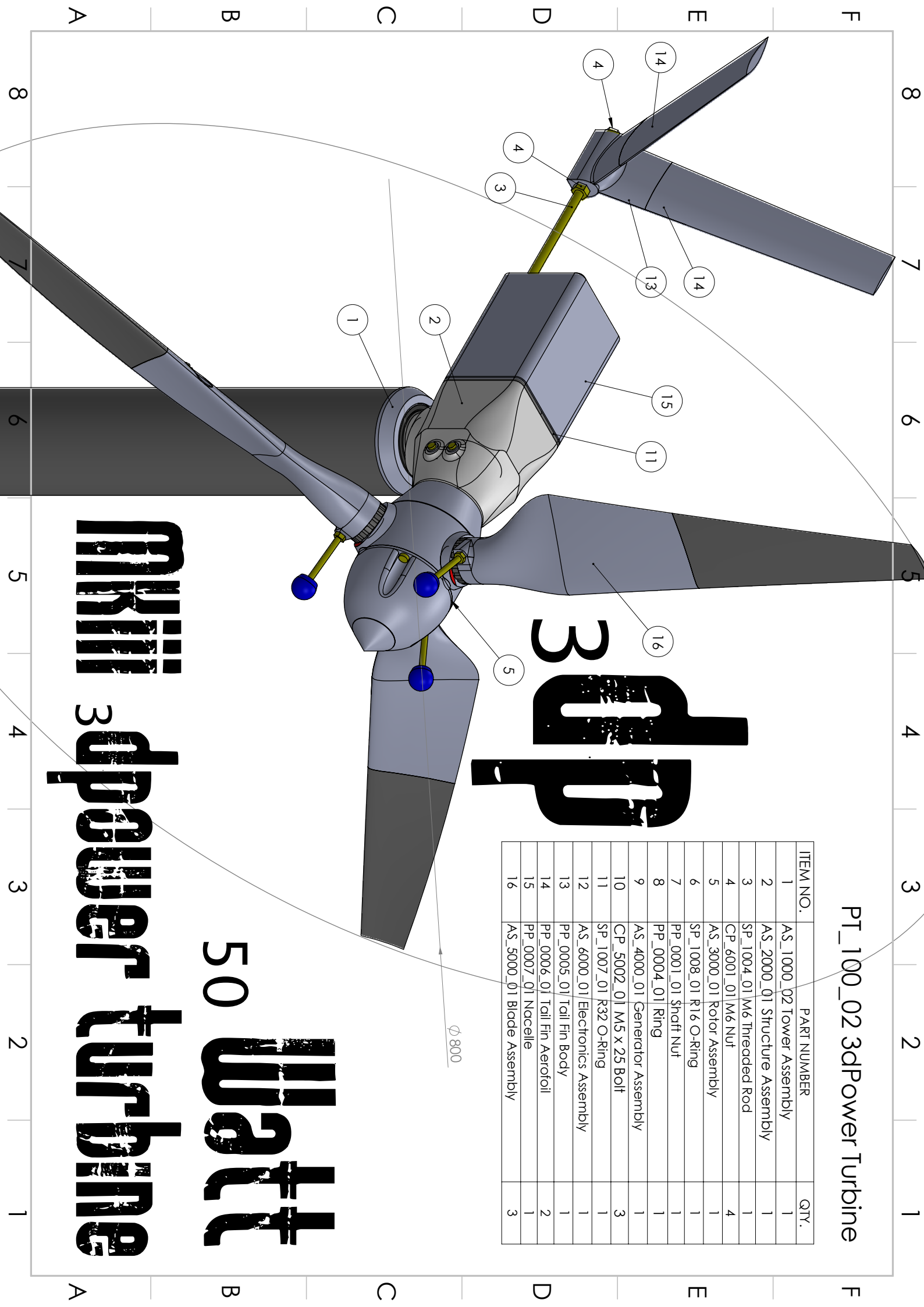


PT_100_02 3dPower Turbine

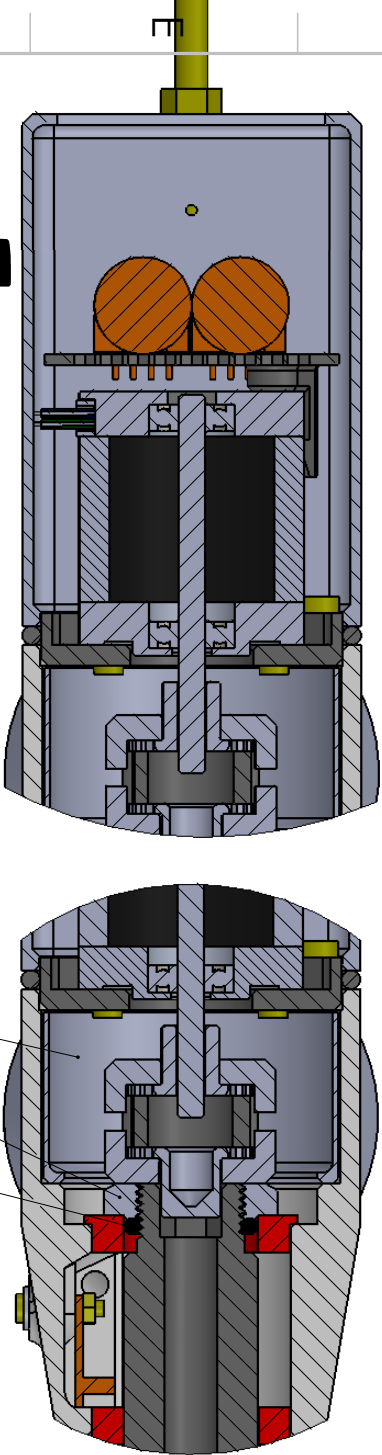
ITEM NO.	PART NUMBER	QTY.
1	AS_1000_02 Tower Assembly	1
2	AS_2000_01 Structure Assembly	1
3	SP_1004_01 M6 Threaded Rod	1
4	CP_6001_01 M6 Nut	4
5	AS_3000_01 Rotor Assembly	1
6	SP_1008_01 R16 O-Ring	1
7	PP_0001_01 Shaft Nut	1
8	PP_0004_01 Ring	1
9	AS_4000_01 Generator Assembly	1
10	CP_5002_01 M5 x 25 Bolt	3
11	SP_1007_01 R32 O-Ring	1
12	AS_6000_01 Electronics Assembly	1
13	PP_0005_01 Tail Fin Body	1
14	PP_0006_01 Tail Fin Aerofoil	2
15	PP_0007_01 Nacelle	1
16	AS_5000_01 Blade Assembly	3



