



## IDO Segev Cup contest Criteria

### 1. Objective:

- 1.1. This is a specific criterion for the Ido Segev Cup competition that rely on the IMAC rule book.
- 1.2. The definition of all scale aerobatic contest is being defined by these criteria
- 1.3. All AMA, ACI or FAI regulations and FCC regulations covering the RC flier, airplane, and equipment, shall be applicable to this event.
- 1.4. Consideration of safety for spectators, contest personnel, and other contestants is of the utmost importance in this event.
- 1.5. Any unsportsmanlike conduct or hazardous flying over a controlled spectator area will be cause for immediate disqualification of that flight. Further infractions will result in the removal of that pilot from the contest

2. The events accommodate aerobatic monoplanes and biplanes which are replicas of types known to have competed in International Aerobatic Club (IAC) competition, or replicas of types known to be capable of aerobatic competition within the airspace known as the "Box."

This competition is open to any competitor flying a scale aerobatic plane bi-plane or mono plane with a wingspan of minimum of 70"

3. Only one (1) propeller per aircraft shall be allowed. Internal combustion reciprocating engines and electric motors shall be



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allowed. If the aircraft is utilizing an internal combustion engine, only one (1) engine shall be allowed. If the aircraft is utilizing electric motors, more than one (1) electric motor may be used.

- 3.1. The model shall comply with all AMA, FAI and ACI Safety Codes.
- 3.2. There shall be no airborne devices fitted to the aircraft which place the aircraft under less than total control by the pilot. These devices will include, but are not limited to, gyros, automatic pilots, electronic stabilization, and timing devices. Non-airborne aids such as transmitter-based functions are permissible or SFGs, canalizer or any surface that none of the full-scale aerobatic plane is carrying. Pilots found to be using prohibited devices will be disqualified from the contest
4. The general outlines of the model shall approximate the full-size outlines of the subject aircraft. Exact scale is not required. The model shall be judged for likeness at approximately 10 feet.
  - 4.1. If the contestant presents no proof of scale material with the model, and the CD can determine that the aircraft is a replica of a full-size aircraft, then the contestant will be allowed to have his/her entry considered.
  - 4.2. A realistic three-dimensional human pilot and viewable instrument panel shall be appropriately installed in all Scale Aerobatic aircraft. (A one [1%] flight score penalty will be assessed for noncompliance.)
  - 4.3. Material and Workmanship: Workmanship must be of satisfactory standards. The Contest Directors are empowered to



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refuse permission to fly, or to disqualify any aircraft which, in their opinion, is not up to reasonably safe standards in materials, workmanship, or radio installation.

5. Pilot control of the aircraft. Once the pilot announces an attempt until the pilot completes the sequence, (freestyle) only the pilot may operate the transmitter which is controlling the aircraft. Any assistance of any kind provided by another person to operate the transmitter (e.g., changing switches, programming modes, etc.) will result in the pilot receiving a zero for the Freestyle in progress when the assistance was provided. This rule applies only from entering the sequence until the sequence is complete. This rule does not apply to takeoff, landing, or flight between sequences.
6. The contestant has two (2) minutes to start his/her engine and become airborne. If after two (2) minutes the contestant is unable to start the engine, they will move to the end of the round rotation. If the contestant fails to start a second time, they shall receive zero for the round.
  - 6.1. The contestant has half (0.5) minute from the time the wheels leave the ground during takeoff to enter the aerobatic airspace and start the music.
  - 6.2. The contestant has one (1) minute between leaving the aerobatic airspace and touchdown for landing, unless required to hold upon command from the appropriate official.
  - 6.3. Prior to entering the aerobatic airspace, between sequences, and prior to landing, pilots shall be allowed to perform



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positioning maneuvers: snaps, point rolls, or any other Aresti or  
non Aresti based aerobatics figures

## 7. Scoring

7.1. All classes shall have the scheduled maneuvers scored on a scale of 10 to 0. Half (0.5) points may be used in judging. Points are deducted for imperfections as per the Scale Aerobatics Official Fly but not too low.

7.2. Degree of difficulty factor (K-factor) values shall be assigned to individual maneuvers based upon the current FAI catalog of maneuvers, with modifications as required by the International Miniature Aerobatic Club (IMAC). When calculating contestant scores, each individual maneuver score shall be multiplied by its K-factor. The flight score shall be the result of summing the “K-factored” (maneuver score multiplied by K-factor) scores.

## 15. Determining Placement:

## 8. Scoring –

8.1. The Official IMAC Scale Aerobatics Contest Guide shall be used to determine the number of sequences.

8.2. Combined Scores – The highest combined scores will determine the winner.

8.3. Normalization – All sequences will be normalized to 1000 as outlined in Rule

8.4. In the case of ties, the best non-scored sequence of the contestant shall be used to determine the winner.



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8.5. The same set of judges shall judge each round. Judges may be rotated between rounds.

