FEDERATION AERONAUTIQUE INTERNATIONALE

FAI AEROMODELLING COMMISSION (CIAM)

AGENDA OF THE PLENARY MEETING

to be held at the Olympic Museum - Lausanne (Switzerland)
on March 12 (Friday) and 13 (Saturday) 2004, at 9.10 hours

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1) PLENARY MEETING SCHEDULE AND TECHNICAL MEETINGS. According to the rules, and after confirmation at the 2003 CIAM November Bureau Meeting by the relevant Subcommittee Chairmen, only the following Technical Meetings will be held: F2, F3J, F4B-F4C, F5, Space Models and Education/Information (no need for a Free Flight meeting, even if entitled by the rules).

The Technical Meetings will take place on Friday morning, and must be completed by 13.00 hours, when the General Session of the Plenary Meeting will commence.

2) DECLARATION OF CONFLICTS OF INTEREST.

According to the FAI Code of Ethics, approved at the 2003 FAI General Conference (***ANNEX 1***).

3) MINUTES OF THE MARCH 2003 BUREAU AND PLENARY MEETINGS, AND OF THE NOVEMBER 2003 BUREAU MEETING.

3.1 For Approval.
3.2. Matters arising.

4) REPORTS.

A. 2003 FAI General Conference, by the FAI Secretary General, Max Bishop.

B. CASI 2003 and January 2004 CASI Plenary Meeting, by CIAM President, Sandy Pimenoff.

C. 2003 World Championships, by Jury Chairmen *(ANNEX 2)*.
- F1A, F1B, F1C (Hungary): Ian Kaynes;
- F1E Seniors and Juniors (Romania): Ian Kaynes;
- F3A (Poland): Bob Skinner;
- F3B (Germany): Tomas Bartovsky;
- F3C (Japan): Horace Hagen;
- F3D (Czech Republic): Bob Brown.

D. 2003 Subcommittees and CIAM Technical Secretary reports *(ANNEX 3)*.
- CIAM Technical Secretary, by Bob Underwood;
- Free Flight, by Ian Kaynes;
- Control Line, by Laird Jackson;
- R/C Aerobatics, by Bob Skinner;
- R/C Gliders, by Tomas Bartovsky;
- R/C Helicopters, by Horace Hagen;
- R/C Pylon, by Bob Brown;
- Scale, by Narve Jensen;
- R/C Electric, by Emil Giezendanner;
- Space Models, by Srdjan Pelagic;
- Education and Information, by Dave Brown.

E. 2003 World Cups, by World Cup Coordinators *(ANNEX 4)*.
- Free Flight, by Ian Kaynes;
- Control Line, by Bruno Delor;
- Thermal Soaring and Duration Gliders, by Thomas Bartovsky;
- Electric Powered Model Aircraft, by Emil Giezendanner;
- Space Models, by Marian Jorik.

F. 2003 World Cup awards.

INVITATION TO THE 2003 WORLD CUP AWARDS

The 2003 World Cup awards ceremony for classes F1A, F1B, F1C, F1E, F2A, F2B, F2C, F2D, F3B, F3J, F5B, S4B, S6B, S7, S8E/P and S9B will be held on Friday, March 12, at 17.00 hours in the Auditorium of the Olympic Museum.

G. 2003 Trophy Report, by CIAM Secretary, Luca Gialanella *(ANNEX 5).*

H. Sporting Code Section 4, by CIAM Technical Secretary, Bob Underwood.

5) GENERAL ITEMS.

A. Voting Procedure For Plenary Meetings.

B. Judges and Subcommittees Lists, for Approval.

C. FAI-CIAM Medals and Diplomas, consideration of nominations (*ANNEX 6*):

(a) FAI Aeromodelling Gold Medal
- Tomas BARTOVSKY (Czech Republic)
- Derek HEATON (United Kingdom)

(b) Alphonse Penaud Diploma
- Michael KROEGER (Germany)

(c) Antonov Diploma
- Vladimir CIPCIC (Serbia and Montenegro)

(d) Frank Ehling Diploma
- Jordan KOVACEVIC (Serbia and Montenegro)
- Andras SOSZTARICH (Hungary)

(e) Andrei Tupolev Medal
- Manabu HASHIMOTO (Japan)

D. Aeromodelling Fund - Budget 2005

E. World Air Games 2005, by CIAM President, Sandy Pimenoff.

F. CIAM Flyer, by the Editor, Emil Giezendanner.

6) ELECTION OF BUREAU OFFICERS AND SUBCOMMITTEE CHAIRMEN.

7) SPORTING CODE PROPOSALS.

The Agenda contains all proposals regularly received by the FAI Office according to rules A.6 and A.7. Those proposals not eligible to be voted on at the 2004 Plenary Meeting (rule A.12 applies) are presented for information and discussion in the <Deferred Section> at the end of the Agenda. The new text is shown in **bold letters**.

BUREAU PROPOSALS

Volume ABR – General Rules for CIAM Activities

Section 4A – CIAM Internal Regulations

a) **Bureau Proposal** - A.3.2. Bureau. Add a new paragraph f):

f) To approve the lists of Judges and Technical Experts.

Reason: To comply with the decisions taken at the 2003 Plenary Meeting.

b) **Bureau Proposal** - A.4. Subcommittees. Change paragraph A.4.2. as follows:

A.4.2. The CIAM elects by secret ballot the chairman of each technical subcommittee for a period of **two years, with a compulsory confirmation after one year.** He should preferably, but not necessarily, be a delegate. He may be re-elected for an unlimited number of terms. He may not serve on more than one subcommittee. **The election shall occur at the Plenary Meeting during the year in which a Subcommittee has a regularly scheduled meeting for decision purposes and in which a World Championship for the subject category is held (See A.12 for the schedule).**

Reason: To specify the procedure for the election of the Subcommittee Chairmen.

c) **Bureau Proposal** - A.10. Judges Lists. Change as follows:

Nominations for persons to be put on the List of International Judges and Technical Experts must be received by the FAI Office no later than November 15 to be available at the ~~Plenary~~ **Bureau** Meeting

Reason: To comply with the decisions taken at the 2003 Plenary Meeting.

d) **Bureau Proposal** - A.12. Effective Date of Rule Changes. Change the paragraph beneath the chart of rule changes:

~~The Technical Secretary will after the Plenary Meeting prepare a list of amendments, which will be effective on the 1st January of next year, to be approved by the President and distributed by the FAI office to NAC's and Bureau officers with the Minutes.~~

The Technical Secretary and Subcommittee Chairmen will, after the Plenary meeting, prepare the updated final version of the Sporting Code effective 1st of January the following year. The volumes will be posted to the FAI website.

Reason: To improve the system of updating the rules.

e) **Bureau Proposal** – Amend in Volume ABR and Annexes:

Change the entry fee currency from CHF to Euro.

Reason: To comply with the FAI General Conference decision. Application January 1st, 2005.

SECTION 4B - GENERAL RULES FOR INTERNATIONAL CONTESTS

a) **Bureau Proposal** - B.6. Contest Information and Entry Fees.

i) Change as follows in the sub-paragraph B.6.2. after the first sentence:

B.6.2. The entry fee will consist of an obligatory fee to be paid by all competitors and team managers and an optional fee that covers accommodation and food**. The organiser may specify a closing date for the receipt of fees. Entries received after this date may be subject to a penalty fee or may be refused by the organizer…..**

Reason: To better define the procedure.

ii) Change as follows in the sub-paragraph B.6.4:

B.6.4. Separate additional fees will be offered with the choice of: lodging hotel and camping; food (banquet not included) and banquet (and possible other additional events). Maximum fee = basic fee + lodging (hotel) + food + banquet.
~~The maximum possible fee is CHF 900 for seven nights, except for events which require a large number of judges or more than seven nights.~~
The maximum fee will be established by the individual Subcommittees.
The cost of hotel accommodation must be kept reasonable. Keep in mind that hotel accommodation is often the only possibility for overseas participants. Accommodation of acceptable middle class standard will be sufficient. There is no need for any luxury. The same applies to the food.
For World **and Continental** championship events that require more than five international judges, a separate additional fee may be charged to each contestant to cover the actual cost of travel, lodging and meals for those judges in excess of five.
~~The additional fee is limited to a maximum of CHF 245.00 per contestant.~~
All offers must be submitted to the relevant Subcommittee Chairman and the CIAM Secretary for review of the fee structure prior to consideration at the Bureau Meeting. The offers must contain a clear explanation of the total costs in Euro.

Reason: To precise the procedure and comply with the different needs of the categories. To comply with the FAI General Conference decision.

b) **Bureau Proposal** – B.14. Classification and Awards at World and Continental Championships – Add a new paragraph B.14.4. Award Ceremony Procedure:

B.14.4. Award Ceremony Procedure

1. **A person from the ceremony staff will escort the medal winners to the medal staging area.**
2. **The awards podium, flags of the three medal winners and National Anthem of the Gold Medal winner will be prepared in advance.**
3. **The announcer will introduce the award ceremony and then announce the category/class (as appropriate) receiving the medals as they march out in order with an escort to a position behind the awards podium. The awards podium will be set up in the following configuration:**
   Silver - Left-hand side (as viewed by spectators) - Second highest podium (2)
   Gold - Center - Highest Podium (1)
   Bronze - Right-hand side - The same height or slightly lower than Silver (3)
   (The marching order must be in a sequence to position the medal winners behind the correct podium.)
4. **The announcer will mention who (with title) will award the medals and diplomas (usually the FAI President, Air Sport Commission President or his/her designee).**

5. **The athlete or team will be called by name and country separately and in the order - Gold, Silver, Bronze. The medal winner will step up on the podium when called by the announcer.**
6. **First, the Gold - Medal winning individual or team will step up to the podium, and the medal and diploma will be awarded. Next the Silver-medal winning Individual or Team will be called to the podium and will receive the medal and diploma, followed by the Bronze medal presentation using the same procedure. A moment will be allowed after the award of each medal for photographs.**
7. **After all medals are awarded, the anthem of the Gold Medal individual or team will be played as their country flag is raised (if no country anthem, play the FAI anthem). The flagpoles should be of two different heights with the tallest in the centre for the 1st placed competitor and the two shorter ones to the left and right for the 2nd and 3rd placed competitors. All flags should be raised to the top of each pole.**
8. **The individual or team winners will pose for group photographs for a minute before stepping off the award podium and being escorted away by the ceremony escort(s).**
9. **First, second and third placed competitors (including 1st, 2nd and 3rd placed national teams) must attend the awards ceremonies; all competitors are expected to attend the awards ceremonies.**

Reason: To establish a standard format for awards ceremonies at aeromodelling Championships, as requested by the FAI.

SECTION 4C - MODEL AIRCRAFT

Part One – General Regulations for Model Aircraft

a) **Bureau Proposal** - 1.1. General Definition of Model Aircraft. Change as follows:

A model aircraft is an **aircraft** of limited dimensions, with or without a propulsion device, not able to carry a human being and to be used solely for competition, sport or recreational purposes rather than unmanned aeronautical vehicles (UAV) developed for commercial or governmental, scientific, research or military purposes

Reason: Clarification after the introduction of Aerostats in CIAM activities.

b) **Bureau Proposal** - 1.3. Classification of Model Aircraft - Radio Controlled Flight. Amend as follows:

Change the designation of F3A Large Model Aircraft (Provisional Rules) into F3M.

Reason: To define the class according to CIAM normal designation.

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Sporting Code Proposals

VOLUME ABR
General Rules for CIAM Activities

SECTION 4A
Part One - CIAM Internal Regulations

a) Add a new paragraph **A.16. NATIONAL RULES** - Greece

A.16.1: <In order to attract more participation in aeromodelling competitions, each NAC may establish FAI rules for extra classes. The general section and model specifications shall be the same as official FAI aeromodelling classes>.

Reason: In Greece we have established additional Aeromodelling classes for national competitions only and specially for the young aeromodellers. For example in RC Aerobatic competition we have 3 additional classes and as far as we know the same is happening to other countries as well. (USA, UK, France, Germany and many more). Airsports in Greece are under Ministry of Sports and because of that all the rules should be submitted for approval except if they have the authority of the International Federation (FAI). So we are not able to organize official events for classes other than FAI's because it is not mentioned anywhere that we have this authority from the International Federation to establish additional competition classes. The statement we propose to be adopted is included on the majority of Sporting Codes of other Sports Federations and especially for the Olympic ones.

b) ANNEX A.2. Nomination forms for aeromodelling international FAI judges

i) Spain – Change as follows in the third line:

~~Only five~~ **Seven** nominations are allowed in each category.

Reason: The number of five is quite limited in some categories (control line). As we need many judges and sometimes some of the local judges are not available for World Cup competitions, where organizers can cut cost if they can count on local judges. Allowing a higher number of nominations does not imply that we have to cover all the placements in all the categories, but this gives Nacs a wider choice.

ii) Space Models Subcommittee – Change as follows in the nomination form for Aeromodelling International Judges, column CAT:

Replace S7 with "Space" or "S".

Reason: Spacemodelling was developing during the decades and became more and more complex. So, the initial judging category S7 spreaded to other classes. Nowadays judges are required in classes S5 (similar to S7) and in S8E/P, also. Range Safety Officers (RSO) and their deputies are judging in each flight according to the rules. It is necessary to have an international list of highly qualified, experienced and responsible people who can run all levels of international events. Such men are nominated by their NACs to "S7" list, but they take all posts mentioned above for years in practice. It is necessary to make this alteration to match a positive practice with an out-dated form..

Section 4B - General Rules For International Contests

a) B.3.4. Age Classification for the Contest – Germany. Add in the first line:

<A competitor is considered to be a junior up to and including the calendar year in which he attains the age of **18 (F1, F2 and S classes) or 23 (F3, F4 and F5 classes)>.**

Reason: 1. Up to 18 there is too little time to perform and to accumulate experiences in the more technical classes. 2. Junior winners of World or Continental Champs are seldom able to defend their title because of their age. 3. Especially the expensive RC-classes need to increase the participation of juniors for better publicity. 4. With the chance to compete at Junior Champs on a high level young people may stick longer to the sport than often noticed.

b) B.6. Contest Information and Entry Fees – Greece. Add at the end of paragraph B.6.2.:

<If a penalty for late payment of entry fees is subject to be applied, this penalty is a percentage based on the obligatory entry fee and not on the optional which covers accommodation, food etc>.

Reason: It is noticed that on many occasions the penalty is calculated on the total amount of the entry fees which is not the purpose of the rules. Anyhow penalty for late payment is not documented at all within the FAI rules. We agree that the penalty should be documented but we do not agree that someone has to pay penalty for the food for example. Regarding accommodation instead of penalty the organizer might mention that accommodation is guaranteed only if payment is received before the deadline.

c) B.11. Timing - Serbia-Montenegro. Change paragraph B.11.1. as follows:

<Each team shall ~~have the right to~~ provide a timekeeper **for both junior and senior classifications,** for the following classes of world and continental championships: F1A, F1B, F1C, F1C, F1E, S3, S4, S6, S8, S9, S10; with the organizer to be responsible for providing lodging and food only. Teams must nominate only skilled kimekeepers and the timekeepers must bring binoculars, watches and tripods for their own use. The organizer must use these provided timekeepers as a priority, before allocating duties to national or other timekeepers. **If a team does not provide a timekeeper the organizer may provide a foreign timekeeper from a neighbouring country (or the closests). Travel expenses for him/her shall cover the team which did not provide a timekeeper. This rule shall not be applied to individual participants from any country**. Competitors can act as timekeepers>.

Reason: A poor timekeeping because of engagement of unexperienced local timekeepers was decreasing the quality of several world or continental championships. It is necessary to have appox. 50 % of skilled foreign timekeepers to achive high quality and objective timekeeping. More local timekeepers were engaged because some teams did not provide their own skilled timekeepers. Such a recent experience was in 9-th European Spacemodelling Championships where instead of applied 26 appeared only 14 foreign timekeepers, but not equipped with needed instruments (which were provided by the organizer). This caused difficulties in running the events and initiated, unnecessarily, several protests.

SECTION 4C – MODEL AIRCRAFT
General Regulations and Rules for Contests and Records

Part One – General Regulations for Model Aircraft

a) 1.2. General Characteristics of Model Aircraft

i) Scale Subcommittee - Change as follows:

Maximum surface area: ~~500 dm²~~ **800 dm²**

Reason: 500 dm² is to little for a 25 Kg triplane and we need to allow every 25 Kg model aircraft to be legal within the CIAM limits.

ii) Finland – Change as follows:

<Electric Motors power source max. no load voltage ~~42~~ **50** volts>.

