

AERO 101

We've had quite a busy week but without further ado, here is our analysis of Scorch Racing's S15 driven by Under Suzuki!



Under's car received a revised aero package, in addition to a new billet block that allowed him to turn up the boost and make more power without blowing up the motor. At the front of the car, the Scorch Racing S15 sports a large 3D front splitter. The splitter is flat in front of the radiator duct, but as it moves outwards, it starts to curve and incorporate an airfoil shape. This is even more apparent as we move towards the endplate, where the splitter actually curves upward. The endplates are large, to keep wingtip vortices from forming and to maintain as much of the high pressure on top of the wing from spilling over to the low pressure side. The trailing edges of both wing sections utilize a

gurney flap, which increases the amount of high pressure on top of the wing, creating more downforce.

The front bumper has very few openings, which maximizes stagnation area. There are 2 tall, narrow slits, which are most likely used to feed the brake ducts. The 2 small silver hoses are used to cool the turbo. The radiator duct also feeds the V mounted intercooler, which is sealed off very well. The raised louvers in the middle of the hood allow air passing through the intercooler to escape. The other 2 long vents and 2 louvers are used to let heat out, as well as air moving through the radiator which doesn't seem to be ducted anywhere. On the side of the hoods are large vented fenders, with 2 large canards/dive planes used to generate more downforce and create vortices which seemed to be aimed at helping seal the rear wing. The canards themselves also have gurney flaps.



Moving along the sides of the car, we see that the exhaust has retained its position since last year, but instead of a cover, the exhaust pipe now has vents along the outside. Whether or not the vents are helpful is not clear to us at this point. The area right behind the vented fenders doesn't usually have very smooth fast moving air, due to the turbulence created from the front tires. The inner wheel wells, however, seem to be smoothed out as much as possible. Air exiting the wheel wells moves over the large side splitters, until it reaches yet another set of canards, which work in conjunction with the canards at the rear of the car. The point of these is most likely to aid the upwash effect of the venturi tunnels and rear wing, as well as generate downforce. Remember, the wing and diffuser/venturi tunnel work in conjunction with each other very well. If you can get the air to expand both outward and upward as much as possible, you will have a huge reduction in lift. The Scorch Racing S15 has had its signature venturi tunnels for quite some time now. The tunnels start very far forward, and the inside walls taper to a teardrop shape at the end. This helps to combine the airflow from each tunnel very smoothly as it exits the rear of the car. The control arms pass through the tunnels, and are streamline shaped to reduce the amount of drag created. Due to how far forward the tunnels start, Scorch Racing is able to use a large angle while keeping airflow still attached. To top it all off, the Scorch Racing S15 features a triple element wing developed by none other than Andrew Brilliant of AMB Aero. The stands are carbon and feature no cut outs, to reduce drag. This wing generates massive amounts of downforce. Unfortunately Under was not able to finish first despite many attempts throughout the years. However, finishing 3rd while still breaking Tilton's previous lap record is no small feat in it of itself, and we can only see a bright future ahead for Under and the Scorch Racing S15.

Pictures courtesy of SpeedHunters & WTAC.