F3 HELICOPTER - Technical Meeting Minutes 2025

March, 9th 2025 - Web-Meeting
Report by: Stefan Wolf

Present:

Name	Country	Title
Stefan Wolf	GER	Chairman F3 Helicopter
Eladi Lozano Garcia	ESP	Member F3 Helicopter
Stefan Burndorfer	AUT	Member F3 Helicopter
Nicolas Dides	FRA	Member F3 Helicopter
Oscar Chinello	ITA	Member F3 Helicopter
Rolf Mäder	SUI	Member F3 Helicopter
Stephen Roberts	GBR	Member F3 Helicopter
Ron Miasnikov	ISR	CIAM Technical Secretary
Peter Uhlig	GER	CIAM Delegate
Julie Fisher	GBR	CIAM Delegate
Faruk Yeginsoy	SUI	CIAM Delegate
Tomas Bartovsky	CZE	CIAM Delegate

MINUTES - PROPOSALS

Note: i) Copy and paste a blank table if there are more proposals than there are tables provided; delete those tables that are not required.
ii) Add the proposal agenda paragraph number and proposal title in the first blank cell.

Page 10	**Class: F3C**		
a	**5.4.10 Scoring**	**Submitted by:**	**F3 Heli S/C**

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

Each manoeuvre is given a score between 0 and 10 (including half) points by each judge. A new score sheet is issued to each competitor for each round. Only the competitor's number (no name or nationality) will appear on the score sheet. Any manoeuvre not completed shall be scored zero (0) points. If a manoeuvre is scored zero points all judges must agree. There shall be an official located on the field where any flight over the prohibited area can be observed. The prohibited area is the shaded area in Figure 5.4.A behind the judges' line. The area extends to infinity to the left, right and rear. A visual or audible signal shall be given to indicate such over flights. Competitors flying over this area will be penalised by scoring zero (0) points for the current flight. However, the judges shall score all manoeuvres. If an infringement has been made, the scores will be deleted from all score sheets after the flight. In addition, there shall be no score when:

a) The competitor flies a model aircraft that has been flown in the same competition by another competitor, or flies a model aircraft that does not comply with the definition and general characteristics of a radio controlled helicopter.

~~b) The competitor does not deliver his transmitter to the impound or operates any transmitter at the competition area during a round without permission.~~

~~c~~**b**) The competitor starts his model aircraft outside of the start circle.

~~d) The competitor gets his transmitter from the impound before he is officially called.~~

~~e~~**c**) Manoeuvres must be performed where they can be seen clearly by the judges. If a judge, for some reason beyond the control of the competitor, is not able to follow the model aircraft through the entire manoeuvre, he may put a "Not Observed" (N.O.) mark. In this case, his score will, for that particular manoeuvre, be set to the average score given by the other judges, rounded to the nearest half point.

	S-C Voting *(prior to the Technical Meeting)*:	For: 10	Against: 1	Abstain: 0
	Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1
	Comments *(if necessary)*:			

Page 11 **Class: F3C**

b

5.4.11 Classification **Submitted by:** **F3 Heli S/C**

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

Part of Competition	**# of Competitors**	**# of Rounds**	**Classification**	**Ranking**
Preliminary	All registered and qualified pilots	4	Sum of normalized points of each of the four rounds. Dropping the lowest result, only if there are at least 3 completed rounds	Determines the ranking of pilots classified 29… n
Semi-Final	Top 28 pilots of preliminary part of competition	2	Sum of normalized points of each of the two rounds plus the normalized result of the preliminary part of the competition. Dropping the lowest of any of these 3 results, only if there were 2 semi-final rounds completed.	Determines the ranking of pilots classified 15..28
Final	Top 14 pilots of semi-final part of competition	2	Sum of normalized points of each of the two rounds plus the normalized result of the semi-final part of the competition. Dropping the lowest of any of these 3 results, only if there were 2 final rounds completed.	Determines the ranking of pilots classified 1..14

The finals to determine the individual classification are only required for World and Continental Championships.

If the competition is interrupted, the final individual classification will be determined by counting all completed rounds and by calculating according to the table above.
All scores for each round will be normalised by awarding 1000 points to the highest scoring flight. The remaining scores are then normalised to a percentage of the 1000 points in the ratio of actual score over the score of the winner of the round. If only one round is possible then the classification will be based on that one round.
For example:

$Points_{(X)}$ = $Score_{(X)}$ divided by $Score_{(W)}$ multiplied by 1000

Where $Points_{(X)}$ = Points awarded to competitor X

$Score_{(X)}$ = Score of competitor X

$Score_{(W)}$ = Score of winner of the round

Points (x) should be calculated to at least two decimal places and recorded (truncated) to two places after decimal point.
Ties for any of the first three places will be broken by counting the highest throwaway score. If the tie still stands a "sudden death" final must take place within one hour of the end of the scheduled final rounds.
The team classification for World and Continental Championships is established at the end of the competition (after the final flights) by adding together the numerical final placings of the three team

	members using the full list of competitors **without participants who were registered during a possible second phase of the preliminary entry** unless there is a fourth or a fifth member of the team (who must always be a junior and/or a woman) in which case it will be the three best placed members. Teams are ranked from the lowest numerical scores to the highest, with complete three-competitor teams ahead of two-competitor teams, which in turn are ranked ahead of one-competitor teams. In case of a tie, the best individual placing decides the team ranking. (Ref: *CIAM General Rules*, C.15.6.2 i))			
	S-C Voting *(prior to the Technical Meeting)*:	For: 11	Against: 0	Abstain: 0
	Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1
	Comments *(if necessary)*:			

Page 12	**Class: F3C**		
c	**5.4.12 Judging**	**Submitted by:**	**F3 Heli S/C**

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

At Continental and World Championships the organiser must appoint a panel of five judges for each round/flight line. When the entry exceeds 55, two flight lines must be used. The judges must be of different nationalities and must be selected from the current CIAM list of international judges. When using two separate panels, the organiser is allowed to use two judges of the same nationality, one on each panel. Those selected must reflect the approximate geographical distribution of teams participating in the previous World Championship with the final list approval by the CIAM Bureau.
~~At least 20% but not more than 40% of the judges must not have judged at the previous World Championships.~~
For the preliminary rounds the final score of each flight is obtained by deleting the highest and lowest scores for each manoeuvre from the five judges. This also applies for semi final and final rounds if only one flight line is used. If two flight lines were used for the preliminary rounds, for the final and semi final rounds ten judges shall be used while dropping the two lowest and two highest scores for each manoeuvre. At open or other International Competitions the number of judges may be reduced to a minimum of three with no throwaway scores.

a) There shall be training flights for judges with a debriefing session immediately before a Continental or World Championships.

b) The scoring system must be organised in such a way that the competitors and the spectators can clearly see the scores awarded by all judges after each flight. The score sheet notation must be written by the judges themselves.

S-C Voting *(prior to the Technical Meeting)*:	For: 10	Against: 1	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1
Comments *(if necessary)*:			

Page 12	**Class: F3C**		
d	**5.4.13 Organisation**	**Submitted by:**	**F3 Heli S/C**

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

TRANSMITTER & FREQUENCY CONTROL (See Volume *CIAM General Rules*, Section C, Paragraph C.16.2). When all transmitters are of the spread spectrum type a transmitter impound is not required.

