

Fly Safely!

PRICE 50¢

RADIO CONTROL MANEUVERS.

TRUE SPIN

CONTROL LINE PRECISION ACROBATIC REGULATIONS

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

control system of the model, up to the attachment to the model (e.g. bellows, other devices) 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 to disqualify a flyer. Their authority for flight. Swivels will be safe for the control system adhered to by the flyer, with

point of ink or free the full-test. safety deemed allowed ty pre-stant ry and/ being qualifica- handle in e model after the.

shall be strength. but no the center handle of the will be engine, re- nimum meter of h line if more

RUBBER-POWERED

which shall be capable allow unpowered for at. ke-off pressed in the fly-off from the fly-off and fly-off will. at the

WING OVER

24. RADIO CONTROL SCALE

24.1a. GENERAL. All AMA and FCC regulations covering the R/C flyer, his plane and engine shall be applicable in this event unless noted below.

24.1b. SAFETY REQUIREMENTS. Consideration shall be given to the safety of the person operating the model and to the safety of the public in the vicinity of the flight.

7. TOWLINE GLIDERS

glider is a non-powered towed into the air from a towline. There are no engine requirements for such gliders.

Section F/F GAS MODELS—FREE FLIGHT

5.4 SEAPLANE MODELS. Models which shall be capable of floating on water shall be allowed in the take-off position in pontoons immediately after the take-off.

WEIGHT REQUIREMENTS. The weight of the model shall be limited to the weight of the hull, floats and other equipment. The weight shall not more than 75% of the weight of the hull, floats and other equipment. The weight of the model shall be limited to the weight of the hull, floats and other equipment. The weight shall not more than 75% of the weight of the hull, floats and other equipment.

