these cases, bringing it to the attention of the flight line director/contest director on site.

**Take-off and landing procedures are not judged and are not scored.**

**The manoeuvring zone is practically like a virtual screen, vertically spread in front of and at a distance of appx. 150 m from the pilot. It is laterally limited by two virtual vertical planes above the extension of two lines on ground each at an angle of 60 degrees left and right from the intersection of a centre line with the security line. The centre line is positioned on ground perpendicular to the security line on ground being parallel to the runway. The upper limit of the**

**manoeuvring zone is defined by the virtual plane stretching up 60 degrees from the ground at the intersection of all ground lines.**

**The pilot is normally placed on the intersection of all ground lines.**

### **Paragraph 3**

Manoeuvres must be...In this case, the **judge's (judges') mark(s)** scoring tabulators will, ~~as the judge's mark for that particular manoeuvre, enter the~~ **will be the** average of the numerical marks given by the other judges, rounded to the nearest whole number. **If no such average is achievable, the competitor has the right for a reflight as per paragraph 5.1.6.**

### **Paragraph 4**

Centre manoeuvres should...centre of the manoeuvring area **zone** while turn around manoeuvres should not extend past a line ~~60 degrees left and right of centre~~ **the lateral limits.** Vertical height should not exceed ~~60 degree~~ **the upper limit.** Also, manoeuvres should be performed ~~at a line~~ **distance** of flight approximately 150m in front of the **pilot's** competitor's position. Infractions of this rule will be cause for downgrading by each judge individually and in proportion to the degree of infraction. Exceptions to this rule are for the rolling **horizontal** circle manoeuvres which, of necessity, may deviate from the 150m ~~line~~ **distance** of flight.

### **Paragraph 5**

The manoeuvring ~~area~~ **zone** shall be...

### **Paragraph 6**

~~The judges shall...secretaries separating them. The judges' line is also the zero line, and any part of a manoeuvre performed behind this line, will result in a zero score for that manoeuvre.~~

### **Paragraph 8**

If a model...being flown in an unsafe **or inappropriate** manner, they may **bring this to the attention of the flight line director, who may instruct the pilot to land.**

### **Paragraph 10**

All preliminary flight results before the completion of a round must...

#### **Reasons:**

- Para 1: Precision of judging tasks, reference to Annexes; K-Factors don't vary; unnecessary sentence
- Para 2: The rule is the schedule, not the score sheet; moved from the previous Judges' Guide to here as a rule.
- Para 3: Improved definition of the manoeuvring zone; precision of the procedure.
- Para 4: Logic continuation of proposal 5.1.8 paragraph 3; while acting in a flight, a competitor is designated as a pilot; there will be other horizontal circle manoeuvres, not just rolling circles.
- Para 6: The security line should be where the pilot stands on.
- Para 8: Add-on to avoid i.e. any manoeuvre flying after scoring has ended.
- Para 10: Rule should apply to every round. Not only preliminaries

e) **5.1.9. Classification**

**F3 Aerobatics Sub-Committee**

*Amend paragraphs 1, 2, 3, 6, 8, as follows:*

**Paragraph 1**

For World and...to determine the preliminary ranking. ~~All scores, preliminary, semi-final and final, will be normalised to 1000 points as described below.~~ The top one third, but not...

**Paragraph 2**

The top ten...The best score from the known schedule will be combined with the ~~best scores~~ from the **both** unknown schedules for final classification...

**Paragraph 3**

The team classification is established at the end of the competition (after the finals) by adding the numerical final placing of the **best** three team members of each nation...

**Paragraph 6**

**Note 1**...For open international events, national championships, and domestic competitions, the total of the three best preliminary flights **out of four or the best two out of three** may be used to determine the individual winner and team placing. Further ~~f~~ Flights of Schedule F may be planned **incorporated** depending on local conditions **circumstances** and time available.

~~Organisers of Open International and National events may schedule more, or less, than four preliminary rounds/flights, depending on local conditions circumstances and time available. In such cases, at least one round/flight should always be able to be discarded to determine the final results. In the event of adverse weather conditions where...~~

**Paragraph 8**

**Note 2**:...can only be applied for events with at least 40 **5** competitors and 5 judges. For those smaller events that...the high**est** and low**est** scores **marks** for ...

Reason:

Para 1: Unnecessary sentence.

Para 2 To make unknown schedules more challenging. The two unknown schedules mostly differ in difficulty, so the new rule is fairer.

Para 3 If a team should consist of four members (with one junior), only the placing of the best three can count to give a fair team result.

Para 6: Precision of procedures. Adaption to 5.1.9: The top one third, but not more than 30 competitors, will then have two additional semi-final flights flying the known finals schedule.

For a World or Continental Championship with less than 40 competitors, the top five competitors will advance to the finals.

Para 8: Clarification

cont/...

F3A.../cont

f) **5.1.10. Judging** **F3 Aerobatics Sub-Committee**

*Amend paragraphs 2, 7, 9, as follows:*

**Paragraph 2**

The invited judges for a World or Continental Championship **must be selected from the current list of FAI International Judges and** must have had a reasonable amount of F3A judging experience of both current P and F schedules, and must submit a résumé of his/her judging experience to the organiser during the nomination process. The organiser must in turn submit the résumés to the CIAM Bureau ~~along with the judges list~~ for approval.

**Paragraph 7**

~~For international events~~ **open international events, national championships, and domestic competitions.** where the TBL statistical averaging scoring system is not used, the highest and lowest scores **marks** for each...

**Paragraph 9**

Before every World **or Continental** Championship, there shall be a briefing for the judges, followed by training flights...

Reason: Precision of procedures.

g) **5.1.11. Organisation for Radio Controlled Aerobatics Contests** **F3 Aerobatics Sub-Committee**

*Amend as follows and re-number paragraphs 1, 2, 5, 8, 9, 10, 11, 13, if appropriate.*

**Paragraph 1**

**Members of a National team, who have processed only one model aircraft each, may make use of the second model aircraft processed by another member of the same team. However, the model aircraft allocation is firm to the one team member who has ever made use of it in the competition. If the team member is not the one having processed this model aircraft the team manager has to request an according re-registration and re-marking by the organiser right after the first use.**

For transmitter and **FM** frequency control see Section 4B, paragraph B.11.

**Paragraph 2**

The draw for flight order will be done for each flight line, so that **FM** frequencies are separated with two competitors in between. Team members will not be drawn to fly directly after each other. Team members on separate flight lines will be separated by at least two competitors. Competitor identification numbers will only be assigned after this flight order draw, by pilot **competitor** group, and in numerical ascending order.

**Paragraph 5**

The flight order...The flight order for flights two, three and four will start  $\frac{1}{4}$ ,  $\frac{1}{2}$  and  $\frac{3}{4}$  down the finals flight order **with decimal-fractions rounded-up.**

**Paragraph 8**

If the **FM** frequency is clear the competitor or his team manager will be allowed to collect the **FM** transmitter from the transmitter pound. The competitor and his

helper(s) then occupy the starting area so that a radio check can be performed to verify the correct functioning of the radio control equipment. If there is a **FM** frequency conflict, the competitor must be allowed a maximum of one minute for a radio check before the start of the ~~3–minutes~~ starting time.

#### **Paragraph 9**

The time keeper will audibly notify the competitor when the minute is finished and immediately start timing the ~~3–minutes~~ starting time. ~~Electronic timing displays must be able to be interrupted for the sound/noise test.~~

**According to paragraph 5.1.2., the voltage of the propulsion battery of electric powered models, is checked by an official in the preparation area before the starting time is started.**

**For electric powered models, the electric power circuit(s) must not be physically connected, before the starting time is started and must be physically disconnected right after landing.**

#### **Paragraph 10**

A competitor is allowed **two (2) minutes of starting time and eight (8) minutes of flying time** ~~eight (8) minutes~~ for each flight. The timing of a flight starts **with the starting time** when the contest director, or timekeeper, gives an instruction to the competitor to start. The **openly displayed** timing device/clock will be **stopped** interrupted when the competitor is ready to take the sound measurement. **The helper(s) who place(s)** the model aircraft, must ensure that the model aircraft is placed **positioned** in the correct position, as **per paragraph 5.1.2.** instructed by the officials. **If the model aircraft is not placed correctly for the sound test** ~~does not roll forward deliberately~~ **before/at the 2-minute-mark, the contest director/time keeper will advise the competitor and helper that the flight may not proceed.** **The flight shall score zero points.** When the contest director/sound steward is satisfied that he has obtained a reading from the SLM, he will indicate this to the competitor, and the timing device will be re-activated **to start the 8-minute flying time.** ~~continue the timing process. Before the timing device/clock reaches the 3-minute mark, the model aircraft must show a deliberate forward movement for the take-off (throttle power advanced). If the model aircraft does not roll forward deliberately before/at the 3-minute mark, the contest director/time keeper will advise the competitor and helper that the flight may not proceed. The flight shall score zero points. Under normal circumstances, the clock/timing device continues to run, and when reaching~~ **With the expiry of the 8-minute mark the scoring will cease** the eight minute time limit, **except for the in-flight sound assessment, which is judged after the model aircraft has landed, irrespective of the time.**

#### **Paragraph 11**

**The** contest director/time keeper will advise the competitor **pilot,** helper, and the judges **of the expiry of the 8-minutes flying time**

~~No penalty is assigned to the competitor if the expiry of the 8-minute timing period occurs after the last manoeuvre, but before the landing. Thus, the wheels of the model aircraft may touch the ground after the 8-minute mark, with no penalty to the competitor.~~

#### **Paragraph 13**

During the flight, the competitor **pilot,** and his helper/caller (if required) must stay in the designated position in front of the judges, at the convergence of the ground

markings, **lines** and under the supervision of the flight line director. The competitor **pilot** must wear or display his identification/start number.

Reasons:

Para 1: Cost reduction for long distance and air travelling of National teams.

Para 2: Rule proposal is in line with ABR B.17.1. and ABR B.17.2.

Para 5: Precision of the procedures.

Para 8: Only FM frequencies need control

Para 9: To prevent dangerous autostarting of an electric propulsion.

Para 10: With the standing rule of a 3-minutes starting time as a part of the 8-minutes flying time, the schedule can't be completed, if the 3-minutes starting time has to been used. Simplification of the time keeping with regard to the sound test. Clarification of the procedure.

Paras 11 & 13: A competitor is designated as a pilot only while acting in flight.

**h) 5.1.12. Execution of Manoeuvres**

**F3 Aerobatics Sub-Committee**

*Amend paragraphs 1 & 2 as follows:*

**Paragraph 1**

The manoeuvres must be executed during an uninterrupted flight in the order in which they are listed ~~on the score sheets~~ **for the schedule**. The competitor may make only one attempt at each scored manoeuvre during the flight. ~~The competitor has eight minutes to complete the flight; timing to start when the flight line official gives the signal to the competitor to start his model aircraft and ending when the model aircraft first touches the runway after completing the flight.~~

**Paragraph 3**

~~Scoring will cease with the expiry of the eight minute time limit, except for the in-flight sound assessment, which is done after the flight is completed, irrespective of the time.~~

**The direction of the first manoeuvre or the landing may be different from that of the take-off.**

**After take-off, only turn-around manoeuvres, but not more than two (2), are allowed before starting with the first manoeuvre of the schedule.**

Reason: Precision of the procedures.

**i) 5.1.13. Schedule of Manoeuvres**

**F3 Aerobatics Sub-Committee**

*Delete the complete text and replace with the text & manoeuvre diagrams for Schedules A-12 ((2011)-2012); A-14 (2013-2014); P-13 (2012-2012); P-15 (2014-2015) in Agenda Annex 7a.*

Reason: Advanced schedules are simplified P-schedules with validity one year ahead of respective P-schedules.

They help advanced pilots to step-up to P-schedules. This system proved to be highly appreciated and very successful in Germany for years and now should be offered to every NACs in order to attract new pilots to the Class F3A.

P-schedules and F-schedules for the coming years must be implemented

**j) Annex 5B Judges Guide** **F3 Aerobatics Sub-Committee**

*Delete the complete text and replace with the text in Agenda Annex 7b.*

*Note that only paragraph 5B.3. remains the same as the existing Guide.*

Reasons: Renaming and revision of the Guide to address not only judges, but also pilots, callers, helpers etc. Precision of the manoeuvre executions

**k) Annex 5G Unknown Manoeuvres** **F3 Aerobatics Sub-Committee**

*Amend the paragraphs as follows:*

5G.1. Unknown...shall be composed by the finalists **or by a Subcommittee approved computer software.** The composition of any unknown schedule shall...

5G.2. The Composition of the unknown manoeuvre schedules shall ~~is~~ be done by the finalists with each finalist nominating, in turn, an appropriate centre or turn-around manoeuvre from the approved and published list of manoeuvres. This nomination and selection of manoeuvres may be either manual or computer-aided. The order of selection will be determined following the random flight draw with the order repeating until the manoeuvre schedule is complete. The nominated and selected manoeuvres must conform to the following general criteria:

~~5. All horizontal rolling manoeuvres (4 pt. rolls, 8 pt. rolls, slow rolls, etc) are usually flown in a downwind direction.~~

~~6. Snap rolls may be flown positive or negative, unless specified.~~

**6. Three manoeuvres of each schedule must have K = 6**

~~7. Not more than five~~ **Four** manoeuvres of each schedule **must have** may be K = 5.

