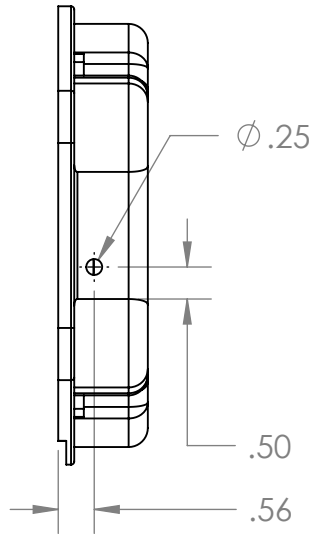
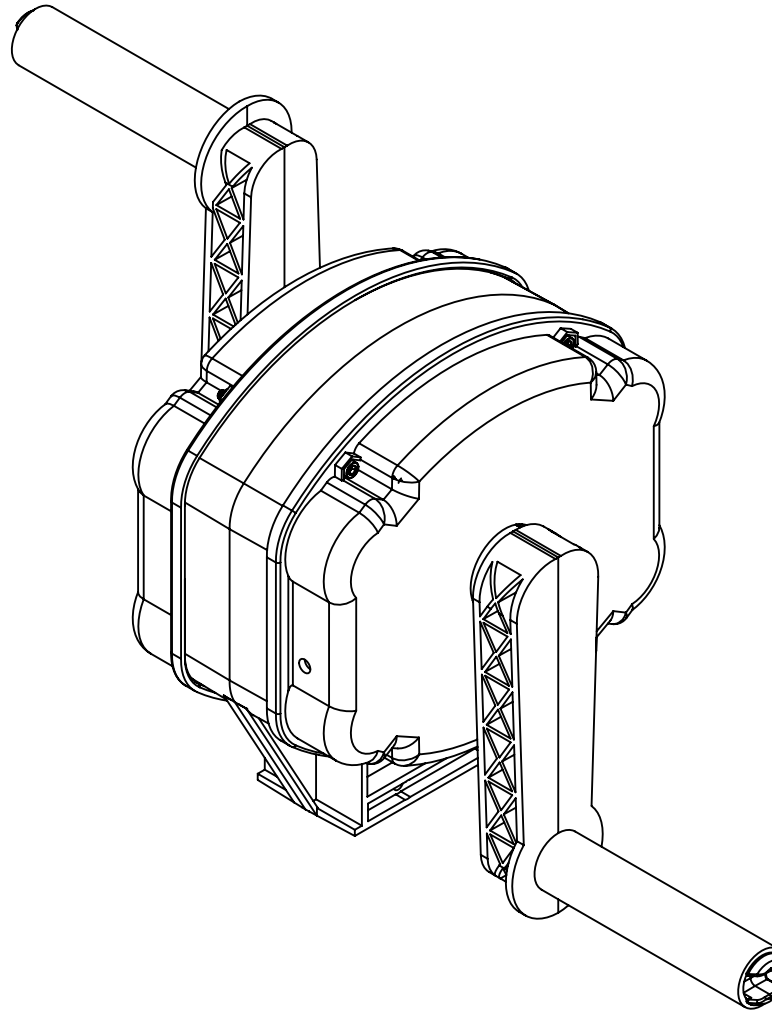
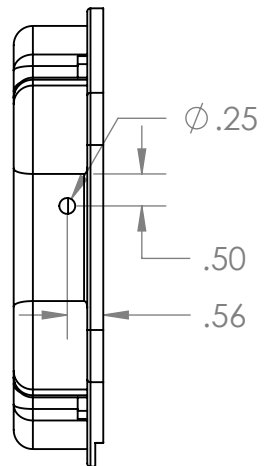


Drilled Hole Location:  
(Both holes are drilled  
into same cover half)

