CIAM F3 RC Aerobatics Subcommittee

CIAM E-Plenary Meeting 2023

F3 RC Aerobatics Subcommittee Technical Meeting

Saturday March 04

CIAM F3 RC Aerobatics Subcommittee

F3 RC Aerobatics Classes:

F3A

F3M

F3P

F3S

CIAM F3 RC Aerobatics Subcommittee

23 Members from all continents

Several Working Groups

Chairman Peter Uhlig

CIAM F3 RC Aerobatics Subcommittee

Subcommittee Work 2021/2022

Discussions within the Subcommittee and relevant Working Groups:

- **about better defining some aerobatic manoeuvres in the Manoeuvre Execution Guide,**
- **about rule clarifications,**
- **about general problems and issues with F3 Aerobatic classes**
- **about new manoeuvre schedules for F3A A-27, P-27 and F-27,**
- **About introducing a Basic schedule for F3P**
- **about new manoeuvre schedules for F3P Aerobatics F3P Basic, F3P AA-25, AP-25 and AF-25,**
- **about new SB-24 and SP-24 schedules for F3S**

CIAM F3 RC Aerobatics Subcommittee

The chairman

- **supported the Technical Secrtary to prepare final edition of Volume F3 Aerobatics 2022,**
- **Prepared and held E-judges training sessions for December 2021 together with the CIAM President,**
- **prepared and submitted to FAI Sporting Code proposals together Aresti drawings for F3A sequences A-27, P-27 and F-27 and F3P sequences AB-24 AA-25, AP-25 and AF-25 and two new schedules for F3S SB-24, SP-24,**
- **supported the organizers of 2023 F3A World Championship and 2023 F3P Championships to find officials and to create Bulletin 0,**
- **supported the Spanish Organizer of 2022 F3A European Championship to prepare the event,**
- **took part in CIAM Bureau discussions,**
- **attended several E-Bureau Meetings and all E-Technical Meetings of 2022 CIAM E-Plenary Meeting.**

CIAM F3 RC Aerobatics Subcommittee

Results CIAM F3 RCAerobatics Subcommittee Survey 2022

180cm x 180cm					delete weight limit					no displ. Lim. for IC					allow 70 volts					allow stabilizer					ban contras					only 15 man.					box height					special designs					freestyle				
SD	D	N	A	SA	SD	D	N	A	SA	SD	D	N	A	SA	SD	D	N	A	SA	SD	D	N	A	SA	SD	D	N	A	SA	SD	D	N	A	SA	SD	D	N	A	SA	SD	D	N	A	SA	SD	D	N	A	SA
59	40	33	27	18	22	23	23	59	50	13	18	57	50	39	45	28	44	38	22	96	37	21	17	6	69	39	39	12	18	22	32	44	47	32	12	27	39	63	36	37	43	24	43	30	36	43	45	35	18
99			45		45			109		31			89		73			60		133			23		108			30		54			79		39			99		80			73		79			53	
		177					177					177					177					177					177					177					177					177					

CIAM F3 RC Aerobatics Subcommittee

CIAM E-Plenary Meeting 2023:

A great number Proposals on the agenda.

Let‘s go to the agenda now!

14.6 Section 4 Volume F3 – Radio Control Aerobatics

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

Section 5.1.2

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

5.1.2 **General Characteristics of Radio Controlled Aerobatic Models**:
Maximum overall span 2000mm
Maximum overall length 2000mm
~~Maximum total weight, with batteries.....5000g~~
Maximum total weight, Electric powered models with batteries, Internal Combustion powered models withcompletely filled fuel tank **5500g**

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

Subcommitee	Yes	No	Abst.
Votes: 22	19	3	0

Subcommitte Chairman's comment: The proposal is a compromise. A survey was spread to a great number of pilots and officials during the pandemic. 177 replied and a majority was in favour to skip the weight limit. Since there were some objections within the Subcommittee to do this, a compromise was offered and voted.

