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# French eXtreme Flight Championships rules - FXFC

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## 1. INTRODUCTION

The French eXtreme Flight Championships (FXFC) is an international contest, where radio-controlled aircraft fly aerobatic routines set to music.

This document provides both general and specific rules and guidelines to be followed during the contest.

The rules and guidelines contained within this document were created by pilots, judges, and organisers from previous FXFC contests. The information within this document is therefore designed for pilots, judges, organisers, and members of the public who require information about the FXFC.

## 2. ENTRY REQUIREMENTS, INSURANCE REQUIREMENTS AND PILOT RESPONSIBILITIES

Each pilot must agree to respect the rules detailed within this document.

Each French pilot must be in possession of a valid, up-to-date federal license.

All other (non-French) pilots must be in possession of a valid, up-to-date federal license from their country of origin and a valid, up-to-date insurance certificate.

Each pilot can be accompanied by a maximum of 2 coaches. Each coach must be in possession of a valid, up-to-date federal license from their country of origin and an up-to-date, valid insurance certificate.

Each pilot's model aircraft must meet the criteria outlined below:

- ✓ It must be a scale representation of a real aircraft
- ✓ It must have a **minimum** wingspan of 185 cm for monoplanes, or 160 cm for biplanes
- ✓ If fitted with an internal combustion engine, the engine size must not be greater than 250 cm<sup>3</sup>
- ✓ If fitted with an electric motor for, the maximum **nominal** voltage of the associated power source must not be greater 72 volts
- ✓ The maximum take-off mass, with all equipment fitted for a flight (such as fireworks, special effects etc), including any fuel or liquids such as smoke fluid, must be no greater than 25kg
- ✓ Absolutely no stabilisation systems of **any** kind are permitted
- ✓ No variable pitch propellers are permitted

**Each pilot assumes full responsibility for their model aircraft and thus it is up to them to ensure their model aircraft is in good, airworthy condition and will not pose a safety hazard at any time.**

The Contest Director can, at any time, remove a pilot from the competition who does not abide by the rules detailed within this document.

## 3. REGISTRATION PROCEDURE AND CONTEST SCHEDULE

Each pilot must register via the FXFC website → [www.fxfc.fr](http://www.fxfc.fr)

The entry fee is 65€, each pilot must use the Paypal link available on the FXFC website to pay this fee.

The total number of pilots is limited to 40. If the total number of registrations exceeds 40, the organisers reserve the right to select, at their discretion, which pilots will be selected for the contest.

The FXFC is a 4-day long contest, which consists of 1 day for training and practice flights, 2 days of qualifying, 1 day for the semi-final and the final. The breakdown is as follows:

- ✓ Thursday morning: Training and practice flights
- ✓ Thursday afternoon: Training, practice flights, calibrating flights and briefing
- ✓ Friday morning: 1<sup>st</sup> qualification round, each pilot to fly once
- ✓ Friday afternoon: 2<sup>nd</sup> qualification round, each pilot to fly once
- ✓ Saturday morning: 3<sup>rd</sup> qualification round, each pilot to fly once
- ✓ Saturday afternoon: 4<sup>th</sup> qualification round, each pilot to fly once
- ✓ Sunday morning: Semi-final rounds, each qualified pilot to fly twice
- ✓ Sunday afternoon: Final round, each qualified pilot to fly once, and the awards ceremony

The specific times each round will take place will be available on the FXFC website.

The order pilots will fly in, will be drawn for the qualification stage prior to the start of the contest. The flying order will be re-drawn for the semi-final and final.

Within the qualification and semi-final stages, the flying order will be shifted between rounds. After each qualification round, the first quarter of pilots will be moved to the back of the flying order. After the first semi-final round, the first half of pilots will be moved to the back of the flying order.

After every 15 flights, a 10-minute break will take place. During this break, sponsor of the FXFC contest can carry out demonstration and promotional flights.

After the completion of a flight, each judge will score the pilot against 6 criteria.

Each criterion is multiplied by a numerical factor, with these subsequent scores added together to obtain a total score from each judge for the flight. The scores of all judges are added together to arrive at a final score for the pilot's flight.

Upon the completion of a round, the scores of all pilots will be normalised, such that the highest scoring pilot will have a score of 1000.

After all 4 qualification rounds have taken place, for each pilot their two highest scores (after normalisation) will be added together to arrive at their score for the entire qualification stages. The top 20 scoring pilots will then proceed to the semi-final round. In the event of two or more pilots scoring the same, the higher ranking pilot will be the one who has the highest total from all 4 qualification rounds.

