Project Identity

UConn Health Center Wire Tester
Week 6:  2/28/07-2/14/07
Scott Michonski

Work Completed

We have figured out how we are going to counter the problem of having torques acting on our vertical linear slide and we are finishing up the mechanical drawings of our device. The solution that we came up with was to use a stainless steel base and stainless steel supports for our device. This material does not give way to forces nearly as much as aluminum does.

I went to the machine shop and they do not have any stainless steel sheets that are thick enough for our purpose. We will have to order the material for the base. I researched several companies and the best option I found for stainless steel was a company called Yarde Metals.

Yarde Metals is a company which is based out of Southington Connecticut and the reason I chose them as our best option is that anything we order will be shipped via next day delivery and should arrive within one to two days. Also we can order metal from their drop zone option. This allows customers of purchasing pre-cut unused pieces of metal that had never been sold and will save us a lot of money.

Normally a piece of aluminum with a 3/8” thickness with dimensions 18x18 would sell for $250.00 however using Yarde Metals drop zone option we would be able to purchase a sheet with dimensions 0.375x17.75x21 for $181.97. This is an excellent price for what we are looking for.
We can also use Yarde metals to buy the blocks of aluminum that we would need to support our linear slide. We have decided to use two steel blocks of dimensions 2x2x2 and then put another rectangular steel block on top, then a sheet would be placed over both of these which we would use to drill our slide into.

On Yarde Metals drop zone there is extra steel of dimensions 2x8.8.5x8.5 which is being sold for $120. We can use this material to cut out the exact dimensions for both the 2” blocks and the rectangle which would be placed on top of the blocks. We would have to have the material cut by our manufacturers; however it is a good option especially considering cost. If we were to purchase blocks that were pre-cut it would be much more expensive and this is the best option for our project.

I also went to the machine shop and spoke with surge about the type of machining we would need to put everything together. For the stainless steel we will still be using #10-32 english mount screws to mount the linear slides. The hole needed for this is a 0.1590” hole and a 10-32 tap will need to be used. We will use this option both for the linear slide which will be lying flat on the base and for the linear slide which will need to be wall mounted onto our vertical steel supports.

To connect our steel supports and mount them onto our base, I was recommended that we use 1/4 - 20” screws. To do this we would need to use a #7 drill to make the holes into the 2” blocks of steel and then use a 0.2010 tap on them. This will be used to not only connect the steel blocks to the base but also to connect the rectangular steel block to the two inch ones. Also we would need to drill clearance holes into our steel base. The clearance holes should be a size of 17/64” and it should also be countersunk.

I have also returned our sample motor to Anaheim Automations and asked them if we can continue to use their sample RS-485 converter. They said it was fine for us to continue to use the sample converter until we get the one we ordered in the mail. In this way we can make sure that our project continues to progress even though we still do not have all the parts that we need.
**Future Work**

Our next goal is to finalize all of our machining instructions for our base and to finish the design on how the bracket attachments are going to be connected to the slides. We also need to order all of the material for our base and attachment points. After we finish this and receive all of our materials we can send everything in to be machined.

**Project Review**

We now have most of the parts that we need to do this project. We need to get our metal for our device so we can put everything together. Everything is coming together and now that we are finalizing a lot of machining instructions we can make sure that our device is constructed soon.