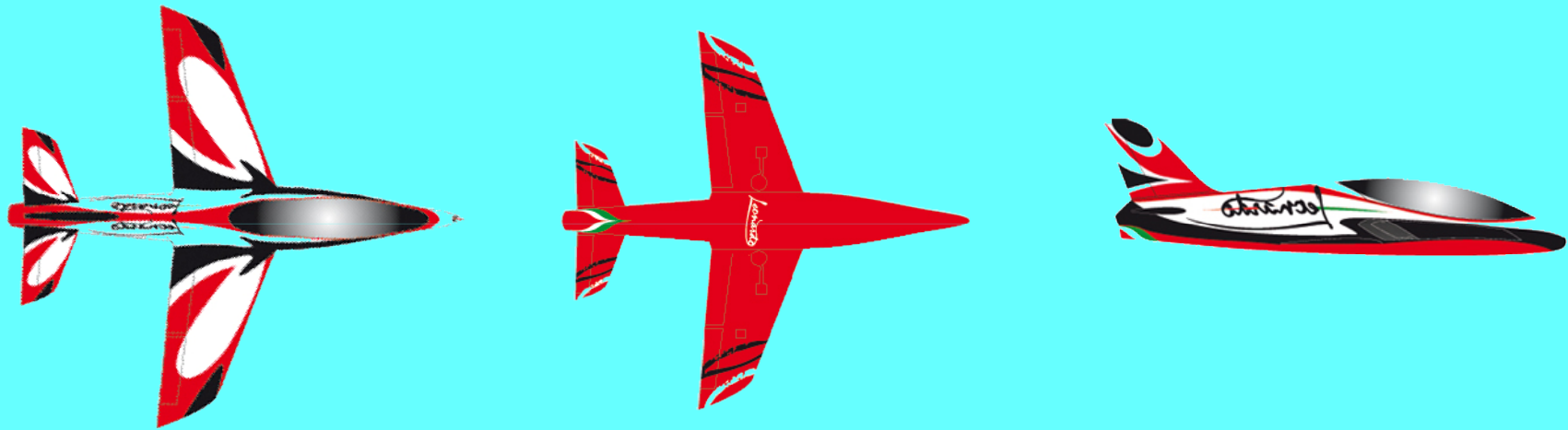


# Flying and Judging FAI-F3S

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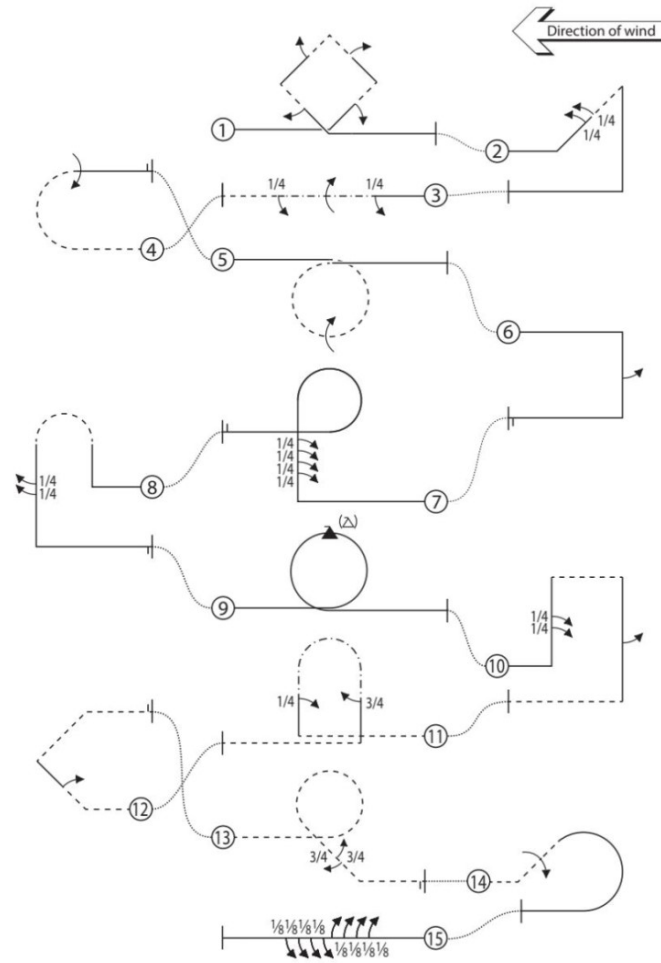


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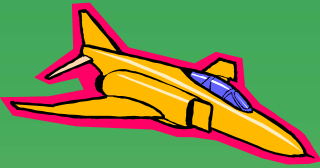
SCHEMATIC MANOEUVRE ILLUSTRATIONS

**SCHEDULE SF-19**

### FINAL SCHEDULE F3S SF-19 (From 2019)

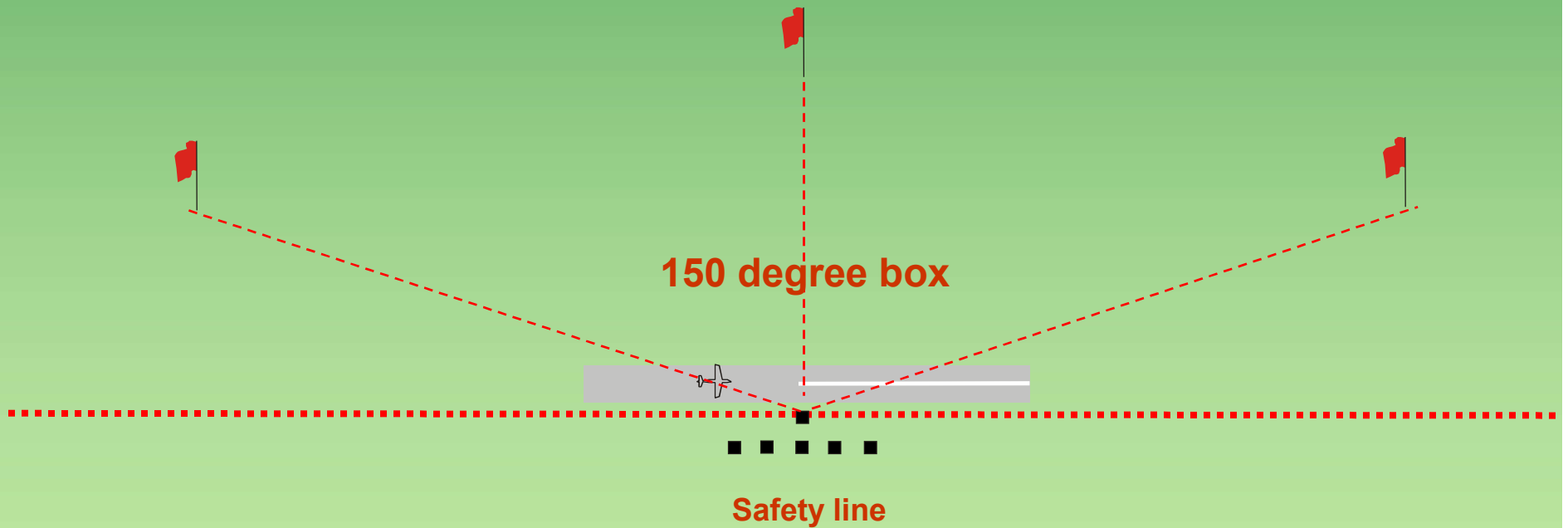


© CIAM F3 Aerobics  
Drawings by Ken Hirose  
Feb. 2019



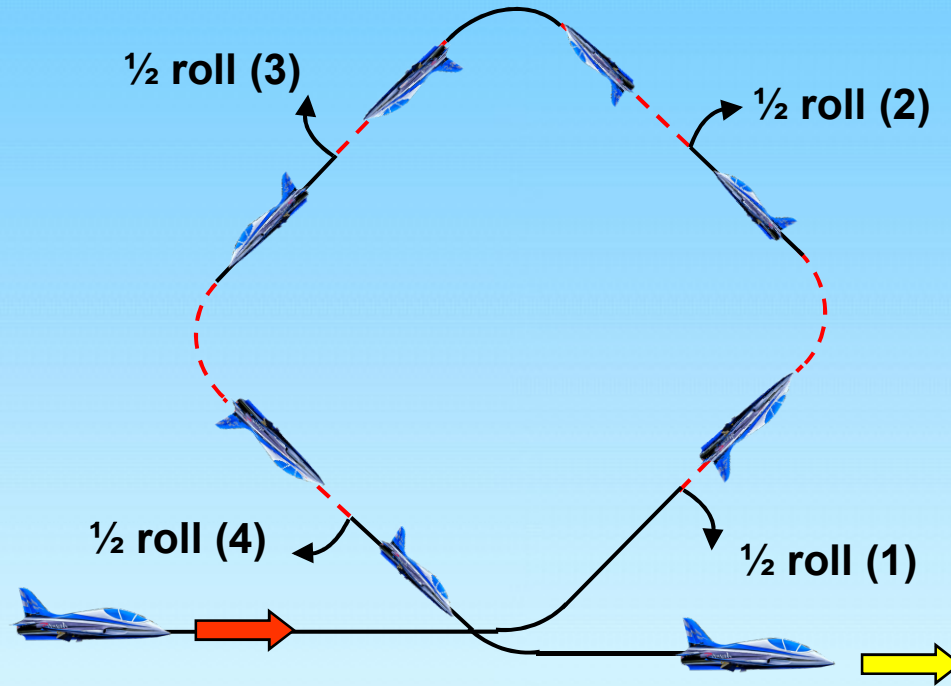
# Take-off procedure ( not judged, not scored )

← wind





## SF-19.01 Square Loop on corner with $\frac{1}{2}$ roll, $\frac{1}{2}$ roll, $\frac{1}{2}$ roll, $\frac{1}{2}$ roll.



From upright, pull through a  $\frac{1}{8}$  loop into a  $45^\circ$  upline, perform a  $\frac{1}{2}$  roll, push through a  $\frac{1}{4}$  loop into a  $45^\circ$  upline, perform a  $\frac{1}{2}$  roll, pull through a  $\frac{1}{4}$  loop into a  $45^\circ$  downline, perform a  $\frac{1}{2}$  roll, push through a  $\frac{1}{4}$  loop into a  $45^\circ$  downline, perform a  $\frac{1}{2}$  roll, pull through a  $\frac{1}{8}$  loop, exit upright.