3dPower
50 Watt
turbine

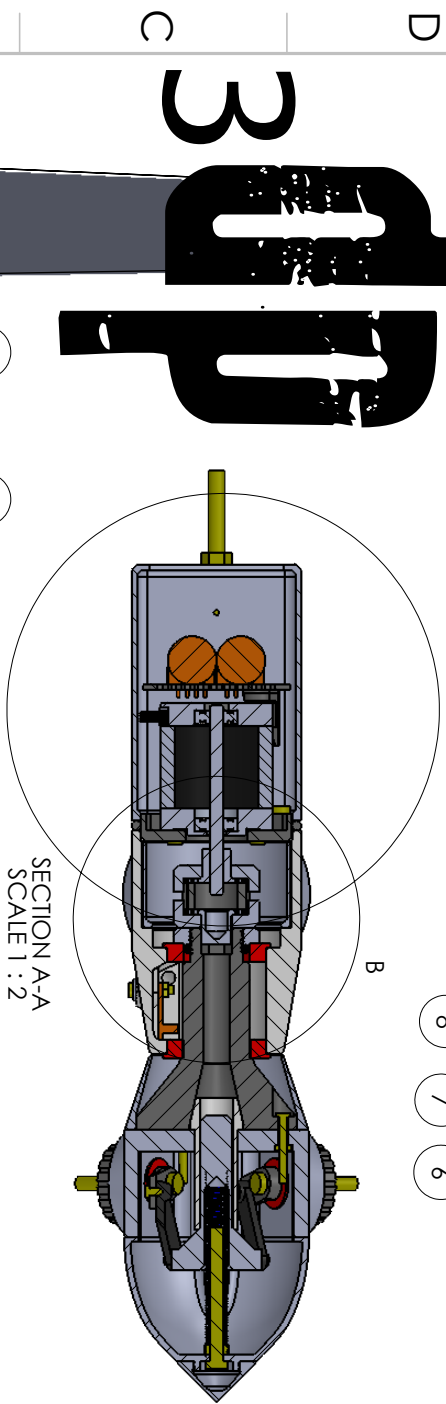
PT_100_02 3dPower Turbine

ITEM NO.	PART NUMBER	QTY.
1	AS_1000_02 Tower Assembly	1
2	AS_2000_01 Structure Assembly	1
3	SP_1004_01 M6 Threaded Rod	1
4	CP_6001_01 M6 Nut	4
5	AS_3000_01 Rotor Assembly	1
6	SP_1008_01 R16 O-Ring	1
7	PP_0001_01 Shaft Nut	1
8	PP_0004_01 Ring	1
9	AS_4000_01 Generator Assembly	1
10	CP_5002_01 M5 x 25 Bolt	3
11	SP_1007_01 R32 O-Ring	1
12	AS_6000_01 Electronics Assembly	1
13	PP_0005_01 Tail Fin Body	1
14	PP_0006_01 Tail Fin Aerofoil	2
15	PP_0007_01 Nacelle	1
16	AS_5000_01 Blade Assembly	3

