13.8 Section 4C Volume F3 - RC Aerobatics

F3A

a) 5.1.2 General Characteristics of Radio Controlled Aerobatic Power **F3 Aero Sub-committee**

Amend the 11th paragraph as follows:

~~The flight time will be interrupted while the~~ **No time will be taken while** the sound/noise…

Reason: To be in compliance with paragraph 5.1.11/14, simplification of wording.

Technical Secretary's Note: The submitted new text would be better worded as "The timing device/clock will be stopped while the sound/noise test …….

b) 5.1.2 General Characteristics of Radio Controlled Aerobatic Power Model Aircraft **F3 Aero Sub-committee**

Amend the 12th paragraph as follows:

The model aircraft shall be re-tested **at regular operation conditions** within 90 minutes.

Reason: To avoid manipulation, such as freezing the battery pack before the re-check.

c) 5.1.2 General Characteristics of Radio Controlled Aerobatic Power Models **Switzerland**

Amend the 3rd line of the 1st paragraph as follows:

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

Reason: The weight of today's models is in average about 5.0 kg

No weight limit will not increase airplane weight extremely because of 2 x 2m size limit.

The proposal will create scope for:

- innovative engines (reduced nitromethane, e.g. twin-cylinder gasoline engines, electric outrunner),
- alternative an less expensive electric power sources,
- design of more robust and thus safer model structure.
- several new ideas of airplanes could be designed.

d) 5.1.2 General Characteristics of Radio Controlled Aerobatic Power Models **Thailand**

Amend the 3rd line of the 1st paragraph as follows:

Maximum total weight, with batteries **/ with full fuel tank**…….~~5000g~~...**5500 g**

Reason: Up to now, liquid fuel driven model aircraft are weighed dry (less fuel), while electrically driven model aircraft are weighed including the propulsion batteries.

The take-off weight of fuel driven model aircraft with full tank is noticed to up to 5500 g within the existing rule.

The maximum take-off weight limit must be equal for all model aircraft, regardless of the propulsion system.

Supporting data: Class F3C applies the proposed weighing method accordingly.

e) 5.1.5. Definition of an Attempt **F3 Aero Sub-committee**

Amend the 2nd paragraph as follows:

If the propulsion device fails after the ~~take-off has begun~~ **model aircraft becomes airborne**, the attempt will be deemed complete.

Reason: To be in compliance with 5.1.11/14, clarification and simplification of the procedure.

f) 5.1.8 Marking **F3 Aero Sub-committee**

Amend the 7th paragraph as follows:

Manoeuvres must be performed ~~where~~ **such that** they can be seen…

…the competitor has the right for a reflight as per paragraph 5.1.6. **If a judge for some reason within the control of the competitor is not able to follow the model aircraft through the entire manoeuvre, he has to downgrade the manoeuvre accordingly.**

Reason: To point out the different judging treatment of manoeuvres, which could not be seen clearly beyond the competitor's control or within the competitor's control.

Technical Secretary's Note: The additional text is not a rule, it is a judging guide.

g) 5.1.8 Marking **F3 Aero Sub-committee**

Amend the 8th paragraph as follows:

Also, manoeuvres should be **primarily** performed along a line…

... Exceptions to this rule are **cross-box manoeuvres, 3D-manoeuvres, or manoeuvres in a stalled condition, as well as** the horizontal circle…

Reason: To give respect to this type of manoeuvres and to include them.

h) 5.1.9 Classification F3 Aero Sub-committee

Amend the 1st paragraph as follows:

… The top one ~~third~~ **half**, but not more than 30 competitors, will then..

Reason: To offer the value of Semi-Final flights to higher number of competitors, while it is no problem to accommodate 30 flights in two Semi-Final rounds. F-Schedules became much more popular than before.

i) 5.1.9 Classification France

Amend the 2nd paragraph as follows:

The best score from the known schedule will be combined with the **best** score~~s~~ from ~~both~~ unknown schedule~~s~~ for final classification.

Reason: Statistical flights analysis shows that flights on unknown schedules, judges are less consistent on these flights. Many more scores are rejected by TBL (up 50%) and the differences of ranking are more important (up 5 places on 10 pilots). By respect for the pilots, it is better to take the best score from unknown schedules to establish the final classification.

j) 5.1.9 Classification Switzerland

Amend the 5th paragraph as follows:

All scores for each round, preliminary, semi-final and finals, will then be normalised as follows.