~~8. Only 17 manoeuvres per unknown schedule.~~

~~a) Take-off sequence into wind (not judged and not scored).~~

~~b) **a)** 9 centre manoeuvres (5 upwind, 4 downwind).~~

~~c) **b)** 8 turn-around manoeuvres (4 left and 4 right).~~

~~d) Landing sequence into wind (not judged and not scored).~~

~~9. There is no limit on the total~~ **The summary of** K-factors **must be at least 74,** and the maximum score.

**If the composition of the unknown schedules is done by computer software, the criteria 1 - 8 apply accordingly.**

Reason: To make unknown schedules more challenging. The two unknown schedules mostly differ in difficulty, so the new rule is fairer. Precision of the procedures.

**l) Annex 5G Unknown Manoeuvres** **France**

5.G.8.1. Centre manoeuvres

*Amend the paragraph as indicated below*

**1.7 Knife edge loop (K6)**

**1.8 Knife edge loop, inverted entry and exit (K6)**

*cont/...*

*l) Annex 5G Unknown Manoeuvres .../cont*

- 1.9 Knife edge loop from top (K6)**
- 1.10 Knife edge loop from top, inverted entry and exit (K6)**
- 1.11 Knife edge loop with snap roll on top (K6)**
- 1.12 Knife edge loop with snap roll on top, inverted entry and exit (K6)**
- 14.17 Vertical knife edge eight (K6)**
- 14.18 Vertical knife edge eight, inverted entry and exit (K6)**
- 14.19 Vertical knife edge eight with two half roll (K6)**
- 14.20 Vertical knife edge eight with two half roll, inverted entry and exit (K6)**
- 14.21 Vertical knife edge eight, middle entry and exit, top first (K6)**
- 14.22 Vertical knife edge eight, middle entry and exit, top first (K6)**
- 4.31 Knife edge triangular loop (base at top) (K6)**
- 4.32 Knife edge triangular loop (base at top), inverted entry and exit (K6)**
- 4.33 Knife edge triangular loop (base at top), snap roll on horizontal leg (K6)**
- 4.34 Knife edge triangular loop (base at top), snap roll on horizontal leg, inverted entry and exit (K6)**
- 4.35 Knife edge triangular loop (base at top), roll on horizontal leg (K6)**
- 4.36 Knife edge triangular loop (base at top), roll on horizontal leg, inverted entry and exit (K6)**
- 10.21 Knife edge Cuban eight (K6)**
- 10.22 Knife edge Cuban eight, inverted entry and exit (K6)**
- 10.23 Knife edge Cuban eight with full rolls (K6)**
- 10.24 Knife edge Cuban eight with full rolls, inverted entry and exit (K6)**
- 10.25 Knife edge reverse Cuban eight (K6)**
- 10.26 Knife edge reverse Cuban eight, inverted entry and exit (K6)**
- 10.27 Knife edge reverse Cuban eight with full rolls (K6)**
- 10.28 Knife edge reverse Cuban eight with full rolls, inverted entry and exit (K6)**
- 14.17 Horizontal eight with one roll integrated in each loop (K6)**
- 14.18 Horizontal eight with one roll integrated in each loop, inverted entry and exit (K6)**
- 14.19 Horizontal eight with two rolls integrated in each loop (K6)**
- 14.20 Horizontal eight with two rolls integrated in each loop, inverted entry and exit (K6)**
- 14.21 Horizontal eight with four rolls integrated in each loop (K6)**
- 14.22 Horizontal eight with four rolls integrated in each loop, inverted entry and exit (K6)**
- 24.1 Double key: pull into vertical upline,  $\frac{3}{4}$  pt. roll up,  $\frac{5}{8}$  knife edge loop towards the back,  $\frac{3}{4}$  roll down, pull into  $45^\circ$  upline,  $\frac{3}{4}$  roll up,  $\frac{5}{8}$  knife edge loop towards the back,  $\frac{3}{4}$  pt. roll down, pull to exit upright**
- 24.2 Double key: from inverted push into vertical upline,  $\frac{3}{4}$  pt. roll up,  $\frac{5}{8}$  knife edge loop towards the back,  $\frac{3}{4}$  roll down, pull into  $45^\circ$  upline,  $\frac{3}{4}$  roll,  $\frac{5}{8}$  knife edge loop towards the back,  $\frac{3}{4}$  pt. roll down, push to exit inverted**
- 24.3 Double key: pull into a vertical upline,  $\frac{3}{4}$  pt. roll up,  $\frac{5}{8}$  knife edge loop towards the back,  $\frac{3}{4}$  roll down, push into a  $45^\circ$  upline,  $\frac{3}{4}$  roll up,  $\frac{5}{8}$  knife edge loop towards the back,  $\frac{3}{4}$  pt. roll down, pull to exit upright**
- 24.4 Double key: from inverted push into vertical upline,  $\frac{3}{4}$  pt. roll up,  $\frac{5}{8}$  knife edge loop towards the back,  $\frac{3}{4}$  roll down, push into  $45^\circ$  upline,  $\frac{3}{4}$**

**roll up, 5/8 knife edge loop towards the back, 3/4 pt. roll down, push to exit inverted**

Reason: For the composition of unknown schedules we need more difficult manoeuvres K=6.

**m) Annex 5 Rules for F3A Aerobatic World Cup F3 Aerobatics Sub-Committee**

**5N.3. Contests**

*Add a new paragraph as follows:*

**c) Five (5) judges have to be appointed for each judges' panel and a TBL scoring system has to be applied.**

Reason: Results of World Cup events must be comparable to achieve a fair overall result. If some events appoint panels with only three judges each, (with neither highest/lowest score discarded, nor TBL applicable) those results are rather unfair per se, but on top, should not count for the World Cup together with results of better conducted events.

**F3M Large Aerobatic Power Model Aircraft**

**n) 5.10.3 General Characteristics France**

*Amend the sixth paragraph as follows:*

The maximum noise level will be ~~94~~ **96** dB(A) measured at ~~7~~ **3** m from the centre line of the model aircraft ....

If a concrete or macadam surface is not available then the measurement may be taken over bare earth or very short grass in which case the maximum noise level will be ~~92~~ **94** dB(A).

Reason: The noise of our models is at the origin of numerous protests of people who live close to our flying fields and more particularly the noise of large Aerobatic Power Model Aircraft (F3M). Today, the rule for F3M allow more than 100 dB (A) at 3m which is not reasonable.

Supporting data:

Actual limits of the sound/noise level

<b>Class</b>	<b>Macadam</b>	<b>Grass</b>	<b>Distance</b>
F3A	94 dB(A)	94 dB(A)	3m
F3C	89 dB(A)	87 dB(A)	3m
F3M	94 dB(A)	92 dB(A)	7m
F4B	96 dB(A)	94 dB(A)	3m
F4C	96 dB(A)	94 dB(A)	3m
F4G	96 dB(A)	94 dB(A)	3m
F2B	96 dB(A)	94 dB(A)	3m

cont/...

n) 5.10.3 General Characteristics .../cont

The best would be that the CIAM bureau harmonizes all these levels of sound/noise as well as the method of measurement in a unique paragraph of the volume ABR.

**o) Annex 5L Description of Manoeuvres France  
& related 5.10.14 Known Schedule of Manoeuvres – K factors**

*Replace the K-factors, the manoeuvre descriptions and the Aresti diagrams see Agenda Annex 7c.*

Reason: Known sequence have to be changed each two years.

**F3P**

**p) 5.9.1 Definition of an R/C Indoor F3 Aerobatics Sub-Committee  
Aerobic Power Model Aircraft**

*Amend as follows and re-number the paragraphs, if appropriate.*

A model aircraft, but not a helicopter, which is aerodynamically manoeuvred by control surface(s) in attitude, direction, and altitude by a pilot on the ground using radio control. **Variable thrust direction of the propulsion device(s) is not allowed.**

Reason: F3P model aircraft are not restricted to be manoeuvred by control surfaces only, but also ie by power setting. Though, manoeuvring by variable thrust direction would violate the basic characteristics of F3P aerobatics.

Adaption to F3A 5.1.1

**q) 5.9.2. General Characteristics of R/C F3 Aerobatics Sub-Committee  
Indoor Aerobic Power Aircraft**

*Amend paragraphs 2, 3, 5, 7, as follows and re-number the paragraphs, if appropriate.*

**Paragraph 2**

**A tolerance of 1% will be allowed for possible inconsistencies in measurement instruments for weight and voltage unless otherwise stated.**

**Paragraph 3**

Power device limitations: Any suitable power device may be utilised except those generating any kind of exhaust emission. Electric powered model aircraft are limited to a maximum of 42 **42.56** Volts for the propulsion circuit **measured off load, and, if considered applicable, prior to flight while the competitor is in the ready box.**

**The propulsion device(s) must automatically shut-off or fully idle at the moment a R/C signal failure should occur.**

**Paragraph 5**

Radio Equipment shall...aircraft to the ground, **except of the stipulations in Volume ABR B.11.2).** Auto-pilot control utilising...

.../cont

q) 5.9.2. General Characteristics of R/C Indoor Aerobatic Power Aircraft .../cont

### Paragraph 7

Not permitted:

3. Auto-pilots or gyros for automatic wing levelling **or other stabilisation of the model aircraft.**

### **4. Automatic flight path guidance.**

4 **5.** Propeller pitch change with automatic timing mode.

5 **6.** Any type of voice recognition system.

6 **7.** Any type of learning function involving manoeuvre to manoeuvre or flight to flight analysis.

Reason: Adaption to F3A 5.1.2. Points out exceptions in ABR

Technical progress calls for additional bans to maintain the character of the class.

Adaption to F3A 5.1.9

r) **5.9.3. Definition and Number of Helpers** **F3 Aerobatics Sub-Committee**

*Amend as follows:*

A helper may be a Team Manager, another competitor or an officially registered supporter. Each pilot is permitted one helper during the flight. **Physically disabled competitors requiring an additional helper and/or caller or other assistance, must request permission with full details, with their entry, from the organiser of a championship. This additional assistance must be provided by the competitor, must not give him an unfair advantage over other competitors, and must not unduly delay or interfere with the running of the competition. Except for communication between the caller and the competitor, no other performance-enhancing communication with helpers is permitted during the flight.**

Reason: Adaption to F3A 5.9.3.

s) **5.9.5. Definition of an Attempt** **F3 Aerobatics Sub-Committee**

*Amend as follows and re-number the paragraphs, if appropriate.*

### *Paragraph 2*

Note: ~~If the propulsion device motor fails to start within the one (1) minute starting time allowed, the competitor must immediately make room for the next competitor. If the propulsion device stops **fails** after the take-off has begun, but before the model aircraft is airborne, it may be restarted within the one (1) minute starting period. **the attempt will be deemed complete.**~~

Reason: i.e. an electric propulsion device can be deliberately stopped and restarted during a flight, what we mean is failure.

Adaption to F3A 5.1.5.

.../cont

F3P.../cont

t) **5.9.6. Number of Attempts** **F3 Aerobatics Sub-Committee**

*Amend as follows and re-number the paragraphs, if appropriate.*

Note: An attempt...manoeuvres that follow will be judged **tabulated. This reflight should take place within 30 minutes of the first flight, in front of the same set of judges, or be the first flight after the judges' break, or, if it involves a protest, as soon as the FAI Jury has deliberated and communicated the outcome of the protest to the contest director. The result of the reflight will be final.**

Reason: Adaptation to F3A 5.1.5.

u) **5.9.8. Marking** **F3 Aerobatics Sub-Committee**

*Amend paragraphs 1, 4, 5, 6, 7, as follows.*

**Paragraph 1**

**Each judge has to assess each manoeuvre and any other relevant action of the competitor individually and independently from the other judges. The criteria for judging are contained in the Description of Manoeuvres (Annex 5M) and in the Manoeuvre Execution Guide (Annex 5B)**

Each manoeuvre may...by a coefficient (**K-Factor**) that varies with **depends on** the difficulty of the manoeuvre. Any manoeuvre not completed **or flown out of sequence with the stated schedule** shall be scored zero (0). **Zero scores need not be unanimous, except in cases where an entirely wrong manoeuvre was performed. Judges must confer after the flight in these cases, bringing it to the attention of the flight line director/contest director on site.**

**Take-off and landing procedures are not judged and are not scored.**

**Paragraph 4**

The manoeuvring area is limited by the floor, ceiling, and walls of the hall, as well as by the safety line (the line that the judges are seated on). A model aircraft must never cross this safety line. The centre line of the manoeuvring area stretches from the safety line (perpendicular) to the opposite long wall, and is positioned in the middle between the side walls.

The manoeuvring area is limited by the floor, ceiling, and walls of the hall, as well as by the safety **security** line (the line that the judges are seated on). **being parallel to the longest wall of the hall and in front of the judges.** A model aircraft must never cross this **safety-security** line. The centre line of the manoeuvring area stretches from the **safety-security** line (perpendicular) to the opposite long wall, and is positioned in the middle between the side walls.

**The competitor is normally placed on the intersection of the security line and the centre line.**

**The recommended dimensions of the hall should be about 40 x 20 metres in length and width and between 8 to 12 metres in height.**

Manoeuvres must be performed where they can be seen clearly by the judges. If a judge, for some reason **outside beyond** the control of the competitor, is not able to follow the model aircraft through the entire manoeuvre, he may set the "Not Observed" (N.O.) mark. In this case, the judge's (**judges'**) mark(**s**) for that particular

manoeuvre will be the average of the numerical marks given by the other judges **rounded to the nearest whole number. If no such average is achievable, the competitor has the right for a reflight as per paragraph 5.1.6.**

Centre manoeuvres should be ~~space~~ **positioned** equally above the centre...

