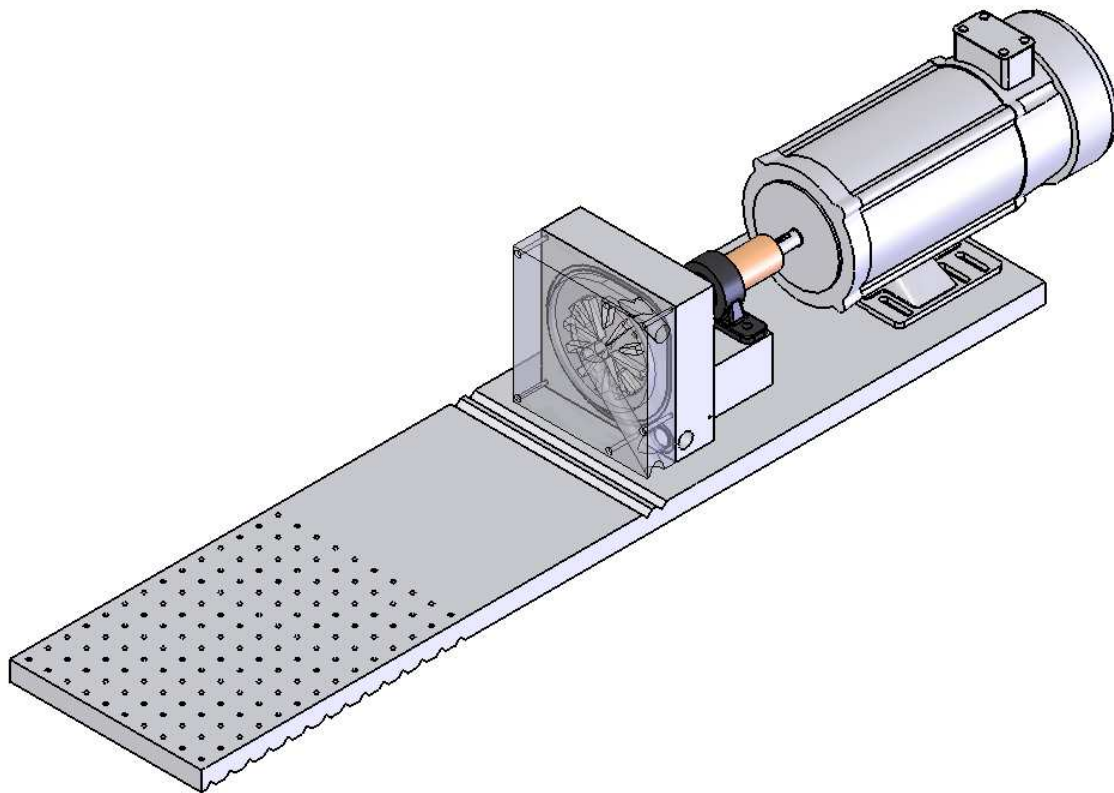


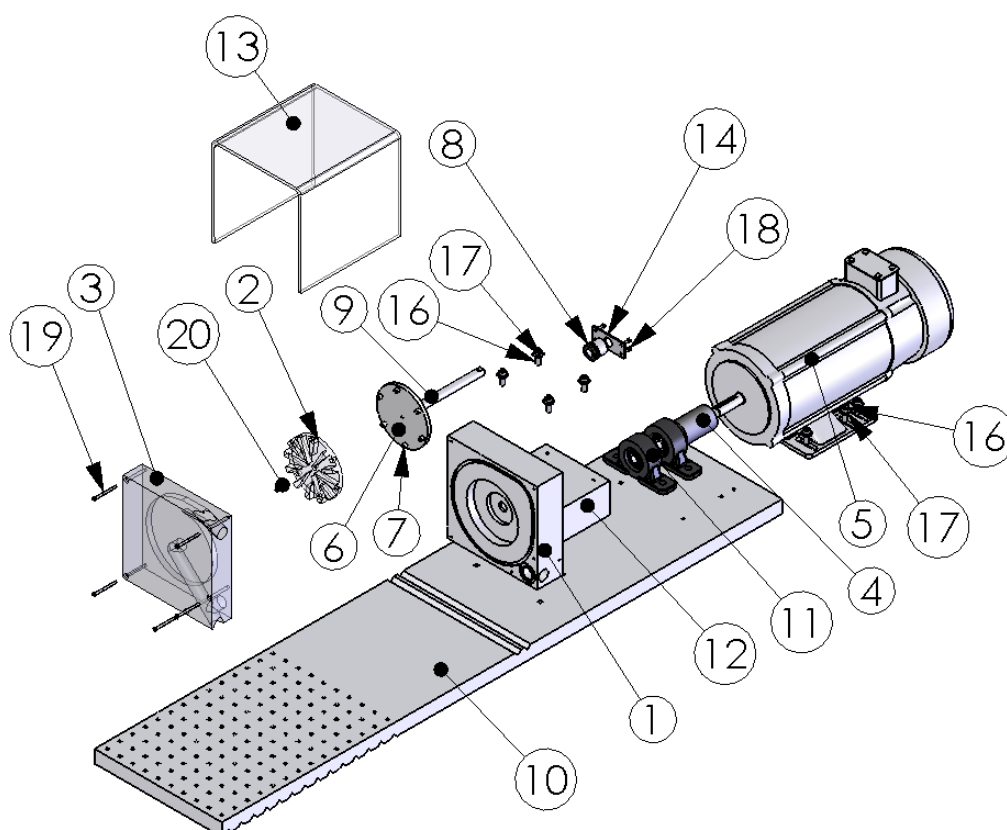
## 08453 Pump Subsystem Mechanical Assembly and Maintenance Instructions