Competitors have flown in front of a particular group of judges (ie a round) the highest score shall **be calculated as follow:** ~~awarded 1000 points. The remaining scores for that group of judges are then normalised to a percentage of the 1000 points in the ratio of actual score over winner's score.~~

~~SX~~

~~PointsX = x 1000~~

~~SW~~

~~PointsX = points awardet to competitor X~~

~~SX = score of competitor X~~

~~SW = score of winner of round~~

$$\textbf{Points X} = \frac{\textbf{SW}}{\textbf{SX}} \times \textbf{1000}$$

Points X = points awarded to competitor X

SX = Average score of best 30% of the round

SW = score of competitor X

Reason: Today result of all pilots is depending on one pilot. He can influence result. Weather and starting order of the best pilot can influence result of all the rest. Top 30% pilots as average will stabilize result. Winner of the round can have more than

1000 points, in a contest with 3 rounds winner of the first three rounds must not be the winner of the contest. More interesting contest.

k) 5.1.10. Judging **F3 Aero Sub-committee**

Amend the 1st, 4th, 5t, 6th & 8th paragraphs and add a new 7th paragraph follows:

(para 1) For **a** World **or Continental** Championship~~s~~ **with more than 80 competitors** the organiser must…

(para 4) For a World **or Continental** Championship with ~~fewer than 72~~ **80 or fewer, but more than 40** competitors, ~~and for a Continental Championship with 40 or more competitors~~, the organiser must…

(para 5) For Continental Championships with ~~fewer than 30~~ **40 or fewer** competitors, the organiser must…

(para 6) For **a** World or Continental Championship~~s~~ with ~~fewer than 72 competitors, and for a Continental Championships with 30 or more entries~~, **80 or fewer, but more than 40 competitors**, two panels of five…

…five judges may be used for preliminary, semi-final, and final rounds.

(new para 7) **The limits of 80/40 competitors may be exceeded under special circumstances, provided a reasonable time schedule has been approved by the CIAM-Bureau.**

(para 8) For the final rounds of a World **or Continental** Championship with ~~72 or~~ more **than 80** competitors, the twenty judges…

Reason: To address C/Cs with high entry numbers. 80/40 competitors can be accommodated due to current schedules with 17 manoeuvres. If entry numbers slightly exceed the forecast, there must be a way out, i.e. by adding an additional day, instead of doubling the number of judges.

l) 5.1.11. Organisation for Radio Controlled Aerobatics Contests **F3 Aero Sub-committee**

Amend the 13th paragraph as follows:

The timing of ~~a flight~~ **an attempt** starts with…

…the competitor, and the timing device will be re-activated to start the 8-minute flying time. **If the propulsion fails at the sound test before it is finished the flying time of eight (8) min is started, but interrupted for the completion of the sound test after the propulsion was restarted.** With the expiry of the 8-minute…

Reason: To precise wording

m) 5.1.13. Schedule of Manoeuvres **F3 Aero Sub-committee**

Add a new Schedule A-16

See the new Schedule A-16 in Agenda Annex 7h

and Aresti diagrams in Agenda Annex 7i

Reason: A new schedule is needed for 2015-2016

n) 5.1.13. Schedule of Manoeuvres **F3 Aero Sub-committee**

Add a new Schedule F-17

See the new Schedule F-17 in Agenda Annex 7j
and Aresti diagrams in Agenda Annex 7k

Reason: A new schedule is needed for 2016-2017

o) 5.1.13. Schedule of Manoeuvres **F3 Aero Sub-committee**

Add a new Schedule P-17 as follows

See the new Schedule P-17 in Agenda Annex 7l
and Aresti diagrams in Agenda Annex 7m

Reason: A new schedule is needed for 2016-2017

p) 5.1.13. Schedule of Manoeuvres **F3 Aero Sub-committee**

Amend 1st to 4th paragraphs as follows:

~~For 2012 Schedule A-12 is recommended to be flown in local competitions so as to offer advanced pilots a suitable way to achieve skills to step-up to P-13 Schedules.~~

For 2013-2014 Schedule A-14 is recommended to be flown in local competitions so as to offer advanced pilots a suitable way to achieve skills to step-up to P-15 Schedules.

