Fédération Aéronautique Internationale

Agenda

of the e-Plenary Meeting of the
FAI Aeromodelling Commission

To be held via Zoom conference Call Application
on 1st April 2023

Version 1.1

Maison du Sport International
Avenue de Rhodanie 54
CH-1007 Lausanne
Switzerland
Tel: +41(0)21/345.10.70
Fax: +41(0)21/345.10.77
Email: info@fai.org
Web: www.fai.org

AGENDA
CIAM PLENARY MEETING 2023

to be held via Zoom Conference Call Application
on Saturday 1 April 2023, at 13:00 (CEST)

1. PLENARY MEETING SCHEDULE AND TECHNICAL MEETINGS

After confirmation by the relevant Subcommittee Chairmen, the following Technical Meetings will be held this year: F1, F3A, F3 Soaring, F3CN, F5, F9, Space Models and Education. In addition, the F3DE Interim Meeting is included in the program.

The Technical Meetings will take place via Zoom Conference Call Application before the CIAM Plenary session. One additional session will be held related to the CIAM General Rules. The updated Schedule of the Technical Meetings can be found in the FAI website https://www.fai.org/page/ciam-plenary-2023

Please consult this page regularly since you will be able to find all the details and documents for all sessions.

The program of the Technical Meetings is the following:

	9:30	13:00	19:00
March 4, Saturday		F3 Aerobatics	
March 5, Sunday		F3 Helicopter	F1-Free Flight
March 11, Saturday	F3 Soaring	CIAM General Rules	F5 Electric
March 12, Sunday	Space Models		F3 Pylon (interim)
March 18, Saturday	Education		
March 25, Saturday		F9 Drone	

All times for the Technical Meetings are as of Lausanne (CET). However, the Plenary Meeting will be with the Daylight Saving Time in place. (CEST)

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 PLENARY MEETING, AND OF THE DECEMBER 2022 BUREAU MEETING

4.1. **2022 e-Plenary**

- 4.1.1. Corrections
- 4.1.2. Approval
- 4.1.3. Matters Arising.

4.2. **2022 December e-Bureau Meeting**

- 4.2.1. Corrections
- 4.2.2. Approval
- 4.2.3. Matters Arising

5. APRIL 2023 BUREAU MEETING DECISIONS`

Distribution and comments of the April 2023 Bureau Meeting decisions.

6. NOMINATION AND ELECTION OF SUBCOMMITTEE CHAIRMEN (ANNEX 1b)

Subcommittee Chairmen to be elected

- F1 Free Flight
- F3 RC Aerobatics
- F3 RC Soaring
- F3 RC Helicopter
- F3 RC Pylon Racing
- S Space Models

Note. The nominations will be announced on March 22nd. The voting process will take place electronically from March 30th and March 31st, all day long, with notification from the FAI office to the authorised delegates.

6.1. Subcommittee Chairmen to be confirmed

- F2 Control Line
- F4 Scale
- F5 RC Electric
- F7 RC Aerostats
- F9 Drone Sport
- Education

7. REPORTS

7.1. 2022 FAI General Conference, by the FAI office representative

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

7.3. 2022 FAI World and Continental Championships, Jury Chairmen (ANNEX 2)

7.3.1. 2022 FAI F1 Juniors World Championship for Free Flight Model Aircraft. Bulgaria. Per Findahl

7.3.2. 2022 FAI F1D World Championship for Free Flight Indoor Model Aircraft. Romania. Andras Ree

7.3.3. 2022 FAI F2 World Championships for Control Line Model Aircraft. Poland. Massimo Semoli

7.3.4. 2022 FAI F3DE World Championship for Pylon Racing Model aircraft. USA. Barrie Lever

7.3.5. 2022 FAI F3F World Championship for Model Gliders. Denmark. Tomas Bartovsky

7.3.6. 2022 FAI F3J World Championship for Model Gliders. Slovakia. Tomas Bartovsky

7.3.7. 2022 FAI F3K European Championships for Model Gliders. Slovakia. Tomas Bartovsky

7.3.8. 2022 FAI F4CH World Championship for Scale Model Aircraft. Norway. Narve Jensen

7.3.9. 2022 FAI F5B World Championship for Electric Model Aircraft. Bulgaria. Andras Ree

7.3.10. 2022 FAI F1 Seniors European Championship for Free Flight Model Aircraft. North Macedonia. Ian Kaynes

7.3.11. 2022 FAI F1E European Championship for Free Flight Model Aircraft. Romania. Narve Jensen

7.3.12. 2022 FAI F3A European Championships for Aerobatic Model Aircraft. Spain. Peter Uhlig

7.3.13. 2022 FAI F5J European Championship for Electric Model Aircraft. Hungary. Emil Giezendanner

7.3.14. 2022 FAI S European Championships for Space Models. Serbia. Narve Jensen

7.4. **2022 Sporting Code Section 4: CIAM Technical Secretary, Mr Tyson Dodd (ANNEX 3)**

7.5. **2022 Subcommittee Chairmen (ANNEX 3)**

7.5.1. Free Flight: Ian Kaynes

7.5.2. Control Line: Vernon Hunt

7.5.3. RC Aerobatics: Peter Uhlig

7.5.4. RC Soaring: Tomas Bartovsky

7.5.5. RC Helicopters: Stefan Wolf

7.5.6. RC Pylon: Barrie Lever

7.5.7. RC Scale: Pal Linden Anthonisen

7.5.8. RC Electric: Sotir Lazarkov

7.5.9. Aerostats: Johannes Eissing

7.5.10. Drone Sport: Bruno Delor

7.5.11. Space Models: Zoran Pelagic

7.5.12. Education: Per Findahl

7.6. **2022 World Cups, by World Cup Coordinators (ANNEX 4)**

7.6.1. F1 - Free Flight World Cup: Ian Kaynes

7.6.2. F2 - Control Line World Cup: Jo Halman

7.6.3. F3A - RC Aerobatics World Cup: Rob Romijn

7.6.4. F3B - RC Multi-Task Gliders: Martin Weberschock

7.6.5. F3C - RC Helicopter World Cup: Stefan Wolf – Ian Emmery

7.6.6. F3D – RC Pylon Racing: Barrie Lever

7.6.7. F3F - RC Slope Soaring Gliders World Cup: Lukas Gaubage

7.6.8. F3J - RC Thermal Duration Gliders World Cup: Sotir Lazarkov

7.6.9. F3K - RC Hand Launch Gliders World Cup: Erik Dahl Christensen

7.6.10. F3P - RC Indoor Aerobatics World Cup: Peter Uhlig

7.6.11. F9 - RC Drone Racing World Cup: Bruno Delor

7.6.12. F5J - RC Electric Powered Thermal Duration Gliders World Cup: Sotir Lazarkov

7.6.13. S - Space Models World Cup: Zoran Pelagic

7.7. **2022 Trophy Report, by CIAM Secretary, Massimo Semoli (ANNEX 5)**

7.8. **Aeromodelling Fund- Budget 2023, 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, Manfred Lex (ANNEX 3)**

7.11 **2022 CIAM Scholarship Report, by Education S/C Chairman, Per Findhal (ANNEX 3)**

7.12 **CIAM Rookie Project Report, by Education S/C Chairman, Per Findhal (ANNEX 3)**

8. PRESENTATION OF 2022 FAI WORLD CHAMPIONSHIPS MEDALS COUNT PER NATION

9. PRESENTATION OF 2022 WORLD CUP AWARDS

PRESENTATION FOR
The 2022 World Cup awards for classes F1A, F1A junior, F1B, F1B junior, F1C, F1E, F1E junior, F1Q, F1Q junior, F2A, F2B, F2C, F2D, F2A junior, F2B junior, F2C junior, F2D junior, F2B female, F2C female, F2D female, F3A, F3B, F3C, F3D, F3F, F3K, F3T, F3J, F5J, F9U, S4A, S6A, S7, S8P and S9A

Since the meeting will be with the use of Zoom, the medals and diplomas will be shipped after the end of the Plenary.

10. SCHOLARSHIP SELECTION APPROVAL (ANNEX 8)

- Yval SARIG (Israel)
- Capucin RAGOT (France)
- Klaudia MATEOVA (Slovakia)
- Ivan CHORNYY (Ukraine)
- Skylar DONNELLY (USA)

11. NOMINATIONS FOR FAI-CIAM AWARDS (ANNEX 6)

Alphonse Penaud Diploma

- Dezso ORSOVAI (Hungary)
- Max MERCKENSCHLAGER (Germany)
- Igor BURGER (Slovakia)
- Robert SIFLEET (USA)

Andrei Tupolev Diploma

- No candidates

Antonov Diploma

- Zoran PELAGIC (Slovakia)

Frank Ehling Diploma

- Arthur H. “Trip” BARBER (USA)

Andrei Tupolev Medal

- Michal ŽITNAN jr. (Slovakia)

FAI Aeromodelling Gold Medal

- Wolfgang SCHULZ (Germany)
- Zdravko TODOROSKI (North Macedonia)

Note. The voting process will take place electronically 30th and 31st March 2023, all day long, with notification from the FAI office to the authorised delegates.

ITEM NUMBERS 12, 13 ARE INTENTIONALLY NOT USED

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.

The text of the submitted proposals may have been changed to correct the English grammar or to improve clarity and understanding. Technical Secretary notes should be addressed, if required, at the Technical Meetings.

14.1 Volume CIAM General Rules, Section B

a) B.1.2.7 Category F9 - Drone Sport **CIAM Bureau**

This category includes the following classes (provisional classes):
F9A - ~~RC~~ Drone Soccer
F9U - ~~RC Multi-rotor~~ Drone Racing

Reason: Change the names of these categories.

14.2 Volume CIAM General Rules, Section C

a) C.2.1.1 World Championships **CIAM Bureau**

c) Each World Championships is normally held every other year (2-year cycle). Each CIAM Sub Committee may decide to propose to increase the cycle period for World Championship from two (2) years, to four (4). A proper justification for this proposal shall be submitted for consideration by the CIAM Plenary Meeting.

Reason: It might be a case that in some classes the World Championship are not well attended and this proposal may assist the class to keep the championship status.

b) C.4 Sanction Fees **CIAM Bureau**

a) A sanction fee is required for listing any type of event in the FAI Sporting Calendar. **The sanction fee consists of a standard amount defined by CIAM Bureau and a variable amount depending on the number of participants.**

b) The **standard** sanctions fees are as follows:
First category events:

World Championship = ~~500 Euro~~ **350 Euro**

Continental Championship = ~~300 Euro~~ **250 Euro**

Second category events:

Open International (World Cup or Non World Cup) = ~~70 Euro~~ **80 Euro**

International Series contest = ~~70 Euro~~ **80 Euro**

The variable amount is applicable only for World or Continental Championships and is ten (10) Euro per participant.
The standard amount shall be paid by the organizer according to the terms described in the Organizer Agreement (OA). The variable amount shall be paid for each Team Manager and/or Competitor together with the entry fees. The payment of this part of the sanction fees must be transferred to the FAI at least fifteen (15) days before the published start date of the competition. The FAI Jury President will not approve the competition results and declare the event to be valid without evidence of this payment. In case there are more than one class in the championship, each participant as described above shall pay once this fee. Also, this fee will be paid once, if the Team Manager is also participating as competitor.
……

d) The sanction fee of cancelled events (no matter at what date the cancellation occurred) is not refundable, nor can it be used for sanctioning future events, **unless there is a Force Majeure situation, previously declared by CIAM Bureau.**

If the above proposal is accepted then an additional modification will be required.

C.15.5 Entry and additional fees
C.15.5.1 Entry fees
d) For World or Continental Championship, the maximum entry fee shall be 300 € for up to seven nights except for the following classes:
F3A/P: 450 €F3B: 400 € F3C-F3N: 400 € F3D-F3E: 420 €

F4: 400 € F5B-F5J: 400 €

In these fees the amount of 10 Euro described in C.4 (Sanction Fees) is not included and it will be added.

Reason: A new method for sanction fees is introduced. This will lower the cost for the organizer. In addition, the number of participants will be a factor for the sanction fee. A similar system is followed by other Airsport Commissions.

c) C.5. Competitors, Team Managers and National Team F1 Subcommittee

Section: C.5.3 National team for World and Continental Championships

Modify items C.5.3(d) and (e)

d) The reigning Junior World or Junior Continental Champion has the right (subject to the approval of his National Airsports Control) to participate in the next **Junior** World or Continental Championships in that category regardless of whether he qualifies for the national team or not, and provided that he will still be a junior pilot when the next **Junior** World or Continental Championships are held. If he is not a member of the national team, his score will not be considered in the team results.

e) Any Junior World or Continental Champion who will be too old to defend his title at the next Junior World or Continental Championships is entitled **(subject to the approval of his National Airsports Control)** to fly in the next appropriate World or Continental Championship for the concerned class in that category following his becoming Junior World or Continental Champion

Reason: There has been some misunderstanding of which Championships are covered in (d). This clarifies that (d) refers to juniors defending their titles in junior championships. The case of flying in other “senior” championships is covered in (e) for competitors who are too old to defend their title in junior championships. The change to (e) is simply to add the need for approval by his NAC in the same way that this is required in (c) and (d).

d) C.5. Competitors, Team Managers and National Team **CIAM Bureau**

a) For those categories that do not have separate Junior World and Continental Championships, a national team may consist of a maximum of 5 individual competitors or 5 pairs of competitors for each category, providing that at least one competitor (or pair) is Female and at least one is Junior; and a Team Manager.
All Females and Juniors will compete for the overall individual classification. Additionally, there is a **separate** Female classification and **a separate** Junior classification, both with FAI medals and diplomas, **depending on the provisions as described in C.15.6.**

b) For those categories that have separate Junior World and Continental Championships, the national team may consist of a maximum of 4 competitors (or pairs), providing at least one competitor (or pair) is Female; and a Team Manager.
All Females will compete for the overall individual classification. Additionally, there is a Female classification with FAI medals and diplomas, **depending on the provisions as described in C.15.6.**

……..

f) Each CIAM Sub Committee taking into account, the financial viability of an event, the expected number of participants based on statistical information from previous events, may consider, working together with the organizer to propose to CIAM Bureau an alternative way to allow more competitors to participate, so to make the event happened, instead of cancellation due to limited number of participants.
For this the S/C has to consider:
- the maximum total number of competitors, which will allow the event to happen withing the defined period
- the minimum number of competitors under which the event is no longer financially viable.

COMPETITOR INVITATION PROCEDURE PHASES
Phase 1
When the Bulletin 1 is published there is a deadline when the NACs may submit the PEF. After this, the organizer will evaluate the situation and if the number of expected participants is below the minimum number which makes the event financially viable, they can ask CIAM to consider cancelling the event as per the provisions of the rules or may consider to initiate a second phase for accepting more participants by sending this time, invitations.

Phase 2
In such a case and with the approval of CIAM Bureau the organizer may send out invitations to the NACs which already had expressed with the PEF, their intention to participate. At the same time, even the relevant CIAM S/C may also send invitations considering the World Cup ranking or similar criteria, which will ensure that the invited participants in Phase 2 are competent to participate in an FAI First Category event.
Invitations for Phase 2 shall not exceed the maximum number of participants allowed for the event.
The participants who will be invited by the S/C must also have the approval of their NAC in order to participate.
The invited participants in Phase 2 can only be part of the individual classification.

Registration from participants invited of Phase 2, will not be accepted later than 90 days for World Championships or 60 days for Continental Championships before the start of the event. This deadline is set so to allow the organizer and CIAM Bureau to decide for the event.

Reason: There are classes not well attended and due to limited number of participants the event is cancelled. With this new proposal additional participants may participate and so the event will happen.

e) C.7.1 FAI Jury **CIAM Bureau**

a) All international contests included in the FAI Contest Calendar shall have an FAI Jury of three members at least two of whom shall be chosen for their competence in the category being flown in the event. It is the responsibility of the Jury to see that the event is conducted in accordance with the relevant provisions of the FAI Sporting Code Section 4, and it is empowered to make all decisions dictated by any circumstances which may arise and to rule on disputes. Before the start of the contest, the FAI Jury must make sure that the organiser has satisfied the requirements of C.16.

If the expected number of participants after the PEF's are returned to the organizer, then the CIAM Bureau only after a proposal from both the S/C Chairman and the organizer, may decide to use one remote juror in order to reduce the cost. In such an exceptional case the residency of this Juror has to be in a time zone at a maximum two (2) hours of the venue. This alternative option, in order to be implemented, has to be announced together with the Bulletin 1. CIAM Bureau will consider this, only after a detailed cost analysis will be submitted from the organizer to the S/C Chairman.

Reason: Another proposal to reduce the cost in championships with limited number of participants

f) C.10. 2 Number of Models eligible for entry **Italy and Slovakia**

Add the following text in par.C.10.2 as follows:

For classes S1, S2, S3, S4, S6, S8 and S9 one (1) additional model may be processed and flown by the competitor on there being a tie for first place at the end of the third round. **A single (1) model may be processed only in the case that after the first fly-off the winner is not decided and none of the competitors has retrieved his model or if there is no official flight in the second fly-off.**

Reason: The intention is to clarify when another model may be issued to the competitor in case of a F-O, and in case of a unsuccessful second F-O, to avoid any issues which happened in the past. Concrete cases happened during the World Championships both in 2014 in S3A and in 2018 in S9A. In 2014 it was the subject of long discussions and agreements between jury and Team managers. Since then, it has become a custom that needs to be regulated.

g) C.10.2 Class S- Space Models.1 General Rules for International Contest

Slovakia

C2.2.3
Add the specified text in paragraph C.2.2.3 as shown in text.

C.2.2.3 World Cup
This is a classification of the results of specific Open Internationals during a year. A World Cup may be organised by the relevant CIAM Subcommittee for any of its classes.

There must be at least five valid contests held in any class of World Cup for medals and diplomas to be awarded. Classification for any particular category is contained in the World Cup regulations in the appropriate Volume of the FAI Sporting Code. ***If not specified differently in the appropriate Volume of the FAI SC, the minimum number of competitors for a World Cup competition is four (4).***

Reason: World Cup contests need to have a certain level of competition, thus, to be eligibly considered as international, there needs to be a specified minimal number of attendees in general. Every Subcommittee has the possibility to adjust the number by itself if it feels a different number of attendees is more appropriate.

h) C.11.1 Class F – Model Aircraft **CIAM Bureau**

a) Model aircraft, except for Indoor Free Flight, **F3P – Radio Control Indoor Aerobatic Aircraft** and Scale, shall carry:

Reason: F3P class models have a very delicate covering material and a sticker can't be removed since this will damage the material

i) C.11.1 Class F – Model Aircraft **The Netherlands**

Modify C11.1 as follows

i) The national identification mark followed by the FAI Unique ID number. The letters and numbers must be at least 25 mm high and appear ~~at least~~ once on each model (on the upper surface of a wing for Free Flight models).

Reason: One national identification mark per model is common practice.

j) C.13. Requirements for Organisation of International Events

F1 Subcommittee

Section: C.13.7 Results of international events

Add new item (h)

(h) The published results must be presented in the order of the final classification (winner at the top)

Reason: The final classification order is necessary for immediate recognition of the successful competitors. Although an obvious requirement, it was not followed at one championship in 2022.

k) C.13. Requirements for Organisation of International Events

F1 Subcommittee

Section: C.13.8 Fuel

Add new item (d)

(d) Fuel supplied to competitors must be clearly labelled including warnings of flammability and danger if swallowed.

Reason: The labels should include internationally recognised danger symbols and wording according to international guidelines (such as EC guide)

l) C.15.1 CIAM championship naming policy **CIAM Bureau**

All Elements of the main title are mandatory						
YEAR	**FAI**	**CIAM CLASS CODE**	**DESIGNATION** (where appropriate)	**REGION**	**TYPE**	**CATEGORY**
2019	FAI	F1ABC F1ABP	Junior	World European Asian-Oceanic	Championship Championships	for Free Flight Model Aircraft
		F1D				for Indoor Model Aircraft
		F1E				for Free Flight Slope Soaring Gliders
		F2				for Control Line Model Aircraft
		F3A				for Aerobatic Model Aircraft
		F3B				for Model Gliders
		F3CN				for Model Helicopters
		F3D/F3E				for Pylon Racing Model Aircraft
		F3F				for Model Gliders
		F3J				for Model Gliders
		F3K				for Model Gliders
		F3P				for Indoor Aerobatic Model Aircraft
		F4				for Scale Model Aircraft
		F5B				for Electric Model Gliders
		F5J				for Electric Powered Thermal Duration Gliders
		~~F9U~~				~~for Multi-rotor Drone Racing~~
		~~S~~				for Space Models

Optional sub-titles (only for Bulletins)			
(Class Name/s & Description/s) (For Seniors and Juniors) (For Seniors and/or Juniors)			
Mandatory sub-title (only for Bulletins)			
From - To	Year	Venue	Country

Reason: F9U class is still a provisional class. S for Space Models makes no sense in the title.

m) C.15.2 Current World Championships **F1 Subcommittee**

C.15.2.1 Class F (Model Aircraft)

Accept the class F1Q as a World Championship class.

First entry under Odd years F1ABC**Q** (Senior)

Reason: The class has been increasing participation and is considered to meet the requirements of C.14.1:

2022: 4 of the World Cup competitions had at least 6 nations competing. There was a total of 279 competitors in 2022, with 2 competitions in December not included in this figure.

2019: 3 of the World Cup competitions had at least 6 nations competing. There was a total 185 competitors in 2019

Note that these statistics are based on the last two complete years of World Cup. No World Cup was held in 2020 and in 2021 there was a limited programme with many people prevented from competing because of covid19 limits on international travel.

It is possible that F1Q could be flown on the same day as F1C, which has the smallest entry of F1A F1B and F1C, which would avoid extending the championships by an extra day. This will have to be determined by indications of the potential participation.

n) C.15.2 Current World Championships **F1 Subcommittee**

Section: C.15.2.1 Class F (Model Aircraft)

Replace the class F1P in Junior Championships by F1Q
First entry under Even years F1AB~~P~~**Q** (Senior)

Reason: The class F1P has had a constant and rather small entry at recent championships. Partly this results from the class differing from the power class F1C flown at senior championships and at more World Cup events.

This is reflected by the small number of competitors in the F1P Junior World Cup, while there have been more competitors in the F1Q Junior World Cup in its first year of operation.

It is anticipated that there will be greater participation in F1Q at junior championships, with the easy operation of the models, and the modern appeal of electric operation. Furthermore, there are a considerable number of F1Q World Cup events in which the juniors can fly their F1Q and continue doing so after than exceed the junior age limit to become seniors.

o) C.15.6 Classification CIAM Bureau

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 of World Champion or Continental Champion in the class.

b) For any class where a junior may participate in a World or Continental Championship as a fourth team member under C.5.3 a), all juniors are considered for the following awards:
- FAI medals and diplomas will be awarded to the first, second and third placed juniors **only if six (6) or more juniors are competing. If the number of juniors participants is less than this number (six), then only FAI diplomas will be awarded** ~~If only one or two juniors compete in the class, they shall be awarded an FAI medal and diploma.~~
- The best junior earns the title of Junior World or Continental Champion if juniors from at least four different nations participate in that class **and the total number of juniors are six (6) or more.**

c) For any World or a Continental Championship, all females are considered for the following awards:
- FAI medals and diplomas will be awarded to the first, second and third placed females **only if six (6) or more females are competing. If the number of females participants is less than this number (six), then only FAI diplomas will be awarded**. ~~If only one or two females compete in the class, they shall be awarded an FAI medal and diploma.~~
- The best female earns the title of Female World or Continental Champion if females from at least four different nations participate in that class **and the total number of females are six (6) or more.**

d) For any World or Continental Championship, where there are juniors or females participants, if they are awarded a medal for the first, second or third place in the individual classification, they will not be entitled for additional medals as juniors or females.

Reason: There were a lot of problems with the medals for juniors and/or females in events where even only one junior or female were participating. It happened that such a competitor was ending in the last place and he/she was awarded with a medal which of course is minimizing the value of the medal.

p) C.15.10 Multiple Classes (combined Championships – Cancellation of a class **CIAM Bureau**

In multiple class (combined) championships, if it turns out to be that after the end of the deadline to submit the Preliminary Entry Form (PEF), the number of entries in a class or classes is low, it is up to the organizer, in consultation with the CIAM Bureau, to cancel the competition for the class or classes concerned.

This can happen especially in classes where there is an extra cost for the organizers (additional judges, additional flight line etc), which cannot be covered from the entry fees. Such decision has to be taken after the end of the deadline for the PEF and before the deadline for the Final Entry Form (FEF) submission. This shall be announced together with the Bulletin 2.

Reason: There are cases where combined championships are cancelled due to high cost. It might be a case that by cancelling one class the event can be organized.

q) C.16.1 General requirements **France**

In paragraph C.16.1 insert a new sub-paragraph a) as follows and re-number the existing sub-paragraphs a), b), c), …. j), to b), c) d), …. k):

a) Mention a deadline for the competitors to register and pay the entry fee and publish after the deadline the list of the registered competitors in order to permit reserve competitors to register where applicable.

Reason: Regularly pilots register and wait to be on the competition's site to pay the entry fee and sometimes even do not come.

The result is that too often, the number of pilots participating in the competition is lower than the maximum number set by the organizer while there are pilots on the waiting list who have not been able to register.

14.3 Section 4 Volume F1 - Free Flight

a) Entire Volume **F1 Subcommittee**

Clarification – Change the numbering system;

Replace the numbering of paragraphs with the number 3 by the class abbreviation, so that for example section 3.1.. for F1A Glider specification becomes F1A.., 3.3.. for F1C becomes F1C... and in provisional classes 3.G. for F1G becomes F1G… For Annexes to the volume change the leading 3 to F1.

Refer to attached Example

Reason:

The present numbering system dates from the time when the Sporting Code was printed as a single paper volume covering all aspects of CIAM. The initial sections contained the rules which are known in the CIAM General Rules volume and the following sections contained the technical regulations for each class, section 3 for free flight, section 4 for control line, etc. This was logical in this single physical volume but the last Sporting Code in this format was printed during the 1990s and then in 2001 the present system of independent volumes for each technical category was introduced. Each technical volume is an independent document and it make no sense to maintain the numbering system, of all paragraphs beginning with 3 in volume F1.

It is proposed to replace the first and second numbers in each class by the unique class abbreviation. This has the benefit of immediate recognition of which class any paragraph applies to. For example, quoting paragraph 3.5.4 needs translation to know that it applies to class F1E whereas the proposed numbering F1E.4 makes this obvious.

The proposed system for class specifications is consistent with the present format of using just F1 as the start of the numbering of the general rules which apply to all classes.

Since all numbers are entered specifically in the volume it is a relatively simply edit to change the format in the way proposed. .

b) F1.2 Timing **F1 Subcommittee**

F1.2.1 Timekeepers

Clarification – *Add text to F1.2.1(b)*

b) Competitors may act as timekeepers for flights of other competitors. **The requirement for at least two timekeepers always applies.**

Reason: A clarification that at least two timekeepers are necessary for timing each flight including in this circumstance when timekeepers are not provided by the organisers

c) 3.2.8 Classification **USA**

Modify section3.2.8 as per below:

c) The organiser will establish a ~~7~~ **10**-minute period during which all fly-off competitors must wind their rubber motor and launch their model. Within these ~~7~~ **10** minutes the competitor will have the right to a second attempt in the case of an unsuccessful attempt for an additional flight according to para 3.2.5. Starting positions will be decided by a draw for each fly-off.

