AERO 101

This week we turned to our loyal followers and asked what you guys would like us to explain. Matt Eugenio of Raceline USA posted the question of whether the popularly performed rear bumper cuts have any aerodynamic benefit. We'll go over the pros and cons here and give you our opinion.

First, we must understand why people think the rear bumper cuts help. On many cars, there is a pocket formed below the trunk. The bumper forms a wall of this pocket, because it just hangs down. Like the inside of a car, air tends to circulate in empty voids. Circulating air is slow air, and slow air is high pressure. Also, on the outside of the bumper, drag is allowed to act upon the vertical surface. By removing the bumper material, you allow the low pressure behind the car to suck the air out from underneath it. Removing the rear bumper completely heightens this effect, because you are also able to vent the rear wheels this way.

So far so good right? It seems like the bumper cut is a good route to go, doesn't it? Not necessarily. Remember in one of the early Aero 101 segments, the lower pressure behind the car does create drag. What creates more drag? It really depends on the shape of the car. If the drag is greater in the air pocket underneath the car, it will slightly raise the pressure behind the car and lower the amount of drag it creates.

So the bottom line? Real world testing is the only way to know! What works for some cars will not work for others. From what we can gather, some have reported that removing the rear bumper has no effect on top speed.


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