#### **Paragraph 5**

Audible and visual signals to indicate violations of the manoeuvring area ~~are not to be employed.~~ **must not be used.**

#### **Paragraph 6**

If a model aircraft is ~~unsafe~~, in the opinion of judges, **unsafe** or being flown in an unsafe **or inappropriate** manner, they **may bring this to the attention of the flight line director, who may instruct** the **pilot** competitor to land.

#### **Paragraph 7**

~~The scores given by each judge for each competitor shall be made public at the end of each round of competition.~~

**The individual manoeuvre scores given by each judge for each competitor must be made public at the end of each round of competition. The team manager must be afforded the opportunity to check that the scores on each judge's score sheet correspond to the tabulated scores (to avoid data capture errors). The score board must be located in a prominent position at the flight line, in full view of the competitors and the public.**

~~The scores given by each judge for each competitor shall be made public at the end of each round of competition. All flight results before the completion of a round must be ranked alphabetically, or by country, or by contestant number, but not in order of performance or placing.~~

Reason: Precision of judging tasks, reference to Annexes.

Adaption to F3A

Improved definition of the manoeuvring zone.

Unnecessary sentence

Rule should apply to every round, not only preliminaries

#### **v) 5.9.8 Marking**

**France**

*Add following sentence:*

The recommended dimensions of the hall should be about 40 x 20 metres in length and width and between 8 to 12 metres in height. **The take off must be from right to left for AP flights 1 and 3 and from left to right for AP flights 2 and 4.**

Reason: Facilitate the work of judges. Make an equal difficulty for all pilots.

The halls are not symmetrical. For judges it is difficult to compare flights in opposite directions

*cont/...*

F3P.../cont

w) **5.9.9. Classification**

**Aerobatics Sub-Committee**

*Amend paragraphs 1 & 2 and Notes 1 & 2 as follows:*

**Paragraph 1**

**For World and Continental Championships**, ~~E~~each competitor will have four (4) preliminary flights (schedule F3P-AP), with the ~~sum of the best three~~ **normalised scores** counting to determine a first individual classification and the team placing if necessary **the preliminary ranking**. All preliminary scores will be normalised to 1000 points as described below. The top 20% (twenty percent) of the classified pilots ~~competitors~~ with a minimum of five (5) will have three (3) additional flights. These final flights will be flown as a known, finals schedule (schedule F3P-AF). The total of the best three preliminary flights normalised again to 1000 points will count as one score. This score and the three finals scores will give four (4) normalised scores. The sum of the three best will give the final classification. In the case of a tie, the sum of all the **four (4)** scores will determine the winner.

**The team classification is established at the end of the competition (after finals) by adding the numerical final placing of the best three team members of each nation. Teams are ranked from the lowest numerical scores to the highest, with complete three-competitor teams, ahead of two-competitor teams, which in turn are ranked ahead of one-competitor teams. In the case of a tie, the best individual placing decides the team ranking.**

**Paragraph 2**

**For World and Continental Championships**, ~~t~~he scores of all the preliminary and **final rounds** and finals will be computed using the Tarasov-Bauer-Long (TBL) statistical averaging scoring system. Only computer tabulation systems containing the TBL algorithm and judge analysis programs and approved by the CIAM Bureau can be used at World and Continental Championships. All scores for each preliminary **and final** round and finals will be normalised as follows: when all the competitors have flown in front of...

**Note 1:** Final flights to determine the individual winner are only required for World and Continental Championships. ~~For smaller contests, the total of the three best preliminary flights may be used to determine the individual winner and the team placing.~~ **For open international events, national championships, and domestic competitions, the total of the three best preliminary flights out of four or the best two out of three may be used to determine the individual winner and team placing. Flights of Schedule F3P-AF may be incorporated depending on local circumstances and time available.**

**Note 2** ...can only be applied for events with at least 40 **5** competitors and 5 judges. For those smaller events that...

Reason: Unnecessary sentence. Adaption to F3A. Precision of procedures Adaption to 5.9.9: the top 20% (twenty percent) of the classified pilots with a minimum of five (5) will have three (3) additional flights. These final flights will be flown as a known, finals schedule (schedule F3P-AF)

Adaption to F3A.

x) **5.9.9 Classification (Submitted as 5.9.8 Marking)** **France**

*Add Note 3*

**For F3P AFM each competitor will have 3 flights with the two best normalised scores to determine the ranking. The top 20% (twenty percent) of the classified pilots with a minimum of ten (10) will have three (3) additional flights. Scores are reset in final.**

**The sum of the two best will give the final classification. In the case of a tie, the sum of all the three (3) scores will determine the winner.**

**The rule for the flight order is the same as for F3P-AP and F3P-AF**

**The scores will be computed using the Tarasov-Bauer-Long (TBL)**

Reason: Fill up a space in the rules

There is nothing in the rule about the number of rounds in F3P-AFM and the flight order.

y) **5.9.10 Judging** **F3 Aerobatics Sub-Committee**

*Amend the paragraphs as follows:*

- b) For larger events, there might be several ~~groups~~ **panels** of judges.
- c) For World or Continental Championships the organiser must appoint one **or more** panel(s) of five judges **each**. The judges must be of different nationalities and must be selected from a current list of international Judges. Those selected must reflect the approximate geographical distribution of teams having participated in the previous World Championships **(if applicable)** and the final list must be approved by the CIAM Bureau.
- d) The invited judges **for World or Continental Championships must be selected from a current list of FAI international judges and must** have had F3P judging experience within the previous twelve months and must submit a resume of his judging experience to the organiser when accepting the invitation to judge at a World or Continental Championship. The organiser must in turn submit the resumes to the CIAM Bureau ~~along with the judges list~~ for approval.
- f) ~~Each judge has to assess each manoeuvre and any other relevant action of the competitor individually and independently from the other judges. The criteria for judging are contained in the Description of Manoeuvres (Annex 5M) and in the Judge's Manoeuvre Execution Guide (Annex 5B).~~  
**For open international events, national championships, and domestic competitions, where the TBL statistical averaging scoring system is not used, the highest and lowest scores for each manoeuvre may be discarded, but only where four or five judges are used**

Reason: Precision of procedures. Unnecessary sentence. Adaption to F3A.

*cont/...*

F3P.../cont

**z) 5.9.10 Judging** **France**

*Add at the end of paragraph e):*

**For international contests two warm up flights for judges should be flown by 2 pilots down lots before the first official preliminary flight each day.**

Reason: Make judging the most possible consistent and accurate. In the preliminary (F3P-AP) warm up flight for judges are only for world and continental championship.

**aa) 5.9.11 Organisation for R/C Indoor Aerobatic** **F3 Aerobatics Sub-committee**

*Amend the paragraphs as follows:*

- a) For transmitter and **FM** frequency control see Section 4B, Para. B.11. The draw for the flight order will be done for each flight line, except when possible, frequency will not follow frequency, nor team member follow team member. Also team members on separate flight lines will be separated by at least two competitors. **The draw for flight order will be done for each flight line, so that FM frequencies are separated with two competitors in between. Team members will not be drawn to fly directly after each other. Team members on separate flight lines will be separated by at least two competitors. Competitor identification numbers will only be assigned after this flight order draw, by pilot group, and in numerical ascending order.**
- b) ~~For flights two, the flight order will start in the middle of the original flight draw and then from the beginning to the middle. For flights three, the flight order is the same as the original draw, but in reverse.~~ **For flights two, three and four of the preliminary rounds the flight order will start  $\frac{1}{4}$ ,  $\frac{1}{2}$  and  $\frac{3}{4}$  down the flight order respectively. Organisers must take care to avoid a flight draw which will cause competitors to fly at approximately the same time each day.**  
**The flight order for the first round of the finals will be established by a random draw as above. The flight order for flights two, three and four will start  $\frac{1}{4}$ ,  $\frac{1}{2}$  and  $\frac{3}{4}$  down the finals flight order with decimal-fractions rounded-up.**
- d) Competitors must be called **by a flight line official** at least five (5) minutes before they are required to occupy the starting area.
- e) If his **FM** frequency is clear the competitor will be given his **FM** transmitter when he occupies the starting area so that he can perform a radio check. If there is a **FM** frequency conflict he must be allowed a maximum of one (1) minute for a radio check before the start of the one (1) minute starting time. The timer will notify the competitor when the minute is finished and immediately start timing the one (1) minute starting time. **According to paragraph 5.1.2., the voltage of the propulsion battery of electric powered models, is checked by an official in the preparation area before the 1-minute starting time is started.**

Reason: Precision of the procedures. Adaption to F3A.

cont/...

F3P .../cont

**ab) 5.9.11 Organisation for R/C Indoor Aerobatic** **France**

*Add a new paragraph :*

- f) **Each pilot will be allowing at least 5 flights minimum of 3min maximum 24 hours before the start of the competition.**

Reason: Ensure that each pilot can get used to the size of the room equally. The winner should not be the pilot who has the training room more like the room but the winner has to be the best pilot

There is no concept of training in the Official Rules.

**ac) 5.9.12. Execution of Manoeuvres** **F3 Aerobatics Sub-Committee**

*Amend as follows:*

- a) In the preliminary flights (schedule F3P-AP) and the finals flights (schedule F3P-AF), the manoeuvres must be executed during an uninterrupted flight in the order that they are listed on the score sheet **for the schedule. The competitor may make only one attempt at each scored manoeuvre during the flight.** The direction of take-off is the competitor's **pilot's** choice. The direction of ~~each~~ **the first** manoeuvre is determined ~~as a result of the~~ direction of **all the first following** manoeuvres.
- d) If the model aircraft touches the floor, ceiling, walls, or any structures or fixtures of the hall, or crosses the ~~safety~~ **security** line during a manoeuvre, this particular manoeuvre is scored ZERO.
- e) In AFM this rule only applies regarding the ~~safety~~ **security** line.
- f) The competitor may make only one attempt at each manoeuvre during the flight. The pilot has one (1) minute **starting time** ~~to start his motor~~ and...
- k) ~~The flight ends when the landing sequence is completed.~~ Scoring will cease at the expiry of the five (5) minutes time limit.

Reason: Precision of the procedures. Adaption to F3A.

**ad) 5.9.12 Execution of manoeuvres** **France**

*Add a new paragraph:*

- m) In AFM, after the crash of the model, only the pilot can put his model in flight during the period of 2 minutes of music without outside assistance.**

Reason: Fill up a space in the rules

In F3P-AFM, a model can crashed and stay in flying condition. The pilot and other helpers can put this model in flight during the period of 2 minutes of music.

**ae) 5.9.13 Schedule of manoeuvres** **France**

*Add a new third paragraph as follows:*

**New schedules AF/AP must not have high transition.**

Reason: Develop the discipline in Europe. Currently only France comply with FAI schedules in all competitions. Major competitions in Germany (Walhalla & DMVF

championship), England (Electric Indoor Masters), Netherlands (NL Walhalla & NED championship) and Lithuania (Lithuania open F3P championship) held but slightly modifying the program to avoid high transition.

The risk is to see the creation of a parallel competitor regulation like IMAC for F3M. Too many crashes with basket panels in schedules F3P-AP and AF during transitions between two figures at high level.

**af) 5.9.13 Schedule of Manoeuvres France**

*Cross refer to proposal ai).*

*Replace entirely the Schedules F3P-AP & F3P-AF (manoeuvres and K-factor) as follows:*

**SCHEDULE F3P-AP with K-Factor**

<b>AP 01. Take-off Sequence</b>	<b>0</b>
<b>AP02. Cobra with two half rolls (Centre manoeuvre)</b>	<b>5</b>
<b>AP03. Stall turn with two half rolls up (Turn-around manoeuvre)</b>	<b>4</b>
<b>AP04. Two 3/4 rolls opposite (Centre manoeuvre)</b>	<b>4</b>
<b>AP05. Humpty-bump + - - with 1/4 roll up (Turn-around manoeuvre)</b>	<b>2</b>
<b>AP06. Stall turn with 1/4 roll up (Turn-around manoeuvre)</b>	<b>4</b>
<b>AP07. 4 point torque roll (Centre manoeuvre)</b>	<b>4</b>
<b>AP08. Half circle with 2/4 point roll integrated (Turn-around manoeuvre)</b>	<b>5</b>
<b>AP09. Square loop with 4 half roll (Centre manoeuvre)</b>	<b>3</b>
<b>AP10. Inverted half cuban height (Turn-around manoeuvre)</b>	<b>6</b>
<b>AP11. Circle with one roll integrated (Centre manoeuvre)</b>	<b>2</b>
<b>AP12. Horizontal half diamond square edge (Turn-around manoeuvre)</b>	<b>3</b>
<b>AP13. Loop with to integrated 1/4 opposite roll in upper part (Centre manoeuvre)</b>	
<b>AP14. Humpty bump +++ with half roll up (Turn-around manoeuvre)</b>	
<b>AP15. 8 point roll (Centre manoeuvre)</b>	
<b>AP16. Landing Sequence</b>	<b>0</b>

**SCHEDULE F3P-AF with K-Factor**

<b>AF01. Take-off sequence</b>	<b>0</b>
<b>AF02 Knife edge loop with half roll (Centre manoeuvre)</b>	<b>5</b>
<b>AF03. Stall turn with one and half roll up and half roll down (Turn-around manoeuvre)</b>	<b>4</b>
<b>AF04. Two opposite two point roll of a four point roll (Centre manoeuvre)</b>	<b>5</b>
<b>AF05. Inverted shark aileron with 4 points of a 8 points roll in upline and a half roll in downline (Turn-around manoeuvre)</b>	<b>4</b>
<b>AF06. Rolling circle with 3 rolls opposite integrated (Centre manoeuvre)</b>	<b>3</b>
<b>AF07. Trombone with half roll in the downline (Turn-around manoeuvre)</b>	<b>3</b>
<b>AF08. Six side loop with half roll (Centre manoeuvre)</b>	<b>6</b>

*.../cont*

af) 5.9.13 Schedule of Manoeuvres .../cont

<b>AF09. Half circle from knife edge with half roll (Turn-around manoeuvre)</b>	<b>4</b>
<b>AF10. Two 3/4 torques rolls up opposite (Centre manoeuvre)</b>	<b>5</b>
<b>AF11. Stick back tail slide with two half roll up (Turn-around manoeuvre)</b>	<b>2</b>
<b>AF12. Reverse cuban height with half rolls integrated in half loops (Centre manoeuvre) 4</b>	
<b>AF13. humpty bump +-+ (Turn-around manoeuvre)</b>	
<b>AF14. horizontal square with half rolls (Centre manoeuvre)</b>	
<b>AF15. Landing sequence</b>	<b>0</b>

Reason: Known sequence have to be changed every two years

ag) **5.9.13** **Germany**

*Cross refer to proposal aj).*

*New manoeuvre schedules F3P-AP and F3P-AF replacing the current versions. Schedule F3P-AFM remains unchanged.*

Reason: Replace the existing manoeuvre schedules by new ones to be valid from January 2012. Current schedules are now well known and well practised and no more challenging for the majority of the competing pilots.

ah) **Annex 5M Description of Manoeuvres** **F3 Aerobatics Sub-Committee**

*Amend as follows.*

*Also amend Aresti-Drawing*

**AF08. Two vertical rolls opposite (Centre manoeuvre)**

From level inverted flight, push to a vertical upline. Perform a full roll, followed immediately by a full roll in opposite direction. ~~Push~~ **Pull** to exit upright **inverted**.