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

Section 5.1.2 h)

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

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

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

1. Control rate devices that are manually switched by the pilot.
2. Any type of button or lever, switch, or dial control that is initiated or activated and terminated by the competitor.

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

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

1.Snap roll buttons with automatic timing mode.

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

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

4.Automatic flight path guidance.

5.Propeller pitch change with automatic timing mode.

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

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

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

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

10. Telemetry data which are not allowed to be communicated to the pilot or the helper:
a) Airspeed, altitude or attitude data.
b) Position data such as GPS.
c) Power plant data such as RPM limits, throttle setting, Current Draw, capacity of propulsion battery and total fuel, etc.

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

Subcommitee	Yes	No	Abst.
Votes: 21	20	0	1

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

Section 5.1.8m

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

5.1.8. Marking
m)The individual manoeuvre scores given by each judge for each competitor must be made public **to competitors and team managers** at the end of each flight of competition.
A paper copy of the scores of each competitor must be given to their team manager. At World- and Continental Championships a score board or a monitor must be located in a prominent position at the flight line, in full view of the competitors and the public.
If the scoring is done manually the ~~The~~ team manager must be afforded the

opportunity to check that the scores on each judge's score document correspond to the tabulated scores (to avoid data capture errors).
~~A score board/monitor must be located in a prominent position at the flight line, in full view of the competitors and the public. At World and Continental Championships a paper copy of the scores of each competitor must be given to their team manager.~~
At Category 2 and national/local events it is recommended to give a paper copy of the scores to the individual pilot.
If possible a network may be used to view scores.
The security of the scoring system is the responsibility of the Scorekeeper

Subcommitee	Yes	No	Abst.
Votes: 21	21	0	0

Reason: Clarifies the publishing of scores

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

Section 5.1.11l

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

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

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

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

Subcommitee	Yes	No	Abst.
Votes: 20	20	0	0

e) F3A – RC Aerobatics Aircraft
F3 Aerobatics Subcommittee

Section 5.1.9a)

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

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

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

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

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

Finals: all finished rounds count.

Reason: Clarifying the ranking in tie situation

Subcommitee	Yes	No	Abst.
Votes: 20	20	0	0

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

Section 5.1.9b)

Add the following (bold underlined) text, delete the strike through sentence in 5.1.9b)

5.1.9

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

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

Subcommitee	Yes	No	Abst.
Votes: 20	20	0	0

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

Section 5B.3

Add the following (bold underlined) text into 5B3

5B.3.**EXECUTION OF MANOEUVRES**

All manoeuvres should be executed with:

Geometrical Accuracy **(from the judges' position view**);

Constant Flying Speed **(three-dimensional velocity—not airspeed);**

Correct positioning within the manoeuvring zone;

Size matching to the size of the manoeuvring zone.

Reason: Clarification and better description of 5.B.

Subcommitee	Yes	No	Abst.
Votes: 21	21	0	0

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

Section 5B.8.3

Add the following (bold underlined) text into 5B3

5B.8.3. **LINES**

All aerobatic manoeuvres are entered and exited by a horizontal line of recognisable length. When no horizontal line is flown between two manoeuvres, the just-completed manoeuvre must be downgraded by 1 point and the upcoming manoeuvre must be downgraded by 1 point.

The last manoeuvre of a schedule must have an exit line of at least one (1) second in duration for the manoeuvre to be deemed complete.

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

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

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

Subcommitee	Yes	No	Abst.
Votes: 20	20	0	0

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

Section 5B.8.9

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

5B.8.9. **CIRCLES**

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

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

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

Subcommitee	Yes	No	Abst.
Votes: 21	21	0	0

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

Section 5B.8.12

Add the strike through) text in 5B.8.12

5B.8.12. **SPINS**

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

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

Subcommitee	Yes	No	Abst.
Votes: 21	21	0	0

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

Section 5B.10

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

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

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

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

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

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

In general, turn-around manoeuvres are positioning manoeuvres. Therefore, entry and exit altitude need not be the same if the pilot wishes to make an altitude adjustment.