Reason: The rule change last cycle which defined winding to take place during the seven-minute window was a good move and eliminated the confusion and management difficulty of the previous rule which allowed winding to take place before the opening of the round. However, an unintended consequence is that F1B now has effectively five minutes to pick air and launch. This can affect the fairness to some flyers in a large flyoff where the flight line is sufficiently long as to virtually guarantee that the participants on about one third of the line will have no chance of flying in good air. These competitions are too important for non-advancement in a flyoff to be determined by random draw.

d) 3.3.2. Characteristics of Model Aircraft with Piston Motor(s) F1C **F1 Subcommittee**

The rule change should become effective: on 1.1.2025 to give enough time to up-date the programs of the existing timers. Modify text in 3.3.2

3.3.2 Characteristics of Model Aircraft with Piston Motor(s) F1C:
F1C models must be fitted with functional radio control only for irreversible actions to control dethermalisation of the model. This must include stopping the motor if it is still running. **The full functionality of radio control must be available from the moment the model aircraft is ready to be refueled and must be available till the activation of DT by the timer or by radio control.** Any malfunction or unintended operation of these functions is entirely at the risk of the competitor.

Reason: For safety reasons since some years it is mandatory, that the RDT function (radio controlled dethermalization) includes the stopping of the motor. But the pilot may release the model without starting the timer – and some systems are not ready to react on an RDT signal in this case. The result is an uncontrolled model aircraft which comes to the ground with running engine at high speed although the safety feature radio control is plugged in, but not activated by the timer. This can result of severe injuries of persons in the flying area. This dangerous described scenario happened many times in the last years e.g. at the W/C in France 2013 and at the E/C in North Macedonia 2022 – here even multiple times.

Thus, it must be ensured, that the system is able to act on a RDT signal as soon as it is ready for start. From the moment the model aircraft is refueled the competitor is able to start the engine and launch the model aircraft.

e) 3.3.2. Characteristics of Model Aircraft with Piston Motor(s) F1C Germany

Clarification (SAFETY)

The rule change should become effective: on 1.1.2025 to give enough time to update the programs of the existing timers.

F1C models must be fitted with functional radio control only for irreversible actions to control dethermalization of the model. This must include stopping the motor if it is still running. **The full functionality of radio control must be available from the moment the model aircraft is ready to be refuelled and must be available till the activation of DT by the timer or by radio control.** Any malfunction or unintended operation of these functions is entirely at the risk of the competitor

Reason: For safety reasons since some years it is mandatory, that the RDT function (radio controlled dethermalization) includes the stopping of the motor. But the pilot may release the model without starting the timer – and some systems are not ready to react on an RDT signal in this case. The result is an uncontrolled model aircraft which comes to the ground with running engine at high speed although the safety feature radio control is plugged in, but not activated by the timer. This can result of severe injuries of persons in the flying area. This dangerous described scenario happened many times in the last years e.g. at the W/C in France 2013 and at the E/C in North Macedonia 2022 – here even multiple times.

Thus, it must be ensured, that the system is able to act on a RDT signal as soon as it is ready for start. From the moment the model aircraft is refuelled the competitor is able to start the engine and launch the model aircraft. After the DT the model is no longer in a status to be started without an activation of the timer.

Supporting Data for proposal:

- The described changes can be done by updating the timer software. No new electronic stuff is needed to provide a much higher safety level.
- The handling of the model will be not changed for the pilot.
- The described change ensures that the engine of the model can be started only if the timer is active listening to the radio-controlled DT-signal.
- Monitoring of audible or visible signals by the pilot are not necessary – a monitoring which often fails in the stress of starting a model in competition.
- To understand the procedure of making a F1C model ready for start and the link to the status of the timer, the process is here described in detail:
- After a flight of a F1C all levers at the timer are open. To refuel a F1C the tube, which will flood the engine to stop it after 4 sec, must be closed/clamped. Furthermore, the engine brake must be opened. If the tube is not clamped, you cannot refuel the tank.
- Thus, the first step is to bring the timer in starting position, to allow clamping the tube and opening the engine brake. For this action, the timer must be switched on. Without this action, you cannot refuel and in consequence you cannot fly.
- And from this moment on, the timer must be active watching for an RDT signal. That's all.

- Thus, you cannot forget to activate the timer, as otherwise you cannot fly. No chance to forget it.
- There is a strong link between active timer and possibility to fly – to fly in line with the requirement of the sporting code „functional radio control".

f) 3.3.2. Characteristics of Model Aircraft with Piston Motor(s) F1C Germany

Clarification (Safety) - ***The rule change should become effective:***
on 1.1.2024 *to give enough time to up-date the programs of the existing timers*

F1C models must be fitted with functional radio control only for irreversible actions to control dethermalization of the model. This must include stopping the motor if it is still running. **The full functionality of radio control must be available from the moment the model aircraft is ready to be refuelled and must be available till the activation of DT by the timer or by radio control.** Any malfunction or unintended operation of these functions is entirely at the risk of the competitor.

Reason:
For safety reasons since some years, it is mandatory, that the RDT function (radio controlled dethermalization) includes the stopping of the motor. But the pilot may release the model without starting the timer – and some systems are not ready to react on an RDT signal in this case. The result is an uncontrolled model aircraft which comes to the ground with running engine at high speed although the
safety feature radio control is plugged in, but not activated by the timer. This can result of severe injuries of persons in the flying area. This dangerous described scenario happened many times in the last years e.g. at the W/C in France 2013 and at the E/C in North Macedonia 2022 – here even multiple times.
Thus, it must be ensured, that the system is able to act on a RDT signal as soon as it is ready for start. From the moment the model aircraft is refuelled the competitor is able to start the engine and launch the model aircraft. After the DT the model is no longer in a status to be started without an activation of the timer.

Refer to Annex 7a for supporting Material

g) 3.4.2 Characteristics of Indoor Model Aircraft F1D USA

Clarification: Discussed and requested inclusion by Subcommittee

Insert below text AFTER "The competitor must be the builder of the models entered

3.4.2. Characteristics of Indoor Model Aircraft F1D

Maximum wingspan of the monoplane model ..... 550 mm,
Maximum chord of the lifting surfaces ..... 200 mm
Maximum tail span ..... 450 mm,
Minimum weight without rubber motor ..... 1.4 g,
Maximum weight of the lubricated rubber motor ..... 0.4 g.
The competitor must be the builder of the models entered.

The model shall carry the FAI unique ID number of the competitor on the motorstick written with permanent marker or other non-removable means.

For Open Internationals (not Championships) in category 1 (less than 8m) and category 2 (from 8 to 15 m) sites, the organiser may specify that the rubber motor (0,4g) must be replaced by a rubber motor of maximum weight 0,2g and a spacer (free length but minimum weight 0,2g). This must be announced in advance in the competition bulletin. The reduced motor and the spacer are to be checked before or after the flight as in F.1.3.2.

3.4.2.1 The "Builder of Model" rule shall apply to all F1D Competitions. The following allowances and restrictions to the BOM rule will apply :
3.4.2.2 The use of prefabricated flying surfaces (either pre-built or pre-covered) or pre-glued/pre-molded subcomponents such as a rolled motor tube, rolled tail boom, wing/stab tips or outlines, prop blade outlines, or preformed sheet wood props will not be permitted.
3.4.2.3 The use of prebuilt variable pitch prop hubs will not be permitted.
3.4.2.4 The use of preformed prop shafts, rear rubber hooks, thrust bearings, teflon washers, and mounting tubes (for wings, stabs, etc) will be permitted.
3.4.2.5 The builder may use premade raw building materials needed to craft the parts of the model such as sawn balsa wood, wire, composites, pultruded rod or tubing, adhesives, and covering material
3.4.2.6 Kits that include laser cut balsa parts will be permitted.

Reason: The FAI recent interpretation before the 2018 F1D World Champs allowed the use of prebuilt VP hubs stating "The usage of such VP needs expertise, measurements and test flights to harmonize its setting with the size and setting of the prop and the rest of the model, rubber, available height and actual conditions in the site. Therefore, the jury agrees to continue the practice applied at several previous championships, i. e. not banning the usage of purchased VP hubs."

This has led people to use the same wording/justification to allow completely prebuilt composite props with VP hubs to be sold as well as the sale of preformed composite wings and stab components as well as premade composite/laminated wing spars.

This proposal seeks to clarify and codify the boundaries of the Builder of the Model rule rather than relying on jury interpretations.

The elimination of the Builder of the Model rule in Outdoor Free Flight classes has not shown any empirical increase in participation in the events and has, in fact, reduced the individual modeler innovating beyond that which is commercially available.

Indoor Free Flight has always put a premium on innovation in model design. F1D, being the World Championship class within Indoor Free Flight should highlight not only the competitor’s ability to trim their model but also building and innovation skills.

h) 3.5.9 Timing **F1 Subcommittee**

Modify item (b) of 3.5.9

b) The timing of flights is limited to the duration specified by the Contest Director under 3.5.7. The total flight time is taken from the launch of the model to the end of the flight. Timekeepers **and competitors** must ensure that ~~both~~ they ~~and the competitor~~ are aware of the decided maximum time for the round in progress.

Reason: With the existing rule, a competitor may DT his model (RCDT) or the timer may operate the DT early, and say that he was not aware of the decided maximum time for the round, and claim a reflight.

i) 3.5.9 Timing (b) **France**

This proposal suggests that the competitor is responsible for not knowing the flight time, not the timekeeper.

The timing of flights is limited to the duration specified by the Contest Director under 3.5.7.
The total flight time is taken from the launch of the model to the end of the flight. ~~Timekeepers must ensure that both they and the competitor are aware of the decided maximum time for the round in progress~~. Timekeepers and competitors must ensure that they are aware of the decided maximum time for the round in progress.

Reason: With the existing rule, a competitor may DT his model (RCDT), say that he was not aware of the decided maximum time for the round, and claim a reflight.

j) 3.L.2 Characteristics **USA**

Clarification – Insert below text AFTER "The competitor must be the builder of the models entered"

3.L.2. Characteristics

Wingspan, maximum projected ..... 457.2 mm

Wing chord maximum ..... 76.2 mm

Stabiliser area maximum ..... 50% of wing

a) Structure

1) Only balsa wood and adhesive are to be used for the basic structure. Exempted are the propeller shaft, rear hook, thrust bearing, surface holding fittings and reinforcements for their attachments. No external bracing is allowed except balsa wood wing struts.

2) The motor stick must be a solid single piece of balsa. The tail boom must also be solid and of one piece but may be an extension of the motor stick. Balsa splices up to one centimetre in length may be used to repair breaks in the motor stick or boom.

3) The propeller must be all balsa except for ground adjustable pitch fittings, if used.

4) There are to be no devices for changing any part of the model's geometry or torque during flight. Only the normal flexing of the structure due to flight loads or motor forces is allowed.

b) Covering

1) Models are to be covered with any commercially available solid sheet material such as
paper or plastic.

2) Microfilm is not allowed.

c) Weight

Weight of the model without rubber motor shall not be less than 1.2 g.

d) The model shall carry the FAI unique ID number of the competitor on the motorstick written with permanent marker or other non-removable means.

The competitor must be the builder of the models entered

3.L.2.1 The "Builder of Model" rule shall apply to all F1L Competitions. The following allowances and restrictions to the BOM rule will apply:
3.L.2.2 The use of prefabricated flying surfaces (either pre-built or pre-covered) or pre-glued/pre-molded subcomponents such as a rolled motor tube, rolled tail boom, wing/stab tips or outlines, prop blade outlines, or preformed sheet wood props will not be permitted.
3.L.2.3 The use of prebuilt variable pitch prop hubs will not be permitted.
3.L.2.4 The use of preformed prop shafts, rear rubber hooks, thrust bearings, teflon washers, and mounting tubes (for wings, stabs, etc) will be permitted.
3.L.2.5 The builder may use premade raw building materials needed to craft the parts of the model such as sawn balsa wood, wire, composites, pultruded rod or tubing, adhesives, and covering material
3.L.2.6 Kits that include laser cut balsa parts will be permitted.

Reason: The FAI recent interpretation before the 2018 F1D World Champs allowed the use of prebuilt VP hubs stating "The usage of such VP needs expertise, measurements and test flights to harmonize its setting with the size and setting of the prop and the rest of the model, rubber, available height and actual conditions in the site. Therefore, the jury agrees to continue the practice applied at several previous championships, i. e. not banning the usage of purchased VP hubs."

This has led people to use the same wording/justification to allow completely prebuilt composite props with VP hubs to be sold as well as the sale of preformed composite wings and stab components as well as premade composite/laminated wing spars.

This proposal seeks to clarify and codify the boundaries of the Builder of the Model rule rather than relying on jury interpretations.

The elimination of the Builder of the Model rule in Outdoor Free Flight classes has not shown any empirical increase in participation in the events

and has, in fact, reduced the individual modeler innovating beyond that which is commercially available.

Indoor Free Flight has always put a premium on innovation in model design. Indoor Free Flight should highlight not only the competitor's ability to trim their model but also building and innovation skills.

k) 3.M.2 Characteristics of indoor Model Aircraft USA

Clarification – Insert below text AFTER "The competitor must be the builder of the models entered"

3.M.2. Characteristics of Indoor Model Aircraft

The wingspan of the model shall not exceed 460 mm, monoplanes only permitted. The minimum weight of the airframe is 3g. The maximum weight of the rubber motor shall not exceed 1.5g. The covering of the model may consist of any material except microfilm.

The model shall carry the FAI unique ID number of the competitor on the motorstick written with permanent marker or other non-removable means.

The competitor must be the builder of the models entered.

3.M.2.1 The "Builder of Model" rule shall apply to all F1M Competitions. The following allowances and restrictions to the BOM rule will apply:
3.M.2.2 The use of prefabricated flying surfaces (either pre-built or pre-covered) or pre-glued/pre-molded subcomponents such as a rolled motor tube, rolled tail boom, wing/stab tips or outlines, prop blade outlines, or preformed sheet wood props will not be permitted.
3.M.2.3 The use of prebuilt variable pitch prop hubs will not be permitted.
3.M.2.4 The use of preformed prop shafts, rear rubber hooks, thrust bearings, teflon washers, and mounting tubes (for wings, stabs, etc) will be permitted.
3.M.2.5 The builder may use premade raw building materials needed to craft the parts of the model such as sawn balsa wood, wire, composites, pultruded rod or tubing, adhesives, and covering material
3.M.2.6 Kits that include laser cut balsa parts will be permitted.

Reason: The FAI recent interpretation before the 2018 F1D World Champs allowed the use of prebuilt VP hubs stating "The usage of such VP needs expertise, measurements and test flights to harmonize its setting with the size and setting of the prop and the rest of the model, rubber, available height and actual conditions in the site. Therefore, the jury agrees to continue the practice applied at several previous championships, i. e. not banning the usage of purchased VP hubs."

This has led people to use the same wording/justification to allow completely prebuilt composite props with VP hubs to be sold as well as the sale of preformed composite wings and stab components as well as premade composite/laminated wing spars.

This proposal seeks to clarify and codify the boundaries of the Builder of the Model rule rather than relying on jury interpretations.

The elimination of the Builder of the Model rule in Outdoor Free Flight classes has not shown any empirical increase in participation in the events and has, in fact, reduced the individual modeler innovating beyond that which is commercially available.

Indoor Free Flight has always put a premium on innovation in model design. Indoor Free Flight should highlight not only the competitor's ability to trim their model but also building and innovation skills.

l) 3.R.2 Characteristics of indoor Model Aircraft USA

Clarification – Insert below text AFTER "The competitor must be the builder of the models entered"

3.R.2. Characteristics of Indoor Model Aircraft

Maximum wing span of the monoplane model: 350 mm.

The model shall carry the FAI unique ID number of the competitor on the motorstick written with permanent marker or other non-removable means.

The competitor must be the builder of the models entered.

3.R.2.1 The "Builder of Model" rule shall apply to all F1R Competitions. The following allowances and restrictions to the BOM rule will apply:
3.R.2.2 The use of prefabricated flying surfaces (either pre-built or pre-covered) or pre-glued/pre-molded subcomponents such as a rolled motor tube, rolled tail boom, wing/stab tips or outlines, prop blade outlines, or preformed sheet wood props will not be permitted.
3.R.2.3 The use of prebuilt variable pitch prop hubs will not be permitted.
3.R.2.4 The use of preformed prop shafts, rear rubber hooks, thrust bearings, teflon washers, and mounting tubes (for wings, stabs, etc) will be permitted.
3.R.2.5 The builder may use premade raw building materials needed to craft the parts of the model such as sawn balsa wood, wire, composites, pultruded rod or tubing, adhesives, and covering material
3.R.2.6 Kits that include laser cut balsa parts will be permitted.

Reason: The FAI recent interpretation before the 2018 F1D World Champs allowed the use of prebuilt VP hubs stating "The usage of such VP needs expertise, measurements and test flights to harmonize its setting with the size and setting of the prop and the rest of the model, rubber, available height and actual conditions in the site. Therefore, the jury agrees to continue the practice applied at several previous championships, i. e. not banning the usage of purchased VP hubs."

This has led people to use the same wording/justification to allow completely prebuilt composite props with VP hubs to be sold as well as the sale of

preformed composite wings and stab components as well as premade composite/laminated wing spars.

This proposal seeks to clarify and codify the boundaries of the Builder of the Model rule rather than relying on jury interpretations.

The elimination of the Builder of the Model rule in Outdoor Free Flight classes has not shown any empirical increase in participation in the events and has, in fact, reduced the individual modeler innovating beyond that which is commercially available.

Indoor Free Flight has always put a premium on innovation in model design. Indoor Free Flight should highlight not only the competitor's ability to trim their model but also building and innovation skills.

m) 3.S.2 Characteristics **USA**

Modify Section 3.S.2 as detailed below:

~~Nickel Cadmium (NiCad), Nickel Metal Hydrate (NiMH) and Lithium (Li) batteries can be used.~~ Only 2 cell Lithium batteries ~~or up to 6 cell Nickel cells~~ can be used.
Other battery related specifications in 3.8.2 apply.
Maximum duration of motor run ..... ~~10~~ **7** seconds during the regular flights.

Reason: As only Lipo batteries are used in F1S; references to NiCad and NiMH batteries are obsolete.

The 10 second motor runs of F1S are excessively long. Tapio Linkosello has published flight performance on FB, reaching around 100 meter in 5 seconds. Good fliers can reach 60-70 meters with a 5 second motor run. Shortening the motor run to 7 seconds makes 2-minute maxes achievable but less automatic. In flyoffs, F1S motor run is dropped to 5 seconds (3.S.8 Classification section b)

n) Annex 1 Rules for Free Flight World Cup **F1 Subcommittee**

Section 1 Classes

Delete F1P Junior in paragraph1, with consequential changes to remove it in para 2 and 4.

1 Classes

The following separate classes are recognised for World Cup competition: F1A, F1B, F1C, F1D, F1E, F1Q, F1A Junior, F1B Junior, F1D Junior,~~ F1P Junior,~~ F1Q Junior and F1E Junior.

2 Competitors

All competitors in the specified open international contests are eligible for the World Cup. Only Junior competitors are eligible for the F1A Junior, F1B Junior, F1D Junior, F1E Junior, and F1Q Junior ~~and F1P Junior World Cup.~~

4 Points allocation
Changes only in (f)

f) For F1A Junior, F1B Junior, F1D Junior, ~~F1P Junior,~~ F1Q Junior and F1E Junior points are awarded according to Junior classification.

Reason: Since removal of the link between flying F1P in F1C the numbers flying in the F1P Junior World Cup have dropped to only 2 in 2022. This does not justify inclusion in the World Cup

o) Annex 1 Rules for Free Flight World Cup **F1 Subcommittee**

Section 4 Points Allocation

Modify para (c)

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:

points = 500 * [1 - (P-1) / H]

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

Additional points are awarded for the top three places subject to the requirement (b) to be in the top half of the results **and subject to the number of competitors (N) being greater than 10**: Place 1 receives 75 extra points, place 2 receives 50 points and place 3 receives 25 points.

Reason: The additional points were introduced to increase the points difference for the top three places when the stand system gave very little difference between the scores top places when there was a large number of competitors. It is now realised that this is an undesirable extra reward when there are not many competitors, for example with 10 competitors the standard points difference between places is 101.

14.4 Section 4 Volume F3 – Radio Control Aerobatics

a) F3A – RC Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Section 5.1.2

Add the following (bold underlined) text, delete the strike through sentence

5.1.2 **General Characteristics of Radio Controlled Aerobatic Models**:

Maximum overall span 2000mm

Maximum overall length 2000mm

~~Maximum total weight, with batteries .....5000g~~

Maximum total weight, Electric powered models with batteries, Internal Combustion powered models with completely filled fuel tank 5500g

Reason: All used F3A models should have the same take-off weight

b) F3A – RC Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Section 5.1.2 h)

Add the following (bold underlined) text, delete the strike through sentence

Radio Egipment: All modern radio equipment's use telemetry and allow electronic feedback. Radio Telemetry data that are communicated to the pilot or the helper will only be permitted in competition for the purpose of model safety according to the stipulations in CIAM General Rules B.1.1.e)

Any telemetry communicated to the pilot or the helper for a competitive advantage is not allowed during competition. Telemetry data should not be used as a basis to request a reflight. ~~Radio equipment shall be of the open loop type (ie no electronic feedback from the model aircraft to the ground except for the stipulations in CIAM General Rules C.16.2.3). Auto-pilot control utilising inertia, gravity or any type of terrestrial or non-terrestrial reference is prohibited.~~ Automatic control sequencing (pre-programming) or automatic control timing devices are prohibited.

Example:

Permitted:

1. Control rate devices that are manually switched by the pilot.
2. Any type of button or lever, switch, or dial control that is initiated or activated and terminated by the competitor.
3. Manually operated switches or programmable options to couple and mix control functions.

4. Telemetry data which may be communicated to the pilot or the helper:
a) Receiver power supply voltage.
b) Radio link status or fail-safe activation.

c) Speech output for timer and safety warnings.

Not permitted:

1.Snap roll buttons with automatic timing mode.

2.Pre-programming devices to automatically perform a series of commands.

3.**Any airborne device or function that has the ability to use sensors to actuate any control surface** ~~Auto-pilots or gyros for automatic wing levelling or other stabilisation of the model aircraft.~~

4.Automatic flight path guidance.

5.Propeller pitch change with automatic timing mode.

6.Any type of ~~voice recognition system~~ **speech input**.

7. **Use of earphones for speech output**

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

9Any type of learning function involving manoeuvre to manoeuvre or flight to flight analysis.

10. Telemetry data which are not allowed to be communicated to the pilot or the helper:

a) Airspeed, altitude or attitude data.

b) Position data such as GPS.

c) Power plant data such as RPM limits, throttle setting, Current Draw, capacity of propulsion battery and total fuel, etc.

Reason: All modern radio systems have telemetry and allow electronic feedback. The proposal clarifies the use of telemetry data communicated to the competitor or helper for F3A.

c) F3A – RC Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Section 5.1.8m

Add the following (bold underlined) text, delete the strike through sentence

5.1.8. Marking

m)The individual manoeuvre scores given by each judge for each competitor must be made public **to competitors and team managers** at the end of each flight of competition.

A paper copy of the scores of each competitor must be given to their team manager. At World- and Continental Championships a score board or a monitor must be located in a prominent position at the flight line, in full view of the competitors and the public.

If the scoring is done manually the~~The~~ team manager must be afforded the opportunity to check that the scores on each judge's score document correspond to the tabulated scores (to avoid data capture errors).

~~A score board/monitor must be located in a prominent position at the flight line, in full view of the competitors and the public. At World and Continental Championships a paper copy of the scores of each competitor must be given to their team manager.~~

At Category 2 and national/local events it is recommended to give a paper copy of the scores to the individual pilot.

If possible a network may be used to view scores.
The security of the scoring system is the responsibility of the Scorekeeper

Reason: Clarifies the publishing of scores

d) F3A – RC Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Section 5.1.11l

Delete the strike through text and add the bold underlined text into 5.1.11l)

l) A competitor is allowed two (2) minutes of starting time and eight (8) minutes of flying time for each flight. The timing of an attempt starts when the contest director, or timekeeper, gives an instruction to th e competitor to start and the 2-min starting time begins. The openly displayed timing device/clock will be re-started to count the 8-min flying time when the model aircraft has been placed in the take-off circle. If the model aircraft is not placed with its wheels in the starting circle before/at the expiration of the 2-minute starting time, the contest director/time keeper will advise the competitor and helper that the flight may not proceed. The flight shall score zero points.

With the expiry of the 8-minute flying time, the scoring will cease. **Only completed manoeuvres shall be scored,** ~~except for the~~ **The** in-flight sound assessment~~, which~~ is judged after the model aircraft has landed, irrespective of the time. The contest director/time keeper will advise the pilot, helper, and the judges of the expiry of the 8-minute flying time. The clock will be stopped when the wheels of the model aircraft touch the ground for landing, as proof to the competitor of the recorded time.

Reason: The end of judging, if time is running out, will be better defined in this way.

e) F3A – RC Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Section 5.1.9a)

Add the following (bold underlined) text, delete the strike through sentence

5.1.9 a) For World and Continental Championships, each competitor will have four preliminary (Schedule P) flights, with the best three normalised scores counting to determine the preliminary ranking. The top half, but not more than 30 competitors, will then have two additional semi-final flights flying the known finals schedule. The total of the best three preliminary flights of semi-finalists (normalised again to 1000 points) will count as one score along with the two semi-finals scores to provide three scores, the best two to count for semi-finals classification**. In the case of a tie, the sum of all four (4) scores will determine the preliminary ranking.**

In the event of adverse weather where flying of all rounds is not possible the classification would be determined on rounds completed as follows:

Preliminaries: one round=one flight counts, two rounds= best one flight counts, three rounds= best two flights count.

~~Semifinals~~ **Semi-Finals**: one round=the total of the counting preliminary flights (normalised again to 1000 points) with the one semifinals flight count. **In the case of a tie the non counting flight will be will counted to determine the ranking.**

Finals: all finished rounds count.

Reason: Clarifying the ranking in tie situation

f) F3A – RC Aerobatics Aircraft F3 Aerobatics Subcommittee

Section 5.1.9b)

Add the following (bold underlined) text, delete the strike through sentence in 5.1.9b)
5.1.9
b) The top ten competitors of the semi-finals of a World or Continental Championship where there is an entry of more than 40 competitors, will then have three additional flights to determine the individual winner. For a World or Continental Championship with ~~less than~~ **40 or fewer** competitors, **at least the top five but not more than 10** ~~the top five competitors~~ will advance to the finals. One final flight will be the current known finals schedule (F) and two will be unknown schedules (two different schedules, UK1 and UK2) (see 5.5). The known and unknown schedules must be flown in the following sequence: Unknown schedule 1, Final schedule F, Unknown schedule 2. The scores of all three schedules will count for final classification. In the case of a tie the semi-final score will be used to decide the higher classification.