FLIGHT ORDER
The flight order for the first preliminary round will be determined by a random draw, taking into account that frequency will not follow frequency and team member will not follow team member of the same team. The flight order for preliminary rounds two, three and four will start at the first, second and third

quarter of the initial order. **<u>This means the second round begins with the second quarter of the initial order after the first quarter of the initial order has been moved to the end and so on.</u>** The flight order for the first semi final round will be established by a random draw. The flight order for the second semi final round will start at the first half of the initial order. The flight order for the first final round will be established by a random draw. The flight order for the second final round will start at the first half of the initial order.

PREPARATION TIME
A competitor must be called at least 5 minutes before he is required to enter the start circle. A start circle 2m in diameter will be provided away from the flight line, spectators, competitors and model aircraft (see FIGURE 5.4.A). When the previous competitor's flight time reaches 6 minutes the flight line director can give the signal to start the engine. In the case of electric motors, the battery must not be connected before signal has been given. The competitor is given 5 minutes to start the engine and make last minute adjustments. The model aircraft may only be hovered in the start circle up to 2m and must not be rotated beyond 180º left or right relative to the competitor. If the model aircraft is rotated beyond 180º the flight is terminated. The competitor in the start circle must reduce his engine's speed to an idle when the preceding competitor has completed the penultimate manoeuvre. If the competitor is not ready after the 5 minute preparation time, he is allowed to complete his adjustments in the start circle; however, his flight time will have started at the end of the 5 minute interval.

FLIGHT TIME
The flight time of 9 minutes for the preliminary flights and 8**<u>:30</u>** minutes for semi final and final flights begins when the competitor's model leaves the start circle with the permission of the flight line director and the judges. If the allotted time expires before a manoeuvre is completed, that manoeuvre and all remaining manoeuvre(s) will be scored zero.

RESTRICTIONS
After starting the model aircraft in the start circle the model aircraft must be flown at 2m to the helipad along the model entry path shown on the Contest Area Layout (Figure 5.4.A). The pilot may test hover the helicopter on the helipad and reposition it, before announcing the start of the first manoeuvre, to accommodate wind conditions. If the engine stops the flight is terminated.
After the flight: In case of electric motors, the battery must be disconnected before the pilot brings the helicopter over the judging line.

INTERRUPTION OF A COMPETITION
If the wind component perpendicular to the flight line exceeds 8ms/s for a minimum of 20 seconds during a flight, the competition must be interrupted. The flight will be repeated and the competition continued as soon as the wind subsides below the criterion. If the wind does not subside before the round is completed, the entire round will be dropped. The determination will be made by the organiser with concurrence of the FAI Jury.

S-C Voting *(prior to the Technical Meeting)*:	For: 8	Against: 3	Abstain: 0
Technical Meeting Voting:	For: 4	Against: 3	Abstain: 1
Comments *(if necessary)*: The clarification in chapter 'FLIGHT ORDER' was accepted unanimously. The vote related to the changed flight time.			

Page 13	**Class: F3C**		
e	**5.4.14 Manoeuvre Schedules**	**Submitted by:**	**F3 Heli S/C**

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

FLIGHT PROGRAM
The flight program consists of manoeuvre schedules P**<u>, SF</u>** and ~~SF/~~F for the years 2024**<u>6</u>** - 202~~5~~**<u>7</u>**. The P schedule consists of nine (9) manoeuvres and the SF **<u>and</u>** ~~/~~F schedule consists of eight (8) manoeuvres. (see ANNEX 5D - F3C MANOEUVRE DESCRIPTIONS).

S-C Voting *(prior to the Technical Meeting)*:	For: 11	Against: 1	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1

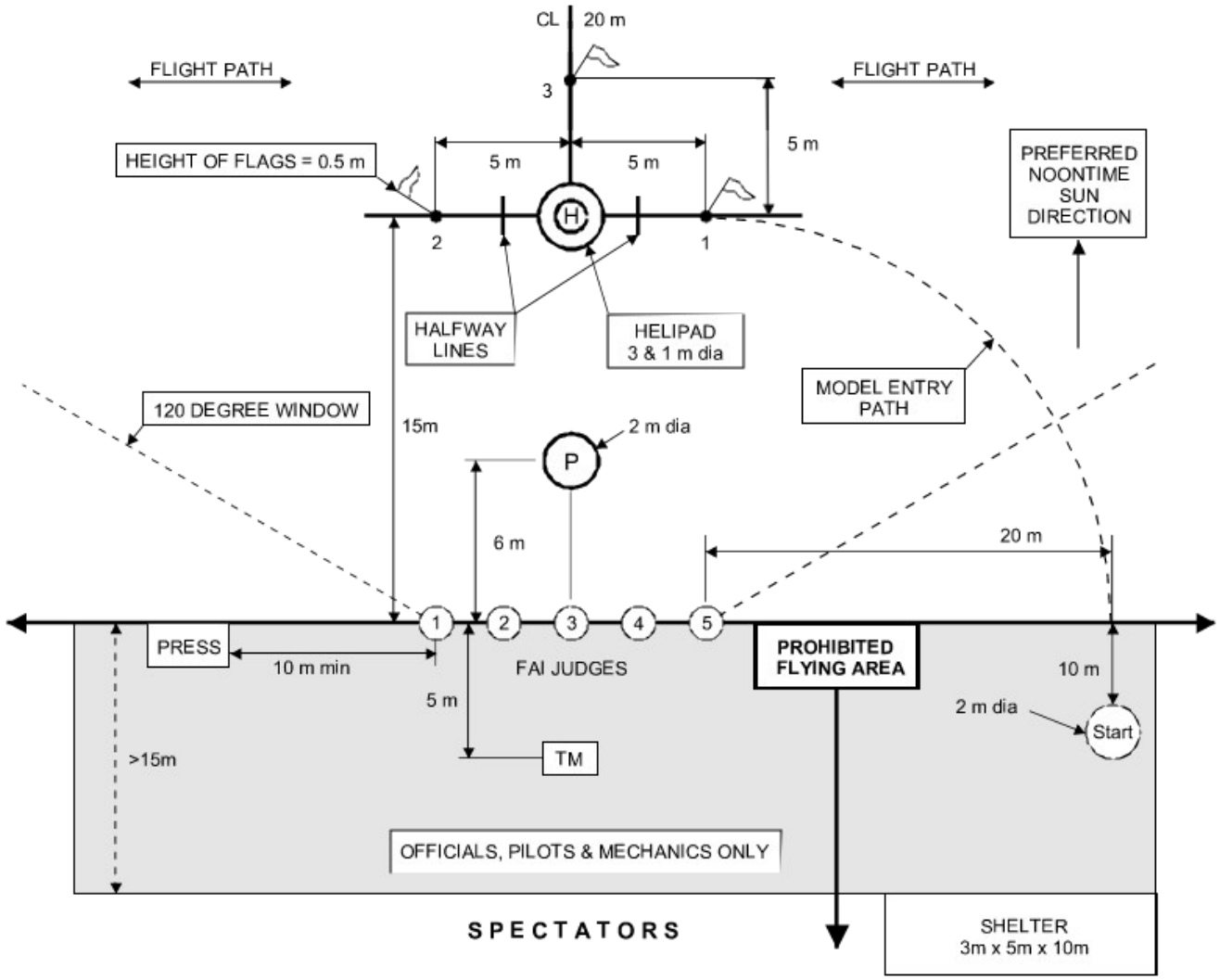
	Comments *(if necessary)*:

Page 14	Class: F3C

f	5.4.A F3C Contest Area Layout	Submitted by:	F3 Heli S/C

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

FIGURE 5.4.A - F3C CONTEST AREA LAYOUT



S-C Voting *(prior to the Technical Meeting)*:	For: 11	Against: 1	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1
Comments *(if necessary)*:			

Page 25	Class: F3N

g	5.11.3 Contest Area Layout	Submitted by:	F3 Heli S/C

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

Refer to Figure 5.11.A. The drawing shows the recommended layout, the shape and distances of which should be kept for safety reasons. The centreline must be clearly indicated 20m out from the helipad. **The contest area layout is the same as for F3C, except for the center flag and flag no. 3.**

	S-C Voting *(prior to the Technical Meeting)*:	For: 4	Against: 0	Abstain: 0
	Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1
	Comments *(if necessary)*:			

Page 25	**Class: F3N**		
h	**5.11.7 Scoring**	**Submitted by:**	**F3 Heli S/C**

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

The number of judges is at least three, and no more than five. **At Continental and World Championships the organiser must appoint a panel of five judges for each round/flight line. The judges must be of different nationalities and must be selected from the current CIAM list of international judges.** ~~At least 20% but not more than 40% of the judges must not have judged at the previous World Championships.~~ If only three (3) judges are used, all marks will be counted for the score of the round. By using four (4) or five (5) judges, the highest and lowest mark of each manoeuvre will be discarded.

In the Set Manoeuvre flight each manoeuvre is given a score between 0 and 20 points by each judge. A manoeuvre that is not completed or not flown according to the description shall be scored zero (0) points. If a manoeuvre is scored zero points all judges must agree. In the freestyle or music freestyle flights the scoring is done after the flight according to the scoring criteria.

In the Set Manoeuvre flights, only manoeuvres that are completed in the flight time of 8 minutes will receive a score. If the flight time for the Freestyle or Music Freestyle program is less than 3:20 minutes or more than 3:40 minutes, there shall be a downgrade of 5% for the flight. A flight shorter than two or longer than five minutes shall be scored zero points.
Manoeuvres must be performed where they can be seen clearly by the judges. If a judge, for some reason beyond the control of the competitor, is not able to follow the model aircraft through the entire manoeuvre, he may put a "Not Observed" (N.O.) mark. In this case, his score will, for that particular manoeuvre, be set to the average score given by the other judges, rounded to the nearest whole point.

S-C Voting *(prior to the Technical Meeting)*:	For: 4	Against: 0	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1
Comments *(if necessary)*:			

Page 26	**Class: F3N**		
i	**5.11.8 Classification**	**Submitted by:**	**F3 Heli S/C**

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

After the completion of every round, all scores will be normalised by awarding 1000 points to the highest scoring flight. The remaining scores are then normalised to a percentage in the ratio of actual score over the highest score of the round. The scores should be calculated to at least two decimal places and recorded (truncated) to two places after decimal point.
There shall be two rounds of Set Manoeuvre flights and one round each for Freestyle and Music Freestyle. However, the lowest score of each competitor will be the throwaway score. The other scores are added together and then divided by the number of counting preliminary rounds.
The result is the preliminary score. If only one round is possible then the classification will be based on that round.
After completion of the preliminary flights, the top 10 competitors are entitled to three fly-off flights, one Set Manoeuvre flight, one Freestyle and one Music Freestyle flight. The normalised results of the

	preliminary rounds for the top 10 pilots plus the three fly-off scores provide four normalised scores with the best three to count for the final individual classification. If only one fly-off could be flown the final individual classification will be calculated by using the normalised results of the preliminary rounds for the top 10 pilots plus the normalised scores of this fly-off. If not more than two fly-off flights are possible the final individual classification will be calculated by using the normalised results of the preliminary rounds for the top 10 pilots plus the two fly-off scores provide three normalised scores with the best two to count. At national and open international competitions the preliminary/fly-off system is not mandatory. Ties will be broken by counting the throwaway score. If the tie still stands, a "sudden death" freestyle fly-off must take place until a decision is made. The team classification for World and Continental Championships is established at the end of the competition (after the fly-off flights) by adding together the numerical final placings of the three team members using the full list of competitors **without participants who were registered during a possible second phase of the preliminary entry** unless there is a fourth or a fifth member of the team (who must always be a junior and/or a woman) in which case it will be the three best placed members. Teams are ranked from the lowest numerical scores to the highest, with complete three-competitor teams ahead of two-competitor teams, which in turn are ranked ahead of one-competitor teams. In case of a tie, the best individual placing decides the team ranking. (Ref: *CIAM General Rules*, C.15.6.2 i))
S-C Voting *(prior to the Technical Meeting)*:	For: 7 Against: 0 Abstain: 0
Technical Meeting Voting:	For: 7 Against: 0 Abstain: 1
Comments *(if necessary)*:	

Page 35	**Class: F3N**

j	**CLASS F3N OPTIONAL MANOEUVRE LIST – B.3 Time Travel**	**Submitted by:**	**F3 Heli S/C**
	Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*: **B.3 Time Travel** **11.5** MA hovers upright on the centreline nose in. MA then performs a pirouetting tic toc loop with skids out. The circular loop must consist ~~of exactly 12~~ **a suitable number of** tic tocs. After each tic toc the boom must point to the centre of the loop. MA boom will change direction corresponding to **nearly** 1 hour per tic toc. Each tic must include a half pirouette in one direction, and each toc must include a half pirouette in the opposite direction. MA completes the manoeuvre by stopping in the same orientation and location as the starting point.		

S-C Voting *(prior to the Technical Meeting)*:	For: 4	Against: 3	Abstain: 0
Technical Meeting Voting:	For: 0	Against: 6	Abstain: 2
Comments *(if necessary)*: **The proposal is withdrawn.**			

Page 26	**Class: F3N**

k	**5.11.9 Organisation**	**Submitted by:**	**F3 Heli S/C**
	Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*: The flight order for the first Set Manoeuvre round will be determined by a random draw. The flight order for rounds two (Freestyle), three (Set Manoeuvre) and four (Music Freestyle) will start after the first, second and third quarter of the initial order. **This means the second rounds begins with the second quarter of the initial order after the first quarter of the initial order has been moved to the end and so on.** The flight order for the fly-offs will be determined in the same manner.		

