



Judge's

HOME STUDY PROGRAM

Prepared for the
JUDGE'S CONTINUING
EDUCATION PROGRAM

International Aerobatic Club
Whitman Airfield
Oshkosh, WI. 54903-2591 USA

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Forward

The Judge's Home Study Program was conceived as an adjunct to the Judge's Continuing Education Program introduced to our IAC Board of Directors in 1978 and adopted by them the following year. The program set forth by the Board consisted of two phases. The first phase was directed to our members who were not qualified aerobatic Judges but who wished to become qualified. It covered the educational requirements and the field experience necessary for such a qualification. The second phase covered advanced educational and field experience requirements necessary to progress from Regional to National Judge and the requirements for both Regional and National Judges to remain current.

This examination serves as a review of the IAC rules and the criteria for judging aerobatic figures as set forth in the IAC rules up to and including REVISION NUMBER 4, which were updated by the IAC Rules Committee in December of 1984 and serve as the basis for the material presented in the IAC Judge's schools which are offered nationally each year.

The examination is of the open book variety which not only allows you full use of the IAC Rules book and the Aresti Manual (Edition IV) but requires such use. The use of this examination since 1979 has proven its value as a review of the current rules as well as a tool for evaluating the qualifications of an applicant for an approved Judgeship.

Please note the directions for recording your answers, completing the revalidation form at the end of the booklet and for forwarding this information to the proper IAC divisions. It should be noted that a grade of 80% is needed to pass the examination.

It should be further noted that by passing this examination and fulfilling all other requirements set out in the Rules one will be designated a Judge and be considered CURRENT FOR 1985 without completing the 1985 separate Revalidation and Currency examination. Passing the current year Revalidation and Currency examination will be required in each subsequent year as set forth in the IAC Rules.

Acquiring the knowledge and experience necessary to become a truly qualified aerobatic Judge requires as much or possibly more effort and dedication than is required to become a skilled aerobatic pilot. The satisfaction derived from fully participating in the Judge's program will greatly enhance the pleasure you derive from your membership in the International Aerobatic Club.

The IAC Official Contest Rules - A Review

Select the best answer to each question from those provided and record your answer on the answer sheet by circling the letter preceeding the answer of your choice.

1. The Contest Director is the general manager of the IAC contest. Select from the following statements those activities for which the Contest Director is responsible.
 - a. Flight line control.
 - b. Determines the direction of flight.
 - c. Placement of field markings.
 - d. Acceptance of entry fees.
 - e. Closing the field.
 - f. May perform the duties of a regular Judge except at an IAC International Aerobic Championship.
 - g. Certification of final scores.
 - A. b,c,f
 - B. d,e,g
 - C. a,b,c
 - D. c,e,g
2. The Chief Judge supervises the Judges, Assistant Judges, Boundary Judges, Timers, Starter, Score Computer and Deadline Judges. Select from the following statements those activities for which he is NOT responsible.
 - a. May perform the duties of a regular Judge.
 - b. Closing the field.
 - c. May exclude any person for unsportsmanlike conduct.
 - d. Determines the closing dates for submission of entry paperwork.
 - e. Certifies the scores.
 - f. Is a member of the Contest Jury and the Technical Committee.
 - g. Posts the scores.
 - A. a,b,d,f
 - B. b,c,f,g
 - C. b,d,g
 - D. c,e,f
3. The Chief Judge will conduct a briefing for all Judges, Assistants, Positioning Judges, Starter and Score Computers.
 - A. True
 - B. False
4. The Chief Judge will determine if suitable weather exists for the contest.
 - A. True
 - B. False
5. Contestants may not serve as Judges in IAC contests.
 - A. True
 - B. False
6. One Assistant Judge will be assigned to each Judge and shall be under that Judge's supervision.
 - A. True. They are responsible for assisting the Judge in determining proper sequences of maneuvers, direction of flight and other duties deemed necessary by the judge.
- B. True. In addition to the duties of an assistant, they must determine the proper grade of each figure for use at a Protest Hearing.
- C. False. There are no restrictions on the number of assistants.
- D. False. A Judge may have up to four assistants who can observe or rotate in that position.
7. Concerning Boundary Judges, which of the following statements are true.
 - a. The Boundary Judge should note each nameuver flown outside of the aerobic zone during the infringement.
 - b. Radio reports of infringements will be given if possible.
 - c. At least $\frac{1}{2}$ of the contestants must agree to fly without boundary and Deadline Judges in order to waive the rule.
 - d. If the rule to waive Boundary and Deadline Judges is agreed upon, protests regarding a boundary or deadline infringement will not be accepted.
 - A. a,b
 - B. a,b,d
 - C. b,c
 - D. a,c,d
8. Deasline Judges will be added at the discretion of the Chief Judge.
 - A. True
 - B. False
9. The Timer shall be responsible to the Chief Judge for the accurate timing of all flights, both the time to climb and duration of the flight, plus timing of super slow rolls.
 - A. True
 - B. False
10. Which of the following statments relating to the Contest Jury are true?
 - a. The Contest Jury shall consist of the Contest Director, a Chief Judge and three additional members appointed by the Contest Director.
 - b. The Contest Jury shall consist of the Contest Director, a Chief Judge and three additional members appointed by the Contest Director and the Chief Judge.
 - c. The Contest Jury is the arbitration body of aerobic events.
 - d. The duty of the Contest Jury shall be to hear and review all protests that the Protest Board is unable to review.
 - e. Deals with all protests.
 - f. The Contest Jury is responsible for interpreting the general rules, the judging rules and all regulations of the contest.
 - A. a,b,d,e
 - B. a,c,d,e,f
 - C. a,c,e,f
 - D. b,c

