Co-op summary

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Mechanical Engineering

CRP Industries

Summer 2014

In the program I was assigned and created a lot of different projects. In the summer the first project I was involved with was one that I started in the fall term. This was a Tuder hose test that I designed, built and recorded. What I did was make a set-up out of a pallet and dowels that would allow the hoses to stick into the pallet. In this way we could bend the hoses to their MBR, minimum bend radius, which is the radius at which the hose is rate to not receive damage. We also exposed the hoses to the sunlight because previous versions of the hose experienced color fading and cover damage to the hoses when exposed to the sun for too long. The set-up had four hose types, three were different Tuder hoses with 2” inner diameter and the other one was a competitor’s hose. These four hoses had two different setups, one at the MBR and the other at half the MBR. This means that the ones at half the MBR should fail within the year. I recorded qualitative results and I found that the hoses where not fading anymore but where receiving stress damage due to the new covers. This is just one example of the many projects I did, another is the testing of aluminum braided nylon hoses under high pressures, to see if they would deform. These testing assignments are one of the types of the projects that I was given, and probably the most creative engineering type work I did.

But there were also non-engineering related assignments. I dealt with a lot of customers, most of the time they were asking for help on how to design a belt drive, but other times it was to give them advice as to what products are better for their application, most of the time I would pass this on to other people since I am not very knowledgeable in the whole industry, and I believed that some of our products were inferior to the competitors. But I would also interact with our suppliers and this was more tedious since I had to convince the supplier that the item they sent us was damaged, or faulty and then convince them to give us a refund for these parts.
But this did develop my communication skills, and made me more vocal when talking about my work. It also helped me present technical information in a simple way. I also worked with Solidworks, making drawings for the company and 3-d models of the electric motors that we stocked.

One of the less technical projects I worked on was the Kaizen pre-work. I had to map out the entire process of how a high pressure hose was made. From when it was shipped in to when it was shipped out, including technical difficulties, communication with the customer, where the hose was placed in the warehouse and how often things needed to get replaced, or moved into and out of a space. This was a long process but helped the Hose Kaizen moving a lot faster than others. This position did show me that I did not want to be involved in the Industrial section of engineering, or at least work for a single company in this sector. I feel that it would get very repetitive and there would be nowhere for an engineer to expand their knowledge after a certain point.

The company was very receptive of me as a co-op and did a good job of making me feel welcome. They were very open and were willing to answer all of my questions. Since it was a small company I got to know most of the people working there, both in the office and in the warehouse, and this is important to me, we were not isolated in our cubicles all day. Outside of the co-op, I was living in central Jersey, which is not ideal for me since I live in NYC, but it was close enough for me to go home every weekend.