*Fédération Aéronautique Internationale*

# Agenda

of the Plenary Meeting of the
FAI Aeromodelling Commission

To be held in Lausanne, Switzerland
on 27 & 28 April 2018

Issue 1

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# AGENDA
# CIAM PLENARY MEETING 2018

to be held in the Mövenpick Hotel - Lausanne (Switzerland)
on Friday 27 April and Saturday 28 April 2018, at 09:15

## 1. PLENARY MEETING SCHEDULE AND TECHNICAL MEETINGS

According to the rules, and after confirmation at the 2018 CIAM December Bureau Meeting by the relevant Subcommittee Chairmen, the following scheduled Technical Meetings will be held: F2, F3FJ, F4, F5, Space Models and Education. Interim Meetings will be held for F3 Aerobatics and F3U.

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

## 2. DECLARATION OF CONFLICTS OF INTEREST (ANNEX 1a)

Declarations, according to the FAI Code of Ethics will be received.

## 3. PRESENTATION IN MEMORIAM

## 4. MINUTES OF THE APRIL 2017 BUREAU & PLENARY MEETINGS, AND OF THE DECEMBER 2017 BUREAU MEETING

4.1. **2017 April Bureau**
- 4.1.1. Corrections
- 4.1.2. Approval
- 4.1.3. Matters Arising

4.2. **2017 Plenary**
- 4.2.1. Corrections
- 4.2.2. Approval
- 4.2.3. Matters Arising

4.3. **2017 December Bureau**
- 4.3.1. Corrections
- 4.3.2. Approval
- 4.3.3. Matters Arising

## 5. APRIL 2018 BUREAU MEETING DECISIONS

Distribution and comments of the April 2018 CIAM Bureau Meeting decisions.

## 6. NOMINATION OF BUREAU OFFICERS AND SUBCOMMITTEE CHAIRMEN (ANNEX 1b)

6.1. **CIAM Officers**

President
1st Vice President
2nd Vice President
3rd Vice President
Secretary
Technical Secretary

**Note**. The nomination form will be distributed together with the agenda. The Delegate or the Alternate Delegate will have to complete the form (Annex 1b) in advance and submit it, preferably during the registration period, and before leaving the auditorium for the various Technical Meetings.

6.2. **Subcommittee Chairmen to be elected**

F2 Control Line

F3U FPV

F4 RC Scale

F5 RC Electric

F7 RC Aerostats

S Space Models

Education

6.3. **Subcommittee Chairmen to be confirmed**

F1 Free Flight

F3 RC Aerobatics

F3 RC Soaring

F3 RC Helicopter

F3 RC Pylon Racing

## 7. REPORTS

7.1. **2017 FAI General Conference, by the FAI**

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

- ASC's Presidents meetings July and October 2017
- CASI meeting October 2017
- Bureau activities
- WAG 2020

7.3. **2017 FAI World and Continental Championships, Jury Chairmen (ANNEX 2)**

7.3.1. 2017 FAI F1 Seniors World Championship for Free Flight Model Aircraft. Hungary. Ian Kaynes

7.3.2. 2017 FAI F1E World Championship for Model Gliders. Romania. Andras Ree

7.3.3. 2017 FAI F3A World Championship for R/C Aerobatic Model Aircraft. Argentina. Peter Uhlig

7.3.4. 2017 FAI F3B World Championships for Model Gliders. Czech Republic. Tomas Bartovsky

7.3.5. 2017 FAI F3CN World Championship for Model Helicopters. Poland. Dag Eckhoff

7.3.6. 2017 FAI F3D World Championship for Pylon Racing Model Aircraft. Sweden. Bengt Olof Samuelsson

7.3.7. 2017 FAI F3K World Championships for Model Gliders. Ukraine. Tomas Bartovsky

7.3.8. 2017 FAI F3P World Championships for Indoor Aerobatic Model Aircraft. France. Peter Uhlig

7.3.9. 2017 FAI F1 Juniors European Championship for Free Flight Model Aircraft. FYR of Macedonia. Srdjan Pelagic

7.3.10. 2017 FAI F1D European Championship for Indoor Model Aircraft. Romania. Andras Ree

7.3.11. 2017 FAI F2 European Championships for Control Line Model Aircraft. Hungary. Massimo Semoli

7.3.12. 2017 FAI F3J European Championships for Model Gliders. Slovakia. Tomas Bartovsky

7.3.13. 2017 FAI S European Championships for Space Models. Poland. Gerhard Woebbeking

7.4. **2017 Sporting Code Section 4: CIAM Technical Secretary, Mr Kevin Dodd (ANNEX 3)**

7.5. **2017 Subcommittee Chairmen (ANNEX 3)**

7.5.1. Free Flight: Ian Kaynes

7.5.2. Control Line: Peter Halman

7.5.3. RC Aerobatics: Peter Uhlig

7.5.4. RC Gliders: Tomas Bartovsky

7.5.5. RC Helicopters: Stefan Wolf

7.5.6. RC Pylon: Rob Metkemeijer

7.5.7. RC FPV: Bruno Delor

7.5.8. RC Scale: Johan Ehlers

7.5.9. RC Electric: Emil Giezendanner

7.5.10. Aerostats: Johannes Eissing

7.5.11. Space Models: Joze Cuden

7.5.12. Education: Per Findahl

7.6. **2017 World Cups, by World Cup Coordinators (ANNEX 4)**

7.6.1. Free Flight World Cup: Ian Kaynes

7.6.2. Control Line World Cup: Jo Halman

7.6.3. RC Aerobatics World Cup: Rob Romijn

7.6.4. Thermal Soaring and Duration Gliders World Cup: Ralf Decker

7.6.5. RC Helicopter World Cup: Ian Emery

7.6.6. RC Pylon Racing Euro Cup: Rob Metkemeijer

7.6.7. RC Slope Soaring World Cup: Erik Schufmann

7.6.8. RC Thermal Duration Gliders World Cup: Sotir Lazarkov

7.6.9. RC Hand Launch Gliders World Cup: Friedman Richter

7.6.10. RC Multi-rotor FPV Racing World Cup: Bruno Delor

7.6.11. RC Large Aerobatics World Cup: Pascal Rousseau

7.6.12. RC Scale World Cup: Johan Ehlers

7.6.13. RC Electric Powered Thermal Duration Gliders World Cup: Emil Giezendanner

7.6.14. Space Models World Cup: Joze Cuden

7.7. **2017 Trophy Report, by CIAM Secretary, Massimo Semoli (ANNEX 5)**

7.8. **Aeromodelling Fund- Budget 2018, by the Treasurer, Andras Ree (ANNEX 3)**

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

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

## 8. PRESENTATION OF 2017 FAI WORLD CHAMPIONSHIPS MEDALS COUNT PER NATION

## 9. PRESENTATION OF 2017 WORLD CUP AWARDS CEREMONY

**INVITATION TO THE PRESENTATION CEREMONY FOR**

The 2017 World Cup awards for classes F1A, F1A junior, F1B, F1B junior, F1C, F1E, F1E junior, F1P junior, F1Q, F2A, F2B, F2C, F2D, F3A, F3B, F3F, F3K, F3J, F3U, F5B, F5J, S4A, S6A, S7, S8E/P and S9A

will be held on Friday, 27 April 2018, at 16.30.

## 10. PLENARY MEETING VOTING PROCEDURE

Confirmation of the voting procedure for the Plenary Meeting.

## 11. SCHOLARSHIP SELECTION APPROVAL (ANNEX 8)

- Bojan GOSTOJIC (Serbia)
- Dillon GRAVES (USA)
- Michail LOMOV (Russia)
- Harshil MANE (India)
- Michal ZITNAN (Slovakia)

## 12. NOMINATIONS FOR FAI-CIAM AWARDS (ANNEX 6)

### Alphonse Penaud Diploma

- Dinche VELKOVSKI (FYR of Macedonia)
- Zdenek MALINA (Czech Republic)

### Andrei Tupolev Diploma

- No Candidates

### Antonov Diploma

- No candidates

### Frank Ehling Diploma

- John JACOMB (United Kingdom)

### Andrei Tupolev Medal

- Tetsuo ONDA (Japan)

### FAI Aeromodelling Gold Medal

- Emil GIEZENDANNER (Switzerland)
- Ingemar LARSSON (Sweden)
- Jan MAIXNER (Slovak Republic)
- Bogdan WIERZBA (Poland)

## 13. OPEN FORUM

"Marketing Aeromodelling Events"

You will receive additional information regarding the Open Forum Session as soon as it is available.

## 14. SPORTING CODE PROPOSALS

The Sporting Code proposals begin overleaf.

# 14. SPORTING CODE PROPOSALS

The Agenda contains all the proposals received by the FAI Office according to the manner required in rule A.10.

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

Bureau proposals appear in the appropriate rule section of item 14.

Each section begins on a new page.

# 14.1 Volume CIAM General Rules, Section 4A
**(CIAM Internal Regulations – begins on page 9 (2018 Edition))**

**a) A.10.2 Effective date of rule changes** **Bureau**

*Add a new sub-paragraph h) to this section as follows:*

**h) Proposals that seek to reverse or nullify decisions on topics that have been voted on by Plenary within the previous two years shall not be placed on a Plenary agenda.**

Reason: To respect the decision of the Plenary Meeting.

**b) A.10.4 Sporting Code** **F1 Subcommittee**

*Add a new paragraph A.10.4 Sporting Code to this section as follows:*

**By October 1st the Sporting Code incorporating the accepted proposals may be released for NAC reference.**

Reason: To give NAC visibility of the revised Sporting Codes. This will particularly aid the preparation of new proposals by being able to submit these with the numbering and text which will be in the Sporting Code current at the time the Plenary meeting considers these proposals. It will also aid those nations which translate codes into their languages. This is the reintroduction of the process which was deleted from the Sporting Code some years ago.

***Volume CIAM General Rules, Section 4B begins overleaf***

# 14.2 Volume CIAM General Rules, Section 4B
**(General Specifications for CIAM Classes – begins on page 17 (2018 Edition))**

**a) B.1.2 Classification of model aircraft** **Italy, Israel**

B.1.2.1 Category F1 – Free Flight

Official and provisional model aircraft classes are listed for each category:

c) This category is divided into the following classes:

*Move F1Q from sub-paragraph ii), relative to provisional classes, to sub-paragraph i) relative to official classes.*

ii) Provisional Classes
~~F1Q – FF Electric Powered Aircraft~~

i) Official Classes
**F1Q – FF Electric Powered Aircraft**

Reason from Italy: The F1Q class after some rule changes through the years has reached a maturity stage with considerable technology enhancements and a variety of possible alternative solutions equally competitive. Electric propulsion is destined to gradually replace combustion chamber power systems for noise, environment, safety and ultimately performance. With the change of provisional to official status and the inclusion in cat.1 events there will be a considerable increase of interest and participation which is already noticeable at present.

For the same reasons the old F1P class is less and less attractive for juniors. In the 2017 European Championships in FYROM only four Nations have participated in this class with 14 entries. Introducing F1Q for juniors and seniors will have the advantage to provide continuity for experience, ingenuity and competition advantage.

Reason from Israel: F1P class has been a very small event at Junior World and European Championships for more than a decade – the number of competitors is 14-18% of the total championship while F1C seniors in comparison is about 23-26% of the total as demonstrated below.

| WORLD AND EUROPEAN CHAMPIONSHIPS - JUNIORS | | | | | |
|---|---|---|---|---|---|
| YEAR | F1P – NUMBER OF COMPETITORS | F1A – NUMBER OF COMPETITORS | F1B – NUMBER OF COMPETITORS | TOTAL | % F1P OF TOTAL |
| 2017 | 12 | 45 | 31 | 88 | 14% |
| 2016 | 15 | 47 | 32 | 94 | 16% |
| 2015 | 13 | 38 | 26 | 77 | 17% |
| 2014 | 18 | 50 | 31 | 99 | 18% |
| 2013 | 12 | 36 | 29 | 77 | 16% |

| WORLD AND EUROPEAN CHAMPIONSHIPS – SENIORS | | | | | |
|---|---|---|---|---|---|
| YEAR | F1C – NUMBER OF COMPETITORS | F1A – NUMBER OF COMPETITORS | F1B – NUMBER OF COMPETITORS | TOTAL | % F1C OF TOTAL |
| 2017 | 79 | 113 | 110 | 302 | 26% |
| 2016 | 52 | 81 | 80 | 213 | 24% |
| 2015 | 45 | 76 | 76 | 197 | 23% |
| 2014 | 52 | 83 | 77 | 212 | 25% |
| 2013 | 71 | 102 | 115 | 288 | 25% |

In F1Q class, the number of competitors has doubled in World Cup events during the last 7 years to a number of 36 competitors, despite the fact that the event is not included in World and European Championships.

The F1P class is providing big technical challenges for juniors, becoming unattractive such as F1A, F1B.

During the last few years electric motors and batteries are becoming much more reachable and affordable for many youngsters, while more and more are abandoning the usage of piston motors in free flight and in aeromodelling in general.

Needless to say, one of the objectives of all countries is to increase the involvement of youngsters in free flight, where the new generation is much more interested in new tech rather than old.

It was recently proven that the new F1Q rules allow the use of relatively slow and efficient models that are easy to trim and very safe, this enables more safety for all sportsmen and youngsters in particular, but also for the observers and timekeepers.

During the last few years, there's a significant increase of interest of many senior fliers in F1Q models due to the new technologies and more interest in electronical models (both timers, engines, application usage for free flight, etc…), embracing of the F1Q class in World and European championships Juniors events , may encourage more sportsmen to compete in the class and enable additional attractive free flight class for seniors as well.

LINKS TO W/E CHAMPIONSHIPS RESULTS:

http://www.freeflightnews.org.uk/champs/mast.htm

***Technical Secretary's Note: Additional proposals related to this proposal are in Section 14.3 – please refer to proposals g), h) and in conjunction with this one.***

***Volume CIAM General Rules, Section 4C begins overleaf***

# 14.3 Volume CIAM General Rules, Section 4C
**(General Rules for International Events – page 25 (2018 Edition))**

**a) C.2.2.3 World Cup** **F2 Subcommittee**

*Amend the sentence immediately after the note in the text at the top of the page prior to the sub-paragraphs as follows:*

FAI medals and diplomas will be awarded to the 1st, 2nd and 3rd placed competitors **in the final rankings.**

Reason: To make clear that there is no requirement for FAI medals or diplomas to be awarded to the 1st, 2nd and 3rd placed competitors at the competitions that comprise a World Cup series.

**b) C.5.1 Competitor** **F5 Subcommittee**

*Amend the first paragraph 5.1.1 as follows:*

For a World or Continental Championship organised specifically for juniors, all competitors and all helpers, team members, mechanics and assistants must all be juniors. **This rule does not apply to helpers for F5J juniors.**

Reason: To allow seniors as helpers at F5J Junior Continental and World Championships. Also for **safety**. At F5J Junior Continental and World Championships, senior helpers must supervise and help to guarantee a safe simultaneous launching of several F5J model aircraft.

**c) C.5.1 Competitor** **F2 Subcommittee, Poland**

*Amend the first paragraph as follows:*

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 21**. All other competitors are classed as Seniors.

Reason: F2 classes are both complex and physically demanding. In 3 of the 4 classes 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.

Reasoning given by Poland:
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.

*Technical Secretary's Note: Proposals c) and d) which follows were previously presented to Plenary 2017 by the F2 Subcommittee and Poland, and they were referred back to Bureau for further investigation.*

**d) C.5.1 Competitor** **Poland**

*Amend the first paragraph as follows:*

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.
4. In the real Gliding sport (associated in the FAI), for juniors the maximum age is 25 years. It is possible to apply and change the maximum age for juniors to 21 years in Aeromodelling.

**e) C.5.1.1 Age of participants for Junior World or Continental Championships** **Bulgaria, Germany**

*Add the following text as follows:*

For a World or Continental Championship organised specifically for juniors, all competitors and all helpers, team members, mechanics and assistants must all be juniors.

The team managers and/or their duly registered assistants and organising officials are the only seniors allowed in the starting area.

For RC Soaring **and F5J** the helpers, mechanics and assistants may be seniors.

Reason Bulgaria: **Safety**: At F5J Junior Continental and World Championships, senior helpers must supervise and help to guarantee a safe simultaneous launching of several F5J model aircraft.

Reason Germany: For safety reasons, there should be senior helpers allowed at a Junior World or Continental Championship. Especially for younger participants it is not possible to launch an airplane with 4m wingspan in windy condition safely. A senior helper should also supervise the flight for safety reasons.

Another reason is the huge effort to bring additional junior helpers (together with their adults or supervising persons) to a championship in a foreign country. This point may prevent the participation of junior pilots at championships.

**f) C.5.2 Team Manager** **F5 Subcommittee**

*Add additional text to paragraph b) as follows:*

b) For Free Flight, Control Line, RC Soaring, Scale, **F5J Juniors** and Space Model contests, the team manager may have an assistant, registered with the organiser, who will have the same duties as the team manager except that the assistant will not be allowed to deal with the Jury or the Organiser except to deliver protests.

Reason: **Safety**: Instead of having senior helpers a team manager assistant is recommended. He can help during the starting sequence. Launching of F5J model aircraft with running motors in groups must be well supervised by an experienced senior.

**g) C.9 Judges Lists** **Bureau**

*Add additional sub-paragraphs b), c) and d) and renumber the existing b) and c) paragraphs as follows:*

a) Nominations for persons to be put on the list of international judges must be received by the FAI Office no later than 15th November. The nominations are valid for two years starting the following January and can be updated annually. If no list is returned by the deadline in any year, then the old one stands for one more year. ~~Judges shall be chosen from the list. Any judges appointed for a championship must be on the list when selected.~~ The nominations may be submitted on paper, by email or by using the on-line submission procedure available on the FAI web site.

**b) Any judges appointed for a championship must be on the current or upcoming list at the time of selection.**

**c) For Category-1 events all judges must be chosen from the list and be of different nationalities.**

**d) For Category-2 events:**
**i) a maximum of two judges may be of the same nationality**
**ii) if using four or five judges, a minimum of three judges have to be selected from the official FAI list**
**iii) if using three judges, a minimum of two judges have to be selected from the official FAI list**
**iv) the remaining judges should be experienced and recommended by the organiser of the Category-2 event.**

**e)** For subjective judging, a proportion of the judges chosen to judge at a championship must not have judged at the previous equivalent championship. This proportion to be defined in the class rules.

**h) C.15.2.1 Current World Championships** **Italy, Israel**

*Italy: Add F1Q to F1ABC (Senior), delete F1P from F1ABP (Junior) and replace with F1Q. Amend the CIAM classes document accordingly.*

*Israel: Replace the F1P class in Junior World and European Championships with the F1Q class.*

C.15.2.1 Class F (Model Aircraft)
F1ABC**Q** (Senior) F1AB~~P~~**Q** (Junior)

Reasons from Italy and Israel: The reasons for the above proposal are the same as those in Section 14.2 for Proposal a) B.1.2 – Classification of model aircraft

*Technical Secretary's Note: While it is possible to propose that F1Q moves from Provisional to Official class, rule C.14.1 states that before a class can be considered by the CIAM for a World and/or Continental Championship, there must be a minimum period of two years from the time the class becomes official. Other restrictions also apply.*

**i) C.10.1 Class F – Model Aircraft** **Italy**

*Replace F1P with F1Q:*

**C.10.1 Class F – Model aircraft**
F1A, F1B, F1C, ~~F1P~~, **F1Q**

Reason: The reason is the same as the above proposal.

*Technical Secretary's Note: This proposal would be a necessary consequential change, should the above proposal be successful*.

**j) C.11 Identification Marks** **Italy**

*Delete sub-paragraph b) in C.11.1 Class F – Model Aircraft as shown below:*

~~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).~~

Reason: The aeromodelling community have to face the fact that new competitors are more model pilots and less aeromodeller, with the consequence that pilots buy brand new or already used model airplanes. Another reason is aimed at the Junior pilots; often they are using model aeroplanes that were realized by old champions.

In addition, removal of a previous owner Identification Mark or FAI Licence Number process is not an easy job, without generating damage to the paint scheme and, no less important, the consequent deletion of the model and model builder/pilot story and memories.

*Technical Secretary's Note: This reason seems to require deletion of just the first sentence of this sub-paragraph, not the entire sub-paragraph as requested*.

**k) C.15.3 Offers to host a World or Continental Championship** **Bureau**

*Amend sub-paragraph f) in C.15.3 as shown below:*

f) In the event that no acceptable bid is available two years in advance, ~~the decision may be postponed to the Plenary Meeting in the year before the championship. If no bid is accepted at that Meeting, the Plenary Meeting may exceptionally delegate the decision to the Bureau.~~ **the Plenary Meeting delegates the decision to the Bureau. Bids for consideration by the Bureau may be submitted to the FAI Office not earlier than 120 days and not later than 45 days before the December Bureau Meeting.** The latest that a decision may be made is one year in advance of the proposed date of the championship. This is the latest time at which the decision can be made to proceed with a championship for the following year.

Reason: Clarification.

**l) C.15.6 Classification** **F2 Subcommittee**

*Amend the following paragraphs with additional text as shown:*

**C.15.6 Classification**

C.15.6.1 Individual classification

a) For any World or a Continental Championship:

- FAI medals and diplomas will be awarded to the competitors in the first, second and third places in the class.

- **For F2D, an FAI diploma shall be awarded to the designated mechanics of the first, second and third placed pilots.**

- The Championship winner earns the title …

C.15.6.2 National team classification

d) In each class, a diploma will be awarded by the FAI to each team member including the team manager **and for F2D to the designated mechanics** of the teams in first, second and third places.

Reason: To provide suitable recognition for the F2D mechanics at Championships. For too long F2D mechanics have not been recognised for the work which they do during an F2D Championship and this proposal corrects this.

**m) C.17.2 Interruption of a contest** **F1 Subcommittee**

*Amend the paragraph b) with the addition of new text as shown:*

b) In the event of an interruption during a round, the contest director **and jury** must decide the action to be taken to complete, repeat, or cancel the round**, or other options defined for a specific category**. The remainder of the round may be completed as soon as conditions allow, with adequate notice given to all competitors and team managers.

Reason: To involve the Jury with the contest director in deciding the action to be taken.

If a round is interrupted because it becomes apparent that flights cannot be completed successfully (e.g. visibility) then it is likely that some competitors will have been unfairly penalised by the conditions. Under the current rule the contest director has the alternatives of:

(a) Cancel the round, which loses one flight from the event
(b) Complete the round, which leaves these competitors penalised while other competitors can fly when conditions have improved.
(c) Repeat the round, which then penalises the competitors who have already made a successful flight but then have to discard this fly again.