Reason: At Cat1 events with 40 or fewer competitors the number of very good pilots may be high. So more than five should be allowed to enter the final.

g) F3A – RC Aerobatics Aircraft F3 Aerobatics Subcommittee

Section 5B.3

Add the following (bold underlined) text into 5B3

5B.3.**EXECUTION OF MANOEUVRES**
All manoeuvres should be executed with:
Geometrical Accuracy **(from the judges' position view)**;
Constant Flying Speed **(three-dimensional velocity—not airspeed)**;
Correct positioning within the manoeuvring zone;
Size matching to the size of the manoeuvring zone.
Reason: Clarification and better description of 5.B.

h) F3A – RC Aerobatics Aircraft F3 Aerobatics Subcommittee

Section 5B.8.3

Add the following (bold underlined) text into 5B3

5B.8.3. **LINES**

All aerobatic manoeuvres are entered and exited by a horizontal line of recognisable length. When no horizontal line is flown between two manoeuvres, the just-completed manoeuvre must be downgraded by 1 point and the upcoming manoeuvre must be downgraded by 1 point.
The last manoeuvre of a schedule must have an exit line of at least one (1) second in duration for the manoeuvre to be deemed complete.

The total length of a vertical or up/downline, as dictated by the performance of the model aircraft, is not a downgrading criterion.

All lines within a manoeuvre have a start and an end which define their length. They are preceded and followed by part loops. The length of a line should only be graded when a manoeuvre contains more than one line with a given relationship to each other ie as in a square loop. If there is a minor deviation in the relationship then 0.5 point is subtracted, and more points are subtracted for greater deviations.

Reason: The end of judging, if time is running out, will be better defined in this way

i F3A – RC Aerobatics Aircraft F3 Aerobatics Subcommittee

Section 5B.8.9

Add the following (bold underlined) text into 5B.8.9

5B.8.9. **CIRCLES**

a) Horizontal circles are performed in a horizontal plane and mostly used as centre manoeuvres. Horizontal Part Circles are mostly part of a manoeuvre. They may be positioned at a higher or lower altitude. Horizontal circles and Part Circles are mainly judged about the circular flight path, constant altitude of the circle, and by constant rates of roll, and integration of the continuous rolls or part-rolls with the circle, if applicable.

The circular flight path should be maintained throughout the manoeuvre and there must be no deviation in altitude. At low level it may be more difficult for judges to determine the roundness of the circle. The 150m distance requirement is waived for horizontal circles, and a downgrade should only be applied if the far side of the circle exceeds approximately 350m. **Manoeuvres performed with the far side of the circle exceeding approximately 375m in front of the pilot must be downgraded by at least 1 point.. Manoeuvres performed with the far side of the circle exceeding approximately 400m in front of the pilot must be downgraded more severely (in the order of 2 to 3 points).**
Deviations from geometry should be downgraded as in loops and using the 1 point per 15 degree rule. …

Reason: Clarification of execution of manoeuvres and downgrading to big distance in circle manoeuvres

j) F3A – RC Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Section 5B.8.12

Add the strike through) text in 5B.8.12

5B.8.12. **SPINS**

All spins are entered and exited with horizontal lines. In order to spin, the model aircraft must be stalled. The entry is flown in a horizontal flight path with the nose-up attitude increasing as the speed decreases. Drift of the model aircraft from the flight path at this point should not be downgraded, since it is in a near-stalled condition. However, severe yawing ~~or weathercocking~~ during the near-stalled condition, should be downgraded by 1 point per 15 degrees. A climbing flight path just prior to the spin must be downgraded, using the 1 point per 15 degree rule. The nose then drops as the model aircraft stalls. Simultaneously as the nose drops, the wing also drops in the direction of the spin. ….

Reason: The wording weather cocking is not necessary, “severe yawing” is describing the reason to be downgraded.

k) F3A – RC Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Section 5B.10

Add the following (bold underlined) text into 5B.10

5B.10. **POSITIONING OF THE MANOEUVRE WITHIN THE MANOEUVRING ZONE**

The entire flight must be within the manoeuvring zone to avoid being penalised.

A centre manoeuvre must be flown so that it is centred on the centre line indicated by the centre flag. If the manoeuvre is flown off-centre, it must be downgraded according to the misplacement. This may be in the range of 0.5 to 4 points subtracted. The centre of a centre manoeuvre is in the middle between vertical limits left and right.

Flying so far out as to make evaluation of a manoeuvre difficult should be severely downgraded. The main criterion here is *visibility*. For a large, highly visible model aircraft, a line of flight approximately 175m in front of the pilot may be appropriate, while a smaller less visible model aircraft might have to be flown at say 140 to 150m. Manoeuvres performed on a line greater than approximately 175m in front of the pilot must be downgraded by at least 1 point.. Manoeuvres performed on a line greater than 200m in front of the pilot must be downgraded more severely (in the order of 2 to 3 points).

The height of the maneuvering zone increases as the flight line moves from its center. At a distance of 150 meters the height is approximately 260 meters high. At a distance of 175 meters the height is approximately 303 meters. When the height of the maneuvering zone is violated, a maneuver must be downgraded by 1 point. If the heigtht of a maneuver is severely violated, a downgrade must be more severe (in the order of 2 to 3 points).

In general, turn-around manoeuvres are positioning manoeuvres. Therefore, entry

and exit altitude need not be the same if the pilot wishes to make an altitude adjustment.

If any part of a manoeuvre is performed beyond the safety line, the manoeuvre will be zeroed. Repeated infringements of the safety line may result in the competitor being asked by the flight line director to terminate the flight, due to safety reasons.

Reason: Clarification of execution of manoeuvres and downgrading too big altitude.

l) F3A – RC Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Section 5.1.13 Schedule of Manoeuvres

Change wording as follows, delete obsolete schedule A-23, add new schedule A27:

~~For 2021-2023 Schedule A-23 is recommended to be flown in local competitions so as to offer advanced pilots a suitable way to achieve skills to step-up to P-23 Schedules.~~

For 2024-2025 Schedule A-25 is recommended to be flown in local competitions so as to offer advanced pilots a suitable way to achieve skills to step-up to P-Schedules.

For 2026-2027 Schedule A-27 is recommended to be flown in local competitions so as to offer advanced pilots a suitable way to achieve skills to step-up to P-Schedules.

~~For 2022-2023 Schedule P-23 will be flown in the preliminaries.~~

For 2024-2025 Schedule P-25 will be flown in the preliminaries.

For 2026-2027 Schedule P-27 will be flown in the preliminaries.

~~For 2022-2023, Schedule F-23 will be flown in the semi-finals, as well as in the finals, together with unknown schedules~~

For 2024-2025, Schedule F-25 will be flown in the semi-finals, as well as in the finals, together with unknown schedules

For 2026-2027, Schedule F-27 will be flown in the semi-finals, as well as in the finals, together with unknown schedules

Advanced Schedule A-27 (2026-2027)	**K-Faktor**
A-27.01 Pull-Pull-Push Humpty Bump with half roll	**K 3**
A-27-02 Trombone with roll	**K 3**
A-27.03 Triangle with quarter roll, quarter roll	**K 3**
A-27.04 Reverse Shark Fin	**K 2**
A-27.05 Four consecutive Quarter Rolls	**K 4**
A-27.06 Half Square Loop	**K 2**
A-27.07 Square Loop on Corner from Top with half roll, half roll	**K 4**
A-27.08 Half Cuban Eight from Top	**K 2**
A-27.09 Spin with three turns	**K 4**
A 27.10 Top Hat with half roll. Option: Top Hat with quarter roll, quarter roll	**K 3**
A-27.11 Two consecutive Half Rolls	**K 4**
A-27.12 Pull-Pull-Pull Humpty Bump with half roll	**K 3**
A-27.13 Figure M with quarter roll, quarter roll, quarter roll, quarter roll	**K 5**
A-27.14 Half square Loop on Corner	**K 2**
A-27.15 Square from Top with half roll	**K 4**
A-27.16 Reverse Figure ET with half roll	**K 3**

A-27.17 Loop with knife-edge flight	**K 4**
	Total K = 55

Reason: F3A schedules change every two years.

m) F3A – RC Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Section 5.1.13 Schedule of Manoeuvres

Change wording as follows, delete obsolete schedule P-23, add new schedule P-27:

PRELIMINARY SCHEDULE P-27 (2026-2027)	**K-Factor**
P-27.01 Pull-Pull-Push Humpty Bump with two half rolls, two quarter rolls	**K 4**
P-27.02 Trombone with two half rolls, roll	**K 3**
P-27.03 Triangle with half roll quarter roll, quarter roll, half roll	**K 3**
P-23.04 Reverse Shark Fin with roll	**K 3**
P-27.05 Roll Combination with two quarter rolls, snap roll, two quarter rolls	**K 5**
P-27.06 Half Square Loop with roll	**K 3**
P-27.07 Square Loop on corner from Top with half roll, half roll	**K 4**
P-27.08 Half Cuban Eight from Top with two half rolls	**K 2**
P-27.09 Spin with two turns, two turns in opposite direction.	**K 4**
P-27.10 Top Hat with two quarter rolls, half roll. Option: Top Hat with ¾ roll, ¼ roll	**K 3**
P-27.11 Roll Combination with two one eighth rolls, two quarter rolls, two one eighth rolls	**K 4**
P-27.12 Push-Pull-Pull Humpty Bump with two quarter roll, half roll	**K 3**
P-27.13 Figure M with three quarter roll, quarter roll, quarter roll, three quarter roll	**K 5**
P-27.14 Half square Loop on Corner with half roll, half roll	**K 3**
P-27.15 Square from Top with quarter roll, knife-edge flight, quarter roll	**K 4**
P-27.16 Reverse Figure ET with half roll, roll	**K 3**
P-27.17 Loop with two half rolls integrated	**K 5**
Total K = 61	

Reason: F3A schedules change every two years

n) F3A – RC Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Section 5.1.13 Schedule of Manoeuvres

Change wording as follows, delete obsolete schedule F-23, add new schedule F-27:

Semi-Final/Final Schedule F-27 (2026-2027)	**K-Faktor**
F-27.01 Square Loop with snap roll, two quarter rolls, snap roll, two quarter rolls	**K 4**
F-27.02 Reverse Shark Fin with two three quarter rolls, two quarter rolls	**K 3**
F-27.03 Roll Combination with three rolls in opposite directions	**K 4**
F-27.04 Figure ET with half roll, four one eighth rolls	**K 3**
F-27.05 Triangle with quarter roll integrated, half roll, half roll, half roll, quarter roll integrated	**K 5**
F-27.06 Half Cuban eight with snap roll	**K 4**
F-27.07 Loop with half roll integrated, snap roll, half roll integrated	**K 5**

F-27.08 Half Square Loop with half roll integrated, half roll, half roll integrated K 4
F-27.09 Spin with two turns, one and a half turn in opposite direction K 4
F-27.10 Trombone with three quarter roll, three quarter roll. Option: Fighter turn with three quarter roll, three quarter roll K 4
F-27.11 Rolling Circle Rolling Loop Combination K 6
F-27.12 Inverted Figure ET with two quarter rolls, half roll K 3
F-27.13 Inverted Golf Ball with quarter roll half roll integrated, half roll integrated quarter rollK 6
F-27.14 Half Square Loop on Corner with quarter roll, quarter roll K 3
F-27.15 Roll Combination with quarter roll one and half snap roll, quarter roll K 5
F-27.16 Half Square Loop with one and a half snap roll K 4
F-27.17 Pull-Pull-Pull Humpty Bump half roll integrated, half roll, half roll integrated, half roll, half roll integrated K 5

Total K = 72

Reason: F3A schedules change every two years.

o) F3A – RC Aerobatics Aircraft F3 Aerobatics Subcommittee

ANNEX 5A F3A – RADIO CONTROLLED AEROBATIC MODEL AIRCRAFT DESCRIPTION OF MANOEUVRES

Delete the existing manoeuvre descriptions of schedules A-23, P-23, and F-23 and replace with descriptions of A-27, P-27 and F-27. Refer to Agenda ***Annex 7a***

Reason: F3A schedules change every two years

p) F3A – RC Aerobatics Aircraft France

Section 5.G.8.2 Turnaround Manoeuvres

Amend paragraph 5.G.8.2 by addition of of new manoeuvres in the respective places:

A.1 Square loop on corner: from upright pull into vertical upline, 1/4 roll, push through a 1/8 loop, pull through a 1/4 loop, pull through a 1/4 loop, pull through a 1/4 loop, push through a 1/8 loop, 1/4 roll, exit upright (K4)
A.2 Square loop on corner: from upright pull into vertical upline, 1/4 roll, push through a 1/8 loop, pull through a 1/4 loop, pull through a 1/4 loop, pull through a 1/4 loop, push through a 1/8 loop, 1/4 roll, exit inverted (K4)
A.3 Square loop on corner: from inverted push into vertical upline, 1/4 roll, push through a 1/8 loop, pull through a 1/4 loop, pull through a 1/4 loop, pull through a 1/4 loop, push through a 1/8 loop, 1/4 roll, exit upright (K4)
A.4 Square loop on corner: from inverted push into vertical upline, 1/4 roll, push through a 1/8 loop, pull through a 1/4 loop, pull through a 1/4 loop, pull through a 1/4 loop, push through a 1/8 loop, 1/4 roll, exit inverted (K4)
A.11 Square loop on corner: from upright pull into vertical upline, 1/4 roll, pull through a 1/8 loop, push through a 1/4 loop, push through a 1/4 loop, push through a 1/4 loop, pull through a 1/8 loop, 1/4 roll, exit upright (K4)

A.12 Square loop on corner: from upright pull into vertical upline, 1/4 roll, pull through a 1/8 loop, push through a 1/4 loop, push through a 1/4 loop, push through a 1/4 loop, pull through a 1/8 loop, 1/4 roll, exit inverted (K4)
A.13 Square loop on corner: from inverted push into vertical upline, 1/4 roll, pull through 1/8 loop, push through a 1/4 loop, push through a 1/4 loop, push through a 1/4 loop, pull through a 1/8 loop, 1/4 roll, exit upright (K4)
A.14 Square loop on corner: from inverted push into vertical upline, 1/4 roll, pull through 1/8 loop, push through a 1/4 loop, push through a 1/4 loop, push through a 1/4 loop, pull through a 1/8 loop, 1/4 roll, exit inverted (K4)
A.23 Square loop on corner: from upright pull into vertical upline, 1/2 roll, 1/8 knife edge loop, 1/4 knife edge loop into 45° upline, 1/4 knife edge loop into 45° downline, 1/4 knife edge loop into 45° downline, 1/8 knife edge loop into vertical downline, 1/2 roll, pull into 1/4 loop, exit upright (K5)
A.24 Square loop on corner: from inverted push into vertical upline, 1/2 roll, 1/8 knife edge loop, 1/4 knife edge loop into 45° upline, 1/4 knife edge loop into 45° downline, 1/4 knife edge loop into 45° downline, 1/8 knife edge loop into vertical downline, 1/2 roll, push into 1/4 loop, exit inverted (K5)
A.25 Shovel: : from upright pull into vertical upline, 1/2 roll, 1/4 knife edge loop into a first horizontal line, 1/4 knife edge loop into vertical upline, 1/4 knife edge loop into a second horizontal line in opposite direction as the first one, 1/4 knife edge loop into vertical downline, 1/4 knife edge loop into horizontal line in same direction as the first one, 1/4 knife edge loop into vertical downline, 1/2 roll, pull into 1/4 loop, exit upright (K5)
A.26 Shovel: : from inverted push into vertical upline, 1/2 roll, 1/4 knife edge loop into a first horizontal line, 1/4 knife edge loop into vertical upline, 1/4 knife edge loop into a second horizontal line in opposite direction as the first one, 1/4 knife edge loop into vertical downline, 1/4 knife edge loop into horizontal line in same direction as the first one, 1/4 knife edge loop into vertical downline, 1/2 roll, push into 1/4 loop, exit inverted (K5)
A.27 Shovel: : from upright pull into vertical upline, 1/4 roll, push into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, push into 1/4 loop, 1/4 roll, exit upright (K4)
A.28 Shovel: : from upright pull into vertical upline, 1/4 roll, push into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, push into 1/4 loop, 1/4 roll, exit inverted (K4)
A.29 Shovel: : from upright pull into vertical upline, 1/4 roll, pull into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, pull into 1/4 loop, 1/4 roll, exit upright (K4)
A.30 Shovel: : from upright pull into vertical upline, 1/4 roll, pull into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, pull into 1/4 loop, 1/4 roll, exit inverted (K4)
A.31 Shovel: : from inverted push into vertical upline, 1/4 roll, push into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, push into 1/4 loop, 1/4 roll, exit inverted (K4)
A.32 Shovel: : from inverted push into vertical upline, 1/4 roll, push into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, push into 1/4 loop, 1/4 roll, exit upright (K4)
A.33 Shovel: : from inverted push into vertical upline, 1/4 roll, pull into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, pull into 1/4 loop, 1/4 roll, exit inverted (K4)

A.34 Shovel: : from inverted push into vertical upline, 1/4 roll, pull into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, pull into 1/4 loop, 1/4 roll, exit upright (K4)
O.1 Half clover: from upright pull into vertical upline, 1/2 roll, 3/4 knife edge loop into an horizontal flight edge path, 3/4 knife edge loop into a vertical downline, 1/2 roll, exit upright (K5)
O.2 Half clover: from inverted push into vertical upline, 1/2 roll, 3/4 knife edge loop into an horizontal flight edge path, 3/4 knife edge loop into a vertical downline, 1/2 roll, exit inverted (K5)
O.3 Half clover: from upright pull into vertical upline, 1/4 roll, pull through 3/4 loop into an horizontal flight path, pull through 3/4 loop into a vertical downline, 1/4 roll, exit upright (K4)
O.4 Half clover: from upright pull into vertical upline, 1/4 roll, pull through 3/4 loop into an horizontal flight path, pull through 3/4 loop into a vertical downline, 1/4 roll, exit inverted (K4)
O.5 Half clover: from upright pull into vertical upline, 1/4 roll, push through 3/4 loop into an horizontal flight path, push through 3/4 loop into a vertical downline, 1/4 roll, exit upright (K4)
O.6 Half clover: from upright pull into vertical upline, 1/4 roll, push through 3/4 loop into an horizontal flight path, push through 3/4 loop into a vertical downline, 1/4 roll, exit inverted (K4)
O.7 Half clover: from inverted push into vertical upline, 1/4 roll, pull through 3/4 loop into an horizontal flight path, pull through 3/4 loop into a vertical downline, 1/4 roll, exit upright (K4)
O.8 Half clover: from inverted push into vertical upline, 1/4 roll, pull through 3/4 loop into an horizontal flight path, pull through 3/4 loop into a vertical downline, 1/4 roll, exit inverted (K4)
O.9 Half clover: from inverted push into vertical upline, 1/4 roll, push through 3/4 loop into an horizontal flight path, push through 3/4 loop into a vertical downline, 1/4 roll, exit upright (K4)
O.10 Half clover: from inverted push into vertical upline, 1/4 roll, push through 3/4 loop into an horizontal flight path, pull through 3/4 loop into a vertical downline, 1/4 roll, exit inverted (K4)

Remark: in all manoeuvres half clover, the 3/4 loops are tangent.

Reason: For the composition of unknown schedules, we need more difficult turnaround manoeuvres K=4 and k=5.

q) F3M – RC Large Aerobatics Aircraft (Provisional) France

Section 5.10.2e

Add the following (bold underlined) text, delete the strike through sentence

Radio Equipment: All modern radio equipment use telemetry and allow electronic feedback. Radio Telemetry data that are communicated to the pilot or the helper will only be permitted in competition for the purpose of model safety according to the stipulations in CIAM General Rules B.1.1.e)

Any telemetry communicated to the pilot or the helper for a competitive advantage is not allowed during competition. Telemetry data should not be used as a basis to request a reflight. ~~Radio equipment shall be of the open loop type (ie no electronic feedback from the model aircraft to the ground except for the stipulations in CIAM General Rules C.16.2.3).~~ Auto-pilot control utilising inertia, gravity or any type of terrestrial or non-terrestrial reference is prohibited. Automatic control sequencing (pre-programming) or automatic control timing devices are prohibited.

Example:
Permitted:

1.Control rate devices that are manually switched by the pilot.

2.Any type of button or lever, switch, or dial control that is initiated or activated and terminated by the competitor.

3.Manually operated switches or programmable options to couple and mix control functions.

4. Telemetry data which may be communicated to the pilot or the helper:
a) Receiver power supply voltage.
b) Radio link status or fail--safe activation.
5. Speech output for timer and safety warnings.

Not permitted:

1.Snap roll buttons with automatic timing mode.

2.Pre-programming devices to automatically perform a series of commands.

3.**Any airborne device or function that has the ability to use sensors to actuate any control surface** ~~Auto-pilots or gyros for automatic wing levelling or other stabilisation of the model aircraft.~~

4.Automatic flight path guidance.

5.Propeller pitch change with automatic timing mode.

6.Any type of ~~voice recognition system~~ **speech input**.

7. **Use of earphones for speech output**

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

10. Telemetry data which are not allowed to be communicated to the pilot or the helper:

a) Airspeed, altitude or attitude data.

b) Position data such as GPS.

c) Power plant data such as RPM limits, throttle setting, Current Draw, capacity of propulsion battery and total fuel, etc.

~~Note: A Spread Spectrum technology receiver that transmits information back to the pilot-operated transmitter, is not considered to be a "device for the transmission of information from the model aircraft to the competitor", provided that the only information that is transmitted is for the safe operation of the model aircraft.~~

Reason: All modern radio systems have telemetry and allow electronic feedback. The proposal clarifies the use of telemetry data communicated to the competitor or helper for F3M.

r) F3P – RC Indoor Aerobatics Aircraft F3 Aerobatics Subcommittee

Section 5.9.2

Add the following (bold underlined) text, delete the strike through sentence

5.9.2 **General Characteristics of R/C Indoor Aerobatic Aircraft**

Maximum overall span 1500 mm
Maximum overall length 1500 mm
Maximum total weight, with batteries 300g
Only for F3P-Basic:
Minimum weight: 100g
Contra drive propulsion is not allowed
External parts that protrude which could be considered dangerous, (ie landing gear struts, shaft tips etc)

Reason: The subcommittee proposes a basic schedule for beginners. Entering F3P Aerobatics must be simplified, Minimum weight and no contra drive will not allow to use expensive high tech model aircraft.

s) F3P – RC Indoor Aerobatics Aircraft F3 Aerobatics Subcommittee

Section 5.9.2d)

Add the following (bold underlined) text, delete the strike through sentence

Radio Equipment: All modern radio equipment use telemetry and allow electronic feedback. Radio Telemetry data that are communicated to the pilot or the helper will only be permitted in competition for the purpose of model safety according to the stipulations in CIAM General Rules B.1.1.e)

Any telemetry communicated to the pilot or the helper for a competitive advantage is not allowed during competition. Telemetry data should not be used as a basis to request a reflight. ~~Radio equipment shall be of the open loop type (ie no electronic feedback from the model aircraft to the ground except for the stipulations in CIAM General Rules C.16.2.3). Auto-pilot control utilising inertia, gravity or any type of terrestrial or non-terrestrial reference is prohibited~~. Automatic control sequencing (pre-programming) or automatic control timing devices are prohibited.

Example:
Permitted:
1. Control rate devices that are manually switched by the pilot.

2. Any type of button or lever, switch, or dial control that is initiated or activated and terminated by the competitor.

3. Manually operated switches or programmable options to couple and mix control functions.

4. Telemetry data which may be communicated to the pilot or the helper:
a) Receiver power supply voltage.
b) Radio link status or fail--safe activation.
c) Speech output for timer and safety warnings.
Not permitted:

1. Snap roll buttons with automatic timing mode.

2. Pre-programming devices to automatically perform a series of commands.

3. **Any airborne device or function that has the ability to use sensors to actuate any control surface** ~~Auto-pilots or gyros for automatic wing levelling or other stabilisation of the model aircraft.~~

4. Automatic flight path guidance.

5. Propeller pitch change with automatic timing mode.

6. Any type of ~~voice recognition system~~ **speech input**.

7. **Use of earphones for speech output**

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

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

10. Telemetry data which are not allowed to be communicated to the pilot or the helper:
a) Airspeed, altitude or attitude data.

b) Position data such as GPS.

c) Power plant data such as RPM limits, throttle setting, Current Draw, capacity of propulsion battery and total fuel, etc.

Reason: All modern radio systems have telemetry and allow electronic feedback. The proposal clarifies the use of telemetry data communicated to the competitor or helper for F3P

t) F3P – RC Indoor Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Section 5.9.9a)

Add the following (bold underlined) text, delete the strike through sentence in 5.9.9a)

a) For World and Continental Championships, each competitor will have four (4) preliminary flights for F3P Aerobatics with schedule F3P-AP; for F3P-AFM with competitors F3P-AFM schedule; with the best three normalised scores to determine the preliminary ranking. **In the case of a tie, the sum of all four (4) scores will determine the preliminary ranking.**
The top 30% (thirty percent) of the classified F3P AP competitors with a minimum of ten (10) will have three (3) additional flights. These final flights will be flown as a

known finals schedule (schedule F3P-AF) for F3P Aerobatics Championship. The total of the best three preliminary flights of the finalists (normalised again to 1000 points) will count as one score. This score and the finals scores will give four (4) normalised scores. The sum of the ~~three~~ best **three** will give the final classification. In the case of a tie, the sum of all the four (4) scores will determine the winner.
For the F3P-AFM Championship, the top 30% (thirty percent) of the classified F3P-AFM competitors with a minimum of ten (10) will have four (4) additional flights as described in Annex 5M Manoeuvres – Schedule F3P-AFM. The best of flight schedule 1 plus the best of schedule 2 will count for final ranking. **In the case of a tie, the sum of the best of flight schedule 1 plus the best of schedule 2 plus the best of the two non-counting flights will determine the winner.**

Reason: *Clarifying the ranking in tie situation*

u) F3P – RC Indoor Aerobatics Aircraft F3 Aerobatics Subcommittee

Section 5.9.9d) Classification

Amend sub-paragraph 5.9.9.d) with the deletion and addition of text as follows:

d) All scores for each round, preliminary, semi-final and finals, will then be normalized as follows**: When all competitors have** ~~The average score of the top half of competitors~~ flown in front of a particular group of judges (i.e. a round) **the highest score** shall be awarded 1000 points. The remaining scores for that group of judges are normalized to a percentage of the 1000 points in the ratio of actual ~~score over this average score~~ **over the winner's score.**

$$\text{Points } x = \frac{S_x}{S_w} \times 1000$$

Points X = points awarded to competitor X
SX = score of competitor X
SW = ~~average score of top half of competitors in round.~~**score of winner of round.**

Reason: The current normalization introduced in 2018 caused several mistakes and sometimes unfair ranking. So it is better to go back to the system which was used before 2018 as already done in 2022 for F3A.

v) F3P – RC Indoor Aerobatics Aircraft F3 Aerobatics Subcommittee

Section 5.9.11i)

Add the following (bold underlined) text into 5.9.11i)

5.9.11.i) With the expiry of the 5-minute flying time, the scoring will cease. **Only completed manoeuvres shall be scored.**

The contest director/time keeper will advise the pilot, helper, and the judges of the

expiry of the 5-minute flying time. The clock will be stopped when the wheels of the model aircraft touch the ground for landing, as proof to the competitor of the recorded time.

