

Control Line Competition Rules

SECTION G6 CONTROL FLYING SCALE REGULATIONS

PRECISION SCALE (G6.1)

SPORT SCALE (G6.2)

PROFILE SCALE (G6.3)

G.6.1 CONTROL LINE FLYING SCALE REGULATIONS

6.1.1 Power. Engine(s) shall be of the reciprocating internal combustion type and of the jet type limited to no more than 1.25 cu. In. piston displacement for each reciprocating engine and for jet engine(s), no more than 1.25 square inch cross – sectional area of tail pipe(s) at point of minimum cross – section for each engine. There is no size or power classification for control line flying scale models.

6.1.2 Control Lines. The length of the control line(s) measured from the centre – point of the grip part of the control handle (device) to the fore and aft centre line of the model shall be at least 52 – 1 / 2 ft. but not more than 70 ft., except that where total displacement of engine(s) is less than .100 cu. in. or in the case of multi – motor models where the displacement of the largest engine is no more than .050 cu. in., lines may be 35 ft. in length. Wire diameters as specified in the Control Line Speed Regulations according to displacement or type of motor shall be used for models weighing 4 lbs. or less. Models weighing 4 to 10 lbs. shall use a minimum wire diameter of .018” in the case of two or more lines (.020” in diameter when a single line control system is used) and those over 10 lbs. shall use a minimum wire diameter of .021” in the case of two or more lines (.028” in diameter when a single line control system is used).

6.1.3 Pull Test. A pull test of 10 times the models flying weight, with a maximum pull of 60 lbs. shall be made on models weighing 10 lbs. or less. Models exceeding 10 lbs. shall withstand a pull test of 75 lbs.

6.1.4 Scoring. Competition points will be awarded each contestant for fidelity to scale, workmanship, scale operation, and flying. Model must fly 10 consecutive laps under its own power (no whipping or leading permitted) to qualify for scale and workmanship points.

6.1.5 Number of Flights. Contestants shall be permitted three attempts to make two official flights. Any flight which has progressed beyond take – off and level flight will be termed official. All official flights are to be considered as attempts. No more than two official flights shall be permitted each contestant. After a contestant has been notified that a flight area is available for an official flight, he shall be given three minutes in which to get his model airborne in cases where one engine is used to power the model. In the case of multi – motored models, two minutes for each additional engine shall be given in which to get the model airborne. Failure to accomplish shall result in the contestant giving way to the next competitor and in the charging of an attempt to him.

6.1.6 Multi-powered Models. Ten points shall be given for each additional engine used, providing that the additional engine(s) contribute to the increased performance of the model. Extra engine(s) must run a minimum of 10 laps to qualify for these points. No points will be given for Jetex type motors.

6.1.7 Judging. Each of the following items shall be judged individually, and points awarded for each separately.

- 14 General Appearance.
- 15 Fuselage.
- 16 Wing.

- 17 Tail Surfaces.
- 18 Landing Gear.
- 19 Engine and Cowl, including propeller used for static judging. The same propeller(s) does not necessarily have to be used for qualifying flights.
- 20 Cabin or Cockpit, (Interior and Pilot included).
- 21 Colour and markings: Points for each shall be awarded as follows:
 - A. Fidelity to scale.
 - B. Workmanship:

Superior	21 – 25 points
Excellent	16 – 20 points
Good	15 points
Fair	6 – 10 points
Poor	1 – 5 points

To be eligible for entry, each contestant must present an authentic 3 – view print of his model. This print must be obtained from a commercial source. Hand - drawn or home – made 3–views are not acceptable unless certified accurate in advance of the contest by an authoritative source such as the respective builder of the original aircraft or other competent authority. If the drawings presented do not give the basic aircraft dimensions, these dimensions must be supplied from an additional authoritative source. (All 3–view drawings must be no smaller than 1/72 scale). At least 3 photos or printed reproductions of the full-scale aircraft, plus one photo of the actual subject aircraft being modeled must be supplied. (Note: Since data is scarce for many antique and World War I Aircraft, some discretion should be used and the data presented should be weighed against the information provided. Written descriptions of colour and markings from an authoritative source are acceptable where photos are not available.)

Drawings for solid non–flying models are acceptable providing they are commercially published and the scale is noted. Models of seaplanes will be permitted to use wheels or wheeled dollies for take–off and landing in the absence of suitable water conditions. Deviation from scale through the inclusion of permanently attached wheels, skids or similar non–prototype devices shall not be taken into consideration in the scoring of fidelity to scale points.

6.1.8 SCALE OPERATION AND FLYING POINTS. These operations must be accomplished while the airplane is flying. No points shall be given unless operation is complete. (Flaps must retract, bomb bay doors must close, etc.)

- (a) Take–off as per prototype: 1 to 5 points.
- (b) Retract and extend landing gear: 1 to 20 points.