Assembly	2
Shaft Seal / Bearing Replacement	10
Impeller / Front Housing Replacement	10

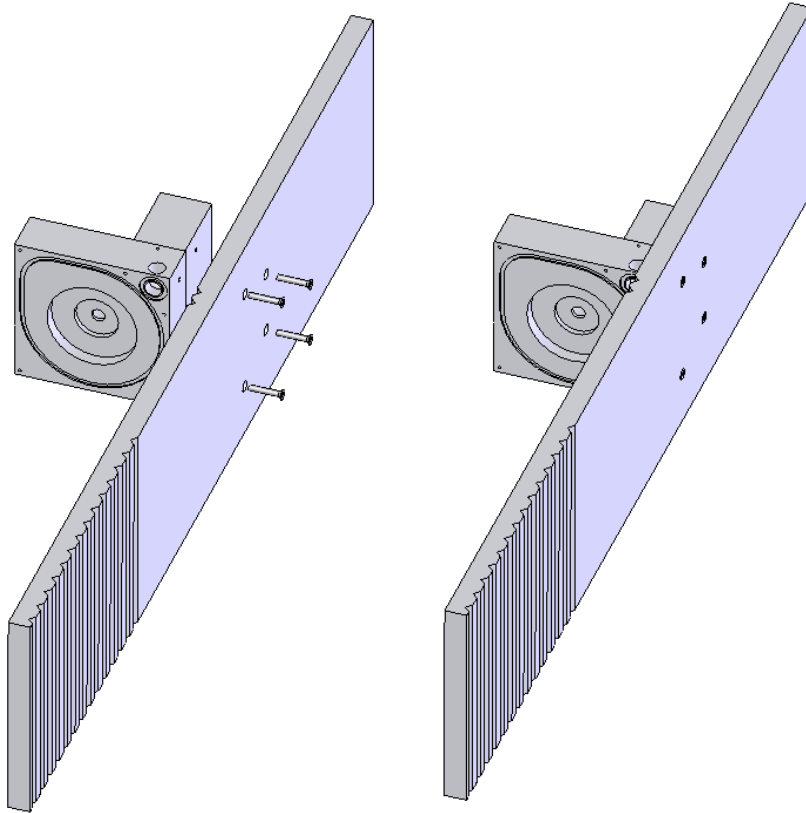


### Complete Assembly:

Item #	Qty	Description	Drawing #
1	1	Back Housing	08453-102
2	1	Impeller	08453-186
3	1	Front Housing	08453-171
4	1	Flexible Shaft Coupling	08453-153
5	1	Baldor Motor	08453-155
6	1	Impeller Backplate	08453-104
7	6	Dowel Pin (1/4" x 1/2")	08453-154
8	1	Rotary Shaft Seal	08453-152
9	1	Custom Shaft	08453-105
10	1	Base Plate	08453-101
11	2	Bearing	08453-151
12	1	Bearing Mount	08453-103
13	1	Shaft Guard	08453-106
14	1	Shaft Seal Compression Plate	08453-107
15	4	1/4-20 flat head screw 1.5"	misc
16	10	1/4-20 socket head cap screw .75"	misc
17	10	1/4" washer	misc
18	4	6-32 flat head screw .5"	misc
19	5	8-32 flat head screw 2.75"	misc
20	1	8-32 flat head screw .75"	misc