Some alternatives to these precise actions may be more appropriate for specific categories and this allows such alternatives to be defined.

# 14.4 Volume CIAM Records
**(2017 Edition)**

## PART FIVE – SPECIAL RULES FOR RECORDS

**a) 5.1.1.4. & 5.1.1.5. Accuracy of Measurement** **Bureau**

*Amend paragraph a) as follows. Amend 5.1.1.5. as a consequence:*

5.1.1.4. Accuracy of Measurement:

a) The stopwatches shall be calibrated to an accuracy of better than ~~1* 10-6 (approx 1 second per 300 hours)~~ **1* 10-5 (which is equivalent to approximately 1 second per 24 hours).**
b) Recorded time is truncated to full seconds.

5.1.1.5. Minimum Difference between Consecutive Records.

The minimum difference between two consecutive records is 1 second **(or for duration records above 24 hours - one minute).**

Reasons: It has been pointed out that the previous measurement for stopwatch calibrated accuracy was unrealistic.

# 14.5 Section 12 Volume Class U

**a) 1.1 General Definition** **Bureau**

*Amend paragraph 1.1.1 (deletions & additions) as shown below:*

1.~~0~~1.1 Unmanned Aerial Vehicle (UAV) - an aircraft ~~or aerostat~~ that does not carry a human **and is controlled primarily by means of an onboard flight system**. ~~Excluded are model aircraft according to specifications in Section 4 - Aeromodelling Records.~~

1.~~0~~1.1.1 A UAV can be remotely controlled by a person or persons, either by direct sight or First Person View (FPV), or autonomously controlled by a hardware system and/or software system onboard the UAV, or both.

**Note: In Section 4, Aeromodelling Records are defined.**
**Differences between Aeromodelling and UAV records:**
- **Records for model aircraft are always in Visual Line Of Sight (VLOS) of the pilot.**
- **For Aeromodelling records onboard flight systems that control position and attitude of the model aircraft are not permitted except auxiliary stabilizing devices for helicopters.**

Reasons: Comply with par 2.1.3 of General section, definition of aircraft. Definition of UAV made independent of definition of model aircraft.

**b) 1.3 Types of Flight** **Bureau**

*Proposed addition as shown below:*

**1.3.6 Payload - A flight performance, measured and calculated for payload times distance over a course, payload times speed over a course, payload times duration of a flight, and payload times altitude above mean sea level.**

**1.3.6.1 Payload is the weight difference of the UAV with and without the payload. Payload is defined as added mass that can be easily installed and removed without affecting the normal operation of the aircraft.**

Reasons: Payload plays a major role in the development and operation of UAVs.

**c) 2.1 Class U Unmanned Aerial Vehicle (UAV)** **Bureau**

*Amend 2.1.1 as shown below:*

2.1 Class U: Unmanned Aerial Vehicle (UAV)

2.~~0~~1.1 UAVs are classified according to ~~method of control~~ **type**, weight, and type of propulsion as follows:

2.~~0~~1.1.1 ~~Control~~ Type Classifications:

~~2.01.1.1.1 U-1: Remotely controlled UAV~~

~~2.01.1.1.2 U-2: Autonomously controlled UAV~~

~~2.01.1.1.3 When an Unmanned Aerial Vehicle is equipped with both methods of control, it will be classified by the control method used during the flight from the start point to the finish point. If the UAV is remotely controlled at any time from the start point to the finish point, it will be classified as a remotely controlled UAV (U-1).~~

**2.1.1.1.1 Type 1 Fixed wing aerodyne**

**2.1.1.1.2 Type 2 Rotary wing aerodyne**

**2.1.1.1.2.1 variable pitch (helicopter)**

**2.1.1.1.2.2 fixed pitch (multirotor >=3 rotors)**

**2.1.1.1.3 Aerostat**

Reason: Because of the principle design differences between Rotary Wing, Fixed Wing and Aerostat UAVs, the performances are not comparable. In the same way that FAI does not compare e.g. a manned Helicopter to a manned Airplane.

**d) 2.1.1.2 Weight Classifications** **Bureau**

*Amend text in 2.1.1 as follows:*

~~2.1.1.2.1 U-1.a and U-2.a Weight less than 5 kg~~

~~2.01.1.12.2 U-1.b and U-2.b Weight 5 kg to less than 50 kg~~

~~2.01.1.12.3 U-1.c and U-2.c Weight 50 kg to less than 500 kg~~

~~2.1.1.2.4 U-1.d and U-2.d Weight 500 kg to less than 2 500 kg~~

~~2.01.1.12.5 U-1.e and U-2.e Weight 2 500 kg to less than 5 000 kg~~

~~2.01.1.12.6 U-1.f and U-2.f Weight 5 000 kg to less than 10 000 kg~~

~~2.01.1.12.7 U-1.g and U-2.g Weight 10 000 kg to less than 20 000 kg~~

~~2.01.1.12.8 U-1.h and U-2.h Weight 20 000 kg to less than 40 000 kg~~

~~2.01.1.12.9 U-1.i and U-2.i Weight 40 000 kg or greater~~

**The weight of the UAV at takeoff will be used to determine its weight classification.**

**2.1.1.2.1 less than 50g**

**2.1.1.2.2 50-250g**

**2.1.1.2.3 250g-1kg**

**2.1.1.2.4 1kg – 2.5kg**

**2.1.1.2.5 2.5kg – 5 kg**

**2.1.1.2.6 5kg - 25kg**

**2.1.1.2.7 25kg - 100kg**

**2.1.1.2.8 100kg - 500kg**

**2.1.1.2.9 500 kg to less than 2 500 kg**

**2.1.1.2.10 2 500 kg to less than 10 000 kg**

**2.1.1.2.11 10 000 kg to less than 50 000 kg**

**2.1.1.2.12 Weight 50 000 kg or greater**

*Note: If these weight classes are adopted, existing records will be reclassified.*

Reason: Addition of “light classes” is to accommodate records for UAVs that are developing strongly. Rationalization and reduction of weight classification for the heavier classes.

**e) 3.1 Available Records** **Bureau**

*Amend 3.1.1.2 as shown below:*

3.~~0~~1.1.2 Speed Records:
3.~~0~~1.1.2.1 Speed Over a Straight Course of ~~15~~ **200 metres** to 25 kilometres
3.~~0~~1.1.2.2 Speed Over an Out and Return Course of **200 metres to** ~~100~~ **10 000** kilometres
~~3.01.1.2.3 Speed Over an Out and Return Course of 200 Kilometers~~
~~3.01.1.2.4 Speed Over an Out and Return Course of 500 Kilometers~~
~~3.01.1.2.5 Speed Over an Out and Return Course of 1 000 Kilometers~~
~~3.01.1.2.6 Speed Over an Out and Return Course of 2 000 Kilometers~~
~~3.01.1.2.7 Speed Over an Out and Return Course of 5 000 Kilometers~~
~~3.01.1.2.8 Speed Over an Out and Return Course of 10 000 Kilometers~~

Reasons: To add course lengths for small UAV's. Course lengths specified in 5.

**f) 3.1 Available Records** **Bureau**

*Amend 3.1.1.3 as shown below:*

3.~~0~~1.1.3 Duration Records:
3.~~0~~1.1.3.1 Duration - **Time**
**3.1.1.3.2 Duration - Distance**
**3.1.1.3.2.1 Duration Beyond a Distance of 10 Kilometres (only for UAV weight classes < 5 kg)**
**3.~~0~~1.1.3.2.2** Duration Beyond a Distance of 50 Kilometers
~~3.01.1.3.3 Duration Beyond a Distance of 100 Kilometers~~
~~3.01.1.3.4 Duration Beyond a Distance of 200 Kilometers~~
**3.~~0~~1.1.3.2.3** Duration Beyond a Distance of 500 Kilometers
~~3.01.1.3.6 Duration Beyond a Distance of 1 000 Kilometers~~
**3.~~0~~1.1.3.2.4** Duration Beyond a Distance of ~~2 000~~ **2500** Kilometers
**3.~~0~~1.1.3.2.5** Duration Beyond a Distance of 5 000 Kilometers.

*Note: if this change is adopted, existing records will be reclassified.*

Reasons: To distinguish more clearly between duration (only time) and duration distance records. Reduction and rationalization of the number of duration records.

**g) 3.1 Available Records** **Bureau**

*Add the paragraph 3.1.1.5 as shown below:*

**3.1.1.5 Payload.**
**3.1.1.5.1 Payload times distance over a course, (unit kgm)**
**3.1.1.5.2 Payload times speed over a course, (unit kgm/s)**
**3.1.1.5.3 Payload times duration of a flight, (unit kgs)**
**3.1.1.5.4 Payload times altitude above mean sea level. (unit kgm)**

Reasons: Specification of the different payload records.

**h) 3.2 Absolute Records** **Bureau**

*Consequential change:*

3.02.1 The best records listed in 3.1.1.1, 3.1.1.2, 3.1.1.3, 3.1.1.4 **and 3.1.1.5** shall be considered as absolute records, regardless of control, weight, and propulsion classifications.

Reasons: Consequential change.

**i) 4.4 Other Rules** **Bureau**

*Delete paragraph 4.4.6:*

~~4.04.26 The use of auxiliary propulsion specifically for the record attempt is prohibited.~~

Reasons: There is no reason to restrict propulsion systems of a quickly developing kind of flying machine like UAV.

**j) 5.2 Speed Records** **Bureau**

*Amend sub-paragraphs in 5.2.1 and 5.2.2 as follows:*

5.02.1 Speed Over a Straight Course of ~~15~~ **200 metres** to 25 Kilometres

5.02.1.1 The course shall be declared in writing before takeoff, and must be a minimum of ~~15 kilometers~~ **200 metres** **in length for UAV's <= 5kg and between 15 and** ~~a maximum of~~ 25 kilometres in length **for UAV's > 5kg**. The controlling NAC must certify the length of the course prior to the record attempt.

5.02.1.3 The course shall have clear approaches at each end of **at least 30% of the course length with a minimum of 100 metres and a maximum of** 5 kilometres. The course and its approaches shall be clearly marked. The UAV must maintain level flight while over the course and its approaches, with a tolerance of 100 metres **for classes> 5kg and 10 metres for classes<= 5kg** The maximum altitude of the UAV at any time during the flight shall not exceed **200 metres for classes <= 5kg and** 2 000 metres **for classes > 5kg** above the altitude over which the course and its approaches is flown.

5.02.1.4 The UAV shall fly over the course at least once in each direction. The speed adopted shall be the average of the two speeds calculated to the nearest 1/100th of a kilometre per hour. If more than two runs are made during the same flight, any two consecutive runs may be selected to count with the condition that they have been accomplished in opposite directions. The two runs selected must have been achieved within a maximum elapsed time of 45 minutes.

5.02.2 Speed Over an Out and Return Course.

Course lengths of **200 metres, 500 metres, 1 and 5 Kilometres for classes <= 5 kg and 10,** 100, ~~200, 500~~ 1 000, ~~2 000,~~ 5 000 and 10 000 Kilometres **for classes > 5kg.**

5.02.2.1 The course shall be declared in writing before takeoff.

5.02.2.2 The UAV shall fly level (with a tolerance of 100 metres **for classes> 5kg and 10 metres for classes<= 5kg)** for a distance of **100 metres for classes <= 5kg and** 1 kilometre **for classes > 5kg** immediately preceding the crossing of the start line.

5.02.2.3 The altitude of the UAV at the finish line shall not be less than its altitude at the start line.

Reasons: To accommodate the rules for smaller UAV classes. More or less a consequential change from the addition of lighter UAV classes.

**k) 5.3 Duration Records** **Bureau**

*Amend 5.3.1 and 5.3.2 as shown below:*

5.03.1 Duration

**5.3.1.1 True time without refilling of fuel or recharging batteries.**

**5.3.1.2 The time achieved shall be true time measured by data logging.**

5.03.2 Duration Beyond a Distance (of **10,** 50, 100, 200, 500, 1 000, 2 000, and 5 000 Kilometers)

5.03.2.1 The course and control area shall be declared in writing before takeoff.

5.03.2.2 The control area shall be a circular area with the following maximum radius:

**5.3.2.2.1 Duration Beyond a Distance of 10 km: 1 km radius**

5.03.2.2.2 Duration Beyond a Distance of 50 Km: 5 Km radius

5.3.2.2.3 *no further changes to this section*

Reasons: Clarification of duration records. To accommodate the rules for smaller UAV classes. More or less a consequential change from the addition of lighter UAV classes.

**l) 5.5 Payload Records** **Bureau**

*Add paragraphs as follows:*

**5.5 Payload records**

**5.5.1 Distance, speed, duration and altitude as per paragraphs 5.1 – 5.4**

**5.5.2 Weight class is determined without payload.**

Reasons: Specification of payload records.

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

# 14.6 Section 4 Volume F1 - Free Flight

**a) F1.1.1 Starting Line** **F1 Subcommittee**

*Modify wording of sub-paragraph F1.1.1 e) as follows:*

e) In Free Flight contests for class F1E, provide a starting line facing the wind with, on both ends, one perpendicular parallel line following the slope. The timekeepers ~~have to remain behind the starting line~~ **are free to move within the area behind the starting line and between the parallel lines.** ~~Whereas t~~ The competitor can launch his model in any position on the slope between the parallel lines and below the starting line.

Reason: This confirms the current practice for timekeepers in F1E with a precise definition of their freedom of movement within the timekeeping area but not beyond it.

**b) F1.1.2 Provision of Timekeepers** **F1 Subcommittee**

*Transfer F1E working time provision from F1.1.2 b) Provision of Timekeepers to new paragraph F.1.3 Working Time and add definition of working time for other classes:*

F1.1.2 Provision of Timekeepers

a) In Free Flight events, provide each starting position with two time keepers in Championships or with at least one timekeeper for other contests. For fly-offs an additional timekeeper must be provided (i.e. three for Championships, at least two for other contests). All time keepers must have binoculars. Each starting position must be equipped with at least one tripod for supporting binoculars.

b) In F1E Championships each country and the reigning champion, if not a member of this national team, is allotted a pair of timekeepers for the first round by draw. In successive rounds all countries change timekeepers by moving one down the list of timekeepers. In other F1E competitions timekeepers are allocated to competitors in the order in which they arrive at the starting line, ~~the organisers may define a working time during which the timekeepers remain available to each competitor~~.

**F1.1.3 Working Time**

**a) In Championships there are no limits on working time.**

**b) For all classes except F1E, at open internationals at which at least one timekeeper is supplied for each starting position, the organiser may define a working time which is measured from the time the competitor receives his timekeepers. The working time shall be 15 minutes. If a competitor has not launched his model or released his glider within his working time, then he may have another working time later in the round, taking his place after other competitors who are ready and waiting to fly at that starting position.**

**c) In F1E the working time shall be 5 minutes. If a competitor has not launched a flight during his working time, then he must go to the end of the queue of competitors waiting for timekeepers.**

Reason:

To separate the working time from the provision of timekeepers for clarity.

To identify the regular working time used in F1E.

To introduce the possibility of working time in the classes flown from a starting line, to help avoid a competitor taking more than a fair share of the time available in the round.

**c) F1.2.3 End of flight** **F1 Subcommittee**

*Modify F1.2.3 as shown:*

F1.2.3 End of flight

The flight is considered ended when ~~the model touches the surface of the earth, encounters an obstacle which definitely terminates its flight or when it definitely disappears from the timekeeper's sight.~~ **:**

**a) the maximum duration for the flight is reached.**

**b) the flight is definitely terminated by the model landing on the surface of the earth or encountering an obstacle.**

**c) the model definitely disappears from the timekeeper's sight.** If the model disappears behind some obstacles or in clouds, the timekeepers are to wait for ten seconds; should the model not reappear, timing will cease and the ten seconds will be subtracted from the flight time.

Reason:

a) Clarifies that the timekeepers do not need to continue to monitor the flight after the maximum flight time has been reached and that after this time events such as collisions or a piece becoming detached are not relevant.

b) Is a rewording of the current rules to allow for the cases when the model touches the surface but continues flying, which particularly is an issue in F1E.

**d) F1.2.5 Position of timekeepers** **F1 Subcommittee**

*Modify wording with the addition of text as shown:*

**For all classes except F1E, t**he timekeepers must remain within a circle of 10 metres radius during the flights and time the flights independently of each other.

Reason: This clarifies the position for F1E, where the standard 10m radius might take them outside the F1E timekeeping area and they have an alternative definition of location in F1.1.1 e).

**e) F1.5 Interruption of a contest** **F1 Subcommittee**

*Add new paragraph, F1.5.2, as follows:*

**F1.5.2 Interruption**

**When the reason for an interruption (C.17.2 a) at a free flight competition has affected the success of flights made before the interruption, then for continuation of the round the following applies:**

**a) If the affected flights can be ascertained readily, then these competitors may repeat their flights during the continued round.**

**b) If the affected flights cannot readily be identified, then all competitors who have flown before the interruption may repeat their flights during the continued round.**

**In both cases, when the competitor has chosen to make a repeat flight then this is a new official flight which has the normal attempt allocation and the result will count for his score in the round.**

Reason: If a round is interrupted because it becomes apparent that flights cannot be completed successfully (e.g. visibility) then it is likely that some competitors will have been unfairly penalised by the conditions. Under the current rule the contest director has the alternatives of:

(a) Cancel the round, which loses one flight from the event

(b) Complete the round, which leaves these competitors penalised while other competitors can fly when conditions have improved.

(c) Repeat the round, which then penalises the competitors who have already made a successful flight but then have to discard this fly again.

In free flight, the fairest simple approach to the problem is to allow all maximum flights to stand and competitors with shorter flights to have the option to repeat their flights when the round is continued.

**f) 3.1.5. Definition of an Unsuccessful Attempt F1 Subcommittee**

*F1A: Modify paragraph f) as shown.*

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

a) The model returns to the ground without release of the cable.

b) The moment of release of the cable cannot properly be established by the timekeepers.

c) When a part of the model becomes detached during the launch or during the flight time.

d) It is apparent to the timekeepers that the competitor has lost contact with the cable and the competitor or his team manager chose to declare an attempt.

e) It is apparent to the timekeepers that the competitor has lost contact with the cable and the cable is controlled by a person other than the competitor himself.

f) The **recorded** duration of the flight is less than 20 seconds.

Make the same change to the other free flight outdoor classes 3.2.5.b, 3.3.5.c, 3.5.5.b, 3.6.5.a, 3.G.5.a, 3.H.5.a, 3.J.5.a, 3.K.5.a, 3.Q.5.c.

Reason: The current rule creates a confusion of whether the 20 seconds is a measure of the flight time as exactly recorded by the timekeeper or when it has been changed to the nearest second for use as the flight score under F1.2.6. While clarifying the time to be used, the effect of this proposal is that flights timed to be between 19.50 and 19.99 seconds will be rounded up to 20 seconds and thus not eligible for the “less than 20 seconds” reason for an unsuccessful attempt.

**g) 3.1.5. Definition of an Unsuccessful Attempt** **Israel**

*F1A: Modify paragraph f) as shown.*

f) The ~~duration of the flight~~ **flight recorded** is less than 20 seconds.

Make the same change to the other free flight outdoor classes 3.2.5.b, 3.3.5.c, 3.5.5.b, 3.6.5.a, 3.G.5.a, 3.H.5.a, 3.J.5.a, 3.K.5.a, 3.Q.5.c.

Reason:

During 2014 section 3.A2B.5. Recording a Flight and section F1.2.6 Time Recorded, were corrected for the new rounding method with the purpose of benefiting the sportsman in situations of a near max timing as stated:

*Reason: To provide a score closer to the time recorded. There is a particular problem with fight times just below a maximum, for example, with a 180 maximum, times of 179 and 180 currently give a score 179 – missing the maximum even though the timekeeper with 180 might have seen the model for longer than 180. The proposed change gives the benefit to the competitor in these unusual close situations.*

Section F.1.2.6 defines *time recorded*:

The time recorded is the mean of the times registered by the timekeepers, rounded to the *nearest whole number of seconds to the resulting mean time (0.5 second rounded up to the second above) unless the difference between the times registered shows evidence of an error in the timing, in which case the organiser will determine, with the FAI Jury, which time will be registered as the official time or what action should be taken.*

The language used on sections of unsuccessful attempt is using the **duration of the flight** while section 3.A2B.5. Recording a Flight and section F.1.2.6 Time Recorded uses a different language – the **time recorded** and **time registered**.

Before the rounding rule change in 2014, the different language didn’t cause conflict between these sections as both timing and successful attempt sections interpretation was resulting the same.

We believe that due to the change in rounding method and the usage of different language or terms in those different sections causes many conflicts that must be clarified.

For instance, the same 20 seconds question was raised by the team managers to the Jury for interpretation in the last two Senior and Junior championships, where two different and opposite result answers were provided.

There are many supporters to cancel the 20 seconds rule which states we should not benefit the sportsman for a bad result, however as the 20 seconds section is important for safety, we believe we must keep the section but clarify and standardize the result of both sections.

**h) 3.5.11. Launching** **F1 Subcommittee**

*F1E: Add new sub-paragraph c) to 3.5.11. Launching as shown.*

3.5.11. Launching

a) Launching is by hand, the competitor standing on the ground (jumping allowed).

b) Each competitor must adjust and launch the model himself.

**c) Competitors may erect streamers at any location that is unlikely to obstruct the flight of models. Competitors may use devices to measure meteorological conditions at the launch position, but are not permitted to make use of meteorological data from sensing devices which are situated more than 20m from the starting line.**

Reason: This clarifies what and where measurement devices are acceptable in F1E. Streamer location is typical consideration where competitors' launches may be obstructed. Considerable benefit could be gained by remote sensing of wind speed and temperature at downhill locations and it is in the interest of the class to restrict this possibility before it adds a significant complexity to the basic simplicity of the class.

**i) ANNEX 1 Rules for Free Flight World Cup** **F1 Subcommittee**

*Paragraph 1. Classes – delete the last sentence of the paragraph:*

The following separate classes are recognised for World Cup competition: F1A, F1B, F1C, F1E, F1Q, F1A Junior, F1B Junior, F1P Junior and F1E Junior. ~~In F1C events, F1P models may be flown to the F1P class rules alongside the F1C models and be included in the F1C World Cup (and also for F1P Junior for junior fliers).~~

Reason: F1P and F1C are significantly different models and are not balanced for direct comparison and thus does not serve as a significant encouragement to juniors. At some competitions, it is often unclear whether the events are flown independently or together.