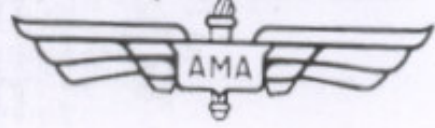
8. INDOOR MODELS—RUBBER-POWERED

Official Model Aircraft Regulations

Governing Sporting Model Aviation in America

1968

21704 RICHARD H. BATTON
05 Issued by WEST WATFORD ROAD
MACON, GEORGIA 31204



by the Contest Board

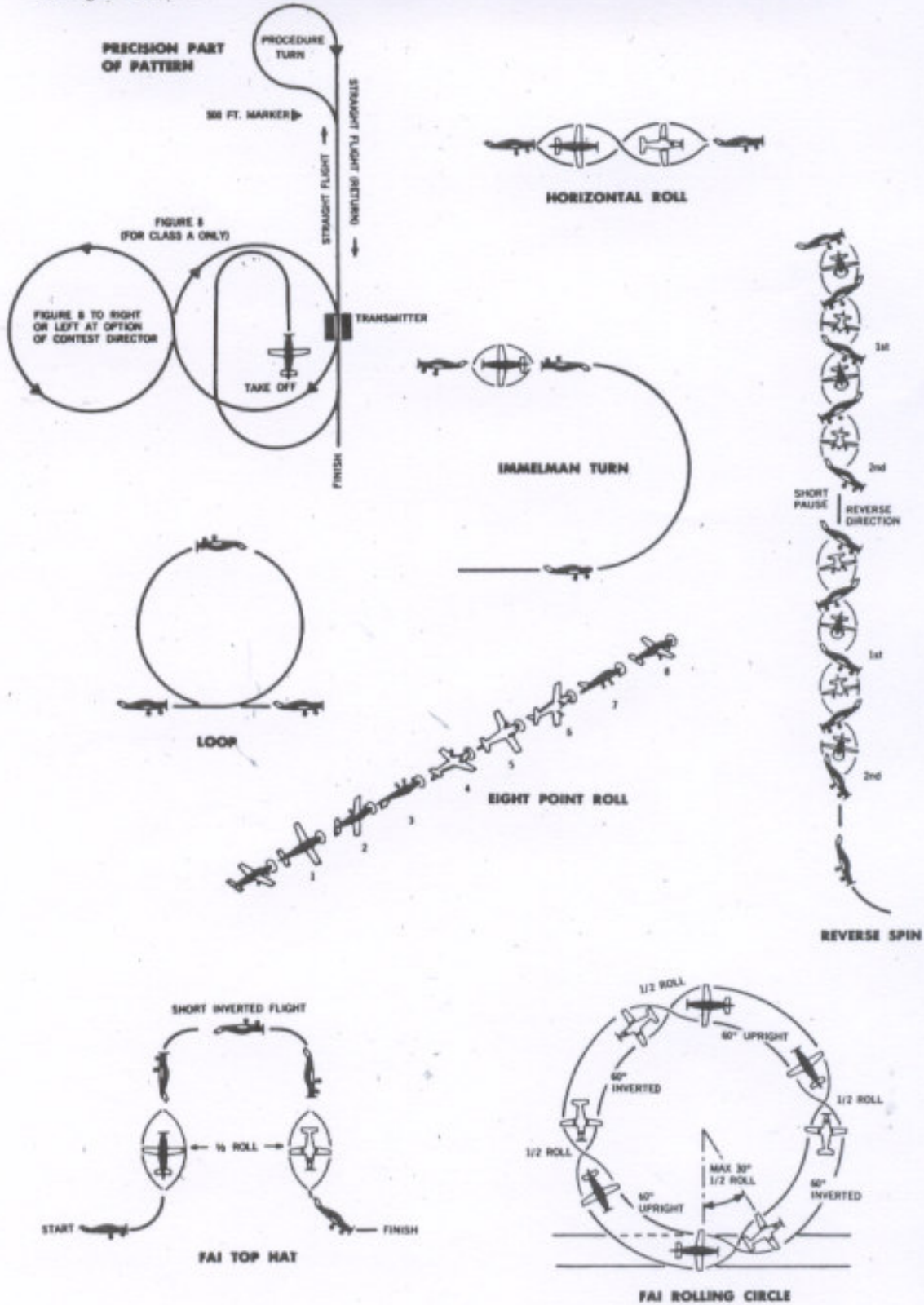
ACADEMY OF MODEL AERONAUTICS

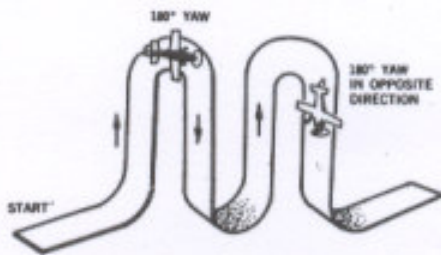
1239 VERMONT AVENUE, N.W. WASHINGTON, D.C. 20005

22. RADIO CONTROL PATTERN EVENT REGULATIONS

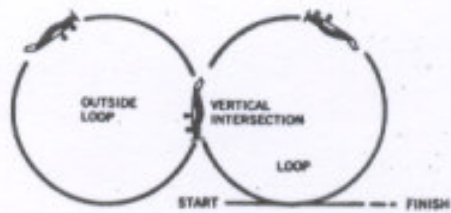
- 22.1 OBJECTIVE:** To control by radio a model airplane so that various planned maneuvers may be accomplished. The criterion is the quality of performance, not the mechanism of control. R/C competition shall be based on the excellence of performance of the model's maneuvers compared to similar maneuvers 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** Models 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.
- Substitution of basic components of the two 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 each aircraft must be marked as "1" and "2". Substitution rule does not apply to radio and engine.
- 22.2.4** 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.
- 22.2.5** 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 spinners, 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 1/8 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 Sponsors 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 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-Novice 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 FCC 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