**AF09. Inverted top hat with ¼ rolls (Turn-around manoeuvre)**

~~Push~~ **Pull** to a vertical downline, perform a quarter roll, push to horizontal inverted cross-box flight. Push to a vertical upline, perform a quarter roll, and push to exit upright.

Reason: Correction of manoeuvre description.

ai) **Annex 5M Description of manoeuvres** **France**

*Cross-refer to proposal af). Replace the description of manoeuvres and Aresti drawings for Schedules F3P-AP & F3P-AF. See Agenda Annex 7d.*

Reason: Known sequence have to be changed every two years.

.../cont

F3P .../cont

**aj) Annex 5M**

**Germany**

*Cross-refer to proposal ag). Replace the description of manoeuvres and Aresti drawings for Schedules F3P-AP & F3P-AF. See Agenda Annex 7e.*

Reason: Current schedules are now well known and well practised and no more challenging for the majority of the competing pilots.

**New Provisional Class**

**ak) F3S Aerobatic Power Jet Models**

**Germany**

*Add a new class F3S. See Agenda Annex 7f.*

Reason: Currently adopted aerobatic classes don't fit the needs of jet model aircraft using ducted fans or turbo jets as propulsion device. So pilots wanting to do aerobatics with this kind of aircraft decided to develop adequate rules for contests and schedules of manoeuvres, based an F3A rules. After a decade of using this rules on national contests this proposal is submitted to join all jet flying pilots under FAI's umbrella.

***Volume F3 Soaring begins overleaf***

## 11.7 Section 4C Volume F3 - RC Soaring

### F3B Multi-Task Gliders

#### a) 5.3.1.9. Organisation of Contests

Germany

*Amend the paragraph as follows:*

- c) Sighting apparatus, winches or any device constituting an obstacle, should be placed on Base A and Base B, a minimum of 5 metres from the safety line for task C. Apparatus for judging the safety ~~line~~ **plane** in task C shall be placed a minimum distance of 5 metres from Base A or B outside the course.

Reason: In paragraph 5.3.2.5. Task C - Speed the item “safety line” was changed into the item “safety plane”.

The change was amended 2009 at the F3 Soaring Technical Meeting and approved by the Plenary Meeting: For 28; Against 2; Abstentions 0; Not Voting 12. Effective 01/01/10

In paragraph 5.3.1.9. this change of wording has been forgotten.

Technical Secretary's note:

- *There was no proposal in the 2009 Plenary agenda for any changes to rule 5.3.1.9 c)*
- *There is no record of rule 5.3.1.9 c) in the Minutes of the 2009 F3 Soaring Technical Meeting.*
- *No corrections were offered when the 2009 Plenary Minutes were accepted as accurate at the 2010 Plenary Meeting.*
- *Approved changes to rule 5.3.2.5 regarding safety line/plane cannot be a basis for a consequential change to rule 5.3.1.9.c.*

#### b) 5.3.2.2. Launching

United Kingdom

*In sub paragraph f) delete the first sentence and replace with*

**The battery may be charged on the launch line, but only by means of another 12volt slave battery of similar size with a maximum capacity of 100 ampere hours. Only 1 (one) slave battery per team except in the case of 2 (two) winch lines operating. In this case 1 (one) slave battery may be used in each direction. Any charger used must have an automatic cut-off set at maximum of 14.7 volts to prevent overcharging and risk of explosion. The charging leads must have a maximum diameter of 3mm and must be removed from the winch battery at the time of launching the model.**

**By stating the maximum number of slave batteries to one or two depending on whether back to back winch lines are employed, it prevents teams from using extra slave batteries. In addition by charging the winch batteries on the line teams need only carry one battery per winch thus reducing the costs and the work load for the teams**

Reason: Modern automatic chargers are capable charging lead acid batteries without risk of explosion.

This system has been used in the United Kingdom for many years without mishap and in any event charging on the launch line is optional not compulsory

*cont/...*

b) 5.3.2.2. Launching .../cont

By stating that the charger must be disconnected from the winch battery at the time of launching and stating the maximum diameter of the leads there can be no possibility of boosting the power of the winch at launch.

**c) 5.3.2.2. Launching**

**Germany**

*Amend the paragraph as follows:*

- c) The winch shall be fitted with a single starter motor. The starter motor must come from serial production. It is allowed to fit the ~~arbour~~ **arbor** of the rotor with ball or needle roller bearings at each end. The drum ~~must~~ **can** be driven directly by the motor **or by a gear with a constant transmission ratio**. Any further change of the original motor will lead to disqualification according to paragraph B.18.1. The drum must have a fixed diameter.

Reason: It is not arbour but arbor.

It becomes more and more difficult to buy starter motors without gear. If anybody will use a starter motor with gear for his winch there should be no restriction in the rule.

Supporting data: The starter motors with gear have a lower efficiency than the starter motors without gear; that means that a pilot who uses such a starter motor will have a disadvantage, because of the lower performance.

Our tests came to the result, that starter motors specially with permanent magnets and gear have mechanical losses up to 30% compared with the most popular starter motors (Bosch GF 12 V and Lucas 3 M 100) with losses of 10% and less.

**d) 5.3.2.2. Launching**

**Germany**

*Amend the paragraph as follows:*

- k) For the test a digital voltage-measuring instrument (accuracy less or equal to 1%) is used, which enables the measurement of the voltage of the battery and the output voltage from the

I/U-transducer 300 ms (+-30 ms) after the current to the winch is applied. The transducer for measuring the current may be a clamp transducer (range 0-600 or 0-1000A, accuracy less or equal to 2%) or a calibrated resistor (0.1 milliohm, accuracy less or equal to 0.5%) in the negative path of the circuit.

The resistance is calculated with the formula:

Measurement with clamp transducer  $R_{tot} = 1000 \times U_b / I_{300}$

Measurement with shunt  $R_{tot} = (1000 \times U_b / I_{300}) - 0.1$

( $R_{tot}$  in milliohms,  $U_b$  in volts,  $I_{300}$  in amperes)

~~The winch equipment is declared as being in accordance with the rules if its total resistance is at least 23 milliohms.~~

Reason: This sentence is not necessary in paragraph k) because we find it again in paragraph f)

cont/...

e) **5.3.2.4. Task B – Distance** **Germany**

*Amend the paragraph as follows:*

- d) The model aircraft must be identified by the contest director or designated official **the flight-line manager** to the judges at Base A and B ~~before or during~~ the launch. **For this procedure it is necessary that the competitor or his helper announces clearly the intention to start by calling their signal (alpha, bravo, charlie, delta, echo or foxtrot): when they get the permission by the contest director or the flight-line manager to start, they must start immediately. Otherwise another competitor becomes the permission to start. If a competitor starts without official permission he will be called back, must land and ask again for a new permission to start.**

The competitor must stay within a distance of 10 m either side of Base A during the timed flight.

Reason: This kind of identification the models is state of the art since many years. But this system demands a very close and clear collaboration between the contest director or the flight-line manager and the competitor or his helper.

f) **5.3.2.4. Task B-Distance** **Germany**

*New paragraph f) as follows and re-number the existing paragraph f) to g)*

- f) After having completed the task, the model aircraft must land in the area(s) determined by the contest director outside the safety area(s).**

Reason: Until now there is only a wording in the rules concerning the landing after the speed-flight but not for the landing after the distance-flight.

### **F3K Hand Launched Gliders**

g) **5.7.1.1 Timekeepers** **Germany**

*Amend the paragraph as follows:*

The organiser should provide a sufficient number of well-trained, official timekeepers in order to allow enough simultaneous flights at all time. The official timekeeper is not allowed to assist the competitor or his helper in any way. The competitor and his helper are entitled to read their results during the working time.

**Official timekeepers may position themselves anywhere inside or outside the start and landing field in order to observe the flight.**

Reason: Clarification. Pilots complained that official timekeepers would hinder them in a proper landing or starting of their model glider. It was not specified where official timekeepers have to position themselves. With this addition it is made clear now, that official timekeepers may position themselves anywhere, inside or outside the start and landing field

h) **5.7.1.4 Transmitter Pound** **Germany**

*Amend the paragraph as follows:*

The organiser should provide a transmitter pound where all transmitters and/or antennas are kept in custody while not in use during a flight or the corresponding

preparation time. **If a pilot does not return his transmitter and/or antenna and thereby delays the beginning of a group, this is penalized by 100 penalty points.**

Reason: Clarification for safety reason. It happened several times that pilots did not return their transmitter and/or antenna. For safety reasons the start of the next group had to be delayed, which hindered the contest director in efficiently running the contest. With this addition, such a pilot is now penalized, if he delays the start of the next group by not returning his/her antenna and/or receiver.

i) **5.7.1.5 Penalties** **Germany**

*Insert a new paragraph as follows:*

**An infringement of any rule will incur 100 point penalty to the pilot's final score unless otherwise stated.**

Reason: Some rules do not specifically state a penalty if breached. By including the above rule 5.7.1.5 in the general section it avoids the possibility of manipulating rule wording to avoid a penalty.

j) **5.7.2.3 Change of model glider** **Germany**

*Amend the paragraph as follows:*

Each competitor is allowed to use five model gliders in the contest. It is permissible to change parts between these five model gliders. The competitor may change his model gliders at any time as long as they conform to the specifications and are operated on the assigned frequency. The organiser has to mark the five model gliders and all interchangeable parts of each of the five model gliders. All spare model gliders must stay outside the start and landing field and one of the spare model gliders may only be brought into the start and landing field for an immediate change. If changing the model gliders **happens** during the working time, then both model gliders must be in the start and landing field. **The not-used model must be brought outside the start and landing field.**

**If the change of model gliders is done outside the start and landing field or the not-used model is or remains in the start and landing field, this is penalized with 100 penalty points.**

Reason: Clarification for safety. It happened several times that pilots crashed a model in the start and landing field during the start. They correctly changed the models, but left the broken model inside the start and landing field. This represented a dangerous object for other pilots, as they could fall over that model or damage their own model while hitting the broken model during start or landing. For safety reasons not-used models (either broken or not) have to be brought outside the start and landing field.

k) **5.7.2.3. Change of model glider** **United Kingdom**

*Amend the paragraph as follows:*

Each competitor is allowed to use five model gliders in the contest. It is permissible to change parts between these five model gliders. The competitor may change his model gliders at any time as long as they conform to the specifications and are

operated on the assigned frequency. The organiser has to mark the five model gliders and all interchangeable parts of each of the five model gliders. All spare model gliders must stay outside the start and landing field and **only one model is permissible in the start and landing field to score a valid flight time.** One of the spare model gliders may be brought into the start and landing field for an immediate change during the working time **after which the model no longer in use must be immediately removed from the start and landing field.**

Reason: The intention of the rules has always been for a pilot to only have one model in the box during a valid flight, as anything else is a serious safety hazard, the above rule change just clarifies this.

**l) 5.7.2.4 Retrieving of model glider Germany**

*Amend the paragraph as follows:*

If the competitor lands the model glider outside the start and landing field, then it has to be retrieved back to the start and landing field either by the competitor or his helper. **During the competitor's preparation and working time** other people, including the team manager, are not allowed to retrieve the model glider.

While retrieving the model, it is not permissible to fly it back to the start and landing field. Launching outside the start and landing field in this situation is penalised by **with** 100 points that will be deducted from the final score.

Reason: Clarification. Without the addition no-one is allowed to help the pilot to retrieve the model glider, if it has landed outside the start and landing field at any time during the contest. This can cause severe problems, if eg the model glider has landed in a tree and more than two persons are needed to retrieve the model glider. Therefore the limitation of helping the pilot is clarified by restricting the help of others only during the pilots preparation and working time.