**j) ANNEX 1 Rules for Free Flight World Cup** **F1 Subcommittee**

*Paragraph 4. Points Allocation – replace the entire paragraph with the one that follows:*

~~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~~ | ~~500~~ | ~~400~~ | ~~300~~ | ~~250~~ | ~~200~~ | ~~190~~ | ~~180~~ | ~~170~~ | ~~160~~ | ~~150~~ | ~~140~~ | ~~130~~ |
| ~~Placing~~ | ~~13~~ | ~~14~~ | ~~15~~ | ~~16~~ | ~~17~~ | ~~18~~ | ~~19~~ | ~~20~~ | ~~21~~ | ~~22~~ | ~~23~~ | ~~24~~ |
| ~~Points~~ | ~~120~~ | ~~110~~ | ~~100~~ | ~~90~~ | ~~80~~ | ~~70~~ | ~~60~~ | ~~50~~ | ~~40~~ | ~~30~~ | ~~20~~ | ~~10~~ |

~~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.~~

~~a) Points are awarded only to competitors completing at least one flight in the contest.~~

~~b) Points are awarded only to competitors in the top half of the results list (if N is the number of competitors who completed 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).~~

~~c) In the event of a tie for any placing, the competitors with that placing will share the points which would have been awarded to the places covered had the tie been resolved (round up the score to the nearest whole number of points).~~

~~d) For F1A Junior, F1B Junior, F1P Junior and F1E Junior points are awarded according to Junior classification.~~

~~e) If a junior competitor scores more World Cup points in an F1A, F1B, F1C or F1E open classification than he would be awarded in the Junior World Cup from the junior classification, then his Junior World Cup points will be increased to the same as his open classification points.~~

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

**a) The only competitors considered for the calculation of World Cup points are those who completed a flight in the first round of the competition. The number of these competitors is denoted by N and the place of an individual in this list is denoted by P.**

**b) Points are awarded only to competitors in the top half of the results list (if N is the number of competitors, then points are awarded only for places 1 to N/2, rounding up when necessary in calculating the N/2 place, denote this number by H).**

**c) The number of points awarded is 500 for the winner and linearly decreases to zero for the highest place competitor receiving no points. For the competitor in place P This is expressed by**

$$\text{points} = 500 * [\ 1 - (P-1)/H\ ]$$

**The points calculated are rounded up to the nearest whole number of points.**

**d) In the event of a tie for any placing, the competitors with that placing will share the points which would have been awarded to the places covered had the tie been resolved (round up the score to the nearest whole number of points).**

**e) Each competitor awarded placing points is also 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). The winner is awarded an additional 25% bonus points, that is he receives 1.25*(N-P) points, rounded up to the nearest whole number of points.**

**f) For F1A Junior, F1B Junior, F1P Junior and F1E Junior points are awarded according to Junior classification.**

**g) If a junior competitor scores more World Cup points in an F1A, F1B, F1C or F1E open classification than he would be awarded in the Junior World Cup from the junior classification, then his Junior World Cup points will be increased to the same as his open classification points.**

Reason:

1. A simplification to base all points allocation on the results of competitors who have recorded a flight in the first round of the competition. The current rules are mixed between competitors who have recorded a flight in the first round and competitors who have completed at least one flight.

2. To extend the points scored to cover the top half of the results in all events, and to increase the points allocated to competitors in intermediate places in a large competition. Examples are given below comparing the existing scheme against the proposed new system for different numbers of competitors.

3. To simplify the current mixture of awarding points to competitors who complete at least one flight, but calculating bonus points based on the number who have flown in the first round.

4. The overall effects are expected to be closer World Cup totals for people who have wins in smaller competitions and those with high places (but below first place) in large competitions. This effect will be more pronounced for the classes with most flyers, in particular F1A.

5. More people will have received points for the extra places rewarded in large competitions and will thus appear in the World Cup results and may be encouraged to enter more competitions.

***Volume F2 Control Line begins overleaf***

# 14.7 Section 4 Volume F2 - Control Line

**F2B**

## a) 4.2.16. Concours d'Elégance — Switzerland

*Add a new rule 4.2.16. with the above title and paragraphs as shown:*

*Technical Secretary's Note: The new text has not been formatted with bold or underlined.*

**4.2.16. Concours d'Elégance**

At F2B World Championships the organiser arranges a separate contest for registered F2B pilots competing in F2B with own-constructed Class F2B model airplanes. The minimum number of pilots-constructors entering this separate contest is five. The winner is awarded the FAI Concours d'Elégance Diploma. The result of the Concours d'Elégance must remain without any influence whatsoever on the ranking of Individuals or Teams competing in Class F2B.

**4.2.16.1 Construction of the model by the pilot**

**Definition**

"Constructed" by the pilot is to be interpreted as the action required to complete a model starting with no more prefabrication than acquiring one of the two main structures preassembled prior to merging and finishing. The two main structures are considered to be: 1) the wing and 2) the fuselage. Flaps, rudders, elevators & horizontal stabilizers are not considered main structures, therefore there are no limitations on level of their prefabrication, and only the finish portion of this rule applies to them. In unconventional stunt designs, such as a multi-engine wing with engine nacelles, or a flying wing, they are to be considered as multiple merged structures, so no level of prefabrication is allowed, and on multi wing planes, the wing total counts as one structure, but the pilot must be the one who joins and aligns the multiple wings together. In the case of take-apart models, the take-apart hardware must be installed by the pilot. The pilot must be the person who applies the finish to the plane, to "finish" meaning the pilot fills the surfaces and applies the covering and finish to the completed model where covering and finish is applied. Whereas on the surface of the main structures, moulded structural surface underlayment's including but not limited to moulded fiberglass, or carbon fibre that are filled or coloured as a result of the manufacturing process that may show as part of the final finish may be used, as long as this surface underlayment is applied, filled and coloured by the pilot. Control systems such as but not limited to the bellcrank, control horns, pushrods, etc. may be purchased but must be installed by the pilot. Other accessories and hardware may be purchased or otherwise obtained for their function such as, but not limited to: engines, tanks, wheels, canopies, airframe take-apart hardware, and have no bearing in the way "main structures" are counted.

a) At time of models processing and by ticking the "own-construction" box on the "F2 Model Specification Certificate" as well as by his and his NAC's signatures on the Certificate, the competitor confirms the personal construction of the model as per article 4.2.16.1 and his wish to register for the Concours d'Elégance. One model per competitor may be registered. FAI will modify the F2 Model Specification Certificate accordingly.

b) Models processed and registered for the Concours d'Elégance must be marked with a Concours d'Elégance sticker indicating the pilots name, a sequential

number and the year of the contest. FAI will provide organisers with such stickers and/or templates.

**4.2.16.2 Appearance Judging**

Registered models for the Concours d'Elégance must have flown in at least two F2B qualification rounds of the ongoing F2B Championship before entering the static display for appearance judging.

a) After the qualification rounds and before the beginning of the fly-off rounds all of the Concours d'Elégance registered model airplanes shall be put on display, arranged side by side and with sufficient space for the judges for to walk around.

b) The self-constituent panel of appearance judges consists of one member of the FAI Jury and two members of the FAI F2B Judges panel.

c) Appearance judging for all models on display shall not take longer than two hours. While it takes place, public, other officials, and team members must not be present near the models to be judged. With approval from the appearance judges media representatives may be allowed in.

d) The panel of appearance judges jointly defines the winner of the Concours d'Elégance based on criteria such as elegance of outlines and shapes, visible building and finish quality, colour scheme and complexity and further non-technical aspects contributing to the overall impression of elegance and beauty, while strictly observing article 4.2.16.1. The panel communicates the winner's name and nationality to the organiser. No individual ranking is published and the winner shall be kept secret until the end of the W/C.

e) Related to the Concours d'Elégance no formal protest can be filed.

**4.2.16.3 Award**

FAI will issue an official FAI F2B Concours d'Elégance Diploma or template.

a) The Diploma will be awarded at the prize giving ceremony to be held at the banquet concluding the event.

b) Illustrated with a high quality picture of the winning model airplane and its pilot constructor, the organiser communicates the winner of the FAI F2B Concours d'Elégance Diploma to the media.

Reason: The art of control-line aerobatics is a unique combination of designing, constructing and flying skills. While the degree of expertise required to fly c/l stunt is high, the additional challenge of constructing a competitive and elegant airplane is very motivating for many of the competitors.

To recognise and reward the substantial efforts required to compete with an own-constructed model, we suggest the implementation of an official FAI F2B Concours d'Elégance and an FAI Diploma for the pilot/constructor of the most elegant class F2B model participating in an F2B World Championship.

The above proposal was discussed within the F2B Working Group and its submitting by the Aero-Club of Switzerland was approved by a poll held between Oct. 13th and Oct. 31st 2017.

**F2C**

**b) 4.3.1. Team Racing Event** **Switzerland**

*Modify sub-paragraph i) of paragraph a) 'Team' as follows:*

i) Each team consists of one pilot and one mechanic. No member of a team may be a member of another team. **Team members may be of different nationality.**

Reason: In F2C, the nations are increasingly often unable to establish teams consisting of sufficiently qualified members of their own nationality. While today those nations are successfully flying mixed nationality teams in open international contests, they remain to be discriminated when it comes to participate in World or Continental Championships. We consider this a critically unfair situation for F2C, possibly contributing to the lack of growth of the sport. As a counteracting measure in favour of Team-Racing, SUI therefore suggests to open the class for mixed nationality teams.

*Technical Secretary's Note: Please see also item i) which addresses the issue of National Team Classification.*

**c) 4.3.3. Team Racing Model, Engine and Control System** **USA**

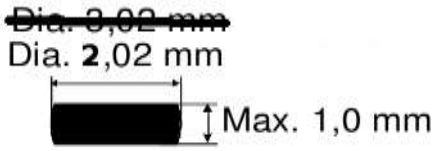
*Technical Secretary's Note: The USA proposals which follow: items c), d) and e) were originally submitted and intended to be considered as one item. According to our guidelines, these should have been split into separate proposals. The reason has been attached to proposal e).*

*Note: If any of these changes to specifications is approved, the Technical Secretary, will ask the Plenary Meeting to accept that the relevant records are retired.*

*Modify 4.3.3.1. 'engine characteristics' sub-paragraphs b) and c) as follows:*

4.3.3.1b) Naturally aspirated via a single round venturi with a maximum inside diameter of ~~3~~ **2** mm.

4.3.3.1c) The venturi diameter shall be checked with a simple no-go plug gauge, per the following sketch:




**d) 4.3.3. Team Racing Model, Engine and Control System** **USA**

*Modify 4.3.3.2. 'model characteristics' sub-paragraph f) as follows:*

4.3.3.2f) The maximum volume of fuel and oil permitted into a single tank is ~~7~~ **5** $cm^3$.

**e) 4.3.3. Team Racing Model, Engine and Control System** **USA**

*Modify 4.3.3.2. 'model characteristics' sub-paragraph l) as follows:*

4.3.3.2l) The control system shall consist of two ~~0.35~~ **0.30** mm diameter solid steel lines (minus tolerance of 0.011 mm allowed) or two ~~0.35~~ **0.34** mm diameter stranded (minimum three equal diameter steel strands) lines (no minus tolerance allowed) connected to a pilot's control handle. The flying line length is 15.92 m (-0 mm/+25 mm tolerances allowed), measured from the centre of the control handle to the axis of the propeller.

Reason for items c), d) and e): There are two primary reasons these proposals are being offered: 1) To ensure a future for F2C where performance is kept at a reasonable level, and 2) the concomitant reduction in noise associated with the event.

Supporting data for the proposed technical amendments:

Performance of F2C models is beyond the capability of many pilots and the event has become dangerous to fly. Those fortunate teams with a highly skilled and experienced pilot are rapidly becoming the only teams remaining in the event. If we are to ensure the future of F2C, performance must be managed to remain below the level that only a very few can manage. To do otherwise will cause the event to wither away until there are insufficient team remaining to actually race.

Additionally, noise concerns continue to drive the rules. While F2C is an inherently noisy event and should thus be flown where it cannot offend neighbours, the proposed changes have the benefit of also reducing the emitted noise.

The first step, a step in the right direction, was made when the venturi diameter was restricted to 3 mm. This change resulted in slowing airspeed of approximately 1 second for 10 laps, a result that has been verified in numerous venues. This proposal further reduces the venturi diameter which slows the models and reduces the noise level.

Tests in Russia in during the summer and fall of 2017 tested venturis of 3 mm, 2.5 mm and 2 mm. There were two practices with these venturis. The first practice was in Smolensk on September 24, the second in Moscow 1 October. In Moscow, in addition, together with a venturi 2 mm, we tested the old line (wire 0.3 mm). In both practices, the same Yugov-2015 engine with modification 2017 was used, the same fuel. In Smolensk, the Shabashov-2017 model and propeller 155/165 were used, the weather was good + 14° C. In Moscow the model was a Shabashov-2012 and a propeller 155/167, the weather was cold + 7° C. The test results are given below.

| | Smolensk | | | Moscow | | |
|---|---|---|---|---|---|---|
| Venturi (мм) | 3 | 2,5 | 2 | 3 | 2,5 | 2 |
| Db | 104,5 | 100,3 | 95 | 101 | 97 | 96 |
| sec/10 laps | 16,95 | 18,1 | 20,0 | 17,4 | 18,5 | 20,3 |
| Laps | 44 | 54 | 59 | 44 | 54 | 64 |
| Take-off lap (sec) | 2,8 | 3,15 | 3,5 | 2,9 | 3,15 | 3,6 |

As can be clearly seen, speed and noise have both decreased while laps/tank increased. This latter drives the suggested decrease in fuel tank size. The speed of approximately 20sec./10laps would allow a large number of pilots to safely enjoy the

event who now are simply incapable of doing so. The lower speed allows for returning to line sizes that sufficed previously for many years instead of the current difficultly obtained stranded stainless wire. The increase in laps/tank indicate a reduction of tank size is also needed.

F2C is in serious danger of the inertia of thinking, afraid to admit the current state of the event and not thinking about the future of F2C.

**f) 4.3.3. Team Racing Model, Engine and Control System F2 Subcommittee**

*Modify 4.3.3.1. 'engine characteristics' sub-paragraph e) and 'model characteristics' sub-paragraph h) as follows:*

4.3.3.1e) The maximum exhaust outlet area is 60 $mm^2$ projected at the cylinder exhaust port or crankcase exhaust outlet whichever is smaller. If a silencer is used the exhaust outlet measurement is taken at the exhaust outlet end of the silencer. ~~The piston face at the exhaust outlet shall not be visible from the exterior of the model when side or front exhaust engines are used.~~

4.3.3.2h) The Engine must be entirely enclosed within the fuselage except for the necessary openings to allow for engine air induction, compression, fuel rate adjustment, fuel filler and overflow tubes and cylinder cooling air intake**/outlet** ~~and exhaust~~. The engine may be visible through these openings. Compression, fuel rate controls and fuel filler and overflow tubes and silencer (if fitted) may extend outside the fuselage. **The engine exhaust must be entirely enclosed either within the fuselage or by an external cover for a distance of 40mm behind the centre line of the piston. The maximum exhaust outlet area in the model is 90$mm^2$. The piston face at the exhaust outlet shall not be visible from the exterior of the model.**

Reason: Noise reduction. Noise levels were measured at a distance of 3 metres from the exhaust and at the pilot on a current specification model and compared to a modified model with an exhaust cover meeting the requirements stated in this proposal.

The results show a noise reduction of 7dB at 3 metres and 5dB at the pilot. A reduction in airspeed of 0.3 seconds for 10 laps was also recorded.

Existing models can be easily converted to meet the requirements in this proposal. The current piston cover is required to be removed and replaced with a totally enclosed cover.

*Note: If this change to specifications is approved, the Technical Secretary, will ask the Plenary Meeting to accept that the relevant records are retired.*

**g) 4.3.3. Team Racing Model, Engine and Control System Switzerland**

*Modify 4.3.3.2. 'model characteristics' sub-paragraph f) as follows:*

4.3.3.2 The model characteristics shall be:

f) The maximum volume of fuel and oil permitted into a single tank is 7 $cm^3$.

**For compression ignited "diesel" engines, the fuel for all competitors for practice and for all races must only consist of:**
**15 % Castor oil**
**35 % Ether**
**1,5 % DII type 3**
**48,5 % D60 or Jet A1**

Reason: Speeds flown today make it very difficult for the F2C jury to act according to the F2C Judges Guide. Therefore, the outcome of a race is sometimes defined by jury decisions based on incidents having happened too fast to be observed and analysed in full. This may lead to possibly questionable or even unfair jury decisions being caused by things happening too fast. In order to improve the situation it is now essential to reduce speed. As earlier attempts to do so have failed, Switzerland is now again suggesting the use of standardised fuel for Team-Race.

Safety: Currently specific F2C fuel components used by the teams are suspected to be of significant risk for the health of the user. The suggested mixture is free of such substances.

*Note: If this change to specifications is approved, the Technical Secretary, will ask the Plenary Meeting to accept that the relevant records are retired.*

**h) 4.3.5. Organisation of Races** **Switzerland**

*Add sub-paragraph e) as follows:*

**e) The organiser provides standard team race fuel as per 4.3.3.2 f) at no cost to the teams.**

Reason: As above in item g).

**i) 4.3.11. National Team Classification** **Switzerland**

*Amend the paragraph with the addition of text as shown below:*

National team classification is established by adding the numerical classification position of each individual team. The national team with the lowest total is ranked first, etc with complete 3-team national teams ahead of 2-team national teams, etc. In case of a national team tie, the best individual team placing shall be used as a tie break. The defending champion's classification position shall not count toward a national team's classification unless he is part of the 3-team national team. **Teams where the members are of different nationality are not considered to be national teams. Such teams are not ranked in national team classifications.**

Reason: In F2C, the nations are increasingly often unable to establish teams consisting of sufficiently qualified members of their own nationality. While today those nations are successfully flying mixed nationality teams in open international contests, they remain to be discriminated when it comes to participate in World or Continental Championships. We consider this a critically unfair situation for F2C, possibly contributing to the lack of growth of the sport. As a counteracting measure in favour of Team-Racing, SUI therefore suggests to open the class for mixed nationality teams.

**F2D**

**j) 4.4.3. Combat Site** **F2 Subcommittee**

*Modify the section by deleting the last sentence as follows:*

… ~~No communication using electronic devices is allowed between the pilot and mechanics/persons outside.~~

Reason: The rule to which this sentence applied no longer exists and so there is no need for this restriction.

**k) 4.4.5. Characteristics** **F2 Subcommittee**

*Modify sub-paragraph j) as follows:*

j) Standard fuel ~~shall be supplied by the organisers to the following formula: 10% nitromethane 20% castor oil lubricant (first pressing) 70% methanol.~~ **for glow ignition engines shall be 80% methanol, 5% nitromethane and 15% oil. The oil may be castor oil, synthetic oil or a mixture of both.** Fuel shall be mixed by volume. **The standard fuel shall be supplied by the organisers for all Category 1 events. The organiser must specify in Bulletin 1 which type of oil (castor or synthetic or a mix of both) will be used in the fuel.**

***Note:*** *Fuel for compression ignition engines is not restricted.*

Reason: Use of synthetic oils has become more and more common and it has advantages. It is time to introduce it in F2D. Decreasing the amount of nitromethane, will compensate for the increased speed gained by less oil.

**l) 4.4.5. Mechanics for Category 1 Competitions (new section) F2 Subcommittee**

*Add a new section 4.4.5 as follows, and renumber the subsequent sections:*

4.4.5. **Mechanics for Category 1 Competitions:**

**a) Each pilot may name a "mechanic". For complete Teams (3 seniors with or without a junior) this may be a mechanic listed for the Team or any pilot in the Team or any other member of the National Team.**

**b) Incomplete Teams (1 or 2 pilots) may use a mechanic listed for the Team, or the other pilot (if any) or any other member of the National Team. They may also choose to use a mechanic from the "Mechanics Pool".**

**c) Each named "mechanic" may only appear once in the list (ie he may not be listed for more than one pilot).**

**d) Before the contest mechanics of any nationality not listed for a Team may be listed in a "Mechanics Pool". Mechanics from this pool may be used by any incomplete Team.**

**e) The results list will contain both the name of the pilot and his designated mechanic.**

**f) The designated mechanics of the individual pilots and national teams placed 1, 2 and 3 shall each receive an FAI Diploma presented on the podium.**

**g) All Mechanics listed must possess a Sporting Licence.**

Reason: This change is required to recognise and reward the work done by the Mechanics in F2D and also solve the Mechanic problems for incomplete Teams.

**Annex 4C F2C - Team Race Panel of Judges Guide**

**m) 4.C.6. General Points F2 Subcommittee**

*Add a new clause at 4.C.6.8. as follows:*

**4.C.6.8 Rule 4.3.9.b states "Teams advanced to the semi-finals shall not be granted a re-flight". The only intent of this rule is to prevent a possible situation developing where a standby team seeks to claim a re-flight because of an incident that prevented it from completing its attempt since this would then require a further 2 standby teams also being brought into the semi-finals. In theory, this could be repeated until all the original non-semi-final qualified teams had been brought forward into the semi-finals!**

**If a semi-final is terminated before the standby team has recorded a result (either time, number of laps or disqualified), then the attempt is deemed to be null and void and the team reverts to its official standby status available to be called forward should any further semi-final race require a third team.**

Reason: Standby teams should be allowed the maximum chance of being allowed to record a result. The higher placed standby team should always have preference over lower placed standby teams ---- they have earned that right.

**Annex 4D F2D - Combat Judges Guide**

**n) Rule 4.4.3. Combat Site F2 Subcommittee**

*Add a new final paragraph as follows:*

**It is strongly recommended that the Circle Marshal and the pilots use a protective helmet that includes a face guard (grid) and neck protector. It is also recommended that upper body protection in the form of a long sleeved jacket or vest reinforced with "Kevlar" or a similar material is worn during the match.**

Reason: To increase safety

**Annex 4E - Control Line World Cup Rules**

**o) 4.E.1. Classes F2 Subcommittee**

*Amend the paragraph as shown:*

**4.E.1. Classes**

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

Reason: F2F is a popular well supported class of control line team racing, the inclusion of a World Cup for this class will extend the number of countries which participate in the class.