AMA Radio Control Maneuvers

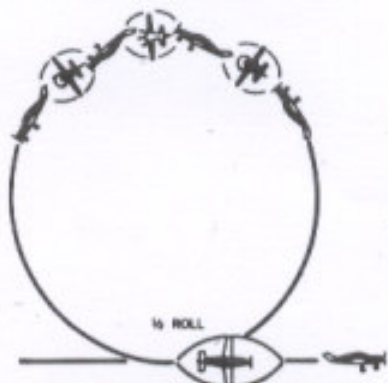




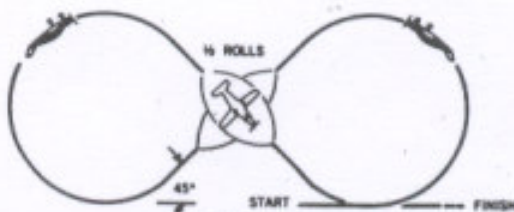
DOUBLE STALL TURN



FAI HORIZONTAL 8



LOOP WITH 1 1/2 SNAP



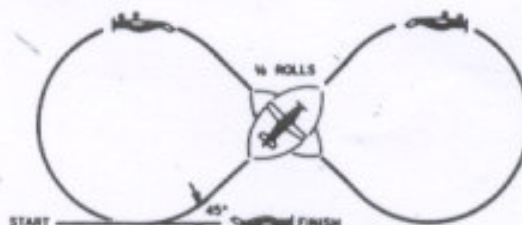
CUBAN 8



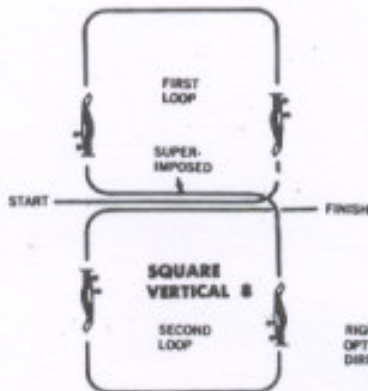
SLOW ROLL



TAIL SLIDE

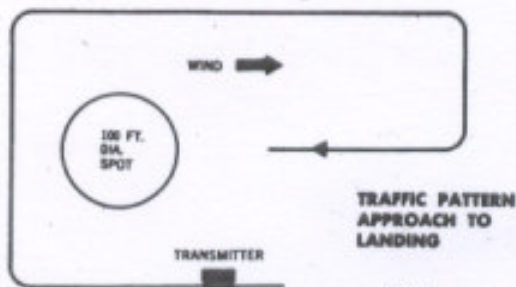


REVERSE CUBAN 8



SQUARE VERTICAL 8

RIGHT OR LEFT PATTERN AT
OPTION OF CONTEST
DIRECTOR



**TRAFFIC PATTERN
APPROACH TO
LANDING**

Maneuver Drawings Courtesy of **MODEL AIRPLANE NEWS**

judged on a scale of zero to ten.

- 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 flier should use the straight flight time at the end of each maneuver to announce, "maneuver complete."

22.13 CLASS A PATTERN:

The maneuvers are as follows:

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:

The maneuvers are as follows:

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):

The maneuvers are as follows:

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. FAI Top Hat
13. FAI Rolling Circle
14. FAI Double Stall Turn
15. FAI 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 interference will suffer immediate disqualification. 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 representative. This list shall include all classes and frequencies. Contestant shall have his name on List only once at any one time; names may be moved to bottom of List on request, but trading of positions with other contestants is not allowed. When a contest is to be continued 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 release model for the start of his flight. False starts are 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 the Flight List, and the List advanced to fill his place. The Event Director or his representatives shall be responsible for notifying contestants when they are 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:

- Separate take-off and landing areas sufficiently spaced cross wind from each other to minimize engine noise and flight path interference.
- Contestants flying simultaneously shall carefully check receiver and transmitter operation before take-off, to be sure no interference between them is possible.
- Contestants flying simultaneously must be no 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 compatible frequencies are on flight line together.

d. 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 Dispatcher-Recorder and Judges are the essential officials for an R/C Event. If possible, the Dispatcher-Recorder should have at least two helpers.

22.17.7 Each flight should be judged by at least two Judges, with their scores averaged to give final score for the flight. It is suggested that each maneuver be scored immediately after it is performed. Judges shall score maneuvers individually and without consultation between them. There should be enough judges available to establish a rotational procedure which will average out variations in judging.