

8.quarter_ HEAD AND CROSS WIND

CORRECTIONS & PERSPECTIVE CORRECTIONS

These advises will help you too even if you have already watched the dedicated video for “Crosswind corrections” on the AoA App.

PREREQUISITE:

To know how to perform a maximum of flicks, spins, rolls both directions.

There are pilots who make the corrections while using rudder, but for me it's way easier to make it with the ailerons as well as much more economical for the overall energy. So, my explanation is about to do corrections with the ailerons.

BASIC PRINCIPLE:

_RULE -1:

Apply corrections for all manoeuvres (except for tail slides) at every second of the flight.

_RULE -2:

The longer the manoeuvre last, the more you are impacted by the wind (that means: if you can, reduce the length of the lines).

_RULE -3:

The impact of the wind is bigger at slow speed in matter of drift (visible angle from the ground), so, avoid to fly at very slow speed.

_RULE -4:

When there is wind, it does exist for all the flight duration, I.E including before and during the wing rocks, so apply crosswind correction here too.

_RULE -5:

If you need to wait between two manoeuvres headwind, 2 at slow speed, or 2 manoeuvres at high speed, you'd better choose the ones at high speed, it's better since it lasts less.

_RULE -6:

During loops, parts of loops or pull up or pull out, you'd better pull one less G's while into wind for say 10/15 knots of headwind compared to the parts of loop or pull up or pull out downwind in order to respect the roundness, as well as to stay more easily close to the centre of the box.

_RULE -7:

On a 45° upline the slower you become, the shallower you'll look especially downwind, so a slight attitude correction to become steeper will be necessary (it's better for the score of the line and the manoeuvre as well as for the positioning since otherwise you will go too far downwind).

_RULE -8:

Crosswind corrections are done with an easy trick to remember: > put always the « nose » into the wind, and this whatever your position in the sky is.

_RULE -9:

Always decide to flick or spin (or pivot for a stall turn) rudder into the wind (unless you want to be pushed by the wind on purpose to reposition before a cross box manoeuvre for example).

_RULE -10:

If you have the possibility, combine wind corrections and perspective corrections. See point **_6/** of the next reminders.

REMINDERS:

_ 1 / To fly the correct manoeuvres in the correct order (I.E. > NO zero !).

_ 2 / Be as accurate as possible.

_ 3 / Put the manoeuvres in the correct position in the box, in matter of left/right balance and depth from the judges.

_ 4 / Become slowly sharper on your inputs on elevator, rudder and ailerons especially at the stops.

_ 5 / Concentrate the manoeuvres close to the centre of the box.

_ 6 / Manage the head, cross or tail wind, and integrate the perspective I.E. fly high when far and lower when closer, as well as all the slight corrections of positive or negative tendencies or shallow or steep 45° according to the wind. Check and integrate the lateral translation during flicks, spins, stall turns and get used to the small trajectories “cheating” to move into the box to relocate whenever needed. Learn and use the tricks to keep the flight perspective in place.

_ 7 / While using this philosophy during your progression, you will be able to manage smoothly increasing workloads, which will emphasize your motivation.

_ 8 / This item needs to be developed: Nose into the wind in all spatial positions is similar as to apply a drift while on navigation between A and B in matter of « fighting » against the wind.

↳ **How to do it ?**

_ FOR A HORIZONTAL LINE OR 45° LINE: put a little drift as often as possible before, during and after a manoeuvre with nose into the wind. The slower you are and the higher the crosswind component is, the bigger this angle needs to be.

_ FOR A STALL TURN INCLUDING A 4 POINT ROLL ON THE WAY UP, reduce a little bit your speed before, in order to have slightly shorter upline. Imagine the cross wind is from your left, so you might be already slightly of axis to the left during the horizontal line before, then as soon as you start pulling, use a very little aileron deflection into the wind in order to reach the vertical up line with the horizontal bar of your left sighting device at say maximum 10 to 12 cm below the horizon (if it's more, it might be too visible from the judges and downgraded).

Then, after the first quarter to the left you will be slightly negative, the next quarter you will have your left wing slightly high, and next quarter you will be positive and finally, end up with your left wing low again after the last quarter of 4.

Don't make any correction during the rotation upline, it's better to make the pivot of a stall turn into the wind too. On the way down, still nose into the wind, I.E left wing low on purpose and then rotations if needed without any correction.

At completion of the manoeuvre, put again nose into the wind I.E with slight right aileron input this time.

At the beginning of using this technique you may feel a bit strange with all those tip of the wing movements or attitude changes, but when you realize that you are not downgraded for and that you manage the wind, then you integrate it for the rest of your flying career.

_ FOR A LOOP WITH LEFT CROSS WIND, same beginning slightly of axis to your left before the start of the pull, then left aileron into the wind, so you will pass the vertical up with your left wing low, and then carry on while being on purpose slightly of axis on the top of the loop to the left (from inside the cockpit), then proceeding for the rest of the loop, with left wing slightly high while vertical down, ending up with a left drift angle at the bottom.

Whatever the manoeuvre is, remain with this BASIC PRINCIPLE:

↳ *« nose » into the wind, and it's of course necessary for negative manoeuvres, so it needs a bit of thinking to make sure you apply the correct aileron inputs.*

Be sure that if you apply these corrections at every second of your flight you will be able to cope with a strong cross or head wind, without being downgraded, but getting higher scores for some manoeuvres or for the box management.

PERSPECTIVES CORRECTIONS:

Now if you get used to these wind corrections, you can also add the perspective corrections and make a mix of them when necessary.

The basic idea is:

The further you go from the judges, the more they think you are divergent from the original axis, this is due to the fact that the eyes want to see the plane on the same path but almost at the same distance (which in fact would be possible only if you'd fly in a kind of horizontal curve, and the same apply for the vertical uplines). Of course, here we are talking about just a very few degrees like 3° for the further you can be. In other words, it's more important to take it in account especially about divergence I.E if you have the judges to your right on a horizontal line and you flick to the left on the main axis at say 300 meters from centre upwind, they will think you are moving away while if you flick to the right in the same situation means towards the judges, the translation won't be that much visible.

↳ *So, it could be a good plan to be slightly of axis to the right before the flick to the left.*

_ FOR A STRAIGHT HORIZONTAL LINE STARTED IN FRONT OF THE JUDGES, the further from the centre you go on the main axis, the more the judges think you are going away from them and from the original path, so it's better to be slightly convergent.

_ SAME FOR A 45° UPLINE, the further you go on the line, the more the judges will think you are moving away from the optimal plan, so in that case put the nose slightly to the right if the judges are on your right, and so on...

_ FOR AN UPLINE IN FRONT OF THE JUDGES, the higher you get, the more the judges will have the tendency to think you are going away from them and from your path. So, you'd better lift a bit your left wing if the judges are on your right or become a bit negative if the judges are in your back, and vice versa.

All these little corrections must be combined with the cross and head wind corrections in case of wind. In the situation of the flick to the left with judges to your right: if you have a cross wind component from your left, then it's not necessary to be of axis to the right before the flick for example since you will be pushed by the wind during the line and the flick.

↳ *It needs a bit of mental gymnastics to integrate this, but it can make the difference of a few points overall on a programme and sometimes a few points... make just the difference between the World Champion and the Second !!!*

Advantage of getting used to this technique:

Increased of your flight management, more fun when flying whatever the wind conditions are, satisfaction of reaching another useful accomplishment, and finally increase of your inner motivation too !



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