Project Title
Team 4
Monitor Lift and Paint cap Removal Aid
Week 10
November 15, 2007
Patrick Keating

Work Completed

This week saw the fine tuning of each project. With regards to the Monitor lift we were able to wire up the switch to the power supply adapter. We obtained the adapter last Friday. The 12V 4 amp power supply adapter worked with our monitor lift as we tested it before any modification and were able to rig it up in a functional manner. Once we knew that the monitor lift would work correctly with the proper power supplied to it, we modified the adapter so it could be implemented into our switch box. We had to cut off the end piece of the wire so as to expose the inner wires and the grounding sheath. In figure 1.1 one can see the end piece that had to be cut off from the wire and adapter end. The thin end exposed is what was stripped and then implemented into the switch box.

Figure 1.1- Shows adaptation of the power supply adapter end.

Next we had to wire up the switch to the power supply adapter and did this by running the exposed wire end of the adapter through a hole in the switch box.
The ends were then soldered to their appropriate terminals on the switch itself. This can be seen in figure 1.2 below.

![Figure 1.2- Wiring of the power supply adapter to the switch box.](image)

In the above figure one can see that the wires from the power supply adapter are run through the hole at the top of the picture. Accompanying the power supply cord is the linear actuator cord. Both of these cords were run through and then soldered onto the switch as seen above. Also to prevent any shorting out we heat shrunk the wires at their appropriate connections so they will not interfere with other exposed wire.

With regards to the monitor lift we also sanded the surface to make a coarser and finished look to the surface. In doing so we were able to buff out the scratches and produce a finished looking surface. We also filed down the edges of the base and the upper unit. Another thing that was suggested last week was to round the edges of the front of the base. We did this by cutting a radius around the front edges with a band saw, and then grinding them with the belt sander. In the figure below one can see the surface in dark grey as the surface that was sanded and finished.
Figure 1.3- Shows in grey the area that needed to be sanded.

The paint cap remover also saw some work this week in that the switch was permanently mounted to the front plate and was wired inline with a fuse. We need to complete the wiring to the adapter and to the motor itself. Also the inside of the encasement must also be insulated to prevent any charge accumulation. The surface of the base was also sanded in the same manner as the monitor lift to buff out scratches and give a finished look. Another thing that was done to the paint cap remover was to drill holes into the side of the galvanized sheet metal to affix it to the sides of the backing plate. The holes were drilled through the galvanized sheet as clearance holes, next we had to drill holes into the sides of the backing plate and then threaded. This can be seen in figure 1.4 below.
Figure 1.4- One can see both clearance hole and threaded hole on the right hand part of the picture above. Here is where the sheet metal will attach to the back.

The final wiring of the device will be completed this Friday. Also another switch had to be installed because the first one failed as it was a defective switch and the mounting pin fell off and thus broke the connection between the wiring and the switch.

**Future Work**

Future work will include the final wiring of the monitor lift as well as the paint cap remover. We must also mount some rubber adhesives on the bottom side of the monitor lift to make it more lab bench friendly and less likely to slide. We must also polish both devices and make sure they are in working order by the end of the Friday class. We must also find some grommets to fit on both devices as well as some bolt caps for the exposed portions of the bolts on the bottom base plate. We have to file down any sharp or rough edges and also insulate the motor and wiring within the galvanized sheet metal encasement.
Hours Worked

In Lab: 4

Out of Lab: 10

Total Hours Worked: 14