



*Fédération  
Aéronautique  
Internationale*

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# Minutes

Issue 1

of the Plenary Meeting of the  
FAI Aeromodelling Commission

held in Lausanne, Switzerland  
on 8 & 9 April 2016

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# MINUTES

## CIAM PLENARY MEETING 2016

held in the Mövenpick Hotel - Lausanne (Switzerland)  
on Friday 8 April and Saturday 9 April 2016, at 09:15

### Present:

#### In the chair: Mr Antonis Papadopoulos (Greece)

Mr Bruno Delor (France)

Mr Narve Jensen (Norway)

Mr Andras Ree (Hungary)

Mr Massimo Semoli (Switzerland)

Mr Kevin Dodd (Australia)

Mr Ian Kaynes (United Kingdom)

Mr Peter Halman (United Kingdom)

Mr Michael Ramel (Germany)

Mr Tomas Bartovsky (Czech Republic)

Mr Dag Eckhoff (Norway)

Mr Rob Metkemeijer (Netherlands)

Mr Johan Ehlers (Rep of South Africa)

Mr Emil Giezendanner (Switzerland)

Mr Johannes Eissing (Germany)

Mr Srdjan Pelagic (Serbia)

Mr Gerhard Wöbbeking (Germany)

#### President of CIAM

1st Vice-President / Delegate

2nd Vice-President / Delegate

3rd Vice-President / Treasurer / Delegate

Secretary

Technical Secretary / Delegate

F1 Sub-Committee Chairman

F2 Sub-Committee Chairman / Delegate

F3 Aerobatics Sub-Committee Chairman/  
Alternate Delegate

F3 Soaring Sub-Committee Chairman /  
Delegate

F3 Helicopters Sub-Committee Chairman

F3 Pylon Sub-Committee Chairman /  
Alternate Delegate

F4 Sub-Committee Acting Chairman /  
Delegate

F5 Sub-Committee Chairman /  
Alternate Delegate

F7 Sub-Committee Chairman

Space Models Sub-Committee Chairman /  
Delegate

Education Sub-Committee Chairman

<b>ALGERIA</b>	Mr Agroum Said	National Representative
<b>AUSTRIA</b>	Mr Wilhelm KAMP	Delegate
<b>BELGIUM</b>	Mr Robert HERZOG	Delegate
	Mr Jean-Yves CASTERMANS	Subcommittee Member
	Mr Quentin DAEMS	Observer
	Mr Paulette HALLEUX	Observer
<b>BRAZIL</b>		Proxy to Ireland
<b>BULGARIA</b>	Mr Sotir LAZARKOV	Delegate
<b>CANADA</b>	Mr Williams RODGER	Alternate Delegate
<b>PEOPLE'S REPUBLIC OF CHINA</b>	Mr Lv JIE	Alternate Delegate
<b>CYPRUS</b>		Proxy to Greece
<b>CZECH REPUBLIC</b>	Mr Navratil MIROSLAV	Alternate Delegate
<b>DENMARK</b>		Proxy to France
<b>FINLAND</b>	Mr Jari VALO	Delegate

<b>FRANCE</b>	Mr Jean-Paul PERRET	Alternate Delegate
<b>GERMANY</b>	Mr Schönlebe UWE	Delegate
	Mr Stefan WOLF	Subcommittee Member
<b>GREECE</b>	Mr Constantinos IOANNIDIS	Delegate
<b>IRELAND</b>	Mr Joe DIBLE	Delegate
<b>ITALY</b>	Mr Lillo CONDELLO	Delegate
	Mr Piermario CAVAGGIONI	Observer
<b>JAPAN</b>	Mr Harunobu HIROSE	Delegate
	Mr Takashi SUZUKI	Subcommittee Member
<b>KOREA</b>	Mr Kim HANGSIK	Delegate
	Mr Park SOONCHEON	Alternate Delegate
<b>LIECHTENSTEIN</b>		Proxy to Switzerland
<b>LUXEMBOURG</b>	Mr Ernest MATTIUSI	Delegate
<b>NETHERLANDS</b>	Mr Peter KEIM	Delegate
<b>NEW ZEALAND</b>	Mr Mike CROSSMAN	Delegate
<b>POLAND</b>	Mr Marek DOMINIAK	Delegate
	Mr Tadeusz KASPZYCKI	Alternate delegate
<b>PORTUGAL</b>	Mr Emanuel FERNADES	Alternate delegate
<b>QATAR</b>	Mr Carlton SMITH	Delegate
<b>ROMANIA</b>	Mr Marius CONU	Alternate Delegate
<b>RUSSIA</b>	Mr Igor SHILOV	Delegate
<b>SLOVAKIA</b>	Mr Pavol BARBARIC	Delegate
	Mr Zoran PELAGIC	Alternate Delegate
<b>SLOVENIA</b>	Mr Joze CUDEN	Delegate
	Mr Anton SIJANEC	Alternate Delegate
	Mr Jure PESCAR	Subcommittee Member
<b>SOUTH AFRICA</b>	Mr Johan EHLERS	Delegate
<b>SPAIN</b>	Mr Carles AYMAT	Delegate
	Mr Jose Manuel MARTINEZ	Observer
<b>SWEDEN</b>	Mr Bengt LINDGREN	Delegate
	Mr Per FINDHAL	Alternate Delegate
<b>SWITZERLAND</b>	Mr Peter GERMANN	Delegate
	Mr Hans STOLL	Subcommittee Member
<b>TURKEY</b>	Mr Mehmet ARSLAN	Delegate
<b>UKRAINE</b>	Mr Vitaliy RYUMSHYN	National Representative
<b>UNITED KINGDOM</b>	Mrs Jo HALMAN	Alternate Delegate
	Mr Mike COLLING	Subcommittee Member
	Mr Clive NEEDHAM	Subcommittee Member
	Mr Mike PROCTOR	Subcommittee Member
<b>USA</b>	Mr Bob BROWN	Delegate
	Dr John LANGFORD	Subcommittee Member
<b>FAI</b>	Mrs Susanne SCHOEDEL	Secretary General

	Mr Markus HAGGENEY	Sports and Marketing Director
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The FAI Sport Manager conducted a roll call of Delegates and Proxies, with the use of the electronic system and established that there were 36 Delegates, plus four proxy votes, giving a total voting number of 40 for the first day of the meeting. The second day of the meeting there were 37 Delegates and four proxy votes giving a total number of 41.

The proxies were:

- Cyprus proxy to Greece
- Brazil proxy to Ireland
- Denmark proxy to France
- Liechtenstein proxy to Switzerland

For a proposal to be approved, a simple majority of the voting Delegates was used according to FAI and CIAM rules.

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

The President opened the meeting at 09.15.

The President welcomed delegates and introduced FAI Secretary General Ms. Susanne Schödel and FAI Sports and Marketing Director Mr. Markus Haggene. In her welcome to delegates, Ms Schödel acknowledged the important role CIAM plays in organising the majority of FAI Category 1 and 2 events and by doing so, providing a foundation for young people in the world of airsports and even a future career.

The CIAM Secretary explained the duties and information issued to the Delegates.

Forms and information had been distributed for the following purposes:

- For identifying which World Cup winners were in attendance for the World Cup Awards Ceremony.
- For providing the information, as listed in ANNEX A.1a of the FAI Sporting Code, Section 4, Volume ABR, of those countries intending to participate in bids for World and Continental Championships.
- For confirming or notifying which countries intended to bid for World or Continental Championships.
- For organisers to provide the relevant actual or final dates for the 2017 Championships as required by rule B.6.1 Section 4, Volume ABR, Section 4B.

The CIAM Bureau Nomination forms were collected.

The following Technical Meetings were held: F2 Control Line, F3FJ Soaring, F4 Scale, F5 Electric, Space and Education. A meeting of the FPV Interim Working Group was held. The written reports are attached at Annex 9 (a-f).

The Technical Meetings took place in the meeting rooms and in the auditorium of the Mövenpick Hotel.

The Plenary meeting re-convened at 14.00.

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

No Delegates declared any potential conflicts of interest to the FAI.

## **3. PRESENTATION IN MEMORIAM**

A minute's silence was observed in honour of five distinguished aeromodellers who passed away recently: Mr Peter FREEREY (GBR), Mr Rudi HODZIC (SRB), Mr Mustafa KOCH (TUR), Mr Nick NEEVE (GBR), Mr Piotr ZAWADA (POL)

#### **4. MINUTES OF THE APRIL 2015 BUREAU AND PLENARY MEETINGS, AND OF THE DECEMBER 2015 BUREAU MEETING**

##### **4.1. 2015 April Bureau Meeting**

- 4.1.1. There were no corrections.
- 4.1.2. The Minutes of the 2015 April Bureau meeting were approved unanimously.
- 4.1.3. There were no Matters Arising.

##### **4.2. 2015 Plenary Meeting**

- 4.2.1. There were no corrections.
- 4.2.2. The Minutes of the 2015 Plenary meeting were approved unanimously.
- 4.2.3. Matters Arising.  
The President extended his thanks to the USA for the goodwill which allowed the F3M Rules to be published as they were approved by the Plenary.

##### **4.3. 2015 December Bureau Meeting**

- 4.3.1. There were no corrections
- 4.3.2. The Minutes of the 2015 December Bureau meeting were approved unanimously.
- 4.3.3. There were no Matters Arising.

#### **5. MAIN DECISIONS OF THE APRIL 2016 BUREAU MEETING**

The Main Decisions of the previous day's Bureau meeting were distributed (Annex 11). There were no comments. The Minutes of the Bureau meeting will be published after the Plenary Meeting.

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

##### **6.1. CIAM Officers**

The nominations took place on the first day, and on the second day there were no further nominations. The delegates did not require a secret ballot and elected the candidates for CIAM Officers by acclamation.

The results of the elections are shown in bold text:

President	<b>Antonis Papadopoulos</b>
1st Vice President	<b>Bruno Delors</b>
2 <sup>nd</sup> Vice President	<b>Narve Jensen</b>
3 <sup>rd</sup> Vice President	<b>Andras Ree</b>
Secretary	<b>Massimo Semoli</b>
Technical Secretary	<b>Kevin Dodd</b>

##### **6.2. Subcommittee Chairmen to be elected**

The nominations took place on the first day. Where there was just one candidate, the delegates did not require a secret ballot and elected the candidates for

Subcommittee Chairman by acclamation. Where there was more than one candidate confirmed, an election was held using electronic voting.

The Subcommittee Chairmen elected are shown in bold text.

F2 Control Line	<b>Mr Peter Halman</b>
F4 RC Scale	<b>Mr Johan Ehlers</b> Mr Graham Kennedy (declined) Mr Pabois (declined)
F5 RC Electric	<b>Mr Emil Giezendanner</b>
F7 RC Aerostat	<b>Mr Johannes Eissing</b>
S Space Models	<b>Mr Joze Cuden</b> Mr Srdjan Pelagic (declined)
Education	<b>Mr Per Findahl</b> Mr Gerhard Woebbeking (declined)
F3 FPV Racing	<b>Mr Bruno Delors</b>

### **Appreciation of Long Service**

Mr Markus Hagganay thanked the outgoing Education Subcommittee Chairman, Mr Gerhard Wöbbeking (Germany) for his long service to the subcommittee and also to CIAM and FAI and his contribution was applauded by delegates.

Dr John Langford, on behalf of the Space community, was pleased to be able to recognise the twenty years of leadership given to the Space Subcommittee by Mr Srdjan Pelagic on Srdjan's retirement. This recognition was agreed by acclamation.

### **6.3. Subcommittee Chairmen to be confirmed**

F1 Free Flight	<b>Mr Ian Kaynes</b> , confirmed in post
F3 RC Aerobatics	<b>Mr Michael Ramel</b> , confirmed in post
F3 RC Soaring	<b>Mr Tomas Bartovsky</b> , confirmed in post
F3 RC Helicopter	<b>Mr Dag Eckoff</b> , confirmed in post
F3 RC Pylon Racing	<b>Mr Rob Metkemeije</b> , confirmed in post

## **7. REPORTS**

### **7.1. 2015 FAI General Conference, by the FAI Secretary General, Susanne SCHÖDEL.**

- FAI General Conference 2015 : The Minutes were available for consultation on the website at <http://www.fai.org/fai-documents>

A PowerPoint of this presentation is at Annex 12.

Membership – Ms Schödel outlined FAI membership data and welcomed new members, Algeria and Kosovo. She mentioned that FAI is gathering information which they hope will assist NACs who are facing new challenges to optimise their future membership.

Airports Development – While it is often seen as a very Europe-centric organisation, FAI is closely watching the fast growing development of airports in Asia. Additionally, FAI is building its role in publishing information that supports and highlights airport activities e.g. results, media releases, archives. The World Championship for Space Modelling being held in the Ukraine may be selected for special promotion because it is about youth, technology and engineering.

Sports and Branding Strategy – FAI seeks to develop a common theme that is appealing to spectators and media through the character and format of its events. FAI has around 2400 registered volunteers who are representing a professionally organised sport. This is a strength but also brings its challenges. Connecting across airports will bring new technologies to all.

FPV Racing – FAI is the world governing body for airports recognised by the IOC and intends to fight hard to keep the lead in setting the framework for the sport of drone flying. As well, we need to safeguard the interests of the aeromodelling community.

**7.2. CIAM Bureau report on its activity since the last Plenary, by CIAM President, Antonis Papadopoulos**

- ASC Presidents meetings in May and FAI General Conference October 2015
- CASI meeting
- Bureau activities

CIAM President, Antonis Papadopoulos, briefly informed the Plenary about the various activities that took place after the 2015 Plenary Meeting: UAV developments, World Air Games Dubai, aeromodelling events of the future, FAI survey, new format General Rules volume, FPV Racing Rules, CIAM support for an increasing number of events.

A PowerPoint presentation of the report is at Annex 13.

**7.3. FAI World Air Games Dubai 2015**

The CIAM President presented his report of the FAI World Air Games held in Dubai on December 2015 at point 7.2.

**7.4. 2015 FAI World Championships, FAI Jury Chairmen (ANNEX 2)**

- 7.4.1. 2015 FAI F1 Seniors World Championships for Free Flight Model Aircraft. Mongolia. Ian Kaynes  
Written report at Annex 2a.
- 7.4.2. 2015 FAI F1E World Championships for Model Gliders. Serbia. Wilhelm Kamp  
Written report at Annex 2b.
- 7.4.3. 2015 FAI F3A World Championships for R/C Aerobatic Model Aircraft. Switzerland. Michael Ramel  
Written report at Annex 2c.
- 7.4.4. 2015 FAI F3B World Championships for Model Gliders. Netherlands. Tomas Bartovsky  
Written report at Annex 2d.
- 7.4.5. 2015 FAI F3 World Championships for Model Helicopters. Austria. Dag Eckhoff  
Written report at Annex 2e.
- 7.4.6. 2015 FAI F3D World Championships for Pylon Racing Model Aircraft. Czech Republic. Andras Ree  
Written report at Annex 2f.
- 7.4.7. 2015 FAI F3K World Championships for Model Gliders. Croatia. Tomas Bartovsky  
Written report at Annex 2g.
- 7.4.8. 2015 FAI F3P World Championships for Indoor Aerobatic Model Aircraft. Poland. Michael Ramel



Written report at Annex 2h.

- 7.4.9. 2015 FAI F1 Juniors European Championships for Free Flight Model Aircraft. Romania. Gerhard Woebbeking

Written report at Annex 2i.

- 7.4.10. 2015 FAI F1D European Championships for Indoor Model Aircraft. Romania. Wilhelm Kamp

Written report at Annex 2j.

- 7.4.11. 2015 FAI F2 European Championships for Control Line Model Aircraft. Bulgaria. Jo Halman

Written report at Annex 2k.

- 7.4.12. 2015 FAI F3J European Championships for Model Gliders. Bulgaria. Antonis Papadopoulos

Written report at Annex 2l.

- 7.4.13. 2015 FAI S European Championships for Space Models. Ukraine. Gerhard Woebbeking

Written report at Annex 2m

**7.5. 2015 Sporting Code Section 4: CIAM Technical Secretary, Mr Kevin Dodd (ANNEX 3)**

Written report at Annex 3l.

**7.6. 2015 Subcommittee Chairmen (ANNEX 3)**

- 7.6.1. Free Flight: Ian Kaynes;

Written report at Annex 3a.

- 7.6.2. Control Line: Peter Halman;

Written report at Annex 3b.

Mr Halman added that an investigation into the possibility of a standard fuel in F2C had been conducted and it was felt that this was now moving closer to conclusion.

- 7.6.3. R/C Aerobatics: Michael Ramel;

Written report at Annex 3c.

- 7.6.4. R/C Soaring: Tomas Bartovsky;

Written report at Annex 3d.

- 7.6.5. R/C Helicopters: Dag Eckhoff;

Written report at Annex 3e.

- 7.6.6. R/C Pylon: Rob Metkemeijer;

Written report at Annex 3f.

- 7.6.7. Scale: Johan Ehlers (acting chairman);

Written report at Annex 3g.

- 7.6.8. R/C Electric: Emil Giezendanner;

Written report at Annex 3h.

- 7.6.9. Aerostats: Johannes Eissing.

Written report at Annex 3i.

7.6.10. Space Models: Srdjan Pelagic;  
Written report at Annex 3j.

7.6.11. Education: Gerhard Woebbeking.  
Written report at Annex 3k.

**7.7. 2015 FAI World Cups, by World Cup Coordinators (ANNEX 4)**

7.7.1. Free Flight World Cup: Ian Kaynes  
Written report at Annex 4a.

7.7.2. Control Line World Cup: Jo Halman  
Written report at Annex 4b.

7.7.3. F3A R/C Aerobatics World Cup: Rob Romijn  
Written report at Annex 4c.

7.7.4. R/C Thermal Soaring and Duration Gliders World Cup: Ralf Decker  
Written report at Annex 4d.

7.7.5. R/C Slope Soaring World Cup: Andr  Austin  
Written report at Annex 4e.

7.7.6. R/C Thermal Duration Gliders World Cup: Sotir Lazarkov  
Written report at Annex 4f.

7.7.7. R/C Hand Launch Gliders World Cup: Friedman Richter  
Written report at Annex 4g.

7.7.8. R/C Electric Motor World Cups: Emil Giezendanner  
Written report at Annex 4h.

7.7.9. Space Models World Cup: Srdjan Pelagic  
Written report at Annex 4i.

The President thanked all the Subcommittee Chairmen and World Cup Coordinators for their dedicated voluntary work throughout the year.

**7.8. 2015 Trophy Report, by CIAM Secretary, Massimo Semoli (ANNEX 5)**

Written report at Annex 5a.

This year the CIAM Secretary has investigated the status of World Cup trophies with the cooperation of World Cup coordinators and NACs. Some trophies are lost and an investigation is in progress.

He presented the status of new trophies:

- New Trophies for 2016 championships  
One new trophy has been donated after the 2015 Plenary Meeting last year and it was approved by Bureau to be awarded beginning in 2015:
  - FAI F3D Pylon Racing Model Aircraft World Champion – Junior Individual – donated by Paul Beks from Netherlands.

The Plenary unanimously approved the donation.

**7.9. Aeromodelling Fund- Budget 2016, by the Treasurer, Andras Ree (ANNEX 3)**

There is an updated written report at Annex 3m. The Treasurer explained his report with the aid of a PowerPoint presentation. There are some outstanding

items remaining following the World Air Games but these should be cleared in the next few weeks.

The Plenary unanimously approved the 2016 Budget.

**7.10. CIAM Flyer, by the Editor, Emil Giezendanner (ANNEX 3n)**

Hard copies of the 2015 Annual Compilation of the CIAM Flyer were made available during the meeting for the Delegates to take away with them. The CIAM President, on behalf of the Bureau and all Delegates, thanked Mr Emil Giezendanner for his contribution.

**7.11. EDIC WG report, by Chairman, Paul Newell (ANNEX 3)**

There is a written report at Annex 3o. The President thanked Mr Newell for the work he offers to CIAM, which this year has included approval procedures for Space Model altimeters.

**7.12. CIAM and Drones report, by Chairman, Bruno Delor (ANNEX 3)**

There is a written report at Annex 3p.

**8. PRESENTATION OF 2015 WORLD CHAMPIONSHIPS MEDALS COUNT PER NATION**

The CIAM Secretary presented the status of the 2015 World Championships medals per nation with the aid of a PowerPoint presentation in Annex 10a of these Minutes.

**9. PRESENTATION OF 2015 WORLD CUP AWARDS CEREMONY**

A successful presentation ceremony was held for the 2015 World Cup winners in classes F1A, F1A junior, F1B, F1B junior, F1C, F1E, F1E junior, F1P junior, F1Q, F2A, F2B, F2C, F2D, F3A, F3B, F3F, F3K, F3J, F5B, F5J, S4A, S6A, S7, S8E/P and S9A.

There were 4 winners who were awarded in person. The list of recipients is in Annex 10b of these Minutes.

A special award was made:

The **FAI Airsport Medal** was awarded to Mr **Ralph Decker (Germany)** – F3B World Cup Coordinator – for his extensive contribution to F3B and all the soaring classes.

**10. PLENARY MEETING VOTING PROCEDURE**

The CIAM President reminded the meeting about the voting procedure: a simple majority of “in favour” or “against” is sufficient.

The nominations & championship bid voting was electronically conducted.

**11. SCHOLARSHIP APPROVAL**

**11.1. Scholarship report, by Gerhard Woebbeking (ANNEX 3 and 10c)**

The Scholarship Report is attached at Annex 3q and the presentation at Annex 10c. Mr Woebbeking explained his report with the aid of a PowerPoint presentation and added his encouragement to re-nominate candidates who might be successful the second time.

**11.2. Nominations (ANNEX 8)**

Four candidates submitted applications for the sixth CIAM scholarship which is worth €2,000. The nomination forms are attached at Annex 8,

Nominees:

Christian WINKER (Germany)  
Michail LOMOV (Russia)  
Taron MALKHASYAN (USA)

Konrad ZUROWSKI (Poland)

The Selection Committee voted to award the sixth CIAM Scholarship to Konrad ZUROWSKI (Poland). The Bureau recommended Konrad ZUROWSKI (Poland) for the Scholarship and the Delegates at the Plenary meeting unanimously approved.

**Awarded to: Konrad ZUROWSKI (Poland)**

**12. NOMINATIONS FOR FAI-CIAM MEDALS AND DIPLOMAS (ANNEXES 6 & 10d)**

The total voting number was 35, as the proxy vote was not eligible in this process.

The voting was electronically acquired.

**Alphonse Penaud Diploma**

Nominees:

Ivan TREGER (Slovakia)

Dimche VELKOSKI (Former Yugoslav Republic  
Of Macedonia)

The meeting was in agreement that this diploma should be awarded, and after one round of voting, the diploma was

**Awarded to: Ivan TREGER (Slovakia)**

**Andrei Tupolev Diploma**

Nominees:

Ondrej HACKER (Czech Republic)

The meeting was in agreement that this diploma should be awarded, and voted in favour of the diploma to be

**Awarded to: Ondrej HACKER (Czech Republic)**

**Antonov Diploma**

No candidates

**Frank Ehling Diploma**

Nominees:

John JACOMB (United Kingdom)

National Association of Rocketry (USA)

The meeting was in agreement that this diploma should be awarded, and after one round of voting, the diploma was

**Awarded to: National Association of Rocketry (USA)**

**Andrei Tupolev Medal**

Nominees:

Igor BURGER (Slovakia)

The meeting was in agreement that this diploma should be awarded, and voted in favour of the diploma to be

**Awarded to: Igor BURGER (Slovakia)**

**FAI Aeromodelling Gold Medal**

Nominees:

Dag ECKHOFF (Norway)

Miroslav SULC (Slovakia)

Bogdan WIERZBA (Poland)

Stefan WOLF (Germany)

The meeting was in agreement that this medal should be awarded, and after two rounds of voting, the medal was

**Awarded to: Dag ECKHOFF (Norway)**

### **13. OPEN FORUM**

#### **13.1 Live Scoring Systems**

A member of the Ukrainian delegation demonstrated the online system they developed particularly for Space Models.

Mr Bernhard Schaden, RC Aerobatics Subcommittee Member for Switzerland, demonstrated the live scoring system he and his team developed particularly for the aerobatic aeromodelling competitions.

CIAM President mentioned that in the future, use of such systems will enhance our events and will be very beneficial for the spectators.

#### **13.2 Drones Activities Development**

Mr Delor explained Drones activities development by CIAM with the aid of a PowerPoint presentation at Annex 14.

As expected, the interest of the discussion was high and various delegates took the floor during the discussion. The main concerns pointed out are:

- FAI/CIAM should work efficiently and rapidly to take the lead since many organisations are already organising drone activities and events.
- More information about Drones activities and events has to be shown on the FAI website.
- Drones' activities have caused the Aviation Authorities to be more active in defining rules that are also impacting on other aeromodelling activity. These rules are not yet clear and feasible for the sporting and recreational aeromodelling activities. In many nations the Aviation Authorities don't understand the concerns and suggestions of the Aeromodelling Organisations.

The FAI Secretary General pointed out that the FAI will work in mediating the issues that are present in the various nations. FAI could work with the manufactures for finding solutions and devices for improving the safety in flight.

### **14. SPORTING CODE PROPOSALS**

These begin overleaf.

## 14. SPORTING CODE PROPOSALS.

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

Note that the additional Bureau proposals that were generated at the Bureau meeting appear at the relevant point in these Minutes, and are shown with “n/a” at the beginning of each proposal.

Each section begins on a new page.

### 14.1 Special Proposals to Plenary

#### a) CIAM General Rules

Bureau

*Replace Volume ABR Sections 4A (CIAM Internal Regulations), 4B (General Rules for International Contests), and 4C Part 1 (General Regulations for Model Aircraft) with the restructured and renamed Volume – CIAM General Rules 2017 as shown in **Annex 7f**.*

See the Minutes Annex 7f – CIAM General Rules 2017 Edition.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

*Note (i): Volume ABR – Section 4C Part 2 (Records) will be published as a separate volume.*

The World Records will be published as a specific dedicated volume without revisions in January 2017. It will be completely revised and will include all Space records and records for the UAV class for Plenary 2017.

*Note (ii): Refer to the accompanying PowerPoint (PDF) which is located at Agenda Annex 7g and the List of Amendments which is located at Agenda Annex 7h for explanations of specific changes to rules from Volume ABR Edition 2016.*

The List of Amendments has been updated to reflect changes made at this meeting and forms part of Minutes Annex 7f – CIAM General Rules 2017 Edition (see page 6) but is also separately listed at Minutes Annex 7h.

*Note (iii): Refer to Agenda Annex 7i for a list of the parts of Volume ABR 2016 which will not be included in General Rules 2017 and will have to be included in other Volumes (F1, F2, SM) 2017 editions.*

See the Minutes Annex 7i.

Minutes Annex 7j contains the updated list of CIAM classes following determinations at the 2016 Plenary Meeting.

#### b) Numbering System

F1 Subcommittee

***Applies to all Volumes***

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

Reason: The numbers used in the Sporting Code originally related to its position as part numbers of the single book which contained 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.

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

Some technical volumes start with a general section applicable to all classes within the volume, this would be numbered with the basic volume letters, e.g. F4.

Currently the different technical volumes use a variety of schemes to number the annexes, these can be transferred by the inclusion of the volume indicator to the number.

Because the numbering of volumes is regulated by the FAI, approval to change the visual look of our documents will need to be sought from the FAI Executive Board.