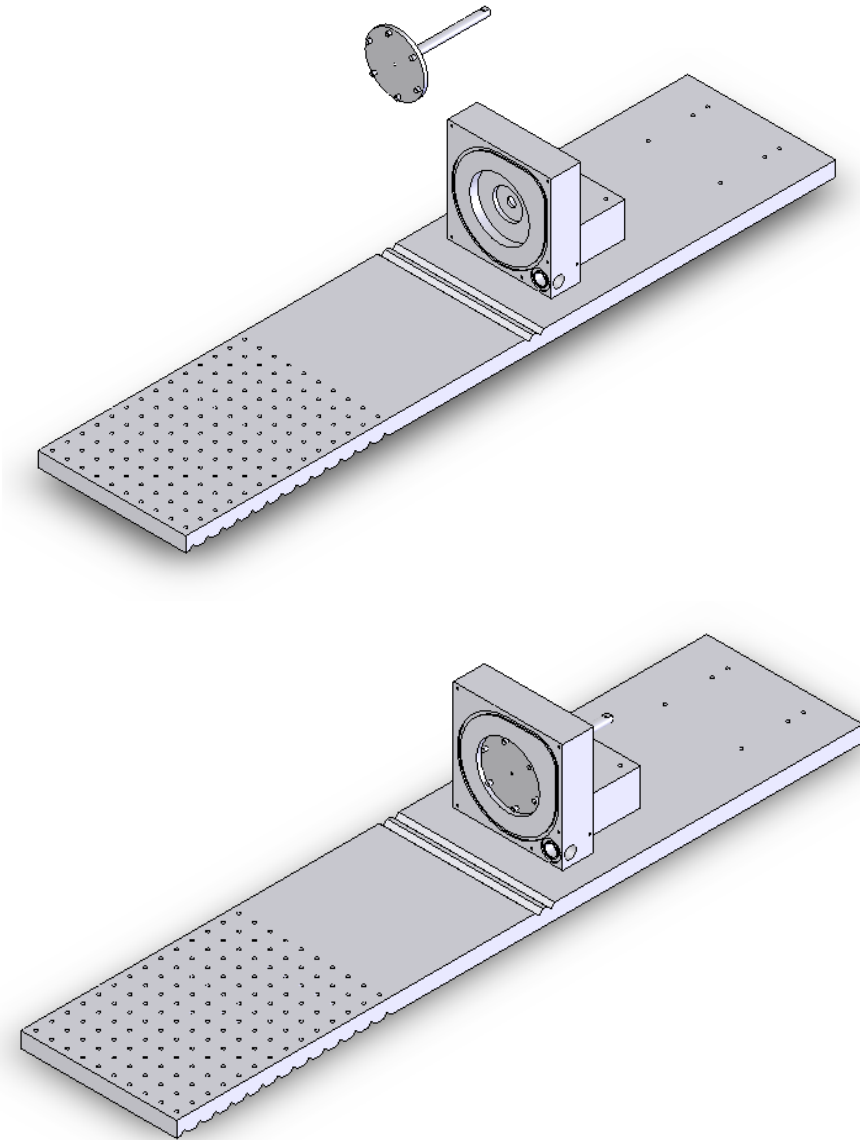


Step 1: Tip back plate on its side. Attach back housing and bearing mount with  $\frac{1}{4}$ " x 1.5" flat head screws. Attach back housing first and use a square to maintain the best perpendicularity possible between the front housing and side of the base plate. After tightening, attach the bearing mount to the base plate by first butting it against the back housing, and then against the indicator dowel on the housing, then tightening the screws.



