**EXFC 2025**

**Jet Freestyle**

*Competition Rules*

***Introduction***

Jet Freestyle Competition is open to all formation teams worldwide, flying any type of maneuvers’ with sport or scale Radio Controlled Aerobatic Jet Model Aircraft.

**Definition of a Radio Controlled Aerobatic Jet Model Aircraft**

A model aircraft, but not a helicopter, which uses turbine jet(s), turbo prop jet(s) or ducted fan(s) as the propulsion source(s) and which is aerodynamically maneuvered by control surface(s) in attitude, direction, and altitude by a pilot on the ground using radio control.

* Variable thrust direction of the propulsion device(s) is permitted.

***1 - General Regulations***

**1.1 Competitors**

* A minimum of 3 teams are required to start the competition.
* There is no limit of number per each country.

**1.2 General Characteristics of a R/C Aerobatic Jet Model Aircraft**

The R/C Aerobatic Jet Model Aircraft shall use as a propulsion device turbo jet/s or ducted fan/s. Ducted fans may use turbo jet engines or electric motors as a power source. Rocket or pulse jet engines may NOT be used.

Maximum overall wingspan: no restrictions

Minimum overall wingspan: 2000mm

Maximum overall length: no restrictions

Maximum take-off weight with fuel (or with battery if EDF): 25kg

Maximum thrust of turbine: no restrictions\*

Electric Motors power source max. no load voltage 72 volts \*

Noise limits: no restrictions\*

The propulsion device(s) must automatically shut-off (EDF) or fully idle (turbo jet) at the moment an R/C signal failure occurs.

**1.3 Radio Equipment**

Radio equipment shall be of the open loop type.

*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.

***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.

5. Any type of learning function involving maneuver to maneuver or flight to flight analysis.

**1.4 Definition and Number of Helpers**

One caller/manager is permitted during the flight. One helper may be present and assist during the starting of the motor. One person, either a helper, or the team manager, may place the model aircrafts for take-off and retrieve the model aircraft following the landing. In exceptional circumstances, another helper may join the competitor and caller/helper during the flight, but only to hold a sun-shield as protection from direct sunlight. These protection devices must not interfere with the judges’ vision of the maneuvers.

***2 - The competition***

**2.1 Number of Flights**

Each Pilot have to fly two (2) preliminary rounds, one semifinal round plus the final flight.

Competitors have the right to the same number flights. Only completed rounds will be counted. Only when all competitors in the preliminary and final rounds, have had the opportunity to complete the same number of rounds, can the results of the rain-interrupted (or other delay) competition be determined.

**2.2 Definition of an Attempt**

There is an attempt when the competitor/Team is given permission to start.

If the propulsion device fails after the model aircraft becomes airborne, the attempt will be deemed complete.

**2.3 Number of Attempts**

Each competitor is entitled to one attempt for each official flight.

Note: An attempt can be repeated at the contest director’s discretion only when any unforeseen reason beyond the control of the competitor, causes the model aircraft to fail to start (if there is radio interference or other technical problem).

Similarly, in a flight that is interrupted by any circumstance beyond the control of the competitor, the competitor is entitled to a re-flight, with the entire schedule being flown and judged, but only the affected maneuver and the unscored maneuvers that follow will be tabulated.

**2.4 Definition of an Official Flight**

There is an official flight when an attempt is made whatever the result.

**2.5 Marking**

a) Each judge has to assess maneuvers and any other relevant action of the competitor individually and independently from the other judges.

d) If a model aircraft is, in the opinion of the judges, unsafe or being flown in an unsafe or inappropriate manner, they may bring this to the attention of the flight line director, who may instruct the pilot to land.

**2.6 Classification EXFC Synchro Jet Freestyle**

1. Each Pilot will have two (2) preliminary flights, the sum of the two (2) scores (normalized scores to 1000 points) to determine the preliminary ranking.
2. The top five (5) of the classified Jet will enter the Semifinals.
3. The top three (3) of the classified Jet will enter the Finals.

c) The finalists will fly one (1) final flight.

d) The final ranking of the finalists will be determinated by the sum of the preliminary flight normalized scores and the final flight score, normalized to 1000 points.

**2.7 Judging**

For each competition there must be a minimum of three (3), and a maximum of five (5) judges, plus one timer.

