

## **5.3.6 EQ 500 RULES**

Q500 is currently an introductory class of pylon racing.

### **5.3.6.1 Power Systems**

Power system comprises motor, speed controller & battery.

#### **5.3.6.1.1 Battery**

6S Lithium Polymer – nominal voltage per cell of 3.7V.

Suggested capacity of 2650 mAhr & Discharge rating of at least 30C

#### **5.3.6.1.2 Electronic Speed Controller (ESC)**

Minimum of 75A Brushless speed controller. Suggested that separate Rx battery is used for safety in event of ESC failure (ie/ instead of BEC from ESC).

#### **5.3.6.1.3 Motor**

50mm diameter 700KV Brushless type. See Approved motor list.

### **5.3.6.2 Wings**

#### **5.3.6.2.1 Area**

Minimum 3225 cm<sup>2</sup> (500 square inches).

#### **5.3.6.2.2 Wing Span**

Minimum 1270mm (50 inches), maximum 1321mm (52 inches) projected.

#### **5.3.6.2.3 Chord**

Constant for at least 1207mm (47-1/2 inches) of span.

#### **5.3.6.2.4 Airfoil Thickness**

Minimum 30mm (1-3/16 inches) for at least 1207mm (47-1/2 inches) of span.

### **5.3.6.3 Fuselage**

#### **5.3.6.3.1 Depth**

Minimum 89mm (3-1/2 inches) at its deepest point, which must occur within the wing chord.

#### **5.3.6.3.2 Width**

Minimum 73mm (2-7/8 inches) at its widest point, which must occur within the wing chord. Width and depth points need not coincide.

#### **5.3.6.3.3 Cross Section**

The fuselage shall have a simple, rectangular "box" cross-section with a maximum radius of 6.5mm at the corners. Diamond-shaped cross sections are prohibited. Fillets or fairings between the fuselage and wing are prohibited. Canopies and turtle decks are acceptable but shall not be included in width or depth measurements. The front firewall shall be a rectangular, flat plate measuring at least 57mm by 57mm inches. The perimeter of the front firewall may be rounded to a maximum radius of 6.5mm.

#### **5.3.6.3.4 Engine Installation**

The motor and motor mount shall be fully exposed. No cowling or streamlining of the engine is permitted. Corners and edges of any motor mount may be rounded to a maximum radius of 6.5mm.

#### **5.3.6.4 Weight**

The weight of an assembled aircraft, ready for flight, including battery shall be a minimum of 1580grams (3-1/2 pounds) and a maximum of 2040grams (4-1/2 pounds).

#### **5.3.6.5 Landing Gear**

The landing gear shall be fixed, with at least 2 main wheels of a diameter not less than 57mm. The main wheels shall be at least 150mm apart, measured parallel to the wing span. No wheel pants, wheel spats, or strut fairings shall be used to streamline the main landing gear. Struts shall be either round wire, at least 3mm in diameter, or flat stock no more than 3mm thick. Flat stock may be filed or otherwise shaped to an airfoil cross-section but must have a blunt leading edge. Nose or tail wheels, if used, may be streamlined or enclosed.

#### **5.3.6.6 Propeller**

##### **5.3.6.6.1 Material**

Propellers shall be made from glass fibre reinforced nylon by an injection moulding process.

Propellers containing continuous filament carbon fibre are not permitted.

##### **5.3.6.6.2 Dimensions**

Minimum diameter 10 inches. Nominal pitch 8 inches, as indicated by the manufacturer's stamp or packaging.

##### **5.3.6.6.3 Modifications**

Propellers shall be stock and commercially available. One blade may be modified for balancing.

#### **5.3.6.8 Special Provisions**

##### **5.3.6.8.1 Inspections**

Routine inspections are encouraged: The CD or the CD's designee may elect to check the top 3 placings power systems for legality at the end of the contest.

#### **5.3.6.9 Pylon Course Layout**

Either the FA1 course (Refer to rule 5.3.1.7) or the QM course (Refer to rule 5.3.3.11) may be used.

The contest organisers should advise in pre-race publicity which course is to be used.

#### **5.3.6.10 General Rules**

*The Australian Safety & General Pylon Racing Rules shall apply (Including all Paragraphs contained therein) unless otherwise stated in the Q500 Rules above.*

## Annex 1. **Approved EQ500 Motors**

Hobby King Air L5055C 700KV

Aeolian C5055 700KV