Reason: The end of judging, if time is running out, will be better defined in this way.

w) F3P – RC Indoor Aerobatics Aircraft F3 Aerobatics Subcommittee

Section 5.9.13 Schedule of Manoeures

Delete obsolete schedules AA-23, AP-23, AF-23, add new schedules AB-24, AA-25, AP-25, AF-25

Basic Schedule F3P AB-24 (from 2024)

AB-24,01 Take-off sequence	**K 1**
AB-24.02 Forty five degree upline, forty five degree downline	**K 3**
AB-24.03 Roll	**K 2**
AB-24.04 Stall Turn	**K 3**
AB-24.05 Loop	**K 2**
AB-24.06 Inverted Flight	**K 4**
AB-24.07 Horizontal Eight Circle	**K 3**
AB-24.08 Knife Edge Flight	**K 4**
AB-24.09 Landing sequence	**K 1**
	Total K=23

Advanced Schedule F3P AA-25 (2024-2025)

AA-25.01 Triangle with half roll, half roll	**K 4**
AA-25.02 Pull-Push-Push Humpty Bump with quarter roll, quarter roll	**K 3**
AA-25.03 Hippodrome with half roll, half roll, half roll	**K 3**
AA-25.04 Corner Stall Turn Combination with quarter roll	**K 3**
AA-25.05 Roll Combination with two consecutive half rolls in opposite direction	**K 4**
AA-25.06 Half Loop with half roll integrated	**K 4**
AA-25.07 Knife-Edge forty-five degree downline with quarter roll, quarter rol	**K 4**
AA-25.08 Shark Fin with half roll	**K 3**
AA-25.09 Push-Pull-Pull Humpty Bump with half Torque Roll	**K 5**
AA-25.10 Fighter Turn with quarter roll, quarter roll	**K 3**
AA-25.11 Double Immelman with quarter roll, quarter roll	**K 4**
	Total K = 40

Preliminary Preliminary Schedule F3P AP-25 (2024-2025)

AP-25.01 Triangle with half roll, quarter roll, quarter roll, half roll	**K 4**
AP-25.02 Knife-Edge Humpty Bump with three quarter roll, quarter roll	**K 3**
AP-25.03 Horizontal Circle with half roll integrated, roll integrated	**K 5**

AP-25.04 Corner Stall Turn Combination with half roll integrated, two consecutive one eighth rolls K 4
AP-25.05 Roll Combination with quarter roll, roll, quarter roll K 4
AP-25.06 Half Loop with roll integrated K 4
AP-25.07 Knife-Edge forty-five degree downline with quarter roll, half roll, quarter roll K 4
AP-25.08 Shark Fin with two quarter rolls in opposite direction, two quarter rolls K 3
AP-25.09 Loop with half Torque Roll K 5
AP-25.10 Fighter Turn with two consecutive one eight rolls, two consecutive one eight rolls K 3
AP-25.11 Golfball, with quarter roll, quarter roll K 5

Total K = 44

FINAL SCHEDULE F3B AF-25 (2024-2025)

AF-25.01 Half Cloverleaf with half roll integrated, half roll, half roll integrated K 4
AF-25.02 Half Square Loop with quarter roll, half roll, quarter roll K 3
AF-25.03 Cuban Eight from Top with half roll, two quarter rolls in opposite direction integrated, half roll, two quarter rolls in opposite direction integrated K6
AF-25.04 Half Square Loop Corner Combination with quarter roll integrated, half roll integrated K 4
AF-25.05 Horizontal Triangle with quarter roll integrated, quarter roll, half roll integrated, half roll, half roll integrated, quarter roll, quarter roll integrated K 5
AF-25.06 Forty five degree Upline Crossbox Combination with two one eighth rolls, one eighth roll, quarter roll integrated K 4
AF-25.07 Square Loop from Top with half roll, two quarter rolls in opposite direction, half roll, half roll K 3
AF-23.08 Half Loop with roll integrated K 4
AF-23.09 Double Humpty Bump with three quarter torque roll, quarter roll, three quarter torque roll, quarter roll K 6
AF-23.10 Stall Turn Corner Combination with three quarter roll, quarter roll, quarter roll K 3
AF-25.11 Rolling Circle with four half rolls in opposite directions K 5

Total K = 47

Reason: Basic schedule for beginners will be offered from 2024
F3P Aerobatic schedules AA, AP, AF change every two years.

x) F3P – RC Indoor Aerobatics Aircraft F3 Aerobatics Subcommittee

Annex 5M – Description of Manoeuvres

Delete the existing manoeuvre descriptions of schedules AA-23, AP-23, and AF-23 and replace with descriptions of, AA-25, AP-25 and AF-25. Add AB-24 Basic schedule

*. Refer to Agenda **Annex 7c.***

Reason: F3P Aerobatic AA, AP, AF schedules change every two years. AB Basic schedule will be offered for beginners from 2024**.**

y F3S – RC Jet Aerobatics Aircraft F3 Aerobatics Subcommittee

Section 5.12.2 – Radio Equipment

Add the following (bold underlined) text, delete the strike through sentence

Radio Equipment:
~~Radio equipment shall be of the open loop type (ie no electronic feedback from the model aircraft to the ground).~~ **All modern radio equipments use telemetry and allow electronic feedback. Radio Telemetry data that are communicated to the pilot or the helper will only be permitted in competition for the purpose of model safety. Any telemetry communicated to the pilot or the helper for a competitive advantage is not allowed during competition. Telemetry data should not be used as a basis to request a reflight.**

Permitted:

1. Control rate devices that are manually switched by the pilot.
2. Any type of button or lever, switch, or dial control that is initiated or activated and terminated by the competitor.
3. Manually operated switches or programmable options to couple and mix control functions.
4. The use of electronic stability augmentation devices or gyros with or without speed related automatic gain control derived from a GPS signal.

5. The transmission of information from the model aircraft to the pilot on the ground of propulsion and receiver system health monitoring.

Not permitted:

1. Snap roll buttons with automatic timing mode.
2. Pre-programming devices to automatically perform a series of commands, except for landing gear function.
3. Automatic flight path guidance.
4. Any type of ~~voice recognition system~~ **speech input.**
5. Any type of learning function involving manoeuvre to manoeuvre or flight to flight analysis.

Reason: All modern radio systems have telemetry and allow electronic feedback. The proposal clarifies the use of telemetry data communicated to the competitor or helper for F3S

z) F3S – RC Jet Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Section 5.12.9a)

Add the following (bold underlined) text, delete the strike through sentence in 5.9.9a)

5.12.9 **Classification**

a) For World and Continental Championships, each competitor will have four (4) preliminary flights with schedule F3SP with the best three normalised scores to determine the preliminary ranking. **In the case of a tie, the sum of all the four (4) scores will determine the preliminary ranking** The top 30% (thirty percent) of the classified F3SP competitors with a minimum of ten (10) will have three (3) additional flights. These final flights will be flown as a known, finals schedule (schedule F3SF) The total of the best three preliminary flights of the finalists (normalised again to 1000 points) will count as one score. This score and the finals scores will give four (4) normalised scores. The sum of the ~~three~~ best **three** will give the final classification. In the case of a tie, the sum of all the four (4) scores will determine the winner.
In the event of adverse weather where flying of all rounds is not possible the classification would be determined on rounds completed as follows:

Preliminaries: one round=one flight counts, two rounds= best one flight counts, three rounds= best two flights count.

Finals: one round = the total of the counting preliminary flights (normalised again to 1000 points) with the one Finals flight count.

Finals: two rounds = the sum of the two best of three (normalised preliminary, two finals rounds) count.

In the case of a tie the non counting flight will be will counted to determine the ranking.

Reason: Clarifying the ranking in tie situation.

aa) F3S – RC Jet Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Section 5.12.9d) – Classification

Amend sub-paragraph 5.12.9.d) with the deletion and addition of text as follows:

d) All scores for each round, preliminary, semi-final and finals, will then be normalized as follows**: When all competitors have** ~~The average score of the top half of competitors~~ flown in front of a particular group of judges (i.e. a round) **the highest score** shall be awarded 1000 points. The remaining scores for that group of judges are normalized to a percentage of the 1000 points in the ratio of actual ~~score over this average score~~ **over the winner's score.**

.

$$\text{Points } x = \frac{S_x}{S_w} \times 1000$$

Points X = points awarded to competitor X
SX = score of competitor X
SW = ~~average score of top half of competitors in round.~~ **score of winner of round.**

Reason: The current normalization introduced in 2018 caused several mistakes and sometimes unfair ranking. So it is better to go back to the system which was used before 2018 as already done in 2022 for F3A.

ab) F3S – RC Jet Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Section 5.12.11k)

Add the following (bold underlined) text, delete the strike through sentence in 5.12.11k)

k) A competitor is allowed six (6) minutes of starting time and eight (8) minutes of flying time for each flight. The timing of an attempt starts when the contest director, or timekeeper, gives an instruction to the competitor to start and the 6-min starting time begins. The competitor must be informed when 6-minutes of the starting time have elapsed. The openly displayed timing device/clock will be re-started to count the 8-min flying time when the model aircraft has been placed in the take-off circle. If the model aircraft is not placed with its wheels in the starting circle before/at the expiration of the 6-minute starting time, the contest director/time keeper will advise the competitor and helper that the flight may not proceed. The flight shall score zero points.
With the expiry of the 8-minute flying time, the scoring will cease. **Only completed manoeuvres shall be scored,** ~~except for the~~ **The** in-flight sound assessment~~, which~~ is judged after the model aircraft has landed, irrespective of the time. The contest director/time keeper will advise the pilot, helper, and the judges of the expiry of the 8-minute flying time. The contest director/time keeper will advise the pilot, helper, and the judges of the expiry of the 8-minute flying time. The clock will be stopped at the end of the last manoeuvre as proof to the competitor of the recorded time.

Reason: The end of judging, if time is running out, will be better defined in this way.

ac) F3S – RC Jet Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Section 5.12.13 – Schedule of Manoeuvers

Delete current schedules SB-19 and SP-19, add new schedules SB-24 (Basic), SP-24Preliminary,

5.12.13 Schedule of Manoeuvres

The schedule F3S-B is recommended to be flown in local competitions so as to offer advanced pilots a suitable way to achieve skills to step-up to P- Schedules.

The schedule F3S-P is a preliminary schedule for expert pilots in Jet Aerobatic Power Model Aircraft competitions.

The schedule F3S-F is a finals schedule for expert pilots in Jet Aerobatic Power Model Aircraft competitions.

The schedule F3S-FS (Freestyle) is for competitors to demonstrate their artistic

performances in Jet Aerobatic Power Model Aircraft in conjunction with music.

Basic Schedule SB-24 from 2024	**K Factor**
SB-24.01: Two Loops	**4**
SB-24.02: Knife-Edge Flight	**3**
SB-24.03:Square Loop on Corner	**4**
SB-24.04: Golfball	**4**
SB-24.05: Figure Z	**4**
SB-24.06: Slow Roll	**3**
SB-24.07: Figur S	**3**

Preliminary Schedule SP-24 from 2024	**K Factor**
SP-24.01 Two Loops	**4**
SP-24.02 Reverse Figure ET with half roll no forty five degree downline	**3**
SP-24.03 Knife-edge Flight with one quarter roll, half roll, one quarter roll	**4**
SP-24.04: Pull-Pull-Pull Humpty Bump with half roll down	**3**
SP-24.05: Square Loop on corner with half roll, half roll	**5**
SP-24.06: Top hat with half roll, half roll	**3**
SP-24.07: Golfball with half roll	**4**
SP-24.08: Reverse Shark Fin with quarter roll, quarter roll	**3**
SP-24.09: Figure Z with knife edge flight	**4**
SP-24.10: Split S	**2**
SP-19.11: Slow roll	**3**
SP-19.12: Half Cuban 8 with ½ roll	**2**
SP-19.13: Figre S	**3**

Final Schedule SF19 from 1919	K Factor
SF-19.01: Square Loop on corner with ½ roll, ½ roll, ½ roll, ½ roll	5
SF-19.02: Shark Fin with two consecutive ¼ rolls	3
SF-19.03: Knife-edge flight with roll	4
SF-19.04: Pushed Immelman with roll	2
SF-19.05: Rolling Loop	5
SF-19.06: Half Square Loop with ½ roll	2
SF-19.07: Figure 9 with with four consecutive ¼ rolls	4
SF-19.08: Pull-push-pull Humpty Bump with consecutive two ¼ rolls	3
SF-19.09: Avalanche	4
SF-19.10: Top Hat with two consecutive ¼ rolls, ½ roll	3
SF-19.11: Knife Edge Humpty Bump with ¼ roll, ¾ roll	4
SF-19.12: Half square loop on corner with half roll	3
SF-19.13: Reverse Nine with 3/4 roll, 3/4 roll	3
SF-19.14: Half reverse Cuban 8 with consecutive two ¼ rolls	3
SF-19.15: Roll Combination with four consecutive 1/8 rolls, four 1/8 rolls in opposite direction	4

For the description of the manoeuvres, judging notes, and Aresti diagrams, see Annex 5X. For the Manoeuvre Execution Guide, see Annex 5B**.**

Reason:
Two new schedules SB-24 and SP-23 with different difficulty of manoeuvres were developed
to give pilots the possibility to fly schedules adapted to their skills and to attract more competitors.
Schedule SF-19 will remain.

ad) F3S – RC Jet Aerobatics Aircraft **F3 Aerobatics Subcommittee**

Annex 5X - Manoeuvres

Delete manoeuvre description of schedules SB-19 and SP-19 in Annex 5X, add new schedules SB-24 (Basic), SP-24 ***Preliminary to Annex 5X. Refer to Annex 5X***

Reason:
Two new schedules SB-24 and SP-23 with different difficulty of manoeuvres were developed
to give pilots the possibility to fly schedules adapted to their skills and to attract more competitors.
Schedule SF-19 will remain.

ae) F3A – RC Aerobatics World Cup **France**

Section 5.N.3 d)

Change the bold underlined text

d) rounds should be organised in one of the following combinations, while rounds of F-Schedules may be run for a limited number of competitors only as a "fly-off".

Four rounds of P-schedule, two rounds of F-schedule. The total of the best three preliminary flights (normalised again to 1000 points) will count as one score along with the two fly-off scores to provide three scores, the best two to count for classification.
- Three rounds of P-Schedule with the best two flights counting
- Two rounds of P-Schedule with the best one flight plus one round of F-Schedule counting
~~- Three rounds of P-Schedule with the best two flights plus one round of F-Schedule counting~~
- Three rounds of P-schedule, one round of F-schedule. The total of the best two preliminary flights (normalised again to 1000 points) will count as one score along with the F-Schedule score. These two scores to count for classification.

Other combinations are subject to be confirmed by the World Cup Coordinator or the F3 Aerobatics Chairman in advance.

Reason: The current rule for 3P – 1F is not coherent with 4P – 2F. The weight of the F schedule if half of the P schedules

14.5 Section 4 Volume F3 - RC Helicopter

a) 5.4.3 General Characteristics **F3 Heli Subcommittee**

Early implementation requested by F3 Subcommittee.

Revise paragraph shown below:

a) AREA: The swept area of the lifting rotor cannot exceed 250dm^2. For helicopters with multiple rotors whose rotor shafts are more than one rotor diameter apart the total swept area of both rotors cannot exceed 250dm^2. For helicopters with multiple rotors whose rotor shafts are less than one rotor diameter apart the swept area of both rotors (counting the area of superposition only once) cannot exceed 250dm^2. The tail rotor must be driven by the main rotor and must not be driven by a separate engine/motor.

b) WEIGHT: The weight of the model aircraft (with fuel / with batteries) must not exceed 6.5 kg.

c) MOTOR: Internal combustion engine displacement: no restrictions.
Electric motors are limited to a maximum no load voltage of 51 volts for the propulsion circuit.

d) GYROS: The use of pre-programmed flight manoeuvres is forbidden. The use of automatic position (latitude and longitude) locking devices and altitude locking devices, whether with external references or not, are forbidden.

e) ROTOR BLADES: All-metal main or tail rotor blades are prohibited.

It is expressly pointed out that in the event of an infringement of the General Characteristics, the pilot concerned must expect sanctions. The amount of the sanctions depends on the type and severity of the infringement. Paragraph C.19 in the currently valid version of the CIAM General Rules applies here.

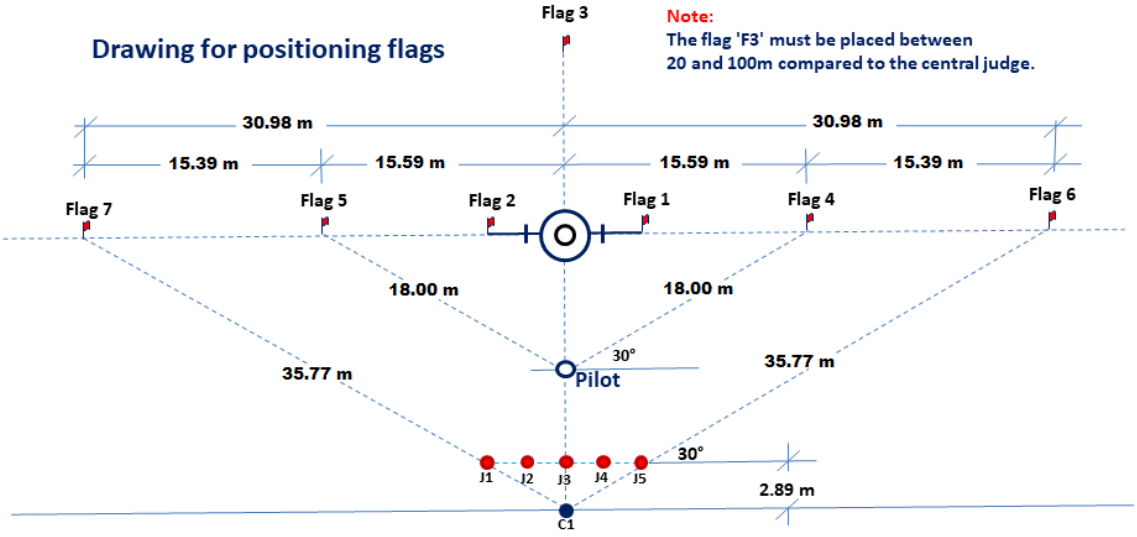
Reason: The clarification is necessary to inform participants about the consequences of breaking the rules.

F3C – RC Radio Control Model Helicopters

b) 5.4.A F3C Contest Layout **F3 Heli Subcommittee**

Early implementation requested by F3 Subcommittee

Replace the second drawing.



Note 1: The flags (or cones) F4 and F5 serve as references for the 120 ° frame of the pilots.
Note 2: The flags (or cones) F6 and F7 serve as references for the 120 ° frame of the judges.

Reason: *Uniform marking of the 120° window for the judges and the pilots*.

F3C – RC Radio Control Model Helicopters

c) Annex 5D 5D.2 Schedule P **F3 Heli Subcommittee**

Replace manoeuvres P1, P2 and P6.

5D.2 SCHEDULE P

P1: PIE (UU)
K=1.5
MA takes off vertically from the helipad, ascends to 2 m then hovers for 2 seconds. MA ascends flying backwards on a 45° line while simultaneously performing a 180° pirouette in any direction, stops over the flag 1 (2) and hovers for 2 seconds. MA performs a 5 m radius descending/ascending vertical half circle while simultaneously performing a full 360° pirouette, stops over the flag 2 (1) and hovers for 2 seconds. MA descends forwards on a 45° line while performing a 180° pirouette in any direction then stops over the helipad for 2 seconds, descends and lands into the helipad.

P2: DOUBLE SWALLOW TAIL (UU)
K=1.5
MA takes off vertically from the helipad to 4.5 m then hovers for at least 2 seconds, descends backwards down to the flag 1 (2) and hovers for 2 seconds at a height of 2 m, ascends forward climbing at an angle of 45° until it again reaches a height of 4.5 m, then ascends backwards until it reaches the flag 1 (2) at a height of 7 m then hovers for at least 2 seconds. MA then flies forward descending to the opposite flag 2 (1) then hovers for at least 2 seconds at a height of 2 m, flies backwards ascending at an angle of 45° until it reaches a height of 4.5 m then ascends forwards until it reaches the flag 2 (1) at a height of 7 m then hovers for at least 2 seconds. MA flies backwards descending until it reaches the centre line at 4.5 m height then hovers for at least 2 seconds before landing in the helipad.

P6: TWO LOOPS (UU)
K=1.0
MA flies straight and level for a minimum of 10 m, performs an inside loop before the centerline where the MA is exactly vertical in upward position at the centerline, followed by a straight line and performs a second inside loop where the MA is exactly vertical in downward position at the centerline, followed by a straight and level flight of at least 10 m and at the same height as when entering the figure.

Reason: The need for change of manoeuvres

d) Annex 5D 5D.2 Schedule P-P9 Autorotation **F3 Heli Subcommittee**

Early implementation requested by F3 Subcommittee

Update manoeuvre P9.

5D.2 SCHEDULE P

P9: 180° Autorotation (DU)
K=1.0
MA flies straight and level for a minimum of 10 m at a minimum altitude of 20 m. ~~Manoeuvre begins w~~ **W**hen ~~model aircraft~~ **MA** crosses an imaginary plane that extends vertically upward from a line drawn from the center judge out through the helipad~~.~~**,** MA must be in the autorotation state ~~when it cuts this plane~~, the engine must be off (or at idle) at this point and the MA must be descending. The 180° turn must start at this point and the turning and descending rate must be constant from this point to a point just before touchdown on the helipad. The flight path of the MA must appear as a semi-circle when viewed from above, starting at the vertical plane and ending at a line drawn from the center judge through the helipad. The MA's flight path must never be parallel to the ground or judge's line.

Scoring criteria for landing: See ANNEX 5E Paragraph 5E.6.11.

Reason: Because of misunderstandings in the manoeuvre description a clarification is necessary

e) Annex 5D 5D.3 Schedule F **F3 Heli Subcommittee**

Replace manoeuvres F1, F4 and F5

5D.3 SCHEDULE SF/F

F1: TULIP WITH 1/2 PIROUETTES (UU) K=1.5

MA climbs vertically 2 m from the helipad and hovers for at least two seconds, ascends backwards in a downward curved quarter circle with a radius of 5 m while simultaneously performing a 180° nose-to-pilot pirouette until it reaches the flag 1 (2) at a height of 7 m then hovers for at least 2 seconds. MA descends backwards in a downward arcing semi-circle of 2.5m radius while simultaneously performing a 180° nose-to-pilot pirouette until it reaches the centreline at a height of 7 m then hovers for at least 2 seconds. MA then descends forward in a downward arcing semi-circle of 2.5 m radius while simultaneously performing a 180° nose-to-pilot pirouette until it reaches the flag 2 (1) at a height of 7 m then hovers for at least 2 seconds. MA then descends forward in a downward curved quarter circle with a radius of 5 m while simultaneously performing a 180° nose-to-pilot pirouette then stops over the helipad at 2 m for 2 seconds, descends and lands into the helipad.

F4: REVERSE CUBAN EIGHT (DD) K=1.0

MA flies straight and level for at least 10 m then executes a half roll in any direction at least 10 m before entering a 5/8 outside loop. When MA is descending at 45° and upright it executes a half roll in any direction at the centreline into inverted flight followed by a 3/4 outside loop. When MA is again descending at 45° and upright it executes another half roll in any direction at the centreline into inverted flight, continuing through the first partial loop in this attitude. MA then flies a minimum of 10 m straight and level, executes a half roll in either direction back to upward flight continuing straight and level for at least 10 m.

F5: STANDING TRIANGLE (UU) K=1.0

MA flies straight and level for at least 10 m then executes a half roll in any direction followed by an inverted flight of a minimum of 10 m then ascends at the centreline by completing a 1/8 pushed loop to an angle of 45°. MA continues with a straight line followed by a pushed 3/8 loop to upright level flight. After a short straight flight a level centred full horizontal roll in any direction should be completed followed by another short straight flight, another pushed 3/8 loop into a straight line descent at an angle of 45°, then completes a 1/8 pushed loop finishing on the centreline.
MA continues inverted flight for a minimum of 10 m followed by a half roll in any direction finishing upright into straight and level flight of at least 10 m at the same altitude as manoeuvre entry.

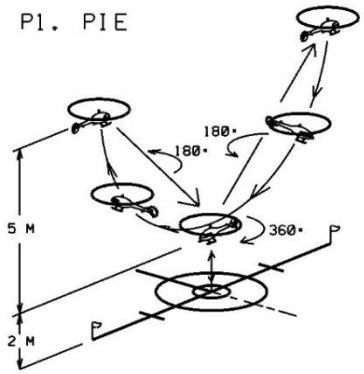
Note 1: Before and after the centred roll the MA fly a straight line, these lines must be of equal length.
Note 2: The 1/8 loops must be executed such that the 45° ascend as well as the 45° descend starts and ends exactly on the centreline.

