

Fly Safely!

PRICE 50¢

RADIO CONTROL MANEUVERS.

TRUE SPIN

CONTROL LINE PRECISION ACROBATIC REGULATIONS

All pertinent AMA Regulations for Gas Models—Control the flyer, the model and the motor, except as specified or restricted.

control system of the model, up to the attachment to the model (e.g. bellows, other device) will be in good condition of kinks, rust, etc., regardless of equipment has already withstood the Judges opinion will be final in regard to a model or equipment. Judges of their authority to disqualify a model for flight. Swivels will be safe for flight. The control system of the model must be adhered to by the flyer.

point of... ink or... free... the... the... full-test... safety... deemed... allowed... ty pre... tant... and/... being... qualifi... handle in... the model... after the... shall be... strength... but no... center... handle... of the... will be... engine, re... minimum... meter of... line if... more

RUBBER-POWERED

WING OVER

HORIZONTAL ROLL

24. RADIO CONTROL SCALE REGULATIONS

7. TOWLINE GLIDERS

OFFICIAL COPY

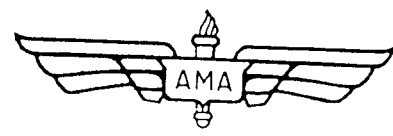
Model Aircraft Regulations

Governing Sporting Model Aviation in America

AMA/RENAUD RESEARCH LIBRARY

1968

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by the Contest Board

ACADEMY OF MODEL AERONAUTICS

1239 VERMONT AVENUE, N.W. WASHINGTON, D.C. 20005

24.1a. GENERAL covering the R/C flyer, the plane and the motor shall be applicable in this event.



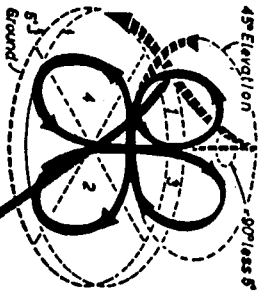
CUBAN EIGHT

Section F/F GAS MODELS—FREE FLIGHT

5.4 SEA PLANE MODELS Boats or pontoons which shall be capable of model sailing unassisted in non-racing immediate take-off.

... shall be limited to... not more than 71... REQUIREMENTS... Section... required for... SPECIFICATIONS Championship Nordic A.2 Section of Rule Book

INDOOR MODELS—RUBBER-POWERED



45° Elongation
40° Class 5°
 Error: Entry is not within 2 feet of 45° elevation point. Loops are rough or not of equal size. Paths connecting loops are not properly horizontal or vertical according to the maneuver sketch. Bottoms of lower loops are not at 4-6 feet height. Tops of upper loops are

PRECISION AEROBATIC SCORE SHEET

Name	POOR	FAIR	GOOD	EXCELLENT	SCORE
Workmanship	4	6	X	10	8
Realism	4	6	X	10	8
Finish	4	6	X	10	9
Originality	4	6	8	X	10
Starting (within 1 Min.)	4	6	X	X	5
Take-off	10	20	30	X	32
Reverse Wing Overs	10	20	30	X	35
Inside Loops (3)	10	20	30	X	40
Inverted Flight (2 laps)	10	20	X	30	28
Outside Loops (3)	10	20	30	X	32
Inside Square Loops (2)	10	20	X	40	30
Outside Square Loops (2)	10	20	X	40	35
Triangular Loops (2)	10	20	30	X	22
Horizontal Loops (2)	10	20	30	X	40
Horizontal Square Eights (2)	10	20	30	X	38
Vertical Eights (2)	10	20	30	X	35
Hourglass Figure	10	20	X	30	25
Overhead Eights (2)	10	20	30	X	32
Four-leaf Clover	10	20	X	30	28
Landing	0	10	X	4	25
Flight Pattern				X	
TOTAL					542

not 3-7 feet below the 90° point over the flyer's head. Loops are not properly tangent to form a square pattern. Model recovers before being flown vertically. A correct landing is judged 21.16 LANDING. A correct landing is judged when the model makes a smooth, elastic approach, touches down smoothly with no bounce, and comes to a stop without having touched any part of the model to the ground other than the landing gear. Two or 3-point landings are permissible. Maximum 40 points. Minimum 0 points. Error: An error is scored anytime the model bounces or touches any part of the model to the ground other than the landing gear. Crash, flip-over, belly or upside-down landing receives no score. Any unusual circumstances surrounding the above errors which may cause an error not within the pilot's control will be judged accordingly.