Reason: Power/weight ratio gap between electric and combustion power would be made smaller. Increasing voltage improves the efficiency of electrical/mechanical energy conversion. Improvement in electric model performance would increase the attractivity of electric power.

There are no safety conflicts with such change. International standards (IEC, European Low Voltage Directive 73/23/EEC etc.) dictate 50VAC and 75VDC as highest safe input/output voltages for consumer use. 42V limitation decends from old VDE ruling. VDE (Verein Deutscher Elektrotechniker) lost it´s position as main European regulatory organ as a result of second World War. Although 75VDC limitation would be most favourable and could be argued since our batteries provide decent current. However since electronic speed controller´s output voltage can be considered as alternating current, there is a worst case scenario of legal action against ESC producers specifying their controllers above 50V input voltages.
It must be understood that FAI Sporting Code is influential towards product range decisions of electric modelling accessory producers. 60 year old limitations must not hamper the fastest evolving aspect of model .

b) 1.3.4. Category F4 Scale Model Aircraft – Scale Subcommittee.
Add the following text under F4B definition:

Class F4B - Control Line Flying Scale Model Aircraft
<Control Line Flying Scale Model Aircraft are powered model aircraft equipped with aerodynamic surfaces to generate lift. All such model aircraft shall be permanently attached to two or more non-extensible wires or cables during flight.
Control Line Flying Scale Model Aircraft's flying height (the "Primary Control Function") shall only be performed by mechanically-activated flight control elements. This Function must be controlled by a hand-held control handle manipulated by the pilot located on the ground at the centre of the model aircraft's Flight Circle. No automatic control of the Primary Control Function shall be permitted.
The model aircraft's Secondary Control Functions may include (but are not limited to) control of engine/s, landing gear, landing flaps. Secondary Control Functions may be controlled by the pilot via wires/cables, or may function completely automatically. The frequency of any electro-magnetic pulses sent through wires/cables shall not exceed 30 kHz.
No control of either Primary or Secondary Control Functions other than through wires/cables shall be permitted.
Any provisions additional to those above which are detailed within the rules of the model aircraft class F4B shall also apply>.

Reason: This F4B definition is to get a more modern and accurate description of the class, also to have the text inline with the new F2 Class definition.

Part Two - General Rules for International Contests

a) 2.1. World Championship Events for Model Aircraft – Poland. Add this new paragraph:

8. Scale Junior Category

a) F4B – Control line model aircraft

Reason: To encourage and involve young competitors. Decrease in number of senior competitors in World and Continental Championships has been observed for a long time.

VOLUME F1 – FREE FLIGHT
Section 4c - Model Aircraft

Part Three - Technical Regulations For Free Flight Contests

3.K. CLASS F1K – MODEL AIRCRAFT WITH CO2 ENGINES (Provisional Rules)

a) 3.K.2 Characteristics – Hungary/Italy. Modify as follows:

Minimum Weight (without Co2) : ~~75~~ **85 g**

Maximum volume of the CO2 tank(s): ~~2~~ **1,5 cm3**

Reason: The present performance of F1K model aircrafts (4 to 5 min.) is well over the 2 minutes requirement. in the fly-off rounds the ranking is decided first of all on the ground while the class is a flying model aircraft contest. While the aim of the ground run is to reduce the available energy, the time of the ground run is not a physically correct measure of the energy loss during this procedure. Therefore the start conditions are not the same for each competitor in the fly-off, because the energy available for the flight is different. Without the ground run there is no need for 15 minutes long period in the fly-off rounds.

b) 3.K.5. Definition of an Unsuccessful Attempt – Hungary/Italy. Cancel sub-paragraphs c) and d):

~~c) If the motor stops during the waiting time in deciding flights (see 3.K.8.b.)~~
~~d) If, after the beginning of the waiting time (see 3.K.8.b) until the end of the official flight, the motor adjustment or thermal condition of the tank is changed or influenced by any physical intervention.~~

Reason: The present performance of F1K model aircrafts (4 to 5 min.) is well over the 2 minutes requirement. in the fly-off rounds the ranking is decided first of all on the ground while the class is a flying model aircraft contest. While the aim of the ground run is to reduce the available energy, the time of the ground run is not a physically correct measure of the energy loss during this procedure. Therefore the

start conditions are not the same for each competitor in the fly-off, because the energy available for the flight is different. Without the ground run there is no need for 15 minutes long period in the fly-off rounds.

c) 3.K.8. Classification

i) Hungary/Italy. Modify the second sentence of subparagraph b) as follows:

<The maximum time of flight in each additional round ~~remains two minutes~~ **shall be increased by one minute over the maximum time of flight in the previous round>.**

Cancel the rest of sub-paragraph b) after the previous sentence.

ii) Hungary/Italy. Modify sub-paragragh c) as follows:

c) The organiser will establish a ~~15~~ **10** minute period during which all fly-off competitors must start their motors and launch their models. Within these ~~15~~ **10** minutes, the competitor will have the right to a second attempt in the case of an unsuccessful first attempt.

Reason: The present performance of F1K model aircrafts (4 to 5 min.) is well over the 2 minutes requirement. in the fly-off rounds the ranking is decided first of all on the ground while the class is a flying model aircraft contest. While the aim of the ground run is to reduce the available energy, the time of the ground run is not a physically correct measure of the energy loss during this procedure. Therefore the start conditions are not the same for each competitor in the fly-off, because the energy available for the flight is different. Without the ground run there is no need for 15 minutes long period in the fly-off rounds.

3.L. CLASS F1L - INDOOR EZB MODEL AIRCRAFT (Provisional Rules)

a) 3.L.2 Characteristics – Hungary. Delete as follows:

Wingspan, maximum projected 458 mm ~~(18.0 inches)~~

Wing chord maximum 76 mm ~~(3.0 inches)~~

Reason: The values to be deleted are not equal to the decisive metric limits therefore may lead to confusion or oversized models.

VOLUME F2 - CONTROL LINE
Section 4c - Model Aircraft

Part Four - Technical Regulations for Control Line Contests

4.1 Class F2A – Speed Model Aircraft

a) 4.1.16 Number of Timekeepers and Judges – Sweden. Change the paragraph as follows:

a) The time shall be taken by **either** three timing officials equipped with 1/100-second resolution digital stopwatches, **or by an optical electronic system with equal or better resolution and accuracy. Such a system must have a backup by either another electronic system, or two manual timekeepers.**

Reason: When the present rules were written, an optical electronic system was only anticipated. Now such a system exists, and the changes intend to better regulate its use. The present requirement to retain the three timekeepers puts an undue burden to an organizer choosing to use an electronic system, as one extra official is necessary to operate the system. Examples of systems that could be used as a backup. A second similar optical system. A modern digital video camera recorder. This is capable of registering F2A models passing with low blurring, and its time base is accurate enough. By looking at a recording frame by frame, the timing can be determined by something like 1/100 second accuracy. Such a process would take around five minutes for an F2A flight, so it is not practical as a first-hand system, but as a backup it would serve fine.

b) 4.1.17. Classification – Sweden. Change as follows:

a) The individual times recorded by each timing official and/or by an optical electronic system shall be recorded in writing and retained by the senior judge or other official.
b) Times recorded should be handled as follows:
In the case of manual timekeepers:
The mean time of the three stopwatches shall be taken to calculate the result, unless:
i. One of the stopwatch times differs from the closer of the other two by more than 12/100 seconds, or the official reports that he made a mistake. In this case the mean time shall be calculated from the other two stopwatch times.
ii. Two stopwatch times differ by more than 12/100 seconds from the middle one, or two officials report a mistake. In this case this fact should immediately be reported to the competitor or his team manager. The competitor then has the choice of using only the remaining stopwatch time to calculate his result, or to

be allowed an attempt. His decision must be given to the F2A Circle Marshall without delay, and is irrevocable.
No rounding off of decimals should be made when calculating the mean time.
The time thus obtained for calculating the speed should be recorded and retained.
In the case of an optical electronic system:
The senior speed judge should check the result by looking at the logged individual lap times of the official flight, as well as the laps before and after the official flight. If there is any anomaly, the backup system should be consulted. If the backup time is within 12/100 of the primary system time, the primary system time is used. If the backup time differs by more, but is in itself consistent, its time should be used. If an uncertainty in excess of 12/100 seconds remains, no time is obtained, and the competitor should be given a reflight.

Reason: When the present rules were written, an optical electronic system was only anticipated. Now such a system exists, and the changes intend to better regulate its use. The present requirement to retain the three timekeepers puts an undue burden to an organizer choosing to use an electronic system, as one extra official is necessary to operate the system. Examples of systems that could be used as a backup. A second similar optical system. A modern digital video camera recorder. This is capable of registering F2A models passing with low blurring, and its time base is accurate enough. By looking at a recording frame by frame, the timing can be determined by something like 1/100 second accuracy. Such a process would take around five minutes for an F2A flight, so it is not practical as a first-hand system, but as a backup it would serve fine.

4.2. CLASS F2B – AEROBATIC MODEL AIRCRAFT

a) Paragraphs from 4.2.1. (Definition) to 4.2.32. (The Landing Manoeuvre), including diagrams - Subcommittee

Change all these paragraphs with the new text (*ANNEX 7*)

Reason: Improve and standardize the F2B class.

4.3 CLASS F2C – TEAM RACING MODEL AIRCRAFT

a) 4.3.3. Definition of a Team Racing Model Aircraft – Subcommittee. Delete the last sentence of the paragraph:

<Model aircraft in which the propulsion energy is provided by a piston motor(s) and in which lift is obtained by aerodynamic forces acting on the supporting surfaces which must remain fixed in flight except for control surfaces.
~~The model aircraft must be of a semi-scale type and its general lines must be similar to those of a full-size aircraft>.~~

Reason: The semi-scale rule has been found to be not too strictly adhered to by competitors and organisers resulting in various differences accepted throughout the years. By deleting the semi-scale rule we can have efficient flying models that are not restrained by old thinking.

b) 4.3.4. Characteristics of a Team Racing Model Aircraft

i) Subcommittee – Amend paragraph d) as follows:

4.3.4.d) <Minimum dimensions of the fuselage **(at the same cross-section):** height: 100 mm; width: 50 mm; cross-sectional area: 39 cm2 - (wing fillets shall not be included in the fuselage cross-sectional area)>.

Reason: The semi-scale rule has been found to be not too strictly adhered to by competitors and organisers resulting in various differences accepted throughout the years. By deleting the semi-scale rule we can have efficient flying models that are not restrained by old thinking.

ii) Subcommittee – Delete the entire paragraph e) as follows

4.3.4.e) <~~The model aircraft must carry a scale pilot head with minimum dimensions: height: 20 mm; length: 14 mm; width: 14 mm.~~

Reason: The semi-scale rule has been found to be not too strictly adhered to by competitors and organisers resulting in various differences accepted throughout the years. By deleting the semi-scale rule we can have efficient flying models that are not restrained by old thinking.

iii) Subcommittee – Amend paragraph i) as follows:

4.3.4.i) <The motor(s) must be entirely enclosed including the cylinder head and the body of the carburettor (except the opening of the induction throat). The fairing or additional extensions to the motor shall be permitted to beexposed as long as they conform with the natural shape of the fuselage ~~and do not mar the semiscale appearance of the model aircraft~~. The only parts permitted to protrude from the fuselage are those to be manipulated during the operations of starting the motor, regulating the mixture, plugs, advance control, compression control, needle valves, tank fillers, etc. If a silencer is used, it may be fixed outside the fuselage>.

Reason: The semi-scale rule has been found to be not too strictly adhered to by competitors and organisers resulting in various differences accepted throughout the years. By deleting the semi-scale rule we can have efficient flying models that are not restrained by old thinking.

iv) Sweden – Amend paragraph c) as follows:

c) Total maximum weight: ~~700~~ **500** g

Reason: The change has two parts, a reduction of the maximum model weight, and an increase in the line pull test force. For a model flying at the top speeds of today, timed at 17.0 seconds for 10 laps (211 km/h), the tension will be 22.2 times the model weight. To this should be added effects of irregular handle movements, which could amount to 2 times the model weight, maybe more at operating the shut-off. In addition, other effects have to be accounted for, such as vibration and material fatigue. Therefore, a pull test of 30 times the model weight lacks the necessary safety margin. This is shown by numerous incidents where models suffer a control mechanism failure after having passed the pull test. The allowance of 700 grams model weight is obsolete and misleading. Such a heavy model could be flown at nearly the same speed as normal models, but with the specified line dimensions, safety would be poor. A reduction to 500 grams is no obstacle to any competitors of today. Piano wire of dimension 0.30 mm has a tensile strength of around 160 N (16.5 kgf). With two lines, we get 320 N (33 kgf). The pull test force for a 500-gram model would become 20 kgf, which is well below the breaking point of a control system in good condition, so an increased test force will not cause any risk of overloading a well-made control system.
The reduction in model weight to 500 grams replaces the 140 N limit.

v) Subcommittee – Delete the entire paragraph k) as follows:

4.3.4.k) ~~A cockpit or cabin with transparent windshield giving direct visibility forward must be provided to house the scale model aircraft pilot head which shall be clearly and fully visible.~~

Reason: The semi-scale rule has been found to be not too strictly adhered to by competitors and organisers resulting in various differences accepted throughout the years. By deleting the semi-scale rule we can have efficient flying models that are not restrained by old thinking.

vi) Sweden – Amend paragraph 4.3.4.k) as follows:

4.3.4.k) A cockpit or cabin with transparent windshield must be provided, giving the scale model aircraft pilot direct visibility continuously from the forward direction through 90 degrees to the sides and 90 degrees up.

Reason: The ruling about forward vision has become difficult to interpret. Models with just a tiny patch of transparent material have become common, and these do not really comply with the last part of the rule. To strengthen the requirement for semi-scale appearance and make the processing

straightforward for the organizer, a more detailed wording about the pilot vision is chosen. A retrofit of a larger cabin windshield to existing models is fairly easy to accomplish.

c) 4.3.5. Controls – Technical Verification

i) Switzerland - Amend 4.3.5.b) Control System as follows:

b) Control System: Two control lines must be used. ~~If constructed of single steel wire each, these must be of 0,30 mm minimum diameter with a minus tolerance of 0,011 mm allowed. If stranded line construction is used, these shall have a minimum width of 0,34 mm with no minus tolerance allowed~~. **Each line shall have a minimum thickness measurement of 0,385 mm with a minus tolerance of 0,011 mm allowed.** In all cases ...

Reason: Safety. The present wording effectively "outlaws" the use of multi-strand lines since their use will ensure that any contestants using multi-strand lines (as defined in the current rule) will automatically incur a speed penalty of typically 0,4 to 0,6 seconds over 10 laps (i.e. approx 4 to 6 seconds in a 100 lap race), when compared with teams using single strand lines as defined by the current rule. The net result is that multi-strand lines are not used in contests despite the opinion of many teams that multi-strand lines actually enhance safety because they show improved control response under all conditions (i.e. less line stretch than the single strand lines currently used in F2C); are less prone to binding together under wet/humid conditions (which further reduces control response); and are more resistant to accidental damage during general handling and storage.
Note also that adopting this proposal will not prevent those teams who wish to continue using single strand lines from doing so if they wish.
For technical details, see ***ANNEX 8-8A***

ii) United Kingdom - Amend 4.3.5.b) Control System as follows:

b) Control System: Two control lines must be used. If constructed of single steel wire each, these must be of 0,30 mm minimum diameter with a minus tolerance of 0,011 mm allowed. If stranded line construction is used, these shall have a minimum width of 0,34 mm with ~~no minus tolerance allowed~~ **a minus tolerance of 0,011 mm allowed.**

Reason: To encourage the use of stranded wire which is safer under adverse conditions such as rain or damp or rough terrain. Note 1: There is a disadvantage using.34mm stranded wire with no minus tolerance allowed compared to using 0.30 single strand wire with a minus 0.011mm tolerance allowed. Note 2: The manufacturing techniques used in making stranded wire cause variations in the measured thickness of the wire, and not of the steel wire itself, because of the amount of solder used to bond the wire and permitting a minus tolerance would, therefore, redress this.

iii) Sweden – Amend 4.3.5.b) as follows:

b) …Before every race a load test shall be applied to the assembled control lines and the model aircraft in flying order equal to 40 times the gravity force.

