



JUDGE REVIEW

2014 U.S. National Aerobic Championships

In accordance with IAC P&P 501.2.h.1.c.3, each participating judge at the U.S. Nationals must attend a judge review of current rules and judging criteria. Completing this questionnaire is intended to satisfy that requirement.

You are all competent IAC National Judges but have widely varying backgrounds and experience and the questions and scenarios that follow are meant to foster discussion across the whole panel of judges. Most of these scenarios are identical to those discussed in previous year National's judge review sessions but they remain included here since they involve perpetually recurring areas of difficulty. Additionally, this review incorporates the new concept of two types of zeroes; 1) the Numeric Zero (0.0) for the accumulation of more than 9.5 point deductions and IS NOT subject to "Majority Rule" and 2) the Hard Zero for technically incorrect figures (no spin, no snap, rolled same instead of opposite, wrong direction, etc.) and IS subject to "Majority Rule."

- Notes:**
- 1) Read each question and all answer choices completely before selecting the best answer. The multiple choice format allows for only one answer. However, in a few instances, apparent ambiguities in the rules provide opportunity for debate about which response is actually "correct" or "most correct" and these instances will be items for discussion during the Judge Refresher.
 - 2) **For all questions, assume no other errors were observed other than those specifically defined.**

General:

1. While figure grades are ultimately the judge's to make, the assistant must help the grading judge verify the facts of each figure element such as number of hesitations, sense of snaps, extent of rotations (1 1/4 versus 1 3/4, etc.), rotations opposite versus same, pull versus push, etc., while the grading judge considers the quality of the figure elements such as precision of geometry, cadence, presentation, etc.
 - a. True
 - b. False
2. The official video may be reviewed only for the specific matter(s) of fact in question and under no circumstances shall any matters of perception be ascertained or discussed during video review or during any conferences of the judges.
 - a. True
 - b. False
3. In a team selection category, the official video may be reviewed to verify the fact that the sense (positive or negative) of a snap roll was correct.
 - a. True
 - b. False
4. If a Judge believes a figure was started behind the Judging Line but observes an otherwise well flown figure, that Judge should provide a non-zero grade for the figure and apply an appropriate downgrade to the Presentation grade.
 - a. True
 - b. False



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5. Height infringements are assessed by the Chief Judge based on a simple majority opinion of the Judges but this is NOT appropriate for discussion in a Judge Conference.
 - a. True
 - b. False

6. The first figure of a program is a spin. A competitor enters the performance zone and dips a wing three times, pulls up to an approximate 30 deg climb attitude, then re-establishes level flight and enters the spin. The proper action for this from the panel of judges is:
 - a. The grading judges should grade figure 1 a Hard Zero (HZ) for the insertion of a figure after the wing dips and the Chief Judge should mark the infraction in the "Improper Program Start" field on the Chief Judge Penalty Sheet.
 - b. The grading judges should grade figure 1 normally but mark the first figure for an improper program start (as an advisory to the Chief Judge), and the Chief Judge should mark the infraction in the "Improper Program Start" field on the Chief Judge Penalty Sheet.
 - c. The grading Judges should mark a Numeric Zero (0.0) for the first figure and an interruption for the inserted figure while the Chief Judge should mark the infraction in the "Improper Program Start" field on the Chief Judge Penalty Sheet.
 - d. No downgrade or penalty should be applied.

Judging Criteria:

7. If a judge was not able to observe a figure or any part of a figure for any reason, including when the aircraft was obscured by clouds or sun, that judge must mark the figure with an "A".
 - a. True
 - b. False

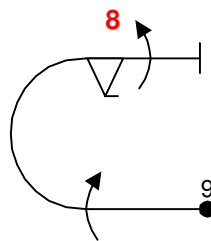
8. As an aid to judging errors in line angles or arc lengths of looping segments, an angle subtended by a 1 minute sweep of an analog clock is equivalent to:
 - a. 5 degrees.
 - b. exactly 6 degrees but a reasonable estimate of 5 deg for small errors.
 - c. 60 seconds; my watch is digital so this doesn't help one bit!
 - d. none of the above.



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9. If all other technical aspects of the figures are correct, tight looping radii and long lines compared to large radii and short lines should be awarded _____ marks.
- a. Higher
 - b. Lower
 - c. The same marks for individual figures
 - d. The same marks for individual figures but positioning marks could be different.