This proposal was unanimously referred back to Bureau for further investigation.

**c) F3U (Provisional class) – RC Multi-Rotor FPV Racing Bureau**

Approval of the Provisional class and the sporting code as shown in **Annex 7k**

See the Minutes Annex 7k – F3U – RC Multi-Rotor FPV Racing (Provisional Class).

Approved unanimously by the Plenary Meeting with a note that the provision to be able to amend these rules midyear stands, with the understanding that the technical specifications will not change. Effective 15/4/16.

**n/a F3U (Provisional class) – RC Multi-Rotor FPV Racing Bureau**

Establish a permanent subcommittee for this class.

Approved unanimously by the Plenary Meeting. Effective 15/4/16.

**n/a F3U (Provisional class) – RC Multi-Rotor FPV Racing Bureau**

Establish a class number and name for this subcommittee.

The class number: F3U. The subcommittee name: F3 - FPV Racing and Similar Activities.

Approved unanimously by the Plenary Meeting. Effective 15/4/16.

## 14.2 Volume ABR, Section 4A

(CIAM Internal Regulations – begins on page 15 (2015 Edition))

*Technical Secretary's Note: If approved, the following proposed changes to the Volume ABR 2015 will be incorporated into the new Volume CIAM – General Rules for 2017 (except for Section 4C – Part Two – Records). Therefore, the proposals should be considered with reference to the appropriate section in that Volume – please refer to Annex 7f.*

**a) A.7.1 a) Timetable for proposals to the CIAM Plenary Meeting and Agenda for this Meeting** **Canada**

*Amend the paragraph as follows:*

A.7.1. a) All proposals from Subcommittees and NACs for the Plenary Meeting must be submitted through the FAI automatic submission process in the format described in A.6.1 g) ~~between 1st August and 15th November~~ **by July 31<sup>st</sup>** of the year immediately preceding the Plenary Meeting at which the proposals may be considered within the appropriate two-year rule cycle. **The submissions to be distributed by CIAM to the NACs who will distribute the documents to the interest groups of their organisation. The NACs would collect the replies and send them to CIAM by November 15<sup>th</sup>** of the year immediately preceding the Plenary Meeting at which the proposals may be considered within the appropriate two-year rule cycle.

Reason: The above proposed process of submission of rule changes would assist the FF subcommittee and would allow members of the category who will be affected to voice their opinion. This will result in fairer and more constructive changes for the sport.

[Withdrawn by Canada.](#)

**b) A.15.1 Changing from Provisional to Official Rules** **USA**

*Amend paragraph A.15.1 as shown:*

Before being considered for adoption by the CIAM as official FAI rules, provisional rules must first have been used in each year of a two-year period up to the year of consideration. The rules must have been used in at least five international contests, or three World Cup contests. All the contests must be registered on the FAI Sporting Calendar and involve a total of at least five FAI member countries with at least two countries per contest and at least ~~50~~ **40** competitors in total per year.

Reason: Lowering the number of participants in a provisional event addresses a systemic *under reporting* of the number of fliers in a class like F1Q which is popular in the USA. Many American fliers are reluctant to purchase an FAI sporting license due to its high price (Currently \$75, \$100 next year) and their inability to effectively compete in the World Cup without travelling to Europe. Consequently the worldwide threshold partition (sic) number in paragraph A.15.1 and A.16.1 were reduced by ten (down 20% and 16.6% respectively).

FAI Free Flight World Cup 2015 Class F1Q, as of 16 October 2015 lists 32 F1Q fliers worldwide. Four American fliers are listed: Jack Murphy, Dick Ivers, Matt Gewain and David Lacey. But the American's Cup report as of September 15 2015 based on the similar scoring approach lists 11 American fliers. Therefore, the World



Cup dragnet missed at least 9 USA F1Q fliers. The issue might pertain to other non-European countries as well.

Rejected by the Plenary Meeting: For 0; Against 37.

c) **A.16.1 Eligibility for World Championships**

**USA**

*Amend paragraph A.16.1 as follows:*

Before they can be considered by the CIAM for use in World and/or Continental Championships and/or any other FAI Category 1 event, there must be a minimum period of two years from the time the rules were made official. The rules must have been used in at least five international contests, or three World Cup contests, ~~each~~ with a minimum of six FAI member countries participating **worldwide each year**. At least two contests must be held ... CIAM.

Reason: The requirement for six participating countries in *each* of the required World Cups or Continental Championships *contradicts* the country participation requirement in the preceding paragraph A.15.1 that states "The rules must have been used in at least five international contests, or three World Cup contests. All the contests must be registered on the FAI Sporting Calendar and involve a total of at least five FAI member countries with at least two countries per contest and at least 50 competitors in total per year."

Requiring the participation of six countries in *each* of six designated contests is most onerous. In fact, very few current World Championship free flight disciplines can meet this requirement. Furthermore, only World Cup contests held in Europe might be attended by so many countries. And keep in mind that this is required for a non-World Championship event.

Large World Cup contests in Europe have participants from 4-5 countries in a provisional event like F1Q. Examples are the three World Cup contests in Sweden and the Eurofly. In contrast, the Maxmen in the USA, was only attended by two foreign F1Q fliers from England and Israel.

Rejected by the Plenary Meeting: For 0; Against 30.

d) **A.16.2 Eligibility for World and Continental Championships**

**Slovenia**

*Add additional text to paragraph A.16.2 as follows:*

A.16.2. From 1st January 2014 and for at least four years, there is a moratorium on any class being permitted to apply for championship status **except for popular classes with more than 300 competitors at the World Cup competitions.**

Reason: There are popular categories (such as F5J) that are being held back by the A.16.2 moratorium. This proposal would enable them to apply for WC bids in 2017 and organise WC in 2019.

F5J has the following international competitions:

Intertour:

Year	Number of international competitions	Number of participating countries	Total number of competitors
2014	32	24	462
2015	43	25	542

Eurotour (World Cup)

Year	Number of international competitions	Number of participating countries	Total number of competitors
2014	16	17	303
2015	20	20	403

Approved by the Plenary Meeting: For 22; Against 5. Effective 01/01/17.

## 14.3 Volume ABR, Section 4B (General Rules for International Contests – begins on page 38 (2015 Edition))

### a) B.3.2 Sporting Licences

F2 Subcommittee

*Amend paragraphs a) and b) as shown.*

a) Every competitor, team manager and assistant team manager entering an international contest **and F2D Mechanics in Category 1 competitions** must possess a valid Sporting Licence of the FAI. This Sporting Licence is issued by the NAC of the competitor, team manager or assistant team manager under the conditions of the General Section of the Sporting Code and must bear the national identification mark.

b) Organisers of any international competition must check FAI licences and must not permit entry to the competition to anyone who does not have a valid FAI licence nor permit entry to a First Category event (Championship) by anyone who has represented a different country in a First Category event (Championship) during the previous twenty four months. (Sporting Code General Section 3.1.3.6.4). ~~This restriction does not apply to F2D Mechanics.~~

Reason: To bring the ABR into line with the current practice of requiring F2D mechanics to hold a valid FAI licence.

*Amended as shown by the F2 Subcommittee and approved by the Plenary Meeting: For 31; Against 2. This change is noted in the General Rules (Par. C.6) and in the F2 Volume. Effective 01/01/17.*

### b) B.3.4 Age Classification for the Contest

Poland

*Amend paragraph B.3.4. a) as shown:*

a) A competitor is considered to be a junior up to and including the calendar year in which he attains the age of 18 **21**. All other competitors are classed as Seniors.

Reason: Please do evaluate following facts:

1. There are no juniors in some classes: eg. F4C, F4G,
2. There are not enough juniors in classes: eg. F2C, F2B, F2A, F3P, F3C, F3N ....
3. Some CIAM classes are very difficult. Juniors of the age 18 and less need to gain experience and time for building and practising their model aircraft at a good level. The problem with juniors age limit exists. The above arguments are not exhaustive. CIAM Bureau should consider this.

*Technical Secretary's Note: See also the following proposal which also refers to paragraph B.3.4 a).*

*Rejected by the Plenary Meeting: For 17; Against 18.*

### c) B.3.4 Age Classification for the Contest

F2 Subcommittee

*Amend paragraph B.3.4. a) with the additional text as shown:*

a) A competitor is considered to be a junior up to and including the calendar year in which he attains the age of 18 **except for F2 where the age shall be 25 21 years**. All other competitors are classed as Seniors.

Reason: F2 classes are both complex and physically demanding. Young people are unable to be competitive against senior pilots until after the age of 18 yrs. Once reaching the age of 18 many good juniors are lost to F2 because they can no longer be competitive.

Amended as shown by the F2 Technical Meeting.  
Rejected by the Plenary Meeting: For 15; Against 21.

d) **B.9.1 Free Flight**

**Belgium**

*Add the sentence to paragraph b) as shown:*

b) Starting positions are indicated by markers, spaced at least 10 meters apart along the starting line. **The starting poles for F1C shall be at least 50 m separated from the starting poles of other FF classes except for the powered classes F1P, F1J and F1Q.** In the case of F1A, the helpers shall launch the model at this pole. ...3 b)

Reason: For obvious safety reasons, a minimum safety distance to be maintained between the F1C and the F1A, F1B, F1G, F1H and F1K starting positions

(The location of the F1P, F1J and F1Q starting poles is left to the judgement of the contest organiser.)

*Technical Secretary's Note: Consequential change due to ABR Restructure. This change, if agreed, to be made in the F1 Volume.*

Approved by the Plenary Meeting: For 30; Against 0. This change will be made in the F1 Volume. Effective 01/01/17.

e) **B.15.1. Interruption of the Contest**

**Germany**

*Amend paragraph a), add a clarification to sub-paragraph i) and amend paragraph b) as follows:*

B.15.1. a) The contest should be interrupted or the start delayed by the ~~Jury~~ **Contest Director** in the following circumstances and in other exceptional circumstances decided by the ~~Jury~~ **Contest Director**:

i) The wind is continuously stronger than 12 m/s (9 m/s for Free Flight, Control Line, Scale and Space Models) measured at two **(2)** metres above the ground at the starting line (flight line), unless specified otherwise in the category rules for at least one minute (30 seconds for Control Line) (20 seconds for Free Flight). **The wind speed for the Soaring Classes is specified in the specific rules.**

b) In the event of an interruption during a round, the ~~Jury~~ **Contest Director** must decide the action to be taken to complete, repeat, or cancel the round. The remainder of the round may be completed as soon as conditions allow, with adequate notice given to all competitors and Team Managers.

Reason: The above decisions should be made by the Contest Director and not by the Jury. If the jury takes a wrong decision and there is a protest who should deal with this protest? In the "Jury handbook" is clearly stated that the jury should be independent and should only act if there is a protest.

Approved by the Plenary Meeting: For 28; Against 2. Effective 01/01/17.

Note that the sentence "The wind speed for the Soaring Classes is specified in the specific rules." is redundant since the Volume already states words to this effect.

f) **B.15.2. Interruption of the Contest**

**Germany**

*Delete paragraph B.15.2., and, as a consequence, renumber B15.3.:*

~~B.15.2. In the cases described, the organiser is not obliged to return the entry fee nor repeat the contest. The results will be based on the scores of the finished rounds.~~

Reason: If the weather conditions don't allow to fly the minimum rounds specified in the rules of the specific classes, the competition is not valid. If this happens the organiser must not return the entry fee or repeat the competition

If a contest is cancelled in time (may be one week in advance) for whatever reasons by the organiser, I'm sure that he will return the entry fee; for this situation we need no regulation.

Withdrawn by Germany.

g) **B.16.1 Individual Classification**

**South Africa**

*Amend the paragraph as follows:*

e) For those categories where juniors **junior and woman competitors** may participate in a Continental or World Championship National Team under B.3.5. (b), individual awards for junior **and woman** competitors will be awarded to the first, second and third place juniors **and women**.

f) Where at least four juniors **or women**, from at least four different nations participate under B.3.5.(b), the winner shall earn the title of Junior **or Woman** World or Continental Champion in the category.

Reason: 1. The FAI Sporting Code General Section 2013, paragraph 3.16.3.2, states that medals will be awarded for woman's and junior's classes where appropriate, but there are currently no guiding paragraphs as to when it would be appropriate to have a woman's class.

Reason: 2. At Present the Sporting Code, paragraphs ABR B. 16.1.e) and f) exclude women in defining when it would be possible for medals to be awarded for a woman's class when one is appropriate.

*Technical Secretary's Note i): The same proposal was presented to the 2015 Plenary Meeting.  
ii): A more appropriate title may be Women's World Champion.*

Withdrawn by South Africa.

h) **B.17.6 Identification Marks**

**F1 Subcommittee**

*Delete free flight specific words from the end of paragraph B.17.6. b):*

b) A model aircraft must not carry a national identification mark, an FAI licence number, an FAI sticker, or any other reference which relates to any person other than the competitor. At the processing of the model aircraft, the organiser must mark each FAI sticker (if required) ~~or, for Free Flight, each part of the model.~~

Reason: There is currently confusion between the requirement in B.17.6.b to mark every part of a free flight model and the later rule in B.17.13.a that the indication of a free flight model having been processed must be by a single stamp or mark by the FAI sticker. B.17.13 had introduced simplifications of processing free flight models to reduce the time spent in processing. The model identification identifies the model processed without the need for a lot of stickers or stamps on every component. While there might be some slight risk of the rule being avoided by a competitor having a number of components with the same identification number, it is considered that this unlikely to be a significant risk to set against the overall simplification of avoiding lots of stamps or stickers which often come off or are washed away during a competition.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

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

## **14.4 Volume ABR, Section 4C, Part One** (General Regulations for Model Aircraft – page 70 (2015 Edition))

*There are no proposals additional to those contained in the CIAM General Rules (Annex 7f) for Section 4C – Part One*

## **14.5 Volume ABR, Section 4C, Part Two** (Records – page 77 (2014 Edition))

### **a) 2.2 General Specifications of Model Aircraft and Aerostats Bureau for Record Attempts**

*Delete the text in 2.2.1 – Weight and substitute new words as follows:*

#### **2.2.1. Weight**

a) For records mentioned under 2.1.4, item 1), the total weight of the model aircraft or aerostat in flying order, with fuel/**batteries** when carried, shall not exceed 5.00 kg. The maximum total weight ~~in flying order with fuel~~ of a helicopter **in flying order, with fuel/batteries when carried**, shall not exceed ~~6.00 kg~~ **6.5 kg**. For records in regular competition under 2.1.4. item 3), the model aircraft must comply with the specifications required for the class concerned.

#### **2.2.2. Motive Power**

a) The total swept volume of the piston(s) of the motor(s) shall not exceed 10 cm<sup>3</sup> **(except for helicopters where there is no restriction)**. Pulse-jet reaction motor(s) are not permitted except for circular flight (record No. 135).

Reasons: Clarification. Clarify specifications for Helicopters. This proposal seeks to standardise the weight of helicopters as 6.5kg (used throughout the Volume F3 Helicopters), and also make it clear that the weight for the purpose of setting records **includes** the fuel/batteries.

[Referred back to Bureau for further investigation.](#)

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

## 14.6 Section 4C Volume F1 - Free Flight

### a) 3.1.5 Definition of an unsuccessful attempt

F1 Subcommittee

*F1A: Amend the paragraph 3.1.5 c) as follows:*

3.1.5. 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.

c) **It is apparent to the timekeepers that** ~~When a part of the model becomes detached during the launch~~ **by the helper, while the model is being towed,** or during the **official** flight time.

*Note: For F1H: same change also to 3.H.5 d)*

Reasons: **Clarification.** This clarifies the need for the timekeepers to see the part that becomes detached and the fact that this applies at launch by the helper, towing and during the flight up to the end of the official flight time.

*Approved unanimously by the Plenary Meeting. Effective 01/01/17.*

### b) 3.1.7 Duration of Flights

F1 Subcommittee

*F1A: Amend the first paragraph as follows:*

The maximum duration to be taken for the official flights in world and continental championships is four minutes for the first round and, if conditions allow, for the last round and three minutes for the other rounds. In other international events a maximum of three minutes will be used for all rounds unless different durations (not exceeding ~~four~~ **five** minutes) have been announced in advance in the contest bulletin for specific rounds.

*Note: Change F1B: 3.2.7 and F1C: 3.3.7 to read "See 3.1.7".*

Reason: **Clarification.** A proposal to change the maximum in the first round of F1A championships was presented to Plenary meeting 2015 which it was intended would make 3.1.7 for F1A identical to the existing rules 3.2.7 for F1B and 3.3.7 for F1C. The proposal was passed by the Plenary meeting but when being implemented in the 2016 Sporting Code it was realised that there was one word different in the proposal compared to the existing text in 3.2.7 and 3.3.7. The rule 3.1.7 as presented to Plenary 2015 has been implemented in the 2016 Sporting Code but without the cross-reference from 3.2.7 and 3.3.7. This proposal is presented to correct this difference – it applies only to open internationals and allows flight time increase to five minutes instead of four minutes.

*Approved unanimously by the Plenary Meeting. Effective 01/01/17.*

### c) 3.1.8 Classification

F1 Subcommittee

*F1A: Add new item (9) as clarification to 3.1.8 f) as shown:*

*cont/...*



### 3.1.8

- f) If the number of competitors in a flyoff is 12 or more and is greater than 25% of the number of competitors in the competition, then the flyoff shall be split into two groups:
- 1) The number of competitors in each group will be as closely as possible equal
  - 2) Competitors are allocated a group and starting position by a single draw
  - 3) A flyoff is flown for each group according to the other regulations of 3.1.8
  - 4) The second group flyoff must be flown as soon as possible after the first group.
  - 5) From both groups all flyers who achieve the maximum duration proceed to the next round.
  - 6) An equal number of flyers from each group may proceed to the next round by including competitors from one group those with the best flights below the maximum time, providing the flight times are at least 75% of the maximum.
  - 7) If the selections (5) and (6) result in fewer than 4 competitors proceeding to the next round, then the two competitors with the highest flight times in each of the groups will proceed to the next round.
  - 8) Competitors eliminated in group flyoffs will be classified with final placing according to time achieved in the group flyoff

**9) Competitors proceeding from group flyoffs to the later flyoffs will be classified only by times achieved in the later flyoffs after the group stages. The times in group stages do not count in their classification.**

Reason: Clarification. The groups flyoff was approved by CIAM for application from January 2016. In advance of that, the system has been used in two World Cup events during 2015. One of these indicated a confusion about the scores to be used for classification. The additional item is an explicit clarification of intent of the original proposal, where it was stated in the reasons that "With another flyoff guaranteed by (7) this ordering will not determine the winners but just the lower places." However, the proposal did not include explicit words to mandate this effect. Its consideration at this stage of the rule implementation is requested.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

### d) 3.2.5 Definition of an unsuccessful attempt

F1 Subcommittee

*F1B: Amend paragraph 3.2.5 a) as shown:*

3.2.5. 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) **It is apparent to the timekeepers that** ~~When~~ a part of the model becomes detached during the launch or during the **official** flight time.

*Note: Same change also to 3.3.5 b); 3.5.5 a); 3.6.5 c); 3.G.5 b); 3.J.5 c); 3.K.5 b); 3.Q.5 b).*

Reason: Clarification. This clarifies the need for the timekeepers to see the part that becomes detached and the fact that this applies up to the end of the official flight time.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

e) **3.3.2 Characteristics of Model Aircraft with Piston Motor(s)** **The Netherlands**

*F1C: Amend the following paragraph with the addition as shown*

Fuel to a standard formula for glow plug and spark ignition motors will be supplied by the organisers, and must be used for every official flight. The composition shall be as follows: 80% methanol, 20% ~~castor or synthetic~~ oil. **Oil can be castor oil or synthetic oil. There is a free choice for the competitor.**

Reason: **Clarification and safety.** When the definition of Standard FAI fuel is clear specified (80% methanol, 20% oil) there are two possibilities:

1. 80% methanol, 20% Castor oil.
2. 80% methanol, 20% Synthetic oil.

Both types of specified fuels shall be supplied by the organisers and mixed in separate single batches.

Lots of competitors spread over the continents are using Synthetic oil. There are lots of well-known brands.

An extra indication on the (preliminary) entry form for F1C informs the organiser about the competitor needs.

If we remember the enormous number of crashes on the WC in France 2013 mostly due to polluted Castor oil, we have to categorise this clarification as a safety one.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

f) **3.Q.2 Characteristics** **Germany**

*F1Q: Amend paragraph 6 in section 3.Q.2 as follows:*

The motor run time will be determined by a maximum energy amount. In addition, motor runs over 40 seconds are regarded as overruns. The energy budget of each model is 4 Joules per gram of the total weight. For energy calculations, weight exceeding 500 **550** grams is to be ignored.

Reason: After the point of establishing the maximum weight of 550 gram to energy allocation into the rules, many sportsmen have invested a lot of time to build or money to buy new models to meet this requirement. Since the implementation of this requirement only a short time past and these models are in best condition.

If the new limit of weight will be valid permanently, all these model airframes and the big effort to make these ready to flight are obsolete. To reach a target with a rule change (in this case performance reduction), it should be carefully selected the best way and not a multiple rule revision at the same time. This will lead to the situation, that a number of sportsmen will no longer follow the rapid rule changes and will quit flying F1Q. It's not a good choice for further increasing participation in this class.

This new amount of weight limitation doesn't have a significant influence of the performance reduction which should be achieved with the rule change last year. It will only give a disadvantage for the larger models in opposite to the smaller ones.

Due to the 2015 rules with reduced energy and extended motor run time there is a trend to slow, long time climb models with a low wing load. Thus the safety argument to reduce the weight and to minimize the energy and the risk of damages in case of a crash is no longer a very important one. The high speed climbing models were a requirement of the rule with

battery weight and motor time limitation. These climb figure will have a disadvantage under the new rules, so the high speed; straight climbing models will lose importance.

To play with energy amount and motor run time is a good way to find an acceptable level of performance. It's to avoid making imprudent changes with the airframes of the models in the future. To change some technical components or setup parameters is much easier, although in the past there was also some turbulences (e.g. in the case of detailed limiter specifications).

The last season has shown that slower models become advantageous in the competition. This will lead in the future to a process of replacing the less competitive heavier models by model designs which have better adapted characteristics for the new rule without the need of an extra rule change. By avoiding making old models obsolete, rule changes will be more easily accepted by the competitors.

Withdrawn by Germany.

## g) Annex 1 - Rules for Free Flight World Cup

## F1 Subcommittee

### 4. Points Allocation

*Replace the points table and amend the paragraph below the table as shown. For clarity, the old points values are not shown; the new values are the old values multiplied by 10. The following items (a) to (e) remain unchanged.*

Points are allocated to competitors at each contest according to their placing in the results and the number of competitors beaten as given in the following table and the following items:

Placing	1	2	3	4	5	6	7	8	9	10	11	12
Points	<u>500</u>	<u>400</u>	<u>300</u>	<u>250</u>	<u>200</u>	<u>190</u>	<u>180</u>	<u>170</u>	<u>160</u>	<u>150</u>	<u>140</u>	<u>130</u>
Placing	13	14	15	16	17	18	19	20	21	22	23	24
Points	<u>120</u>	<u>110</u>	<u>100</u>	<u>90</u>	<u>80</u>	<u>70</u>	<u>60</u>	<u>50</u>	<u>40</u>	<u>30</u>	<u>20</u>	<u>10</u>

~~Each competitor awarded placing points is eligible for a bonus according to the number of competitors they have beaten in the competition. The bonus points are calculated as 1 point per 10 people beaten in F1A, F1B or F1E, 1 point per 5 people in F1C, F1Q, F1A Junior, F1B Junior, F1P Junior and F1E Junior. The number of bonus points is rounded down to the nearest whole number.~~ **Each competitor awarded placing points is eligible for one bonus point for each competitor they have beaten in the competition.** The number of people beaten by someone in place P is (N-P) with N the number of competitors defined in b) below.

Reason: The current system awards bonus points for every 5 or 10 people beaten, so there is a jump of one bonus points as each threshold is crossed. The proposed system introduces a smooth increase of bonus points for every single person beaten. To maintain the relative magnitude of bonus points and place scoring points without resorting to decimal points, the scoring points in the table are the current values multiplied by 10. The smooth progression of bonus points will reduce the advantage of adding a specific number of nominal competitors to an event to increase the winner's bonus points.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**h) Annex 1 – Rules for Free Flight World Cup**

**F1 Subcommittee**

**4. Points Allocation**

*Modify paragraph b) as follows:*

- b) Points are awarded only to competitors in the top half of the results list (if N is the number of competitors who completed ~~at least one flight~~ **a flight in the first round of the competition**, then the points from the above table are awarded only for places 1 to N/2, rounding up when necessary in calculating the N/2 place).

Reason: This ensures that the number of competitors is known after the first round, fixing the number who can be awarded World Cup points and the maximum number of bonus points available, with no possibility of change by introducing late entries.

*Approved unanimously by the Plenary Meeting. Effective 01/01/17.*

**i) Annex 2 – A Guide for the Organisers of FAI Contests  
in the Outdoor Free Flight Classes**

**F1 Subcommittee**

*Replace the existing guide using the replacement text as shown in Agenda Annex 7a:*

Reason: Revisions have been made to the guide to reflect current practices and to add details of fuel mixing and motor measurement.

*Approved unanimously by the Plenary Meeting. Effective 01/01/17.*

**Volume F2 Control Line** begins overleaf

## 14.7 Section 4C Volume F2 - Control Line

### F2A

#### a) 4.1.17. Timing

F2 Subcommittee

*Amend the paragraphs as shown:*

##### **Electronic Timing with Manual Backup**

(i) The recorded speed in km/h shall be taken from the Electronic Official Speed (~~E~~ off column E Result for the TransiTrace system) of the electronic system for the result.

##### **Electronic Timing with Electronic Backup (Primary & Secondary Systems)**

(i) The recorded speed in km/h is to be taken from the Electronic Official Speed (~~E~~ off column E Result for the TransiTrace system) of the primary system for the result.

(iii) In the case where the primary system does not return a clear time and speed, then the recorded speed in km/h shall be taken from the Electronic Official Speed (~~E~~ off column E Result for the TransiTrace system) of the secondary system for the result.

Reason: The change is required in order to bring to code in line with the latest version of the TT software.

*Approved unanimously by the Plenary Meeting. Effective 01/01/17.*

### F2B

#### b) 4.2.10. Scoring

Poland

*Amend paragraph 4.2.10 a) as follows:*

a) Every judge shall award points to every registered competitor during every official flight for every manoeuvre flown in the correct sequence. Judges shall only score each contestant's first attempt at each manoeuvre. The number of points awarded may vary between 1 point and 10 points. All marks between the 1 point minimum and the 10 point maximum shall be awarded in increments of a minimum of five ~~one~~ tenths of a point (0.5). These marks are multiplied by a K-factor which varies with the difficulty of the manoeuvres.

Reason: In the opinion of many F2B judges and competitors it is absolutely impossible, in such short time between figures, to give reasonable mark using increments of 0.1. According to the existing rules is rather an impression than scoring now.

*Withdrawn by Poland.*

### F2C

#### c) 4.3.1. Definition of a Team Racing Event

Austria

*Replace paragraph 4.3.1 e) as shown:*

~~e) The qualifying races and the semi-finals races are run over 100 laps, corresponding to 10 km. The final race is run over 200 laps, corresponding to 20 km.~~

**e) Qualifying and semi-final races are run over 100 laps (10 km); 2 pitstops (landing for refuelling) are mandatory. The final race is run over 200 laps (20 km); 4 pitstops are mandatory.**

Reason: To re-establish some interest in F2C after the adoption of 3mm venturi diameter, which resulted – in only one season of research – to 50 laps range by tank, so only one pit-stop and less interest for the race.

