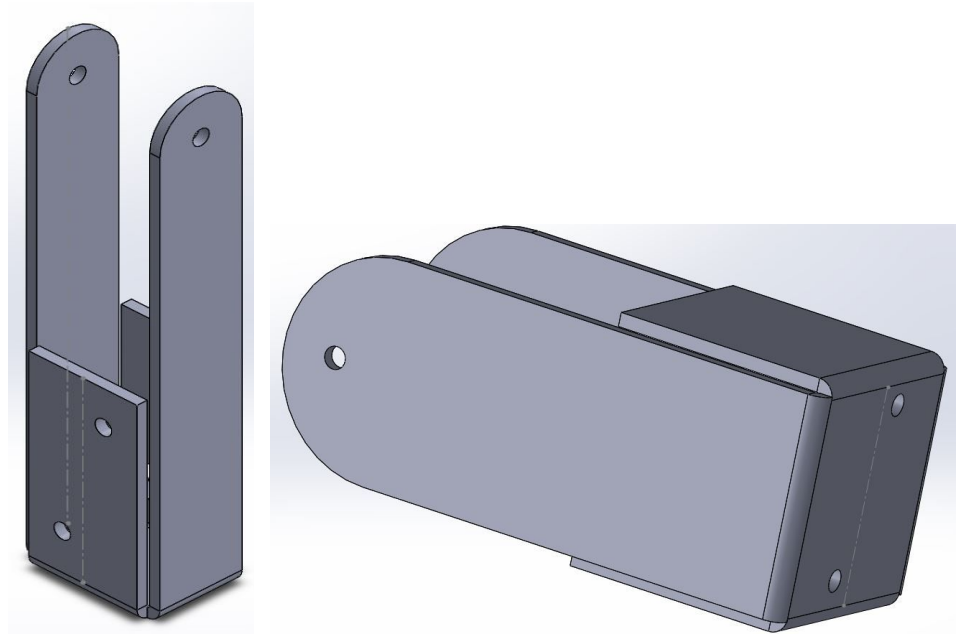


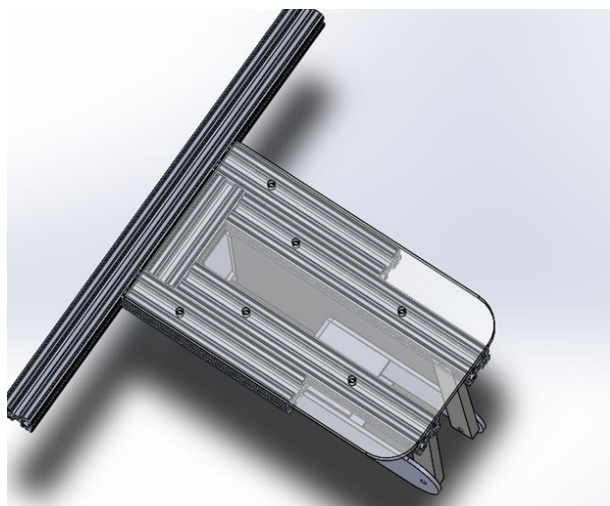
## MSD P14045 Post DDR Design Changes:

### 1. Tray system

- a. Additional supports added to support controls box
- b. Hinge brackets will be made out of 1/8inch boxed aluminum for support



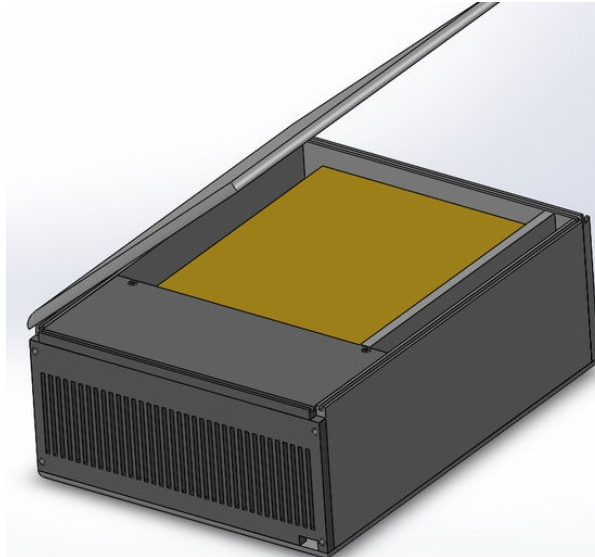
- c. Tray Protector Sheet added to protect T slot aluminum from spills and debris from customer. Also gives lego board platform a smoother surface to slide over. A 12 by 1 inch adapter piece also had to be added in order account for the additional height from the protector sheet. Two 1.375 inch pieces were added to support the project box for a location for velcro to hold the controls box.