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

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

Subcommitee	Yes	No	Abst.
Votes: 21	21	0	0

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

Section 5.1.13 Schedule of Manoeuvres

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

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

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

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

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

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

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

~~For 2022-2023, Schedule F-23 will be flown in the semi-finals, as well as in the finals, together with unknown schedules~~
For 2024-2025, Schedule F-25 will be flown in the semi-finals, as well as in the finals, together with unknown schedules
For 2026-2027, Schedule F-27 will be flown in the semi-finals, as well as in the finals, together with unknown schedules

Advanced Schedule A-27 (2026-2027)	**K-Faktor**
A-27.01 Pull-Pull-Push Humpty Bump with half roll	**K 3**
A-27-02 Trombone with roll	**K 3**
A-27.03 Triangle with quarter roll, quarter roll	**K 3**
A-27.04 Reverse Shark Fin	**K 2**
A-27.05 Four consecutive Quarter Rolls	**K 4**
A-27.06 Half Square Loop	**K 2**
A-27.07 Square Loop on Corner from Top with half roll, half roll	**K 4**
A-27.08 Half Cuban Eight from Top	**K 2**
A-27.09 Spin with three turns	**K 4**
A 27.10 Top Hat with half roll. Option: Top Hat with quarter roll, quarter roll	**K 3**
A-27.11 Two consecutive Half Rolls	**K 4**
A-27.12 Pull-Pull-Pull Humpty Bump with half roll	**K 3**
A-27.13 Figure M with quarter roll, quarter roll, quarter roll, quarter roll	**K 5**
A-27.14 Half square Loop on Corner	**K 2**
A-27.15 Square from Top with half roll	**K 4**
A-27.16 Reverse Figure ET with half roll	**K 3**
A-27.17 Loop with knife-edge flight	**K 4**
	Total K = 55

Reason: F3A schedules change every two years.

Subcommitee	Yes	No	Abst.
Votes: 20	20	0	0

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

Section 5.1.13 Schedule of Manoeuvres

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

PRELIMINARY SCHEDULE P-27 (2026-2027)	**K-Factor**
P-27.01 Pull-Pull-Push Humpty Bump with two half rolls, two quarter rolls	**K 4**
P-27.02 Trombone with two half rolls, roll	**K 3**
P-27.03 Triangle with half roll quarter roll, quarter roll, half roll	**K 3**
P-23.04 Reverse Shark Fin with roll	**K 3**
P-27.05 Roll Combination with two quarter rolls, snap roll, two quarter rolls	**K 5**
P-27.06 Half Square Loop with roll	**K 3**
P-27.07 Square Loop on corner from Top with half roll, half roll	**K 4**
P-27.08 Half Cuban Eight from Top with two half rolls	**K 2**
P-27.09 Spin with two turns, two turns in opposite direction.	**K 4**
P-27.10 Top Hat with two quarter rolls, half roll. Option: Top Hat with ¾ roll, ¼ roll	**K 3**

P-27.11 Roll Combination with two one eighth rolls, two quarter rolls, two one eighth rolls	**K 4**
P-27.12 Push-Pull-Pull Humpty Bump with two quarter roll, half roll	**K 3**
P-27.13 Figure M with three quarter roll, quarter roll, quarter roll, three quarter roll	**K 5**
P-27.14 Half square Loop on Corner with half roll, half roll	**K 3**
P-27.15 Square from Top with quarter roll, knife-edge flight, quarter roll	**K 4**
P-27.16 Reverse Figure ET with half roll, roll	**K 3**
P-27.17 Loop with two half rolls integrated	**K 5**
	Total K = 61