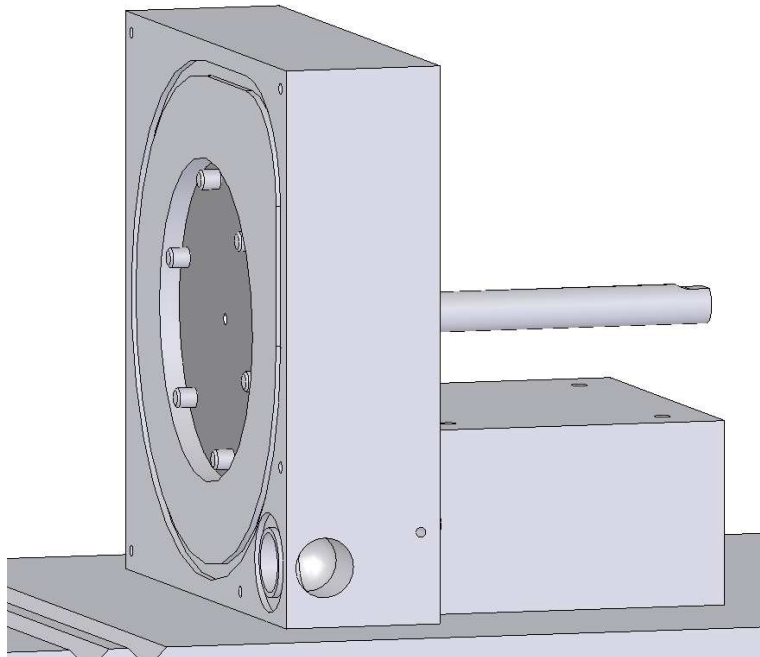
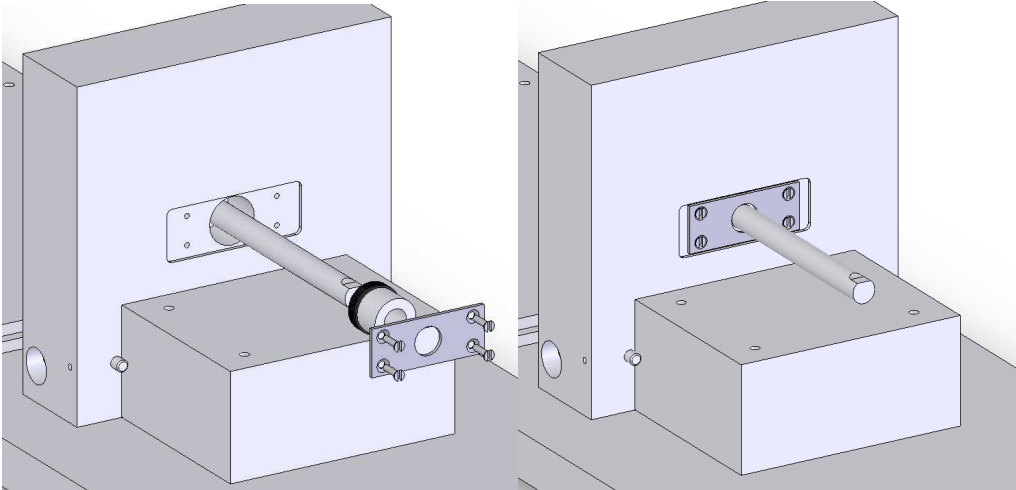
Step 2:

Insert the Shaft subassembly (6x dowel pins, impeller back plate, and custom shaft).