	Preparation Time: A competitor must be called at least 5 minutes before he is required to enter the start box. The MA may be hovered only up to 2m in the start box. After the preceding competitor has finished his flight, the competitor is given another minute (two minutes in Freestyle) to make last minute adjustments or checks.			
	S-C Voting *(prior to the Technical Meeting)*:	For: 4	Against: 0	Abstain: 0
	Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1
	Comments *(if necessary)*:			

ANNEXES F3C

Page 15	Class: F3C

5D.1 General	Submitted by:	F3 Heli S/C

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

The manoeuvres are displayed in pictorial form in Figures 5D-P**,** ~~and~~ 5D-SF~~/F~~ **and 5D-F** for the case where the wind direction is left to right. The following descriptions apply to all manoeuvres and if not performed properly must result in downgrades. Points will also be subtracted if a manoeuvre is not performed as described. The starting/ending altitude for the hovering manoeuvres is 2m above the helipad. If a manoeuvre is unrecognisable it must be severely downgraded. If pirouettes are performed in the wrong direction, the score shall be zero (0) points. Ascents from, and descents to, the helipad must be vertical. Landings must be smooth and centred on the helipad. During the hovering manoeuvres all stops must be of 2 seconds minimum duration (unless specified otherwise). Circular and linear hovering segments must be performed at a constant speed. Every pirouette must be performed at a constant turning rate. The hovering manoeuvres must be started with the nose of the model aircraft (MA) facing left or right and must be flown as a unit (the starting heading must be same for each hovering manoeuvre). The competitor must stand in the 2m diameter circle marked "P" in Figure 5.4.A during all manoeuvres. All aerobatic manoeuvres must start and end in the direction indicated with a straight and level flight line of 10m minimum length. Entry and exit must be at the same altitude and heading. Loops or parts of a loop must be round and have the same diameter. Consecutive loops must be in the same location and plane. Rolls must be performed at a constant roll rate. Consecutive rolls must have the same roll rate and must be at the same altitude and heading. During all aerobatics manoeuvres the competitor must maintain his MA above a minimum altitude of 10 m. Aerobatic manoeuvres must be centred within the 120º horizontal field of view and must be symmetrical about the centre line. Aerobatic manoeuvres flown at a distance greater than 100m from the judges' line will be downgraded. In case of a dispute the manoeuvre text takes precedence over Figures 5D-P**,** ~~and~~ 5D-SF~~/F~~ **and 5D-F**.

Note: When the word "centred" is used, it means that the MA crosses an imaginary plane that extends from a line drawn vertically upward, from the centre judge out through the helipad. This refers to ~~both~~ **all** Schedules P**,** ~~and~~ SF~~/~~ **and** F.

Scoring criteria for landing; See ANNEX 5E paragraph 5E.6.11.

S-C Voting *(prior to the Technical Meeting)*:	For: 11	Against: 1	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1
Comments *(if necessary)*:			

Page 17	Class: F3C

5D.2 SCHEDULE P – P9: 180° Autorotation	Submitted by:	F3 Heli S/C

Amended at the Technical Meeting? **YES** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

5D.2 SCHEDULE P

P9: 180° Autorotation (DU) **K=1.0**

MA flies straight and level for a minimum of 10 m at a minimum altitude of 20 m. ~~When MA crosses~~ **Before crossing** an imaginary plane that extends vertically upward from a line drawn from the center judge out through the helipad, MA **turns the engine** ~~must be in the autorotation state, the engine must be~~ off (or at idle) **and continues to fly straight and leveled.** ~~at this point and the~~ When crossing this line MA must **start the autorotation and descend.** ~~be descending.~~ **It is also at this point that** ~~T~~**t**he 180° turn must start ~~at this point~~ and the turning and descending rate must be constant ~~from this point~~

to a point just before touchdown on the helipad. The flight path of the MA must appear as a semi-circle when viewed from above, starting at the vertical plane and ending at a line drawn from the center judge through the helipad. The MA's flight path must never be parallel to the ground or judge's line.

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

S-C Voting *(prior to the Technical Meeting)*:	For: 12	Against: 0	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1
Comments *(if necessary)*:			

5D.3 Schedule SF | **Submitted by:** | **F3 Heli S/C**

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

5D.3 SCHEDULE SF~~/F~~

SF1: Tulip with 1/2 Pirouettes (UU) **K=1.5**

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

SF2: Laid Eight with Pirouettes (UU) **K=1.5**

MA takes off vertically from the helipad and ascends to 4.5 m while performing simultaneously a 360° pirouette in any direction, then hovers there for at least two seconds. MA flies backwards and descends describing a vertical circle with a radius of 2.5 m while simultaneously performing a 360° pirouette in any direction.
MA flies forward and descends describing a vertical circle with a radius of 2.5 m while simultaneously performing a 360° pirouette in the opposite direction, stops and hovers for at least two seconds over the helipad. MA descends and lands into the helipad while simultaneously performing a 360° pirouette in any direction.
Note: The change of direction of the pirouettes must occur smoothly on the center line.

SF3: Candle with 360° Tail Turn and 180° pushed Flip (UU) **K=1.0**

MA flies straight and level for a minimum of 10 m and pulls up into vertical ascent on center line by doing a quarter loop. MA then performs a 360° tail turn, descends minimum 2 m vertically backwards and performs a 180° pushed flip while descending vertically. MA descends minimum 2 m vertically forward, pulls with a quarter loop into horizontal straight and level flight for a minimum of 10 m at the same altitude as when entering the figure.
Note 1: The quarter loops at the entrance and the exit of the figure must have the same radius.
Note 2: The vertical lines before and after the 180° flip must be of equal length.

SF4: Inverted Cuban Eight with half Rolls (DD) **K=1.0**

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

straight and level, executes a half roll in either direction back to upward flight continuing straight and level for at least 10 m.

SF5: Standing Triangle (UU) **K=1.0**

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

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

SF6: Three opposite Rolls (DD) **K=1.0**

MA flies straight and level for a minimum of 10 m, performs a roll in any direction followed by a roll in opposite direction followed by a roll in the same direction as the first roll. MA flies straight and level for a minimum of 10 m.
Note 1: During the second roll the MA must be in inverted flight when it crosses the center line.
Note 2: The rolls must be executed one immediately after the other, straight flights between the rolls will be downgraded by one to two points.
Note 3: The elapsed time from the beginning of the first to the end of the third roll must be at least 4 seconds.

SF7: Inverted Umbrella with half Rolls (UU) **K=1.0**

MA flies straight and level for a minimum of 10 m and pulls up into a vertical ascent on center line. After a nose up stop MA performs immediately in a backward vertically flight a half roll in any direction followed by a half backward loop. After MA stops it performs a centered ‘U’. After a nose up stop MA performs a half backward loop followed by a backwards vertically ascent. After a nose down stop MA performs immediately in a forward vertically flight a half roll in any direction followed by a vertical descent. MA pulls with a quarter looping into horizontal straight and level flight for a minimum of 10 m at the same altitude as when entering the figure.

Note 1: The quarter loops at the entrance and the exit of the figure and the half loop of the centered ‘U’ must have the same radius.
Note 2: The two half backward loops must be of equal size and must have half radius than the half loop of the centered ‘U’.
Note 3: The bottom of the ‘U’ must be at the same altitude as when entering the figure.
Note 4: The two rolls must be performed at the same altitude.
Note 5: The 2 half rolls must be higher than the 2 outer stall positions.

