

**- ANNEX 4D -**

**CLASS F2D – JUDGES GUIDE**

**Purpose of this Guide**

This Guide is intended as an aid for Judges/Circle Marshals, Officials and Organisers as well as Competitors on how to interpret, understand and use the Sporting Code rules concerning F2D Combat.

Most of the content in this guide can also be used for class F2E.

**Processing (before the contest)**

At processing, before the contest, the following issues should be checked and/or tested:

1. Measurement of:

- a) the venturi inlet diameter using the simple plug gauge;
- b) the silencer outlet diameter using the simple plug gauge;
- c) the silencer volume by filling with an appropriate liquid (oil or other);
- d) the interconnecting chamber (maximum volume 1,75 cm<sup>3</sup>);
- e) of the silencer length;
- f) of the swept volume of the motor(s) (random check).

2. Inspect the:

- a) silencer's internal compartment to determine if it is truly "simple" ie that it is an empty container with no internal components and a single exhaust opening;
- b) working shut-off;
- c) streamer retaining device.

3. Check:

- a) the wing area and model weight;
- b) that the model is marked with the FAI License Number (minimum size specified in the ABR volume of the Sporting Code.)
- c) the FAI sticker and that the Model Specification Card (one per model type) is properly completed, signed and stamped.

Note: Although checked at processing this does not certify that a competitor's equipment cannot be a source of disqualification in the competition.

4. Mark the models and engines and record the number of models and engines

5. Pull test the safety strap and safety wire and check that the safety strap works properly.

**Rule 4.4.3. Combat Site**

If the centre (pilot) circle is laid out on other material other than grass, it is recommended that this material have a maximum radius of 4 metres although the pilot (centre) circle must be marked with a radius of 2 metres.

Circles are best marked using white paint or chalk but plastic strip can be used except for the pilots' circle. If plastic strip is used, the organiser must make sure it is laid out and fastened in such a way that it will not cause a trip hazard to pilots or mechanics.

Contestants not directly involved in the organisation or flying in a heat should always be requested to withdraw behind the safety fences or outside the contest area. Spectators and others not involved in the Combat Contest must at all times stay behind the safety fences or at the designated places.

The organisers should provide special safety fences for the Scorers/Time Keepers. Judges and Team Managers should also use this safety measure as intended when flying is in progress.

The safety strap and shut-offs must be used during practice flights.

**Rule 4.4.4. Competitor**

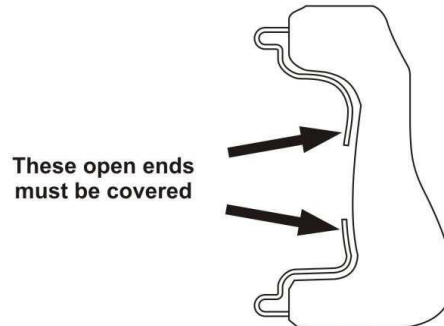
There is no rule saying that the mechanic(s) must be of the same nationality as the competitor. This means that a single competitor from a country can find and employ mechanics at World or Continental Championships. The only requirements are that they possess a valid Sporting License and are not registered for another National Team.

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When the pilot is outside the centre circle for reasons other than picking up the handle or waiting for his model to be serviced, all rules that apply to mechanic(s) also apply to the pilot.

#### Rule 4.4.5. Characteristics

- b) All handle and line connections should be covered in such a way so as not to interfere with the opponent's lines but may not be longer than required to cover the connectors. More than one connector per line at the handle and at the model aircraft is not permitted. Note that open connection connectors are not allowed (see sketch). Pilots using this type of handle must tape the handle before the heat.



- f) There must always be a safety wire connection between the engines and the lines.
- k) When referring to the engine shut-off (engine stop) device this covers both the anti fly-away device (shut-off) and the system used to stop the engine at the pilots will.

#### Rule 4.4.6. Technical Verification

- d) Demonstrations of a working shut-off can be requested at random by an official.
- e) When pull testing the safety wire it is recommended to ask the competitor (owner of the model) in which direction to pull.

#### Rule 4.4.8 Streamer

The mechanic(s)/pilot may not ask for another streamer just to save time in a heat; for example if it is wrapped around the lines or if a fly-away occurs. If a fly-away occurs and the model is stuck up in a tree or a net or is unable to be reached, the pilot may choose to continue with a new full length streamer instead of having a reflight (if granted by the Judges).