Reason: The change has two parts, a reduction of the maximum model weight, and an increase in the line pull test force. For a model flying at the top speeds of today, timed at 17.0 seconds for 10 laps (211 km/h), the tension will be 22.2 times the model weight. To this should be added effects of irregular handle movements, which could amount to 2 times the model weight, maybe more at operating the shut-off. In addition, other effects have to be accounted for, such as vibration and material fatigue. Therefore, a pull test of 30 times the model weight lacks the necessary safety margin. This is shown by numerous incidents where models suffer a control mechanism failure after having passed the pull test. The allowance of 700 grams model weight is obsolete and misleading. Such a heavy model could be flown at nearly the same speed as normal models, but with the specified line dimensions, safety would be poor. A reduction to 500 grams is no obstacle to any competitors of today. Piano wire of dimension 0.30 mm has a tensile strength of around 160 N (16.5 kgf). With two lines, we get 320 N (33 kgf). The pull test force for a 500-gram model would become 20 kgf, which is well below the breaking point of a control system in good condition, so an increased test force will not cause any risk of overloading a well-made control system.
The reduction in model weight to 500 grams replaces the 140 N limit.

d) 4.3.9. Warnings – Eliminations

i) United Kingdom – Change paragraph k) to read:

4.3.9. k) "If the mechanic steps into the flight circle with both feet or lies down in the circle to retrieve his model".

Reason: Safety and Clarification.1) The present, recently introduced penalty of instant disqualification if a pitman puts even half a foot into the flight circle is too severe and does not necessarily serve to increase the pitman's safety. 2) Rather, it effectively increases the potential danger to the pitman. He now has to bend his head to look at his feet to make sure he has not stepped over the flight circle line rather than keeping his head up, thus increasing his field of vision whilst retrieving his model. 3) It is not possible to accurately determine the 0.5 metre point inside the flying circle and so it is not possible to apply the rule fairly.

ii) Subcommittee – Amend paragraph u) to read:

4.3.9.u) If the team has accumulated three warnable offences during the **eliminating or semi-final** race **(100 laps).**

Reason: It has been found essential to increase the number of warnings in the final as it is flown over the double distance (200 laps) compared to eliminating and semi-final races.

iii) Subcommittee – Add a new paragraph v):

4.3.9.v) If in the final (200 laps) the team has accumulated four warnable offences.

Reason: It has been found essential to increase the number of warnings in the final as it is flown over the double distance (200 laps) compared to eliminating and semi-final races.

e) 4.3.10 Team Qualification and Classification

i) Subcommittee - Change paragraph a) as follows:

4.3.10.a) Each competing team must take part in at least one eliminating race to qualify for the semi-finals. **The contests will be organised on three eliminating races and if there are no semi-finalists then all teams are allowed four eliminating races>.**

Reason: To make the international competitions more interesting to the teams by allowing more flights per competition. Application: January 2005.

ii) Subcommittee - Change paragraph b) as follows:

4.3.10. b)
Number of teams.....Number of semi-finalists
2 up to and including **8.....** 0
9 up to and including **11**.....6
12 up to and including 39.....9
40 or greater..... 12
The 6, 9 or 12 teams which register the 6, 9 or 12 best times respectively during the three eliminating races qualify for the semi-finals. ~~If there are no semi-finalists then all teams are allowed three eliminating races.~~

Reason: To make the international competitions more interesting to the teams by allowing more flights per competition. Application: January 2005.

iii) Subcommittee - Change the last sentence in the third paragraph f) to read:

4.3.10.f) <Classification of any team that has not completed any race within the official time limit but was not disqualified, shall be ranked according to the number of laps completed in the best race>.

Reason: Clarification.

iv) United Kingdom - Change the second sentence in the third sub-paragraph f) to read:

4.3.10.f) <All teams not participating in the finals will be classified according to their best time in any single eliminating race. Classification of any team that retired from any race, or exceeded the official time limit for any race but was not disqualified, shall be ranked according to the number of laps completed>.

Reason: Clarification. 1) The existing rule permits manipulation by teams to enhance national team results. 2) Elimination races are more equal than semifinals and would result in a fairer classification for all countries.

f) 4.3.11 International Team Classification – United Kingdom. Change as follows:

<International team classification is established by adding the best time achieved by each of the individual teams in the eliminating races. A junior team's best time may be considered as one of the times. The team with the lowest combined time is ranked first, etc, with complete three-team teams ahead of two-team teams which in turn are ranked ahead of single team entries>.

Reason: Clarification. 1) The existing rule permits manipulation by teams to enhance national team results. 2) Elimination races are more equal than semi-finals and would result in a fairer classification for all countries.

g) 4.3.12. Judges and Timekeepers – Sweden. Amend as follows:

b) Three timekeepers, equipped with electronic stopwatches registering at least 1/100th second, with a timing limit of minimum of 15 minutes will be allotted to each team. The stopwatches may be replaced or complemented by a computerized registration system of equal or better accuracy.

c) The time retained is the average of the registered time, made up to the next upper 1/10th second. A maximum tolerance of 0,18 seconds is allowed between watches. Any single watch exceeding this tolerance shall not be counted in the average.

Reason: The rules should not limit an organizer to manual stopwatches if a better system can be devised. If such a system is combined with an overhead lap display and capability to log each team's flights, there is an added value for the competitors as well as the spectators.
The stopwatch tolerance is reduced to 0,18 seconds. This is 1,5 times the tolerance established for F2A. 0,5 second corresponds to more than one quarter of a lap flown. Tolerating such a major discrepancy leads to a risk of upsetting the results.
These changes are clarifications which require no changes in equipment for competitors and organizers, and could be effective immediately.

h) 4.3.13. Duties of the F2C Panel of Judges – Subcommittee. Change the paragraph to:

a) The F2C panel of judges is responsible for observing the conduct of each team during the race. Teams will be informed of any offence by a combination of visual and loudspeaker verbal warnings. After a maximum of three offences a team will be eliminated from an eliminating or semi-final race. In the final a team will be eliminated after a maximum of four offences.
b) Warning and elimination are notified to each team by means of three coloured lights:
Green light - First warning (first offence)
Amber light - Second warning (renewal of the first offence or a new one)
Red light - Third warning (renewal of previous offences or a new one)
For the final only (200 laps), renewal of previous offences for the fourth time or a new offence a team shall be disqualified by the Judges verbally announcing "Colour - fourth offence. Disqualified. Land your model immediately".
c) A time penalty of 5 seconds shall be given to a team starting the engine(s) during the countdown before the starting signal.
d) In the final, a time penalty of 5 seconds shall be given to a team after three warnable offences.

Reason: It has been found essential to increase the number of warnings in the final as it is flown over the double distance (200 laps) compared to eliminating and semi-final races

ANNEX 4B – CLASS F2B JUDGES' GUIDE

a) Paragraphs from 4B.1 (Purpose) to 4B.18. (Execution) - Subcommittee

Change all these paragraphs with the new text *(ANNEX 9).*

Reason: Improve and standardize the F2B class.

VOLUME F3A
RADIO CONTROL AEROBATICS

Part Five - Technical Regulations for Radio Controlled Contests

5.L. CLASS F3A/L - AEROBATICS LARGE MODEL AIRCRAFT (Provisional Rules)

a) 5.L.1.3. General Characteristics of a large Radio Controlled Aerobatics Power Model Aircraft – Germany. Change as follows:

Minimum overall span	~~2,4m~~	**2,1m for monoplanes** (1,8m for biplanes)
Maximum overall span		~~**3,0m**~~
Maximum Flying Area		~~**500 dm²**~~
Maximum Loading		~~**250g / dm²**~~
Maximum Swept Volume of Piston Motor(s)		~~**250ccm**~~

Reason: The extension towards smaller models gives the option of reduced building and operational cost and increases the number of potential competitors (i.e. German / European "F3A-X" pilots). The gap to regular F3A-models is clear, but not too large. Maximums of Wing Span, Wing Area and Wing Loading, as well as for Engine Displacement, seem to be unnecessary, because these dimensions as result automatically out of other building rules. Principally are as few limitations as possible.

VOLUME F3B – F3J
F3B THERMAL SOARING
F3J THERMAL DURATION GLIDERS

Part Five – Technical Regulations for Radio Control Contests

5.3. CLASS F3B - THERMAL SOARING MODEL AIRCRAFT

a) 5.3.2.2 Launching

i) Germany - Change as follows paragraph 5.3.2.2. b)a(2) h:

<At the test of the winch equipment before the competition, the voltage of the battery U300 must be greater or equal to 9V; this is not valid during the test at the winch-line during the competition>.

Reason: Necessary clarification. At the test of the winch equipment before the competition, e.g. as a service, we must be sure that the battery is not acceptable discharged. At the test at the winch-line during the competition the degree of discharge is not relevant; its only important that the resistance of the complete winch equipment is equal or greater than 23 milliohm. A competitor who uses a discharged battery during the competition penalizes himself.

ii) Czech Republic - Add to paragraph 5.3.2.2. b) a(2) h):

<If tested on the airfield after launching this 9V rule does not apply>.

Reason: Necessary clarification. The nine volt rule was introduced to avoid situations at which the winch tested with discharged battery before the contest would then be used on the field with a fullycharged battery. The discharged battery usualy has higher internal resistance and after charging battery the winch can have more power. During launches the battery is gradualy discharged and its internal resistance increases. It is no reason to penalize the pilot for using a winch with less power.

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5.6. CLASS F3J - THERMAL DURATION GLIDERS

a) 5.6.11. Final Classification – Germany. Amend as follows paragraph 5.6.11.4.:

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

Reason: Discarding the worst result in the fly-off rounds shall be congruent to discarding the worst result in the qualifying rounds.

VOLUME F3C - R/C HELICOPTERS

Part Five – Technical Regulations for Radio Controlled Contests

a) Introduce a new class F3C Freestyle (Provisional Rules) – Germany

The DAeC proposes to add a new provisional class for model helicopters. This class may be named F3C-Freestyle. It consists of two parts: a compulsory flight with manoeuvres taken from a catalogue and a Freestyle flight with no restrictions except flight time and safety.
All rules and manoeuvres are at *ANNEX 10-10A*.

Reason: The abilities of modern model helicopters exceed the demands of the traditional class F3C. There are freestyle competitions coming up all over the world and the CIAM should offer a new class to stay abreast of these changes. The new class will not interfere with F3C but it will complement the CIAM classes for model helicopters according to the pilots interests. The 1. Open German Freestyle championship which was held in September showed a lot of interest of competitors and particularly of spectators, since the flights look spectacular and spectators can see a great variety of manoeuvres.

VOLUME F4 - FLYING SCALE MODEL AIRCRAFT F4B, CONTROL LINE SCALE F4C, RADIO CONTROL SCALE

Part Six - Technical Rules for Flying Scale Model Aircraft Contests

6.1. GENERAL RULES AND STANDARDS FOR STATIC JUDGING OF SCALE MODEL AIRCRAFT

a) 6.1.3. Competition Programme.

i) Subcommittee - Add a third paragraph as follows:

<If there are more than 40 competitors by the official closing date for entries in a World or Continental Championship, the organiser shall use two separate panels for static judging. Each panel shall consist of three judges. The first panel will judge Scale Accuracy (6.1.10.1 - Side view, End view and Plan view). On completion of this, the second panel will judge the remaining aspects. (6.1.10. 2 - 6.). Under these circumstances

the R/C event will commence with static judging. Flight judging will commence once the first 10 models have been statically assessed>.

Reason: Clarification.

ii) Spain – Add a new paragraph at the end of 6.1.3.:

<If the last part of the paragraph 6-1-4 apply then the F4C contest will commence with the static judging , and when the first 10 models has been passed the static judgement will commence the flight.

Reason: To get a more fluid contest.

b) 6.1.4. Judges – Scale Subcommittee. Delete existing sixth paragraph as now included in 6.1.4.

~~<If there are more than 60 competitors in a World or Continental Championship, the organiser shall use two separate panels for static judging. If there are more than 40 competitors, the organiser are encouraged to use two separate panels for judging. Each panel will consist of three judges. The first panel will judge the points Scale Accuracy (6.1.10.1 – Side view, End view and Plan view). On completion of this, the second panel will judge the remaining aspects. (6.1.10. 2 – 6.)~~

Reason: Clarification. The above also takes the opportunity to rectify the vague wording concerning the 40/60 criteria for dual static panels.

c) 6.1.8. Helpers - United Kingdom. Amend the first paragraph as follows:

<Each competitor is permitted one helper during ~~the competition~~ **a flight**. ~~In the case of multi-engined model aircraft one additional helper is permitted to assist in the starting of engines.~~ **An additional helper may assist with engine starting and pre-flight preparation should the competitor require this. All but one helper must retire clear of the flying area before the flight is called.** For radio control events no helper may touch the transmitter during an official flight. ~~except for assisting in starting engine(s)>.~~

Reason: Safety and common-sense. The present ruling was formulated for 5kg models with 10cc motors. The above amendment still allows a second helper for multi-engine starting in the unlikely event of an additional helper being required just for this aspect. More importantly it allows for additional safety measures associated with the more daunting task of starting and ground running the new generation of large high-powered 15kg F4C models, including turbines where the presence of a fire extinguisher is imperative. A similar Subcommittee proposal to disqualify the competitor for seeking such additional safety assistance is considered inappropriate.

d) 6.1.9. Documentation (Proof of Scale)

i) Subcommittee - Add at the end of paragraph 6.1.9.2.:

6.1.9.2.: <The documentation submitted by the contestant must state if the original prototype is non-aerobatic. The judges will discuss this information before the first flight commences in F4C. The chief judge shall make the final decision before any flight is made and this may affect the marks awarded under 6.3.6.11.d (Choice of manoeuvres)>.

Reason: Stating the need for proper documentation regarding the capabilities of the prototype.

ii) Subcommittee – Add at the end of paragraph 6.1.9.2.:

<The documentation submitted by the contestant must declare whether the model aircraft prototype is aerobatic or not. The judges will discuss this information during the static judging in F4B and before the first flight commences in F4C. The chief judge in each class makes the final decision before any flight is made in F4B and F4C>.

Reason: There are manoeuvres not to be flown by aerobatic aircrafts and therefore there must be time for considering this obvious limitation or benefit of the rules well in advance of the first flight. This is easily done in F4B where no flight is made until the static judging is finished but must be done otherwise in F4C as the flying and static judging is made in parallel.

iii) Subcommittee - Amend paragraph 6.1.9.4. as follows:

6.1.9.4.: To be eligible for Fidelity to Scale points the following documentation must be submitted to the judges:
a) Scale Drawings:
An accurate 3-view scale drawing of the full-size aeroplane, having a minimum span of 250 mm, and a maximum span of 500 mm **or if the fuselage is longer than the wingspan, these measurements will be made on the fuselage.** The drawings must be submitted in triplicate. Unpublished drawings by the competitor or other draftsman are not acceptable unless certified accurate in advance of the contest by an authoritative source such as the respective National Scale Committee or equivalent, builder of original aircraft, or other competent authority.

Reason: Modern jet fighters with long bodies and short wingspan gives us rather large drawings unnecessary and this proposal caters for the problem.

iv) Austria - Amend paragraph 6.1.9.4. as follows:

6.1.9.4.:
a) Scale Drawings:
<An accurate 3-view scale drawing of the full-size aeroplane, having a minimum span of 250mm, and a maximum span of 500 mm. The drawings must be submitted in triplicate **and come from a reliable source like a published book, magazine or similar.**
Unpublished drawings by the competitor or other draftsman are not acceptable, **if published ones are available and** unless certified, accurate in advance of the contest by an authorative source such as the respective National Scale Committee or equivalent.
Additional certification by builders of original aircraft, or other competent authority (no private owners), is necessary>.

Reason: Clarification. It should be ruled out that competitors use selfmade drawings in case where drawings are available from published sources. To avoid the wrong use of the rule, making first the plane, then the drawing and at last acquire confirmation without checking references to the fullsize aircraft. Presenting self made drawings should be only possible in the event of very rare, or less produced full-size aircraft, where definetely no published material is available.

v) Argentina-Spain – Amend paragraph 6.1.9.4. as follows:

a) Scale Drawings:
<An accurate 3-view scale drawing of the full-size aeroplane, having a minimum span of 250 mm, and a maximum span of 500 mm. The drawings must be submitted in triplicate **and come from a reliable source as a published book, magazine or similar,** unpublished drawings by the competitor or other draftsman are not acceptable unless certified accurate in advance of the contest by an authoritative source such as the **respective National Scale Committee or equivalent owner**, the builder of original aircraft, or other competent authority>.

