This week saw some finishing touches to both projects as well as some electrical circuitry undertaking. The first thing that we wanted to do with the monitor lift was to see if and how it actually worked. We attached a guiderail bar to the monitor mount that is on the front of the lift. We then attached a 25 pound monitor onto this guiderail bar with the use of some Allen wrench bolts. The good thing about this test was that it was the equivalent weight of the monitor that would be attached. Another good thing about the motor for our test was that it stuck out farther away from the lift creating a larger moment than the monitor would ever create. If the lift could raise the motor that was attached we are confident that the monitor when attached will also be easily raised by our contraption. The test went perfectly and the lift was able to steadily raise the motor to the linear actuators top position as well as its bottom position. We ran the lift up and down and then switched back and forth very fast to test the limits of the lift. The lift performed without flaw. We then wanted to gain a reading on how much amperage and voltage were going through the lift. We found out that lifting the 25 pounds required a voltage of around 7-10 volts and had a current of 1.9 amps. We then wanted to install a fuse inline with our circuit so that the motor would not be damaged as well as the adapter if the 5 amps is drawn from the actuator if it got hung up the adapter would not start a fire. We then decided that since the actuator draws just under 2 amps that we should have a fuse that is above this at around 3 amps. Having a fuse at 3 amps is just another safety feature that allows for safe operation of our lift and will not allow huge current through the device if for some reason a huge current is drawn or created.

With regards to the monitor lift we also made some esthetic changes to it in that we cut off the excess piece of sheet metal on the base so it looks a little more symmetrical. We also countersunk the bottom holes some more so they would not rub on the surface the lift is placed on. We also attached a switch box for the operation of the lift that is on a cord and is semi portable. Below is a picture of the monitor lift to date.
Figure 1.1- Shows the left side without the excess sheet metal.

With regards to the paint cap remover we assembled the front sheet that will hide the motor and underside of the device. We also were able to cut off the back piece to accommodate the spinning of the side hand lever. This can be seen in figure 1.2 below.
We toyed with the idea of modifying the lever to make it longer and create a greater moment but decided this would be too bulky and hard to operate. The current handle is good for the purpose it will be used for and easily is maneuvered around the device for safe easy clamping of the paint tube. Once the artist is able to get into a routine he will be able to have the vice at a point where a simple 180 degree turn will tighten and a 180 degree turn in the opposite direction will loosen the cap. A button was also installed in the bottom front of the paint cap remover. The galvanized sheet metal that was bent to encase the bottom half of the remover was cut into and the button was affixed to the bottom of this. The button is easily accessible and is easy to use. Below is a picture to date of the paint cap remover with the switch attached.
Future Work

Future work for the projects will consist of wiring up both devices. Also with the lift there are a few problem areas such as exposed edges and bolt ends that will have to be filed down and cut off. With the paint cap remover there is little more to be done other than to wire it up. It might also be good to do something to the lift to make the base platform a little more appealing maybe perhaps with a rubber surface, or some sort of coating on top. A curtain was also suggested to hide the back workings of the device. Overall the projects are nearing completion and only minor details must be worked out to deliver the final product.
**Hours Worked**

In Lab: 6

In Machine Shop: 8

Total Hours: 14