Power Cord Hole



LED Indicator Hole



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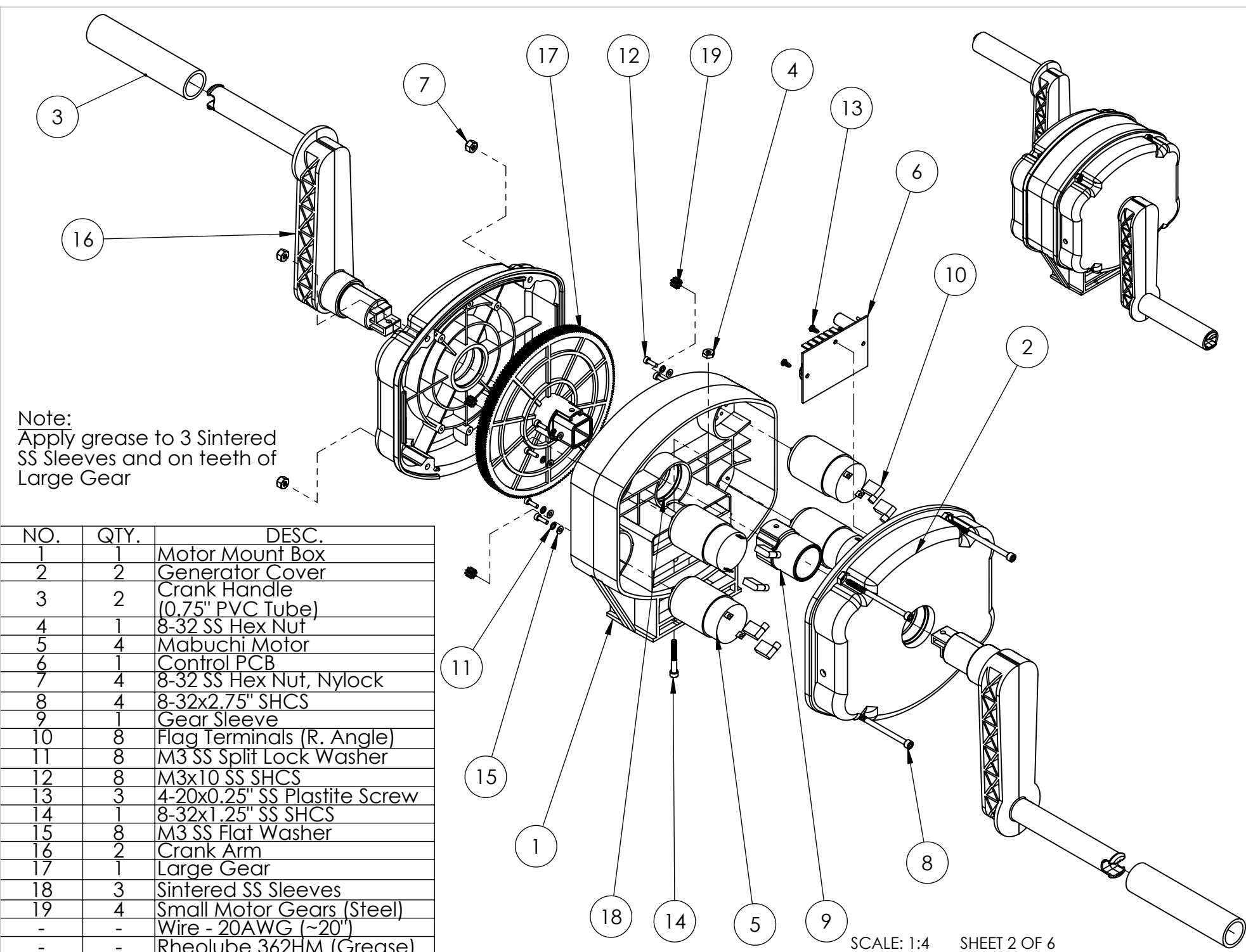
|             |         |                                      |           |      |            |
|-------------|---------|--------------------------------------|-----------|------|------------|
|             |         | UNLESS OTHERWISE SPECIFIED:          |           | NAME | DATE       |
|             |         | DIMENSIONS ARE IN INCHES             | DRAWN     | MAB  | 02/09/2009 |
|             |         | TOLERANCES:                          | CHECKED   |      |            |
|             |         | FRACTIONAL ±                         | ENG APPR. |      |            |
|             |         | ANGULAR: MACH ± BEND ±               | MFG APPR. |      |            |
|             |         | TWO PLACE DECIMAL ±                  | Q.A.      |      |            |
|             |         | THREE PLACE DECIMAL ±                | COMMENTS: |      |            |
|             |         | INTERPRET GEOMETRIC TOLERANCING PER: |           |      |            |
|             |         | MATERIAL                             |           |      |            |
|             |         | FINISH                               |           |      |            |
| NEXT ASSY   | USED ON |                                      |           |      |            |
| APPLICATION |         | DO NOT SCALE DRAWING                 |           |      |            |

Harbec Plastics Inc.

