

# FORMULA 400 PYLON RACING

## Definition of a Radio Control Pylon Racing model

A Radio controlled pylon racing model is a model aircraft in which the propulsion energy is provided by a piston type motor in which the lift is obtained by aerodynamic forces acting on the supporting surfaces which, except for control areas, must remain fixed in flight. The model must be of a semi scale type and their general lines must be in accordance with those of full size aircraft.

## Motor

The motor must be of the reciprocating type, be commercially available and have a maximum swept volume of 7.5cc. The engine must be of front induction - side exhaust configuration.

## Shut-off

The engine must be equipped with a positive radio-controlled shut off. The pilot shall be able to shut off his engine by radio control on the ground or in the air within five seconds of command, irrespective of aircraft altitude. A competitor will be disqualified from the heat if unable to land his model promptly on instruction from a properly designated official.

## Tanks

Pressurised fuel tanks are permitted. ( viz. Crankcase or muffler pressure )

## Silencer

The motor shall be fitted with a silencer, within the general length there shall be an expansion chamber not less than 19mm diameter, with a minimum length of 32mm. The silencer shall have a single orifice with a maximum outlet diameter of 10mm. Alternatively, such other muffler as is produced by the manufacturer of the motor used and specified for that motor may be used, even though it does not meet the above specifications. Full length tuned pipes are not permitted - Magic Muffler types are allowed.

## Propeller

The propeller shall be of a proven racing type manufacture. Includes Wood, Composite resin continuous fibre or some proven racing glass reinforced plastic commercially available props. eg. APC racing propellers.

## Spinner

A rounded nose spinner is required.

## Fuselage

Cross Section - The fuselage shall have a minimum height of 150mm, and a minimum width of 75mm.

## Landing gear

At least two wheels shall be used. The two main wheels must be a minimum lateral distance of 15cm, when the model is at rest on the ground.

A retracting undercarriage is permissible. A positive means of steering on the ground shall be provided.

The landing gear must be attached in a permanent manner to the model to permit normal take off and landings.

## Lifting surfaces

**Area** - the total area of the wing shall be a minimum of 2550cm<sup>2</sup>. on biplanes with different wings, the smaller wing shall be at least two thirds of the larger wing. flying wings and deltas will not be allowed in this event.

**Wing thickness** - the depth of the wing must be a minimum of 22mm at the root chord of a monoplane and 17mm if a biplane. On a biplane with wings of different a different size, the smaller wing must be at least 15mm thick at the root. If the wing is not uniform in thickness, then the thickness must decrease in a straight line from root to tip as viewed from the leading or trailing edge.

**Note** :- root is defined as the innermost wing section , excluding fillets, that may be measured without removing the wing from the fuselage. On a completely exposed wing, such as a parasol monoplane or the top wing of most biplanes, the root is that section of the wing that is intersected by a projection of the outline of the fuselage as seen in the top view, ie The root section would be 50mm from the centre line of an exposed wing on a model with a 100mm wide fuselage.

**Weight** :- The minimum weight of an assembled aircraft, ready for flight but less fuel shall be 1.8kg.

**Fuel** :- Fuel to a standard formula for glow plug motors shall be supplied by the organisers.

It's composition shall be 80% methanol, 20% castor oil.

**Layout** :- The course flown shall be the same as in F3D as described in para 5.2.10 of the Sporting code.

## The following rules, effective January 1993

“ Organisation of Radio Controlled Pylon Racing contests”, ( 5.2.11.); and “Scoring”; ( 5.2.13.) and all sub-paragraphs contained shall apply to this event.