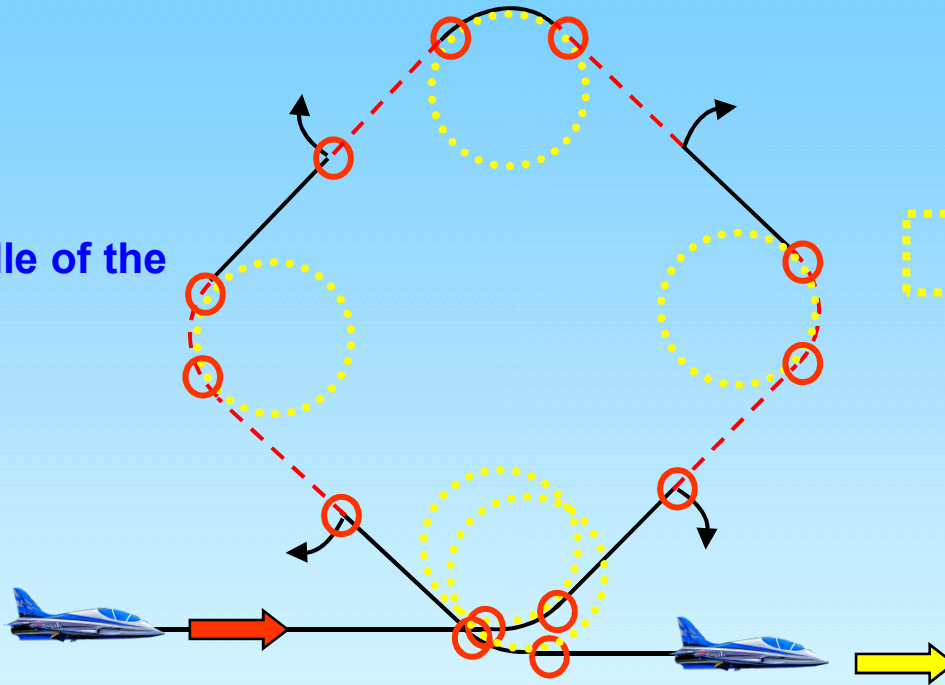


# SF-19.01 Square Loop on corner with $\frac{1}{2}$ roll, $\frac{1}{2}$ roll, $\frac{1}{2}$ roll, $\frac{1}{2}$ roll,

$\frac{1}{2}$  rolls on middle of the lines.

All radii are equal.

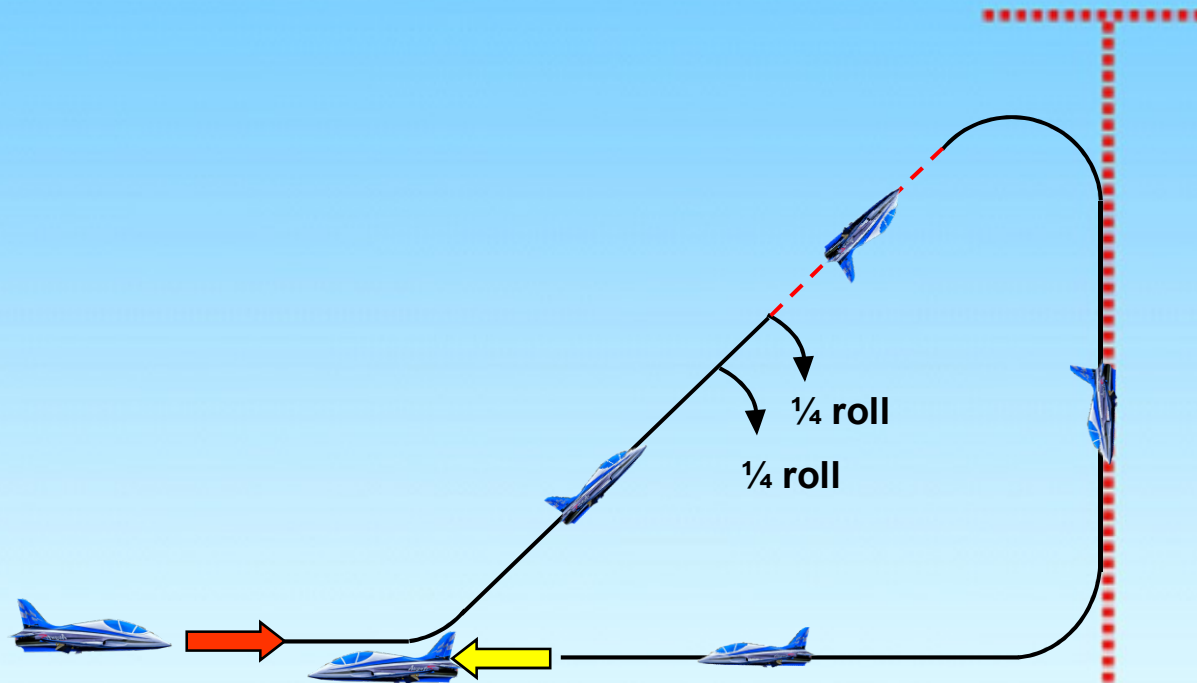
Entry and exit must be on the the same level.





SF-19.02

# Shark Fin with two consecutive $\frac{1}{4}$ rolls



From upright, pull through a  $\frac{1}{8}$  loop into a 45 degree upline, perform consecutively two  $\frac{1}{4}$  rolls, pull through a  $\frac{3}{8}$  loop, pull through a  $\frac{1}{4}$  loop, exit upright.



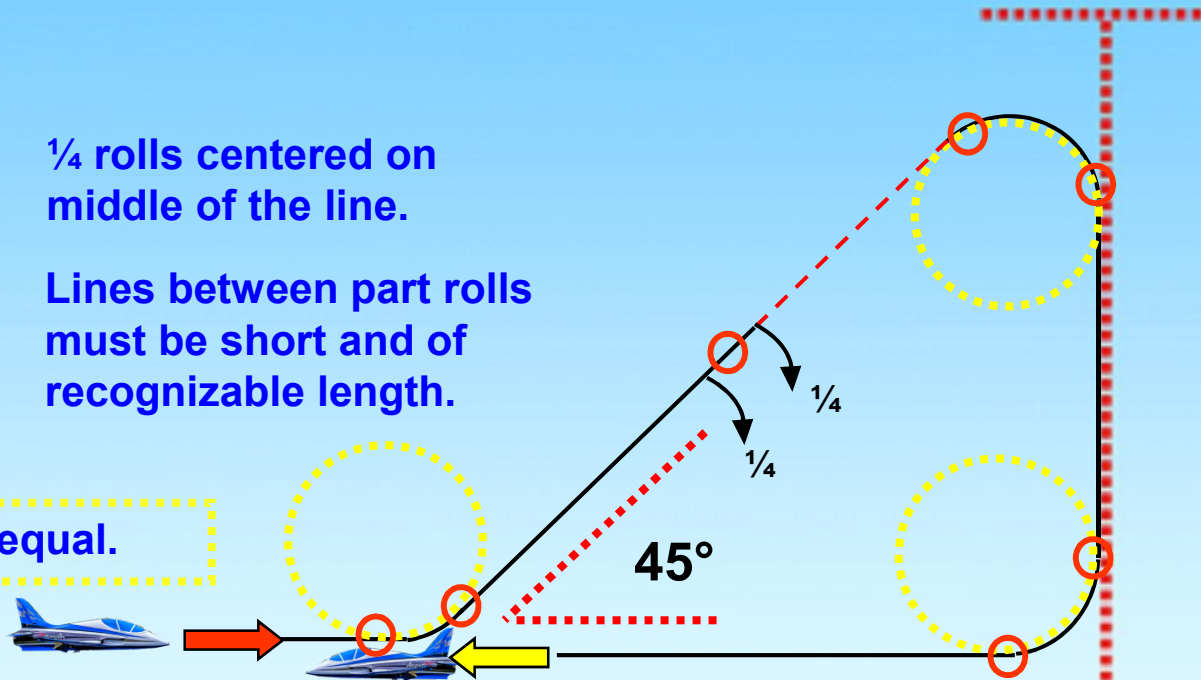
SF-19.02

## Shark Fin with two consecutive $\frac{1}{4}$ rolls

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

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

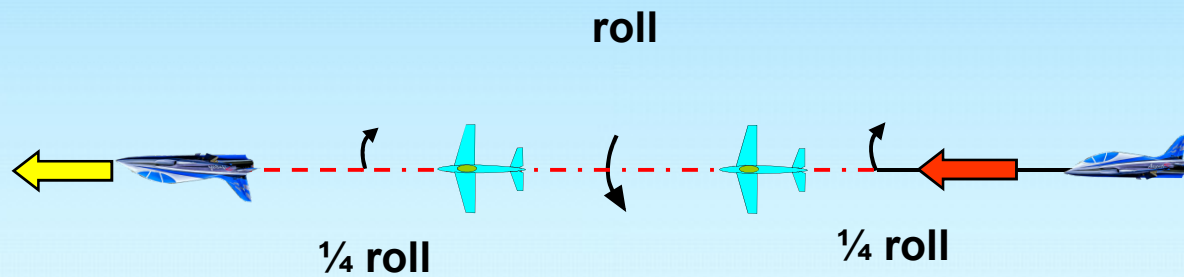
All radii are equal.