After both semi-final rounds, each pilot will be scored based on their highest scoring flight (after normalisation), the top 10 pilots will proceed into the final round. In the event of two or more pilots scoring the same, the highest scoring pilot will be the one who has the highest total from the 2 semi-final rounds, and so on.

The results of the final will be determined by scores after normalisation. In the event of two or more pilots scoring the same, the highest ranking pilot will be the one who has the highest combined score of the final round and the 2 semi-final rounds.

## 4. FLIGHT RULES AND SAFETY RULES

Each flight will be flown to music.

The pilot can choose to perform either of two aeromusical programs that they have prepared in advance.

There is no restriction on the content of the music, nor on the aerobatic manoeuvres that can be performed.

**Each pilot has a maximum time limit of 1 minute to start their aircraft's propulsion system.** In event of a technical issue that prevents this, the pilot who is next scheduled to fly, will immediately

take the current competitor's place. The opportunity for the pilot who was unable to start their aircraft, to try to fly again at the end of the round, will be left to discretion of the organisers.

**The duration of music shall be between 3 minutes 50 seconds and 4 minutes 10 seconds. The total flight time from the moment the wheels leave the ground, to the moment they touch the ground after the completion of a competitive flight shall be no longer than 6 minutes.**

**If the total flight time is over 6 minutes, the pilot will score zero for that flight.**

**If the pilot was unable to complete their flight (due to crashing etc), the pilot will score zero for that flight.** If the pilot was unable to complete their flight due to reasons beyond their control, i.e, some external disturbance such as the sudden onset of heavy rain, then they will be permitted to re-attempt their flight at the discretion of the organisers.

The signal to begin playing music for a flight, will be the up-and-down motion of the pilot's arm or their coach.

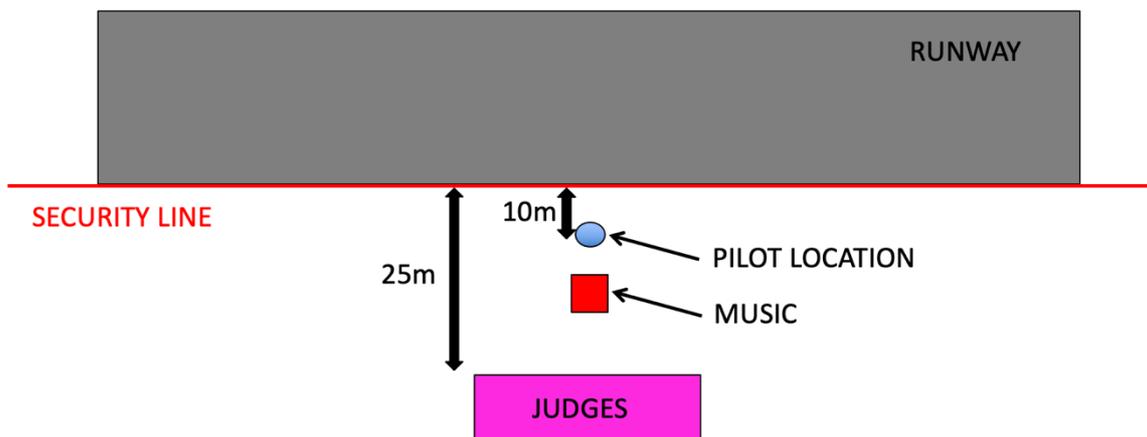
The duration of music time and the total flight time will be checked by a responsible person chosen by the organisers.

For safety reasons, the pilot **must** completely shut down the propulsion system of their aircraft the moment it has landed. **If this does not take place they will score zero for security criteria.**

**The security line is the edge of the runway closest to the pilot and judges.** The pilot shall stand 10m behind this line (see the following diagram). **If the aircraft crosses this line at any point during a flight, the flight will score zero and the pilot must land their aircraft immediately.**

**If at any point during a flight, any part of the aircraft touches the ground, including touch-and-goes, the pilot will score zero for that flight and must land their aircraft immediately.**

**Judges are located 25m behind the security line.**



**Any visible part of an aircraft breaking away/off from that aircraft during a flight, will be a safety hazard and the pilot will score zero for that flight and must land their aircraft immediately. The obvious exception to this is the use of special effects, such as confetti, banners etc. If you are unsure whether your special effect will violate this rule, please contact the organisers.**