Note: Landing gear should retract as per prototype, not simply slam up and down, to win full points. (Partial points will be awarded at the judges discretion.)

- (c) Raise and lower flaps: 1 to 10 points. Partial points will be awarded unless flaps operate independently of the throttle.)
- (d) Revolve or move turrets as per prototype: 1 to 10 points.
- (e) Open and close bomb bay doors: 1 to 10 points.

- (f) Demonstrate effective throttle control: 1 to 10 points.
- (g) Demonstrate ability to taxi one complete lap and come to a full stop at starting point: 1 to 10 points.
- (h) Landing as per prototype: 1 to 5 points.
- (i) Demonstrate engine cut – off: 1 to 5 points.

Points for other scale operations not listed above should be awarded regardless of whether the operation is performed in flight, though in–flight operation is preferred and should be rated higher for points. Items (a) through (i) above, must be performed in flight to receive points. Points for non listed items should be based upon the degree of relative skill, ingenuity, and effect as compared to the listed operations, with no more than 10 points being awarded for any one non – listed operation and total non – listed operations points not exceeding 30 points. Should items be dropped in flight as part of scale operation, the safety provisions of G.1 (8) shall be enforced.

G.6.2 CL SPORT SCALE

6.2.1 General

All pertinent M.A.A.C. regulations shall be applicable, except as specified below.

6.2.2 Safety Regulations

Consideration of safety for spectators, contestants and officials are of the utmost importance in this event. The following safety provisions must be observed.

- (a) All models must pass a general safety inspection by the event director or his representatives before flying.
- (b) Dangerous flying of any sort, or poor sportsmanship of any kind, shall be grounds for disqualification of the contestant involved.
- (c) All planes entered must have rounded prop spinners or some sort of safety cover on the end of the propeller shaft (such as rounded “acorn nut”).
- (d) Single engine models shall weigh no more than 15 lb ready for flight except for fuel. Multi–engine models shall weigh no more than 20 lb ready for flight, except for fuel.
- (e) Maximum total displacement of the engine(s) will not exceed 1.25 cu. inches. Electric motors of any size may be used to power the model.
- (f) CL Sport Scale will use the same line diameters, line lengths and pull tests specified in the data table included with CL Precision Scale. The General CL Regulations also apply.

6.2.3 Model Requirements

A scale model shall be a replica (copy) of a heavier-than-air man-carrying aircraft. The Scale Event Director may disqualify any entry, which, in his opinion, is not a bonafide scale model. Minor deviations are permitted, but will be scored with appropriate deductions during scale judging. Extreme deviations from scale dimensions, particularly those, which noticeably alter the resemblance of the model to its prototype, will be heavily penalized.

Profile fuselages are permitted, but the scale judges will apply appropriate downgrading of scores for the non-scale fuselage cross-section of the profile fuselage and for the appearance. (Profile fuselages are not allowed in the event that a contest is also running a separate event for G.6.3 Profile Scale.)

The engine must be equipped with a muffler or silencer to limit noise output. Ducted fan installations, electric motors and 4 --stroke motors are exempted from the muffler requirements. If the pilot is visible in flight in the prototype aircraft, then a man-shaped dummy pilot of scale size and width must be visible in the model during flight. The dummy pilot figure will not be scored or considered in any way during Scale Judging. If the contestant wishes, he may present his model for Scale Judging without the pilot figure in place, and no down grading will be done by the judges if he does so. The contestant will be allowed only one entry in CL Sport Scale.

6.2.4 Proof of Scale

To prove that a model resembles a particular prototype some proof of scale material is required.

- (a) Proof of Scale is the responsibility of the contestant.
- (b) To be eligible for Accuracy of Outline points, one of the following must be provided by the contestant; either –
 - (1) A 3-view drawing (line, tone or colour), or
 - (2) A selection of photos of the aircraft modeled sufficient to show the outlines of the aircraft in side view, front view and plan. The photos need not be taken from directly overhead or at exactly 90 degree angles to the side or front of the outlines, but can be pictures taken from oblique angles which allow the judge to interpret outlines, or
 - (3) A plastic model of the type available commercially, unmodified and unpainted may be used. The use of a plastic model as Proof of Accuracy of Outline will require the deletion of two 8.5" x 11" pages, or their equivalent as provided for in point 5 below.

The contestant may furnish a 3-view, set of photos or an unpainted, unmodified plastic model, or any combination of these items for Accuracy of Outline judging if he desires, but he is not required to furnish all or any two of them. No down grading of the Accuracy of Outline Score will be done by the judges if only one of the above listed items is provided, and not either of the others.

