

# Judges Guide For Static and Flying Judging

For the classes: F4D, F4E, F4F, and Pistachio

International Indoor Fly In 2008

See: Remark in General Rules.

## ANNEX 6a

### TECHNICAL RULES FOR FLYING SCALE MODEL CONTESTS

#### CLASS F4

#### JUDGES GUIDE FOR STATIC JUDGING

##### 6.1.12 General

(a) The static evaluation is broken down into six items as listed in 6.1.10. Judges must discuss each item as a team and attempt to arrive at a unanimously agreed score for each item, although each will retain the right to differ. Any degree of difference should however be minimal.

(b) Regardless of the actual marks awarded, it is imperative that an accurate and fair comparison is attained across the whole range of models entered. The relative mark of one model compared to another is the most important standard to be achieved. Judges are encouraged to make use of analysis sheets and electronic or other archive devices to achieve this comparison.

(c) If model aircraft are flown before being static judged, any damage sustained during flight shall be ignored by the static judges provided the model is intact and it is practical to do so.

##### 6.1.12.1 Documentation for Proof of Scale

The minimum documentation as stated in 6.1.9.4. must be provided. Failure to comply shall result in penalty marks as follows:

(a) Fewer than 3 full photos of prototype:

- ZERO points for Scale Accuracy (6.1.10.1)
- Likely downmarking of Realism (6.1.10.4)
- Likely downmarking of Craftsmanship (6.1.10.5)
- Likely downmarking of Scale Detail (6.1.10.6)

(b) Missing or unauthorised drawings:

- ZERO points for Scale Accuracy (6.1.10.1)

(c) No photo of subject aircraft:

- ZERO points for markings (6.1.10.2)
- Likely downmarking for Realism (6.1.10.4)

(d) Incomplete colour documentation:

#### ZERO points for Colour (6.1.10.3)

The documentation stated above is the absolute minimum required for participation. In reality more comprehensive evidence is needed to assess the model relative to the prototype. As the full size aircraft cannot be presented it follows that the photographic documentation provided should be as comprehensive as possible if a high score is to be achieved.

All documentation should relate to the subject aircraft whenever possible; variations from this must be clearly marked if not otherwise obvious.

The static judges have a difficult task to do in a short period of time. Documentation should therefore be presented in a format that can be quickly and accurately assessed. Superfluous or contradictory evidence should be avoided. The documentation should be presented on separate sheets to avoid the requirement for judges to continually turn pages for cross-references. A stiff A2 size sheet is considered to be the largest that may be comfortably handled by the judges. It will assist the judges if the documentation is presented in a format that reflects the sequence of the judging aspects, e.g.: Side view, End view, Plan view, Markings, Colour, etc.

#### **6.1.12.2 Static Judging**

For the minimum distances required for judging please check the respective class notes.

The model must be judged against the documents presented and judges should award marks solely on this evidence. The quality of the documentation / evidence provided by the competitor will normally be reflected in the score that the judges award. Accurate and clear evidence deserves good marks if the model matches this. Judges must ensure that a competitor does not benefit by default by submitting poor or incomplete documentation.

Judges must assess both accuracy and complexity in those aspects where indicated.

#### **6.1.12.3 Scale Accuracy**

The photographs are the prime means of determining the accuracy and realism relative to the full size aircraft and must always take precedence over drawings if there is any doubt concerning an item of scale accuracy. Caution should however be exercised when determining rigging angles using photographs that are taken at an oblique angle, as these might give the wrong impression. In this particular case the drawing may be a more appropriate reference for checking dihedral and incidence angles.

The model should first be positioned in a pose similar to that in the best photograph and the relative positioning and shape of the markings on the model are checked for any obvious discrepancies. This procedure is then repeated with other suitable photographs.

Then using photographs and drawings, check:

(a) Side view, this may be either left or right depending upon the most suitable photograph. A check should be made of the fuselage outline, cabin or canopy shape, cockpit aperture shape, engine cowling and spinner shape, outline of fin and rudder, wing and tailplane sections. Also the shape, angle and position of landing gear legs and tail wheel or skid, the size of wheels and tyres. On multi-wing aircraft a check should be made of wing stagger, wing gap and the shape and arrangement of struts and incidence wires.

(b) Front-end view, for dihedral, wing thickness and taper, wing struts, bracing and gap on multi-

wing aircraft. Also the thickness of fin, rudder and tailplane, cross-sections of fuselage and engine cowling, cowling shape and cutouts, propeller size and shape, shape of cockpit canopy or windshields; size, shape, position and angle of landing gear, wheel track, tyre thickness.

