AERO 101

Now that WTAC is over, let's look at another contender, the RP968 Porsche. Technical difficulties set the team back, and they took 5th Place. There is some serious aero going on here!

The front of this car is reminiscent of many WTAC cars we've seen. A flat bumper allows air to stagnate, though with the large ducts, there is not much room for the air to stagnate at all. The splitter is very large and features large endplates to keep the pressure zones separated. What is very interesting about this car is that directly above the splitter is the front wing, which has been formed and shaped into the bumper. The wing makes up the bottom part of the ducts, which leads me to believe this is not used for any cooling purposes, but to help direct air behind the tire and out the fender. A little bit of downforce is created from the portion of the wing outside of the bumper, and this also creates a vortex that should help seal the sides of the car. The endplates are curved outward at the ends to create an outwash effect, which

also acts to expand the vortices generated by the front wing outward around the tire. The hood has an exit duct for the radiator, for maximum cooling efficiency, and louvers to help extract hot air.

The fenders are incredibly cut away, so the built up pressure inside the wheel well can escape freely. What is neat about these fenders is that they are just fenders; the bottoms of them are shaped and profiled to help air escape. This is a critical area where management of the air will help airflow down the rest of the car. The sidesills/splitters are very large, and they are also profiled on the bottom side to help air escape the wheel well. It is safe to say the guys at PR Technologies did their research when designing the wheel wells on this car. The only thing I find odd is the placement of the exhaust. In front of the rear tires, it doesn't really benefit anything. With their large rear diffuser, they could have routed it towards the rear and helped diffuser efficiency.

Now let’s take a look at the rear. The rear is equally as extravagant as the front. The diffuser is very large, and features 3 channels. The middle channel has a stepped center section, very reminiscent of a Formula1 car. Even the suspension arms are profiled, and angled to help with the airflow. The outer channels are fenced in from the air coming off the tires, increasing their efficiency. Almost all of the rear of the rear tires is vented as well, just like the fronts. To help the rear aero even more, the rear bodywork forms a spoiler, to help drive the diffuser *and* the rear wing. The rear wing features large endplate mounts, much like the kind we use on our Formula wing. This increases the effectiveness of the rear wing, due to the fact the low pressure side of the wing is completely unobstructed. The wing is a 2 element type, which effectively increases the camber at a lower AOA. Finally, to top things off, the RP968 Porsche uses a dorsal/shark fin, which acts to stabilize the car at high speeds. We hope to see more of this car at the next WTAC, and hopefully they get the technical issues taken care of, because I have no doubt this car has a lot of potential.