TITLE:  
Harbec Generator Assembly

SIZE DWG. NO. REV  
**A**

SCALE: 1:3 SHEET 1 OF 6



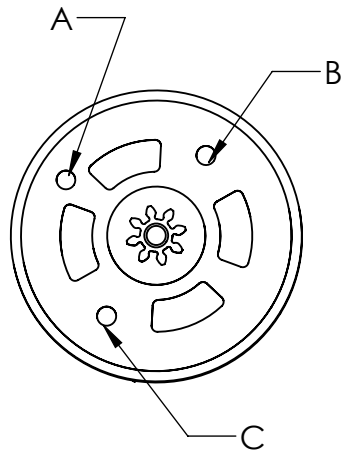
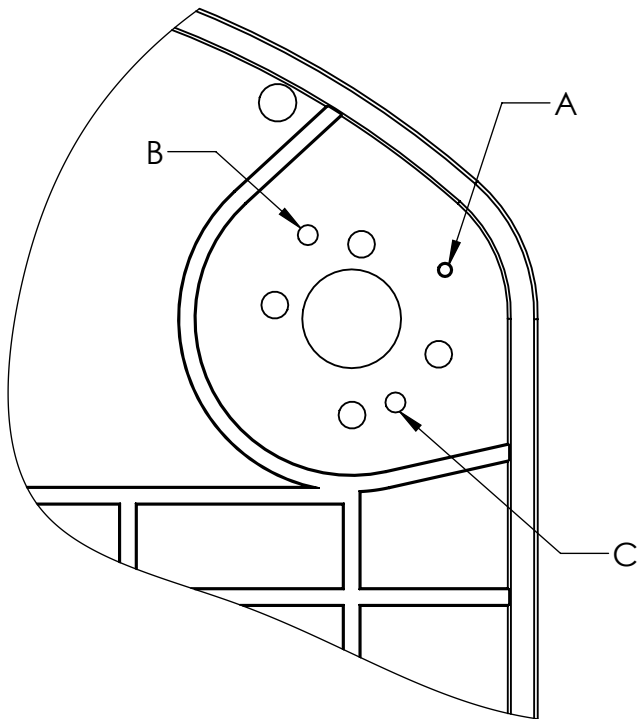
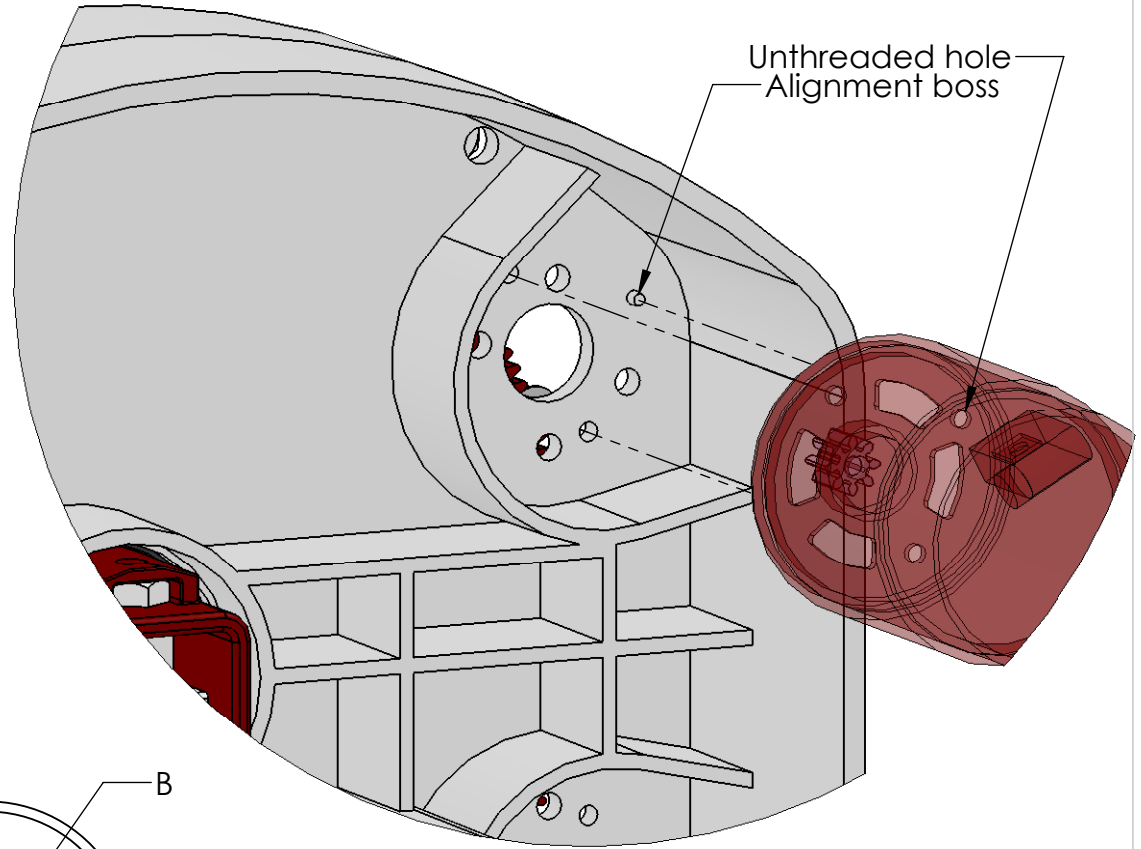
Note:  
 Apply grease to 3 Sintered  
 SS Sleeves and on teeth of  
 Large Gear