For 2015-2016 Schedule A-16 is recommended to be flown in local competitions so as to offer advanced pilots a suitable way to achieve skills to step-up to P-17 Schedules

~~For 2012-2013 Schedule P-13 will be flown in the preliminaries. Schedule F-13 will be flown in the semi-finals, as well as in the finals, alternating with unknown schedules.~~

For 2014-2015 Schedule P-15 will be flown in the preliminaries. Schedule F-15 will be flown in the semi-finals, as well as in the finals, alternating with unknown schedules.

For 2016-2017 Schedule P-17 will be flown in the preliminaries. Schedule F-17 will be flown in the semi-finals, as well as in the finals, alternating with unknown schedules.

Reason: To progress with appropriate schedules

q) ANNEX 5B F3 R/C Aerobatic Power Model Aircraft Manoeuvre Execution Guide **F3 Aero Sub-committee**

Add a new manoeuvre and re-number subsequent manoeuvres as follows:

5B.8.6. BARREL-ROLLS

A barrel-roll is a roll, whose flight path goes in a spiral around the virtual hull of a cylinder. Barrel rolls are judged in the same way as axial rolls as far as the constant flight path throughout the roll, the start and stop of the rotation, and the roll direction is concerned.

5B.~~8~~.**7. SNAP-ROLLS**

Reason: To address this additional type of manoeuvre, introduced with F-17 schedule.

r) ANNEX 5B F3 R/C Aerobatic Power Model Aircraft Manoeuvre Execution Guide **F3 Aero Sub-committee**

Amend the paragraph as follows:

5B.8.10. STALL-TURNS

The criteria in this manoeuvre are mainly about lines. The lines must have exactly vertical and horizontal flight paths.

The model aircraft **comes to a stop in forward movement and then** must pivot around…

Reason: To precise the description

s) ANNEX 5B F3 R/C Aerobatic Power Model Aircraft Manoeuvre Execution Guide **F3 Aero Sub-committee**

Amend the paragraph as follows:

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

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

A centre manoeuvre must be flown so that it is centred on the centre line indicated by the centre flag. If the manoeuvre is flown off-centre, it must be downgraded according to the misplacement. This may be in the range of 1 to 4 points subtracted. The centre of a centre manoeuvre is in the middle between its ~~start and its end.~~ **vertical limits left and right.**

Reason: To clarify the description

t) ANNEX 5G F3 R/C Aerobatic Model Aircraft Unknown Manoeuvre Schedules for Final Flights **F3 Aero Sub-committee**

Amend the paragraph as follows:

5G2.8. The summary of K-factors must be at least ~~74~~ **70**.

Reason: To correct the previous error: K=74 proved to be unfeasible.

F3M

u) 5.10.3 General Characteristics of a Large R/C Aerobatic Power Aircraft **Suisse**

Amend the 5th paragraph as follows:

For Power device limitations, Noise rule, and Radio Equipment: See 5.1.2, **but the maximum voltage allowed for electric powered large model aircraft (F3M) is 72 volts.**

Reason: At the moment, it seems impossible to get a competitive electric powered large aerobatic model aircraft with the rule limiting propulsion circuit to 42.56 volts (10s LiPo batteries). We propose to increase this limit to 72 Volts (point 1.2 of part 1, section 4C of ABR volume) . With the possibility of the introduction in the future of new types of batteries, the number of elements is not mentioned.

If the rule is not changed, it will be impossible for pilots to come with electric powered aircrafts. We think it is a good choice to promote electric power. Electric powered aircrafts make much less noise than gas powered aircrafts. For this category, it may help to protect our airfields from noise problems with neighbours.

Take the example of a widely used engine: the Desert Aircraft DA-170. It gives 18 HP, which is equal to 13.4 KW.

Suppose we use a 42.56V battery, under load it will give only 35V. To get the 13.4 KW, we will need to draw 382 amperes.

Suppose we use a 63.84V battery, under load it will give 52.5V. To get the 13.4 KW, we will "only" need to draw 255 amperes.

Note that in the first case there don't exist any equipment, while in the second case it exists.

v) 5.10.13 Execution of Manoeuvres **USA**

Amend the 4th, 5th and 7th to 10th paragraphs as follows:

The manoeuvres must be executed during an uninterrupted flight in the order in which they are listed on the score sheet. The competitor may make only one attempt at each manoeuvre during the flight. The pilot has three minutes to start his motor, and eleven minutes to complete his flight; both the three minutes and the eleven minutes to start when the competitor is given permission to start his motor.