Reason: The number of competitors including on his documentation draws signed by the National Scale Committee is grooving and we afraid some people can make a wrong use of the rule and make first the plane, second the draw and at the end sing it without check the real prototype, we think it is not the way.

e) 6.1.10. Judging for Fidelity to Scale and Craftsmanship

i) Subcommittee – Change the k factors as follows:

		K - Factor	
1.	Scale Accuracy		
	Side view	~~10~~	**15**
	End view	~~10~~	**15**

	Plan view	~~10~~	**15**
2.	Colour		
	Accuracy	~~2~~	**3**
	Complexity	~~1~~	**2**
3.	Markings		
	Accuracy	~~4~~	**8**
	Complexity	~~2~~	**3**
4.	Surface texture and realism	~~8~~	**12**
5.	Craftsmanship		
	Quality	~~7~~	**11**
	Complexity	~~3~~	**4**
6.	Scale detail		
	Accuracy	~~5~~	**8**
	Complexity	~~3~~	**4**
	Total: K =	~~65~~	**100**

Items 1 to be judged at a minimum distance of 3m in F4B, and 5m in F4C, from the nearest part of the model aircraft. Judges must not touch the model aircraft.

Reason: To get the static scoring in line with the new flight scoring and keep the balance 50-50.

ii) Subcommittee – Change the k factors as follows:

		K - Factor	
1.	Scale Accuracy		
	Side view	~~10~~	**15**
	Front End view	~~10~~	**15**
	Upper Plan view	~~10~~	**15**
2.	**Markings**		
	Accuracy	~~4~~	**8**
	Complexity	~~2~~	**3**
3.	**Colour**		
	Accuracy	~~2~~	**3**
	Complexity	~~1~~	**2**
4.	Surface texture and realism	~~8~~	**12**
5.	Craftsmanship		
	Quality	~~7~~	**10**
	Complexity	~~3~~	**5**
6.	Scale detail		

Accuracy	~~5~~	**7**
Complexity	~~3~~	**5**

Total: K = ~~65~~ **100**

Item 1 to be judged at a minimum distance of 3 metres from the **centre line** of the model in F4B, and 5 metres in F4C. Judges must not touch the model.

Reason: To get the static scoring in line with the new flight scoring and keep the balance 50-50

iii) Austria – Change the k factors as follows:

1. Scale Accuracy
Side view.....….....8
End view.....……8
Plan view.....….. …...8

2. Colour
Accuracy.....…..…..3
Complexity.....……..4

3. Markings
Accuracy.....4
Complexity.....4

4. Surface texture and realism.....8

5. Craftsmanship
Quality.....7
Complexity.....3

6. Scale detail
Accuracy.....5
Complexity.....3

Total: K=65

Reason: Reducing the value of the 3-view gives the possibility to increase the weight of colours and markings during static judging, because colours and markings need a lot of resources due to craftsmanship, and are an essential part of the general impression of a scale model. The presently valid rule does not represent those items in an appropriate manner

iv) Spain and Subcommittee – Amend the last sentence of paragraph 6.1.10. as follows:

<Items 1 to be judged at a minimum distance of 3m in F4B, and 5m in F4C, from the **nearest part C.G.** of the model. Judges must not touch the model>.

Reason: The new rules admit the planes are bigger and bigger then if the judges have to judge a 3 meter span plane, the half wing span is 1.5 meter more 5 meters of the rules make that the judges will be 6.5 meters far of the main part of the model whit this proposal the wing span is not so important and the judges will be in the same place whit independence of the plane wing span.

f) 6.1.11. Static Scoring – Scale Subcommittee. Add at the end:

For Flying Scale Contests the combined Fidelity to Scale and Craftsmanship points shall be the aggregate sum of points awarded by the three static judges. These static points shall be used for final scores classification only when the model aircraft has completed an official flight.
Normalising scores, the winner of the static judging gets 1000 points and the others gets the relative score as in the formula:
Static Score = 1000*(Points Competitor)/(Points Winner)

Reason: To ensure the proper balance 50-50 on static and flying.

g) 6.1.11.1. Static scoring – Subcommittee. Add this new paragraph:

6.1.11.1 To be eligible for Fidelity to Scale **(Static)** points the following **is the minimum** documentation that must be submitted to the judges **(See 6A.1.9. for recommended presentation of documentation).**

a) Photographic evidence:
At least three photographs or printed reproductions of the prototype, including at least one of the actual subject aircraft being modelled. Each of these photographs or printed reproductions must show the complete aircraft, preferably from different aspects. These main photos must be submitted in triplicate, the second and third copies may be photocopies. **The photographic evidence is the prime means of judging scale accuracy against the prototype.**

b) Scale Drawings:
Accurate scale drawing(s) of the full-size aircraft that show at least the 3 main aspects of Side View, Upper Plan View and Front End View. These drawings must be to a common scale giving a minimum wing span of 250 mm, and a maximum wing span of 500 mm. and must be submitted in triplicate. Unpublished drawings by the competitor or other draftsman are not acceptable unless

certified accurate in advance of the contest by an authoritative source such as the respective National Scale Committee or equivalent, **the** builder of **the** original aircraft, or other competent authority.

c) Proof of Colour:
Correct colour may be established from colour photographs, from ~~accepted~~ published descriptions if accompanied by colour chips, from samples of original paint, or from ~~accepted~~ published colour drawings.

d) Aircraft speed:
The cruising speed of the subject aircraft must also be included in the documentation and repeated on all flight score sheets before each official flight starts**. In the case of early aircraft, where only maximum speeds are likely to be listed, the maximum speed alone may be quoted in the documentation. The competitor must be prepared to substantiate this information if required.**

e) Competitor's declaration:
The competitor must ~~supply~~ **include in his documentation** a declaration **that he is the builder of the model aircraft entered,** listing all components of the model aircraft he did not make himself. The competitor must also **complete and sign ~~a~~ the required** declaration **form (See Annex 6E) confirming these and other aspects** ~~that he is the builder of the model aircraft entered~~. If found in violation the competitor may be disqualified from the contest.

Reason: To ensure the proper balance 50-50 on static and flying.

6.2. CLASS F4B - CONTROL LINE FLYING SCALE MODEL AIRCRAFT

a) 6.2.1. General Characteristics

i) United Kingdom - Delete specifications for surface area and loading:

~~**Maximum surface area: 150 dm2**~~
~~**Maximum Loading: 150 g/dm2**~~

Reason: To comply with changes made to F4C either now proposed or already implemented.

ii) Subcommittee – Amend as follows:

b) Motive Power: Maximum thrust for a turbine motor shall be ~~10~~ **6** Kg

Reason: Marking with subsection b) has dropped out. Models of modern jet fighters needs to have a power to weight ratio as close to 1:1 as possible, but not above this ratio for safety.

b) 6.2.2. Control Mechanism:

i) Subcommittee – Amend as follows:

<Before each flight the entire mechanism including control line and their attachments to the model aircraft and the control handle, shall be subject to a pull test equal to 5 times the weight of the model aircraft, as recorded at Processing, with a maximum of 25 kg. Control line length (central point of handgrip to vertical centre line of model aircraft) shall be not less than 15 metres or more than 21,5 metres. ~~A safety strap connecting the competitor's wrist to the control handle must be provided by the competitor~~. **The safety strap connecting the competitor's wrist to the control handle must be attached for the whole flight. The circle marshal shall ensure that this requirement is met and any attempt to take off in breach of this will result in disqualification of that flight>.**

Reason: Clarification and safety

ii) Subcommittee – Amend the last sentence as follows:

<The safety strap must be attached to the wrist before any flight is called upon. Failure to use the safety strap will disqualify the whole flight, which is to be scored zero. The circle marshal is responsible for making the pilots aware of this safety issue>.

Reason: This is a pure safety issue which has been overlooked in the text in the present rules, which also lacks proper measures how to deal with the problem when a competitor does not to use the safety strap for one reason or another.

c) 6.2.6. Flight – Subcommittee.

i) Subcommittee – Amend as follows:

The manoeuvres must be executed in the order listed below. Between the end of one manoeuvre and the start of the next one, the competitor must fly the model aircraft a minimum of two laps

6.2.6.1...Take-off	~~K=8~~	**K = 14**
6.2.6.2....5 laps of straight level flight	~~K=5~~	**K = 8**
6.2.6.3....Optional demonstration	~~K=8~~	**K = 12**
6.2.6.4....Optional demonstration	~~K=8~~	**K = 12**
6.2.6.5....Optional demonstration	~~K=8~~	**K = 12**
6.2.6.6....Optional demonstration	~~K=8~~	**K = 12**
6.2.6.7....Landing	~~K=9~~	**K = 14**

6.2.6.8....Realism in flight

I)	Engine noise (realistic tone and tuning)	~~K=3~~	**K = 4**
II)	Speed of the Model aircraft	~~K=4~~	**K = 6**
III)	Smoothness of flight	~~K=4~~	**K = 6**
Total K factor		~~K=65~~	**K = 100**

Note: The scale of the model aircraft and the cruising speed or maximum speed of the prototype must be stated on the flight scoring form.

Reason: To comply with proposals for F4C and keep the 50-50 balance to static.

ii) Subcommittee – Delete the K-figures in paragraphs 6.2.6.3. - 6.2.6.6. (See new coefficients in paragraph 6.2.7.) as follows:

The manoeuvres must be executed in the order listed below. Between the end of one manoeuvre and the start of the next one, the competitor must fly the aircraft a minimum of two laps. Less then two laps between the end of one manoeuvre and the start of the next one will result in zero points of the second manoeuvre. More then three laps between any manoeuvre is allowed.

6.2.6.1.	Take-off	K = 8
6.2.6.2.	Five laps of straight and level flight	K = 5
6.2.6.3.	**Optional demonstration**	**K = See 6.2.7.**
6.2.6.4.	**Optional demonstration**	**K = See 6.2.7.**
6.2.6.5.	**Optional demonstration**	**K = See 6.2.7.**
6.2.6.6.	**Optional demonstration**	**K = See 6.2.7.**
6.2.6.7	Landing	K = 9
6.2.6.8.	Taxi	K = 8
6.2.6.9.	a) Engine noise (realistic tone and tuning)	K = 3
	b) Speed of the model a/c	K = 4
	c) Smoothness of flight	K = 4

Total sum of K must not exceed 65 (A lower sum of K is allowed when composing a flight programme).

Reason: In order to encourage the contestants at international competitions to show more flying oriented then mechanical "on/off-manoeuvres" there is a demand for different coefficients in the flight program at an F4B contest. A looping or another aerobatic manoeuvre should therefore, for example, have a much higher coefficient then the dropping of leaflets. It is not in the interest of the spectators at a scale competition to look at a model that is performing one mechanical manoeuvre after another, like opening of bomb-bay doors and then drop leaflets or a parachutist. A future F4B competition should therefore benefit from a greater variety of aircraft performing a wider selection of manoeuvres, then seen in the flight circle nowadays. The Taxi procedure is a

normal way to end a good landing, and will add good points to a landing with an intact u/c, which is also the intention of this amendment.

iii) Subcommittee – Amend the first paragraph as follows:

<The manoeuvres must be executed in the order listed below. Between the end of one manoeuvre and the start of the next one, the competitor must fly the aircraft a minimum of two laps. **Less then two laps between the end of one manoeuvre and the start of the next one will result in zero points of the second manoeuvre. More then three laps between any manoeuvre is allowed>.**

Reason: Considering the fact that in F4B there are just around 5 seconds per lap, which gives the judges very short time for reflection in their judging.

d) 6.2.7. Optional Demonstrations – Subcommittee. Add at the end of the first paragraph:

<..... of the aircraft subject modelled. **Any demonstration of cargo doors or bomb doors must be done in conjunction with a cargo or bomb drop, if no cargo or ordnance is dropped, the manoeuvre will score ZERO>.**

Reason: This is to ban purely mechanical manoeuvres to be performed in flight without any flying skill demands except for straight and level flight doing nothing else.

e) 6.2.7. Optional Demonstrations – Scale Subcommittee. Change as follows:

Add different coefficients to the 6.2.7. Optional demonstrations as listed below and delete <Taxi> as an option:

6.2.7. Optional Demonstrations

Four optional demonstrations must be selected from the following list.

A. Multi-engine option - in order to qualify for full multi-engine points, all engines must run for the complete flight. Should any engine cut prematurely, then the marks will be reduced accordingly.

Note. The K factor of 8 applies to any multi-engine subject with three or more engines. No points are awarded for each individual engine.

B.	**Retract and extend landing gear**	**K**	**4**
C.	**Flaps**	**K**	**5**
D.	**Drop bombs or fuel tanks**	**K**	**4**
E.	**High flight over 30° line angle**	**K**	**8**
F.	**One inside loop**	**K**	**11**
G.	**Three inverted laps**	**K**	**12**

H.	**Wingover**	**K**	**8**
I.	**Figure eight**	**K**	**12**
J.	**Touch and go**	**K**	**8**
K.	**Lazy eight**	**K**	**11**
L.	**Parachute or leaflet drop**	**K**	**5**
M.	**Flight function of subject a/c**	**K**	**8**
N.	**Overshoot**	**K**	**8**

Reason: In order to encourage the contestants at international competitions to show more flying oriented then mechanical "on/off-manoeuvres" there is a demand for different coefficients in the flight program at an F4B contest. A looping or another aerobatic manoeuvre should therefore, for example, have a much higher coefficient then the dropping of leaflets. It is not in the interest of the spectators at a scale competition to look at a model that is performing one mechanical manoeuvre after another, like opening of bomb-bay doors and then drop leaflets or a parachutist. A future F4B competition should therefore benefit from a greater variety of aircraft performing a wider selection of manoeuvres, then seen in the flight circle nowadays.
The Taxi procedure is a normal way to end a good landing, and will add good points to a landing with an intact u/c, which is also the intention of this amendment.

f) 6.2.7. Optional Demonstrations – Scale Subcommittee. Amend as follows:

6.2.7. Optional Demonstrations
<The competitor must be prepared to give evidence to the judges during the static judging that the flying options selected for the flights are typical and within the normal capabilities of the aircraft subject modelled. The F4B chief judge will make the decision before the flight commences.
Only one attempt is permitted for each manoeuvre, the only exception is the take-off as described in 6.2.5.b.
The selected options may be flown in any order but the order must be marked on the score sheet and any manoeuvre flown out of order will be marked zero.
Not more then one drop-option may be selected.
Any model that flies with wheels down whereas the prototype actually featured retractable u/c shall have the total flight score reduced by 25 %.
In order to qualify for the definition multi-engine, the prototype model must have three (3) or more engines>.

Reasons: As proposed earlier concerning the alteration of 6.1.9.2. The decision of the subject aircraft's capabilities as aerobatic or not, and what optional manoeuvres the contestant will be allowed to perform with the scale model, is already taken at the static judging in the F4B class. The drop options, which are more or less so called ON-OFF manoeuvres, tend to impoverish the flight programmes at the contests today and should be reduced in order to enhance the interest in control line scale flying.
Just two engines in a scale model are not enough in these days to deserve multi-engine points. Modern engines, with pump and very small on board glow systems are

much more reliable than during the days this rule was written. Even the word "multi" itself implies more than just two items. See also 6.1.9. Documentation and changes in Annex 6B, Judge's guide.

g) 6.2.9. Flight Score – Subcommittee. Add at the end of the paragraph:

At World and Continental Championships, or whenever using five flight judges, the highest and lowest judge's score for each manoeuvre will be deleted. The remaining three judges' scores will then count towards the final score.
The flight score shall be the sum of the points awarded by all three judges in 6.2.6.
Normalising scores, the winner of each round gets 1000 points and the others gets the relative score as in the formula:
Static Score = 1000*(Points Competitor)/(Points Winner)

Reason: To ensure the proper balance 50-50 on static and flying.