## SF-19.03 Knife-edge Flight with roll



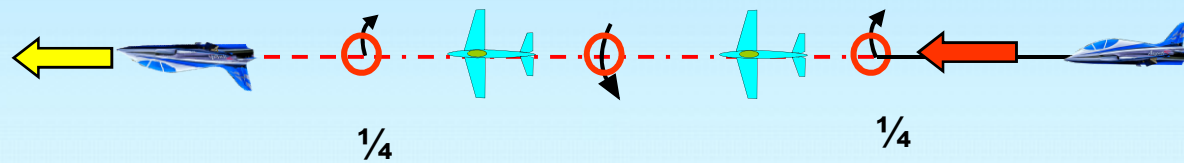
From upright, perform a  $\frac{1}{4}$  roll, perform a knife-edge flight, perform a roll in opposite direction to the  $\frac{1}{4}$  roll, perform a knife-edge flight, perform a  $\frac{1}{4}$  roll in opposite direction to the roll, exit inverted..





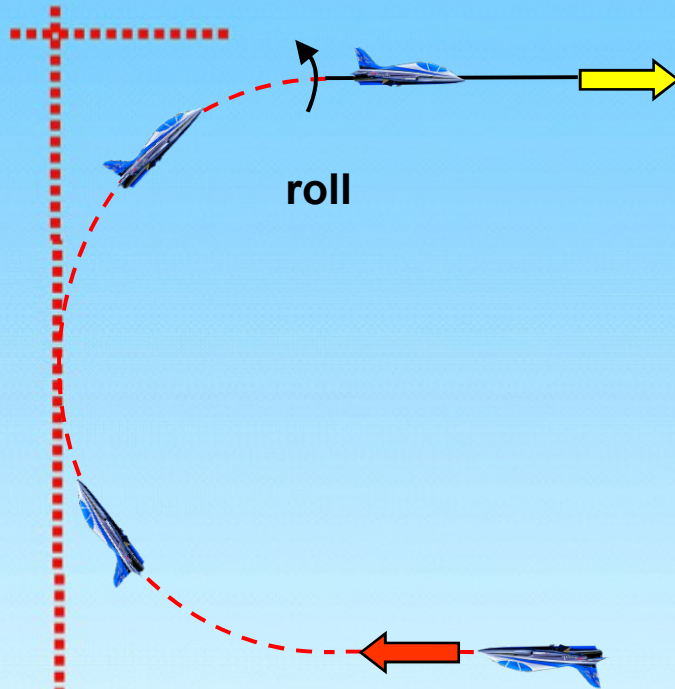
## SF-19.03 Knife-edge Flight with roll

During the knife edge the wing must be in the vertical plane.





# SF-19.04 Pushed Immelmann with roll

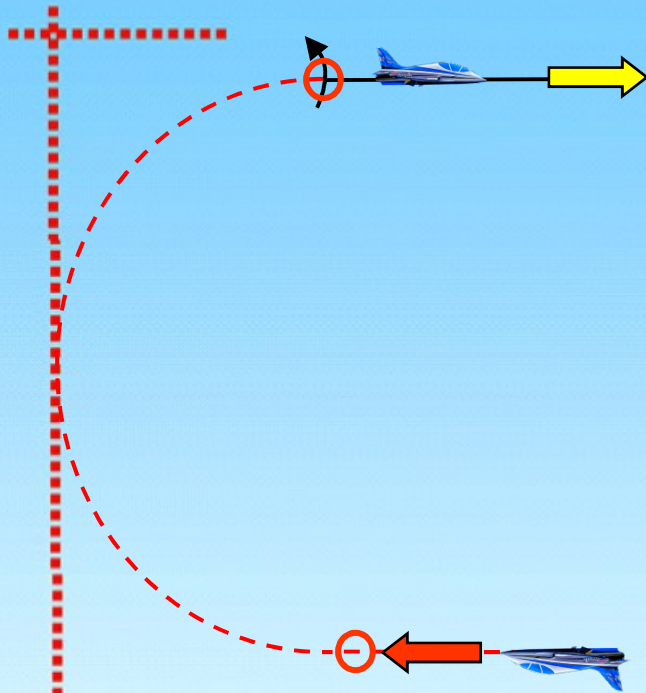


From inverted, push through a half loop, immediately followed by a roll, exit upright.





## SF-19.04 Pushed Immelmann with roll



The roll must follow immediately after the  $\frac{1}{2}$  loop.

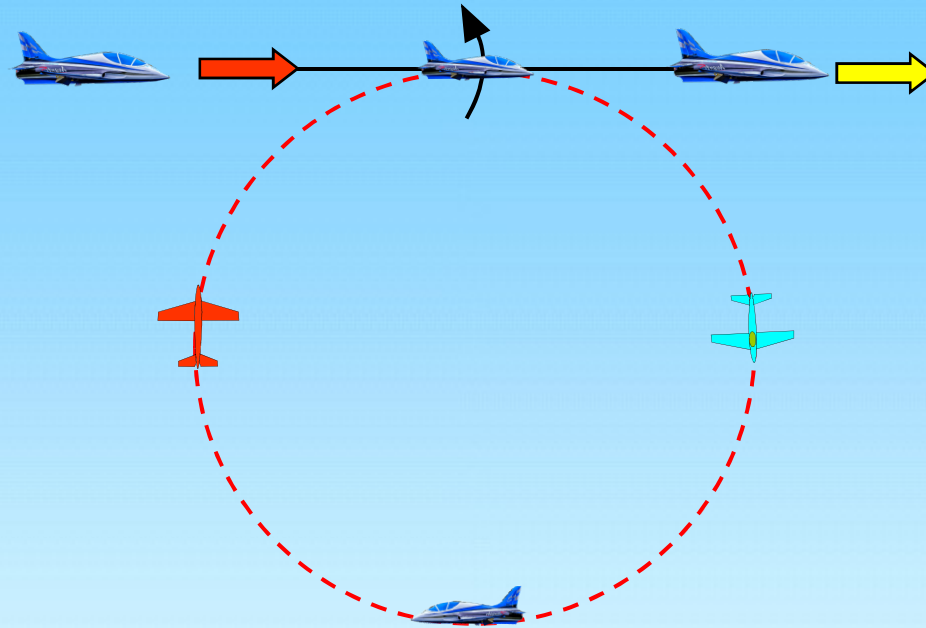
SF-19.04.02







## SF-19.05 Rolling Loop



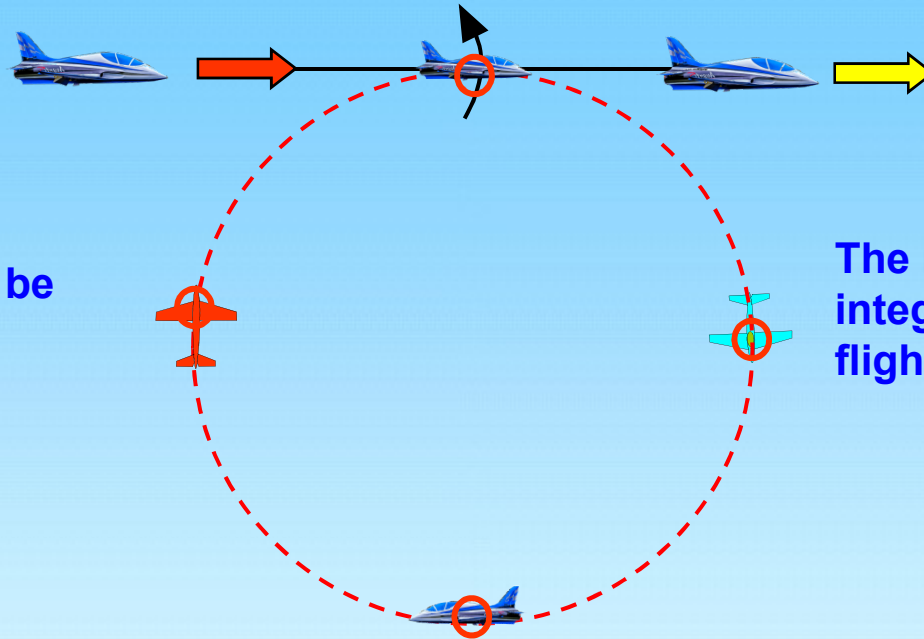
From upright, push through a loop while integrating one roll, exit upright.