11. The Starter is primarily responsible to the Chief Judge for the fulfillment of his duties and responsibilities.
- A. True
B. False
12. All score totals shall be held in strict confidence and can only be released by the Chief Judge or Contest Chairman.
- A. True
B. False
13. The Chief Judge may withdraw any Judge for reasons of incompetency during the contest.
- A. True
B. False
14. Which of the following statements concerning Judges are true?
- a. All Judges will be selected from the current approved Judge's list.
b. Judges may have their names placed on the current Judge's list by making a written request to IAC Headquarters.
c. Judges will be responsible for all aspects of grading contest flights.
d. Judges must attend the Judge's briefing at the beginning of a contest and a debriefing at the end of each section of contest flights.
e. A contestant my judge in a sanctioned contest and is excused from being present at briefings and debriefings.
- A. a,b,d
B. a,c,d
C. b,c,d,e
D. a,c,d,e
15. Which of the following statements concerning Assistant Judges are true?
- a. A judge may have more than one Assistant Judge.
b. Assistant Judges will be under the direct supervision of a Judge to whom he or she is assigned.
c. The Assistant Judge is responsible for the proper arrangement of sequence and score sheets on the Judge's clip boards.
d. An Assistant Judge will record all grades and comments given by the Judge.
e. The Assistant Judge will help the Judge in determining the sequence of figures, direction of flight and any other duties requested by the Judge.
- A. b,c,e
B. a,b,d,e
C. b,e
D. a,c,e
16. Relatives of competitors may not judge in any category in which their relative(s) is competing.
- A. True
B. False
17. Which of the following statements concerning
- a. Should be chosen from the approved list of Regional or National Judges.
b. Must have completed the current Judge's Home Study Course.
c. Should have attended an IAC Judge's school.
d. Should have previous aerobatic competition experience.
- A. a,b,c,d
B. a,b,c
C. a,c
D. c,d
18. Select from the following statements those requirements one must fulfill in order to become a Regional Judge.
- a. Must be a member of IAC.
b. Must attend an Approved IAC Judge's school.
c. Must complete the current Judge's Home Study Course.
d. Must be able to check a free style sequence.
e. Must assist a grading Judge at three (3) sanctioned contests or five (5) flying critique sessions.
f. Must assist a grading Judge in three (3) sanctioned contests.
g. Must pass an oral/written test given by two current Judges, one of whom must be a National Judge.
- A. a,b,c,d
B. b,d,e,g
C. a,b,c,d,f
D. a,b,c,f,g
19. Judges who are to blame for considerable misjudgement, prejudice, etc., will be reprimanded by the Board of Directors of IAC. In cases of repeated failure, the Board of Directors may drop a Judge's name or classification entirely from the Approved List of Judges.
- A. True
B. False
20. A minimum of four (4) Judges will be required for all contests.
- A. True
B. False
21. Judges for the IAC International Championships held in Fond du Lac, WI. and the U.S. National Championships must be approved by IAC Board Directors from the list of Approved Judges.
- A. True
B. False
22. The contest score sheets will be shown to no one except the Contest Director, the Judges and the Score Computers so confidentiality will be preserved.
- A. True
B. False
23. Who must certify the contest results?
- a. Contest Director
b. Chief Judge
c. Score Computers

- A. a,b
B. b,c
C. all the above
24. When the Chief Judge and the Judges are checking Free Programs prior to the contest, what do they use off of the form submitted by the contestant as the basic criterion for checking?
- A. the figure as drawn on the sheet
B. the catalog or Aresti number
C. the page number
D. the K factor
25. It is acceptable for a contestant to submit to the Chief Judge his Free Program for checking to avoid the possibility of it being rejected at the contest. Is this true or false? Also, how many days in advance must he submit it, if this is so.
- A. True. No less than two weeks in advance.
B. False
C. True. No less than one month in advance.
26. If a competitor disagrees with the Judges on any aspect of his Free Program, the Contest Director shall arbitrate the dispute.
- A. True
B. False
27. A competitor must signal the beginning and end of his sequence by rocking his wings. State the Page number, Chapter number and Rules section which says so.
28. Which of the following statements concerning protests are true?
- a. Protests will be made in writing to the Contest Director.
b. The protest fee is non-returnable.
c. The protest fee is \$25 per protestor.
d. Protests shall be lodged no later than 2 hours after the occurrence.
e. The grievant may be present and has the right to present witnesses.
f. The decision of the Contest Jury may not be appealed.
- A. a,b,d,e
B. a,b,c,e,f
C. a,c,e,f
D. a,c,d,e,f
29. Contestants must have all Free Program forms checked and signed by a Regional or National Judge.
- A. True
B. False
30. An Advanced pilot, for example, is second to fly in the Free category. He completes his flight and proceeds to the Judge's line. The Chief Judge, with concurrence of a majority of the Judges then on the line may . . .
- A. Assess a 100 point penalty.
B. Zero the contestant's last flight.
C. Disqualify the ocntestant from the contest.
31. You as a Judge note that a contestant, whose Free Program you have certified as being correct, has altered his program without having it recertified. You may request that he be disqualified from competing in the contest.
- A. True
B. False
32. Which of the following statements concerning the Pilot Briefing are true?
- a. The Contest Director will conduct the briefing.
b. Roll call of the pilots will be the first item in the briefing.
c. A pilot who fails to answer roll call in person will receive a point penalty the size of which depends upon the category in which he/she is flying.
d. A pilot who fails to answer roll call in person may elect to pay a \$50 fee for a private briefing instead of accepting the penalty points.
e. All Judges and Assistant Judges will be introduced.
f. Weather conditions, safety rules, and starting procedures will be outlined.
- A. b,c,e,f
B. a,b,c,f
C. b,c,d,f
D. a,c,d,f
33. Which of the following statements concerning the Judges Briefing are true?
- a. The Chief Judge will conduct the briefing for all Judges, Assistant Judges, Recorders, Timers and Boundary Judges.
b. The duties of each of the above will be outlined.
c. FAA officials will be introduced.
d. Questions will be accepted concerning the scoring of figures.
e. Description of the Aerobatic Zone and the holding area will be given.
f. There will be an explanation of the low altitude limits.
- A. a,b,c,d
B. b,d,e,f
C. a,c,d,f
D. a,b,d,f
34. In the middle of a flight, a contestant breaks off and lands. He remains with his aircraft until the Technical Committee can make a determination as to the mechanical condition of the aircraft. If they discovered that the engine experienced low oil pressure due to low oil quantity (no leaks in the engine) should he be allowed to re-fly his program?
- A. Yes, but the whole sequence would have to be reflight and grading would start with the figure in which the defect occurred.
B. No, because in this case the contestant neglected to properly preflight the aircraft.
35. Penalties assessed for infringement of altitude limits will be sustained ONLY if a majority of the Judges indicate on the score sheet the individual figure on which the infringement occurred and the

extent of the low infringement, i.e. 1' to 200' low or more than 200' low.

- A. True
- B. False

36. What is a recall signal?

- A. The Recall is a method that the Chief Judge would use to withdraw a Judge for reasons of incompetency.
- B. By rocking his/her wings three times, the pilot signals that he/she will return to the airport.
- C. A suitable method for recalling a competitor, usually a panel located at the center of the aerobatic zone combined with a smoke signal.

37. A competitor is authorized to discontinue his flight if meteorological conditions deteriorate during his climb to operating altitude or during the performance of his sequence. However, if he discontinues his flight during the performance of his program, he will not be entitled to re-fly his sequence.

- A. True
- B. False

38. An Aerobatic contest may be conducted in less than optimum conditions. In such cases which of the following statements are true?