6.3. CLASS F4C - RADIO CONTROLLED FLYING SCALE MODEL AIRCRAFT

a) 6.3.1. General Characteristics

i) United Kingdom - Delete surface area requirement:

~~**Maximum surface area: 250 dm2**~~

Reason: 1. The 250 dm^2 requirement was an increase from the previous 150 dm^2 and was introduced several years ago when maximum weights went from 6kg to 7kg. It is now hopelessly out of date in relation to present maximum weight specifications. 2. The FAI criteria for a maximum surface area specification have no logical application to Scale model design or choice of subject and unduly penalise multi wing configurations. 3. Other benchmark specifications such as engine capacity and wing loading criteria have already been deleted from scale characteristics as they have no logical significance to this class. Subject to ratification of the above F4C proposal, delete also surface area requirement for F4B see subsequent proposal. (The maximum loading criteria has already been abolished in F4C).

ii) Subcommittee – Amend as follows:

Maximum surface area**:** ~~**250 dm²**~~ **600 dm²**
b) Maximum thrust for a turbine motor shall be**:** ~~10~~ **15 kg**

Reason: 250 dm² is to little for a 15 Kg triplane and we need to allow every 15 Kg model aircraft to be legal within the Scale rules. Models of modern jet fighters needs to have a power to weight ratio as close to 1:1 as possible.

iii) South Africa – Amend as follows:

Maximum surface area:.....250dm2
Maximum **mass** of the complete model without fuel in flying condition including any dummy pilot:.....12 kg (+1%)

Reason: It is a generally accepted fact that a 1% tolerance can be expected in certain measuring apparatuses, like a weighing device. Allowing a 1% tolerance (120 grams, on a maximum weight of 12kg) will alleviate the necessity for the organisers to supply a calibration certificate, or to supply a test-weight. It is also a physical fact that the **mass** of a specific object is constant any where on earth (or on the moon for that matter) while **weight** varies significantly depending on latitude and height above sea level (As an example the acceleration of a free falling body "g" is 978 cm/s2 at the equator and 983 cm/s2 at the poles due to the difference in weight of a body at different points on earth.) The weighing apparatuses in general use, determine weight and not mass. With the high weight limit of 12 kg (soon to become 15 kg) this difference is becoming significant for competitors as was illustrated in Canada when some competitors of leading nations in the class had problems to get their models within the weight limit, despite having made sure at home that they were indeed below the limit. On-site calibration of the organisers' scale is not always a possibility. Desperate shedding of weight at the competition could lead to safety problems or loss of reliability due to removal of onboard glow, or using smaller capacity batteries, or rearward Centre of Gravity shifts.

iv) South Africa – Amend as follows:

Maximum surface area:.....250dm2
Maximum **mass** of the complete model without fuel in flying condition including any dummy pilot:.....12 kg

The Subcommittee Chairman will keep and maintain an accurate 5 kg calibration mass for use during any World Championships or international event so that organisers' scales can be calibrated on site and scale calibration certificates will not be required.

Reason: It is a physical fact that the **mass** of a specific object is constant any where on earth (or on the moon for that matter) while **weight** varies significantly depending on latitude and height above sea level (As an example the acceleration of a free falling body "g" is 978 cm/s2 at the equator and 983 cm/s2 at the poles due to the difference in weight of a body at different points on earth.) The weighing apparatuses in general use, determine weight and not mass. With the high weight limit of 12 kg (soon to become 15 kg) this difference is becoming significant for competitors as was illustrated in Canada when some competitors of leading nations in the class had problems to get their models within the weight limit, despite having made sure at home

that they were indeed below the limit. On site calibration of the organisers scale with an accepted standard would alleviate the lingering doubt as to the accuracy of the organisers scale. Desperate shedding of weight at the contest could lead to safety problems or loss of reliability due to removal of onboard glow or using smaller capacity batteries or rearward Centre of Gravity shifts.

v) USA – Amend as follows in paragraph 6.3.1.c. electric motors:

Raise the 42volt limit to 75 volts.

Reason: There are no laws or arguments which support the 42v limit for RC scale models. Europe has reportedly adopted the IEC limit of 75VDC. The maximum DC voltage at which the hand can let go of the conductor is 104VDC. ("Practical Electrical Safety"' Marcel Dekker). There are many every day household exposures to the dangers of far higher voltages which are quite legal in all countries. The 42volt limit unduly restricts 15kg single-engine scale models.

vi) USA - Add in paragraph 6.3.1.c.

Specify that battery voltage limit is based on cell "rated" voltage; e.g. 1.2 volts for NiCad and NiMH cells.

Reason: F4C rules do not specify how battery voltage is determined, making the rule subject to interpretation. Fully charged re-chargeable batteries soon revert to rated voltage.

vii) USA – Add in paragraph 6.3.1.c.

Specify that a model may have only one battery per motor and that batteries may not be interconnected to exceed the 75volt limit.

Reason: Present wording states "motors" (plural) and "power source" (singular) which may be interpreted to restrict multi-motor models to a single battery. While multi-motor models may have several batteries (one per motor), it should be specified that these batteries may not be interconnected by any means if the result exceeds the 75 volt limit.

viii) USA – Add in paragraph 6.3.1.c.

<Electric powered models may have no more than one battery per motor. Each battery shall be rated at no more than 75 volts (e.g. 1.2 volts per NiCad or NiMH cell). Batteries may not be inter-connected by any means to exceed the 75 volt limit>.

Reason: The Low Voltage Directive 73/23/EEC is one a series of measures introduced under article 100a of the Treaty of Rome. Article 100a directives all have the primary objective of creating a single European market in goods

and services with the objective of providing producers and consumers with the benefits of economies of scale that this offers. The directive was originally enacted in 1973 but was modified in 1993 by directive 93/68/EEC to include a requirement for CE marking and the creation of a technical file. The effect of the directive has been to introduce identical requirements for the safety of electrical products in every country within the European Economic Area (EEA).

b) 6.3.4. Flying Time – Subcommittee. Amend as follows:

a) A competitor will be advised that he will be required to start his flight not less than 5 minutes before the instruction to start.
b) The competitor will then be instructed to start his flight.
c) Timing of the flight will commence when the official flight commences (see 6.3.3.c.).
d) The competitor will be allowed ~~14 minutes in the case of an aerobatic prototype, or~~ **17 minutes** ~~in the case of a non aerobatic prototype,~~ to complete his flight.
e) In the case of a multi-engined model aircraft, the time allowed in (d) above will be increased by one minute for each additional motor.
f) No points will be awarded for any manoeuvre that is not completed at the end of the time allowed.

Reason: The revised flight schedule does away with the "non-aerobatic definition and all competitors will have the same flight time.

c) 6.3.6. Flight – Subcommittee. Amend k factors as follows:

6.3.6.1.	Take-off	K = ~~8~~ **9**
6.3.6.2.	Straight flight	K = ~~2~~ **3**
6.3.6.3.	Figure Eight	K = ~~6~~ **9**
6.3.6.4.	Descending 360O Circle	K = ~~6~~ **9**
6.3.6.5.	Option	K = ~~4~~ **6**
6.3.6.6.	Option	K = ~~4~~ **6**
6.3.6.7.	Option	K = ~~4~~ **6**
6.3.6.8.	Option	K = ~~4~~ **6**
6.3.6.9.	Option	K = ~~4~~ **6**
6.3.6.10.	Approach and Landing	K = ~~10~~ **12**
6.3.6.11.	Realism of flight	
	a) Engine sound (realistic tone & tuning)	K = ~~2~~ **3**
	b) Speed of the model aircraft	K = ~~4~~ **7**
	c) Smoothness of flight	K = ~~4~~ **6**
	~~d) Size of manoeuvres~~	~~K = 3~~
	d) Choice of manoueuvres	**K = 12**
	Total	K = ~~65~~ **100**

Notes: The scale of the model aircraft and the cruising or maximum speed of the prototype must be stated on the score sheet.
Only one attempt is permitted for each manoeuvre, the only exception is the procedure of getting a model aircraft airborne, as defined in 6.3.5.b.

Reason: To get a better balance between different aircraft types and manoeuvres.

d) 6.3.7. Optional Demonstrations

i) Subcommittee - Amend as follows:

<Competitors must be prepared, if required by the judges, to give evidence that the options selected are typical and within the normal capabilities of the aircraft subject type modelled. Only one manoeuvre involving the demonstration of a mechanical function may be included in a competitor's choice of options. These include options B, C, D, L, and, if applicable, P or Q.

Selection must be given to judges in writing before taking off. The options may be flown in any order. ~~(Options A, N, R, S, T and W are for model aircraft of non aerobatic aircraft only).~~ **It is expected that options A, N, R, S, T and W will be chosen only by subjects with little or no aerobatic capability. (See 6C.3.7. and 6C.3.6.11. Realism in Flight / Choice of manoeuvres)**

The order in which the optional manoeuvres are flown must be marked on the score sheet and any manoeuvre flown out of order will be marked zero.

A	Chandelle .	K = ~~4~~ **6**
B	Retract and extend landing gear	K = ~~4~~ **6**
C	Retract and extend flaps	K = ~~4~~ **6**
D	Dropping of bombs or fuel tanks	K = ~~4~~ **6**
E	Stall turn	K = ~~4~~ **6**
F	Immelmann turn	K = ~~4~~ **6**
G	One loop	K = ~~4~~ **6**
H	Split S (Reversal)	K = ~~4~~ **6**
I	Cuban eight	K = ~~4~~ **6**
J	Normal spin (three turns)	K = ~~4~~ **6**
K	Roll	K = ~~4~~ **6**
L	Parachute	K = ~~4~~ **6**
M	Touch and go	K = ~~4~~ **6**
N	Overshoot	K = ~~4~~ **6**
O	Side slip to left or right	K = ~~4~~ **6**
P	1st Flight function by subject aircraft	K = ~~4~~ **6**
Q	2nd Flight function by subject aircraft	K = ~~4~~ **6**

Competitors may demonstrate up to two different flight functions of their own choice, but must be prepared to supply evidence that each function was performed by the prototype modelled. Competitors must indicate to the Flight Judges the nature of the demonstration(s) before going to the flight line).

R	Flight in triangular circuit	K = ~~4~~ **6**
S	Flight in rectangular circuit	K = ~~4~~ **6**
T	Flight in a straight line at constant height (maximum height 6 metres) .	K = ~~4~~ **6**
U	Flight in a straight line with one motor throttled	

	(for multi-engined model aircraft only)	K = ~~4~~ **6**
V	Lazy Eight .	K = ~~4~~ **6**
W	Wingover	K = ~~4~~ **6**
X	Inverted flight	K = ~~4~~ **6**

Reason: New flight points to get a better balance in scoring.

ii) USA - Change this sentence in the first paragraph as follows:

…These options include ~~options B, C~~, D, L, and, if applicable, P or Q>.

Reason: As the rule currently reads flight options "B Retract & extend landing gear" and "C Retract and extend flaps" are included in the list of mechanical options. These two maneuvers require a flat 360 degree circle to be flown also, thus are flight options and not mechanical options. For this reason they should be listed as "Flight options" and not "mechanical functions". Add options B and C back as flight options where they should be listed.

iii) France -
Reconsideration of the aerobatic manoeuvres coefficient.

Reason: As per sporting code, aerobatic manoeuvres coefficient are not appropriated with old type of aircraft flight difficulties.

iv) Sweden – Add a new manoeuvre to 6.3.7. Optional Demonstrations:

Y. John Derry Turn
<The model approaches at a high speed in a straight and level flight on a line parallel with the judge's line. The model then makes a steep (approx. 90° bank) one quarter circle turn in a direction away from the judges, without loosing height, and centred in front of the judges, followed by a half roll in the same rolling direction as the entry, again directly followed by a steep one quarter circle turn in the opposite direction, and then flies off straight and level in parallel to the entry of the manoeuvre>.
The Diagram and Judge's Guide is at *ANNEX 11*

Reason: The late British Squadron Leader John Derry invented this elegant evasive manoeuvre, which he demonstrated at numerous air shows before his fatal crash at Farnborough in 1952. The historic background of this manoeuvre is the same as that of the Immelman Turn, which is already flown in F4C. The manoeuvre should attract the rising interest in jet and highly aerobatic aircraft that is seen today. The manoeuvre should also be relatively easy to judge correctly as it is well centred and in good view of the judges at all times. It is also spectacular to look at as it is to be flown at a fairly low height and at a good speed.

e) 6.3.8. Marking (flight points) - USA. Delete the following sentence in the third paragraph:

~~<Exceptions from this rule are maneuvers 6.3.1. Take-off, 6.3.6.10 Landing, and 6.3.7.m. Touch and Go. These maneuvers have the right to be performed into wind as long as they do not overfly the spectator area. Spectators being anyone else than competitor, helper and officials at the flight line. The flagman will keep a record of these incidents>.~~

Reason: Allowing models to fly at a low altitude or higher over anyone even contestants and officials is insane, no matter what the maneuver. Small models as well as large ones, carbon fiber props can have caused bodily harm or even death. One of our own subcommittee members has in the last year lost several fingers to a carbon fiber prop while running his engine on the ground, much less at airspeed. Models at 15kg or even 12kg for that matter can cause fatal accidents. Numerous accidents of models hitting people and in some instances killing them, (modelers and officials) have been documented in several countries.

f) 6.3.9. Flight Score – Subcommittee. Add at the end of the paragraph:

At World and Continental Championships, or whenever using five flight judges, the highest and lowest judge's score for each manoeuvre will be deleted. The scores of the remaining three judges will then count towards the final score.
The flight score shall be the sum of the points awarded by all three judges in 6.3.6.
Normalising scores, the winner of the static judging gets 1000 points and the others gets the relative score as in the formula:
Static Score = 1000*(Points Competitor)/(Points Winner).

Reason: To ensure the proper balance 50-50 on static and flying.

ANNEX 6A – Judges Guide for Static Judging

a) 6.A.1. General – Subcommittee. Amend as follows in the third paragraph:

<A chief judge shall be appointed as a spokesman **for the static judges, and if two static panels are used, the second panel will have a deputy chief judge appointed to assist the Chief judge in his work. The chief / deputy chief judge should discuss the merits and criticisms of each item in his responsible area with the other judges in his team,** making suggestions for the scores>.

Reason: To clarify the working relation when using two panels for static judging.

b) New Annex 6A – Subcommittee:

Replace the whole Annex with the new ANNEX 6A
The rules are at ***ANNEX 12***

Reason: The current version has become outdated and the new version is according to the changes that have occurred in the rules. It is needed for all to have a better understanding of the rules.

ANNEX 6B - CLASS F4B - JUDGES' GUIDE, C/L SCALE FLYING SCHEDULE

a) 6.B.1. General – Subcommittee. Change the ninth paragraph in 6.B.1 to read:

<Before the flying part of the contest commences, normally done in conjunction with the static judging, there must be agreement between the chief judge and the respective team manager on the exact nature of the manoeuvre "M" if such a manoeuvre is chosen by any contestant. There must be no such discussion at the flight circle>.

Reason: To follow the proposed change in 6.1.9.2., Documentation (Proof of scale) and 6.2.7. Optional demonstrations. To put at least some precision in the dropping options and to justify different scoring by the judges. The word approx. in the overshoot manoeuvre is too vague in order to make proper judging by the judges.
The judging of Realism of Flight concerning anything but smoothness of flight is considered too woolly or not stringent enough, especially in the F4B class why the coefficients should be lowered.

b) 6.B.2.6.7. Landing – Subcommittee. Amend as follows:

Add the Taxi manoeuvre to the diagram.

Reason: To follow the proposed change in 6.1.9.2., Documentation (Proof of scale) and 6.2.7. Optional demonstrations. To put at least some precision in the dropping options and to justify different scoring by the judges. The word approx. in the overshoot manoeuvre is too vague in order to make proper judging by the judges.
The judging of Realism of Flight concerning anything but smoothness of flight is considered too woolly or not stringent enough, especially in the F4B class why the coefficients should be lowered.

c) 6.B.2.6.8. Realism of flight – Subcommittee. Amend as follows:

Change the figures to read:

Engine sound K = 2
Speed of the model aircraft K = 2
Smoothness of flight K = 7

Reason: To follow the proposed change in 6.1.9.2., Documentation (Proof of scale) and 6.2.7. Optional demonstrations. To put at least some precision in the dropping options and to justify different scoring by the judges. The word approx. in the overshoot manoeuvre is too vague in order to make proper judging by the judges.
The judging of Realism of Flight concerning anything but smoothness of flight is considered too woolly or not stringent enough, especially in the F4B class why the coefficients should be lowered.

d) 6.B.2.7. Optional Demonstrations / General:

i) Subcommittee - Delete the second sentence:

"~~The competitor must also…~~

ii) Subcommittee – Amend as follows the sub-paragraph D)

D: Dropping of Bombs or Fuel Tanks and L parachute drop.
<The dropping zone shall be positioned in front of the judges as a circle with the radius of five meters and shall be clearly marked on the ground with paint or tape>.

iii) Subcommittee – Amend as follows the sub-paragraph M)

M: Flight Function of the subject a/c. Change the first sentence to:

< The competitor may demonstrate one flight function of his own choice in each flying round>.

Note. Not more then one drop option may be nominated.

iv) Subcommittee - Amend as follows the sub-paragraph O)

O: Delete the manoeuvre as an option (taxi is proposed to be mandatory after landing)

v) Subcommittee - Amend as follows the sub-paragraph P)

P: Overshoot. Change approx. one metre height to "not more than one meter and at least 15 meter length.