**2.8 Organization of Contests**

Only spread spectrum radio control systems are allowed.

The order of the first flight will be done by a draw.

For flights two, three and four of the preliminary rounds the flight order will start 1/3, and 2/3 down the flight order respectively.

Competitors must be called by a flight line official at least five (5) minutes before they are required to occupy the starting area.

The competitor and his helper(s) then occupy the starting area so that a radio check can be performed to verify the correct functioning of the radio control equipment.

For electric powered models, the electric power circuit(s) must not be physically connected, before the starting time is begun and must be physically disconnected immediately after landing.

The competitor may not start his model aircraft unless he has been instructed by a flight line official to do so.

During the flight, the pilots and helper/caller must stay in the designated position in front of the judges and under the supervision of the flight line director.

***3 - The Round***

**3.1 Official Flight Round**

The official flight round have to be flow with SMOKE and MUSIC.

**3.1.3 Music – performing rights**

**3.1.4 Music - operation**

**3.2 Starting Time**

Each pilot have 10 minutes warning before the start of their flight.

**3.3 Flying Time**

Every competitor is allowed  **6 minutes of flying time for each flight round**.

**3.4 Pyrotechnics**

The use of fireworks/pyrotechnics on the ground is not allowed.

Functions of the model, such as fireworks/pyrotechnics and flares, may be used during the flight and must be operated only by the pilot from his transmitter.

**3.5 Safety Issues**

Safety Line: If there is a cross-wind causing persons to be endangered by a competitor’s model, or the Safety Line, established jointly by the Contest Director and Flight Line Controller, is crossed under any circumstances, scoring will cease and all pilots of the team involved will be instructed by the Flight Line Controller to land their models immediately.

High Risk Maneuvers: High energy turns, “split” and “crossover” maneuvers flown towards the crowd closer than 50 meters from the crowd line are banned. If any team is considered by the Flight Line Controller to be in breach of this regulation, scoring will cease and all the team pilots will be instructed by the Flight Line Controller to land their models immediately.

If one of the two flying model touch the ground during the flight round or any part unintentionally separates from the aircraft during flight round, the scoring stops and the Jet Formation Team must land immediately. In this case the re-flight is not allowed.

The loss of one the two flying model means the end of the round, scoring stops and the other model aircraft must land immediately. In this case the re-flight is not allowed.

***4 - Judging Criteria***

1. **Originality and difficulty of the program ( k = 30)**It has to be evaluated not only the originality and difficulty of whole program, but as well the originality and difficulty of the performed maneuvers and the placing of whole program in front of judges and spectators. Repeated performing of identical maneuvers could be evaluated by decreasing of the mark for this criteria.

**2. Using of the total flight area (k = 20)**
Model has to be flying in whole available area in front of the spectators to allow the best observing of his performances.

**3. Preciseness of performance of the maneuvers ( k = 20)**
It has to be evaluated the preciseness of performed maneuvers, precise ending of the rolls and the hesitations in point rolls, keeping the plane of loops and precise connection of the maneuvers. Preciseness of the performance of original and so far not known maneuvers has to be not evaluated.

**4. Using of Smoke ( k = 15)**
It has to be evaluated the using Smoke for increasing of the atractivity of whole program. Each judge can use all the points since 0 till 10 to compare immpresion from smoke. Smoke on during the whole flight will be judge only with 1 point.

**5. Harmony with used music, program choreography ( k = 30)**
It has to be evaluated the harmony of performed maneuvers with character and rhythm of used music. As well has to be evaluated the manner of synthesis of the supported music and whole choreography of the performed program, in which the fast and dynamical parts have to be alternated by slow and fluent parts.

**7.Totalimpression(k=20)**
By this criteria has to be evaluated over all impression fro the performed flight, the creativeness of the program and its impressiveness on the spectators. It has to be evaluated the arrangement of the program and its performance from which it has to be obvious, that it is not only chaotic showing not mutually connected maneuvers. It has to be evaluated how the performed maneuvers were matching the rhythm and style of supporting music. It must be visible, that whole program is carefully prepared, exercised and safely performed.

***Entry fee:***
Pilots, who will send the entry form will pay via bank transfer or paypal before the competition. Entry fee 100,- EUR (2500,- CZK).