21.16 NOTE: Illustrations are for counterclockwise flight and are reversed for clockwise flying.

22. RADIO CONTROL PATTERN EVENT REGULATIONS

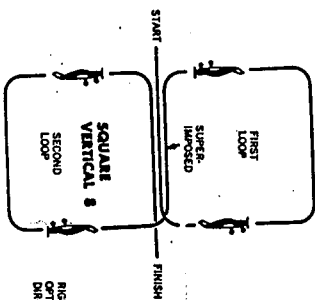
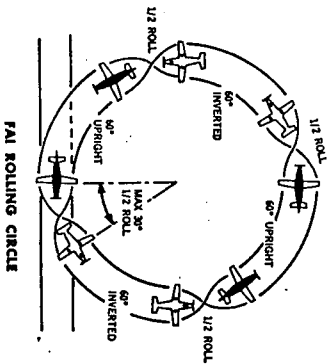
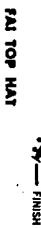
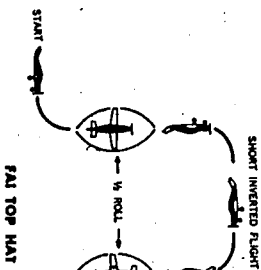
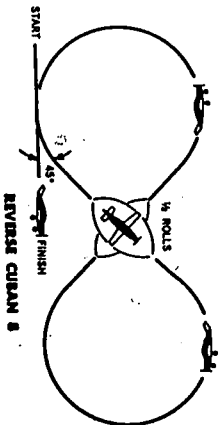
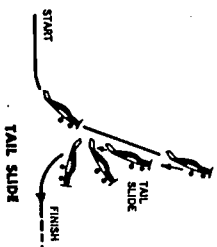
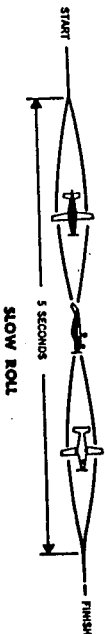
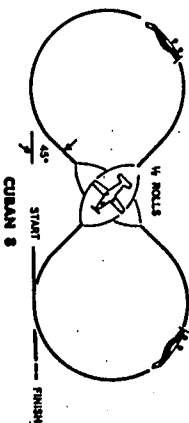
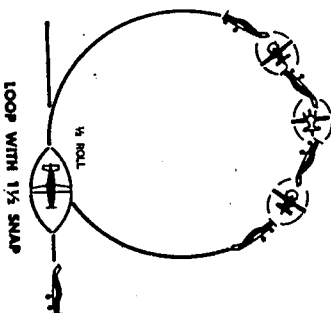
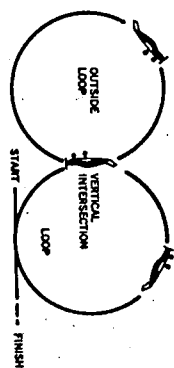
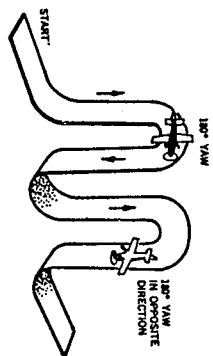
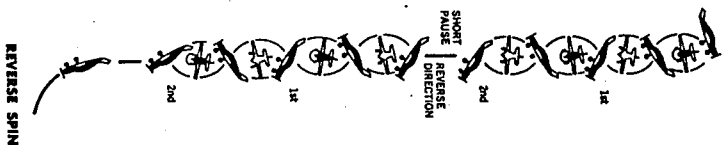
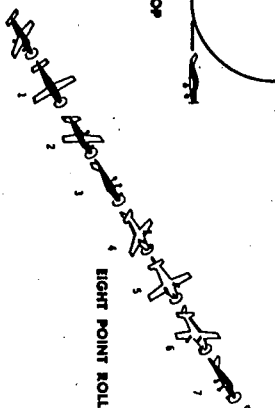
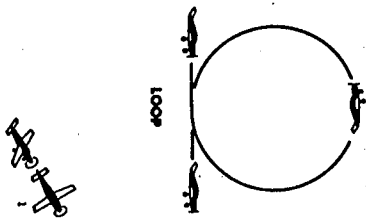
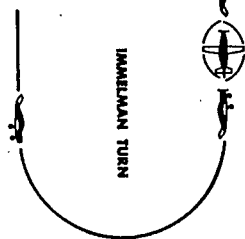
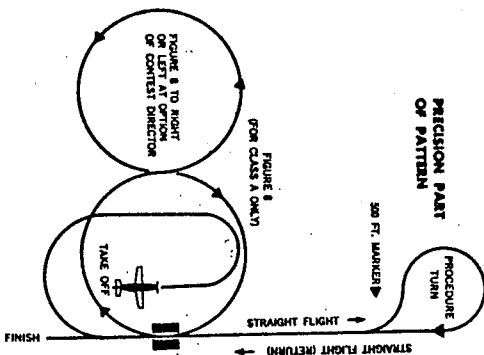
- 22.1 **OBJECTIVE:** To control by radio a model airplane so that various planned maneuvers may be accomplished. The criterion is the quality of performance, not the mechanism of control. R/C competition shall be based on the excellence of performance of the model's maneuvers compared to similar maneuvers performed by a full size plane. Maneuvers shall be judged according to the AMA Radio Control Judges Guide.
- 22.2 **MODEL AIRCRAFT REQUIREMENTS:**
 - 22.2.1 Model shall be of the reciprocating internal combustion engine powered type. No model may weigh more than 15 lbs. Gross weight, ready for takeoff. Total displacement of engine(s) shall not exceed 6102 cubic inches (10 cc).
 - 22.2.2 There shall be no radio equipment or aircraft control function limitations in any pattern class. (Radio equipment is only limited by FCC regulations as specified below).
 - 22.2.3 Two airplanes may be entered by a contestant and are to be numbered "1" and "2". The contestant may choose to enter either plane at the beginning of the meet and shall continue to use such plane unless and until, said plane shall be damaged to the extent that it cannot be readily repaired. Contestant then may, upon notifying the Contest Director, substitute the second plane for the balance of the meet without penalty. Once this has been done, the contestant may not re-submit the first plane later in the same contest.
 - 22.2.4 Substitution of basic components or the use of entered aircraft, i.e., wing(s), fuselage, or tail surfaces, will be considered the same as switching airplanes, and therefore, will only be allowed one time. In this connection, each basic, detachable component of such aircraft must be marked as "1" and "2". Substitution rule does not apply to radio and engine.
 - 22.2.5 The Builder of The Model rule will only apply to those R/C events in which points for appearance and workmanship are a factor. By this definition, the rule does not apply to any of the pattern events.
 - 22.2.6 All models entered in radio control competition shall be identified by the contestant's AMA license number permanently affixed to the upper side of the right-hand lifting surface or to each side of the fuselage or vertical stabilizer. Unless otherwise stated, height of the numerals must be at least one inch. Both stroke and width shall be such to enable ready recognition. It is suggested that the letter N be placed in front of the license number when the number is affixed to the side of the fuselage or vertical stabilizer.
 - 22.3 **SAFETY REQUIREMENTS:** Considerations of safety for spectators, contest personnel, and other contestants are of the utmost importance in this event, and the following safety provisions must be observed.
 - 22.3.1 All models must pass a general safety inspection by the Event Director or his representatives before they are allowed to compete.
 - 22.3.2 If any part of a maneuver is performed over a controlled spectator area, the contestant shall receive a zero score for that maneuver. Continued flying over controlled spectator areas by any one contestant shall result in disqualification of the contestant by the Event Director.
 - 22.3.3 Dangerous flying of any sort, or poor sportsmanship of any kind, shall be grounds for disqualification of the contestant involved.