| NO. | QTY. | DESC.                            |
|-----|------|----------------------------------|
| 1   | 1    | Motor Mount Box                  |
| 2   | 2    | Generator Cover                  |
| 3   | 2    | Crank Handle<br>(0.75" PVC Tube) |
| 4   | 1    | 8-32 SS Hex Nut                  |
| 5   | 4    | Mabuchi Motor                    |
| 6   | 1    | Control PCB                      |
| 7   | 4    | 8-32 SS Hex Nut, Nylock          |
| 8   | 4    | 8-32x2.75" SHCS                  |
| 9   | 1    | Gear Sleeve                      |
| 10  | 8    | Flag Terminals (R. Angle)        |
| 11  | 8    | M3 SS Split Lock Washer          |
| 12  | 8    | M3x10 SS SHCS                    |
| 13  | 3    | 4-20x0.25" SS Plastite Screw     |
| 14  | 1    | 8-32x1.25" SS SHCS               |
| 15  | 8    | M3 SS Flat Washer                |
| 16  | 2    | Crank Arm                        |
| 17  | 1    | Large Gear                       |
| 18  | 3    | Sintered SS Sleeves              |
| 19  | 4    | Small Motor Gears (Steel)        |
| -   | -    | Wire - 20AWG (~20')              |
| -   | -    | Rheolube 362HM (Grease)          |

SCALE: 1:4 SHEET 2 OF 6

Fastening motor to main box:

- Align unthreaded motor hole over protruding boss (A-A)
- Threaded motor holes should now be concentric with "Motor Mount Box" holes (B-B & C-C)
- Fasten motor to "Motor Mount Box" with Flat washer, Lockwasher, and M3x10mm SHCS