(c)Upper-plan view for wing outline and fairings, aileron size, flaps; tailplane size and outline; elevator size, shape and cut outs, trim tabs, fuselage shape and taper, cockpit or canopy shape, engine cowling shape.

#### **6.1.12.4. Markings**

The relative positioning and shape of the markings on the model are often a good indication of scale accuracy as they highlight errors in shape and outline. The opportunity to check markings on the underside of the model can also be taken whilst checking the plan view.

##### **Markings Accuracy:**

Check the position and size of all markings and lettering. Particular emphasis should be made to the relative positioning of markings to other markings and key features on the airframe. Check that the style and thickness of all letters and figures are correct. Check that any trim strips are of the correct dimensions and are correctly positioned. Check camouflage patterns.

##### **Markings Complexity:**

Prior to commencing the competition the judges should agree the principle for awarding complexity points in relation to markings. A high mark for complexity is not solely dependent upon the number of markings, but the difficulty in achieving the required effect. Complex lettering, particularly when spread over a large area or relating to key positions on the airframe, should attract a higher complexity mark than sparsely positioned markings of more simple design. Curved lines are usually more complex than straight lines. Camouflage patterns should be considered carefully, with the more complex styles involving irregular patterns and indistinct edges being rewarded accordingly.

For high marks to be given in this section it is important that documentation is presented covering all the markings to be assessed.

#### **6.1.12.5. Colour**

##### **Colour Accuracy:**

Correct colour may be established from colour photographs, from accepted published descriptions if accompanied by colour chips certified by competent authority, from samples of original paint, or from accepted published colour drawings. Also check colours of national markings, lettering and insignia. Camouflage colour schemes should show the correct degree of merging of the shades.

##### **Colour Complexity:**

Consideration should be given to the greater effort involved in reproducing multi-coloured finishes compared to models which feature only one or two basic colours. The system for awarding colour complexity points should be agreed before starting competitive judging. Up to two complexity points may be given for each main colour that covers a significant part of the airframe. A maximum of a single point may be given for each minor colour, such as those for the insignia, struts, guns, bombs etc. Basic colours of black and white should attract a fraction of a complexity point.

It is again essential that if high marks are to be awarded, a comprehensive standard of colour documentation must be presented.

#### **6.1.12.6 Surface Texture and Realism**

Realism is a question of how well the model captures the character and surface texture of the full size aircraft. The judges should ask themselves if they are looking at the subject aircraft in miniature, or just a model aeroplane?

The texture and appearance of the surface of the model should be a good reproduction of that of the prototype. Fabric covered types should be covered in the correct material, and the outline of stringers and wing ribs should be visible. Ply covered or wooden monocoque types should be correctly simulated and any sag between the ribs and formers should be apparent if this is present on the prototype. Metal stressed skin types should show simulation of panels and rivets. In all instances, the appropriate gloss, or matt finish should be correctly reproduced.

If the subject aircraft is an unblemished museum example then the model should be in similar pristine condition. If the subject aircraft is an operational aircraft then a degree of weathering and signs of regular use should be evident if appropriate to the full size machine.

The documentation should show these aspects and the judges should mark accordingly.

#### **6.1.12.7 Craftsmanship**

This section deals with the skill, ingenuity, general finesse and complexity involved in the construction of the model.

##### **Craftsmanship Quality:**

The model should be checked for quality of workmanship, with particular reference to clean, sharp edges, especially trailing edges of wings and tail surfaces; correct gaps at hinge line of control surfaces; close fit where non-scale joints are used for dismantling the model or access hatches used for model operation.

Non-scale Items such as switches, needle valves, silencers, control horns, etc. should not be visible.

##### **Craftsmanship Complexity:**

Judges should consider the overall complexity of the design awarding higher marks for more intricate shapes and structure. Special items of ingenuity may also be rewarded under this section. In assessing both the above aspects judges should consult the competitor's documentation for any components that have not been made by the competitor (see 6.1.9.4e) and adjust the marks awarded accordingly.

The points that are awarded must again reflect the standard of documentation presented.

#### **6.1.12.8 Scale Detail**

Check that items such as those listed are present on the model where applicable, and that they are accurately reproduced and correctly positioned.