This change doesn't affect the hardware at all. Just more interest for pilots, mechanics, spectators...the sport.

*Technical Secretary's Note: The above proposal was also submitted by France and The Netherlands.*

[Approved unanimously by the Plenary Meeting. Effective 01/01/17.](#)

**d) 4.3.4. Characteristics of a Team Racing Model Aircraft Sweden**

*Amend sub-paragraph 4.3.4 l) as follows:*

l) Maximum fuel permitted: ~~7~~ **5** cm<sup>3</sup>. Only one tank is allowed, to contain fuel and oil for lubrication.

Reason: With the 3 mm venturi, introduced in 2015, it has become common to get more than 50 laps per tank. This means that the pitting work by the mechanic has been strongly reduced in importance for the team's result. With the proposed amendment, we will have about the same number of pit stops as before. At the last European Championships, all of the semi-finalists used 50 laps per tank in the qualifying rounds to get into the semi-finals.

*Technical Secretary's Note: A successful proposal in either Agenda Items c) or d) will once again have World Record consequences.*

[Withdrawn by Sweden.](#)

**e) 4.3.6. Organisation of Races F2 Subcommittee**

*Amend paragraph 4.3.6 b) with additional text as shown below:*

b) The draw is organised in such a way that, when possible, **1) only one team of any nation may participate in a qualifying race or semi-final race, and 2) for qualifying races, each team shall have a first, second and third choice of sectors. If conflict arises from attempting to apply these two requirements, separating competitors by country will have precedence.**

Reason: The choice of sector has a very significant impact on the outcome of a race due to prevailing weather conditions. In the interest of fairness to all competitors, during the qualifying races, the draw should be made to give each competitor a first, second and third choice.

While the draw should be random in nature, simple procedures are available that can achieve this fairness in setting the qualifying races.

[Withdrawn by F2 Subcommittee.](#)

## f) 4.3.11. International Team Classification

United Kingdom

*Amend paragraph 4.3.11 as follows:***4.3.11. International Team Classification**

International team classification is established by adding the numerical position three best individual race times achieved by each National team, achieved by each individual team. The team with the lowest total is ranked first, etc. with complete three-team teams ahead of two-team teams which in turn are ranked ahead of single team entries. In case of a team tie, The National team with the lowest total is ranked first, with teams with three race times ranked ahead of teams with two race times which in turn are ranked ahead of teams with one race time. In case of a team tie, the best individual placing time decides.

Reason:

- 1) Team racing is an event that is determined solely by the stopwatch, therefore it is the most appropriate method of calculating the international team classification results.
- 2) It reduces the possibility that ties will occur.
- 3) It prevents the anomaly where a national team can score a high placing even though one of its teams has failed to achieve a timed result in any of its races.

*Withdrawn by United Kingdom.*

## g) 4.3.12. Judges and Timekeepers

F2 Subcommittee

*Delete 4.3.12 paragraph c) and replace with the new text below:***c) The time for the flight shall be calculated as defined below.**

- i) If all three watches record a time, a maximum tolerance of 0.18 seconds is allowed between the middle watch time and each of the two other watch times (lower and higher ones). If all recorded times are within the defined tolerance, the time for the flight shall be the average of the three watch times.**
- ii) If one stopwatch differs from the closer of the other two by more than 0.18 seconds, then the average time shall be calculated from the other two watch times**
- iii) If both the lower and upper recorded times exceed the tolerance, the team shall be given the choice between having a reflight or accepting the middle time as the time for the flight. Once the team has made its choice, the decision is irreversible.**
- iv) If only two watches record a time and they are within the 0.18 second tolerance, the time for the flight shall be the average of the two watch times.**
- v) If only two watches have a time and they are not within the 0.18 second tolerance, the team shall be notified. The team may accept the higher of the two watch times or be granted a reflight. Once the team has made its choice, the decision is irreversible.**



- vi) If only one watch has a time, the team shall be notified. The team may accept the single time or be granted a reflight. Once the team has made its choice, the decision is irreversible.**
- vii) If all watches fail, there will be no recorded time, the team shall be notified and granted a reflight.**
- viii) The time retained will be made up to the next upper 1/10th second.**
- ix) All decisions about timing must be reported to the F2C Chief Judge without delay.**

Reason: Current rules do not address the situation when the time keepers have a watch failure.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**h) 4.3. CLASS F2C – TEAM RACING MODEL AIRCRAFT F2 Subcommittee**

*Replace the entire section 4.3 with the revised text as shown in Agenda Annex 7b.  
For a synopsis of changes and clarifications, refer to Agenda Annex 7c:*

Reason: The rules have been rewritten into a form of English that is less open to differing interpretations when translated into different languages. The opportunity has been taken to both reorder the rules and to collate together similar topics which have become disjointed and therefore, difficult to follow as successive rule changes have been introduced over the years. Specific changes and clarifications have been made.

See the Minutes Annex 7b – Team Racing Model Aircraft. This was amended at the F2 Technical Meeting (Par. 4.3.5.b)) and approved unanimously by the Plenary Meeting. Effective 01/01/17. Additionally, the Subcommittee Chairman expressed appreciation to Derek Heaton for his work on rewriting these rules.

**F2D**

**i) 4.4.2. Definition of a Combat Model Aircraft Germany**

*Amend paragraph 4.4.2 a) with additional text as shown below and make consequential changes to 4.4.5 and 4.4.9 as shown:*

**4.4.2. Definition of a Combat Model Aircraft**

- a) Model aircraft in which the propulsion energy is provided by a piston **or electric** motor(s) and in which lift is obtained by aerodynamic forces acting on surfaces which remain fixed in flight, except for control surfaces.

**4.4.5. Characteristics**

- a) Maximum loading: 100 g/dm<sup>2</sup>  
**Maximum weight (ready to fly): 650 g**  
**Electric motor(s) or IC engine(s) with M**maximum swept volume of motor(s): 2.5 cm<sup>3</sup>
- d) The motor **IC engines** shall be naturally aspirated via a single round venturi with a maximum effective diameter of 4 mm.



- e) Any interconnecting chamber between the air intake and the induction port of ~~the motor~~ **IC engines** shall have a maximum volume of 1.75 cm<sup>3</sup>. This clearly prohibits sub-piston induction for supplementary air intake.

#### 4.4.9. The Heat from Start to Finish

- d) ~~The motor(s)~~ **IC engines** must be started by flicking the propeller by hand.

##### Reason:

- Training and practising is difficult or impossible in certain Regions of the World (Western Europe, US) due to the still extreme noise of a F2D model and legislative noise restrictions, also on model flying fields.
- Combat competition sites in Western Europe disappeared due to noise restrictions.
- Health of mechanics is concerned, because the engine noise of a standard up to date F2D-engine is about 110 to 118 dB at the location of the ear of a mechanic. This will cause hearing disorder even if the exposure time is short.
- 95% of the F2D pilots have to rely on one manufacturer of the IC engines who is located close to the crisis region in the Ukraine (border to Russia).
- It is difficult to get good IC engines (they are sold only on a few competitions).
- All components for the electric drivetrain are available worldwide from many manufacturers.
- Extreme high prices for good IC engines: 260 to 900 \$. Suitable electric motors are available from 18\$, the complete electric drivetrain from 80 to 100\$.
- Electric motors are safer and easier for beginners, because they must not be started by flicking the propeller by hand.
- Nitromethane will be a single source (China) with bad quality in the future.
- There is no real impact on all F2D Pilots who do not want to change their drivetrain (except from fighting against few competitors with electric drivetrain).
- The output of more than 20 years of the F2D "silencer" rule – even with strengthening modifications - is not audible. We have still more than 110 dB noise in 1 metre
- It was demonstrated, (World Cup Aalborg 2015), that an electric driven combat model can cope with a state of the art IC engine driven F2D model. The only restriction of the electric drivetrain is a shorter flight time due to battery weight limitations which forces to pitstops.
- Limiting of the maximum weight is an easy and effective measure to restrict the available power of electric driven models, as demonstrated in electric speed (F2G). Current F2D models are much lighter (500 – 550 g) than the suggested weight limit, so they are not affected by this rule change.

[Referred back to the F2 Subcommittee for further investigation.](#)

#### n/a 4.4.4. Competitor

**Bureau**

*Amend paragraph 4.4.4 with deletions and additional text as shown below:*

The pilot, who shall be the entrant and known as the competitor, may employ a maximum of two mechanics in any one heat. (In exceptional circumstances of wet or extremely windy weather, an additional helper may be used as a streamer holder and must perform no other function for the duration of that combat period).

For World and Continental Championships, ~~the mechanics (helpers),~~ a maximum of six **mechanics (helpers)** other than team members or the team manager (or assistant team manager), ~~must be registered for no more than one national team, from the beginning of the competition throughout to the end.~~ **may be registered to each National team.**

**In the case of a complete national Combat team (3 or 4 members), the Combat mechanics must be registered only for a single national team from the beginning of the competition through to the end of the competition.**

**A pool of other registered Combat mechanics shall be maintained by the Championship organiser.**

**In the case of an incomplete national Combat team, pilots may choose to use any registered Combat mechanic who is not registered to a complete national team.**

**Combat mechanics of incomplete teams may act as mechanics for other incomplete Combat teams.**

**Pilots of incomplete teams may also be registered as mechanics and if they are eliminated from the competition they may, by choice, be added to the pool of mechanics.**

Reason: Additional Bureau proposal generated at the Bureau meeting.

Referred back to the F2 Subcommittee for further investigation.

**j) 4.4.5. Characteristics F2 Subcommittee**

*Amend paragraph 4.4.5 i) with additional text as shown below:*

4.4.5.i) The model aircraft shall be equipped with a device **(referred to as the “streamer hook”)**, specially designed to retain the streamer, which shall be fitted on the longitudinal centre line and sufficiently strong so that the streamer does not become detached under normal flying conditions.

Reason: This change clarifies the name for the streamer attachment device.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**k) 4.4.9. The Heat from Start to Finish F2 Subcommittee**

*Insert a new sub-paragraph 4.4.9 p) as shown:*

**4.4.9.p) In case of a fly away (where the shut-off works) the mechanic can choose to leave the model where it landed and just collect the streamer.**

Reason: To clarify the mechanic's choices in the event of a flyaway when the shutoff works.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**l) 4.4.12.C Penalties and Disqualifications F2 Subcommittee**

*Replace the text in 4.4.12.C.p) as shown:*

4.4.12.C.p) ~~If, during a line tangle where one or both models remain airborne, his mechanic(s) enters the flying circle.~~ **If his mechanic(s) enters the flying circle while both models are flying, or during a line tangle where at least one of the models remains airborne.**

Reason: To clarify the circumstances for a penalty if the mechanic enters the circle.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**m) 4.4.14. Individual and Team Classification F2 Subcommittee**

*Amend paragraph 4.4.14.k) with the additional text as shown below:*

4.4.14.k) The team classification is established by taking the total scores, obtained in 4.4.14.g) above, of the three best scoring members of the team and adding them together. In the case of a team tie **for any of the first three places**, the team with the lower sum of place numbers, given in order from the top, wins. If still equal, the best individual placing decides. Complete three-competitor teams are ranked ahead of two- competitor teams which, in turn, are ranked ahead of single competitor entries.

Reason: This change clarifies that only the top three places are subject to a tie break.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**F2 Annexes**

**n) Annex 4C – Team Race Panel of Judges Guide F2 Subcommittee**

*Replace the entire Annex 4C with the revised text as shown in Agenda Annex 7d. For a synopsis of changes and clarifications, refer to Agenda Annex 7c.*

Reason: The rules have been rewritten into a form of English that is less open to differing interpretations when translated into different languages.

The opportunity has been taken to both reorder the rules and to collate together similar topics which have become disjointed and therefore, difficult to follow as successive rule changes have been introduced over the years.

Minutes Annex 7d. Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**o) Annex 4D – Rule 4.4.9 The Heat from Start to Finish F2 Subcommittee**

*Add a new paragraph 4.4.9 p) as follows:*

**4.4.9. p) If he chooses to bring the model back closer to the pitting circle the model and remaining lines should be left at least 3 metres outside the pitting circle. In case the model lands in the pitting circle or close to it the model and remaining lines must be collected and kept within the pitting area. The purpose of this is to make sure that there is a clear path for mechanics when running between pitting positions.**

Reason: To clarify the mechanics choices in the event of a flyaway when the shutoff works.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

cont/...

p) **Annex 4D – Rule 4.4.11. Reflights** **F2 Subcommittee**

*Additional text for paragraph 4.4.11 c) as follows:*

**4.4.11. c) The Circle Marshal can also grant a reflight if there is a line tangle where both models are grounded and he considers the tangle impossible to clear. Before a reflight is called, both pilots should be asked if they would agree to continue the match without clearing the tangle.**

Reason: To clarify when the circle marshal may award a reflight following a line tangle.

*Approved unanimously by the Plenary Meeting. Effective 01/01/17.*

q) **Annex 4D – Rule 4.4.12 Penalties and Disqualifications** **F2 Subcommittee**

*Add a new paragraph 4.4.12.C. j) (after f) as follows:*

**4.4.12.C. j) This rule only applies when his opponent is still flying. However, when both models are grounded both pilots must be observant of their opponent thereby avoiding unsafe situations.**

Reason: To clarify when a competitor will be disqualified.

*Approved unanimously by the Plenary Meeting. Effective 01/01/17.*

r) **Annex 4E – World Cup Rules 4.E.1. – Classes** **F2 Subcommittee**

*Amend paragraph 4.E.1. to add a new class:*

**4.E.1. Classes**

The following separate classes are recognised for World Cup competition in Control Line: F2A (Speed), F2B (Aerobatics), F2C (Team Racing), and F2D (Combat) **and F2F (Profile Team Racing).**

Reason: Making F2F a World Cup class which will help team race participation at World Cup competitions.

*Referred back to the F2 Subcommittee for further investigation.*

s) **Annex 4H – Class F2F – Diesel Profile Team Racing Model Aircraft – 4.H.4. Characteristics of a ...** **F2 Subcommittee**

*Add a new paragraph 4.H.4. e) as follows and renumber the subsequent paragraphs:*

**4.H.4. e) The engine may not be enclosed within a cowl, but a heat shield which conforms to the profile of the cylinder may be fitted to the engine.**

Reason: This addition matches the rules to current practice and it clarifies how the cylinder shield may be fitted.

*Withdrawn by the F2 Subcommittee.*

*cont/...*

**t) Annex 4K – Class F2G – Electric Speed United Kingdom**  
**4.K.2. Characteristics of an Electric Speed Model Aircraft**

*Modify paragraph 4.K.2 with additional text to d) as shown. Correct the numbering so that the existing paragraph g) is correctly delineated f). Number the existing hanging sentence g).*

**4.K.2 Characteristics of an Electric Speed Model Aircraft**

- a) Maximum voltage of power supply 42 volts off load.
- b) Minimum total projected area 5 dm<sup>2</sup>.
- c) Maximum loading 100g/dm<sup>2</sup>.
- d) Maximum weight 600 g. **(Note: this weight shall be checked at random after flights, see 4.K.17 c))**
- e) The model aircraft must take off from the ground.
- ~~g)~~ **f)** A radio control system may be used to control the electric motor in accordance with ABR 1.3.2 c).
- g)** A person other than the pilot may operate this system.

*Technical Secretary's Note: The above proposal is also contained in Agenda Item x).*

Reason: Clarification.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**u) Annex 4K – Class F2G – Electric Speed United Kingdom**  
**4.K.2. Characteristics of an Electric Speed Model Aircraft**

*Add new text to the newly created paragraph g) (see the previous proposal t) and add a new paragraph h):*

**4.K.2 Characteristics of an Electric Speed Model Aircraft**

- a) Maximum voltage of power supply 42 volts off load.
- b) Minimum total projected area 5 dm<sup>2</sup>.
- c) Maximum loading 100g/dm<sup>2</sup>.
- d) Maximum weight 600 g. **(Note: this weight shall be checked at random after flights, see 4.K.17 d))**
- e) The model aircraft must take off from the ground.
- ~~g)~~ **f)** A radio control system may be used to control the electric motor in accordance with ABR 1.3.2 c).
- g)** A person other than the pilot may operate this system. **A person other than the pilot may control the starting and shutdown of the electric motor. If the pilot controls the shutdown of the electric motor he must maintain control of the electric motor until the aircraft power system has been made safe by an assistant. Between initial motor start and final shut off, the pilot may control the power of the motor.**
- h)** **The pilot must make the motor power system live (The pilot must connect the motor power battery to the ESC whilst preparing the model for flight inside the flying circle).**

Reason: Safety. This proposal ensures that the motor is under control at all times,

without giving a speed advantage to the pilot.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

- v) **Annex 4K – Class F2G – Electric Speed** **France**  
**4.K.2. Characteristics of an Electric Speed Model Aircraft**

*Add new text to 4.K.2 g) as follows:*

*Technical Secretary's Note: Although the existing paragraph is delineated g) that is an error. There is no paragraph f) and therefore the below (if accepted) will become an extension to paragraph f) when this error is corrected. See previous proposals relating to this section.*

**4.K.2. g)** A radio control system may be used to control the electric motor in accordance with ABR 1.3.2 c). A person other than the pilot may operate this system. ~~A mechanical device allowing a total instant shutdown of any power feeding of the engine(s) must be fitted on the model itself.~~ **An external manually operated device to disconnect the battery must be fitted to enable total shut-down of the power when the model aircraft is not airborne.**

Reason: Safety. It often occurs that the engine starts or restarts untimely, sometimes at the pit area after the end of a flight. It's very dangerous to pilots, helpers or any other persons.

Amended as shown at the F2 Technical Meeting and approved unanimously by the Plenary Meeting. Effective 01/01/17.

- w) **Annex 4K – Class F2G – Electric Speed** **France**  
**4.K.4. Length of Course**

*Amend paragraph 4.K.4 b) as follows:*

**4.K.4. Length of Course**

- a) The measured distance covered by the model aircraft must be at least one kilometre.
- b) The radius of the flight circle must be ~~15.92 m (10 laps = 1 km).~~ **17.69 m (9 laps – 1 km).**

Reason: Safety. Speeds have now increased to a point where it is prudent to reduce the centrifugal force and the speed of rotation. There is a precedent in F2A.

*Technical Secretary's Note: The above proposal was also submitted by the United Kingdom.*

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

- x) **Annex 4K – Class F2G – Electric Speed** **United Kingdom**  
**4.K.17. Individual Classification**

*Add a new paragraph c) to 4.K.17 as follows:*

**4.K.17. Individual Classification**

- a) The best speed attained during the three flights is used for classification. In case of a tie, to separate the fliers, the second best speed, and if still a tie, the third best speed is used.
- b) The first three positions are subject to rechecking of the declared model aircraft

characteristics.

**c) The weight of the models shall be randomly checked throughout the competition at the end of a competitor's flight.**

Reason: Model weight is critical. Just a few more grams of battery weight can add significant amount of extra power.

*Technical Secretary's Note: The above proposal is also contained in Agenda Item t).*

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

***Volume F3 Aerobatics begins overleaf***

## **14.8 Section 4C Volume F3 - RC Aerobatics**

### **a) Class F3P 5.9.10 Judging**

**Bureau**

*Amend sub-paragraph 5.9.10 c) with the addition of a sentence as follows:*

c) For World or Continental Championships the organiser must appoint one or more panels of five judges each. The judges must be of different nationalities. Those selected must reflect the approximate geographical distribution of teams having participated in the previous World Championships and the final list must be approved by the CIAM Bureau. At least one third, but not more than two thirds of the judges must not have judged at the previous World Championship. Judge assignment to the panels will be by random draw.

**In the case of more than one panel of judges, the panels may be combined for final rounds of flights.**

Reason: **Clarification** of panels of judges for World or Continental Championships especially for the final rounds of flights according to what has been done at the 2015 F3P World Championship in Poland.

*This rule already contains this provision but the clarification was approved by the Plenary Meeting.*

***Volume F3 Helicopter begins overleaf***



## 14.9 Section 4C Volume F3 - Helicopter

### a) ANNEX 5E - F3C Judges' Guide 5E.6.11. - Autorotations

### F3 Heli Subcommittee

*Change Judging Criteria. Delete the entire section and insert the alternate text as shown below:*

~~An autorotation begins when MA crosses an imaginary plane that extends vertically upward from a line drawn from the centre judge out through the centre of the 1m helipad. MA must be in the autorotation state when it cuts this plane, the engine power must be reduced to idle (or off) at this point and the MA must be descending. During the manoeuvre, the forward speed and rate of descent should be constant, which means that the angle of the flight path is also constant. After landing the MA must be parallel to the judges' line. If the flight path is stretched, shortened or deviated from, to reach a circle the manoeuvre must be downgraded. The original flight path gives a basic maximum score according to the description and there will be additional downgrades of 1 or 2 points depending of the severity of the deviation. For example: If the flight path clearly points to a landing close to flag 1 (2) and the path is stretched to reach a circle, the score can only be a maximum of 6 (outside the circles) and there will be an additional downgrade of 2 points for the stretch, so the score can only be a maximum of 4. If the pilot would have landed without stretching, the maximum score would have been a 6. Therefore, stretching the flight path must never lead to a higher score.~~

~~Scoring criteria for Autorotation landings:~~

~~Landing gear inside 1m circle = Maximum 10 points.~~

~~Rotor shaft points to inside of 1m circle = Maximum 9 points.~~

~~Landing gear inside 3m circle = Maximum 8 points.~~

~~Rotor shaft points to inside of 3m circle = Maximum 7 points.~~

~~Rotor shaft points to outside of 3m circle = Maximum 6 points.~~

**The autorotation begins when the helper announces the figure with „now“ and ends with the landing and the helper calling „finished“. The figure autorotation may contain additional manoeuvres.**

**The manoeuvre description must state clearly the moment when the engine has to be powered off or set to idle position. In order to obtain the maximum score of 10 points the MA must have executed the flying manoeuvres exactly as described in the manoeuvre description. The MA must land smoothly inside the 1 m circle, it must be parallel to the judges line and the engine has to be powered off or set to idle position.**

**Scoring:**

**Flying manoeuvres incl. smooth landing parallel to the judges line = max. 6 points**

**Scoring for the landing:**

<b>Rotor shaft is inside the 1 m circle =</b>	<b>+ 4 points</b>
<b>Rotor shaft points to the line of the circle=</b>	<b>+ 3 points</b>
<b>Rotor shaft is inside the 3 m circle=</b>	<b>+ 2 points</b>
<b>Rotor shaft points to the line of the 3 m circle=</b>	<b>+ 1 point</b>
<b>Rotor shaft is outside the 3 m circle.</b>	<b>+ 0 points</b>

**Note: If a flying manoeuvre is missed out or if the engine is not powered off (or not set to idle position), the score for the complete figure shall be zero.**

Reason: Clarification.

Approved by the Plenary Meeting: For 27; Against 2. Effective 01/05/16. A Technical Notice will be placed on the website.

**b) ANNEX 5G - F3N Judges' Guide**

**F3 Heli Subcommittee**

**5G.6.7. - Flip**

*Add new text to 5G.6.7. as shown:*

**5G.6.7 FLIP**

A flip is a rotation about an axis normal to the rotor shaft. Stationary flips need to have a small altitude oscillation (low with RD horizontal, high with RD vertical) which should be less than 50 cm. Lateral deviations of these flips should be downgraded by 1 point per 50 cm.

Travelling flips should not affect the described flight path.

**A pushed flip is done by performing the elevator impulse at the transmitter in forward direction. A pulled flip is done by performing the elevator impulse at the transmitter in backward direction**

Reason: Clarification.

Approved unanimously by the Plenary Meeting. Effective 01/05/16. A Technical Notice will be placed on the website.

**c) ANNEX 5G - F3N Judges' Guide**

**F3 Heli Subcommittee**

**5G.8.6. – EVALUATION OF THE LEVEL OF DIFFICULTY FOR FREESTYLE SCHEDULE**

*Remove the existing table 5G.8.6 and replace with the table below:*

<b>Aerobatic Manoeuvres in Basic Orientations</b>	
10	Examples: Immelmann, short straight passages, loop, loop with full pirouette on top, roll, turn, 540° turn, pirouettes
15	Examples: ½ Cuban eight, long passages, nose-in circle, flips, autorotation
20	Examples: inverted hovering on eyelevel, flip sideward, Cuban eight, flips with hovering stops
20-30	Examples: Horizontal eight, loop sideways, turn with hesitations and/or changes of turning direction, rolling stall turn, autorotation with 180 degree turn, death spiral, knife edge pirouette, speed circle, stationary tictoc, funnel, 4-point roll, multi-point tictoc, Snake
<b>Aerobatic Manoeuvres in Several Orientations</b>	
30-45	Aerobatic manoeuvres that demonstrate several orientations like inverted, sideways, backwards etc.

	Examples: Backward Inverted Cuban eight, skids in and out knife edge manoeuvres, snake parallel to flight line and to centerline, different kinds of funnels like waltz
<b>Aerobatic Manoeuvres including Piro, Rolls and Flips Etc</b>	
40-55	Aerobatic manoeuvres flown in a way where in addition to the CG movement of the main manoeuvre, the model is continuously performing rolls, piro, flips, tictocs or similar. In order to get a high score, many orientations must be shown. Examples: Pirouetting Globe, Chaos, Rolling Globe, Rolling circles, Pirouetting funnels
<b>Aerobatic Manoeuvres including Reversals and Transformations</b>	
50-60	Aerobatic manoeuvres flown in a way, where piro, rolls, tictocs or other secondary manoeuvres are included/integrated and reversed in an equal and balanced way. Examples: Rolling globe with roll reversals, horizontal circle with continues flips/rolls so that tail boom is always parallel to centerline, Reversing chaos In order to score near maximum, many orientation changes must be displayed, and flight must include many clearly defined manoeuvres.

Reason: Clarification.

Approved unanimously by the Plenary Meeting. Effective 01/05/16. A Technical Notice will be placed on the website.

d) **ANNEX 5G - F3N Judges' Guide** **F3 Heli Subcommittee**  
**5G.8. – CRITERIA FOR JUDGING FREESTYLE FLIGHT AND MUSIC**  
**FREESTYLE**

*Change the values in judging as shown:*

For Freestyle and Music Freestyle flights, the entire flights will be judged according to the table below.

<b>Criterion</b>	<b>Max Points Freestyle</b>	<b>Max Points Music Freestyle</b>
Difficulty	<del>80</del> <b><u>60</u></b>	40
Harmony	20	<del>60</del> <b><u>50</u></b>
Creativity	20	<del>40</del> <b><u>50</u></b>
Precision	<del>20</del> <b><u>60</u></b>	<del>20</del> <b><u>40</u></b>
Safe presentation	20	20

For both the Freestyle and Music Freestyle flights the judges can give up to the maximum points (for Freestyle - ~~80~~ **60** for difficulty, **60 for precision** and 20 for the other criteria).

Reason: Safety Considerations.

At the moment pilots use very difficult manoeuvres which they are not able to fly safely and precisely. So they get high scores in difficulty but the punishment in precision does not really influence the result.

Approved unanimously by the Plenary Meeting. Effective 01/05/16. A Technical Notice will be placed on the website.

