**Our First Rocket Test**

Journal by Nibras Shahin & Nicholas Di Ciero

It was a cold and gloomy Sunday morning. The perfect sleeping conditions for your average university student. But not for members of the uOttawa Rocket Team. The journey towards the pit in hopes of finishing the final touches on the rocket before launch was a chilled experience, but our hearts were as bright as our rocket’s expected ignition flame. There was a universal thought going through the minds of all members, “this is (almost) it”. This thought glared through the souls of all of the team, this gave us a reason for tomorrow. It was at this point in time where we transformed from kids making a rocket, to a family coming together to build something that matters, a rocket. We were finally doing something that our parents could be proud of, we were building something that gave us identity, something that gave us hope.

The first real struggles occurred at around 7:45 am. It was at this point in time that real work and manual labor were required. We had to lift heavy things from point A (the pit) to point B (someone’s car). After much determination and effort, we overcame our first struggle, and although the passion in our eyes had not yet dimmed, our backs would be in ache for weeks and weeks. These are the sacrifices we made, this is what needs to be done to be a part of something big.

On the way to Connaught Range, our destined test location, the craving for Tim Hortons and McDonalds kicked in, and our cars split up. The members who ended up at Tim Hortons enjoyed themselves a cup of hot dark roast coffee, and very soon they were on their way. But the other half, who ended up at McDonalds, decided to have their breakfast there. This unanimous decision proved to be a minor inconvenience for the rest of the team later on, as we shall see.

Most of the members reached the location… or they thought they did, because the next thirty minutes involved three cars moving in circles, and their occupants in hope of finding the rendezvous point.

\*\**In the mean time, the McDonalds group just finished their breakfast, and they continued on their journey.\*\**

A sigh of relief when the coordinator, along with other rocket enthusiasts, were finally found at a car parking nearby. After a quick safety briefing, we were told to follow the coordinator’s car into the Connaught Range, and that was our only way to get into the launch site. This got us worried as we were still waiting for the McDonalds group to show up. Within minutes, their vehicle was spotted out in the horizon, they were finally here, our family was once again reunited. Although the team at the time was a little agitated when they arrived, everyone has had McDonald’s experience that has overwhelmed them of other tasks.

We were now at peace, until we had to overcome, yet again, our previous struggle. We unloaded all of our components from point B to point C (the sand). But, that’s not all that had to be done. Some may argue that the bulk of the work that had to be done on the site was technical, however, a more tired group of people would think otherwise. This tired group, Nibras and Nicholas included, would argue that most of the work involved digging. Digging is always fun at first, but as you go deeper the sand becomes denser. Twenty scopes of shoveling later, you start feeling regrets for having the audacity to try to build a rocket in the first place. Most of the team’s digging experience was best portrayed in the “twenty scopes later” description. Three holes were to be built that day; two of which holds the cinderblocks, and one which holds the testing stand. We’d like to be able to say that the team only had to build three holes that day, we’d like to be able to say that the holes were perfectly positioned in relation to each other, but we’d be lying. Our hole digging struggles was increased by a factor of 40% because of the misplacement of our two cinderblock holes. Filling these holes was, ironically, like digging our own graves. We knew that after we filled in the poorly placed cinderblock holes, we’d have to dig another set of holes. But, there was no time to loath in self pity, the team depended on those holes, and so those holes were to be made, no matter the sacrifice, mental or physical.

After a few more minor issues, and several attempts to place the oxidizer tank close to the combustion chamber, but not too close to compromise safety, we were all set up and ready to ignite. The safety officer asked everyone to stand behind the cement wall which consisted of windows so we couldn’t miss the action. As we all proceeded to the back of the wall, Paul made sure all of his strategically placed cameras were recording and he rushed to the back with us. As soon we heard the safety officer give us the green light for ignition, Nikhil pushed the trigger. There was a loud hushing noise coming from other side of the wall, and to our disappointment, it wasn’t due to combustion, rather it was just the gushing flow of nitrous oxide. We went back out there to investigate the issue, and it was apparent that the igniter couldn’t stay in the combustion chamber long enough to produce combustion. So we decided to apply more adhesive tape to keep it in there for a longer time.

Nikhil tried igniting for the second time while the rest of us peeked through the frosty windows on our tip toes. A different hushing noise produced mixed reactions from the crowd. This time we were hopeful about our trial, and Paul immediately grabbed one of his cameras to have a better perspective of what actually happened. The whole team had their heads together to watch the footage on the tiny screen on Paul’s DSLR, and we noticed a combustion for just a second and then it was back to the gushing flow of nitrous oxide. It was obvious that the pressure of the oxidizer was too high, so it blew out the igniter before there is even a chance for combustion.

The definition of success, especially in our case, is one that is very opinionated. Our team was not able to achieve everything we wanted, but we certainly got what we needed; a wake up call. So in that sense, we would certainly call our Sunday morning adventure a success. We know there are tough challenges ahead of us; earlier mornings, heavier things to carry, bigger and deeper holes to dig. But, as a family of rocket builders, we will prosper. We will sacrifice what needs to be sacrifice in order to send a piece of metal as high in the sky as possible. We believe we speak for all team members when we say that rockets have changed our lives, and we hope that some day, it will change the lives of many others.