The model aircraft must take-off and land unassisted, that is, no hand launched flights. If any part of the model aircraft is dropped during the flight, scoring will cease at that point and the competitor must be instructed to land his model aircraft immediately.

The direction of the manoeuvres is determined by the heading of the model aircraft during the take-off.

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

The flight ends when the **model aircraft has landed** ~~landing sequence is~~

~~completed~~.

Scoring will cease with the expiry of the eleven-minute flight period.

~~After the known flying schedule has been completed, the competitor is not allowed a free pass, and the landing must follow immediately. Any free passes will result in a zero score for the landing.~~

~~The model aircraft must land in the landing area, defined by a 50 metres diameter circle, or within two lines marked on the runway and separated by 100 metres if the runway is wider than 10 metres.~~

~~The landing point is considered as the first point where the model aircraft touches the ground. Landing out of the landing area, or a crash will result in a zero score for the landing.~~

~~The landing sequence is completed when the model aircraft has run for 10m or comes to a stop within 10 metres.~~

Reason: Landings are not judged so wording that prescribes a zero score are no longer needed. In addition there is no landing zone so that paragraph is no longer needed.

w) 5.10.14 Schedules of Manoeuvres **USA**

Amend paragraphs b) and c) as follows:

Before the beginning of the task of the unknown schedule, the judging co-ordinator will brief the judges and the competitors to clearly explain the manoeuvres, and what is expected from the competitors.

Knowledge of the Aresti cryptographic system is highly recommended to all competitors and judges.

Known and unknown schedules must use **manoeuvres** ~~patterns~~ according to the full size FAI Aresti catalogue.

c - **Freestyle schedule**:

Freestyle schedules give a competitor the opportunity to demonstrate his own skill and the qualities of his model aircraft. There are no rules governing the composition of the schedules. However, safety is of prime importance.

The model aircraft flown by a competitor in the freestyle task may be different from the one flown for the two other schedules, provided this model aircraft conforms to the general characteristics of the F3M class.

The maximum duration of a freestyle flight is ~~five (5)~~ **four (4)** minutes, from the take-off signal, to the landing. The competitor will be notified at one minute before the end of the ~~five~~ **four**-minute period.

After the end of the ~~five~~ **four**-minute period, the judges cease to consider any further manoeuvres that may have been performed. If the model aircraft is still airborne, it must be landed immediately, otherwise the judges will mark a zero score for the criteria “Technicality of the manoeuvres” (K2).

Reason: Manoeuvres is the correct word – not patterns

F3P

x) 5.9.9 Classification **France**

Amend the paragraph as follows:

The top ~~20% (twenty percent)~~ **25% (twenty five percent)** of the classified pilots with a minimum of ~~five (5)~~ **ten (10)** will have three (3) additional flights.

Reason: There is not ½ finals in F3P and the flight time of pattern AF-13 is short (about 2min 30s). Consequently the increasing of flights impact is low on the contest schedule. In addition, increasing the number of finalist pilots get the final more attractive for pilots and spectators.

y) 5.9.9 Classification **France**

Amend the paragraph as follows:

The two best score from the three final schedules will be added for final classification. In the case of a tie the score after preliminaries will be used to decide the higher classification.

Reason: This final classification method is already used in F3A and adds consistent suspense to the competition. Additionally, competitor have to be strategic to train enough on Preliminary schedule to go into finals, but keep training on final schedule to perform good classification.

Technical Secretary's Note: Reading the full existing rule, some text needs to be deleted to enable the new text to make sense within the context of the rule.

z) 5.9.13. Schedule of Manoeuvres **F3 Aero Sub-committee**

Add a new Schedule AP-15.

See the schedule in Agenda Annex 7n
and the Aresti diagrams in Agenda Annex 7o

Reason: A new schedule is needed for 2014-2015

aa) 5.9.13. Schedule of Manoeuvres **F3 Aero Sub-committee**

Add a new Schedule AF-15 as follows

See the schedule in Agenda Annex 7p
and the Aresti diagrams in Agenda Annex 7q

Reason: A new schedule is needed for 2014-2015

ab) 5.9.13 Schedule of Manoeuvres **France**

Delete the existing schedule (2012-2013) and insert a new F3P Preliminary Schedule for 2014-2015

SCHEDULE F3P-AP-14 (2014-2015)

