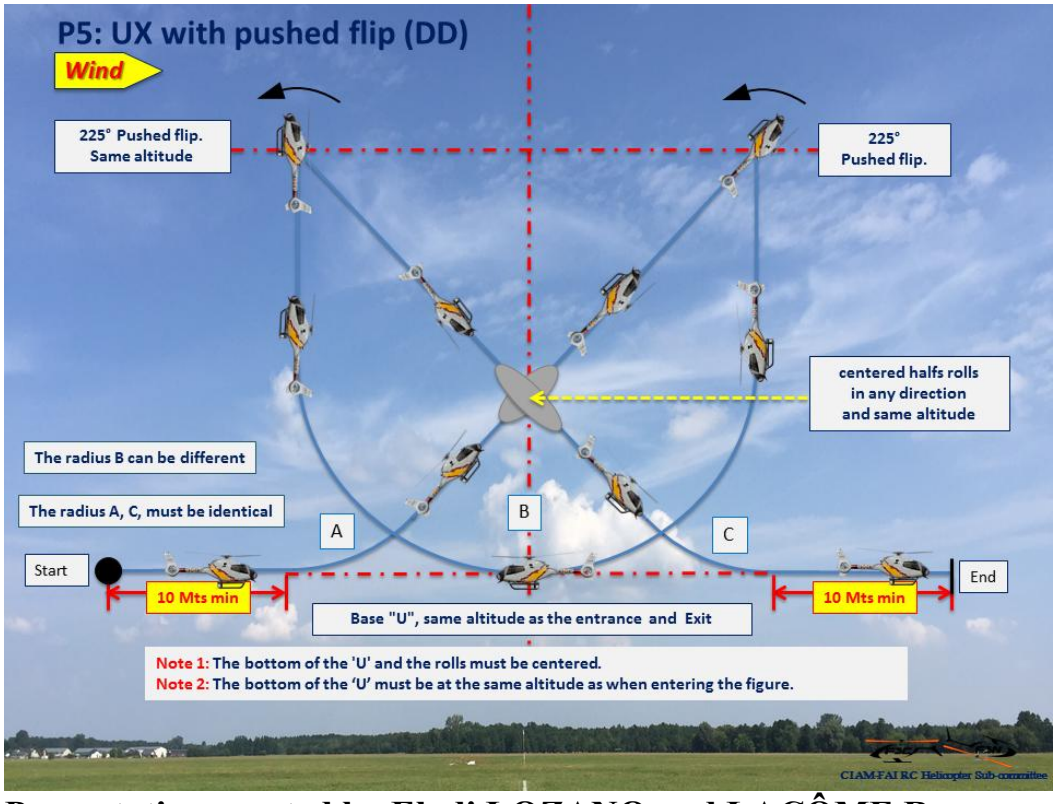
Pilot training for 2026: July 18, 2026

P5 : UX with pushed flips (DD)



Presentation created by Eladi LOZANO and LACÔME Roger

P5 : UX with Pushed Flips (DD) **K=1.0**

Unofficial but precise and clear description.

Specificities :

- Half rolls are in any direction.
- The bottom of the 'U' must be at the same altitude as when entering the figure.
- If there is a straight line before the first roll, there must be one of the same length after the second roll.

Description :

MA flies a straight horizontal line for a minimum of 10 m, then performs a 1/8 loop then in a 45° ascent it performs a centred half roll and continues the ascent

● After stopping the ascent, MA performs a 225° stationary pushed flip then performs a centred 'U'