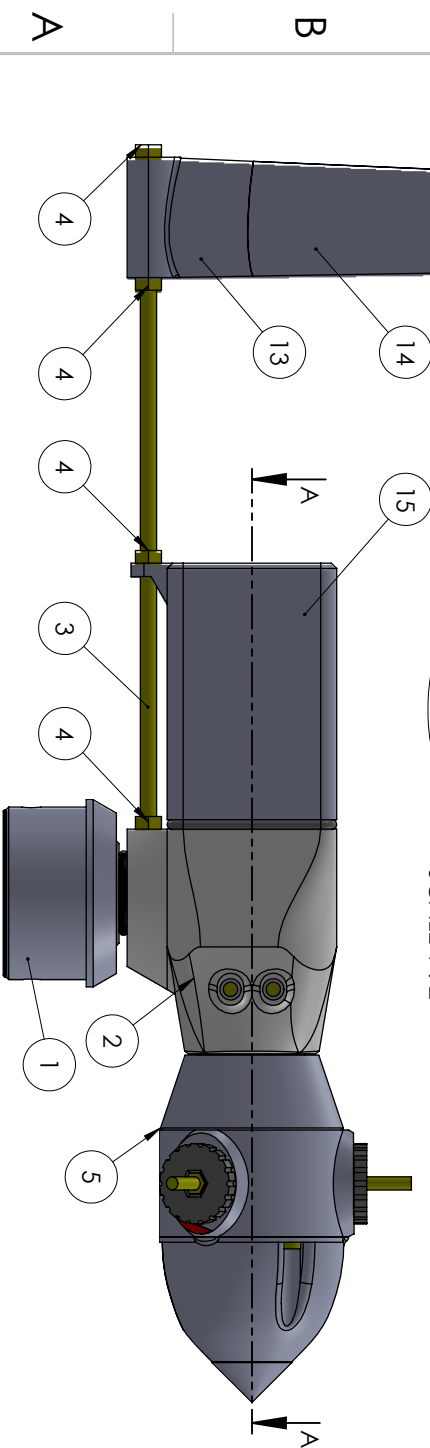


DETAIL C
SCALE 1 : 1

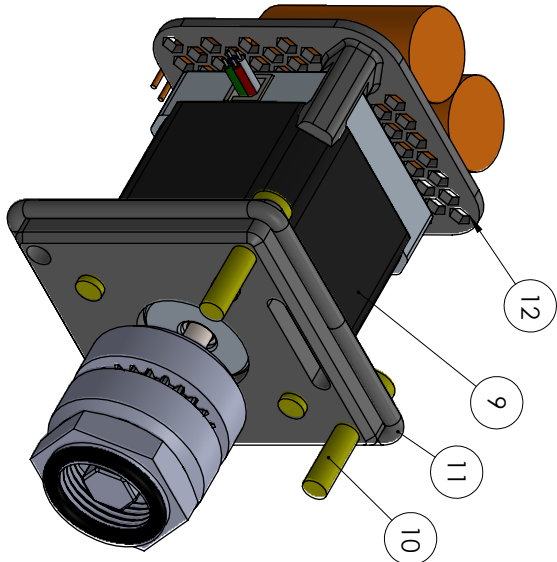
DETAIL B
SCALE 1 : 1



SECTION A-A
SCALE 1 : 2



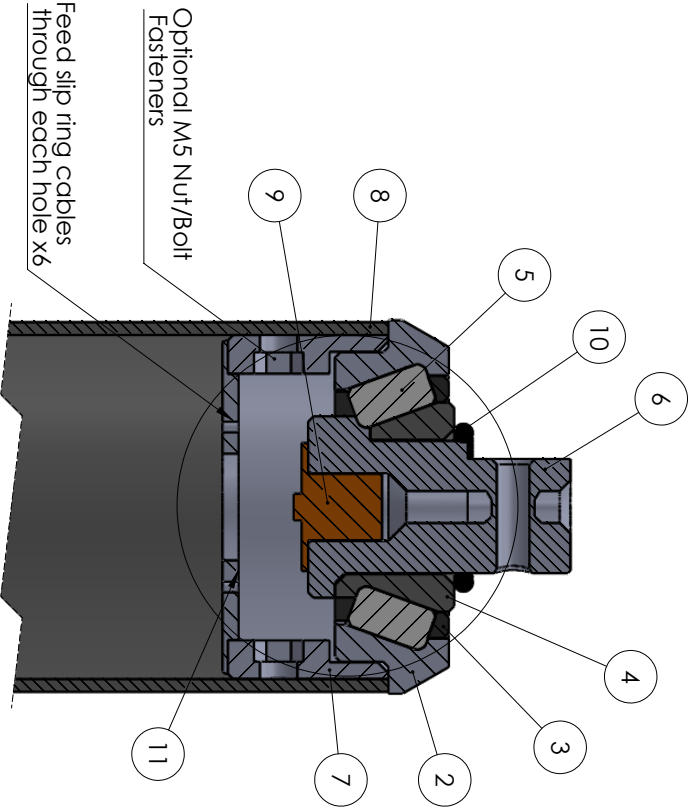
Number	I/DC5	Section
SP_1008 R16 O-Ring	18	3.5
SP_10007_01 R32 O-Ring	50	3.5



AS_1000_02 Tower Assembly

ITEM NO.	PART NUMBER	QTY.
1	PP_1001_01 Tower Footer	1
2	PP_1007_01 Outer Race	1
3	PP_1004_01 Cage	1
4	PP_1005_01 Inner Race	1
5	PP_1008_01 Roller	8
6	PP_1009_01 Tower Shaft	1
7	PP_1006_01 Outer Race Sleeve	1
8	SP_1005_01 Tower Pole	1
9	SP_1006_01 Slip Ring	1
10	SP_1009_01 R18 O-Ring	1
11	PP_1010_01 Cable Support	1