## SF-19.05 Rolling Loop

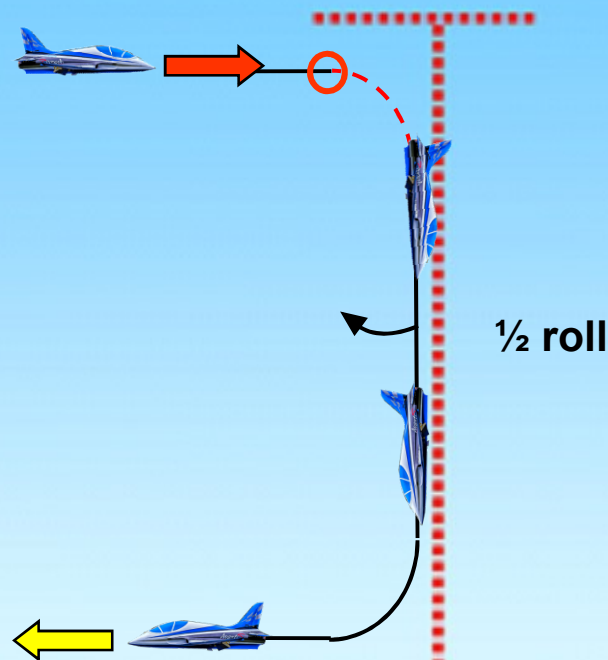
Loop must be round.

The roll must be integrated on circular flightpath of the loop.





## SF-19.06 Half Square Loop with $\frac{1}{2}$ roll



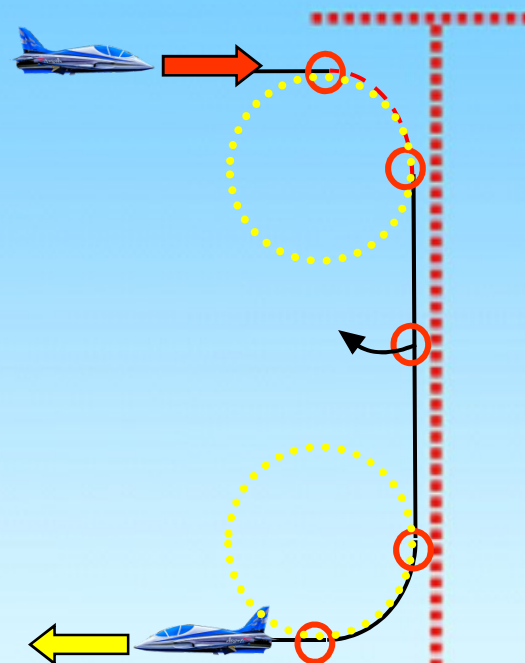
From upright,, push through a  $\frac{1}{4}$  loop, perform a  $\frac{1}{2}$  roll, pull through a  $\frac{1}{4}$  loop, exit upright.



# SF-19.06 Half Square Loop with 1/2 roll

1/2 roll on middle of the line.

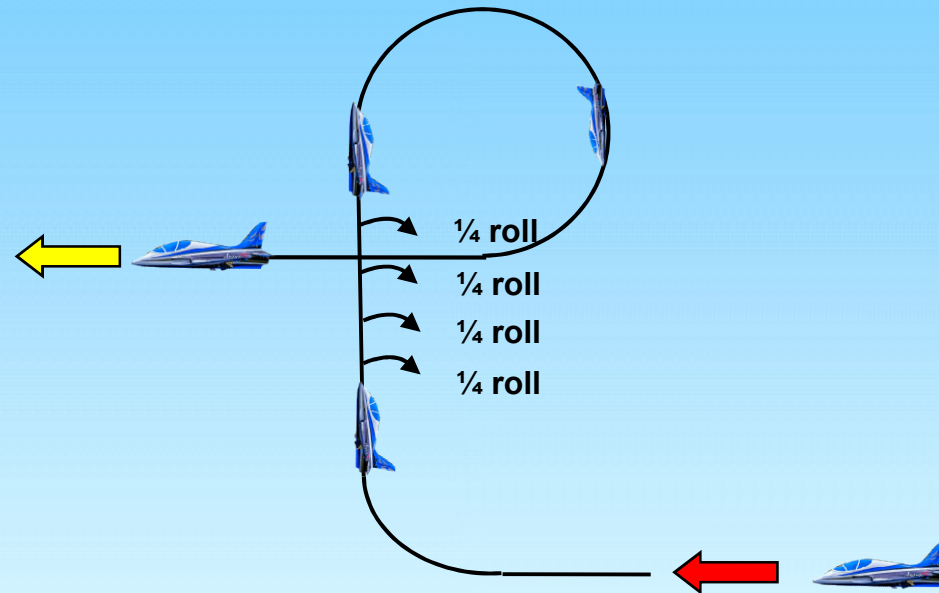
All radii are equal.







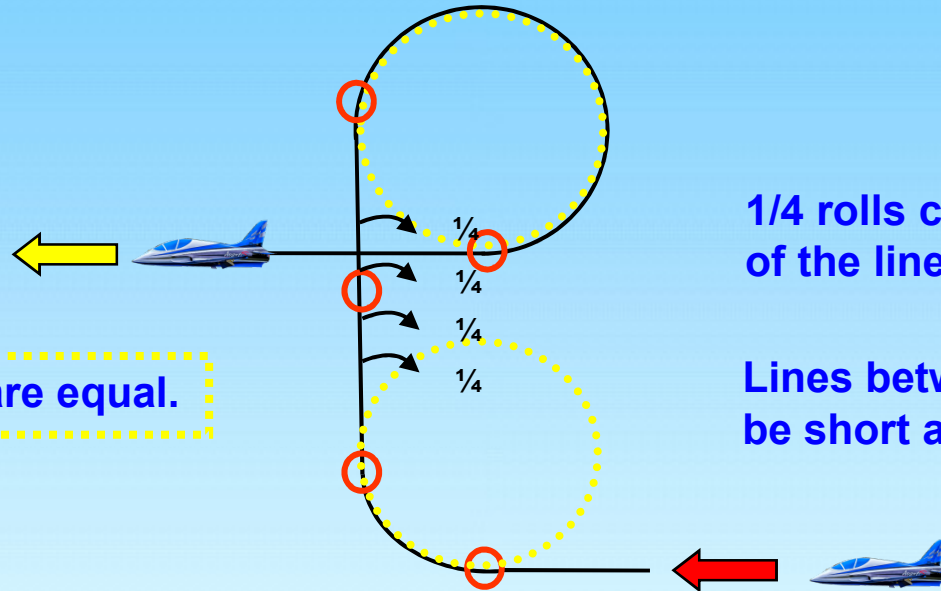
## SF-19.07 Figure 9 with four consecutive $\frac{1}{4}$ rolls



From upright, pull through a  $\frac{1}{4}$  loop into a vertical upline, perform consecutively four  $\frac{1}{4}$  rolls, pull through a  $\frac{3}{4}$  loop, exit upright.



# SF-19.07 Figure 9 with four consecutive $\frac{1}{4}$ rolls



All radii are equal.

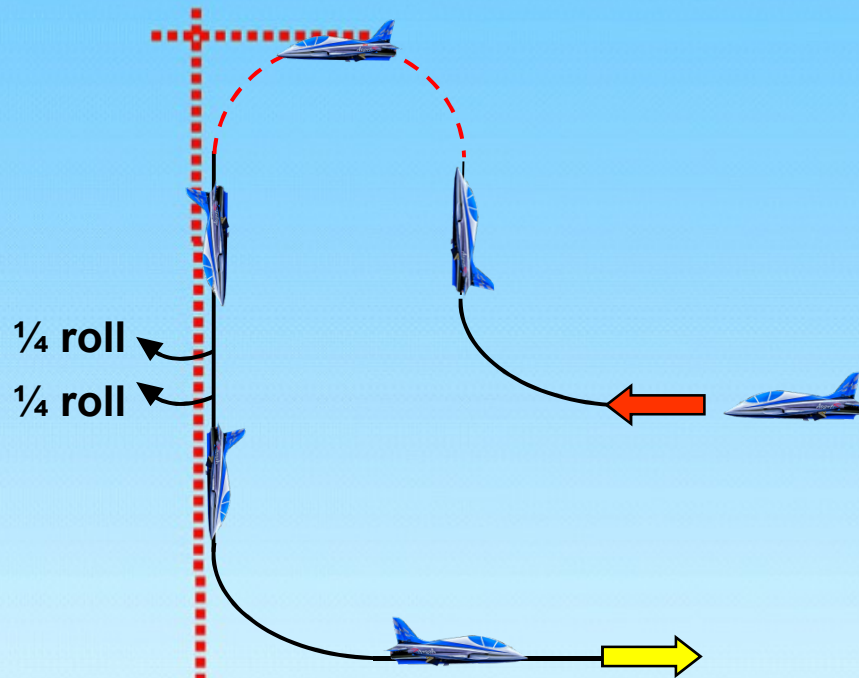
$\frac{1}{4}$  rolls centered on middle of the line.