**p) 4.E.2. Competitors & 4.E.3. Contests — United Kingdom**

*Add new text to paragraphs 4.E.2. and 4.E.3. and renumber the paragraphs in 4.E.3. as shown below:*

**4.E.2. Competitors**

All competitors in the specified open international contests are eligible for the World Cup. **See also rule 4.E.3 c).**

**4.E.3. Contests**

a) Any country may host two competitions in each class on its own behalf unless the particular country extends over three or more time zones, when it may host two competitions on its own behalf within each time zone.

**b)** Additionally, any country may host a maximum of one competition in each class on behalf of another organising country regardless of whether or not the host country extends over three or more time zones.

**c) In the case of b), at least one competitor from the organising country must compete in the competition for the competition to be valid. The competitor(s) from the organising country must comply with the definitions in 4.E.4. Points Allocation.**

b) **d)** Each competitor (team in F2C) may count only one competition from each organising country in Europe (taking the better score for any European organising country in which he has scored in two competitions). When two competitions per time zone have been organised, and held within a time zone, the better score per time zone counts.

Reason: To prevent any country from hosting another country's World Cup competition simply to give its own competitors a third opportunity for scoring World Cup points in their own country in contravention of 4.E.3 d) above. There would be no reason otherwise for any country (A) to host a competition for another country (B) if there were no entrants from country (B).

**q) 4.E.6. Awards — F2 Subcommittee**

*Amend the paragraph as shown:*

**4.E.6. Awards**

**Senior**

The winner is awarded the title of the winner of the World Cup. **Medals and diplomas shall be awarded in accordance with CGR C.2.2.3.** Further ~~medals,~~ trophies ~~or certificates~~ may be awarded by the CIAM F2 Subcommittee as available.

**Junior**

**There will be a separate classification for juniors provided that 5 or more competitors compete in any World Cup class of the World Cup series. The winner is awarded the title of winner of the Junior World Cup. Medals and diplomas shall be awarded in accordance with CGR C.2.2.3. Further trophies may be awarded by the CIAM F2 Subcommittee as available.**

Reason: There are substantial numbers of juniors in F2 classes in the World Cup; it is time to properly reward juniors with a final classification and medal.

**Annex 4f - Control Line Organisers' Guide**

**r) First Part: Pre-Contest Arrangements, 3. Time Schedule Poland**

*Amend paragraph 3.1. Time Schedule, with the addition as shown:*

3.1. A common time schedule for Control Line WCh/CCh is as follows: …

F2A: The round time should be set so that the round will finish at approximately 18.00. This time should be calculated to include 30% of the entry anticipated to make second attempts.

Round four should be scheduled to finish immediately prior to the F2C final.

**It is strongly recommended, that processing, official practice and Opening Ceremony shall start on Monday, so finals could take place in the weekend contributing to increase the number of spectators able to come and watch competitions.**

Reason: Most of the qualifying and final flights are handled during working hours and there is really no chance for spectators to see competition. This also eliminates most of school age visitors from watching competitions.

**s) First Part: Pre-Contest Arrangements, 6. Contest Ground F2 Subcommittee**

*Amend paragraph 6.1.4. Noise problems, with the additions as shown:*

6.1.4. Noise problems (if any). **It is recommended that:**

**i) Where possible F2 flying circles should be situated at least 1000 meters from the nearest noise sensitive area.**

**ii) If this is not possible then noise deflecting and or absorbing barriers should be constructed to the side of the circle in the direction of noise sensitive areas.**

**iii) When planning flying sites try to place them well away from houses.**

**iv) Use natural barriers such as trees or buildings to minimise transmission of noise between flying sites and noise sensitive areas.**

**v) Reduce flying time during the day, by starting later and finishing earlier.**

**vi) Don't schedule flying at sensitive times such as during religious services.**

**vii) Eliminate unnecessary flying.**

Reason: While all measures should be taken to reduce noise output from models, the technical difficulties in doing so in F2 have to be recognised. Therefore, steps should be taken to minimise noise impact on noise sensitive areas.

**t) Second Part: Contest Arrangements, 13. Field Processing United Kingdom**

*Amend paragraph 13 with additional text as follows:*

To forestall any infringement of the rules, the organisers should have the facilities and personnel for running spot checks on models throughout the contest.

A random selection of 20% must be processed during the contests (CIAM General Rule C.12 d).) in addition to any models suspected of having characteristics different from those recorded when processed prior to the start of the contest. **For F2A, the organisers and FAI Jury must ensure that the potential 1-2-3 placing models are processed immediately after the appropriate flight. In order to do this, they must establish what the likely winning speed might be and the model of any pilot who is within 5 kph of this speed must be processed after each appropriate flight.**

**Note: This affects both the individual and team classifications.**

Reason: Whilst using a random selection for other F2 classes is adequate, it is not appropriate on its own for F2A. In this class the fastest models, those that are actually placed 1st, 2nd & 3rd and those that affect the team results, might not ever be processed in-competition.

This has happened on the occasions where only "random processing" was carried out according to a randomly drawn 20% of the models and it is patently unfair for the podium placed models not to be processed. This processing must take place after any fast flight.

This rule will address that anomaly.

**Annex 4H F2F – CL Diesel Profile Team Racing**

**u) Proposal 1 for Annex 4H F2 Subcommittee**

*Replace 4.H.6., 4.H.7., 4.H.8. and 4.H.10. For the revised text and accompanying explanatory document, refer to Agenda Annex 7a.*

Reason: The revised racing and scoring procedure for F2F racing follows the successful format of Radio Control Pylon Racing (see the accompanying, explanatory document at Annex 7b) and it will bring a fresh approach to racing which will allow the less experienced CL race teams to be successful. (When introduced to Radio Control Pylon Racing it rejuvenated the class and increased participation.)

**v) Proposal 2 for Annex 4H** **F2 Subcommittee**

*Replace the entire text (4.H.1. – 4.H.12.). For the revised text, refer to Agenda Annex 7b.*

Reason: F2F is intended to be an entry level CL racing class however all the complexity of F2C is finding its way into this class, and in the process, is changing the focus from learning to fly CL racing to concentrating on technical development and technique. This makes it more difficult for potential interested racing enthusiasts to begin racing.

The proposed changes address these problems and create a more technically level playing field to attract potential entrants.

**Annex 4K F2G – Control Line Electric Speed**

**w) 4.K.2. Characteristics of an Electric Speed Model** **F2 Subcommittee**

*Add a new paragraph e) and re-number the subsequent paragraphs:*

**e) The maximum weight of the battery (batteries), including cables and connectors, shall be 220g.**

Reason: As F2G has progressed speeds have risen, this is deemed to be the most appropriate way to control performance in this class.

**x) 4.K.2. Characteristics of an Electric Speed Model** **USA**

*Modify paragraph d) with the addition of text as shown below:*

d) Maximum weight 600 g. **Maximum weight of battery (or batteries) 190 g including cables and connectors.**

Reason: The present electric speed models are reasonably manageable at speeds of about 260 kph. However, the current powertrain is capable of producing power of 1.5-1.8kW, which corresponds to the maximum theoretical speed in excess of 300kph. At this level, the models will require above-average pilot capabilities. Moreover, model builders tend to sacrifice the structural strength in favour of more battery, which is a safety risk. This proposal seeks to limit the weight of the power source while maintaining the total maximum weight, thus achieving two goals: a) to limit the battery capacity and thus the maximum power and speed; b) to allow more weight to be dedicated to the airframe, thus making it more robust.

Supporting Data: Currently available 6S 1000mAh batteries weigh at about 175 g and have been demonstrated to work well by F2G competitors in France.

**y) 4.K.2. Characteristics of an Electric Speed Model** **France**

*Modify paragraph d) with the addition of text as shown below:*

~~d) maximum weight 600g~~

d) **weight**

**i) maximum weight in order of flight 600g**

**ii) minimum weight of the model without the battery (complete with its own connecting wire and plug) 410 g**

Reason: Impose not only maximum weight of the model in order of flight, but also a minimum weight of the model without the battery. The aim is to avoid too fragile and dangerous models. Speed is in direct relation with the power of the battery, then with battery's weight (present technology) , all things equal otherwise. Total weight of 600g is a good compromise regarding centrifugal force and should not be exceeded. Also, the only way to use ever larger batteries is to lighten at the maximum the model itself. It is dangerous, because ultra-light models are fragile and more prone to vibrate, with risk of self-destruction during the flight. It is also very hard (and expensive) to build that sort of model (for instance to fix strongly the wing to the fuselage). At last (but not the least), repairs are often impossible to do because inducing an increase of the weight beyond the maximum allowed. Important to consider that F2G is a provisional class, and that increasing the number of contenders is an important aim.

Supporting Data:

Typical weights are (present)

electric motor - 135g

controller - 35g

timer or 2,4 ghz receiver - 5g

propeller and spinner - 20g

***Volume F3 Aerobatics begins overleaf***

# 14.8 Section 4C Volume F3 - RC Aerobatics

## F3P – Radio Control Indoor Aerobatic Aircraft

**a) 5.9.1 Definition – 5.9.12 Execution of Manoeuvres** **Bureau**

*Replace the text 5.9.1 – 5.9.12 with the text in Annex 7c.*

Reasons:

1. The current F3P rules refer to F3A rules. These specific text parts are now integrated into F3P rules.
2. As consequence of this proposal AFM will remain with F3P. F3P AFM is better integrated as a World Championship class within this structure.
3. Some ambiguous parts have been clarified.

**b) Class F3P-AFM, Annex 5M – Description of Manoeuvres** **Bureau**

*Replace the text in Manoeuvres – Schedule F3P-AFM (pages 102-103 at the end of the Annex 5M) with the more comprehensive text in Annex 7d.*

Reasons: The current judging criteria for F3P-AFM are not well defined and might be confusing. In the amended text, the three criteria are better defined and described. Judging of special effects has been added.

**c) F3P-AFM to remain at F3P** **Bureau**

*The Bureau recommends to nullify the proposal ab) in Section 14.8 from Poland which was accepted at Plenary 2017 and incorrectly proposed to remove the class F3P-AFM from the F3P rules and create a provisional F3P-AFM class.*

Reasons: The proposal wasn't correct.

1. F3P AFM is integrated into the F3P class. It is not a separate class. Both F3P and F3P AFM are Championship classes.
2. According to the rules, the only available option is to remove the championship status. There is no way to downgrade a class back again to provisional.
3. The proposal was incorrect. In order to be correct, and able to be implemented, the proposal should have included provisions to delete the AFM section from the F3P rules and then ask to establish a different class with a different name, which was not the case.

**d) 5.9.12 Execution of Manoeuvres** **United Kingdom**

*Amend paragraph f) and delete paragraph k), renumbering paragraph l) as shown below:*

(f) The competitor may make only one attempt at each manoeuvre during the flight. ~~The pilot has one (1) minute starting time and five (5) minutes to complete his flight, both the one (1) minute and the five (5) minutes begin when the competitor is given~~

~~permission to start.~~ **After being given permission to start by the Flight Line Controller, the competitor has up to one (1) minute in which to place the aircraft in the take-off zone and for the model to start its take-off run. The clock will restart for the flight timing when the model begins its take-off run. The competitor has four (4) minutes in which to complete the flight. Judging will stop when the timer reaches four (4) minutes. Timing will stop after the short straight following the last manoeuvre.**

~~k) Scoring will cease at the expiry of the five (5) minutes time limit.~~

~~l)~~ **k)** In AFM the flight ends at the stop of the music, or 125 seconds after it had started. At least then the model aircraft has to be landed.

Reason: To give each competitor exactly the same time in which to complete his flight. At the moment, the competitor appears to have four minutes plus whatever time he has left from his one minute placing and take-off. This is clearly an unfair situation. It is essential that the actual flight time must be no longer than four minutes.

**e) 5.9.12 Execution of Manoeuvres** **United Kingdom**

*Restructure paragraph 5.9.12, add and delete text and correct the English as shown below:*

**5.9.12 Execution of Manoeuvres**

**5.9.12.1 F3P-AP & F3P-AF**

a) In the preliminary flights (schedule F3P-AP) and the finals flights (schedule F3P-AF), the manoeuvres must be executed during an uninterrupted flight in the order **in which they** ~~that they~~ are listed in the schedule. The competitor may make only one attempt at each scored manoeuvre during the flight. The direction of take-off is the pilot's choice. The direction of the first manoeuvre determines the direction of all following manoeuvres.

b) In schedules with turn around manoeuvres, there is no unjudged flying between the first manoeuvre after the take-off and the last manoeuvre before landing.

~~c) In AFM, judging is done for the entire flight, without interruption.~~

d) **c)** If the model aircraft touches the floor, ceiling, walls, or any structures or fixtures of the hall, or crosses the safety line during a manoeuvre, **then** this manoeuvre is scored ZERO.

~~e) In AFM this rule only applies regarding the safety line.~~

f) **d)** The competitor may make only one attempt at each manoeuvre during the flight. The pilot has one (1) minute starting time and five (5) minutes to complete his flight, both the one (1) minute and the five (5) minutes begin when the competitor is given permission to start.

~~g) In AFM the competitor has to signal the operator of the music his wish to start the music within the first minute.~~

~~h) The duration of the music must be 120 +/- 5 seconds. Judging of the flight starts with its beginning.~~

i) **e)** The model aircraft must take-off and land unassisted, that is, no hand launched flights. If any part of the model aircraft is dropped or if it comes to a stand-still during the flight, scoring will cease at that point and the model must be landed immediately.

~~j) In AFM this rule only applies regarding the take-off.~~

k) **f)** Scoring will cease at the expiry of the five (5) minutes time limit.

~~l) In AFM the flight ends at the stop of the music, or 125 seconds after it had started. At least then the model aircraft has to be landed.~~

**5.9.12.2 F3P-AFM**

**a)** ~~In AFM,~~ Judging is done for the entire flight, without interruption.

**b)** Judging of the flight **begins with the** start **of the music.** ~~with its beginning.~~

**c)** **If the model aircraft crosses** the safety line **during any manoeuvre, then that manoeuvre is scored ZERO.**

**d)** ~~In AFM~~ **Within the first minute, t**he competitor ~~has to~~ **must** signal **to** the operator of the music ~~his wish~~ to start the music ~~within the first minute~~.

**e)** The duration of the music must be 120 **seconds** +/- 5 seconds.

**f)** **As rule 5.9.12.1 e) but** ~~.I in AFM this~~ **the** rule only applies ~~regarding~~ during the take-off.

~~In AFM the flight ends at the stop of the music, or 125 seconds after it had started. At least then the model aircraft has to be landed.~~

**g)** The flight must end 125 seconds after the music started or when the music stops and the model aircraft must then land.

Reason: The current 5.9.12 rules mix the F3P-AFM rules with those for F3P-AP and F3P-AF and the rules are difficult to understand in relation to the two types of flights (F3P-AP/F3P-AF and F3P-AFM).

Putting the two types of flights into two sub-sections to 5.9.12 makes them much easier to understand. The correction of English grammar and sentence construction improves the clarity of the rules.

***Please note that this proposed amendment to 5.9.12 shows the 2017 text in paragraph f) and not the new, proposed text as contained in the other GBR proposal for 5.9.12***.

***Volume F3 Helicopter begins overleaf***

# 14.9 Section 4C Volume F3 - Helicopter

**F3C**

**a) ANNEX 5E.6.11. – Autorotations** **F3 Heli Subcommittee**

*Change judging criteria:*

**The manoeuvre begins and ends as announced by the caller. The end must be after the landing. Because the autorotation can contain several flying manoeuvres, the announced beginning can be before the engine is powered off or set to idle. The manoeuvre description must clearly state, when the engine has to be powered off or set to idle position. In order to obtain the maximum score, the MA must have executed the flying manoeuvres exactly as described in the manoeuvre description, and after the smooth landing the MA tailboom must be parallel to the judges' line. If the flight path is stretched, shortened or deviated from, in order to reach the landing circle, the manoeuvre must be downgraded. The required flight path gives maximum score, but there will be downgrades of 1 or 2 points depending of the severity of the path deviation. For example: If the flight path clearly points to a landing close to one of the flags, but the path is stretched to reach the circle, the score can only be a maximum of 6 (corresponding to outside the circles), and there will be an additional downgrade of 2 points for the stretch. This means the score can only be a maximum of 4. If the model lands without stretching, the maximum score would have been a 6.**

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.

**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: Necessary clarification because of a wrong judge guide description in the 2018 Sporting Code which does not fit to the manoeuvre.

**F3N**

**b) 5.11.10 – Flight Program** **F3 Heli Subcommittee**

*Replace one word in the first sentence of "Set Manoeuvre Flight' as shown below:*

**Set Manoeuvre Flight**

Every pilot makes his choice of **seven** ~~eight~~ different manoeuvres from the list of manoeuvres (refer to paragraph 5.11.11). He may choose different manoeuvres for each round. The list with the manoeuvres chosen for a round must be delivered to

the Contest Director or an official before the beginning of the round. The flight time of the Set Manoeuvre rounds is eight minutes.

Reason: Due to more and more everlasting manoeuvres, the battery capacity for 8 figures is no longer sufficient, and there has been a lot of crashes or outside landings in the past. This will be avoided by reducing the number of set manoeuvres.

**c) Annex 5G.8 - Criteria for Judging Freestyle and Music F3 Heli Subcommittee Freestyle**

*Replace the scores in the table:*

**5G.8.6 Evaluation of the level of difficulty for freestyle**

The following table gives reference values for the estimation of the level of difficulty for both schedules, unlimited and music freestyle.

| | |
|---|---|
| **Aerobatic Manoeuvres in Basic Orientations** | |
| ~~10~~ **3** | Examples: Immelmann, short straight passages, loop, loop with full pirouette on top, roll, turn, 540° turn, pirouettes |
| ~~15~~ **5** | Examples: ½ Cuban eight, long passages, nose-in circle, flips, autorotation |
| ~~20~~ **6** | Examples: inverted hovering on eyelevel, flip sideward, Cuban eight, flips with hovering stops |
| ~~20-30~~ **6-10** | Examples: Horizontal eight, loop sidewards, 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 |
| **Aerobatic Manoeuvres in Several Orientations** | |
| ~~30-45~~ **10-15** | Aerobatic manoeuvres that demonstrate several orientations like inverted, sideways, backwards etc.<br>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 |
| **Aerobatic Manoeuvres including Piros, Rolls and Flips Etc** | |
| ~~40-55~~ **13-18** | Aerobatic manoeuvres flown in a way where in addition to the CG movement of the main manoeuvre, the model is continuously performing rolls, piros, flips, tictocs or similar. In order to get a high score, many orientations must be shown.<br>Examples: Pirouetting Globe, Chaos, Rolling Globe, Rolling circles, Pirouetting funnels |
| **Aerobatic Manoeuvres including Reversals and Transformations** | |
| ~~50-60~~ **17-20** | Aerobatic manoeuvres flown in a way, where piros, rolls, tictocs or other secondary manoeuvres are included/integrated and reversed in an equal and balanced way.<br>Examples: Rolling globe with roll reversals, horizontal circle with continues flips/rolls so that tail boom is always parallel to centerline, Reversing chaos<br>In order to score near maximum, many orientation changes must be displayed, and flight must include many clearly defined manoeuvres. |

Reason: The old scores do not fit to the scores judges can give for the criteria difficulty.

***Volume F3 Soaring begins overleaf***

# 14.10 Section 4C Volume F3 - RC Soaring

## F3F – RC Slope Soaring Gliders

### a) 5.8 Class F3F – Radio Control Slope Soaring — Germany

*Replace all instances of the term 'model aircraft' with 'model' from 5.8.1 – 5.8.17:*

Reason: Consequent unification of the terms model and model aircraft. The term "model" is used in most sentences of the F3F-section, while the term "model aircraft" is still used in some instances.

### b) 5.8.2. Characteristics of Radio Controlled Slope Gliders — Germany

*Modify the last paragraph in 5.8.2. as shown below:*

Any technological device used to aid in supplying data of the air's condition or direct feedback of the model's flight status is prohibited during the flight. These devices include any transmission or receiving devices not used to directly control the model aircraft ~~(telephones, walkie-talkies, telemetry of airspeed and altitude etc), temperature detecting devices (thermal imaging cameras, thermometers etc), optical aids (such as binoculars, telescopes etc), and distance/altitude measuring devices (GPS, laser range finders etc).~~ Telemetry of signal strength at the aircraft receiver and state of the receiver battery is permitted. **The** ~~use~~ **usage** of corrective eyeglasses and sunglasses ~~are~~ **is** permitted. If an infringement of this rule occurs, the pilot will be disqualified from the contest.

Reason: Simplification and correction of spelling errors. The definitions for technical devices were originally created for use in F3B but are not relevant in F3F. The first two sentences are easy to interpret and still include the mentioned devices if necessary.

### c) 5.8.3. Competitor and Helpers — Germany

*Amend the title from 'Helpers' to 'Helper' and the paragraph as shown below:*

5.8.3. Competitor and **Helpers**~~**s**~~: The competitor must operate his radio equipment personally. Each competitor is permitted one **(1)** helper. The helper is only to assist and advise the competitor until the model is passing Base A for the first time **in direction to Base B** and after the ~~timed~~ **scored** flight is completed.

Reason: Clarification for enabling the helper to assist the competitor until the model enters the speed course. The goal is to assist the competitor with counting down the time after launching until the model enters the speed course.

Because only one helper is allowed there can be used the singular instead of the plural in the title.

*Technical Secretary Note: Recommended amendment - 'in direction to Base B' changed to '**in the direction of Base B**' as it is written in 5.8.7.*

**d) 5.8.5. Number of Attempts** **Germany**

*Amend the paragraphs as shown below:*

**5.8.5**. **Number of Attempts:** The competitor has one **(1)** attempt on each flight. An attempt can be repeated if:

a) the launching attempt is impeded, hindered or aborted by circumstances beyond the control of the competitor, duly witnessed by the official judges;

b) his model collides with another model in flight or other impediment and the competitor is not to blame on that account;

c) the flight was not judged by the fault of the judges

d) ~~the~~ **any part of the model** ~~(i.e. the fuselage nose)~~ fails to pass above a horizontal plane, level with the starting area, within five **(5)** seconds of exiting the course, due to circumstances beyond the control of the competitor, duly witnessed by the official judges.

The **repeated flight (“**re-flight**”)** ~~shall~~ **must** happen as soon as possible considering the local conditions and the radio frequencies. ~~If possible, the model aircraft can stay airborne and has to be brought to launching height, launching speed and launching position before the new 30 second period is started by the judge.~~

Reason:
- Added numerical numbers for written numbers for clarification, as in other F3-classes.
- “Any part of the model” clarifies, that all parts of the model are eligible for this purpose.
- Re-flight is defined as the repeated flight and must happen with a landing between the attempts. The “no-landing-method” is unfair, prone to protests and commonly not used in today’s competitions. The re-flight must happen as soon as possible to counteract influences of foreseen weather changes.

