

## - **ANNEX 4H** -

### **CLASS F2F – CL DIESEL PROFILE TEAM RACING**

**The rules for F2F are the same as F2C except for the variations shown below.**

The difference between F2C and F2F are the specifications of the aircraft/equipment used. The focus in this racing class is on flying, not on technical development/innovation. The specifications of the equipment used are set in order to make this class sustainable, affordable and offer competitors a platform to develop their flying skills.

#### **4.H.1. Diesel Profile Team Racing Event.**

- a) See 4.3.1
- b) Race
  - i) The maximum time allowed for a qualifying race is 5 minutes.
  - ii) The qualifying races are run over 100 laps corresponding to 10 kilometres. The final race is run over 200 laps corresponding to 20 km. Two pit stops (landings for refuelling) are mandatory for a qualifying race and five for a final race.

#### **4.H.2 Team racing Site**

See 4.3.2

#### **4.H.3. Team Racing Model, Engine and Control System**

See 4.3.3

##### **4.H.3.1 Engine Characteristics**

- a) The engine maximum swept volume of motor: 2.5 cc.
- b) The engine must be a diesel type with suction feed.

##### **4.H.3.2 Model Characteristics**

- a) See 4.3.3.2
- b) Weight
  - i) Total maximum weight with empty tank is 700 g.
  - ii) Total minimum weight with empty tank is 400 g.
- c) Profile fuselage: minimum height at the top of the cockpit: 100 mm, maximum width: 26 mm.
- d) The propeller must be a commercially available plastic/glass composite type of 7" x 5.5" (177.8mm x 139.7mm) or larger. Moulded carbon and/or fibre glass propeller are forbidden. The minimum diameter of the propeller at the start of a race is 170 mm.
- e) The maximum volume of fuel and oil permitted in the single tank shall be 15cc.
- f) The use of multi fuel refuelling systems is not allowed.
- g) The landing gear must be arranged to permit normal take-of and landing. The landing gear must be of the permanent fixed type. Retractable landing gear is prohibited.
- h) Engines of the front exhaust type may be fitted with a simple deflector shield preventing exhaust gasses being blown back into the exhaust port.
- i) The engine must be side mounted and can only be covered by the maximum fuselage width, all other parts of the engine must be totally exposed. Any engine integral parts or the addition of any parts that form a cowl, ducting, cover or shield, whether attached to the engine or the model airframe, are forbidden.

#### **4.H.4 Fuel**

- a) The fuel shall consist of: 12 % Castor oil, 35 % Ether, 1.5 % DII type 3, 51.5% D60 or Jet A1.  
All percentages are by volume.
  - i) The competitors are responsible for providing their own fuel, which has to meet the above specifications, or use fuel provided by the organiser. Organisers are invited to supply official fuel for teams that order fuel when they pre-enter. In order to prevent organisers taking on a financial risk ordered fuel must be paid for when placing the order. In contest fuel testing will be done by the organiser when instructed to do so by the Panel of Judges.
- b) Fuel Testing
  - i) The entrant's fuel will be tested by running and setting an engine on known fuel followed by

running the same engine on the entrant's fuel. If the Panel of Judges considers that the difference in engine compression and fuel needle settings and or engine running characteristics between the official fuel and the entrant's fuel is significant then the entrant's result of the race flown with his own fuel will be cancelled.