Part Number	I/D	Section
SP_1009_01 R18 O-Ring	22mm	3.5mm

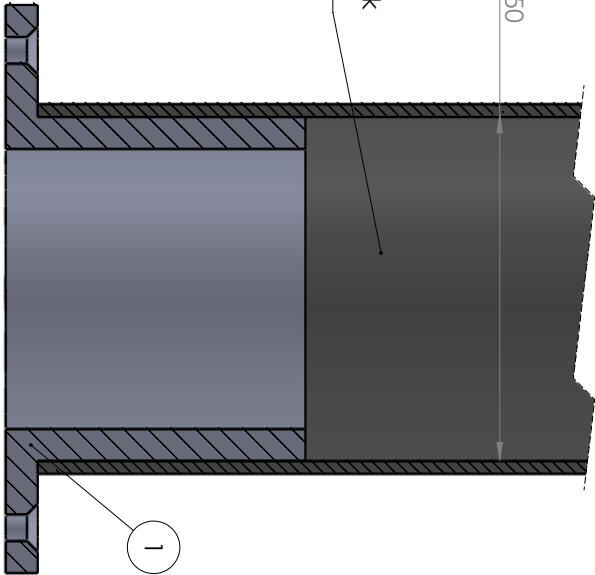


Apply grease to rolling elements

Remove print burrs from surfaces

Apply glue here

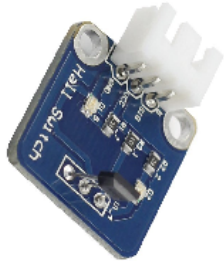
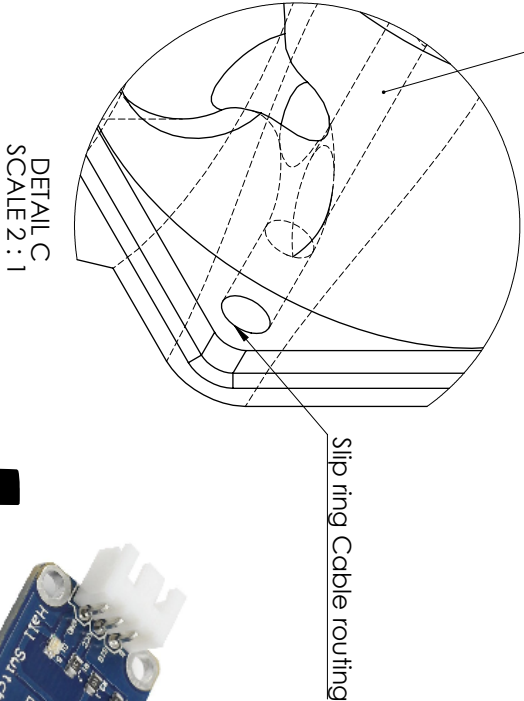
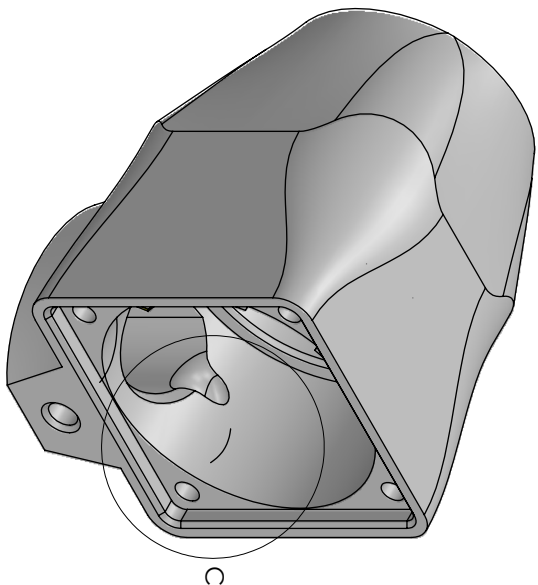
Min 2 wires
Min 2amp per wire



DETAIL C
SCALE 2:1

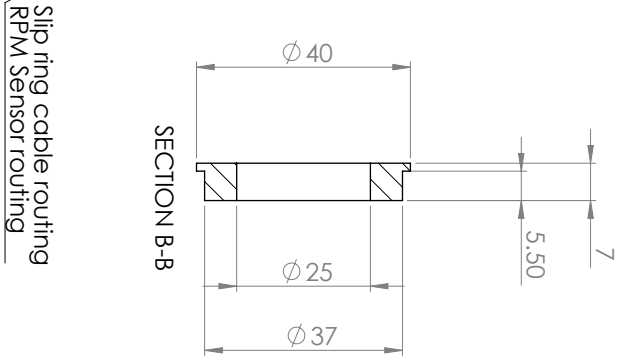
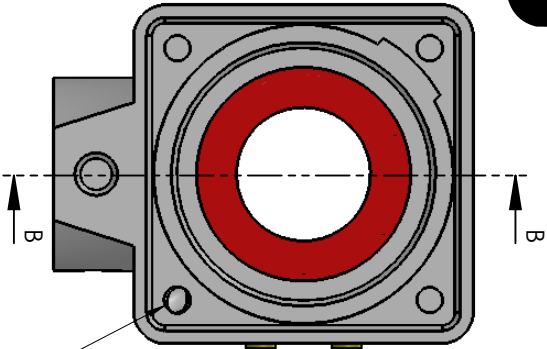
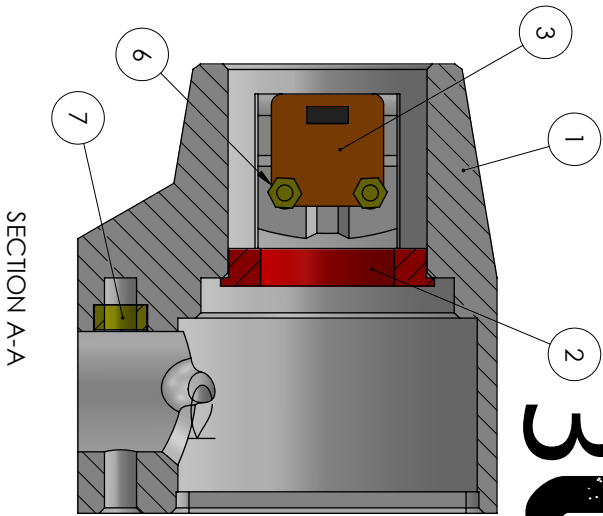
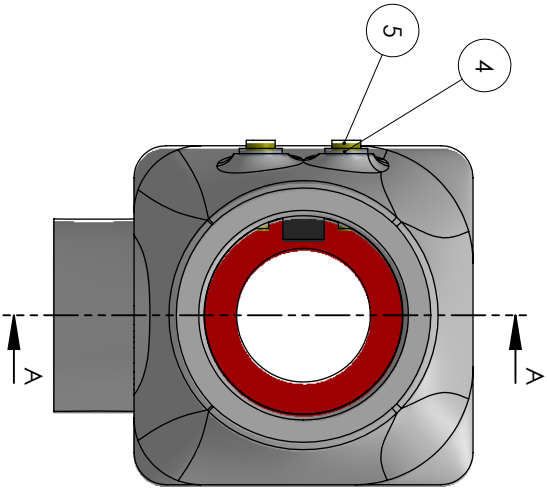
AS_2000_01 Structure Assembly

ITEM NO.	PART NUMBER	QTY.
1	PP_2001_01 Structure	1
2	SP_1002_01 Location Bearing	1
3	SP_1012_01 RPM Sensor	1
4	CP_3006_01 M3 Washer	2
5	CP_3007_01 M3 x 15 Bolt	2
6	CP_3001_01 M3 Nut	2
7	CP_6001_01 M6 Nut	1