All parts of the opponent's streamer/string should be cleared from the pilot's own streamer/string before re-launching.

No matter that the competitor uses a metal ring or not to attach the streamer to the model, the string should have a single loop and one knot.

#### Rule 4.4.9. The Heat from Start to Finish

- f) When the model is launched, the pilot should walk directly into the centre circle. It is the responsibility of the competitor to make sure where the Circle Marshal is to avoid running into him.
- h) At take-off and before the signal to start combat the models should fly level in an anti-clockwise & direction. The competitors are not allowed to do any loops or other manoeuvres unless asked to do so by the Circle Marshal in order to separate the models. Take-off should take place in level flight forward, not upwards or backwards. Any contravention of these rules will result in a disqualification.
- i) In conditions of heavy wind, a grounded model which does not have a running engine may be moved to a safer launching position under supervision by the Judges. While doing this, the mechanics are not allowed to carry the model aircraft and lines over an opponent's grounded model aircraft and/or pitting crew. Parts of a crashed model aircraft are not considered a grounded model aircraft. It is a crashing/landing team's responsibility to maintain a safe distance. If two teams crash/land close to each other it is the rearmost team's responsibility to move backwards unless they are blocked by the other team's second model. This will be supervised by the Judges and they will advise the teams if any unclear situation occurs.
- k) The mechanic(s)/pilot may move around within their pitting area. A team's pitting area is considered to be the place where they have one or both of the models and a distance of approximately 2 metres on each side of the model(s). To assist in untangling lines, mechanics/pilots may be allowed to move around inside the flight circle.

- n) The pilot will receive a yellow card if he uses a rough or unsafe flying style, causes a line tangle or if he shows unsportsmanlike behaviour. The Judges/Circle Marshal shall not hesitate to give a yellow card to keep the level of combat on an acceptable and fair level. A yellow card can be given during the heat or after the heat when the Judges/Circle Marshals have had a chance to confer about situations during the heat. The first yellow card is a 40 point penalty while the second and/or third yellow card is a disqualification from the heat. If the first yellow card incident is considered severe, the pilot shall also be disqualified for the offence.
- o) The scorers must be observant and aware that the heat can be stopped.

**Rule 4.4.10. Scoring**

- c) The scorers' times should be rounded down to the nearest whole second and then added together. The added result should be divided by the number of scorers, and then rounded down to the nearest whole second. This result should be the competitor's official time in the heat. If any scorer's time shows a significant deviation from the average, it should be excluded (but still noted on the score sheet). If a fly-away occurs the scorers should stop the watches when the model lands. It is then the Judges' responsibility to measure and deduct the number of seconds that occurred between the fly-away and the landing. The same should be done if the pilot is asked to land due to streamer or silencer problems/replacement ie the scorers stop their watches when the model lands and the Judges deduct the measured time from the point of decision until the landing.

**Rule 4.4.11. Reflights**

- c) A reflight may be granted if, for instance, the model is stuck high up in a tree or in a safety net where it will take too long, or be impossible, to retrieve the streamer. The pilot may choose to continue with a new full length streamer instead of accepting the granted reflight. It is also possible for the Judges to grant a reflight if an unsafe situation occurs and continuing the heat would cause risk to the competitors or others.

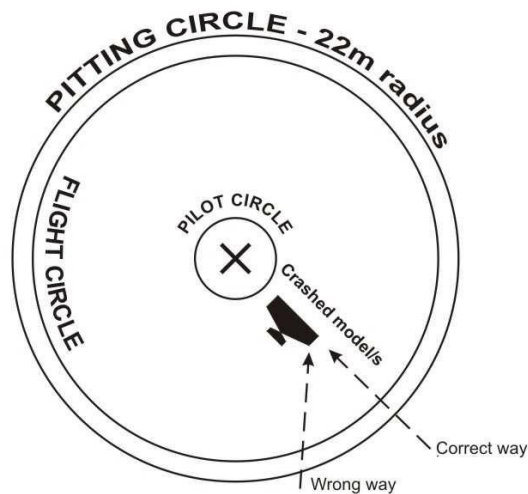
**Rule 4.4.12. Penalties and disqualifications**

**A. A competitor will receive a penalty of 40 points:**

- a) No penalties should be given to the pilot if he is pushed out of the circle. Instead his opponent should receive a yellow card or be disqualified (4.4.12.C.e) unless the Circle Marshal considers it an accidental incident where neither of the pilots is to blame.
- b) In order to reach a grounded model the mechanics are not allowed to cut across the flying or pitting circle (see sketch). If a model has crashed close to the centre circle, it is especially important that the mechanic(s) are observant regarding the point at which to enter the circle.

