

# Mechanical Design Description for the MECH-457 Project

## Exceptionally Useless Box

Note that a Solidworks model should be supplied with this document that these words are in reference to.

The project is housed in a 1/8<sup>th</sup> inch, laser-cut enclosure that facilitates mounting points for a toggle switch, ultrasonic proximity sensor, two different servo-arm assemblies, and hinged doors from which arms may egress. Hinging of the doors is accomplished with flush-mount piano hinges. Each servo assembly features a mount for connecting to the servo and chassis. The servo mount also features a bolt for a fixed pivot point where a 5-bar linkage (the arm) connects to. The servo mount provides limited adjustability in xyz directions for alignment purposes.

Power is supplied by a battery pack, which will be adhered to the inside of the enclosure using adhesive-backed hook-and-loop tape. Similarly, the breadboard for connecting the electronics is also adhered to the inside of the enclosure with the built-in adhesive backing where clearance allows. Lastly, a power switch is panel-mounted on the bottom for turning the device on and off.