

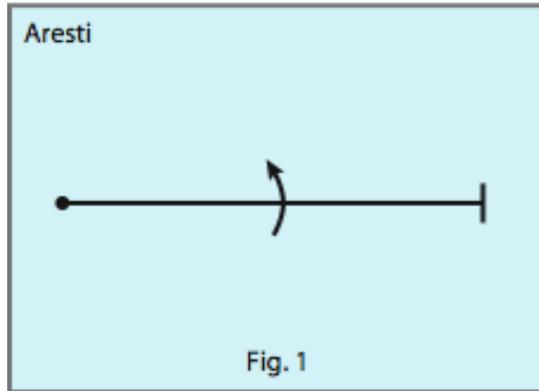


IMAC Judging Training

Basic Known 2015

- ❖ **Gary Hunt:-** All Graphics/Final Layout – IMAC North Central, Art Director
- ❖ **Jerry Hailey:-** Rules Check – Chairman IMAC Education Committee
- ❖ **Wayne Matthews:-** Final Layout/Rules Check – IMAC President 2011-2014

Figure 1: Full Roll

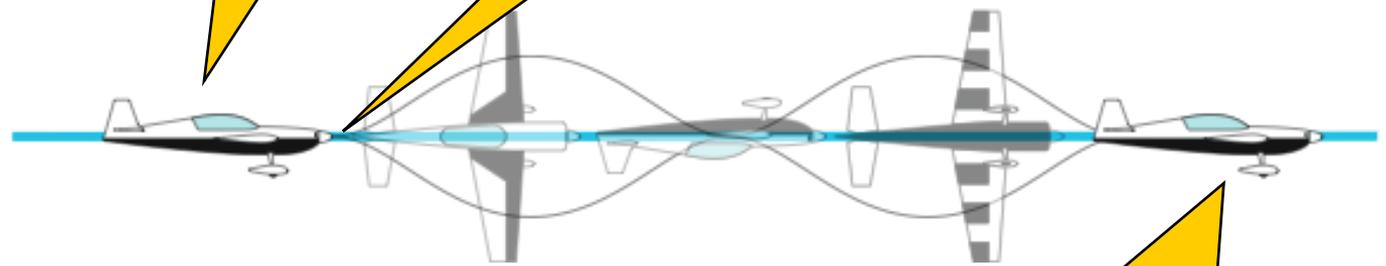


10.1.1.SCA-7

An attempt begins when the pilot or caller makes a vocal declaration such as "In the box", "Entering", or a similar statement indicating when the pilot is starting the sequence. A vocal signal is **mandatory** to initiate the attempt.

6.2 SCA-17

(Judging begins) The first figure of the sequence begins at the moment the aircraft departs from its wings-level horizontal flight path.



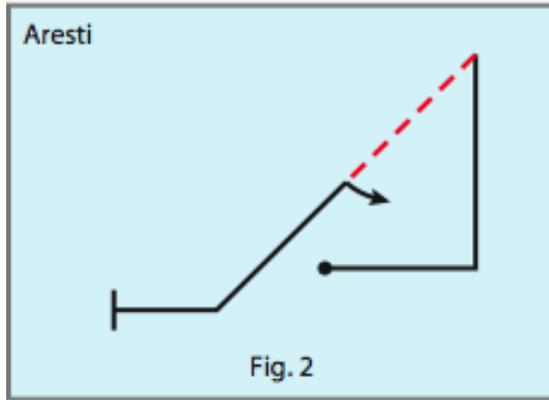
Judging Criteria:

- Sequence begins when the aircraft departs from wings level flight path
- Figure must be wind corrected
- Full Roll must be constant rate of pilot's choice in either direction
- 1 point deduction for each roll rate change
- Aircraft track must remain horizontal before and during roll
- 1/2 point deduction per 5 degree deviation from wings level, track, horizontal entry, & horizontal exit
- Must have line between figures (deduction is 1 point from each figure)

6.2 SCA-17

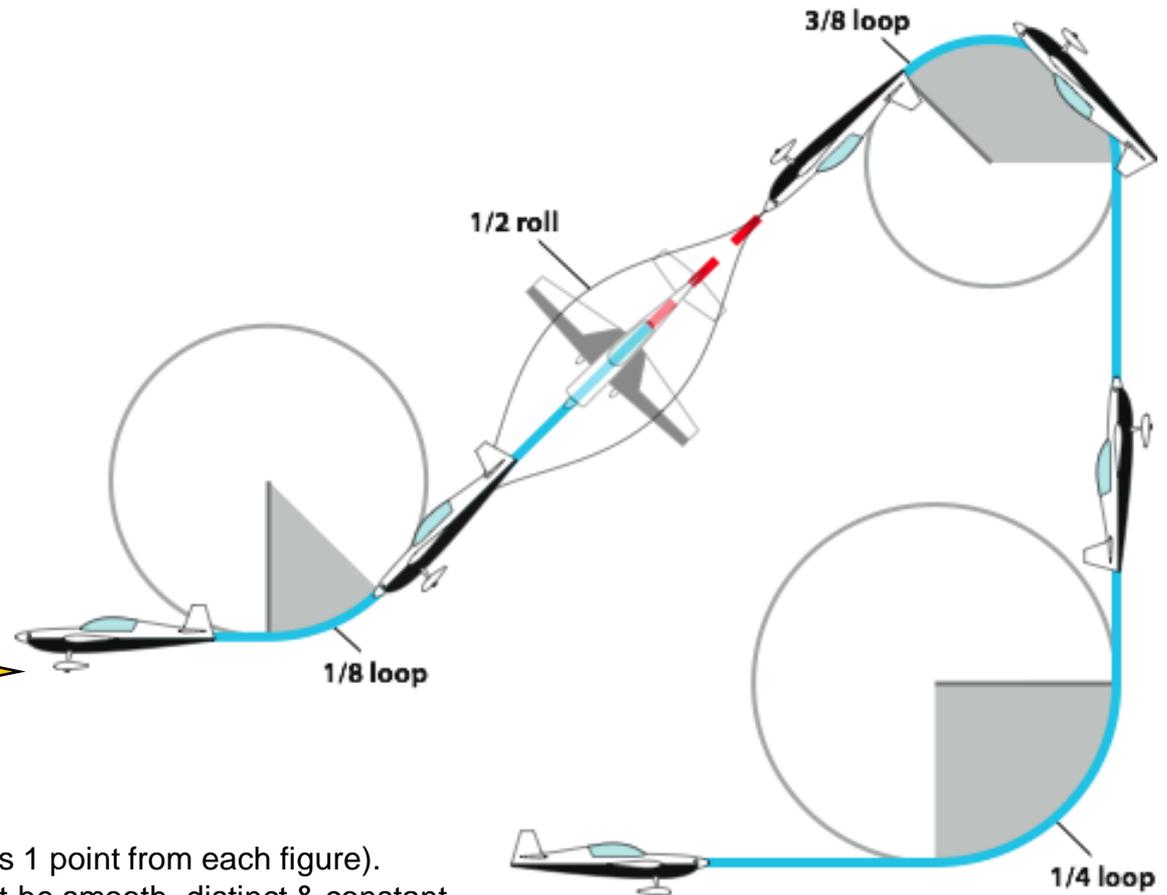
The figure is complete at the moment the aircraft returns to a wings-level, horizontal flight path of one fuselage plane length. (Judging for next figure begins)

