





Figure 1: Finished Tug



Figure 2: Controls

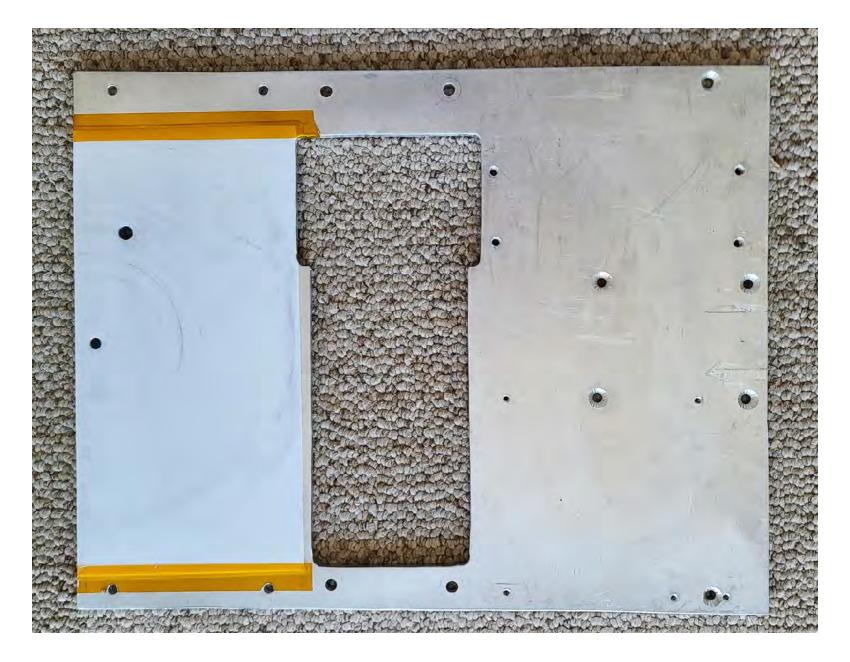


Figure 3: Base Plate

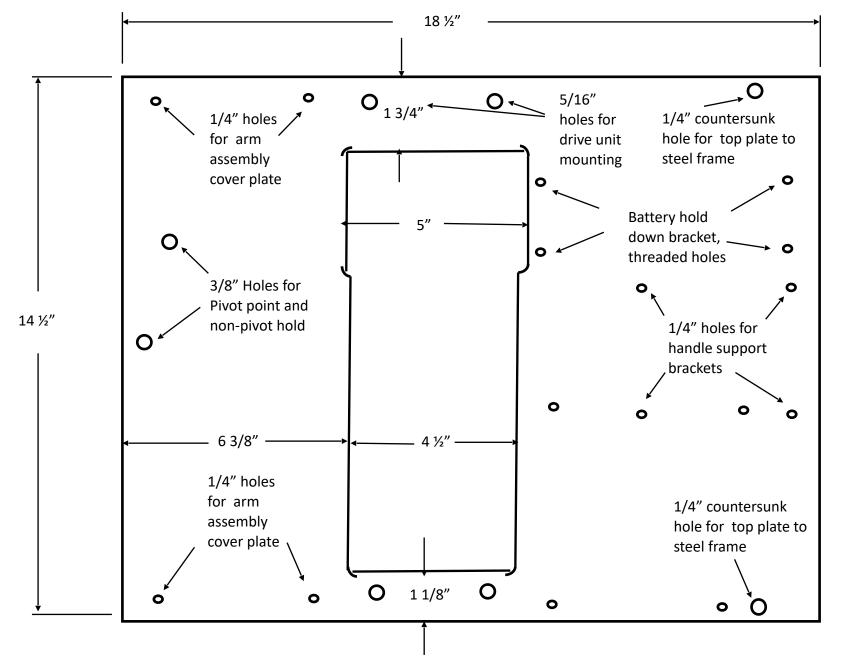


Figure 4: Base Plate Details

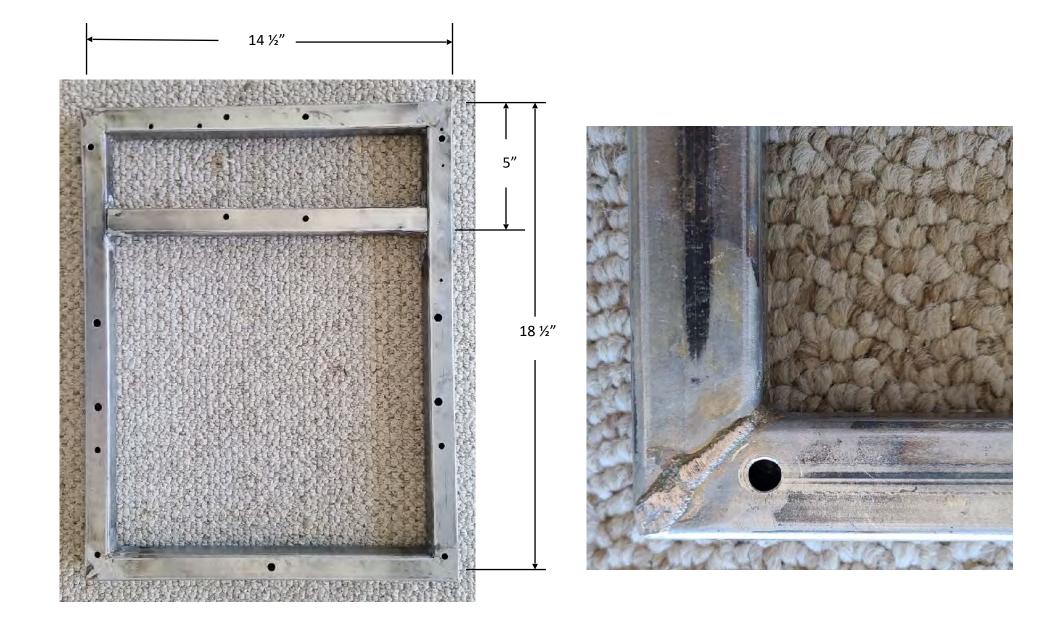


Figure 5: Steel Frame



Figure 6: Bottom and motor mounting



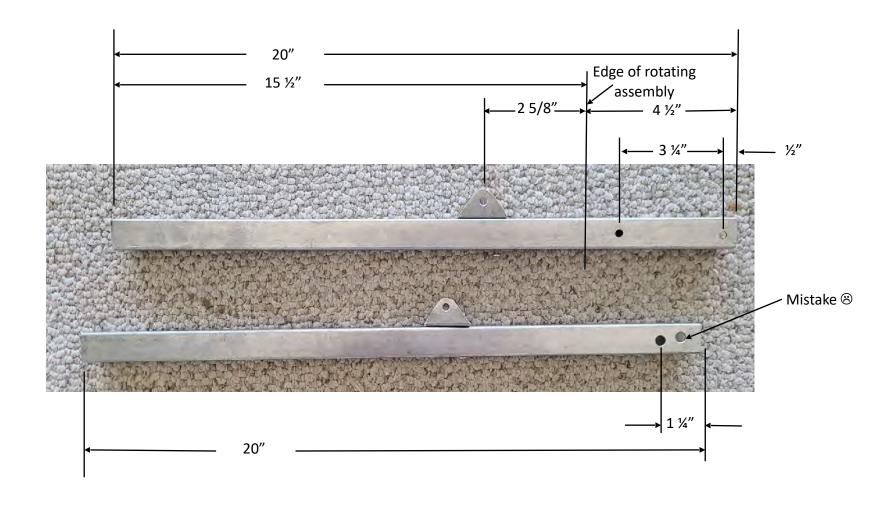


