

# ESA Rules & Regulations

The model must be semi scale of an actual military aircraft produced between 1935-1945. If the model is that of a prototype, then that prototype must have been in use during the period stated.

- Single motor model wingspan: - 700-860mm.
- Multi-motor model wingspan: - 700-1000mm.

All other dimensions must be within +/- 3cm scale.

The material from which the model is constructed can be any suitable type of foam eg EPP, Polystyrene, Styrodur, Depron.

Reinforcing edges or stabilizers with “**Hard**” materials eg. Carbon, Glass, Wood etc. is not Allowed.

Reinforcements along the fuselage (rods made from Carbon or Glass Fibre) are allowed. The model must be completely built using “soft” materials. Making cuts on leading edges or using materials that make it easier to cut the tape are not allowed.

This applies to any pastes, glues or tapes. The leading edges must be clear.

## 1. Motor.

Any electric motor. (Brushed or Brushless)

## 2. Power Supply.

- Single motor model: -  
Battery, max 15Wh (eg:  $11.1V * 1350mAh / 1000 = 14.98Wh$  or  $7.4V * 2000mAh / 1000 = 14.8Wh$ )

- Multi motor model:-

Battery, Max 28Wh (eg:  $2 * 11.1V * 1250mAh / 1000 = 27.75Wh$  or  $11.1V * 2500mAh / 1000 = 27.75Wh$ )

### **Important Note:**

“V\*mAh/1000=Wh “...in this calculation we use the guideline parameters/ratings provided by the battery’s manufacturer.

## 3. Propeller.

Any factory propeller, suited to the model and the motor. The motors shaft must not extend beyond the propeller. (propeller fitted onto a prop saver or spinner)

## 4. Mass of the model.

Single motor: - Min - 200g, Max – 400g.

Multi motor: - Max – 550g

## 5.

Length: 10m, Width 1cm, material: - crepe paper. The end of the tape (20-30cm) should be marked, eg with a marker pen etc.

## 7. Flight zone.

The safety line must be laid out before the competition starts and removed only when the competition has finished.

Suggested dimensions: -

----- Safety Line 0m -----

-----Pilots' Line 2m -----

-----Stand-by Line 5 – 8m-----

-----Spectators Line 10 – 15m-----

## **8. Flights.**

The duration of the flight is 5min. During the competition, there must be at least two flights and a finale. Each contestant must have two sets of accumulators and should be able to change radio channels (for 35MHz only). The allowed number of contestants in one flight is as follows: - Min: - 2, Max: -7.

30 secs before the start, models and transmitters should be on the pilots' line, and contestants, and, if any, their assistants, should be on the stand-by line. After the signal, pilots run to their models and launch them. The duration of the flight is equal to the time a model spends in the air during a fight (real time). During a fight, a contestant or their assistant may collect their model within the flight zone only if they have the **permission** of the **safety referee** and if they have signalled to the other contestants. If the tape is torn off / shortened or becomes twisted **during the start / launch** of the model, then the contestant must land and replace the tape.

Note 1. In the case of rain, the referee or the assistant must attend to the model and protect the tape from getting wet.

Note 2. If the competition is unable to take place on the given date due to technical problems, rain, etc, or, should there be a high number of entrants, then more than seven contestants shall be permitted to fly providing this has been agreed upon before the competition has begun.

## **9. Safety Line.**

Going beyond the safety line is of consequence both when the model is airborne, and when it is in motion on the ground. When airborne, the whole of the model must be visibly over the line. When on the ground, the position of the motor is taken into account. If the model has multiple Motors, then the one over the line is noted

A first transgression leads to penalty points being given to the contestant. A second transgression results in penalty points, and, if they are still airborne, and do not intend to continue with the competition, they must land immediately. They keep the points awarded up to the point of the second transgression.

## **10. Tape Cutting.**

Cutting an opponents tape (while airborne) earns the contestant 100 points. If the opponents Tape attaches itself to the contestants model, then the cut performed by the contestant counts as normal and earns 100 points. The loss of an attached tape (cut from other models) does not cost points for defense.

Only cutting a tape that is still attached to a model counts (not a falling tape). If, during an attack multiple tapes are cut, or multiple cuts are performed on the same tape, then only one cut counts.

If an attacking plane simultaneously cuts the opponents tape and brings down their model as a result of a collision, then the cut counts **only** if the attackers plane keeps on flying. If the attackers plane starts to glide or fall, then the cut does not count.

## **11. Head Protection.**

A helmet should be worn by anyone standing before the audience/spectator line.

## **12. Changing The Model**

Contestants may not change their model during a fight. Models may be exchanged between the fights. A contestant may have any number of models with them. Changing batteries during a fight is **not** allowed.

## **13. Scoring.**

Avoiding combat: -50 pts.

Crossing the safety line: -200 pts.

Defending the tape: +50 pts.

Collision: 0 pts.

Cutting the tape: +100 pts.

Each 3 secs of flight: +1pt.

Note: Bonus points are awarded only if the flight lasted more than 10secs.

All other rules (such as those pertaining to the safety of flights and spectators), which have not been included here, can be found in the Aircombat WW11 Regulations.