**e) 5.8.7. Organisation of Starts** **Germany**

*Modify the final sentence in this section as shown below:*

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~~ **scored flight** will commence **at** the moment the thirty (30) seconds expire. If the model has not entered the speed course within the thirty (30) seconds, this is to be announced by the ~~judges~~ **contest director.**

Reason: Introducing a new definition “scored flight”. The end of the thirty seconds is announced normally by the contest director.

**f) 5.8.9. The Speed Course** **Germany**

*Modify this 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~~ **Base A and Base B** 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 **complete** model ~~aircraft~~ **in flight**~~)~~ 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: Consequence of an event, that happened at the World Championships 2016. Scattering debris of a crashed model should not trigger the legal passing of a Base. Clarify the usage of the terms “model” and “model aircraft” in the F3F-section.

**g) 5.8.10. Safety** **Germany**

*Modify the existing paragraph as shown and insert a new paragraph following:*

**5.8.10. Safety**
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 **for the timed flight (from leaving the hand until completing the scored flight)** from the area where judges, other officials, competitors and spectators stay. Crossing the safety ~~line~~ **plane** by any part of the **complete** model ~~aircraft~~ **in direction to the safety area** during the ~~measured~~ **timed** flight will be penalised by ~~100~~ **300** points. ~~subtracted from the sum after conversion, the penalty not being discarded with the result of the round.~~ **The penalty will be a deduction of 300 points from the competitor’s final score and shall be listed on the score sheet of the round in which the penalty was applied.** The organiser must appoint one **(1)** judge to observe, using an optical sighting device, any crossing of the safety ~~line~~ **plane**.

**The organiser must clearly mark the boundary between the landing area and the safety area assigned for other activities. After release of the model from the hand of the competitor or helper, any contact of the model 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: Underlining the importance of the safety area and the security of the pilots/judges/helpers/spectators, by increasing the penalties to above mentioned values and clarifying the deduction of the penalty.
Clarification by using the same wording and philosophy as in other classes (i.e. F3B).

The safety plane extends beyond the bases, while the safety line does not. Also the definition of crossing a plane is simple, while crossing a line in 3D-space can be misinterpreted.

*Technical Secretary Note: Recommended amendment - 'in direction to the safety area' changed to '**in the direction of the safety area**'.*

## F3J – Thermal Duration Gliders

### h) 5.6.1.3. Characteristics of Radio Controlled Gliders — Slovakia

*Amend the paragraph a) with additional text as shown below:*

a) Maximum Surface Area .....150 dm2
Maximum Flying Mass ..... 5 kg
Loading ..... 12 to 75 g/dm2
Minimum radius of fuselage nose ..... 7.5 mm
**Minimum Flying Mass……1.7 kg**

**Weight of models may be checked randomly immediately after the landing during the contest.**

Reason: The price of models is very high and pilots, especially juniors, can no longer afford new models. As a result, the number of pilots is decreasing rapidly. Instead of motivating juniors the number of junior pilots is decreasing.

Supporting data: The models are not available for young pilots and less solvent pilots. In last 2-3 years the number of pilots at World Cups or Eurotour competitions has decreased by circa 60%. Especially the junior category is very much involved as the new young modellers cannot afford very expensive brand-new models.

### i) 5.6.3. Contest Flights — Slovakia

*Amend paragraphs a), b) and d) as shown below:*

5.6.3.1. a) A minimum of four (4) qualification rounds must be flown for the competition to be valid. If more than ~~seven~~ **five (5)** qualification rounds are flown, then the lowest score will be discarded before determining the aggregate score.
b) The competitor has ~~an unlimited number of attempts~~ **only one attempt per one round** 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.

Reasons:

5.6.3.1. a) Only about 20% of the World Cup and Eurotour contests has been flown with more than 7 rounds. In such case pilots are not entitled for the lowest score to

be discarded. In case the pilot makes a mistake he will not even finish the contest as he is discouraged to continue. If the limit would be lowered at the majority of the contest the lowest score would be discarded which will motivate the pilots to compete until the end.

5.6.3.1. b) d) Every other category has only one attempt per one round. At the contests we are witnessing pilots asking for re-flights unjustifiably causing delays to the contest. The pilots always have the option of re-flight in case of technical failure, damage or crash of model.

Supporting data:

5.6.3.1. a) The number of pilots in F3J category is decreasing rapidly. People are switching to other categories hence the rules should be designed in the way that motivates them to carry on flying. The limit we have proposed has applied for a long period in the past and worked well.

5.6.3.1. b) d) One attempt per one flight is a rule applying in every other category. The pilots still have the possibility of re-flight if the reasons are valid.

**j) 5.6.4. Reflights** **Germany**

*Amend the paragraph as shown:*

**5.6.4. Re-flights**
The competitor is entitled to a new working time if:

a) his model in flight or in the process of being launched collides ~~with another model in flight, or~~ with a model in the process of being launched.

b) his model in flight or in the process of being launched collides with another competitor's towline.

c) the competitor's towline is hit by another model ~~in flight or~~ in the process of being launched.

d) the attempt has not been judged by the official time-keepers.

e) his attempt was hindered or aborted by an unexpected event **within the first 60 seconds of the working time**, not within his control. Crossed lines are not considered as reason for re-flight.

Reason: Minimizing reasons for reflights which may be provoked and are unfair to all other pilots.

Helping the Contest Director to run the competition smoothly and in time.

Supporting data:

It happened more than once, that reflights had been provoked by touching other pilot's models (mid-air).

In practice it turns out that an additional reflight group prolongs the competition by approximately 30 minutes.

**k) 5.6.8. Launching** **Slovakia**

*Amend the paragraph 5.6.8.2. as shown below:*

**5.6.8.2.** The launch of the model aircraft will be by hand held towline ~~only.~~ **or winch.**

Reason: The majority of pilots are older persons who are no longer physically capable of towing models. Also smaller teams have lack of helpers who are also capable of towing. There is also the problem that some pilots are unwilling to assist other pilots because of their physical condition. The winches are widely used in other categories and also at many F3J home-competitions.

Supporting data:

The number of pilots in F3J category is decreasing rapidly. In last 2-3 years the number of pilots at World Cups or Eurotour competitions has decreased by circa 60%. People are switching to other categories hence the rules should be designed in the way that motivates them to carry on flying.

In case the use of winches would be considered, we propose to apply same rules as the rules regulating the use of winches in F3B category, maximum starting current to be 510 Ah and cable length to be 150 m.

The changes we propose despite being radical have been widely consulted during the F3J competitions last year with number of pilots and trainers from different countries and people agree the change in F3J rules is inevitable to keep the category alive.

**l) 5.6.8. Launching** **Germany**

*Amend paragraph b) in the section 5.6.8.3. as shown below:*

b) Immediately after release of the model aircraft from the launching cable, without delay the towline helpers must either recover the towline on a hand reel (hand winch) or, when a pulley is used, they must continue to pull the towline until it is completely removed from the towing area in order to avoid crosscutting with other lines which are still in a state of towing or will be used for towing.

This is not applicable if a line break occurs. In this case only the residual line attached to the ground or used by the towing helpers has to be removed from the launching area. A designated judge (launch line-manager) has to overview and control and, if necessary, - call on towline helpers to remove their lines from the launching area after the model aircraft is released. ~~If his demand is refused, then the pilot, whose towline helpers refused, shall be penalised by 100 points.~~ **The pilot, whose towline helpers do not remove the tow line within 30 seconds after release of the pilot's model, must be penalised by 100 points.**

**The penalty of 100 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.**

Reason: Clarification to motivate pilots and helpers to actually remove the tow line from the launching area. Reducing reasons for possible reflights which are often unfair to other pilots.

**m) 5.6.8.7. Towlines** **Slovakia**

*Amend the paragraph as shown below, with a new sentence designated a) and the following sentences renumbered accordingly:*

5.6.8.7. Towlines

a) **This point applies for hand lifts and reels only.**
**b)** Tow-lines for each competitor must be laid out only during the competitor's five-minute
preparation time and must be retrieved by the end of his working time.
**c)** The length of the towline shall not exceed 150 metres when tested under a tension of 20 N.
**d)** The towline must be made of polyamide monofilament material throughout its length. It must have pennant with an area of 5 dm2. A parachute (of five (5) dm2 minimum area) may be substituted for the pennant provided it is not attached to the model aircraft and remains inactive until the release of the towline. Linkages (couplings, knots, loops, etc.) of different material are permitted up to a total length of 1.5 metres. They shall be included in the total length of 150 metres.

Reason: Consequential change if winches are allowed.

*Technical Secretary's Note: The Tech Sec requests the F3 Soaring Chairman to check for other consequential changes that may be necessary.*

## n) 5.6.11.4. Final Classification — Australia

*Amend the paragraph as shown below:*

### 5.6.11. Final Classification

**5.6.11.4**. Final placing of the competitors who qualify for the fly-off shall be determined by **their aggregate fly-off** scores. ~~in fly-off; their scores in the qualifying rounds being discarded. If less then six (6) fly-off rounds are flown their aggregate scores over the fly-off rounds is counted, if six (6) or more fly-off rounds are flown the worst result of each competitor is discarded.~~

In the event that two or more competitors have the same aggregate fly-off score, final positions of those competitors shall be determined by their respective position in the qualifying rounds; the higher positioned competitor being awarded the higher final position.

Reason: The change is needed to ensure that the World Champion is the pilot with the highest aggregate score in the fly-off rounds.

The discard rule can change the ranking so that a pilot who does not have the highest aggregate (raw) score can become the World Champion. This is exactly what happened at the 2012, 2014 and 2016 F3J World Championships.

Removal of the discard rule will mean that the pilot with the highest aggregate score will be declared the World Champion and the other pilots will be fairly ranked.

Consider this example:

Pilot A – Total aggregate score 5,500, discard score 950, aggregate less discard 4,550

Pilot B – Total aggregate score 5,400, discard score 750, aggregate less discard 4,650

In this case, applying the discard will result in Pilot B ranking ahead of Pilot A and Pilot B could become World Champion. This is unfair to Pilot A because he had the highest aggregate score.

This has been exactly the situation with the fly-off rounds at the last three F3J World Championships.

Historically, the discard rule was carried over from the old F3B rules. Under the old F3B rules a discard was appropriate because at the time scores were not 'normalised' by flight group. Instead the total points from all flights (raw score) less the discard, determined the winner. The discard made sense because flying conditions were different for every flight group and disadvantage because of this could and did occur.

But, in these rules, scores are 'normalised' within each flight group. Everybody in the flight group flies in the same conditions and every pilot has an equal chance to gain 1000 points for their flight. Being the fly-off rounds, every flight group consists of exactly the same pilots.

Since nobody is disadvantaged, there is no reason to retain the discard rule for the F3J fly-offs. Removing the discard rule will remove the unfair change in rankings that often results because of it.

Note that incidents which may unfairly disadvantage a pilot are written into the rules and in each case a re-flight can be granted. Retaining the discard rule to reduce disadvantage is not a valid argument.

Supporting data:

In the last three F3J World Championships (2016, 2014, 2012) none of the winners would have been winners but for the discard rule.

There was no disadvantage experienced by any pilot that could not be compensated by a re-flight as provided under the rules. The difference between the pilots comes about because of differences in flying skills. They all had the same opportunities.

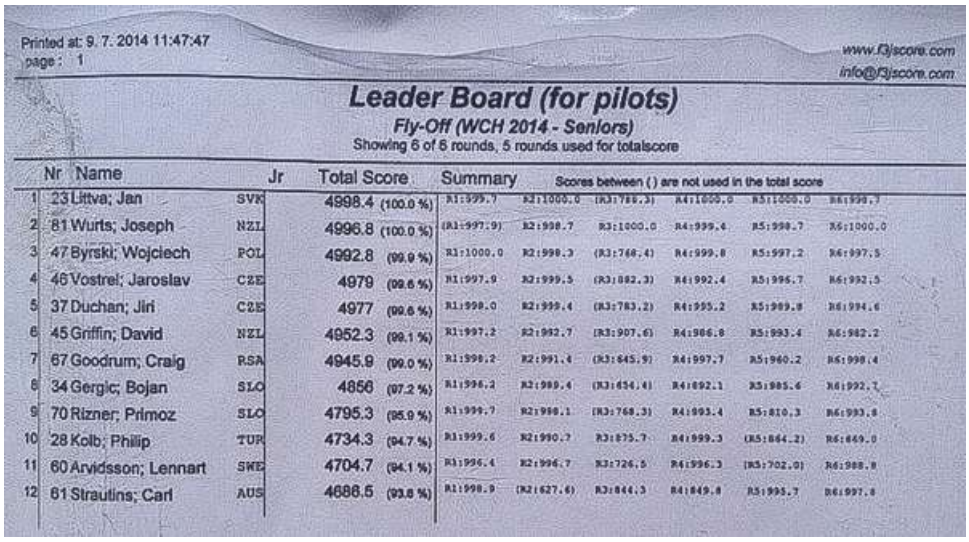
**2016 F3J WC SENIORS FLY-OFFS**
With no discard, the winner would have been fourth with 95.4% of the highest raw score.

**FAI F3J WCH SENIORS FINALS - Overall Results**
[Vipava 5.8.2016]

www.GliderScore.com

| Rank | Name | Ctry | Score | Pcnt | Raw Score | Rnd1 | Rnd2 | Rnd3 | Rnd4 | Rnd5 | Rnd6 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HUCALJUK, Arijan | CRO | 4996,4 | *100,00* | 5718,6 | 1000,0 | 722,2 | 1000,0 | 1000,0 | 1000,0 | 996,4 |
| 2 | LITTVA, Jan | SVK | 4994,3 | *99,96* | 5991,7 | 998,8 | 1000,0 | 998,6 | 999,3 | 997,6 | 997,4 |
| 3 | PRESTELE, Dominik | GER | 4992,3 | *99,92* | 5675,3 | 997,8 | 683,0 | 998,6 | 999,8 | 998,6 | 997,5 |
| 4 | WURTS, Joe | NZL | 4991,4 | *99,90* | 5961,6 | 998,2 | 970,2 | 998,4 | 998,1 | 999,4 | 997,3 |
| =5 | SALVIGNI, Marco | ITA | 4989,0 | *99,85* | 5984,3 | 995,5 | 998,3 | 995,6 | 995,3 | 999,6 | 1000,0 |
| =5 | SIUMBRYS, Ricardas | LTU | 4989,0 | *99,85* | 5582,9 | 997,4 | 593,9 | 999,2 | 995,9 | 999,8 | 996,7 |
| 7 | PERKINS, Daryl | USA | 4985,1 | *99,77* | 5639,8 | 995,4 | 654,7 | 996,9 | 997,9 | 997,8 | 997,1 |
| 8 | FOURNIER, Lionel | FRA | 4982,9 | *99,73* | 5664,0 | 994,9 | 681,1 | 997,2 | 996,4 | 998,5 | 995,9 |
| 9 | SCHOON, Jim | USA | 4976,5 | *99,60* | 5623,1 | 998,8 | 646,6 | 998,0 | 999,4 | 984,7 | 995,6 |
| 10 | MOLEFE, Tshepo | RSA | 4949,0 | *99,05* | 5553,9 | 604,9 | 966,3 | 996,1 | 994,6 | 995,8 | 996,2 |
| 11 | REINECKE, Manuel | GER | 4589,3 | *91,85* | 5063,8 | 474,5 | 601,1 | 998,9 | 998,7 | 994,9 | 995,7 |

**2014 F3J WC SENIORS FLY-OFFS**
With no discard, the winner would have been fourth with 96.5% of the highest raw score.
Sorry for the poor quality of this image. I have compiled the results in Excel and they are shown more clearly below.



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**Leader Board (for pilots)**

*Fly-Off (WCH 2014 - Seniors)*

Showing 6 of 6 rounds, 5 rounds used for totalscore

| | Nr | Name | Jr | Total Score | Summary | Scores between ( ) are not used in the total score | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23 | Littva; Jan | SVK | 4998.4 (100.0 %) | R1:999.7 | R2:1000.0 | (R3:788.3) | R4:1000.0 | R5:1000.0 | R6:998.7 |
| 2 | 81 | Wurts; Joseph | NZL | 4996.8 (100.0 %) | (R1:997.9) | R2:998.7 | R3:1000.0 | R4:999.4 | R5:998.7 | R6:1000.0 |
| 3 | 47 | Byrski; Wojciech | POL | 4992.8 (99.9 %) | R1:1000.0 | R2:998.3 | (R3:768.4) | R4:999.8 | R5:997.2 | R6:997.5 |
| 4 | 46 | Vostrel; Jaroslav | CZE | 4979 (99.6 %) | R1:997.9 | R2:999.5 | (R3:882.3) | R4:992.4 | R5:996.7 | R6:992.5 |
| 5 | 37 | Duchan; Jiri | CZE | 4977 (99.6 %) | R1:998.0 | R2:999.4 | (R3:783.2) | R4:995.2 | R5:989.8 | R6:994.6 |
| 6 | 45 | Griffin; David | NZL | 4952.3 (99.1 %) | R1:997.2 | R2:992.7 | (R3:907.6) | R4:986.8 | R5:993.4 | R6:982.2 |
| 7 | 67 | Goodrum; Craig | RSA | 4945.9 (99.0 %) | R1:998.2 | R2:991.4 | (R3:645.9) | R4:997.7 | R5:960.2 | R6:998.4 |
| 8 | 34 | Gergic; Bojan | SLO | 4856 (97.2 %) | R1:996.2 | R2:989.4 | (R3:654.4) | R4:892.1 | R5:985.6 | R6:992.7 |
| 9 | 70 | Rizner; Primoz | SLO | 4795.3 (95.9 %) | R1:999.7 | R2:998.1 | (R3:768.3) | R4:993.4 | R5:810.3 | R6:993.8 |
| 10 | 28 | Kolb; Philip | TUR | 4734.3 (94.7 %) | R1:999.6 | R2:990.7 | R3:875.7 | R4:999.3 | (R5:864.2) | R6:869.0 |
| 11 | 60 | Arvidsson; Lennart | SWE | 4704.7 (94.1 %) | R1:996.4 | R2:996.7 | R3:726.5 | R4:996.3 | (R5:702.0) | R6:988.8 |
| 12 | 61 | Strautins; Carl | AUS | 4686.5 (93.8 %) | R1:998.9 | (R2:627.6) | R3:844.3 | R4:849.8 | R5:995.7 | R6:997.8 |

Excel version of the above table:

**FAI F3J WC SENIORS FINALS 2014 - Overall Results**

| Rank | Name | Ctry | Score | Pcnt | Raw Score | Rnd1 | Rnd2 | Rnd3 | Rnd4 | Rnd5 | Rnd6 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Littva; Jan | SVL | 4998.4 | 100.0% | 5786.7 | 999.7 | 1000.0 | 788.3 | 1000.0 | 1000.0 | 998.7 |
| 2 | Wurts; Joseph | NZL | 4996.8 | 100.0% | 5994.7 | 997.9 | 998.7 | 1000.0 | 999.4 | 998.7 | 1000.0 |
| 3 | Byrski; Wojciech | POL | 4992.8 | 99.9% | 5761.2 | 1000.0 | 998.3 | 768.4 | 999.8 | 997.2 | 997.5 |
| 4 | Vostrel; Jaroslav | CZE | 4979.0 | 99.6% | 5861.3 | 997.9 | 999.5 | 882.3 | 992.4 | 996.7 | 992.5 |
| 5 | Duchan; Jiri | CZE | 4977.0 | 99.6% | 5760.2 | 998.0 | 999.4 | 783.2 | 995.2 | 989.8 | 994.6 |
| 6 | Griffin; David | NZL | 4952.3 | 99.1% | 5859.9 | 997.2 | 992.7 | 907.6 | 986.8 | 993.4 | 982.2 |
| 7 | Goodrum; Craig | RSA | 4945.9 | 98.9% | 5591.8 | 998.2 | 991.4 | 645.9 | 997.7 | 960.2 | 998.4 |
| 8 | Gergic; Bojan | SLO | 4856.0 | 97.2% | 5510.4 | 996.2 | 989.4 | 654.4 | 892.1 | 985.6 | 992.7 |
| 9 | Rizner; Primoz | SLO | 4795.3 | 95.9% | 5563.6 | 999.7 | 998.1 | 768.3 | 993.4 | 810.3 | 993.8 |
| 10 | Kolb; Philip | TUR | 4734.3 | 94.7% | 5598.5 | 999.6 | 990.7 | 875.7 | 999.3 | 864.2 | 869.0 |
| 11 | Arvidsson; Lennart | SWE | 4704.7 | 94.1% | 5406.7 | 996.4 | 996.7 | 726.5 | 996.3 | 702.0 | 988.8 |
| 12 | Strautins; Carl | AUS | 4686.5 | 93.8% | 5314.1 | 998.9 | 627.6 | 844.3 | 849.8 | 995.7 | 997.8 |

## 2012 F3J WC SENIORS FLY-OFFS

With no discard, the winner would have been third with 93.3% of the highest raw score.