Figure 2: Shark's Tooth



6.2 SCA-17

The figure is complete at the moment the aircraft returns to a wings-level, horizontal flight path of one fuselage plane length. (Judging for next figure begins)



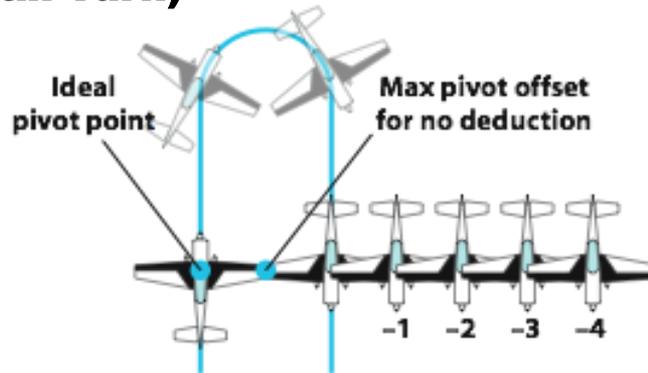
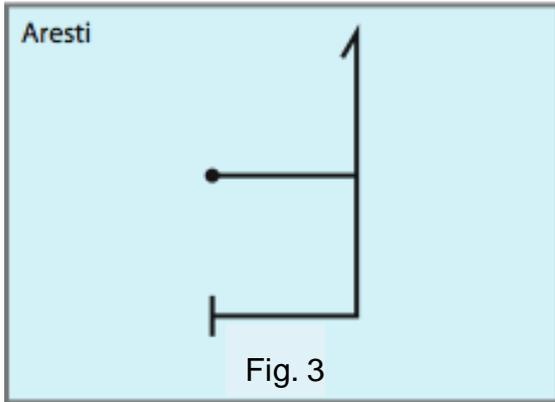
Judging Criteria:

- Must have line between figures (deduction is 1 point from each figure).
- Radii do not have to be equal but each must be smooth, distinct & constant.
- Figure must be wind corrected.
- Line length not specified.
- Entry and exit altitudes can be different.
- Half roll on 45 degree down line must be centered.
- Must have line before and after half roll.
- 1 point deduction for each roll rate change.
- 1/2 point deduction per 5 degree deviation from wings level, track, vertical up line, 45 degree down line, horizontal entry, & horizontal exit.

6.2 SCA-17

Once a horizontal flight path of one fuselage plane length is established at the end of a figure, the beginning of the next figure is deemed to have occurred.

Figure 3: Hammerhead (Stall Turn)



1 point deduction per additional half wingspan offset, zero if greater than 4 wingspan offset.

Judging Criteria:

- Must have line between figures (deduction is 1 point from each figure).
- Figure must be wind corrected (Except at the top of line in a stall).
- Altitude of start and finish horizontal lines may be different.
- Entry radius and exit radius may be different with no deductions.
- Up line and down line can be different lengths.
- Pivot in either direction.
- As the aircraft nears the point where it would stop climbing, it must pivot in a plane parallel to vertical.
- There must be no rotation around the pitch or roll axis.
- 1/2 point deduction per 5 degree deviation from wings level, track, vertical up line, vertical down line, horizontal entry, & horizontal exit.
- 1/2 point deduction per 5 degree of pendulum after the hammer.
- Any clearly visible downward slide before the pivot starts will zero the maneuver.

6.2 SCA-17

Once a horizontal flight path of one fuselage plane length is established at the end of a figure, the beginning of the next figure is deemed to have occurred.



6.2 SCA-17

The figure is complete at the moment the aircraft returns to a wings-level, horizontal flight path of one fuselage plane length. (Judging for next figure begins)

