

## Control Line Electric Speed Flying – a category for all those keen to try something new

**In most modelling disciplines where models have lately been propelled with combustion engines – be it model cars, model boats or, of course, model aircraft – there is now an electric alternative. The emergence of brushless motors powered by lithium-polymer batteries has, no doubt, been a turning point in the development of propulsion motors in aeromodelling.**

Class F2D, Combat – where two pilots fly simultaneously, each towing a ribbon with the goal of cutting the opponent's ribbon with their propeller piece by piece – competitions with electrically powered models are also already being held. And in Control Line Speed, the new class Control Line Electric Speed (F2G) was created two years ago. I would like to use the following story to raise the profile of this class.



**Example of a model suitable for practising speed flying**



**Canard model with pusher prop**

### New class

Class F2, Control Line Flying, has not been exempt from this trend. Many competitors in Class F2B, Aerobatics, have already converted to electric motors. In

Control Line Electric Speed, where 10 laps with a radius of 15.92 m or 9 laps with a radius of 18.69 m have to be flown, is slowly becoming more popular. In Switzerland, France and Germany, competitions have been held for the last two years. There are projects for F2G competitions in Brazil, Poland and England.

### Introduction to F2G

Simple and quickly built models that are easy to control and suitable for an introduction to F2G are available (*see contact details at the end of this article*).

At 200 km/h and with a line length of 15.92 m, the model achieves lap times of 1.8 seconds. The flying time of a judged flight is between 35 and 40 seconds. To master this speed, the pilot has to acquire the necessary skills: controlling the speed model, holding the specific positions during speed flight, leaving the trolley ("whipping"), entering and leaving the pylon fork and stabilising horizontal flight. To get a "feel" for speed flight and to practise a pilot's moves, the model should only be flown at about 1 to 3 metres above ground.



The FAI rules are still provisional and are likely to be improved

### Extract of FAI rules for F2G

- Maximum supply voltage: 42 Volts, charged
- Minimum projected area of the model: 5 dm<sup>2</sup>
- Maximum wing load: 100 g/dm<sup>2</sup>
- Compulsory take-off from the ground (with trolley)
- Maximum gross weight: 600 grammes
- Line length: 17.69 m (1 km in 9 laps), alternatively 15.92 m (1 km in 10 laps)
- Maximum flying time from beginning of take-off may not exceed 3 minutes

### General

- The motor may be started and stopped by the pilot using a 2.4 GHz radio system or by means of a mechanical or electronic timer.
- This may not affect other models.
- Other rules correspond to the FAI rules for class **F2A Speed** (speed models with combustion engine).

Access is restricted for safety reasons and prior arrangement with Guy Ducas (see e-mail address) is mandatory.

## Videos

Videos of Control Line Speed flying can be found under the following links:

- <http://youtu.be/xPe3PptvRE8>
- <http://youtu.be/LO2y1I6m1HQ>
- <http://youtu.be/QSTspXOZscw>
- <http://mfmodellmotoren.de.tl/Video-gr-s-.htm>

Once the flying skills have been acquired, you are presented with all the options for designing the models. Due to the novelty of this category, there is unlimited choice regarding propulsion (controller, motor, propeller) and model geometry. Time to get creative!



**Classic model**



**Integral asymmetry**



**Guy Ducas at the pylon during a flight of 218 km/h at the Grand Prix de France in Landres 2013**



Electric Speed trial flights take place in Prangins (5 km from Nyon) on the control line strip owned by the Aeroclub of La Côte, Switzerland.

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