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





## SF-19.08 Pull-push-pull Humpty Bump with consecutive two $\frac{1}{4}$ rolls



From upright, pull through a  $\frac{1}{4}$  loop to a vertical upline, push through a  $\frac{1}{2}$  loop into a vertical downline, perform consecutively two  $\frac{1}{4}$  rolls, pull through a  $\frac{1}{4}$  loop, exit upright.

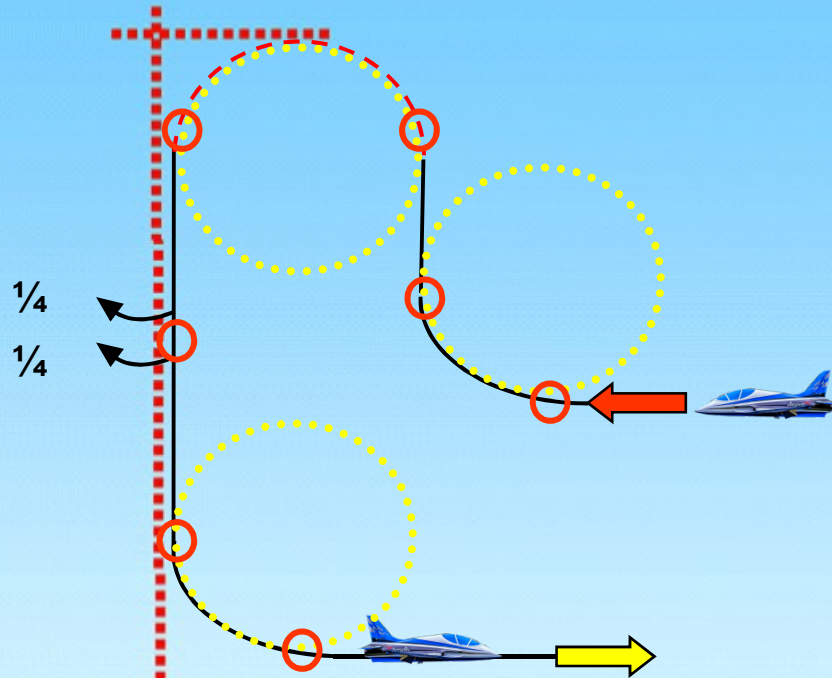
SF-19.08.01







## SF-19.08 Pull-push-pull Humpty Bump with consecutive two $\frac{1}{4}$ rolls



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

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

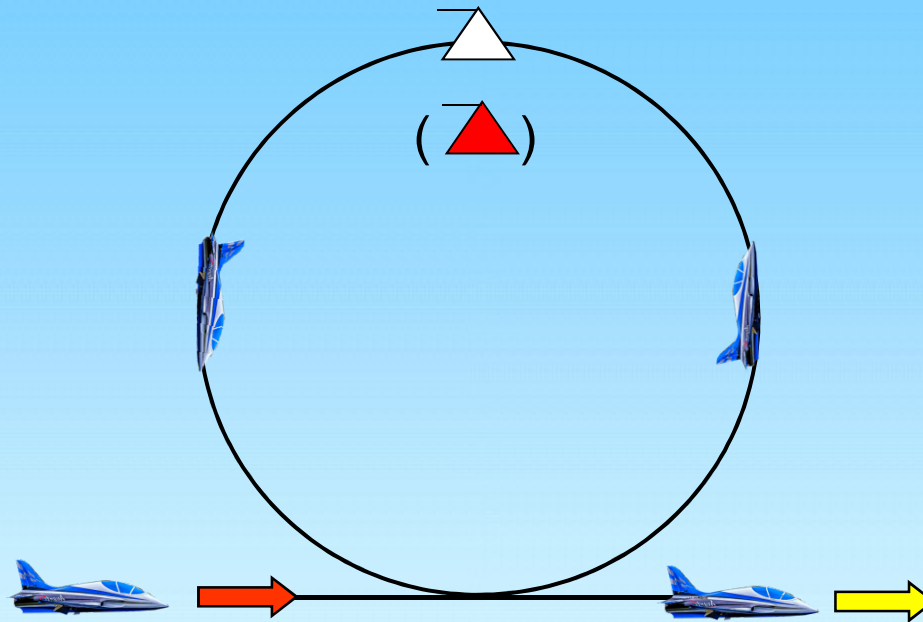
All radii are equal.





## SF-19.09 Avalanche

snap roll



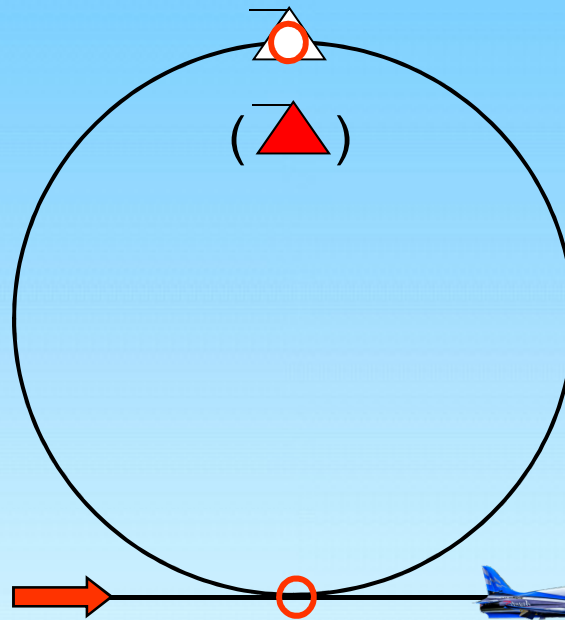
From upright, pull through a loop, while performing a snap roll on top, exit upright.

SF-19.09.01



## SF-19.09 Avalanche

Loop must be round.



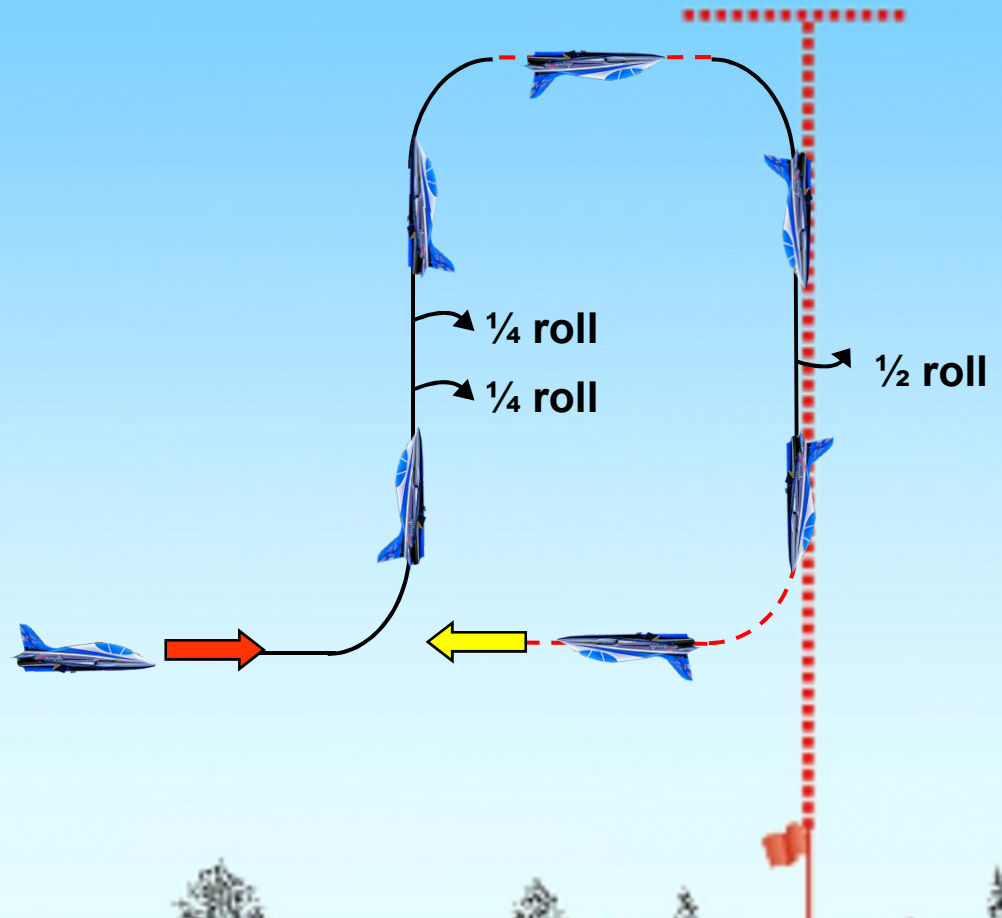
Snap roll may be positive or negative.

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





## SF-19.10 Top Hat with two consecutive $\frac{1}{4}$ rolls, $\frac{1}{2}$ roll



From upright, pull through a  $\frac{1}{4}$  loop into a vertical upline, perform consecutively two  $\frac{1}{4}$  rolls, pull through a  $\frac{1}{4}$  loop into a horizontal line, pull through a  $\frac{1}{4}$  loop into a vertical downline, perform a  $\frac{1}{2}$  roll, push through a  $\frac{1}{4}$  loop, exit inverted.