**m) 5.7.3.2. Start and landing field United Kingdom**

*Amend the paragraph as follows:*

The organiser must define the start and landing field before the start of the contest. Within the start and landing field each competitor must have adequate space to conduct his launches and landings, at least 30 m distance to any person in the start direction. The organiser should consider about 900 m<sup>2</sup> per competitor, (square of 30 m x 30 m). All launches and landings must happen within this area. The border line defining the start and landing field is part of the start and landing field. Any launch or landing outside this area is scored zero for the flight. Competitors may leave the start and landing field while flying their model glider, but starting, landing, and catching the model glider must only occur **with the pilot and model both** within the start and landing field. **Any landing with the pilot outside of this area is scored a zero for the flight.**

Reason : Clarification of rule to ensure safety of other pilots

cont/...

F3B .../cont

**n) 5.7.3.2 Start and landing field**

**Germany**

*Amend the paragraph as follows:*

The organiser must define the start and landing field before the start of the contest. Within the start and landing field each competitor must have adequate space to conduct his launches and landings, at least 30 m distance to any person in the start direction. The organiser should consider about 900 m<sup>2</sup> per competitor, (square of 30 m x 30 m).

All launches and landings must happen within this area. The border line defining the start and landing field is part of the start and landing field. Any launch or landing outside this area is scored zero for the flight.

~~Competitors may leave the start and landing field while flying their model glider, but starting, landing, and catching the model glider must only occur within the start and landing field.~~

**Competitors may leave the start and landing field while flying their model glider. For starting their model glider and in order to achieve a valid landing (see 5.7.6.2) the competitor must be inside the start and landing field.**

Reason: Clarification. For a better view on the model under difficult conditions, e.g. flying far away, the common practise of F3K pilots is to follow their model after launching it to better see the reactions of the model. The current rule is not precise where the pilot should be, outside or inside the start- and landing field. The additional explanation shall clarify where the pilot has to stand when landing the model in the start- and landing field.

**o) 5.7.6.1 Landing**

**Germany**

*Amend the paragraph as follows:*

The model glider is considered to have landed (and thereby terminated its flight) if:

- (a) The model glider comes to a rest anywhere
- (b) The competitor **catches** ~~touches~~ the airborne model glider ~~for the first time~~ by hand or any part of his body (or if the competitor is disabled, the same applies for his start helper).

Reason: Clarification. It was not clear, what happens, when the pilot touched the model glider for the first time in the attempt to catch it, but didn't succeed. What happened with this flight time? What happened, if the model glider afterwards landed outside the start and landing field? In some tasks, e.g. task B, F, or G this raised serious discussions as the rules were not clear.

For clarification the replacement of words is done. Catching the model glider implicitly describes a process, where the object is in the hands for a longer time – compared to touching it for the first time where the short moment is explicitly described.

cont/...

F3B .../cont

**p) 5.7.6.2 Valid landing**

**Germany**

*Amend the paragraph as follows:*

Landing is considered valid, if:

- (a) At least one part of the model glider at rest touches the start and landing field or overlaps the start and landing field when viewed from directly above (this provision includes any ground based object within the starting and landing field, as well as the tape marking the boundary of the landing field)..
- (b) The competitor (or his **start** helper) **catches** touches the airborne model glider ~~for the first time~~, while standing on the ground with both feet inside the starting and landing field.

Reason: Clarification. It was not clear, what happens, when the pilot touched the model glider for the first time in the attempt to catch it, but didn't succeed. Was this a valid landing? What happened, if the model glider afterwards lands outside the start and landing field? In some tasks, e.g. task B, F, or G this raised serious discussions as the rules were not clear.

For clarification the replacement of words is done. Catching the model glider implicitly describes a process, where the object is in the hands for a longer time – compared to touching it for the first time where the short moment is explicitly described.

**q) 5.7.9.4 Flight testing time**

**Germany**

*Amend the paragraph as follows:*

After all the model gliders of the previous group have landed, the competitors flying in the next group receive at least 2 minutes of flight testing time, which is part of the preparation time. During this flight testing time the competitors are allowed to perform as many test flights inside the start and landing field as necessary for checking their radio and the neutral setting of their model gliders.

Each competitor has to ensure that he is finished in time with his test flights and is ready to start when the working time of the group begins. The last 5 seconds before the start of the working time have to be announced by the organiser.

~~Competitors who are not part of this group are not permitted to perform test flights either inside or outside the start and landing field and any competitor so doing will incur a penalty of 100 points.~~

A competitor will receive a penalty of 100 points if he starts or flies his model glider outside of the working and preparation time **of his assigned group.**

Competitors may test fly before the transmitter impound and after the last working time of the day.

Reason: Clarification for safety. With the changes it is now clearly described that any flights outside the pilots assigned group (i.e. preparation and working time) are penalised. It happened several times, that pilots started in a wrong group and it was not clear, what happened, as these were no test flights. This is made clear now.

cont/...

F3B .../cont

r) **5.7.11 Definition of tasks (1 of 7 “task” proposals)** **Denmark**

*Add a new task I as follows:*

**Each competitor has an unlimited number of flights. Only the best four flights will be added together. The maximum accounted single flight is 150 seconds. Working time is 10 minutes.**

Reason: The task G (5.7.11.7) has changed to a turnaround task for the good pilots, instead of the original duration task. Therefore an increased max time will push the demand more in the direction of air reading, instead of precise timing.

Another reason is that more and more contest have numerous rounds, and more tasks would make it easier to choose task to harden the competition, and separate the top pilots. It could be discussed if this new task would replace task G (5.7.11.7)

More tasks will increase the demand for an even wider tactical horizon

Supporting data: This task has been flown two years ago in “Swinging Denmark F3K”. See this link for Martin Kopplows comments on the task:

<http://www.modelflyvning.dk/media/92109/mal%20ein%20kurzer%20bericht%20vom%20wochenende.doc>

It was also flown in 2009 as round zero.

s) **5.7.11 Definition of tasks (2 of 7 “task” proposals)** **Denmark**

*If proposal v) is not approved then this proposal will be withdrawn.*

~~Task G (Five longest flights)~~

~~Each competitor has an unlimited number of flights. Only the best five flights will be added~~

~~together. The maximum accounted single flight time is 120 seconds.~~

~~Working time is 10 minutes.~~

Reason: The task G (5.7.11.7) has changed to a turnaround task for the good pilots, instead of the original duration task.

t) **5.7.11 Definition of tasks (3 of 7 “task” proposals)** **Denmark**

*Add a new task J as follows:*

**Each competitor has an unlimited number of flights. Only the best four flights will be added together. The maximum accounted single flight is 180 seconds. Working time is 12 minutes.**

Reason: More and more contest have numerous rounds, and more tasks would make it easier to choose task to harden the competition, and separate the top pilots.

More tasks will increase the demand for an even wider tactical horizon.

The working time doesn't always have to be 10 minutes. A longer working time gives the possibility for more thermal cycles to pass through in one groups working time, together with the associated sink.

Varying working times are not new to F3K (se 5.7.11.1 task A (last flight) – working time min 7 minutes, max 10 minutes).

u) **5.7.11 Definition of tasks (4 of 7 “task” proposals)** **Denmark**

*Add a new task K as follows:*

**Each competitor has an unlimited number of flights. Only the best five flights will be added together. The maximum accounted single flight is 180 seconds.**

**Working time is 15 minutes.**

More and more contest have numerous rounds, and more tasks would make it easier to choose task to harden the competition, and separate the top pilots.

More tasks will increase the demand for an even wider tactical horizon.

The working time doesn't always have to be 10 minutes. A longer working time gives the possibility for more thermal cycles to pass through in one groups working time, together with the associated sink.

Varying working times are not new to F3K (se 5.7.11.1 task A (last flight) – working time min 7 minutes, max 10 minutes).

v) **5.7.11 Definition of tasks (5 of 7 “task” proposals)** **Denmark**

*Add a new task L as follows:*

**Each competitor has an unlimited number of flights. Only the best three flights will be added together. The maximum accounted single flight is 240 seconds.**

**Working time is 12 minutes.**

More and more contest have numerous rounds, and more tasks would make it easier to choose task to harden the competition, and separate the top pilots.

More tasks will increase the demand for an even wider tactical horizon.

The working time doesn't always have to be 10 minutes. A longer working time gives the possibility for more thermal cycles to pass through in one groups working time, together with the associated sink.

Varying working times are not new to F3K (se 5.7.11.1 task A (last flight) – working time min 7 minutes, max 10 minutes).

w) **5.7.11 Definition of tasks (6 of 7 “task” proposals)** **Denmark**

*Add a new task M as follows:*

**Each competitor has an unlimited number of flights. Only the best three flights will be added together. The maximum accounted single flight is 300 seconds.**

Reason: More and more contest have numerous rounds, and more tasks would make it easier to choose task to harden the competition, and separate the top pilots.

More tasks will increase the demand for an even wider tactical horizon.

The working time doesn't always have to be 10 minutes. A longer working time gives the possibility for more thermal cycles to pass through in one groups working time, together with the associated sink.

Varying working times are not new to F3K (se 5.7.11.1 task A (last flight) – working time min 7 minutes, max 10 minutes).

/cont

F3B .../cont

**x) 5.7.11 Definition of tasks (7 of 7 “task” proposals) Denmark**

*Add a new task N as follows:*

**Each competitor has an unlimited number of flights, but only the three last flights will be scored.**

**Maximum time per flight is 180 seconds for 10 minutes working time.**

**Example: 1<sup>st</sup> flight 150 s**

**2<sup>nd</sup> flight 45 s**

**3<sup>rd</sup> flight 180 s**

**4<sup>th</sup> flight 150 s**

**Total score: 45 s + 180 s + 150 s = 375 s**

Reason: More and more contest have numerous rounds, and more tasks would make it easier to choose task to harden the competition, and separate the top pilots. More tasks will increase the demand for an even wider tactical horizon.

**y) 5.7.11.4 Definition of tasks Netherlands**

**Task D (Increasing time by 15 seconds)**

*Amend the paragraph as follows:*

**This task may be included in the competition program only if the organizer provides a sufficient number of official timekeepers, so that each competitor in the round is accompanied by one official timekeeper.**

Reason: At task D (increasing time by 15 seconds) a small difference in flight time can have a `major impact on the flight score of the competitor. Therefore official timekeepers are needed to check proper time taking of the helpers.

Example:

A competitor achieves the last flight (target flight time 120 seconds) only 119 seconds. Assuming another competitor in the same group achieves 120 seconds, the competitor will be rewarded with 771 points. So, 1 second different flight time can result in a difference of 229 scoring points.

Remark: The proposed additional requirement is identical to the requirement in task E “Poker” (5.7.11.5).

**z) Annex 3A Rules for World Cup Events Czech Republic**

*Add F3K and F3F to the end of the paragraph 1. **Classes:***

*Delete from paragraph 3. **Contests** the superfluous word*

**1. Classes:** The following separate classes are recognised for World Cup competition: F3B<sub>1</sub> and F3J, **F3K and F3F.**

/cont

z) Annex 3A Rules for World Cup Events .../cont

**3. Contests:...**

...

~~Class F3B and F3J~~

...

Reason: Classes F3K and F3F are already official and organising of World Cups would increase the interest of competitors.

***Technical Secretary's note: this proposal is no longer necessary as 2010 Plenary approved that World Cups may be organised by the relevant Subcommittee for any of its classes (B.2.6)***

***Volume F3 Helicopter begins overleaf***

## 11.8 Section 4C Volume F3 - Helicopters

### F3C Helicopters

a) **5.4.3. General Characteristics** **F3 Helicopter Sub-Committee**

*Remove internal combustion engine displacement restrictions.*

~~e) MOTOR: Maximum piston engine displacement: 15ccm two cycle  
20 ccm four cycle  
25 ccm gasoline only~~

**c) ENGINE/MOTOR: Internal combustion engine displacement: No restrictions**

Electric motors are limited to a maximum no load voltage of 51 Volts for the propulsion circuit.

Reason: With the introduction of powerful electric motors and Lithium batteries, IC engine manufacturers are at a disadvantage today. Lifting the restrictions allows IC engine manufacturers to develop more competitive designs.

Supporting data: The displacement restriction was lifted many years ago in the F3A category and has resulted in significant IC engine developments.

b) **Annex 5D Manoeuvre Descriptions and Diagrams** **F3 Helicopter Sub-Committee**

#### 5D.2

*Amend the paragraphs as follows:*

#### **P1. FIGURE “M” WITH HALF PIROUETTES – (UU)**

The MA lifts off from the helipad and hovers at 2m. MA backs up, stops and hovers over flag 1(2). MA ascends 2.5m while performing a 180° pirouette and stops for 1 second, continues ascent while performing a 180° pirouette and stops at 5m. MA descends 2.5m at 45° while performing a 180° pirouette and stops for 1 second. MA continues 45° descent while performing a 180° pirouette and stops at 2m. MA ascends 2.5m at 45° while performing a 180° pirouette and stops for 1 second, continues ascent while performing a 180° pirouette and stops at 5m. MA descends 2.5m while performing a 180° pirouette and stops for 1 second, continues descent while performing a 180° pirouette and stops at 2m over flag 2(1). MA backs up 5m, stops and hovers over helipad. MA descends and lands on helipad. **All 180° pirouettes can be performed in either direction.**

#### **P9. INSIDE LOOP WITH PIROUETTE – (UU)**

MA flies straight and level for 10m minimum entry. MA performs an inside loop with a travelling 360° pirouette on top with minimum duration of 2 seconds. **The pirouette can be in either direction.** Manoeuvre is completed with 10m straight and level flight.