- (c) To be eligible for Finish, Colour and Markings points, some proof of the colour scheme used on the model is required. This can be:
- (1) Photo or photos.
 - (2) Some other pictorial representation, such as a magazine or other published colour painting or drawing.
 - (3) A detailed written description of the colour scheme and / or markings from a reliable source.
 - (4) Notes and diagrams of markings on a black and white three-view. (Profile and similar types of colour paintings in 3-view form can be used for both proof of Accuracy of Outline and Finish, Colour and Markings). In many cases it is not possible for the builder to provide photos of the same plane enough to cover all aspects of colour or markings. In these cases, no down grading will be made for lack of proof of the “other” side, or bottom, etc.
- (d) If no proof of Accuracy of Outline accompanies the model, no points can be awarded for Accuracy of Outline. If no proof of Finish, Colour and Markings accompany the model, no points can be awarded for Finish, Colour and Markings. Points for Craftsmanship and Flight may still be awarded, even if one or both of the requirements for proof of Accuracy of Outline and Finish, Colour and Markings are not complied with.
- (e) To facilitate rapid judging, Sport Scale documentary presentations are limited to no more than 6 pages (one side) sized 8.5” x 11” or an equivalent area of some other arrangement.
- (f) The contestant will provide a signed declaration for the judges, which will list the major components of the model the builder of the model did not make himself. 9examples: moulded, formed or shaped canopies, cowlings, wheel pants, fuselages, etc., or parts thereof). In awarding craftsmanship points, the judges will take into account the amount of workmanship performed on the model by the builder as well as the quality of that workmanship. Only that part of the workmanship actually done by the contestant in completing or finishing parts he did not make will be considered for workmanship points. If no signed declaration accompanies the documentation for the model, no craftsmanship points can be awarded.

6.2.5 Static Judging

- (a) Static judging will be done at a distance of 15 feet from the model. It is recommended that two lines 15 feet apart be established. The model is then placed behind one line with no portion allowed to intrude into the 15-foot space. The judges will remain behind the other line during the judging. The owner of the model or a contest official, at the discretion of the modeler, other than the judges, will then rotate or move the model to positions requested by the judges in order to see all views of the model. The model may be placed on a table if desired.

- (b) The judges will not pick up or examine the models closely before or during the judging. This rule is not intended to prevent display of the entries before or after judging for the benefit of spectators. The models may be displayed on the contest flight line, in a scale cage, or whatever other area the Contest Director wishes to designate.
- (c) Cockpit and cabin interiors, even if partially visible from the judging distance, are not to be considered in scoring the model. All other visible features will be considered.
- (d) Subjects having un-cowled radial engines or configurations whose shape does not provide sufficient space, such as the Spitfire, P-63, etc., or nose/ cowl sizes dictated by the scale to which the model has been built, which do not lend themselves to any practical method of completely concealing a standard type model engine, will not be downgraded in scale judging, when, of necessity, part of the engine must be exposed, or non-scale openings are made for the engine cooling. In the case of the required muffler installation, no scoring penalty of any kind will be applied by the judges either for a protruding or fully exposed muffler, or for the hole in the cowl or fuselage necessary for the attachment of the muffler or silencer to the engine.
- (e) No changes shall be made between judging and flying which alter the scale appearance of the model as noted below.
 - (1) A flying propeller of any diameter may be substituted for a scale propeller in flight.
 - (2) The propeller spinner used in flying must be the same size, shape and colour as the one presented for scale judging except that it have a different number of cutouts appropriate for the flying prop. The nose of the flying spinner must be rounded to comply with the safety regulations.
 - (3) Models of seaplanes or flying boats are permitted to use non-scale devices or dollies for takeoff in the absence of suitable water conditions. Deviations from scale through the inclusion of permanently mounted recessed wheels, skids, plug-in removable landing gear or similar devices, if neatly and inconspicuously executed, will not be penalized in the scoring of Accuracy of Outline points.
 - (4) If bombs, rockets, drop tanks, etc., are to be dropped or released, they must be in place at the time of judging. The bombs or other armament in place at scale judging may be replaced during flying by replacements that are of the same size, shape, and colour as those submitted for scale judging.

6.2.6 Static Scoring

100 points maximum may be earned as follows:

Accuracy of Outline (General Impression)	Maximum 40 pts.
Craftsmanship	Maximum 30 pts.

6.2.7 CL Contest Procedure – Flight

- (a) Scale judging will take place before official flying.
- (b) Contestants shall be permitted three attempts to make two official flights. Any flight which has not progressed beyond take-off and level flight under 5 laps will be called an attempt. The flight will become official when it has progressed beyond 5 laps continuously airborne with at least one engine running.
- (c) After a contestant has been notified that a flight area is available, he shall be given three minutes in which to get his model airborne. Time starts when the contestant begins cranking the engine. In the case of multi-engine models, two minutes for each additional engine shall be given in which to get the model airborne. An attempt will be charged to the contestant if he fails to get his model airborne within the time limit.
- (d) Time limit for each flight is 10 minutes inclusive of starting the engine(s).