- a. IAC Rules do not permit contest flying unless the cloud base is at or above maximum authorized aerobatic altitude.
- b. If cloud bases are less than maximum authorized aerobatic altitude, Judges may allow contestants to break and climb without penalty to commence the second part of their sequence.
- c. The Contest Director may allow contestants to break and climb without penalty to commence the second part of their sequence.
- d. Competitors are permitted to land between the first and second parts of their sequences, to advise the Judges of the weather conditions.
- e. Competitors may not land between the first and second parts.
- f. In the case of Free Programs, the Judges will decide where the break is to occur and so advise the competitor.
- g. In the case of the Known and Unknown compulsories, the Contest Jury will decide where the break is to occur.
- h. The competitor will indicate on the copies of his Free Program, by means of a red line, the point at which the program will be broken.

- A. b,e,g
- B. a,e,f
- C. b,e,g,h
- D. c,d,f,h

39. Who determines the direction of flight for each aerobatic sequence?

- A. The Contest Director.
- B. The Contest Director with the first figure always starting into the wind.
- C. The Chief Judge.

D. The Chief Judge except in the case of the Free Programs.

40. Which of the following statements relating to the time allowed a competitor to climb to operating heights are true?

- a. 5 minutes time is allowed starting the moment permission is given to take off.
- b. Competitors may begin their program before the end of the 5 minute period if they wish.
- c. Special consideration may be given low-powered aircraft.

- A. All of the above.
- B. None of the above.

41. Timing of the competitive portion of the program begins when the pilot rocks his/her wings.

- A. True
- B. False

42. A competitor will signal the start and finish of his program by rocking his wings three times.

- A. True
- B. False

43. List the height limitations on contest flights by category.

Category	Upper Limit	Lower Limit
SPORTSMAN	_____ ft.	_____ ft.
INTERMEDIATE	_____ ft.	_____ ft.
ADVANCED	_____ ft.	_____ ft.
UNLIMITED	_____ ft.	_____ ft.

44. Whether or not penalties are assessed for infringements of altitude limits is determined by the Chief Judge.

- A. True
- B. False

45. A Sportsman pilot begins his sequence at 4,100 feet above ground level. How many penalty points, if any, should be assessed?

- A. There is no penalty for using excess altitude in Sportsman.
- B. 10 points.
- C. 20 points.
- D. None of the above.

46. An Advanced pilot flew down to 700 feet above ground level during his Free Program. How many penalty points, if any, should be assessed?

- A. Zero for the entire program.
- B. 35 points.
- C. 100 points.
- D. Disqualification from the contest.

47. Since safety is of prime importance, what penalties are incurred by a competitor who violates the deadline?

- A. The competitor will be recalled immediately.

- B. Each figure flown past the deadline will be zeroed.
 C. The entire flight will be zeroed.
 D. The competitor will be disqualified from the contest.
48. Which of the following statements most accurately describes when a figure begins?
- A. When a pilot rocks his/her wings.
 B. Each figure flown past the deadline will be zeroed.
 C. After a horizontal line is flown at the beginning of a sequence or has been flown to complete a figure the next figure is deemed to have started.
 D. A figure begins the moment the aircraft changes from a straight, wing level horizontal line and ends at the moment the aircraft returns to a straight, wing level, horizontal line except in the case of a square or half square loop.
49. Official grading of an aerobatic sequence will begin with the first maneuver, regardless of its proximity to the designated aerobatic zone.
- A. True
 B. False
50. Contestants found on the Judging line without the permission of the Chief Judge may be disqualified.
- A. True
 B. False
51. In the Advanced category, a pilot suddenly breaks off his routine because he is having trouble staying above the lower altitude limit. What, if any, penalty would be imposed for this interruption?
- A. None, as IAC encourages all pilots to climb in the event they have trouble conserving altitude.
 B. 70 penalty points would be assessed.
 C. 100 penalty points would be assessed.
 D. The amount of the penalty is dependent on the amount of time used for the interruption.
52. If, in the opinion of the majority of judges, a competitor is felt to be UNQUALIFIED to fly a free program, the competitor:
- A. Shall be disqualified from that category.
 B. Shall be required to take dual instruction prior to flying his/her Free Program.
 C. Shall be required to fly a Know Compulsory in lieu of a Free Program.
 D. Can fly the Intermediate Free Program if he/she wishes.
53. In the Advanced category a pilot has difficulty in successfully completing the prescribed maneuvers in the Known compulsory program. Half of the maneuvers he flies are graded zero (0) during this flight. What would you do if you were Chief Judge and why?
- A. Disqualify the contestant from the event because he was unable to fly 50% of the maneuvers.
- B. Nothing as the contestant's lack of ability would be reflected in the scores.
 C. Disqualify the contestant from Advanced because he was unable to fly 75% of the maneuvers.
 D. None of the above.
54. Contestants may drop any maneuver or group of maneuvers from the Known Compulsory program but sequence and direction must be maintained.
- A. True. However, any maneuver(s) that are dropped will be given a score of zero (0). Omissions must be indicated on the submitted forms. IAC encourages pilots to drop maneuvers that may be beyond the pilot's or aircraft's ability.
 B. False. The maneuvers as published should all be flown. It is the contestant's option to fly in a different category if he feels maneuvers are too difficult or exceed the limitations of his aircraft.
55. Any figures flown entirely outside the box before entering the box at the beginning of a sequence will be given a grade and a boundary penalty.
- A. True
 B. False
56. Contest air space waivers granted by the FAA indicate allowable minimum cloud bases but do not establish maximum wind conditions under which a contest may be flown. What is this maximum?
- A. 25 knots at 45 degree deviation from either axis.
 B. 20 knots at 30 degree deviation from the X axis.
 C. 15 knots.
 D. 20 knots.
57. The Contest Director may issue supplementary rules waiving any of the provisions listed in Section C, Chapter 4 of the rules.
- A. True
 B. False
58. State the Page number, Chapter number and Rules section that states who may file protests and when.
59. A Regional Judge may retain currency by being a judge in at least three sanctioned contests within the previous calendar year.
- A. True
 B. False
60. Seven Judges are used at the National Championships. To determine the score of an Unlimited competitor flying a free sequence the highest score and the lowest score given are deleted and the scores of the other five Judges are averaged before any penalty points are deducted. Is this statement true or false?
- A. True

B. False

61. The following competition flights are used in an IAC contest.

Program 1. Known Compulsory
Program 2. Free (or Optional Free)
Program 3. Unknown Compulsory
Program 4. Four Minute

List the flights used in each of the four categories of competition by number.

62. A contestant is given a grade of from 10 to 0 in .5 increments on each figure and on a positioning score. It is assumed that a contestant will fly a perfect figure for a score of 10 and as errors are noted in the flying of the figure the grade is reduced. List seven reasons for giving a grade of 0.

63. A reduction of the score by _____ will be given for each 5° directional deviation from the programmed direction of flight.

