**To do list October 11, 2018**

1. Laser Cutting
   1. Gear
      1. Thickness: ¼ in
      2. Color: clear
      3. Rough diameter: 7 in
   2. Diffuser
      1. Thickness: 1/8 in
      2. Color: white
      3. Rough diameter: 7 in
   3. Spacer (can probably be done in two, semicircular half-sections)
      1. Thickness: ¼ in
      2. Color: any opaque color for prototype (we had discussed blue)
      3. Rough diameter: 7.5 in
   4. Opaque back plate (Garner mentioned we might want to consider making this out of Aluminum as a way to sink some of the heat from the LED’s)
      1. Thickness: ¼ in
      2. Color: same as spacer (or Aluminum if we go that route)
      3. Rough diameter: 7.5 in
2. Dummy Wood Back Plate
   1. We need a scrap piece of wood to function as the back plate in our prototype
   2. Thickness: ½ plywood
   3. Color: doesn’t matter
   4. Rough size: 8.5 x 8.5 in w/ 6.75 in circular hole in middle
   5. How to fabricate
      1. Find scrap piece of wood down in the MILL
      2. Cut it to correct outside size on band saw
      3. Cut interior hole
         1. Drill hole and finish cut with jigsaw
         2. Use band saw and leave a small cut through the ring (not a big issue b/c it’s a prototype)
3. Source screws
   1. Can use improper sizes for this prototype
   2. Will need multiple types of screw
      1. Machine screws
         1. Used to attach acrylic plates and gear to the inner ring of bearing
         2. Likely will have to put nuts on the end of screw on back side of diffuser
      2. Wood screws
         1. Need flat head screws to mount outer ring of bearing to wood < ½ in
         2. Also need wood screw to mount back LED plate to other side of the wood ~ 3/4 in
4. LED programming
   1. Just get them to turn on and maybe rotate through a few colors
5. Encoder
   1. Get the encoder from Garner and make an accurate model in Solidworks
6. Goals for the upcoming design checkpoint (Wednesday, October 17)
   1. Get a fully constructed Hourglass Sub-Assembly prototype finished
   2. Have the LED’s at least turn on
   3. Have a preliminary model of the Arm in Solidworks to at least put a picture on the slides for the presentation