Figure 7: Arms

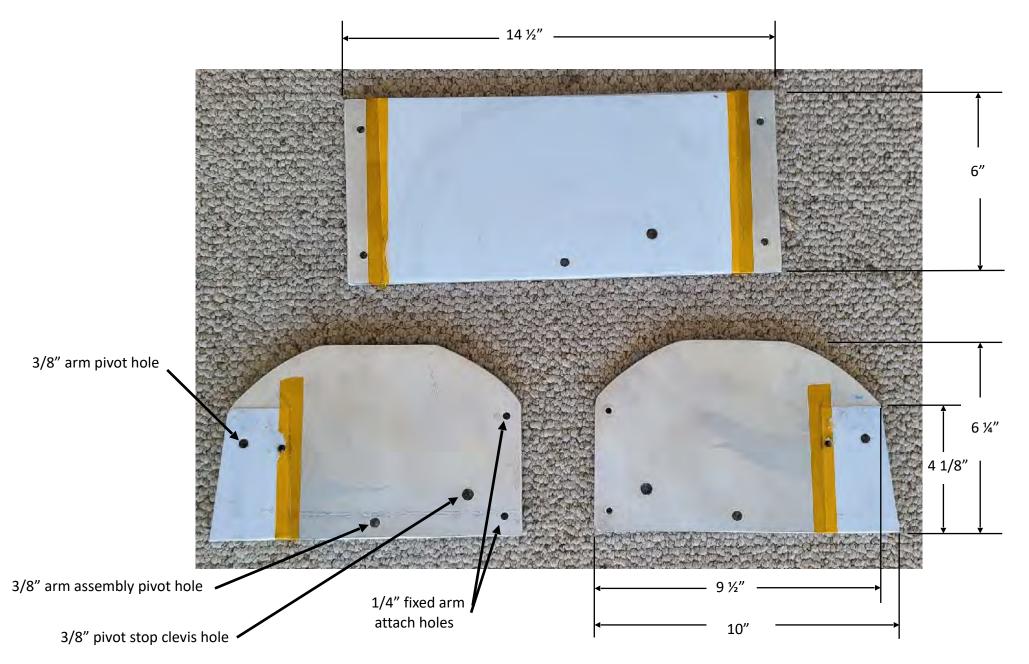


Figure 8: Pivoting Plates and Cover Plate





Figure 9: Linear Actuator and Plane Engagement Pins





Figure 10: Handle and Foot



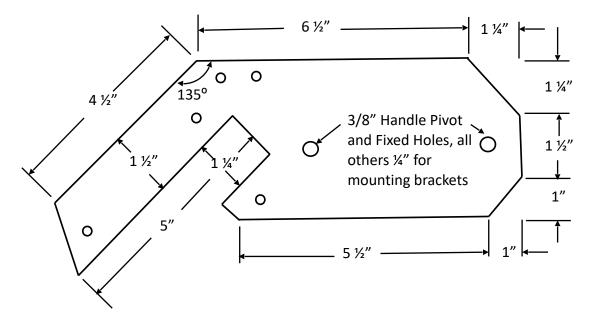


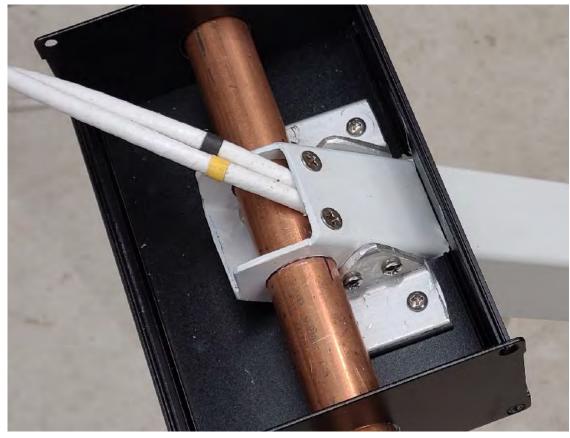
Figure 11: Handle Mounting Plates



