

## Meeting Minutes with Jeff Peebles

February 2nd, 2018

### **Executive Summary:**

The findings of the teams deflection analysis was shown to Mr. Peebles. He approved our decision to switch the arm material to steel. The question of an encoder vs and accelerometer was discussed and Jeff told us that unless we can convince him otherwise, he would like to go forward with an encoder. During the next meeting, Mike will join us to help explain the electrical aspect of the motor control.

### **Deflection**

- Steel will work for material that makes up the arms.
- The arms will be welded to the shaft.
  - Stronger hold
  - Cheaper
- A key hold is more likely to break under stress than welding

### **Accelerometer vs. Encoder**

- Electrician recommends we use what we already have
- If we can convince Jeff that an accelerometer is more beneficial than we can go with that
- Proceed with calling accelerometer manufacturers
- Brake commands are needed in controlling the stepper motor

### **Project Build**

- Start the build with the table and the tension wire and move on to the frame
- Do arms and motors later
- "Support structure first, build out from there"

### **Gearbox for Motor**

- Look into using a PLC (becoming standard) to control the motors movements.
- 20:1 gearbox; 20 revolutions on input -> 1 revolution on output
- "Ramp rate" allows for rapid movement of the motor in order to overcome fine precise movement when it is not needed

### **Next Meeting**

- Mike, the electrician, will join us and help with the motor diagrams
- Bring the Arduino parts to this meeting