Reason: F3A schedules change every two years

Subcommitee	Yes	No	Abst.
Votes: 20	20	0	0

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

Section 5.1.13 Schedule of Manoeuvres

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

Semi-Final/Final Schedule F-27 (2026-2027)	**K-Faktor**
F-27.01 Square Loop with snap roll, two quarter rolls, snap roll, two quarter rolls	**K 4**
F-27.02 Reverse Shark Fin with two three quarter rolls, two quarter rolls	**K 3**
F-27.03 Roll Combination with three rolls in opposite directions	**K 4**
F-27.04 Figure ET with half roll, four one eighth rolls	**K 3**
F-27.05 Triangle with quarter roll integrated, half roll, half roll, half roll, quarter roll integrated	**K 5**
F-27.06 Half Cuban eight with snap roll	**K 4**
F-27.07 Loop with half roll integrated, snap roll, half roll integrated	**K 5**
F-27.08 Half Square Loop with half roll integrated, half roll, half roll integrated	**K 4**
F-27.09 Spin with two turns, one and a half turn in opposite direction	**K 4**
F-27.10 Trombone with three quarter roll, three quarter roll. Option: Fighter turn with three quarter roll, three quarter roll	**K 4**
F-27.11 Rolling Circle Rolling Loop Combination	**K 6**
F-27.12 Inverted Figure ET with two quarter rolls, half roll	**K 3**
F-27.13 Inverted Golf Ball with quarter roll half roll integrated, half roll integrated quarter roll	**K 6**
F-27.14 Half Square Loop on Corner with quarter roll, quarter roll	**K 3**
F-27.15 Roll Combination with quarter roll one and half snap roll, quarter roll	**K 5**
F-27.16 Half Square Loop with one and a half snap roll	**K 4**
F-27.17 Pull-Pull-Pull Humpty Bump half roll integrated, half roll, half roll integrated, half roll, half roll integrated	**K 5**
	Total K = 72

Reason: F3A schedules change every two years.

Subcommitee	Yes	No	Abst.
Votes: 20	19	1	0

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

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

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

Reason: F3A schedules change every two years

Subcommitee	Yes	No	Abst.
Votes: 20	20	0	0

p) F3A – RC Aerobatics Aircraft **France**

Section 5.G.8.2 Turnaround Manoeuvres

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

A.1 Square loop on corner: from upright pull into vertical upline, 1/4 roll, push through a 1/8 loop, pull through a 1/4 loop, pull through a 1/4 loop, pull through a 1/4 loop, push through a 1/8 loop, 1/4 roll, exit upright (K4)
A.2 Square loop on corner: from upright pull into vertical upline, 1/4 roll, push through a 1/8 loop, pull through a 1/4 loop, pull through a 1/4 loop, pull through a 1/4 loop, push through a 1/8 loop, 1/4 roll, exit inverted (K4)
A.3 Square loop on corner: from inverted push into vertical upline, 1/4 roll, push through a 1/8 loop, pull through a 1/4 loop, pull through a 1/4 loop, pull through a 1/4 loop, push through a 1/8 loop, 1/4 roll, exit upright (K4)
A.4 Square loop on corner: from inverted push into vertical upline, 1/4 roll, push through a 1/8 loop, pull through a 1/4 loop, pull through a 1/4 loop, pull through a 1/4 loop, push through a 1/8 loop, 1/4 roll, exit inverted (K4)
A.11 Square loop on corner: from upright pull into vertical upline, 1/4 roll, pull through a 1/8 loop, push through a 1/4 loop, push through a 1/4 loop, push through a 1/4 loop, pull through a 1/8 loop, 1/4 roll, exit upright (K4)
A.12 Square loop on corner: from upright pull into vertical upline, 1/4 roll, pull through a 1/8 loop, push through a 1/4 loop, push through a 1/4 loop, push through a 1/4 loop, pull through a 1/8 loop, 1/4 roll, exit inverted (K4)
A.13 Square loop on corner: from inverted push into vertical upline, 1/4 roll, pull through 1/8 loop, push through a 1/4 loop, push through a 1/4 loop, push through a 1/4 loop, pull through a 1/8 loop, 1/4 roll, exit upright (K4)
A.14 Square loop on corner: from inverted push into vertical upline, 1/4 roll, pull through 1/8 loop, push through a 1/4 loop, push through a 1/4 loop, push through a 1/4 loop, pull through a 1/8 loop, 1/4 roll, exit inverted (K4)
A.23 Square loop on corner: from upright pull into vertical upline, 1/2 roll, 1/8 knife edge loop, 1/4 knife edge loop into 45° upline, 1/4 knife edge loop into 45° downline, 1/4 knife edge loop into 45° downline, 1/8 knife edge loop into vertical downline, 1/2 roll, pull into 1/4 loop, exit upright (K5)
A.24 Square loop on corner: from inverted push into vertical upline, 1/2 roll, 1/8 knife edge loop, 1/4 knife edge loop into 45° upline, 1/4 knife edge loop into 45° downline, 1/4 knife edge loop into 45° downline, 1/8 knife edge loop into vertical downline, 1/2 roll, push into 1/4 loop, exit inverted (K5)
A.25 Shovel: : from upright pull into vertical upline, 1/2 roll, 1/4 knife edge loop into a first horizontal line, 1/4 knife edge loop into vertical upline, 1/4 knife edge loop into a second