Figure 12: Handle and foot mounting







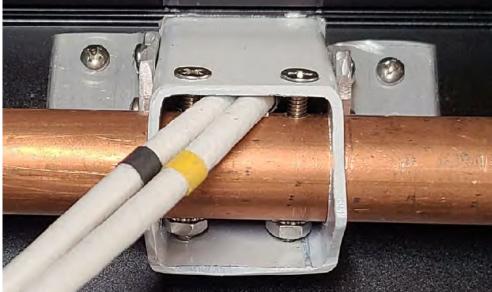


Figure 13: Handle Mounting Inside Control Box

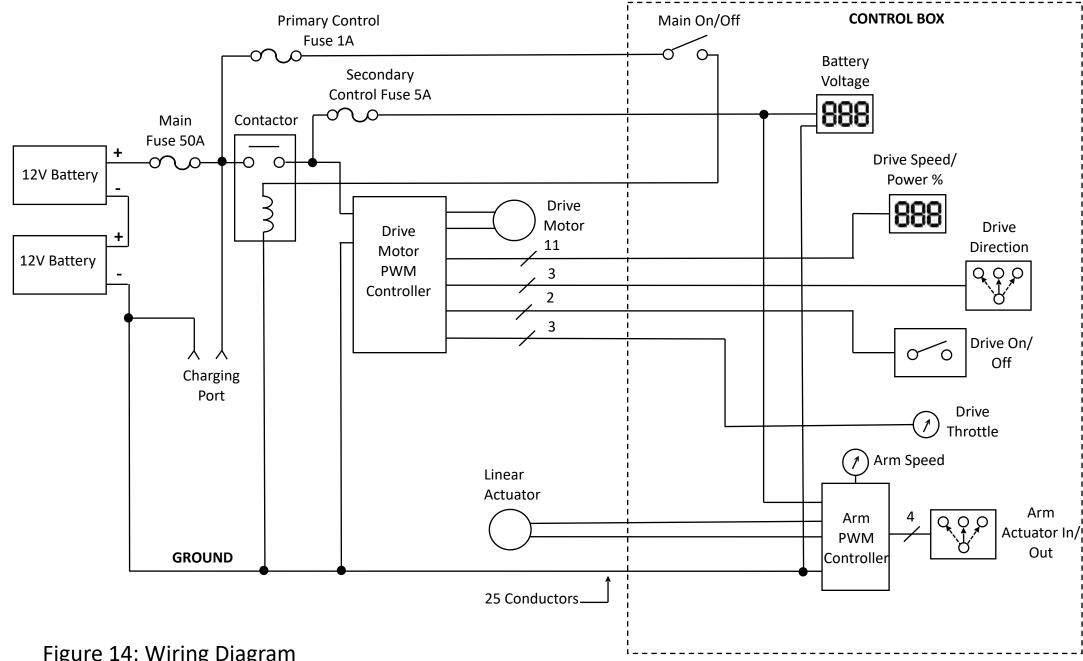
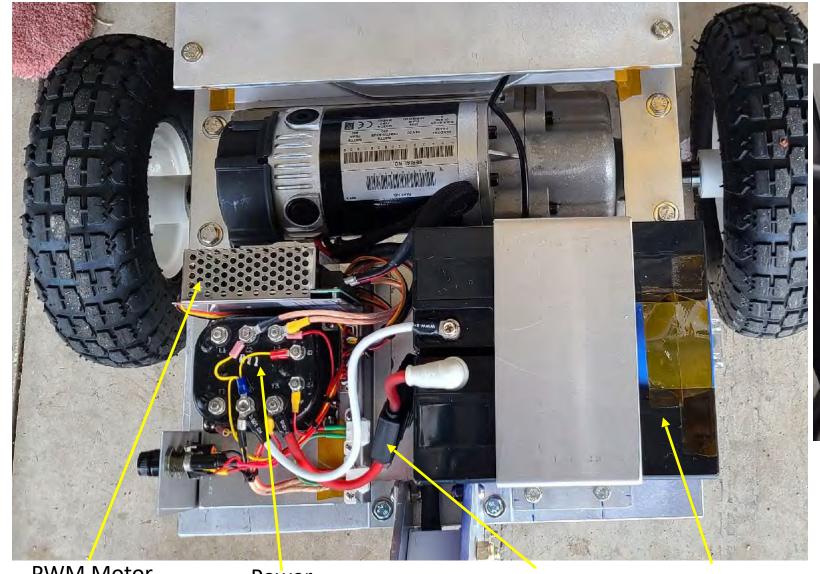


Figure 14: Wiring Diagram



Motor connection at PWM controller

PWM Motor Controller

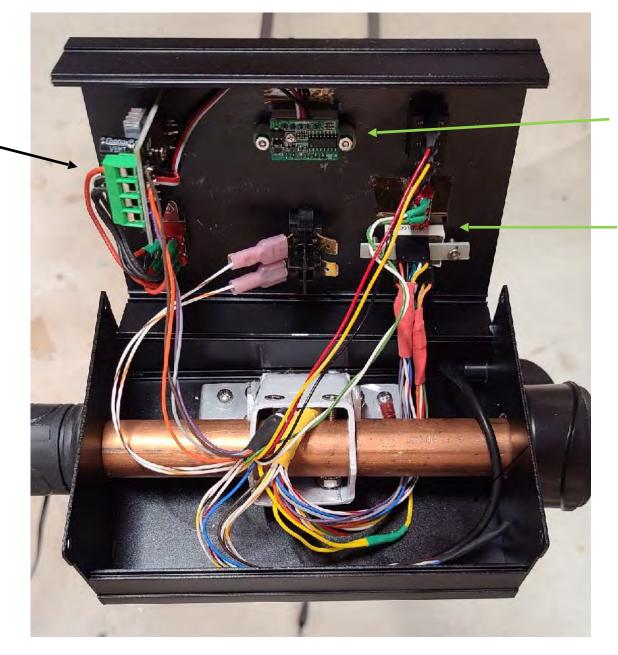
Power relay/contactor

In line fuse holder

Batteries

Figure 15: PWM Controller, Relay/Contactor, Battery Mounting

PWM Motor Driver for Linear actuator



Battery Voltage Display

% Speed/Power Display

Figure 16: Control Box



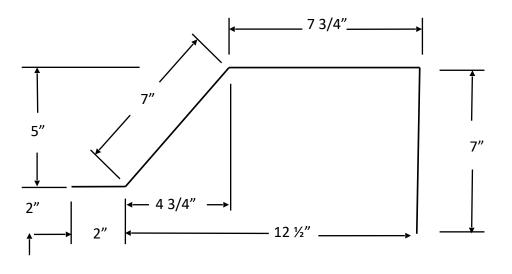


Figure 17: Optional Cover – All dimensions to inside corners of bent acrylic