**Volume F3 Soaring begins overleaf**

## 14.10 Section 4C Volume F3 - RC Soaring

### F3F – Radio Control Slope Soaring Gliders (rule changes permitted at 2016 Plenary)

#### a) 5.8.1. Definition Germany

*Delete the second and third sentences:*

**5. 8.1. Definition:** This contest is a speed event for radio controlled slope gliders. A ~~minimum of four rounds must be flown. The organiser shall run as many rounds as the conditions and time permits.~~

Reason: The minimum number of rounds is now defined in paragraph 5.8.13 Classification (see proposal F3F 5.8.13 GER 2016); the sentence that an organiser shall run as many rounds as possible is trivial.

*Approved unanimously by the Plenary Meeting. Effective 01/01/17.*

#### b) 5.8.7. Organisation of Starts Germany

*Amend the section as shown below:*

The flights are to be performed round by round. The starting order is settled by draw in accordance with the radio frequencies used.

The competitor is entitled to three **(3)** minutes of preparation time from the moment he is called to the ready box.

After the three **(3)** minutes ~~has~~ **have** elapsed, the starter may give the order to start.

After the starter has given the order to start, the competitor or his helper ~~is to~~ **must** launch the model within **thirty** (30) seconds ~~The competitor or his helper is to launch the model by hand from the starting area indicated by the organiser.~~

If possible, the starting area, including the audio system, shall be situated in the middle of the course (equal distance from Base A and Base B).

The time from launch to the moment the model enters the speed course must not exceed thirty **(30)** seconds.

If the model has not entered the speed course (i.e. first crossing of Base A in the direction of Base B) within the thirty **(30)** seconds, the flight time will commence the moment the thirty **(30)** seconds ~~expires~~ **expire**. If the model has not entered the speed course within the thirty **(30)** seconds, this is to be announced by the judges.

Reason: Clarification. More exact wording. The values should be written in words and numbers.

*Amended as shown at the Technical Meeting and approved unanimously by the Plenary Meeting. Effective 01/01/17.*

#### c) 5.8.8. The Flying Task Germany

*Delete two words from the heading. Amend the paragraph as shown below:*

##### **5.8.8. The Flying Task**

The flying task is to fly **ten** (10) legs on a closed speed course of **one hundred** (100) metres in the shortest possible time from the moment the model first crosses

Base A in the direction of Base B. If some irremovable obstacles do not allow **one hundred** (100) metres, the course may be shorter but not less than **eighty** (80) metres. This exception does not apply for world or continental championships. The competitor's model aircraft must be visible to the appropriate judge on the turns at Bases A and B.

Reason: Delete the redundant word 'flying'. The values should be written in words and numbers.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

d) **5.8.9. The Speed Course**

**Germany**

*Amend the section as shown below:*

**5.8.9. The Speed Course**

The speed course is laid out along the edge of the slope and is marked at both ends with two **(2)** clearly visible flags. The organiser must ensure that the two **(2)** turning planes are mutually parallel and perpendicular to the slope.

Depending on the circumstances, the two **(2)** planes are marked respectively Base A and Base B.

Base A is the official starting plane. At Base A and Base B, an official announces the passing of the model (i.e. any part of the model aircraft) with a sound signal when the model is flying out of the speed course. Furthermore, in the case of Base A, a signal announces the first time the model is crossing Base A in the direction of Base B.

Reason: The values should be written in words and numbers.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

e) **5.8.10. Safety**

**Germany**

*Add the word 'rules' to the heading; delete "speed course" and insert "flying range for the timed flight"; add five new rows of text; strike out four rows; insert nine new rows of text as follows:*

**5.8.10. Safety Rules**

The sighting device used for judging the turns must be placed in a safe position. The organiser must clearly mark a safety line representing a vertical plane which separates the speed course **flying range for the timed flight** from the area where judges, other officials, competitors and spectators stay.

**The flight will be penalised with 300 points, when sighted by means of an optical aid, the safety plane is crossed by any part of the model aircraft. The instrument used to check the crossing of the vertical safety plane must also assure that the safety plane is orthogonal to Base A and Base B. The penalty of 300 points will be a deduction from the competitor's final score and shall be listed on the score sheet of the round in which the penalty was applied.**

~~Crossing the safety line by any part of the model aircraft during the measured flight will be penalised by 100 points subtracted from the sum after conversion, the penalty not being discarded with the result of the round. The organiser must appoint one judge to observe, using an optical sighting device, any crossing of the safety line.~~

**The organiser must clearly mark the boundary between the landing area and the safety area assigned for other activities.**

**After release of the model aircraft from the hand of the competitor or helper, any contact of the model aircraft with any object (earth, car, stick, plant, etc) within the safety area will be penalised by 300 points.**

**Contact with a person within the safety area will be penalised by 1000 points. The number of contacts during one attempt does not matter (maximum one penalty for one attempt). The penalty will be a deduction of 300 or 1000 points from the competitor's final score and shall be listed on the score sheet of the round in which the penalty was applied.**

Reason: The timed flight (including the first thirty seconds) must take place at the side of the safety plane at the side of the slope for safety reasons. If there is any violation 100 points penalty are not enough; the flight at the slope can be compared with the task C Speed in the class F3B. There are 300 points penalty that the pilot avoids to cross the safety plane. The organizer must clearly mark a safety area; in this case we can take 1:1 the rules from F3B concerning the contact with any obstacle or with a person.

Referred back to the F3 Soaring Subcommittee for further investigation.

f) **5.8.13. Classification**

**Germany**

*Amend the paragraph with deletions and additional text as shown below:*

**5.8.13. Classification:** ~~The sum of the competitor's round scores will determine his position in the final classification.~~ **A minimum of four (4) rounds must be flown for the competition to be valid. In this case the lowest** ~~If more than three rounds were flown the lowest round score of each competitor will be discarded; if more than fourteen rounds were flown, the two lowest round scores will be discarded. and the others~~ **The remaining results** ~~are added to obtain the final score which will determine his~~ **the** ~~position~~ **of the pilot** ~~in the final classification.~~

Reason: Clarification. This defines how many rounds must be flown for the result of a competition to be valid. This was content in paragraph 5.8.1. "Definition"; but the better place is paragraph 5.8.13. "Classification".

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

g) **5.8.15. Changes**

**Germany**

*Amend the paragraph as follows:*

**5.8.15. Changes**

Any changes in **of** the flight and landing areas may be made only between flight rounds **or between groups.**

Reason: It should be also possible to change flight and landing areas between groups.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

h) **5.8.16. Interruptions**

**Germany**

*Add the words 'weather conditions' to the heading; add to point a); add a new point c); and delete the final two paragraphs, inserting new wording as shown:*

#### **5.8.16. Weather Conditions and Interruptions**

A round in progress must temporarily be interrupted if:

- a) The wind speed is below **three** (3) m/sec or more than **twenty-five** (25) m/sec for at least **twenty** (20) seconds **two (2) metres above the ground at the flight-line.**
- b) The direction of the wind constantly deviates more than 45° from a line perpendicular to the main direction of the speed course.
- c) **In the case of rain.**

If these conditions arise during the flight **the contest director must interrupt the contest and** the competitor is entitled to a re-flight.

~~If the interruption lasts more than thirty minutes, then the starting list of the round is to be divided into groups and the scores (see paragraph 5.8.12) are computed within the groups.~~

~~The results of an incomplete group are to be cancelled and this group has to fly from the beginning.~~

~~The groups must be of equal size (+ - 1 competitor); the minimum competitors in one group is 10; the division of the starting list must be announced before the start of the round.~~

~~The round may continue if the conditions are again constantly within the limits.~~

**In the case of foreseeable unstable weather conditions + The whole group must be divided into groups of equal size (+one (1) competitor) with a minimum number of competitors in one group of ten (10) before the round starts.**

**If the weather is stable during the whole round only one group is evaluated; if the competition must be interrupted more than thirty (30) minutes then the interrupted group must start from the beginning and the results are evaluated for each group (see paragraph 5.8.12).**

Reason: Also the rain influences the flight. Clearer wording concerning the interruption has been given.

*Amended at the F3 Soaring Technical Meeting as shown and approved unanimously by the Plenary Meeting. Effective 01/01/17.*

#### **i) 5.8.17 Site**

**Germany**

*Add a new heading 5.8.17. Site together with the diagram as follows:*

#### **5.8.17 Site**

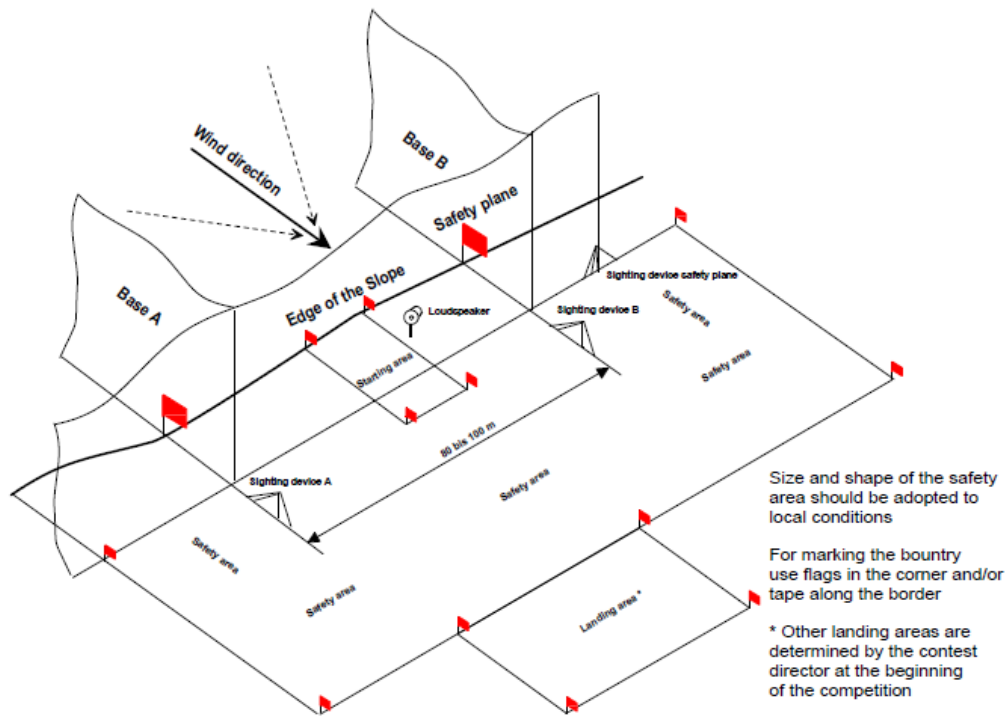
The diagram of **recommended F3F Flying Field Layout** follows:

*Amended at the F3 Soaring Technical Meeting as shown and approved unanimously by the Plenary Meeting. Effective 01/01/17.*

*The approved diagram is on the following page.*



### F3F Flying Field Layout



### F3J – Thermal Duration Gliders (rule changes permitted at 2016 Plenary)

#### j) 5.6.3. Contest Flights

Germany

*Amend paragraph 5.6.3.1 a) and b) as follows with consequential deletion of the second sentence in 5.6.11.1 a):*

#### 5.6.3. Contest Flights

**5.6.3.1. a)** ~~The competitor will be allowed a minimum of five (5),~~ **A minimum of four (4) preferably more official flights qualification rounds must be flown for the competition to be valid. If more than seven qualification rounds are flown, then the lowest score will be discarded before determining the aggregate score.**

**b)** The competitor ~~will be allowed~~ **has** an unlimited number of attempts during the working time.

**c)** There is an official attempt when the model aircraft has left the hands of the competitor or those of a helper under the pull of the towline.

**d)** In the case of multiple attempts, the result of the last flight will be the official score.

**e)** All attempts are to be timed by two stopwatches. If no official time has been recorded, the competitor is entitled to a new working time according to the priorities mentioned in paragraph 5.6.4.

**Reason:** At competitions with a big number of competitors and bad weather conditions, often five rounds can't be flown; four qualification rounds will lead to a fair result.



The wording of paragraph 5.6.11.1a) (second sentence) is better placed in the modified paragraph above.

*Technical Secretary's Note: See the next proposal k), for further proposed changes to 5.6.11.1. a)*

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**k) 5.6.11 Final Classification**

**Germany**

*Delete paragraph 5.6.11.1 a) (the second sentence has been proposed to be moved to 5.6.3.1 a) – see the above proposal) and amend paragraph b) as shown, renumbering it to a):*

**5.6.11. Final Classification**

~~5.6.11.1. a) If seven (7) or fewer qualifying rounds are flown, the aggregate score achieved by the competitor will be the sum of these scores for all rounds flown. If more than seven rounds are flown, then the lowest score will be discarded before determining the aggregate score.~~

b) At the end of the qualifying rounds, a minimum of nine (9) competitors with the highest aggregate scores will be placed together in a single group to fly the fly-off rounds. At the organiser's discretion **of the contest director**, if frequencies permit, the number of competitors qualifying for the fly-off may be increased.

Reason: The wording was transferred to paragraph 5.6.3.1.a) because this is the right paragraph speaking about discarding of rounds. The decision should be made by the contest director. Nowadays there are no restrictions by the used frequencies.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**l) 5.6.12. Weather Conditions and Interruptions**

**Germany**

*Insert a new section heading as shown above and a new paragraph to follow as shown below:*

*Renumber the section that follows 5.13.1 to 5.13.3.*

**5.6.12. Weather Conditions and Interruptions**

**The maximum wind speed for F3J contests is twelve (12) m/sec ~~two (2) m~~ above the ground at the centre of the launch corridor. The start of the contest must be delayed or the contest has to be interrupted by the contest director if the wind speed exceeds twelve (12) m/sec measured three (3) times for at least twenty (20) sec in a time interval of five (5) minutes at the start and landing area.**

**In the case of rain, the contest director ~~can~~ may interrupt the contest. ~~When the rain stops, the contest starts again with the group that was flying, which receives a reflight.~~**

Reason: The different maximum wind speeds are documented in the ABR B.15.1.a) i) for the different classes but the values are not current; there are no limits concerning the new soaring classes F3F, F3K and perhaps also for other relatively new classes. In addition there is nothing written about the measurement procedure. This important information for the contest director should be documented directly in the rules for the different classes. In this case the needed values can be found in a shorter time or they can be found at all.

The paragraph B.15.1.a) i) can stay as it is written but the special rules for our Soaring Classes should be implemented to the specific rule in the rule book.

Amended at the F3 Soaring Technical Meeting as shown and approved unanimously by the Plenary Meeting. Effective 01/01/17.

### **Annex 3A – Rules for World Cup Events**

#### **m) Annex 3A – 3. Contests**

#### **F3 Soaring Subcommittee**

*Add a sentence to paragraph 3 as shown below:*

**3. Contests:** Contests included in the World Cup must appear on the FAI contest calendar and be run according to the FAI Sporting Code. In the contests competitors of at least two different nations must take part. **For the results to be counted as part of the World Cup the following number of rounds must be completed. F3B — 1 round and 1 task, F3F — 4 rounds, F3J — 4 preliminary rounds, F3K — 5 rounds all of different tasks.**

Reason: Necessary clarification. The rules for RC soaring classes state some numbers of rounds to be flown. For class F3J the number of preliminary rounds is not stated. The paragraph B.15. INTERRUPTION OF THE CONTEST of Volume ABR allows that at some conditions the results of a contest are valid even if the number of flown rounds is lower. To avoid the confusion the obligatory number of rounds for counting the contest into the World Cup should be defined.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

***Volume F4 Scale begins overleaf***

## 14.11 Section 4C Volume F4 - Scale

Before leading the Plenary Meeting through the Scale section, Johan Ehlers was thanked on behalf of CIAM Bureau and Plenary for stepping into the role of Acting Scale Subcommittee Chairman.

### F4

#### n/a 6.1.3. Competition Programme

Bureau

*Amend the final paragraph in 6.1.3 as follows:*

If there are more than 40 **45** competitors by the official closing date for entries in a World or Continental Championship, the organiser shall **may** use two separate panels for static judging. Each panel shall consist of ~~three~~ **two** judges. The first panel will judge Scale Accuracy (6.1.10.1 – Side View, End View and Plan View). On completion of this, the second panel will judge the remaining aspects (6.1.10.2. – 6.). Under these circumstances the R/C event will commence with static judging. Flight judging will commence once the first 10 models have been statically assessed. In this case all competitors shall have their static judging done before the first flight.

#### Reasons:

Consequential change to bring paragraph in line with changes made in Par. 6.1.4.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

#### n/a 6.1.4. Judges

Bureau

*Amend paragraph 6.1.4. as follows:*

The organiser of Scale R/C World or Continental Championship (F4C and F4H) shall appoint three (or ~~six~~ **four** for two panels) judges to do static judging, plus a separate panel of ~~five~~ three **judges** to judge the flying. If there are more than 50 **45** competitors at a World Championship, then the organisers may use two **static panels of two judges each as well as two** ~~flightlines~~ **flight lines** with three judges on each ~~flightline~~ **flight line**.

For Continental Championships with less than 40 **45** competitors in the **a** class, the organiser is allowed to use two sets of two static judges instead of one set of three judges to speed up static judging. ~~When using two sets of two static judges, the tabulation will make up a third dummy judge out of the average of the two judges' scoring to get the proper balance between static and flight scores.~~

~~If the number of entries by the official closing date is less than 20, the organisers need only appoint three judges to do the flight judging.~~

~~At other international flying Scale competitions, panels of three judges may be used for both flying and static.~~

Within each class (F4**BC** and F4**CH**) all the judges (static and flying) must be of a different nationality and preferably selected from a list submitted by the NACs for guidance and approved by the CIAM Bureau.

In the case of World and Continental Championships, the flight and static judges' panels shall contain at least one member of the Scale CIAM Sub-committee. The CIAM Bureau must approve the two panels of judges prior to the World or Continental Championships.

Within each panel of Judges (Static and Flying), there must be a common language. ~~When using two separate panels for static judging, the organiser is allowed to use two judges of the same nationality, one in the static panel and one in the flight judges' panel.~~ **The organiser is allowed to use two judges of the same nationality, one in each class, F4C and F4H.**

For World Championships the Panel of Judges in F4C should be composed of judges from at least three continents.

Reasons: To reduce the number of judges needed for World and Continental Championships in order to make the hosting of such championships economically more viable for the host country without reducing judging standards, and to clarify the criteria for increasing the number of judges. Also to remove redundant wording brought about by the normalisation of scores.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

Note: This change will have a consequential effect on Paragraph 6.9.4. Static Judging for F4H. Paragraph a) will be amended as follows: ~~Three Static Judges shall be appointed.~~ **The appointment of Static Judges is stated in 6.1.4.**

a) **6.1.9. Documentation (Proof of Scale)** **F4 Subcommittee**  
**6.1.9.4 a) Photographic Evidence**

*Delete the last sentence of the paragraph:*

.....posed alongside the full size prototype and the photo used as proof of colour. The use of photographs based on digital files which show evidence of being enhanced or manipulated shall result in disqualification. ~~The photographic evidence is the prime means of judging scale accuracy against the prototype.~~

Reason: All photographs are subject to the almost insurmountable problem of perspective. A photo is taken from a point in space and the bits of the image the object produces arrive from an infinite number of angles. This means the model should be judged from the scale distance that the photo was taken from for the judges to get the correct view, which is impossible since the original distance the photograph was taken from is unknown and judging is done from a fixed distance of 5 m.

Referred back to the F4 Scale Subcommittee for further investigation.

b) **6.1.10. Judging for Fidelity to Scale and Craftsmanship** **F4 Subcommittee**

*Amend heading and text as shown:*

**6.1.10 Judging for Fidelity to Scale and Craftsmanship**

<del>K-Factor</del>	<u>K-Factor</u>	
1. Scale Accuracy		
a. Side View	13	
b. <del>End</del> <b>Front</b> View	13	
c. <del>Plan</del> <b>Top</b> View	13	
2. Colour		
a. Accuracy	<del>3</del> <b>7</b>	
b. Complexity	<del>2</del> <b>3</b>	
3. Markings		
a. Accuracy	<del>8</del> <b>10</b>	
b. Complexity	<del>3</del> <b>5</b>	
4. Surface Texture and <del>Scale</del> Realism		
a. Accuracy and Realism	7	
b. Surface Complexity	<del>7</del> <b>3</b>	
5. <del>Craftsmanship</del> <b>Scale Detail</b>		
a. <del>Quality</del> <b>Accuracy</b>	<del>12</del> <b>7</b>	
b. Complexity	<del>5</del> <b>3</b>	
6. <del>Scale Detail</del> <b>Originality of Model Design and Construction</b>		<b>16</b>
a. <del>Accuracy</del>	9	
b. <del>Complexity</del>	5	

Total K-factor K=100

*Technical Secretary's note: There will be a consequential change to 6.1.11. if the above is agreed. Delete the words as shown below to agree with the heading for 6.1.10. For Flying Scale Contests the combined Fidelity to Scale and Craftsmanship points shall be the aggregate sum of points awarded by the three static judges.*

Reason:

1. The most important identifiers of any aircraft in a line-up are the shape of the aircraft, the markings and their colours. The K-factors of these items are adjusted accordingly.
2. Scale Accuracy terms and terms under 4 to be changed to give uniformity of terminology between classes.
3. In order to reduce the subjective items in the evaluation to make the evaluation as objective as possible, the totally subjective item "Craftsmanship" has been deleted. The criteria for evaluating Craftsmanship in the judge's guide are all covered under the headings "Surface Texture", "Realism" and "Scale Detail". The contestant should not be rewarded or penalised twice for the same aspect.
4. The item "Originality of Model Design and Construction" is proposed in order to clarify the effect of different levels of compliance with the 'Builder of the Model Rule'.

[Referred back to the F4 Scale Subcommittee for further investigation.](#)

**c) 6.1.11. Static Scoring**

**F4 Subcommittee**

*Add the new paragraph (as shown) below the existing paragraph:*

**Normalisation:**

**The total of the competitors' static scores will be normalised to 1000 points as follows:**

$$\text{Static Points}_x = S_x / S_w \times 1000$$

**Where:**

**Static Points<sub>x</sub> = Normalised Static Score for competitor x**

**S<sub>x</sub> = Static Score for competitor x**

**S<sub>w</sub> = Highest Static Score.**

Reason: Normalisation of scores is in line with many other classes. Static scores generally are higher than flight scores. This is perceived as upsetting the 1:1 ratio between static and flying scores. Normalisation of both static and flight scores will ensure that the 1:1 ratio between static and flight scores is maintained. It will also resolve differences between flight judging panels when two flight lines are utilised.

Approved unanimously by the Plenary Meeting. Effective 01/05/16. A Technical Notice will be placed on the website.

**d) 6.1.13. Builder of the Model**

**F4 Subcommittee**

*Add the following paragraph at the end:*

**Copies of the Declaration Forms of all contestants shall be made available for examination by all contestants. If a contestant or number of contestants disagree with what has been claimed by a contestant, he/they may lodge an official protest by the normal procedure together with clear proof of their claim within twenty four hours of the publication of the forms. The protest is then handled by the jury as per normal procedure and they decide on the validity of the protest and a suitable sanction.**

Reason: Clarification of how to handle false declarations. The function of the static judges is to judge the models according to the documentation that is provided by the contestant and to decide on an Originality Score according to the guidelines in the rules. The rules prohibit the static judges to use their own knowledge of a specific prototype in their judgement. The decision regarding the validity of the information supplied to the judges and the extent of penalties for submitting false information should rest with the jury.

Approved unanimously by the Plenary Meeting. Effective 01/05/16. A Technical Notice will be placed on the website.

**e) 6.1.14. Scale Detail Demonstrations**

**F4 Subcommittee**

*Add a new paragraph (6.1.14.) below 6.1.13. as follows:*

**6.1.14. Scale Detail Demonstrations**

~~The model should be presented for static judging as if it were in normal flying configuration with the landing gear in the down position. Only items operable from~~

~~the cockpit of the prototype are allowed to be displayed. These include all control surfaces, all lift enhancing devices (flaps, slats etc.). Also included are opening canopies and landing gear doors. All these items may be positioned by hand only. The following devices may not be operated or demonstrated during any part of static judging: lighting systems, sound systems, inspection panels, maintenance panels, gun access panels, refuelling panels, access ladders, tail hooks, emergency generators, Ram air turbines etc.~~

### Demonstration of Functional Scale Detail during Static Judging

The model should be presented for static judging supported only by its undercarriage or normal aids to take-off and landing. If applicable, folding wings may then be unfolded and locked for flight in the manner of the full size aircraft. With the exception of undercarriage retraction, a demonstration of functional detail of any part of the model is permitted providing such functionality is normally only operable by the pilot or aircrew of the full size aircraft, from their crew position.

Reason: Clarification: There has been a movement to develop all kinds of 'gimmick' details that cannot be judged as static details as no provision for judging of 'working' details exist. This fad was driven to extremes at the 2013 Jet World Masters with all kinds of 'smoke and mirror' displays. This is a pre-emptive rule addition since a significant number of jet pilots also attend F4C and H events. These are flying scale contests and not IPMS events.

Amended at the F4 Scale Technical Meeting as shown and approved unanimously by the Plenary Meeting. Effective 01/01/17.

## F4C

### f) 6.3.6. Flight

### F4 Subcommittee

*Amend the paragraph as below:*

#### 6.3.6. Flight

6.3.6.1. Take-off .....	K = 11 <u>7</u>
6.3.6.2. Option 1 .....	K = 7
6.3.6.3. Option 2 .....	K = 7
6.3.6.4. Option 3 .....	K = 7
6.3.6.5. Option 4 .....	K = 7
6.3.6.6. Option 5 .....	K = 7
6.3.6.7. Option 6 .....	K = 7
6.3.6.8. Option 7 .....	K = 7
6.3.6.9. Option 8 .....	K = 7
6.3.6.10. Approach and Landing .....	K = 11 <u>7</u>
6.3.6.11. Realism in flight	
a) Model Sound.....	K = 4 <u>2</u>
b) Speed of the model aircraft .....	K = 9 <u>7</u>
c) Smoothness of flight .....	K = 9 <u>7</u>
<u>d) Choice of Options.....</u>	<u>K = 7</u>
<u>e) Composition of Flight.....</u>	<u>K = 7</u>
Total K Factor .....	K = 100



Notes: The flight schedule must include the two manoeuvres “Figure Eight” and “Descending 360° Circle” to be accepted as complete.

The scale of the model aircraft and the cruising or maximum speed of the prototype must be stated on the example Flight Score Sheet (Annex 6E.2.)

Only one attempt is permitted for each manoeuvre, the only exception is the procedure of getting a model aircraft airborne, as defined in 6.3.5.b

Reason: Although par. 6C.3.7 Optional Manoeuvres reads: “The selection of optional manoeuvres should demonstrate the fullest possible capabilities of the aircraft subject type modelled.” Repeated rule changes have left no item to score this requirement. The item “Model Sound” generally results in rewarding the contestant for something that he has bought (the motor) rather than some skill he has exhibited. The marks awarded for this item as well as the other reductions are done to free up K-factor points for the new item “Flight Presentation” which reward the contestant for skill exhibited.

[Referred back to the F4 Scale Subcommittee for further investigation.](#)

**n/a 6.3.9. Flight Score**

**Bureau**

*Amend the second paragraph as follows:*

All flight scores will be recorded on the score sheet. It is the competitor's responsibility to ensure that his personal details, the details of the model and the chosen options are correctly entered on the score sheet and that sufficient copies are presented to the judges before each official flight commences.

