

# **Control Line Competition Rules**

## **SECTION G.9**

### **CONTROL LINE ENDURANCE**

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### 9.1 Objective

**To fly a control line model airplane powered by internal combustion reciprocating engine(s) so that it remains in the air for the greatest period of time.**

### 9.2 General.

No restrictions are placed on the design of control line endurance models except that they shall meet the specifications of these regulations.

9.2.1 When a single entrant competes, that entrant shall start and regulate the engine and fly the plane with assistance only to launch the plane.

9.2.2 Teams of up to four people are allowed to enter. Teams and single entrants compete in the same class.

### 9.3 Engines

Single and multi-engine planes are allowed, and compete in the same class. All engines shall be of the reciprocating internal combustion type. The total "deemed displacement" from all engines must be in the range from .15 to .36 cubic inches (inclusive). The deemed displacement of a two-stroke engine is its actual displacement (100%). The deemed displacement of a four-stroke engine is sixty percent (60%) of its actual piston displacement. For example, a single engine plane powered by a four-stroke engine may have that engine range in actual displacement from .25 to .60 cubic inches (inclusive). Jet assist, catapult or other launching devices are not permitted.

### 9.4 Control Mechanism

The length of the control line(s) measured from the centre point of the grip part of the control handle (device) to the fore and aft centre line of the model shall be at least **52'0"** but **not more than 70'**. **Control lines for this event shall be two (2) braided steel wire lines, each line being not less than .015 diameter.** The entire control mechanism from the handle to, and including the model, shall be strong enough to withstand **a pull test equal to 10 times the model's gross weight including fuel.**

### 9.5 Type of Model

The model must be of the heavier – than – air type equipped with a permanently affixed gear for take – off and landing. Fuel must be carried inside the fuselage(s), wing(s) or pod(s). "Fuel" means the liquid or gas that ignites inside the engine. Pod(s), if used, must be permanently affixed and remain attached to the model throughout the entire flight.

**The model, with all equipment ready to fly, including fuel, shall not weigh more than 4 lb. (64 ounces).** Care must be exercised to see that scales used for weighing are accurate. Scales certified as accurate by city or county officials or other competent authority, are recommended. No gases, as for example helium, shall be employed to aid in providing a lighter model.

9.5.1 The "builder of the model" rule shall not apply.

9.5.2 Control Line Endurance models are exempt from any muffler requirement and noise standard.

## 9.6 Number of Flights

Each contestant will be allowed **three attempts for completion of two official flights**. All official and unofficial flights described below are attempts.

## 9.7 Official Flight

**Any attempt during which the model becomes airborne before three (3) complete laps have been completed, and flies for ten (10) full laps, shall be considered official.**

## 9.8 Unofficial Flight

An unofficial flight occurs when the model fails to become airborne within the first three (3) full laps from the point of release. If the model becomes airborne but does not fly ten (10) full laps without touching the ground, this too is considered an unofficial flight. Bouncing of the model due to terrain shall not be considered within the meaning of this ruling.

The **Contest Director** or the **Designated Event Director** may, at his discretion, add further definitions because of local conditions, such as a time limit to start engines, so long as adequate notice is given all contestants before competition begins.

## 9.9 Flight

The model shall take off from the ground or runway under its own power and without outside assistance.

For team entries, any member of the team may start and regulate the engine, and any member of the team may act as pilot flying the plane. The engine may continue to be regulated in flight by the single entrant or any member of the team, including the pilot. For team entries, a team member's role may change throughout the flight, allowing the passing of control, whether it be flying or engine regulation, from one member to another. A team member may leave or join the circle at any time during the flight.

The pilot shall endeavour to maintain the average flight altitude above the height of his controlling hand, but failure to do so shall not disqualify the entry. Furthermore, during the

flight if due to wind and weather conditions, or inadvertent pilot error, the model should touch the ground, **this action shall not terminate the flight provided that the model is able to continue to remain airborne and continue the flight.**

#### 9.10 Timing

Timing will commence the instant the model is released and will continue thereafter until the model is unable to continue to fly and the wheels touch the ground. Two timers are required, equipped with suitable stopwatches. The official time will be the average of the two watches, to the nearest second. In the event one of the watches in use should fail during the timing, **the remaining watch timing shall be considered to be official.**

#### 9.11 Acceptance of Records

Record attempts will be in accordance with M.A.A.C. Regulations except that a single contestant may make an attempt if prior sanction is requested and granted.