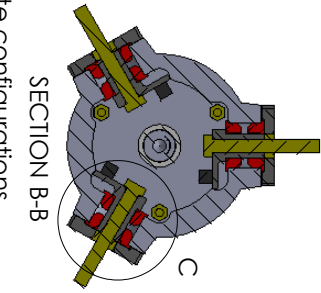
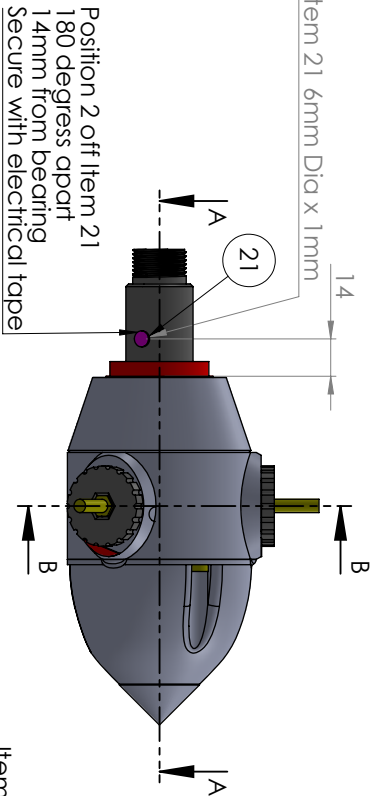
Item 3)
SunFounder Hall Effect Sensor Module
RPM Sensor is optional and requires
additinal off turbine equipment (Rpi)

3d



AS_3000_01 Rotor Assembly

ITEM NO.	PART NUMBER	QTY.
1	PP_3001_01 Disc	1
2	PP_3002_01 Crank	3
3	PP_3003_01 Pitch Arm	3
4	PP_3004_01 Piston	1
5	PP_3005_01 Piston Cover	1
6	PP_3006_01 Nose Cone	1
7	PP_3007_01 Nose Cone Tip	1
8	PP_3008_01 Shaft	1
9	PP_3009_01 Shaft Shroud	1
10	CP_3001_01 M3 Nut	6
11	PP_3011_01 Plain Pitch Bearing	6
12	CP_5003_01 M5 x 40 Bolt	3
13	CP_3003_01 M3 x 12 Bolt	6
14	CP_3002_01 M3 x 25 Bolt	3
15	CP_4006_01 M4 x 12 Self tapping	3
16	CP_5004_01 M5 x 50 Bolt	1
17	CP_5001_01 M5 Nut	4
18	SP_1003_01 Pitch Spring	1
19	PP_3010_01 Blade Setting Ring	3
20	SP_1002_01 Location Bearing	1
21	SP_1013_01 Magnet	2



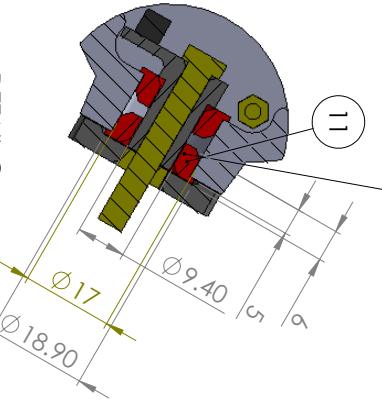
Item 11 alternate configurations
1) Plain bearing (printed)
2) Ball bearing (purchased)

Hand dress both sides
until smooth

SECTION A-A

Pitch Spring
80mm x 8.63mm
0.17N/mm

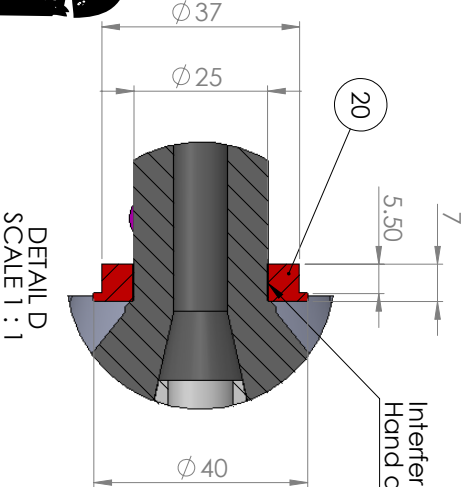
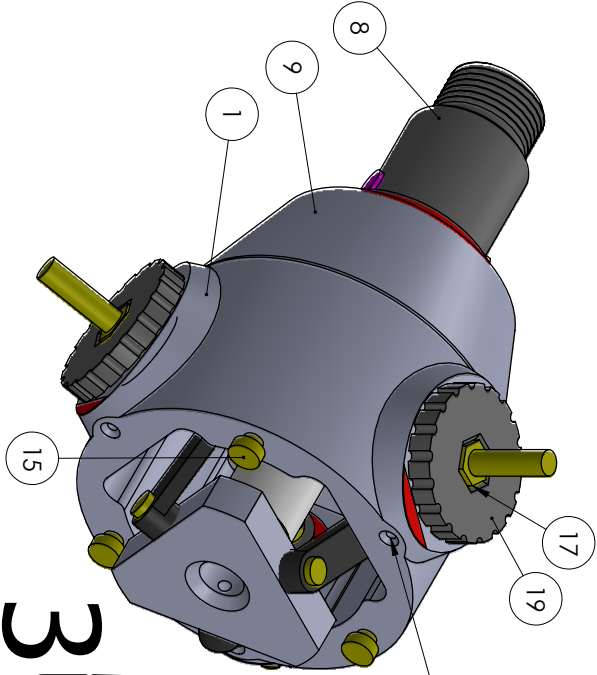
DETAIL C
SCALE 1 : 1



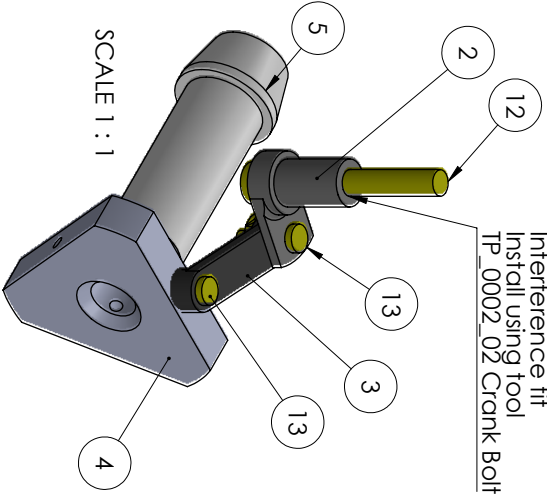
Pitch Bearing
oil feed holes
3 positions

