ANNEX 7h
Agenda Item 11.9 b)
F3 Pylon Racing Volume – New Class F3R

Radio Control Pylon Racing
Model Aircraft F3D-Q500 (F3R)

Intention: *The class is defined in such a way that it brings a level of development of aircraft aerodynamic design, aircraft construction, power plant to a level of piloting, with maximum safety.*
Speed control strategy: *The technical rules will be developed in such a way that the average course speed will be limited to 55 m/s (198 km/h) in order to maintain safety and controllability of model pylon racing aircraft currently and in the future.*
The average course speed to be defined as a nominal race distance (4000 meters) divided by the combined average times (ie final score in seconds divided by the number of flights that count for the individual classification) of the best five competitors of the previous Open International – World Cup..

1 Definition
Model aircraft in which the propulsion energy is provided by a piston type engine and in which the lift is obtained by aerodynamic forces acting on the supporting surfaces, which, except for the control areas, must remain fixed in flight.
The regulations of the FAI Sporting Code section 4 – Aeromodelling Volume F3D Radio Controlled Pylon Racing have to be used, unless this document specifically indicates otherwise.

2. Technical Specifications
(a) The model aircraft must be of conventional design with forward wing and an aft empennage with the general lines of a full size aircraft.
(b) ABR B.3.1. (builder of the model aircraft) is not applicable to class F3D-Q500.
(c) A model aircraft including engine and exhaust system may not be used by more than one race team.
(d) Each competitor may process and use a maximum of three models during a contest.

3. Engine
Engine must be of the reciprocating piston type, with a maximum total swept volume of 6.6 cm^3. Propellers must rotate at the speed of the crankshaft. Engine shall have only one front intake and one side exhaust.

4. Silencer
The motor shall be equipped with a silencer. Tuned pipes are not permitted. A primary silencer shall also be considered a tuned pipe, if its overall length is more than 260 mm. The overall length is measured from the centre of the piston through the centre line of the primary silencer system to the back of the exhaust outlet.

5. Tank
If the tank is pressurized, only the pressure coming from the silencer is permitted.

6. Propellers and spinners
Only fixed propellers may be used. Only propellers which are commercially available for everyone shall be used. The propeller shall have a minimum diameter of 222 mm. The dimensions must be indicated on the propeller by the manufacturer. The recommended rpm limit given by the manufacturer must not be exceeded during flights. Changes to the propeller blades are not permitted. For the purpose of balancing, changes shall be done to the thickness of one blade only (removal of material / mass). Edges and tips may be sanded to remove flashing. A rounded nose spinner with a maximum diameter of 38 mm and a nose radius of not less than 5 mm (ABR B.18.4) must be fitted. The spinner shall be made of metal only.

cont/…

7. Shut-off

The pilot must be able to shut off his engine, on the ground or in the air, by radio control within five seconds of command, irrespective of aircraft altitude. The radio system used to control the aircraft shall be equipped with a fail safe. This fail safe shall be set to shut off the engine if radio signal is lost.

8. Weight

Weight, less fuel but including all equipment necessary for flight, shall be at least 1700 g and not more than 2200 g. If ballast is used it must be permanently and safely affixed.

9. Fuselage

9.1**.** Depth and width

The fuselage shall have a minimum height of 89 mm and a minimum width of 73 mm. Both dimensions must occur within the wing chord. The fuselage shall have a rectangular cross section over the whole length and the side wall shall be parallel to the vertical axis of the model aircraft (rectangular box cross-section) A maximum radius of 6.5 mm is permitted for the corners of the fuselage.

9.2 Fairing

Fillets or fairings between the fuselage and wing are not permitted.

10. Engine installation

The engine including silencer and the engine mount shall be fully exposed. The front firewall shall be a rectangular, flat plate measuring at least 57 mm by 57 mm. Corners and edges of the engine mount may be rounded to a maximum of 6.5 mm

11. Lifting Surfaces

11.1. Area of Surfaces

The main wing must have a rectangular layout over at least 1200 mm. Total projected area of the main wing, must be at least 32 dm^2.

11.2 Wing Span

Minimum wing span shall be 1270 mm
Maximum wing span shall be 1320 mm.

11.3 Wing Thickness

Wing thickness must be at least 30 mm over a wingspan of at least 1200 mm.

12. Undercarriage

The undercarriage may have a two or three wheel design with the two main wheels having a minimum track of 177 mm, fixed on the outside of the fuselage or main wing. The diameter of the two main wheels shall be not less than 57 mm. Only non retractable landing gears are permitted. Wheel fairings or fairing between landing gear and fuselage, i.e. Fillets, wheel pants or similar, are not permitted. Nose or tail wheels, if used, may be streamlined.

---oOo---