6.2.8 Flight Plan

The CL Flight Plan shall consist of 10 maneuvers and / or scale operation, 4 obligatory and 6 optional as follows:

- | | |
|-----|------------------------------------|
| 1. | Takeoff |
| 2. | 10 Airborne Laps |
| 3. | Option (i.e. multi – engine score) |
| 4. | Option |
| 5. | Option |
| 6. | Option |
| 7. | Option |
| 8. | Option |
| 9. | Landing |
| 10. | Realism in Flight. |

- (a) Each of the 10 Airborne Laps completed will be awarded one point, for a maximum of 10 points. (Example: 4 laps will be awarded 4 points). Other options may, if the contestant desires, be performed during the 10 laps, or the laps may be flown separately from the optional maneuvers.
- (b) Options may be any maneuver listed in the rule book under M.A.A.C. or FAI Scale rules, or any scale rules, or any scale operation (retract gear, flaps, bomb drop, crop dusting, etc., typical of the aircraft modeled). They must be listed on the judging form before flying.
- (c) Touch and Go (maneuver), and Retract Gear (scale operation) shall be counted as two options on the Flight Plan, replacing two other maneuvers or scale operations. (Score out of 20 points)

6.2.9 CL Flight Scoring

Maximum total flight score is 100 points.

- (a) All maneuvers and scale operations (except Touch and Go, Taxi and Retract Gear) are to be scored from zero to 10 points.
- (b) Touch and Go, Taxi and Retract Gear, which each count as two options, are scored from zero to 20 points.
- (c) Except for Airborne Laps (which will be awarded one point for each successfully completed lap), no maneuver or scale operation will receive an automatic maximum score. All will be judged and scored in relation to their scale-like qualities.
- (d) Multi-engine score will be based on the approximate percentage of time the full number of engines were running during the flight.

6.2.10 CL Official Score

The official score shall be the total of Static Points (100 max.) and the best single flight score (100 max.).

G.6.3 CONTROL LINE PROFILE SCALE (Provisional)

The event rules are identical to G.6.2, Control Line Sport Scale, with the following paragraph replacing paragraph two of subsection 6.2.3, Model Requirements.*

6.3.3 Model Requirements. The profile fuselage and/or engine nacelles are not to exceed one (1) inch in width except for a simulated cowl(s) which may be up to 1-1/2 inches in total width.

G.6.3 Profile Scale, is exempted from the dummy pilot requirement from paragraph three, subsection 6.2.3.

The engine must be equipped with a muffler or silencer to limit noise output. Ducted fan installations and electric motors are exempted from muffler requirements.

At any one contest, a model entered in CL Profile Scale may not also be entered in CL Sport and/or Precision Scale, although separate models may be entered by the same contestant in these events.

Control Sport/Profile Scale Score Sheet

FLIGHT JUDGING		FLIGHT (2 Official)		
		#1	#2	#3
1. PULL TEST:	Pounds (See Table)	<input type="checkbox"/> OK	<input type="checkbox"/> OK	<input type="checkbox"/> OK
2. LINES:	<input type="checkbox"/> Dia. <input type="checkbox"/> In.: <input type="checkbox"/> Length (See Table)	<input type="checkbox"/> OK	<input type="checkbox"/> OK	<input type="checkbox"/> OK
3.	<input type="checkbox"/> Safety inspection: <input type="checkbox"/> Non-metal Propeller	<input type="checkbox"/> OK	<input type="checkbox"/> OK	<input type="checkbox"/> OK
4.	AIRBORNE WITHIN 3 MINUTES (Plus 2 minutes for each engine)	<input type="checkbox"/> OK	<input type="checkbox"/> OK	<input type="checkbox"/> OK
5.	FLIGHT PLAN:			
a.	TAKEOFF (0 to 10)			
b.	10 AIRBORNE LAPS (1 point per Lap)			
c.	OPTIONS: (6 options maximum) Note: Retract Gear, Touch & Go, = 2 Options: Multi-engine (% of time all engines running during flight) and all other options = one option.			
(1)	(0 to 10)			
(2)	(0 to 10)			
(3)	(0 to 10)			
(4)	(0 to 10)			
(5)	(0 to 10)			
(6)	(0 to 10)			
d.	LANDING (0 to 10)			
e.	REALISM IN FLIGHT (0 to 10)			
6.	OFFICIAL FLIGHT (At least 5 level laps) (OK or Attempt)			
7.	TIME WITHIN 10 MINUTES (Plus 2 minutes for each engine)			
8.	TOTAL FLIGHT POINTS (100 points maximum)			
9.	TOTAL STATIC POINTS (100 points maximum)			
10.	TOTAL POINTS			

OFFICIAL SCORE:

