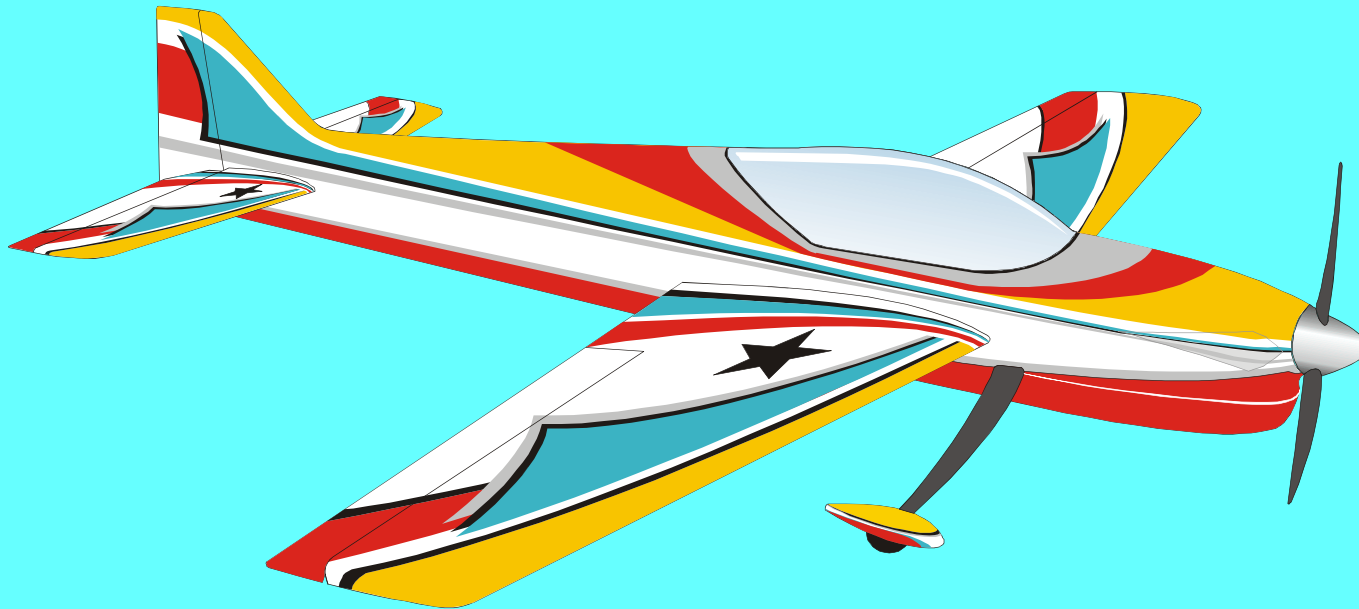


# Flying and Judging F3A

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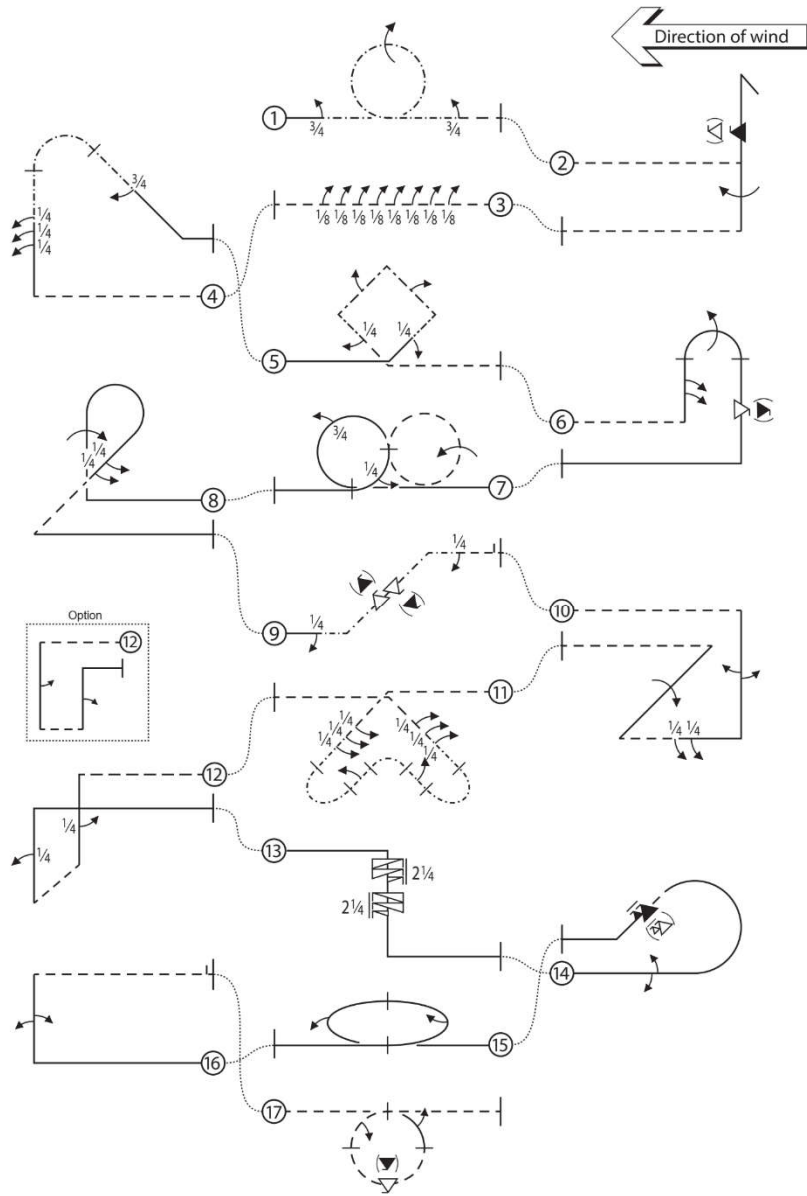


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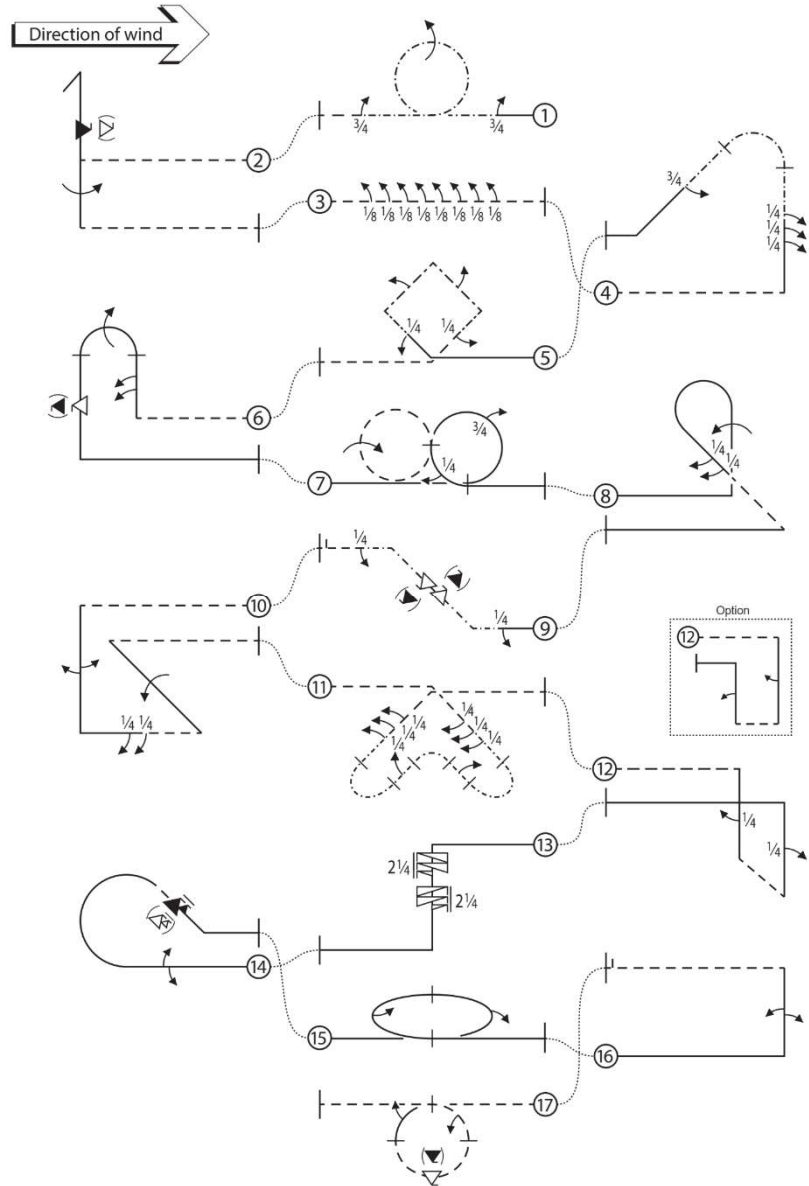
**SCHEMATIC MANOEUVRE ILLUSTRATIONS**

**SCHEDULE F-23**

FINAL SCHEDULE F-23 (2021-2023)

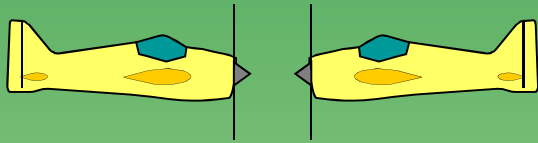


FINAL SCHEDULE F-23 (2021-2023)

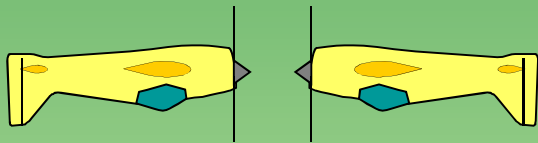




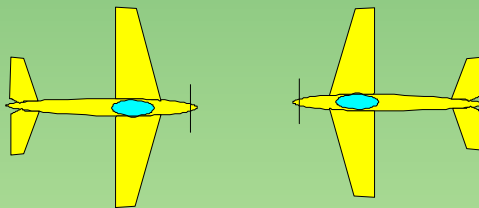
# Explanations:



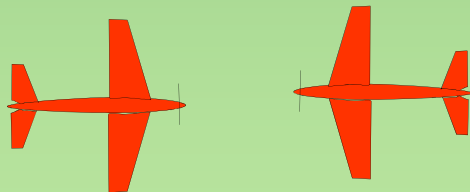
**Aircraft upright**



**Aircraft inverted**



**Aircraft in Knife-Edge  
View from Top**



**Aircraft in Knife-Edge  
View from Below**

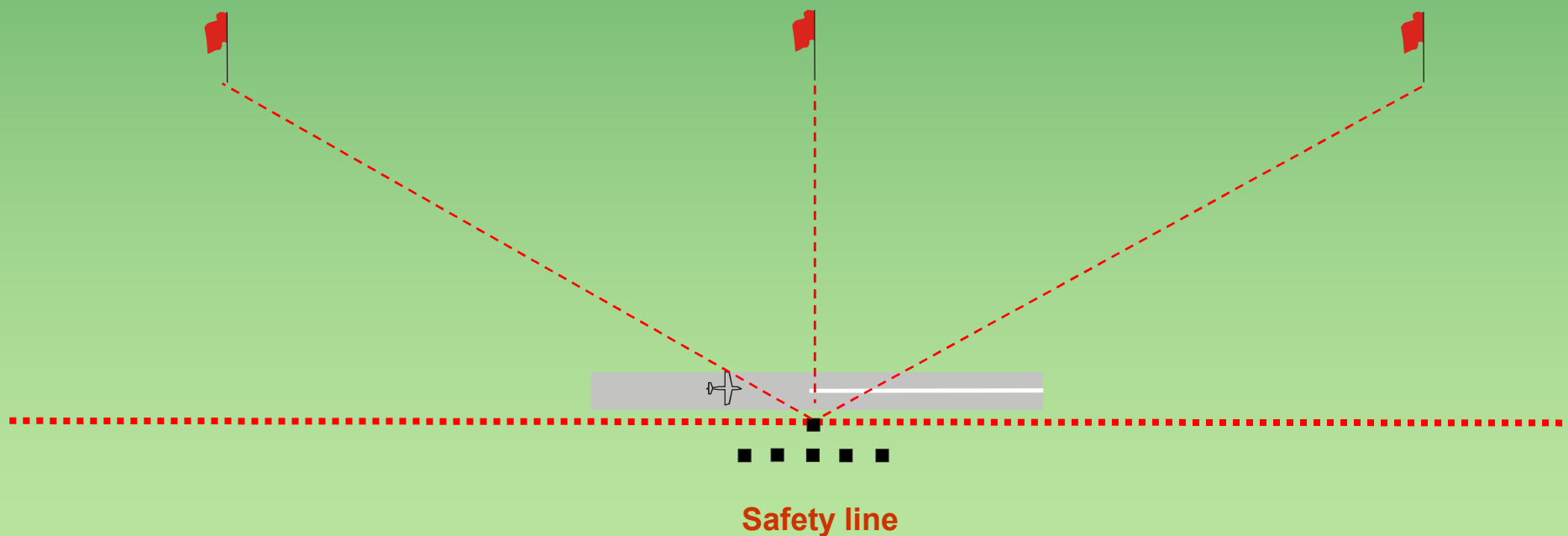


**Reference points**



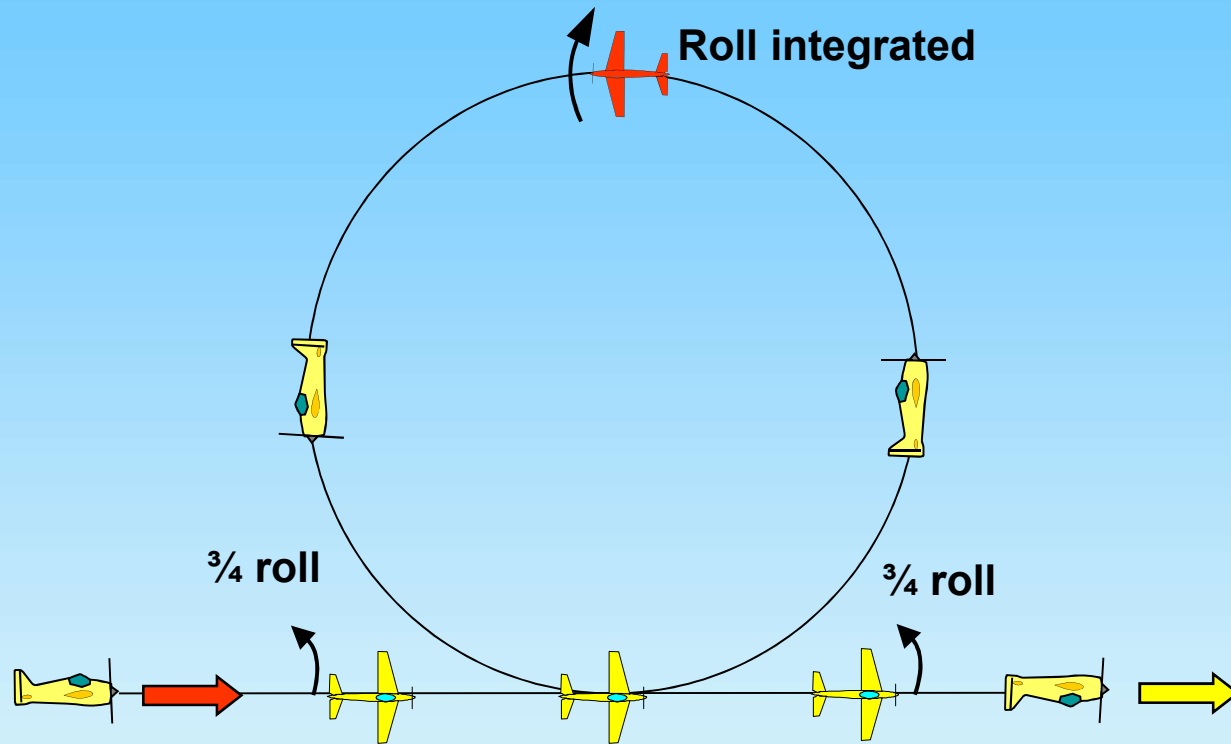
# Take-off procedure ( not judged, not scored )

← wind





## F-23.01 Knife Edge Rolling Loop



From upright, perform a three quarter roll to knife edge, perform a knife edge loop while performing a roll integrated, perform a three quarter roll, exit inverted.