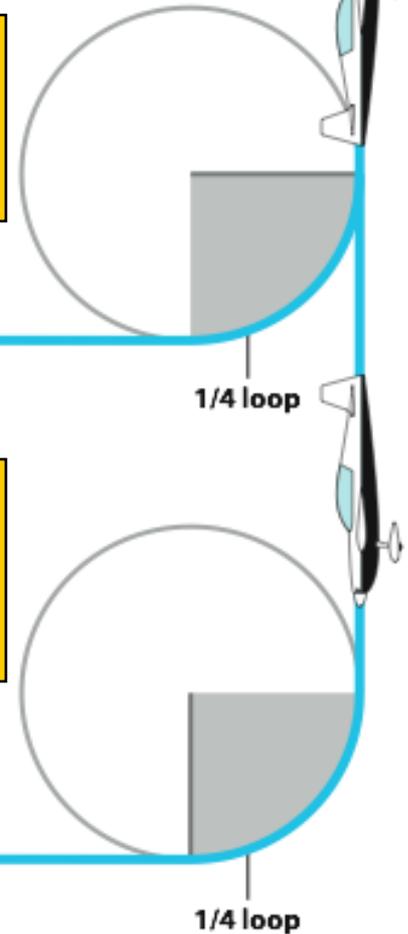
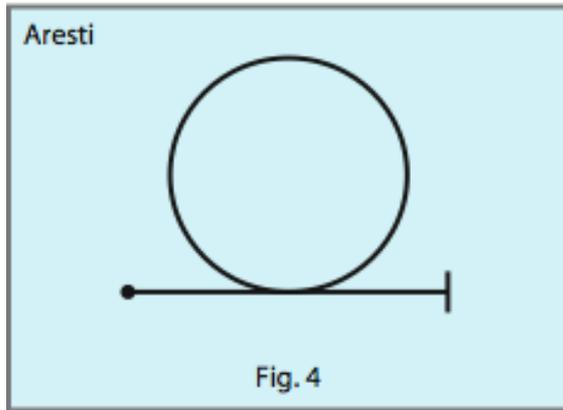
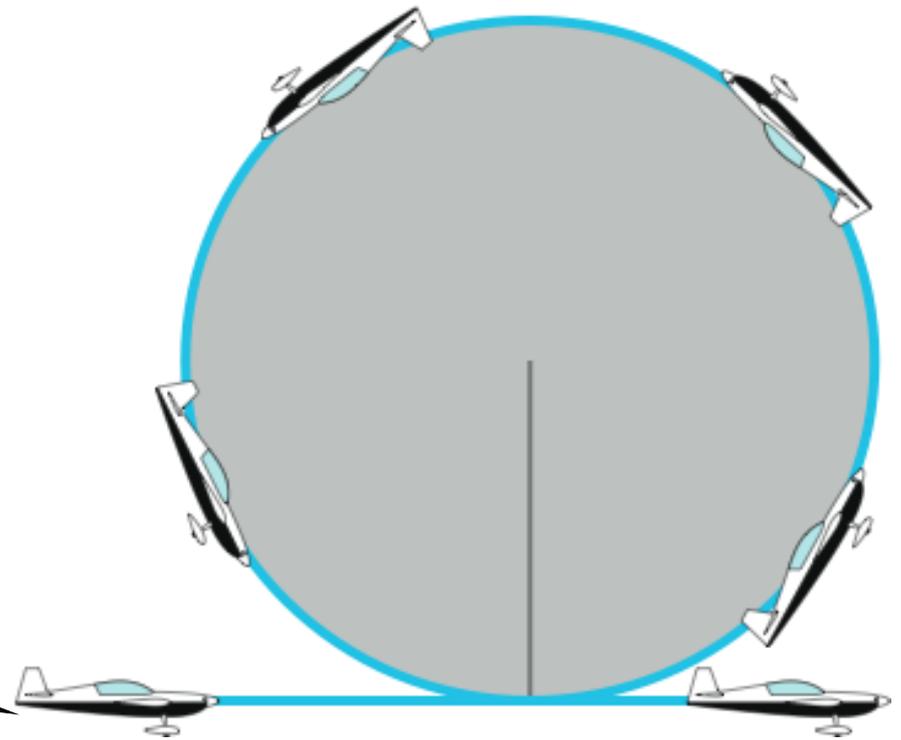


Figure 4: Loop



6.2 SCA-17

Once a horizontal flight path of one fuselage plane length is established at the end of a figure, the beginning of the next figure is deemed to have occurred.



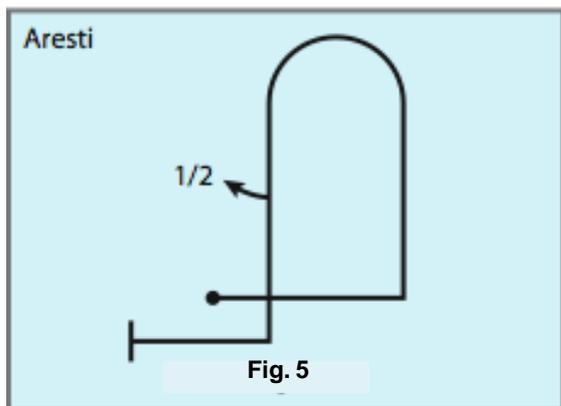
Judging Criteria:

- Must have line between figures (deduction is 1 point from each figure).
- Loop must have constant radius (it must look round as seen by judges).
- Begins and ends on horizontal line.
- Figure must be wind corrected.
- Any variation in radius is a 1 point deduction per occurrence. Any flat spot is a 1 point deduction per occurrence.
- 1/2 point deduction per 5 degree deviation from wings level, track, horizontal entry, & horizontal exit.

6.2 SCA-17

The figure is complete at the moment the aircraft returns to a wings-level, horizontal flight path of one fuselage plane length.
(Judging for next figure begins)

Figure 5: Humpty bump



Judging Criteria:

- Must have line between figures (deduction is 1 point from each figure).
- Figure must be wind corrected.
- Entry and exit radii may be different with no deduction.
- Length of vertical up line and vertical down line may be different, entry and exit altitude may be different.
- Top half loop must be “pull” (inside) and can be different from the entry exit radii.
- 1/2 aileron roll must be centered on vertical down line.
- 1/2 point deduction per 5 degree deviation from wings level, track, vertical up line, vertical down line, horizontal entry, & horizontal exit.

6.2 SCA-17

Once a horizontal flight path of one fuselage plane length is established at the end of a figure, the beginning of the next figure is deemed to have occurred.

6.2 SCA-17

The figure is complete at the moment the aircraft returns to a wings-level, horizontal flight path of one fuselage plane length. (Judging for next figure begins)