horizontal line in opposite direction as the first one, 1/4 knife edge loop into vertical downline, 1/4 knife edge loop into horizontal line in same direction as the first one, 1/4 knife edge loop into vertical downline, 1/2 roll, pull into 1/4 loop, exit upright (K5)
A.26 Shovel: : from inverted push into vertical upline, 1/2 roll, 1/4 knife edge loop into a first horizontal line, 1/4 knife edge loop into vertical upline, 1/4 knife edge loop into a second horizontal line in opposite direction as the first one, 1/4 knife edge loop into vertical downline, 1/4 knife edge loop into horizontal line in same direction as the first one, 1/4 knife edge loop into vertical downline, 1/2 roll, push into 1/4 loop, exit inverted (K5)
A.27 Shovel: : from upright pull into vertical upline, 1/4 roll, push into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, push into 1/4 loop, 1/4 roll, exit upright (K4)
A.28 Shovel: : from upright pull into vertical upline, 1/4 roll, push into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, push into 1/4 loop, 1/4 roll, exit inverted (K4)
A.29 Shovel: : from upright pull into vertical upline, 1/4 roll, pull into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, pull into 1/4 loop, 1/4 roll, exit upright (K4)
A.30 Shovel: : from upright pull into vertical upline, 1/4 roll, pull into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, pull into 1/4 loop, 1/4 roll, exit inverted (K4)
A.31 Shovel: : from inverted push into vertical upline, 1/4 roll, push into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, push into 1/4 loop, 1/4 roll, exit inverted (K4)
A.32 Shovel: : from inverted push into vertical upline, 1/4 roll, push into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, pull into 1/4 loop, push into 1/4 loop, 1/4 roll, exit upright (K4)
A.33 Shovel: : from inverted push into vertical upline, 1/4 roll, pull into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, pull into 1/4 loop, 1/4 roll, exit inverted (K4)
A.34 Shovel: : from inverted push into vertical upline, 1/4 roll, pull into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, push into 1/4 loop, pull into 1/4 loop, 1/4 roll, exit upright (K4)
O.1 Half clover: from upright pull into vertical upline, 1/2 roll, 3/4 knife edge loop into an horizontal flight edge path, 3/4 knife edge loop into a vertical downline, 1/2 roll, exit upright (K5)
O.2 Half clover: from inverted push into vertical upline, 1/2 roll, 3/4 knife edge loop into an horizontal flight edge path, 3/4 knife edge loop into a vertical downline, 1/2 roll, exit inverted (K5)
O.3 Half clover: from upright pull into vertical upline, 1/4 roll, pull through 3/4 loop into an horizontal flight path, pull through 3/4 loop into a vertical downline, 1/4 roll, exit upright (K4)
O.4 Half clover: from upright pull into vertical upline, 1/4 roll, pull through 3/4 loop into an horizontal flight path, pull through 3/4 loop into a vertical downline, 1/4 roll, exit inverted (K4)
O.5 Half clover: from upright pull into vertical upline, 1/4 roll, push through 3/4 loop into an horizontal flight path, push through 3/4 loop into a vertical downline, 1/4 roll, exit upright (K4)
O.6 Half clover: from upright pull into vertical upline, 1/4 roll, push through 3/4 loop into an horizontal flight path, push through 3/4 loop into a vertical downline, 1/4 roll, exit inverted (K4)
O.7 Half clover: from inverted push into vertical upline, 1/4 roll, pull through 3/4 loop into an horizontal flight path, pull through 3/4 loop into a vertical downline, 1/4 roll, exit upright (K4)
O.8 Half clover: from inverted push into vertical upline, 1/4 roll, pull through 3/4 loop into an horizontal flight path, pull through 3/4 loop into a vertical downline, 1/4 roll, exit inverted (K4)
O.9 Half clover: from inverted push into vertical upline, 1/4 roll, push through 3/4 loop into an horizontal flight path, push through 3/4 loop into a vertical downline, 1/4 roll, exit upright (K4)
O.10 Half clover: from inverted push into vertical upline, 1/4 roll, push through 3/4 loop into an horizontal flight path, pull through 3/4 loop into a vertical downline, 1/4 roll, exit inverted (K4)