SF8: Autorotation with Flip and two 90° Turns (DU) **K=1.0**

MA flies straight and level flight for a minimum of 10 m performs a pulled 360° flip in horizontal movement, flies horizontal straight and level for a maximum of 10 m and turns off the engine (or at idle) during this straight flight period, just before reaching the center line. MA executes 3 constantly descending sides with two 90° turns in the direction of the pilot and lands against the wind into the helipad.
Note 1: The descent rate must be constant to a point just before touchdown on the helipad.
Note 2: Parts of the second side, the second 90° turn and the beginning of the third side may be flown out of the 60° flight window.

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

S-C Voting *(prior to the Technical Meeting)*:	For: 11	Against: 1	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1
Comments *(if necessary)*:			

Page	Class: F3C

5D.4 Schedule F	Submitted by:	F3 Heli S/C

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

5D.4 SCHEDULE F

F1: Tulip with 1/2 Pirouettes (UU) K=1.5

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

F2: 3D Triangle with Pirouettes (UU) K=1.5
MA takes off vertically from the helipad and ascends to 2m while doing a 90° nose-in pirouette and hovers for 2 seconds. MA flies backwards in a straight line to flag 3 and hovers for 2 seconds. MA does a 90° nose-in circle in any direction with a radius of 5m and stops for 2 seconds over the flag 1 (2). MA climbs on a 45° line to 4.5m while doing a 90° nose-in pirouette and stops for 2 seconds. MA goes on climbing sidewards on a 45° line to 7m and stops for 2 seconds over the helipad. MA performs a 360° pirouette in any direction of at least 3 seconds and stops for 2 seconds. MA descends sidewards on a 45° line to 4.5m and stops for 2 seconds. MA goes on descending on a 45° line to 2m while doing a 90° pirouette in a way that the nose points to the helipad and stops for 2 seconds over the flag 2 (1). MA performs a 90° nose-in circle with a radius of 5m and stops for 2 seconds over flag 3. MA flies forward in a straight line to the center of the helipad and hovers for 2 seconds. MA descends while doing a 90° pirouette and lands into the helipad with nose pointing in the same direction as at the beginning of the manoeuvre.

F3: M with 360° Pirouettes (UU) K=1.0
MA flies straight and level for 10 m minimum and then enters a quarter loop leading to a straight vertical line. At the end of the ascent MA performs a 90° pushed flip to a recognizable stationary hover. MA performs a 360° pirouette in either direction of at least 3 seconds followed by a recognizable stationary hover. MA performs a pushed 90° flip into a straight vertical line. After at least 5m in a straight line MA performs a half roll in either direction followed by another straight line of a least 5m. MA performs a half centered outside loop and flies up in vertical line. At the end of the ascent MA performs a 90° pulled flip to a recognizable, stationary inverted hover at the same height as before. MA then executes another 360° pirouette in either direction of at least 3 seconds followed by a recognizable stationary hover. This is followed by a pulled 90° flip into vertical straight descent of at least 5m. Then MA performs a half roll in either direction followed by a straight line of a least 5m. MA performs a quarter loop to the same altitude and heading as the at start. Manoeuvre is completed by flying straight and level for 10 m minimum.

F4: Inverted Cuban Eight with half Rolls (DD) K=1.0

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

F5: Double Candle with Flips and Rolls (UU) K=1.0

MA flies straight and level for 10 m minimum and performs a pulled 1/4 loop at the centerline, flies vertically upwards and performs a 180° travelling pushed flip and climbs backwards a little further until MA comes to a standstill. MA flies vertically downwards and performs a full roll in any direction followed by a half centered outside loop, flies vertically upwards and performs a 180° travelling pushed flip and climbs backwards a little further until MA comes to a standstill. MA flies vertically downwards performs a full roll in any direction followed by a quarter loop and flies horizontally straight ahead from the centerline at least 10 meters.

Note 1: Entry and exit must be flown at the same height.
Note 2: The flips must be flown at the same height.
Note 3: The vertical straight sections before and after the flips must be of the same length.

F6: Three opposite Rolls (DD) K=1.0
MA flies straight and level for a minimum of 10 m, performs a roll in any direction followed by a roll in opposite direction followed by a roll in the same direction as the first roll. MA flies straight and level for a minimum of 10 m.
Note 1: During the second roll the MA must be in inverted flight when it crosses the center line.
Note 2: The rolls must be executed one immediately after the other, straight flights between the rolls will be downgraded by one to two points.
Note 3: The elapsed time from the beginning of the first to the end of the third roll must be at least 4 seconds.

F7: Inverted Umbrella with half Rolls (UU) K=1.0
MA flies straight and level for a minimum of 10 m and pulls up into a vertical ascent on center line. After a nose up stop MA performs immediately in a backward vertically flight a half roll in any direction followed by a half backward loop. After MA stops it performs a centered 'U'. After a nose up stop MA performs a half backward loop followed by a backwards vertically ascent. After a nose down stop MA performs immediately in a forward vertically flight a half roll in any direction followed by a vertical descent. MA pulls with a quarter looping into horizontal straight and level flight for a minimum of 10 m at the same altitude as when entering the figure.

Note 1: The quarter loops at the entrance and the exit of the figure and the half loop of the centered 'U' must have the same radius.
Note 2: The two half backward loops must be of equal size and must have half radius than the half loop of the centered 'U'.
Note 3: The bottom of the 'U' must be at the same altitude as when entering the figure.
Note 4: The two rolls must be performed at the same altitude.
Note 5: The 2 half rolls must be higher than the 2 outer stall positions.

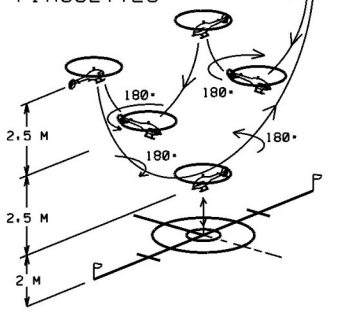
F8: Autorotation with Flip and two 90° Turns (DU) K=1.0
MA flies straight and level flight for a minimum of 10 m performs a pulled 360° flip in horizontal movement, flies horizontal straight and level for a maximum of 10 m and turns off the engine (or at idle) during this straight flight period, just before reaching the center line. MA executes 3 constantly descending sides with two 90° turns in the direction of the pilot and lands against the wind into the helipad.
Note 1: The descent rate must be constant to a point just before touchdown on the helipad.
Note 2: Parts of the second side, the second 90° turn and the beginning of the third side may be flown out of the 60° flight window.