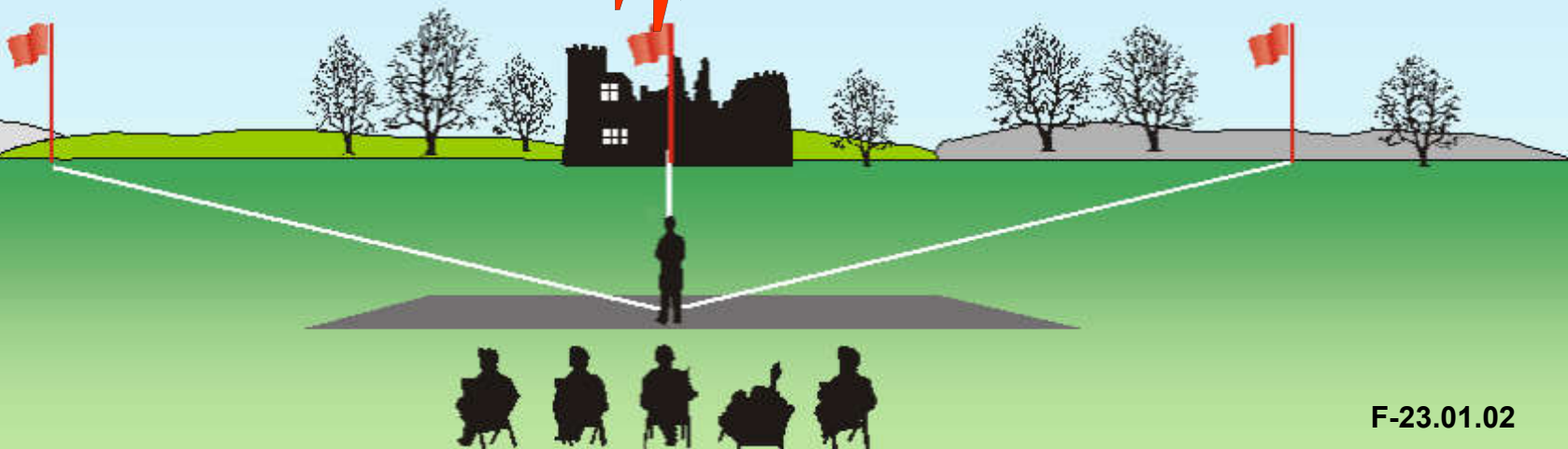
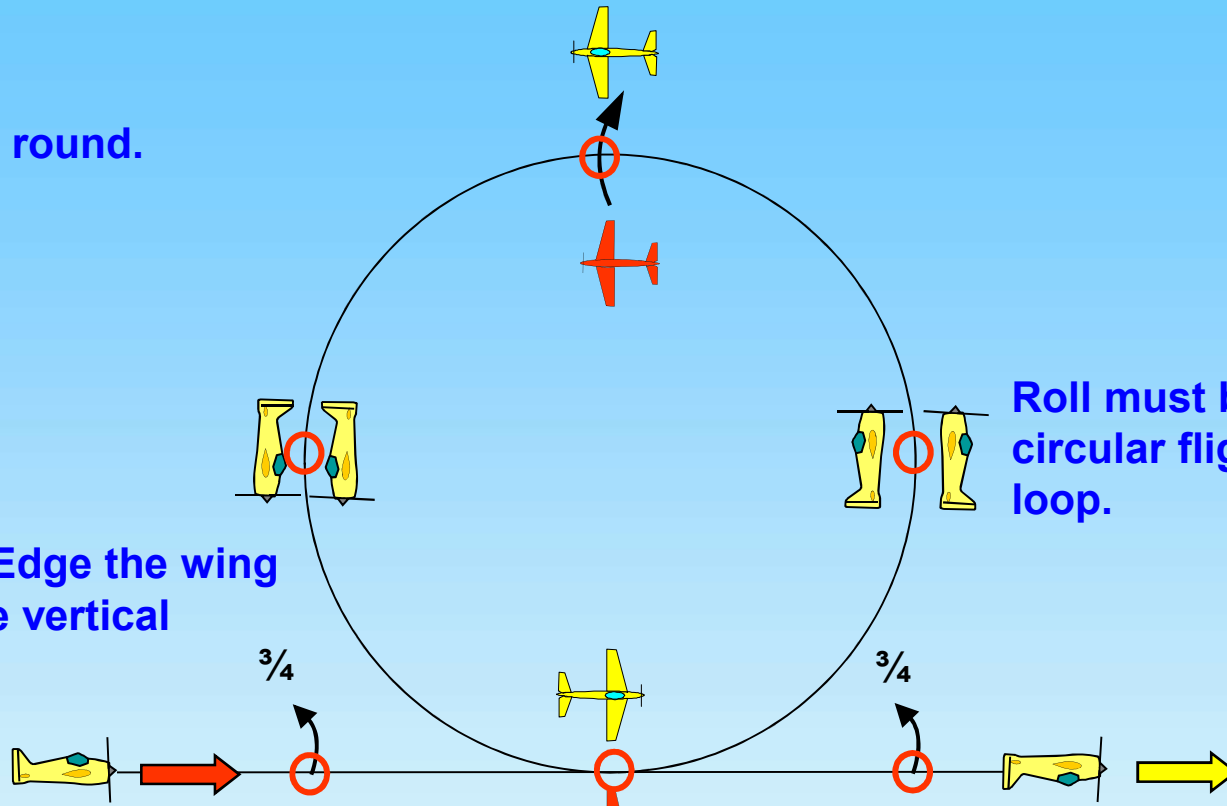


# F-23.01 Knife Edge Rolling Loop

Loop must be round.

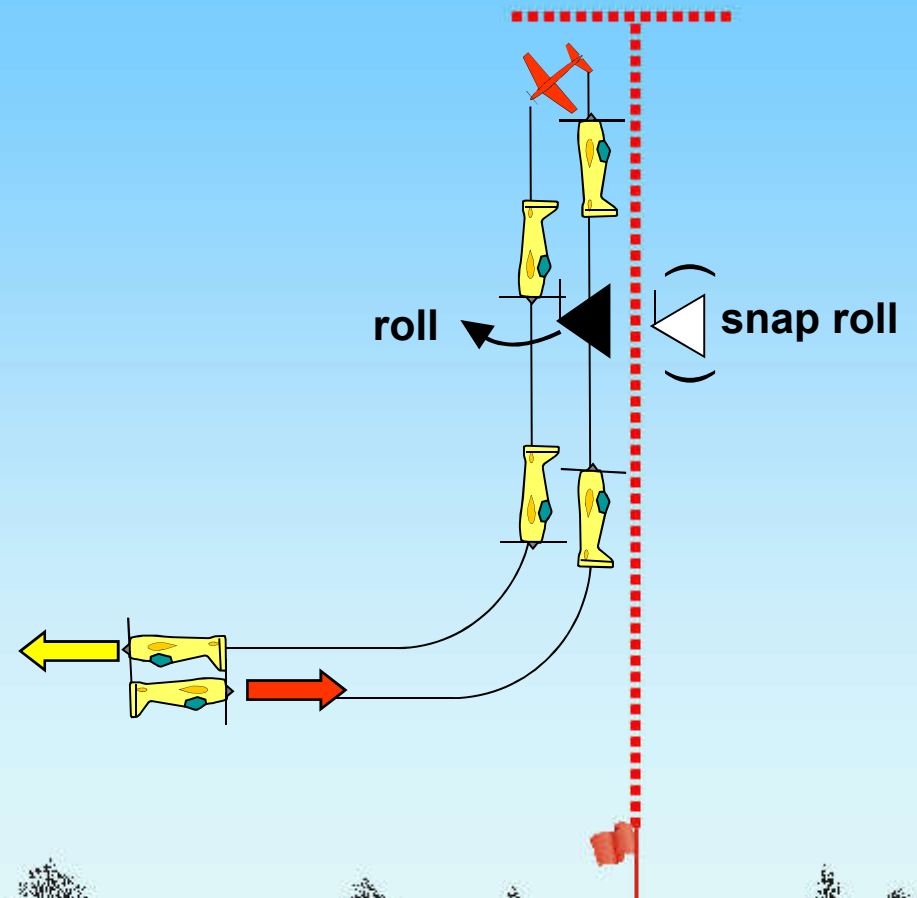
During Knife Edge the wing must be in the vertical plane.

Roll must be integrated on circular flight path of the loop.





## F-23.02 Stall Turn with snap roll, roll



From inverted, push through a quarter loop into vertical upline, perform a snap roll, perform a stall turn into a vertical downline, perform a roll, push through a quarter loop, exit inverted.

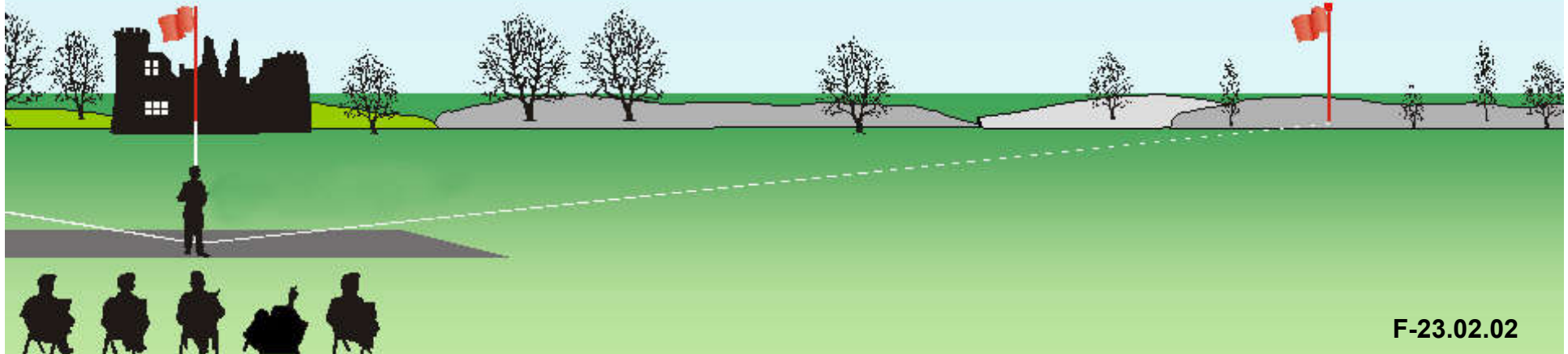
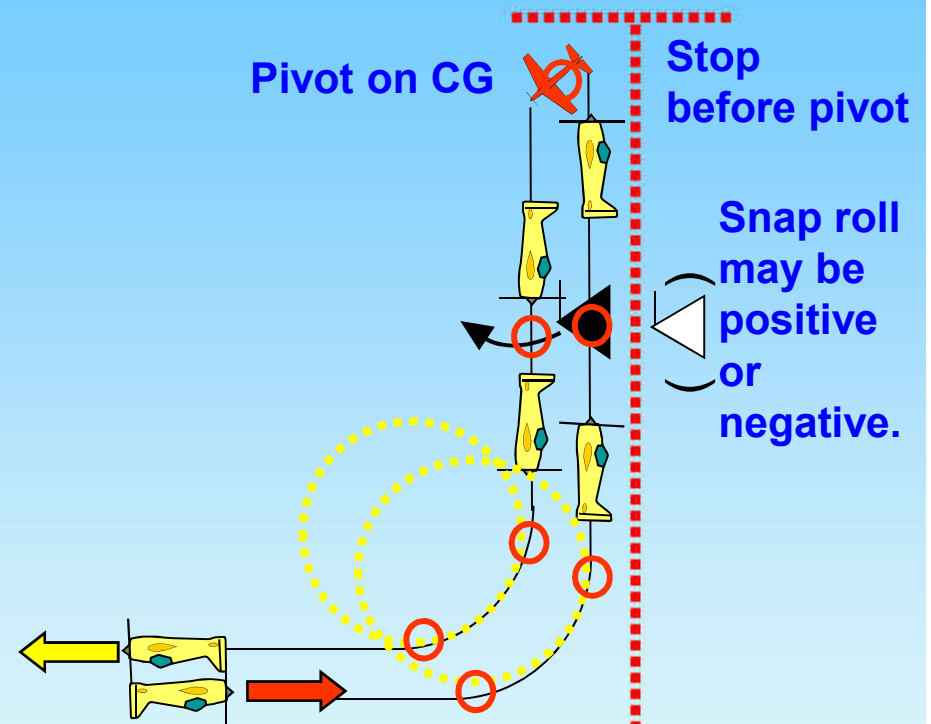


## F-23.02 Stall Turn with snap roll, roll

Snap roll and roll on middle of the line.

Two wing spans or more  
– zero points!

All radii are equal.

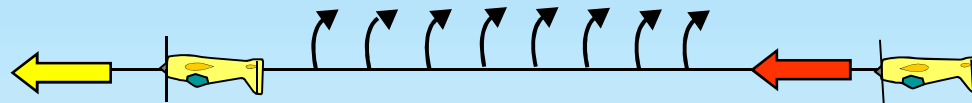






## F-23.03 Eight consecutive one eighth rolls

Eight consecutive 1/8 rolls



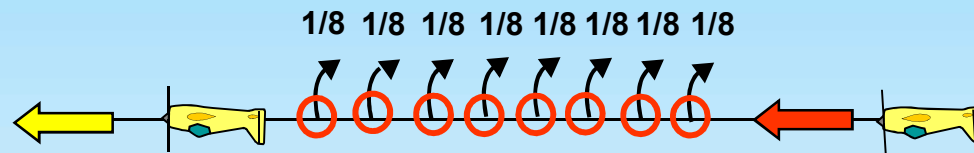
From inverted, perform consecutively eight, one eighth rolls, exit inverted.