8.6. Each sequence shall be normalized to a standard 1000 points. The pilot with the highest raw score receives 1000 points for the sequence. Each pilot thereafter shall have their raw score divided by the high raw score giving a percentage of that high raw score, which is then multiplied by 1000 to get the normalized score. Scores shall be rounded to two (2) places of decimal SCA-16 accuracy. For example: Contestant A wins the sequence with a raw score of 4850 points. Contest B is second with 4766.5 points. Contestant A receives 1000 points for the sequence. Contestant B's score is 982.78 points ( $4766.5 \div 4850 = 0.982783 * 1000$  for 982.783, which rounded to two (2) places of decimal accuracy for a final score of 982.78).

### 9. Four (4) Minute Freestyle Program:

The 4 minutes Freestyle program is meant to be a show, an artistic performance combining choreographed aerobatic maneuvers matching the rhythm and tone of the music in a way that evokes an emotional response from the judges and spectators. To be eligible to participate and compete in this event, the competitor must also compete in one of the five IMAC categories of precision sequence flying at the same event. It should have separate awards when offered. It is graded on the following criteria: SCA-17

A: Use of total flight area (20K) The pilot should make full use of the available flight area, with a balanced mix of maneuvers at both ends of the flight area. Pilots that use only one side, or never leave the middle of the flight area should receive lower scores. Pilots



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should position maneuvers to help judges and spectators observe all aspects of the maneuver. Pilots should use a combination of fast, high-energy maneuvers with a small footprint, and long, slow maneuvers using a large footprint to demonstrate a wide range of flight skills.

**B: Originality and Complexity (20K)** Pilots should perform a wide variety of figures. Pilots that repeatedly perform a single maneuver should receive lower scores, even if that maneuver is highly complex. Judges should award the highest scores to pilots that demonstrate a wide variety of complex maneuvers. Pilots should demonstrate complexity using all the aerodynamic and gyroscopic forces available, including stalled flight, autorotation, and propeller torque.

**C: Precision (20K)** All maneuvers should demonstrate the precision expected for normal maneuvers. Roll rates should be constant for continuous rolls. Rolls should stop at the normal points (e.g.,  $1/8$ ,  $1/4$ ,  $1/2$ , full). Point rolls should have a constant rhythm. Lines should be straight, and horizontal, vertical, or 45 degrees. Arcs and turns should have constant, continuous radii. Changes in altitude during a maneuver should be consistent with the maneuver, demonstrating the pilot's ability to always control the aircraft.

**D: Artistic impression and Presentation (30K)** The music should establish a mood, and the movement of the airplane should match that mood. The rhythm of maneuvers should follow the music. Changes in the music should be reflected by changes in the flight.

**E: Choreography (30K)** Pilots should demonstrate a well-rehearsed choreography of maneuvers, not a random selection of maneuvers.



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Maneuvers should flow from one maneuver to the next, without long pauses between maneuvers.

### 10. Judging the Four (4) Minute Free Program.

10.1. Any number of judges can be utilized, but there should be a minimum of 3. Judges must be familiar with the criteria, not randomly selected spectators. A separate individual should be assigned as a timer.

10.2. Each criterion will be judged from ten (10) to zero (0) in 0.5 increments

10.3. Scored flight and timing begins when the pilot or caller signals the judges for an air start, or when the planes wheels leave the ground (ground start).

10.4. Scored flight ends when the pilot announces the end of flight, the pilot lands, or time reaches 4 minutes. If scored flight ends prior to 3 minutes 30 seconds (three and one-half minutes), the score will be prorated by the fraction of the four minute flight time using the following formula:  $\text{Judges Score} \times (\text{Actual Flight Time} / 4)$  If scored flight ends any time after three and one-half minutes, there is no penalty. The judges will stop scoring when the timer announces "Time" at the four-minute mark.

11. The following circumstances will disqualify pilots flight or, will give him an advantage

11.1. Any part of the plane touches the ground for any reason other than takeoff or landing will zero the flight.



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11.2. Plane that landed, even a non-controlled landing, on two wheels the sequence will be scored up to the time the plane touched the ground with its wheels.

11.3. Crashing the plane during the freestyle routine will zero the flight unless the pilot finished at list 03:30 (three and one-half) minutes of flight.

11.4. Any falling object from the plane during the flight only if the plane didn't enter the flight box ie started the freestyle routine, the pilot will have the benefit to land without zero the sequence.

11.4.1. If the falling object fell before the music or the pilot starts the sequence, he will be able to land without zero the sequence and will be able to return and fly the sequence last, again.

11.4.2. Starting the music is equal to calling "box"

11.5. The plane crosses onto the pilot side of the Deadline the flight will be zero.

11.6. The pilot performs dangerous or unsafe maneuvers or high energy maneuvers directed at the judges or spectators as determined by a majority of the judges and/or the CD.

11.7. The pilot touches the plane during flight.

11.8. If the pilot is noticing a problem with the plane, he must land immediately.

11.9. Rules 11.3., 11.4. will be applied in this case.