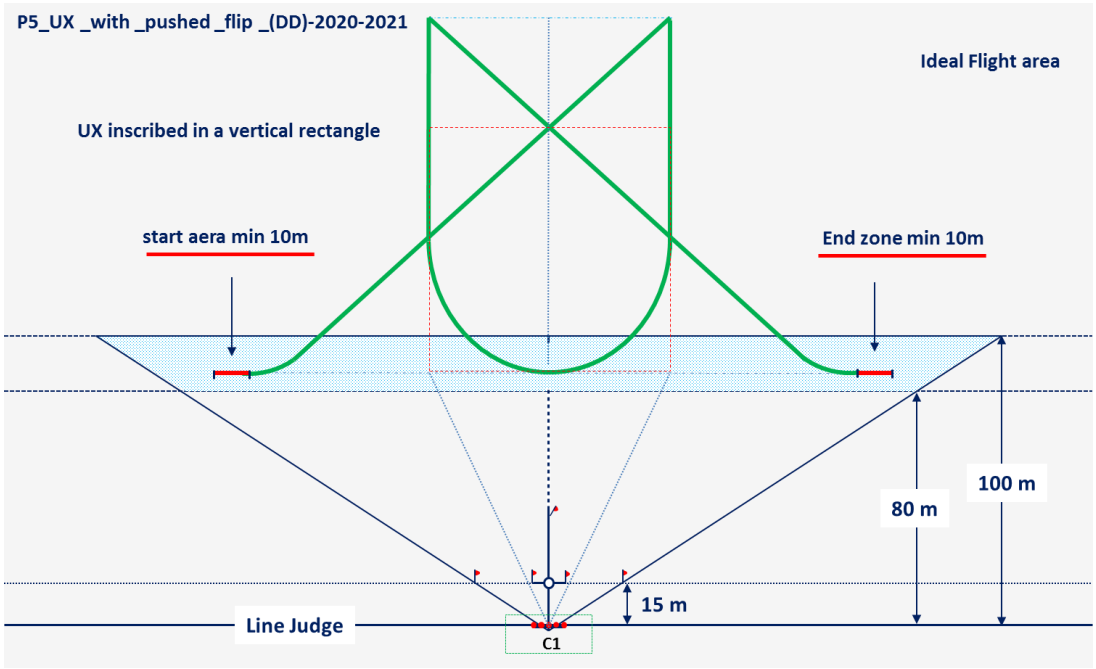
● At the stop of the ascent of the "U", MA performs a 225° stationary push flip then in a 45° descent it performs a straight line followed by a centred half roll

● MA performs a 1/8 loop which must end at the same altitude as when entering the figure, then flies in a straight line for a minimum of 10 m.

Before performing this figure, it is advisable to study it in detail.
It is possible to perform this manœuvre (figure) in 3 configurations :

- In a vertical rectangle. In a square.
- In a square.
- In a horizontal rectangle.

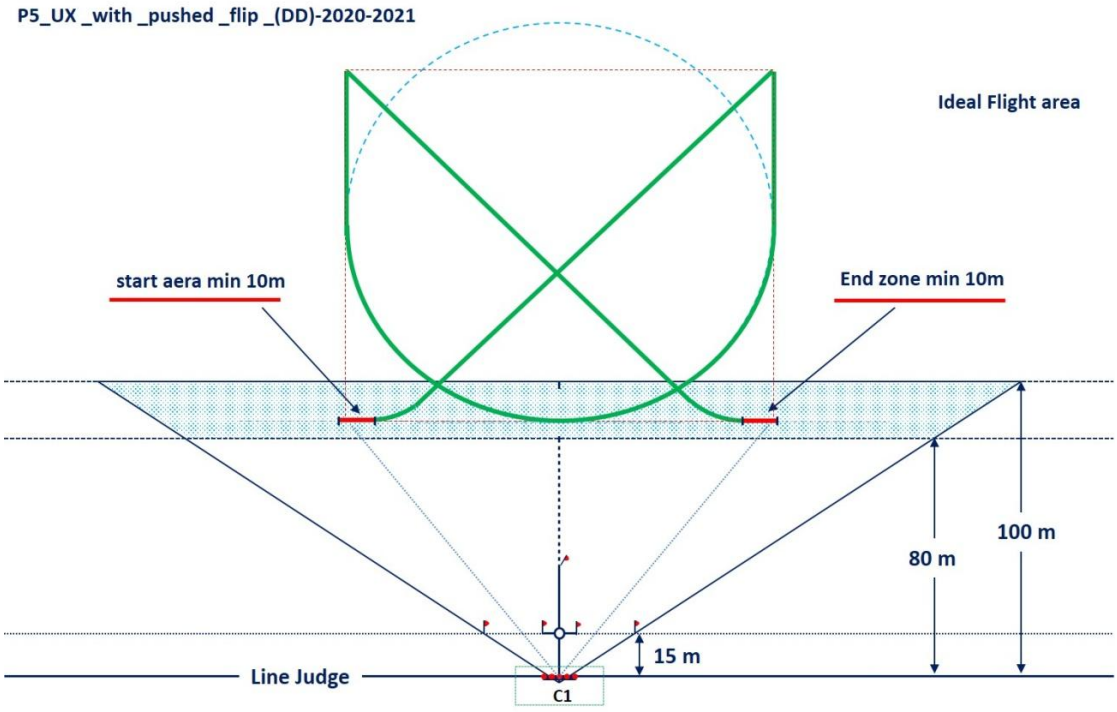
Cas N°1 In a vertical rectangle.