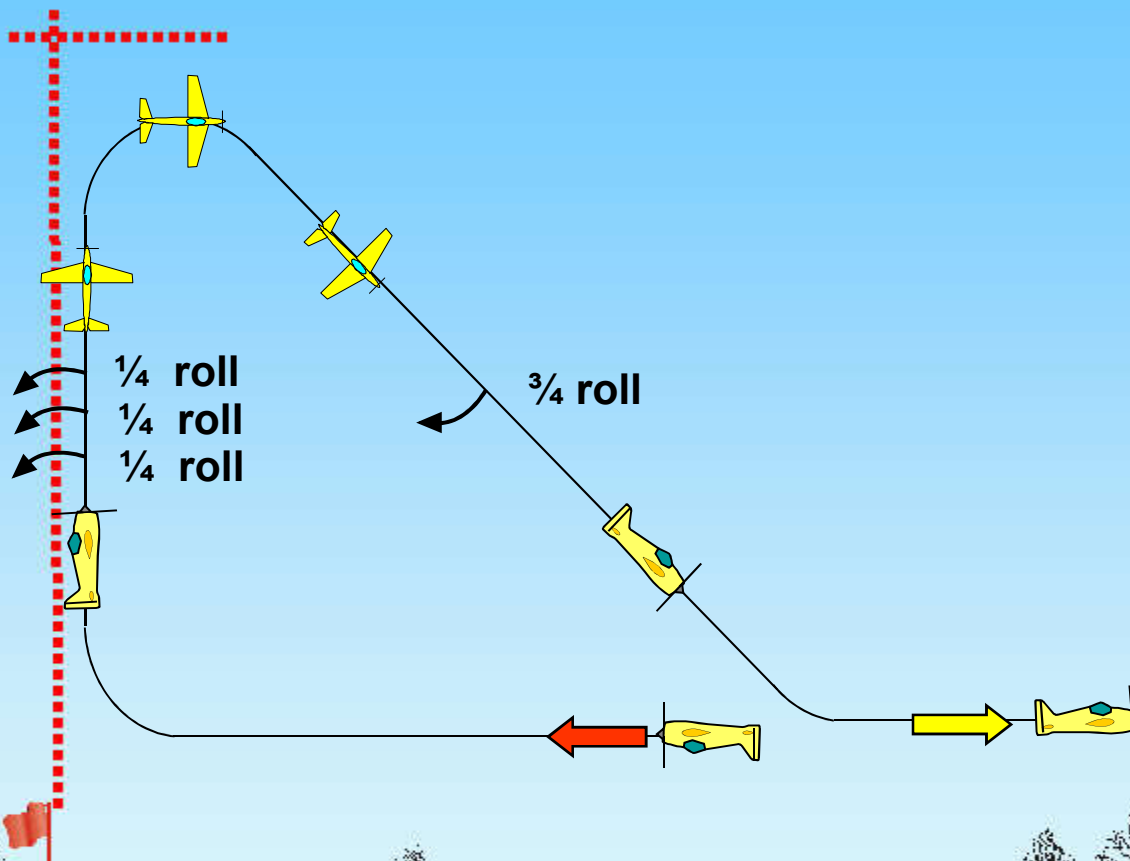
## F-23.03 Eight consecutive one eighth rolls

Lines between part rolls must be short and of equal length.





## F-23.04 Shark Tooth with three consecutive quarter rolls, three quarter roll

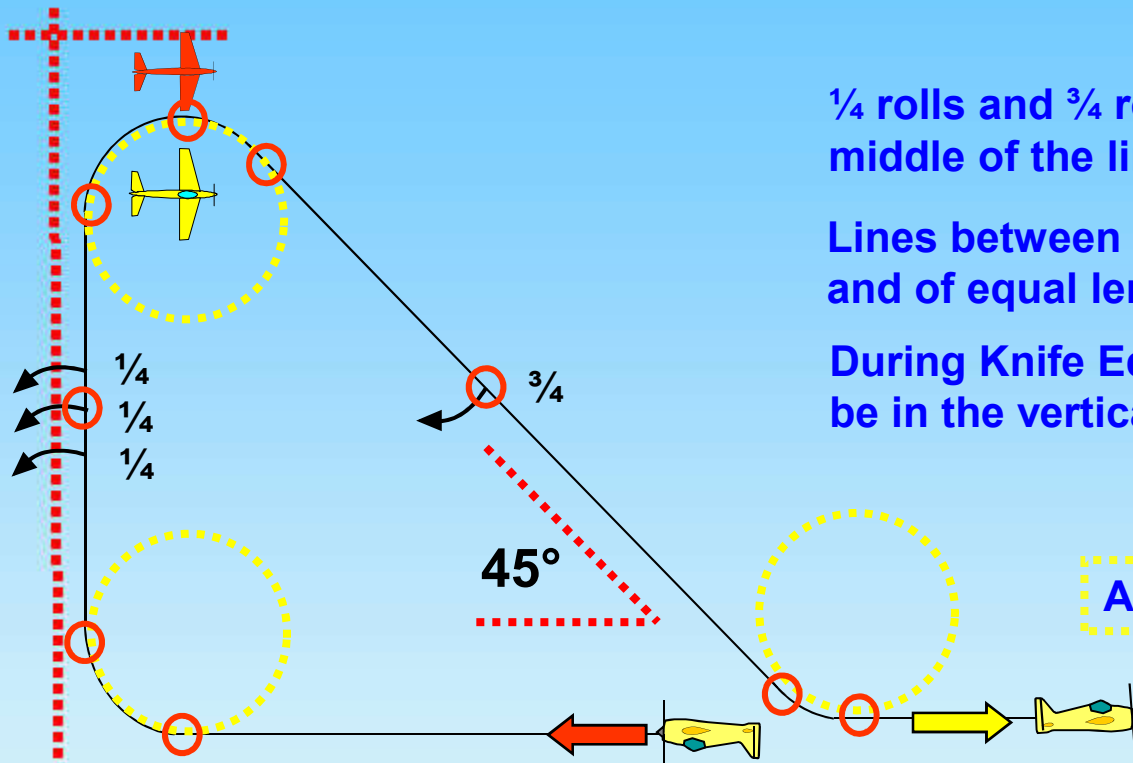


From inverted, push through a quarter loop into a vertical upline, perform consecutively three quarter rolls, perform a three eighth knife edge loop into a forty five degree downline, perform a three quarter roll, pull through a one eighth loop, exit upright.





# F-23.04 Shark Tooth with three consecutive quarter rolls, three quarter roll



$\frac{1}{4}$  rolls and  $\frac{3}{4}$  roll centered on middle of the line.

Lines between part rolls must be short and of equal length.

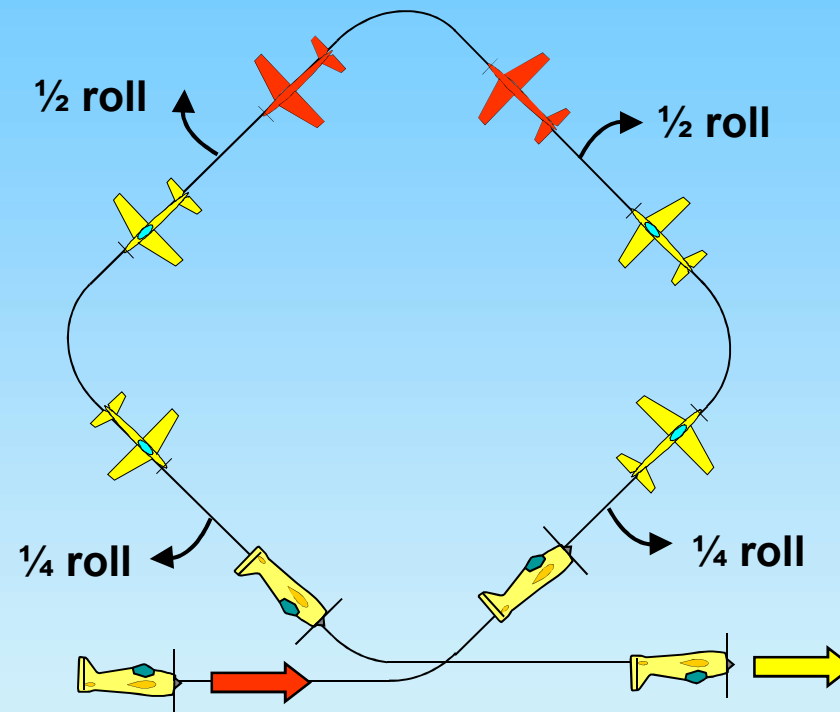
During Knife Edge the wing must be in the vertical plane.

All radii are equal.





## F-23.05 Square Loop on corner with quarter roll, half roll, half roll, quarter roll



From upright, pull through a one eighth loop into a forty five degree upline, perform a quarter roll to knife edge, perform a quarter knife edge loop into forty five degree upline, perform a half roll, perform a quarter knife edge loop into a forty five degree downline, perform a half roll, perform a quarter knife edge loop into a forty five degree downline, perform a quarter roll, push through a one eighth loop, exit inverted.

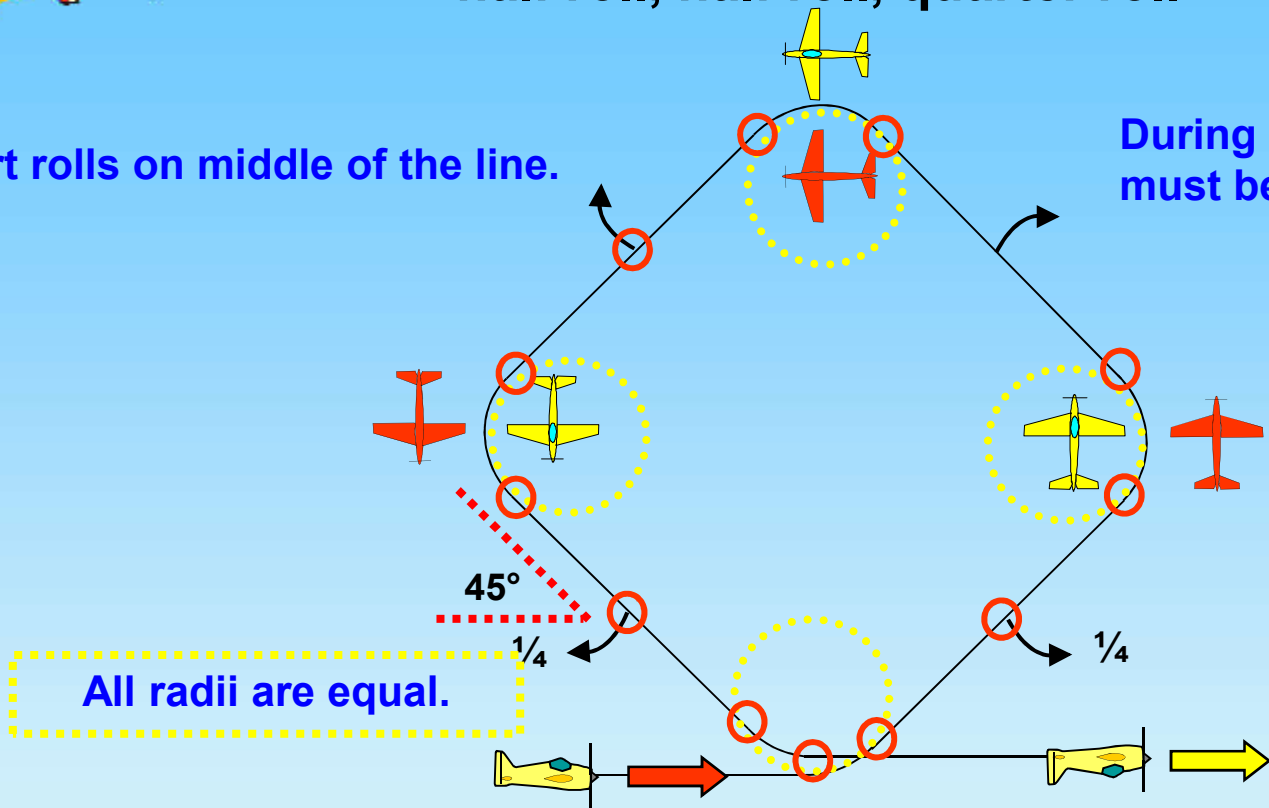




# F-23.05 Square Loop on corner with quarter roll, half roll, half roll, quarter roll

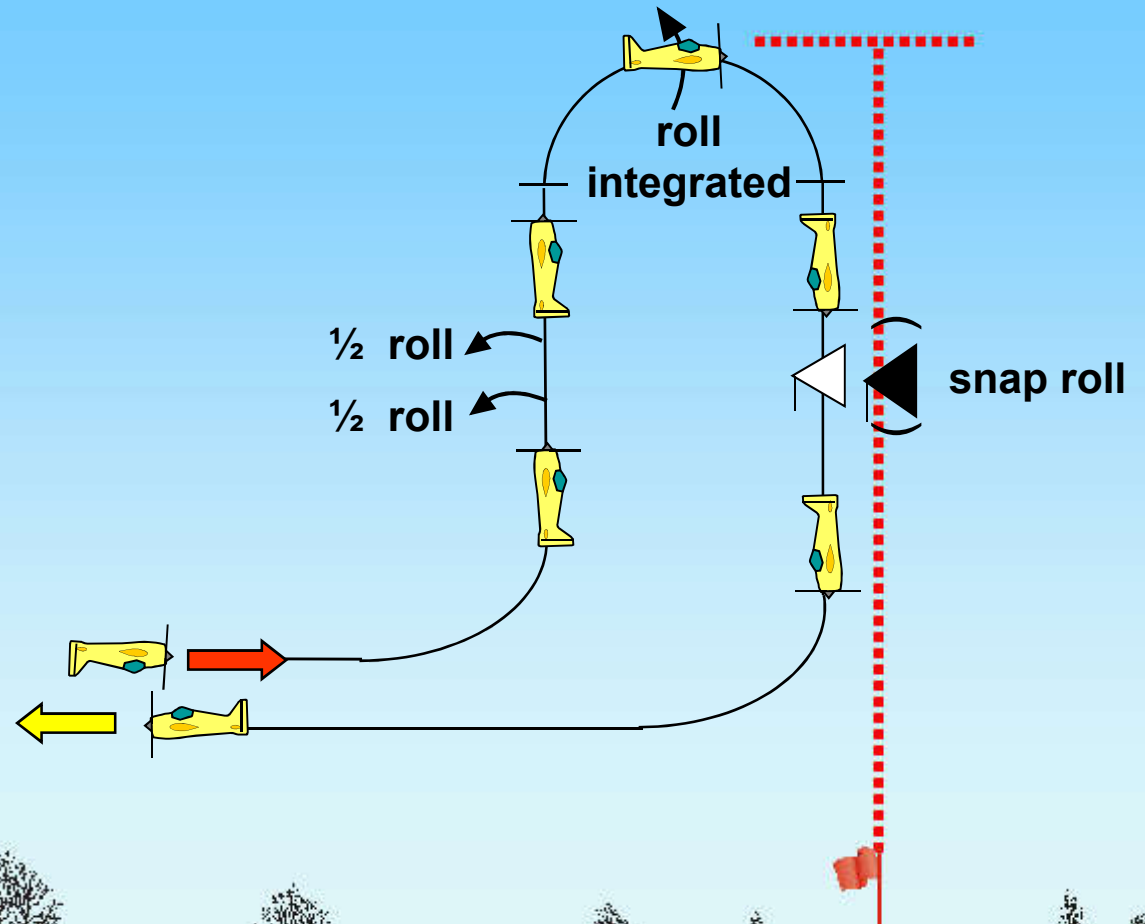
Part rolls on middle of the line.

During Knife Edge the wing must be in the vertical plane.





## F-23.06 Push-Pull-Pull Humpty-Bump with consecutive half rolls, integrated roll, snap roll



From inverted, push through a quarter loop into a vertical upline, perform consecutively two half rolls, pull through a half loop with roll integrated into a vertical downline, perform a snap roll, pull through quarter loop, exit upright.