 - 22.3.4 All planes entered must have rounded prop spinner, or some sort of safety cover on end of propeller shaft (such as a rounded "acorn nut"). Radius of point shall not be less than 1/4 inch.
 - 22.3.5 Knife edge wings are not allowed.
 - 22.4 **LICENSING REQUIREMENTS:** All radio equipment and operation must conform to the regulations of the F.C.C. AMA membership card and F.C.C. license of each entrant shall be checked at every sanctioned meet.
 - 22.5 **GENERAL EVENT REGULATIONS:** The R/C Pattern Event shall be divided into three classes based on degree of difficulty of maneuvers involved.
 - 22.5.1 The three classes, in order of increasing difficulty, are Class A, Class B, and Class C.
 - 22.5.2 In Class C only, there shall be a sub-division into Novice and Expert. (The methods of determining and controlling the Novice/Expert division are explained elsewhere).
 - 22.5.3 The Contest Director and/or the Sponsor of a sanctioned meet shall determine which of the classes will be flown, and such information must accompany all advanced notices pertaining to the contest. Competitors must also be advised prior to start of contest of any planned deviations from standard AMA rules pertaining to the events they have entered.
 - 22.6 **CONTESTANT CLASSIFICATION:**
 - 22.6.1 Except as noted below, a contestant may enter any one pattern class at his own option. Once committed to a certain class, he will be allowed to move only to a higher skilled class in subsequent contests for the remainder of that particular year. However, if a flier completes a calendar year of competition without winning a single sanctioned event in the class he is committed to, he may if he so chooses, start the new calendar year in the next lower skill class. This does not apply to a flier who has reached his class by winning three contests in the next lower skill class.
 - 22.6.1.1 Fliers previously rated as Class III-Expert are automatically placed in the Class C-Expert category.
 - 22.6.2 Contestants shall advance through the classes as follows: After placing first in three sanctioned contests, which he must fly in his chosen higher class, he will be automatically advanced to the next higher class, i.e., from Class A to Class B; from Class B to Class C; Novice or from Class C-Expert to Class C-Expert.
 - 22.6.3 The Contest Director of each AMA sanctioned R/C meet having Class A, B, C/N, or C/E events is responsible for upkeep of the classification system. He must require that only current AMA members be allowed to fly in the meet and that they all have valid F.C.C. licenses. As soon as the first place winners in each class are determined, the Contest Director shall fill out the appropriate spaces on the back of their membership cards, indicating the date, and the class won. He will also affix his verifying signature.
 - 22.7 **NUMBER OF FLIGHTS:** There shall be no limit on the number of flights (other than that imposed by time available). Contest officials shall make every reasonable effort to insure that all contestants receive equal opportunity to fly.
 - 22.8 **OFFICIAL FLIGHT:** A flight is considered official if two maneuvers, other than takeoff and landing, have been judged. An attempted maneuver yielding zero points is still considered "judged".
 - 22.9 **TIME LIMITS:**
 - 22.9.1 A class A contestant is allotted a total of six (6) minutes.
 - 22.9.2 A class B contestant is allotted a total of eight (8) minutes.
 - 22.9.3 A class C contestant (Novice or Expert) is allotted a total of eleven (11) minutes.
 - 22.9.4 In all classes the contestant must get his engine started and commence his flight within the first two minutes after his time has been started. When he fails to commence within the first two minutes, and is so informed by the timer, he must immediately clear the area for the next contestant. No engine restarts are allowed after the wheels leave the ground on takeoff. Restarting is permitted within the first two minutes, but only if prior to takeoff.
 - 22.10 **POINT SYSTEM:** A point system shall be used to score maneuvers. Each maneuver shall be