Interference fit
Hand dress to fit

Interference fit
Install using tool
TP_0002_02 Crank Bolt



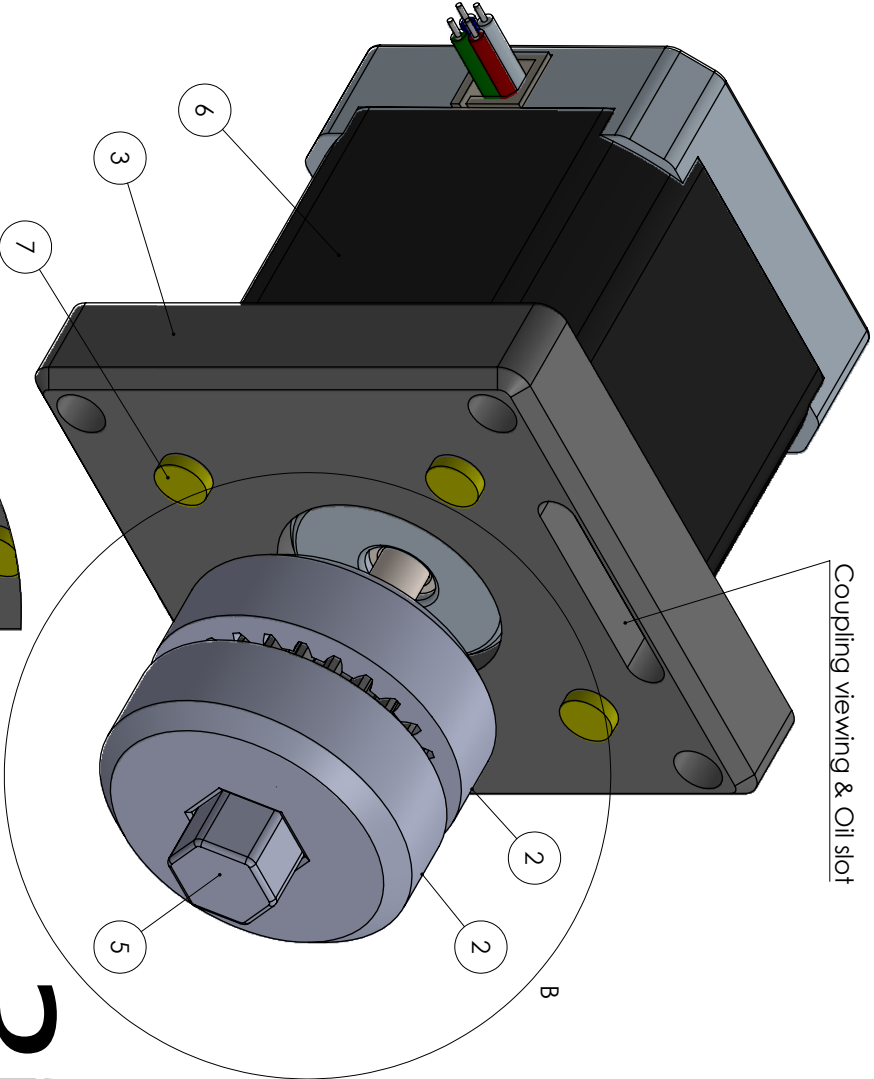
DETAIL D
SCALE 1 : 1



SCALE 1 : 1

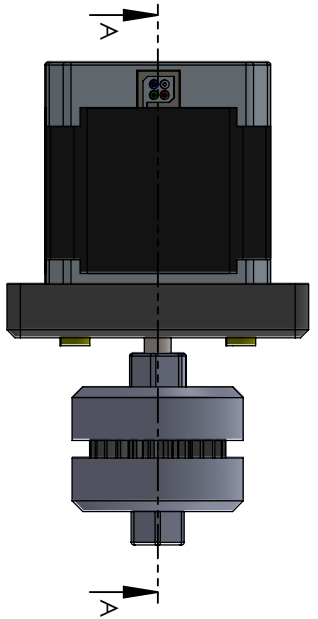
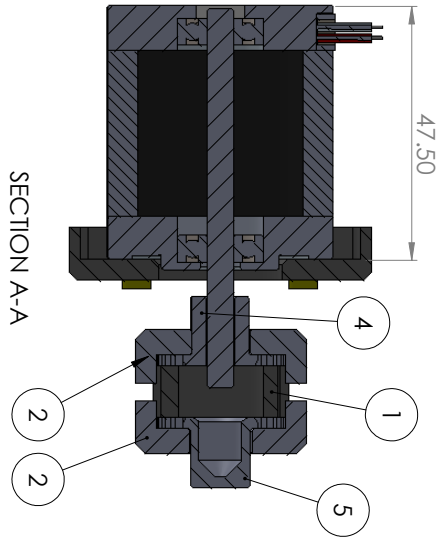
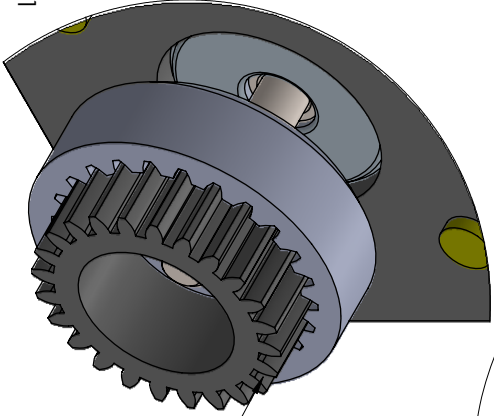
AS_4000_01 Generator Assembly

ITEM NO.	PART NUMBER	QTY.
1	PP_4010_01 Star Coupler	1
2	PP_4011_01 Coupler	2
3	PP_4003_01 NEMA17 Adaptor	1
4	PP_4012_01 Generator Interface	1
5	PP_4013_01 Shaft Interface	1
6	SP_1011_01 NEMA 17 2Amp Version	1
7	CP_3009_01 M3 x 8 Bolt	4



Coupling to allow for mis-alignment of the Turbine and Generator. Coupling reduces vibration and rotor friction. Apply lubrication to reduce noise.