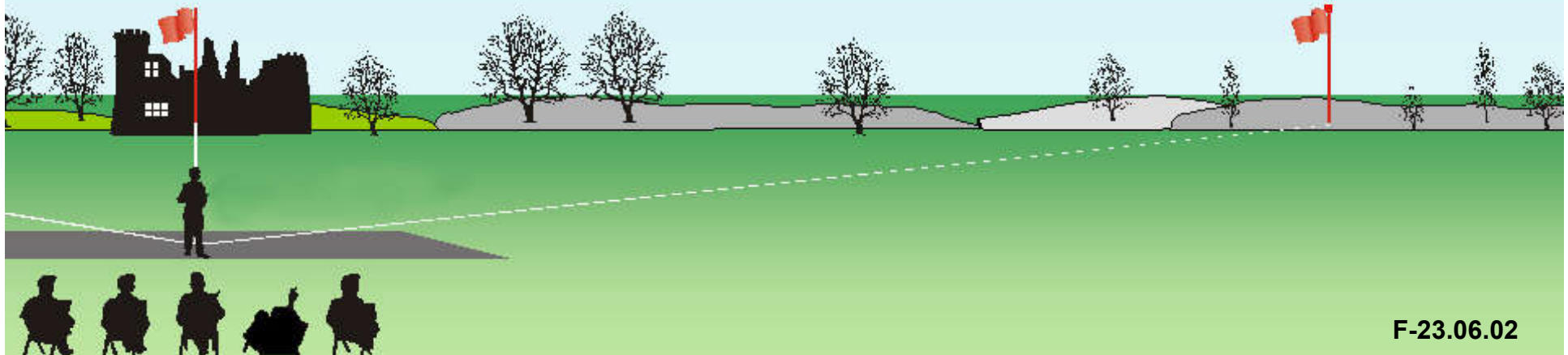
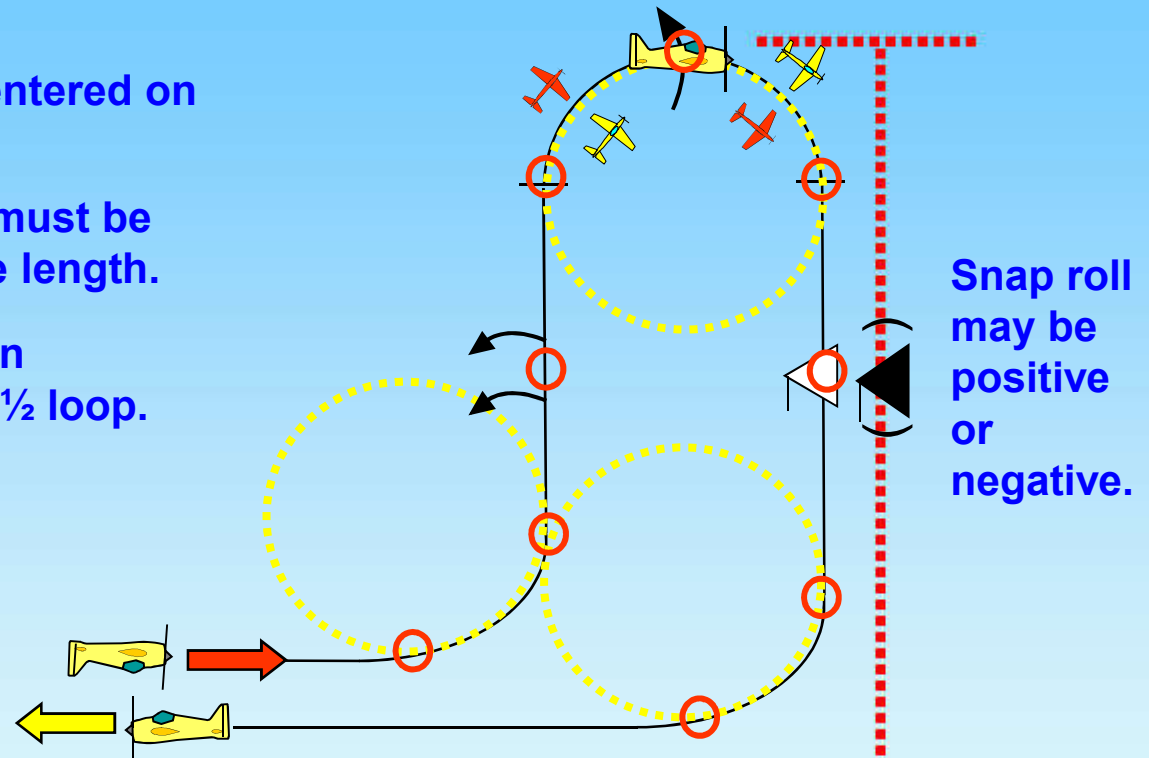
## F-23.06 Push-Pull-Pull Humpty-Bump with consecutive half rolls, integrated roll, snap roll

Half rolls and snap roll centered on middle of the line.

Lines between part rolls must be short and of recognisable length.

Roll must be integrated on circular flight path of the  $\frac{1}{2}$  loop.

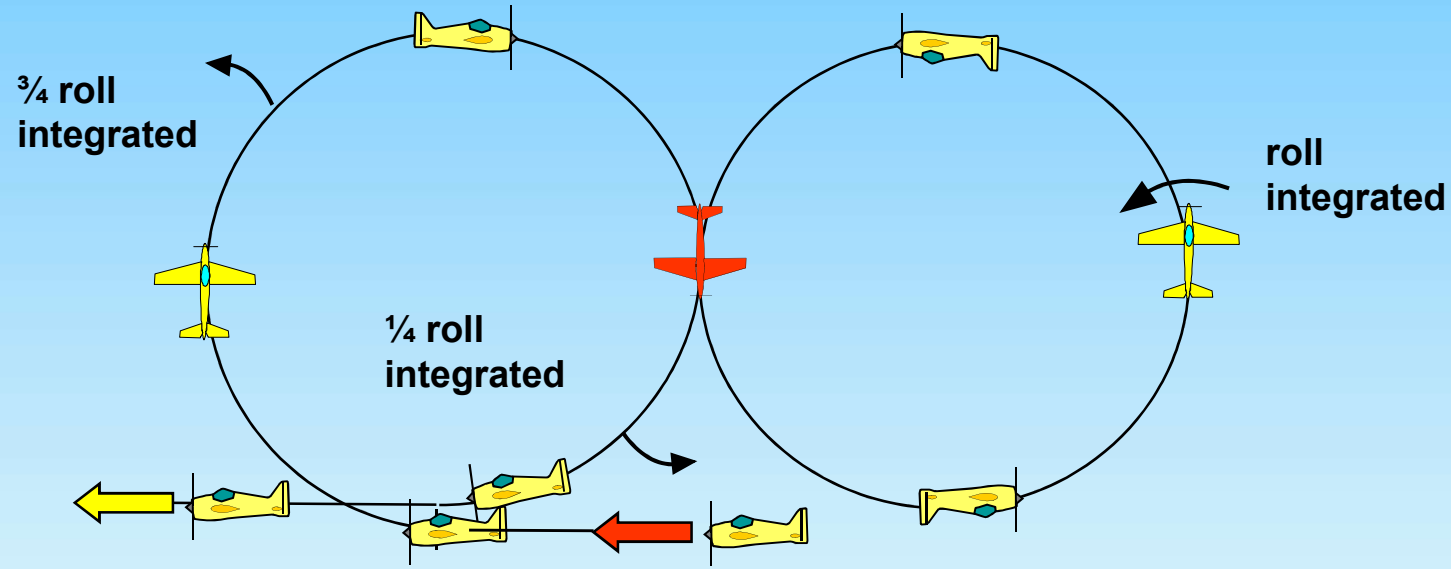
All radii are equal.







## F-23.07 Horizontal Eight with rolls integrated



From upright, fly past center, pull through a three quarter loop while performing the first three quarter roll of two consecutive rolls integrated, then while continuing rolling perform a second loop (one roll integrated), while continuing rolling complete last quarter of first loop (quarter roll integrated), exit upright

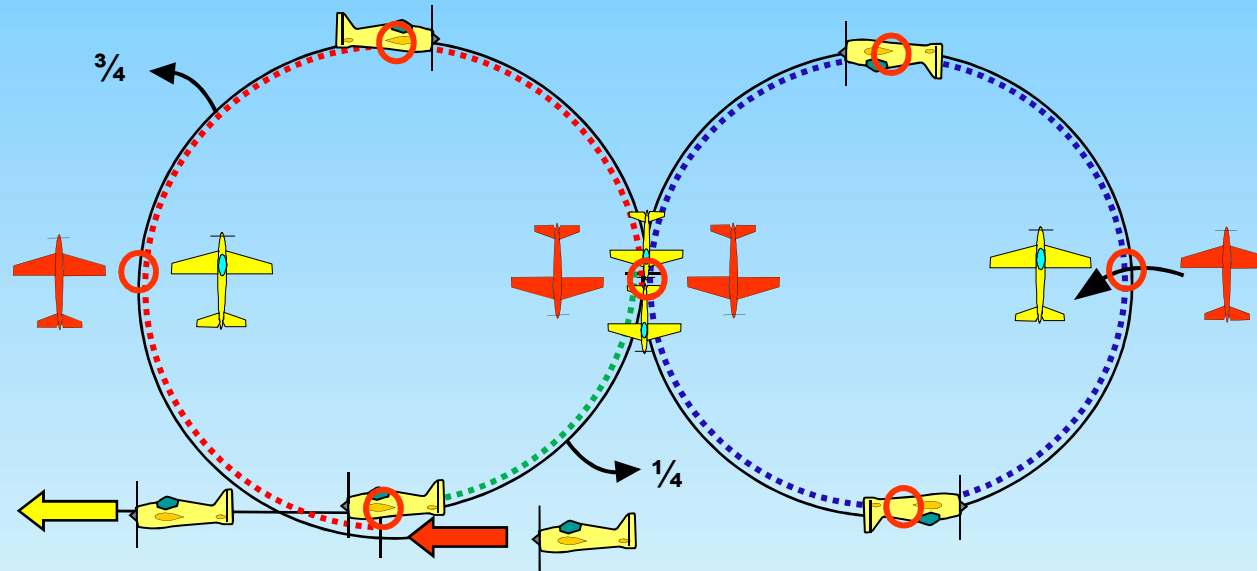




## F-23.07 Horizontal Eight with rolls integrated

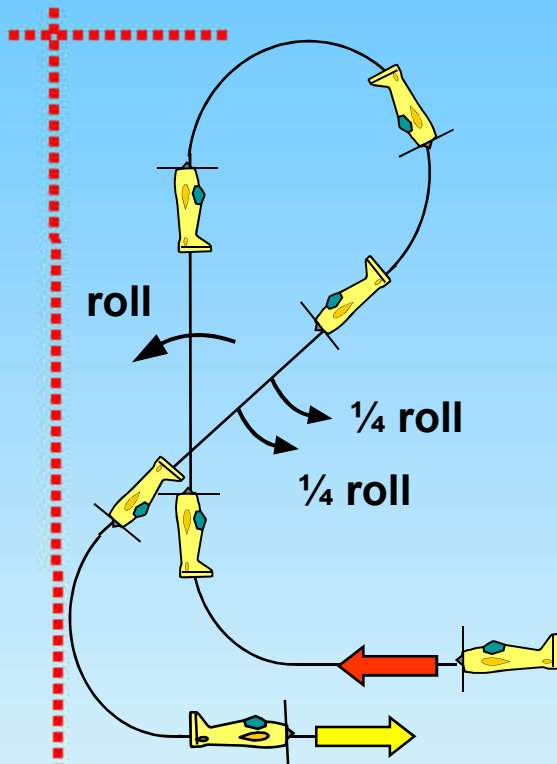
$\frac{3}{4}$  roll, roll and  $\frac{1}{4}$  roll must be integrated on circular flight path of the loops.

Radius size and shape of the horizontal eight must be maintained.





## F-23.08 Reverse Figure ET with roll, two consecutive quarter rolls.

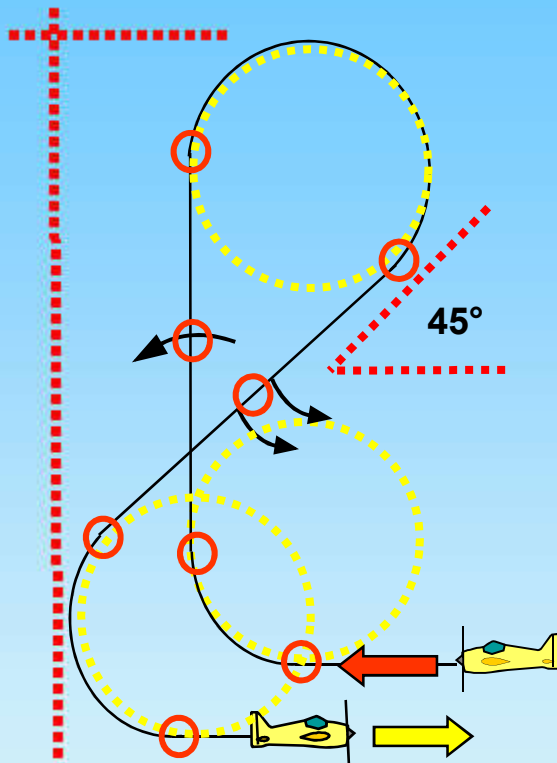


From upright, pull through quarter loop into a vertical upline, perform a roll, pull through a five eighths loop into a forty five degree down line, perform consecutively two quarter rolls, pull through a three eighths loop, exit upright.





## F-23.08 Reverse Figure ET with roll, two consecutive quarter rolls.



Roll and  $\frac{1}{4}$  rolls centered on middle of the line.

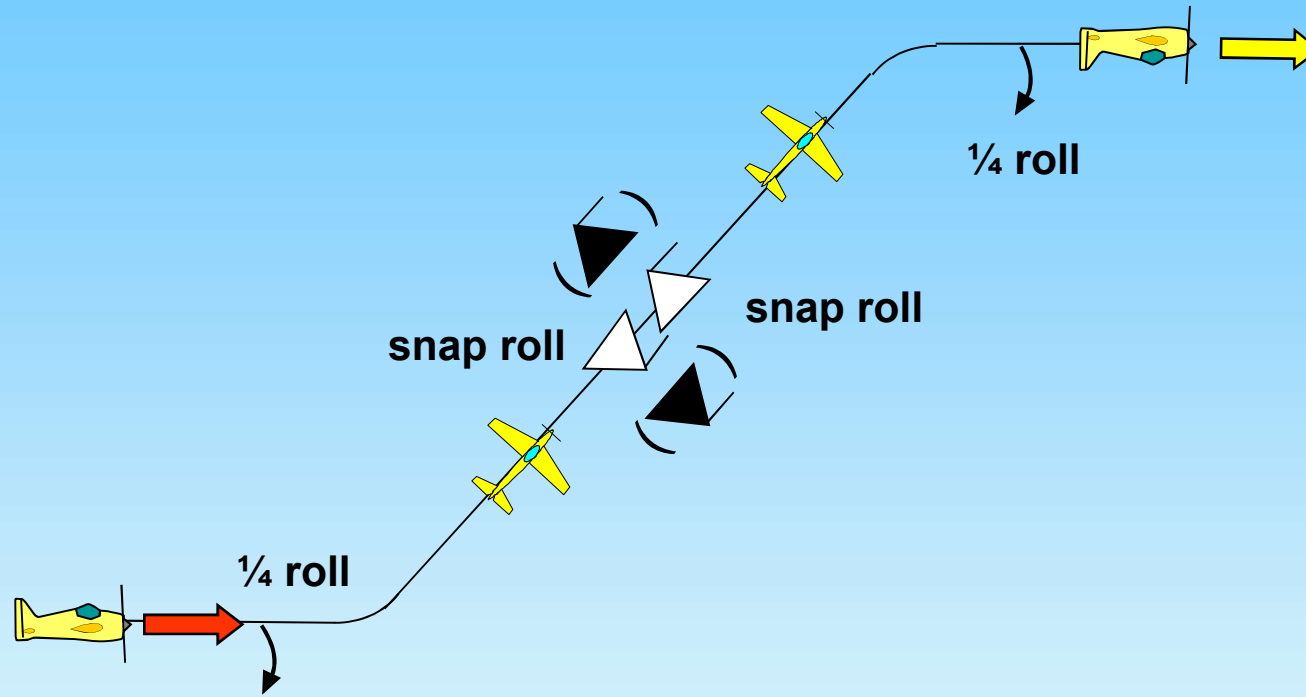
Lines between part rolls must be short and of recognisable length.

All radii are equal.





## F-23.09 Knife Edge Forty Five Degree Upline with two consecutive snap rolls in opposite direction



From upright, perform a quarter roll to knife edge, perform a one eighth knife edge loop into a forty five degree upline, perform consecutively two snap rolls in opposite direction, perform a one eighth knife edge loop, perform a quarter roll, exit inverted.





## F-23.09 Knife Edge Forty Five Degree Upline with two consecutive snap rolls in opposite direction

Snap rolls on middle of the line.

