

# AERO 101

This is the final part of the seventeenth segment of Aero101. Today we will be taking a look at the Blackbird Fabworx #222 piloted by Moti Almagor.



Moti's car rocks a very large front splitter, constructed of birch plywood, and reinforced with carbon fiber. At each end of the splitter is an endplate of sorts. Moti chose to make use of vortex channels, which help direct vortices where he wants them to go. In this case, the vortices form at the tip of the channel, and expand as the channel tapers upward and outward. The vortices here are used to seal the sides of Creampuff, to keep air from entering the underside. Intersecting each channel is a turning vane, also used to direct air to other areas. In this specific example, they are most likely used to induce an outwash effect.

Moti's car, like Ryan's, features a flat airdam, allowing the air to stagnate and force it over the top of the car efficiently. Unlike Ryan's car, Creampuff utilizes no aerodynamic devices along its sides. However, Moti took great care in sealing off as many areas as possible with "aero tape".

Creampuff is an open cockpit car, which makes airflow around the cabin very important. Much like the Ariel Atom, Creampuff utilizes a very tiny wind deflector. Moti went through much testing to determine the size of this piece; any larger probably added unnecessary drag. The tubes of the roll cage cause quite a bit of drag themselves, so in order to counter this effect, each tube has lexan "sides" that meet at a point, creating an airfoil shape. Also, the shape of the helmet is very important to an open cockpit car, so Moti's helmet is slightly more streamlined than most standard automotive racing helmets.

As we reach the rear of the car, we will see that Creampuff is utilizing a COT wing, with large endplates. These endplates help extract more downforce with less drag. The COT wing is utilizing the small OEM COT gurney flap, as opposed to the one Ryan has on his car. If you haven't noticed a trend, Moti is going for the streamline approach, which is to reduce the amount of drag, rather than produce a lot of downforce. The wing mounts are solid aluminum, with rounded leading edges and tapered trailing edges. It's all in the details! Finally, Creampuff is equipped with a whale tail, which tapers slightly downward. This is to allow the airflow to stay attached, and you guessed it, reduce drag.