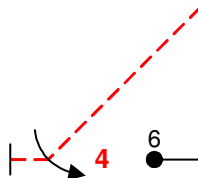
10. A Judge observes the following figure:



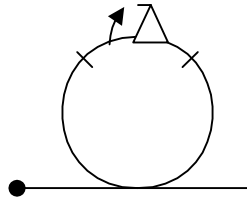
but observed only 7 of 8 hesitations in the 8 pt hesitation roll, the Judge should:

- a. mark the figure as a Numeric Zero (0.0) and annotate the nature of the errors.
 - b. mark the figure as a Hard Zero (HZ), annotate the nature of the error, and provide a reserve score in case the hesitation was actually there.
 - c. mark the figure as an Average (A), and provide a reserve score in case they blinked and the hesitation was actually there.
 - d. mark the figure as a Hard Zero (HZ) and annotate the nature of the error.
11. What is the highest mark that can be given for the error in the following figure?

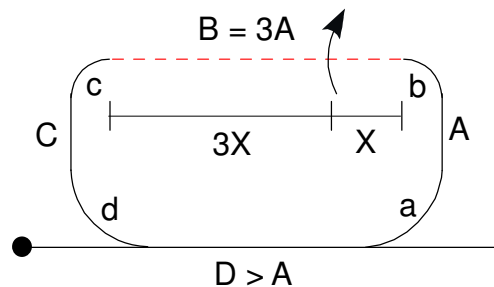
- a. 4.0
- b. 5.0
- c. 6.0
- d. 7.0



12. While observing the following figure being flown, the Judge should expect to observe the pause between the snap roll and the half roll at the “12 o’clock” of the loop.



- True because each rotation is 180 deg and the combination must start and stop symmetrical about the apex.
 - True and a downgrade of 1 point per 5 deg away from the apex the pause occurs.
 - True but since there are no specific downgrades defined for where the pause, the Judge is left to come up with his or her own reliable system of downgrading for this error.
 - False, there is no requirement for where the pause must occur and the rotation rates of the half snap roll may be different (and likely faster) than the half slow roll. However, the start of the snap and the end of the slow roll must be symmetric about the apex.
13. A 7.4.3.1 square loop with a 9.1.3.4 slow roll on top is flown with the errors as shown below (assume there is a perceptible but less than 1:2 ratio difference in radii b and c from radius a):

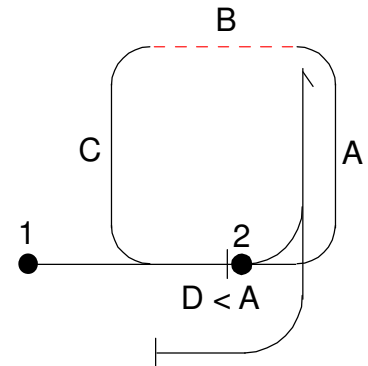


What is the highest mark that can be given for these errors in line lengths, radii of loop segments, and roll placement in this figure?

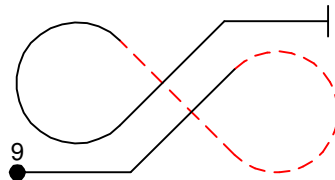
- 2.0
- 4.0
- 6.0
- 8.5

14. With regard to loops, there are no defined criteria for downgrading changes in radius and judges must develop a repeatable method for judging all loops the same way. One suggested method is for Judges divide the loop into quadrants and compare each quadrant to the first and using the schedule defined in 8.4.1(f).
- True
 - False

15. You watch a square loop followed by a hammerhead flown exactly as you see depicted here. With no other errors in the square loop beside the error in the last line being slightly short and no errors in the hammerhead, the maximum grades for each of the two figures would be:
- Square Loop = 6.0, Hammerhead = 9.0
 - Square Loop = 0.0, Hammerhead = 9.0
 - Square Loop = HZ, Hammerhead = 9.0
 - Square Loop = 9.0, Hammerhead = 10.0

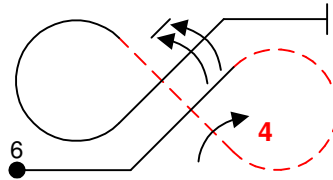


16. In the following figure, both 3/4 loops must have equal radii and must occur at the same altitude, and the bottoms of both loops must also be the same altitude as the entry altitude, while the exit altitude must be at the same altitude as the top of the loops.