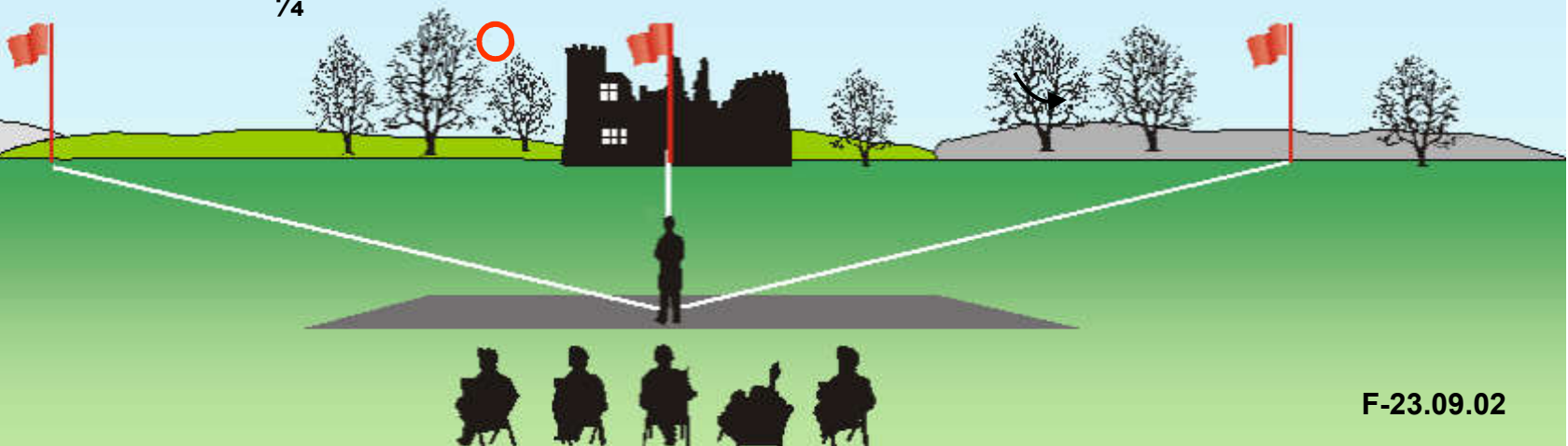
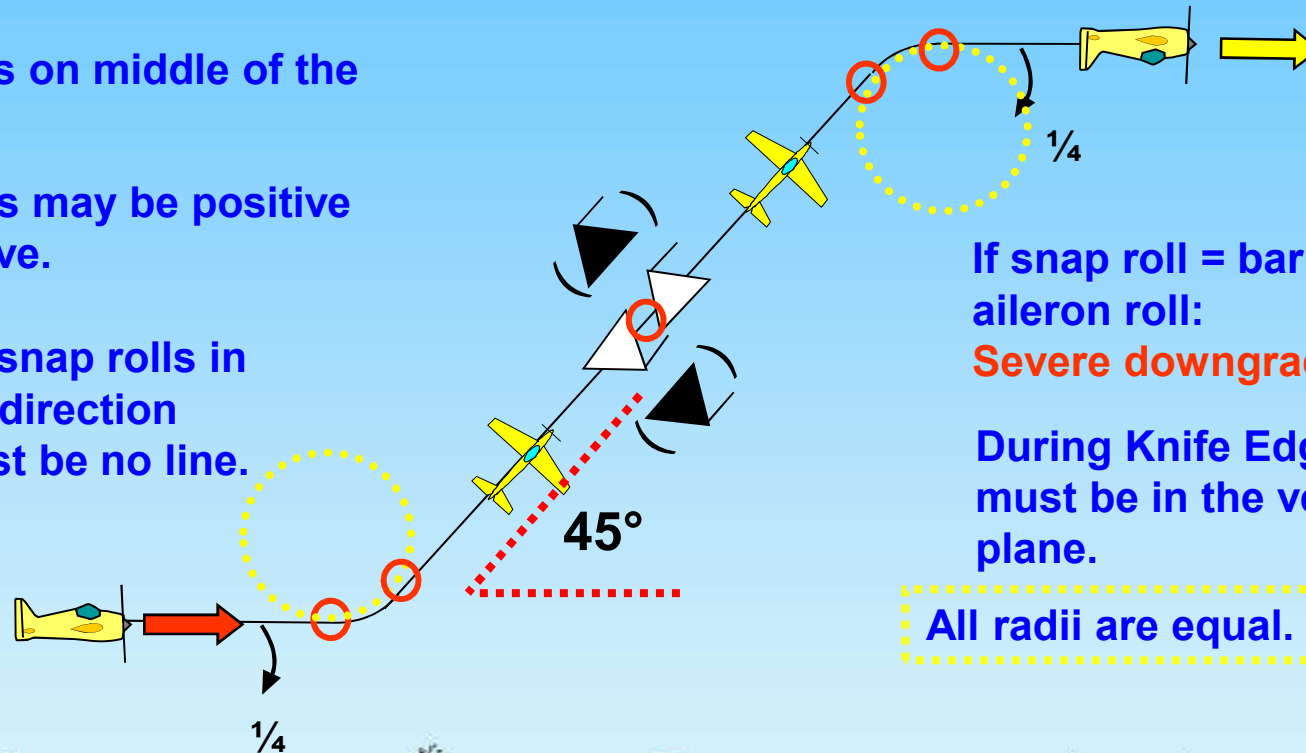
Snap rolls may be positive or negative.

Between snap rolls in opposite direction there must be no line.

If snap roll = barrel roll or aileron roll:  
**Severe downgrade > 5 pts.**

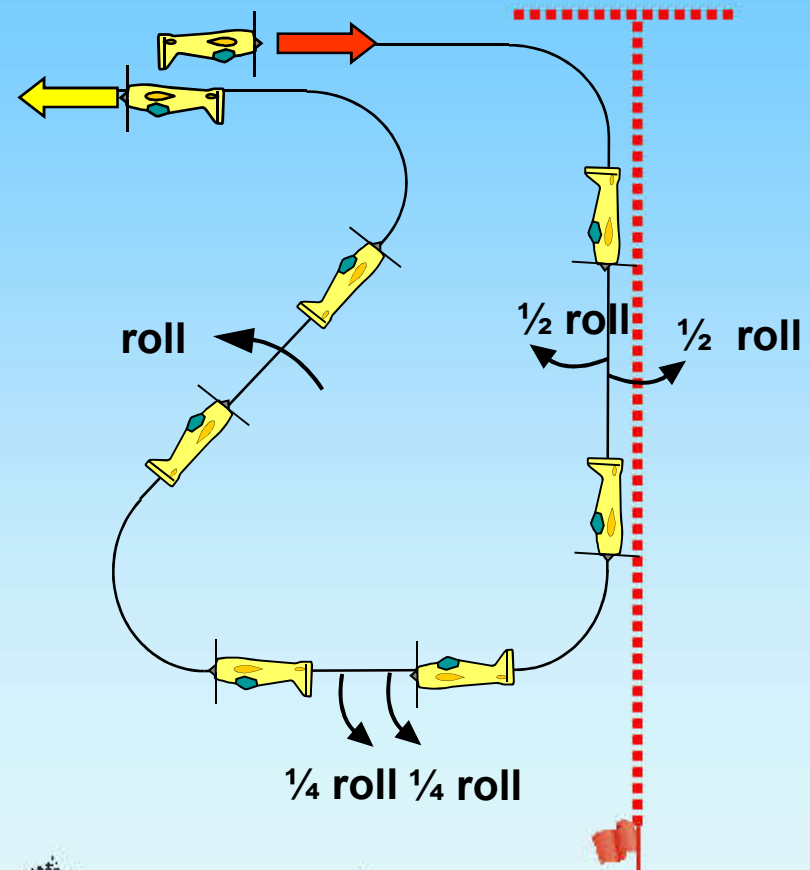
During Knife Edge the wing must be in the vertical plane.

All radii are equal.





## F-23.10 Reverse Vertical Shark Tooth with two consecutive half rolls in opposite direction, two consecutive quarter rolls, roll



From inverted, pull through a quarter loop into a vertical downline, perform consecutively two half rolls in opposite direction, pull through a quarter loop, perform consecutively two quarter rolls, push through a three eighths loop into a forty five degree upline, perform a roll, pull through a three eighths loop, exit inverted.



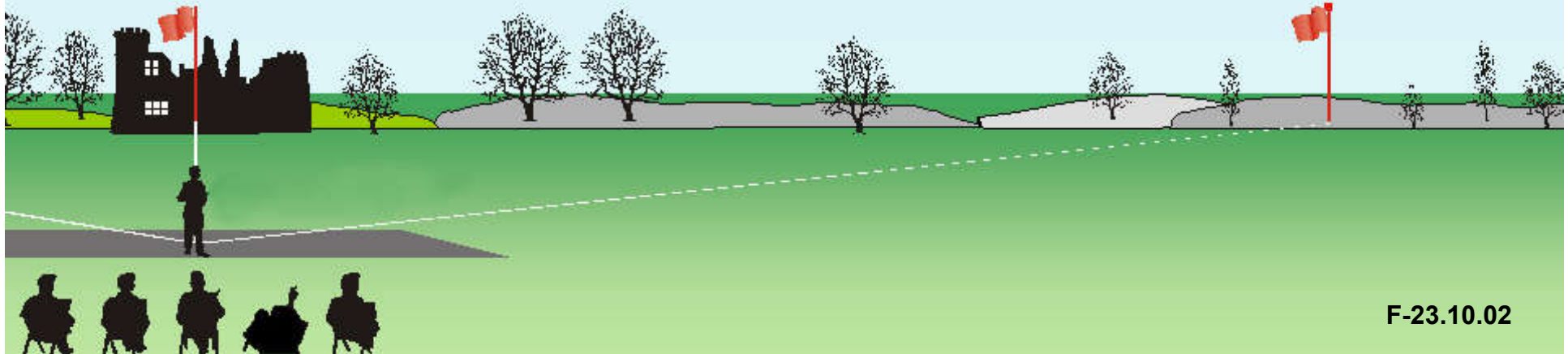
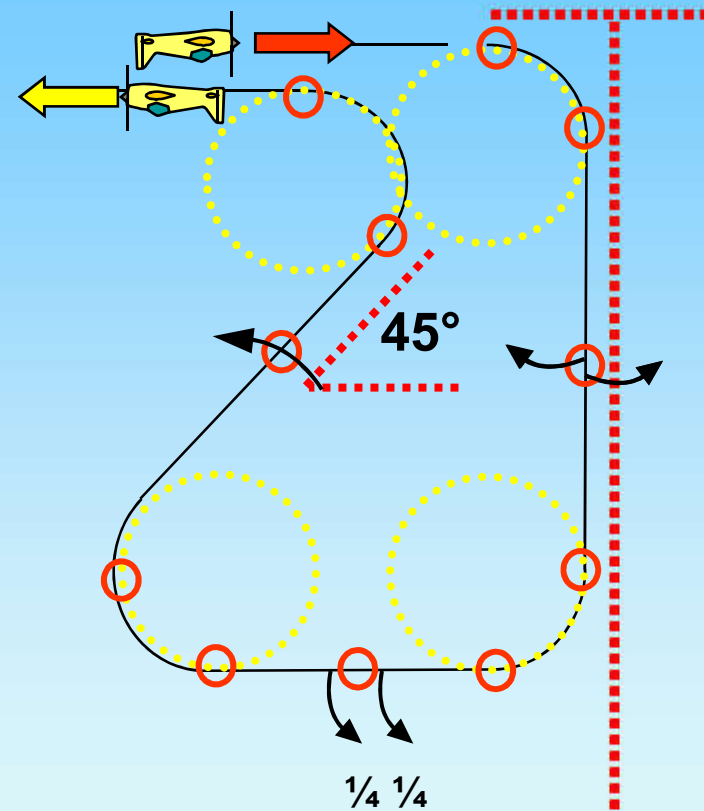
## F-23.10 Reverse Vertical Shark Tooth with two consecutive half rolls in opposite direction, two consecutive quarter rolls, roll

Part rolls and roll centered on middle of the line.

Between part rolls in opposite direction there must be no line.

Lines between part rolls must be short and of recognisable length.

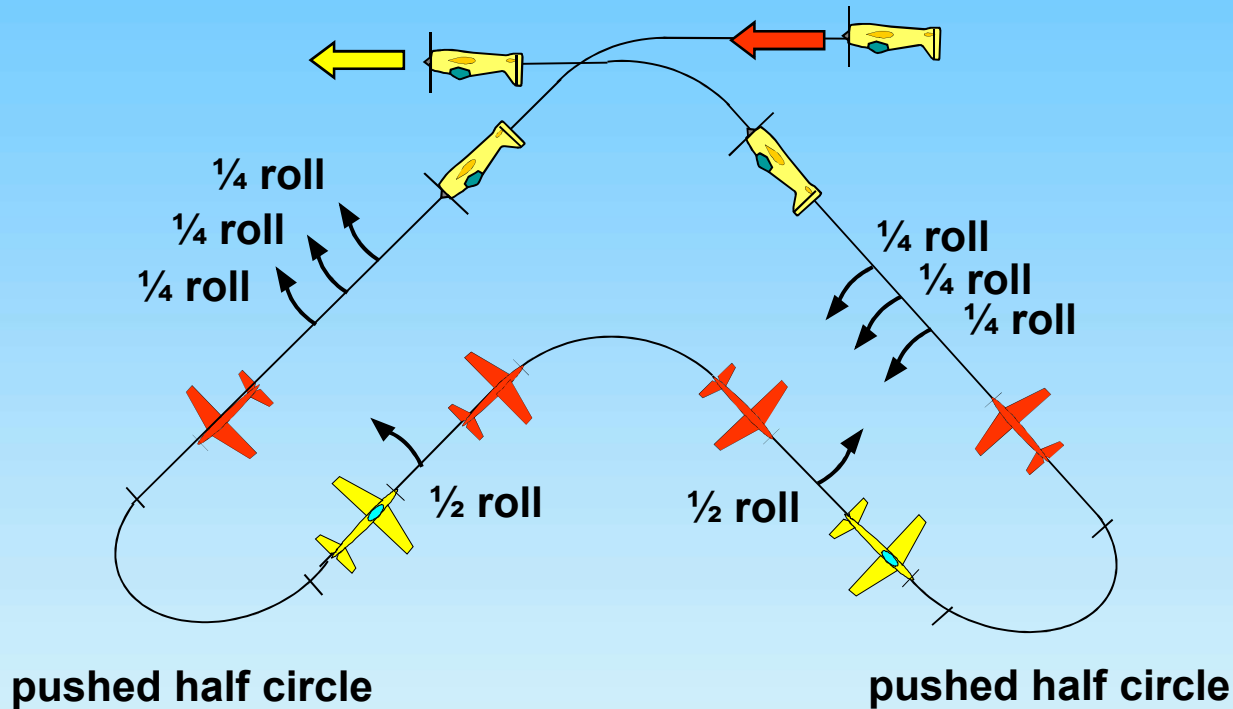
All radii are equal.







## F-23.11 Reverse Double Fighter Turn with three consecutive quarter rolls, half roll, half roll, three consecutive quarter rolls



From inverted, pull through a one eighth loop into a forty five degree downline, perform consecutively three quarter rolls, push through a half knife edge circle into a forty five degree upline, perform a half roll, perform a quarter knife edge loop into a forty five degree down-line, perform a half roll, push through a half knife edge circle into a forty five degree upline, perform consecutively three quarter rolls, pull through an eighth loop, exit inverted.