.../cont

b) Annex 5D Manoeuvre Descriptions and Diagrams .../cont

### 5D.3

*Amend the paragraphs as follows:*

#### **F1. CIRCLE WITH 360° PIROUETTE – (UU)**

MA takes off vertically from the helipad and ascends to 2m and stops. MA starts backwards into a 5m vertical circle while simultaneously performing a 360° pirouette **in either direction**. At the end of the vertical circle MA comes to a stop at 2m over helipad. MA then descends to a landing on the helipad.

#### **F2. INVERTED TRIANGLE 2– (UU)**

MA takes off vertically from helipad and stops at 2m. MA performs a 90° pirouette so nose points to the pilot. MA ascends at 45° while performing 180° pirouette **in either direction** and stops over flag 1(2). MA then flies horizontally to flag 2(1) while performing a 4 point pirouette and stops. (The stops between the points of 4-point pirouette are of 1 second duration.) MA descends at 45° while performing 180° pirouette **in either direction** and stops at 2m over helipad. Model then performs a 90° pirouette and stops. MA then descends to and lands on helipad.

#### **F3. OVAL 1- (UU)**

MA takes off vertically from helipad to 2m and stops. MA moves 2.5m backwards while performing 90° pirouette and continues into a half ascending vertical circle of 5m diameter while simultaneously performing a 180° pirouette **in either direction**. MA hovers sideways from one halfway line to the other with nose facing the pilot. MA continues into a half descending vertical circle while simultaneously performing a 180° pirouette in opposite direction to the first and continuing to the second half way line and then continues back while performing a 90° pirouette **in the opposite direction to the first 90° pirouette** to 2m over helipad and stops. MA descends to a landing on the helipad. (There are no stops during this manoeuvre except the two over the helipad).

Reason: In discussions within the F3C Subcommittee prior to the 2010 European and AOCC F3C Continental Championships it became clear that some of the manoeuvre descriptions needed additional words to clarify same. The above clarifications were circulated within the S/C and received unanimous approval.

Supporting data: During the team manager's meetings prior to the start of both Continental Championships the clarifications were presented and accepted by the participants. Everyone agreed that the clarifications solved the misunderstandings that existed prior to these events

cont/...

F3 Helicopter .../cont

## **F3N Helicopters Freestyle**

### **c) 5.11 Class F3N F3 Helicopter Subcommittee**

The F3C Subcommittee respectfully requests that this class of competition be raised from official to World Championship status. We request that the requirements for paragraph “A.15. Eligibility for World and Continental championships” in section ABR be waived.

Reason: The F3N competition class is the fastest growing category especially for our young competitors. If we follow the normal lengthy procedure for raising the class status we run a serious risk of losing our young competitors and our image as forward thinking leaders in international aeromodeling.

Supporting data: From 2003 through 2009 open international competitions using the provisional F3N rules in VOLUME F3 Helicopters have been organized in Germany. The statistics for these events are as follows:

2003: Participants = 22

2004: Participants = 21

2005: Participants = 17

2006: Participants = 27

2007: Participants = 35

2008: Participants = 40

2009: Participants = 45

In 2010 an open international competition using the official F3N rules was organized by Germany. The organizer limited the entry to 40 and 33 actually competed. To date, participants have come from Austria, Czech Republic, Denmark, Germany, Italy, Netherlands, Slovenia, Sweden, Switzerland and USA.

Obviously Germany has been a leader for this type of competition. However, similar events have been organized in France, Great Britain, The Netherlands, Spain and the USA. Most helicopter manufacturers are viewing these competitions with great interest. It is our belief that the number of competitors and manufacturer support will definitely increase if the status is raised. Also, the number of countries that organize such events will increase if we raise the F3N class to World Championship status.

### **d) 5.11 Class F3N Rules (was Annex 5F) F3C Subcommittee**

**Technical Secretary's Note: As from 1st January 2011, class F3N rules appear as 5.11 and not Annex 5F.**

*Amend the F3N rules as shown in the proposal. See Agenda Annex 7g.*

Reason: A majority of F3N competitors favor a reduced number of set manoeuvres (30) and a separate short list of (10) optional/blank manoeuvres that can be changed on a yearly basis. To make this a workable system the F3C S/C is recommending a separate optional manoeuvre list that will be maintained by the F3C S/C Chair on a yearly basis and approved by the CIAM. Organizers can then select manoeuvres from this list at least six months prior to an F3N competition. In addition, clarifying text was added where appropriate.

**e) Annex 5F Manoeuvre Descriptions  
and Diagrams**

**F3 Helicopter Sub-Committee**

*Cross-refer to proposal d).*

*Add the 10 optional set manoeuvres for 2011 to the 30 manoeuvres of proposal d).  
See Agenda Annex 7h.*

F3 Helicopter Sub-Committee note: This list with ten (10) optional set manoeuvres is an addition to 5F.11. It will be used for 2011 and in the future maintained and modified by the S/C chair and approved by the CIAM Bureau. This list allows for yearly changes to the optional manoeuvres to adapt the rapidly evolving F3N class.

Reason: Instead of using 40 set manoeuvres as in the present rules the vast majority of F3N competitors favor 30 set manoeuvres and 10 optional set manoeuvres. The optional manoeuvre list allows for yearly changes to the manoeuvres to adapt to the rapidly evolving F3N class. This list will be maintained by the F3C S/C chair and approved by the CIAM Bureau.

**f) Annex 5G Judges Guide for class F3N**

**F3C Sub-committee**

*Add a Judges' Guide for class F3N. See Agenda Annex 7i.*

Reason: The F3N Judges' Guide is necessary to complete the class.

~~ANNEX 5F of VOLUME F3 R/C Helicopters.~~

***Volume F3 Pylon Racing begins overleaf***

## 11.9 Section 4C Volume F3 – Pylon Racing

### F3D Pylon Racing

a) 5.2.2 Technical Specification of Pylon Racing Aircraft Netherlands

*Add a new rule e)*

**e) For the identification of models the contest director may supply coloured stickers to the competitors to be applied on the wing surfaces . These wing stickers shall have the following properties:**

- **Width between 75 and 100 mm, length equal to local wing chord, but minimum 100 mm.**
- **Thickness maximum 0.1 mm.**
- **Total weight of stickers maximum 3 grams.**
- **Adhesive strength more than 0.5 N/mm<sup>2</sup>.**
- **water resistant.**
- **Sufficiently flexible to follow all wing shapes**
- **Bright colour (most likely fluorescent), two highly different colours have to be available.**
- **Ability to be peeled off without damaging wing surfaces.**

**The stickers must be positioned at the outer half of either the left or the right wing on top and bottom side.**

Reason: Improved efficiency and speed of the identification process prior to a race. Less identification errors during races by pylon judges and time keepers.

Supporting data: Was applied at the World Championships 2007 and 2009 with good success.

Typical products that can be used are polyester film based materials like Mactac, Orastick, Prena Easyplot, etc.

b) 5.2.6.3 Wing Thickness F3 Pylon Sub-Committee

*Amend the paragraph as follows:*

Wing thickness of the root shall be at least 22 mm for a monoplane, and 18 mm for a biplane. On a biplane with different size wings, the smaller wing must be at least 13 mm thick at the root. Wing thickness ~~may decrease in a straight line taper from root to tip as viewed from the leading or trailing edge.~~ **at any position of the wing's span shall be equal or more than that of a straight taper between the root and zero at the tip as viewed from the leading or trailing edge.**

Reason: To maintain the safety reason behind this rule and conform to current practice with complex wing shapes.

Supporting data: In conformity with a FAI Jury interpretation at the 2009 F3D world championship

*cont/...*

F3 Pylon .../cont

**c) 5.2.7 Engine(s)**

**F3 Pylon Sub-Committee**

*Amend the paragraph as follows:*

Engine(s) must be of the reciprocating piston type, with a maximum total swept volume of 6.6 cm<sup>3</sup>. Propellers must rotate at the speed of the crankshaft. Total engine air intake cross sectional area is limited to a total of 444 95 mm<sup>2</sup>.

Reason: In order to comply with rule 5.2 concerning limitation of speed.

Supporting data: The average course speed as defined in 5.2 at the WC 2009 was higher than 234 km/h, so according measures have to be taken.

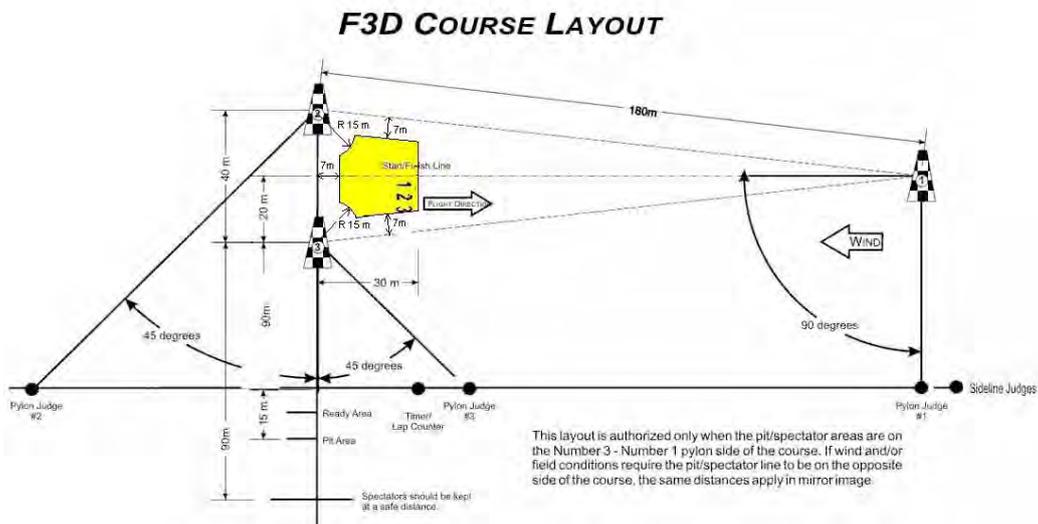
**d) 5.2.16 Racing Course Specification**

**Netherlands**

*Amend paragraph (a) as follows:*

- (a) The race course is a triangle with sides of 40 metres, 180 meters and 180 metres, marked by 3 pylons. In this triangle ~~a circle with a diameter of 20 metres~~ **an area in the shape of, and to the dimensions and location as shown on the diagram at the end of 5.2.16,** is specified, wherein, for reasons of safety, all pilots, callers and the Starter have to stay during a race.

*The dimensions and pilots & callers safety area in yellow.*



Reason: Safety: This new shape of the area where pilots and callers have to stand will reduce the danger of interference between pilots. In the formerly used 20 m circle all pilots it appeared that all pilots tended to go to the same position. By changing to a circle shape around pylons 2 and 3, a line of a certain length with constant distance to the pylons will be available, and the tendency of the pilots to go to exactly the same position will be less. The safety distances to the connecting lines between the pylons are determined from the ground impact analysis of years 2006 - 2010.

cont/...

F3 Pylon .../cont

**e) 5.2.17 Race from Start to Finish** **F3 Pylon Sub-Committee**

*Re-number existing paragraphs (o) to (p) and (p) to (o).*

*Amend existing paragraph (p) as follows:*

Over-flying the sideline shall be considered dangerous **and will be penalised as an infringement (to be judged by the sideline judge).**

*Amend paragraph (q) as follows:*

- q) After passing the first pylon on the first lap of the race, **low flying is considered persistent in the case of flying below the height of three consecutive pylons. Below a pylon height means that any part of the model is below the pylon height. This will be judged by the timekeeper and N° 1 pylon judge. An infringement will be given after confirmation by both parties.** ~~flying below the top of any pylon (to be judged by the pylon judges or the sideline judge) and over-flying the sideline (to be judged by the sideline judge) will be penalised as an infringement.~~

*Consequential changes may be necessary to internal references across the volume.*

Reason: The interpretation of this rule has given discussion in many competitions.

Supporting data: This interpretation was approved by the FAI jury at the 2009 World Championship.

**f) 5.2.17 Race from start to finish** **F3 Pylon Sub-Committee**

*Amend the paragraph as follows:*

- (u) After the completion of 10 laps, the starter must immediately instruct the competitor to remove his aircraft from the course and to shut off his engine within 10 seconds. If the engine is not stopped within 10 seconds after the starters command, the competitor shall be disqualified for that flight ( to be judged by the starter ) In certain circumstances the starter may allow a competitor to continue to fly for a short time.

**The need to continue to fly for a short time after the end of the race must be announced to the starter before the race starts. Only two straight runs will be accepted.**

Reason: The pilot has to shut off his engine immediately. This addition to the rule is a clarification of the condition that a competitor will be allowed to fly longer e.g. for trimming his plane.

Supporting data: During the WCH 2009 in Germany the above written additional sentence was proposed by the contest director, approved by the FAI Jury and agreed by team managers of all competing nations.

cont/...

*F3 Pylon .../cont*

### **New Provisional Class**

**g) Annex 5W Class F3R Pylon Racing Model Aircraft of Limited Technology** **F3 Pylon Sub-Committee**

*For the rules for provisional class F3R, which is a pylon racing class based on F3D but with technological limitations, see Agenda Annex 7j. See also Agenda Annex 7j-1 for the rules as they would appear in the F3 Pylon volume.*

Reason: F3R is based on the AMA 428 class (Q500), which is a popular class and flown in many countries all over the world at national contests and in Europe as a “Europe” cup competition.

Some countries used the AMA 428 rule with some differences. The technical specification of the model is almost identical in all countries. Power plant and other boundary conditions, as well as the safety approach of the F3D class are consolidated in this proposal.

