2012 Rotary Racer Season

Success and Triumph for Chipping Sodbury School's team Rotary Racer

Rotary Racer had a very rewarding year managing to gain 1st position in the F24 final for the third year with this car and hence is UK National Greenpower champion for 2012. We also gained many podium finishes throughout the year at various races, and gained the top school car for the Corporate Challenge at the first race back in April. But how have we managed to gain this achievement and what are our plans for the future?

After our success of gaining the national champion status in 2011, the team celebrated before starting plans for the next season. Over the next 6 months the workplace was home to designing and altering of the car. All of this work was helping to prepare it for the next season of racing.

By the time of the first race (the Corporate Challenge) the team were ready and well prepared for this important race. The Corporate Challenge is unique in the way company cars are involved in the project. This adds extra pressure and gives the students a chance of seeing engineering involved in different industries. Unfortunately, the weather was incredibly windy with rainy conditions causing the race to be shortened to 160 minutes rather than the normal 240 minutes (four hours). However, the team battled through the conditions and came out with 4th position, the highest position for any school car in the race.

After the first race, the team decided that the car would be best with added waterproofing, and so set a task on preparing their car for the worst weather conditions. These adjustments included adding a piece of waterproof plastic over the electronics, and adding a piece of foam between the electronics and the driver. These changes proved highly useful at the time of the next race at Goodwood motor circuit.

Goodwood also provided rainy conditions, but the team were well prepared this time. After a four hour endurance race, the team raced into 3rd position. This was the first race for two new drivers who had just entered the team. After a practice day at the circuit, and providing pit crew for previous races, the two new drivers were raring to go. After 20 minutes each, both drivers were ecstatic, having thoroughly enjoyed themselves racing on this well known track. The whole team celebrated whilst gathering their medals, putting the bad weather behind them and having fun still.

Another first for Goodwood included the team racing in the F24plus competition for older competitors. This 90 minute race focuses more on speed than endurance, and provides a different experience for older students in further education or training. The team racing in both challenges meant that the car needed a gear change within the 30

minute gap separating both races. This change succeeded, and was completed in 20 minutes. This first race for the F24+ drivers and pit crew proved a challenge, as the team were unaware of the demands that this type of race requested. After the race, the team still had excess power, but had still gained a position of 4th out of the 16 cars racing on the day.

After a first race for the new drivers in F24, the car's electronics needed adjusting so the team set to work on the challenge. By the next race, the electronics were improved and extra waterproofing was put into place to ensure that this problem would not be repeated.

This was a first race at Rockingham for the team, having never visited this particular circuit in the past due to the distance of travelling it would need. However, this year the team decided to race the track after great reviews from fellow teams within the school who had raced at the circuit before. Again, the weather conditions battled against the car, providing winds at approximately 20mph. The team went ahead with the race, and provided a close finish to add excitement at the end of the race – an 8 second gap between first and second place. Unfortunately, due to the team's batteries failing the team took second position – still an excellent achievement.

The F24plus team entered the race with a new speed controller fitted to the car. This piece of equipment was designed to be more efficient than the existing controller especially in the F24+ races. This proved useful, but tests still needed to be undertaken to find out whether it was beneficial or less efficient than the current method of gear changing. For the second F24 race, the team drove and co-operated well, resulting in a finish of 2nd place.

Before the next race, the team fitted in many meetings on the designing process of the new car, and also practised pit stops to try and reduce the time taken for these vital changes.

Merryfield provided the track for the next race. As Merryfield is primarily an airfield, the ground is very rough causing tires to wear down quickly in a matter of minutes. The F24plus team raced quickly competing against a fellow school student team – The Pod Movement. After the first hour, Rotary Racer was just ahead, but slipped slightly behind in the later stages gaining 2nd place by the finish. In the last ten minutes, the motor in the car failed making it very inefficient and causing its temperature to rise. This proved a problem for the F24 team.

After a speedy gear change and tyre replacement, the team went onto the starting grid for the F24 race, not knowing the motor had an issue at this point. Further on in the race, it became apparent that the car was low in speed and using up much more current that usual. After a check of the motor temperature, the team came to the conclusion that the motor had a problem. The team continued to race, managing to gain 4th position.

After the race, a new motor was bought and the old motor checked for efficiency. After a quick look, it was obvious that the motor had a problem, and the new motor was screwed into the car ready for the looming race.

With one more race until the final, the local race at Castle Combe gave the challenge for the 'Best Gloucestershire Car' trophy. This had been won the previous year by the team, and we were aiming to retain this title. The F24 race went incredibly smoothly, with the students working well as a team and completing some of the fastest pit stops on record for this car. Castle Combe also proved a challenge for the team as we battled it out for first place with a rival car. However, the use of electronics and telemetry in Rotary Racer helped the car to fly over the finish line just 12 seconds in front of the opposition, giving a win for Rotary Racer and the Best Gloucestershire Car title.

The F24plus team also competed in one of their best races, gaining a podium finish in third place behind The Pod Movement. Using two drivers, the team completed fast pit stops, securing them a finish 1 minute and 17 seconds in front of 4th place.

After the success at Castle Combe, the team only had a few vital weeks before the final. During this time, we checked the car over and practised pit stop upon pit stop to make sure our changes were as quick as possible. Also, after the old batteries had deteriorated over the past 2 years of racing, the team took the decision to buy a whole new set of batteries ready for the F24 final. All that was left, was to hope everything went smoothly on the day.

The F24plus race started first, and the team prepared themselves at the laptop, ready to check the power output and the telemetry. The race went smoothly, and the team raced their way into 5th position out of the 22 cars present on the day – a fabulous achievement!

After the first race came a parade of all the F24 cars. The team looked highly presentable as they drove down the pit straight, playing 'Livin' on a prayer' as their car horn ditty. This attracted some laughs, and the team were motivated when they reached the starting grid, lined up in the front row. The flag went and the car was off! The car flew throughout the race, giving the team the encouragement that the new batteries were working well. As the race went on, Rotary Racer formed a steady 2nd place position behind a car called Dougal. In the very last lap, Rotary Racer overtook Dougal to take the Chequered flag and retain their national champion status. As the team collected their prizes, they also got awarded the prize for 'best technology' due to the use of telemetry, and the student's understanding of the electronics within their car.

As the season drew to a close, Rotary Racer celebrated their win, and now we are looking towards the next season. The team have decided that Rotary Racer 8 (the car's name) has reached it's full potential, and a new car would give the team the chance to stay at the top of the results table. With this in mind, the team are now designing and fulfilling preparations for a new car which will hopefully repeat the success of it's predecessor.

Team Member for F24plus were Gareth Barnaby, Daniel Dando and Ben Miller. Team Members for F24 were Dawn Barnaby, Louise Barnaby, Thomas Allington, Jacob Lucas, Michael Lockyer and Stephanie Dando.

We hope to see you all next season!