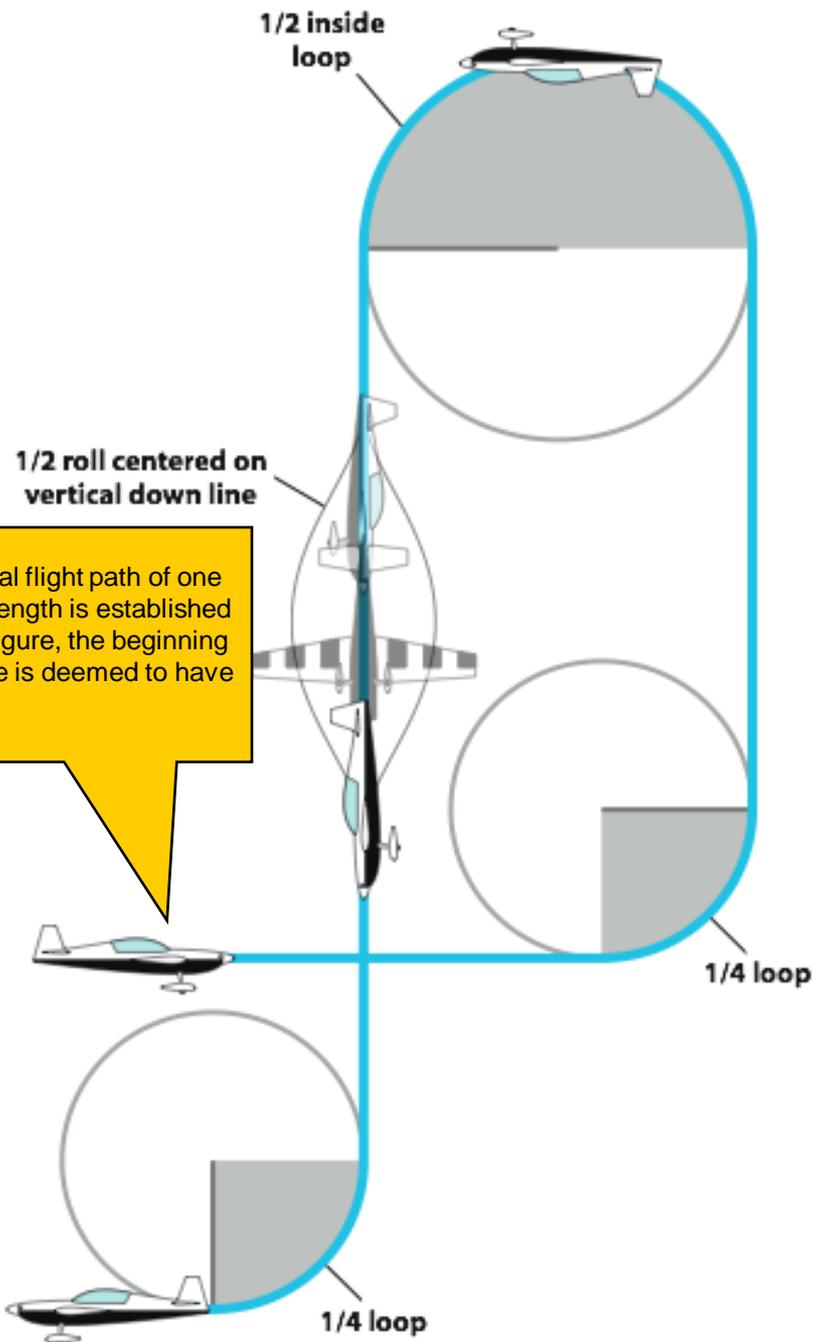
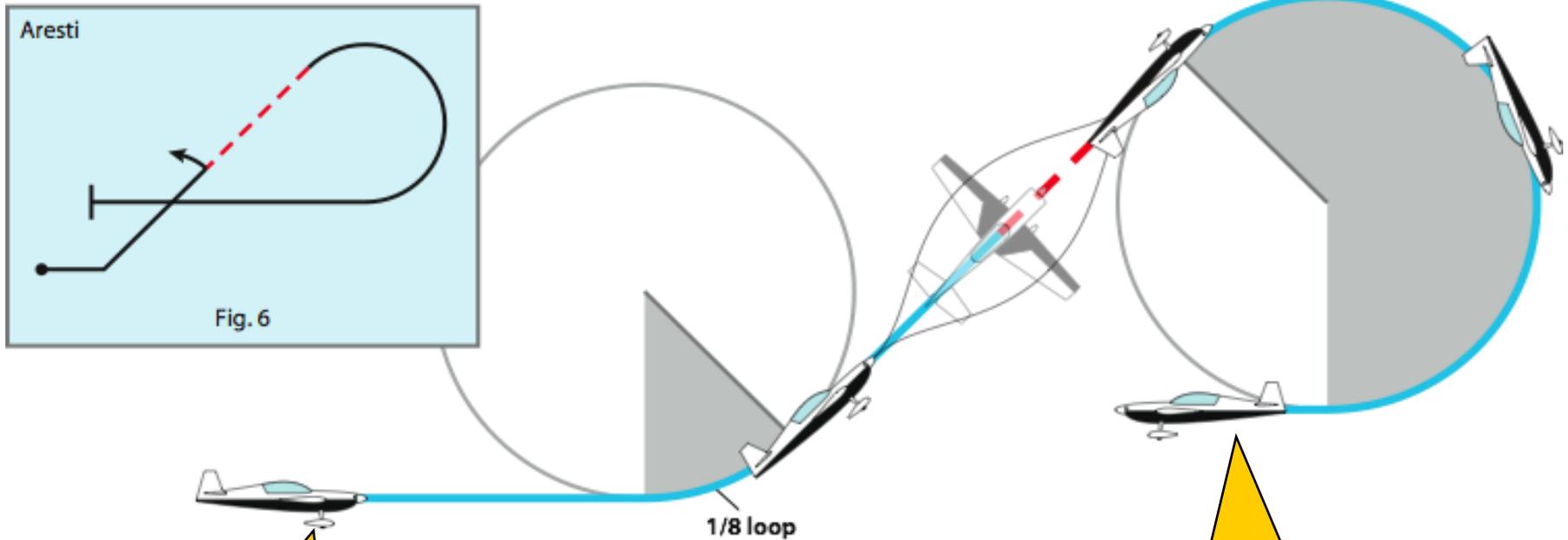


Figure 6: Reverse Half Cuban



6.2 SCA-17

Once a horizontal flight path of one fuselage plane length is established at the end of a figure, the beginning of the next figure is deemed to have occurred.