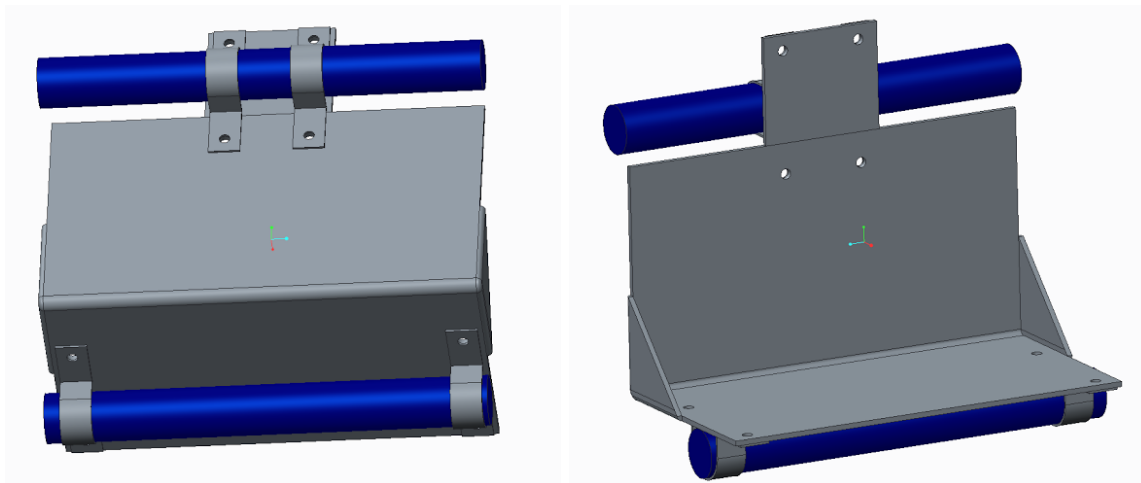
## MSD P14045 Post DDR Design Changes:

### 2. Battery box design

- a. Original cardboard mock up was insufficient
- b. Dimensions modified to account for material thickness
- c. Air inlet added
- d. Hinges removed to streamline design and assembly



- e. Mounting bracket removed – will be mounted on shelf for ease of changeover



- f. The shelf also had a ¼ inch spacer added to match the base of the battery box to raise it above the screw holes
- g. A buckle and strap were added to secure the battery box
- h. Velcro was added to hold the battery box in place as well as the tray system

MSD P14045 Post DDR Design Changes:

- i. Rather than plastic, material will be ¼” thick aluminum lined with E-glass (Pugh chart shown below)
  - i. Aluminum will provide necessary rigidity and strength better than plastic
  - ii. E-glass lining will provide electrical insulation as well as galvanic corrosion resistance should the battery corrode – materials already available to us
  - iii. Aluminum will be easier to manufacture:
    - 1. Can do in house rather than outsource
    - 2. Can be threaded for points of attachments
    - 3. Can be welded in house

Criteria	Concepts			
	ABS	Lexan	Aluminum	Aluminum with E-glass lining
Battery Corrosion Resistance	+	+	-	+
Electrical Conductivity	+	+	-	+
Machineability	-	-	+	+
Threadability	-	-	+	+
Strength	-	-	+	+
Price	-	+	0	0
Total +:	2	3	3	5
Total -:	4	3	2	0
Total 0:	0	0	1	1
<b>Overall score:</b>	-2	0	1	5