Advantage:
Relative safety is achieved for several reasons:
The ascent after the half roll is relatively short.
The flip and descent of the "U" shape are quite close to the centre line, and if the helicopter changes course due to wind, this will be less of an issue.
After the second flip, the 45° descent will also be relatively short, meaning not too much speed, which makes it easier to centre the second half roll both on the centre line and at altitude; this second factor should not be overlooked.

Disadvantage:
The base of this configuration takes a lot of space laterally and the risk of exit the flight frame is very high.

Cas N° 2 In a square



Advantage:
No risk of exiting the flight frame.

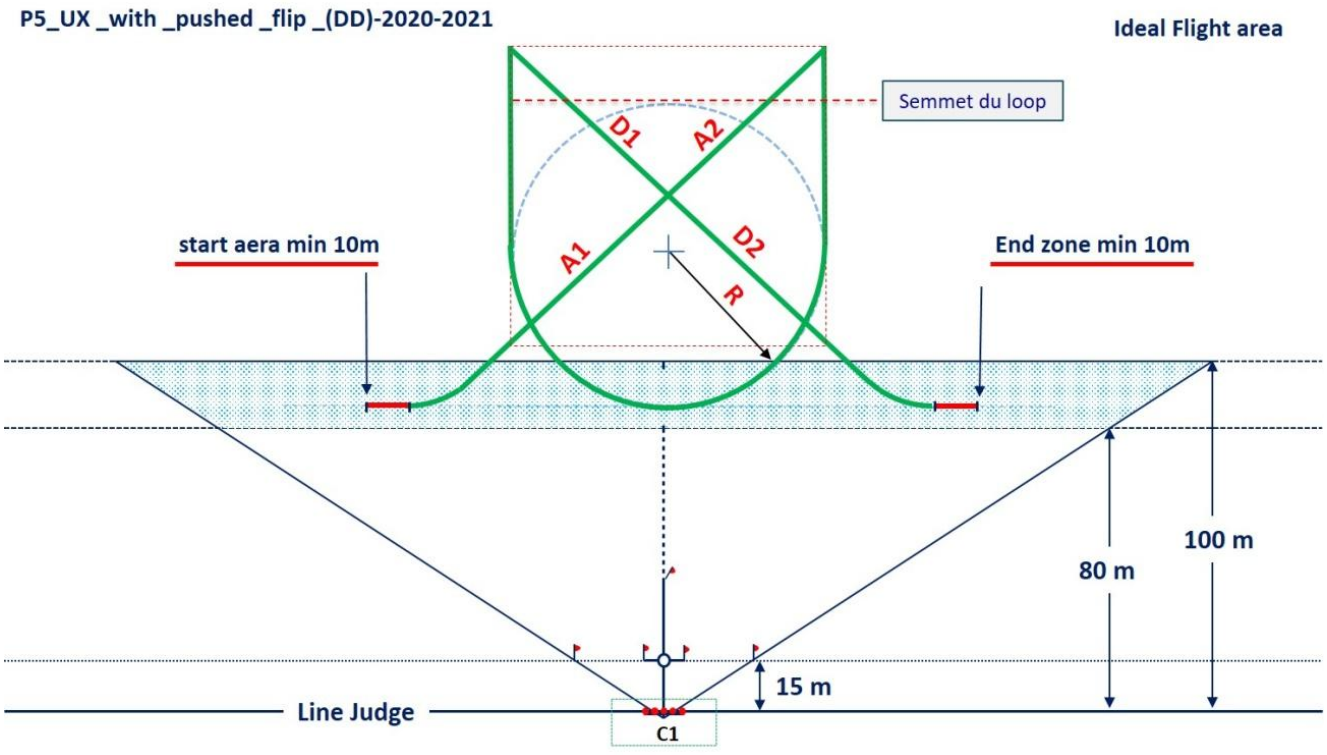
Disadvantage:
The helicopter ascents a lot after the first half-roll, which induces a large radius for the semi-circle of the "U", the further the ascent is from the centre line, the greater the risk of change of plane and it is more difficult to visualize the stop of the second ascent which must be at the same altitude as the first.
The 45° descent after the second flip is very long (the helicopter picks up a lot of speed), making it very difficult to perform the half roll centered on the center line and at the same altitude as the first. Another consequence of this excessive speed is that after the second half roll, the eighth of the loop is rushed because the ground is approaching very quickly, giving the judges the impression that the pilot is not in control of the helicopter. Even if this isn't always the case, the judges are only human, not robots ; it's better to ensure a very short straight line—it's much more aesthetically pleasing.