64. Penalties for infringements of the Zone boundaries and interruptions of programs will be noted on the Chief Judge's score sheet.

A. True
B. False

65. Some maneuvers are to be judged on aircraft angle, some on track of the aircraft. Below are listed some Aresti Family 1 maneuvers. List the criteria used to grade that particular basic maneuver (even though basic lines and lines plus angles would never appear by themselves in a competition routine). Use the following numbers in selecting the proper criteria:

1. Graded on track of aircraft
2. Graded on angle of aircraft

A. 1.1.1.1., Normal horizontal flight
B. 1.1.1.1.1., Inverted horizontal flight
C. 1.1.1.2., Knife edge flight
D. 1.1.2.1., 45° climbing
E. 1.1.3.1., 45° descending
F. 1.1.4.1., 90° climbing
G. 1.1.5.1., 90° descending

66. What is a "K" factor?

67. A majority of the Judges must give a grade of 0 on any given figure before a grade of 0 can be sustained on that figure.

A. True
B. False

68. Each program except the Unlimited Program 4 is given a positioning grade by each Judge. Define "Positioning".

69. Which of the following statements concerning Program 2, the Free program, are true?

- a. There are three types of figures used in constructing Program 2.
b. Program 2 begins and ends in level upright flight.
c. Program 2 for all categories, Sportsman thru Unlimited has some kind of limitation of the total "K" factor that can be used.
d. The diagrams of the figures in the Aresti manual will be taken as definitive.
e. Figures from Family 1 and Family 3 may not be used.
f. Repetitions are not allowed.

A. a,b,e
B. b,c,e,f
C. a,c,e,f
D. a,c,d,e

70. A 1/4 of a 4 point hesitation roll may not be used in constructing Program 2. Why not?

71. Which of the following statements concerning Basic Figures are true?

- a. A Basic Figure may not be repeated.
b. There are a total of 8 Basic Figures in Family 4.
c. There a total of 44 Basic Figures in Family 9.
d. There are a total of 52 Basic Figures in Family 5.
e. There are no Basic Figures in Families 8.1, 8.2, 8.3.1, and 8.3.2. However the full Aresti number in these families may not be repeated.
f. All combination of figures are constructed beginning with a Basic Figure.

A. a,b,c,d,e,f
B. a,b,c,e,f
C. a,c,d,e
D. a,c,d,f

72. If Aresti has added rolls from Family 8 to a Basic Figure and given such a figure one Aresti number and one K factor, or degree of difficulty, it is called _____.

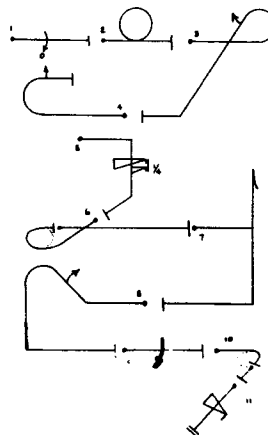
A. A Combination Figure
B. A Compound Figure

73. The following appeared on a pilot's score sheet for Program 2.

Page 83 -7.1.1 -12K Inside snap
Page 120 -8.3.1.1.1. -10K on a loop 22K

- Which of the following statements are true?
- a. The pilot has constructed a Combination figure.
 - b. A Combination figure is always built beginning with a Basic Figure.
 - c. The figure 7.1.1. may be used nowhere else in the Program.
 - d. If a Combination figure can be found in the Aresti manual with just one number and one K factor (a Compound figure) then the Compound figure must be used.
- A. a,c,d
 - B. a,b,c,d
 - C. b,c,d
 - D. a,c
74. Any figure from Family 5 which is specifically identified in Part IV of the Aresti System Catalog (3rd Edition) on pages 75 through 80 plus the appropriate rolls from Family 8 may be selected to compose a Free Program.
- A. True
 - B. False
75. Family 2.1 figures are graded on the following: The figure is flown at a constant altitude. The bank angle must remain constant and be of at least 60 degrees. For any deviation less than 60 degrees 1 point is deducted for each 5 degrees.
- A. True. These are the only grading criteria.
 - B. False. The radius of the turn must remain constant, the roll rate on entry and exit must be the same, the bank angle must be established before the turn begins and be removed after the turn is completed exactly on the required exit heading are grading criteria as well as the above.
76. Select from the following statements those that are a part of the correct grading criteria for Family 4.
- a. The aircraft must stall.
 - b. Rotation should start as the nose drops but no later than when the nose breaks the plane of the horizon.
 - c. The horizontal line at the beginning of the figure is graded on aircraft angle.
 - d. After the rotation is stopped a vertical down line of exactly 90 degrees shall be projected before returning to the horizontal.
 - e. The vertical down line must be held for at least two plane lengths.
 - f. Rate of rotation during the spin is a grading criteria.
 - g. A 4.2.1. spin has different grading criteria than does a 4.1.1. spin.
- A. a,b,d,g
 - B. a,b,d,e
 - C. a,b,c,f,g
 - D. All of the above
77. Maneuvers that require a transition from one plane of flight to another, such as a hammerhead in which the aircraft goes from horizontal to vertical then back to horizontal flight, are graded higher if these "corners" are briskly and crisply "squared."
- A. True. Crisp or brisk flying is normally graded higher because these "square" corners appear better to the Judges.
 - B. False. The 1/4th loops comprising the entry and exit must be of an equal radius and of a reasonable size.
78. Aresti Family 5 are hammerheads or "Wing Slides." Select from the following list of statements those that are correct concerning the grading criteria for Family 5:
- a. Transition from level flight to the vertical must be flown in a reasonable quarter circle.
 - b. Entry and recovery should be at the same altitude.
 - c. The length of the vertical line caused by the capability of a particular aerobatic airplane will not be considered in judging this maneuver.
 - d. The rate of rotation at the apex of the hammerhead is considered.
 - e. The vertical portion of the maneuver will be graded on track of the aircraft.
 - f. The aircraft must pivot around its vertical axis.
- A. a,b,c
 - B. a,c,f
 - C. c,d,e
 - D. b,c,f
79. During the execution of a tailslide (Aresti Family 6) a competitor torques off 30 degrees while the aircraft slides backwards. All other factors not considered, what would be the highest score possible for this maneuver:
- A. 5.0
 - B. 4.0
 - C. 6.0
 - D. 7.0
80. If you decide that no actual slide took place in the competitor's execution of a tailslide, what would you score this maneuver?
- A. 2.0. The competitor must receive some credit for the maneuver even though it was not complete.
 - B. 0. If no slide occurred then it did not meet the specified criteria.