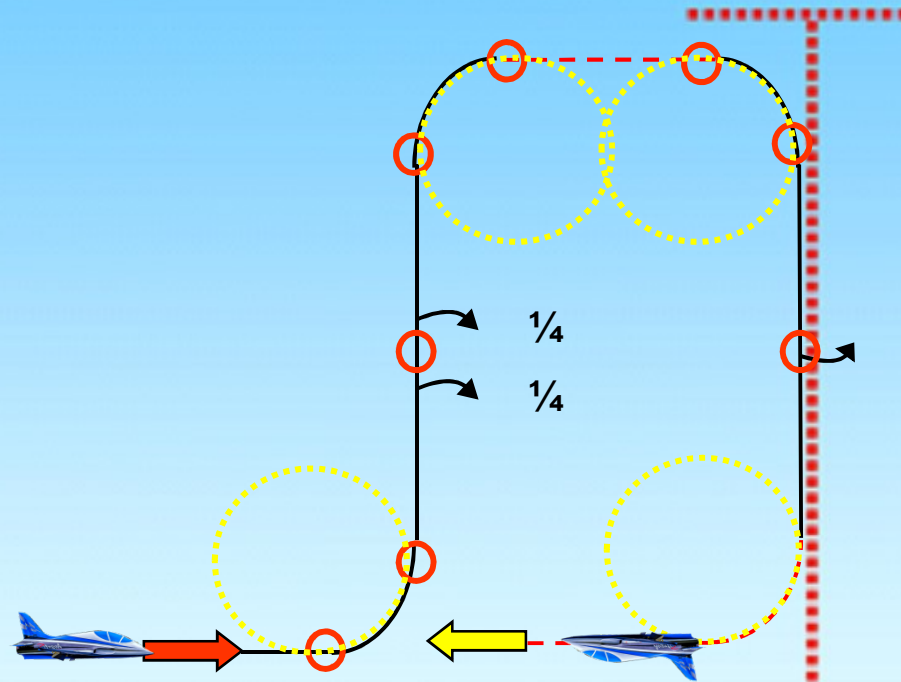


## SF-19.10 Top Hat with two consecutive $\frac{1}{4}$ rolls, $\frac{1}{2}$ roll

$\frac{1}{4}$  rolls and  $\frac{1}{2}$  roll centered on middle of the line.

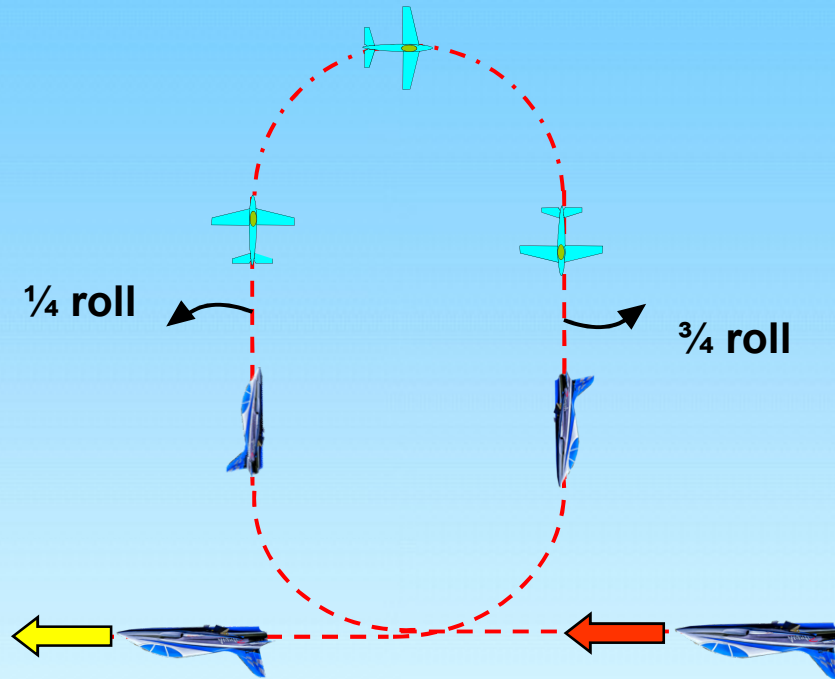
Lines between part rolls must be short and of recognizable length.

All radii are equal.





## SF-19.11 Knife Edge Humpty Bump with $\frac{1}{4}$ roll, $\frac{3}{4}$ roll



From inverted, fly past center, push through a  $\frac{1}{4}$  loop into a vertical upline, perform a  $\frac{1}{4}$  roll, perform a  $\frac{1}{2}$  knife edge loop into a vertical downline, perform a  $\frac{3}{4}$  roll, push through a  $\frac{1}{4}$  loop, exit inverted.



# SF-19.11 Knife Edge Humpty Bump with $\frac{1}{4}$ roll, $\frac{3}{4}$ roll

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

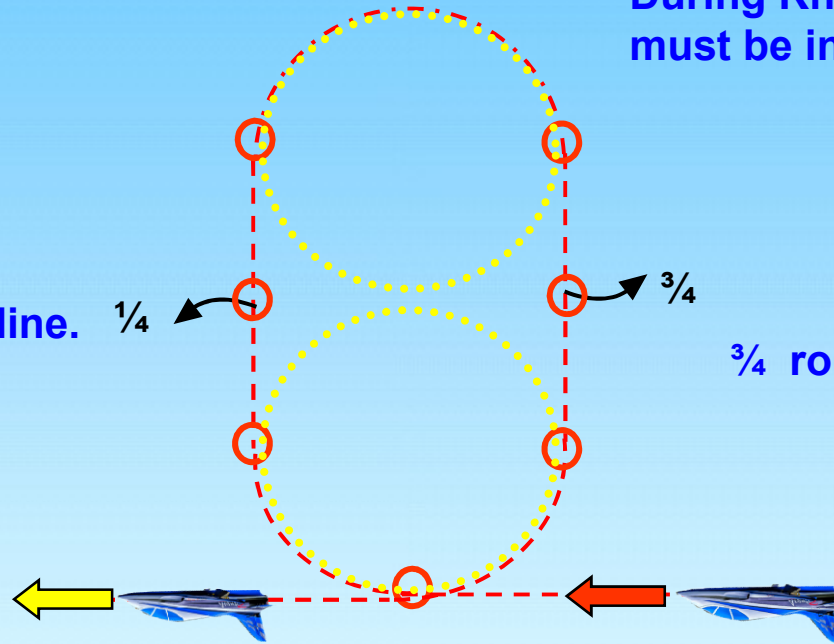
$\frac{1}{4}$  roll on middle of the line.

$\frac{1}{4}$

$\frac{3}{4}$

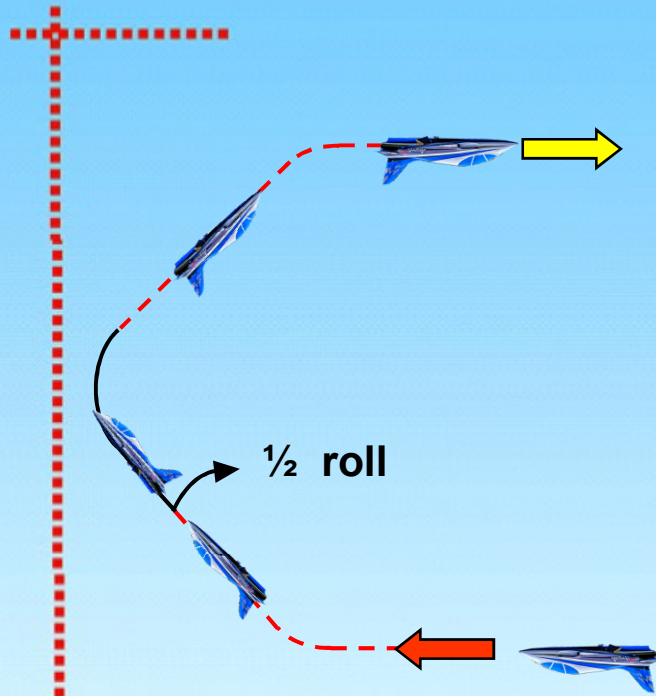
$\frac{3}{4}$  roll on middle of the line.

All radii are equal.





## SF-19.12 Half Square Loop on corner with half roll



From inverted, push through a 1/8 loop into a 45° upline, perform a 1/2 roll, pull through a 1/4 loop into a 45° degrees upline, pull through a 1/8 loop, exit inverted.