Reason: The need for change of manoeuvres

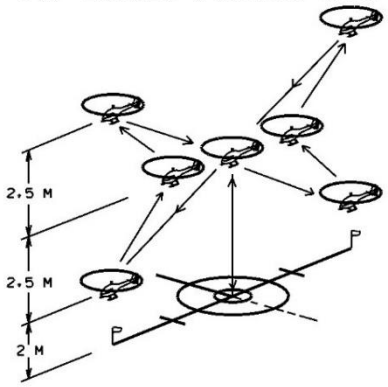
f) Annex 5D 5D-P: F3C Manoeuvre Schedule P **F3 Heli Subcommittee**

Replace all drawings at FIGURE 5D-P

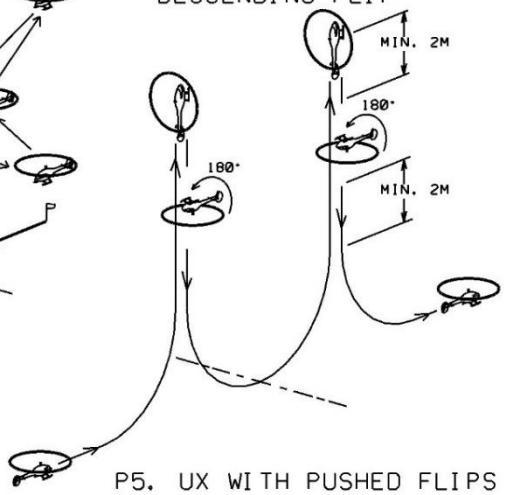
P1. PIE



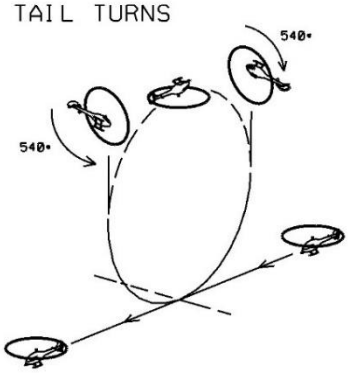
P2. DOUBLE SWALLOW TAIL



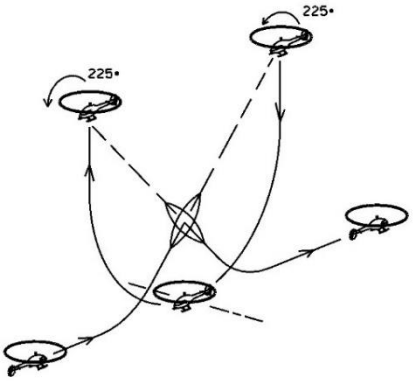
P3. DOUBLE CANDLE WITH DESCENDING FLIP



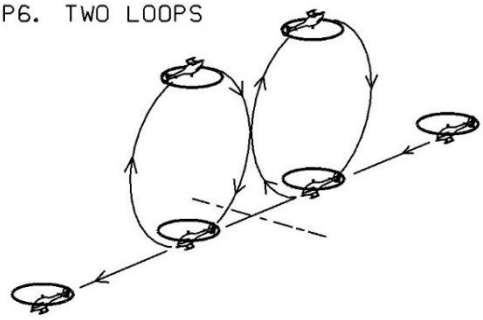
P4. LOOP WITH 540° TAIL TURNS



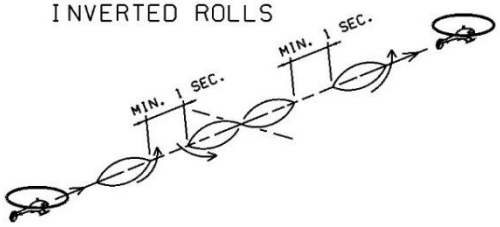
P5. UX WITH PUSHED FLIPS



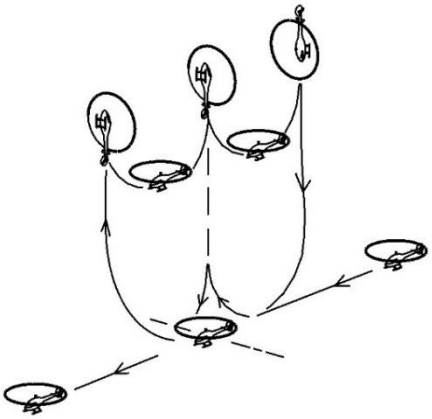
P6. TWO LOOPS



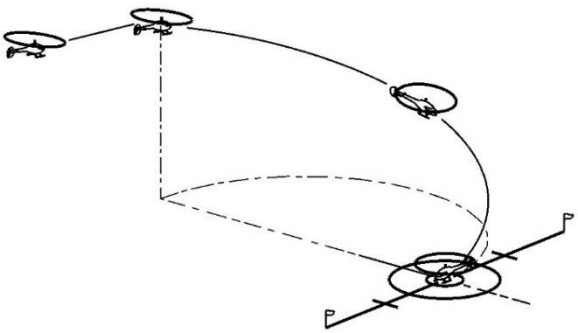
P7. OPPOSITE HALF AND FULL INVERTED ROLLS



P8. INVERTED UMBRELLA



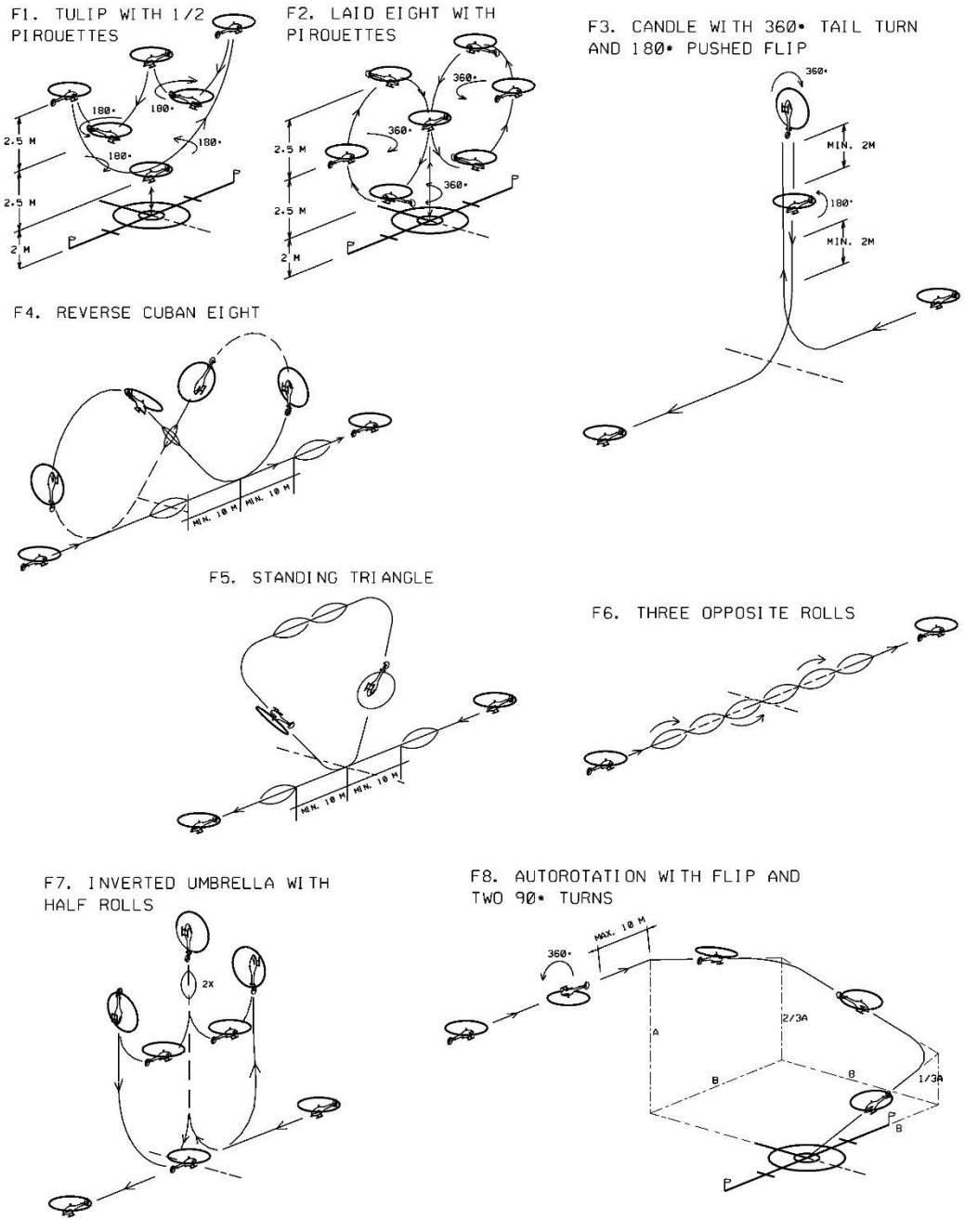
P9. 180° AUTOROTATION



Reason: The need for change of manoeuvres

g) Annex 5D 5D-SF/F: F3C Manoeuvre Schedule SF/F F3 Heli Subcommittee

Replace all drawings at FIGURE 5D-SF/F



Reason: The need for change of manoeuvres

h) 5E.6.11 Autorotations — F3 Heli Subcommittee

Early implementation requested by F3 Subcommittee

Revise this paragraph.

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.~~
Rotor shaft points inside the 1m circle = Maximum 10 points.
Rotor shaft points on the 1m circle = Maximum 9 points.
Rotor shaft points inside of 3m circle = Maximum 8 points.
Rotor shaft points on the 3m circle = Maximum 7 points.
Rotor shaft points 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: The rule simplifies the evaluation of the autorotation.

i) Annex 5d f3c Manoeuvre Descriptions and Diagrams — F3 Heli Subcommittee

Revise this paragraph.

The manoeuvre schedules are listed below with the starting and ending direction (UU = Upwind - Upwind; DD = Downwind - Downwind; DU = Downwind - Upwind; UD = Upwind - Downwind) of each manoeuvre, relative to the wind, as indicated. The competitor has 9 minutes to complete the P schedule and 8 minutes to complete the SF and the F schedule. Schedule P will be flown for the preliminary rounds 1 through 4. Schedule SF/F will be flown for the semi final and final rounds.

SCHEDULE P

P1. ~~VORTEX~~ **PIE**…… (UU)
P2. ~~DIAMOND 4~~ **DOUBLE SWALLOW TAIL**…… (UU)
(FLY BY)
P3. DOUBLE CANDLE WITH DESCENDING FLIP …… (DD)
P4. LOOP WITH 540° TAIL TURNS …… (UU)
P5. UX WITH PUSHED FLIPS…… (DD)
P6. ~~OVAL WITH HALF ROLLS AND FLIP~~ **TWO LOOPS**…… (UU)
P7. OPPOSITE HALF AND FULL INVERTED ROLL …… (DD)
P8. INVERTED UMBRELLA…… (UU)
(FLY BY)
P9. 180° AUTOROTATION …… (DU)

SCHEDULE SF/F

F1. ~~VERTICAL HOURGLASS WITH PIROUETTES 90°/180°~~**TULIP WITH ½ PIROUETTES**..... (UU)
F2. LAID EIGHT WITH PIROUETTES..... (UU)
(FLY BY)
F3. CANDLE WITH 360° TAIL TURN AND 180° PUSHED FLIP…… (UU)
F4. ~~DOUBLE CANDLE WITH HALF FLIPS AND HALF ROLLS~~**REVERSE CUBAN EIGHT**..... (DD)
F5. ~~DOUBLE STALL TURNS WITH HALF ROLLS AND FLIP~~ **STANDING TRIANGLE**..... (UU)
F6. THREE OPPOSITE ROLLS..... (DD)
F7. INVERTED UMBRELLA WITH HALF ROLLS …… (UU)
(FLY BY)
F8. AUTOROTATION WITH FLIP AND TWO 90° TURNS …… (DU)

Reason: The need for change of manoeuvres.

F3N – RC Radio Control Model Helicopters

j) 5.11.2 General Characteristics **F3 Heli Subcommittee**

Early implementation requested by F3 Subcommittee

Revise this paragraph.

The swept area of the lifting rotor is not limited. The engine displacement is not limited. ~~The use of pre-programmed flight manoeuvres is forbidden.~~
Limitations are:
a) WEIGHT:The weight of the MA (with fuel or with batteries) must not exceed 6,5 kg.

b) BATTERIES: Electric motors are limited to a maximum no load voltage of 51 volts for the propulsion circuit.

c) GYROS:The use of pre-programmed flight manoeuvres is forbidden. The use of automatic position (latitude and longitude) locking devices and altitude locking devices, whether with external references or not, are forbidden.

d~~c~~) ROTOR BLADES: All-metal main or tail rotor blades are prohibited.

It is expressly pointed out that in the event of an infringement of the General Characteristics, the pilot concerned must expect sanctions. The amount of the sanctions depends on the type and severity of the infringement. Paragraph C.19 in the currently valid version of the CIAM General Rules applies here.

Reason: The clarification is necessary to inform participants about the consequences of breaking the rules. The amendment is to keep the General Characteristics equal between F3C and F3N.

k) 5.11.7 Scoring **F3 Heli Subcommittee**

Revise this paragraph.

The number of judges is at least three, and no more than five. At least 20% but not more than 40% of the judges must not have judged at the previous World Championships. If only three (3) judges are used, all marks will be counted for the score of the round. By using four (4) or five (5) judges, the highest and lowest mark of each manoeuvre will be discarded.
In the Set Manoeuvre flight each manoeuvre is given a score between 0 and 20 points by each judge. A manoeuvre that is not completed or not flown according to the description shall be scored zero (0) points. If a manoeuvre is scored zero points all judges must agree. In the freestyle or music freestyle flights the scoring is done after the flight according to the scoring criteria.
In the Set Manoeuvre flights, only manoeuvres that are completed in the flight time of 8 minutes will receive a score. If the flight time for the Freestyle or Music Freestyle program is less than ~~three~~ **3:20 minutes** or more than ~~four~~ **3:40** minutes, there shall be a downgrade of 5% for the flight. A flight shorter than two or longer than five minutes shall be scored zero points.
Manoeuvres must be performed where they can be seen clearly by the judges. If a judge, for some reason beyond the control of the competitor, is not able to follow the model aircraft through the entire manoeuvre, he may put a “Not Observed” (N.O.) mark. In this case, his score will, for that particular manoeuvre, be set to the average score given by the other judges, rounded to the nearest whole point

Reason: A smaller time window creates better comparability.

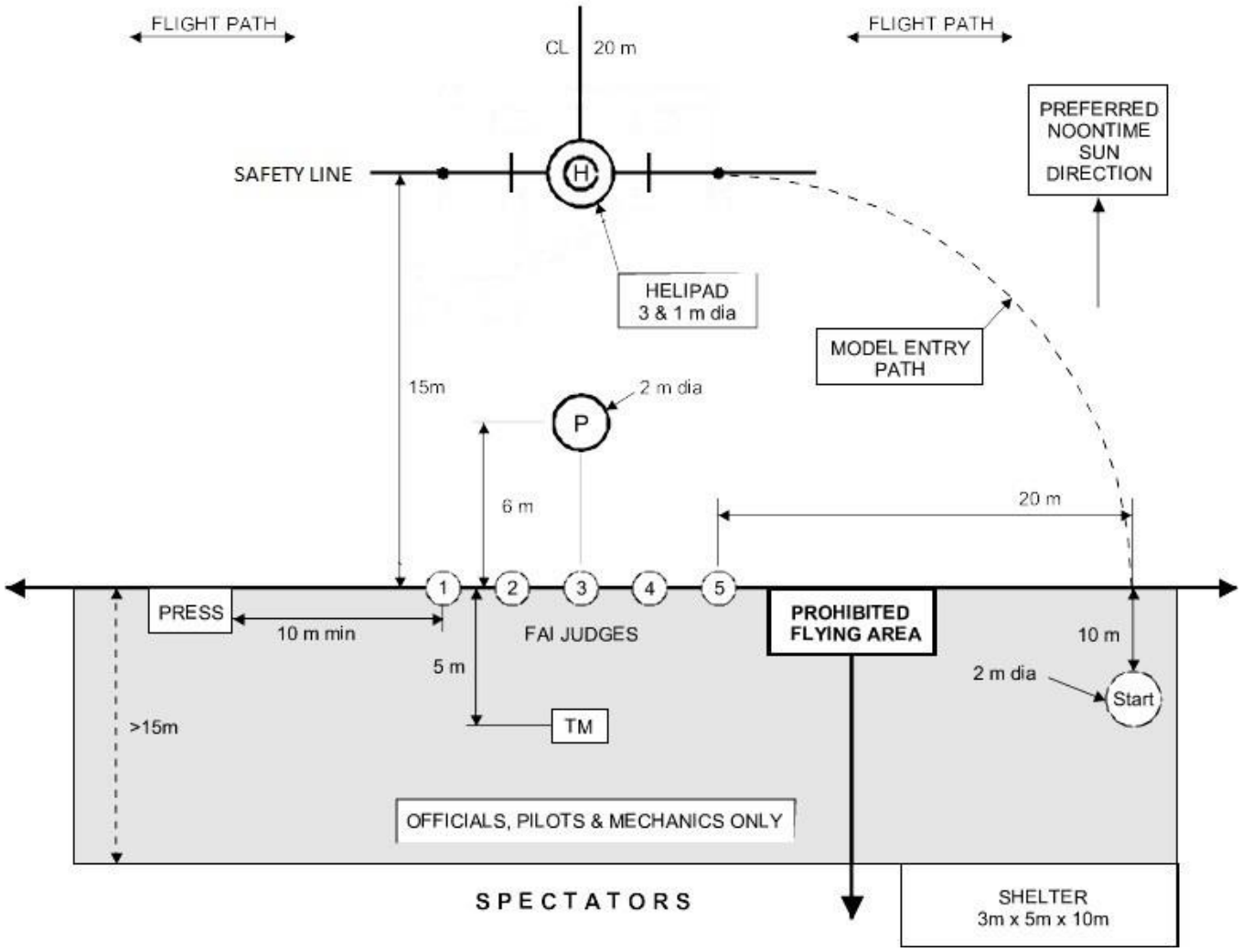
l) 5.11.10 Flight Program – Freestyle Flight **F3 Heli Subcommittee**

Revise this paragraph.

Freestyle Flight
Each competitor is given a flight timeframe of at least ~~three~~ **3:20 minutes**, and no more than ~~four~~ **3:40** minutes. During this time there are no restrictions for the flight or the performed manoeuvres except those regarding safety. The play-back of music is not allowed. The flight time begins when the helper gives a distinctive hand signal and finishes only with another distinctive helper hand signal.

Reason: A smaller time window creates better comparability

m) 5.11.A F3N Contest Layout Area **F3 Heli Subcommittee**
Early implementation requested by F3 Subcommittee
Replace the drawing.



.

Reason: Equal contest area layouts in F3C and F3N avoid protests in the case of combined F3C/F3N competitions.

n) 5F.1 F3N Set Manoeuvre Descriptions — F3 Heli Subcommittee

Revise this paragraph by removing the manoeuvres 1.6, 1.8, 1.11, 1.26 and 1.29

(a) The list of Set Manoeuvres contains ~~30~~ **25** manoeuvres (listed below) and ten optional manoeuvres. The optional manoeuvres must be selected by the organiser at least 6 months prior to the competition from a list that is available from the F3 Helicopter Subcommittee Chairman. This list will be revised by the F3 Helicopter Subcommittee on a yearly basis and will be approved by the CIAM Bureau.

(b) The competitor or his caller must announce the name and start and finish of each manoeuvre. All aerobatic manoeuvres start and end with a straight and level flight of 10 metres minimum length parallel to the judges' line. All manoeuvres from stationary flight start and end with a hovering of at least 1 second with the MA parallel or vertical to the flight line. All manoeuvres (considering also entry and exit) should be performed symmetrical to the

centre line. The drawings in paragraph ~~5.11.12~~ **5F.2** illustrate the manoeuvres, in case of a dispute the following text takes precedence over the drawings. All manoeuvres can also be flown in opposite direction to that shown in the drawings.

Number Description **K-Factor**

1.1. Double Immelmann **K=4.0**

MA performs a half inside loop immediately followed by a half roll to upright flight. After a straight flight of about 20 meters MA performs a half outside loop, again immediately followed by a half roll to upright flight.

1.2 Double roll backwards **K=4.5**

MA enters in upright backward flight and performs two consecutive axial rolls.

1.3 4-point roll **K=4.5**

MA enters in upright forward flight and then performs 4 quarter rolls, separated each by a recognizable straight segment of the same duration.

1.4 Outside loop with half rolls **K=5.0**

MA performs a half roll to inverted flight, followed by a recognizable straight segment and then enters an outside loop (upward). After the loop, MA flies another recognizable straight segment, followed by a half roll to upright flight**.**

1.5 Inverted horizontal eight **K=6.0**

MA enters in inverted forward flight parallel to the judges' line, performs a 90°-turn to a straight flight above the centre line and then performs a horizontal eight, consisting of two 360° circles.

The manoeuvre is not intended as a hover manoeuvre. In case of low flying speed and banking angle less than 45deg, severe downgrade will apply.

~~**1.6 Backward knife edge pirouette** **K=5.5**~~

~~MA enters in upright backward flight, transitions to a slight ascent (max 15°) and performs a quarter roll. After a recognizable straight segment MA performs a 360°-pirouette, followed by another straight segment and a quarter roll in opposite direction to the first to upright backward flight.~~

1.~~7~~ 6 Four pushed half flips **K=5.5**

MA hovers in upright position, then performs four half pushed flips (forward) each separated by a hovering of 2 seconds. MA maintains its position during the manoeuvre.

~~**1.8 Tic-toc (Metronome)** **K=6.0**~~

~~MA hovers and then is rotated (Nose up) about 135°. It then starts rotating alternately about the lateral axis by about 90° forward or backward. Both 45° positions have to be reached at least three times. The tail rotor stays almost in the same position during the manoeuvre.~~

1.~~9~~ 7 360°-turn with roll **K=6.0**

MA enters in upright forward flight in the center of the window and then after a straight and level flight section performs a quarter (inside) loop to a vertical climb. Just before the stall, MA performs a 360°-pirouette to a vertical (backward) dive, followed by another quarter (inside) loop to upright flight and an axial backward roll centered on the main judge's line.

Note 1: The 1/4 input and output loop must be the same size.

Note 2: The exit must be at the same height as the entrance.

Note 3: Axial backward roll, must not have a straight line after 1/4 of loop and must be centered on the centreline of the window.

1.~~10~~ 8 Standing 8 **K=8.0**

MA enters in forward upright flight parallel to judge line. After passing centerline, MA

performs half inside loop, followed by half outside loop. MA is now at the top of the standing 8 on the centerline, and performs fast half pirouette. MA now performs half outside backwards loop, followed by half inside backwards loop. MA is now back to starting point on centerline, and exits in backwards upright flight. All loop segments must have same radius.

~~**1.11 Spike K=7.0**~~
~~MA enters in upright forward flight. MA performs a 2-point half roll, followed by minimum 10m inverted flight. MA then performs ¼ outside loop and ascents vertically. MA then descents vertically and performs ¼ inside backwards loop with same radius as before, followed by minimum 10m upright backwards flight. MA then performs a 2-point half roll, and exits in backward inverted flight on the same line as the manoeuvre was started.~~

1.~~12~~ 9 Inverted backwards horizontal eight K=7.0
MA enters in inverted backward flight parallel to the judges' line, performs a 90°-turn to a straight flight above the centre line and then performs a horizontal eight, consisting of two 360° circles with the tail always pointing in flight direction.
The manoeuvre is not intended as a hover manoeuvre. In case of low flying speed and banking angle less than 45°, a severe downgrade will apply.

1.~~13~~ 0 Rolling circle K=7.5
MA performs a horizontal circle while it performs consecutive axial rolls. MA speed, rolling rate and the radius of the circle should be constant.

1.14 1 4 rainbows with half rolls K=7.5
MA performs a rainbow (a semicircle with the lateral axis always vertical to the flight path) to a recognizable stop, then a stationary half roll to another stop. Then it enters another rainbow to a stop on the position of the start of the manoeuvre, followed by another half roll and continues like that, until four rainbows and four half rolls are completed.

1.~~15~~ 2 Funnel K=7.5
MA enters in inverted flight and performs a quarter pirouette. MA then performs three superimposed circles in lateral inverted flight with the rotor disk tilt at least 45 degree from a horizontal plane. The diameter of the circles should be at least 10 meters.

1.~~16~~ 3 Tumbling Circuit K=8.0
MA enters in backwards upright flight parallel to judge line. Before passing centerline MA performs ¼ backward inside loop, which stops on the centerline. MA then completes a horizontal circle while doing sequence of half forward outside loops and half backward inside loops. Circle must include a minimum4 of these sequences distributed equally. When passing centerline again, MA performs ¼ forward outside loop, and exits in forward inverted flight on same line as manoeuvre was started.

1.~~17~~ 4 Triple pirouetting flip K=7.5
MA hovers on centreline and then starts pirouetting. At the same time or after one pirouette the MA starts to flip three times while it continues to perform pirouettes continuously. There should be at least one pirouette during each 360° flip (2 pirouettes are shown only as an example in the drawing). MA finishes by stopping in the same hover position and orientation as the starting point. Pirouettes and rotations should have a constant rate.

1.~~18~~ 5 Cuban eight backwards K=8.0
MA enters in upright backward flight and performs a 5/8 inside loop to a 45° downline. The MA performs a half roll centred on the downline, followed by a ¾ inside loop and another half roll centred in the 45°downline. MA then finishes the first partial loop to upright backward flight. The tail of the MA should always point in the direction of flight.

1.~~19~~ 6 Pirouetting loop K=8.0

MA enters in upright flight and starts performing pirouettes when reaching the centreline. The MA then performs an insideloop while constantly performing pirouettes about the yaw axis. During the one loop there must be at least 2, but not more than 6 pirouettes. The pirouettes should be distributed equally through the loop and stop on centreline before exiting.

1.~~20~~ 17 Backward rolling circle K=9.0

MA enters in upright backward flight and performs a horizontal circle while it performs consecutive axial rolls. MA speed, rolling rate and the radius of the circle should be constant. The tail of the MA should always point in the direction of flight. Rolling should start and stop on centreline. MA exits in backward upright flight.

1.~~21~~ 18 Waltz K=8.5

MA enters in inverted flight and on centreline immediately performs a quarter pirouette, tail rotates to circle centre and enters a funnel. After a quarter funnel MA performs a complete smaller funnel (max. half diameter of the first) then continues with another quarter larger funnel, followed again by a complete smaller funnel etc. After the larger funnel is completed there is again a complete smaller funnel, followed immediately on centreline by another quarter pirouette to the exit in inverted flight. The diameter of the large funnel should be at least 20 meters.

1.~~22~~ 19 Double 4-point Tic-toc K=8.0

MA hover stail in on centreline and is then rotated nose up by pulled flip to approx. 135°. It then starts rotating alternately about the lateral axis for about 45° in each direction. Both 45°-positions have to be reached one time for one tic-toc. The MA then rotates by 90° on a clock face. It performs another tic-toc in this position, then again performs another 90° rotation and so on, until it has performed two complete rotations of a clock face while executing tic-tocs. The MA should describe a circular shape during the manoeuvre. The 90° rotations can be performed either when the model reaches one of the two end positions, or integrated in the movement back, before the next tic-toc is performed.

1.~~23~~ 0 Pirouetting funnel K=8.5

MA enters in invertedflight and then starts pirouetting whereas it performs three superimposed circles in lateral inverted flight with the rotor disk tilt at least 45 degree from a horizontal plane. The diameter of the circles should be at least 10 meters and there should be at least three pirouettes during each circle.MA exits in inverted flight.

1.24 1 Four point tic-toc reversal K=9.0

MA hovers on centreline tail in and is then rotated nose up by pulled flip to 135°. It then starts rotating alternately about the lateral axis for about 45° in each direction. Both 45°-positions have to be reached one time for one tic-toc. The MA then rotates by 90° clockwise on a clock face. It performs another tictoc in this position, then again performs another 90° rotation and so on, until it has performed one complete rotation of a clock face while executing tic-tocs. The MA now immediately begins a full rotation in the opposite direction, following the same tic toc steps. The MA should describe a circular shape during the manoeuvre.
The 90° rotations can be performed either when the model reaches one of the two end positions, or integrated in the movement back, before the next tic-toc is performed.

1.~~25~~ 2 Pirouetting globe K=9.0

MA enters in upright flight and then performs four pirouetting loops. During each loop, the flight path is changed in a way, that the next loop is rotated about 45° (seen from above) until a complete globe has been described. The MA exits the manoeuvre at the same altitude but in opposite direction to the beginning. During each loop, the MA must perform at least two pirouettes. The pirouettes should be distributed equally through the loop.