A penalty should be given if, for example, the pilot picks up the crashed model on one side of the centre circle and brings it out on the opposite side of the circle.

If a mechanic runs in the pitting area and jumps over the other team's model or lines the pilot should be disqualified instead of getting minus 40 points as this is a safety issue.



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- c) Be observant that all line tangles must be cleared before the model is serviced or the streamer is moved to the spare model. (Except for the case where both pilots have the permission of the Circle Marshal to continue). This rule is also valid if the model is outside the flying circle, for example because of a fly-away.
- f) See 4.4.9.n.

**B. A competitor will receive a penalty of 100 points:**

a), b), c) and d):

The situation when a model loses the streamer must be carefully watched by the Judges and if the streamer/string can be thought to have been hit or partly cut in a previous attack or mid-air collision then it should be counted as a cut for the opponent (no landing for replacing the streamer).

A part of the string must always be attached to the streamer retaining device. Having only the metal ring (if used) is not enough. If the streamer retaining device is bent or missing due to a mid-air collision then the pilot should not be given the penalty. Also, if the string is missing and device is intact but the model is damaged close to the device, and it can be concluded that the string has been cut in the loop, no penalty should be given.

In all cases during the heat the missed string or streamer should be replaced with a new full length streamer. In case of an unfurled streamer the pilot can choose to unfurl it or replace it with a new full length streamer.

If the model lands after the heat and has no string, only the penalty should be given.

**C. A competitor will be disqualified from the heat:**

- a) This means that a model without a silencer, a working shut-off, a streamer hook etc can not be used again until repaired.
- c) For safety reasons, it is not allowed to attach tools, weights etc to a crashed model to compensate for a lost outer wing.
- f) If lines or handles are dragged into the centre circle by accident, the Circle Marshal should order the pilots to cease combat and fly level until the circle is cleared and it is safe to continue.
- h) It is the responsibility of each competitor, and his Team Manager, to be aware of when his flight is scheduled.
- m) Crossed lines which do not interfere with the course of the heat are not a problem and is no reason for disqualification. If the spare model aircraft is needed to take-off and it is prohibited by the crossed lines of the opponent then another situation is created and rule 4.4.12.C.u is applied: Interference with his opponent's equipment.
- o) When a pilot without a streamer chooses to fly level and combat still is going on, and his opponent flies in such a way to cause a crash or collision the opponent will be disqualified.
- s) See 4.4.9.n.
- t) For example, any tampering with the streamer in any way, shape or form can result in a disqualification. This rule can also be used to disqualify a competitor for any other breach of the rules that is not covered in a separate paragraph.

**Rule 4.4.13 The Use of Video Equipment**

Note that is only the Judges/Circle Marshal/FAI Jury that can decide whether to look at the video recording or not. A competitor may make a request or his Team Manager may submit a protest after a heat but if the Judges/Circle Marshal feel certain, then they are not obliged to look at the video recording.

**Rule 4.4.14 Individual and Team Classification**

- f) Although this competitor will fly his heat in the following round, his score will count in the round where he was the odd one.
- i) A junior fly-off follows the rules in 4.4.14.h.

**Rule 4.4.15. Judges and Timekeepers**

- a) It is most important that the Judges have a good understanding of the rules and that they have a common language as this will reduce delays and possible errors. The Circle Marshal has the main responsibility for the centre circle and the pilots and their behaviour although all the Judges have the right to give penalties. Penalties may be given after a heat when the Judges/Circle Marshal have had a chance to discuss situations that occurred in the heat. In case of three Judges one should be assigned to each pilot and his mechanic(s) while the third

Judge will have an overall function. The Judges must work together and watch any models landing/crashing close to them.

- b) All scorers should count cuts as well as record airtime for the competitor. Every scorer should have a notepad where he/she can make records of the number of cuts as well as the air time (after the heat). A good way is to divide the six scorers into three pairs and spread them around the circle. Each pair will consist of a scorer for each pilot and they should be instructed to talk to each other during the scoring. If, after the heat, the scorers have a different cut count they must confer and try to come to a decision. They may also ask the Judges for advice.

It is also recommended that three Scorers per competitor are used at World Cup contests.