81. Select from the following statements those which are correct grading criteria for Family 7.
- A 7.3.1. figure flown into a 10 knot wind must be closed at its completion.
 - All figures beginning with 7.1.1. and ending with 7.4.2.3. begin and end at the same altitude.
 - In figure 7.2.1. all internal lines including the fourth side must be equal in length to the first vertical side.
 - There is no horizontal line drawn between the 1/2 loops in a figure 7.5.1.
 - In all figures from Family 7.6. the 45 degree lines must cross at the center of the figure.
 - In all figures from Family 7.6. the transitions from horizontal to the 45 degree lines as well as the transitions at the end of the figure will be 1/8th loops of the same radius as the 5/8ths looping portions of the figure.
- a,b,d,e
 - b,c,e,f
 - b,c,d,f
 - a,b,c,e
82. Select from the following statements those which are correct grading criteria for an 8.1.3.1. figure.
- The roll rate must vary as the nose describes a circle.
 - The highest altitude will be reached when the aircraft reaches the knife edge position after 90 degrees of roll.
 - At the 270 degree point the nose of the aircraft should be on the horizon.
 - As the figure is completed the original heading and altitude will be attained on a line drawn parallel to the axis of the box running thru the geographical starting point.
 - The maximum heading deviation during the figure will be 20 degrees off the axis.
- a,b,d,e
 - b,c,d
 - a,c,d,e
 - None of the above
83. On hesitation rolls, the pause at each point should be definite, rate of roll should be the same between points, the pauses of equal duration.
- True
 - False
84. When judging Family 8.3 (Snap Rolls) you should see a definite break and a positive recovery. Speed of rotation is a criteria.
- True
 - False
85. Aresti Family 8.4 is rolling turns. If the pilot completes the prescribed number of rolls before completing 360° of turn, the total score will be reduced ___ point(s) for each ___ $^\circ$ of deviation.
86. List four criteria used in grading a Family 8.4. figure.
87. Family 8.5 are rolling loops or rolls in a vertical circle. In the execution of these maneuvers, the competitor should begin the loop momentarily before starting the roll. This is because most aircraft cannot perform this maneuver otherwise. This must be taken into account by the Judges.
- True. The Judge must consider what is realistically possible with certain aircraft.
 - False. If the pilot wishes to receive a grade of 10 he/she must create the illusion of a perfect figure which the Judge wants to see regardless performance capabilities of the aircraft.
88. Select from the following statements those which would correctly be used in grading a 9.1.0.1.
- A symmetrical 1/2 loop must be flown and the smaller the 1/2 loop the higher the grade.
 - The figure will start and end on a horizontal line.
 - After completion of the 1/2 loop the roll will be done immediately upon hitting the horizontal.
 - If there is any sagging out of the top of the figure it will be downgraded 1 point for every 5 degrees the angle of the fuselage deviates from the horizontal.
 - The 1/2 loop will be of any size chosen by the pilot and be flown with a constant radius.
- a,c,d,e
 - b,c,d,e
 - a,b,c,d
 - b,c,e
89. There is no vertical down line in figure 9.2.1.2.1. After the 45 degree up line the 5/8ths loop will be flown with a constant radius.
- True
 - False
90. The absence of a distinct horizontal line between maneuvers will result in the score being reduced by:
- Two in each case for each figure.
 - Two points for the figure to follow only.
 - Two points for the preceding figure only.
 - No penalty point reduction.
91. You are judging a Sportsman category in which the pilots are flying the following Program 1.