# Motor Alignment

SCALE: 1:1

SHEET 3 OF 6

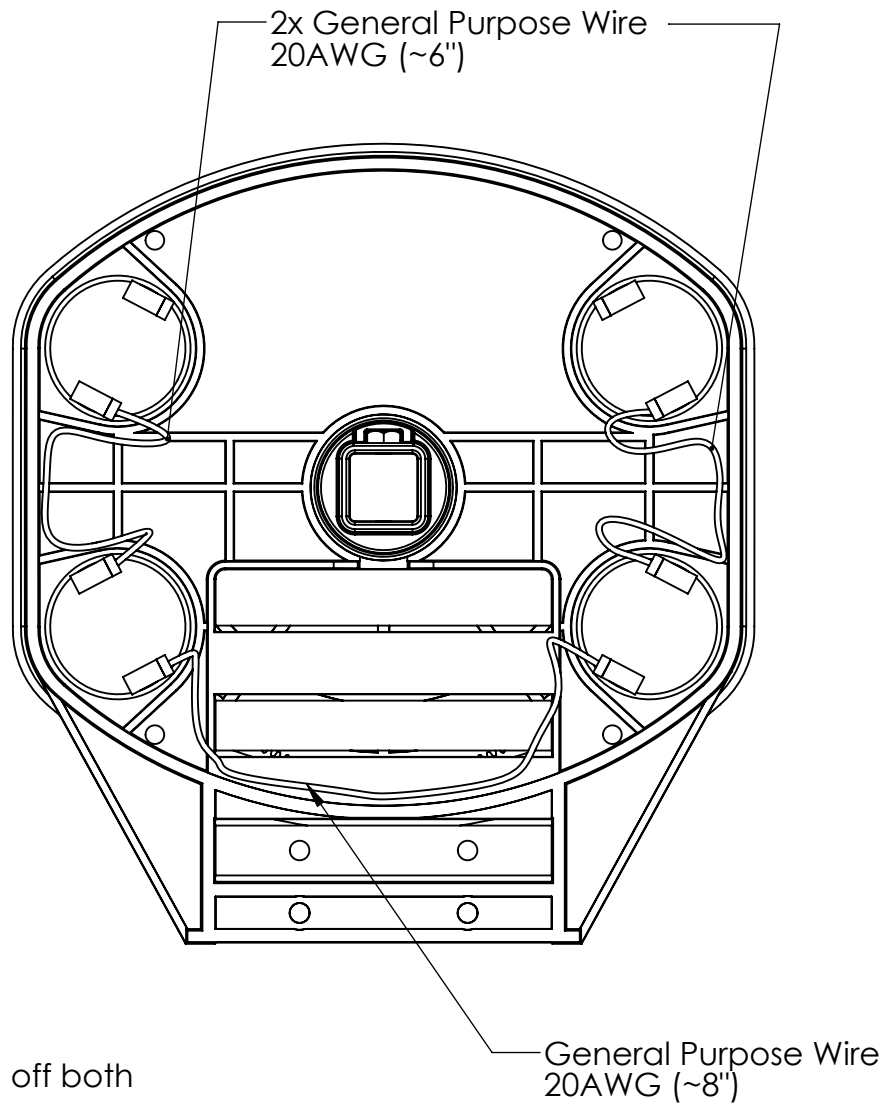
5

4

3

2

1

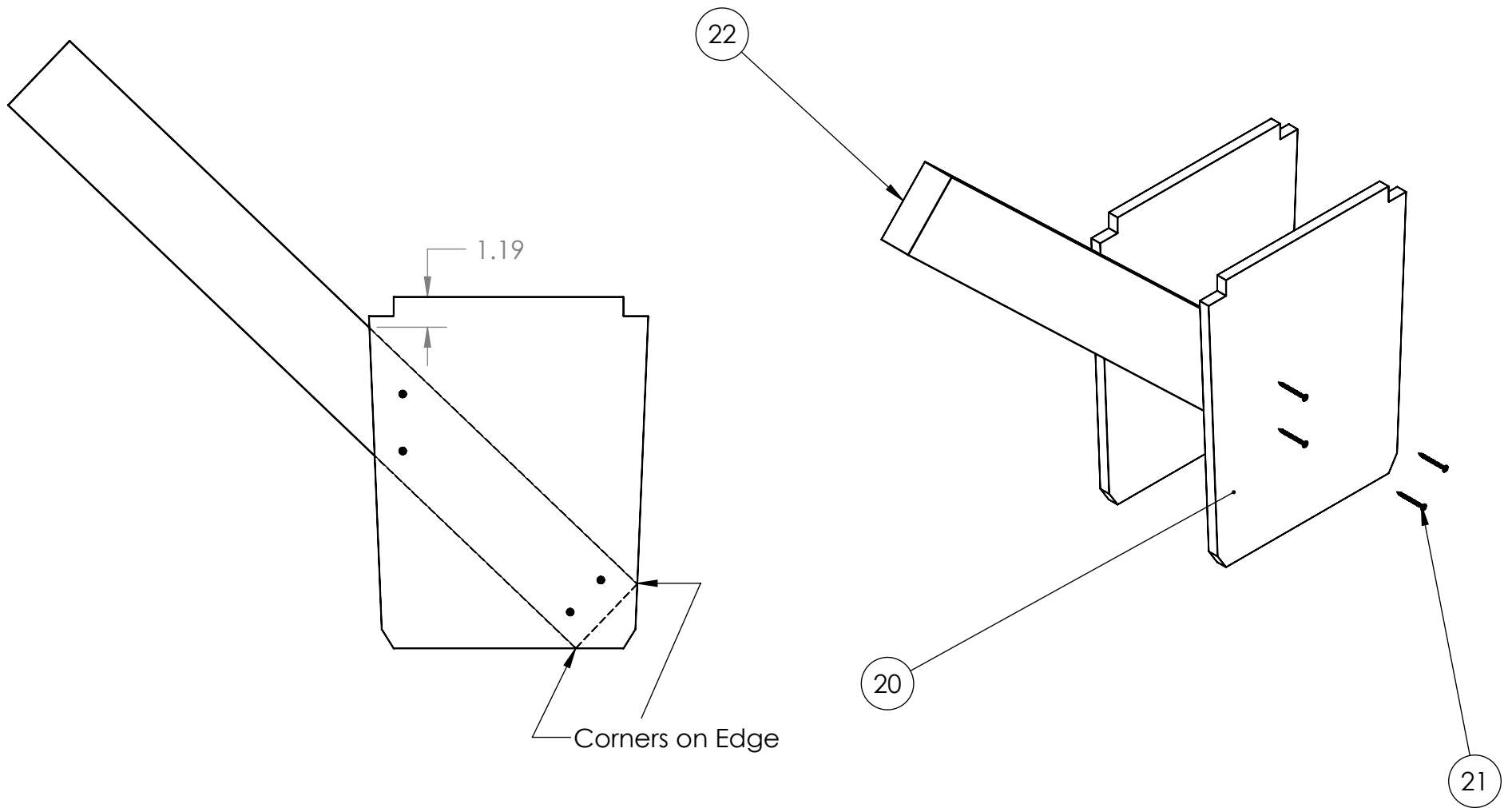


- Strip ~0.25" of wire insulation off both ends of each wire
- Each stripped wire end receives a right angle flag terminal to connect to the motor
- Once flag terminals are connected to the motors, neatly tuck wires against walls

## Harbec Generator, Motor Wiring

SCALE: 1:2

SHEET 4 OF 6



| NO. | QTY. | DESC.   |
|-----|------|---|
| 20  | 2    | Bucket Support Plates 0.5 in Exterior Plywood |
| 21  | 8    | 1.5" Drywall Screw, Coarse Thread             |