	Scoring criteria for landing: See ANNEX 5E Paragraph 5E.6.11.			
	S-C Voting *(prior to the Technical Meeting)*:	For: 11	Against: 1	Abstain: 0
	Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1
	Comments *(if necessary)*:			

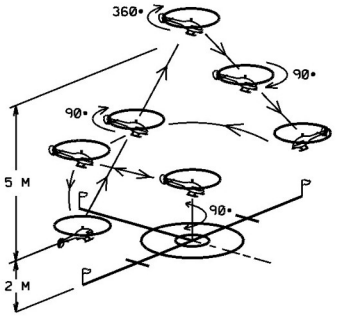
Page	**Class: F3C**		
	5D-F F3C Manoeuvre Schedule F	**Submitted by:**	**F3 Heli S/C**
	Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:		

FIGURE 5D-F: F3C MANOEUVRE SCHEDULE F

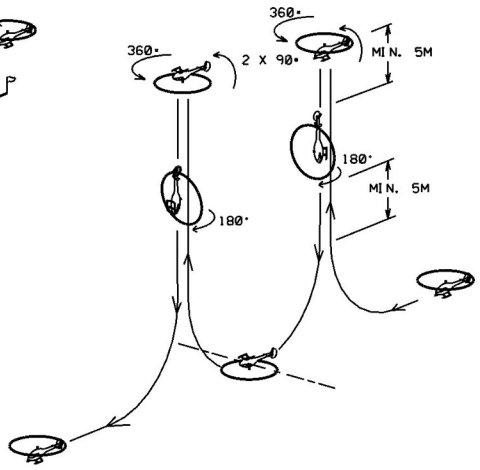
F1. TULIP WITH 1/2 PIROUETTES



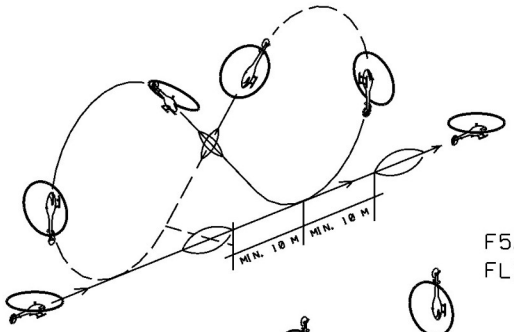
F2. 3D TRIANGLE WITH PIROUETTES



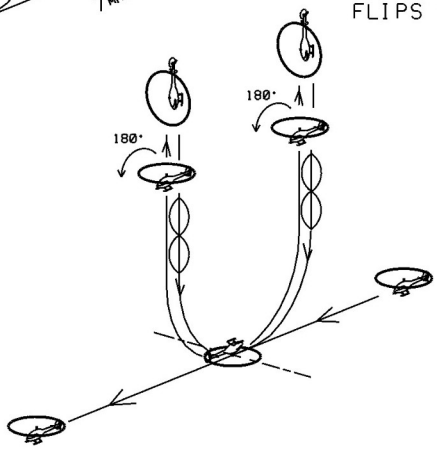
F3. M WITH 360° PIROUETTES



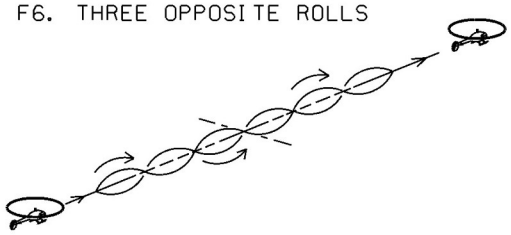
F4. INVERTED CUBAN EIGHT WITH HALF ROLLS



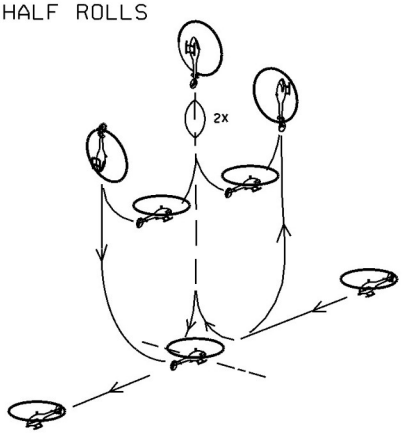
F5. DOUBLE CANDLE WITH FLIPS AND ROLLS



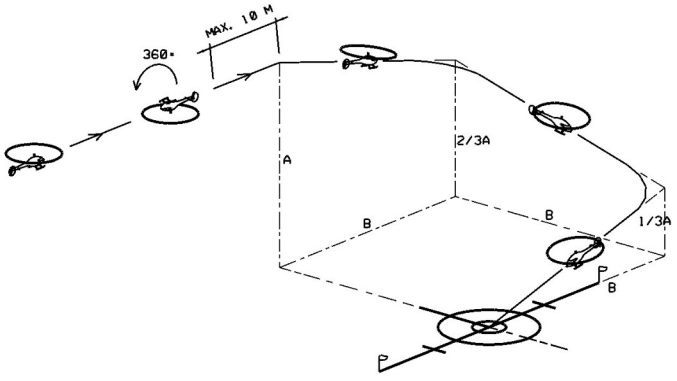
F6. THREE OPPOSITE ROLLS



F7. INVERTED UMBRELLA WITH HALF ROLLS



F8. AUTOROTATION WITH FLIP AND TWO 90° TURNS

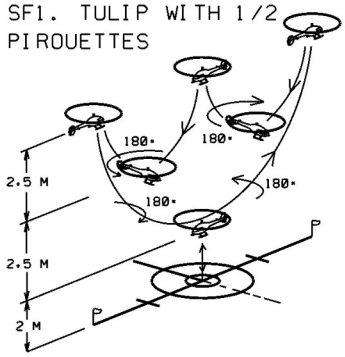


S-C Voting *(prior to the Technical Meeting)*:	For: 11	Against: 1	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1
Comments *(if necessary)*:			

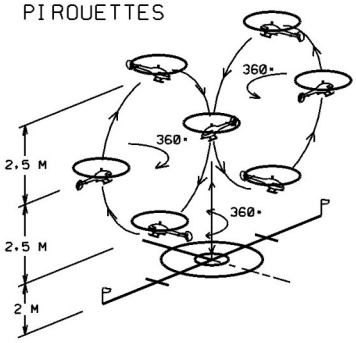
strikethrough and new text in bold underlined red):