There's no need to discuss the **third case** because the initial straight before the half-turn is extremely long, as is the straight following it. This configuration combines all the disadvantages of the two previous cases.

Since the first two cases have disadvantages, it is better to make a mix of the two (which gives case No. 4) so that the crossing of the half-barrels is slightly higher than the centre of the semicircle of the "U" so as to have a straight line not too long after the first half-barrel which allows time to make a short straight line after the second half-barrel and to make the 1/8 loop without rushing.

But as usual, everyone does as they want.

Cas N° 4 In a mixture of the first two cases



Advantage:
Very low risk of leaving the flight path even if the helicopter changes its flight plan due to a gust of wind and approaches the judges' line, since the start of the figure begins far from the beginning of the flight path and therefore the figure should finish with a good margin of safety.

Disadvantage:
Sorry, but I don't see a major problem with this configuration.

Regarding the translation speed, you need a little speed but not too much and especially not like a rocket.

Another very interesting point to take into account, the penalties:
As with all figures, it is always interesting to know where the points are lost assuming that the first half-roll is well centred:

- Concerning the 45° angle to have a penalty of 0.5 point, it would really have to be too flat or too vertical.
- **Most points are lost** when performing 225° hard flips because either the helicopter moves sideways during the rotation or it loses altitude which is the most common case or worse both faults at the same time, which means that the penalty very often for **1 to 2 points** for each flip.
- Concerning the “U”, the length of the ascent must be equal to that of the descent, otherwise it is no longer a “U”, but it is also necessary to check that the descent is indeed vertical because it frequently happens that the helicopter moves away from the centre line, which results in the radius of the semicircle of the “U” increasing and the vertical ascent will be further from the centre line than the beginning of the descent, moreover the stop is often higher, even if the penalty is small (0.5 point, rarely more than + unless the difference is considerable), it induces another fault: the descent before the half roll is longer, which means a higher (+) speed and therefore more penalty points for the execution of the following half roll.
- Next, the centring of the second half-roll, which must of course be centred, but it must also be at the same altitude as the first, and as if that were not enough, it must be in the same plane, and there are plenty of penalties for that!
- Another drawback is that the radius of the semicircle is not constant; the radius is smaller in the lower part, which tends to move the start of the ascent further away.

Finally, the transition between the end of the second half roll and the 1/8 loop for the recovery to horizontal flight, there may not be a straight line because the helicopter will have gained a lot of speed while the success of the exit from the figure is very important because if a judge hesitates between an 8.5 and an 8, he will give 8.

Conclusions:
First point; we might think it's a relatively easy figure to execute, but when we study it, we realize that it involves many details to manage.

Summary of the main key points :
First point ; work on the 45° ascent so as not to have too long a straight line after the half-roll.
Second point ; practice flips to avoid loss of altitude or lateral movement.
Third point ; work on the “U” with a vertical descent, a constant radius and a stop at the same altitude as the end of the vertical ascent at 45°.

Of course, with half rolls centred on the centre line and at the same altitude, and all while remaining in the same plane.
Thanks for your interest