5.5.3 CLASS F5A – RC ELECTRIC POWERED GPS MOTOR GLIDERS (PROVISIONAL RULE)

5.5.3.1 Definition

- a) Definition: This contest is an event for GPS equipped RC Electric Powered Motor Gliders including two tasks:
 - 1) Distance
 - 2) Landing

These two tasks are executed without interruption in one flight with as many legs as possible during the distance task with a minimum of energy consumption.

b)	Model Aircraft specifications:	
	Minimum weight ready to fly	2.500 g
	Maximum weight	3.500 g
	Minimum wingspan	3 m
	Maximum wingspan	4 m
	Type of battery	Any type of rechargeable batteries
	Maximal voltage of the flight battery	42 volts
c) GPS-module		position of model aircraft to be transferred to ground by back channel of RC radio or by separate telemetry system

5.5.3.2 Energy Management

- a) The maximum amount of energy to be used in one flight is 1000 W*min. Anything over this will result in a deduction of 1 point per 5 W*min.
- b) The amount of energy in each flight must be stored by a logger. Loggers can be provided by the organiser and will be drawn by the competitor before the flight. If loggers are provided by the organisers then this must be written in the invitation
- c) Logger data can be communicate by telemetry or will be read after landing.
- d) The competitor is responsible for ensuring the logger device is installed correctly. In the event of an installation failure the competitor will not receive a re-flight.

5.5.3.3 Course Layout

- a) Two imaginary lines A and B at a distance of 300 m.
- b) The two lines and the course must be predefined by GPS waypoints and displayed on smartphone/tablet (for helper/navigator). If competitors will orientate themselves, the GPS system will uses different audible tones.
- c) Two concentric circle of 30 and 20 m.
- d) Forbidden areas can be defined in the task and will be controlled within the navigation application. Presently the flight is not valid, if any of those predefined zones are entered during the flight.

5.5.3.4 Launching

- a) The Position of the starter is near the landing circle: Distance max. 20 m.
- b) When the CD gives the start signal competitors are free to start his model aircraft. It must be released into flight directly from the hands of the competitor or his helper.
- c) After the aircraft is launched no further launching is allowed. The flight is considered official, whether the model aircraft is airborne or not.

5.5.3.5 Distance Task

- a) The competitor is free to switch on or off the motor.
- b) The flight direction for the distance task will be given by CD.
- c) The model airplanes had to cross line A in a time window of 180 sec after the start
- d) The task begins when model aircraft has crossed line A the first time.
- e) Every completed leg from line A to line B will be awarded with 200 points.
- f) The second leg will start when the model cross again line A in direction of line B. etc.
- g) The distance task ends when working time of 900 sec stops. The loss of any part of the aircraft must stop the distance task, too (landing 5.5.3.6 b will count).

5.5.3.6 Landing Task

- a) Additional points will be awarded for landing; when the model aircraft comes to rest in the 20 m circle: 200 points. 100 points will be given while coming to rest in the 30 m circle. The distances are measured from the centre of the circle to the nose of the model aircraft.
- b) If the model comes to rest two minutes after working time no landing points will be awarded.

5.5.3.7 Contest organisation

 Flying in groups of 2 to 6 competitors depending of the number of competitors. Team composition must be changed for every round. If possible only one competitor of the same team.

5.5.3.8 Scoring

- a) The winner of each group will be awarded with 1000 points per round.
- b) If two or more competitors in a group will have the same number of completed legs, the competitor with the highest average speed gets the 200 points. The competitor with the lowest speed gets 100 points. All other between.
- c) The total score consists of the number of legs, plus landing minus amount of consumed energy over 1000 W*min (points legs XX + points landing m points W*min = total score).
- d) A minimum of two and a maximum of 6 flights must be flown. If more than 1 (one) flight is flown, the lowest score of each competitor will be discarded.

ANNEX of F5A GPS Glider Rule

Available electronics and software

Vario and GPS loggers: SM GPS Logger 2 (Jeti Duplex, Multiplex M-Link, Graupner HoTT, Futaba, JR DMSS, FrSky, with Adapter for Spectrum) www.sm-modellbau.de

Receivers: RC electronics RC T3000 (http://www.rc-electronics.org/), FLYMATE (www.flymate.ch)

Software: SkyNavigator (skynavigator.ch) must be adapted for F5A