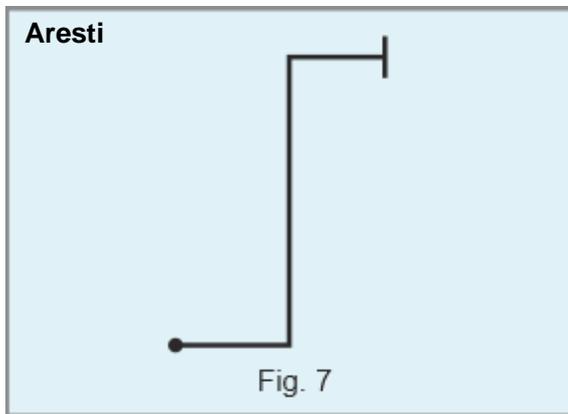
Judging Criteria:

- Must have line between figures (deduction is 1 point from each figure)
- Figure must be wind corrected
- Entry radius may be different from the 5/8 radius with no deduction.
- Length of 45 degree up line not specified
- Must have line before and after half roll.
- Half roll on 45 degree up line must be centered and can be in either direction. The rate of the roll must be constant. 1 point deduction for each roll rate change
- Entry and exit altitudes can be different
- ½ point deduction per 5 degree deviation from wings level, track, 45 degree line, horizontal entry, & horizontal exit

6.2 SCA-17

The figure is complete at the moment the aircraft returns to a wings-level, horizontal flight path of one fuselage plane length.
