

AERO 101

Hi again! Welcome to the thirteenth segment of Aero101. As there were no questions last week, I'd like to take this time to explain something that we've been incorporating into our wing endplate design. I'm talking about the slots at the top front corner of the wing. Since the 2000's, many Formula 1 teams have started to incorporate these.

As we know, there is a great pressure gradient between the top and bottom of the wing. The endplate slots are used to help even out this pressure delta. The main reason for this is that wingtip vortices form due to the difference in high and low pressure, and these vortices create induced drag and lift which acts upon the wing and makes it less efficient. On the outside of the endplate, the pressure is lower than that on the top of the wing. Air traveling outside the endplate encourages the high pressure air to travel out the slots. The angle and shape of the slot has an effect too, because certain shapes and sizes create less drag. The deeper (more cambered) a wing is, the more room there is for slots. The addition of slots will lower overall downforce, but drag is also reduced.



Source: thewptformula.com