Model clubs across the nation are chartered by AMA. These clubs are eligible for special insurance and other AMA benefits. In many areas, model flying sites are provided by civil government, military or business cooperation, with participation requiring club membership as proof of responsibility.

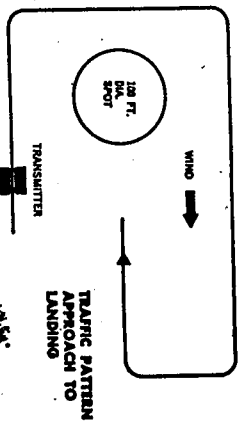
REQUEST CHARTER FORMS & DETAILS FROM HQ

AMA Radio Control Maneuvers

PRECISION PART OF PATTERN



RIGHT OR LEFT PATTERN AT POINT OF CENTER



Maneuver Drawings Courtesy of MODEL AIRPLANE NEWS

22.11 DETERMINING THE WINNER: The highest score for the total of the two best flights shall be the winner. Maneuver points from repeat flights may not be added to earlier flights. Each flight is complete in itself. In case of ties, the third best flight scores of the contestants concerned shall be used to determine the higher place (if only two flights have been scored during the normal contest time, the highest single flight score of the contestants concerned shall determine the higher place). There is no minimum number of flights which must be scored.

22.12 FLIGHT PATTERN: The contestant must fly his entire flight according to the established Flight Pattern for his particular class and in the sequence listed. Maneuvers performed out of order will not be judged.

22.12.1 The contestant must call out each maneuver before he attempts to perform it. Call out should be made just prior to execution. Also the filer should use the straight flight time at the end of each maneuver to announce, "maneuver complete."

22.13 CLASS A PATTERN:

1. Unassisted R.O.G.
2. Straight Flight Out
3. Procedure Turn
4. Straight Flight Back
5. Figure Eight
6. Traffic Pattern Approach
7. Landing Perfection*
8. Spot Landing

Maximum possible score is 80 points

(*) Model must taxi back to hangar but full stop on landing and in hangar are not required.

22.14 CLASS B PATTERN:

1. Proto Takeoff**
2. Straight Flight Out
3. Procedure Turn
4. Straight Flight Back
5. Touch and Go
6. Three Rolls
7. Immelman Turn
8. Three Loops
9. Traffic Pattern Approach
10. Landing Perfection**
11. Spot Landing

Maximum possible score is 110 points

(**) Model must perform proto taxi before take-off and taxi back to hangar and stop after landing. If, in either case, the model fails to accomplish taxi requirements, the associated maneuver will be given zero points.

22.15 CLASS C PATTERN (NOVICE AND EXPERT):

1. Proto Takeoff (see Class B)
2. Straight Flight Out
3. Procedure Turn
4. Straight Flight Back
5. Touch and Go
6. Three Rolls
7. Immelman Turn
8. Three Loops

Ten (10) of the maneuvers 9 through 23 shall be selected by the Contest Director just prior to the start of the day's flying. They shall be chosen in a random manner and in full view of the contestants (such as pulling from a hat). The maneuvers shall be flown in the order listed, except for those not chosen. In a contest of more than one day duration, a new list of maneuvers should be selected at the beginning of each day's flying.

9. Eight Point Roll
10. Knife Edge Flight (Three seconds duration)
11. Reverse Spin
12. PAI Top Hat
13. PAI Rolling Circle
14. PAI Double Stall Turn
15. PAI Horizontal Eight
16. Three outside loops
17. Loop with 1-1/2 half snap
18. Cuban Eight
19. Inverted three turn spin
20. Slow roll (Five seconds duration)
21. Tail slide
22. Reverse Cuban Eight
23. Square Vertical Eight (Entry in middle)

The remaining maneuvers are mandatory and are as follows:

24. Traffic Pattern Approach
25. Landing Perfection (see Class B)
26. Spot Landing

Maximum possible score is 210 points

22.16 DESCRIPTION OF MANEUVERS: A detailed description of each maneuver specified in the above patterns will be found in the AMA Radio Control Judges Guide.

22.17 SUGGESTED FIELD PROCEDURE: The procedures listed below are suggestions to Contest Directors for operation of an R/C Pattern event, and may be altered to fit local conditions.

22.17.1 All R/C contestants shall be set up in "pits" at spot assigned by Event Director, so they will be under his immediate control.

22.17.2 There will be no testing of transmitters or receivers during the flying period. Transmitters may be impounded at discretion of Event Director. Any person causing a disconnection of the Event Director will provide a monitor receiver to check for interference.

22.17.3 The flight order shall be determined by position of contestants' signatures on a single Flight List held by Event Director or his class representative. This list shall include all class names on List only once at top of List on request, but trading of List with other contestants is not allowed. When a contest is to be conducted on a following day, the Flight List shall carry over from day to day.