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

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

Subcommitee	Yes	No	Abst.
Votes:	0	19	1

Subcommitte Chairman's comment: The proposal about new unknown turnaround manoeuvres isn't thought to end. During the discussion within the Subcommitee it was mentioned that the manoeuvresthey need to meet the requirements of judging and 5G.2.

- They will not fit in judgeable aerea of aerobatic box.
- Accurate judging of these manoeuvres at the end of the box will be difficult.
- Manoeuvres are too much time consuming.
- Clarifying drawings for better understanding of the manoeuvres are missing.

The proposal doesn't mention how to implement those manoeuvres in an unknown schedule (How many of these?)
If flown they need to be started half way to the end of the box. This isn't mentioned and may cause problems depending on the manoeuvre before. This needs to clarified in 5G.2 and implemented to the computer programme. (RUSM Random Unknown Schedule Maker approved by the Subcommittee)

q) F3M – RC Large Aerobatics Aircraft — France

Section 5.10.2e

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

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

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

Example:
Permitted:

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

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

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

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

Not permitted:

1.Snap roll buttons with automatic timing mode.

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

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

4.Automatic flight path guidance.

5.Propeller pitch change with automatic timing mode.

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

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

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

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

a) Airspeed, altitude or attitude data.

b) Position data such as GPS.

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

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

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

Subcommitee	Yes	No	Abst.
Votes:	20	0	0

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

Section 5.9.2

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

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

Maximum overall span 1500 mm

Maximum overall length 1500 mm

Maximum total weight, with batteries 300g

Only for F3P-Basic:

Minimum weight: 100g

Contra drive propulsion is not allowed

External parts that protrude which could be considered dangerous, (ie landing gear struts, shaft tips etc)

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

Subcommitee	Yes	No	Abst.
Votes: 20	20	0	0

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

Section 5.9.2d)

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

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

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

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

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

1. Snap roll buttons with automatic timing mode.
2. Pre-programming devices to automatically perform a series of commands.
3. **Any airborne device or function that has the ability to use sensors to actuate any control surface** ~~Auto-pilots or gyros for automatic wing levelling or other stabilisation of the model aircraft.~~
4. Automatic flight path guidance.
5. Propeller pitch change with automatic timing mode.
6. Any type of ~~voice recognition system~~ **speech input**.
7. **Use of earphones for speech output**
8. Conditions, switches, throttle curves, or any other mechanical or electronic device that will prevent or limit sound level of the propulsion device during the sound/noise test.

