Easelectric
Group #4

Team Report
Week #9

March 24, 2006
Work Completed

Jon and I spent the majority of the lab time searching for enclosures for the joystick and electrical components. After discussing several options, including fabrication of our own enclosures, we learned that we could obtain samples free of charge from OKW enclosures. Jon and I then sat down and figured out which of the free samples would best fit what we would need and then placed the orders. For the electronics, we settled on a black plastic enclosure approximately 12x10.5x2.75 (in) that will fit within the base of the easel. We decided to go with a black aluminum enclosure for the joystick. Jon and I then ordered a meter long piece of DIN rail, which will be affixed to the bottom of the plastic enclosure and will allow for the relays to be snapped down on it and secured in place. Following the completion of the ordering of enclosures, I returned to work on cleaning up the easel. Using a scotch cloth, I removed slag and dirt from the areas around the welds, assuring that the easel will have a professional appearance.

Figure 1. Aluminum Joystick Enclosure
Jackie and Frank fabricated the easel face during lab last week. Frank cut the pieces for the frame. Then Jackie and Frank made measurements and fit the pieces together the best was for the easel. A piece of 80/20 track was cut in half and laid back to back. At first duct tape was used to hold the pieces together in order to get the side bars aligned. Holes were then drilled in the side channels. Jon also decided on how to connect the joystick to the rest of the electronics. Ideally, he would have liked to use a CAT-5 Ethernet cable, however due to its solid core it is not being used. Instead Jon has decided to use a serial cable, and has placed an order for two right angle D9 female connectors and two female screwlock connectors.
Future Work

The rough construction of the easel face that Jackie and Frank constructed on Friday will be neated up and given the final assembly, including counter-sinking bolt holes, drilling and riveting. A spacer for the vertical motion actuator must also be fabricated from a square piece of flat stock, insuring that the actuator moves without jolting at all. An aluminum enclosure must also be fabricated to enclose the gear motor and all moving parts along with a shaft coupler that will join the motor’s output shaft to the drive shaft of the screw drive. The easel face needs to be welded on, and the easel must be welded up.

Project Review
It is becoming crunch time; however we are all still very confident that the easel will be finished on time. Parts are arriving on time, and we finally have everything necessary to complete the project. All parts have been tested individually, so we are confident that all of the complications have been worked out. We anticipate the easel being completely functional by the middle of the first full week of April.