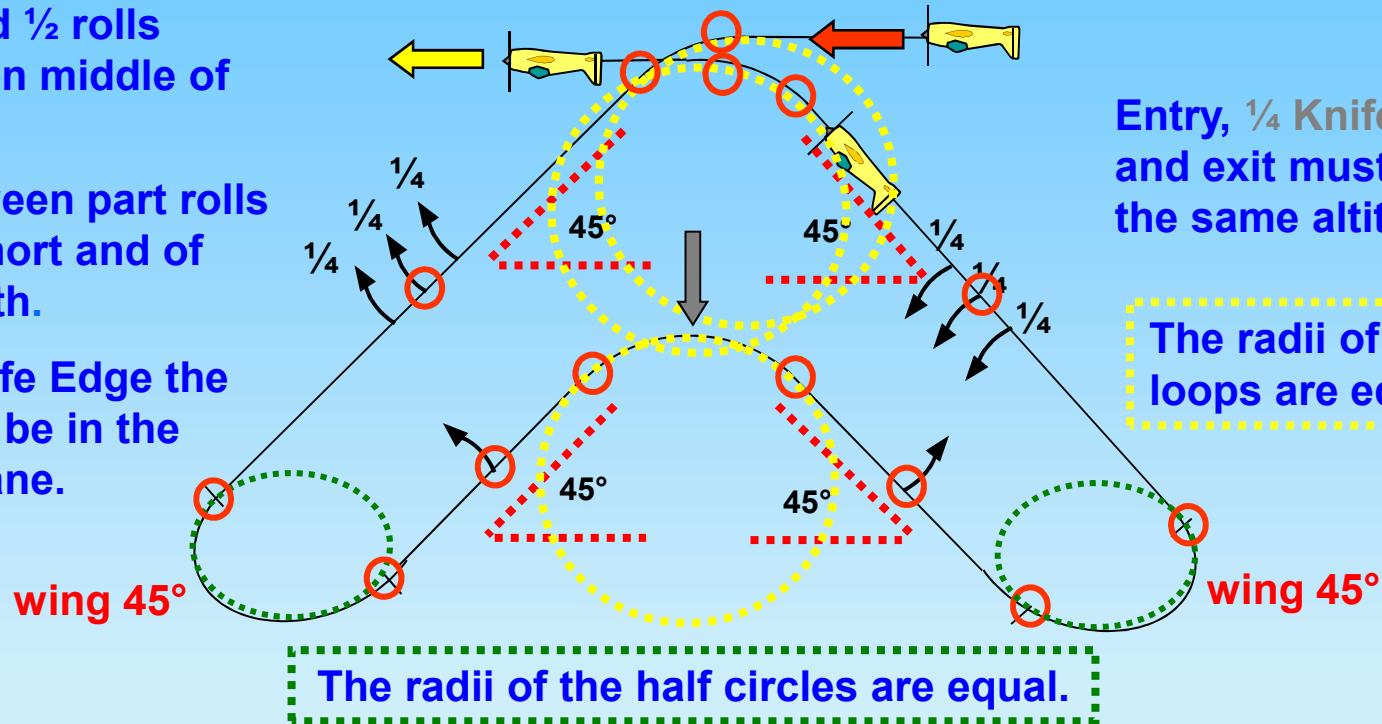


# F-23.11 Reverse Double Fighter Turn with three consecutive quarter rolls, half roll, half roll, three consecutive quarter rolls

1/4 rolls and 1/2 rolls centered on middle of the line.

Lines between part rolls must be short and of equal length.

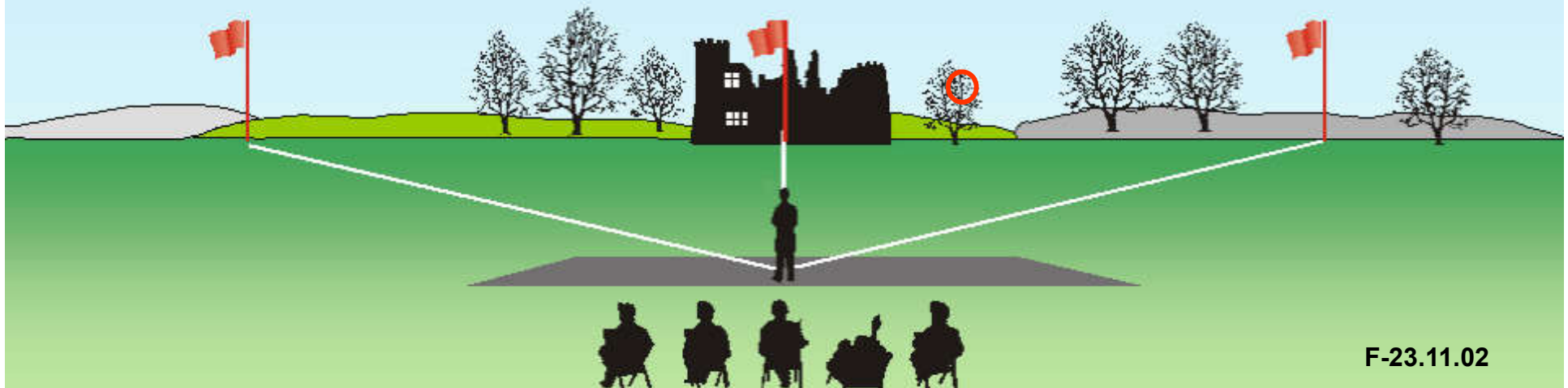
During Knife Edge the wing must be in the vertical plane.



Entry, 1/4 Knife Edge loop and exit must be at the same altitude.

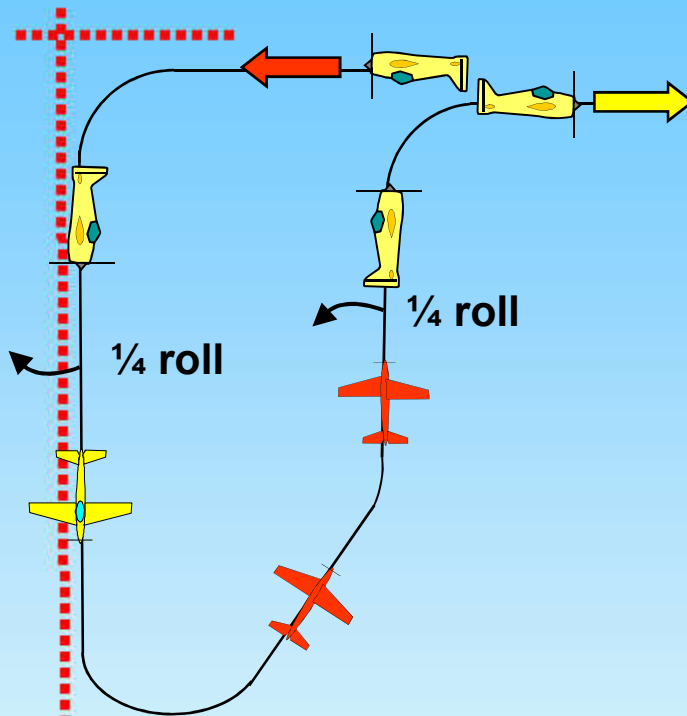
The radii of the part loops are equal.

The radii of the half circles are equal.





## F-23.12 Reverse Top Hat with quarter roll, quarter roll. Option: Reverse Top Hat with half roll, half roll

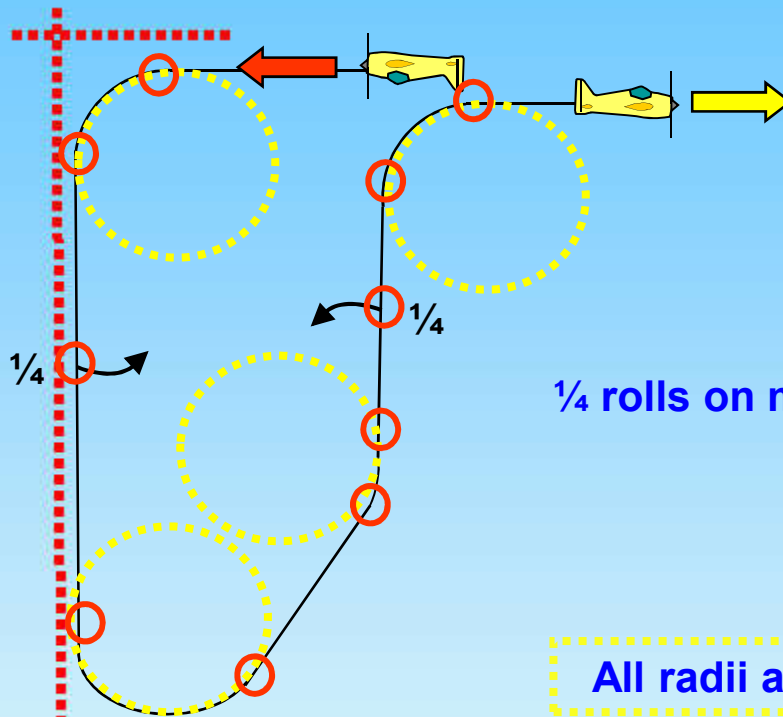


From inverted, pull through a quarter loop into a vertical downline, perform a quarter roll, push through a quarter loop into a horizontal line, push through a quarter loop into a vertical upline, perform a quarter roll, push through a quarter loop, exit upright.



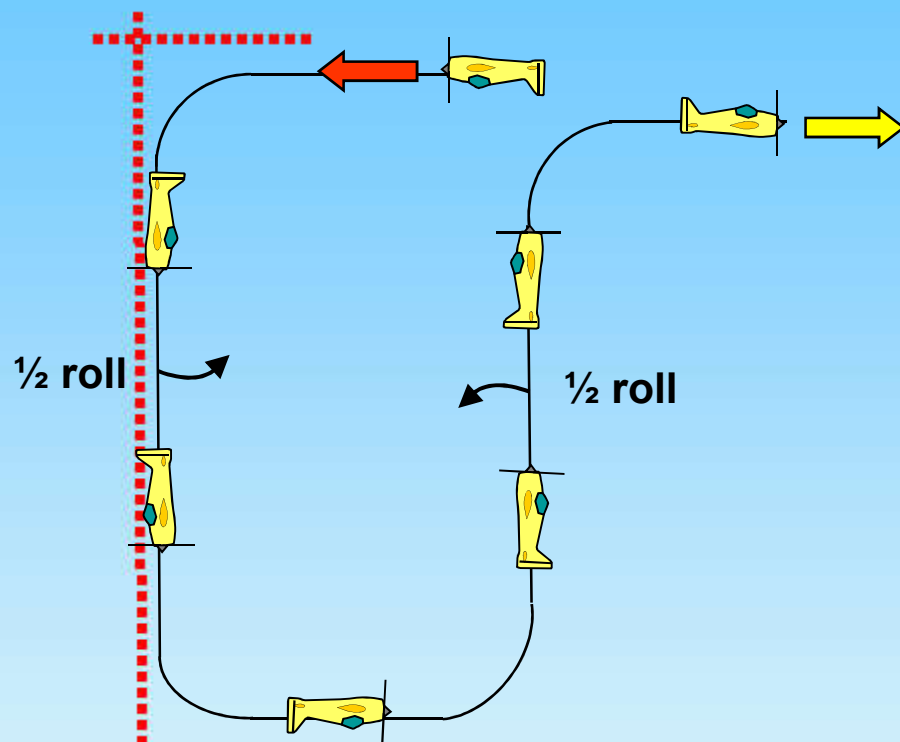


# F-23.12 Reverse Top Hat with quarter roll, quarter roll. Option: Reverse Top Hat with half roll, half roll





## F-23.12 Reverse Top Hat with quarter roll, quarter roll. Option: Reverse Top Hat with half roll, half roll



Option

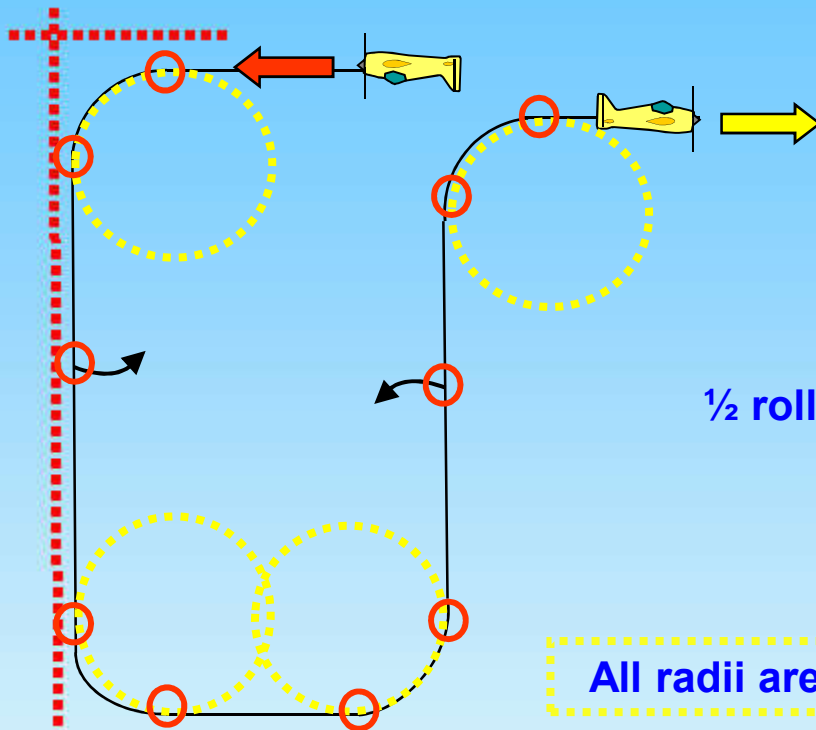
### Option:

From inverted, pull through a quarter loop into a vertical downline, perform a half roll, push through a quarter loop into a horizontal line, push through a quarter loop into a vertical upline, perform a half roll, push through a quarter loop, exit upright.





# F-23.12 Reverse Top Hat with quarter roll, quarter roll. Option: Reverse Top Hat with half roll, half roll



Option

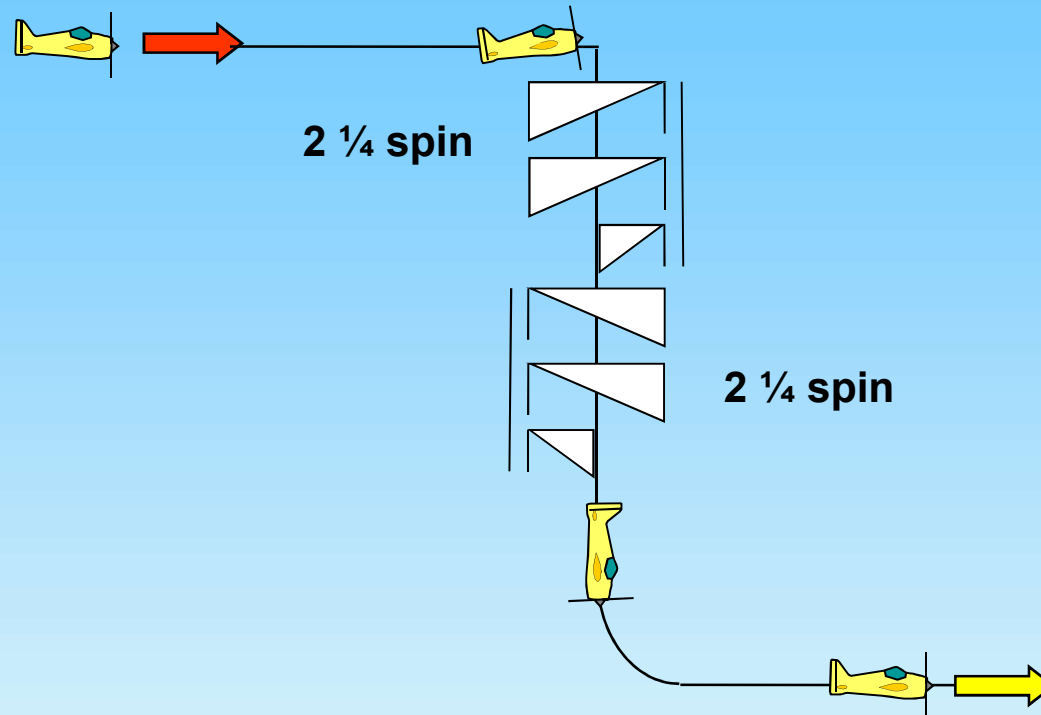
1/2 rolls on middle of the line.