Reason: To follow the proposed change in 6.1.9.2., Documentation (Proof of scale) and 6.2.7. Optional demonstrations. To put at least some precision in the dropping options and to justify different scoring by the judges. The word approx. in the overshoot manoeuvre is too vague in order to make proper judging by the judges.
The judging of Realism of Flight concerning anything but smoothness of flight is considered too woolly or not stringent enough, especially in the F4B class why the coefficients should be lowered.

ANNEX 6C – JUDGES' GUIDE - SCHEDULE CLASS F4C

a) 6C.1 General.

i) Subcommittee - Delete first sentence from penultimate paragraph:

~~The item 6.3.6.11. "Realism in Flight", should be discussed by all judges after completion of the flight and they should attempt to arrive at an agreed score for this item.~~ At the end of each flight, the chief judge must check all score sheets for completeness.

Reason: To comply with amendment to 6C.3.6.11 which has removed this aspect from the Judges' Guide.

ii) USA – Amend in the ninth paragraph as follows:

<In the interest of safety, any manoeuvre that is carried out over **people including but not limited to contestants, officials, or spectators or anyone else in a designated area behind the flight judges line,** will also score a ZERO>.

Reason: Allowing models to fly at a low altitude or higher over anyone even contestants and officials is insane, no matter what the maneuver. Small models as well as large ones, carbon fiber props can have caused bodily harm or even death. One of our own subcommittee members has in the last year lost several fingers to a carbon fiber prop while running his engine on the ground, much less at airspeed. Models at 15kg or even 12kg for that matter can cause fatal accidents. Numerous accidents of models hitting people and in some instances killing them, (modelers and officials) have been documented in several countries.

b) 6C.3.6.11. Realism in Flight

i) Subcommittee – Amend as follows:

~~This should be discussed by all judges after completion of the flight and they should attempt to arrive at an agreed score for each item~~. Realism in Flight covers the entire flight performance including the way in which the model aircraft flies between manoeuvres.

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

Engine sound (realistic tone & tuning) K = ~~2~~ **3**
"Tone" relates to the character of the sound by comparison with the full size at all throttle settings.
"Tuning" is the smoothness of operation of the engine at all throttle settings.
The marks for engine sound should therefore be split equally between these two aspects.
Speed of the model aircraft K = ~~4~~ **7**
This should be an assessment of the scale speed of the model aircraft, calculated from the speed of the full size aircraft (as indicated on the score sheet and documentation) divided by the scale of the model aircraft. Model aircraft invariably fly faster than scale speed and marks should be deducted accordingly. For example, a model aircraft that appears to be flying at twice scale speed should score no more than half marks, a model aircraft flying at three times scale speed, or faster, should score zero.

Smoothness of flight K = ~~4~~ **6**
The model aircraft should be well trimmed and show no signs of instability. Judges should assess the smoothness of control taking into account the prevailing weather conditions. They should also judge the attitude of the model aircraft in flight, i.e. any nose-up or nose-down tendency.

~~Size of manoeuvres K = 2~~
~~Unless otherwise specified, the size of manoeuvres should be in proportion to the scale of the model aircraft and the nature of the prototype. Judges must use their own experience to score this aspect based upon the amount of airspace that they would expect the prototype to use if it were performing a full size flying display.~~
~~Unless otherwise specified, the size of manoeuvres should be in proportion to the scale of the model aircraft and the nature of the prototype. Judges must use their own experience to score this aspect based upon the amount of airspace that they would expect the prototype to use if it were performing a full size flying display.~~

Choice of manoeuvres K = 12

The optional manoeuvres chosen should demonstrate the best possible flight profile of the original prototype as if it were performing a full size air display.
Some original prototypes would have little or no aerobatic capability. These are aircraft designed with limited manoeuvrability where the original prototypes of which were restricted by the manufacturer or licensing government agency. Examples are touring aircraft, passenger and cargo aircraft and heavy military transports and bombers. The optional manoeuvres listed below are included under 6.3.7. to cater for such subjects. These aircraft should still be considered for high marks in this section if the performance of the original prototype genuinely limits them to such manoeuvres. Conversely, if aircraft with greater manoeuvrability and performance choose these options when the original prototype would be capable of much more, then low marks should be awarded in this section.

A - Chandelle
N - Overshoot
R - Flight in triangular circuit
S - Flight in rectangular circuit
T - Flight in a straight line at constant height
W - Wingover

Judges should also take into account the overall appeal and presentation of the chosen options awarding higher marks in this section for more ambitious manoeuvres. For example, a Cuban Eight should be rewarded in "Choice of Options" with higher marks than a half version of this manoeuvre, a Lazy Eight more than a Wingover, a Sideslip more than an Overshoot, a Touch and Go because it is in effect two manoeuvres.

It is expected that most competitors should score quite highly in this section provide appropriate flying options are chosen. A default mark would be 7 leaving a possible additional 3 marks for manoeuvres of the type listed above. Maximum marks should be awarded to those competitors who best demonstrate all aspects of the prototype's performance envelope.
Note:
1. Any model aircraft that flies **a manœuvre** with **two or more** wheels down, whereas the prototype actually featured retractable landing gear, the ~~total flight~~ score shall be reduced by **two points on that manœuvre, if one wheel is down the score shall be reduced by one point or if one or more wheels are only sagging during manœuvre, the score shall be reduced with one half or one point depending on the seriousness of the sagging .**
2. If the pilot of the prototype is visible from the front or from the side during flight, a dummy pilot of scale size and shape shall be equally visible during flight in the model aircraft. If such a pilot is not fitted, the total flight score shall be reduced by 10%.

Reason: Removing the "non-aerobatic" as a special group and rectifies the scoring for gear trouble.

ii) United Kingdom - Amend as follows:

Speed of the model aircraft K = 4
This should be ~~an~~ **a subjective** assessment of the scale speed of the model aircraft, ~~calculated from~~ **based on** the speed of the full size aircraft (as indicated on the score sheet and documentation) ~~divided by the scale of the model aircraft~~ **judged as if it were performing a public flying display**. Model aircraft invariably fly faster than scale speed and marks should be deducted accordingly. For example, a model aircraft that appears to be flying at twice scale speed should score no more than half marks, a model aircraft flying at three times scale speed, or faster, should score zero.

Reason: Clarification to emphasis that scale speed is a subjective assessment by the flight judges.

iii) Subcommittee - Amend as follows:

Speed of the model aircraft K = 4
This should be ~~an~~ **a subjective** assessment of the scale speed of the model aircraft, ~~calculated from~~ **based on** the speed of the full size aircraft **as if it were performing a public flying display** (as indicated on the score sheet and documentation~~) divided by the scale of the model aircraft~~. Model aircraft invariably fly faster than scale speed and marks should be deducted accordingly. For example, a model aircraft that appears to be flying at twice scale speed should score no more than half marks, a model aircraft flying at three times scale speed, or faster, should score zero.

Reason: This is an easier understandable and better definition of scale speed.

iv) Norway – Amend as follows:

"Realism in Flight" should be discussed by all judges after completion of the flight and they should attempt to arrive at an agreed score for this item.

Reason: To ensure just and fair judging during the contest, the judges needs to be able to discuss between flights.

v) USA – Add the following sentence at the beginning of the paragraph:

<**This should be discussed by all judges after completion of the flight and they should attempt to arrive at an agreed score for each item>.**

Reason: Judges in static, both F4B and F4C talk during the entire judging process. Judges in F4B flight talk to each other during and after their flights also. Unless there is a problem such as a (ZERO) missed maneuver, or score sheet problem, F4C Flight judges talk less than any of the other areas individually or combined.
This discussion time rarely holds up any of the contest proceedings unless there is a problem and this would happen then anyway. We could say to delete this interaction and rush the contestants up to the flight line, but in the interest of safety, and fairness to everyone, the time used for discussion of Realism of Flight is a mute point. If there are problems with the flight, missed maneuvers, -0- to check on, flying behind the safety line, then the time used would occur anyway.
At the last 5 World Championships the Chief Judge has brought out the opinions of each judge serving on the panel during the Realism of Flight segment. This discussion between ALL of the judges along with the Chief Judge, helps to recognize any prejudice on any of the serving judges, either to countries or individuals. Bringing all of the judges opinions out makes a ore equal and fairer judging team overall for the contestants, contest administration, as well as the FAI. At European and World Championships, this point has been witnessed by jury members and officials alike.

c) 6C.3.7. Optional Demonstrations

i) Subcommittee - Change as follows:

<The selection of optional manoeuvres ~~is dependent upon~~ **should demonstrate** the **fullest possible** capabilities of the aircraft subject type modelled. ~~There are two categories, namely Aerobatics and Non aerobatics, which are defined as follows:~~
~~Aerobatics – Aircraft designed for aerobatic flight, examples of which are military fighters and fighter bombers, training aircraft, purpose built aerobatic aircraft and some racing aircraft.~~
~~Non aerobatics – Aircraft designed with limited manoeuvrability where the original prototypes of which were restricted by the manufacturer or licensing government agency. Examples are touring aircraft, passenger and cargo aircraft and heavy military transports and bombers.~~
The selection of manoeuvres and the order in which they are to be flown must be shown on the score sheet and given to the judges before each flight. This order must **be** adhered to and any manoeuvre flown out of sequence will score ZERO.
The competitor must be prepared, if required by the judges, to give evidence that the options selected are within the normal capabilities of the aircraft subject type modelled.
~~The following options may only be selected by Non aerobatic aircraft~~: -
Whilst a competitor may choose any of the optional manoeuvres listed, the following six manoeuvres are intended for aircraft for which the

original prototype had little or no aerobatic capability. (See 6C.3.6.11. Realism in Flight / Choice of manoeuvres)

A - Chandelle
N - Overshoot
R - Flight in triangular circuit
S - Flight in rectangular circuit
T - Flight in a straight line at constant height
W - Wingover

Reason: The removal of the non-aerobatic definition makes this rewrite necessary.

ii) Subcommittee - Amend as follows:

A. Chandelle:
From a straight and level flight the model aircraft passes the judges and then performs a 1800 climbing turn in a direction away from the judges, resuming straight and level flight on the opposite heading. The rate of climb should be commensurate with that of the prototype~~. This manoeuvre is for non-aerobatic prototypes only.~~

N Overshoot:
The model aircraft commences by descending from base leg, which may be either curved or straight as required by the pilot. The turn is continued through 90 degrees onto a higher than normal landing approach on low throttle, using flaps if applicable. On reaching the centre of the landing area at a height of approximately 3 metres, power is applied to check the descent. After normal flying speed and attitude are attained the model aircraft climbs straight ahead. The aim of the manoeuvre is to simulate an aborted landing due to a higher than normal landing approach. ~~This option may only be nominated for non-aerobatic aircraft.~~

O Side Slip:
The model aircraft commences the manoeuvre in level flight by reducing power on base leg, and then turns onto a higher than normal final approach that is parallel with the judges' line. As the model aircraft enters the turn it starts a Sideslip by the application of opposite rudder to the direction of turn, achieving a yaw of at least 20º off track. A marked loss of height must be apparent whilst maintaining final approach speed. The aim of the Sideslip, if continued, would be to effect a landing in front of the judges. Before reaching the judges' position however, the Sideslip is corrected, normal flight is resumed and the model aircraft carries out an overshoot from below 5 metres before climbing away. The purpose of this manoeuvre is to demonstrate a marked loss of height on final approach without an excessive build up of speed or the use of flap~~. This manoeuvre may be nominated by all types of model aircraft.~~

R. Flight in Triangular Circuit:
The model aircraft approaches in a straight and level flight to a point directly in front of the judges. It then turns away to track 60º away from the judges' line. It then flies straight and level for a minimum of 150 metres, turns to track parallel with the judges' line, flies a further minimum of 150 metres,

then turns to track towards the judges and flies a further minimum of 150 metres to a position above the centre of the landing area, which completes an equilateral triangle (i.e. a triangle with sides of equal length and angles of 60°), before making a final turn to intercept the original entry track~~. This option may only be nominated for non aerobatic aircraft.~~

S Flight in Rectangular Circuit:

The model aircraft approaches in straight level flight to a point directly in front of the judges. It then continues for a minimum of 75 metres before it turns away to track 90º from the judges' line and flies straight and level for a minimum of 150 metres before turning to track parallel with the judges' line for a further minimum of 75 metres. It then turns to track directly towards the judges for a minimum of 150 metres, to a point in front of the judges, before completing a final turn to intercept the original entry track. This manoeuvre describes a rectangle over the ground~~. This option may only be nominated for non aerobatic aircraft.~~

T Flight in a Straight Line at Constant Height (Maximum 6 m):

Model aircraft approaches in straight flight at a constant height not exceeding 6 metres for a minimum distance of 100 metres, then climbs away. This is in effect a low flypast. ~~and may only be nominated for non aerobatic prototypes.~~

V Lazy Eight

The model aircraft approaches in straight and level flight on a line parallel with the Judges' line. After passing the judges' position a smooth climbing turn is commenced away from the judges. At the apex of the turn the bank should be at least 60º. The nose of the model aircraft then lowers and the bank comes off at the same rate as it went on. The turn is continued beyond 180º to cross in front of the judges with wings level before intercepting and turning on to the reciprocal of the original approach track. This completes half of the figure, which is then repeated in the opposite sense to give the full manoeuvre. Intercepting the original approach track parallel with the judge's line completes the Lazy Eight. A low powered aircraft would be expected to execute a shallow dive at full throttle in order to pick up speed before commencing the manoeuvre. The figure should be symmetrical each side of the judges' position.

This manoeuvre is essentially two Wingovers in opposite directions. ~~, and should be capable of being flown by most aircraft.~~

W Wingover.

The model aircraft approaches in straight and level flight on a line parallel with the Judges' line. After passing the judges' position a smooth climbing turn is commenced away from the judges. At the apex of the turn the bank should be at least 60º. The nose of the model aircraft then lowers and the bank comes off at the same rate as it went on. The turn is continued through 180º to recover straight and level flight at the same height and on a heading opposite to that of the entry.

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

~~This option may only be nominated for non aerobatic aircraft.~~

Reason: We have removed the difference between normal and non-aerobatic and have to remove this sentence from these manoeuvres.

NEW ANNEX 6E – COMPETITOR'S DECLARATION FORM

a) Introduce the Competitor's Declaration Form – Subcommittee

The form is at *ANNEX 13*

Reason: This declaration has always been a requirement, but no form has been specified. This problem rectifies the problem.

NEW ANNEX 6F – CLASS F4C - NEW FLIGHT AND STATIC SCORE SHEETS

a) ANNEX 6F – Subcommittee and Argentina

Add a new Annex 6F with flight and static score sheets.
The files are at *ANNEX 14*

Reason: Unify the score sheets (static and flight) in the international contests.

NEW ANNEX 6G - SCALE WORLD CUP RULES

a) Establish the Scale World Cup - Subcommittee

The rules (Annex 6G) are at *ANNEX 15.*

Reason: To start World Cup rules in both Scale classes and try to increase participation in the international part of the Scale Classes. The rules are based on the F2 rules and modified to fit the Scale Classes.

6.6. CLASS F4F - PEANUT FORMULA INDOOR FREE FLIGHT SCALE MODELS (Provisional Rules)

a) 6.6.4. Flying Section – United Kingdom. Amend the first two sentences:

~~Each contestant is allowed 4 official flights, with two attempts per flight (an attempt is less than 10 seconds duration).~~

Each competitor is allowed up to 9 official flights. An official flight is counted each time the model is released for a declared flight.
~~The times of the longest 2 flights will be aggregated to form the contestant's flight score.~~ **The times of the longest 2 flights (each rounded down to the nearest second) will be aggregated to form the competitor's flight score.**

Reason: The concept of "attempts" has been abolished from all other Scale classes and the F4F rules need similar updating to incorporate this now accepted feature. The rounding down of the aggregate flight score is a needed clarification to provide conformity.

b) 6.6.5. Appearance Score – United Kingdom. Amend paragraphs as follows:

d) Flying surfaces:
All double ~~covered~~ **surface** 4
Double ~~covered~~ **surface** wing but single ~~covered~~ **surface** tail.. 2
~~Foam..... 2~~
Single surface..... 0
Note: If however the prototype itself was single ~~covered~~ **surface**, then the model should be likewise single ~~covered~~ **surface** and be awarded the full 4 points.

e) Surface Finish:
~~Painted~~ **Authentic** colour 5 - 9
Unpainted colour tissue 4
Unpainted condenser paper 3
Clear Microfilm 0

i) Bonus Points for complexity:
Exposed engine ~~0 5~~ 1
~~Flying wing 8~~
~~Other than rectangular fuselage 5~~
~~More than one functional motor on different thrust lines 5~~

Reason: Clarification. Experience has shown these changes allow a more practical assessment**.**

VOLUME F5
R.C. ELECTRIC POWERED MODEL AIRCRAFT

SECTION 4C - MODEL AIRCRAFT - F5, ELECTRIC POWERED

Part Five - Technical Regulations for Radio Controlled Contests

a) Reorganize the Volume F5 as follows - Subcommittee:

5.5 Electric Powered Model aircraft
5.5.1. General Rules
5.5.2. Contest Rules
5.5.3. F5A, Aerobatics
5.5.4 F5B, Motor Gliders (WCH class)
5.5.5 F5C, Helicopters (Provisional Rules)
5.5.6 F5D, Pylon (WCH class)
5.5.7 F5E, Solar Model Aircraft (Provisional Rules proposed for 2005)
5.5.8 F5F, 10 Cell Motor Gliders (Provisional Rules proposed for 2005 as WCH class for juniors)
5.5.9 F5G, Big Gliders (Provisional Rules proposed for 2005)
Annex 5F - F5C Manœuvre Description
Annex 5F3 - F5C Judges' Guide
Annex 5H - Rules for World Cup Events

Reason: In consequence with the current proposals.