(Judging for next figure begins)

Figure 7: Vertical Upline



Judging Criteria:

- Must have line between figures (deduction is 1 point from each figure)
- Figure must be wind corrected
- Radii do not need to be equal
- Length of up line not specified but must be presented
- ½ point deduction per 5 degree deviation from wings level, track, vertical up line, horizontal entry, & horizontal exit

6.2 SCA-17

Once a horizontal flight path of one fuselage plane length is established at the end of a figure, the beginning of the next figure is deemed to have occurred.

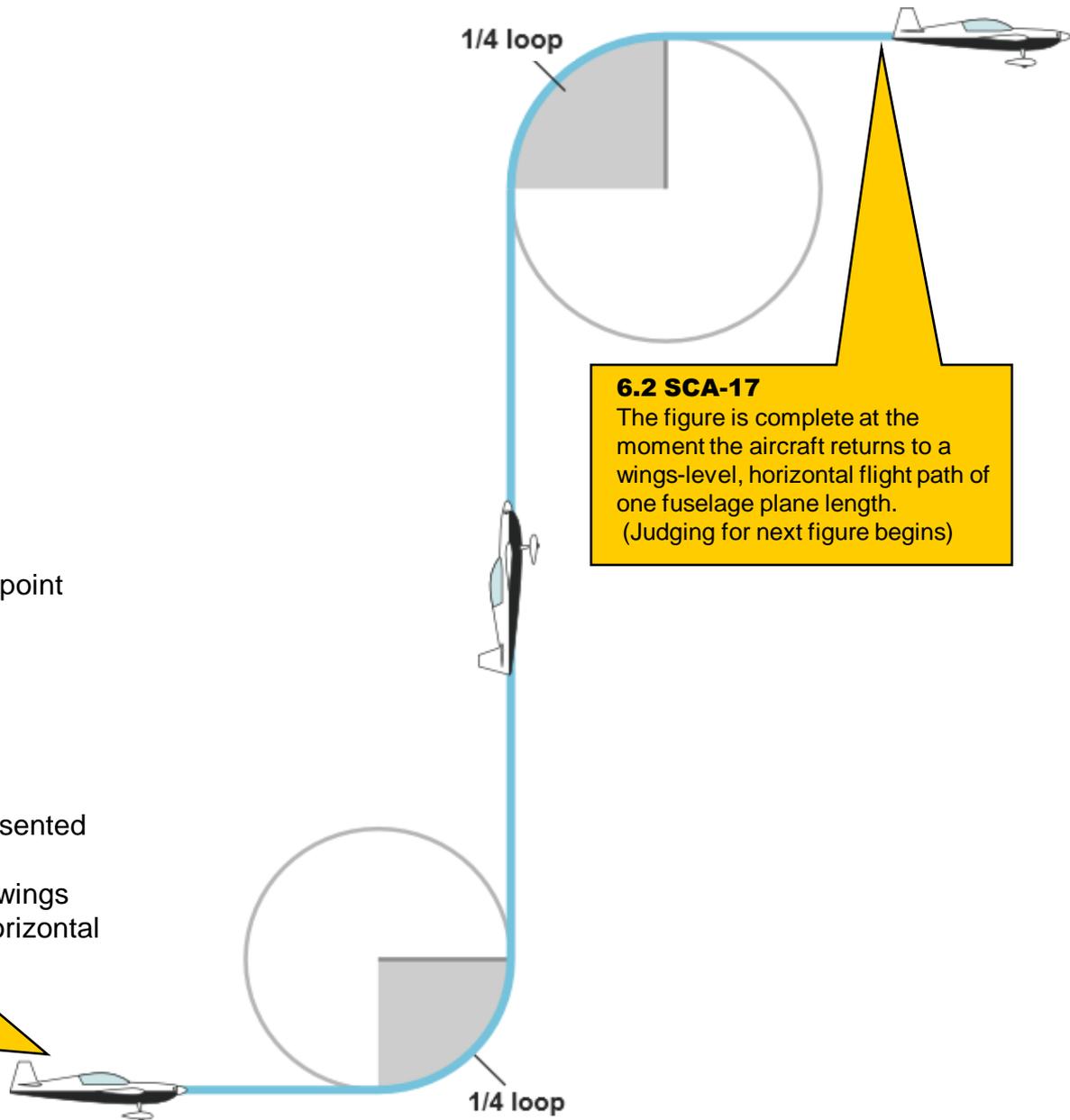
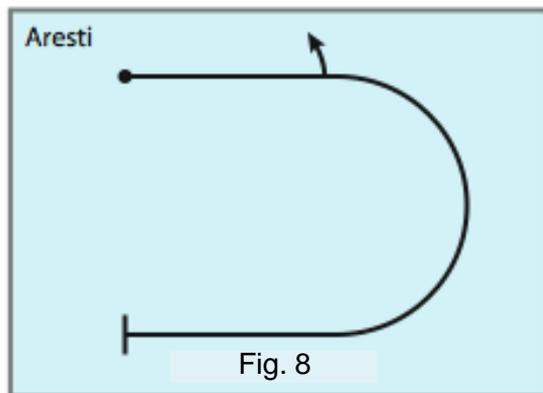
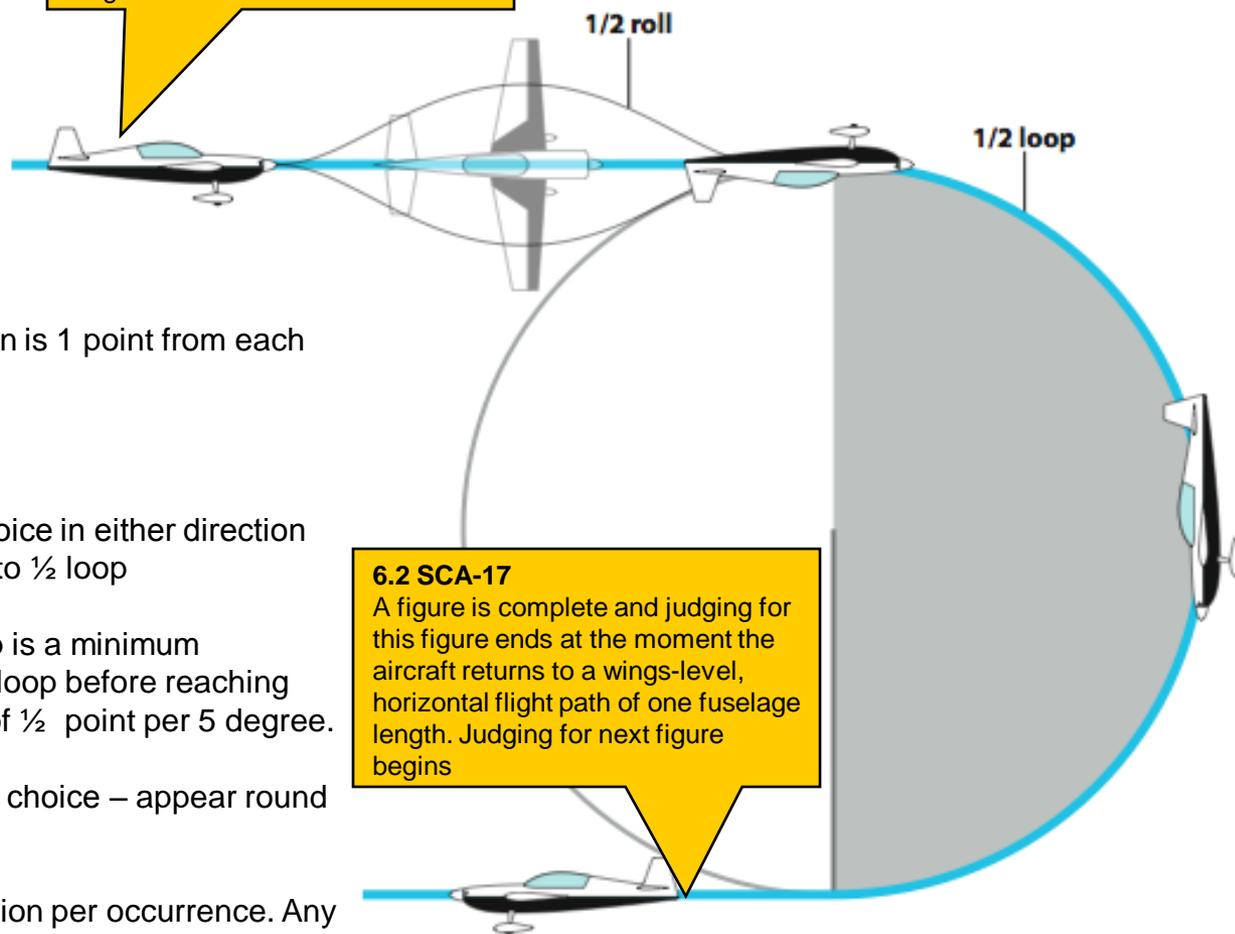