F3J WC 2012 RSA - SNR FLYOFF - Overall Results [DELMAS RSA 8/10/2012]
www.GliderScore.com

| Rank | Name | Ctry | FAI No | Pilot | Score | Pcnt | Raw Score | Rnd1 Dur | Rnd2 Dur | Rnd3 Dur | Rnd4 Dur | Rnd5 Dur | Rnd6 Dur | Rnd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Feigl, Benedikt | GER | 2832 | 4 | 5994 | 100 | 6515,1 | 1000 | 1000 | 521,1 | 1000 | 997,9 | 997,4 | |
| 2 | Littva, Jan | SVK | 1046 | 7 | 5988,2 | 99,9 | 6982,3 | 994,1 | 995,4 | 999,5 | 999,5 | 999,1 | 1000 | |
| 3 | Remington, Cody | USA | 768717 | 3 | 5982,3 | 99,8 | 6526,1 | 996,2 | 999,4 | 996,8 | 543,8 | 996,2 | 998,2 | |
| 4 | Mc Gowan, Bob | USA | 61181 | 6 | 5979,4 | 99,76 | 6463,1 | 995,5 | 996,7 | 997,6 | 483,7 | 1000 | 993,6 | |
| 5 | Perkins, Daryl | USA | 222521 | 1 | 5946,6 | 99,21 | 5946,6 | 996,5 | 0 | 1000 | 965 | 997,1 | 998,6 | |
| 6 | Wurts, Joe | NZL | 9725 | 12 | 5883,5 | 98,16 | 6394,1 | 996,4 | 1000 | 889,6 | 510,6 | 999,3 | 1000 | |
| 7 | Lammlein, Tobias | GER | 2445 | 5 | 5608,6 | 93,57 | 5797,9 | 996,3 | 189,3 | 626,3 | 995 | 994,6 | 999,2 | |
| 8 | Klintworth, Conrad | NZL | 101121 | 11 | 5387,4 | 89,88 | 5756,3 | 995,8 | 368,9 | 398,4 | 998,3 | 997,4 | 997,5 | |
| 9 | Esibatir, Murat | TUR | 230 | 2 | 5222,7 | 87,13 | 5808,3 | 658,2 | 983,1 | 600 | 585,6 | 997,9 | 987,2 | |
| 10 | Kiesling, Tom | USA | 135894 | 8 | 5090,1 | 84,92 | 5287 | 196,9 | 249,7 | 865,5 | 991,3 | 991,8 | 998,6 | |
| 11 | Grini, Jo | NOR | 44432 | 9 | 5082,3 | 84,79 | 5280,1 | 932,9 | 197,8 | 589,1 | 577,2 | 996,5 | 995,5 | |
| 12 | Webb, David | CAN | 12-035 | 10 | 4292,3 | 71,61 | 4751,8 | 777,6 | 459,5 | 542,8 | 591,1 | 570,2 | 963,4 | |

***Volume F4 Scale begins overleaf***

# 14.11 Section 4C Volume F4 – Scale

**a) 6.1.6. Remarks** **F4 Subcommittee**

*Add the following to the second sentence of sub-paragraph d) as shown below:*

d) … The size, shape and colour of the spinner may not be changed **and the spinner used for flight must be presented with the model for static judging.**

Reason: The Flight Judges are not aware of the configuration (regarding spinners) of the model during Static Judging. This amendment is proposed to avoid infringement of Rule 6.1.6.d). This proposal reflects a local rule that was applied with success at the 2016 F4C/F4H World Championships.

**b) 6.1.9. Documentation (Proof of Scale)** **F4 Subcommittee**

*Replace paragraph 6.1.9.2. with new paragraph below:*

~~The exact name and model designation of the prototype shall be indicated on the entry form, on the score sheet and also in the "Proof of Scale" presentation. The documentation submitted by the competitor must state if the original prototype is non-aerobatic. The judges will discuss this information before the first flight commences in F4C. The Chief Judge shall make the final decision before any flight is made and this might affect the marks awarded under 6.3.6.11.d. (Choice of Options).~~

**The exact name and designation of the full size aircraft the model is intended to represent, must be entered on the score sheets, the proof of scale documentation and the Competitors Declaration. If appropriate, the declaration of non-aerobatic status of the full size aircraft must also be included on the Competitors Declaration.**

Reason: The paragraph is badly written; the first sentence makes reference to the entry form which is irrelevant and omits to make reference to the Competitors Declaration. The second sentence is incorrect. In the third sentence, the action described relates specifically to F4C whereas it is actually applicable to all R/C classes. The last sentence states that; "The Chief Judge shall make a decision....." but does not state on what. It also makes reference to rule 6.3.6.11.d (Choice of Options) which does not exist any more.

**c) 6.1.9. Documentation (Proof of Scale)** **F4 Subcommittee**

*Replace paragraph 6.1.9.3. with new paragraph below:*

~~The Scale to which the model aircraft is optional, but it must be stated in the "Proof of Scale presentation".~~

**The model aircraft can be built to any scale but the scale must be entered on the Flight Score Sheets.**

Reason: This rule states that the scale to which the model is built must be stated in the "Proof of Scale presentation", but does not state where. However, it is required to be entered on the Flight score sheet.

**d) 6.1.9. Documentation (Proof of Scale) F4 Subcommittee**

*Amend the first sentence of paragraph 6.1.9.4. as shown below:*

The cruising speed of the subject aircraft must be ~~included in the documentation and repeated on all flight score sheets before each official flight starts~~ **stated on the Competitors Declaration Form (Annex 6.E1) and also entered on all flight score sheets before the sheets are passed to the Flight Judges.** In the case of early aircraft, where only maximum speeds are likely to be listed, the maximum speed alone may be quoted. ~~in the documentation~~ The competitor must be prepared to substantiate this information if required.

Reason: Paragraph 6.1.9.4.is concerned with eligibility for Fidelity to Scale (Static) points and sub-para d) requires that the cruising speed of the subject aircraft must also be included in the documentation (and repeated on the flight score sheets). It is of course essential information for the Flight Judges but the cruising speed of the subject aircraft is not relevant to Fidelity to Scale.

**e) 6.3.6. Flight F4 Subcommittee**

*Delete and replace as below:*

| | | |
|---|---|---|
| 6.3.6.10. | Approach and Landing..... | K = 11 |
| 6.3.6.11. | Realism in flight | |
| | a) ~~Model Sound~~ **Manoeuvre Selection** | K = 4 |
| | b) Speed of the model aircraft | K = 9 |
| | c) Smoothness of flight..... | K = 9 |
| Total K Factor ..... | | K = 100 |

Reason: The concept "Model Sound" is a search for an unreachable dream. Not even model turbines sound like their modern full size counterparts, except like first generation jets such as Vampires, etc. Model two-and four-stroke motors do not sound like their full size counterparts, except where the full-size is also a 2 or 4 cylinder boxer type and then the rev range is not the same. A big 7cylinder radial maybe approximates a 14 cylinder full size counterpart and an electric powered model with a noisy propeller may sound somewhat like a turboprop powered full size. Should contestants be forced into buying very expensive multi-cylinder engine in search of a few more points? Electric powered aircraft with sound systems are also not effective in windy conditions. This item also expects flight judges to know and recognise the sound of every aero-engine made over the last 114 years?

Introducing the item Manoeuvre Selection gives the contestant the opportunity to impress the judges with a well thought out, flowing flight presentation with the minimum of 'dead' passes and applicable manoeuvres, and get some reward for it.

**f) 6.3.7. Optional Demonstrations F4 Subcommittee**

*Replace option numbers in second paragraph, last sentence:*

These include ~~(~~ options D (Bombs/ Fuel Tank Drop), ~~L~~ **O** (Parachute Drop), and, if applicable, ~~P~~ **S** or ~~Q~~ **T** (Flight Functions by subject aircraft).

Reason: Clarification/consequential change resulting from the inclusion of the additional Cuban Eight Derivatives.

**g) 6.3.7. Optional Demonstrations F4 Subcommittee**

*Delete the rest of the third paragraph after the first two sentences:*

The options may be flown in any order, but the order ~~Selection~~ must be indicated on the score sheet ~~and~~ **be** given to the judges before commencing the flight. ~~The options may listed be flown in any order. Options A (Chandelle)……or licensing government agency.~~

Reason: Clarification and consequential change after the introduction of the Manoeuvre Selection item under 6.3.6.

**h) 6.3.7. Optional Demonstrations F4 Subcommittee**

*Change the list of manoeuvres to include additions as listed below and renumber the remainder of the list accordingly:*

G One loop ..... K = 7

H ~~Split S (Reversal)~~ **Cuban Eight**..... K = 7

~~I Cuban eight ..... K = 7~~

I **Reverse Cuban Eight**…… K = 7

**J Half Cuban Eight …….. K = 7**

**K Half Reverse Cuban Eight……K = 7**

**L Split S (Reversal)……K = 7**

~~J~~ **M** Normal spin (three turns) ..... K = 7

Reason: To rectify the numbering discrepancy between this list and the numbering of manoeuvre descriptions in paragraph 6C.3.7.

To clarify that all the variations on the Cuban Eight theme are separate and different manoeuvres in their own right and that more than one may be included in a flight sequence.

**Annex 6C F4C Judges' Guide – Flying Schedule**

**i) 6C.3.6.11. Realism in Flight F4 Subcommittee**

*Delete and replace as shown below:*

Realism in Flight covers the entire flight performance including the way in which the model aircraft flies between manoeuvres.

Judges will allot points for Realism within the following aspects, always keeping in mind the likely characteristics of the full size subject:

~~Model Sound~~ **Manoeuvre Selection** K = 4

~~This is an assessment of how accurately the model replicates the characteristic sound of the full size aircraft. Judges should be familiar with typical sounds produced by different categories of aircraft and also be aware of the variations in sound produced at different speeds and varying throttle settings and/or propeller speeds. Judges should therefore consider how closely the sound produced by the model demonstrates what would be the typical sound produced by a full size aircraft in the same category and powered by a similar means of propulsion to that which the model is attempting to replicate.~~

~~There should also be some variation in the sound produced depending on throttle settings and whilst it is difficult, for example, to make a model powered by a single cylinder 2-stroke sound like a full size aircraft with a multi cylinder 4-stroke at full throttle, there may be times during the flight, particularly when the throttle is closed, when the sound is more realistic.~~

~~Special consideration should be given where the model demonstrates any particular characteristic sounds of the full size aircraft. Competitors are encouraged to advise judges if such characteristic sounds can be reproduced and where they will occur in the flight e.g. excessive propeller noise at high power setting or noise produced by the airframe during high 'g' manoeuvres.~~

**Most aircraft are somewhat aerobatic, while some are totally non-aerobatic and others are purpose designed for aerobatics. It is up to the competitor to select manoeuvres flown by the prototype aircraft that represent an airshow style performance to present to the judges. Any documentation to verify manoeuvre selection shall be attached to the competitors declaration form of which a copy will be made available to the chief flying judge by the organisers.**

Reason: The concept "Model Sound" is a search for an unreachable dream. Not even model turbines sound like their modern full size counterparts, except like first generation jets such as Vampires, etc. Model two-and four-stroke motors do not sound like their full size counterparts, except where the full-size is also a 2 or 4 cylinder boxer type and then the rev range is not the same. A big 7cylinder radial maybe approximates a 14 cylinder full size counterpart and an electric powered model with a noisy propeller may sound somewhat like a turboprop powered full size. Should contestants be forced into buying very expensive multi-cylinder engine in search of a few more points? Electric powered aircraft with sound systems are also not effective in windy conditions. This item also expects flight judges to know and recognise the sound of every aero-engine made over the last 114 years?

Introducing the item Manoeuvre Selection gives the contestant the opportunity to impress the judges with a well thought out, flowing flight presentation with the minimum of 'dead' passes and applicable manoeuvres, and get some reward for it.

**j) 6C.3.7. Optional Manoeuvres H. Cuban Eight F4 Subcommittee**

*Replace the Description, Diagram and List of Errors with the material below:*

**The model approaches in straight and level flight on a track parallel to the judges line. After passing the judges centre line the m**odel aircraft pulls up into a ~~circular~~ **5/8** inside loop ~~until~~ **to reach** a 45° nose down **attitude and then performs** ~~The 45° inverted flight is held until~~ a half roll ~~when abeam the judges~~ **on the judges centre line. The** 45° ~~upright~~ **down line** is held until ~~entry height is achieved when~~ a ~~similar~~ ~~circular~~ **3/4** inside loop is flown to repeat the manoeuvre in the opposite direction for a ~~S~~**s**traight and level recovery ~~is to be~~ at the same height **and track** as the original entry. **The** ~~T~~**t**hrottle may be closed at the top of each loop, as appropriate to **the** subject type, and reopened during each descent. 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.

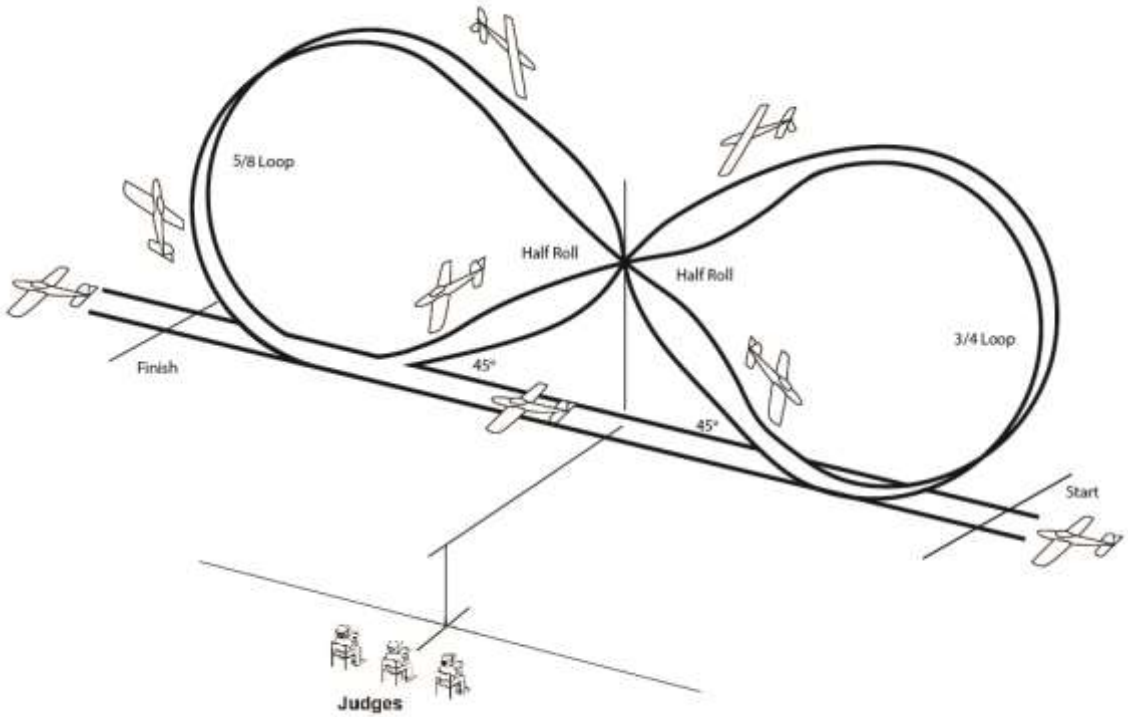
~~Included in this manoeuvre are the following deviations based on the primary Cuban Eight:~~

~~"Half Cuban Eight"~~
~~After the first 45 degree dive, the model pulls out level at the entry height.~~

~~"Reversed Cuban Eight"~~
~~The model aircraft starts with a pull up 45° climb with half roll then enters the loop and continues as above but in reverse order.~~

~~"Reversed Half Cuban Eight"~~
~~Start with the 45° climb and half roll then loop to finish level with entry.~~

~~Competitor must specify on the score sheet which variation will be used.~~




Errors:

*Errors 1 – 8 and 10 remain unchanged*

9. Size and speed of ~~loops~~ **manoeuvre** not in manner of prototype.

Reason: To correct errors and standardise the terminology used in the descriptions and error lists of all the variations of the Cuban Eight.

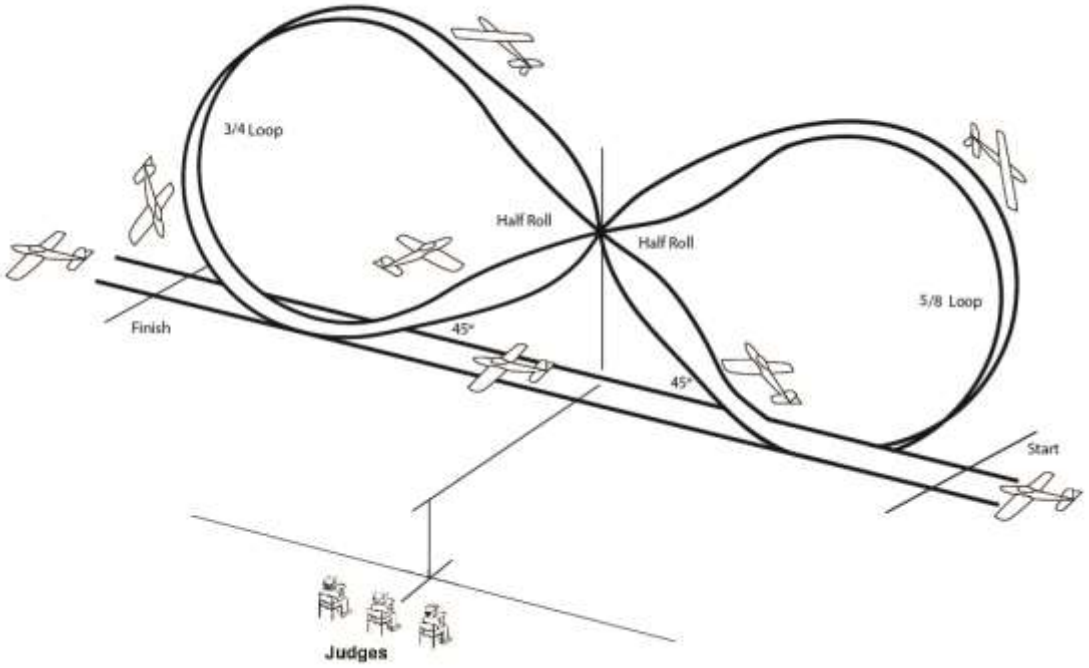
To standardise the style of diagrams used to illustrate the variations of the Cuban Eight group.

**k) 6C.3.7. Optional Manoeuvres H. Cuban Eight F4 Subcommittee**

*Insert the following 3 manoeuvres after H. Cuban Eight and adjust the numbering of the subsequent manoeuvres accordingly, starting with L. Split S (Reversal).*

**I. Reverse Cuban Eight:**

**The model approaches in straight and level flight, parallel to the runway and pulls through a 1/8 loop to a 45 degree up line before reaching the judges centre line and then performs a half roll in front of the judges. It then pulls through a ¾ inside loop into a 45 degree up line and performs a half roll in front of the judges and then pulls through a 5/8 inside loop to resume straight and level flight to exit the manoeuvre at the same altitude and track as the entry. The throttle may be closed at the top of each loop, as appropriate to the subject type, and reopened during each descent. 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.**




**Errors:**

1. **Manoeuvre not performed in a constant vertical plane that is parallel with the judges' line.**
2. **Loops are not circular.**

**3. Loops are not the same size.**

**4. Half rolls are not centred on the judges' position.**

**5. 45º ascent paths not achieved.**

**6. Model aircraft does not exit manoeuvre at same height as entry.**

**7. Model aircraft does not resume straight and level flight on same track as entry.**

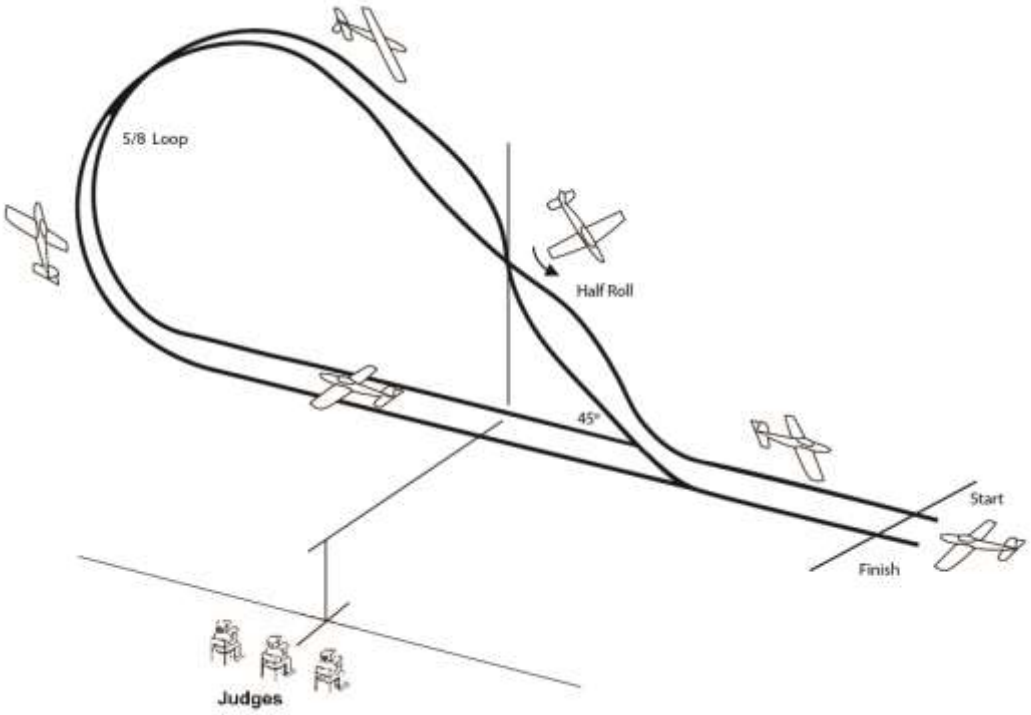
**8. Inappropriate use of throttle.**

**9. Size and speed of manoeuvre not in manner of prototype.**

**10. Too far away/too close/too high/too low.**

**J. Half Cuban Eight:**

**The model approaches in straight and level flight on a track parallel to the judges line. After passing the judges centre line the model aircraft pulls up into a 5/8 inside loop until a 45° nose down attitude is reached. The 45° inverted flight is held until a half roll is performed on the judges centre line. The 45° down line is then held until a 1/8$^{th}$ inside loop is performed for a straight and level exit is achieved at the same height and on the same track as the entry. The throttle may be closed at the top of the loop, as appropriate to the subject type, and reopened during the descent. 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.**




**Errors:**

**1. Manoeuvre not performed in a constant vertical plane that is parallel with the judges' line.**

**2. Loop not circular.**

**3. Half roll not centred on the judges' position.**

**4. 45º descent path not achieved.**

**5. Model aircraft does not exit manoeuvre at same height as entry.**

**6. Model aircraft does not resume straight and level flight on same track as entry.**

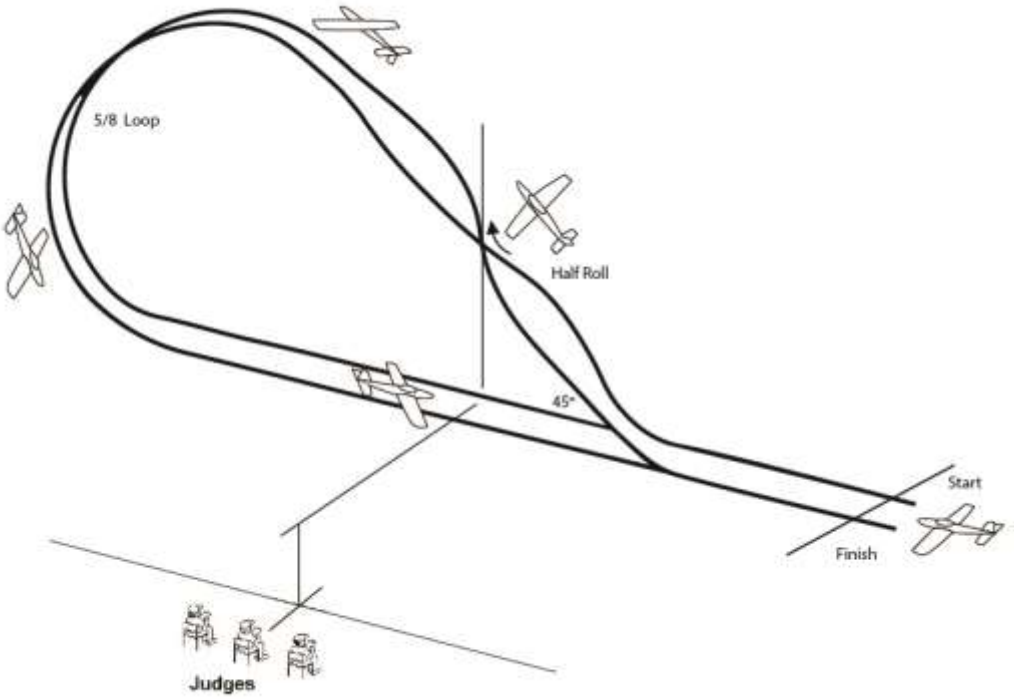
**7. Inappropriate use of throttle.**

**8. Size and speed of manoeuvre not in manner of prototype.**

**9. Too far away/too close/too high/too low.**

**K. Half Reverse Cuban Eight:**

**The model approaches straight and level, parallel to the runway and pulls through a 1/8 loop into a 45 degree up line before reaching the judges centre line and performs a half roll in front of the judges. It then pulls through a 5/8 inside loop to resume straight and level flight to exit the manoeuvre at the same altitude and opposite track as the entry. The throttle may be closed at the top of the loop, as appropriate to the subject type, and reopened during each descent. 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.**




**Errors:**

**1. Manoeuvre not performed in a constant vertical plane that is parallel with the judges' line.**

**2. Loop not circular.**

**3. Half roll not centred on the judges' position.**

**4. 45º ascent path not achieved.**

**5. Model aircraft does not exit manoeuvre at same height as entry.**

**6. Model aircraft does not resume straight and level flight on same track as entry.**

**7. Inappropriate use of throttle.**

**8. Size and speed of manoeuvre not in manner of prototype.**

**9. Too far away/too close/too high/too low.**

Reason: To add the three variations of the Cuban Eight that were added under 6.3.7 Optional Demonstrations in the Flight Judges Guide.