All radii are equal.





## F-23.13 Spin with two and a quarter turns, two and a quarter turns in opposite direction



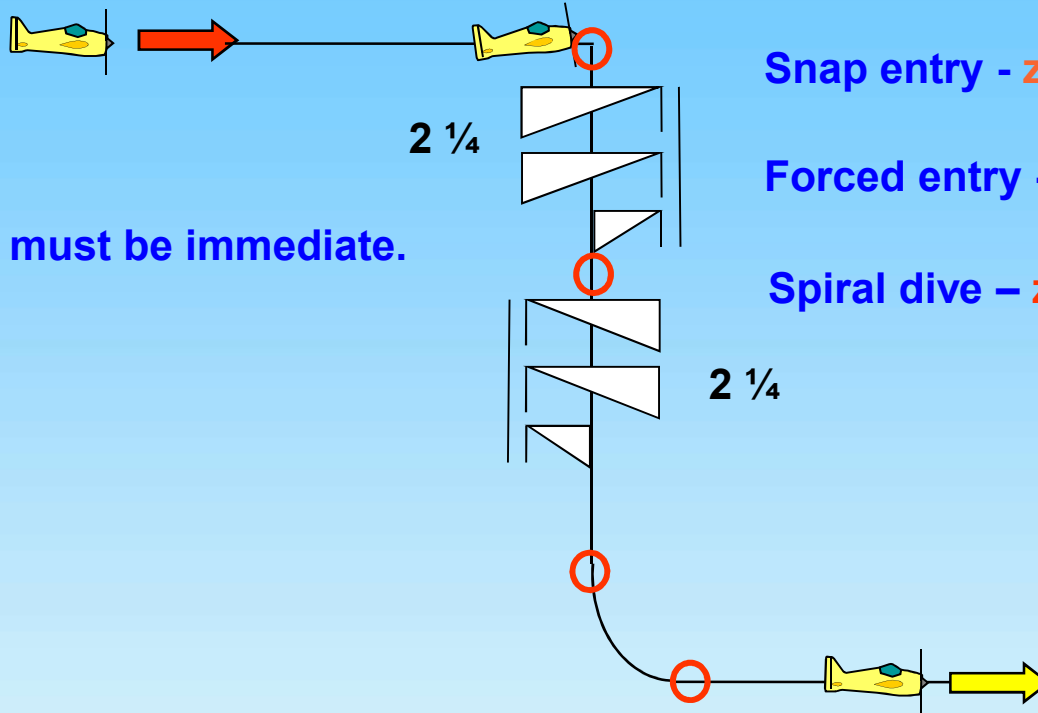
From upright, perform a spin with two and a quarter turns, perform immediately another spin with two and a quarter turns in opposite direction, perform a vertical downline, pull through a quarter loop, exit upright.





# F-23.13 Spin with two and a quarter turns, two and a quarter turns in opposite direction

Spin reversal must be immediate.



Snap entry - zero points!

Forced entry - downgrade.

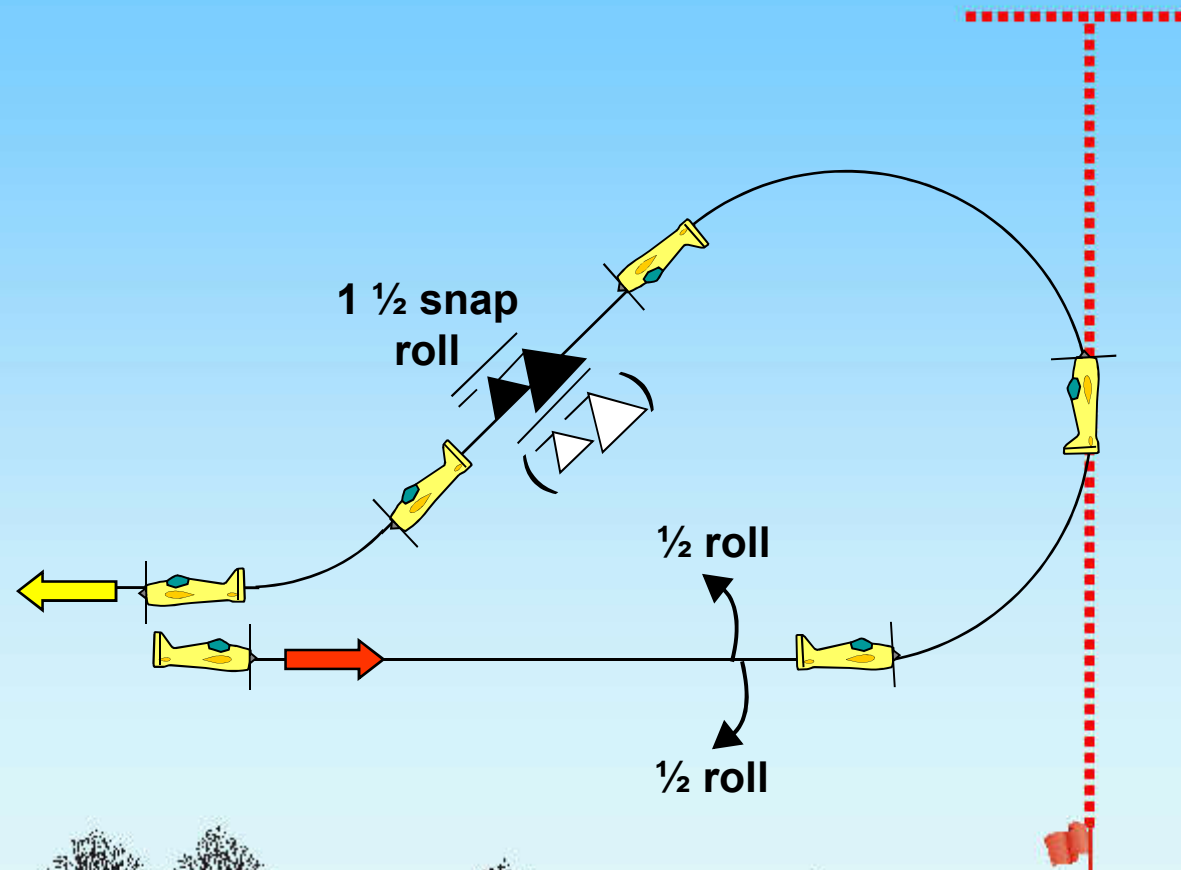
Spiral dive - zero points!







## F-23.14 Half Cuban Eight, with two half rolls in opposite direction, one and half snap roll roll



From upright, perform consecutively two half rolls in opposite direction, pull through a five eighths loop into a forty five degree downline, perform a one and a half snap roll, pull through a one eighth loop, exit upright.



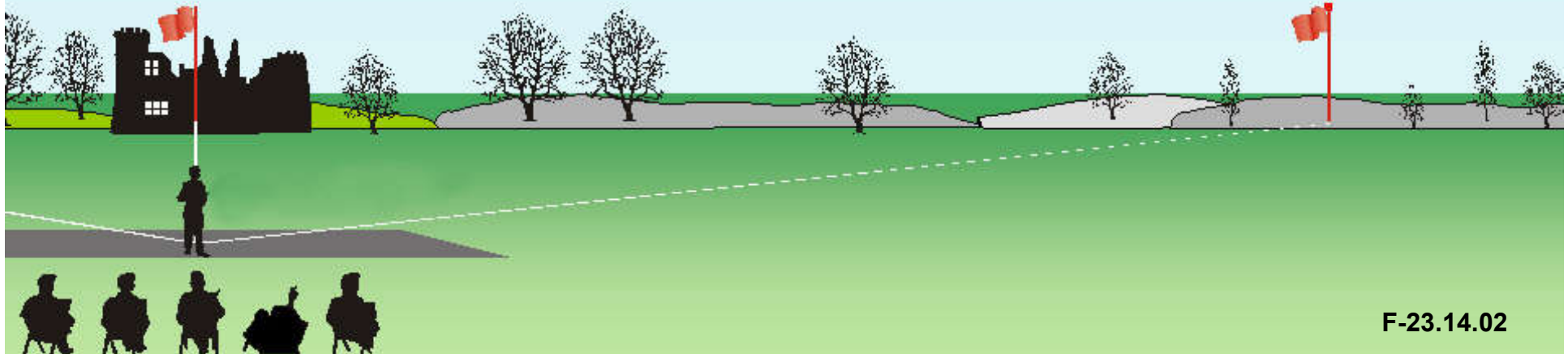
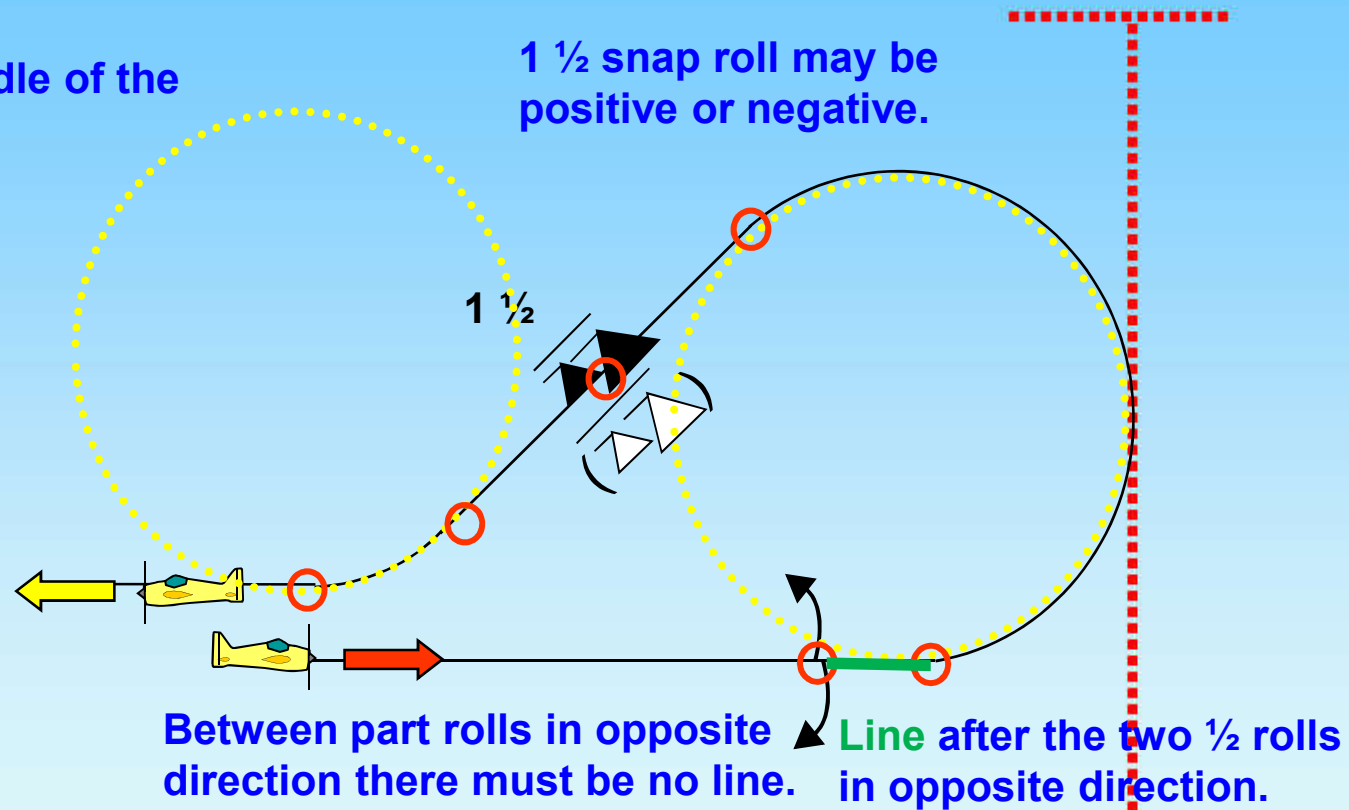
# F-23.14 Half Cuban Eight, with two half rolls in opposite direction, one and half snap roll

1 1/2 snap roll on middle of the line.

1 1/2 snap roll may be positive or negative.

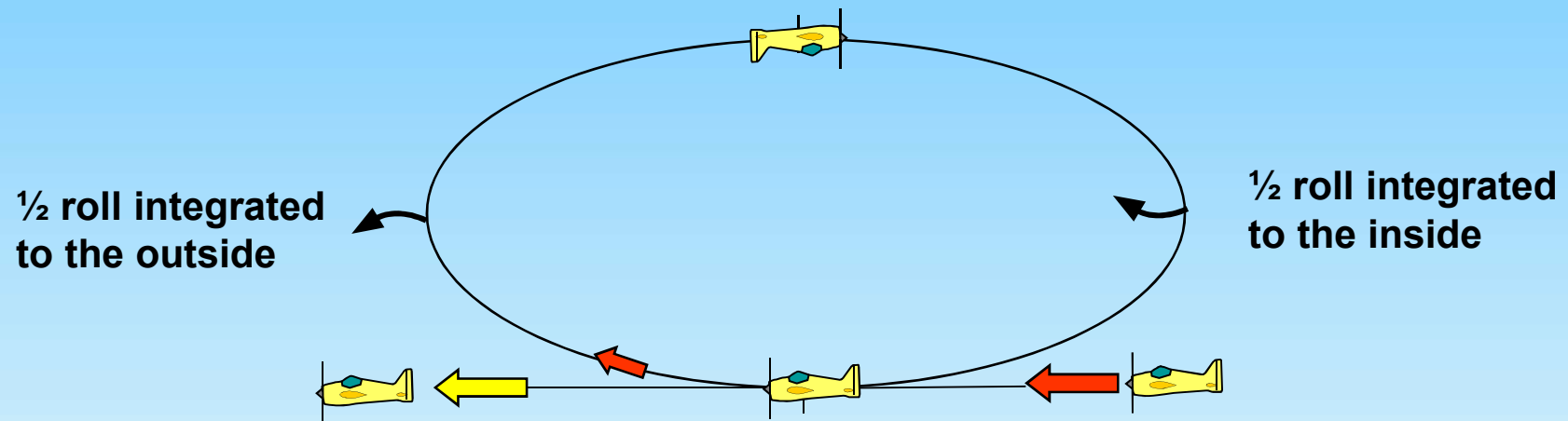
If snap roll = barrel roll or aileron roll:  
Severe downgrade > 5 pts.

All radii are equal.





## F-23.15 Rolling Circle with half rolls in opposite direction integrated



From upright, perform a rolling circle with two half rolls in opposite direction integrated, first half roll to outside, exit upright.





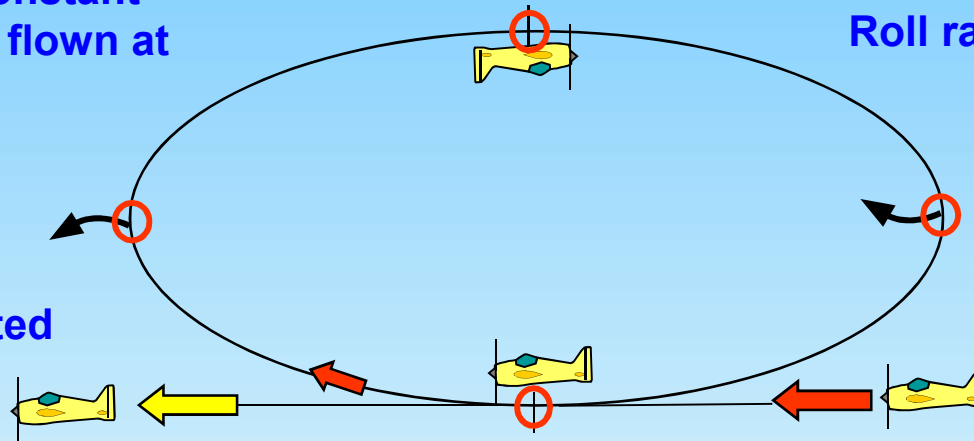
## F-23.15 Rolling Circle with half rolls in opposite direction integrated

Circle must be of constant radius and must be flown at the same altitude.