22.17.4 Event Director shall carry out following procedure:

- a. Numbers 1, 2, and 3 on Flight List shall be on flight line with their models, equipment, and one helper if desired. No. 1 is contestant flying or ready to fly. No. 2 is next man to fly, etc.
- b. The No. 1 man shall have 3 minutes from completion of preceding flight in which to prepare model for start of his flight. Failure to start as permitted within the 3 minute limit. Failing to start flight within this limit, contestant must immediately remove his plane and equipment to the pits. It shall be responsibility of Event Director or his representative to notify contestant of start and end of 3-minute period.
- c. Numbers 4, 5, and 6 on the Flight List shall have their planes and equipment in a ready box located near the flight line. As soon as a flight is completed, the No. 4 man becomes No. 3 and shall be requested to move his model and equipment onto the flight line. If he is not on hand to do so, he shall be dropped from flight list. The Event Director or his representative shall be responsible to notify contestants and to move to ready box or flight line.

22.17.5 When technically possible and when judges and space are available, it is strongly recommended that two or more flights be flown simultaneously, under the following conditions:

- a. Separate space wind from each other to minimize engine noise and flight path interference.
- b. Contestants flying simultaneously shall carefully check receiver and transmitter operation before take-off, to be sure no interference between them is possible.
- c. Contestants flying simultaneously shall not more than three positions apart on the Flight List. Event Director or representative shall, where possible, select contestants at top of Flight List so that contestants flying on comparable frequencies are on flight line together.

24. RADIO CONTROL SCALE REGULATIONS

24.1. GENERAL: All AMA and FCC regulations covering the R/C flyer, his plane and equipment should be applicable in this event, except as noted below.

24.1b. SAFETY REQUIREMENTS: Consideration of safety for spectators, contestant, personnel, and other contestants are of the utmost importance in this event, and the following safety provisions must be observed.

1. All models must pass a general Safety Inspection by the Event Director or his representative before they are allowed to compete.
2. Any flying over a controlled spectator area will be cause for immediate disqualification of that flight.
3. Dangerous flying of any sort, or poor sportsmanship of any kind shall be grounds for disqualification of the contestant involved.
4. All planes entered must have rounded prop spinners, or some sort of safety cover on propeller shaft (such as a rounded "cow" nut).
5. Knife-edge wings are not allowed.
6. There will be two weight classifications: Class E Models which weigh no more than 1.5 lbs. gross weight, ready for flight, except for fuel.
7. Class 2: Restricted to multi-engine model which weigh from 1.5 lbs. to not more than 20 lbs. gross weight, ready for flight, except for fuel. Maximum wing loading permitted for Class 2 will be 35 ounces per sq. foot. Contestant must affirm to the Contest Director that model has been successfully flown prior to the contest. Wing area measurement will include that portion of the normal wing contour in or on the fuselage.
8. Maximum total displacement of the engine(s) will not exceed 2.25 cu. inches. The use in the Scale Events of single engines which are larger than 1.25 cu. inches displacement, but not more than 1.25 cu. inches, will be covered by AMA insurance at sanctioned AAA or larger events only.
9. There shall be only one category for R/C Scale. There are no limitations on the radio or mechanical equipment used by the contestant.
10. Contestant will be allowed only one entry in R/C Scale. This is in addition to any entries in other events. The same plane may be entered in more than one event if it meets all of the model requirements of each of the events entered.
11. 24.4 QUALIFICATION FLIGHT: The Contest Director may, but need not, require RC flying Scale models to make a qualifying flight before Scale judging takes place. The flight will consist of the following maneuvers from the Flight Plan:

4. Should a contestant oppose flying simultaneously with someone else, he may cancel his turn, and re-sign at the bottom of the Flight List.

22.17.6 OFFICIALS: An Event Director, a Director-Recorder and Judges are the essential officials for an R/C Event. If possible, the Director-Recorder should have at least two helpers.

22.17.7 Each flight should be judged by at least two judges, with their score averaged to give final score for the flight. It is suggested that if a maneuver is scored by more than one judge, the scores shall be averaged to give a final score. There should be enough judges available to establish a rotational procedure which will average out variations in judging.

1. Unassisted R.O.G.

2. Figure Eight

3. Landing Perfection

In order to qualify, the filer must give a minimum total score of 3. Qualifying score will be recorded and in the event further flights are made, shall be used in calculating contestant's official score. Flight time will be 3 minutes, time beginning upon release of model. Three minutes will be allowed for extra engines as indicated in section 24.1.1. Any damage to the model caused by this qualifying flight shall be disregarded by the Scale Judge during Scale Judging and shall not count against the contestant. Refer to Flight Plan rules for flight scoring and judging instructions.

24.5 SCA JUDGING shall be done according to the provisions of the unified Flying Scale Regulations, Regulation 25.

24.6 SCALE OPERATIONS: The following operations must be accomplished in flight. The operations chosen must have actually been used by the prototype aircraft.

- (a) Multi-engines. 20 Points will be scored each engine in excess of one. To obtain maximum points engines must be of equal displacement unless engines of the prototype aircraft were of different sizes, in which case the model engines may vary proportionately. Extreme variation from scale engine sizes will be heavily penalized. Extra engines must also run the full length of the flight to be eligible for maximum points. Score will be reduced proportionately depending on length of time running.
- (b) Retract and extend landing gear. Maximum—20 points (Gear must be retracted immediately after takeoff and extended for landing.)
- (c) Extend and retract flaps. Maximum—10 points (Flaps will be extended before commencing taxi maneuver and used during takeoff. They will also be extended before the touch and go and/or landing. At conclusion of taxi maneuver they will be retracted.)
- (d) Drop bombs. Maximum—5 points (Bombs must be carried and dropped in the same manner as the prototype.)
- (e) Agricultural spraying. Maximum—5 points
- (f) One lap pylon speed demonstration (for specific pylon racer types only) or speed run through simulated course (for specific long distance racer types only). Maximum—5 points

RADIO CONTROL PYLON RACE REGULATIONS (SOLO)

This event was formerly called "AMA PYLON". One plane at a time races against the clock. It is the only RC event for which a national record may be established.