#### 4.H.5 Technical Checks

See 4.3.4

#### 4.H.6. Organisation of Races

- a) Three competing teams will fly simultaneously in each race.
  - i) The goal is to defeat the opponents and score points based upon the final position in their races. Points will be awarded to a team based upon the calculated result in their race. One point will be awarded for each lap started.
  - ii) Each team flies 3 qualifying races. Each race for a team shall be drawn in such a way that where possible different opponent teams will be selected for each of the three qualifying races. Where possible teams in a race should be from different countries.
  - iii) Each team will be given a first, second and third choice of starting place.
  - iv) The organiser can use the schedule for the draw of the qualifying races as stated in the F2C organiser's guide.
  - v) Because the objective is to win the race, F2F is not flown in rounds.
  - vi) The panel of judges will make the draw for the flight schedule.
  - vii) The 3 teams with the highest total number of points from the three qualifying flights will fly the final.
  - viii) If more than 3 teams qualify for the final due to teams having equal points from the qualifying races, a fly off between these equal teams will be organized and that winner will be promoted to that final.
- b) During a race, incidents may occur causing the Panel of Judges to grant a team a re-flight. A team that is granted a re-flight by the Panel of Judges will have the option of taking this re-flight, or accepting the points awarded to them as a result of the race. They must inform the Circle Marshal of their decision within 10 minutes from the time that the Panel of Judges verdict is given to them.
- c) Scheduled races that become incomplete due to withdrawal of one or more teams from a race will be flown at the end of the qualifying flights adding teams that have been granted a re-flight. These flights, which are necessary to give all entrants full results, will be called "rest" flights.
- d) The Panel of Judges will make a new draw with these remaining teams, in accordance with 4.H.6.a) ii. Where possible teams will maintain their choice of starting place. In the case of more than one team with the same choice, the Panel of Judges will decide the starting order with a new draw between the affected teams. All rest flights will be flown with 3 teams.
- e) If fewer than 3 teams remain for the last rest flights, the race will be filled up to 3 teams by offering the teams with 3 official results a place in a this rest flight. The team qualified highest in the ranking of their lowest score in a qualifying flight will be offered the option to take part in the rest flight first, if they do not accept, the next team in the order will be offered the option etc, until the teams are reached that will accept the offer to fill out the rest flight. By accepting a vacant place in a rest flight, the teams accept that their lowest result in points from their 3 official results will be replaced by whatever result they will achieve from this rest flight.

#### 4.H.7. Race from Start to Finish

- a) Each team's race begins with a 'start' signal and finishes when:
  - i) All models have completed the required laps or
  - ii) The time limits in 4.H.1.b) have been reached.
- b) The Circle Marshall will give an acoustic signal when the time limit has been reached. The time keepers will at that moment record the number of laps flown of the still flying team(s) which will be their race result. Every lap started will count as a completed lap. The timekeepers will record the flight time or laps flown for each team.

#### 4.H.8. Definition of an Official Flight

- a) An official flight is completed when the conditions in 4.H.7 are met.

*Note: In F2F, finishing a race at less than 50 laps is allowed, because the objective of the race is not the time flown, but the position in the race.*

cont/...

#### **4.H.9 Warnings Disqualifications and Penalties**

See 4.3.8

#### **4.H.10. Classification**

- a) The flight time recorded by the time keepers will be corrected by adding 5 penalty seconds for each official warning a team may have received during the race.
- b) If a team has not completed the race distance, the number of flown laps will be reduced by 2 laps for every warning received and the result is the scored laps.
- c) The number of laps scored will be multiplied by a factor based upon the final corrected result of the team in their race, being:
  - i) Factor 3 for the team with the fastest corrected time, factor 2 for the team with the second fastest corrected time, and factor 1 for the team with the third fastest corrected time. Or in case of incomplete race, in order of scored laps flown.

Note: If all 3 teams finish within 5 minutes and no penalties are issued, the winner gets  $100 \times 3 = 300$  points, the second  $2 \times 100 = 200$  points and the third  $1 \times 100 = 100$  points, plus any relevant bonuses.

- d) A team that is disqualified from a race, scores 0 points for the flight. This 0 score is ranked below the score of teams that have 0 points due to a failure to fly a lap after the starting signal.
- e) Bonus points will be added to the scores of teams which include entrants less than 21 years of age. Any team that meets this requirement will receive a bonus on their corrected scores of 5%.
- f) The final calculated points scored will be rounded down to the nearest whole number.
- g) The race finishing order is determined by the points scored.
- h) The final score is the total of all three scores of the qualifying flights of a team.

#### **4.H.11 Timekeepers**

See 4.3.12

#### **4.H.12 F2F Panel of Judges**

See 4.3.13