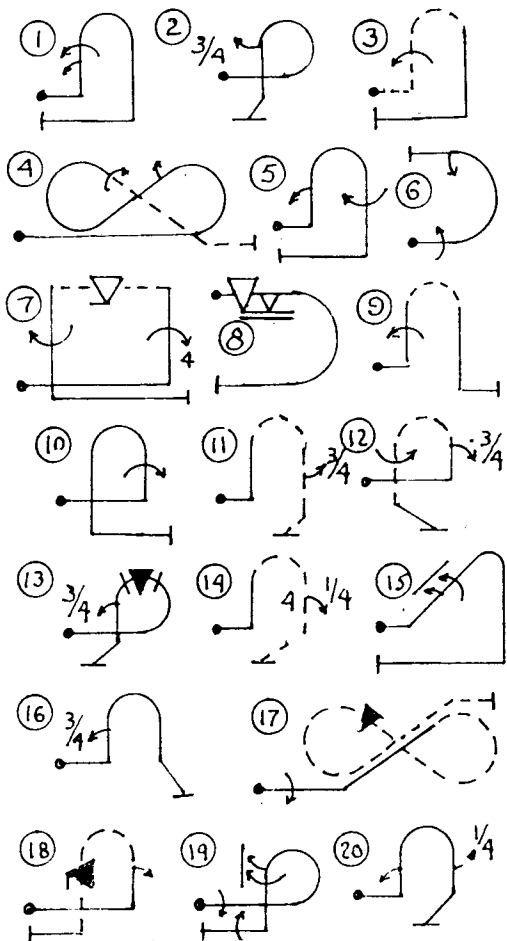


- How would you score the first contestant who flew the first figure entirely outside the aerobic zone, the second figure partially out and partially in the zone and the balance of the sequence inside the zone.
- Zero figure 1.
 - Zero figure 1 and figure 2.
 - Zero figure 1 and a boundary penalty for figure 2.
 - A boundary penalty for figure 1 and figure 2.
92. If a boundary penalty is given in the preceding question who will give the penalty?
- The Judge
 - The Chief Judge
93. Contestant #2 began the sequence above into the wind as was required by all pilots, turned on figure 6 so that he exited the figure down wind and then completed the rest of the sequence. How would you score the sequence?
- Zero figure 6.
 - Zero figures 6,7,8,9 and 10.
 - Zero figures 6,7,8,9,10 and 11.
 - Score all the figures since the pilot has the option of turning either way in figure 6.
94. While flying the sequence shown above pilot #3 was called lower than 1500' by 2 Judges on figures 5 and 6. Two other judges called the pilot low on figures 7,8,9,10 and 11. The Chief Judge should do which of the following?
- Zero the flight.
 - Allow the flight to stand.
95. How would you score a contestant's snap roll if the nose did not definitely break the line of flight indicating a stall has occurred:
- Zero
 - 1 point off
 - 2 points off
 - Judgment call
96. Entry and exit altitude for a figure 9.1.1.2. and a figure 9.2.1.2.1. need not be the same.
- True
 - False
 - True for 9.1.1.2. and false for 9.2.1.2.1.
 - False for 9.1.1.2. and true for 9.2.1.2.1.
97. While judging contestant #4 as he flew the sequence shown above you called three figures considerably out of position and one partially out of position. You had your recorder mark down three full ties and one 1/2 tie. What is the proper positioning grade you should give in this case?
- 8
 - 7.5
 - 6.5
 - 3.5
98. Which of the following statements concerning Program 2, the Free Program, are true?
- There are three types of figures used in constructing Program 2.
 - Program 2 begins and ends in level upright flight.
 - Program 2 for all categories, Sportsman thru Unlimited has some kind of limitation of the total "K" factor that can be used.
 - The diagrams of the figures in the Aresti manual will be taken as definitive.
 - Figures from Family 1 and Family 3 may not be used.
 - Repetitions are not allowed.
- a,b,e
 - b,c,e,f
 - a,c,e,f
 - a,c,d,e
99. A 1/4 of a 4 point hesitation roll may not be used in constructing Program 2. Why not?
100. Which of the following statements concerning Basic Figures are true?
- A Basic Figure may not be repeated.
 - There are a total of 8 Basic Figures in Family 4.
 - There are a total of 44 Basic Figures in Family 9.
 - There are a total of 52 Basic Figures in Family 5.
 - There are no Basic Figures in Families 8.1, 8.2, 8.3.1, and 8.3.2. However the full Aresti number in these families may not be repeated.
 - All combination of figures are constructed beginning with a Basic Figure.
- a,b,c,d,e,f
 - a,b,c,e,f
 - a,c,d,e
 - a,c,d,f
101. Any figure from Family 5 which is specifically identified in Part IV of the Aresti System Catalog (3rd Edition) on pages 75 through 80 plus the appropriate rolls from Family 8 may be selected to compose a Free Program.
- True
 - False
102. You are judging an 8.1.3.1.1. and estimate the heading at the inverted position to be 30 degrees off the original heading and that the fuselage at the 3/4 point is angled 25 degrees below the horizon. You feel the pilot obviously did a poor job of blending the roll rate evenly with the nose circle. What is the maximum grade you could assign the maneuver?
103. A pilot flies a 9.2.1.2.1. into a 15 knot wind. On the ascending line prior to the roll, the zero lift axis is the 90 degree attitude less 45 degrees. After the roll, the zero lift axis remains the same but the ascending track steepens by 15 degrees. All other criteria are properly met. What is the maximum grade you would assign to the maneuver?

104. A pilot enters a 4.2.1. properly. Just before the nose of the aircraft drops through the horizon rotation starts and the pilot over-rotates the spin by 10 degrees. All other criteria are properly met. What is the maximum grade you could assign to the maneuver?
105. A pilot flies a 5.1.1. figure with an inside snap roll on the up. He places the roll in the middle of the 1/4 loop at the entry of the figure. He then continues the up line with the attitude of the aircraft 10 degrees positive. With all other criteria being correct what is the highest grade he could earn?
106. Rolls from Families 8.1, 8.2, 8.3.1, 8.3.2, which have the same catalog number may be selected only once whether flown separately or in combination maneuvers.

Indicate on the answer sheet if this statement is true or false and give the Page number, Chapter number and Rules Section from the Rules book which sustain your answer.

107. Rules covering the use of the following maneuvers in constructing a Free Program may be found on pages 28, 28A, 28B, and 29. With these rules in mind, indicate which of the following figures are legal and which are illegal.



Checking Program 2, the free program, is another of those interesting activities associated with aerobatic contests; and a necessary one to insure that all Contestants' free programs meet the requirements set forth in the IAC Rules. At a minimum a Regional Judge should be able to check these free programs for the first three categories of flight. A National Judge should be able to correctly check all types of free programs including the Unlimited ones.

Our Rules require that each contestant have his Program 2 checked by a Judge prior to the contestant's registration at a contest. The checking Judge must sign his name and date EACH sheet, score sheets and "flimsys," and it is the duty of the Chief Judge to check each set of paper work from each contestant to see if it has been so checked and signed by a current Judge in the current year.

Checking free programs is not difficult but it does require a careful, organized and systematic approach. Appendix IX of the IAC Rules sets forth such an approach and may be found on page 66 of the Rules book.

On the following pages you will find three sample free programs; one each from the Intermediate, Advanced and Unlimited categories. Each program has one or more errors.

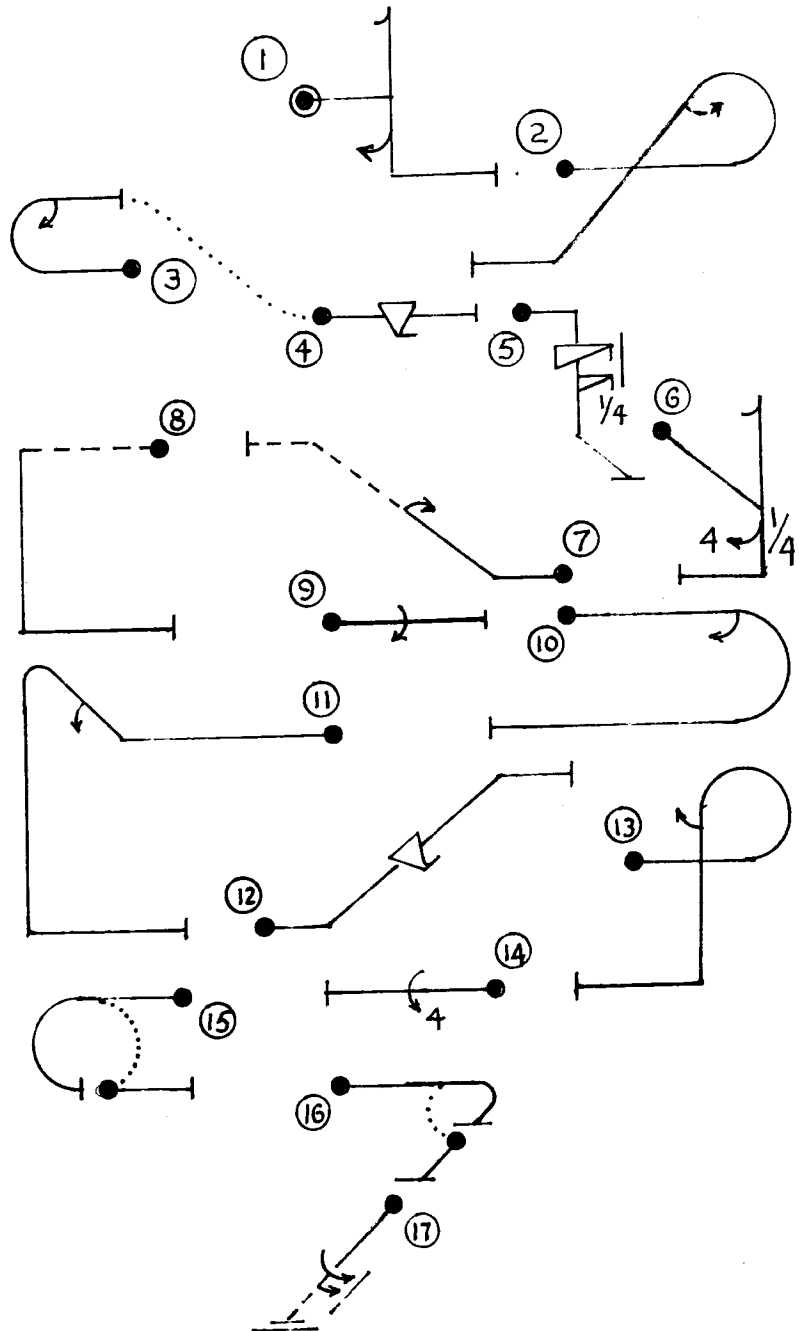
On the answer sheet you will find a number of lines upon which you should list the errors you find. Please note that THE NUMBER OF LINES BEARS NO RELATION TO THE NUMBER OF ERRORS. For each sample free program there are 15 lines on the answer sheet for listing of errors however there may be only one (or more) errors in the sequence.