**In the event of any other visible safety issue with an aircraft the pilot will score zero for that flight and must land their aircraft immediately.**

**Any dangerous high-speed manoeuvres at low altitude close to the judges and spectators may lead to a reduction in a pilots score for that flight.**

**During a flight, the pilot must keep their model aircraft under their full control at all times, if a situation arises where the pilot must make a decision between the safety of their model aircraft and the safety of themselves, judges, spectators or any person nearby, then the pilot will be expected to choose to safely crash their model away from these people.**

## 5. SCORING CRITERIA

Here the various scoring criteria and associated multipliers (K-factors) are detailed:

### 1. Originality and difficulty of the program (k = 20)

This criterion is a measure of both how original the program is, and how difficult it is to fly well. Excessive repetition of manoeuvres is discouraged, whereas new manoeuvres are favourable.

### 2. Use of the total flight space (k = 20)

Ideally, a pilot will make full use of the flight space available. For example, flying only to the right-hand side or only far away will score poorly. How safely the aircraft has been flown is also reflected in this criterion.

### 3. Preciseness and quality of the manoeuvres (k = 20)

The overall precision of execution and quality of manoeuvres. For example, how accurately and crisply point-rolls stop and the clean exits of spins, and the general impression of how settled the aircraft is throughout the flight.

### 4. Use of special effects (k = 10)

The use of special effects to enhance the impression of the flight. These special effects should be used in conjunction with a manoeuvre for best effect, for example, the use of tip smoke during a spin. If a special effect is used for a long period of time without any directed purpose or focused use, then the pilot will score poorly for this criterion.

### 5. Harmony with the music (k = 40)

How well the flight is harmonised with the music. The rhythm, aesthetic, and feel of the flight are expected to broadly match the music being played. For example, high-tempo flying with high-tempo music. Furthermore, how well the flight is executed during transitions between different pieces of music is also taken into account.

### 6. Overall impression (k = 30)

The overall impression the flight gives is scored under this criterion, this is a measure of how the flight comes across as a cohesive whole.

## 6. BRIEFING

The following bullet points outline the expected content and discussion points of the contest briefing :

- ✓ Introduction of the director of the contest, the chief of course, the safety manager, and the judges
- ✓ Time schedule for the contest
- ✓ The boundaries of the flight space, the security line, pilot location during flight, procedures for the administration of music
- ✓ A reminder of the various ways a flight can be scored zero :
  - Flight incomplete

- A loss of part of the aeroplane during flight (with the exception of special effects)
- The flight was too long or short
- The aircraft comes into contact with the ground
- Crossing of safety line
- Some other visible issue with the aircraft
- Unsafe flying
- ✓ A reminder of the way the security criteria can be scored zero :
  - Failure to cut the engine immediately after landing
- ✓ A reminder that high-speed and low altitude manoeuvres close to the judges may lead to a reduction in scores
- ✓ A reminder of the time available to start the aircraft (1min), the total flight time available (6min) and the permitted length of the music (3 min 50 sec to 4 min 10 sec)
- ✓ The order of pilots, when results will be presented and the procedures for special effects
- ✓ How to signal to start the music
- ✓ An overview of the 6 scoring criteria
- ✓ An overview of how the scoring is carried out for qualification, semi-final and final rounds

## 7. MP3 FILE FOR MUSIC

**Each musical file must be provided in .mp3 format. The duration of the music must be between 3 min 50 sec and 4 min 10 sec.**

If you provide only one piece of music, the name of the file must follow the format:

**FXFC-<your first name>-<your surname>.mp3**

If you provide two pieces of music, one must be named:

**FXFC-<your first name>-<your surname>-program-A.mp3**

And the other:

**FXFC-<your first name>-<your surname>-program-B.mp3**

For example, a pilot named John Paul Stapp enters the contest with two pieces of music, his filenames shall be:

**FXFC-john-paul-stapp-program-A.mp3**

**FXFC-john-paul-stapp-program-B.mp3**

**Pilots must respect the deadline for submission of .mp3 files indicated on the FXFC website.**

It is advised that pilots equalise their .mp3 files for good quality.

## 8. SPECIAL EFFECTS

The use of pyrotechnic special effects (Bengal light, rocket, petard, sparkler light...) is forbidden.

The use of smoke (oil injected in engine exhaust, smoke cartridge), biodegradable confetti and banners, is allowed.

Any smoke cartridge must be fixed to the aircraft with a robust metal fixing.

All special effects must be installed in the plane and activated by the pilot using his own transmitter.