1. **OBJECTIVE.** The purpose of this event is to cover the prescribed course at the highest possible rate of speed. Race results will be posted in hours per hour.

GENERAL:

2. All AMA and RC regulations covering the R/C flyer, his plane and equipment shall be applicable to this event, except as noted herein.
3. There shall be no limitations on the type of equipment fitted to the plane, or the number of controls.
4. The contestant shall be allowed only one entry in the R/C Pylon Event, but this may be in addition to any entries he might have in the R/C Pattern Event or R/C Scale Event. The same plane may be entered in more than one event if it meets all of the model requirements of each of the events entered.

MODEL REQUIREMENTS:

5. This event shall be flown on the basis of a single category only, and only one set of records will be kept by the A.M.A. However, to allow for individual preferences and available equipment, models with the following specifications may be flown in the event: Maximum engine displacement of .20 cubic inches, with a minimum wing area of 38 square inches for each .01 cubic inch of engine displacement. Examples: .049-186 sq. in.; .09-249 sq. in.; .15-370 sq. in.; .19-522 sq. in. Total area of delta wings will be used toward area.
6. AMA license numbers shall be displayed prominently on the upper right wing panel and the lower left wing panel.
7. Radio control frequency shall be displayed on each side of the rudder.
8. Racers may not use drop-off or dolly landing gear, but must carry such gear with them. Retracted gear is acceptable provided that it is lowered for landing.

SAFETY REQUIREMENTS:

9. Considerations of safety for spectators, contest personnel, and other contestants are of the utmost importance in this event, and the following safety provisions must be observed.
10. All models must pass General Safety Inspection by the Event Director or his representative before they are allowed to compete.
11. Any flying over a controlled spectator area will be cause for immediate disqualification of that flight.
12. Dangerous flying, of any sort, or poor sportsmanship of any kind, shall be grounds for disqualification of the contestant involved.
13. All planes entered must have rounded prop spinners, or some sort of safety cover on end of propeller shaft (such as a rounded "acorn nut").
14. Knife-edged wings are not allowed.

COURSE:

15. The course shall be .1 mile (528') long, and shall be indicated at each end with crosses (hereafter called Markers) drawn on the ground, or by vertical pylons. Where possible, the course shall be in line with the prevailing wind. Models must circle outside of the Markers.

16. A Start-Finish line at right angles to the course, shall be provided at the downwind end of the course, 100 ft. upwind from the downwind marker.

17. The pit area and Ready Line of those waiting their turn to fly shall be at least 200' to one side of the centerline of the course. Pit and/or spectator areas could not be on the side of the course that is used by the planes on their upward leg. If the layout does not permit this arrangement, an additional 100' set-back must be provided.
18. The modeler who is flying may place his equipment at any point within a 100' radius at the Start-Finish line.
19. Spectators must be kept at least 300' each side the centerline of the course, and same or greater distance beyond the upwind marker of No. 1. Pit and/or spectator areas should be on the side of the course that is used by the planes on their upward leg. If the layout does not permit this arrangement, an additional 100' set-back must be provided.

20. If the Pylon Race is being run during a meet where other R/C events are also in progress, it is suggested that the Pylon entrants operate from the same flight line as those in the other events, to preclude possibility of interference.
21. All flights shall be ROG, with release at the Start-Finish line, unless Event Director certifies that ground conditions do not allow this. In which case hand-launch may be used. Hand-launched flights are not eligible for AMA record recognition.
22. Each flight will be timed from the instant model is released for ROG take-off (or is hand-launched), will continue for 5 complete laps (a lap being considered as one trip each way between the two Markers), and will end as the plane passes the Starting Line.
23. All laps shall be flown counterclockwise, which turns to the left.
24. Flyer will have 3 minutes from time he is called to get his engine started, equipment turned on and checked, and the plane released for ROG (or hand-launched).
25. Flight time shall be 4 minutes, and plane must be landed within this time, or the flight cannot be scored.
26. If the model fails to fly outside the Markers, it must recircle the missed Marker, or the flight will not be scored.
27. Two or more planes may be flown at a time. If the equipment allows this and there are sufficient Judges and Timers. If this is done, there should be a timer for each plane in the race, and preferably a Marker Judge to keep track of each plane.
28. The Marker Judge shall give no signal unless the plane has failed to round the Marker, in which case he will wave a flag.