In order to check the following free sequences you will need to use Part 4 of the Aresti Manual, your current Rules book and a calculator or adding machine. With these tools at hand turn to page 66 of the Rules book and follow the "Logical Steps For Checking The Free Program" as written by Clint McHenry. List the errors you find on the appropriate lines in the answer sheet.

INTERMEDIATE FREE PROGRAM

List the errors you find in this sequence on the Answer Sheet. Please remember that the number of lines on the Answer Sheet bears no relation to the number of errors in the sequence.

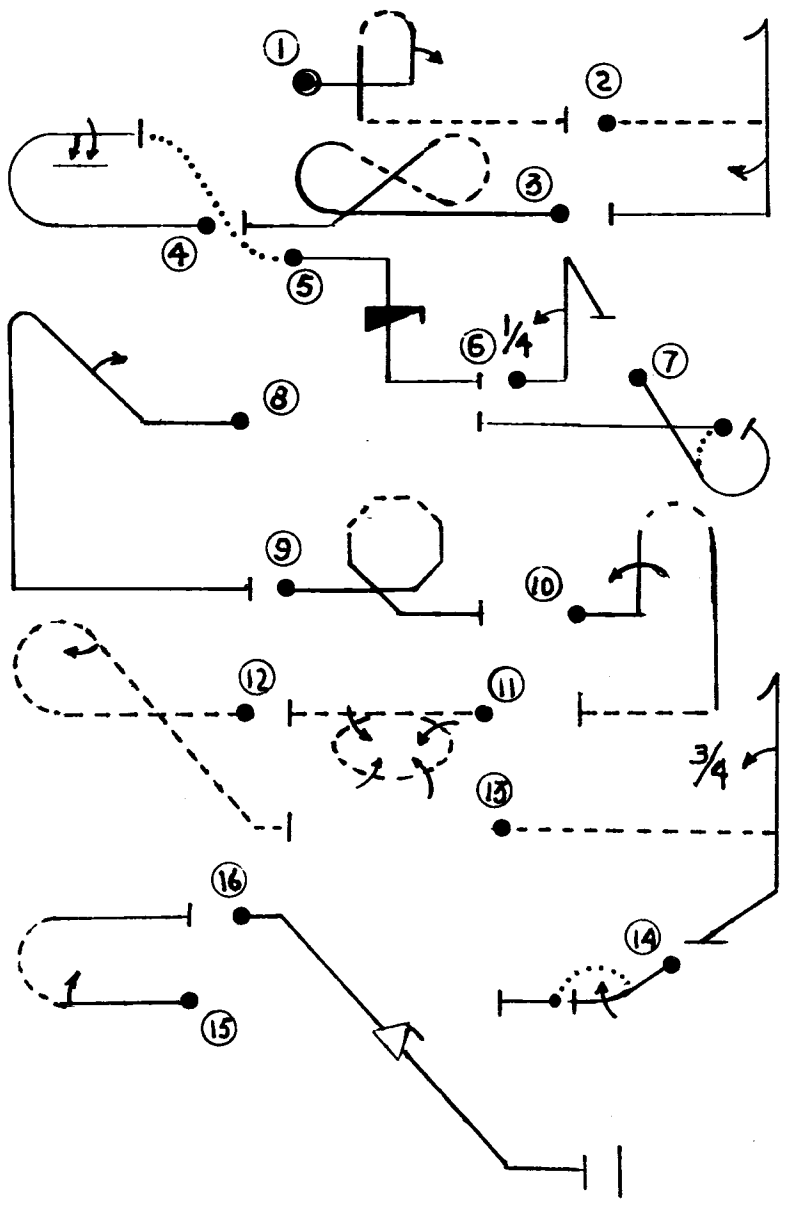
	Page-Aresti #	K
1	76 -5.1.3.3. 93 -8.1.1.5.3.	-29
2	165-9.1.1.2.	-16
3	165-9.1.1.1.	-17
4	120-8.3.1.1.1.	-10
5	70 -4.1.8.	-11
6	74 -5.1.1. 105-8.2.2.5.4.	-27
7	94 -8.1.1.6.2.2.-	-16
8	84 -7.2.2.3.	-12
9	90 -8.1.1.1.1.	-10
10	165-9.2.1.1.	-17
11	165-9.2.1.2.1.	-18
12	124-8.3.1.6.1.	-18
13	165-9.1.1.3.1.	-21
14	102-8.2.2.1.1.	-11
15	69 -2.3.	- 2
16	69 -2.4.	- 1
17	90 -8.1.1.1.7.	-14
		250



ADVANCED FREE PROGRAM

List the errors you find in this sequence on the Answer Sheet. Please remember that the number of lines on the Answer Sheet bears no relation to the number of errors in the sequence.

