

immediately if airborne.

4.11 Lost streamer

It is the contestants responsibility to get airborne with a streamer of appropriate and full stretched length attached to his A/C. After landing, missing or entangled streamer counts as lost (no +50p given), except if the streamer was lost during landing, which must be proved by finding the missing streamer. To gain the intact streamer bonus, the model and streamer must have been airborne during the fight.

4.12 Streamercut

A contestant that cuts streamer off an enemy A/C in the air, gains +100p. If a contestant manages to have his own streamer uncut during a fight, he is given +50p. If having an enemy streamer stuck to the model, the following rules apply: A cut made to a stuck streamer, counts as a cut on enemy streamer, and the contestant making the cut gains +100p. If having a stuck streamer cut by an opponent, the contestant does not lose his streamer-points. Only cuts made to the streamer actually attached to the contestant's model count. If during one flyby cuts are made to several streamers (own and stuck) or several cuts are made to the same streamer, this only counts as one cut made to enemy streamer.

4.13 Collision

If an A/C is involved in a collision and crashes or lands within 15s after the impact, the pilot receives full remaining flighttime points, to the end of the fight.

4.14 Non-engagement rule

If a pilot stays away from combat for more than 30 seconds, he should be warned by the main judge. If the pilot still after this stays away from combat for an additional 30 seconds after the warning, the pilot should receive a non-engagement penalty of -50p. A pilot who after the first warning tells the main judge he has technical problems should immediately try to land his model, in a location and manner safe for the contestants and the audience.

4.15 Tie

If the final points are equal for two pilots, the one with highest points in the final wins. If it is still equal, the pilot with the highest points from one single fight (except from the final) in the contest wins. If it is still equal, the pilot with the biggest single point throughout the competition wins.

4.16 Frequencies

Contestants must be able to change between at least two frequencies. When a frequency collision occurs in the final, the contestant with the lowest total score shall change frequency. This change must be given extra time, so that the preparation part of the final does not start until the change is done. It is the

contestants responsibility to avoid frequency-collisions at changes from the given frequency.

4.17 Complaints

If the weather or other conditions gets bad at a contest or as soon as a participating pilot complains about the weather or other conditions to the arranging group, the arranging group shall take a ballot among the pilots to decide if the contest should be postponed, or cancelled and how the results from the contest should be decided.

4.18 Protest

Any contestant can make a protest against judges decisions. Protests shall always be decided by taking a ballot among the contestants. This should be done as soon as possible. A protest charge should be taken. If the protest is sustained, the protest charge is returned.

5 Judges

5.1 Main judge

The *main judge* is responsible for the overall timing of the contest. He is also responsible for keeping contestants behind the safetyline when A/C are airborne.

5.1 Safety judge

The *safety judge* is responsible for the overall safety of the contest. This judge has higher authority than the main judge, when it comes to safety. The safety judge should warn for safety hazards during a fight. He is also responsible of that there are no people not wearing hard-hats outside of any safety net zone(s) or closer to the safetyline than 60 meters.

5.2 Pilot judge

The *pilot judge* should note points for his pilot on a scoreboard, and keep record of his pilots flight-time. He should also check his pilot's streamer after the fight.

6 Points

The following system of points apply. Note that no decimal points are given.

6.1 Minus/plus points

Crossing safety line (applies all day)	-200
Non-engagement	-50
Own streamer uncut during fight	+50
Cutting streamer off enemy A/C	+100
Flight-time, per 3 seconds	+1

2001 Competition rules

rules Competition 2001

RC 1/12 Scale

AIR COMBAT

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1. R/C Air Combat

1.1 About R/C Air Combat

The game *R/C Air Combat* is designed to recreate the air wars of WW II in a historical perspective, in a enjoyable, safe, scale competition that will be interesting for spectators and challenging for the contestants.

1.2 General rules

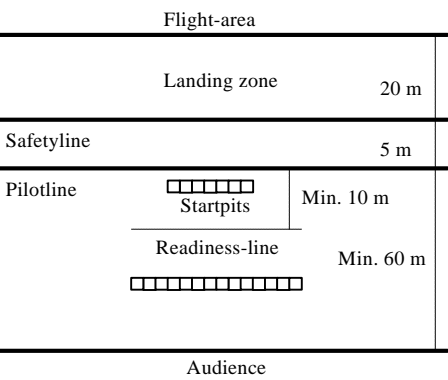
All FAI regulations covering the R/C-flier, his plane and equipment, shall apply to this event, except as noted herein. The arranging group and the main judge, are responsible for frequency control during the event.

1.3 Safety

Safety matters have always highest priority. Any conduct by a contestant deemed by the main judge or contest arranging group to be hazardous will be cause for immediate disqualification of the contestant from the event. Any contestant that is not known to the arranging group, might be ordered to make a test flight, to prove that he is capable of flying a 1/12 scale warbird.

2. Contest site

2.1 Figure



2.2 Flightarea

The flight-area is always in front of the safetyline. During all day of the contest, all A/C must fly in front of the safetyline (as soon as the safetyline is drawn up). Note that safetyline penalties are given all day, if A/C crosses the safetyline (including test-flights before, in-between and after fights). Any model that ends up in front of the landing zone may not be fetched during the fight, or while other models are airborne.

2.3 Startpits and readiness area

The *startpits* are placed with three meters in-between. The *readiness area* is placed behind a line approximately 10 meters behind the startpits. At readiness, pilots and helpers must be behind this line.

2.4 Audience

The audience should be kept at a safe distance (at least 60m)

behind the safety-line, or be protected by protective devices, such as nets, etc. The area protected by safetynets is defined as an area starting from the point where the net ends, and to a distance equal to the net height. This means that for a 3m vertical net, the safe area is measured from behind the net and 3 meters back. In addition, the first meter behind the net should be considered as unsafe. All other areas within 60 meters from the safetyline should be fenced off, for people not wearing hard-hats.

2.5 First Aid

On the contest site, a spot should be marked up as the first aid spot. At this spot, basic first aid equipment should be available for instant use, in case of an accident.

3 Equipment

3.1 The model

The model must be a scale or semiscale A/C of a warbird built between 1935 and 1945. The scale is 1:12 and the wing span and fuselage length may not deviate more than +/-5% from scale. All other measures may not deviate more than 2cm from scale. The fuselage length is measured in-between the leading edge and the rear edge of the fuselage, or the backside of the propeller(s), if any. The wing thickness must be 10% or more, measured at the thickest point of the chord. No protruding devices may exist on the front leading edge of the wing, stabilizer and fin. The A/C must look similar to the original A/C, including painting and decorations. The competitor should bring a published 3-plane view of the original A/C-type, in at least 1:72 scale, to the competition to show that his A/C is accurate according to measures. The contestant does not have to be the builder of the model.

3.2 Engine

Mufflers made by other manufacturers may be used. Extension parts may be used to get the muffler outside of the fuselage. The contestant must be able to shut-off the engine in the air, whatever the attitude of the A/C. Engines that are used in ducted-fans, may use tuned-pipes, others may not.

3.3 Engine size

If the original A/C had a span of at least 12 meters, a wingarea of at least 25 square meters, and the model has a span of at least 1 meter, the model may use a .21 engine. Other models may use a .15 engine. Multi-engined A/C may use .15 engines, and the model must have the same number of engines as the original A/C. Single engined ducted fan models may use a .25 engine. Electrical engines may (for the moment) be used without limitations. The original A/C engine must have a take off power of at least 500hp.

3.4 Engine performance and propeller

The following table applies for maximum engine performance and propeller used. The maximum propeller to be used is found by adding the propeller diameter and pitch.

Engine size	RPM max	Propeller max
-.15	17.000	12
.15.1- (& electro)	16.000	13

The RPM is measured at full throttle, and with the needle setting used in contest. The measuring party should have full access to both the engine/model and the controlling transmitter. Measuring should be done either just before the fight, or just after the fight has ended. It is the contestant's responsibility to ensure that his engine is within the limits using the RPM meter(s) used by the

arranging group. If the engine is found to exceed the limits after a fight, no points are given to the contestant for this fight. After the final, the three best contestants/models must be measured according to the RPM limit. Only propellers that are commercially available in the country the contest is held may be used. As commercially available means the propeller can be bought in normal hobby-shops.

3.5 Model weight

The following table applies on model weights:

Engine (max)	Model weight
.10	500-900g
.15	700-1200g
.21	1000-1500g
Electrical engine	700-1500g
Single ducted fan	700-1500g

Multi-engined max weight is 1200 gram + 350 gram per additional engine (1550g for twin-engined, etc). Any model may not weigh more than 1700g. This rule overrides all other model weight rules.

3.6 Streamer

The streamer is 14 +/- 0,5 meters long, and divided in two parts: The string (4 +/-0,25m) and the paper (10 +/-0,25m). The string is made out of string of small diameter, that easily breaks if hit by a propeller. The paper-part is made out of crepe paper or the sort, and is 10-15mm wide. Only cuts where a piece of the paper-part is separated from the model, counts as a cut, whether the cut was made to the string, or the paper-part. Cuts where only string is separated from the model do not count as a cut.

3.7 Helmet

A *helmet* must be used by any person that is in front of the audience-line. The helmet should cover the upper part of the head and put up with a direct hit of an A/C.

3.8 Radio equipment

Every contestants radio-equipment should be range-checked before the contest.

4 The contest

4.1 Structure

Each *fight* consists of at least two and at most seven pilots that fly against each other. When all pilots have flown exactly one fight, this is called a *round*. The next round, flight-lists are changed to make it possible for as many pilots as possible to meet each other in different fights. The number of rounds flown at a contest is decided by the arranging group, and must be told in the contest-invitation. The number of rounds is recommended to be 3. A contest also has a *final* which is flown after the rounds. In the final, the seven pilots with the highest scores meet. The pilot who has most points after the final wins the contest.

4.2 Fights

A fight is divided into three parts: The *preparation*, *readiness* and *flight-part*.

4.2.1 The preparation-part

The length of the preparation part may be set by the arranging group, but is recommended to be 7 minutes at smaller contests.

It is marked by the main judge blowing three signals in his whistle and calling out "Seven minutes to readiness". During the preparation-part testflights may be performed. 30 seconds before the preparation-part ends the main judge blows two signals in his whistle and calls out "30 seconds to readiness".

4.2.2 The readiness-part

Readiness follows immediately after the preparation-part, and is marked by the main judge calling out "Readiness". During readiness all pilots and helpers must be behind the readiness-line. All equipment must remain in the startpits, and engines may not be running. Readiness may vary in length, upon the main judges decision.

4.2.3 The flight-part

The flight-part starts when the main judge blows one long signal in his whistle. Pilots and helpers may now run to their A/C, and get them airborne. The flight-part ends when the main-judge blows one long signal in his whistle. The pilots may now fly freely in front of the safetyline, and land at their own discretion. As soon as all A/C has landed, the next preparation part may start.

4.3 Helpers

Every contestant may have one helper.

4.4 Take off

Take-offs are only allowed in the area between the pilotline and the safetyline.

4.5 Flight-time points

One point per three seconds airborne, is given. Maximum flight-time is seven minutes.

4.6 Restarts

An unlimited number of restarts are allowed during a fight. When a pilot attempts to fetch his plane from the landing zone during a heat he must get a permission from the main judge. The main judge then gives an alarm and ensures that all the pilots are aware of the situation. A restart must be made from the same place the first start was made. Restarts are only allowed if the model ends up in the landing zone, after landing.

4.7 Repaired A/C

A/C that have been repaired during contest should be examined by the main-judge before entering contest again.

4.8 Change of A/C

The same A/C must be used throughout one fight. A new A/C may be used the next fight. The model is defined as main parts of fuselage and wing.

4.9 Crossing of lines

A crossing is made either the A/C is airborne or is moving on the ground. When airborne the A/C must be clearly over the line. On the ground, the engine counts. If a model has several engines, any engine crossing the line counts.

4.10 Safetyline crossing

The first time a pilot crosses the safetyline with a model during a contest, the pilot receives a minuspoint penalty. The second time a pilot crosses the safetyline with a model, the pilot is immediately disqualified from the contest, and ordered to land