Figure 8: Split S with Half-Roll Entry



6.2 SCA-17

Last figure is complete and judging for this figure begins at the moment the aircraft returns to a wings-level, horizontal flight path of one fuselage length



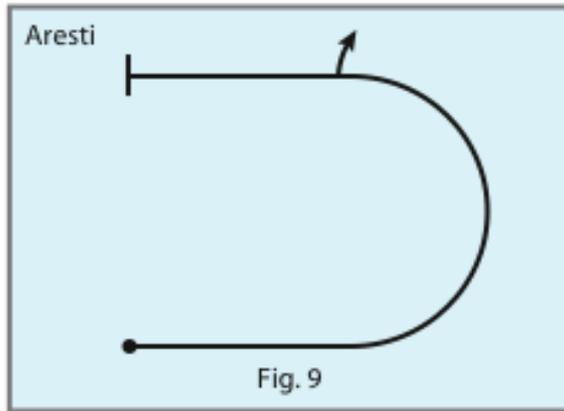
6.2 SCA-17

A figure is complete and judging for this figure ends at the moment the aircraft returns to a wings-level, horizontal flight path of one fuselage length. Judging for next figure begins

Judging Criteria:

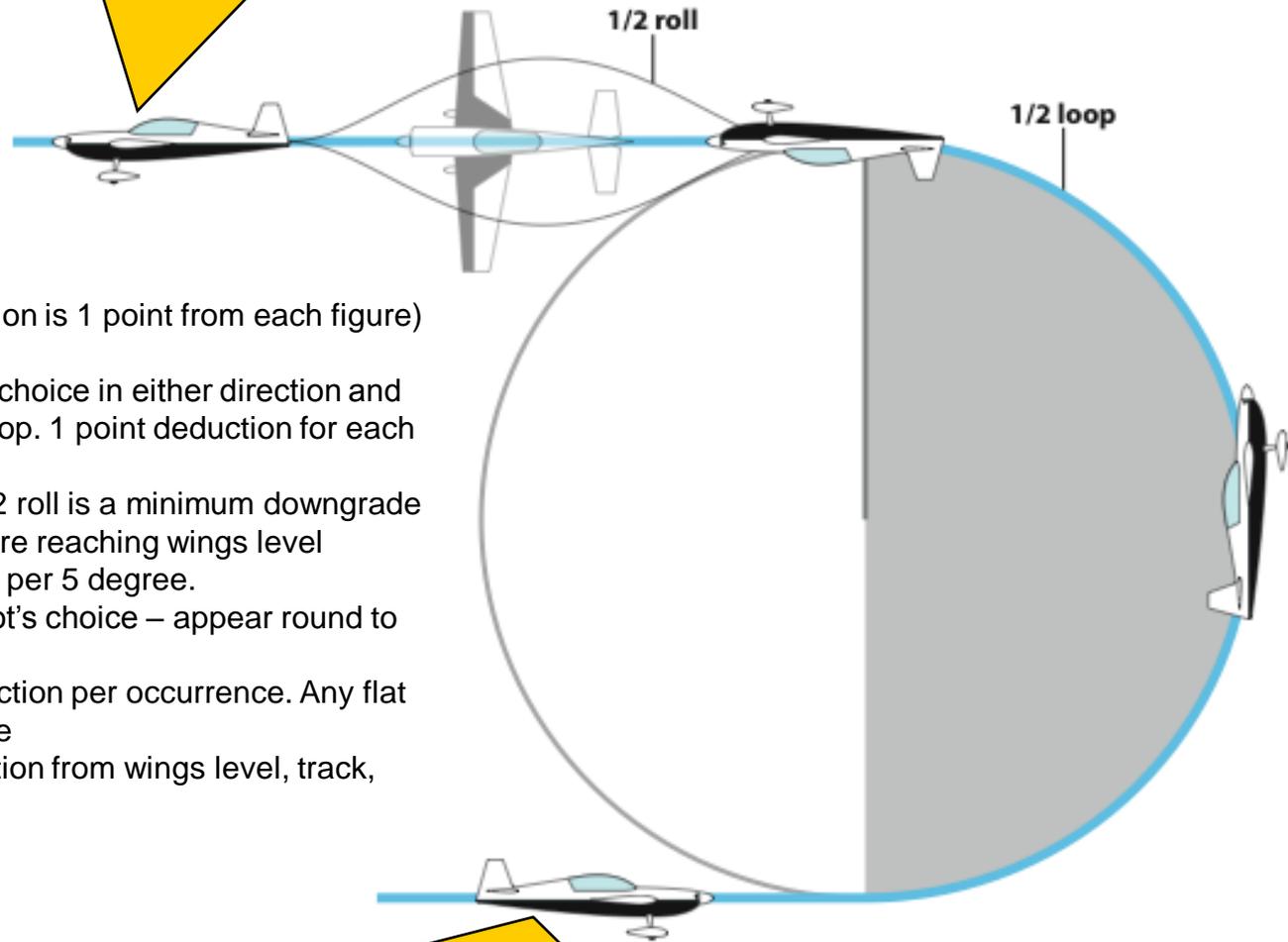
- Must have line between figures (deduction is 1 point from each figure)
- Figure must be wind corrected
- $\frac{1}{2}$ Roll must be constant rate of pilot's choice in either direction and completed immediately before pulling to $\frac{1}{2}$ loop
- Drawing a line between $\frac{1}{2}$ roll and $\frac{1}{2}$ loop is a minimum downgrade of 2 points. Aircraft starting $\frac{1}{2}$ loop before reaching wings level horizontal flight is downgrade of $\frac{1}{2}$ point per 5 degree.
- $\frac{1}{2}$ Loop must be constant radius of pilot's choice – appear round to judges
- Any variation in radius is a 1 point deduction per occurrence. Any flat spot is a 1 point deduction per occurrence
- $\frac{1}{2}$ point deduction per 5 degree deviation from wings level, track, horizontal entry, & horizontal exit

Figure 9: Immelmann (Half inside loop with half roll exit)



6.2 SCA-17

The figure is complete at the moment the aircraft returns to a wings-level, horizontal flight path of one fuselage plane length.
(Judging for next figure begins)



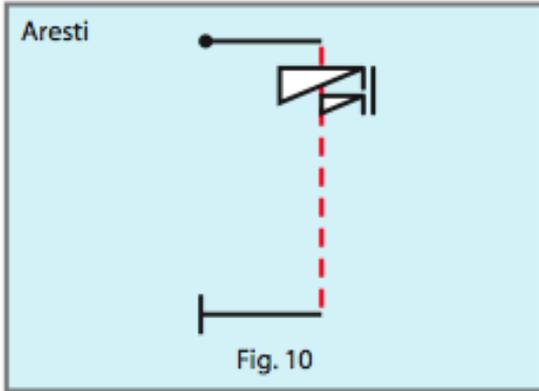
Judging Criteria:

- Must have line between figures (deduction is 1 point from each figure)
- Figure must be wind corrected
- 1/2 Roll must be constant rate of pilot's choice in either direction and completed immediately after 1/2 inside loop. 1 point deduction for each roll rate change
- Drawing a line between 1/2 loop and 1/2 roll is a minimum downgrade of 2 points. Aircraft starting 1/2 loop before reaching wings level horizontal flight is downgrade of 1/2 point per 5 degree.
- 1/2 Loop must be constant radius of pilot's choice – appear round to judges
- Any variation in radius is a 1 point deduction per occurrence. Any flat spot is a 1 point deduction per occurrence
- 1/2 point deduction per 5 degree deviation from wings level, track, horizontal entry, & horizontal exit

6.2 SCA-17

Once a horizontal flight path of one fuselage plane length is established at the end of a figure, the beginning of the next figure is deemed to have occurred.