***Volume F4 Scale begins overleaf***

## 11.10 Section 4C Volume F4 - Scale

### F4H Stand-off Scale

- a) **6.9.1. Model aircraft specification** **Norway**  
*Amend the paragraph as follows:*  
6.9.1 ~~The same as F4C.~~ **The same as in rule 6.1.1.**  
Reason: To more clearly give the definition of the model aircraft.
- b) **6.9.2. Documentation requirements** **F4 Scale Sub-committee**  
*Replace the entire paragraph as shown:*  
**1) Photographic evidence:**  
**At least three photographs or printed reproductions of the prototype which must show the complete aircraft, preferably from different aspects. At least one of these must show the actual subject aircraft as proof of markings.**  
**2) Proof of Colour, any of the following is acceptable:**  
**Colour photographs. Published descriptions if accompanied by colour chips certified by a competent authority. Samples of original paint certified by the owner of the full size aircraft. Published colour drawings, eg "Profile" type publications.**  
Reason: To better specify what is needed of documentation in this class and to prepare it to become a Championship Class.
- c) **6.9.3. Competitor's declaration** **F4 Scale Sub-committee**  
*Amend the paragraph as follows:*  
The competitor **is required to fill in the relevant part of the Competitor's Declaration (Annex 6.E.)** to declare that the complete colour scheme and markings are applied to the surface of the model by the competitor. No other declaration is required.  
Reason: The rules require a declaration, and this has now been incorporated in the Annex 6.E.
- d) **6.9.4. Judging for Fidelity to Scale & Craftsmanship** **F4 Scale Sub-committee**  
*Add at the end of the note:*  
**All static judging is to be done at minimum 5 metres; judges are not allowed to approach the model**  
Reason: To make clear to all that this is the Stand-off Scale class and any F4C model taking part in the class should not have the benefit of close scrutiny of details not required in this class.

cont/...

F4H .../cont

**e) 6.9.4.**

**F4 Scale Sub-committee**

*Amend the outline K-factor*

Reduce the Outline K-factor from 40 to **5**

Reason: To avoid giving the F4C models taking part in the class too much advantage in relation to the proper F4H models.

***Volume F4 Scale begins overleaf***

**11.11 Section 4C Volume F5 - Electric**

**F5 Contest Rules**

**a) 5.5.2.1 Definition of an Official Flight F5 Electric Sub-Committee**

*Amend the paragraph as follows:*

- a) During a two (2) minute starting period, the competitor is allowed an unrestricted number of attempts, hand launches or starts from the ground **(except F5B, para 5.5.4.4 d))**. An attempt starts when the model aircraft is released by the competitor or his helper(s). After the first attempt, it is no longer allowed to take another model aircraft. The timekeeper will start **the timer** ~~stopwatch~~ at each attempt. After two minutes, no further launching or takeoff is allowed and the flight is being considered as official, the model aircraft being airborne or not. The pilot may repeat a second two-minute starting period only if:

Reason: In consequence with F5B, para 5.5.4.2 and clarification.

**F5B Motor Gliders**

**b) 5.5.2.1 Definition of an Official Flight Germany**

During a two (2) minute starting period, the competitor is allowed **one** ~~an~~ ~~unrestricted number of attempts~~, hand launches or starts from the ground. ~~An attempt starts when the model aircraft is released by the competitor or his helper(s).~~ After the first attempt, it is no longer allowed to take another model aircraft. The timekeeper will start his stopwatch when the model is launched or ~~took~~ **takes** ~~off the ground at each attempt~~. After two minutes, no further launching or takeoff is allowed and the flight is ~~being~~ considered as official, the model aircraft being airborne or not. The pilot may repeat a second two-minute starting period only if:

- a) The competitor cannot perform a flight due to outside interference verified by the organiser.
- b) No scoring was made for reasons outside the control of the competitor.

In such cases, the flight may be repeated at any other time decided by the Contest Director.

Reasons: For safety reasons no second start should be allowed after a failed start. the short preparation time after a failed start allows no secure check of the model to see if everything is OK.

Several dangerous crashed happened in the last years after the model has been started in a hurry for a second time.

**c) 5.5.4.1 Definition F5 Electric Sub-Committee**  
**Amend the paragraph as follows:**

- b) Model Aircraft specifications:  
 Minimum weight without battery 1000 g

.../cont

c) 5.5.4.1 Definition .../cont

Minimum surface area	26.66 dm <sup>2</sup>
Type of battery	Lithium Polymer
<b>Maximum number of equivalent cells in series:</b>	<b>10</b>
<del>Maximum number of only serial cells</del>	<del>6</del>
Cells in parallel are not permitted.	
<b>Maximum current</b>	<b>400 A</b>
Minimum weight of battery pack	450 g
<del>Maximum weight of battery pack</del>	<del>600 g</del>
Limitation of energy by an electronic limiter that stops the motor after:	1750 Watt-min
The limiter is checked by the organiser during the contest.	

Reason: Reduction of the high current to prevent burning of controllers and motors. Easier checking of limiters.

d) **5.5.4.2 Course Layout and Organisation** **F5 Electric Sub-Committee**

*Amend the paragraph as follows:*

- a) Two imaginary vertical planes at a distance of 150 m from each other determine the turnlines and are named Base A and Base B. A safety plane is established perpendicular to these planes. The safety plane is endless. **The sighting device for the safety plane is placed at a distance of a minimum of 20 m from Base A or B outside of the course.**
- The sighting devices used to detect the crossing of the **Base A is placed at a distance of 5 m from the safety plane and the sighting device for Base B at a distance of a minimum of 20 m.**

Reason: Safety: Position of sighting devices must be as far as possible outside of the course

e) **5.5.4.4 Launching** **F5 Electric Sub-Committee**

*Add a new paragraph as follows:*

- d) After the aircraft is hand-launched and the stopwatch is started, no further launching is allowed and the flight is considered as official, the model aircraft being airborne or not.**

Reason: Safety: After a start failure model aircraft touches ground and some parts can be damaged p.e servos. If competitors make a second launch under time pressure model airplane can fly unsafe.

f) **5.5.4.5 Distance Task** **F5 Electric Sub-Committee**

*Amend paragraph d) and add two new paragraphs as follows:*

- e) The competitor, his helper(s) and the team manager must remain at Base A **on the safe side of the safety plane** until the distance part of the flight is completed. Nobody, other than the Base B signal operator, may stay in the B line and

give signals

**g) The flight is annulled if the duration and landing task has not been started and also the landing does not occur on the designated flying side of the safety plane and within 100 m from the intersection of that line with Base A or B.**

**h) If the model aircraft shows technical problems (i.e. motor stop, radio problems etc.) and/or flies in a unsafe manner during the distance task, scoring will stop competitor must land the model immediately. The flight is given a score of zero(0) for the round. Unsafe flying includes crossing of the safety line as defined in 5.5.4.2. Erratic flying may also be considered unsafe and the flight stopped at the discretion of the contest director or his designated official.**

Reason: Clarification concerns the place of competitor and helper during distance task and flying in an unsafe manner

**g) 5.5.4.5d CLASS F5B - ELECTRIC POWERED MOTOR GLIDERS Germany**

*Add a new third paragraph as follows:*

**Interferences out of the responsibility of the pilot (malfunctions of the scoring equipment, interruptions etc.) have no effect on the safety plane, and no reflight is to be taken after crossing it. Crossing the safety plane remains unpunished only after the contest director has given his permission.**

Reason: The safety plane has to be valid for safety reasons for the complete distance task. The aircrafts are fast during the distance task. Even in case of a malfunction of the official scoring equipment there is no need for the pilot to cross the safety plane with his model. He can fly on the safe side and if necessary land on the safe side, see 5.5.2.2 f) to get his scoring points for that flight.

There were several reflights claimed by (and given to) pilots who crossed in high speed the safety plane. A crossing of the safety plane is an absolute no go and must be punished by given ZERO score for the whole flight.

**h) 5.5.4.6 Duration and Landing Task F5 Electric Sub-Committee**

*Add a new paragraph.*

**h) Flying through the distance course in a manner that interferes with another competitors distance task flight will result in a penalty of 10 points from the pilots score. The distance course includes box shaped area between Base A and Base B extending out 150 meters from the safety line as well as 150 meters in altitude. This penalty can be applied by the CD or a designated official.**

Reason: Safety: The result of flying through distance course can be a very dangerous collision.

.../cont

F5.../cont

## F5C

### i) 5.5.5 F5C Electric Sub-Committee

*Delete the class:F5C - Electric Helicopters and associated annexes B, C & D.*

*NB: to be replaced by a new provisional class; see proposal j).*

*Replace with a new provisional class:*

#### 5.5.5 Class F5C – Open Electric Motor Glider

##### 5.5.5.1 Definition

- a) Definition: This contest is a multi-task event for RC Electric Powered Motor Gliders including two tasks:

- Distance
- Duration and landing

These two tasks are executed without interruption in one flight. A minimum of two and a maximum of 4 flights must be flown. If more than 2 flights are flown, the lowest score of each competitor will be discarded.

- b) Model Aircraft specifications:

Limitation of energy by an electronic limiter that stops the motor depends on the minimum weight incl. battery of:

- 1.0 kg: 500 Watt-min
- 1.5 kg: 750 Watt-min
- 2.0 kg: 1'000 Watt-min

Limiter checking can be done by using an external device or by use of an internal one.

**Note 1:** Course layout and organisation with same rules as for F5B and F5F.

**Note 2:** This class shall be carried out in combination with F5B and F5F contests using the same contest site and same timing equipment etc. Competitors of class F5B/F may not start in F5C at the same contest.

Reason: Only few interests for competitions with smaller electric powered helicopters.

The F5B glider class needs more new competitors. In the new open glider class it is possible to use all sorts of electric gliders, even foam ones.

## New Provisional Class

### j) 5.5.10 Class F5J F5 Electric Sub-Committee

*For the rules for provisional class F5J, see Agenda Annex 7k.*

Reason: F5J became in many countries a very popular class for electric powered gliders in the last few years

## **Volume F6 Airsports Promotion begins overleaf**

## 11.12 Section 4C Volume F6 – Airsports Promotion

### F6A & F6B

#### a) Annex F6A-3 & Annex F6B-3 F6 Working Group via Bureau

*Technical Secretary's note: The 2011 edition of the F6 volume includes a combined F6A & F6B Judges guide and the proposed amendments apply to that rather than the two separate Judges Guides in the 2010 edition of the F6 volume.*

*Amend the paragraphs as follows:*

#### 2.3 Overall **artistic impression** ~~appearance/impression~~

- Full use of performance zone
- Positioning

##### 2.3.1 Full use of performance zone

~~The sequence should be centred on the judges position. Highest marks will be given when the sequence as a whole is balanced evenly in width, depth and altitude. Marks should be deducted if a programme is noticeably biased with all parts of the flight space volume not used to the same extent. The greater the degree of asymmetry, the lower should be the score.~~

##### 2.3.2 Positioning of manoeuvres

~~Competitors should present individual figures in their best orientation and their optimum position. Judges should look for the optimum placement of manoeuvres and sequences where the most critical portions of manoeuvres can be evaluated. Figures can give different impressions when seen from different viewpoints.~~

~~Manoeuvres and figures should be performed so that they are easy to see and judge, the competitor making full and balanced use of the manoeuvring volume or performance zone. Dangerous and reckless flying, or flying an aircraft towards the spectators or the judges in an apparent uncontrollable manner, should be scored low in this category, even if the flight has technical merits and artistic quality. Judges should recognise the difference between showmanship and reckless flying.~~

**The essence of Artistic Aerobatics and AeroMusicals is “artistic flying”. Here is assessed to what extend the flight as a whole is not simply made of impressive, difficult or unusual manoeuvres, but how well the choice of music elements, the chosen manoeuvres and their position in space fit together to convey the wanted artistic atmosphere. The proper use of the available flight space is essential, attention should be given to restricting the chosen flight space to what allows full use of it without idle times spent flying to one space location to another one without relationship with the chosen music. Contrarily to the “Artistic Quality” criteria, here the overall impression generated by the flight as a whole is judged.**

Reason: It is essential to stick to flights attractive to spectators and conveying the proper atmosphere and not indulge in so-called “3D” flying that appeal to fellow aeromodellers but are not understandable by the general public, losing attractiveness and media-appeal in the process.

cont/...

F6 .../cont

## F6D

b) **6.4.6. Organisation of rounds** **Czech Republic**

*Amend paragraph 6 as follows:*

The competitors ... .. from qualifying round proceeds.

~~At fly-off eight ... .. landing area.~~

***Technical Secretary's note: this proposal has been superseded by the approved rule change at the 2010 Plenary Meeting that now forms part of the 2011 edition of the F6 volume. The proposal is, therefore, no longer necessary.***

c) **6.4.6.3.** **F6 Working Group via Bureau**

*Amend as shown:*

**6.4.6.3.** To the semi-final rounds the best pilot from each qualifying group proceeds. Other pilots, up to the number specified by the organiser before the beginning of the first qualifying round, proceed to semi-final according to their normalised results. In case of tie at last proceeding places, **the result of task 1 decides. If a tie remains, the result of the next to last flight of task 1 decides.** ~~a draw decides.~~ The number of semi-final groups is specified by the organiser before the beginning of the first qualifying round. The organiser may also decide to skip the semi-final if the number of competitors is small. This decision must be announced before the beginning of the first qualifying round.

Reason: Provides a mean to break a tie without resorting to a draw.