DETAIL B
SCALE 2 : 1



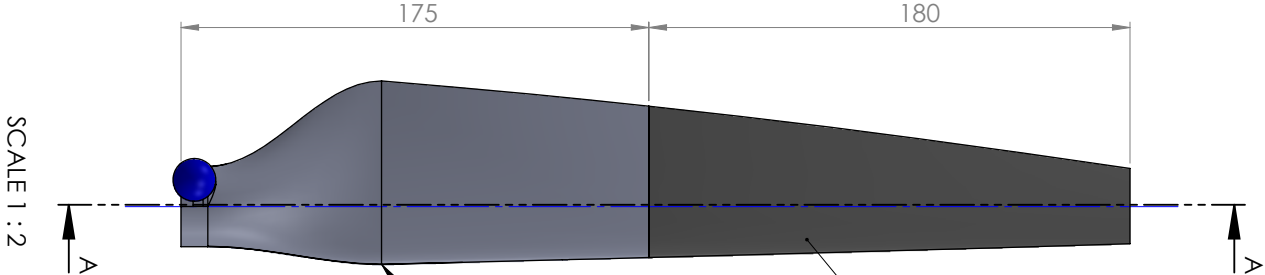
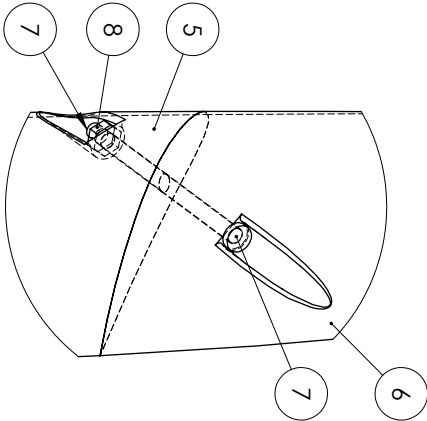
AS_5000_01 Blade Assembly

ITEM NO.	PART NUMBER	QTY.
1	CP_4001_01 M4 Nut	1
2	CP_4005_01 M4 x 50 Bolt	1
3	CP_5001_01 M5 Nut	1
4	PP_5002_01 Pitch Weight	1
5	PP_5011_01 MKII Blade Bottom	1
6	PP_5012_01 MKII Blade Top	1
7	CP_3008_01 M3 x 50 Bolt	1
8	CP_3001_01 M3 Nut	1

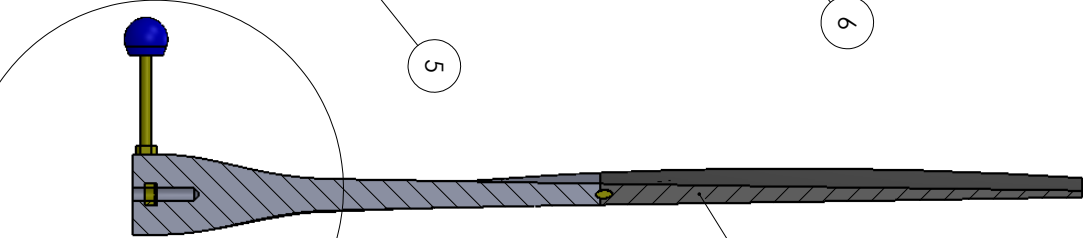
Hand Dress surface smooth
for maximum performance

Using slicer software
pause print at 9.1mm
insert M5 nut and resume
print ensuring nut is
below the print surface.

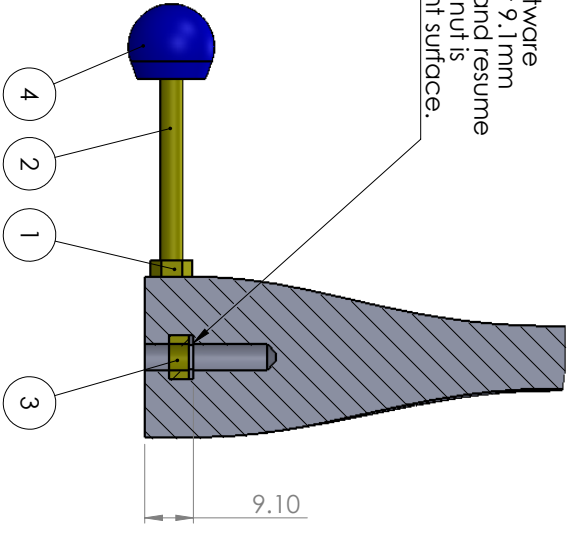
DETAIL C
SCALE 1 : 1



SCALE 1 : 2



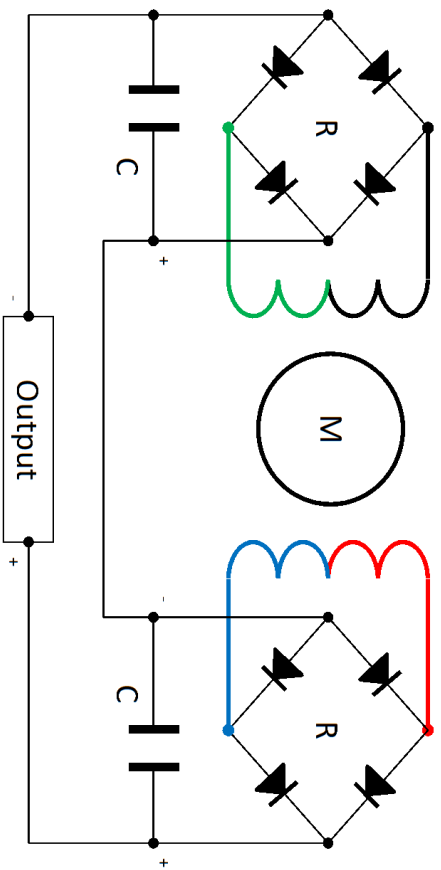
SECTION A-A
SCALE 1 : 2



DETAIL B
SCALE 1 : 1

3D

Turbine Power Circuit



- M Stepper Motor NEMA17
- R Full Wave Rectifier Vishay VS-2KBP005, Bridge Rectifier, 2A 50V, 4-Pin D 44
- C Capacitor Panasonic 47007F 25 V dc Aluminium Electrolytic Capacitor, FC Radial Series 5000h