Figure 10: Vertical downline with 1-1/2 turn spin entry



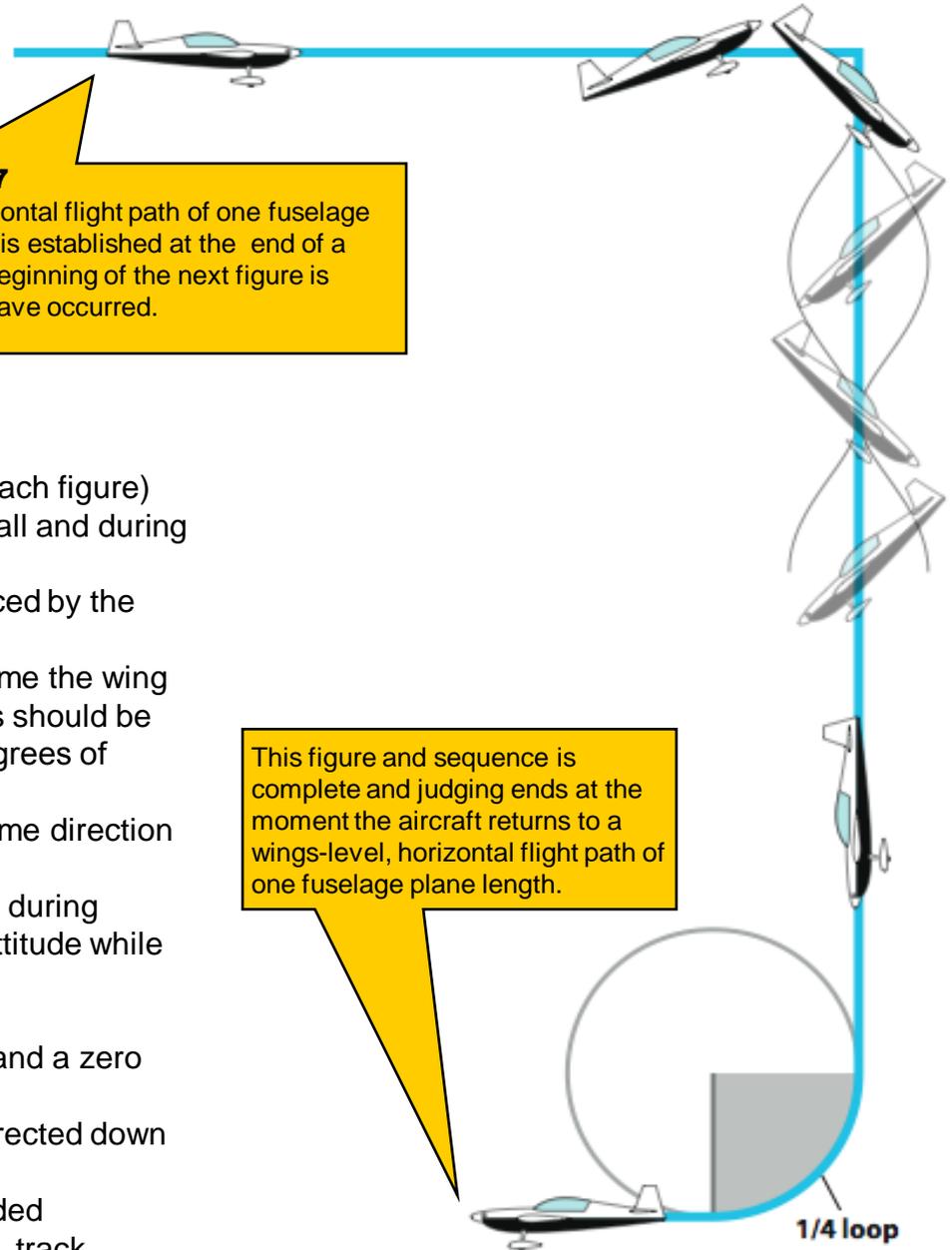
6.2 SCA-17

Once a horizontal flight path of one fuselage plane length is established at the end of a figure, the beginning of the next figure is deemed to have occurred.

Judging Criteria:

- Must have line between figures (deduction is 1 point from each figure)
- Figure must be wind corrected (EXCEPT just prior to the stall and during autorotation)
- Entry flight path should remain constant and not be influenced by the change of pitch attitude required to achieve the stall
- When the aircraft stalls, the nose will fall and at the same time the wing tip will drop in the direction of the spin. Failure to achieve this should be considered a “late entry” and downgraded 1/2 point per 5 degrees of deviation.
- Spin can be in either direction but 1 1/2 turns must be in same direction with no hesitation
- No account is to be taken of the pitch attitude of the aircraft during autorotation, as some aircraft spin in a nearly vertical pitch attitude while others spin somewhat flat in conventional spins.
- Speed of rotation is also not a judging criterion.
- If the aircraft never stalls, it is apparent that it cannot spin, and a zero (0) must be given.
- Immediately after 1 1/2 turns are completed a 90° wind corrected down vertical line must be seen
- Radius can be any size but sharp corner must be downgraded
- 1/2 point deduction per 5 degree deviation from wings level, track, vertical down line, horizontal entry, & horizontal exit

This figure and sequence is complete and judging ends at the moment the aircraft returns to a wings-level, horizontal flight path of one fuselage plane length.



Sound Score Judging Criteria (SCA-5 GR 5.1 Scale Aerobatic Sound Limits)

Judges will evaluate each individual sequence flown in its entirety for overall sound presentation. Each judged Known and Unknown sequence, shall have one “figure” added to the end of the score sheet after individually judged maneuvers. This figure shall be known as the Sound Score. The Sound Score will have a K value dependent on the class flown. *The K value of the sound score added for the Basic class is 3K.*

The sound presentation will be scored on a scale of 10 to 0 with 10 denoting “Very Quiet,” and 0 denoting “Very noisy.” Whole points will be used for scoring. This sound score will then be multiplied by the K value for the individual class and included in the total flight score for the sequence. Note that each judge’s score is independent of the other(s) and no conferencing on the sound score is required.

If a pilot receives a sound score of three (3) or less for the same sequence from two or more judges, the pilot will be notified of the problem and will be requested by the Contest Director to adjust or modify the aircraft in order to reduce the sound level prior to the next round. If that pilot, after notification, again receives a sound score of three (3) or less for the same sequence from two or more judges, that pilot will be disqualified from further competition at that contest.

Pilot/Panel Judging Criteria (Basic Class):

(SCA-5 GR 3.2) There is no requirement for the Basic class pilot to have an airplane that has flown in full scale aerobatics competition. As such, there is also no requirement to have either a pilot or instrument panel.

Airspace Control Score Judging Criteria: (SCA-14 SA Official F&J Guide 4.3)

The following standard will be used for assessing the pilot's performance in maintaining control and awareness of the aerobatic airspace and placing figures in the airspace in a manner that allow the figures to be optimally judged.

- **The HIGHEST standard for Airspace control:**

The pilot that exhibits a significant ability to control the location of the aircraft inside the Airspace, relative to the Judges, resulting in a tight footprint and locates the aircraft that it can be optimally judged at all times should receive a TEN (10).

- **The LOWEST standard for Airspace control:**

The pilot that exhibits a poor ability to control the location of the aircraft inside the Airspace, relative to the Judges, resulting in an excessively large footprint and has the aircraft consistently so far away as to be difficult to properly judge. This pilot exhibits a very poor Airspace control and should receive a zero (0).

Pilots exhibiting Airspace control within the range of these two standards will be graded with a range of possible scores from ten (10) to zero (0) in whole point increments..

K factor for the Airspace Control Scores for Basic class is 3K.