***Technical Secretary's note: the whole text of the proposal refers to a rule in the 2011 edition of the F6 volume of the Sporting Code and would, under normal circumstances be invalid on the grounds that the rule had not been published when the proposal was submitted. However, the text that is proposed to be amended was in the 2010 edition of the F6 volume and may be voted upon.***

d) **6.4.6.6.** **F6 Working Group via Bureau**

*Amend as shown:*

**6.4.6.6. The final round opposes eight pilots or, in exceptional cases, four pilots.** ~~At fly-off eight pilots fly in one group.~~ From each semi-final group the best pilot proceeds to the fly-off round. Other pilots, up to the number specified by the organizer before the beginning of the first qualifying round, proceed to fly-off according to their normalized results. In case of tie at last proceeding places, ~~a draw decides~~ **the pilot with better result from qualifying round proceeds. If a tie remains, the best result from task 1 decides.**

Reason: Provides a mean to break a tie without resorting to a draw.

***Technical Secretary's note: the whole text of the proposal refers to a rule in the 2011 edition of the F6 volume of the Sporting Code and would, under normal circumstances be invalid on the grounds that the rule had not been published when the proposal was submitted. However, the text that is proposed to be amended was in the 2010 edition of the F6 volume and may be voted upon.***

cont/...

F6D .../cont

**d) 6.4.7 Total winner F6 Working Group via Bureau**

*Delete whole paragraph and renumber the subsequent paragraphs.*

~~6.4.7.1. The winner is the pilot having the best total flight time during the fly-off round. The classification is in reverse order of total flight times. Pilots who did not proceed to fly-off are ranked according to their results at semi-final or eventually qualifying rounds.~~

~~6.4.7.2. In case of a tie at top three places, the lowest single flight at fly-off decides the ranking. If a tie remains, results of the semi-final round decides the ranking and, if a tie still remains, the qualifying results decide.~~

Reason: Not needed any more if a proposal for a new final task is adopted (See proposals f) & g).)

***Technical Secretary's note: the whole text of the proposal refers to a rule in the 2011 edition of the F6 volume of the Sporting Code and is, therefore, invalid. However, proposal e) refers to the same paragraph with the correct text.***

**e) 6.4.7. Total winner Czech Republic**

*Concerning the section 6.4.7 Total winner – delete the whole section and renumber the following sections*

~~6.4.7. Total winner~~

~~The winner is the pilot with best result from the last round at which two pilots were flying. The third place gets the pilot who has been flying in the last but one round...~~

Reason: Not needed any more if a proposal for a new final task is adopted (See proposals f) & g).)

**f) 6.4.8.3 Task for fly-off rounds F6 Working Group via Bureau**

*Replace whole paragraph with text at Agenda Annex 71*

*Note that the paragraph number may change depending on the outcome of proposals d) or e).*

Reason: The original final task, while attractive to competitors, proved unsatisfactory at World Air Games-style events, due to time constraints. The above proposal offers a choice of tasks that suit most time, field and weather conditions and enhances the spectators attractiveness, which is the primary aim of the class.

Supporting data: After WAG 2009, several tasks were experimented that take care of the time constraint and increase the event attractiveness. After lengthy discussions, it was felt that offering a choice between several options was a way to adapt to various local conditions.

.../cont

F6D .../cont

**g) 6.4.8.3. Task for fly-off rounds** **Czech Republic**

*Replace whole paragraph with text at Agenda Annex 7m*

*Note that the paragraph number may change depending on the outcome of proposals d) or e)*

Reason: At the last WAG (Torino 2009) it was experienced that the thermal duration task doesn't fit into the strict time schedule of WAG. At strong thermals the flights had to be repeated and it was impossible to predict how long the whole competition would take. At last the winner couldn't be decided within the assigned time window.

During the last year some test competitions were organised. They proved that the distance task would be more suitable for the presentation of radio controlled model gliders at the highest level.

**New Provisional Class**

**h) F6E Aerobatic Regatta** **F6 Working Group via Bureau**

*For the rules for provisional class F5J, see Agenda Annex 7n.*

Reason: A racing class meant to complement the attractiveness of model events, especially at World Air Games or WAG-style events. The chosen format provides easy-to-follow races thanks to limited airspeed imposed by aerobatic manoeuvres as well as a high safety level.

***Item 12 begins overleaf***

## 12. ELECTION OF BUREAU OFFICERS AND SUBCOMMITTEE CHAIRMEN

### 12.1. CIAM Officers

President  
 1st Vice President  
 2nd Vice President  
 3rd Vice President  
 Secretary  
 Technical Secretary

### 12.2. Subcommittee Chairmen

F1 Free Flight  
 F3 RC Aerobatics  
 F3 RC Soaring  
 F3 RC Helicopter  
 F3 RC Pylon Racing

## 13. WORLD AND CONTINENTAL CHAMPIONSHIPS 2011 – 2015

**VERY IMPORTANT: Each NAC/country/delegate presenting a bid prior to voting for the award of championships, may make a presentation of the championship organisation, lasting a MAXIMUM of 3 minutes only. Bidders are encouraged to distribute important information prior to the meeting, to enable delegates to study the contents of the bid, so that they may make informed decisions at the meeting.**

### WORLD CHAMPIONSHIPS 2012 – 2015

2012 World Championships	Bids from	Awarded to
F1A, F1B, F1P Juniors		SLOVENIA
F1D (Seniors and/or Juniors)		SERBIA
F2A, F2B, F2C, F2D (Seniors and Juniors)		BULGARIA
F3F (Seniors and Juniors)	Germany (firm)	
F3J (Seniors and/or Juniors)		SOUTH AFRICA
F4C (Seniors and Juniors)		SPAIN
F5B, F5D (Seniors and Juniors)		ROMANIA
SPACE MODELS (Seniors and Juniors)		SLOVAKIA

*cont/... 2013 World Championships*

<b>2013 World Championships</b>	<b>Bids from</b>	<b>To be Awarded in 2011</b>
<b>F1A, F1B, F1C Seniors</b>	France (firm) Slovenia (firm) Croatia (tentative)	
<b>F1E (Seniors and/or Juniors)</b>	Romania (firm)	
<b>F3A (Seniors and Juniors)</b>	China (firm) South Africa (firm)	
<b>F3B (Seniors and Juniors)</b>	Germany (firm)	
<b>F3C (Seniors and Juniors)</b>	Poland (firm)	
<b>F3D (Seniors and Juniors)</b>	Sweden (withdraw) Netherlands (firm)	
<b>F3K (Seniors and/or Juniors)</b>	France (tentative)	

<b>2014 World Championships</b>	<b>Bids from</b>	<b>To be Awarded in 2012</b>
<b>F1A, F1B, F1P Juniors</b>	Offers invited	
<b>F1D (Seniors and/or Juniors)</b>	Offers invited	
<b>F2A, F2B, F2C, F2D (Seniors and Juniors)</b>	Brazil (tentative)	
<b>F3F (Seniors and Juniors)</b>	Offers invited	
<b>F3J (Seniors and/or Juniors)</b>	Poland (firm) Slovakia (firm) USA (tentative)	
<b>F4C (Seniors and Juniors)</b>	China (tentative) Italy (tentative)	
<b>F5B, F5D (Seniors and Juniors)</b>	Offers invited	
<b>SPACE MODELS (Seniors and Juniors)</b>	Offers invited	

cont/... 2015 World Championships

<b>2015 World Championships</b>	<b>Bids from</b>	<b>To be Awarded in 2013</b>
<b>F1A, F1B, F1C Seniors</b>	Offers invited	
<b>F1E (Seniors and/or Juniors)</b>	Offers invited	
<b>F3A (Seniors and Juniors)</b>	Offers invited	
<b>F3B (Seniors and Juniors)</b>	Offers invited	
<b>F3C (Seniors and Juniors)</b>	Offers invited	
<b>F3D (Seniors and Juniors)</b>	Offers invited	
<b>F3K (Seniors and/or Juniors)</b>	Offers invited	

*cont/... 2012-2015 Continental Championships*

## CONTINENTAL CHAMPIONSHIPS 2012 – 2015

2012 Continental Championships	Bids from	Awarded to
<b>F1A, F1B, F1C Seniors</b>		<b>ITALY</b>
<b>F1E (Seniors and/or Juniors)</b>		<b>ROMANIA</b>
<b>F3A (Seniors and Juniors)</b>		<b>FRANCE</b>
<b>F3A Asian – Oceanic (Seniors and Juniors)</b>	China (tentative) Philippines (firm)	
<b>F3B (Seniors and Juniors)</b>	Offers invited	
<b>F3C (Seniors and Juniors)</b>	Offers invited	
<b>F3C Asian – Oceanic (Seniors and Juniors)</b>	China (tentative)	
<b>F3D (Seniors and Juniors)</b>	Offers invited	
<b>F3K (Seniors and/or Juniors)</b>		<b>FRANCE</b>

2013 Continental Championships	Bids from	To be Awarded in 2011
<b>F1A, F1B, F1P Juniors</b>	Romania (firm)	
<b>F1D (Seniors and/or Juniors)</b>	Offers invited	
<b>F2A, F2B, F2C, F2D (Seniors and Juniors)</b>	Hungary (withdraw) Russia (firm)	
<b>F3J (Seniors and/or Juniors)</b>	Turkey (firm) Slovakia (firm)	
<b>F4C (Seniors and Juniors)</b>	Italy (withdraw)	
<b>F5B, F5D (Seniors and Juniors)</b>	Offers invited	
<b>SPACE MODELS (Seniors and Juniors)</b>		Bulgaria (to be confirmed at the 2011 Plenary Meeting)

cont/... 2014-2015 Continental Championships

<b>2014 Continental Championships</b>	<b>Bids from</b>	<b>To be Awarded in 2012</b>
<b>F1A, F1B, F1C Seniors</b>	Romania (firm)	
<b>F1E (Seniors and/or Juniors)</b>	Romania (firm) Slovakia (firm)	
<b>F3A (Seniors and Juniors)</b>	Offers invited	
<b>F3A Asian – Oceanic (Seniors and Juniors)</b>	Offers invited	
<b>F3B (Seniors and Juniors)</b>	Offers invited	
<b>F3C (Seniors and Juniors)</b>	Offers invited	
<b>F3C Asian – Oceanic (Seniors and Juniors)</b>	Offers invited	
<b>F3D (Seniors and Juniors)</b>	Offers invited	
<b>F3K (Seniors and/or Juniors)</b>	Offers invited	

<b>2015 Continental Championships</b>	<b>Bids from</b>	<b>To be Awarded in 2013</b>
<b>F1A, F1B, F1P Juniors</b>	Offers invited	
<b>F1D (Seniors and/or Juniors)</b>	Offers invited	
<b>F2A, F2B, F2C, F2D (Seniors and Juniors)</b>	Offers invited	
<b>F3J (Seniors and/or Juniors)</b>	Offers invited	
<b>F4C (Seniors and Juniors)</b>	Offers invited	
<b>F5B, F5D (Seniors and Juniors)</b>	Offers invited	
<b>SPACE MODELS (Seniors and Juniors)</b>	Offers invited	

**12. ANY OTHER BUSINESS**

**13. NEXT CIAM MEETINGS**

*The list of Annexes to the Agenda appears overleaf*

**ANNEXES TO THE AGENDA OF THE 2011 CIAM PLENARY MEETING**

<b>ANNEX FILE NAME</b>	<b>ANNEX CONTENT</b>
ANNEX 1	FAI Code of Ethics
ANNEX 2 (a-m)	2010 Championship Reports
ANNEX 3 (a-p)	2010 Subcommittee Reports, Technical Secretary, Treasurer & F6 WG Reports
ANNEX 4 (a-f)	2010 World Cup Reports
ANNEX 5 (a-d)	2010 Trophy Reports
ANNEX 6 (a-d)	FAI-CIAM Awards: Nominee Forms
ANNEX 7a F3A_5.1.13_F3_Aero_S-C_11	Agenda Item 11.6 i) F3A Maneuvre Diagrams & Text
ANNEX 7b F3A_Annex_5B_F3_Aero_S-C_11	Agenda Item 11.6 j) F3 Aerobatics Judges Guide
ANNEX 7c F3M_Annex_5L_FRA_11	Agenda Item 11.6 o) F3M Schedule of Manoeuvres
ANNEX 7d F3P_Annex_5M_FRA_11	Agenda Item 11.6 ai) F3P Description of Manoeuvres
ANNEX 7e F3P_5.9.13_GER_11	Agenda Item 11.6 aj) F3P Description of Manoeuvres
ANNEX 7f F3S_5.x_GER_11	Agenda Item 11.6 ak) F3S New Aerobatics Jet Class
ANNEX 7g F3N_ANNEX_5F_(3)_Heli_S-C_11	Agenda Item 11.8 d) F3N Rules
ANNEX 7h F3N_ANNEX_5F_(1)_Heli_S-C_11	Agenda Item 11.8 e) F3N Optional Manoeuvres
ANNEX 7i F3N_ANNEX_5F.14_Heli_S-C_11	Agenda Item 11.8 f) New Judges Guide
ANNEX 7j F3R_F3Pylon_S-C_11	Agenda Item 11.9 g) F3R New Pylon Class
ANNEX 7k F5J_5.5.10_F5_Electro_S-C_11	Agenda Item 11.11 j) F5J New Electric Gliding Class
ANNEX 7l F6D_6.4.8.3_F6WG_11	Agenda Item 11.12 f) F6D Task for Fly-Off Rounds
ANNEX 7m F6D_6.4.8.3_CZE_11	Agenda Item 11.12 g) F6D Task for Fly-Off Rounds
ANNEX 7n F6E_6.5_F6WG_11	Agenda Item 11.12 h) F6E New Aerobatics Regatta Class

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