Quick AP description

1.	**Square reverse cuban 8**	**K4**
2.	**Knife-edge trombone**	**K3**
3.	**Loop with 2 rolls in opposite direction integrated**	**K5**
4.	**Camel Humpty-Bump**	**K3**
5	**8-point roll**	**K4**
6.	**Stall turn**	**K3**
7.	**Knife-edge top hat**	**K4**
8.	**½ cuban 8**	**K3**
9.	**Rolling circle with 2 rolls to the inside**	**K5**
10.	**180° knife-edge with half roll**	**K3**
11.	**Half torque rolls with 4 of 8 point roll**	**K4**

See the Aresti diagrams in Agenda Annex 7r

Reason: New schedule needed for 2014

Technical Secretary's Note: The "Description of Manoeuvres" was not submitted.

ac) 5.9.13 Schedule of Manoeuvres **France**

Delete the existing schedule (2012-2013) and insert a new F3P Finals Schedule for 2014-2015

SCHEDULE F3P-AF-14 (2014-2015)

Quick AP description

1	**Knife-edge golf ball**	**K5**
2	**Vertical 8**	**K2**
3	**Knife-Edge flight with half roll**	**K4**
4	**Figure 9**	**K3**
5	**Cubique top hat**	**K5**
6	**½ diamond square loop with half rolls**	**K4**
7	**Horizontal 8 with consecutive two ¾ rolls in opposite directions integrated**	**K6**
8	**Half horizontal Hour-Glasse**	**K3**
9	**3 180 rolling circle with ½ roll inside, 1 roll outside and 2 rolls inside**	**K6**
10	**Negative tail slide**	**K4**
11	**Roll combination in opposite direction**	**K5**

See the Aresti diagrams in Agenda Annex 7s

Reason: New schedule needed for 2014

Technical Secretary's Note: The "Description of Manoeuvres" was not submitted.

F3S

ad) 5.12.1 Definition of a Radio Controlled Aerobatic Power Jet Model Aircraft **F3 Aero Sub-committee**

Amend the paragraph as follows:

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

Reason: F3S model aircraft are not restricted to be manoeuvred by control surfaces only, but also i.e. by power setting. Though, manoeuvring by variable thrust direction would affect the basic characteristics of R/C aerobatics.

Adoption of the corresponding rule of class F3A

ae) 5.12.2 General Characteristics of an R/C Aerobatic Power Jet Model Aircraft **F3 Aero Sub-committee**

Amend the title and the paragraph as follows:

General Characteristics of a ~~R/C~~ **Radio Controlled** Aerobatic Power Jet Model Aircraft:

see 5.1.2 except for:

The dimensions, weight and power limits of a Radio Controlled Aerobatic Power Jet Model Aircraft are restricted by ABR Section 4c, rule 1.2.

Propulsion device limitations: The R/C Aerobatic Power Jet Model Aircraft shall use as propulsion device either

a~~) turbo~~ **turbine** jet(s) or

b) ducted fan(s).

Ducted fans m**a**y **be driven** by ~~use~~ piston engines or electric motors ~~as a power source~~.

Paragraph B.3.1.a) of Section 4B (Builder of Model Aircraft) is not applicable to class F3S.

The number of model aircraft eligible for entry is two (2).

~~For Power device limitations, Noise rule, and Radio Equipment: See 5.1.2~~

~~Noise limits apply to model aircraft with piston engines only.~~

The maximum sound/noise level of the model aircraft and its propulsion device, shall be 90 dB(A) measured at 25 m from the centre line of the model aircraft with the model aircraft placed on the ground over concrete, macadam, grass, or bare earth at the flight line and facing into the wind. It applies to all propulsion sources allowed

Reason: Sufficient definition of general characteristics.

Sufficient definition of sound/noise level application, limits and checking method.

af) 5.12.4 Number of Flights **F3 Aero Sub-committee**

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

~~Each competitor has the right to three official flights.~~

Reason: Adoption of the corresponding rule of class F3A

Technical Secretary's Note: The rule should carry the F3A paragraph reference.

ag) 5.12.8 Marking **F3 Aero Sub-committee**

Amend the whole of the paragraph as follows:

~~Each manoeuvre may be awarded marks, in halfs (0.5) increments, between 10 and 0 by each of the judges during the flight. These marks are multiplied by a coefficient that varies with the difficulty of the manoeuvre. Any manoeuvre not completed shall be scored zero (0). Manoeuvres must be performed where they can be seen clearly by the judges. If a judge, for some reason outside the control of the competitor, is not able to follow the model aircraft through the entire manoeuvre, he may set the «Not Observed» (N.O.) mark. In this case, the judge's mark for that particular manoeuvre will be the average of the numerical marks given by the other judges.~~

~~Centre manoeuvres should be performed in the centre of the manoeuvring area while turn around manoeuvres should not extend past a line 75 degrees left and right of centre. Also, manoeuvres should be performed along a line of approximately 150 to 200 m (depending on the size of the model aircraft) in front of the competitor.~~

~~Infractions to this rule will be cause for downgrading by each judge individually and in proportion to the degree of infraction.~~

~~The manoeuvring area will be clearly marked with white vertical poles, a minimum of 100mm in diameter and a minimum of 4m high, placed on centre, and at 75 degrees each side of centre. Flags and/or streamers of contrasting colour should be mounted on the poles to improve visibility. White (or contrasting) lines originating at the competitor's position and extending outward at least 50m will also be used to mark the centre and extreme limits (75 degrees left and right of centre) of the manoeuvring zone. Audible and visual signals to indicate violations of the manoeuvring zone are not to be employed.~~

~~The judges shall be seated no more than 10m, and not less than 7m behind the competitor's position (the apex of the 75 degree lines) and within an area described by the extension of the 75 degree lines to the rear of the competitor.~~

~~If a model aircraft is in the opinion of the safety steward or the judges, unsafe or being flown in an unsafe manner, they may instruct the competitor to land the model aircraft.~~

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

see 5.1.8 except for:

The manoeuvring zone is at a distance of appx. 150-200 m from the pilot (depending on the size of the model aircraft). The two lines of the lateral limits are each at an angle of 75 degrees left and right. Marking of the manoeuvring zone limits have to be set accordingly.

Reason: Adoption of the corresponding rule of class F3A, except of the different manoeuvring zone limits.

ah) 5.12.8 a) France

~~Each manoeuvre may be awarded marks, in half (0.5) increments, between 10 and 0 by each of the judges during the flight.~~

Each manoeuvre may be awarded marks, in one (1) increments, between 10 and 0 by each of the judges during the flight.

Reason: Most of Judges for the new F3A comes from F3A. The difference between of the rules for marking manoeuvre F3A and F3S involved to do formations. However, software and tools of F3A are created for one increments only and this rules involve modify existing software for F3S. This rules is a brake for the development of the category.

ai) 5.12.9 Classification F3 Aero Sub-committee

Amend as follow:.

~~For every competitor the individual result of each round is normalised to the points of the best competitor of~~

~~that round as follows:~~

~~$$Points_x = 1000 \times \frac{S_x}{S_w}$$~~

~~Pointsx = Points given to competitor x~~

~~Sx = Score of Competitor x~~

~~Sw = Score of Winner~~

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

~~The final classification will be done considering the sum of the scores of the best two attempts.~~

~~In order to decide the winner when there is a tie, the discarded flight score shall be taken into account.~~

~~The TBL statistical averaging system is not to be applied~~

See 5.1.9.

Reason: Adoption of the corresponding rule of class F3A.

aj) 5.12.10 Judging F3 Aero Sub-committee

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

~~The criteria to be applied for judging the manoeuvres in this class, are identical to class F3A. However, the~~

~~judges will have to consider the dimensions, inertia and speed of the jet model aircraft.~~

~~The organiser must appoint a panel of least three up to five judges, preferably. When five judges are used the lowest and highest scores for each manoeuvre will be discarded.~~

cont/…/

See 5.1.10 and in addition with giving regard to the dimensions, inertia, and speed of a jet model aircraft

Reason: Adoption of the corresponding rule of class F3A with a specific addition for jet model aircraft.

Technical Secretary's Note: For clarity, this proposal should read "See 5.1.10 but giving consideration to the dimensions, inertia and speed of a jet model aircraft."

ak) 5.12.11 Organisation for Aerobatic Power Jet Model Aircraft **F3 Aero Sub-committee**

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

~~For transmitters and frequency control, see section 4B, paragraph B.11.~~

~~The flight order for the first round will be determined by draw. In case of frequency conflicts the flight order may be changed by the contest director. For second round, the flight order will start at 1/3 down the list. For third round, the flight order is the reversed ranking after second round.~~

~~During the flight, the competitor must stay in front of the judges in the designated area and under the supervision of the Flight Line Director and safety steward.~~

~~The prohibited flying area is observed by the judges. If the safety line is crossed the flight will be scored zero points.~~

~~Competitors must be called at least ten (10) minutes before they are required to occupy the starting area.~~

See 5.1.11. except for:

The allowed starting time is six (6) minutes and the flying time five (5) minutes. It must be indicated to the competitor, when five (5) minutes of the starting time have passed.