Hatches	Brake pipes
Handles	Landing gear springing
Footsteps	Tyre treads
Doors	Wing slots
Armament	Navigation and landing lights
Bombracks	Pitot head
Control cables	Walkways
Control horns	Tanks
Fairings	Radiators
Bracing	Filler caps
Turnbuckles	Louvres
Struts	Cooling gills

Lacing or stitching	Mass balances
Aerials	Instrument panel
Venturis	Cockpit or cabin interior detail

The points awarded should reflect both the accuracy and the quantity of scale detail present.

#### **Scale Detail Accuracy:**

The documentation presented should clearly show the features that are being assessed. Higher marks should be awarded to those competitors who accurately reproduce these items.

#### **Scale Detail Complexity:**

A well-documented highly detailed model should score proportionately more than a model with little detail, even if the full-size prototype is itself sparsely detailed. Judges should ensure when marking this aspect that they are relating to the complexity of detail actually on the model, not awarding marks for just what the prototype should have.

### **ANNEX 6d**

#### **6.4.11 JUDGES GUIDE FOR SCALE FREE FLIGHT FLYING SCHEDULE**

##### **Applicable to sections**

##### **6.6 Scale Indoor F/F Rubber Class F4D**

##### **6.10 Scale Indoor F/F CO2 / Electric Class F4E**

##### **6.4.11.1**

Models should at all times fly in the same manner as the prototype. The following notes describe an average aeroplane; judges should use their own personal judgement to decide on an appropriate flight style for the prototype submitted and mark the flight accordingly. Competitors may submit a description of the prototypes flight characteristics (originated by a competent authority), which should be used to judge the flight.

##### **6.4.11.2 Take-off**

The model should slowly accelerate from rest, leaving the ground after an appropriate ground run. The take-off run should be straight, and transition to flight should be smooth.

##### **Errors**

The take-off should be penalised if: the ground run is too short, too long or assisted, the tail or nose wheel does not leave the ground before the main wheels, the wing drops or the run is curved. Note that a swing may occur as the tailwheel leaves the ground; this is normal and should not be penalised unless it is excessive.

##### **6.4.11.3 Initial Climb**

The model should smoothly rotate to a climbing attitude, and commence a gentle straight or curved climb. The climb should be smooth and appropriate to the prototype.

##### **Errors**

The climb should be penalised if: too steep, too shallow, too highly banked, wing drop or wing rock occurs or nose attitude is too high or too low. Note that a high bank steep spiral climb is normal for a Pitts but that a Bleriot should hardly leave ground effect.

#### **6.4.11.4 Realism in Flight**

The model should mirror the flight characteristics of the prototype in speed, flight attitude, stability and balance. The model may fly in a straight line or turn in either or both directions. Turns should display an appropriate amount of bank. The flight should be smooth and continuous, especially the transitions between take-off, climb, cruise, descent and landing approach.

#### **Errors**

Realism in flight should be penalised if: the model flies too slowly or too fast, the nose attitude is too high or too low, the model stalls, or shows fugoïdal flight path, has persistent wing drop or wing rock, flies an out of balance turn or pitches harshly on engine failure. A stall or wing drop may occur if the model hits turbulence or its own slipstream. If the recovery to stable flight is smooth, this should not be penalised. A grossly out of balance turn, left turn with right bank for instance, or a flat turn should be penalised.

#### **6.4.11.5 Transition to Descent**

The model's flight path should smoothly change between cruise and descent. The change may be abrupt, after an engine failure, or prolonged as the power slowly reduces. The direction of flight may or may not change.

#### **Errors**

The transition should be penalised if: the model stalls as the engine fails, wing drop or wing rock occurs or an excessive pitch change is apparent.

#### **6.4.11.6 Descent and Landing Approach**

The descent should be smooth, continuous and stable. It may be straight or curved. The angle of descent should be consistent with that of the prototype either engine on or engine off. As the model nears the ground it should adopt a landing attitude consistent with that of the prototype. Allowance must be made for prevailing wind conditions.

#### **Errors**

The descent and landing approach should be penalised if: the model stalls, drops or rocks the wings, shows too steep a glide or does not change to a landing attitude. Note that the glide angle may change significantly with engine on or off.

#### **6.4.11.7 Quality of Landing (Indoor Only)**

After adopting the landing attitude, the model should descend slowly to the floor, and touch down without bouncing. The ground run should be smooth and straight, with the model coming slowly to rest. Touch down may be on main wheels only, or on tail down three points.