~~**1.26 Duus Iglo** **K=9.0**~~
~~Viewed from above, the manoeuvre shows an X. The centre point of the X is on the centreline. MA enters in 1 of the 4 outer points in the X in upright hovering and boom pointing to centre of the X. Model then performs half pulled rainbow, while also doing an integrated half pirouette. Top of rainbow must be at the centre of the X. MA then makes a sharp quarter aileron roll, and completes second half of the rainbow while making another integrated half pirouette until model hovers inverted shortly. The boom still points to centre of the X, but now in another of the 4 outer points.~~
~~Same sequence is then repeated 3 more times, until MA is backat the starting point. Hovering will be inverted after the first and third legs.~~

1.2~~7~~ 3 Rolling Circle Tail Reversal **K=9.5**
MA enters in forward upright flight parallel to judge line. Immediately after passing central ine, MA starts a horizontal rolling circle. After each quarter of the circle, MA performs a half elevator flip. After each half flip the roll input direction must be changed. After a complete circle and the four half flips, MA exits in forward upright flight. Speed and height of MA should be constant during complete manoeuvre.

1.2~~8~~ 4 Funnel with half rolls **K=9.5**
MA enters in inverted flight and performs a quarter pirouette. MA then performs three superimposed circles in lateral inverted flight with the rotor disk tilt at least 45 degree from a horizontal plane. After each half funnel except the last the MA performs a half roll centred on the centre line. After three funnels and five half rolls the MA exits in upright flight. The diameter of the circles should be at least 10 metres.

~~**1.29 Pirorainbow X reversal** **K=11.0**~~
~~MA hovers over the centre line with an angle of 45°, then enters the manoeuvre with a rainbow, a not stationary flip that follows an arched flight path of at least 10 meters length. During the rainbow the MA performs one pirouette in each direction, with the reverse on the top of the rainbow. Then another rainbow (with pirouette reversal) leads back to the starting point. MA then continues with these rainbowsrotating in 90° steps CW or CCW, until the four outer points of an X (viewed from above) are reached and MA hovers where it started the manoeuvre. MA does not perform any part of the pirouettes, when hovering in the centre. During the stops at the four outer points, rotor disk must be horizontal but there should be no hovering.~~

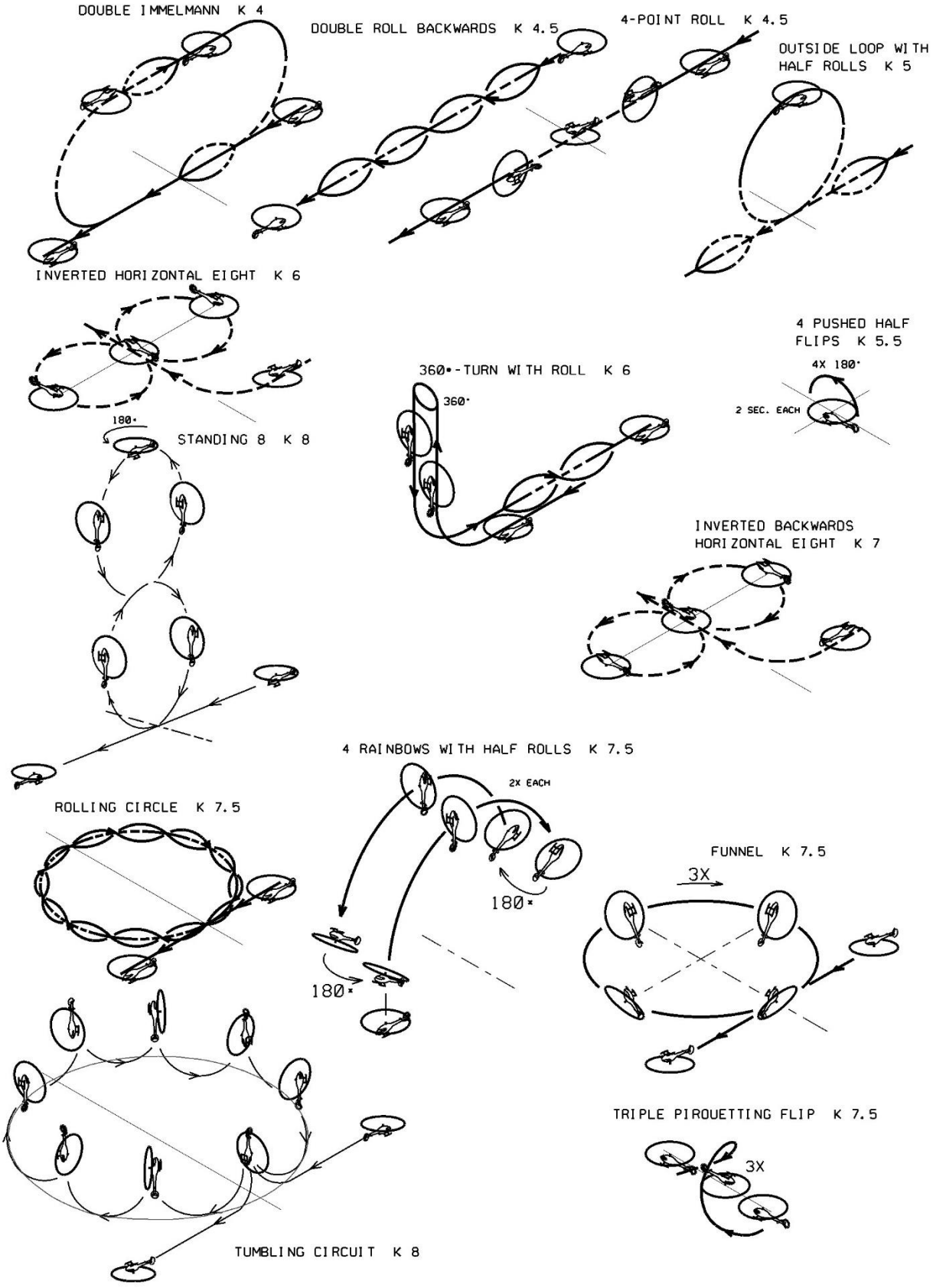
1.~~30~~ 25 Vertical Tic Toc Eight **K=10.5**
Model enters in upright forward flight and performs a quarter roll to knife edge on centre line, MA then performs a half tic-toc loop. On the top of the loop MA performs a half pirouette, and then continues up with another half tic-toc loop while keeping the tail in the flight direction. On top of this second circle MA performs a half roll. It completes the upper tic-toc loop with the tail in the flight direction. It then performs another half pirouette and completes the lower tic-toc loop with the nose in the flight direction. Model exists in upright forward flight.
During the manoeuvre the longitudinal axis of the model always follows the flight path.

Reason: The need to reduce complexity for F3N.

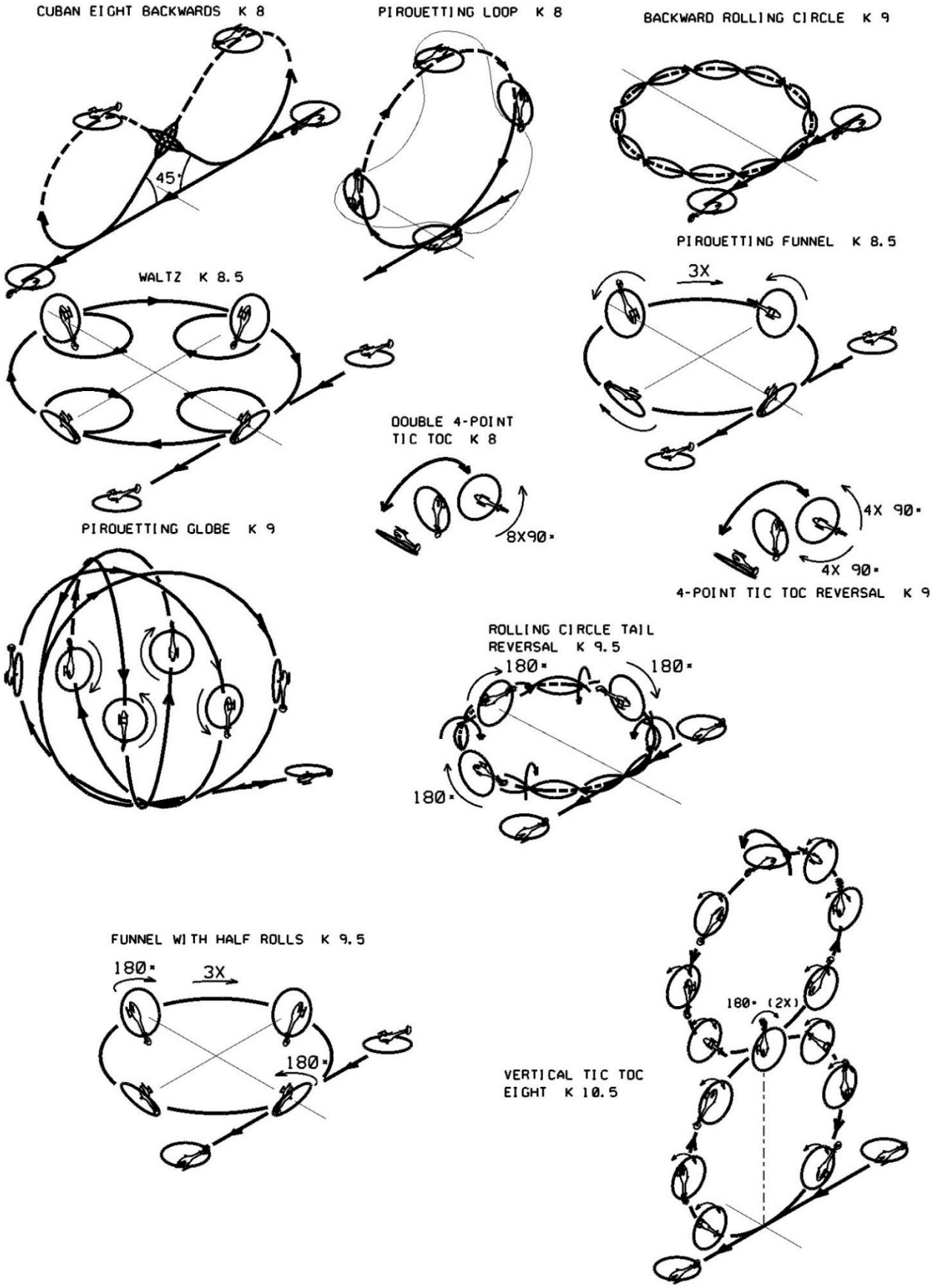
o) 5F.2 Set Manoeuvre Drawings **F3 Heli Subcommittee**

Replace all drawings.

Set Manoeuvres 1 – 1~~7~~**4** (of ~~30~~**25**)


DOUBLE IMMELMANN K 4
DOUBLE ROLL BACKWARDS K 4.5
4-POINT ROLL K 4.5
OUTSIDE LOOP WITH HALF ROLLS K 5
INVERTED HORIZONTAL EIGHT K 6
4 PUSHED HALF FLIPS K 5.5
4X 180°
2 SEC. EACH
360°-TURN WITH ROLL K 6
360°
180°
STANDING 8 K 8
INVERTED BACKWARDS HORIZONTAL EIGHT K 7
4 RAINBOWS WITH HALF ROLLS K 7.5
2X EACH
180°
180°
ROLLING CIRCLE K 7.5
FUNNEL K 7.5
3X
TRIPLE PIROUETTING FLIP K 7.5
3X
TUMBLING CIRCUIT K 8

Set



Manoeuvres 1~~8~~**5** - ~~30~~**25**.

Reason: The need to reduce complexity for F3

14.6 Section 4 Volume F3 - RC Soaring

F3K – RC Radio Soaring RC Hand Launch Gliders

a) 5.7.11 Definitions **Germany**

Add a New Task “Best Flight”

Task N (Best Flight)
During the working time each Competitor has an unlimited number of flights. Only the best Flight counts.

The maximum flight time is 599 seconds.

Working time: 10 minutes.

Reason: The task introduced last year, One flight only, is a very difficult task which, for many participants, does not reflect skill but pure luck. As a result of this and the absence of the cut since last year, you can "destroy" the competition with just one task, even though the participant has flown good results in the remaining rounds.
This new task should give beginners in particular the chance to gain more flight time within the working time and, of course, to gain experience.
However, this new task is not intended to replace the “One Flight Only” task, but to complement it. Nevertheless, this task is very attractive in competitions where more than 12 rounds are flown or at world and European championships.

b) 4C 5.7.7 Flight time **Austria**

We propose to amend the current test flight rules

5.7.7. Flight time
The flight time is measured from the moment the model glider leaves the hands of the competitor until a landing of the model glider as defined in 5.7.6. or the working time expires.
The flight time shall be recorded to 0.1 seconds. Rounding up is not applied.
The flight time is official if:
The launch happened from inside the start and landing field and the landing is valid according to 5.7.6. and the launch happened within the working time of the task.
This means that if the airplane is launched before the beginning of the working time then that flight
receives a zero score.

In those tasks, where maximum or target flight times are specified, the flight time is scored up to this maximum or target flight time only. The sum of all flight times per task must not be greater than the working time minus the number of scored flights in seconds.

Reason: The experience of the World Championships 2022 showed significant problems with timekeeping. To avoid total flight times exceeding the working time a minimum time for one throw must be re-installed.

Please refer to the task rules in effect till 2019.

c) 4C 5.7.9.5 Flight testing time **Austria**

We propose to amend the current test flight rules as follows:

5.7.9.5. Flight testing time
After all the model gliders of the previous group have landed, the competitors flying in the next group receive ~~45~~ **120** seconds of flight testing time, which is part of the preparation time.
During this flight testing time the competitors are allowed to perform test flights from the start and landing field.
The last 5 seconds before the start of the working time and before the end of the testing time have to be announced by the organiser. The first moment, at which the acoustic signal can be heard, defines the start and end of the testing time.
A competitor will receive a penalty of 100 points if he starts or flies his model glider outside of the testing time, working time or landing window of his assigned group.
Competitors may test fly before the transmitter impound and after the last working time of the day.

Reason: For a safe and smooth competition, even on spacious start- and landing fields.
During the preparation, a single test flight time of 45 seconds is too short. If something is noticed during the test flight, the pilot does not have time to react, i.e., repair.

d) 4C 5.7.10.1 Final Score **Austria**

Reduce the number of rounds needed to be flown before dropping the lowest score. Better compliance with the rules of other classes within the F3 soaring category.

5.7.10.1 Final score

The final score is the sum of the normalised scores of all rounds minus penalty points. If ~~twelve (12)~~ **six (6)** or more rounds are flown then the lowest score is dropped.
The penalty 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
Penalisation was applied. The penalty points are retained even if the score of the round in which the offence occurred is dropped.

Reason: At almost every national and FAI Cat.2 competition there are less than 12 rounds flown. In case of a midair or a technical problem one will not get dropped such an unfortunate bad score.
Compliance with the rules of other classes within the F3 soaring category

F3L – RC Radio Soaring – Thermal Gliders RES (Provisional)

e) 5.L.4 Description of the Competition **Slovakia**

Add the paragraph as shown below:

a) In the competition, at least four (4) qualifying rounds shall be flown. For each qualifying round, competitors shall be divided into flight groups. The results of each flight group shall be normalised to arrive at comparable scores between the flight groups. The highest raw score within each flight group will be assigned 1000 points

and the remaining scores within that group shall be proportional to each competitor's raw flight score relative to the highest raw flight score within that group. **If more than 4 qualifying rounds are flown, then the lowest score will be discarded before determining the aggregate score.** The group size in the "Fly-Off" shall be the same as the group size in the preliminary rounds. Competitors with the highest aggregate normalised scores from the qualifying rounds, will compete in a "fly-off" (minimum 2 rounds) to determine the final classification.

Reason: This rule is basically using in the F3J and F5J categories. Based on our good experiences we would appreciate to start using it even in F3L. Pilots travel hundreds of kilometers on competition and just by one technical or another kind of mistake can lose the chance to get in fly off. Following this raw score, they still have a chance to continue in the competition even with their bad round.

f) 5.L.5 The Flying Site **Slovakia**

Add the paragraph as shown below:

d) The landing spots and starting spots shall always be marked. A tape or string attached to the landing spot will measure the distance between the fuselage nose and the landing spot. **For a measuring could be also use a tape measure. This tape measure will be attached to the landing spot after the landing.**

Reason*:* With measure tape is much easier to measure the distance between nose of model and center of the landing point. After the landing we can easily twist a measure tape and doesn't interfere on the ground.

g) 5.L.5 The Flying Site **Slovakia**

Add the changes as shown below:

e) ~~The Contest Director shall determine the landing boundaries.~~ **During landing, the nose of the model aircraft does not come to rest within 75 meters of the centre of the competitor's designated landing spot.** Landing ~~outside the boundary~~ **over 75 meters** shall result in a zero score for that round (see also 5.L.11.2).

Reason*:* 75 meters is the optimal distance of the full flight. If the landing is more than 75 meters, then pilot is not entitled to get points. This rule is basically using in the F3J and F5J categories.

h) 5.L.4 Description of the Competition **Slovakia**

Add the paragraph as shown below

e) The organiser should have official scorekeeper/timekeeper(s) available. If this is not the case, the pilot's helper may act as timekeeper, and at least one official supervising timekeeper will regularly check the flight times. Deviations of more than ~~three (3)~~ **one and a half** second in favour of the participant shall result in zero-score flight for the round.

Reason*:* Competitions in the year 2022 shows, that the quality of the pilots rise up. Most of the competitions have not timekeepers and lot of pilots take advantages of timekeepers absences and it leads to cheating.

i) 5.L.9 Re-flights **Slovakia**

Add the paragraph as shown below:

To claim a re-flight owing to the conditions stated above, the competitor has to make sure that the official timekeeper(s) has noted the interference and shall land his model as soon as possible after the event. **Model must be on the ground in 30 second after pilot decision for reflight.**

Reason: After the collision some pilots have been trying to find thermal and if they didn't make it, they went down.

j) 5.L.10 Landing **Slovakia**

Delete the paragraph as shown below:

~~d) After landing, the nose of the model must not be stuck in the ground. The landing is scored zero if the nose sticks into the ground and the model's tail is way above the ground.~~

Reason: If pilots are supposed to land till the 20 cm, then they must be stuck in ground. Without being stuck in the ground it is too risky and coincidence. If the landing would be till the 1 metre, then it would be making a sense to not stuck the glider in the ground. Gliders are very fast, they haven't flaps. They have only spoilers. Glider with an open spoilers cannot fly slower.

k) 5.L.11.2 Scoring of the Landing **Slovakia**

delete the paragraph as shown below:

~~a) the nose of the model sticks into ground on landing and the tail does not come to rest on the ground (see 5.L.10.d).~~

Reason: If pilots are supposed to land till the 20 cm, then they must be stuck in ground. Without being stuck in the ground it is too risky and coincidence. If the landing would be till the 1 metre, then it would be making a sense to not stuck the glider in the ground. Gliders are very fast, they haven't flaps. They have only spoilers. Glider with an open spoilers cannot fly slower.

l) 5.L.11.2 Scoring of the Landing **Slovakia**

delete the paragraph as shown below:

~~c) the model is not airworthy after landing.~~

Reason: Not airworthy model after landing doesn't has any influence in result. Pilot just lose the model for contest and he is supposed to use another one. It is hard to proof, if the model is not airworthy, if there is not missing part of the glider.

F3G – RC Radio Soaring – Multi Task Gliders with Electric Motors (Provisional)

m) 5.G.1.2 Characteristics data of Radio Controlled Gliders ***Germany***

Remove the language and references related to the "Average Input Power" of 800W as its not a competitive differentiator and only adds unnecessary complexity and effort for pilots and organiser.

5.G.1.2. Characteristics data of Radio Controlled Gliders F3G

Minimum wing-loading	35 g/dm²
Maximum wing-loading	75 g/dm²
Maximum flight mass	5 kg
Minimum wingspan	2,8 m
~~Maximum "Average Input power" 1)~~	~~800 W~~
Maximum energy	350 + 1 Wmin
Maximum run-time of the motor	30 + 0,1 s
Battery	Any type of rechargeable batteries (U ≤ 42 Volt)
Motor	Any type of motor
Minimum nose-/spinner radius 2)	~~7.5~~ **6**mm (see template)

~~1) During the total energy-consumption of 350 Wmin~~

2) If a spinner with an air-inlet (d ≥ 6 mm) for better cooling of the motor ("turbo spinner", "cool nose", etc.) is used, this rule is not valid.

Reason:

The initial purpose to limit the average power-to 800W was to prevent extremely high powered motors and complex, expensive equipment like batteries and controllers (ESC) to manage this high power (eg. F5B).

The challenges of the average power rule had been two folded based on the experiences of the competition in Colmar 2021 and the feedback of the F3G pilots:

n) 5.G.1.3. Technical Equipment **Germany**

i) The functions of the LOG is to record "altitude", "voltage" and "current" and to ~~represent~~ **display** "altitude", "average power", "amount of energy" and the "run-time of the motor" ~~at a display~~.

Reason: *See item m).*

o) 5.G.1.3. Technical Equipment **Germany**

j) ~~If the "average power" exceeds 800 W there is a penalty of two (2) point / one (1) Watt.~~

If the run-time of the motor exceeds 30,1 seconds or the energy-limit exceeds 351 Wmin the flight is penalised with 1000 points.

The number of infractions during one attempt does not matter (maximum one (1) penalty for one attempt).

The penalties will be a deduction from the competitor's final score and shall be listed on the score sheet of the round in which the penalisation was applied.

Reason: See item m).

p) 5.G.1.2 Characteristics data of Radio Controlled Gliders ***Germany***

Adjustment of the term wing-loading to loading according to other F3 classes like F3B, F3J and definition of the term loading.

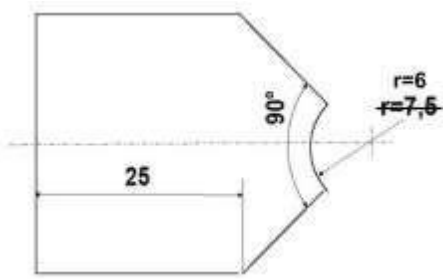
Minimum ~~wing-~~loading	**3**	35 g/dm²
Maximum ~~wing-~~loading	**3**	75 g/dm²

Reason: The term wing-loading is misleading because it might be referenced to the projected surface of the wing only without tail.
Other F3 classes - eg. F3B or F3J - are using the term loading
The additional description "3) Loading is defined as the model starting weight divided by the vertically projected surface area of the wing and tail" has been added as there is no definition of the term loading within the F3 rule set.

q) 5.G.1.2 Characteristics data of Radio Controlled Gliders ***Germany***

Adjust nose/spinner radius from initial F3B specific to the commercially available spinner used in F3G

Minimum nose-/spinner radius 2) ~~7.5~~ **6**mm (see template)



Reason: F3G models are using commercially available spinners which have a radius around 6-6.5mm. Sticking to the legacy value of 7.5mm from F3B would require complex and custom made spinners to be used.

r) 5.G.1.3 Technical Equipment ***Germany***

Adopt the language and references for specific connector types between LOG and Batteries, to test the LOG, to the global market situation that batteries are produced and delivered with deviating and different connectors.

The ~~logger~~ **LOG** ~~shall~~ **can** have ~~for a random check the following connectors~~ **any type of connectors**:

- “Plus battery” male connector four (4) mm diameter
- “ESC” female connector four (4) mm diameter
- “Minus battery male / female connector four (4) mm diameter

Reason:
Todays used batteries have a variety of different connectors-e.g. XT60, 3.5mm, etc which are all established in the market and amongst the pilots and valid.
The F3G rule should reflect and respect this established market status and not force manufacturers nor pilots to a specific connector type.

Amending the rule with the possibility to use adapters bridges the gap while maintaining a standardized 4mm connector for future test devices.

s) 5.G.1.3 Technical Equipment ***Germany***

Clarification of the language that the LOG not only needs to record "altitude" average power", amount of energy" and the "run-time of the motor" but also display it so it can be reviewed by officials immediately after the flight without additional equipment.

j) The functions of the LOG is to record "altitude", "voltage" and "current" and to ~~represent~~ **display** "altitude", "~~average power~~", "amount of energy" and the "run-time of the motor" ~~at a display~~.

Reason:
Clarify the language that the logger needs the ability to display the F3G relevant values directly or via an attached display to enable an efficient and fast audit and review during the competition.
All known and used LOG devices today have either an integrated display or can be extended with an external display.

t) 5.G.1.3 Technical Equipment ***Germany***

Clarification that non compliance to display the essential parameters-altitude, motor run time and energy – on the LOG will lead to a zero score. This is identified to F5J rules and practices.

5.G.1.3 n The flight is invalid and rated with zero points in case the LOG will not display "altitude", "amount of energy" and the "motor run-time" after the flight.

Reason: The current rule does not state any consequences if the LOG is not showing the necessary information "altitude", "amount of energy" and the "motor run-time" to prove compliance with the F3G rules. The pilot could state that this information can be reviewed with additional technical equipment like laptops, tablets, etc. which is not manageable during a contest.

u) 5.G.1.4 General Requirements ***Germany***

Remove the non-differentiating, artificial limitations to only 3 batteries per model and its potential impacts to slow down the competition execution.

c) The competitor may use a maximum of three (3) models in the contest. All exchangeable parts (wing**(s)**, fuselage, tail plane**(s)**, canopy, joiner, ~~maximal three (3) batteries / model)~~ must be marked uniquely and in a way that does not allow replication of this mark on additional parts.

Reason: Limiting the number of batteries per model is not differentiating in the sense of the competition. It also does not limit or reduce the financial investment as the batteries are by far the cheapest element of a F3G competition model.
In contrast the limitation to 3 batteries can slow down the competition as they need time to be recharged after an attempt and can lead to unnecessary delays as competitors - especially for refights - do not have charged batteries ready

v) 5.G.2.3 Task A - Duration ***Germany***

Clarification of the meaning accuracy of the LOG and the rounding principle

d) The “start altitude” is the altitude attained above a ground level reference between the motor is switched on and ten (10) seconds after the motor is stopped.

1) The “start altitude” **is measured in tens of a metre and** shall be rounded down to the nearest metre

Reason: All LOG devices are measuring the altitude at least by tens of a metre and show the value accordingly. Specifying the rounding principle clarifies the applicable practice in the competition.

w) 5.G.2.3 Task A - Duration ***Germany***

Clarify and define the precision of the time measurement during task “Duration”.

b) The model shall be launched in the direction(s) determined by the contest director. The maximum run-time of the motor is limited to thirty point one (30,1) seconds. One (1) point will be awarded for each full second from the time the motor is switched on to the time the model comes to rest on the defined flying site, up to a maximum of 600 seconds, or each full second of flight within the working time; **the time is measured in tens of a second and shall be rounded down to the nearest second** if the model does not land on the defined flying site the whole flight is zero. No points will be awarded for flight time in excess of working time.

Reason: The current wording does not specify the precision and rounding method for time measured.

x) 5.G.2.4 Task B - Distance ***Germany***

Reduce the penalty for entering the track during distance within 40 seconds after the start of the motor from 300 to 100 points.

a) The model shall be launched in the direction(s) determined by the contest director. The time between the motor is switched on and entering the course the first time at Base A in direction to Base B shall be equal or more than forty (40) seconds. The flight is penalised with ~~300~~ **100** points if this time is less than forty (40) seconds. The penalty of ~~300~~ **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 penalisation was applied.
Crossing Base A in the direction to Base B with running motor is penalized with a zero result.

