

The Design, Construction and Racing of a Soapbox

This project was initially sparked by my school requiring me to complete an EPQ (Extended Project Qualification) as part of my studies. Many hundreds of hours later of research, design, construction and of chiefly being enthralled by the next challenge, I can recognise that while this was a school project, it was completed out of love and pleasure.

As a child, I remember watching the Red Bull Soapbox Race on TV with my dad commenting over my shoulder that he 'would be able to do it better' and 'wouldn't make their mistakes in its design'. As such it was only natural that I took an interest in engineering and design from an equally early age; though rather than a welder and band saw, I looked more to Lego and Meccano.

Years then passed and between schoolwork and life, my interest in engineering fizzled out, being overwhelmed by the world around it until last September, when I was asked to complete an EPQ. For inspiration, I turned to my interests, settling on the creation of a blog where I could detail every rocket and spaceflight to have ever taken place. Having spoken with my tutor, I decided to run the idea by my dad who, knowing my interest in joining the aerospace field, thought it was an awful idea.

He put to me how the project would appear to a potential employer; yes, it showed interest in the field, but it also shows a narrowness, as though the aerospace industry was all I was interested in. Irritatingly, as it had the implication of finding a new project, I agreed with him. Fortunately, the irritation did not last long as close to the next words out of his mouth formed this project: 'why don't you do something with the equipment in the garage?'. I liked the idea as some of the metalworking equipment we have is quite specialist (having been acquired in his previous line of work). Several head scratches later, the idea of building a soapbox occurred, being quickly settled on and adopted as my project.

There then followed a period of around 4 months where I spent a considerable amount of time researching both how to build a soapbox and how to use the machinery with occasional interruptions being only by the likes of exams. Sometime around early February I awoke from these preoccupations, recognising that with a race lined up for the 5th of May, I had better get on with construction.

The race in question was the second largest in Britain and was to take place in Great Dunmow (Essex). As you can imagine this was quite a daunting prospect – particularly as this meant there were likely going to be experienced teams, some of whom had the skills and finances to create much more machines. I had already accepted that this would likely be an expensive project and looked at arrangements such as sponsorships, none of which had come off. But the realisation of my competitors advantage prompted me to persevere... which was entirely unnecessary as I discovered the Henry Morris Awards when mentioned in class. Armed with this new knowledge, I researched and applied, resulting through application and interview in their agreement to fund a significant portion of my project.

With this secured, I pushed further into the construction of the soapbox, completing it with two weeks to spare in a form that resembled Luke Skywalker's Landspeeder from 'A New Hope'. A few touch-ups of paint and the Henry Morris logo emblazoned on the side, the soapbox was bundled into the back of a car and wheeled across to Great Dunmow.

It is funny how for all the excitement you may see on TV or in YouTube clips, the majority of your time as a driver at the race is actually pretty boring. You spend a couple of hours waiting around, getting more and more nervous as you turn come, watching others crashing out and wondering if the same will happen to you and then you're at the top of the ramp with

no recollection of how you got there and absolute tunnel vision. The clock ticks away and before you know it you've set off, and the hill, that took hours to summit, will pass below you in less than a minute.

It took me 41.11 seconds to do this, it took others 24.61 seconds. By this measure I was slow, and as it happens, I would wholly agree. I ended up 34th out of 47 competitors but, given that half a year ago I had never touched a welder, never used a band saw and hadn't the faintest idea what a tap and die set was, I think that beating anyone is a pretty monumental achievement. Moreover, I now take pleasure in just tinkering around in the garage, playing about to fabricate that which I need.

I set out at the start of this project with the aim of designing, constructing and testing a race-worthy soapbox which is something I can, in full confidence, say that I have achieved. I have learnt how to use pretty much every tool we own. And I, in spite of the many hiccups, have loved every second of it.



Little Monsters

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