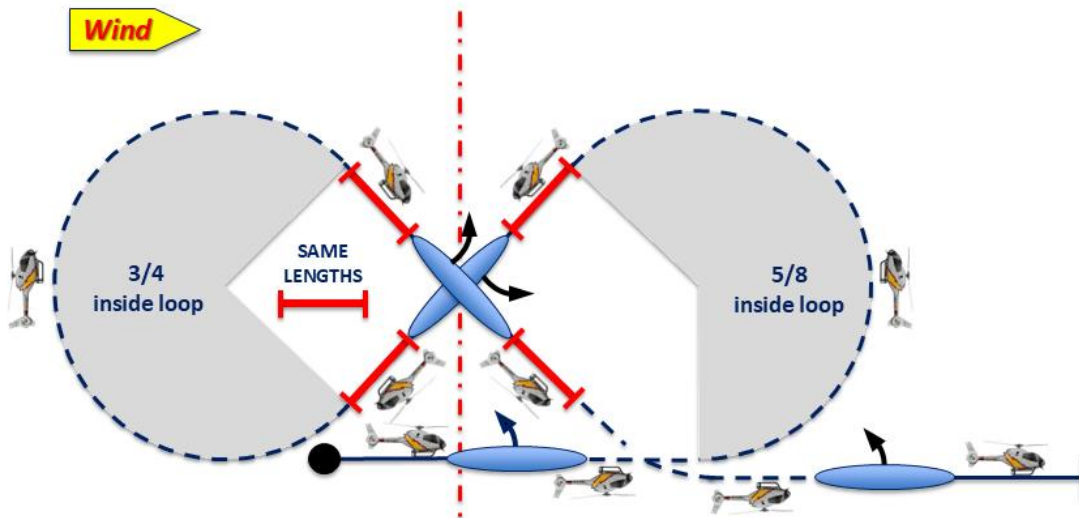


SF4 Reverse Cuban Eight (DD)



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Unofficial but more detailed description.

SF4 : Inverted Cuban Eight with half Rolls – (DD)

K Factor = None

Specificities :

- Rolls are in any direction.
- Loop portions must have the same radius.
- Straight segments before and after the centred half rolls must be the same length.
- The two half-rolls must be centred at the same height.

Description :

In a **horizontal** trajectory MA flies for a minimum of 10m then performs a half roll followed by an inverted flight for a minimum 10m.

- MA performs a 5/8 outside loop then in a 45° descent MA flies a short straight line in upright flight followed by a half centred roll then flies a short straight line in inverted flight.
- This is followed by 3/4 outside loop then in a 45° descent MA flies a short straight line in upright flight followed by a half centred roll then flies a short straight line in inverted flight followed by a 1/8 outside loop which must end at the same altitude as when entering figure.
- Then in a **horizontal** trajectory MA performs an inverted flight for a minimum of 10m followed by a half roll then flies for a minimum of 10 m.

Comments on the next page :

Speed is needed, but not too excessive, because the helicopter must not be a rocket during 45° descents.

This figure takes up a lot of space laterally, so a depth of 80 to 100m is required.

The first half-roll and inverted flight pose no problem, the first difficulty comes from the 45° descent with the three manoeuvres to be performed (straight line/half roll/straight line). It is necessary to clarify that the first short straight line before the execution of the half-roll will determine the length of the 3 other straight lines that frame the two half-rolls, of course the half-rolls must be centred on the centre line but also at the same altitude.

Be careful, if the slope is less than 45° the entire left side will be off-center, which risks increasing the radius of the following three-quarter loop. If, in addition, the helicopter moves away from the judges' line, it's a guaranteed disaster. It's better for the angle to be slightly more than 45° rather than less.

The 3/4 inside loop must have the same radius as the 5/8 loop, and the helicopter must remain in the correct flight path. It is in this phase of flight that everything becomes complicated because most of the time the radius of the 3/4 loop is larger, which is penalised, but this will generate other penalties; a larger radius equals a higher apex of the loop, which will result in a longer straight line before the half-roll, and that's not all. Assuming that the half-roll is centred on the centre line (which is practically never the case), the crossing will take place at a higher altitude, and that's not all. During all the manoeuvres that follow in the 45° descent, the helicopter will gain a lot of speed, the ground approaching quickly there will be no straight line after the half-roll. Then, it will be necessary to quickly perform the 1/8 loop to return to inverted horizontal flight.

Summary of the main key points :

- Not too much speed at the end of the 5/8 loop.
- A 45° slope, rather steep than less.
- The 3/4 loop must have the same radius as the 5/8 loop; if the radius is smaller the fault is less visible, but certainly not larger.

Thanks for your interest