5.5. CATEGORY F5 – Radio Controlled Electric Powered Model Aircraft

a) 5.5.1.3. General Characteristics of RC Electric Powered Model Aircraft F5

i) Subcommittee – Amend as follows in the first paragraph:

The power source shall consist of ~~NiCd or NiMH cells only,~~ **any kind of rechargeable batteries (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.
Battery specifications in F5B, F5D and F5F are written in the special rules of this classes and could be changed in every odd year.

Reason: To develop the rules of the various categories in harmony with the technical progress.

ii) Finland – Amend as follows the first sentence of the first paragraph:

<The power source shall consist of only NiCd, NiMH or Lipoly-cells, the maximum no load battery voltage must not exceed 50V>.

Reason: 1) Lipoly: Lithium technology has matured to the point of safety that they are being sold to consumers including modellers, in form of Lithium-polymer cells. Lithium-polymer has already revolutionized power model sports and have set power to weight ratio of electric models close to that of models using combustion based powerplants. All the power model classes can

be succesfully flown with Li-polymer cells, and many totally new aspects of electric flying await us. It is already allowed by FAI Sporting Code to fly non-F5 classes using Li-polymer cells, where electric powerplant is permitted by the rules. It is absurd that in actual electric flying classes the use of Li-polymer cells is not permitted. Please note that this proposal is directed to general section of volume F5. Proposal does not suggest that all F5-subclasses should adopt Lipoly-cells, but that it should be made possible by general section. The spirit of proposal is, that each F5-subclass should consider whether Lipoly-cells can be accepted or not and define separate battery rules, if deemed necessary. It is not in the interest of anyone that all F5-classes are made obsolete by their general definition.
2) 50V: Power/weight ratio gap between electric and combustion power would be made smaller. Increasing voltage improves the efficiency of electrical/mechanical energy conversion. Improvement in electric model performance would increase the attractivity of electric power. There are no safety conflicts with such change. International standards (IEC, European Low Voltage Directive 73/23/EEC etc.) dictate 50VAC and 75VDC as highest safe input/output voltages for consumer use. 42V limitation decends from old VDE ruling. VDE (Verein Deutscher Elektrotechniker) lost it´s position as main European regulatory organ as a result of second World War. Although 75VDC limitation would be most favourable and could be argued since our batteries provide decent current. However since electronic speed controller´s output voltage can be considered as alternating current, there is a worst case scenario of legal action against ESC producers specifying their controllers above 50V input voltages.

5.5.3 CLASS F5A - ELECTRIC POWERED AEROBATICS MODEL AIRCRAFT

a) 5.5.3.1 General – Subcommittee. Amend as follows:

<These rules for contests with electric powered aerobatic model aircraft will use the advantages and peculiarities of the electric powered propulsion. Those contests could take place near settlements p.e. on sport fields and recreation areas ~~and would be easier to visit by spectators.~~
General rules 5.5.1 and Contest rules 5.5.2 are applicable except otherwise stated>.

Reason: Necessary modifications after four years experiences.

b) 5.5.3.2 Organisation of F5A Contests – Subcommittee. Amend as follows:

b) Number of Flights
Competitors will have two preliminary flights with the same schedule. The top ten on the ranking list after the two preliminary rounds, will fly with a different schedule two final rounds combined with music.

d) Course Layout
The course layout depends on the size of contest site and consists of a box of ~~120 x 120 x 120~~ **150 x 150 x 150** meter maximum and ~~80 x 80 x 80~~ **100 x 100 x 100** meter minimum.
f) Execution Time
The flight must be completed in ~~five (5)~~ **6 minutes** including the 2 minute starting period. If the model aircraft lands after ~~5~~ **6** minutes, 50 points will be deducted from the score. The same penalty is given, if the music is longer than ~~5~~ **6** minutes.

Reason: Necessary modifications after four years experiences.

c) 5.5.3.3 Schedule of manoeuvres – Subcommittee. Amend as follows:

a) Composition of Schedule
Each competitor chooses for his preliminary flights a maximum of ~~7~~ **8** and for the final flight a maximum of ~~10~~ **12** manoeuvres out of the catalogue (5.5.3.4).

Reason: Necessary modifications after four years experiences.

d) 5.5.3.4 Judging – Subcommittee. Amend as follows:

b) Marking system

Each flight must be awarded by each judge with marks between 0 and 10 as follows:

Principles of judging	**Preliminary flights**		Final flights	
	K max.	Max. points	K max.	Max. points
Precision of each manoeuvre, perfection	25 (max. 8 manoeuvres)	250	50 (max. 12 manoeuvres)	500
Over all impression (incl. turn-around, take-off and landing) display of manoeuvres landing in – or outside of the landing field	~~15~~ **25** (15 without landing gear)	~~**150 (100)**~~ 250 (15)	~~**15**~~ 25 (~~**10**~~ 15 without landing gear)	250 (150)
~~Attractiveness Originality~~	~~10~~	~~100~~	~~10~~	~~100~~
Harmony, rhythm, and gracefulness			25	250
TOTAL	50	500	100	1’000

Reason: Necessary Modifications after four years experiences.

e) 5.5.3.6. Manoeuvres – Subcommittee. Amend as follows:

Up-to-date the table.
The new table is at *ANNEX 16.*

Reason: Modifications after four years experiences.

f) 5.5.3.7. F5A Aerobatic Box – Subcommittee

New drawing (*ANNEX 17*)

Reason: Modifications after four years experiences.

5.5.4. CLASS F5B ELECTRIC POWERED MOTOR GLIDERS

a) 5.5.4.1. Definition

i) Subcommittee – Amend as follows:

a) Definition: This contest is a multi-task event for RC Electric Powered Motor Gliders including two tasks.
1) Distance
2) Duration and landing
These two tasks are executed without interruption in one flight. A minimum of two **- and a maximum of 8 flights** must be flown. **If more than 3 flights were flown, the lowest result of each competitor will be discarded.**

b) Model Aircraft specifications:
Minimum weight .....2000 g
~~Maximum battery weight 1100 g~~
Type of battery..... NiCd or NiMH
Maximum size of cells.....1/1 SubC
Maximum number of cells ~~30~~ ...18
Minimum surface.....27 dm2
Maximum surface loading 75 g/dm2

Definition of SubC size:
Maximum diameter: 24 mm
Maximum length (including pole): 45 mm

Reason: Clarification of scoring, reducing power and simplify battery checking.

ii) Switzerland – Amend as follows:

b) Model Aircraft specifications:
Minimum weight .....~~2000 g~~ **1.900 g**
~~Maximum battery weight 1100 g~~
Maximum size of cells.....1/1 SubC
Maximum number of cells ~~30~~ ...**16**
Minimum surface.....27 dm2
Maximum surface loading 75 g/dm2
Reason: Clear definition of the power source and to reduce weight and power of the electric powered gliders.

iii) Germany – Amend as follows:

b) Model Aircraft specifications:
Maximum number of cells~~: 30~~ **18**
Maximum diameter of cells: 24 mm
Maximum height of cells (including + pole): 45 mm
~~Maximum battery weight: 1100 g~~

Reason: Sub C cells are available in most country in huge amounts. Even selected and pushed cells are available for everybody. When fixing the size and number of cells the same motor and controller can be used in a competive way much longer than nowadays. Like the class F5F shows, we must made more restrictions to the cells to gain more pilots for F5B. The dimensions of the cells mentioned above are a little bigger than a sub C cell (dia: 23mm, length: 43). There are also cells available which are bigger than sub C but they are named as sub C. So this cells f.e. GP3300 can also be used. By deleting the weight limit some cells must be no more longer selected by weight, to use the maximum number of cells in a battery pack.

iv) France – Amend as follows:

b) Model aircraft specifications:
Minimum weight excluding battery : 900 Gram

Battery types/sizes/number of cells allowed : max 18 x "sub C" *

*** "sub C" has to be specified**

Reason: Equality of opportunity and security. **Max 18 SubC** : There are a large variety of possible cells and cell combinations in the current 1100gm maximum, and these are in rapid evolution. This creates a race for the best combination, which is not accessible to all competitors and leads to frequent changes in the plane, motors and controllers required. In addition the weight selection from a very large pool of cells can lead to an increased number of cells, thus disadvantaging the poorer or remote competitor and newcomer.

Future development in performance of special types and sizes of cells will make matters worse. **900gr Minimum model weight**: This should be defined, like previously, as the purpose is to ensure structural integrity of the models. This modification will not allow to save weight on the model structure, to respect the maximum surface loading of 75gr/dm², especially if 18 "SubC" could weight more than 1100grs (900 gram is the result of 2000 - 1100, wich fit perfectly with the current FAI models).

v) France – Amend as follows:

Model aircraft specifications:
Minimum area : 26.66dm2
Battery types/sizes/number of cells allowed : max 14 x "sub C" *

*** "sub C" has to be specified**

Reason: Security. The development of the cells since 1988 makes an 1100gram battery more than twice as powerful today as when the class was defined. The consequence is that the speed and the stress on the models are becoming very dangerous and difficult to handle. The choice of 14 sub C will give a " reasonable" power not far from the original one. A fixed number of cells, a defined type and size, limit the "professional" race and improve the equality of opportunity between competitors. A minimum model weight of 900 gram will ensure structural integrity. A minimum area of 26.66dm2 avoids smaller models less visible. 14 sub C will also give a battery weight of just over 850gms, which in a plane of minimum weight 900gms, and minimum area 26.66dm2 (current F5B models) will be a good balance much safer and easier to handle especially for new comer. These specifications have a good compatibility with existing equipment and are far from any borderline, in consequence we will not be pushed to modify the rules again in emergency and as often than previously.

vi) Belgium – Amend as follows:

Max number of cells : 18 SubC or 24 4/5 SubC
Weight of battery : free
Weight of model : free
Min weight of model without battery : 900 gr.
Min fai surface of model : 26.66 dm2

Reason: Avoid exotic cells or selection of their weight. Lower current possible. Possibility to use old material with good performances. The model will not be too small or too light with those restrictive specifications

vii) Italy – Amend paragraph c) as follows:

5.5.4.1.c) <Starting order: the starting order for the first round will be established by random draw~~. For the next rounds the starting order will follow~~

~~the reversed ranking list.~~ **and it will be divided into three groups (1, 2, 3). For the second round the groups order will be 2, 3, 1. For the third round the groups order will be 3, 1, 2. For the fourth round the groups order of the first round will be used and so on.**
Frequency will not follow frequency and team member will not follow team members>.

Reason: With this proposal, organizers can easily manage frequency problems because they define the starting order only once. Moreover, if competition goes on for more than one day, this method assures that all pilots fly in different moments of the day.

b) 5.5.4.2 Contest Site Layout – Subcommittee.

c) Drawing *(ANNEX 18)*

Reason: New drawing.

c) 5.5.4.5. Distance Task

i) Italy - Modify paragraph a) as follows:

<This task must be completed within ~~200~~ **300 seconds** from the moment the model aircraft is handlaunched. Time of release is to be taken by one timekeeper. This task must be carried out with at least two climbs with motor running, however no more than ~~10~~ **15 climbs** with the motor running are allowed. The competitor has to decide how much time he will use for each climb (motor run) and how much for gliding>.

Reason: Because of the high and unforeseen increase of the power-weight ratio of the NiCd and NiMH cells, the available power during a round is about 2000 W, instead of about 1000 W measured during the 2000 F5B World Championships. This leads to safety problems due to high model speed and high temperatures that reduce the material mechanical characteristics.
To keep a check on these problems, the only solution is to increase the number of seconds in which this power is used.
For this reason we propose a 300 seconds distance task: adding 100 seconds to the distance task, the competitors have to reduce the absorbed current to keep the sufficient endurance to carry out the task.
In consequence the maximum number of climbs will be proportionally increased to fifteen.

ii) Italy - Modify paragraph 5.5.4.5 g) as follows:

<Every completed leg will be awarded ~~10~~ **7** points. When the model aircraft fails to complete at least one leg after either of the first two climbs, 30 points will be deducted from the score of this task>.

Reason: Once changed the distance task time to 300 seconds as for the Italian proposal, the distance task score for each leg must be reduced to 7 point to keep a correct proportion.

5.5.6 CLASS F5D ELECTRIC POWERED PYLON RACING MODEL AIRCRAFT

a) 5.5.6. F5D Rules - Subcommittee

Harmonize the rules of the category.
Rules are at *ANNEX 19.*

Reason: Clarification.

b) 5.5.6.2 F5D Technical Specifications - Subcommittee

a) Model Aircraft
Minimum weight.....1'000 g
Maximum surface loading.....65 g/dm2

b) Battery
~~**Maximum weight of battery.....425 g**~~
Number of cells.....7
Type of battery.....NiCd or NiMH
Size of cells.....1/1 SubC
Definition of SubC size:
Maximum diameter: 24 mm
Maximum length (including pole): 45 mm

Reason: Same aim to define battery specifications as in F5B and F5F.

c) 5.5.6.4. F5D Pylon Racing Course Layout – Subcommittee

Clear some part of the drawing (*ANNEX 20*)

Reason: Too many parts of the current rules that are not clear enough.

d) 5.5.6.6.3.b. Scoring – France. Amend as follows:

b) <if the competitor fails to complete his flight or is disqualified the score shall be **200>.**

Reason: 1. Since 1984 the speed has increased twice at least and now the penality 300 is too great versus the score of an average flight. 2. To be an accordance with F3D where the score for a disqualification is 200.

5.5.7 F5E Solar Model Aircraft (Provisional Rules)

a) Subcommittee – Define the rules as follows:

Same rules as F5B, except:
5.5.7.1 Model Aircraft specifications:

Power source.....solar cells only
Maximum surface.....75 dm2
Maximum voltage.....42 V

5.5.7.2 Distance Task
The Distance Task must be completed within 600 seconds from the moment the model aircraft is hand launched.

Reason: Complete new to establish as provisional rule.

5.5.8 CLASS F5F - 10 Cell Motor Gliders (Provisional Rules)

a) Subcommittee – Define the rules as follows:

Same rules as F5B except:
Minimum weight (ready to fly) 1500g
Minimum surface area 36 dm²
Maximum number of cells 10
Size of cells.....1/1 SubC
~~Maximum mass of power source 600g~~
Type of battery..... NiCd or NiMH
Maximum surface loading 75 g/dm2

Definition of SubC size:
Maximum diameter: 24 mm
Maximum length (including pole): 45 mm

Reason: Same aim to define battery specifications as in F5B and F5D.

5.5.9 CLASS F5G Big Electric Powered Motor Glider (Provisional Rules)

a) Subcommittee – Define the rules as follows:

5.5.9.1 Definition

This contest is a duration and landing event for electric powered semi scale gliders.

5.5.9.2 Model aircraft specifications:

Minimum wingspan.....3.75 m
Maximum weight.....7.5 kg

5.5.9.3 Duration and landing task

a) The duration task consists of 600 seconds gliding time and 60 seconds additional (free) motor run time.
b) The duration task starts from the moment the model aircraft is hand launched or started by a rubber catapult and ends with the first touch of the ground.
c) If more then 60 seconds motor run time are used, one point will be deducted for each full second flown in excess of 600 seconds.
d) The competitor has to decide how much and how often he will switch on the motor.
e) Gliding time is cumulative and one point will be awarded for each full second the model aircraft is gliding.
f) Additional points will be awarded for landing; when the model aircraft first touches the ground in one of the three concentric landing circles as follows:
30 m diameter circle.....10 points
20 m diameter circle.....20 points
10 m diameter circle.....30 points
h) No additional points will be awarded if the landing occurs more than 630 seconds after beginning of this task.