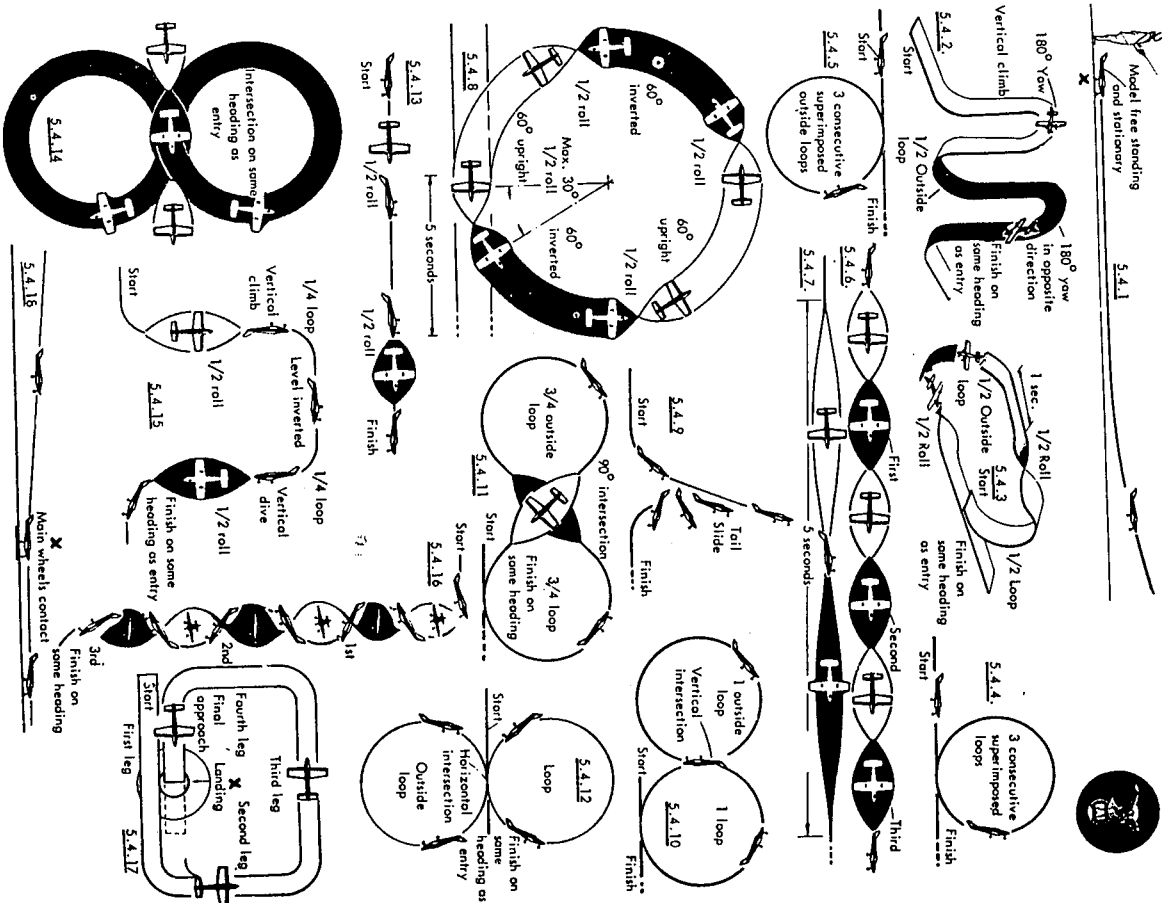
RACE PROCEDURE:

29. In addition to the Event Director, there shall be a Timer who also functions as a lap counter, and a Judge at the Start Marker to check that all turns are legal. The Timer shall act as Marker Judge at the starting point. A Recorder should be available to keep records.

OFFICIALS:

29. In addition to the Event Director, there shall be a Timer who also functions as a lap counter, and a Judge at the Start Marker to check that all turns are legal. The Timer shall act as Marker Judge at the starting point. A Recorder should be available to keep records.

F.A.I. Radio Control Manoeuvres



Maneuver Drawings Courtesy of Aeromodeller Magazine

FAI RADIO CONTROL

1968

The official schedule of FAI RC maneuvers, revised to include changes for 1966:

5.4. The maneuvers must be executed in the order in which they are listed and the Competitor must indicate in writing, before the start of the flight, any maneuvers he will not execute.

The start of each maneuver must be indicated by the pilot or his assistant. The maneuvers of takeoff and landing need not be signalled, but must be executed in an un-interrupted manner.

The Competitor may only make one attempt to execute each figure during any one flight.

The pilot has 3 minutes to start his engine and 10 minutes in which to complete the program of maneuvers from the moment he receives the signal to start the engine.

5.4.1. TAKEOFF: The model must stand still on the ground with the engine running without being held by the pilot or mechanic and must then take off into wind. The taxi-run should be straight and the model should lift gently from the ground and climb at a gradual angle. The takeoff is completed when the model is turned to circle back over the transmitter. **K = 5**

5.4.2. DOUBLE STALL TURN: The model starts in level flight, flying away from the pilot, noses up to the vertical attitude, yaws to the pilot's right through 180°, then dives and makes half of an inverted loop into vertical flight, then yaws to the pilot's right through 180° again, finally recovering into upright level flight on a course parallel to and on the same heading as the entry. **K = 15**

5.4.3. COMBINED IMMELMAN AND INVERTED IMMELMAN: Model starts in level flight, pulls up into a half loop, followed by half a roll, flies straight and level for approximately one second, then makes half an outside loop, followed by half a roll, recovering in straight level flight. **K = 10**

5.4.4. LOOPS: The model starts the loops maneuver flying straight and level, then pulls up into a smooth, round loop, followed by a second and third loop in exactly the same path with a straight and level recovery to finish. **K = 10**

NOTE: Loops must appear round and super-imposed to the ground observer even in the presence of the wind.