~~At World and Continental Championships, or whenever using five flight judges, the highest and lowest judge's score for each manoeuvre will be deleted. The scores of the remaining all three judges will then count towards the final score.~~

Reasons: Consequential change to bring paragraph in line with changes made in Par. 6.1.3. and 6.1.4.

[Approved unanimously by the Plenary Meeting. Effective 01/01/17.](#)

**g) 6.3.9. Flight Score**

**F4 Subcommittee**

*Add additional paragraph as shown, below existing paragraph:*

**Normalisation:**

**The total flight score of each competitor for each round will be normalised to 1000 points as follows:**

$$\text{Flight Points}_x = F_x / F_w \times 1000$$

**Where:**

**Flight Points<sub>x</sub> = Normalised Flight Score for competitor x**

**F<sub>x</sub> = Flight Score for competitor x and**

**F<sub>w</sub> = Highest Flight Score.**

Reason: Normalisation of scores is in line with many other classes. Static scores generally are higher than flight scores. This is perceived as upsetting the 1:1 ratio



between static and flying scores. Normalisation of both static and flight scores will ensure that the 1:1 ratio between static and flight scores is maintained. It will reduce differences between rounds when greatly differing conditions are experienced and also reduce differences between flight judging panels when two flight lines are utilised.

Approved unanimously by the Plenary Meeting. Effective 01/05/16. A Technical Notice will be placed on the website.

#### h) 6.3.10. Final Scoring

F4 Subcommittee

*Amend paragraph as follows:*

**For each competitor,** ~~A-add~~ **the normalised static score** points earned in 6.1.10. to the average **of the normalised** scores of the two best flights under 6.3.9. If the competitor has achieved only one flight, the **normalised** points **score** awarded for that flight will be divided by two.

If for any cause beyond the control of the organisers (eg. B.11.1.) less than three official rounds can be flown, the scoring shall be completed as follows:

- If two rounds are flown, the average **of the normalised scores** of the two flights as in 6.3.9. ~~is~~ **will be** used.
- If only one round is flown, the single **normalised** flight score of that one round ~~is~~ **will be** recorded.
- The scores in an official round can be recorded only if all competitors had equal opportunity for a flight in that round.

Reason: Clarification regarding how the normalised static and flight scores are to be implemented.

Approved unanimously by the Plenary Meeting. Effective 01/05/16. A Technical Notice will be placed on the website.

#### F4H – Stand-Off Scale

#### i) 6.9.5. Static judging K-Factors

F4 Subcommittee

*Amend heading and text as follows:*

#### 6.9.5 Static -j Judging K—Factors

<u>Item</u>	<u>K-factor</u>
Scale Accuracy — <del>top view</del> K = 6	
Side view	K= 6 <u>13</u>
Front view	K= 6 <u>13</u>
<u>Top view</u>	<u>K=13</u>
Originality of model Design & Construction	K = 5
Colour and Markings Accuracy K = 10	
<u>Accuracy</u>	<u>K=7</u>
<u>Complexity</u>	<u>K=3</u>
Colour and Markings Complexity K = 5	
<u>Markings</u>	
<u>Accuracy</u>	<u>K=10</u>
<u>Complexity</u>	<u>K=5</u>
Realism	K = 12 <u>16</u>

**Originality of Model Design & Construction** **K=20**Total K = ~~50~~ **100****Normalisation:****The total of the competitors' static scores will be normalised to 500 points as follows:**

**Static Points<sub>x</sub> = S<sub>x</sub>/S<sub>w</sub> x 500**

**Where:****Static Points<sub>x</sub> = Normalised Static Score for competitor x****S<sub>x</sub> = Static Score for competitor x and****S<sub>w</sub> = Highest Static Score.****Reason:**

1. The most important identifiers of any aircraft in a line-up are the shape of the aircraft, the markings and their colours. The K-factors of these items are adjusted accordingly.
2. The order of items to be scored is adjusted to follow the same order as in F4C.
3. Normalisation of scores is in line with many other classes. Static scores generally are higher than flight scores. This is perceived as upsetting the 1:2 ratio between static and flying scores. Normalisation of both static and flight scores will ensure that the 1:2 ratio between static and flight scores is maintained.

[Approved unanimously by the Plenary Meeting. Effective 01/01/17.](#)**j) 6.9.5. Static judging K-Factors****Poland***Amend the K-Factors as shown below:*

Scale Accuracy – top view	K = <del>6</del> <b><u>4</u></b>
Side view	K = <del>6</del> <b><u>4</u></b>
Front view	K = <del>6</del> <b><u>4</u></b>
Originality of model Design & Construction	K = <del>5</del> <b><u>3</u></b>
Colour and Markings Accuracy	K = <del>10</del> <b><u>5</u></b>
Colour and Markings Complexity	K = <del>5</del> <b><u>3</u></b>
Realism	K = <del>12</del> <b><u>7</u></b>
Total	K = <del>50</del> <b><u>30</u></b>

**Reason:** The class F4H should prefer very good pilots. The model must have acceptable resemblance to a prototype. The ratio, the scale score, the flight score changes from 50/100 to 30/100 with preferring the flight. Under actual rules there is no enough acceptable difference between F4C and F4H class.

[Withdrawn by Poland.](#)**k) 6.9.6.1 Photographic Evidence****F4 Subcommittee***Amend paragraph as follows:*

A minimum of one (1) photograph or printed reproductions and a maximum of five (5) **photographs or printed reproductions** of the prototype, one or more of which must show the actual subject aircraft being modelled. **At least one photograph must show the whole aircraft. Photographs of the model are not permitted unless it is posed alongside the full size prototype modelled for proof of colour. Photographs which show evidence of digital manipulation shall result in disqualification.** ~~Ideally these must show the entire aeroplane and show the three aspects; side view; front view and top plan view (the underneath plan view will not be judged).~~ There is no requirement for close up or detailed photographs, but additional photographs (within the maximum of 5 total) can be used to support the three aspects if the outline needs clarification.

Reason: Clarification. This is to bring the requirements in line with the concept and spirit of F4H. At present, the paragraph states requirements that are effectively more demanding than that of F4C.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**l) 6.9.7. Flying Schedule**

**F4 Subcommittee**

*Add additional paragraph below present paragraph:*

The Flying Schedule shall be the same as F4C (Paragraph 6.3. refers)

**Normalisation:**

**The total flight score of each competitor for each round will be normalised to 1000 points as follows:**

$$\text{Flight Points}_x = F_x / F_w \times 1000$$

**Where:**

**Flight Points<sub>x</sub> = Normalised Flight Score for competitor x**

**F<sub>x</sub> = Flight Score for competitor x and**

**F<sub>w</sub> = Highest Flight Score.**

Reason: Normalisation of scores is in line with many other classes. Static scores generally are higher than flight scores. This is perceived as upsetting the 1:2 ratio between static and flying scores. Normalisation of both static and flight scores will ensure that the 1:2 ratio between static and flight scores is maintained. It will reduce differences between rounds when greatly differing conditions are experienced and also reduce differences between flight judging panels when two flight lines are utilised.

Approved unanimously by the Plenary Meeting. Effective 01/05/16. A Technical Notice will be placed on the website.

**m) 6.9.8. Final Scoring**

**F4 Subcommittee**

*Amend the paragraph as follows:*

**For each competitor,** Add **the normalised static score** points earned in 6.9.5 to the average **of the normalised** scores **of** the two best flights under 6.9.8 **7.** If the

competitor has achieved only one flight, the **normalised** points **score** awarded for that flight will be divided by two.

If for any cause beyond the control of the organisers (eg. B.11.1.) less than three official rounds can be flown, the scoring shall be completed as follows:

- a) If two rounds are flown, the average **of the normalised scores** of the two flights as in 6.3.9. ~~is~~ **will be** used.
- b) If only one round is flown, the single **normalised** flight score of that one round ~~is~~ **will be** recorded.
- c) The scores in an official round can be recorded only if all competitors had equal opportunity for a flight in that round.

Reason: Clarification regarding how the normalised static and flight scores are to be implemented.

Approved unanimously by the Plenary Meeting. Effective 01/05/16. A Technical Notice will be placed on the website.

#### **F4 Annexes**

**n) Annex 6A – Class F4 Judges’ Guide for Static Judging** **F4 Subcommittee**

*Amend the heading as shown below:*

Annex 6A Class F4 **B, C and G** Judges’ Guide for Static Judging

Reason: Clarification. There already exists an Annex 6F for F4H Static Judging.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**o) 6A.1.9. Documentation for Proof of Scale** **F4 Subcommittee**

*Amend the paragraph as follows:*

The minimum documentation as stated in 6.1.9.4. must be provided. Failure to comply shall result in penalty marks as follows:

- a) Less than 3 full photos of prototype: ZERO points for Scale Accuracy (6.1.10.1)  
Possible downmarking of Realism (6.1.10.4)  
[Possible downmarking of Craftsmanship \(6.1.10.5\)](#)  
Possible downmarking of Scale Detail (6.1.10.6)
- b) Missing or unauthorised drawings: ZERO points for Scale Accuracy (6.1.10.1)
- c) No photo of subject aircraft: ZERO points for markings (6.1.10.2)  
Possible downmarking for Realism (6.1.10.4)  
Possible downmarking of Scale Details (6.1.10.6)
- d) Incomplete colour documentation: ZERO points for Colour (6.1.10.3)

The documentation stated above is the absolute minimum required for participation. In reality more comprehensive evidence is needed to assess the model aircraft relative to the prototype. As the full size aircraft cannot be presented it follows that the photographic documentation provided should be as comprehensive as possible if a high score is to be achieved.

All documentation should relate to the subject aircraft whenever possible; variations from this must be clearly marked if not otherwise obvious. All relevant notes and corrections to the documentation should be in English.

The static judges have a difficult task to do in a short period of time. Documentation should therefore be presented in a format that can be quickly and accurately assessed. Superfluous or contradictory evidence should be avoided. The documentation should **must** be presented on separate sheets to avoid the requirement for judges to continually turn pages for cross-references. A stiff A2 size sheet is considered to be the largest that may be comfortably handled by the judges. It will assist the judges if the documentation is presented in a format that reflects the sequence of the judging aspects, eg: Side view, End view, Plan view, Markings, Colour, etc. **as a top hinged bound volume in landscape format (calendar format) with a maximum size of A3. The sequence of pages must reflect the sequence of judging aspects eg: Side View, Front View, etc. If a specific photograph is required to document more than one of the judging aspects, it must be repeated on the relevant page to avoid that the judges have to continually turn pages back and forth to cross reference.**

Reason: Deletion and change under a) and changes under c) and d) are consequential changes if changes to 6.1.10 are adopted.

Amendments to the last paragraph are a clarification of the requirements for the presentation of documentation. It has repeatedly been found in practice that loose sheets in any form and documentation on sheets larger than A3 size are unmanageable under contest conditions. They soon become mixed up especially when two judging panels are involved, leading to a waste of time and frustration for the judges. Cross referencing to previous or later pages lead to the same result.

Amended at the F4 Scale Technical Meeting (deletions reversed as shown) and approved unanimously by the Plenary Meeting. Effective 01/01/17.

p) **6A.1.10.1 Scale Drawings**

**F4 Subcommittee**

*Amend the section of the paragraph shown below:*

~~The photographs are the prime means of determining the accuracy and realism. The drawings are the primary means of determining the accuracy of the model relative to the full size aircraft and must always take precedence over drawings if there is any doubt concerning an item of scale accuracy. Caution should however be exercised when determining rigging angles using photographs that are taken at an oblique angle, as these might give the wrong impression. In this particular case the drawing may be a more appropriate reference for checking dihedral and incidence angles. The model should first be positioned in a pose similar to that in the best photograph and checked for any obvious discrepancies. This procedure is then repeated with other suitable photographs.~~ **The drawings and the photographs are used to determine the accuracy of the**

Then using photographs **the drawings** and drawings **photographs**, check: Side view, this may be either left or right depending upon the most suitable photograph. **drawings supplied.**

Reason: Clarification and consequential change if changes to par. 6.1.9.4 a) and b) are adopted.

Amended at the F4 Scale Technical Meeting as shown and approved unanimously by the Plenary Meeting. Effective 01/01/17.

q) **6A.1.10.4 Surface Texture and Scale Realism** **F4 Subcommittee**

*Amend the heading as shown and move the second paragraph to top and first paragraph to second position:*

**6A.1.10.4 Surface Texture and Scale Realism**

Reason: Consequential Change if changes in 6.1.10 are adopted. Paragraphs rearranged to fall in line with heading.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

r) **6A.1.10.5 Craftsmanship** **F4 Subcommittee**

*Delete heading and all text and replace with heading and text as indicated:*

**6A.1.10.5. Craftsmanship Scale Detail**

~~This section deals with the skill, ingenuity, general finesse and complexity involved in the construction of the model aircraft.~~

~~Craftsmanship Quality:~~

~~The model aircraft should be checked for quality of workmanship, with particular reference to clean, sharp edges..... not been made by the competitor (see 6.1.9.4e) and adjust the marks awarded accordingly. The points that are awarded must again reflect the standard of documentation presented.~~

**Check that items such as those listed are present on the model aircraft where applicable, and that they are accurately reproduced and correctly positioned.**

<u>Hatches</u>	<u>Brake pipes</u>
<u>Handles</u>	<u>Landing gear springing</u>
<u>Footsteps</u>	<u>Tyre treads</u>
<u>Doors</u>	<u>Wing slots</u>
<u>Armament</u>	<u>Navigation and landing lights</u>
<u>Bomb racks</u>	<u>Pitot head</u>
<u>Control cables</u>	<u>Walkways</u>
<u>Control horns</u>	<u>Tanks</u>
<u>Fairings</u>	<u>Radiators</u>
<u>Bracing</u>	<u>Filler caps</u>
<u>Turnbuckles</u>	<u>Louvres</u>
<u>Struts</u>	<u>Cooling gills</u>
<u>Lacing or stitching</u>	<u>Mass balances</u>
<u>Aerials</u>	<u>Instrument panel</u>
<u>Venturis</u>	<u>Cockpit or cabin interior detail</u>

**The points awarded should reflect both the accuracy and the quantity of scale detail present.**

**Scale Detail Accuracy:**

**The documentation presented should clearly show the features that are being assessed. Higher marks should be awarded to those competitors who accurately reproduce these items.**

**Scale Detail Complexity:**

**A well-documented highly detailed model aircraft should score proportionately more than a model aircraft with little detail, even if the full-size prototype is itself sparsely detailed. Judges should ensure when marking this aspect that they are relating to the complexity of detail actually on the model aircraft, not just awarding marks for what is present on the prototype.**

Reason: Consequential Change if changes in 6.1.10 are adopted.

[Referred back to the F4 Scale Subcommittee for further investigation.](#)

**s) 6A.1.10.6 Scale Detail F4 Subcommittee**

*Delete heading and text and replace with new heading and text as below:*

**6A.1.10.6 Originality of Model Design and Construction**

**This is an assessment of the extent to which the scale accuracy of the model is due to the effort of the competitor by evaluation of the competitor's Declaration. The following breakdown of categories is suggested:**

<b><u>a) Competitor designed and built</u></b>	<b><u>10 points</u></b>
<b><u>b) Scratch built from commercial plans</u></b>	<b><u>8 points</u></b>
<b><u>c) Built from a traditional kit</u></b>	<b><u>6 points</u></b>
<b><u>d) Built from substantially pre-made parts</u></b>	<b><u>4 points</u></b>
<b><u>e) Modified Almost Ready to Fly Kit</u></b>	<b><u>2 points</u></b>
<b><u>f) Unmodified Almost Ready to Fly Kit</u></b>	<b><u>0 points</u></b>

**Depending on the competitor's Declaration regarding self-made and modified parts, intermediate points may be awarded at the discretion of the static judges.**

Reason: Consequential Change if changes in 6.1.10 are adopted.

[Referred back to the F4 Scale Subcommittee for further investigation.](#)

**t) Annex 6C Class F4C Judges' Guide – Flying Schedule F4 Subcommittee**  
**6C.3.6.11 Realism in Flight**

*Insert amendments above and below last paragraph as indicated:*

**Regarding d) Choice of Options: The score should reflect how well the choice of options succeeds in demonstrating the aircraft to 'the fullest possible capabilities of the aircraft type modelled' exhibiting a variety of manoeuvres so that for example there are not four Cuban 8 variants selected.**

Some original prototypes would have little or no aerobatic capability. These are aircraft designed with limited manoeuvrability where the original prototypes of which were restricted by the manufacturer or licensing government agency. Examples are touring aircraft, passenger and cargo aircraft and heavy military transports and bombers. The optional manoeuvres are included under 6.3.7. to cater for such subjects. These aircraft should still be considered for high marks in this section if the



performance of the original prototype genuinely limits them to such manoeuvres. Conversely, if aircraft with greater manoeuvrability and performance choose these options when the original prototype would be capable of much more, then low marks should be awarded in this section.

**The score for e) Composition of Flight should reflect the whole choreography of the flight regarding upwind and downwind manoeuvres, high and low manoeuvres as well as a minimum of free passes to give an interesting well rounded demonstration.**

Reason: Consequential clarification if the proposal regarding 6.3.6 Flight is accepted.

Referred back to the F4 Scale Subcommittee for further investigation.

u) **6C.3.7. W. Wingover**

**F4 Subcommittee**

*Amend the paragraph as below:*

The model aircraft approaches in straight and level flight on a line parallel with the Judges' line. After passing the judges' position a smooth climbing turn is commenced away from the judges. At the apex of the turn, the model should track 90° to the entry track and the bank angle should be **appropriate to the capability of the prototype, but usually** at least **no more than** 60° for a non-aerobatic model and at least 90° **60°** for an aerobatic model. The height gain should be appropriate to the capability of the prototype. The model then continues on a mirror image of the entry flight path and recovers to straight and level flight at the same height but on the opposite heading to the entry and on a line displaced away from the judges.

A low powered aircraft would be expected to execute a shallow dive at full throttle in order to pick up speed before commencing the manoeuvre.

Reason: Clarification of the text in the present description in order to bring it in line with full size practice. This affirms the relationship between scale flying and full size practice while still allowing the competitor to document that the prototype he has modelled is/was rated to exceed the 60° limit.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

v) **Annex 6F F4H – Judges Guide for Static Judging**  
**6F.2 Scale Accuracy (Outline)**

**F4 Subcommittee**

*Amend the first sentence as follows:*

As with all static judging, photographs are the prime ~~The three view drawings are the primary~~ means of assessing **The three view drawings together with the photographs are to be used to assess** scale accuracy. ~~If good photographs are provided which show side view, front view and plan view, there will be no need to refer to the drawings.~~ Paragraph 6A.1.10.1 provides further advice on assessing scale accuracy.

Reason: Consequential change to bring the paragraph in line with paragraph 6.9.6.1 of the F4H rules and the revised paragraph 6A.1.10.1 which is mentioned in the next sentence.



Amended at the F4 Scale Technical Meeting as shown and approved unanimously by the Plenary Meeting. Effective 01/01/17.

w) **6F.3. Originality of Model Design and Construction** **F4 Subcommittee**

*Delete items i) to iv) and replace with the following:*

b) The following should be used as a guide:

<u>i)</u>	<u>Competitor designed and built</u>	<u>10 points</u>
<u>ii)</u>	<u>Scratch Built from commercial plans</u>	<u>8 points</u>
<u>iii)</u>	<u>Built from a traditional kit</u>	<u>6 points</u>
<u>iv)</u>	<u>Built from substantially pre-made parts</u>	<u>4 points</u>
<u>v)</u>	<u>Modified ARTF</u>	<u>2 points</u>
<u>vi)</u>	<u>Unmodified ARTF</u>	<u>0 points</u>

**Depending on the declaration regarding self-made and modified parts, intermediate points may be awarded at the discretion of the static judges.**

Reason: Consequential change to bring the paragraph in line with the amended paragraph 6A.1.10.6. and the rest of the F4 rules.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

x) **Annex 6G Class F4K Judges' Guide** **F4 Subcommittee**

**6G.2.2A Take off with 90° turn and 180° turn**

*Amend text and replace diagram as shown below:*

**A TAKE OFF WITH 90° TURN AND 180° TURN (MANDATORY)**

To start the manoeuvre, take off smoothly from the centre of the helipad. The model must ascend vertically over the centre of the helipad until the skids or landing guides gear are at ~~eye level~~ **a height of two metres**, with tail rotor facing the centre judge (Figure 1). Hold this position for a minimum of 10 seconds, followed by a 90° clearing turn to the left or right side. Hover in this position for 5 seconds followed by a 180° clearing turn **in the opposite direction followed by a 5 second hover in this position.** ~~that is also held for 5 seconds.~~ (View See figures 2A and 2B)

Reason: **Clarification.** Changes made to clarify conflicting and confusing details between description, diagram and list of errors.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

*Note: Diagram follows:*

Figure 1:

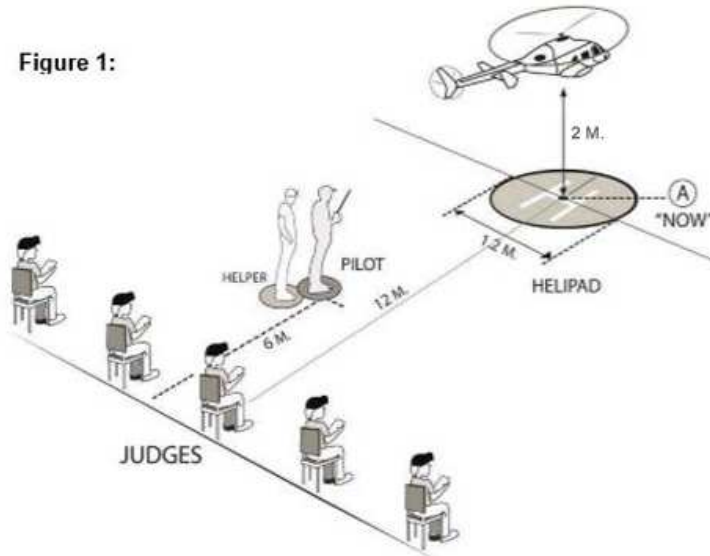


Figure 2(A):

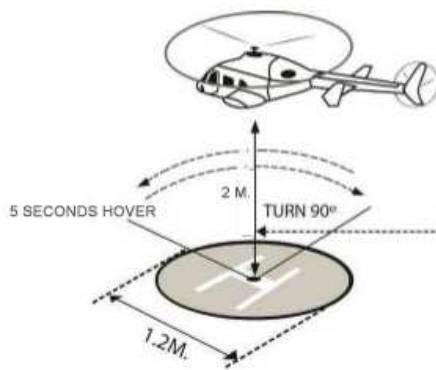
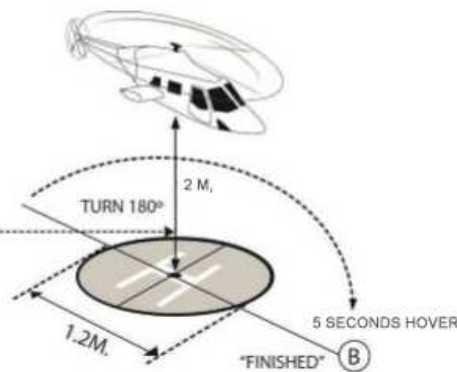


Figure 2(B):



y) **Annex 6G Class F4K Judges' Guide**  
**6G.2.4E Flight in Triangular Circuit**

**F4 Subcommittee**

*Amend text and replace diagram as shown below:*

**E FLIGHT IN TRIANGULAR CIRCUIT**

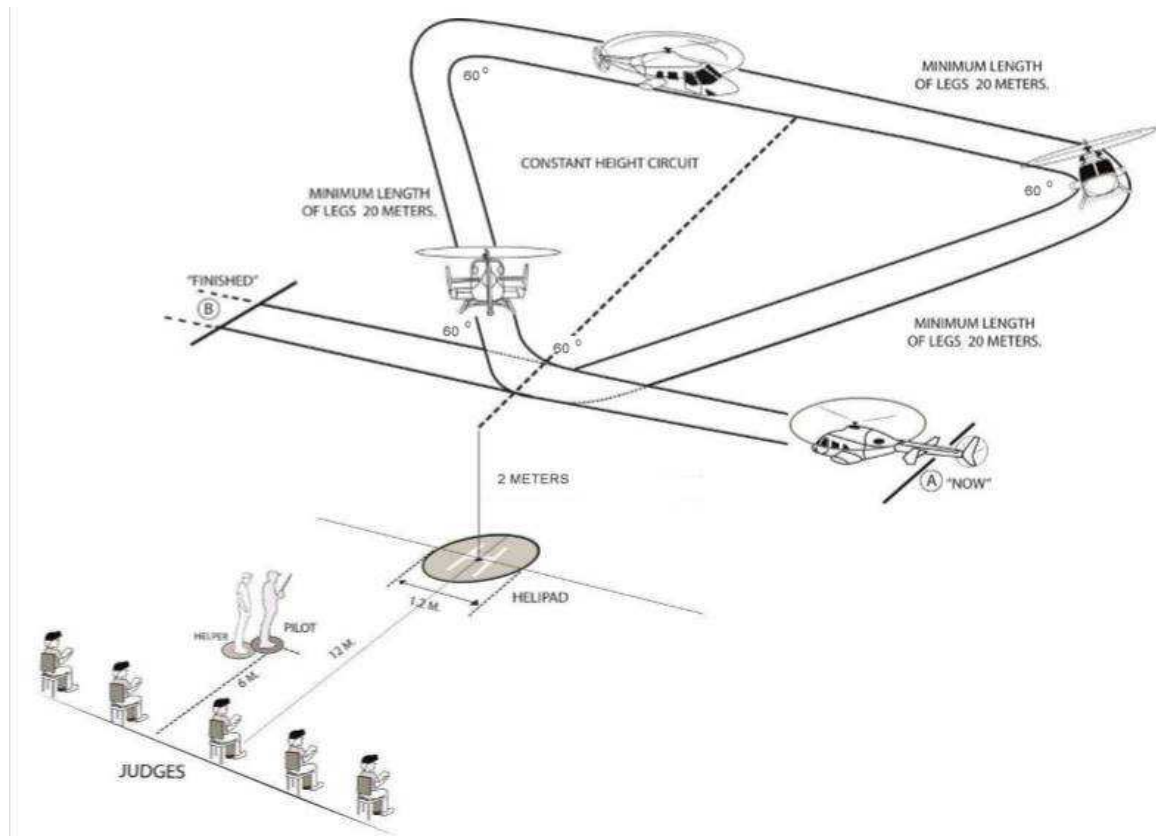
The model aircraft approaches in a straight and level flight at a maximum height of 2 metres to a point directly in front of the judges, then turns away to track **60°** away from the judges' line, flies straight and level for a minimum of ~~30~~ **20** metres, turns to track parallel with the judges' line, flies a further minimum of ~~30~~ **20** metres, then turns to track towards the judges and flies a further minimum of ~~30~~ **20** metres to a position above the centre of the landing area, which completes an equilateral triangle (a triangle with sides of equal length **and included angles of 60°**), before making a final turn to intercept the original entry track.

Reason: **Clarification.** Changes made to clarify conflicting and confusing details between description, diagram and list of errors.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

Note: Diagram follows.

**Angles of 60°** have been marked.



**z) Annex 6G Class F4K Judges' Guide**  
**6G.2.4F Flight in Rectangular Circuit**

**F4 Subcommittee**

*Amend text and replace diagram as shown below:*

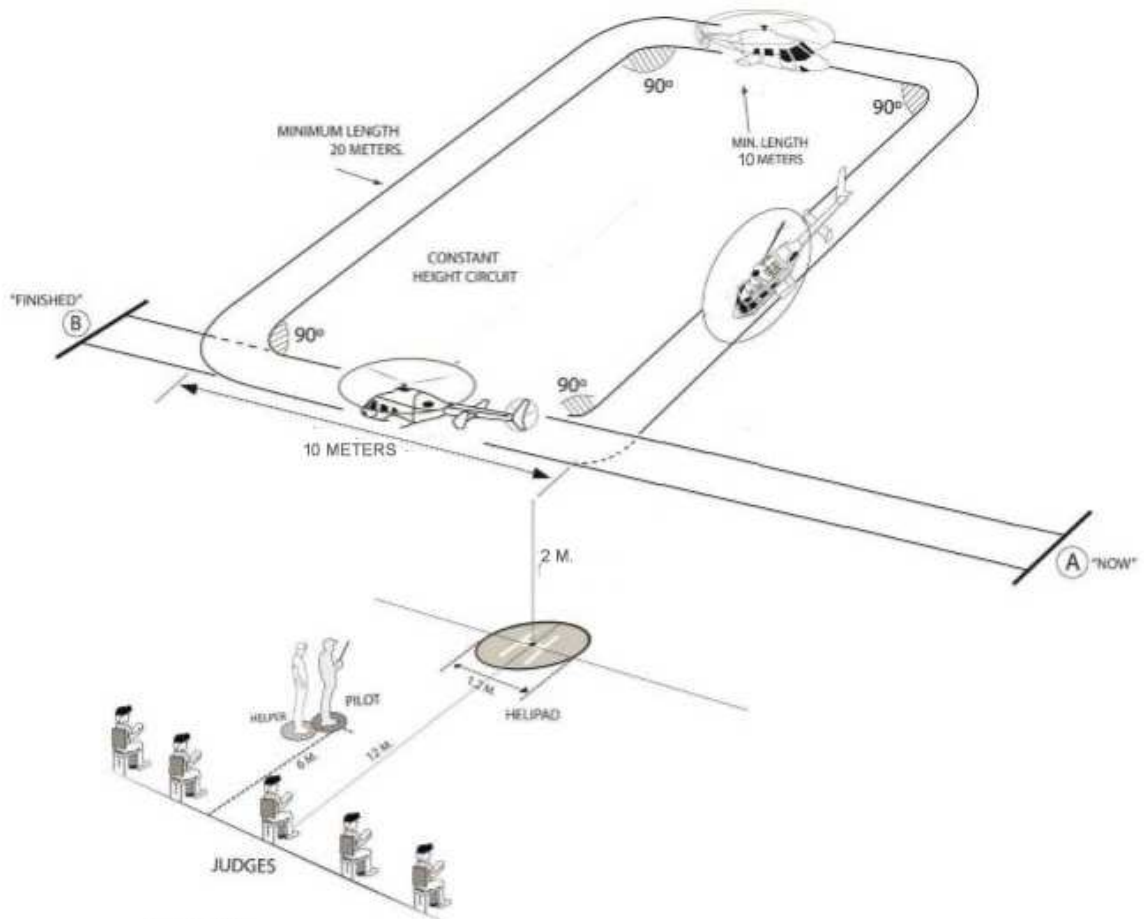
**F FLIGHT IN RECTANGULAR CIRCUIT**

The model aircraft approaches in straight level flight at eyes level **a maximum height of 2 metres** to a point directly in front of the judges, then continues for a minimum of ~~5~~ **10** metres before it turns away to track 90° from the judges' line and flies straight and level for a minimum of ~~40~~ **20** metres before turning to track parallel with the judges' line for a further minimum of ~~5~~ **10** metres, turns to track directly towards the judges for a minimum of ~~40~~ **20** metres, to a point in front of the judges, before completing a final turn to intercept the original entry track. This manoeuvre describes a rectangle over the ground.

Reason: Clarification. Changes made to clarify conflicting and confusing details between description, diagram and list of errors.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

Note: Diagram follows:



**Volume F5 Electric begins overleaf**

## 14.12 Section 4C Volume F5 – Electric

### F5 – General Rules

#### a) 5.5.1.4 Energy Limiter

F5 Subcommittee

*Amend the paragraph as follows:*

##### **5.5.1.4 Energy Limiter/Logger**

The energy limiter/logger is located in the electric circuit between the battery and the motor. In the case of a limiter, the interruption must either persist permanently or for a defined period of time. **Logger data must be retrieved immediately after the flight.** ~~Instead of an energy limiter,~~ The contest organiser may supply a “real time radio telemetry logger” that transmits logged data to the ground. The energy data and motor-run data shall be made available to the pilots.

Reason: Better transparency: The limiter is used for F5D pylon racers and the logger for F5B gliders.

*Approved unanimously by the Plenary Meeting. Effective 01/01/17.*

#### b) 5.5.1.5 Procedure for Limiter Checking

F5 Subcommittee

*Insert addition in heading. Insert next sentence. Delete text that is no longer required. Renumber paragraph c) to b):*

##### **5.5.1.5 Procedure for Limiter and Logger Checking**

**The limiters and loggers must be approved by the EDIC (ELECTRONIC DEVICES IN COMPETITIONS WORKING GROUP)**

a) The general procedure of limiter checking follows B.17. in Section 4B, General Rules for International Contests.

~~b) The check shall be carried out immediately after landing. All limiters/loggers shall be tested using the same method. The limited checking device may be an external device or a device that is carried within the model.~~

e) **b)** The organiser will check if the limiter/logger is correctly connected to RX, LiPo pack and ESC. There must not be any type of "jumper" present in the RX cable or on the current sensor.

d) ~~— The limiter in each model should be provided with cables and 6 mm connectors, so that it can easily be checked in series with the checking system. In cases where the limiter device has other types of connectors, the competitor must provide adapters to match the 6 mm connectors used by the organiser.~~

e) ~~JR/Futaba connectors should be provided on the limiter, or adapters, so that the receiver output and ESC input connections can be made to the test unit.~~

f) ~~A variable current load should be used, simulating, as far as possible, a typical flight.~~

g) ~~The organiser shall use SM UniLog or similar devices as energy counters for measurements in each category.~~

~~h) A tolerance of 2% on the measurement of the limit is permitted.~~

~~i) The competitor may check his limiters prior to and during the contest, but he must provide a fully charged lithium battery as a power source.~~

Reason: Approval by the EDIC instead of complicated limiter checking. Makes limiter/logger checking easier and much shorter.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**c) 5.5.1.5 Procedure for Limiter Checking F5 Subcommittee**

*Add a new point c). This is a follow-on proposal from the previous proposal where point c) was renumbered as b):*

**5.5.1.5 Procedure for Limiter and Logger Checking**

**c) Malfunction of limiter/logger:**

**- limiter/logger given by the organiser, the competitor will have a reflight.**

**- limiter/logger of the competitor, a penalty in F5B/F of 100 p and in F5D of 40% 20% of the flyers time, must be given.**

**Only one of these two systems can be used at a contest. The organiser must decide which of these two systems he will use and indicate clearly in the invitation.**

Reason: The technical equipment of the competitor is one's own responsibility. The competitor has no influence on the technical equipment of the organiser.

*Technical Secretary's Note: If this addition to the general rule is agreed, note the consequential effect (and potential conflict) to Item f) in F5B regarding malfunction of an organiser's logger.*

Amended at the F5 Electric Technical Meeting as shown and approved unanimously by the Plenary Meeting. Effective 01/01/17.

**F5A – Electric Powered Aerobatic Model Aircraft**

**d) 5.5.3 Class F5A Electric Powered Aerobatic Model Aircraft F5 Subcommittee**

*Delete the whole class F5A and consequentially Annex 5A, plus any references in the contents etc.:*

**~~5.5.3 Class F5A Electric Powered Aerobatic Model Aircraft~~**

~~Delete pages 14 – 17 and Annex 5A pages 44 - 46.~~

Reason: Not enough interest.

Approved unanimously by the Plenary Meeting. Effective 01/01/17. This class will be removed from the General Rules and CIAM list of classes.

**F5B – Electric Powered Motor Gliders**

**e) 5.5.4.1 Definition F5 Subcommittee**

*Amend section b) as follows:*

b) Model Aircraft Specification:

Minimum weight without battery

1000 g

Minimum surface area

26.66 dm<sup>2</sup>

Type of battery ~~Lithium-Polymer~~

**Any type of rechargeable batteries**

Maximum number of equivalent cells in series

40

**At any point in the flight the maximum voltage of the flight battery must not exceed 42 volts.**

Minimum weight of battery pack

450 g

**The maximum amount of energy to be used in one flight is 1750 W/min.**

**Anything over this will result in a deduction of 3 1 point per 3 W\*min over 1750 W\*min.**

~~Limitation of energy: by an electronic limiter/ logger~~

**The amount of energy of one flight must be stored by a logger.**

~~The limiter is checked by the organiser during the contest.~~

Reason: F5 must be open for new battery types. This is often not very clearly written on the battery packs. Limiter is replaced by logger.

Amended at the F5 Electric Technical Meeting as shown and approved unanimously by the Plenary Meeting. Effective 01/01/17.

f) 5.5.4.1 Definition

F5 Subcommittee

*Delete section c) and replace with the two paragraphs as shown below. Insert new paragraphs d) to f) and renumber the existing paragraphs g) to i).*

~~c) If a logger is used, the data is retrieved during or immediately after the flight.~~

**Loggers can be provided by the event organisers and will be drawn by the competitor before the flight. If loggers are provided by the organisers then this is the logger that will be used by the competitor for the flight/event.**

**Once drawn, the competitor will have at least 15 minutes to fit the logger into the plane(s).**

**Immediately after landing, the W\*min consumed will be read from the logger which was used during the flight, either by means of telemetry or direct cable connection to the logger.**

~~If no W\*min are available for reading then a zero score is received for that flight.~~

**d) The competitor must return the logger(s) after their flight - max 15 minutes.**

**e) The competitor is responsible for ensuring the logger device is ~~working as expected~~ installed correctly. In the event of an installation failure of the official logger equipment the competitor will not receive a reflight.**

**f) The organisers will check each logger prior to it going out to a new competitor to ensure that it is in full working order.**

Reason: Limiter is replaced by logger.

*Technical Secretary's Note: Refer back to Item c), noting there is no conflict with Item f) regarding malfunction of an organiser's logger.*

Amended at the F5 Electric Technical Meeting as shown and approved unanimously by the Plenary Meeting. Effective 01/01/17.



**g) 5.5.4.2 Course Layout and Organisation**

**F5 Subcommittee**

*Add the word 'minimum' as shown:*

**5.5.4.2 Course Layout and Organisation**

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 devices used to detect the crossing of the Bases A and B are placed at a **minimum** distance of 5 m from the safety plane outside the course.

Reason: Lengthen the distance of the sighting device to the safety line, if possible.

*Approved unanimously by the Plenary Meeting. Effective 01/01/17.*

**h) 5.5.4.3 Scoring**

**Switzerland**

*Refer to Agenda Annex 7e 'About F5B Scoring' for a detailed explanation.*

*Modify the scoring. Discard normalisation as follows. Renumber part c) as b):*

a) For each flight the total score is compiled by adding the partial score A and B for each competitor;

~~b) The individual result of each round is normalised to the points of the best competitor of that round.~~

~~$$P_{\text{round}} = 1000 \times (\text{individual points} / \text{points of the best competitor})$$~~

~~The normalised points shall be recorded to the first decimal number.~~

e) **b)** In order to decide the winner when there is a tie, the best discarded flight shall be taken into account.

Reason: Normalisation based on statistically extreme values is wrong and leads to unfair scoring especially with small a number of competitors. In competitions with large numbers of participants normalisation is completely obsolete and complicates scoring artificially. Normalisation can make sense when competitors fly in groups, which is not the case in F5B. Please refer to the presentation about F5B scoring with an analysis of WC2014 and a National Championship.

*Withdrawn by Switzerland.*

**i) 5.5.4.5 Distance Task**

**F5 Subcommittee**

*Add a new point concerning crossing at Base A:*

**Flying out of the distance course at Base A the signal only needs to be given when the model aircraft is coming directly from Base B.**

Reason: After the model aircraft flies into the distance course with running motor and turns fast back, the timekeeper at Base A is very often not able to give again the signal.

*Technical Secretary's Note: It is assumed that the above is intended to be a new point g).*

*Approved unanimously by the Plenary Meeting. Effective 01/01/17.*



j) **5.5.4.5 Distance Task**

**The Netherlands**

*Amend point d) as follows to allow electronic devices to monitor the crossing of Base A and B:*

d) A timekeeper or electronic device (if approved by EDIC) announces to the competitor when his model aircraft crosses the Base A and Base B. The absence of a signal will indicate that the model aircraft has failed to correctly cross the base. The instruments used to check the crossing of the vertical plane must assure the parallelism of such planes.

Reason: Instead of a timekeeper, electronic devices can monitor passing of the bases. Development of such devices is in progress, rules should allow for such devices to be used as they can help avoid human errors (and thus reflights).

*Amended at the F5 Electric Technical Meeting as shown and approved unanimously by the Plenary Meeting. Effective 01/01/17.*

k) **5.5.4.5 Distance Task**

**Switzerland**

*Amend point f) as shown. This is intended to lower the weight of the Distance task by reducing the number of points awarded per leg:*

**5.5.4.5 Distance Task**

f) Every completed leg will be awarded ~~40~~ **5** points. When the model aircraft fails to complete at least one leg after either of the first two climbs, 30 points will be deducted from the score of this task; after 200 seconds of this task, which will be indicated by an audio signal, the duration task begins immediately.

Reason: The points given for the distance task make the duration task and landing completely obsolete. The analysis of more than 300 flights at the WC 2014 show how unbalanced the scoring between distance and duration task is. It is impossible even with a perfect flight (no lost points) in the duration task to gain back a single leg (smallest possible score step 10 points) lost during the distance task. 90% of all competitors score within 10 points during the duration task.

Lowering the points awarded per leg to 5 will reinstall the original definition of F5B:

**5.5.4.1 Definition:** a) Definition: This contest is a **multi-task event** for RC Electric Powered Motor Gliders including two tasks: 1) Distance 2) Duration and landing

This proposal is part of a “package” (**see also Agenda Item I**)) which also suggests to modify the scoring scheme of the duration task with finer score steps for the landing and motor running time in order to generate a variation of the scores that become comparable with the variation of the scores in the distance task.

Please also refer to the presentation about F5B scoring (**Agenda Annex 7e**) with an analysis of WC2014 and a National Championship.

*Withdrawn by Switzerland.*

l) **5.5.4.6 Duration and Landing Task**

**Switzerland**

*Amend sections of 5.5.4.6 as follows. This is intended to change the scoring of the duration task in order to get a finer scoring scheme and a larger variation of scores. See also Agenda Item k) above:*

#### 5.5.4.6 Duration and Landing Task

- a) This task must be completed within 600 seconds from the moment the audio signal is given.
- b) The competitor has to decide how much and how often he will switch on the motor.
- c) The duration task score-keeping device keeps track of the motor run time as well as the glide time. Duration task scoring ends when the model aircraft comes to rest after landing.
- d) Duration time is cumulative and one point will be awarded for each full second the model aircraft is **flying**. ~~gliding with the motor off.~~ **+ 3 points will be deducted for each 0.5 1 second of motor running time.**
- e) One point will be deducted for each full second flown in excess of 600 seconds.
- ~~f) Additional points will be awarded for landing; when the model aircraft comes to rest in the 30 m circle, 10 points will be given while coming to rest in the 20 m circle gives 20 points, and when coming to rest in the 10 m circle 30 points will be given. The distances are measured from the centre of the circle to the nose of the model aircraft.~~

**f) A landing bonus will be awarded in accordance with distance from the launch/landing spot marked by the organisers according to the following tabulation:**

<u>Distance (m)</u>	<u>Points</u>
<u>Up to 1.5</u>	<u>50</u>
<u>3</u>	<u>45</u>
<u>4.5</u>	<u>40</u>
<u>6</u>	<u>35</u>
<u>7.5</u>	<u>30</u>
<u>9</u>	<u>25</u>
<u>10.5</u>	<u>20</u>
<u>12</u>	<u>15</u>
<u>13.5</u>	<u>10</u>
<u>15</u>	<u>5</u>
<u>Over 15</u>	<u>0</u>

**After the model has come to rest the fuselage must lie flat on the ground. If the nose penetrates into the soil and the tail remains more than 10 cm above the ground a penalty of 30 points will be given.**

- g) No additional points will be awarded if the landing occurs more than 630 seconds after beginning of this task (as per 5.5.4.6.a)).

h) Flying through or close to the distance course in a manner that interferes with another competitor's distance task flight will result in a penalty of 100 points deducted from the offending competitor's score of this round. This penalty can be applied by the contest director or a designated official.

Reason: The points given for the distance task make the duration task and landing completely obsolete. The analysis of more than 300 flights at the WC 2014 show how unbalanced the scoring between distance and duration task is. The new scoring scheme produces a larger variation of scores for the duration task and finer score steps for the landing.

This will help reinstalling the original definition of F5B: **5.5.4.1 Definition:** a) Definition: This contest is a **multi-task event** for RC Electric Powered Motor Gliders including two tasks: 1) Distance 2) Duration and landing.

This proposal is part of a "package" (**see also Agenda Item k**)) which also suggests to modify the scoring scheme of the distance task to generate a variation of the scores that become comparable with the variation of the scores in the distance task.

Please also refer to the presentation about F5B scoring (**Agenda Annex 7e**) with an analysis of WC2014 and a National Championship.

Paragraphs a) – d), amended at the F5 Electric Technical Meeting as shown, were approved by the Plenary Meeting: For 21; Against 4. Effective 01/01/17. Note that in the Technical Meeting minutes, it states that paragraph e) was amended. The amendment refers to paragraph d).

Paragraph f) amendment was withdrawn by Switzerland.

## F5D – Electric Powered Pylon Racing Model Aircraft

### m) 5.5.6.2 Technical Specification

F5 Subcommittee

*Add the minimum diameter of props to sub-paragraph a):*

#### a) Model Aircraft

Minimum weight ready to fly:	1'000 g
Maximum surface loading:	65 g/dm <sup>2</sup>
<b><u>Minimum diameter of prop:</u></b>	<b><u>8 inches</u></b>

Reason: Noise reduction to maintain our flying sites and keep it for training and competitions also for the future.

Referred back to the F5 Electric Subcommittee for further investigation.

### n) 5.5.6.2 Technical Specification

F5 Subcommittee

*Amend the battery type in sub-paragraph b) as follows:*

#### b) Battery

Battery Type: ~~Lithium-Polymer~~ **any type of battery approved by the EDIC**

~~Number of cells in serial connection: up to 5 (S)~~

**Max. no load voltage: 21 V measured with a Voltmeter prior to the flight**

Reason: F5 must be open for new battery types

Amended by the F5 Electric Technical Meeting as shown and approved unanimously by the Plenary Meeting. Effective 01/01/17.

**o) 5.5.6.2 Technical Specification**

**F5 Subcommittee**

*Add a new line to sub-paragraph c) as shown below:*

**c) Energy Limiter**

The interruption must persist for minimum period of 10 seconds. When the pilot has finished his race or has left the pylon course flight path the motor may be switched on again. **The EDIC approved limiters can be provided by the organiser and drawn by competitors before flights.**

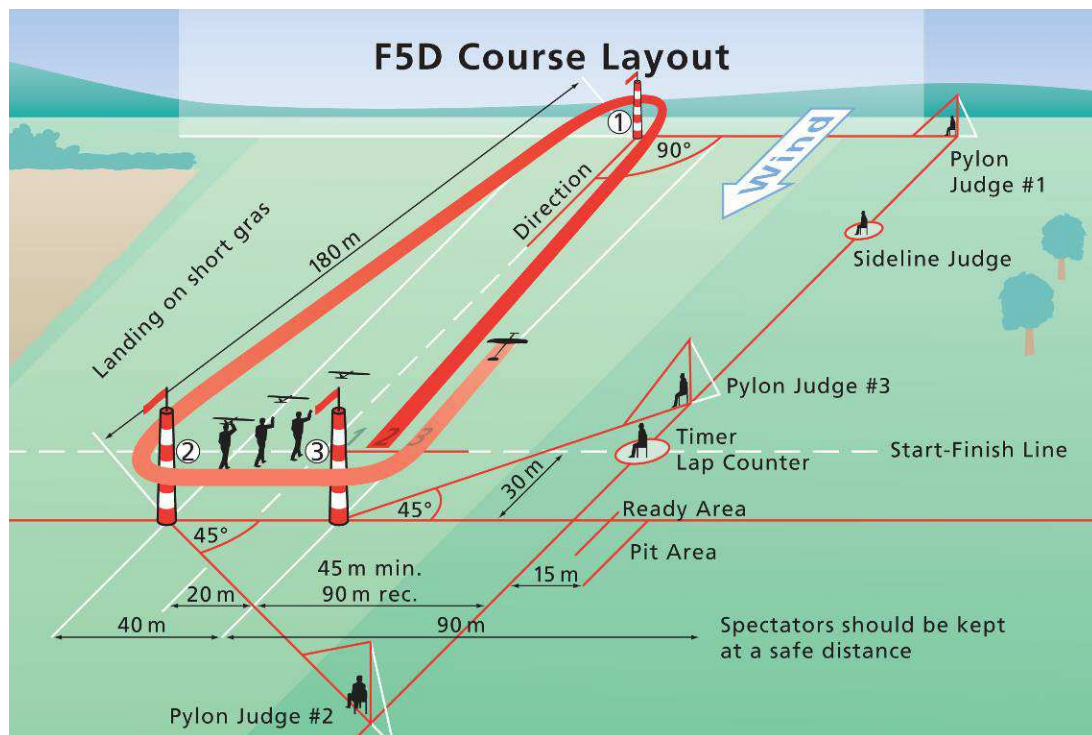
Reason: This is a very easy and fair system. Same chance for all competitors.

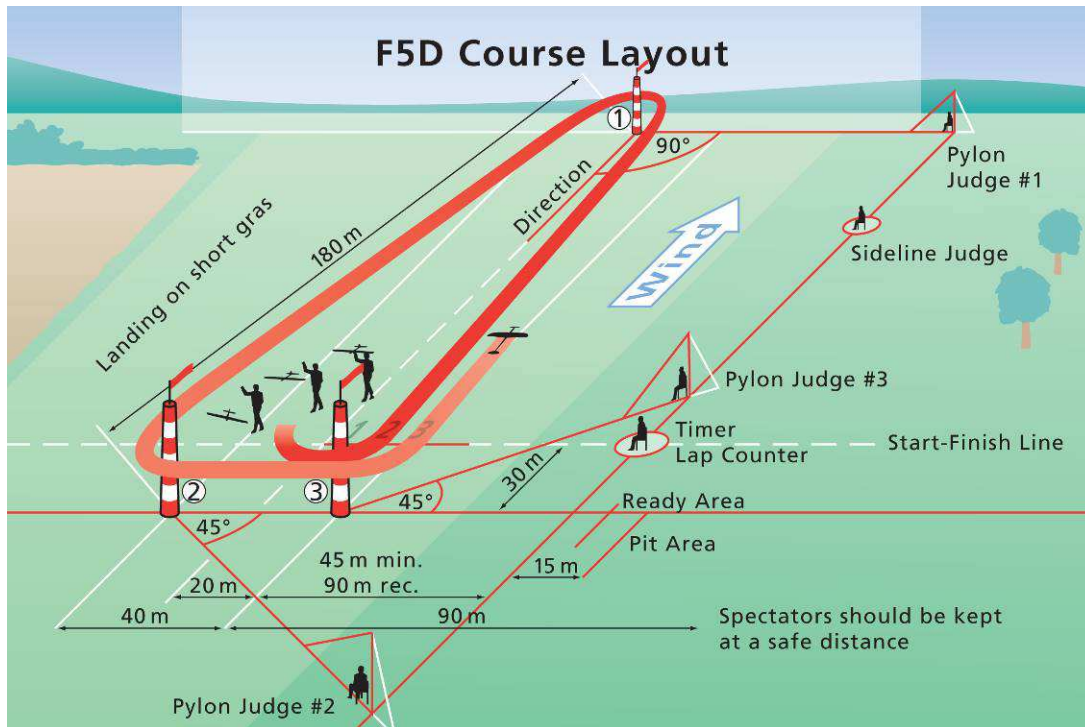
Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**p) 5.5.6.4 Racing Course and Specification**

**F5 Subcommittee**

*Replace the current drawing by the two new ones as follows:*





Reason: Clarification for starting procedure with tailwind.

Approved unanimously by the Plenary Meeting. Effective 01/05/16. A Technical Notice will be placed on the website.

## F5E – Electric Solar Powered Model Aircraft (Provisional)

### q) 5.5.7 F5E – ELECTRIC SOLAR POWERED MODEL AIRCRAFT (PROVISIONAL)

F5 Subcommittee

*Replace the current rule with the following new one:*

Same rules as F5B, except:

#### 5.5.7.1 Definition

- a) This contest for radio controlled solar powered model aircraft is a distance task and landing event.
- b) Model aircraft specifications
  - General characteristics: See para 5.5.1.3
  - Max. area of solar generator: 25 dm<sup>2</sup>
  - Only ~~monkristaline~~ monocrystalline cells may be used
  - No kind of buffer battery or double-layer capacitors may be used
  - If a receiver battery is used: The minimum weight is 5% of the total weight of model aircraft
  - Galvanic isolation between receiver and propulsion
  - Wings and stabilizer built in negative moulds may not be used
  - Model aircraft must be equipped by GPS logger and timer (IGC-format)

**Every kind of telemetry is allowed.**

**5.5.7.2 Course Layout and Organisation**

**Every competitor gets his starting/landing spot**

**Minimum distance between starting/landing spots in one row: 10 m**

**Working time: 30 min**

**Start should be arranged in a minimum of groups with a maximum of competitors**

**5.5.7.3 Scoring**

**competitor's own score of his flown distance multiplied by 1000**  
**longest distance of a competitor in this group**

**A penalty of 10% of the distance will be applied when the competitor starts before and lands after working time. Landing after 60 sec of the working time: The flight will be scored with 0.**

**A penalty of 5% of the distance will be applied if model aircraft lands more than 10 m outside of the starting/landing spot. Landing outside of this 10 m area the flight will be scored 0.**

Reason: The solar flight rules – flying with “green energy” – must have a revival in FAI with modern electronic devices.

Amended by the F5 Electric Technical Meeting as shown and approved unanimously by the Plenary Meeting. Effective 01/01/17.

**F5F – Electric 4 Cell Motor Gliders (Provisional)**

**r) F5F – Electric 4 Cell Motor Gliders (Provisional) The Netherlands**

*Amend title of class and amend 5.5.8.1 as follows:*

**5.5.8 F5F – ELECTRIC-4 6 CELL MOTOR GLIDERS (PROVISIONAL)**

Maximum number of only serial cells-4 6

Reason: The energy limit of 1300 W/min limits maximum power. 4 cells limit only makes high currents necessary. Higher cell counts should be allowed to lower currents to more sensible levels.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**F5G – Electric Powered Big Glider**

**s) 5.5.9.3 Duration and Landing Task F5 Subcommittee**

*Amend the rules to change to the F5J concept, except for the landing:*

**5.5.9.3 Duration and Landing Task**

~~a) The duration task consists of 600 seconds gliding time and 30 seconds additional (free) motor run time.~~



- ~~b) The duration task starts from the moment the model aircraft is hand launched or started by a rubber catapult and ends with the first touch of the ground.~~
- ~~c) If more then 60 seconds of motor run time are used, one point will be deducted for each full second flown in excess of 600 seconds.~~
- ~~d) The competitor has to decide how much and how often he will switch on the motor.~~
- ~~e) Gliding time is cumulative and one point will be awarded for each full second the model aircraft is gliding.~~

**Same rules as F5J**

**5.5.9.4 Landing**

**Additional points will be awarded for landing; when the model aircraft first touches the ground in one of the three concentric landing circles as follows:**

**30 m diameter circle - 10 points**

**20 m diameter circle – 20 points**

**10 m diameter circle – 30 points**

**No additional points will be awarded if the landing occurs more than 630 seconds after the beginning of this task.**

Reason: The F5J concept is much better for big glider – except landing.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**F5H – Electric Powered Open Motor Glider**

- t) ~~**F5H Electric Powered Open Motor Glider**~~ **F5 Subcommittee**

*Delete the entire class F5H on page 32:*

Reason: Not enough interest.

Approved unanimously by the Plenary Meeting. Effective 01/01/17. This class will be removed from the General Rules and CIAM list of classes.

**F5J – Thermal Duration Gliders with Electric Motor and AMRT**

- u) **5.5.11 Class F5J – Electric Thermal Duration Glider** **F5 Subcommittee**  
**(World Cup Event)**

*Delete the words ~~World Cup Event~~ with consequential changes to the contents page and other references to F5J as only a World Cup Event.*

**Change the status of F5J to an official one.**

Reason: There is great demand for F5J Class.

In 2014 and 2015 several FAI World Cup events were held with a total of more than 400 competitors.

This complies with the conditions in Rule A.15.1

**A.15. CHANGE FROM PROVISIONAL TO OFFICIAL RULES**

A.15.1. Before being considered for adoption by the CIAM as official FAI rules, provisional rules must first have been used in each year of a two-year period up to the year of consideration. The rules must have been used in at least five international contests, or three World Cup contests. All the contests must be registered on the FAI Sporting Calendar and involve a total of at least five FAI member countries with at least two countries per contest and at least 50 competitors in total per year.

Approved by the Plenary Meeting: For 29; Against 2. Effective 01/01/17. The status of this class will be updated in the General Rules and CIAM list of classes.

**v) 5.5.11.13. Final Classification**

**Belgium**

*Insert new paragraph b) and renumber the next two paragraphs. Delete the former paragraph d):*

a) If four (4) or fewer qualifying rounds are flown, the aggregate score achieved by the competitor, will be the sum of his scores for all rounds flown. If more than four (4) rounds are flown, then his lowest score will be discarded before determining his aggregate score.

**b) The CD may elect to not to have a fly-off. providing This decision is announced in the invitation or before the start of the competition.**

~~b) c)~~ At the end of the qualifying rounds 30% (rounded down) of competitors with the highest aggregate scores will be placed together in a single Group comprising a minimum of six (6) and maximum of fourteen (14) for the fly-off rounds. For operational reasons the CD may set a lower maximum

~~c) d)~~ A minimum of three (3) or maximum of four (4) fly-off rounds should be flown. Exceptionally the CD may reduce to two (2) in the case of bad weather or poor visibility

~~d) Where competitor numbers are under 20, the CD may elect to not have a fly-off providing this decision is announced before the start of the competition.~~

e) The Working Time for the fly-off rounds will be fifteen (15) minutes duration. An audible signal must be given at the start of the Group Working Time and at exactly thirteen (13) minutes and at exactly fifteen (15) minutes. Additionally, the final ten (10) seconds must be indicated audibly by a countdown. See 5.5.10.14.1. ...

Reason: This will make the fly-off optional.

Promotes regularity of the pilot during the competition.

Allows for 2 or 3 more rounds with all pilots.

Approved by the Plenary Meeting: For 31; Against 2. Effective 01/01/17.

**w) 5.5.11.13. Final Classification**

**The Netherlands**

*Amend paragraph a); remove paragraphs b) through to f); and introduce new paragraphs b) and c) as shown:*

a) If four (4) or fewer ~~qualifying~~ rounds are flown, the aggregate score achieved by the competitor, will be the sum of his scores for all rounds flown. If more than four (4) rounds are flown, then his lowest score will be discarded before determining his final score.



~~b) At the end of the qualifying rounds 30% (rounded down) of competitors with the highest aggregate scores will be placed together in a single Group comprising a minimum of six (6) and maximum of fourteen (14) for the fly-off rounds. For operational reasons the CD may set a lower maximum~~

~~c) A minimum of three (3) or maximum of four (4) fly-off rounds should be flown.~~

~~Exceptionally the CD may reduce to two (2) in the case of bad weather or poor visibility.~~

~~d) Where competitor numbers are under 20, the CD may elect to not have a fly-off providing this decision is announced before the start of the competition.~~

~~e) The Working Time for the fly-off rounds will be fifteen (15) minutes duration. An audible signal must be given at the start of the Group Working Time and at exactly thirteen (13) minutes and at exactly fifteen (15) minutes. Additionally, the final ten (10) seconds must be indicated audibly by a countdown. See 5.5.10.14.1~~

~~f) The scoring of the fly-off rounds shall be as in section 5.5.11.12.~~

**b) Final placing of the competitors shall be determined by their aggregate scores in the rounds.**

**c) In the event that two or more competitors have the same aggregate score, final positions of those competitors shall be determined by their discarded score.**

Reason: The fly-off is a relic of F3J, where qualifying rounds are flown with 'teams' (pilots from the same team do not compete against each other). Since teams are not allowed in F5J, there is no need for a fly-off.

By not having a fly-off more rounds can be flown by all pilots, making for a more exciting competition.

[Withdrawn by The Netherlands.](#)

**x) 5.5.11.13. Final Classification**

**The Netherlands**

*Amend paragraph d) as follows:*

d) Where competitor numbers are under 20- **40**, the CD may elect to not have a fly-off providing this decision is announced before the start of the competition.

Reason: The fly-off is a relic of F3J, where qualifying rounds are flown with 'teams' (pilots from the same team do not compete against each other). Teams are not allowed in F5J. Even with 40 competitors a clear final result will be achieved without the fly-off.

Electing not to do the fly-off will make it easier to organise the national competitions (often 1-day), while still allowing for sufficient rounds to be flown.

[Withdrawn by The Netherlands.](#)

**F5K – Indoor Racing Model Aircraft (Provisional)**

**y) 5.5.12.2 Operation of the Race**

**F5 Subcommittee**

*Replace point e) as shown below:*

e) ~~Every cut will be penalized by one more lap.~~

**e) One cut will be penalised by adding 10% of the flyer's time, two cuts by adding 200 points.**

Reason: This system is better to organise.

Approved by the Plenary Meeting: For 24; Against 1. Effective 01/01/17.

## **Annex 5E – RULES FOR ELECTRIC FLIGHT (F5B, F5D, F5J) WORLD CUP EVENTS**

### **z) 5E.3. Classification F5 Subcommittee**

*Add a new paragraph 5E.3.2 and shift the current 5E.3.2 and 5E.3.3 down:*

**5E.3.2 Only competitor's results from a minimum of two World Cup events per year can be counted for the FAI World Cup.**

Reason: FAI World Cup ranking with only one result makes no sense.

Referred back to the F5 Electric Subcommittee for further investigation.

### **n/a Availability of limiter/logger for practising F5 Subcommittee**

A deadline should be established for the delivery of devices for practice.

It was decided that for 2016, the devices must be available before June 15<sup>th</sup> through Leomotion only for registered WC pilots and the organisers. This is eight (8) weeks prior to the start of the competition.

***Volume S Space Modelling begins overleaf***

## 14.13 Section 4C Volume S – Space Modelling

### PART ONE – GENERAL DEFINITIONS

#### a) 1.1 Space Model

Space Modelling Subcommittee

*Replace 1.1 with the new definition as shown below:*

#### 1.1 SPACE MODEL

~~“Space Model” means an aeromodel that ascends into the air without the use of aerodynamic lifting forces against gravity; that is propelled by means of a space model engine; that includes a device for returning it safely to the ground in a condition to fly again; and that is made of substantially nonmetallic parts.~~

#### 1.1 SPACE MODEL

Model rocket or rocket glider - a model that rises into the air without the use of aerodynamic lift forces to overcome the gravitational forces set in motion by a rocket engine (s) using a vertical or near vertical free-ballistic flight by the force of the thrust rocket engine a cone with an angle of 60 °, oriented vertically on the launching device, comprising a device for safe return to the ground in a position that allows its reuse and constructed primarily of non-metallic materials.

Reason: This preamble gives an insight into the general requirements to any and all categories of space simulation and removes existing contradictions.

*Approved unanimously by the Plenary Meeting. Effective 01/01/17.*

*Note that this definition will appear in the Volume General Rules at B.2.1 (General Definition of Class S – Space Models), not in the specific Space Volume.*

### PART TWO – SPACE MODEL SPECIFICATIONS

#### b) 2.4.4 Minimum Dimensions

Space Modelling Subcommittee

*Delete S5 in the sentence as shown:*

Minimum dimensions of subclasses of classes S1, S2, S3, S5, S6, S9 and S10 must not be less than:

Reason: Correction. The S5 class has its own table of minimum dimensions in an extra table.

*Approved unanimously by the Plenary Meeting. Effective 01/01/17.*

#### c) 2.4.4 Minimum Dimensions

Space Modelling Subcommittee

*After the first table in this paragraph, change the first sentence as follows:*

In the case of Class S1 models, the smallest body diameter must be not less than ~~48~~ **25** mm for at least 75% of the overall length of each stage. An S1 sustainer stage may not have a boat tail.

Reason: In relation to class S1 it is necessary to have bigger models because of better visibility.

*Technical Secretary's Note: The above proposal was also submitted by the USA. The USA added additional supporting data which has been reproduced below:*

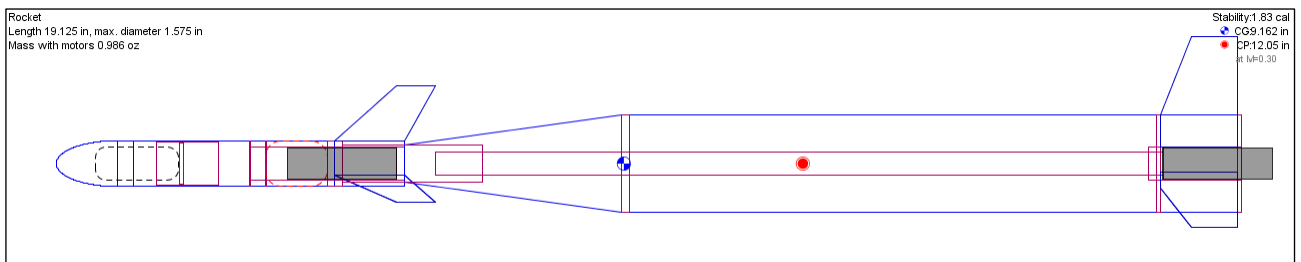
Using current model sizes, an 18mm diameter S1 sustainer stage flies to altitudes where the model is extremely difficult to see. This makes it very challenging for the Range Safety Officer (RSO) to assess if the recovery system of the model has deployed safely. The high altitude also makes it difficult for the competitor to see and successfully recover the model. Increasing the minimum required diameter of the sustainer stage will reduce the apogee height, thereby improving visibility for the RSO and the competitor.

As noted by Gerhard Wöbbeking<sup>1</sup>, “such a pencil disappears in the sky up to total invisibility, even the ejected streamer remains invisible on descend in many cases.” “Even worse, the invisibility of the second stage and the difficulty to retrieve the altimeter increasing with the height turns the sport upside down: The better the performance the more likely is no result. May the mediocre win!?”

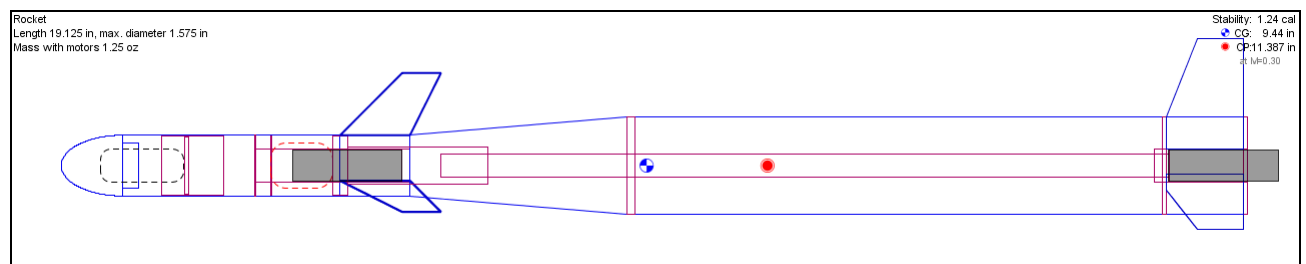
The first illustration below shows a typical S1B model that conforms to the dimensions specified in the SM Code, 2015 version. The winning flights at the 2012 and 2014 World Spacemodeling Championships were approximately 700 meters altitude or above. At these altitudes, the sustainer cannot be seen.

The second illustration shows an S1B model that has a 25 mm diameter sustainer. Altitude calculations predict that using a 25 mm sustainer will reduce the maximum altitude by ~20%. The sustainer is ~33% more visible. This will improve visibility for the contestant and the RSO, and will make it easier and more reliable to recover the model and its altimeter.

18mm diameter sustainer (2013 rules)



24mm diameter sustainer



<sup>1</sup>Wöbbeking, Gerhard, “Remarks on the EuCh for Space Models 2015”, October, 2015.

Withdrawn by the Space Modelling Subcommittee

**d) 2.4 Construction Requirements****Space Modelling Subcommittee**

*Add a new paragraph 2.4.8:*

*cont/...*

**2.4.8 The upper stage in class S1 shall be prepared to carry a payload of 12 g, which partly or totally may be replaced by an electronic altimeter and/or a GPS tracker.**

Reason: Because of the performances especially of the current S1- classes too often space models are lost in the sky and the best results with greatest heights (more than 400 or even 600 m) can't be verified. Thus the sport is turned upside down: The better the performance the more likely there is no result. A defined payload will:

- a) reduce the performance in order to gain again a fair competition according to the tasks of our sport, and
- b) offer volume to combine altimeter with GPS tracker.

An altimeter weighs about 1,2 g, the battery 1 - 2 g. Newly developed GPS transmitters weigh 4,7 g without battery; because of the higher current a battery of about 240 mAh capacity (5,5 g with wires) will feed both, altimeter and transmitter. A payload of 12 g will be suitable for the technology of today and can in future – step by step with further developments – be reduced to the absolute necessary.

*Withdrawn by the Space Modelling Subcommittee.*

**PART FOUR – GENERAL RULES FOR INTERNATIONAL CONTESTS****e) 4.1 World Championship Events for Space Models****USA**

*Revise 4.1 to allow a wider range of events and impulse classes at World Championships as shown below:*

**WORLD CHAMPIONSHIP EVENTS FOR SPACE MODELS**

The following event **categories** are recognised (2001) as World Championships for Space Models:

i) ~~W/CH for Senior classes:~~

- a) altitude models – ~~S1(delete B)~~ , **S2, or S2/P**
- b) parachute duration models – ~~S3(delete A)~~
- c) boost glider duration models – ~~S4(delete A)~~
- d) scale altitude models – ~~S5(delete C)~~
- e) streamer duration models – ~~S6(delete A)~~ **or S6/P**
- f) scale – S7 **or S11**
- g) rocket glider duration and precision landing models – ~~S8(delete E/P)~~
- h) gyrocopter duration models – ~~S9(delete A)~~

**The events and total impulse classes shall be selected by the contest organiser. One event is required for each category. Different events and total impulse classes may be selected for Senior and Junior classes.**

ii) ~~W/CH for Junior classes:~~

- a) ~~altitude models S1A~~

- ~~b) parachute duration models – S3A~~
- ~~c) boost glider duration models – S4A~~
- ~~d) scale altitude models – S5B~~
- ~~e) streamer duration models – S6A~~
- ~~f) scale – S7~~
- ~~g) rocket glider duration models – S8D~~
- ~~h) gyrocopter duration models – S9A~~

Reason: The FAI Space Modelling code includes a wide variety of events and total impulse categories. However, Rule 4.1 currently specifies eight specific event/impulse classes for World Championships. This causes a significant incentive for competitors to focus on only these eight classes and neglect all other events and impulse classes.

The proposed change to Rule 4.1 will provide greater flexibility to the World Championship organiser and provide greater incentive to the space modelling competition community to experience more events and impulse classes.

Approved by the Plenary Meeting: For 14; Against 5. Effective 01/01/17.

**f) 4.4.3 Builder of the Model** **Space Modelling Subcommittee**

*Add a new sentence to the end of the paragraph as follows:*

**4.4.3 Builder of the Model**

The judges shall make every reasonable effort to insure that each competitor has completely constructed the model entered in the competition with “construction” to be interpreted as the action required to complete a model starting with no more prefabrication than the amount used in the average kit. Models that are completely prefabricated or require only a few minutes of unskilled effort for their completion shall be excluded from competition. Materials and design may be obtained from any source, including kits. The competitor must himself prepare his model for flight assisted by one helper, who must be a junior in junior classifications. **This paragraph does not apply to class S8.**

Reason: F3K model aircraft (hand launched gliders) equipped with an engine housing proved being the ultimate gliders as well for the S8 classes. Building these models demands skills and efforts beyond the ability of the most pilots. In order to avoid unfair conditions the B.o.M.-rule has to be skipped for S8. All competitors qualified for the final of the FAI European Championships for Space Models 2015 class S8E/P used F3K models.

Rejected by the Plenary Meeting: For 0; Against 19.

**g) 4.9 Altitude Data** **Space Modelling Subcommittee**

*Move the paragraph 4.9.1.5 ‘Visibility of Models’ (bold type) to the introductory paragraph 4.9. ‘Altitude Data’ as shown below. The numbers 4.9.1.5 will therefore be deleted*

*Add ‘and competitors’:*

For measuring and calculating altitudes, the methods that may be used are based on the principles of triangulation, or electronic or radar tracking. **All models that are**

**to be tracked for altitude shall disperse a coloured powder at ejection which will aid tracking. Theodolite operators and competitors may lose track of models which do not contain sufficient powder or contain powder which does not contrast well with the sky. The organiser will have tracking powder available for competitor's use.**

Reason: Because of the performances especially of the S1- and S5- classes too often space models are lost in the sky and the best results with greatest heights (more than 400 or even 600 m) can't be verified.

Of 79 flights in the class S1 (Juniors and Seniors) during the EUCh 2015 not less than 21 got no result. In most cases the competing team lost sight of the model during its climb and wasn't able to retrieve the second stage together with the altimeter.

[Withdrawn by the Space Modelling Subcommittee.](#)

#### **h) 4.9.2.1 Electronic altitude measurements**

**Bureau**

*Replace the entire section 4.9.2.1 with the paragraph below:*

**4.9.2.1 Electronic altitude measurements with an electronic altimeter shall use the new Sporting Code Volume EDIC – Electronic Devices in Competition – Section 2 - Technical Guidance Notes and Technical Specification for Altimeters Used in Space Modelling Competition V.1.0 for the documentation regarding specifications and guidance.**

Reason: Electronic devices to be used in Space Models FAI international competitions must be treated in the same way as those used in other categories with detailed specifications, instructions for use and also for their technical testing to be put on the list of devices which satisfy all demands for each category. Therefore CIAM Bureau established a specialised EDIC WG to deal with technical aspects of electronic devices and all specifications and guidance on electronic devices shall be collected in a separate EDIC Volume of SC.

[Approved unanimously by the Plenary Meeting. Effective 01/01/17.](#)

### **PART SIX – PAYLOAD COMPETITIONS (CLASSES S2 & S2/P)**

#### **i) 6.2.5 Scoring**

**USA**

*Revise rule 6.2.5 to correct the scoring equation to agree with the text of the rule:*

#### **6.2.5. Scoring**

The score for each flight shall be the absolute difference between the recorded altitude and 300 metres (always a positive number) plus 3 times the absolute difference between the recorded duration and 60 seconds (always a positive number). Any flight which is disqualified for a reason other than a broken fragile payload, or which receives no altitude score, shall receive a score of 100 for that flight. The score for the event shall be the sum of the scores from each of the three flights. The lowest score is the winner. In the case of tie the best (the lowest score) in a round is decisive.



$$B = \text{INT } \underline{\text{ABS}}(H-300) + 3 * \text{INT } \underline{\text{ABS}}(T-60),$$

**INT ABS** = Integer Absolute value function in MS-Excel software

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

j)	8.1 Definition/Description 8.2 Purpose of Competition	Space Modelling Subcommittee
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### 8.1 Definition/Description

## 8.2 Purpose of Competition

Reason: Correction. According to SC4 Volume SM par. 2.4.7., S4 models must fly and land without separation of any part in flight. The wording in 8.1 and 8.2 is in contradiction with that and it is necessary to harmonize the rules.

<b>k)</b>	<b>8.1 Definition/Description</b>	<b>USA</b>
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This competition comprises a series of events open to any ~~free-flight~~ space model that ascends into the air without use of lifting surfaces which sustain the entry against gravity during that portion of flight when it is being subjected to or accelerated by thrust from its space model engine; and that returns its ~~glider~~ portion to the ground in stable gliding flight supported by aerodynamic lifting surfaces which sustain the ~~portion~~ **model** against gravity. The intent of this competition is to provide



a sporting competition for space models with gliding recovery. Space models that ascend into the air in a spiralling climb under rocket power in such a manner that they are supported during their rise by wings shall not be eligible for entry in this competition.

**The model may use one channel of radio control to control a single function (rudder, elevator, flaps, dethermaliser, etc.). All models shall use spread spectrum 2.4 GHz radio systems to eliminate the need for transmitter impound.**

Any model that qualifies as a flex-wing (Rogallo) rule 13.1.1 is not eligible for this event.

~~Any model that qualifies as a radio controlled model rule 11.5 is not eligible for this event.~~

Reason: Allowing one channel of radio control will increase the technical challenge of the event. It will also help recover models and minimise the loss of models.

*Amended as shown at the Space Modelling Technical Meeting and approved by the Plenary Meeting: For 19; Against 4. Effective 01/01/17.*

## **PART NINE – SCALE COMPETITION (CLASS S7)**

### **l) 9.9. Maximum Weight and Impulse Space Modelling Subcommittee**

*Delete the existing three sentences and insert replacement sentences as follows:*

~~Maximum allowable gross launching weight is limited to 1500 grams.  
Maximum allowable total impulse is 160,00 Newton seconds.  
Maximum engine size allowed is 80 Newton seconds.~~

**Maximum allowable gross launching weight is limited to 2000 grams.  
Maximum allowable total impulse is 240,00 Newton seconds.  
Maximum engine size allowed is 100 newton seconds.**

Reason: It will be possible to manufacture more copies of the spectacular model that attracts a large number of space modelers. Space Modelling will become more attractive and understandable to the spectators and sponsors.

*Withdrawn by the Space Modelling Subcommittee*

### **m) 9.11.1 Scale Judging USA Annex 1 Scale Judging – Prototype Drawings**

*Remove the requirement that the workshop drawing be 1:1 to the scale model:*

- 9.11.1. A competitor who presents the following proper technical data may be awarded with points defined in the paragraphs below only for items documented in these technical data:
- authentic, authorised drawing(s) of the prototype with at least ten dimensions and three cross sections, i.e. data which define colour of cross sections and markings on it
  - workshop drawing of scale model – ~~scale 1:1~~ **that shows prototype and model dimensions**

- at least one colour photograph of the whole prototype with clearly visible details of colour and markings
- at least three photographs of details and assemblies
- file containing all necessary technical data including data regarding the locations of the centre of gravity, centre of pressure, gross weight, burnout weight and/or calculated or measures flight performance of the model necessary for safety reasons.

Annex 1 (page 52)

- workshop drawing of scale model ~~scale 1:1~~ **that shows prototype and model dimensions**

Reason: Very large models (up to two metres in height) are becoming popular in S7. For very large scale models, a 1:1 workshop drawing is too large for practical use during static judging. In addition, these large drawings are difficult and expensive to print. A smaller workshop drawing is more practical to use during judging.

[Approved unanimously by the Plenary Meeting. Effective 01/01/17.](#)

**n) 9.11.4. Degree of difficulty** **Space Modelling Subcommittee**

*Amend the paragraph as shown below:*

9.11.4. Degree of difficulty: 150 points maximum. To be judged on the degree of difficulty involved in constructing the model up to 110 points. Factors to be considered include symmetry of model; number of external components; intricacy of paint pattern; **and** degree of detailing. ~~and degree of difficulty in adapting the model for flight conditions.~~ A bonus of 40 points for “originality” shall be awarded to a prototype that is the only one in the competition and a bonus of 20 points shall be awarded if two prototypes of the same kind enter the competition. No bonus points shall be awarded if there are three or more models of the same kind.

Reason: In the last years too many flights at World and European Championships ended by DQ, only because the scale model was not stable enough. The main reason is to achieve points for flyability. By deleting this term, modellers will be encouraged to build their models more stable, and will improve the attractiveness of this event.

[Referred back to the Space Modelling Subcommittee for further investigation.](#)

**o) 9.11.4. Degree of difficulty** **USA**

*Include the addition as shown at the end of the paragraph:*

9.11.4. Degree of difficulty: 150 points maximum. To be judged on the degree of difficulty involved in constructing the model up to 110 points. Factors to be considered include symmetry of model; number of external components; intricacy of paint pattern; degree of detailing; and degree of difficulty in adapting the model for flight conditions. A bonus of 40 points for “originality” shall be awarded to a prototype that is the only one in the competition and a bonus of 20 points shall be awarded if two prototypes of the same kind enter the competition. No bonus points shall be awarded if there are three or more models of the same kind. **For originality points, prototypes with the same external appearance except for flight serial**

**number/markings and colours/paint pattern shall not be considered unique vehicles (e.g., Saturn IB/Skylab flights, Soyuz-FG/TMA flights, etc.).**

Reason: Clarify the definition of 'originality'. The purpose of the originality bonus points is to encourage more diversity in the S7 prototypes entered. However, the current definition of unique prototype is not well defined. The purpose of the rule change is to clarify that having two or more prototypes that are identical except for serial number (and related markings and paint pattern) do not qualify as unique prototypes.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**p) 9.11.7 (new)**

**USA**

*Add a new rule 9.11.7 regarding the publication of results as follows:*

**9.11.7. Results for static points and flight characteristics shall be published for the categories defined in Rules 9.11.2 through 9.11.4:**

- **Adherence to Scale**
- **Workmanship**
- **Degree of Difficulty**
- **Flight Characteristics**

**For World and Continental Space Modelling Championships, the judging scores from each judge shall be anonymously published.**

Reason: In order for scale modellers to improve their models, it is important to get information and feedback from the judging process. Publishing a breakdown of the static and flight judging categories will provide helpful information.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**q) 9.12**

**USA**

*Amend paragraph 9.12 as shown below:*

Should the model experience a catastrophic failure, be incapable of additional flights (4.6.3.) and have scored no Flight Characteristic points, the competitor's ~~static scale points will be taken to decide final classification~~ **score shall be zero.**

Reason: Currently, rule 9.12 permits a scenario where a model can receive a score (equal to its static scale points) even though the model has not demonstrated that it can make a stable, qualified flight. This could affect event results for individuals and teams. For safety, a model should be required to make a qualified flight.

Approved by the Plenary Meeting: For 18; Against 1. Effective 01/01/17.

**PART ELEVEN – ROCKET GLIDER DURATION COMPETITION (CLASS S8)**

**r) 11.1. General**

**Switzerland**

*Add a new paragraph 11.1.3 with text as follows:*

### **11.1.3 Radius of the nose must be a minimum of 5 mm in all orientations for S8D, S8E, S8E/P, S8F**

Reason: Safety.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

#### **s(i)) 11.6. Sub-Classes**

#### **Space Modelling Subcommittee**

*Change wing span, weight and total impulse of the engine as shown in the tables below:*

#### **11.6. SUB-CLASSES**

CLASS	TOTAL IMPULSE (Newton-seconds)	MAXIMUM WEIGHT (g)	MINIMUM WING SPAN (mm)	MAXIMUM FLIGHT TIME (sec)
S8A	0,00 -2,50	60	500	180
S8B	2,51- 5,00	90	650	240
S8C	5,01- 10,00	120	800	300
S8D	10,01- 20,00	300	950	360
S8E & S8E/P	20,01 -40,00	300	1100	360
S8F	40,01 80,00	500	1250	360

#### **11.6. SUB-CLASSES**

CLASS	TOTAL IMPULSE (Newton-seconds)	MAXIMUM WEIGHT (g)	MINIMUM WING SPAN (mm)	MAXIMUM FLIGHT TIME (sec)
<b>S8A</b>	<b>0,00 -2,50</b>	<b>60</b>	<b>500</b>	<b>180</b>
<b>S8B</b>	<b>2,51- 5,00</b>	<b>90</b>	<b>650</b>	<b>240</b>
<b>S8C</b>	<b>5,01- 10,00</b>	<b>120</b>	<b>800</b>	<b>300</b>
<b>S8D &amp; S8E/P</b>	<b>10,01- 20,00</b>	<b>300</b>	<b>1200</b>	<b>360</b>
<b>S8E</b>	<b>20,01- 40,00</b>	<b>400</b>	<b>1500</b>	<b>480</b>
<b>S8F</b>	<b>40,01 80,00</b>	<b>500</b>	<b>1500</b>	<b>480</b>

Reason: Reduction of total impulse of the engine (s) and the increase in wing span and improve the observability of the glider will make the class attractive for spectators and sponsors.

*Technical Secretary's Note: See also the next item s(ii)) regarding the same paragraph.*

Withdrawn by the Space Modelling Subcommittee.

#### **s(ii)) 11.6. Sub-Classes**

#### **Switzerland**

*Change the dimensions:*

CLASS	TOTAL IMPULSE (Newton-seconds)	MAXIMUM WEIGHT (g)	MINIMUM WING SPAN (mm)	MAXIMUM FLIGHT TIME (sec)
S8A	0,00 - 2,50	60	500	180
S8B	2,51 - 5,00	90	650	240
S8C	5,01 - 10,00	120	800	300
S8D	10,01 - 20,00	300	950	360
S8E & S8E/P	20,01 - 40,00	300	1100	360
S8F	40,01 - 80,00	500	1250	360
<b>S8D</b>	<b>10,01 - 20,00</b>	<b>300</b>	<b>1100</b>	<b>360</b>
<b>S8E &amp; S8E/P</b>	<b>20,01 - 40,00</b>	<b>400</b>	<b>1300</b>	<b>360</b>
<b>S8F</b>	<b>40,01 - 80,00</b>	<b>500</b>	<b>1480</b>	<b>360</b>

Reason: Safety. New models modified from DLG Gliders goes very high up, bigger span reduce this. The new weight for S8E & S8E/P allows to fly any DLG Glider.

Withdrawn by Switzerland.

**t) 11.7.2. Specifications** **Space Modelling Subcommittee**

*Replace the first sentence to change the total impulse to agree with the table of sub-classes above:*

**11.7.2. SPECIFICATIONS**

~~The competition has only one subclass determined for models which comply with subclass S8E. Total impulse of engine(s) 20,01 to 40,00 is allowed.~~

**The competition has only one subclass determined for models which comply with subclass S8D. Total impulse of engine(s) 10,01 to 20,00 is allowed.**

The radio shall be able to operate simultaneously with other equipment at 20 kHz spacing. Where the radio does not meet this requirement, the working bandwidth (Maximum 50 kHz) shall be specified by the competitor.

Reason: Reducing the total impulse the motor(s) observability gliders for judges and will return "sportiness" in this class of models. Since this is an existing total impulse H c 40 show results in 360 seconds does not seem a daunting task.

Withdrawn by the Space Modelling Subcommittee.

**u) 11.7.2. Specifications** **Switzerland**

*Amend the second paragraph as shown below:*

The radio shall be able to operate at **2.4 GHz** ~~simultaneously with other equipment at 20 kHz spacing~~. Where the radio does not meet this requirement, shall be specified by the competitor.

Reason: Now the 2.4 GHz radios are state of art, this make the competition more easy.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**v) 11.7.4.6. Timing and Classification** **Space Modelling Subcommittee**

*Delete the first paragraph in 11.7.4.6., replacing it with the new text as shown below:*

11.7.4.6. Additional points will be awarded for landing:

~~When the nose of the model comes to rest within one metre of the centre of the designated landing circle, 100 points will be given. 10 points are deducted from the maximum of 100 points for every further metre from the centre. If the nose of the model lands between marks it is the lower of the marks that counts.~~

**When the nose of the rocket-glider comes to rest, the distance from the nose to the centre of the circle is measured. One (1) point is deducted from a maximum of 100 points for every 10 centimetres from the centre.**

Reason: This scoring system differentiates the skill of the pilot, and does not allow the athletes in one group receiving 1000 points.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

w) **11.7.4.8. Timing and Classification** **Space Modelling Subcommittee**

*Add the text to the second sentence as follows:*

11.7.4.8. The winner of a particular flight in the relating group receives a score of 1000 points. Other competitors receive points as follows **(fractions to be rounded to 1/100):**

Reason: Fractions of points are needed in order to avoid ties or even a wrong classification.

*Technical Secretary's Note: See also the next item x) regarding the same paragraph.*

Withdrawn by the Space Modelling Subcommittee.

x) **11.7.4.8. Timing and Classification** **Switzerland**

*Add new text to the second sentence as follows:*

**The corrected score shall be recorded (rounded) to one place after the decimal point.**

Reason: Clarification.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

y) **11.7.4.9. Timing and Classification** **Switzerland**

*Amend text in the first sentence as follows:*

The five competitors with the highest scores after ~~three~~ **four** starts qualify for the final round.

Reason: The competitors want to fly more.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

z) **11.7.4.11. (new)** **USA**

*Add new rule 11.7.4.11. to increase the number of rounds for World and Continental Championships:*

**11.7.4.11. For Continental and World Championships, the number of initial rounds may be increased from three to five. The number of final rounds may be increased from one to two. The number of rounds shall be declared in the pre-contest bulletins.**

Reason: As noted by Gerhard Wöbbeking<sup>1</sup>, S8 classes “are very nice to watch and their launches are spectacular, not at least because of the comparable high engine power.” Mr. Wöbbeking recommended increasing the number of initial rounds from three to five. This increase, along with increasing the number of final rounds, will

reward contestants that have excellent and consistent skills.

<sup>1</sup> Wöbbeking, Gerhard, "Remarks on the EuCh for Space Models 2015", October, 2015.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**aa) 11.7.5.3 Organisation of Starts**

**Switzerland**

*Amend the first sentence as shown below:*

Each group of competitors has 44 **12** minutes of working time to ~~collect transmitters from the official, perform an official flight and return the transmitters to the official.~~ In the case of the working time being exceeded (a delay in ~~returning the transmitter to the official~~ **landing**), the competitor will be disqualified for the round.

Reason: With 2.4 GHz radios we need not return the transmitter, so we can reduce the working time.

*Technical Secretary's Note: See also the next item ab) regarding the same paragraph.*

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**ab) 11.7.5.3 Organisation of Starts**

**Space Modelling Subcommittee**

*Amend the first sentence as shown below:*

Each group of competitors has 44 **10** minutes of working time to ~~collect transmitters from the official, perform an official~~ **flight** ~~and return the transmitters to the official.~~ In the case of the working time being exceeded (a ~~delay in returning the transmitter to the official~~ **i.e. if the model lands after expiry of working time**), the competitor will be disqualified for the round.

Reason: Now almost all pilots use spread spectrum 2.4 GHz RC radio devices. See SC4 Vol SM 4.7.5: "When all the RC radio devices are spread spectrum 2.4 GHz, they must not be impounded." If anyone will use other devices, will be receiving the transmitters during the preparing time and to take off after the end of working time.

Reducing working time to 10 minutes, because they do not need to take on and off the transmitters in during working time, as well as enhanced competition and reducing the time of the competition.

Withdrawn by the Space Modelling Subcommittee.

**ac) 11.7.5.4 Organisation of Starts**

**Switzerland**

*Delete the text as shown below:*

In normal situations the circles will overlap each other but the centres should never be closer than ~~5 metres apart. In normal practice, the circle centres should be~~ 10 metres apart as in the diagram above. A competitor (pilot) and one helper may stay at the landing area either inside or outside the landing circles.

Reason: Safety.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.



## Annexes

## ad) Annex 1 – Scale Space Models Judge’s Guide Space Modelling Subcommittee

*In the Table of Judging Considerations, delete the term ‘Staging’ and add the term ‘Powered Separation’ as shown below:*

Flight Characteristics	Special Effects	Did the model exhibit any special effects such as Launching a space probe, separating boosters, radio control devices, ejecting satellites, deploying shield, scale launcher, gliding recovery etc. Special effects can only emulate the actions of the prototype. Maximum of 15 points for each effect.	(0-60)_____
	Staging	<del>Add 30 points for each successful stage separation. No points for a single stage model.</del>	<del>(0-60)_____</del>
	Clusters	Add 5 points for each engine that ignites up to a maximum. No points for single engine models.	(0-30)_____
	Staging and Cluster Misfires	Subtract 15 points for each engine that fails to ignite.	(0-minus)_____
	<u>Powered separation</u>	<u>Up to 30 points for realistic powered separation of a powered portion of a model (capsule, stage, powered spacecraft, etc.) in accordance with paragraphs 2.3.1., 2.3.2. and Annex 2- 4.d.2.</u>	<u>(0-60)_____</u>

Reason: Models like little Joe 1 are ‘penalised’ in flight points, because they do not have a second and/or third stage, although they do have a powered part (in this case the capsule). By launching the capsule as an effect, the competitor loses automatically a minimum of 15 points by performing the same as (for example) someone who launches a Nike-Tomahawk and receives 30 points whether the flight was stable or not. Also this rule change will not only make more prototypes competitive, but it will stop the discussions about whether a powered rocket part is or isn’t a second or third stage.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

## ae) Annex 1 – Scale Space Models Judge’s Guide Space Modelling Subcommittee

*In the Table of Judging Considerations, change the range of points in the sub-categories ‘External Components’ and ‘Detailing’. Delete the sub-category ‘Flyability’.*

Degree of Difficulty	External Components	Consider the number and complexity of the entry’s external components including fins, transitions, <del>interstage</del> adapters, shrouds, <del>strapon</del> booster, launch lugs, antennae, etc. Also consider to what extent the aforementioned components were prefabricated by none other than the entrant.	<del>(0-20)_____</del> <u>(0-30)_____</u>
	Detailing	Consider the number of separate details including nuts, bolts, screws, rivets, fasteners, welds, hatches, panels, corrugations, etc. Also consider to what extent the aforementioned details were prefabricated by anyone other than the entrant.	<del>(0-20)_____</del> <u>(0-30)_____</u>
	Paint Pattern	Consider the number of colours and complexity of the entry paint pattern. Also consider the number and complexity of the entry’s markings and to what extent these markings were prefabricated by anyone other than the entrant.	(0-20)_____
	<del>“Flyability”</del>	<del>Consider the difficulty in adapting the entry to make a qualified flight including absence of fins, small fin area, extremes of CP and/or CG, etc.</del>	<del>(0-30)_____</del>



Reason: In the last years too many flights at World and European Championships ended by DQ, only because the scale model was not stable enough. The main reason is to achieve points for flyability. By deleting this term modelers will be encouraged to build their models more stable, and will improve the attractiveness of this event. By adding more points to the subclasses "External Components" and "Detailing", the competitors have the motivation to build more accurate scale models.

Withdrawn by the Space Modelling Subcommittee.

**af) Annex 1 – Scale Space Models Judge’s Guide Space Modelling Subcommittee**

*In the Table of Judging Considerations, change the range of points in the sub-category ‘Configuration’.*

FAI CATEGORY	SUB-CATEG.	JUDGING CONSIDERATIONS	POINTS
Degree of difficulty	<u>Configuration</u>	To what degree does the entry depart from the <u>configuration</u> of a "finned cone-topped cylinder.	(0-30 <u>20</u> )

Reason: The Total of the Category is 150 points and not 160, so one Sub-Category needs to be reduced by 10.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**ag) Annex 2 – Space Modelling Judge’s and Organisers Guide Space Modelling Subcommittee**

*In Paragraph 4. Specific Effects, change sub-paragraph d.2 as shown below:*

Flight Characteristics - Special Effects **and Powered Separation**: As Special Effects (according to the judging rules) may only emulate the action of the prototype, three staged rockets, like Ariane, shall not deploy nose cone cover shield and jettison a satellite during operation of the 1st or 2<sup>nd</sup> stage. On the contrary, with Saturn or Soyuz, function of rescue system during the 1st stage operation is planned and possible. In case of doubt, competitor is obliged to prove reality of declared special **effect and/or powered separation** by relevant technical data. How many points to award for several special effects? Compare the degree of difficulty of four booster separation to smoke before lift off!

Reason: Clarification to the proposition of adding the term “powered separation” by deleting “staging”.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

**ah) Annex 2 – Space Modelling Judge’s and Organisers Guide Space Modelling Subcommittee**

*In Paragraph 4. Specific Effects, add sub-paragraph d.5 as shown below:*

**d.5. Definition of a scale model prototype: A scale model prototype is defined as the first sub-class of a rocket family (according to NASA and Wikipedia this is defined as version). For example : Ariane is the name of a rocket family, which has flown five variants up to date, thus: Ariane 1, 2, 3, 4 and 5. These**

**five variants are defined as scale model rocket prototypes.**

Reason: The rules are missing a direct definition what is a prototype. This add will clarify also the discussions regarding points for "Originality".

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

ai) **Annex 2 – Space Modelling Judge's and Organisers Guide**

**Bureau**

*In Paragraph 5. Organisers' Tasks, replace sub-paragraph b.2 with the paragraph as follows:*

**b.2. Electronic altitude measurements with an electronic altimeter shall use the new Sporting Code Volume EDIC – Electronic Devices in Competition – Section 2 - Technical Guidance Notes and Technical Specification for Altimeters Used in Space Modelling Competition V.1.0 for the documentation regarding specifications and guidance.**

Reason: Electronic devices to be used in Space Models FAI international competitions must be treated in the same way as those used in other categories with detailed specifications, instructions for use and also for their technical testing to be put on the list of devices, which satisfy all demands for each category. Therefore CIAM Bureau established a specialized EDIC WG to deal with technical aspects of electronic devices and all on electronic devices shall be collected in a separate EDIC Volume of the FAI Sporting Code Section 4.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

aj) **Annex 3 – Space Models World Cup**

**Switzerland**

*In Paragraph 4. Points Allocation, amend the final sentence and add the new text as follows:*

In the event of a tie for any placing, all competitors with that placing receive the number of points appropriate to that placing, ~~rounding up the score to the nearest whole number of points.~~ **The corrected score shall be recorded (rounded) to one place after the decimal point.**

Reason: Clarification.

Approved unanimously by the Plenary Meeting. Effective 01/01/17.

This was the final task for the retiring Space Modelling Subcommittee Chairman, Srdjan Pelagic, and his contribution over many years was recognised by generous applause.

**End of Agenda Item 14**

*Item 15 – Election of Bureau Officers and Subcommittee Chairmen begins overleaf.*

**15. ELECTION OF CIAM OFFICERS AND SUBCOMMITTEE CHAIRMEN****15.1. CIAM Offices and Subcommittee Chairmen**

See items 6.1 & 6.2.

**16. FAI WORLD AND CONTINENTAL CHAMPIONSHIPS 2016 - 2019**

The voting for the bids was electronically conducted.

**FAI WORLD CHAMPIONSHIPS**

<b>2016 FAI World Championships for...</b>	<b>Bids From</b>	<b>Awarded to Location and Actual Dates</b>
<b>F1A, F1B, F1P Juniors</b>	<b>FYR OF MACEDONIA</b>	Prilep, 1– 7 August
<b>F1D (Seniors and/or Juniors)</b>	<b>ROMANIA</b>	Slanic Prahova, 11-16 April
<b>F2A, F2B, F2C, F2D (Seniors and Juniors)</b>	<b>AUSTRALIA</b>	Perth, 7-13 May
<b>F3F (Seniors and Juniors)</b>	<b>DENMARK</b>	Hanstholm, 2-9 October
<b>F3J (Seniors and/or Juniors)</b>	<b>SLOVENIA</b>	Vipava 30 July – 7 August
<b>F4CH (Seniors and Juniors)</b>	<b>ROMANIA</b>	Ploiesti, 20 – 28 August
<b>F5B, F5D (Seniors and Juniors)</b>	<b>ITALY</b>	Lugo di Romagna (RA) 13 – 20 August
<b>SPACE MODELS (Seniors and Juniors)</b>	<b>UKRAINE</b>	Lviv 22 – 30 August

**Note:** in accord with ABR Rule B.6.1 d), bids for consideration at a Plenary Meeting may be submitted to the FAI office at any time in the year prior to the Plenary Meeting that is two years in advance of the Championship year and not later than 45 days before the Plenary Meeting. In the case where there were competing bids, with one bid received on time and one or more bids late, the delegate from the country having made a late bid was asked if he would agree to withdraw.

2017 FAI World Championships for...	Bids From	Awarded to Location and Actual Dates
<b>F1A, F1B, F1C Seniors</b>	awarded in 2015	<b>HUNGARY</b> Szentes, 23 – 30 July
<b>F1E (Seniors and/or Juniors)</b>	awarded in 2015	<b>ROMANIA</b> July
<b>F3A (Seniors and Juniors)</b>	Qatar (firm)	<b>QATAR</b> 18 - 28 November
<b>F3B (Seniors and Juniors)</b>	Czech Republic (firm)	<b>CZECH REPUBLIC</b> Jesenik, 6 – 13 August
<b>F3CN (Seniors and Juniors)</b>	awarded in 2015	<b>POLAND</b> Wloclawek, July or August
<b>F3M (Seniors and Juniors)</b>	Offers invited	
<b>F3D (Seniors and Juniors)</b>	Sweden (firm)	<b>SWEDEN</b> Dalarna Säter, 25 – 29 July
<b>F3K (Seniors and/or Juniors)</b>	Ukraine (firm) Romania (withdrawn)	<b>UKRAINE</b> Lviv, 24 – 30 July
<b>F3P (Seniors and Juniors)</b>	awarded in 2014	<b>FRANCE</b> Strasbourg, 18 – 20 February

**Note:** As bids for F1A, F1B, F1P Juniors from both Bulgaria and Romania were late, the President sought approval from the meeting to accept the bids. Approved: For 26; Against 0.

2018 FAI World Championships for...	Bids From	Awarded to Location and Actual Dates
<b>F1A, F1B, F1P Juniors</b>	Bulgaria (firm) Romania (firm)	<b>BULGARIA</b> Pazardzhik, 22 - 27 July
<b>F1D (Seniors and/or Juniors)</b>	USA (firm) Romania (withdrawn)	<b>USA</b> West Baden Spring, Indiana, 18 – 22 March
<b>F2A, F2B, F2C, F2D (Seniors and Juniors)</b>	France (firm)	<b>FRANCE</b> Landres, 13 – 21 July
<b>F3F (Seniors and Juniors)</b>	Romania (for info)	
<b>F3J (Seniors and/or Juniors)</b>	Poland (withdrawn) Romania (firm)	<b>ROMANIA</b> Buzau, July or August
<b>F4CH (Seniors and Juniors)</b>	Switzerland (firm)	<b>SWITZERLAND</b> Meiringen, 5 – 14 July
<b>F5B, F5D (Seniors and Juniors)</b>	Offers invited	
<b>SPACE MODELS (Seniors and Juniors)</b>	Poland (firm)	<b>POLAND</b> Nowy Targ, Malopolska 25 August – 2 September

<b>2019 FAI World Championships for...</b>	<b>Bids From</b>	<b>To be Awarded in 2017</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>F3CN (Seniors and Juniors)</b>	Offers invited	
<b>F3M (Seniors and Juniors)</b>	Offers invited	
<b>F3D (Seniors and Juniors)</b>	Australia (firm)	
<b>F3K (Seniors and/or Juniors)</b>	Offers invited	
<b>F3P (Seniors and Juniors)</b>	Greece (tentative)	

## FAI CONTINENTAL CHAMPIONSHIPS

2016 FAI Continental Championships for...	Awarded to	Location and Actual Dates
<b>F1A, F1B, F1C Seniors</b>	<b>SERBIA</b>	Zrenjanin, 13 - 20 August
<b>F1E (Seniors and/or Juniors)</b>	<b>ROMANIA</b>	Turda Rupea, 20 – 24 July
<b>F3A (Seniors and Juniors)</b>	<b>GERMANY</b>	Untermünkheim, 29 July – 6 August
<b>F3A Asian-Oceanic (Seniors and Juniors)</b>	<b>CHINESE TAIPEI</b>	Tung-shi, 1- 8 October
<b>F3CN (Seniors and Juniors)</b>	<b>POLAND</b>	Wloclawek 22 - 31 July

2017 FAI Continental Championships for...	Bids From	Location and Actual Dates
<b>F1A, F1B, F1P Juniors</b>	awarded in 2015	<b>FYR OF MACEDONIA</b> Prilep, 30 July – 6 Aug
<b>F1D (Seniors and/or Juniors)</b>	awarded in 2015	<b>ROMANIA</b> Slanic Prahova
<b>F2A, F2B, F2C, F2D (Seniors and Juniors)</b>	awarded in 2015	<b>HUNGARY</b> Bekescsaba, 23 – 29 July
<b>F3F (Seniors and/or Juniors)</b>	Romania (for info)	
<b>F3J (Seniors and/or Juniors)</b>	Slovakia (firm) Romania (withdrawn)	<b>SLOVAKIA</b> Martin, 16 – 22 July
<b>SPACE MODELS (Seniors and Juniors)</b>	awarded in 2015	<b>POLAND</b> Nowy Targ, Malopolska 20 – 27 August

2018 FAI Continental Championships for...	Bids From	Location and Actual Dates
<b>F1A, F1B, F1C Seniors</b>	Bulgaria (withdrawn) Hungary (firm) Romania (firm)	<b>HUNGARY</b> Szentes, 23 – 30 July
<b>F1E (Seniors and/or Juniors)</b>	Slovakia (firm)	<b>SLOVAKIA</b> Martin, 26 July – 31 August
<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>F3CN (Seniors and Juniors)</b>	Offers invited	
<b>F3CN Asian – Oceanic (Seniors and Juniors)</b>	Offers invited	
<b>F3M (Seniors and Juniors)</b>	Offers invited	
<b>F3K (Seniors and/or Juniors)</b>	Romania (firm) Slovakia (firm)	<b>SLOVAKIA</b> Martin, 15 -21 July
<b>F3P (Seniors and Juniors)</b>	Offers invited	

2019 FAI Continental Championships for...	Bids from	To be Awarded in 2017
<b>F1A, F1B, F1P Juniors</b>	Romania (firm)	
<b>F1D (Seniors and/or Juniors)</b>	Czech Republic (firm)	
<b>F2A, F2B, F2C, F2D (Seniors and Juniors)</b>	Offers invited	
<b>F3F (Seniors and/or Juniors)</b>	Offers invited	
<b>F3J (Seniors and/or Juniors)</b>	Offers invited	
<b>SPACE MODELS (Seniors and Juniors)</b>	Offers invited	

**17. ANY OTHER BUSINESS**

Bureau will appreciate and consider ideas from Delegates for the Open Forum next year.

A Delegate mentioned the issue of Sporting Licences. The President mentioned that the FAI and CIAM rules have to be followed but to consider how the General Rules Volume might be clarified for Plenary 2017.

A Delegate mentioned that the Plenary meetings should move to new areas (perhaps every second year) to provide a presence in other parts of the world. CIAM is allowed to do this, but there is a rule to be followed and it will require an offer and general acceptance.

**18. NEXT CIAM MEETINGS**

Bureau Meeting: The December Bureau meeting will take place at Lausanne on the 2<sup>nd</sup> and 3<sup>rd</sup> December 2016.

**Post Meeting Note:**

The FAI Head Office confirmed the following dates:

Bureau Meeting: 27<sup>st</sup> April 2017

Plenary Meeting: Friday and Saturday 28<sup>nd</sup> & 29<sup>nd</sup> April 2017

The President closed the meeting at 17.30 and once again thanked Messieurs Gerhard Woebbeking and Srdjan Pelagic for the dedication during their long service.

*The table of Minutes Annexes appears overleaf.*



## ANNEXES TO THE MINUTES OF THE 2016 CIAM PLENARY MEETING

ANNEX FILE NAME	ANNEX CONTENT
ANNEX 2 (a-m)	2015 FAI Championship Reports
ANNEX 3 (a-q)	2015 Subcommittee Chairmen Reports, Technical Secretary, Treasurer Reports, CIAM Flyer, EDIC WG, CIAM Drones, Scholarship
ANNEX 4 (a-i)	2015 World Cup Reports
ANNEX 5 (a-d)	2015 Trophy Reports
ANNEX 6 (a-e)	FAI-CIAM Awards: Nominee Forms
ANNEX 7a	F1 Annex 2 – A Guide for the Organisers of FAI Contests in the Outdoor Free Flight Classes
ANNEX 7b	F2 Section 4.3 – Class F2C Team Racing Model Aircraft
ANNEX 7c	Changes and clarifications to i) Class F2C Team Racing Rules and ii) Annex 4C – Judges Guide
ANNEX 7d	F2 Annex 4C – Class F2C Team Race Panel of Judges Guide
ANNEX 7e	About F5B Scoring
ANNEX 7f	Volume – CIAM General Rules Draft 2017
ANNEX 7g	Volume ABR Revision – PowerPoint Presentation
ANNEX 7h	List of Amendments to Volume ABR 2016
ANNEX 7i	Parts Volume ABR not included in General Rules
ANNEX 7j	CIAM Classes
ANNEX 7k	SC4_Vol_F3_FPVRacing_16
ANNEX 8 (a-d)	Scholarship Candidates
ANNEX 9 (a-f)	Technical Meetings & Meeting Reports
ANNEX 10 (a)	World Championships Medals Count
ANNEX 10 (b-d)	Awards Recipients
ANNEX 11	Main Decisions of the April 2015 Bureau Meeting
ANNEX 12	2015 FAI General Conference Report
ANNEX 13	CIAM President report 2015
ANNEX 14	Drones activities Development by CIAM.

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