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

10. Telemetry data which are not allowed to be communicated to the pilot or the helper:
a) Airspeed, altitude or attitude data.
b) Position data such as GPS.
c) Power plant data such as RPM limits, throttle setting, Current Draw, capacity of propulsion battery and total fuel, etc.

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

Subcommitee	Yes	No	Abst.
Votes: 20	19	0	1

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

Section 5.9.9a)

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

a) For World and Continental Championships, each competitor will have four (4) preliminary flights for F3P Aerobatics with schedule F3P-AP; for F3P-AFM with competitors F3P-AFM schedule; with the best three normalised scores to determine the preliminary ranking. **In the case of a tie, the sum of all four (4) scores will determine the preliminary ranking.** The top 30% (thirty percent) of the classified F3P AP competitors with a minimum of ten (10) will have three (3) additional flights. These final flights will be flown as a known finals schedule (schedule F3P-AF) for F3P Aerobatics Championship. The total of the best three preliminary flights of the finalists (normalised again to 1000 points) will count as one score. This score and the finals scores will give four (4) normalised scores. The sum of the ~~three~~ best **three** will give the final classification. In the case of a tie, the sum of all the four (4) scores will determine the winner.
For the F3P-AFM Championship, the top 30% (thirty percent) of the classified F3P-AFM competitors with a minimum of ten (10) will have four (4) additional flights as described in Annex 5M Manoeuvres – Schedule F3P-AFM. The best of flight schedule 1 plus the best of schedule 2 will count for final ranking. **In the case of a tie, the sum of the best of flight schedule 1 plus the best of schedule 2 plus the best of the two non-counting flights will determine the winner.**

Reason: *Clarifying the ranking in tie situation*

Subcommitee	Yes	No	Abst.
Votes: 20	14	0	6

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

Section 5.9.9d) Classification

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

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

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

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

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

Subcommitee	Yes	No	Abst.
Votes: 20	14	0	6

v) F3P – RC Indoor Aerobatics Aircraft F3 Aerobatics Subcommittee

Section 5.9.11i)

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

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

The contest director/time keeper will advise the pilot, helper, and the judges of the expiry of the 5-minute flying time. The clock will be stopped when the wheels of the model aircraft touch the ground for landing, as proof to the competitor of the recorded time.

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

Subcommitee	Yes	No	Abst.
Votes: 20	20	0	0

w) F3P – RC Indoor Aerobatics Aircraft F3 Aerobatics Subcommittee

Section 5.9.13 Schedule of Manoeures

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

Basic Schedule F3P AB-24 (from 2024)

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

Advanced Schedule F3P AA-25 (2024-2025)

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

Total K = 40

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

AP-25.01 Triangle with half roll, quarter roll, quarter roll, half roll	**K 4**
AP-25.02 Knife-Edge Humpty Bump with three quarter roll, quarter roll	**K 3**
AP-25.03 Horizontal Circle with half roll integrated, roll integrated	**K 5**
AP-25.04 Corner Stall Turn Combination with half roll integrated, two consecutive one eighth rolls	**K 4**
AP-25.05 Roll Combination with quarter roll, roll, quarter roll	**K 4**
AP-25.06 Half Loop with roll integrated	**K 4**
AP-25.07 Knife-Edge forty-five degree downline with quarter roll, half roll, quarter roll	**K 4**
AP-25.08 Shark Fin with two quarter rolls in opposite direction, two quarter rolls	**K 3**
AP-25.09 Loop with half Torque Roll	**K 5**
AP-25.10 Fighter Turn with two consecutive one eight rolls, two consecutive one eight rolls	**K 3**
AP-25.11 Golfball, with quarter roll, quarter roll	**K 5**