#### **Errors**

The landing should be penalised if: the model bounces, the ground run is curved, the model does not stop, it ground loops or touches down too hard. Landings in a nose down attitude, or on the nose wheel, should be penalised.

### **ANNEX 6f**

#### **6.8.6 JUDGES GUIDE TO SCALE PEANUT AND PISTACHIO.**

##### **6.8.6.1 General**

Prior to commencement, the judges should review as many as possible of the models entered in the competition in order to establish a standard for the Workmanship and Complexity of Colour and Markings scores. The entries should be studied in relation to each other from a superficial aspect only. This may be achieved by a casual walkaround the flying area looking at as many models

present as possible.

As an aid to ensuring that marks are awarded in proportion for all entries, as marking progresses a list should be compiled on a single sheet of paper of marks awarded to each model. Marks given are then easily compared. Judges should not be afraid to change marks awarded to an earlier entry if they feel that they have misjudged the initial standard.

Finally, before commencing judging, check the size of the model - you may be able to eliminate a model early and save yourself a considerable amount of time.

#### **6.8.6.2 Peanut or Pistachio**

Pistachio models are, of necessity, a lot less complex than their brother, the Peanut. For example, no penalty should be given for single surface covering - even if this gives the impression of a thinner finish. Take care also to note the number of total marks allocated under each heading, there exists quite large differences between the two classes.

#### **6.8.6.3 Documentation**

Peanut models should be disqualified if less than the minimum documentation is submitted, or if the documentation does not fall within the requirements of the rules. Pistachio models may be static judged with less than the recommended documentation, but only those features of the model that may be proven by the documentation will be assessed. For example, if no plan view exists (drawing or photograph), then no marks may be allocated for a scale stabiliser.

#### **6.8.6.4 Workmanship**

Complexity of the subject model must not be taken into account under this heading. Marks for complexity of subject are allocated under separate headings later. Models should be checked for quality of workmanship and marked accordingly. In particular, the following should be assessed if appropriate: the filling of grain, the sharpness of line and edge (including that of the colour scheme), the fit of components and the general finesse of the model. The propeller should not be assessed.

#### **6.8.6.5 Complexity of Colour and Markings**

Full marks should be given to the most complex subject that has been accurately portrayed. Marks should be awarded to other models in proportion with the lowest mark being appropriate to the simplicity and standard of the poorest, simplest subject. In all cases, the authenticity of the markings should also be taken into account.

When assessing complexity, take account of the following: curved rather than straight lines, number of different colours and size and relative position of markings. In particular, when assessing authenticity look at the relative size and position of the markings as well as the completeness. This would include such items as colour break lines in camouflage patterns.

#### **6.8.6.6 Authentic Details**

Marks should be allocated according to the amount of authentic detail on the model. Complex subjects that show a lot, but not all, of the detail should be given a higher mark than a simple subject that has all the detail; present, providing that the detail on both models is accurate and authentic and that the more complex model has more detail on than the simple one.

#### **6.8.6.7 Flying Surfaces**

The type of covering should not be taken into account. For example, a wing covered on both sides whether in balsa, tissue or foam is still double covered.

#### **6.8.6.8 Surface Finish**

Consideration should be given to the weight and depth of colour on the model when deciding on the marks allocation under this heading. As a guide, the lighter covering material and thinner finish should be given less marks than the heavier covering material and/or heavy (solid) paint finish.

#### **6.8.6.9 Other Complexity of Subject Marks**

Take care when making an assessment under each heading to ensure that marks are allocated according to the relative complexity of each subject when compared to the others in the submitted group of models.

For example, if one particular model had a grossly complex fuselage cross-section then the dividing line between a 'square' and 'other than square' fuselage could be moved to give this particular model the correct relative mark. Thus, a 'square' fuselage with a curved turtle deck could be classed as 'square' in one group of models and 'other than square' in another.

Marks should not be given twice for any one feature. For example, if given the premium that applies to a floatplane, no marks should be awarded for the landing gear, unless separate landing gear exists besides the floats.

#### **6.8.6.10 Negative Points for Deviation From Scale to Assist Flying Performance**

Any deviation from scale that has not already been penalised and would, in the judges opinion, assist stability or help increase endurance should be penalised by deducting two marks from the static score.

Apart from the listed headings, judges should look for the following, grossly increased distance between propeller and nose block, widening of fuselage, clear or other trim tabs that are not authentic, gross washout on wings, gross deviations in wing section, etc..