FIGURE 5D-SF/~~F~~: F3C MANOEUVRE SCHEDULE SF/~~F~~

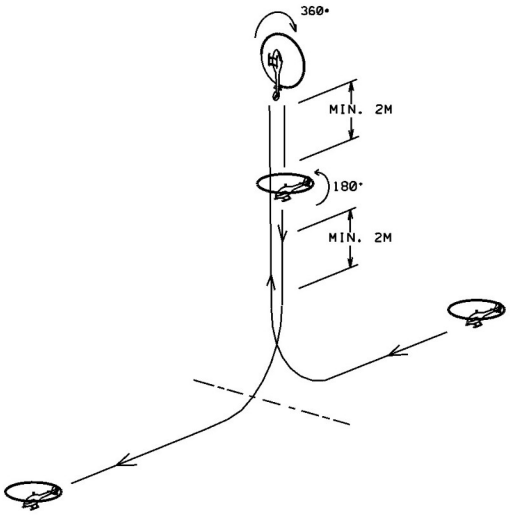
SF1. TULIP WITH 1/2 PIROUETTES



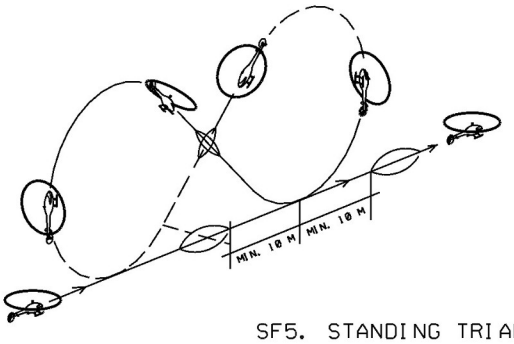
SF2. LAID EIGHT WITH PIROUETTES



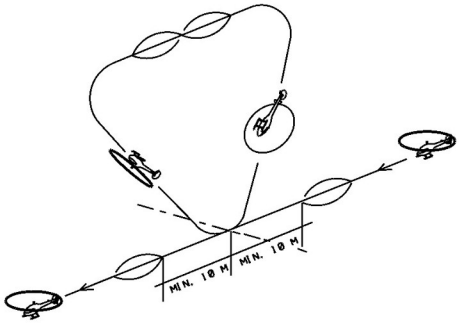
SF3. CANDLE WITH 360° TAIL TURN AND 180° PUSHED FLIP



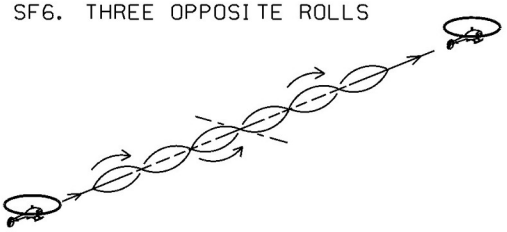
SF4. INVERTED CUBAN EIGHT WITH HALF ROLLS



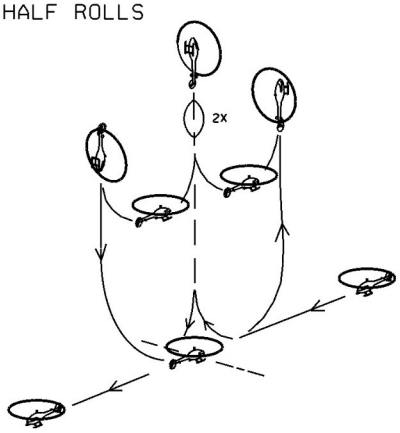
SF5. STANDING TRIANGLE



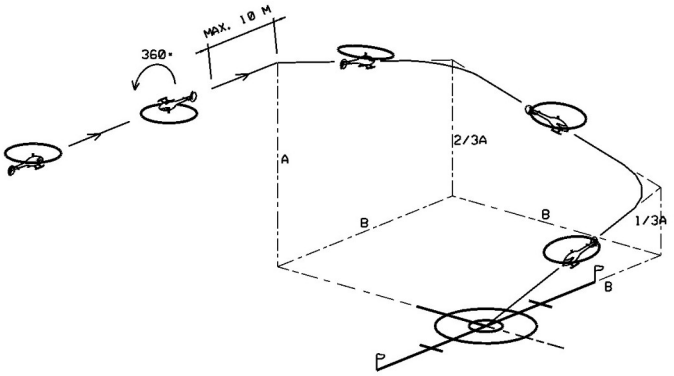
SF6. THREE OPPOSITE ROLLS



SF7. INVERTED UMBRELLA WITH HALF ROLLS



SF8. AUTOROTATION WITH FLIP AND TWO 90° TURNS



S-C Voting *(prior to the Technical Meeting)*:	For: 11	Against: 1	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1
Comments *(if necessary)*:			

ANNEX 5D F3C Manoeuvre Descriptions and Diagrams	Submitted by:	F3 Heli S/C

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

The manoeuvre schedules are listed below with the starting and ending direction (UU = Upwind - Upwind; DD = Downwind - Downwind; DU = Downwind - Upwind; UD = Upwind - Downwind) of each manoeuvre, relative to the wind, as indicated. The competitor has 9 minutes to complete the P schedule and 8**:30** minutes to complete the SF and the F schedule. Schedule P will be flown for the preliminary rounds 1 through 4. Schedule SF~~/F~~ will be flown for the semi final ~~and final~~ rounds **1 and 2**. **Schedule F will be flown for the final rounds 1 and 2**.

SCHEDULE P

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

SCHEDULE SF~~/F~~

SF1. TULIP WITH ½ PIROUETTES.....……...…. (UU)
SF2. LAID EIGHT WITH PIROUETTES..... (UU)
(FLY BY)
SF3. CANDLE WITH 360° TAIL TURN AND 180° PUSHED FLIP…(UU)
SF4. INVERTED CUBAN EIGHT WITH HALF ROLLS……. (DD)
SF5. STANDING TRIANGLE……..……..…… (UU)
SF6. THREE OPPOSITE ROLLS.....…….. (DD)
SF7. INVERTED UMBRELLA WITH HALF ROLLS ……... (UU)
(FLY BY)
SF8. AUTOROTATION WITH FLIP AND TWO 90° TURNS …… (DU)

SCHEDULE F

F1. TULIP WITH ½ PIROUETTES.....……...…. (UU)
F2. 3D TRIANGLE WITH PIROUETTES..... (UU)
(FLY BY)
F3. M WITH 360° PIROUETTES……..…(UU)
F4. INVERTED CUBAN EIGHT WITH HALF ROLLS……. (DD)
F5. DOUBLE CANDLE WITH FLIPS AND ROLLS……..…… (UU)
F6. THREE OPPOSITE ROLLS.....…….. (DD)
F7. INVERTED UMBRELLA WITH HALF ROLLS ……... (UU)
(FLY BY)

	F8. AUTOROTATION WITH FLIP AND TWO 90° TURNS …… (DU)			
	S-C Voting *(prior to the Technical Meeting)*:	For: 11	Against: 1	Abstain: 0
	Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1
	Comments *(if necessary)*:			

ANNEXES F3N

Page 41	Class: F3N

5G.8 CRITERIA FOR JUDGING FREESTYLE FLIGHT AND MUSIC FREESTYLE	Submitted by:	F3 Heli S/C

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

CRITERIA FOR JUDGING FREESTYLE FLIGHT AND MUSIC FREESTYLE
For freestyle and music freestyle flights the entire flights will be judged according to the table below:

Criterion	Max Points Freestyle	Max Points Music Freestyle
Difficulty	20 k=3	20 k=2
Harmony	20 k=1	20 k=2.5
Creativity	20 k=1	20 k=2.5
Precision	20 k=3	20 k=2
Safe presentation	20 k=1	20 k=1

For freestyle and music freestyle flights the judges can give maximum 20 points to all criteria. The valence of each criterion is regulated by k-factors.
Scoring in all the categories mentioned differs from the Set Manoeuvres where the pilot is downgraded by errors starting at maximum points.
In these categories the score is built up from Zero points to a maximum of 20 points at the end of the flight. ~~The scores are given after the flight for all five criteria.~~ It is important, that the scores for each criterion reflect the entire flight, not only some details of the flight.