| 22  | 1    | Bucket Post 2x4                               |

# Harbec Generator Wood Support

SCALE: 1:6

SHEET 5 OF 6

5

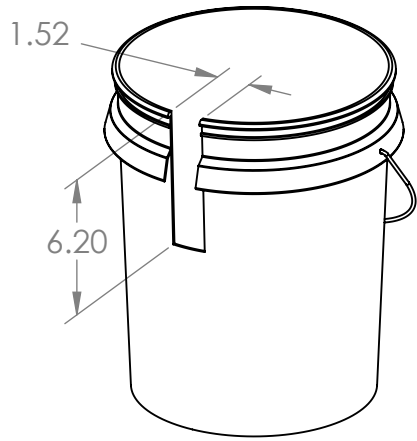
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3

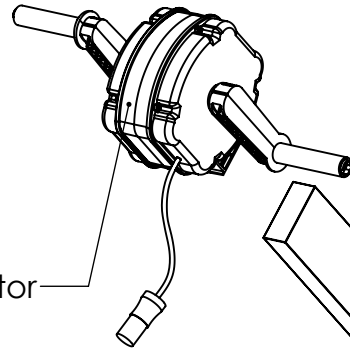
2

1

Support Bucket Notch:



Assembled Harbec Generator



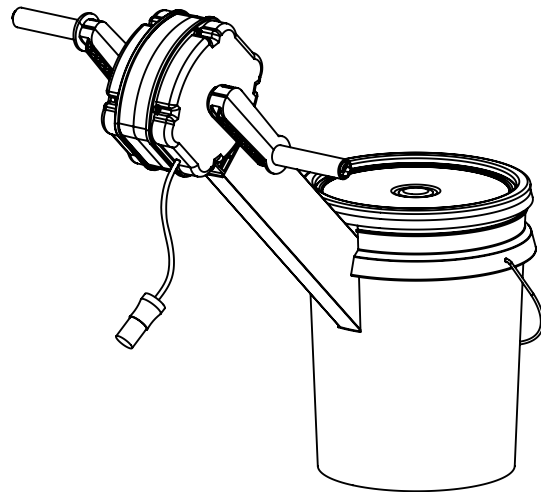
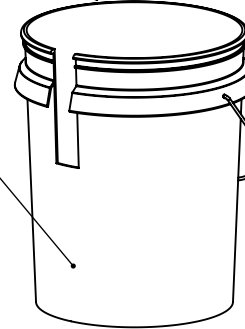
5 Gal. Bucket Lid



Generator Wood Support



5 Gal. Bucket with Post Notch



Harbec Generator,  
Support, and Bucket

SCALE: 1:10

SHEET 6 OF 6