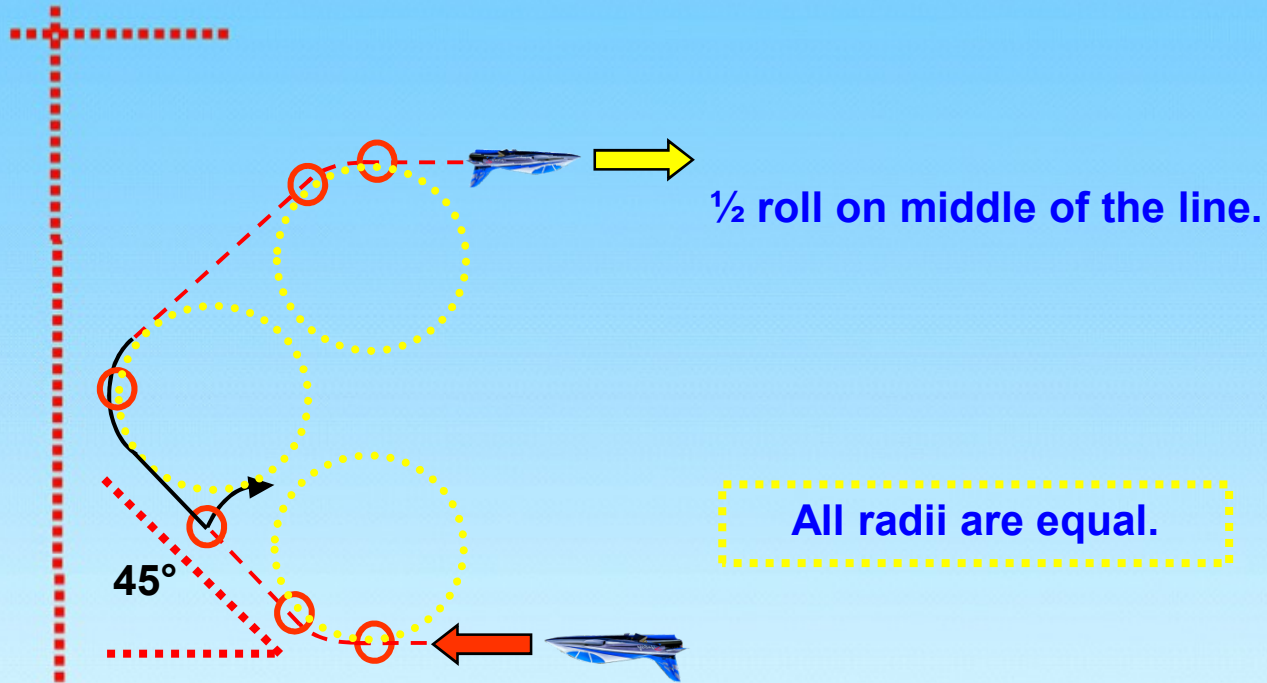
P-19.12.01





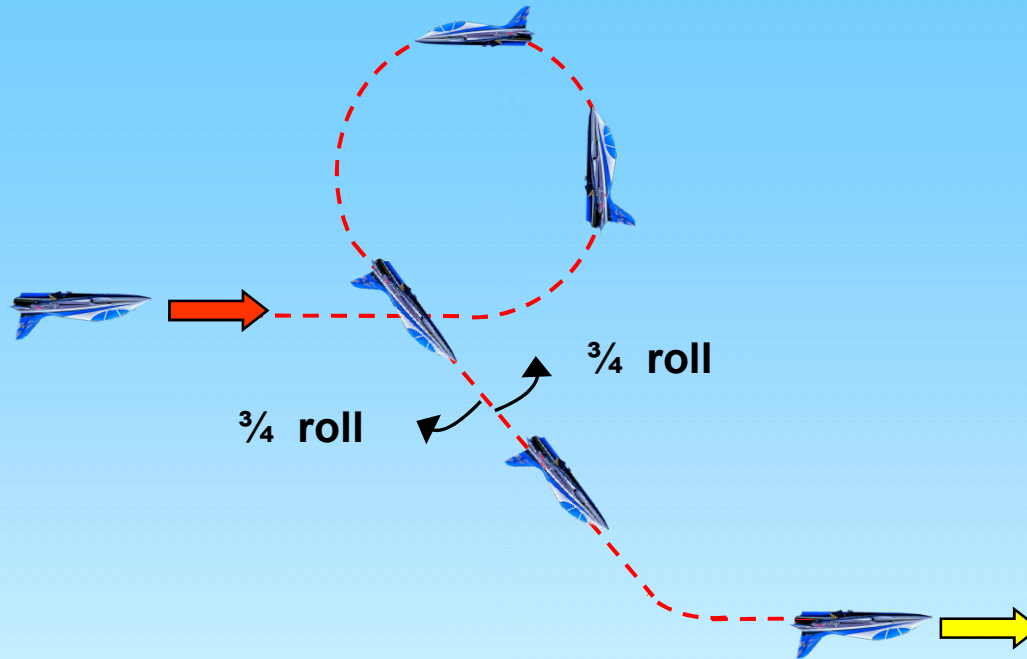


# SF-19.12 Half Square Loop on corner with half roll





## SF-19.13 Reverse Nine with 3/4 roll, 3/4 roll



From inverted push through a 7/8 loop into a 45 degree downline perform consecutively two 3/4 rolls in opposite direction, push through a 1/8 loop, exit inverted.



# SF-19.13 Reverse Nine with 3/4 roll, 3/4 roll

All radii are equal.

$\frac{3}{4}$  rolls on middle of the line.  $\frac{3}{4}$

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

Start of 7/8 loop      End of 1/8 loop

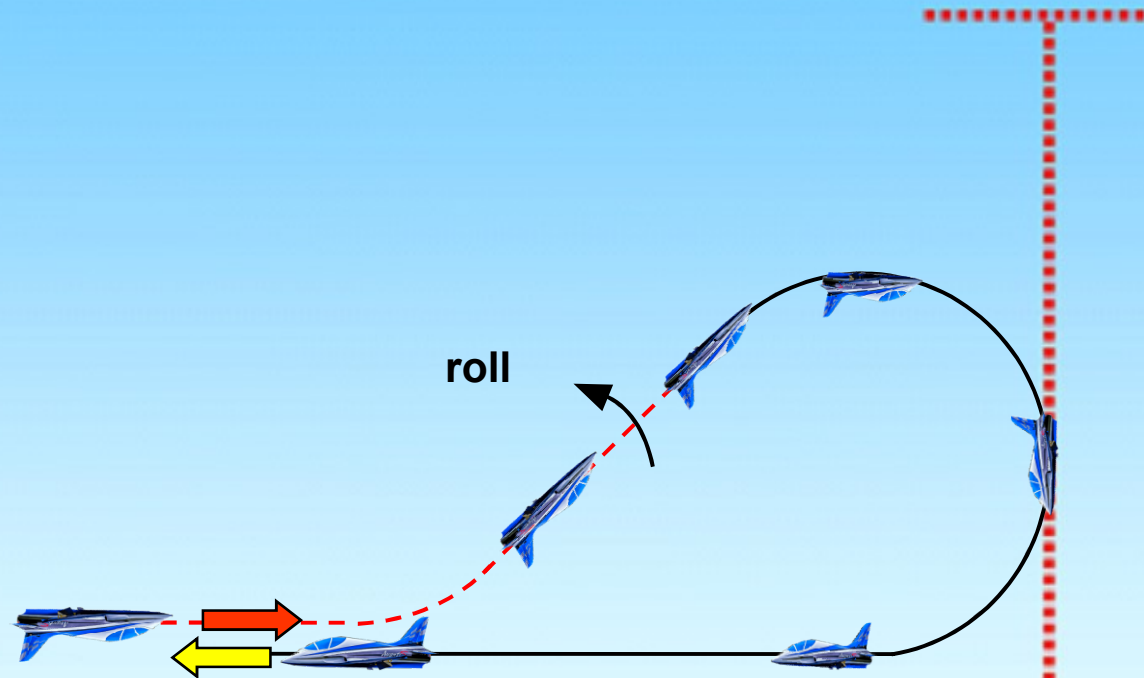
The manoeuvre has to be centered as shown.