S-C Voting *(prior to the Technical Meeting)*:	For: 5	Against: 0	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1

Comments *(if necessary)*: **An early implementation is requested by 15 June 2025.**

Page 41	Class: F3N

5G.8.1 Difficulty	Submitted by:	F3 Heli S/C

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

DIFFICULTY
This criterion evaluates the level of difficulty of the freestyle flight and music freestyle flight. It is important, that the entire flight is to be judged, not only some highlights~~. So~~ **, so that** the score reflects the average level of difficulty. The K-factors of the set manoeuvres may give some reference values for the difficulty, ~~but during the calibration flights and by watching practice flights~~ **however** the judge should ~~get~~ **have** a clear impression of the range of difficulties of possible manoeuvres. **The published table in 5G 8.6 should be used consistently as a reference for overall scores in this criteria.**

S-C Voting *(prior to the Technical Meeting)*:	For: 5	Against: 0	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 1	Abstain: 0

Comments *(if necessary)*: **An early implementation is requested by 15 June 2025.**

Page 41	Class: F3N

5G.8.2 Harmony	Submitted by:	F3 Heli S/C

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

HARMONY

The combination of the manoeuvres, smooth or flowing transitions ~~between them~~, **size and dynamic movement in relation of the model aircraft to the presentation area** are the main factors for this criterion. ~~Also the manoeuvres size and dynamic in relation to the model aircrafts performance is of influence.~~ The pace ~~is~~ **should** not be of influence here, harmony can be well demonstrated in dynamic ~~as~~ **and** in gentle sequences. **Transitions to a new manoeuvre should be started only after full completion of the previous manoeuvre, and not in a way which makes the previous manoeuvre appear fragmented.**

~~In Music flights also the harmony between the music and the presentation comes to influence here. The transformation of musical accents into the performance is of great importance here.~~

Harmony refers to a pleasing combination or arrangement of different elements or parts that work together to create a sense of unity, balance, compatibility and synchronization.

In the music round specifically, harmony refers to the combination of different tones or chords that complement and enhance each other, creating a greater sense of compatibility and synchronization. Changes in music style and/or speed should be reflected in a corresponding change in flying style, thereby visualizing the changes in the audio.

MA motion that follows the audio as played or sung with the main tune will lead to a higher score.

S-C Voting *(prior to the Technical Meeting)*:	For: 5	Against: 0	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1

Comments *(if necessary)*: **An early implementation is requested by 15 June 2025.**

Page 41 **Class: F3N**

5G.8.3 Creativity — **Submitted by:** **F3 Heli S/C**

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

CREATIVITY

Creativity is a characteristic of a flight in which the ability to produce or use original and unusual ideas is shown. New combinations or new manoeuvres ~~at all~~ **seen** will lead to high**er** scores ~~here~~. ~~Also dynamic and diversified sequences are positive. There also should be a variety of different tempi in the presentation.~~ Sequences without manoeuvres or with **many** repetitions will lead to downgrades.

An excessive use of same pirouetting rate will also lead to downgrades. Flights should include diversity in pirouetting rates for different parts of the flight. **In Music flights the transformation of musical accents into the performance along with dynamic and diversified sequences are positive should be rewarded.**

S-C Voting *(prior to the Technical Meeting)*:	For: 5	Against: 0	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1

Comments *(if necessary)*: **An early implementation is requested by 15 June 2025.**

Page 42 **Class: F3N**

5G.8.4 Precision — **Submitted by:** **F3 Heli S/C**

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

PRECISION

Precision and recognition of manoeuvres and sequences are evaluated here. The criteria cannot be as strict as for the set manoeuvres as they have to be met for an entire flight, but the principles ~~stay~~ **remain** the same.
Judges will be rewarding the accuracy and attention to detail of the routine placed symmetrically within the flight area.

S-C Voting *(prior to the Technical Meeting)*:	For: 5	Against: 0	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1

Comments *(if necessary)*: **An early implementation is requested by 15 June 2025.**

Page 42 **Class: F3N**

5G.8.5 Safe Presentation | **Submitted by:** | **F3 Heli S/C**

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

SAFE PRESENTATION
In addition to the safety rules during the flight(s) (5.11.10), the impression of the presentation related to safety is the guide here. If a pilot does not exceed the limit of his skills or flies unsafe in any way (e.g. too close to himself) a high score can be given here. Flying low (within the rules) by itself is not a reason for downgrade~~.~~**, however unnecessary risk or flying a segment of a routine clearly deviating below the other segments may result in a downgrade for safety.** Risky manoeuvres must not lead to higher scores for difficulty, but result in a downgrade for safety.

S-C Voting *(prior to the Technical Meeting)*:	For: 5	Against: 0	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1

Comments *(if necessary)*: **An early implementation is requested by 15 June 2025.**

Page 42 **Class: F3N**

5G.8.6 Evaluation of the level of difficulty for freestyle schedule | **Submitted by:** | **F3 Heli S/C**

Amended at the Technical Meeting? **NO** *(delete as appropriate)* (*If "yes" then, type in the amended proposal with deletions as strikethrough and new text in bold underlined red)*:

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

Aerobatic Manoeuvres in Basic Orientations	
3	Examples: Immelmann, short straight passages, loop, loop with full pirouette on top, roll, turn, 540° turn, pirouettes
5	Examples: ½ Cuban eight, long passages, nose-in circle, flips, autorotation
6	Examples: inverted hovering on eyelevel, flip sideward, Cuban eight, flips with hovering stops
6-10	Examples: Horizontal eight, loop sidewards, turn with hesitations and/or changes of turning direction, rolling stall turn, autorotation with 180 degree turn, death spiral, knife edge pirouette, speed circle, stationary tictoc, funnel, 4-point roll, multi-point tictoc, Snake
Aerobatic Manoeuvres in Several Orientations	
10-15~~4~~	Aerobatic manoeuvres that demonstrate several orientations like inverted, sideways, backwards etc. Examples: Backward Inverted Cuban eight, skids in and out knife edge manoeuvres, snake parallel to flight line and to centerline, different kinds of funnels like waltz
Aerobatic Manoeuvres including Piros, Rolls and Flips Etc	
13-18~~7~~	Aerobatic manoeuvres flown in a way where in addition to the CG movement

	of the main manoeuvre, the model is continuously performing rolls, piros, flips, tictocs or similar. In order to get a high score, many orientations must be shown. Examples: Pirouetting Globe, Chaos, Rolling Globe, Rolling circles, Pirouetting funnels
Aerobatic Manoeuvres including Reversals and Transformations	
17~~7~~**6**-20	Aerobatic manoeuvres flown in a way, where piros, rolls, tictocs or other secondary manoeuvres are included/integrated and reversed in an equal and balanced way. Examples: Rolling globe with roll reversals, horizontal circle with continues flips/rolls so that tail boom is always parallel to centerline, Reversing chaos In order to score near maximum, many orientation changes must be displayed, and flight must include many clearly defined manoeuvres.

S-C Voting *(prior to the Technical Meeting)*:	For: 4	Against: 0	Abstain: 0
Technical Meeting Voting:	For: 7	Against: 0	Abstain: 1
Comments *(if necessary)*: **An early implementation is requested by 15 June 2025.**			

F3 Helicopter Technical Meeting

Stefan Wolf