**Annex 6G F4K – Judges' Guide**

**l) 6G.1 Static Judging** **F4 Subcommittee**

*After 'See Annex 6A – Class F4 Judges' Guide for Static Judging' add the following:*

**with the following exclusion: Main and tail rotor systems are not assessed (because of technical demands and safety) except for the number of rotor blades and direction of rotation.**

Reason: To clarify which parts of the model helicopter should not be judged for static fidelity.

***Volume F5 Electric begins overleaf***

# 14.12 Section 4C Volume F5 – Electric

## F5 – General Rules

### a) 5.5.1.7. Competitor and Helper — Germany

*Delete this paragraph:*

~~5.5.1.7 Competitor and Helper~~

~~Each competitor must operate his radio equipment personally. Each competitor is permitted two helpers and the team manager.~~

Reason: The number of helpers is defined in the rules for the several classes. No standard for F5 in general.

*Technical Secretary's Note: The number of helpers is defined in F5D, where there is a sentence to state that the General Rule is not applicable, and F5J where there is no such sentence (and there should be); but it is not defined in F5B, so the General Rule applies in that class at present. This area appears to need some clarification at the Technical Meeting, especially since there are other proposals related to helpers in F5J.*

## F5B – Electric Powered Motor Gliders

### b) 5.5.4.1. Definition — USA

*In sub-paragraph b) remove the minimum battery weight specification:*

~~b) Minimum weight of battery pack 450 grams.~~

Reason: With the improvements in lithium batteries, this rule is no longer needed to ensure safe operation of F5B gliders. In fact, removing this rule will allow the planes to become lighter with lower surface loadings and therefore easier to operate. The F5D class has already removed the battery weight limit to good effect.

### c) 5.5.4.5. Distance Task; 5.5.4.6 Duration Task — Germany

*Reduce the awarded points per leg from 10 to 5 in distance task **and** the deducted points per one second of motor running from 3 to 1 in duration task:*

5.5.4.5.f)

f) Every completed leg will be awarded ~~10~~ **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.

5.5.4.6.d)

d) Duration time is cumulative and one point will be awarded for each full second the model aircraft is flying.~~3 points~~ **1 point** will be deducted for each 1 second of motor running time.

Reason: The distance task is the essential task in the F5B competition. With only 5 points per flown leg the influence of different weather conditions during one round can be reduced. The possibility to compensate less flown legs with a good duration task is much better. The influence of duration task and the landing will get much higher. Due to the lower absolute points of the distance task, the reduction of the points per flown leg make sense only with only 1 point deduction for each second of motor running in the duration task. Otherwise the influence of the motor runtime is too high.

## F5J – Electric Powered Thermal Duration Gliders

### d) 5.5.11.2. Competitors and Helpers — Bulgaria

*In sub-paragraph b) add the provision for an Assistant Team Manager at World and Continental Championships:*

b) Each competitor is allowed one helper. At a ~~World Championship~~ **World and Continental Championship,** when a team ~~manager~~ **and assistant team manager** ~~is~~ **are** allowed, ~~he is~~ **they are** additionally permitted to help the competitor.

Reason: To allow at Continental and World Championships TM or TMA to supervise and help to guarantee a safe simultaneous launching of several F5J model aircraft.

*Technical Secretary Note: Refer to Section 14.3 CGR Proposals Item f) which proposes an Assistant Team Manager for F5J Juniors only. Also note that the F5 General Rule 5.5.1.7 states that each competitor is allowed two helpers and the team manager, so in any case, a statement at the start of this section is required that 'General Rules 5.5.1 and Contest Rules 5.5.2 are applicable except where otherwise stated' (as for Class F5D).*

### e) 5.5.11.2. Competitors and Helpers — Germany

*In sub-paragraph b) add Continental Championship:*

b) Each competitor is allowed one helper. At a ~~World Championship~~ **World and Continental Championship**, when a team manager is allowed, he is additionally permitted to help the competitor.

Reason: Should be the same for World and Continental Championships.

*Technical Secretary Note: The F5 General Rule 5.5.1.7 states that each competitor is allowed two helpers and the team manager, so in any case, a statement at the start of this section is required that 'General Rules 5.5.1 and Contest Rules 5.5.2 are applicable except where otherwise stated' (as for Class F5D).*

### f) 5.5.11.4. Safety Rules — Bulgaria

*In sub-paragraph c) add additional text as shown below:*

c) Any infringement of the Safety Areas as defined by the CD - 300 points. **Except in case it result due to a collision with other model.**

Reason: To prevent penalty after uncontrolled landing or losing part of model in safety area in case of mid air collision with other model.

**g) 5.5.11.8.1. Rounds and Groups** **Bulgaria**

*In sub-paragraph c) add the additional sentence shown:*

c) Other than in the Fly-off, the composition of Groups should minimise the situation where any competitor flies against another many times
**At a World and Continental Championship team protection is mandatory except Fly-offs.**

Reason: Flying against each other, team members at Continental and World Championships is not applicable because of clash with National team classification.

**h) 5.5.11.13. Final Classification** **Bulgaria**

*Add a new paragraph, l):*

**5.5.11.13. Final Classification**

**l) The national team classification is established after the completion of the championship by adding the aggregate scores of qualifying rounds of the three members of the team together. In the case of a national team tie, the team with the lower sum of place numbers, given in order from the top, wins. If still equal, the best individual placing decides.**

Reason: To prevent discussions at TM meetings before Championships.

*Technical Secretary Note: I have rewritten the proposal which was as follows to specify the method in this volume: Please note: the other championship classes should have also specified the method of national team classification in those sections. All other disciplines have done this.*

5.5.11.13.
**l) Team Classification at F5J Continental and World Championships will be made according to the scheme described in C.15.6.2.a (ii). Aggregate score of qualifying rounds will count for Team Classification.**

***Volume S – Space Models begins overleaf***

# 14.13 Section 4C Volume S – Space Models

## Part Two – Space Model Specifications

**a) 2.1 Weight** **Ukraine**

*Replace the paragraph as shown below:*

~~Gross or maximum weight, including space model engine or engines shall in no event exceed 1500 grams. It will be specified separately for each class in these rules.~~

**Gross or maximum weight, including space model engine or engines shall in no event exceed 2500 grams. It will be specified separately for each class in these rules.**

Reason: The existing limit of 1500 grams does not allow to build models - copies of much larger sizes and new carrier rockets. A new rule with a limit of 2500 grams will allow for a much larger number of space designers. Space simulation will become more attractive and understandable to viewers and sponsors.

**b) 2.3.1 Stages of Operation** **Russia**

*Replace the final sentence with the new text shown below:*

There shall be no more than three (3) operable stages. A stage is defined as a portion of the model airframe containing one or more space model engines that is designed to separate or which actually separates from the model while in flight. An un-powered part of the model is not considered to be a stage. The configuration of a model is considered to be that of the model at the instant of first motion on the launcher. ~~Engines ignited simultaneously are considered one stage regardless of the number of separated parts; for example Soyuz.~~

**In the case of clusters/busters of a scale model of a prototype with cluster configuration (such as R7 family (Sputnik, Vostok, Soyuz), Space Shuttle, Delta, Ariane, etc.), the lower stage(s) are considered one (first) stage regardless of the number of separated parts, but only if the separation of those clusters/busters has been in accordance with the flight of the copied prototype and the remaining/continuing flight part is still powered after the busters/clusters separation.**

**Thus, for example, for a scale model of the Ariane AR 44P rocket: 2 side busters (if powered and separated during the flight) are considered a first stage, the remaining part (if still powered after separation) is considered a second stage (before the further stages separation).**

Reason:
- Correction and elaboration of the term "model rocket stage";
- Fair equalization of cluster and tandem configuration and staging;
- Removal of the technically and logically incorrect statement «Engines are considered … a stage»

**c) 2.4 Construction Requirements** **Belarus**

*In rule 2.4.4, revise the sentence below the table regarding S1 models as follows:*

2.4.4 … In the case of Class S1 models, the smallest body diameter must be not less than ~~18 mm~~ **60% of the minimum diameter for the particular event class** for at least 75% of the overall length of each stage. An S1 sustainer stage may not have a boat tail.

Reason: Since there are different sizes in depending on the event Class, it will be logical to specify the smallest body diameter not in the absolute value, but in percentage. The value of 60% will be most suitable value.

**d) 2.4 Construction Requirements** **Russia & USA**

*In rule 2.4.4, revise the sentence below the table regarding S1 models as follows:*

2.4.4 … In the case of Class S1 models, the smallest body diameter must be not less than ~~18 mm~~ **25 mm** for at least 75% of the overall length of each stage. An S1 sustainer stage may not have a boat tail.

Reason: Using current model sizes, an 18 mm 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.
At the 2017 European Spacemodeling Championships, there were a very high number of flights where the RSO could not see the sustainer flight and recovery device deployment. The RSO had to declare “Model To Control” so that the model, if found, could be inspected after the flight. Many contestants were forced to do extensive ground searches to try to find their models including expensive altimeters. This is not a good way to run an FAI event.

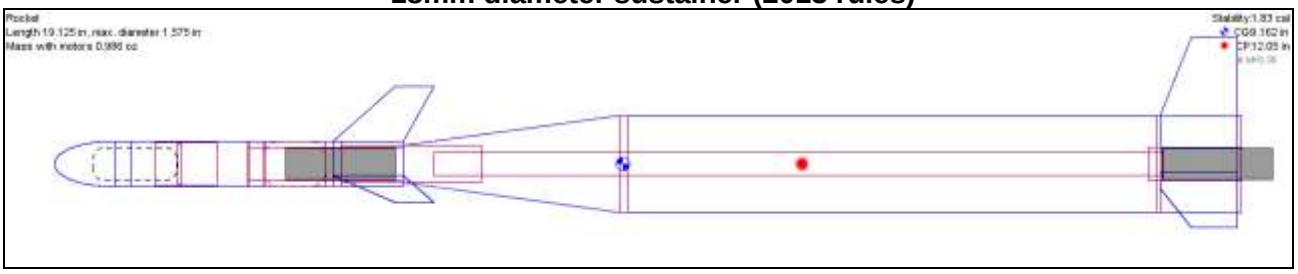
Supporting Data: As noted by Gerhard Wöbbeking[1], “such a pencil disappears in the sky up to total invisibility, even the ejected streamer remains invisible on descend in many cases.” “Even worse, the invisibility of the second stage and the difficulty to retrieve the altimeter increasing with the height 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.

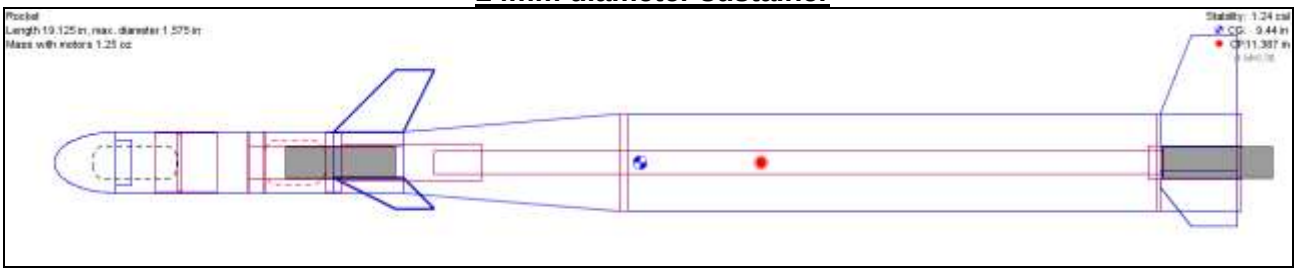
The second illustration shows an S1B model that has a 25 mm diameter sustainer. Altitude calculations predict that using a 25 mm sustainer will reduce the maximum altitude by ~20%. The sustainer is ~33% more visible. This will improve visibility for the contestant and the RSO, and will make it easier and more reliable to recover the model and its altimeter.

*cont/…*

**18mm diameter sustainer (2013 rules)**



**24mm diameter sustainer**



[1] Wöbbeking, Gerhard, “Remarks on the EuCh for Space Models 2015”, October, 2015.

## Part Four – General Rules for International Contests

### e) 4.3.4 Assisted Launch — Ukraine

*Replace the heading and paragraph as shown below:*

~~**4.3.4 Assisted Launch**~~
~~A launcher must not impart to the model any velocity or change of momentum except that caused by the space model engine(s) contained in the model. A launch assisted by mechanical devices built into the launcher shall not be allowed.~~

~~**4.3.4 Assisted Launch**~~
**4.3.4. Launch the tools**

**The initial installation should not provide a model with any velocity or pulse change, except that caused by the engine(s) of the space model contained in the model. It is forbidden to use mechanical, pyrotechnic devices built into the launcher. In the categories of models S1, S2, S5 the start should be with the usual launch device (atmospheric electric ignition of the engine of the first stage). Any launchers for launching models classified as gas-dynamic devices (a pipe moving in relation to a fixed piston) or devices operating in accordance with the principle of a powdered battery are not allowed to participate in the competition. No part of the equipment launch design should lose contact with the ground.**

Reason: This proposal is necessary to ensure equal opportunities for all athletes participating in the categories of models to flight altitude.
It is sad to admit that not all athletes are guided by the principle of "fair play". In practice, some athletes use different tricks (mostly pyrotechnic) that allow them to take advantage of them. As an example, at one world championship, the S1B model is launched from a device that resembles a powder pressure accumulator (energy

storage), the model flies at a height of 25-30 meters, while the engine of the first stage was not inflamed.

*Technical Secretary's Note: This note is to request that the above proposal is corrected for English at the Technical Meeting.*

**f) 4.4.2 Model Marking and Identification** **USA**

*Amend the first paragraph as shown below:*

Each entry shall carry, prominently displayed upon its body, fins, or other exterior part, the competitor's FAI license number or FAI Unique ID number in letters and numbers approximately one (1) centimetre high except in classes S5 and S7 where it is ~~7 mm for the 1st stage and~~ 4 mm ~~for upper stages~~ **for each stage**. The name, national insignia, or international identification mark (see Section 4b, Annex B.2) of the competitor's nation must be displayed on the exterior of the model.

Reason: Large ID numbers are very unattractive on highly detailed space scale models. Past experience has been shown that 4 mm is satisfactory. This size requirement should be applied to all stages.

**g) 4.6 Disqualification** **Italy**

*Add a new paragraph 4.6.5 as shown below:*

**4.6.5 In the S4 and S10 classes, the model must reach a stable flight within 30 s from the moment of reaching the apogee, otherwise the flight is disqualified.**

**In S3, S6 and S9 classes, the recovery system must deploy correctly within 30 s from the moment of reaching the apogee, otherwise the flight is disqualified.**

Reason: In the duration competitions (S3/S4/S6/S9/S10) it is often seen that the stable flight occurs too late or the recovery system deploys properly too late and the flight is still considered valid. There are many instances where a parachute open or an S9 rotor rotates just a few meters from the ground and, thanks to the minimum weight of the models, the competitor is still credited for a VERY good flight time or maximum. This contradicts the spirit of the competition and above all requires a long stop of the launch sequence, as the RSO is obliged to follow the whole flight. This fact often prevents other competitors from fading moments of favourable thermic. Introducing a limit of 20 or 30 seconds to properly open the streamer, parachute, or acquire a rotation or a steady flight, from the moment of reaching the apogee, is an option to consider. After this time limit the flight would be disqualified.

**Part Six – Payload Competitions (Classes S2 & S2/P)**

**h) 6.1 Class S2 (Payload Altitude Competition)** **Slovenia**

*Amend paragraphs 6.1.2. and 6.1.3. as shown below:*

### 6.1.2. STANDARD FAI PAYLOAD SPECIFICATION

The Standard FAI space model payload is a ~~cylinder, sphere or ellipsoid~~ **cylindrical container made of any** modelling ~~or natural~~ materials according to paragraph 2.4.3. **The Standard FAI space model payload for use in the 1st and 2nd category events has the diameter of maximum 40 mm and weighs 28 grams (+/- 0,1 g). The organisers of these events must provide a sufficient amount of equal payloads for all competitors.** The organisers may define, by local rules, the sophistication of the payload (photo, movie camera or electronic equipment) and to add optional tasks.

### 6.1.3. PAYLOAD CARRYING REQUIREMENTS

The standard FAI space model payload or payloads carried in a model shall be completely enclosed and contain**ed** within the model, shall be removable from the model **for technical control purpose**, and shall not be capable of separating from the model in flight.

Reason: Dimensions and weight of the Standard FAI Payload were in previous editions of Sport Code precisely defined. Because the payloads were made of lead, they were potentially hazardous to persons and inventory. In accordance with the Sporting Code (paragraph 2.4.3) such payloads have became unsuitable for use. By supplementing the rule describing the permissible materials from which they can be manufactured, the essential information is missing. This is the minimum mass of the payload and, depending on the dimensions of the S2 models, also the appropriate diameter, which allows the installation of the payload in the model. Without this information it is not possible to run S2 competitions at the WSMCh and/or other open international events.

## Part Eight – Boost/Glide Duration Competition (Class S4)

### i) 8.1 Definition/Description — USA

*Amend the second paragraph as shown below:*

The model may use one channel of radio control to control a single function ~~for~~ **(rudder or** dethermaliser**)**. ~~All models shall use~~ Spread spectrum 2.4 GHz radio systems **shall be used** to eliminate the need for transmitter impound.

Reason: Allowing one channel of radio control will increase the technical challenge of the event and make it more attractive to new participants. It will also help recover model and minimize the loss of models.

## Part Nine – Scale Competition (Class S7)

### j) 9.8. Conditions of Model for Judging — Russia

*Amend the existing paragraph and add a new paragraph as shown below:*

Models will be judged for scale qualities in flight condition minus space model motors. All clear plastic fins, launching lugs, and fittings and other flight items must be attached to the model for scale judging. **No part of the model may change its position on the model and** nothing may be added to or taken off the model

between the scale judging and the flight except space model motors and recovery device packing.

**Penalty should occur in the case of a model engine's protrusion beyond the model's outer contour. The protrusion of the engine beyond the model's outer contour (or the nozzle) must not exceed the engine's diameter. For exceeding the protrusion of the engine by more than 1 diameter, penalty points are awarded in the amount of 20 points.**

**This provision pertains only to engines in the launch configuration (of lower stage) of the model.**

Reason: To reward the efforts of the modeller, aimed at closer correspondence of the model to the copied prototype.

**k) 9.9 Maximum weight and impulse** **Ukraine**

*Amend the first sentence in the paragraph as shown below:*

**9.9. MAXIMUM WEIGHT AND IMPULSE**
Maximum allowable gross launching weight is limited to ~~1500 grams~~ **2500 grams.** Maximum allowable total impulse is 160,00 Newton-seconds. Maximum engine size allowed is 80 Newton-seconds.

Reason: The existing limit of 1500 grams does not allow to build models - copies of much larger sizes and new carrier rockets. A new rule with a limit of 2500 grams will allow for a much larger number of space designers. Space simulation will become more attractive and understandable to viewers and sponsors.

**l) 9.11 Scale Judging** **Russia**

*Amend paragraph 9.11.4 'Degree of difficulty' as shown below. Note the consequential amendment to the table in Annex 1 'Scale Space Judge's Guide' which follows:*

**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 **up to** 40 points **maximum** for "originality **and novelty"** shall be awarded to a prototype that is the only one in the competition and a bonus of **up to** 20 points **maximum** 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 **and novelty"** 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.).