Total K = 44

FINAL SCHEDULE F3B AF-25 (2024-2025)

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

Total K = 47

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

Subcommitee	Yes	No	Abst.
Votes: 20	20	0	0

x) F3P – RC Indoor Aerobatics Aircraft F3 Aerobatics Subcommittee

Annex 5M – Description of Manoeuvres

Delete the existing manoeuvre descriptions of schedules AA-23, AP-23, and AF-23 and replace with descriptions of, AA-25, AP-25 and AF-25. Add AB-24 Basic schedule . Refer to Agenda ***Annex 7b.***

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

Subcommitee	Yes	No	Abst.
Votes: 20	20	0	0

y F3S – RC Jet Aerobatics Aircraft F3 Aerobatics Subcommittee

Section 5.12.2 – Radio Equipment

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

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

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

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

Not permitted:
1. Snap roll buttons with automatic timing mode.
2. Pre-programming devices to automatically perform a series of commands, except for landing gear function.
3. Automatic flight path guidance.
4. Any type of ~~voice recognition system~~ **speech input.**
5. Any type of learning function involving manoeuvre to manoeuvre or flight to flight analysis.

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

Subcommitee	Yes	No	Abst.
Votes: 20	19	0	1

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

Section 5.12.9a)

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

5.12.9 **Classification**
a) For World and Continental Championships, each competitor will have four (4) preliminary flights with schedule F3SP with the best three normalised scores to determine the preliminary ranking. **In the case of a tie, the sum of all the four (4) scores will determine the preliminary ranking** The top 30% (thirty percent) of the classified F3SP competitors with a minimum of ten (10) will have three (3) additional flights. These final flights will be flown as a known, finals schedule (schedule F3SF) The total of the best three preliminary flights of the finalists (normalised again to 1000 points) will count as one score. This score

and the finals scores will give four (4) normalised scores. The sum of the ~~three~~ best **three** will give the final classification. In the case of a tie, the sum of all the four (4) scores will determine the winner.
In the event of adverse weather where flying of all rounds is not possible the classification would be determined on rounds completed as follows:

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

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

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

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

Reason: Clarifying the ranking in tie situation.

Subcommitee	Yes	No	Abst.
Votes: 20	14	0	6

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

Section 5.12.9d) – Classification

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

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

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

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

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

Subcommitee	Yes	No	Abst.
Votes: 20	14	0	6

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

Section 5.12.11k)

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

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

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

Subcommitee	Yes	No	Abst.
Votes: 20	20	0	0

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

Section 5.12.13 – Schedule of Manoeuvers

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

5.12.13 Schedule of Manoeuvres

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

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

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

The schedule F3S-FS (Freestyle) is for competitors to demonstrate their artistic performances in Jet Aerobatic Power Model Aircraft in conjunction with music.

Basic Schedule SB-24 from 2024	**K Factor**
SB-24.01: Two Loops	**4**
SB-24.02: Knife-Edge Flight	**3**
SB-24.03:Square Loop on Corner	**4**
SB-24.04: Golfball	**4**

SB-24.05: Figure Z	**4**
SB-24.06: Slow Roll	**3**
SB-24.07: Figur S	**3**

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

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

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

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

Subcommitee	Yes	No	Abst.
Votes:	20	0	0

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

Annex 5X - Manoeuvres

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

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

Subcommitee	Yes	No	Abst.
Votes: 20	20	0	0

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

Section 5.N.3 d)

Change the bold underlined text

d) rounds should be or

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

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

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

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

Subcommitee	Yes	No	Abst.
Votes:	1	18	1

Subcommitte Chairman's comment: The proposal isnt necessary because of the possibility to have other combinations which are subject to be confirmed by the World Cup Coordinator or the Chairman.