Reason: Complete new to establish as provisional rule.

VOLUME SM – SPACE MODELS

Part Two – Space Models Specifications

a) 2.4. Construction Requirements – Slovakia. Add the following sentence to paragraph 2.4.3.:

<In case of class S1, the smallest body diameter must not be less than 18 mm for at least of 75% of the overall length>.

Reason: There are speculative constructions where the second stage is as thin as pencil, which increases the risk of free fall of that model and endanger participants of the competition.

b) 2.4.4. Minimum dimensions – Slovakia. Change minimum dimensions of subclass A:

<Class A: minimum diameter mm 40; minimum overall length 500 mm>.

Reason: The last change increased the impulse of the engine for 100% and the change of measures was very small. Currently we are having great results. The competitors have to go very far for their models and they have to cross streets, highways, rivers and railways. It is very dangerous. It is necessary to keep bigger measures and lower the impulse of the engine.

Part Three – Space Model Engine Standards

a) 3.1. Description – Subcommittee. Add in paragraph 3.1.2. at the beginning of the table:

Event	**Class**	**Total Impulse**	
A/2		**0-1.25 Ns**	**Beginners**

Add at the and of the table:

<**Note: Models of A/2 event class shall have other technical specifications as A class models, but shall be used mainly for teaching and practicing of beginners."**

Reason: It is necessary to have one more event class with smallest and cheapest engines convenient to start spacemodelling activity at elementary schools with beginners. Such models are flying not too far which makes work with goups of beginners safer. Such class was tested and flown in several countries and was welcomed both by teachers and pupils. It is necessary to put it in Space model engine standards to unify this activity for youngsters in all countries.

Part Four – General Rules for International Contests

a) 4.1. World Championship events for Space Models – Slovakia. Change as follows:

1. W.Ch. for Senior classes:
a) altitude models S1B;
b) parachute duration models S3A;
c) boost glider duration models S4A;
d) scale altitude models S5C;
e) streamer duration models S6A;
f) scale S7;
g) rocket glider duration and precision landing models S8E/P;

h) gyrocopter duration models S9A.

Reason: As for paragraph 2.4.4. The last change increased the impulse of the engine for 100 % and the change of measures was very small. Currently we are having great results. The competitors have to go very far for thier models and they have to cross streets, rivers and railways. It is very dangerous. It is necessary to keep bigger measures and lower the impulse of the engine. The proposal of suggested changes is supposed to help to unify the rules for juniors and seniors and especially to improve safety. The difference between juniors and seniors is causing discrimination in the World Cup.

b) 4.7. Radio Controlled Space Models – Slovakia. Add a new sub-paragraph 4.7.4.

<The competitor has to have at least one set of crystals>.

Reason: Clarification. If the competitors have only one set of crystals, there can be a problem with dividing into groups.

PART ELEVEN – ROCKET GLIDER DURATION COMPETITION (CLASS S8)

a) 11.3. Disqualifications – Slovenia. Add a new paragraph 11.3.6. as follows:

11.3.6. Any landing which is larger than 20 degrees from the horizontal is disqualified.

Reason: Models became very sharp and landing is too aggressive in the last years. Models with sharp nose made from carbon can hurt people (timekeepers, helpers and competitors are near of landing area).

b) 11.7.2. Specifications – Slovenia. Change the first paragraph as follows:

<The competition has only one subclass determined for models wich comply with subclass S8E, except the engine, which is limited from 10,01 to 20,00Ns. Radius of the nose is minimum 5 mm in all directions.
(see template in *ANNEX 21)>*

Reason: Models became very sharp and landing is too aggressive in the last years. Models with sharp nose made from carbon can hurt people (timekeepers, helpers and competitors are near of landing area).

c) 11.7.5. Organisation of Starts

i) Slovenia - Change the paragraph 11.7.5.2. as follows:

<Each group is entitled to three minutes of preparation time before the starter gives the order to count off the working time>.

Reason: 12 minutes is not enough time for start 8 pilots in a group and return the transmitters without running. We can reduce the preparing time to 3 minutes and extend the working time to 14 minutes. The competiton will not last more time than now.

ii) USA – Change the paragraph 11.7.5.3. as follows:

Each group of competitors has 12 minutes of working time to ~~collect transmitters from the official~~ perform an official flight ~~and return the transmitters to the official~~. In the case of the working time being exceeded ~~(a delay in returning the transmitter to the official~~) **(a competitor's model still being in the air)** the competitor will be disqualified for the round.
The first two minutes immediately after the working time are for the return of transmitters to the official. In the case of the transmitter not being returned prior to the end of these two minutes, the competitor will be disqualified for the round. At the discretion of the Contest Director the return of transmitters can be during the first two minutes of preparation time. The collection of transmitters from the official shall occur during the final two minutes of preparation time.

Reason: The preparation time and time between flight groups can be used to return and collect the transmitters thereby saving the entire working time for the launching and flying of the models. This reduces the amount of running around the flying area and the unsafe conditions created by returning and collecting transmitters during the working time.

iii) Slovakia - Add the following sentence at the end of paragraph 11.7.5.2.:

<to collect transmitters>

Reason: For safety reason, it is the last chance of common control of interruption. Picking up the transmitters during the working time doesn't give that chance anymore.

iv) Slovenia – Change the paragraph 11.7.5.3. as follows:

<Each group of competitors has 14 minutes of working time to collect transmitters from the official to perform an official flight and return the transmitters to the official. In the case of the working time being exceeded (a delay in returning the transmitter to the official), the competitor will be disqualified for the round>.

Note:
In case of any unforeseen reason outside the competitor's control in the final flight, all pilots in the final must repeat the flight in a new working time. In this case, the first final flight is not official. New preparing time for the final flight must be at least 15 minutes after the end of the final flight before.

Reason: 12 minutes is not enough time for start 8 pilots in a group and return the transmitters without running. We can reduce the preparing time to 3 minutes and extend the working time to 14 minutes. The competition will not last more time than now. Repeat the final flight with all competitors is necessary if we want to get the real results of flying skills of the pilots. In 10 minutes weather can completely change, landing with group is more difficult than landing alone.

v) Slovakia - Delete the following words in the first sentence of paragraph 11.7.5.3.:

~~<to collect transmitters>.~~

Reason: For safety reason, it is the last chance of common control of interruption. Picking up the transmitters during the working time doesn't give that chance anymore.

ANNEX 1 – GUIDE FOR JUDGING SCALE SPACE MODELS

a) USA – Amend the last paragraph <Flight Characteristics> as follows:

- **Remove <gliding recovery> from the Judging Considerations part of the Special Effects Sub-Category;**
- **Add <Gliding Recovery> as a new Sub-Category under Flight Characteristics;**
- **Add the following Judging Considerations for Gliding Recovery: <Did the model recover using a stable gliding flight path?>;**
- **Add <(0-60)_____> under Points for Gliding Recovery;**
- **Remove <250> from <Category Total (250 Max.)> and replace with <310>.**

Reason: The current Sub-categories do not recognize the difficulty of designing and flying a "Space Shuttle" type of model. In order to encourage the entry of this most telegenic type of model appropriate points must be allowed for this model to be competitive with the other model types.

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8) WORLD AND CONTINENTAL CHAMPIONSHIPS.

This is the up-to-date schedule for World and European Championships:

2004 World Championships:
F1A, F1B, F1J/F1P Juniors: France (August, 8-14)
F1D Seniors and Juniors: Romania (October, 4-9)
F2A, F2B, F2C, F2D Seniors and Juniors: USA (July, 3-11)
F3J Seniors and Juniors: Canada (August, 2-8)
F4B and F4C: Poland (July 23 - August 1)
F5B and F5D: United Kingdom (August, 9-15)
Space Models Seniors and Juniors: Poland (September, 3-11)

2004 Continental Championships
F1A, F1B, F1C: Romania (July 25 – August 1)
F1E Seniors and Juniors: Czech Republic (September, 10-13)
F3A: Portugal (August, 19-29)
F3B: no event
F3C: Germany (August 28 – September 5)
F3D: no event
F3A Asian-Oceanic: Australia (July, 15-24)

WORLD CHAMPIONSHIPS

YEAR	WORLD CHAMPIONSHIPS	BIDS FROM	AWARDED TO
2005	**F1A, F1B, F1C**		**ARGENTINA**
	F1E (Seniors and Juniors)		**SLOVAKIA**
	F3A		**FRANCE**
	F3B	**Finland (firm)**	
	F3C		**SPAIN** (Poland withdrew its bid in favour of Spain)
	F3D		**FRANCE**

YEAR	WORLD CHAMPIONSHIPS	BIDS FROM	AWARDED TO
2006	**F1A, F1B, F1P Juniors**	**Romania (firm)**	
	F1D (Seniors and Juniors)	**Offers invited**	
	F2A, F2B, F2C, F2D (Seniors and Juniors)	**China (firm) Spain (firm) Argentina**	

		(tentative)	
	F3J (Seniors and Juniors)		**SLOVAKIA** (The Slovak delegate asked for a vote earlier than the two-year rule. The President asked if a country planned to host this event. No one objected, then the 2003 Plenary Meeting unanimously awarded this Championship to Slovakia)
	F4B, F4C	**Sweden (firm)** **South Africa (firm)**	
	F5B, F5D	**Romania (firm)**	
	SPACE MODELS **(Seniors and Juniors)**	**Offers invited**	

YEAR	WORLD CHAMPIONSHIPS	BIDS FROM	AWARDED TO
2007	**F1A, F1B, F1C**	**Offers invited**	
	F1E (Seniors and Juniors)	**Offers invited**	
	F3A	**Offers invited**	
	F3B	**Offers invited**	
	F3C	**Poland (firm)** **USA (tentative)**	
	F3D	**Offers invited**	

YEAR	WORLD CHAMPIONSHIPS	BIDS FROM	AWARDED TO
2008	**F1A, F1B, F1P Juniors**	**Offers invited**	
	F1D (Seniors and Juniors)	**Offers invited**	
	F2A, F2B, F2C, F2D **(Seniors and Juniors)**	**France (firm)**	
	F3J (Seniors and Juniors)	**South Africa (firm)**	
	F4B, F4C	**Offers invited**	
	F5B, F5D	**Offers invited**	
	SPACE MODELS **(Seniors and Juniors)**	**Offers invited**	

CONTINENTAL CHAMPIONSHIPS

YEAR	CONTINENTAL CHAMPIONSHIPS	BIDS FROM	AWARDED TO
2005	F1A, F1B, F1P Juniors		ROMANIA
	F1D (Seniors and Juniors)	France (tentative) (Germany has withdrawn its bid)	
	F2A, F2B, F2C, F2D (Seniors and Juniors)	Offers invited (At the 2003 November Bureau Meeting, Czech Republic has withdrawn from organizing the event)	
	F3J (Seniors and Juniors)		CROATIA
	F4B, F4C		PORTUGAL
	F5B, F5D	Offers invited	
	SPACE MODELS (Seniors and Juniors)		ROMANIA

YEAR	CONTINENTAL CHAMPIONSHIPS	BIDS FROM	AWARDED TO
2006	F1A, F1B, F1C	Ukraine (firm)	
	F1E (Seniors and Juniors)	Romania (firm)	
	F3A	Switzerland (tentative)	
	F3B	Offers invited	
	F3C	Offers invited	
	F3D	Offers invited	
	F3A Asian-Oceanic	Offers invited	

YEAR	CONTINENTAL CHAMPIONSHIPS	BIDS FROM	AWARDED TO
2007	F1A, F1B, F1P Juniors	Offers invited	
	F1D (Seniors and Juniors)	Germany (tentative)	
	F2A, F2B, F2C, F2D (Seniors and Juniors)	Offers invited	

	F3J (Seniors and Juniors)	**Offers invited**	
	F4B, F4C	**Offers invited**	
	F5B, F5D	**Offers invited**	
	SPACE MODELS (Seniors and Juniors)	**Slovakia (firm)**	

YEAR	**CONTINENTAL CHAMPIONSHIPS**	**BIDS FROM**	**AWARDED TO**
2008	**F1A, F1B, F1C**	**Offers invited**	
	F1E (Seniors and Juniors)	**Offers invited**	
	F3A	**Offers invited**	
	F3B	**Offers invited**	
	F3C	**Offers invited**	
	F3D	**Offers invited**	
	F3A Asian-Oceanic	**Offers invited**	

9) ANY OTHER BUSINESS.

10) NEXT CIAM MEETINGS.

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ANNEXES TO THE AGENDA OF THE 2004 PLENARY MEETING

Annex 1	**FAI Code of Ethics**
Annex 2	**2003 World Championship Reports**
Annex 3	**2003 Subcommittee and CIAM Technical Secretary Reports**
Annex 4	**2003 World Cup Reports**
Annex 5	**2003 Trophy Report**
Annex 6	**FAI-CIAM Medals and Diplomas: Nominations**
Annex 7	**F2B, Subcommittee - Class F2B: Rules**
Annex 8-8A	**F2B, Switzerland – Class F2B, Technical details**
Annex 9	**F2B, Subcommittee – Annex 4B, Class F2B Judges Guide Rules**

Annex 10-10A	**F3C, Germany – New Class F3C Freestyle, Rules**
Annex 11	**F4C, Sweden – New manoeuvre John Derry Turn**
Annex 12	**F4C, Subcommittee – New Annex 6A, Judges Guide**
Annex 13	**F4B/C, Subcommittee – Annex 6E, Competitor's Declaration Form**
Annex 14	**F4C, Subcommittee/Argentina – Annex 6F, Flight and Static Score Sheets**
Annex 15	**F4B/C, Subcommittee – Annex 6G, World Cup Rules**
Annex 16	**F5A, Subcommittee – F5A Manoeuvres, table**
Annex 17	**F5A, Subcommittee – F5A Aerobatic Box, new drawing**
Annex 18	**F5B, Subcommittee – F5B Contest Site Layout**
Annex 19	**F5D, Subcommittee – New F5D Rules**
Annex 20	**F5D, Subcommittee – F5D Pylon Racing Course Layout**
Annex 21	**Space Models, Slovenia – Template (Radium of the nose, drawing)**

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DEFERRED SECTION - DEFERRED SECTION - DEFERRED SECTION

DEFERRED SECTION

This section contains all proposals regularly received by the FAI Office according to rules A.6 and A.7, but not eligible to be voted on at the 2004 Plenary Meeting: rule A.12 applies. They are presented here for information and discussion.

VOLUME F3B J - SECTION 4C - MODEL AIRCRAFT
F3B THERMAL SOARING - F3J THERMAL DURATION GLIDERS

5.4. CLASS F3B - THERMAL SOARING MODEL AIRCRAFT

5.3.2.2 Launching - Germany

All Launching shall take place .....

a) Electrical powered winch: For the launch of the glider only an electrical powered winch can be used. Upwind turn-around device, which must be used, shall .....
The winch shall meet the following specifications:

aa) The winch shall be fitted ...

ab) The purpose ....

.....
aj) The penalty for using .....

a(3) cancelled

b) Towline: The towline (which must be .....) must be equipped ....
c) Launching operation:

b) (1) cancelled

After release .....

Reason: Handtowing is not more practised for F3B since many years. Up to 90° crosswind you can reach the same height than with handtowing in wind direction. If handwowing, especially with pulleys (only this makes sense) is very dangerous when we do not use the same equipment like F3J.

5.3.2.4 task B – Distance – Germany

c) An audio (in addition an optical system) announces the pilot when his model crosses the base A and B.....
.....timing or announcing shall occur when the nose of the model .....

Reason: At all F3B-competions the crossing of base A and base B is announced with an audio system, sometimes in addition with an optical system. Signaling by a flagman was used long time ago.

5.3.2.5 task C-Speed - Germany

d) An audio system which is not more than 30 meters away from the intersection between base A at the safety line announces to the pilot when the model aircraft crosses the base A or base B.....
.....timing or announcing shall occur when the nose of the model .....

Reason: At all F3B-competitons crossing of base A and base B is announced by an audio system. A flagman would nowadays be deplaced. With the fixation of this maximum distance between the position of audio signal and the the intersection between base A at the safety line (normal position of the competitor) to 30 meters the runtime of the sound is about 0.1 sec. This runtime of the signal is nowadays with the high flight-speeds and the extremely short turns still acceptable.