

Just about 2 years ago the UWE helped us (Chipping Sodbury School, Rotary Racer) build and assess a number of scale model cars in the wind tunnel at the UWE. We selected one of the models, the one with better aerodynamics than our original car but also the one we thought we could build with the resources available to us.



Over the course of the following year we built a car with as close a shape as possible to the model tested. We finished it just in time for the Corporate Challenge held at Goodwood where we raced against the top 15 teams from the previous year plus 10 corporate teams from companies, which included Bently & Renishaw.

Whilst building the car some members of the team were also developing a motor speed controller, in essence an electronic gearbox. At this event we managed to achieve 98.4 miles, which put us in 9<sup>th</sup> place



We then looked at the car to see what we could change to help with the aerodynamics, using a virtual wind tunnel see <http://portal.beam.ltd.uk/greenvwt/>

The ideas put forward had some 'prototype parts' made up (using card, foam & duck tape) and we then tried to test & calculate their effect using Kemble Air field as a test track. Some changes gave us positive results and so we set about altering the Roll bar, & axels by adding airfoil profiles, adding a windscreen & covering the bottom of the car to make it smooth.



In June we entered the Green Power Gloucestershire Heat at Castle Combe where we won the race and completed 105.45 miles. It looked like the changes helped us.



The next step we took was putting the motor inside the car, again to improve the aerodynamics, this meant we had to use fans to cool the motor though. By reducing the drag we were able to increase the gear ration slightly and really test the motor speed controller.

This improvement was tested at Dunsfold Park (using part of the Top Gear Test Track), We won again, this time completing just under 100 miles (it's worth noting the track is shorter & has tighter bends)



The final race of the year was held at Goodwood with the top 75 cars from across the country lining up. For this race we had all our improvements in place and were also trying out some telemetry, we were actually able to monitor the car during most of the race! This race was a particularly close & well contended with a number of cars moving around in the top 5 positions.

We are proud to tell you that we finished in second place overall with just about 113 miles.