Roll reversal must be immediate.

Roll rates must be constant.

First  $\frac{1}{2}$  roll integrated must be outside.

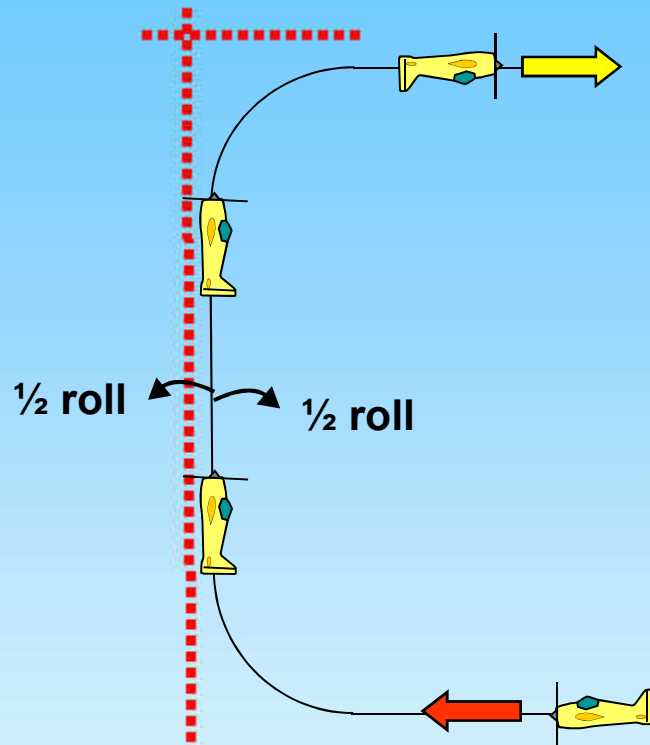


The  $\frac{1}{2}$  rolls must be integrated on circular flightpath.





## F-23.16 Half Square Loop with half rolls in opposite direction

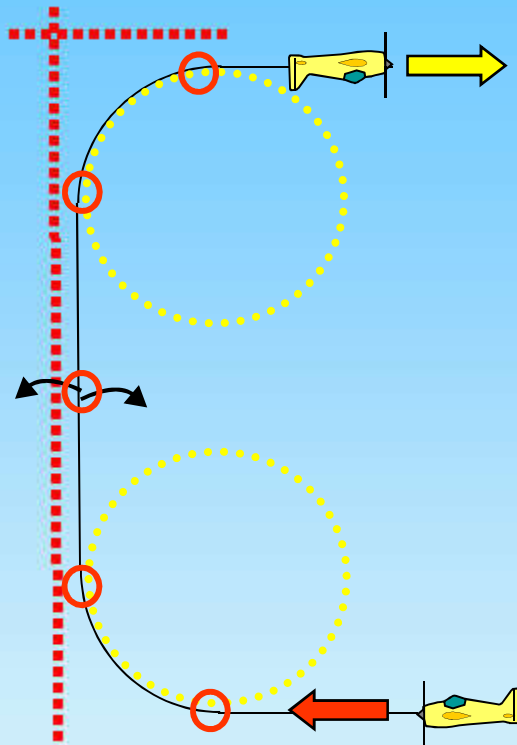


From upright, pull through a quarter loop into a vertical upline, perform consecutively two half rolls in opposite direction, pull through a quarter loop, exit inverted.





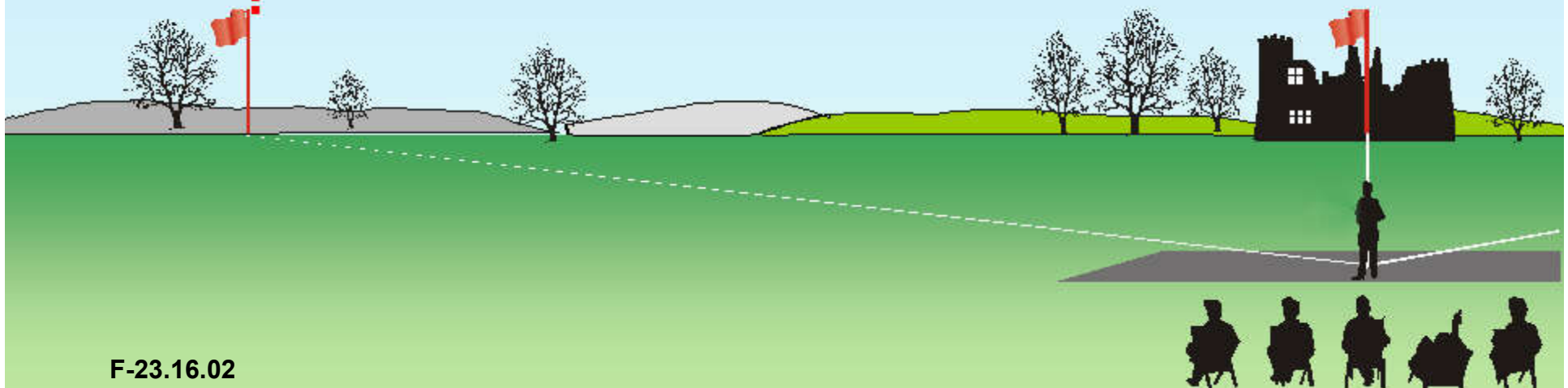
# F-23.16 Half Square Loop with half rolls in opposite direction



½ rolls centered on middle of the line.

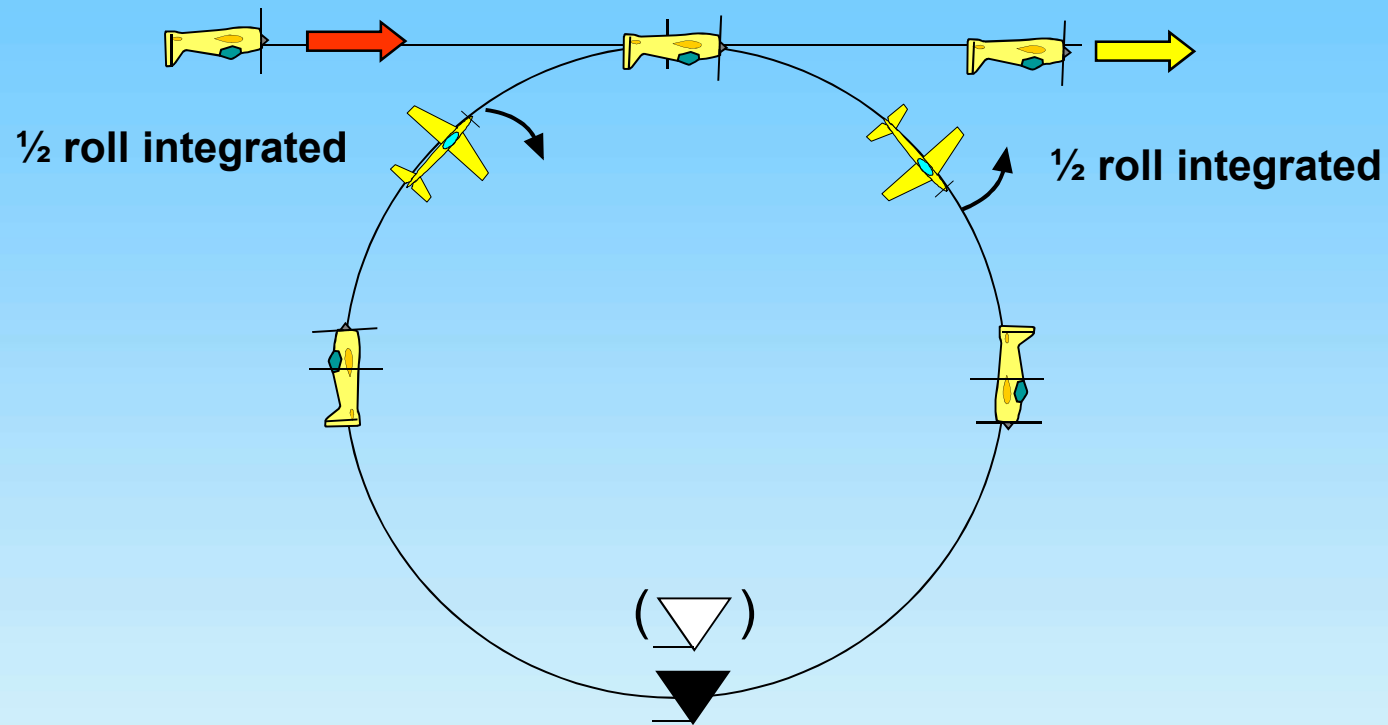
Between part rolls in opposite direction there must be no line.

All radii are equal.





## F-23.17 Avalanche (from top) with half roll integrated, snap, half roll integrated



From inverted, pull through a loop while integrating a half roll in first ninety degrees, perform a snap roll at bottom of the loop, perform a half roll integrated in last ninety degrees, exit inverted.





# F-23.17 Avalanche (from top) with half roll integrated, snap, half roll integrated

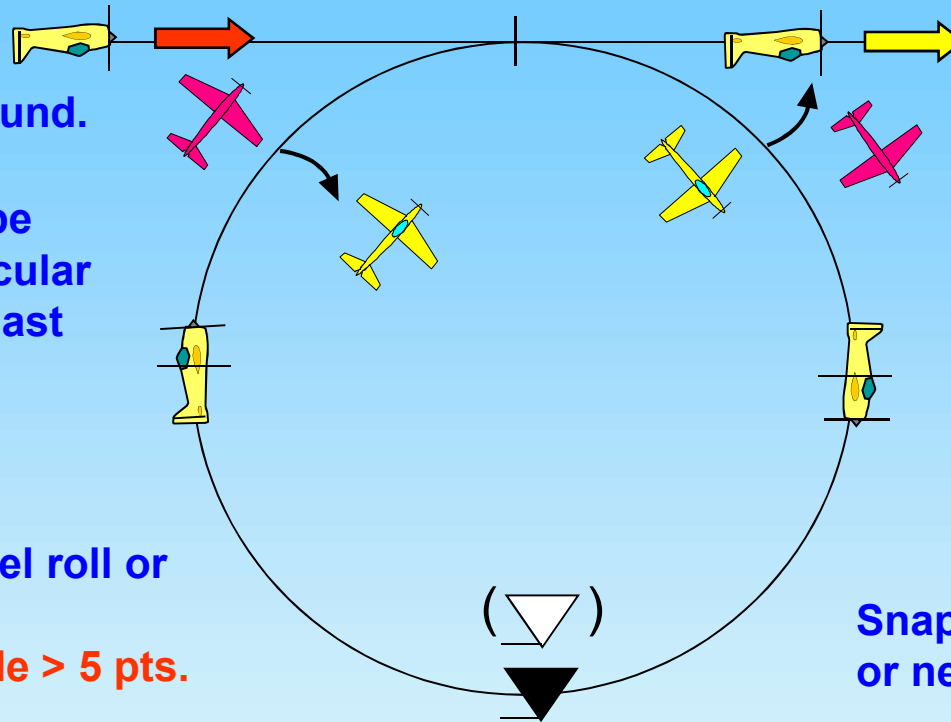
Loop must be round.

The 1/2 roll must be integrated on circular flightpath of the last 90° of the loop.

The 1/2 roll must be integrated on circular flightpath of the first 90° of the loop.

If snap roll = barrel roll or aileron roll:  
**Severe downgrade > 5 pts.**

Snap roll may be positive or negative.

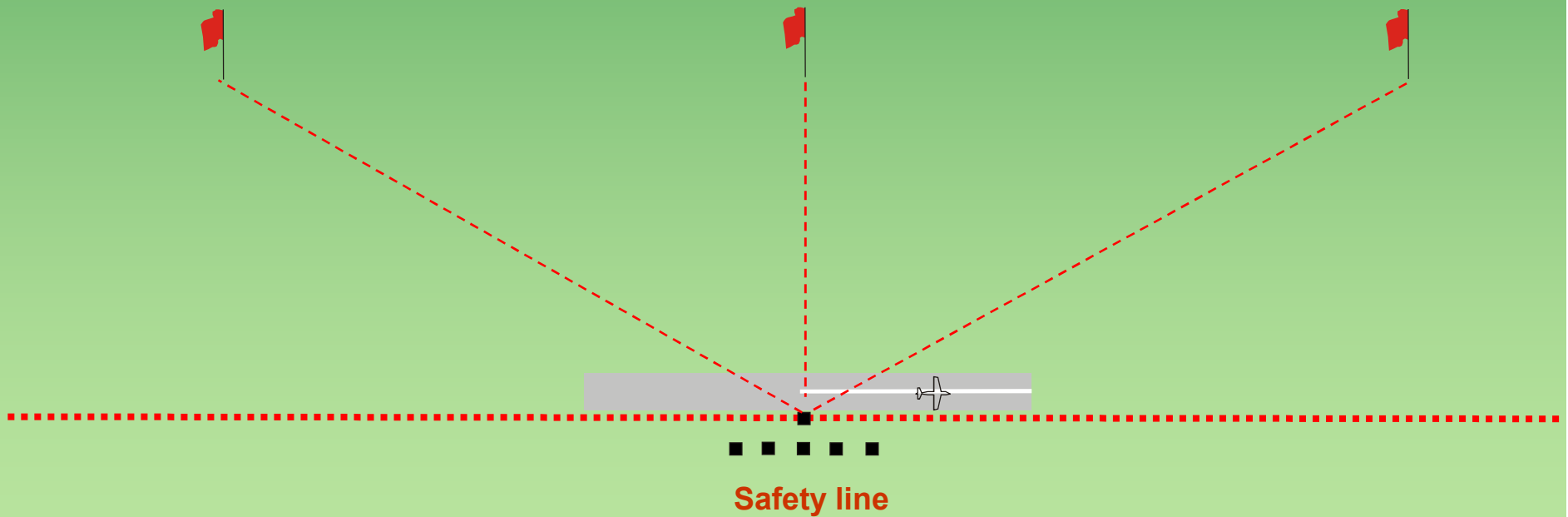






## Landing procedure ( not judged, not scored )

The direction of the landing may be different to the take off.



Forget **WHO** is flying

(friend, rival, countryman, flier from other nation)

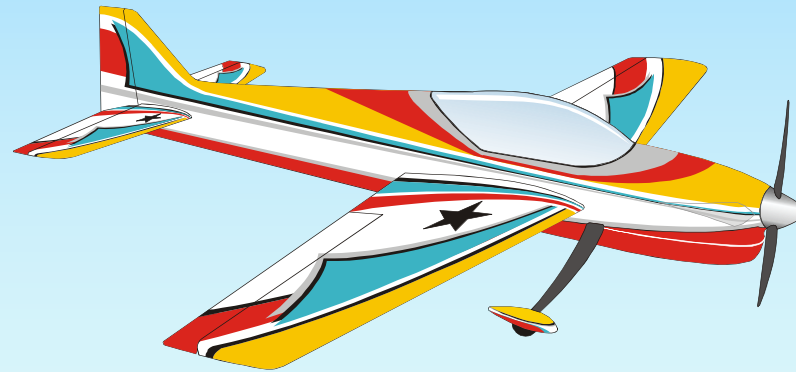
Forget **WHAT** is flying

(2-stroke, 4-stroke, electric)

**LOOK ONLY AT LINES DESCRIBED IN THE SKY!**

(and the precision, smoothness, positioning, and size)

Bob Skinner



**Thank you!**

© Peter Uhlig, April 2020