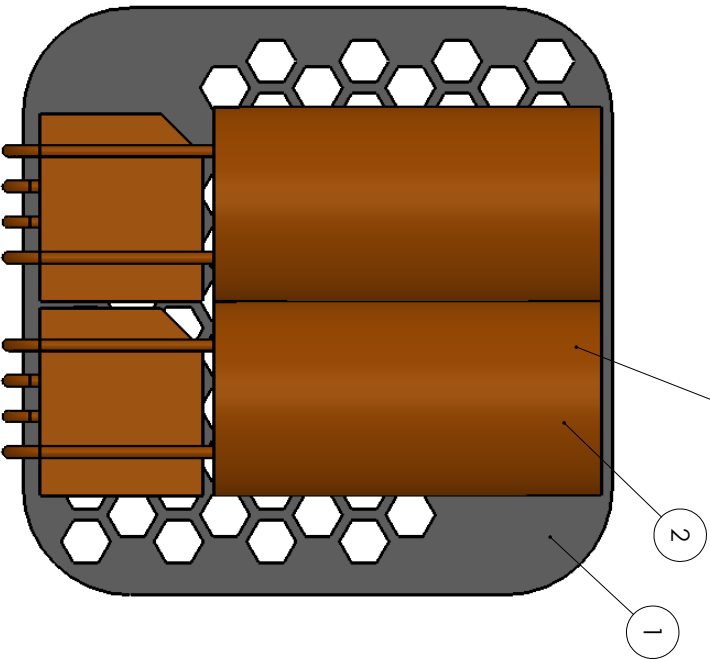
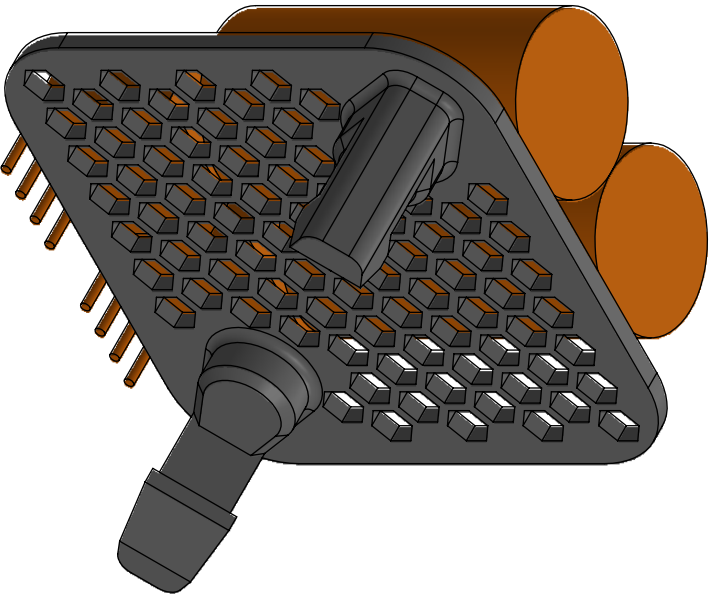
Stock no.: 468-1603
Stock no.: 315-0669

AS_6000_01 Electronics Assembly

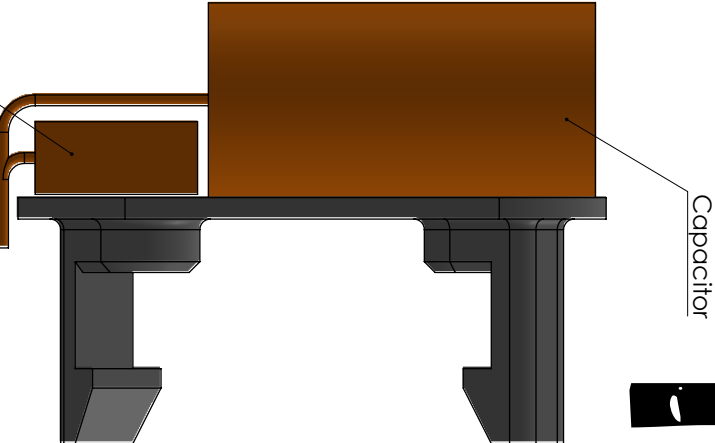
ITEM NO.	PART NUMBER	QTY.
1	PP_6001_01 Electronics Panel	1
2	SP_1014_01 Capacitor Rectifier	2

Note: electronics can be mounted off the turbine if desired.

3up



SCALE 2 : 1



SCALE 2 : 1

Pitch Setting Tool Assembly

Step 1 - remove parts as shown in DETAIL A (Nosecone & Blades)

Step 2 - Depress piston keep depressed throughout

Step 3 - Ensure Crank & Pitch Arm are orientated as shown

Step 4 - Lightly tighten the Blade Setting Ring to the Disc

Step 8 - Tighten the Blade Setting Ring upto the Blade

Step 9 - Remove Pitch Setting Tool

Step 10 - Re-assembly parts as per AS3000_01 & AS5000_01

DETAIL A
SCALE 1 : 2

DETAIL B
SCALE 1 : 1

DETAIL C
SCALE 1 : 1

Step 7 - Using attaching parts removed from AS3000_01 during step 1 reattach and hand tighten to allign blades as shown

Step 6 - Attach TP_0001_01 Pitch Setting Tool to the Disc using CP_4006_01 Screws

Step 5 - attach the Blade do not tighten down, Blade and Blade Setting Ring to remain free to turn