5.4.5. INVERTED LOOPS: The model commences the inverted loop flying straight and level, then noses down into inverted loops and recovers flying straight and level on the same heading and altitude as the entry. **K = 15**

5.4.6. ROLLS: The model commences from straight and level flight then rolls at a uniform rate through three complete rotations and finishes in straight flight, all on the original heading, the time of the three rolls to be approximately four seconds. **K = 10**

5.4.7. SLOW ROLL: The model commences from straight and level flight, and then rolls slowly at a uniform rate through one complete rotation. The approximate time of the roll to be 5 seconds. **K = 15**

5.4.8. ROLLING CIRCLE: The model commences in straight level flight, makes half a roll into inverted circular flight, subsequently making a half roll in the same direction of rotation at each quadrant of the circle so that the model flies alternately upright and inverted in consecutive quadrants. The rolling circle shall be flown to the left. The direction of the half rolls is optional. The model recovers in straight level flight on the same heading and height as the entry. **K = 15**

5.4.9. TAIL SLIDE: The Tail Slide commences with straight level flight, pulls up to a vertical position, slides downward tail first for two plane-lengths, recovers in a right-side-up position and finishes in straight and level flight at the same altitude as the entry. **K = 15**

5.4.10. HORIZONTAL EIGHT: The plane commences flying straight and level, pulls up into ¾ of an inside loop, does one full inverted loop starting from straight down, then ¼ of an inside loop finishing in straight and level flight. **K = 8**

5.4.11. CUBAN EIGHT: The plane commences flying straight and level, pulls up

into an inside loop and continues until heading downward at 45°, does half roll followed by another inside loop of 45°, does half roll followed by straight and level recovery at same altitude of entry. **K = 6**

5.4.12. VERTICAL EIGHT: The plane commences the vertical eight flying straight and level, pulls up into one complete inside loop, follows with one inverted loop and recovers straight and level at the same altitude as the entry. **K = 10**

5.4.13. INVERTED STRAIGHT FLIGHT: The model starts the maneuver level and upright, makes a half roll to inverted, flies straight and level inverted for a minimum of 5 seconds and recovers with a half roll to the upright position. **K = 8**

5.4.14. INVERTED EIGHT: The plane commences the inverted eight flying straight and level inverted, turns left one complete circle, turns right one complete circle, flies straight and level in the same direction as the entry still inverted. **K = 15**

5.4.15. TOP HAT: The model starts in straight level flight pulls up into vertical climb and makes a half roll, then levels out inverted on the same heading as entry. After short inverted flight, model dives vertically, performs a half roll and finally recovers in straight level upright flight on same heading and height as entry. **K = 15**

COMPETING TEAMS. For radio controlled contests, either an individual or a team entry (pilot/mechanic) is permitted. The pilot must in all cases be the entrant and the maker of the model. Each pilot is permitted one helper during the competition.

PREFABRICATION. Permitted: A model which is assembled by the builder from prefabricated parts, and in which the builder installs the equipment, is permissible. Not permitted: A complete, ready to fly RC model, which has been built by a person other than the pilot.

NUMBER OF FLIGHTS. The Competitor has the right to three official flights.

DEFINITION OF AN ATTEMPT. There is an attempt when: a) The model takes-off, b) The model fails to take-off within the three minutes allowed to the Competitor, c) The duration of the flight is less than 60 seconds.

NUMBER OF ATTEMPTS. Each Competitor is entitled to two attempts for each official flight.

5.4.16. SPINS: The plane establishes a heading direction by flying straight and level, pulls up into a stall and commences the spin through one, two, three turns and recovers to level flight on the same heading as the initial flight direction. **K = 8**

5.4.17. LANDING PATTERN: The rectangular approach is commenced with the model flying into the wind above the landing circle, does a turn of 90°, a crosswind leg, a second turn of 90°, a downwind leg, a third turn of 90°, a crosswind leg, a fourth turn of 90° and straight flight toward the point of touchdown. The maneuver is finished just prior to the point of touchdown. The direction of the maneuver will be determined before each round in accordance with safety regulations. **K = 10**

5.4.18. LANDING: The model flares smoothly to touch the ground with no bouncing or change in heading and rolls to a stop. **K* = 10**

TOTAL 200

*K = 10 when landing is in 25m. diam. circle
 K = 5 when landing is in 50m. diam. circle
 K = 0 when landing is outside 50m. diam. cir.

Maximum possible points 2000.

An attempt can be repeated at the judges discretion only when, for any unforeseen reason outside the control of the Competitor or organizers, the model fails to make a start.

DEFINITION OF AN OFFICIAL FLIGHT. There is an official flight when: a) The model flies for 60 seconds or more, b) A second attempt is made whatever the result.

MARKING (Scoring). Each maneuver may be awarded marks between 0 and 10 by each of the judges during the flight. These marks are multiplied by a coefficient which varies with the difficulty of the maneuver. The maneuvers must be performed in a plane and at a height which will allow them to be seen clearly by the judges. The nonobservance of this rule will be penalized by loss of points.

CLASSIFICATION. The final classification will be determined by the aggregate of the best two flights. The marks allocated by the judges will be multiplied by their appropriate coefficient, and added together.