Reason: The penalty of 300 points is extremely harsh and high for a minor violation, which can easily happen – eg. Wind. 300 Penalty points will impact the competitor extremely with no real chance left to achieve a good score overall. For reference – 300 penalty points are also applied if the pilot crosses the safety line during speed- a quite severe and security relevant issue.

y) 5.G.2.5 Task CB – Speed *Germany*

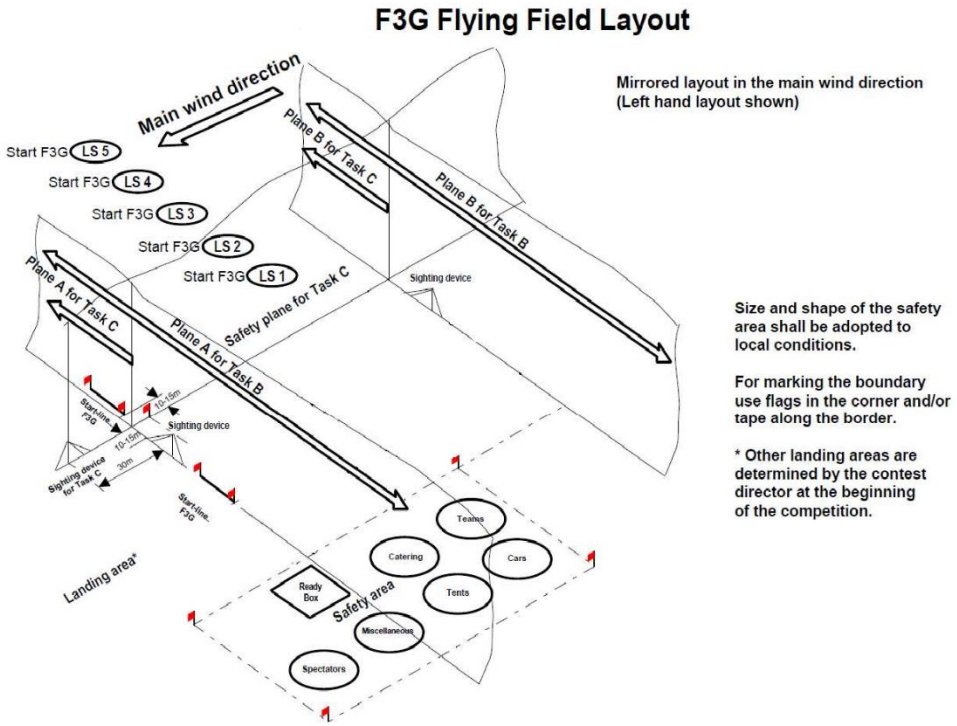
Reduce the penalty for entering the track during speed within 40 seconds after the start of the motor from 300 to 100 points.

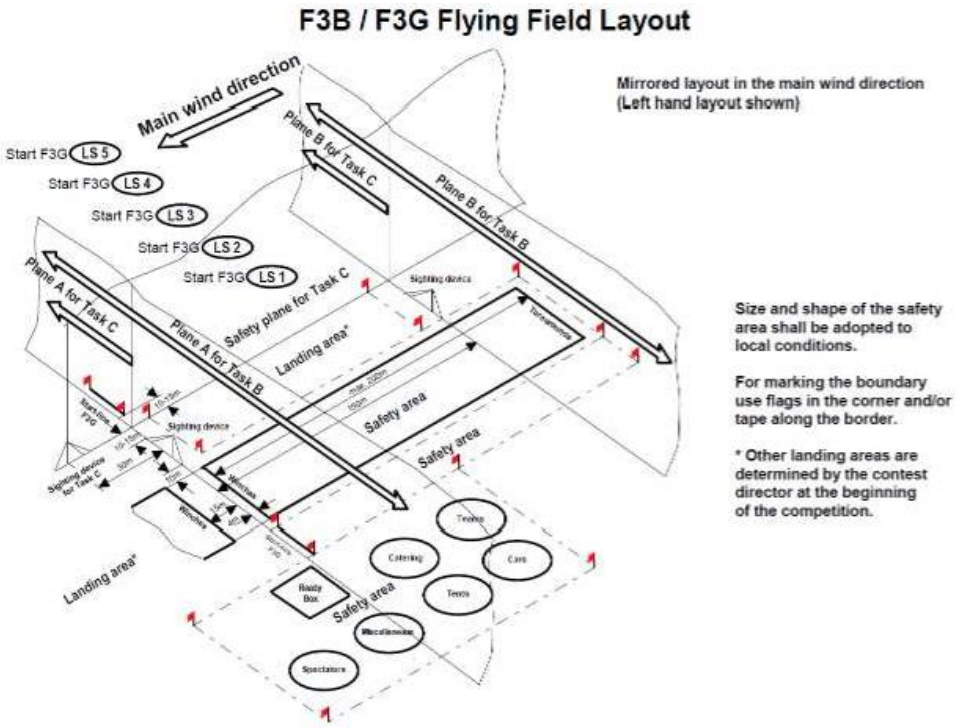
a) The model shall be launched in the direction(s) determined by the contest director. The time between the motor is switched on and entering the course the first time at Base A in direction to Base B shall be equal or more than forty (40) seconds. The flight is penalised with ~~300~~ **100** points If this time is less than forty (40) seconds. The penalty of ~~300~~ **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 penalisation was applied. Crossing Base A in the direction to Base B with running motor is penalized with a zero result.

Reason The penalty of 300 points is extremely harsh and high for a minor violation, which can easily happen – eg. Wind. 300 Penalty points will impact the competitor extremely with no real chance left to achieve a good score overall. For reference – 300 penalty points are also applied if the pilot crosses the safety line during speed- a quite severe and security relevant issue.

z) 5.G.2.9 Site *Germany*

Adjust old legacy working "E F3B) and sketches to the new term F3B ad update the flying field.





~~For a combined F3B / F3G competition the launch of the F3G models takes place at the "start-line(s) E F3B".~~
For an F3G **or combined F3B/F3G** competition the launch **can** takes place at the "start-line ~~E F3B~~" **F3G** (~~former F3B winch-line~~). **or for "Task A Duration" near the "landing spots"**

Reason: Update the language reflecting that the class is not E F3B anymore but F3G. Consolidating the text for F3G and combined F3B/F3G competitions as they are the same.

aa) 5.G.1.11 Safety Rules ***Germany***

Clarification and update of rule description in reference to the updated sketch of a F3G flying field layout.

a) The organiser must clearly mark the boundary between the landing area and the safety area assigned for other activities. (See sketch "F3B/F3G flying field layout")
b) 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, ~~tow-line at combined F3B/F3G competitions,~~ etc.) within the safety area will be penalised by 300 points, except in the circumstances described in paragraph 5.G.1.6 b) items 1, 2, 3, and 4. 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 (1) penalty for one attempt). The penalty will be a deduction of 300 or 1000 points from the competitor's final score and shall be listed on the score sheet of the round in which the penalty was applied.

Reason: The current wording is referencing an outdated sketch and needs the proposed adjustments and clarifications for the current sketch of a F3G layout.

CIAM Technical Secretary Note for F3G class. There are provisions related to Technical Specifications for the so called "LOG", but there isn't a section on the EDIC volume. Therefore, there is no way to have approved devices for this class. It is necessary that the F3 RC Soaring S/C will take care of this matter.

14.7 Section4 Volume F5 – Electric

a. F5 – RC Electric Powered Thermal Motor Gliders ***USA***

Section 5.5.1.3 a) & b)

Add new wording to include solar cells to the power types allowed in the General Rules for F5

a) The power source shall consist of any kind of rechargeable batteries **including solar cells** (or secondary cells), the maximum no load voltage must not exceed 42 volts. In case the voltage is measured, this shall be done at the moment the preparation time for the pilot starts. After the measurement has been taken, the pilot is allowed 5 minutes preparation time as per 5.5.2.4.

b) b) Battery specifications in F5B, **F5E** and F5J are written in the special rules of these classes.

Reason: The F5 General Rules need to be updated to include the option for the new F5E class for solar powered gliders.

b. F5J –Section 5.5.11.1.3 Characteristics ***Bulgaria***

Delete as detailed

iii) To reset the start height displayed to "---" if the motor is restarted at any time during the flight. In this case (start height displayed to "---", the result of the flight is 0 ~~and the 0 result cannot be dropped from total score~~.

Reason: If non droppable 0 is applied - lot of new problem will face for competitors and organizers. Non droppable 0 mean pilot lose chance for good result in competition and most will prefer to land out which can be dangerous in most of cases.

c. F5J – Section 5.5.11.1.3 h) iii) ***USA***

In paragraph 5.5.11.1.3. *h), section iii) change cannot to can. Delete:* This rule can be used as a local rule at FAI World Cup and Open International events, but not at Category One events.

iii) To reset the start height displayed to "---" if the motor is restarted at any time during the flight. In this case (start height displayed to "---"), the result of the flight is 0 and the 0 result ~~cannot~~ **can** be dropped from total score. ~~This rule can be used as a local rule at FAI World Cup and Open International events, but not at Category One events.~~

Reason**:** Altitude weighted scoring is the primary feature of F5J that differentiates it from other soaring disciplines and is one of the reasons for its popularity. The majority of F5J contests currently allow restarts with a droppable zero. Being able to take high risk low starts without risk of damaging your model or property while not being severely penalized has become a large part of the appeal of F5J. With no restarts or

a restart with a non-droppable zero, pilots will either feel they need to risk their model to be competitive, or resort to high launch heights found in less popular soaring disciplines. Allowing restarts without severe penalty improves the overall safety of the event while preserving the full appeal generated by altitude weighted scoring. The only other case of a severe non-droppable penalty is for safety violations. Restarts should not be penalized as harshly as a safety violation. Note that after any other zero (e.g. for land out) the non-droppable rules has no effect. Allowing restarts with a droppable zero at Category One events will align the Category One event rules with the way the majority of the events are actually being flown.

Proposal based on Safety possible early implementation Requested.

d. F5J – Section 5.5.11.5.1 ***USA***

Delete "with the motor running" from line C

5.5.11.5 Contest Flights

5.5.11.5.1
(c) There is an attempt when the model aircraft is released ~~with the motor running~~ by the competitor or his helper.

Reason: Clarification of a launch attempt. It is not always obvious to observers and contest officials whether the motor is running or not, however very clear when a model leaves the hands of the competitor or his helper.

e. F5J – Section 5.5.11.8.3 Flying Groups ***Bulgaria***

Delete section as detailed:

~~c) The Working Time for each Group must not start until the access corridor is clear of all people. Any deliberate attempt to delay the start of a Working Time by a competitor, his helper or team manager, by obstructing the access corridor will result in a zero score for that round.~~

Reason: At present rules all models start from the access corridor and this rule is not applicable.

f. F5J – Section 5.5.11.10 c) e) h) ***USA***

In paragraph 5.5.11.10 make revisions/clarifications as noted below.

~~c) The motor must not be run before the start signal is given during an attempt. A penalty of 100 points will be applied for any breach of this rule.~~

e) The launches must be straight ahead for at least three (3) seconds, ~~with the motor running. Any other type of launch is not allowed~~. A penalty of 100 points will be applied for any breach of this rule.

h) The motor must be running when the model is released. A launch without the motor running is not a valid attempt and will be scored a zero.

Reason:

c) During prep time, the competitor should not be penalized for starting their motor for testing. If the competitor starts their motor prior to the start signal, they should not be penalized. The only apparent reason for this rule is to prevent the start signal from being heard. With adequate sound systems this should not be an issue or reason for penalty.
e) The intent is for the competitor to fly straight for 3 seconds to avoid other models. If they elect to turn off the motor before 3 seconds, they should not be penalized.

h) Defines a valid attempt.

g. F5J – Section 5.5.11.11 Flight ***Bulgaria***

Delete section as detailed:

~~Throughout the whole flight, the pilot and his helper(s) must be in a 10 metre wide rectangular area from the starting line to 10 metres behind the landing point, the centre of which is formed by a straight line between starting point and landing point. A penalty of 100 points will be applied for any breach of this rule.~~

Reason: Intention of this rule was against possibility of pilot to move close to the model and fly slope or dynamic soaring during working time in case of high wind and proper obstacles. Applying this rule as local rule at ECh in Hungary 2022 clearly show to all that using this rule can be dangerous and generate lot of problems and it's not fair especially for aged pilots. After second Flyoff, this local rule was cancelled because safety reasons.

h. F5J – Section 5.5.11.11 ***USA***

Delete section 5.5.11.11*.*

~~Throughout the whole flight, the pilot and his helper(s) must be in a 10 metre wide rectangular area from the starting line to 10 metres behind the landing point, the centre of which is formed by a straight line between starting point and landing point. A penalty of 100 points will be applied for any breach of this rule.~~

Reason:
Penalizing a pilot for moving closer to their model or move to get an unobstructed view creates more safety problems than it solves. As wireless communication continues to proliferate, RF interference will be an increasing issue. Moving closer to the model is one of the primary ways of re-establishing control during an interference event. Penalizing a pilot for trying to save their model is unfair. Visual acuity varies from person to person. By moving closer to a model, a person with poor vision can fly at distances like those with exceptional vision. It is unfair to penalize them. Additionally, the rule places an unnecessary burden on the contest organizers and officials. Additional field set up is required and more officials are needed to ensure pilots do not exit the box.

i. F5J – Section 5.5.11.12 Scoring SPAIN

a.1) For automated timing AMRT´s (where Organization would allow or mandate via Local Rule): The attempt must be timed from moment of motor ON command calculation to either:
i) The model aircraft first touches the ground; or
ii) The model aircraft first touches any object in contact with the ground; or
iii) Completion of the Group's Working Time.
iv) Non sportive behavior in non-justified delay in releasing the model since throttle advance, (more than 3 seconds) will be cause of penalty of 300 points at the discretion of Competition Director.
v) The competitor is responsible to provide both throttle advance instant and landing instant to its installed AMRT. And also to provide access for an audit of these events to the Competition Director from on board AMRT records in graphic format to provide evidence of her/his flight .

Reason: Allow for automated timekeeping in small competitions.

CIAM Technical Secretary Note. Most of the provisions in this proposal require AMRT specifications modification. EDIC WG was not asked to provide comments. Therefore, both proposals are not valid.

j. F5K – Section 5.5.10.F5K *The Netherlands*

Change whole 2022 Sporting Code version into proposed version.

Refer to Annex 7e for proposed version - 5.5.10 CLASS F5K - THERMAL DURATION GLIDERS FOR MULTIPLE TASK COMPETITION WITH ELECTRIC MOTOR AND ALTIMETER/MOTOR RUN TIMER (AMRT)

14.8 Section 4 Volume F7 – Aerostat

F7B – Model Aircraft Aerostats

a) 7.2.1.1 Characteristics **F7 Subcommittee**

Modify section 7.2.1.1 as detailed below

~~(a) Gas airships :~~
For ~~gas~~ airships, the envelope may contain non-flammable, lighter-than-air gas (helium).
…
~~(b) Hot-air airships~~
~~Refer to chapter 7.1.1.1 Characteristics~~
As opposed to the CIAM General Rules, B 1.1, e), airborne devices or functions that use sensors to actuate any control surface are specifically allowed.

Reason:
- Hot-air airships are not in use.
- Implementing control systems and functions, as used e.g. in multicopters and helicopters, is considered a sportive challenge.

F7B – Model Aircraft Aerostats

b) 7.2.1.1 Characteristics **F7 Subcommittee**

Modify Table in section 7.2.1.1 as detailed below

Length	Width	Height	Block Volume	Distance Factor	Time Factor
L	W	H	BV= L x ~~B~~**W** x H	DF= Cube root of BV	TF= Square root of DF
4.50	*0.64*	*0.64*	*1.843*	*1.226*	*1.107*

Reason: Error.

F7B – Model Aircraft Aerostats

c) 7.2.7.1 Airship **F7 Subcommittee**

Modify Section 7.2.7.1 as detailed below:

~~For hot-air airships, refer to chapter 7.1.7.1 - Hot-air Balloon~~
Propellers must be guarded by a shroud, duct or cage to reduce the risk of injuries.

Reason: Model hot-air airships are not in use. Propellers shall be guarded to mitigate the risk of injuries.

F7B – Model Aircraft Aerostats

d) 7.2.12 Hugo Eckener Cup (new Paragraph **F7 Subcommittee**

Addition to Section 7.2.12 as detailed below:

7.2.12 Hugo Eckener Cup
The Hugo Eckener Cup is a category two international series of open international contests, as described in Section 4 - Aeromodelling CIAM General Rules in chapters C.2.2.1 and C.2.2.2.

7.2.12.1 Name of the Contest
Hugo Eckener "was the manager of the Luftschiffbau Zeppelin during the inter-war years, and also the commander of the famous Graf Zeppelin for most of its record-setting flights, including the first airship flight around the world, making him the most successful airship commander in history." [Wikipedia, the free encyclopedia, 14/11/2022].
One page in the FAI "Livre d'or" is dedicated to Hugo Eckener, in golden letters, for his achievements in aviation.

7.2.12.2 Specific Goal of the Contest
Primary goal of the Hugo Eckener Cup is to identify the world best model airship pilots by means of a ranking list called "Buddy Count" (see 7.3.3) in a four-year interval. Secondary aim is to attract new athletes to the sport, and to prepare for a F7B World Cup as described in chapter C.2.2.3.

7.2.12.3 International Ranking
The international ranking for F7B, called "Buddy Count", is a continuous classification based on the results of all open internationals within a four-year period, organized by the subcommittee F7. Basis for this ranking is the calculated time per open international contest, as described under 7.2.11.1 "Regatta, Time Scaled".

The Buddy Count
Starting by the year 2023, results of open international F7B contests are collected and accumulated like this: For each open international contest, each athlete collects one point for each competitor (buddy) he/she beat (bettered), plus one point for daring to compete.
Example: An open international contest consists of 14 competitors. The winner of this competition bettered 13 buddies, so he/she gains 14 points, to be added to his/her Buddy Count. The slowest competitor bettered no-one but gains one point for braveness to compete.
In parallel, the mean velocity is computed to deal with a draw that might occur when accumulating points. The mean velocity per open international is computed like this: The length of six times the distance between the two pylons is divided by the calculated time (compare 7.2.11.1). (The distance between the two pylons might change per competition, due to local rules due to local constraints.)
In a four years period, buddy counts are collected and accumulated to the ranking list. The total mean velocity is computed like this: The mean velocities per contest attended are summed up and divided by the number of contests

attended. The higher total mean velocity decides then for the ranking in case of a draw in Buddy Count.
Up-dated ranking lists are produced and distributed by the subcommittee during the four years period, at least one month after each open international contest.

The Hugo Eckener Cup and the diploma for the first place is handed to the athlete with the highest buddy count in the four years period (and the higher total mean velocity in case of a draw). Diplomas for second and third place are treated accordingly.

Reason: To attract athletes, and to prepare a World Cup.

14.9 Section 12 Volume U – Unmanned

U – Section 12 Unmanned Aerial Vehicles

a) 2.1.1.1.1 – 2.1.1.1.3 **USA**

The classifications listed below (from page 4) should more directly correspond with the chart on page 5. The following renumbering and re-wording is proposed:

2.1.1.1.1 Type 1 Fixed wing aerodyne
2.1.1.1.2 Type 2 Rotary wing aerodyne – Helicopter (1-2 rotors)
2.1.1.1.3 Type 3 Rotary wing aerodyne – Multirotor (>= 3 rotors)
2.1.1.1.4 Type 4 Aerostat

Page 5 chart, first column:

Classification-Types [delete term "subclass"]
U - Absolute
U-1 - Fixed wing
U-2 - Helicopter
U-3 - Multirotor
U-4 - Aerostat

to
2.1.1.1.1 Type 1 Fixed wing aerodyne
2.1.1.1.2 Type 2 Rotary wing aerodyne ***– Helicopter (1-2 rotors)***
~~*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 ***Type 3*** ~~*Aerostat*~~ ***Rotary wing aerodyne – Multirotor (>= 3 rotors)***
2.1.1.1.4 Type 4 *Aerostat*

~~*Subclass*~~ ***Classification-Types***
U - Absolute
U-1 - Fixed wing
U-2 - Helicopter
U-3 - Multirotor
U-4 - Aerostat

Reason: For clarification—should be considered after proposed changes to paragraphs 2.1.1.1.2.1 and 2.1.1.1.2.2.

b) 2.1.1.1.1 and 2.1.1.1.2 **USA**
Why are the terms "variable pitch" and "fixed pitch" used in paragraphs 2.1.1.1.2.1 and 2.1.1.1.2.2?

Would a helicopter with fixed-pitch blades be excluded from Class U-2? Would a variable-pitch rotorcraft with 3 or more rotors be excluded from Class U-3?

2.1.1.1.2.1 ~~Variable pitch (helicopter)~~ **Helicopter (1-2 rotors)**

2.1.1.1.2.2 ~~Fixed pitch (multirotor >= 3 rotors)~~ **Multirotor (>= 3 rotors)**

Reason: Only the number of rotors should determine the difference between U-2 and U-3. I.e., U-2 = one or two rotors; U-3 = three or more rotors

c) 2.1.1.2.11 **USA**

Modify Section as detailed below:

2.1.1.2.11 ~~10 00 kg~~ **10 000 kg** – less than 50 000 kg

Reason: Typographical error

d) 5.3.1.2 Duration Records **USA**

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

We understand this to mean that stopwatches are not allowed here (please inform us if our understanding is incorrect). In addition to time, what other parameters must be included in the data log (e.g., altitude, lat/long, etc.)? Further, is there a list of approved “data logging” devices for Class U records?

Request for Clarification

e) 6.2.1 Certification **USA**

Modify Section 6.2.1 as detailed below:
6.2.1 Each record file shall contain all flight certificates and information necessary to establish full details of the record. The official form: Record Claim Statement for UAV shall be used and can be downloaded from the ~~Documents~~ **Sporting Code** section of the CIAM website ~~http://www.fai.org/ciam-documents~~ **https://www.fai.org/page/ciam-code**

Reason: Correction

14.10 Section 4 Volume S – Space

Part Two – Space Model Specifications

a) 2.1 Weight and 2.2 Propellant **Slovakia**

Change text in paragraph 2.1 and 2.2. as shown below. Please check the Sporting Code as well and unify with this paragraph any references:

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

See CIAM General Rules B.2.3 Class S Space Models

~~No more than 200 g of propellant materials shall be contained in its space model motor(s) nor shall their total impulse exceed 160 Newton-seconds (Ns).~~

See CIAM General Rules B.2.3 Class S Space Models

Reason: The wording is present twice (once on the Space SC and once in the CGR). This will keep the rule in one place to avoid any kind of duplicity.

b) 2.4 Construction Requirements **Slovakia**

Change text in paragraph 2.4.3. as shown below:

Construction shall be of any modelling material without substantial metal parts. A substantial metal part is a nose cone, body tube, fins, any hard, sharp and external pointed part or any internal ~~heavy~~ metal part that can cause injuries to persons or damages to property.

Reason: Safety rule update.

c) 2.4 Construction Requirements **Croatia**

Change text in paragraph 2.4.4. as shown below:

2.4.4 Minimum dimensions of subclasses of classes S1, S2, S3, S6 and S9 must not be less than:

Event Class	*Minimum external diameter (mm) ~~(for at least 50% of the overall length)~~*		*Minimum Overall Length (mm)*
	Minimum Diameter (mm)	**Minimum Length (mm)**	
A/2	30	175	350
A **& B**	40	250	500
C	50	325	650
D	60	400	800
E	70	475	950
F	80	550	1100

Model length is the distance from the top of the model to lower part of the model's body.

Reason:
Tabular representation is a seemingly simple solution, but it is a trap because it requires calculating whether the model is in a class. First of all, the diameter can be measured with a calliper, but even that would require caution and knowledge. Model length, what is it? Distance of the furthest points on the model, measured along the longitudinal axis?
The definition of model length is – Model length is the distance from the top of the model to -
- A Lower part of the model's body,
- B The lower part of the motor holder that protrudes slightly from the body
- C The lower part of the motor that protrudes slightly from the body,
- D The lower part of the stabilizer that protrudes over the lower part of the body and motor,
measured along the longitudinal axis of the model.

Whichever you choose, it is a key part of continuing to enforce the model's diameter of at least 40mm at 50% of body length.
All four versions have their justification, so we need to decide and define the length of the model. It is the basis of the next control - whether the diameter is at least 40 mm at half the length of the model.
It sounds simple, but in practice, it requires a calculator.
It is much simpler to specify the length of a specific - the smallest diameter, which is now 50% of the total length of the model - in addition to the minimum length of the model. Then the table would look different -
-For models using A/2 power motors, then for the smallest model length of 350 mm, the smallest diameter of 30 mm/ would be at least 175 mm,
- For models with A and B motors, the minimum length of the model is at least 500 mm, a diameter of at least 40 mm must be at least 250 mm long,
-For models with C motors – minimum length is 650 mm, diameter 50 mm/at least 325 mm, etc.
This means, for motors A, that the length of the smallest diameter of 40 mm is 250 mm, and then the model must be long 500 mm or longer than 500 mm. Changing the length of the model, if necessary and at the will of the modeller, does not require a change in the length of the body part with a diameter of at least 40 mm.
The result of such a rule change means that when a model is made that has a required diameter of at least 50% of the model's minimum length, it can be longer without being disqualified. The longer model generally has somewhat weaker flight characteristics but is practical in some situations. The competitor can use a slightly longer head, longer fins, conical part or body without violating the required properties.

d) 2.4 Construction Requirements **USA**

Modify the dimensions for "A/2" models to be the same as for "A" models:

2.4.4 Minimum dimensions of subclasses of classes S1, S2, S3, S6 and S9 must not be less than:

Event Class	Minimum external diameter (mm) (for at least 50% of the overall length)	Minimum Overall Length (mm)
A/2	~~30~~ **40**	~~350~~ **500**
A	40	500
B	40	500
C	50	650
D	60	800
E	70	950
F	80	1100

(The remainder of Rule 2.4.4 stays the same.)

Reason: Changing the dimensions for A/2 models allows the same models to be used for A/2 and A events. This provides greater diversity of events. It also allows the competitors to use existing construction tooling and transportation boxes for A/2 and A events. Using larger models for A/2 events also increases the challenge of competition. Many prior competitions have shown that using 40 mm models with A/2 motors is feasible and very competitive. Using 40 mm models for A/2 events also allows competitions to be held in smaller fields. This is important in locations where huge fields may not be available.

e) 2.4 Construction Requirements **Slovakia, Croatia and Italy**

Amend the following text in paragraph 2.4.7 as follows:

~~Models in Classes S4 and S8 must fly and land without separation of any part in flight.~~

Models in Classes S3, S4, S6, S8 and S9 must fly and, in case of S8 land, without separation of any part in flight. A part of a model is defined as any component in or on the model at the time of the launch.

Reason: The intention of this rule change is to unify all classes which have the “non part separation rule” on one place and add a specific definition of a model part.

comment : if proposal is accepted, amend all considered paragraphs with the deletion of the then obsolete wording.

Part Three – Space Model Motor Standards

f) 3.8 Burning **Croatia**

Change text in paragraph 3.8. as shown below:

A space model motor in operation shall expel from its nozzle no pieces of burning propellant and shall be incapable of igniting a piece of dry paper **(80 g/m²)** or grass at a distance of one metre or more from the nozzle of the motor.

Reason: What dry paper? Pyrotechnic Norms use writing paper 80 g/m² in such a case.

g) 3.10. Certification for FAI Contests **Serbia**

Change text in paragraph 3.10.3. as shown below:

~~3.10.3 The organisers of World and Continental Championships are not obliged to perform a static test during the event if they provide all motors of the same type by the same manufacturer for all participants in a particular class or classes. In such a case, the organiser shall get the certification document in accordance with 3.10.1 from the manufacturer and/or do the static test for random samples of motors to be used, prior to the Championships to make sure that the delivered motors are in compliance with the space model motor standards. This shall be specified in Bulletin 1 for the Championships.~~

3.10.3 Organization of motor distribution

In the Bulletin 1, the organizer lists at least two motor manufacturers whose motors will be used in the competition, as well as a list of motors with characteristics.

Competitors, by registering, request a motor for themselves or a team at the competition and make payment to the organizer along with the payment of fees for participating in the competition.

Motors for all teams or competitors are delivered by the organizer and placed in waterproof boxes that would be delivered to the meters at the starting points of the competitors at the time of the starts, where the motors would be available to the competitors under the supervision of the timekeepers.

The motor manufacturer is obliged to provide the organizer with attestation lists with work diagrams for each type of motor submitted for the competition, two attestations for each type of motor with no greater deviations of +- 10% in relation to the given motor power and operating time tracker.

Reason:

1. The advantages of this type of organization of work with motors is the greater safety of delivering motors to the place of organization of the competition and the reduction of the risk of transporting motors across the border.
2. Reduction of the time required for the motor certification, as well as the anger and furniture required for the motor certification.

3. Reducing the costs of the direct organizers of the competition for the time and anger required for the motor certificate.
4. Elimination of the use of stronger motors.

h) 3.13 Space Models Motor Testing Standards **Croatia**

Change text in paragraph 3.13.4 as shown below:

3.13.4 Static test shall be conducted with the test motor at a temperature of 20 degrees Centigrade, +/-5 degrees of Centigrade. **If it is not possible to provide a thermal chamber for testing the motor at 20 °C, for measurements at a temperature of 30 °C and above, a tolerance of +1% of the Total impulse can be introduced.**

Reason:
OK, when testing the motor, depending on the severity, the test temperature is defined, whereby the tested motors must be tempered 24 hours before the test at the desired temperature. For smaller and lighter objects, the tempering time can be shortened, so for such, mostly small motors with impulses of 2.5-80 Ns, a few hours of residence in the chamber, without insulating packaging, is probably enough. The problem is that if we stick to the rules that we have written ourselves, we must have a temperature chamber that maintains the set temperature. We don't have chambers, so it is clear that at a temperature of 30°-35° C, the motor impulse will be slightly (slightly!) higher. This means that masters who test motors should not be too strict, but must tolerate that heated, untampered motors give a few percent higher impulse. It is a difficult decision - whether to remove this requirement from the Ordinance until further notice or to make it a condition that a thermal chamber capable of maintaining a temperature of 20° +/-5° C is provided for motor testing.

i) 3.14 Type Identification **Croatia**

Change text in paragraph 3.14.2 as shown below:

3.14.2 Standard marking on the exterior of the casing of a space model motor shall consist of ~~four~~ **the** marks: a) manufacturer's name or logo, b) motor class (and total impulse) marked by a capital letter in accordance with paragraph 3.1.4 of these rules, c) **maximum thrust in Newtons (N) marked by a numeral/** average thrust in Newtons (N) marked by a numeral, d) delay time an seconds (s) marked by a numeral, **e) date of manufacture, (day, month and year of production), f) model rocket motor (?).** ~~When the colour coding of the nozzle end is used, a manufacturer is obliged to provide an affidavit that explains this coding with every delivered quantity of the motors that shall be submitted to the Contest Organiser.~~

Reason: A sheet with the necessary markings and instructions for safe use (according to FAI safety measures) and destruction should be attached to the motor packaging. Part of these markings should be printed with permanent ink on the motor itself. I think it's the markings – Manufacturer's logo, model rocket motor, motor power (Ns) as a letter designation A-F, maximum/average thrust in Newtons (N), the delay time in seconds (s), and date of manufacture. All permanent information must be written on the accompanying sheet - the method of transport and storage and the time of use with the correct handling of motors, instructions on safe use and destruction, a thrust/time diagram, a tabular representation of characteristic properties and the like. Labelling requires motor manufacturers to be involved. In addition to technical data, they must provide instructions on the transportation and storage of the motor. For a better insight into this issue, below is the first page of the "Regulations on the method of labelling explosive substances", valid in the Republic of Croatia.

Part Four – General Rules for International Contest

j) 4.4. Official Entries **Croatia**

Change text in paragraph 4.4.3. as shown below:

4.4.3 Builder of the model

The judges shall make every reasonable effort to ensure that each competitor has completely constructed the model entered in the competition with “construction” to be interpreted as the action required to complete a model starting with no more prefabrication than the amount used in the average kit. Models that are completely prefabricated or require only a few minutes of unskilled effort for their completion shall be excluded from the competition. Materials and designs may be obtained from any source, including kits. The space model must be prepared for flight by the competitor and optionally assisted for flight by one helper. The helper may ~~not~~ be a competitor within the same event. For Junior Competitors, ~~the age of the helper shall also comply with the age category for Junior Competitors~~ **senior – instructor can be the helper.**

Reason:
The model must be prepared for the start by the competitor and may be helped by an assistant, who must not be a participant in the competition (in that category?) Given that the competitor is usually helped by colleagues from the team, that attitude should be eliminated or the RSO will have a lot of work to see who helps the competitor.
According to the Rulebook, for juniors, assistants must only be juniors. The current practice is that the instructor goes with the junior to the start, so you need to think about how to write it. Juniors as helpers are a good idea that is difficult to implement in practice. What to do next? I think that seniors should be allowed to be helped by a colleague from the team and juniors by an adult instructor (coach). When something happens, what are the legal implications for the trouble caused by two minors?

k) 4.5 Official Flights **Italy and Slovakia**

Change text in paragraph 4.5.1 as shown below:

A flight is considered official if the model or any part of the model leaves the launching device, loses contact with the launching device after ignition, or becomes airborne, except in the case of a catastrophic failure according to the provisions of Rule 4.6.3., in which case the flight is not considered official. **Any effort to make an official flight within a round is defined as an attempt. A misfire (failed motor ignition) is not considered as an attempt.**

Reason: The current definition is missing a dedicated definition of what is an attempt. As well the definition of a misfire and its connection to the attempt is not specified, what is the intention of this rule change.

l) 4.5 Official Flights **Croatia**

Change text in paragraph 4.5.1 as shown below:

4.5.1 Definition of an Official flight
~~A flight is considered official if the model or any part of the model leaves the launching device, loses contact with the launching device after ignition, or becomes airborne, except in the case of a catastrophic failure according to the provisions of Rule 4.6.3., in which case the flight is not considered official.~~

The flight starts when the model after ignition (at least one motor) leaves the launcher.

Reason: Moving a model with the activated motor in the launcher is not flight. The flight starts only when the model leaves the launcher.

m) 4.5 Official Flights **Croatia**

Change text in paragraph 4.5.3 as shown below:

4.5.3 Definition of an Unsuccessful Attempt

An attempt is classed as unsuccessful if the model leaves the launching device and at least one of the following cases occurs:

a) model collides with another model during the flight,
b) proven frequency interference for radio-controlled models,
c) catastrophic failure according to the provisions of rule 4.6.3,
d) “no close” or “track lost” for altitude models.

If this happens on the first attempt in a round, the competitor is entitled to a second attempt in the same round **or in the first half of the next round**.

Reason: After listing everything that can cause a failed attempt, the last sentence kind of refutes it. The rulebook further states that the start should be repeated in similar weather conditions, so this means that as soon as the RSO or the jury allows a restart, it can be done in that round (if it can be reached) or immediately at the beginning of the next round. Then the weather conditions were the most similar to the conditions from the missed start.

n) 4.8 Timing And Classification **Slovakia and Serbia**

Change text in paragraph 4.8.2. as shown below:

The total time of the **two** or three flights of each competitor is taken for the final classification unless otherwise defined by the rules of a particular class. **The organizer, in agreement with the jury, specifies the total number of flights prior to the competition in the last Bulletin. In case the total number of flights is less than three, only one (1) model is eligible for entry.**

Reason: The presented rule change allows versatility for the competition in the number of flights as well gives more dynamics in the competitions in general.

Part Five - Altitude Competition (Class S1)

o) 5.4 Classification **Italy**

Change text in paragraph 5.4. as shown below:

5.4. CLASSIFICATION
Every competitor shall be given three opportunities to make official flights. The best out of three flights shall be taken for classification. In case of a tie, the second or even the third flight shall be decisive. If the tie remains, competitors shall be allowed to make an additional flight ~~and they may use a new model~~**.**

Reason: The case of using a new model for fly-offs is already covered in CIAM General Rules, 2022 Edition -PART FOUR – GENERAL RULES FOR INTERNATIONAL CONTESTS.

p) 5.3 Sub-Classes **Slovakia**

Change text(delete total impulse column) in paragraphs 5.3. , 6.1.7, 7.4, 8.4, 10.5., 11.6., 12.5., and 12.6.5. as shown on the example below:

Class	~~Total Impulse (Newton-seconds)~~	Maximum weight (g)
S1A	~~0.00-2.50~~	60
S1B	~~2.51-5.00~~	90
S1C	~~5.01-10.00~~	120
S1D	~~10.01-20.00~~	240
S1E	~~20.01-40.00~~	300
S1F	~~40.01-80.00~~	500

Reason: The current total impulse presented in the table for each class is obsolete, as all specifications for class and impulse are presented in part 3 of the SM Sporting Code.

q) 5.4 Classification **Slovakia and Serbia**

Change text in paragraph 5.4. as shown below:

Every competitor shall be given **two** ~~three~~ opportunities to make official flights. The best out of **two** ~~three~~ flights shall be taken for classification. In case of a tie, the second ~~or even the third~~ flight shall be decisive. If the tie remains, competitors shall be allowed to make an additional flight and they may use a new model.

Reason: During the past years it was shown that two flights in this class are sufficient, as only the best counts. The majority of competitors end their flying after the first of second successful flight. A third additional flight leads only to the prolongation of the competition and is in almost none of cases helping to improve the score. Two flights/opportunities with two models will make the competition more dynamic as each round can be extended.

Part Six - Payload Competitions (Classes S2 & S2/P)

r) 6.2 Class S2/P Precision Fragile Payload Competition **USA**

Change text in paragraph 6.2.5. as shown below:

The score for each flight shall be the absolute difference between the recorded altitude and 300 metres (always a positive number) plus 3 times the absolute difference between the recorded duration and 60 seconds (always a positive number). Any flight which is disqualified for a reason other than a broken fragile payload, or which receives no altitude score, shall receive a score of ~~100~~ **500** for that flight. The score for the event shall be the sum of the scores from each of the three flights. The lowest score is the winner. In the case of tie the best (the lowest score) in a round is decisive.

(The remainder of Rule 6.2.5 stays the same.)

Reason: Depending on flying conditions (wind, size of field, etc.), there can be situations in S2/P where the score for a successful qualified flight could easily exceed 100 points. The current score (penalty) for a disqualified flight is only 100 points. With the current penalty score of 100 points, there could be situations where a competitor could be rewarded for disqualifying a flight compared to a competitor who made a successful qualified flight under difficult conditions. Increasing the score (penalty) for a disqualified flight to 500 points will eliminate any potential competitive advantage of making a disqualified flight.

s) 6.2 Class S2/P Precision Fragile Payload Competition **USA**

Add new paragraph 6.2.7 to allow replacement of the model:

6.2.7. Replacement of Model

If a model is damaged by a catastrophic failure (cato) of the motor, a competitor may replace the model and may use a new fragile payload.

Reason: Motor failures are rare but sometimes occur. A competitor should not be penalized by a motor failure which is beyond the competitor's control. If a model is damaged or destroyed by a motor failure, the competitor should be allowed to replace the damaged model and fragile payload with new ones.

Part Seven - Parachute/Streamer Duration Competition (Classes S3 And S6)

t) 7.4 Sub-Classes **Slovakia and Serbia**

Change text in paragraphs 7.4, 12.5.and 12.6.5. as shown on the example:

Class	Total Impulse (Newton-second)	**Minimum Flight Weight (g)**	Maximum Weight (g)	Maximum Flight Time	
				Parachute (sec)	Streamer (sec)
S3A/S6A	0,00-2,50	**20**	100	300	180
S3B/S6B	2,51-5,00	**20**	100	420	240
S3C/S6C	5,01-10,00	**40**	200	540	300
S3D/S6D	10,01-20,00	**100**	500	600	360

Reason: Current models are, due the very low weight, gaining high performance, but are hardly affordable due high costs and can be used for no more than two-three launches. For a long time there has been a discussion on how to lower the

performance of duration models. The most harmless way without doing any changes to the dimensions or lowering the total impulse is to introduce the minimal flight weight. This will on one side lower the performance, on the other side make models affordable to wider public as a competition model can be built by using standard materials. The biggest advantage of this rule change will be that the models can be build stronger which results in less models needed to compete in a season. As well the competition becomes generally more challenging as the main focus will be moved to create the better recovery device, not a light model.

Part Ten– Scale Altitude Competition (Class S5)

s) 10.2 Rules and 10.3 Scoring **Slovakia**

Change text in paragraphs 10.2 and 10.3. as below:

10.2. Rules
All entries must comply with the rules of Scale competition (Part 9) and will be judged under the same rules and receive the same number of maximum scale quality points except that **two** ~~three~~ flights will be allowed and no flight characteristics points will be given.

10.3 Scoring
The total number of scale quality points awarded to an entry will be added to the highest official altitude achieved by the entry. Only in the case of “no close” or “track lost”, no altitude points are added but the flight is considered qualified and the competitor’s static points will be taken to decide the final classification. Otherwise, if the model does not make a qualified flight after **two** ~~three~~ attempts, the final classification will be zero.

Reason: Results in the last years have shown that two attempts to make a qualified flight in this class are sufficient as there is only one model. The lowering of the number of attempts will lower the needed time for the class and as well make the competition more dynamic.

Part Eleven - Rocket Glider Duration Competition (Class S8)

u) 11.4 Timing and Classification **Slovakia**

Change text in paragraph 11.4.4. as shown below:
60 additional points will be awarded if any part of the model lands within the ~~20 by 20 metres~~ Target Landing Zone **specified in par.11.2**. During landing, if the model hits the pilot or their helper, or the pilot lands the model outside the Target Landing Zone, no additional points will be awarded for landing.

Reason: Unification with paragraph 11.2, as the landing zone dimensions are presented twice with a mistake.

v) 11.7 Class S8P Radio Controlled Rocket Glider Time Duration and

Precision Landing Competition **Slovakia**

Change text in paragraph 11.7.2. as shown below:

The competition has only one subclass determined for models which comply with subclass S8~~E~~**D**. Total impulse of motor(s) ~~20,01 to 40,00~~ **10,01 to 20,00Ns** is allowed.

Reason: The current models fly too high and there is no problem to achieve the 360s maximum flight time for this class. By changing it to comply with a lower impulse motor class, thus lowering the altitude, the class will become more challenging and interesting.

Part Twelve – Gyrocopter Duration Competition (Class S9)

w) 12.1 General **Slovakia and Italy**

Change text in paragraph 12.1 as shown below:

Gyrocopter Duration Competition comprises a series of events open to any single-staged space model which uses the principle of auto-rotation as the sole means of recovery. During the flight, no part of the model ~~other than ejection protectors or wadding~~ may be detached or jettisoned.

Reason: Unification with Classes S3 and S6.

Class S12/P Time Duration Triathlon Tournament

x) 12.6.4 Timing and Classification **USA**

Add paragraph 12.6.4.2 to use normalized scoring so that the three events in the triathlon have the same importance:

12.6.4. Timing And Classification

12.6.4.1. Timing and classification rules 4.8. 7.4. and 12.5 will be used for this competition.

12.6.4.2. The winner of a particular round receives a score of 1000 points for that round. Other competitors receive points for the round as follows:

$$P_c = 1000 \times R_c / R_w$$

where:
P_c = points of the competitor
R_c = result of the competitor
R_w = result of the winner

The calculated score shall be recorded (rounded) to one place after the decimal point.

Reason: S12 consists of three rounds with three recovery devices (S3, S6, and S9). The max score for S3A is 300 seconds, while S6A and S9A have a max score of 180 seconds. Using the actual duration makes S3 significantly more important than S6 or S9. The use of normalized scores provides equal weighting for the three events.

y) 12.6. Class S12/P **USA**

Add a new paragraph to define situations where a competitor may replace a model:

12.6.6. Replacement of Model

A competitor may replace a model if:

1) A competitor cannot return his/her model from an inaccessible place where recovery would pose a hazard to the competitor but can point it out to an official. The Contest Director must state prior to the start of competition what distance limits officials may travel.
2) A model is damaged by a catastrophic failure of the motor.

Reason: There can be situations where a model lands in a visible location (tree, power line, off-limits field, etc.) but recovery and return of the model would present a safety hazard. To avoid unsafe situations, the competitor should be allowed to replace the inaccessible model with a new model. Also, if a model is damaged or destroyed by a motor failure, the competitor is allowed to replace the model with a new one.

Annex 3 – Space Models World Cup

z) 4. Points Allocation **Slovenia**

Add the following text as shown in point 4:

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:

$$B = K \times \left(\frac{X}{Y} + \frac{\log(A) - \log(N)}{10} \right) \times 100$$

where:

B = points awarded to the competitor

X = competitors score

Y = winners score

A = number of competitors

N = placing of competitor.

K = ~~1~~ **depending on the number of countries attending a class, K will be the following:**

Number of different countries at a World Cup contest	**K**
2	**1,00**
3	**1,05**
4	**1,10**
5	**1,15**
6	**1,20**
7	**1,25**
8 and more	**1,30**

Reason: The K factor in competitions should depend on the number of countries entered as it ensures the higher complexity, thus harder achievable points to get. With this correction, the final result will depend as well on how many countries have competed in the World Cup.

aa) 4. Points Allocation **Slovakia**

Amend the following paragraph as stated below:

Points are awarded only to competitors completing at least one flight in the contest**. The score shall be recorded (rounded) to one place after the decimal point.** In the case of a tie for any placing, all competitors with that placing receive the number of points appropriate to that placing. ~~The corrected score shall be recorded (rounded) to one place after the decimal point.~~

Reason: Clarification of the rule and getting general output of points for all classes in the World Cup.

Annex 4 - Space Models International Ranking

ab) 6. Classification **Slovenia and Slovakia**

Amend the following paragraph as stated below:

c) To determine the total score up to **twelve** ~~seven~~ events of at least ~~two~~ **three** different classes will be counted, selecting each competitor's best results during the year.

Reason: More competitions give a better overview of the competitors performance and thus make the scoring more objective as the competitor needs to be fully active during the year.

Annex 5 – FAI Space Model Safety Code

ac) 4. Missfires **Slovakia**

Delete the text in Annex 5 point 4, as it is the same text as states in par. 4.3.5 (page 17):

~~If a space model does not launch when the button of the electrical launch system is pressed, the launcher's safety interlock shall be removed or it shall be disconnected from its battery, and 20 seconds must pass after the last launch attempt before anyone approaches the space model.~~

Reason: *Simplification as this rule is presented twice in the SC.*

ad) 5. Range Safety Officer **Slovakia**

Delete text in paragraph Annex 5 point 5 as shown below:

~~During all operations concerned with the launching and flight of space models, all authority for the safety and conduct of operations on the flying field shall be vested in a Range Safety Officer (RSO) who must be a member of a National Airsports Control and who must be 18 years of age or more.~~ All space models presented for operation on the flying field shall be permitted or denied flight by the Range Safety Officer on the basis of his considered judgement with respect to the possible safety of the model in flight.

Reason: The same text is presented in paragraph 4.3.1. so it is obsolete to keep it on two places.

ae) 8. Size **Slovakia**

Delete text in paragraph Annex 5 point 8 as shown below:

~~Space models shall not weigh more than 1,500 grams at lift-off and shall not contain more than 200 grams of propellant or 160 N-sec of total impulse.~~

Reason: Data for model size are presented several times on several places, one place in enough.

15. FAI WORLD AND CONTINENTAL CHAMPIONSHIPS 2023 – 2026

VERY IMPORTANT: Each NAC/country/Delegate presenting a bid prior to voting for the award of the Championships may give a presentation of the championship organisation, lasting a MAXIMUM of 2 minutes only. 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 review the contents of the bid, so that they may make informed decisions at the meeting. During the meeting only questions will be accepted.

Validity Status: The Bids status listed in the below tables is relevant to the date of completion of this Plenary Meeting agenda. At the Plenary Meeting, the Bids will be relevant to the actual status at the time of the meeting.

Date of table status: 22 February 2023

FAI WORLD CHAMPIONSHIPS

2023 FAI World Championships for…	Awarded to	Location and Actual Dates
F1A, F1B, F1C Seniors	**FRANCE**	Moncontour-du-Poitou 12-19 August
F1E (Seniors and/or Juniors)	**ROMANIA**	Turda, 1-4 August
F3A (Seniors and Juniors)	**AUSTRALIA**	Warwick, 19 – 26 August
F3B (Seniors and Juniors)	**DENMARK**	Hellevadvej Rødekro. 24-29 July
F3CN (Seniors and Juniors)	**USA**	Muncie, Indiana 2-9 August
F3D, F3E (Seniors and Juniors)	**NETHERLANDS**	Drachten Airport 1 – 5 August
F3K (Seniors and/or Juniors)	**ROMANIA**	Sânpetru, Brașov 26 August – 31 August
F3P (Seniors and Juniors)	**LITHUANIA**	Jonava, 19 – 25 March
F5J (Seniors and Juniors)	**BULGARIA**	Dupnitsa, 13 - 19 August
F9 Drone Racing (Seniors and Juniors)	**KOREA**	Namwon, 6 – 9 October
SPACE MODELS (Seniors and Juniors)	**USA**	Austin, Texas, 2-7 July

2024 FAI World Championships for…	Bids From	To be Awarded in 2022
F1A, F1B, F1P Juniors	**NORTH MACEDONIA**	
F1D (Seniors and/or Juniors)	Offers invited	
F2A, F2B, F2C, F2D (Seniors and Juniors)	Offers invited	
F3F (Seniors and Juniors)	**FRANCE**	
F3J (Seniors and/or Juniors)	Offers invited	
F4CH (Seniors and Juniors)	**ROMANIA**	
F5B (Seniors and Juniors)	Bulgaria (firm)	

2025 FAI World Championships for…	Bids From	To be Awarded in 2023
F1A, F1B, F1C Seniors	Romania (firm) Mongolia (firm) Bid Postponed from 2022	
F1E (Seniors and/or Juniors)	Czech Republic (firm)	
F3A (Seniors and Juniors)	**USA** Awarded since postponed from 2021	
F3B (Seniors and Juniors)	Offers invited	
F3CN (Seniors and Juniors)	**ROMANIA** Awarded since postponed from 2021	
F3D, F3E (Seniors and Juniors)	Offers invited	
F3K (Seniors and/or Juniors)	Bulgaria (firm)	
F3P (Seniors and Juniors)	Offers invited	
F5J (Seniors and Juniors)	Argentina (firm)	
SPACE MODELS (Seniors and Juniors)	Bulgaria (firm) Serbia (firm)	

2026 FAI World Championships for…	Bids From	To be Awarded in 2024
F1A, F1B, F1P Juniors	Offers invited	
F1D (Seniors and/or Juniors)	Offers invited	
F2A, F2B, F2C, F2D (Seniors and Juniors)	Offers invited	
F3F (Seniors and Juniors)	Offers invited	
F3J (Seniors and/or Juniors)	Offers invited	
F4CH (Seniors and Juniors)	Offers invited	
F5B (Seniors and Juniors)	Offers invited	

FAI CONTINENTAL CHAMPIONSHIPS

2023 FAI Continental Championships for…	Awarded to	Location and Actual Dates
F1A, F1B, F1P Juniors	**FRANCE**	Moncontour-du-Poitou 12-19 August
F1D (Seniors and/or Juniors)	**ROMANIA**	SLĂNIC PRAHOVA 11-14 December
F2A, F2B, F2C, F2D (Seniors and Juniors)	**POLAND**	Wloclawek 7-12 August

2024 FAI Continental Championships for…	Bids from	To be Awarded in 2022
F1A, F1B, F1C Seniors	**ROMANIA**	
F1E (Seniors and/or Juniors)	Czech Republic (firm)	
F3A (Seniors and Juniors)	Belgium (firm)	
F3A Asian-Oceanic (Seniors and Juniors)	Offers invited	
F3B (Seniors and Juniors)	Offers invited	
F3CN (Seniors and Juniors)	**DENMARK**	
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)	**ROMANIA**	
SPACE MODELS (Seniors and Juniors)	Bulgaria (firm) Serbia (firm)	

2025 FAI Continental Championships for…	Bids from	To be Awarded in 2023
F1A, F1B, F1P Juniors	Romania (firm)	
F1D (Seniors and/or Juniors)	Offers invited	
F2A, F2B, F2C, F2D (Seniors and Juniors)	Offers invited	
F3F (Seniors and/or Juniors)	Offers invited	
F3J (Seniors and/or Juniors)	Offers invited	

2026 FAI Continental Championships for…	Bids from	To be Awarded in 2024
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	
SPACE MODELS (Seniors and Juniors)	Offers invited	

17. CIAM LEGENDS MEDAL – CIAM EVENTS HISTORY Data Base

18. NEXT CIAM MEETINGS

Bureau meeting on December 2023 dates to be confirmed

Bureau meeting on April 2024 date to be confirmed

Plenary meeting on April 2024 dates to be confirmed.

The plenary will discuss the option to host such a meeting to a different place.

The table of Agenda Annexes appears overleaf.

ANNEXES TO THE AGENDA OF THE 2023 CIAM PLENARY MEETING

ANNEX FILE NAME	ANNEX CONTENT
ANNEX 1 (a-b)	FAI Code of Ethics
ANNEX 2 (a-n)	2022 FAI Championship Reports
ANNEX 3 (a-p)	2022 Subcommittee Chairmen Reports, Technical Secretary, Treasurer Reports, EDIC WG, Scholarship, CIAM Flyer editor
ANNEX 4 (a-n)	2022 World Cup Reports
ANNEX 5 (a-d)	2022 Trophy Reports
ANNEX 6 (a-h)	FAI-CIAM Awards: Nominee Forms
ANNEX 7a	F1 Supporting Material for Item (f)
ANNEX 7b	F3A - RC Aerobatics Description of Manoeuvres
ANNEX 7c	F3P – RC Aerobatics Indoor Description of Manoeuvres
ANNEX 7d	F3S – RC Aerobatics Jet Model Description of Manoeuvres – Annex 5x
ANNEX 7e	F5K New Class – New Rules
ANNEX 8 (a-d)	Scholarship Candidates

---oOo---