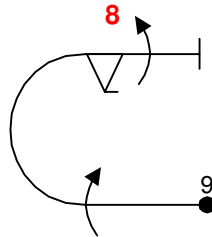


- True
 - False
17. Regarding the figure shown in question 16, you observe a constant radius in the first loop while the top of the second loop occurs noticeably below the top of the first loop but bottoms out at the same altitude as the first. The appropriate method of downgrading for this error is:
- No downgrade applies
 - Downgrade one point per hundred feet the top of the second loop differs from that of the first
 - Downgrade for the unequal lengths of the 45 deg line segments
 - Downgrade for the changing radius of the second loop when compared to the radius of the first

18. In the following figure, the two loops had the same radius and were co-altitude but altitude of the exit line is below the top of the $\frac{3}{4}$ loops. The appropriate downgrade is:



- No deduction applies
 - 1 point
 - 2 points
 - Up to 2 points
19. In the following figure, the judge does not observe any pitch motion at all to initiate the required “snap” roll. The figure should be marked:

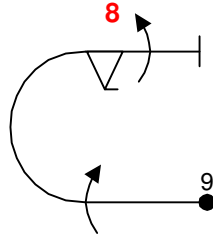


- No downgrade applies as long as the yaw and roll component are observed
 - Hard Zero (HZ)
 - Numeric Zero (0.0)
 - Downgrade one point per 5 deg of yaw observed before the snap begins
20. In the following figure, the judge observes the nose rapidly pitch to initiate the snap roll but then after 180 degrees of rotation the conical motion of the longitudinal axis disappears and the aircraft appears to slow roll the remaining 180 degrees of rotation (the “character” of the snap has noticeably changed). The correct downgrade for this figure is:

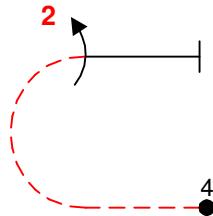


- No downgrade
- Hard Zero (HZ)
- Numeric Zero (0.0) for exiting autorotation for more than 50 deg
- Maybe 2 points because hey, it’s a monoplane and that’s how they snap

21. A visible line between the loop and the snap roll (more than a brief hesitation between these elements) should be downgraded by

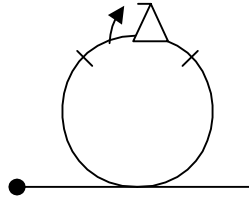


- 1 point
 - 2 points
 - At least 1 point, depending on the length of line drawn
 - At least 2 points, depending on the length of the line drawn
22. As a competitor performs the following figure, the two-point roll has been integrated within the latter part of the half loop:



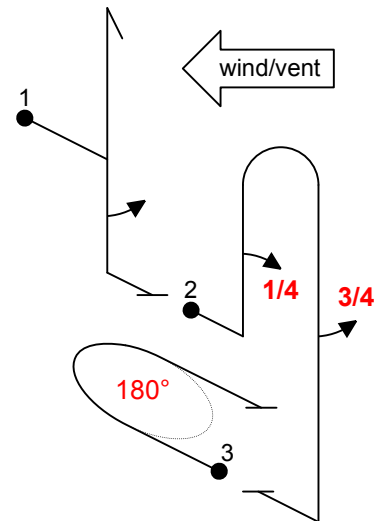
- when the nose attitude at the start of the roll is well above the horizon and a deduction of 1 point per 5 degree attitude error
- when the trajectory of the CG continues in an arcing flight path and should be downgraded 1 point for each 5 degrees of loop on which the roll was performed
- both b and c
- none of the above

23. With regard to the figure below, a glider competitor enters the figure in a 5 deg descending flight path, starts and stops the roll combination symmetrically about the apex, but performs the half snap and half slow roll on a straight line, and then exits the figure in a 5 deg climbing flight path. The appropriate downgrade is:



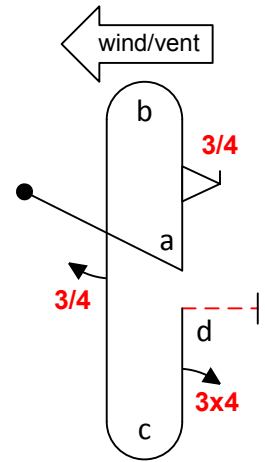
- Numeric Zero (0.0)
 - At least 2 points for the inserted line, depending on the length of the line drawn and 2 additional points for changing the horizontal reference for the exit line.
 - At least 1 point, depending on the length of the line drawn and 2 additional points for changing the horizontal reference for the exit line.
 - At least 2 points for the inserted line, depending on the length of the line drawn but no downgrade for changing the horizontal reference for the exit line.
24. In regard to these three figures on the Form B you are holding to judge a sequence:

- The hammerhead exit must be flown in the same direction relative to the entry
- The top of the humpty must be flown into the wind or the figure will receive a Hard Zero (HZ) mark
- The 180 turn must be flown such that the initial direction of turn is into the wind
- Answers a and b are both correct



25. In this Double Humpty Bump:

- Radii a, b, c, and d may all be different; the first half loop flown upwind or downwind and the second half loop flown in either direction on the Y axis, the direction of both half loops at the competitor's option
- Radii a, b, c, and d may all be different; the first half loop must be flown downwind, and the second half loop flown in either direction on the Y axis at the competitor's option
- Radius 'd' must equal 'a'; radii 'b' and 'c' may each be different; the first half loop must flown downwind, and the second half loop flown in either direction on the Y axis at the competitor's option
- Radius 'd' must equal 'a', and radius 'c' must equal 'b'. Both half loops may be flown in a direction at the competitor's option



26. Grading "presentation" intentionally contains a subjective component such that the presentation marks fairly assess the differences between good and bad flights as evidenced by poor individual figure placement as well as balance and harmony of the sequence as a whole.

- True
- False

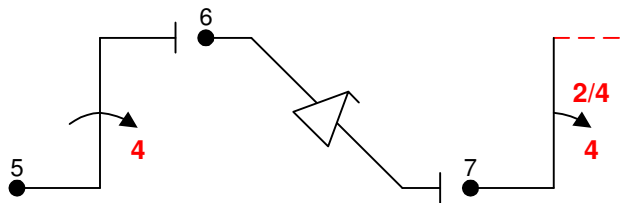
27. In the following sequence of figures, the Judge observes:

Figure 5: A five degree error in two of the points,

Figure 6: The 45 deg attitude is 5 deg shallow and the snap roll was over rotated by 10 degrees,

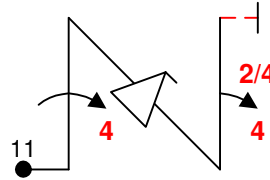
Figure 7: The first hesitation was 10 deg off and the line after was slightly short.

The appropriate scores for these figures are 8.0 for figure 5, 7.0 for figure 6, and 7.0 for figure 7.



- True
- False

28. In the following figure, the Judge observes the following:

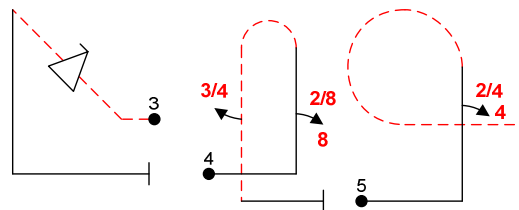


- 1) a five degree error in two of the points on the first vertical,
- 2) the attitude is 5 deg shallow on the 45 degree line and the snap roll was over rotated by 10 degrees,
- 3) the first hesitation in the last vertical was 10 deg off while and the line after was slightly short.

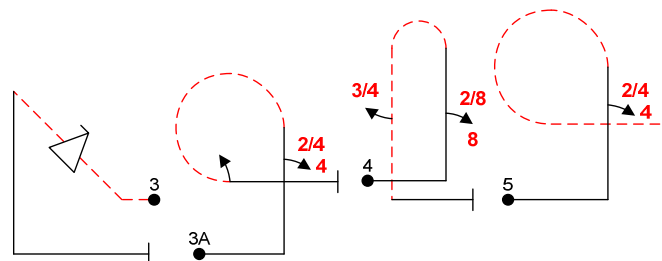
The appropriate grade for this figure is:

- a. 5.0
- b. 4.0
- c. 3.0
- d. 2.0

29. A competitor is required to fly:



but instead flies:



The Judges must:

- a. Mark figure 3 normally, Hard Zero (HZ) figure 4, Mark figure 5 normally
- b. Mark figure 3 normally, annotate and "interruption" in the remarks between figures 3 & 4 for figure 3A, Hard Zero (HZ) figure 4, mark figure 5 normally, and the Chief Judge will assess an Interruption penalty for the inserted figure 3A.
- c. Mark figure 3 normally, Hard Zero (HZ) figure 4, Zero (0.0) figure 5
- d. Mark figure 3 normally, annotate an "insertion" in the remarks section between figures 3 & 4 for figure 3A, Hard Zero (HZ) figure 4, mark figure 5 normally