**Maximum bonus points shall be halved if the same prototype has been entered the same competition type/level at least once during the last 15 years. Bonus points shall also be reduced if a similar prototype enters the**

**competition. The value of the reduction depends on the prototype's degree of similarity - the higher the degree of similarity, the greater the reduction. Example a): 2 "Saturn 1B", and 2 "Soyuz-FG" enter a European championship. Thus, the maximum bonus points for each model is 20. However, during the last 15 years both prototypes were presented at a European championship. Then the maximum bonus points are cut in half for each mentioned model, i.e. - 10 points.**

**Example b): Models "Saturn V" and "Soyuz-U2" enter the same ECh. Although the pairs "Saturn 1B" - "Saturn V"; and "Soyuz-FG" - "Soyuz-U2" are different prototypes, there is some similarity of the prototypes within both pairs:**

**- both Saturns have the same upper stages S-IVB;**
**- both Soyuzes have a very similar external appearance.**

**So bonus points for "Saturn 1B", and "Soyuz-FG" shall be reduced from value of 10 points. Yet there are different degrees of similarity, which shall be rated differently, so that the final bonus points for "Saturn 1B" shall be greater than for "Soyuz-FG".**

**ANNEX 1 SCALE SPACE MODELS JUDGE'S GUIDE**
**Table "FAI CATEGORY / SUB- CATEGORY / JUDGING CONSIDERATIONS / POINTS"**

| FAI CATEGORY | SUB- CATEGORY | JUDGING CONSIDERATIONS | POINTS |
|---|---|---|---|
| Degree of Difficulty | "Originality **and novelty"** | Bonus points: **up to** 40 points **maximum** for a prototype of one kind in the competition; **up to** 20 points **maximum** if there are two of the same prototype; zero points if there are three models of the same prototype. **Maximum bonus points shall be halved if the same prototype has been entered the same competition type/level at least once during the last 15 years. Bonus points shall also be reduced if a similar prototype enters the competition. The value of the reduction depends on the prototype's degree of similarity.** | (0-40) |

Reason:
- To encourage modellers efforts to develop and build scale models of new prototypes;
- To award the real novelty of the model;
- Removing of the probability of unfair high level of bonus points that simply granted for the accidental concurrence of circumstances similar to "toss a coin", which doesn't reflect any actual novelty, craftmanship and complexity of the model and its flight. Compare the currently existing FIXED value of 40 (!) bonus points to the MAXIMUM 50 points for such a technically complex flight SUB-CATEGORY as «RC Gliding Descent»;
- Consideration of the degree of similarity of the prototypes for bonus points.

**m) 9.11 Scale Judging** **Russia**

*Amend the last sentence in paragraph 9.11.7 as follows:*

For World and Continental Space Modelling Championships, the ~~judging scores~~ **results for static points and flight characteristics** from each judge shall be anonymously published.

Reason: Amendment for unambiguous reading and interpretation.

## Part Ten – Scale Altitude Competition (Class S5)

**n) 10.1 Definition** **Russia**

*Add a new paragraph as shown below:*

This series of events involves altitude competition with scale space models and is a combination of the altitude competition (Part 5) and the scale competition (Part 9). The objective of the competition is to achieve the highest altitude with a scale space model.

**For the scale judging of the models, consider that nothing may be added to or taken off the model between the scale judging and the flight except space model motors, recovery device packing and on-board devices for flight altitude measurement.**

Reason: Clarification

*Technical Secretary's Note: The word 'consider' could imply some choice. 'Consider that' may be left out of the sentence.*

## Part Eleven – Rocket Glider Duration Competition (Class S8)

**o) 11.6 Sub-Classes** **Ukraine**

*Delete the table and insert a new table as shown below:*
*Note: the change is a new line 5: 8D/P … See also Item p) 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) |
|---|---|---|---|---|
| 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 |
| **S8D/P** | **10,01- 20,00** | **300** | **1100** | **360** |
| S8E & S8E/P | 20,01 -40,00 | 300 | 1100 | 360 |
| S8F | 40,01 80,00 | 500 | 1250 | 360 |

Reason: The introduction of a new subclass will allow organizers of the European and World Championships to be more flexible in selecting classes for competitions in radio-controlled models. This supplement does not contradict Section 4, paragraph 4.1. Competitions in this class will be interesting, because there will be more sportiness and mastery of piloting.

**p) 11.7 Class S8E/P (S8D/P) Radio Controlled Rocket Glider Time Duration and Precise Landing Competition** **Ukraine**

*Amend the heading with the addition of (S8D/P) as shown above and add a new paragraph 11.7.6 at the end as shown below:*

**11.7.6 Class S8D/P**

**When conducting competitions in subclass S8D/P all requirements, with the exception of the minimum wingspan and total impulse (par,11.6), meet the requirements of class S8E/P.**

Reason: The introduction of a new subclass will allow organizers of the European and World Championships to be more flexible in selecting classes for competitions in radio-controlled models. Competitions in this class will be interesting because there will be more sportiness and skill.

**q) 11.7 Class S8E/P Radio Controlled Rocket Glider Time Duration and Precise Landing Competition** **Belarus**

*In 11.7.4. 'Timing and Classification', delete 11.7.4.9, renumber and amend 11.7.4.10 and delete 11.7.4.11 as shown below:*

11.7.4 Timing and Classification

~~11.7.4.9. The five competitors with the highest scores after four starts qualify for the final round.~~

~~There will be one final flight for a group consisting of all participants of the final round. If there is a frequency conflict, the competitor with the worst score in three qualifying flights must change the frequency of his radio.~~

**11.7.4.9.** The final classification will be determined by the sum of all flight scores of each competitor **in five rounds**.

When there is a tie, the best score of one round shall be used to determine the individual winner. If a further tie occurs, the second best score of one round shall decide the winner.

~~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: This determination will solve many problems in organizing competitions and counting results. It will also simplify the organization of the starts.

**r) 11.7 Class S8E/P Radio Controlled Rocket Glider Time Duration and Precise Landing Competition** **USA, Russia**

*In 11.7.4. 'Timing and Classification', insert a new 11.7.4.9, renumber and amend 11.7.4.9 as 11.7.4.10, renumber 11.7.4.10 and delete the existing 11.7.4.11 as shown below:*

**11.7.4.9. There shall be three initial rounds and one final round, except for Continental and World Championships which shall have four initial rounds and two final rounds.**

11.7.4.~~9~~**10**. The five competitors with the highest scores after ~~four starts~~ **the initial rounds** qualify for the final round**(s)**.

~~There will be one final flight for a group consisting of all participants of the final round.~~ **All competitors in the final round(s) shall fly as a group**. If there is a frequency conflict, the competitor with the worst score in ~~three qualifying flights~~ **the initial rounds** must change the frequency of his**/her** radio.

11.7.4.~~10~~**11**. The final classification will be determined by the sum of all flight scores of each competitor.

When there is a tie, the best score of one round shall be used to determine the individual winner. If a further tie occurs, the second best score of one round shall decide the winner.

~~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: Rule changes were introduced in the 2016/2017 cycle to attempt to provide flexibility to increase the number of initial and final rounds for World and Continental championships. However, the final wording was confusing, with some rules mentioning three rounds, four rounds, or five rounds.

The proposed changes clearly define the number of initial and final rounds for World Cup events and for Continental/World championships. This will allow better planning of events by contestants and contest directors.

**Part Twelve – Gyrocopter Duration Competition (Class S9)**

**s) 12.1 General (consequential changes to 12.3.3 & 12.3.4)** **Russia, USA**

*Add a new sentence in 12.1 as shown below. Delete 12.3.3 &12.3.4:*

Gyrocopter Duration Competition presents an event where models use the principle of auto-rotation as the only mean of recovery. **During the flight, no part of the model other than ejection protectors or wadding may be detached or jettisoned.**

~~12.3.3. The entry may not separate into two or more unattached parts, and shall be disqualified if it does so.~~

~~12.3.4. The 50% requirement of Rule 2.4.3 applies.~~

Reason: Recovery wadding and ejection plugs are commonly used in S3 and S6 models. The proposed change will allow similar recovery protection to be used in S9 models. The sentence added to 12.1 is similar to the wording in Rule 7.1 for S3 and S6 models. With this sentence, Rule 12.3.3 is no longer needed and can be deleted. Dimension requirements for S9 models are defined in Rule 2.3.4. Rule 12.3.4 is not needed and can be deleted.

## Annex 1 – Space Models Judges' Guide

**t) Workmanship Judging** **Russia, USA**

*Include instructions for judging a finless prototype:*

Consider that surface textures should duplicate base material of prototype; that paint and other surface coatings should be uniform (unless this would deviate from prototype's finish)**,** thin, dust-free and of the proper texture; that colour demarcations and markings should be crisp * and precise.

| | |
|---|---|
| Nose cone & transitions | (0-40) _____ |
| Body | (0-40) _____ |
| **F**ins ***** | (0-20) _____ |

*** If prototype is finless, then 0-50 points each for "Nose cone & transitions" and "Body", and check here ( )**

Reason: Instructions for judging Workmanship for finless prototypes were included in older versions of the FAI Spacemodeling code.

These instructions may have been accidentally deleted from more recent versions due to a typographical error.

## Annex 2 – Space Modelling Judges and Organisers' Guide

**u) 4. Specific Events – d. Scale Events.** **Russia**

*Insert references and examples:*

**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.
***https://en.wikipedia.org/wiki/Ariane_(rocket_family):***

**(according to Wikipedia this is defined as a version). For example: The Union is the name of a family of rockets that has updated the options, thus: Soyuz 11A511 (1966-1975), Soyuz-L_11A511L (1970-1971), Soyuz-M 11A511M (1971-1976), Soyuz-U 11A511U (1973- 2017), Soyuz-U2_11A511U2 or11A511K (1982-1995), Soyuz-FG 11A511U-FG (2001-today), Soyuz-2.1a_14A14-1A, Soyuz-2.1b_14A14-1B, Soyuz-2-1v_14A15, Soyuz-2-ST_372-01B (2006-today), These variants are defined as prototypes of the scale model rocket.**

***(https://en.wikipedia.org/wiki/Soyuz_(rocket_family)**:*

Reason: Clarification.

*Technical Secretary's Note: Advise that references are not included. What does the first sentence: 'according to Wikipedia this is defined as a version', refer to?*

## Annex 3 – Space Models World Cup

**v) 3. Contests. Slovenia**

*Add a paragraph as follows:*

Contests included in the World Cup must appear on the FAI Sporting Calendar and be run according to the FAI Sporting Code. The contests to be counted for a World Cup in one year are to be nominated at the CIAM Bureau Meeting at the end of the preceding year and are to be indicated on the FAI Contest Calendar.

**The Bulletin No1 of each World Cup contest must be published not later than 30 days before the start of the competition by sending it to the Chairman of the Space Models Subcommittee and the World Cup Coordinator. In this bulletin all necessary data must be published: date and venue of the event, time schedule, names of the FAI jury, Scale Judges and Range Safety officer, offers for board and lodging. President of the FAI jury must be from another country. All officials (FAI jury, scale judges and RSO) can be selected only from the current list of FAI judges.**

Reason: Some organizers of the World Cup events often delay the publication of the newsletters of their competitions, causing problems to the potential participants of these competitions. The information in the bulletin is incomplete and the selection of officials is not always in line with the sports regulations.

**w) 4. Points Allocation. Belarus**

*Add an exception to the scoring for final rounds in class S8E/P as follows:*

4. Points Allocation

Points are to be allocated to competitors at each contest according to their placing and results as given in the following formula below:

…

Points are awarded only to competitors completing at least one flight in the contest.

**Are not considered scores received by competitors in the final rounds in class S8E/P.**

*cont/…*

Reason: Competitors, qualify for final round, have one official flight of more than other competitors and receive significantly more World Cup points, it's unequal conditions for competitors. In other classes scores received in additional rounds are not considered. Supporting Data: See results of any competitions in class S8E/P.

## Annex 4 – Space Models International Ranking

**x) 7. Awards.** **Slovenia**

*Amend the paragraph as follows:*

The winner earns the title World Space Modeller of the Year. **The list of the best junior competitors will be announced separately.** Certificates, medals or trophies may be awarded by the Subcommittee if available.

Reason: The additional rewarding of junior competitors contributes to the inclusion of young people in space modelling activities.

**End of Agenda Item 14**

## 15. ELECTION OF SUBCOMMITTEE CHAIRMEN

15.1. **CIAM Officers**

President
1st Vice President
2nd Vice President
3rd Vice President
Secretary
Technical Secretary

15.2. **Subcommittee Chairmen**

F2 Control Line
F3U FPV
F4 RC Scale
F5 RC Electric
F7 RC Aerostats
S Space Models

## 16. FAI WORLD AND CONTINENTAL CHAMPIONSHIPS 2018 – 2022

**VERY IMPORTANT: Each NAC/country/Delegate presenting a bid prior to voting for the award of the Championships may make a presentation of the championship organisation, lasting a MAXIMUM of 2 minutes only. Presentations for bids with only one candidate will be performed only if any of the Delegates requests so. Bidders are requested to distribute important information prior to the meeting, to each of the NACs/delegates by electronic means. This is to enable Delegates to study the contents of the bid, so that they may make informed decisions at the meeting.**

### FAI WORLD CHAMPIONSHIPS - Status as of 11 March 2018

| 2018 FAI World Championships for… | Awarded to | Location and Actual Dates |
|---|---|---|
| **F1A, F1B, F1P Juniors** | **BULGARIA** | Pazardzhik , 6 -10 August |
| **F1D (Seniors and/or Juniors)** | **USA** | West Baden, Indiana, 19 – 22 March |
| **F2A, F2B, F2C, F2D (Seniors and Juniors)** | **FRANCE** | Landres, 14 – 19 July |
| **F3F (Seniors and Juniors)** | **GERMANY** | Kap Arkona, 7-13 October |
| **F3J (Seniors and/or Juniors)** | **ROMANIA** | Brasov, 22 - 28 July |
| **F3U (Seniors and/or Juniors)** | **CHINA** | Shenzhen, 1 – 4 November |
| **F4CH (Seniors and Juniors)** | **SWITZERLAND** | Meiringen, 7 – 14 July |
| **F5B, F5D (Seniors and Juniors)** | **JAPAN** | Takikawa Hokkaido 21 - 27 July |
| **SPACE MODELS (Seniors and Juniors)** | **POLAND** | Wloclawek 29 July – 4 August |

| 2019 FAI World Championships for… | Awarded to | Location and Actual Dates |
|---|---|---|
| **F1A, F1B, F1C Seniors** | **USA** | Lost Hills, CA<br>October |
| **F1E (Seniors and/or Juniors)** | **SLOVAKIA** | Martin, 25 – 30 August |
| **F3A (Seniors and Juniors)** | Italy (firm) | To be awarded in 2018 |
| **F3B (Seniors and Juniors)** | Offers invited | To be awarded in 2018 |
| **F3CN (Seniors and Juniors)** | Germany (firm)<br>Romania (firm) | To be awarded in 2018 |
| **F3M (Seniors and Juniors)** | Offers invited | To be awarded in 2018 |
| **F3D (Seniors and Juniors)** | **AUSTRALIA** | Coolum, 7 - 11 August |
| **F3K (Seniors and/or Juniors)** | Hungary (firm)<br>Romania (firm) | To be awarded in 2018 |
| **F3P (Seniors and Juniors)** | **GREECE** | TBD |
| **F5J (Seniors and Juniors)** | **SLOVAKIA** | Trnava, August |

| 2020 FAI World Championships for… | Bids From | To be Awarded in 2018 |
|---|---|---|
| **F1A, F1B, F1P Juniors** | FYR Macedonia (firm)<br>Romania (firm) | |
| **F1D (Seniors and/or Juniors)** | Romania (firm) | |
| **F2A, F2B, F2C, F2D (Seniors and Juniors)** | Bulgaria (firm)<br>Poland (firm)<br>Hungary (firm) | |
| **F3F (Seniors and Juniors)** | Romania (firm)<br>France (firm) | |
| **F3J (Seniors and/or Juniors)** | Poland (firm)<br>Slovakia (firm) | |
| **F4CH (Seniors and Juniors)** | awarded in 2017<br>**NORWAY** | Tonsberg, 27 July -1 August |
| **F5B, F5D (Seniors and Juniors)** | Offers invited | |
| **SPACE MODELS (Seniors and Juniors)** | Romania (firm) | |

| 2021 FAI World Championships for… | Bids From | To be Awarded in 2019 |
|---|---|---|
| **F1A, F1B, F1C Seniors** | Offers invited | |
| **F1E (Seniors and/or Juniors)** | Romania (firm) | |
| **F3A (Seniors and Juniors)** | USA (firm)<br>Earlier awarding 2018 | |
| **F3B (Seniors and Juniors)** | Offers invited | |
| **F3CN (Seniors and Juniors)** | Offers invited | |
| **F3M (Seniors and Juniors)** | Romania (firm) | |
| **F3D (Seniors and Juniors)** | Offers invited | |
| **F3K (Seniors and/or Juniors)** | Romania (firm) | |
| **F3P (Seniors and Juniors)** | Romania (firm) | |
| **F5J (Seniors and Juniors)** | Ukraine (firm) | |

| 2022 FAI World Championships for… | Bids From | To be Awarded in 2020 |
|---|---|---|
| **F1A, F1B, F1P Juniors** | Offers invited | |
| **F1D (Seniors and/or Juniors)** | Offers invited | |
| **F2A, F2B, F2C, F2D (Seniors and Juniors)** | Ukraine (firm) | |
| **F3F (Seniors and Juniors)** | Offers invited | |
| **F3J (Seniors and/or Juniors)** | Offers invited | |
| **F4CH (Seniors and Juniors)** | Offers invited | |
| **F5B, F5D (Seniors and Juniors)** | Offers invited | |
| **SPACE MODELS (Seniors and Juniors)** | Offers invited | |

## **FAI CONTINENTAL CHAMPIONSHIPS** Status as of 11 March 2018

| 2018 FAI Continental Championships for… | Awarded to | Location and Actual Dates |
|---|---|---|
| **F1A, F1B, F1C Seniors** | **HUNGARY** | Szentes, 23 – 28 July |
| **F1E (Seniors and/or Juniors)** | **SLOVAKIA** | Martin, 26 – 29 August |
| **F3A (Seniors and Juniors)** | **BELGIUM** | Grandrieu, 21 – 28 July |
| **F3A Asian-Oceanic (Seniors and Juniors)** | ~~**PHILIPPINES**~~ **cancelled** | ~~Bacolod City, 5-13 May~~ |
| **F3B (Seniors and Juniors)** | No Offers | |
| **F3CN (Seniors and Juniors)** | No Offers | |
| **F3CN Asian-Oceanic (Seniors and Juniors)** | No Offers | |
| **F3K (Seniors and/or Juniors)** | **SLOVAKIA** | Martin, 8 -14 July |
| **F3P (Seniors and Juniors)** | No Offers | |
| **F5J (Seniors and Juniors)** | **BULGARIA** | Dupnitsa, 19-25 August |

| 2019 FAI Continental Championships for… | Awarded to | Location and Actual Dates |
|---|---|---|
| **F1A, F1B, F1P Juniors** | **FYR MACEDONIA** | Prilep |
| **F1D (Seniors and/or Juniors)** | **CZECH REPUBLIC** | |
| **F2A, F2B, F2C, F2D (Seniors and Juniors)** | ~~**SPAIN**~~ **Cancelled** Offers invited | To be awarded in 2018 |
| **F3F (Seniors and/or Juniors)** | Offers invited | To be awarded in 2018 |
| **F3J (Seniors and/or Juniors)** | **POLAND** | end of July / beginning of August |
| **SPACE MODELS (Seniors and Juniors)** | **ROMANIA** | |

| 2020 FAI Continental Championships for… | Bids from | To be Awarded in 2018 |
|---|---|---|
| **F1A, F1B, F1C Seniors** | FYR Macedonia (firm) | |
| **F1E (Seniors and/or Juniors)** | Romania (firm) | |
| **F3A (Seniors and Juniors)** | Offers invited | |
| **F3A Asian-Oceanic (Seniors and Juniors)** | Offers invited | |

| | | |
|---|---|---|
| **F3B (Seniors and Juniors)** | Offers invited | |
| **F3CN (Seniors and Juniors)** | Offers invited | |
| **F3CN Asian-Oceanic (Seniors and Juniors)** | Offers invited | |
| **F3K (Seniors and/or Juniors)** | Romania (firm) | |
| **F3P (Seniors and Juniors)** | Romania (firm) | |
| **F5J (Seniors and Juniors)** | Offers invited | |
| **F3P (Seniors and Juniors)** | Offers invited | |

| 2021 FAI Continental Championships for… | Bids from | To be Awarded in 2019 |
|---|---|---|
| **F1A, F1B, F1P Juniors** | Romania (firm) | |
| **F1D (Seniors and/or Juniors)** | Romania (firm) | |
| **F2A, F2B, F2C, F2D (Seniors and Juniors)** | Offers invited | |
| **F3F (Seniors and/or Juniors)** | Romania (firm) | |
| **F3J (Seniors and/or Juniors)** | Offers invited | |
| **SPACE MODELS (Seniors and Juniors)** | Romania (firm) | |

| 2022 FAI Continental Championships for… | Bids from | To be Awarded in 2020 |
|---|---|---|
| **F1A, F1B, F1C Seniors** | Offers invited | |
| **F1E (Seniors and/or Juniors)** | Offers invited | |
| **F3A (Seniors and Juniors)** | Offers invited | |
| **F3A Asian-Oceanic (Seniors and Juniors)** | Offers invited | |
| **F3B (Seniors and Juniors)** | Offers invited | |
| **F3CN (Seniors and Juniors)** | Offers invited | |
| **F3CN Asian-Oceanic (Seniors and Juniors)** | Offers invited | |
| **F3K (Seniors and/or Juniors)** | Offers invited | |
| **F3P (Seniors and Juniors)** | Offers invited | |
| **F5J (Seniors and Juniors)** | Offers invited | |

## 17. ANY OTHER BUSINESS

## 18. NEXT CIAM MEETINGS

The table of Agenda Annexes appears overleaf.

## ANNEXES TO THE AGENDA OF THE 2018 CIAM PLENARY MEETING

| ANNEX FILE NAME | ANNEX CONTENT |
|---|---|
| ANNEX 1 (a-b) | FAI Code of Ethics, Nomination Form for Office Holders |
| ANNEX 2 (a-m) | 2017 FAI Championship Reports |
| ANNEX 3 (a-r) | 2017 Subcommittee Chairmen Reports, Technical Secretary, Treasurer Reports, CIAM Flyer, EDIC WG, Scholarship, Juniors Survey |
| ANNEX 4 (a-n) | 2017 World Cup Reports |
| ANNEX 5 (a-d) | 2017 Trophy Reports |
| ANNEX 6 (a-h) | FAI-CIAM Awards: Nominee Forms |
| ANNEX 7a | F2 Annex 4H Proposal 1 |
| ANNEX 7b | F2 Annex 4H Proposal 2 |
| ANNEX 7c | F3P Section 5.9 |
| ANNEX 7d | F3P-AFM Annex 5M Schedule - Manoeuvres |
| ANNEX 8 (a-e) | Scholarship Candidates |

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