## SF-19.14 Half reverse Cuban 8 with roll.



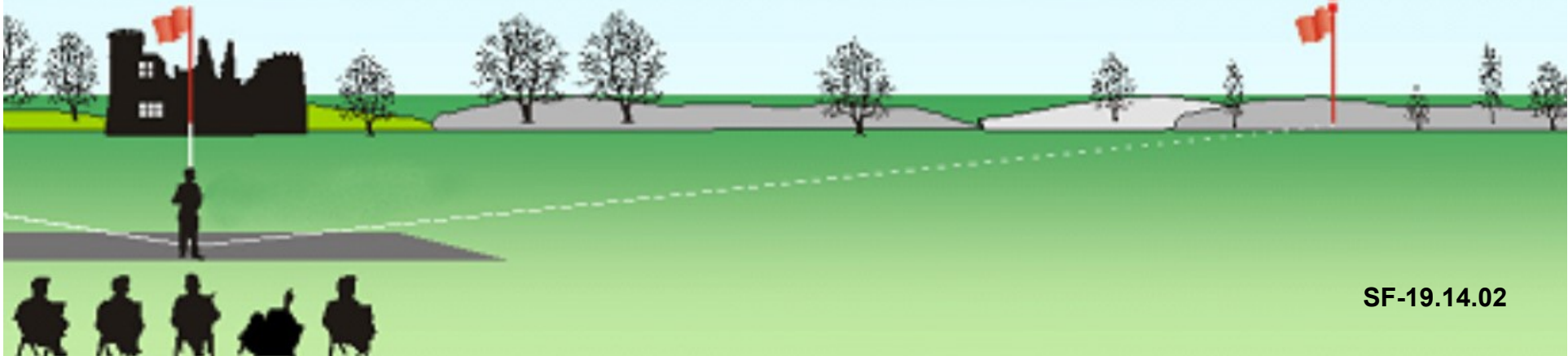
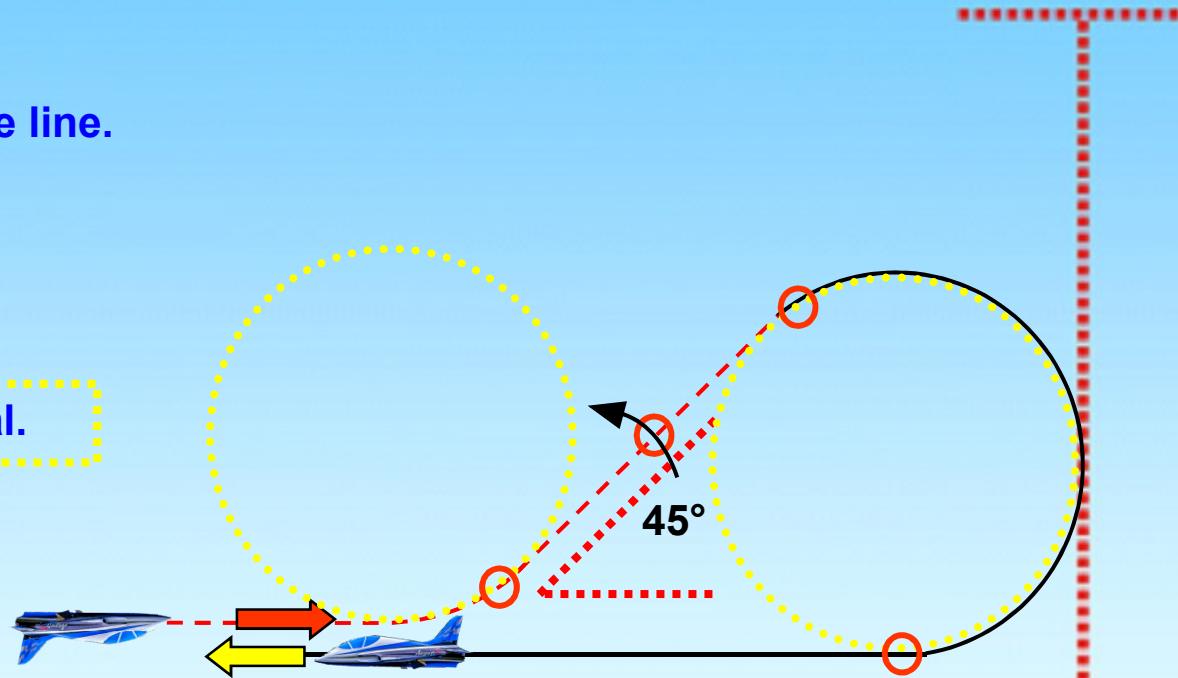
From upright, push through a 1/8 loop into a 45° upline, perform a roll, pull through a 5/8 loop, exit upright.



# SF-19.14 Half reverse Cuban 8 with roll

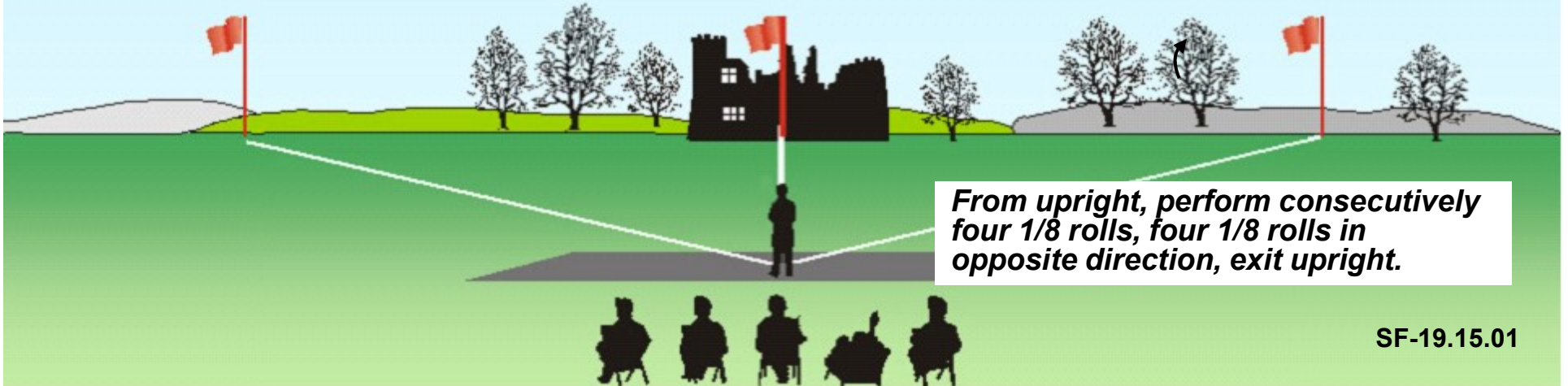
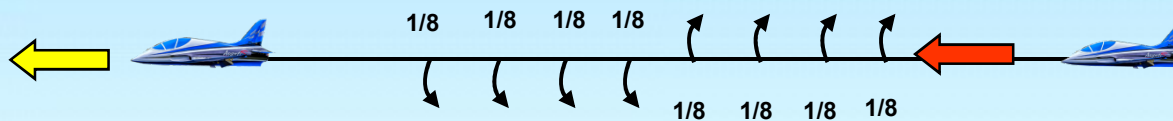
Roll on middle of the line.

All radii are equal.





## SF-19.15 Roll Combination with four consecutive 1/8 rolls, four 1/8 rolls in opposite direction



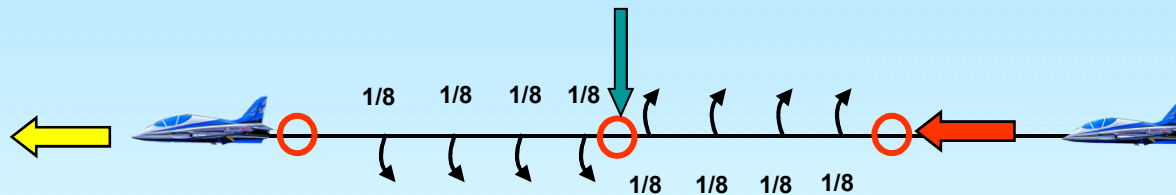
*From upright, perform consecutively four 1/8 rolls, four 1/8 rolls in opposite direction, exit upright.*

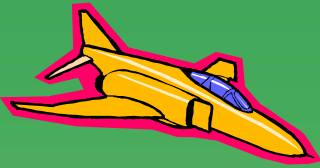


## SF-19.15 Roll Combination with four consecutive 1/8 rolls, four 1/8 rolls in opposite direction

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

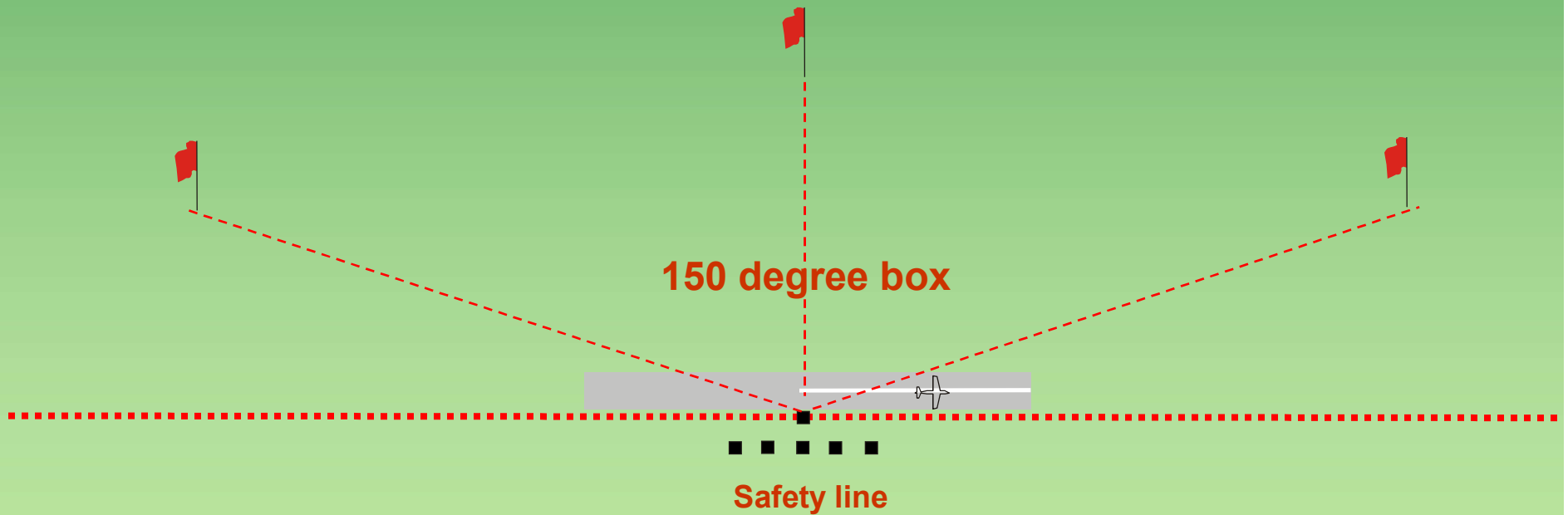
Between part rolls in opposite direction there must be no line.





# 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

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

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



**Thank you!**

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