

## The 16th UBRacing Car - Car Number 91 at Formula Student 2013

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2012/13 has been another successful year for Mechanical Engineering's UBRacing with the team performing excellently in the Formula Student international competition. Senior Technician and Team Manager Carl Hingley and 2013/14 Team Leader Andrew Glencross summarise the year.



Formula Student 2013 is over and we are already planning next year's car (mostly in the pub). All you Alumni know I am sure the pride and the passion that this year's team have put into this fantastic car. A car which happily completed the 'endurance' element of the competition; a task which you all know is tremendously difficult to do with our budget. It was satisfying to beat teams of over 120 students with their budgets of 300,000 Euros.



It never ceases to amaze me the jobs achieved by our graduates. Over 50 racing team Alumni attended at least one day of the six day competition at Silverstone, all giving their time freely mentoring our younger undergraduates. Alumni such as Jonathan Marshall, Senior Race Engineer with Renault F1; Cameron Ross, ex-Cosworth F1 and now with Rolls Royce Aero Engines; Dave Evans, ex-Riccardo and now with Jaguar Land Rover; Alex Hickson, ex-Lockheed Martin and now with GKN Aerospace. These are just a few of over 400 graduates who have completed this challenging project which has successfully launched both '16 racing cars and all of their successful careers.

Most of this year's team are now moving into their one year placements in industry. The Team Leader is going to a Ministry of Defence supplier; the Technical Director to Mercedes High Performance Powertrains to test F1 engines; Julia, who developed the engine this year, is heading off to Prodrive. There are other team members going to Toyota, Turbo Techniques, JCB, Jaguar Land Rover and Bentley Motors. These are all first class engineering companies and most sponsor the project.

I hope you remember your time on one of the 16 Formula Student teams and have managed to forget all the very late nights and early mornings trying to build your dream car to impossible deadlines with unbelievably tight budgets. I also hope the bonds created with your fellow team members have continued to unite you throughout your careers. If you are passing near the University there will always be a welcome in lab G61 in Mechanical Engineering where you can cast your eye over your old car and tell us why it was the best of the bunch.

*Carl Hingley*

*Senior Technician and Manager of UBRacing team for 17 years*



This has been my first full year as a team member and full is certainly the word for it. This year I was Head of Composites, basically I was in charge of making all the carbon fibre components for the car, from firewalls to bodywork to the all-important damper cover. It was a lot of work to fit around a demanding degree course, leading to a heavily reduced social life and a less than impressed girlfriend! However it was all worth it to see the car run for the first time.

Silverstone was an amazing experience for me, being my first competition, and I thoroughly enjoyed it. This was helped by the amazing weather; although as a British team is was far too hot! The first few days were pretty hectic with everyone trying to get the car ready for the first challenge: scrutineering. This taught me that no matter how much preparation you do there is always more that can be done, whether cable tying something or just polishing the bodywork. After what seemed like countless hours waiting the car emerged out of scrutineering having passed safety, brakes, chassis and technical parts first time. The tilt and noise test were passed

second time, which meant we had completed all scrutineering by Friday lunch time. The static events went well, notably 9th in cost and 22nd in design. I was pretty nervous before design as I had heard many stories of people being grilled by the design judges, but it went surprisingly smoothly. This showed that we had put plenty of thought into the designs and that we knew what we would do differently could we start again.



The dynamic events started on Saturday and we were the first car out for skid pad. This was going to be our weakest event as a non-aero car with minimal testing. However, both drivers posted identical times to each other on both their runs, and more importantly the car was still running. Acceleration was next and, with no practice starts and changing gear for the first time, 33<sup>rd</sup> was commendable. The Sprint event was really good to watch, to see the car go round the kilometre long track situated at Copse corner for the first time. Both drivers posted their first times with clean laps, one of the second runs was looking to be a good one. Unfortunately 4 cones threw themselves under the wheels costing us an 8 seconds penalty. This was understandable seeing as it was the first time the car had been driven in anger. When Sunday arrived all other events were behind us as the Endurance is the big challenge driving 22km in 27 degree heat. Watching from the grandstand was a nerve-racking experience, especially at the driver change when the car wouldn't start but after some delay they got it going again. Eventually the car made it to the chequered flag and what a relief. The fact that

many of the big budget European teams didn't finish made this achievement even more special!

I have enjoyed the whole experience of competing in formula student, despite the workload it has been worth it. This year has been a great team effort from everyone involved not forgetting Carl Hingley who works so hard to make this project succeed. I am very much looking forward to my role as Team Leader this year and I have definitely caught the 'UBR bug'.

*Andrew Glencross*

*Team Leader for UBR17*