Reason: Adoption of the corresponding rule of class F3A with exception of starting and flying time.

Technical Secretary's Note: The latter sentence of the new text would be better worded as "The competitor must be informed when five (5) minutes of the starting time has elapsed."

al) 5.12.12 Execution of Manoeuvres **F3 Aero Sub-committee**

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

~~The manoeuvres must be executed during an uninterrupted flight in the order in which they are listed in the rules.~~

~~The competitor may make only one attempt at each manoeuvre during the flight.~~

~~The pilot has six (6) minutes to start his motor, and five (5) minutes to complete his flight. The six minutes start when the competitor is given permission to start his motor. The last minute of preparation time (ie. after expiration of five minutes) must be announced to the competitor. The five minutes flight time start with either the expiration of the six minutes preparation time or when the model aircraft starts take-off sequence (whichever occurs first).~~

~~The model aircraft must take-off and land unassisted, that is, no hand launched flights. If any part of the model aircraft is dropped during the flight, scoring will cease at that point and the competitor must be instructed to land his model aircraft~~

~~immediately.~~

~~The direction of the manoeuvres is determined by the heading of the model aircraft during the take-off. After completion of manoeuvre 13 the model aircraft has to be landed immediately. The flight ends when the landing sequence is completed.~~

~~Scoring will cease with the expiration of the five-minutes flight period.~~

See 5.1.12

Reason: Adoption of the corresponding rule of class F3A.

am) 5.12.13 Schedule of Manoeuvres **F3 Aero Sub-committee**

Amend the paragraph as follows:

~~**Schedule of manoeuvres.**~~

~~Take-off sequence, including single free pass (not judged, not scored)~~

~~01: Triangle loop with full roll on top 3~~

~~02: Half reverse Cuban 8 with 2/4-point roll 2~~

~~03: Opposite knife-edge 5~~

~~04: Immelmann with full roll, exit inverted 2~~

~~05: Half reverse Cuban 8 from top with 2/4-point rolls, exit inverted 4~~

~~06: Half square loop on corner 2~~

~~07: Figure 9 with full roll up 3~~

~~08: Pull-push-pull humpty bump with half roll down 3~~

~~09: 45 degree ascent with 4/8-point roll, exit inverted 3~~

~~10: Half positive loop 1~~

~~11: Half slow roll, 2/4-point roll opposite 5~~

~~12: Pull-pull-pull humpty bump with half roll down 3~~

~~13: Loop with full roll integrated on top 90 degrees 4~~

~~Landing (not judged, not scored)~~

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

Schedule S-15 (2011-2015)		**K Factor**
S15.01:	**Triangle with roll**	**3**
S15.02:	**Half reverse Cuban 8 with consecutive two ¼ rolls**	**2**
S15.03:	**Opposite knife-edge Flight**	**5**
S15.04:	**Immelmann with roll**	**2**
S15.05:	**Reverse Cuban 8 with two consecutive two ¼ rolls**	**4**
S15.06:	**Half square loop on corner**	**2**
S15.07:	**Figure 9 with roll up**	**3**
S15.08:	**Pull-push-pull Humpty Bump with half roll down**	**3**
S15.09:	**45° Upline with four consecutive 1/8**	**3**
S15.10:	**Half loop**	**1**

cont/…

S15.11:	**Roll Combination with consecutive half slow roll and in opposite direction two ¼ rolls**	**5**
S15.12:	**Pull-pull-pull Humpty Bump with half roll down**	**3**
S15.13:	**Loop with roll integrated over top 90 degrees**	**4**

Reason: Adoption of the corresponding wording and expressions of class F3A.

an) Annex 5X – F3S Description of Manoeuvres **F3 Aero Sub-committee**

See the manoeuvre descriptions in Agenda Annex 7t

Reason: Adoption of the corresponding wording and expressions of class F3A.

Volume F3 Soaring begins overleaf.