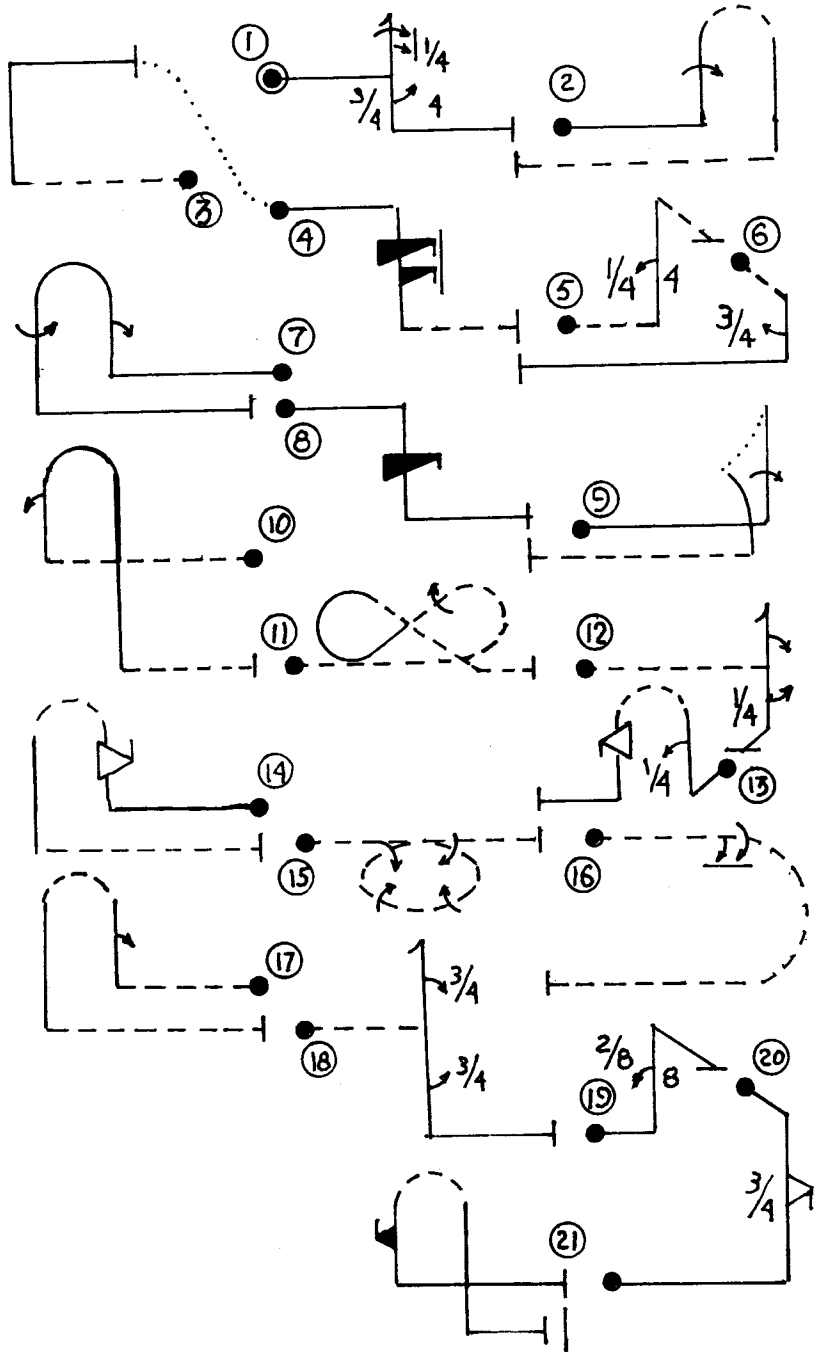
Page-Aresti #	K
1 165-9.2.1.4.2.	-32
2 74 -5.1.1.3.	-36
93 -9.1.1.5.3.	
3 84 -7.6.1.1.	-28
4 164-9.1.0.1.	-24
90 -8.1.1.1.7.1.	
5 71 -4.2.1.	-24
6 96 -8.1.1.10.4.	-19
7 69 -2.2.	- 3
8 165-9.2.1.2.1.	-18
9 83 -7.4.2.	-22
10 165-9.2.1.3.2.	-40
93 -8.1.1.4.1.	
11 162-8.4.1.7.1.	-36
12 165-9.1.1.2.1.	-28
13 75 -5,1,2,2,3,	-38
93 -8.1.1.4.2.	
14 162-8.4.1.4.	-13
15 165-9.2.1.1.3.	-23
16 124-8.3.1.7.1.	-16
	400



UNLIMITED FREE PROGRAM

List the errors you find in this sequence on the Answer Sheet. Please remember that the number of lines on the Answer Sheet bears no relation to the number of errors in the sequence.

Page-Aresti #	K
1 -74 -5.1.1. 93 -8.1.1.4.8. 105-8.2.2.5.2.	-47
2 -165-9.2.1.3.2. 93 -8.1.1.4.1.	-40
3 -83 -7.2.2.1.	-18
4 -71 -4.2.7.2.	-31
5 -108-8.2.2.10.4.1.-24	
6 -97 -8.1.1.11.2.3.-23	
7 -165-9.2.1.3.1. 93 -8.1.1.4.3. 93 -8.1.1.5.1.	-44
8 -71 -4.2.1.	-24
9 -82 -6.1.2. 93 -8.1.1.4.1.	-39
10-165-9.2.1.4.1.1.	-31
11-84 -7.6.1.1.1. 92 -8.1.1.3.1.1.	-47
12-79 -5.1.6.4.3. 93 -8.1.1.4.3. 93 -8.1.1.5.4.	-42
13-164-9.2.0.3.1. 93 -8.1.1.4.4. 123-8.3.1.5.1.	-32
14-164-9.2.0.3.2. 123-8.3.1.4.1.	-31
15-162-8.4.2.7.1.	-38
16-164-9.2.0.1.1. 90 -8.1.1.1.7.1.	-34
17-165-9.2.1.3.1.1.	-37
18-75 -5.1.1.3. 93 -8.1.1.4.2. 93 -8.1.1.5.2.	-49
19-117-8.2.4.10.4.	-20
20-127-8.3.1.11.2.	-24
21-173-9.2.9.4.1.	<u>-29</u>



When you have completed this Judge's Home Study Course send your Answer Sheet ONLY to the Chairman of the Judge's Committee whose name and address is listed in "Sport Aerobatics" magazine each month. Retain this examination booklet so you may check any errors you might have made using the information the Judge's Committee Chairman will add to your Answer Sheet before returning it to you.

When you have completed all the requirements for becoming a Regional Judge or upgrading to a National Judge as listed in the current IAC Rules Book (Chapter 2) complete the IAC Judge Application Form found in the booklet and mail it to the Chairman of the Judge's Committee.

International Aerobatic Club

Application for

Judge's Ratings and/or Currency Designation.

Please refer to Chapter 2 of the IAC Rules Book for qualifications and requirements.

Type of Application (Designate)

Regional Judge(New Application) _____ National Judge(New Application) _____

Regional Judge(Currency) _____ National Judge(Currency) _____

Name: _____ Date: _____

Address: _____

Zip: _____

Home Phone:() _____ Business Phone() _____

Year certified as Regional/National Judge: _____

Last Judge's School Attended:(Location) _____ Date _____

Contest Experience: Refer to Rules for appropriate requirements.

Location: Year: Catagory(s): Capacity:

Oral/Written Test(If Applicable) Approved by:

Judge's signature: _____ Date _____

Judge's Signature: _____ Date _____

Judge's Home Study Course Answer Sheet Attached: Yes _____ No: _____

Annual Abbreviated Written Test Answer Sheet Attached:Yes: _____ No: _____

Mail to: Ben F. Lowell,Chairman.
IAC Judge's Continuing Education Program
3001 N. Lakeridge Trail
Boulder,CO. 80302 Phone (303) 449 5291