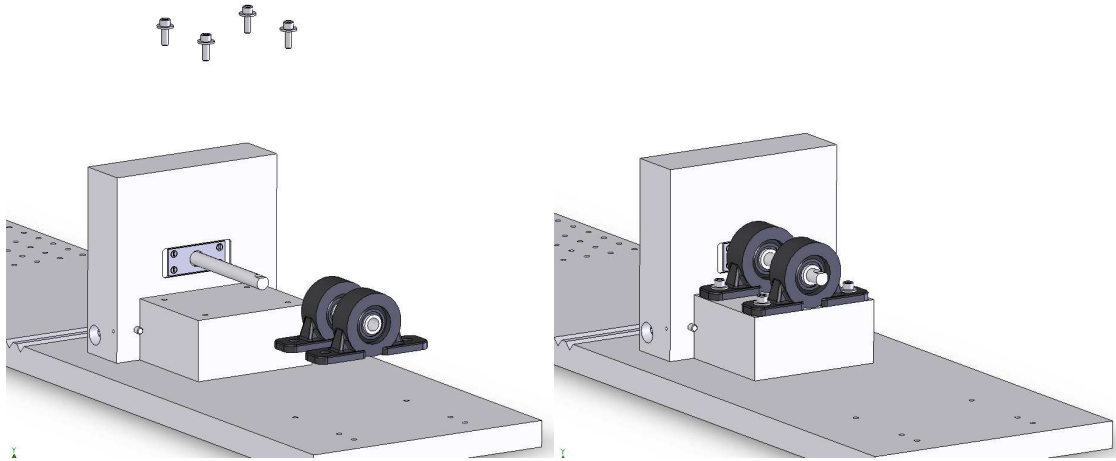
**Step 3:**

Put the shaft seal on, careful not to touch the lapped surfaces. Put the back plate on and screw it into the back housing using four 6-32 screws. Fine positioning of the shaft subassembly is important. The plate should sit as close to .250" from the surrounding surface as possible, and the dowel pins should be flush with the surface.

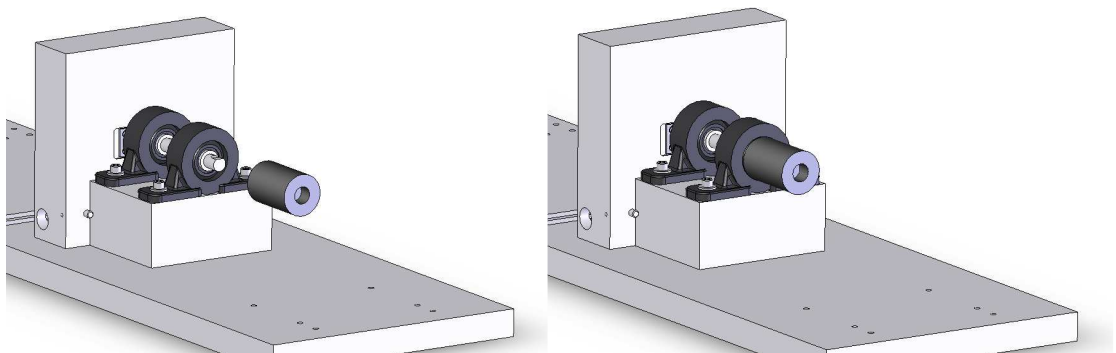


**Step 4:**

Place the bearings over the shaft, and screw them onto the bearing mount block with four  $\frac{1}{4}$ -20 socket head cap screws (or equivalent) and  $\frac{1}{4}$ " washers. Care must be taken to align the bearings as perfectly as possible to reduce wear on the shaft seal, and limit radial forces inside the pump.

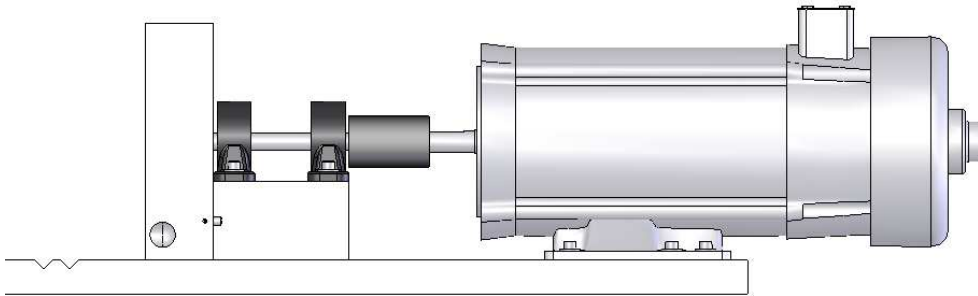
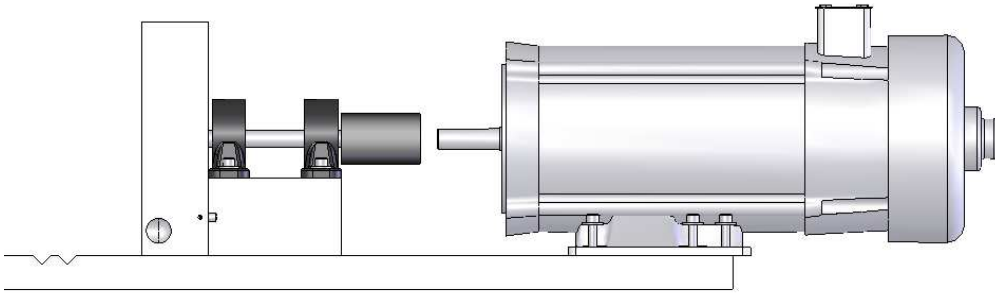
**Step 5:**

Attach the flexible shaft coupling.

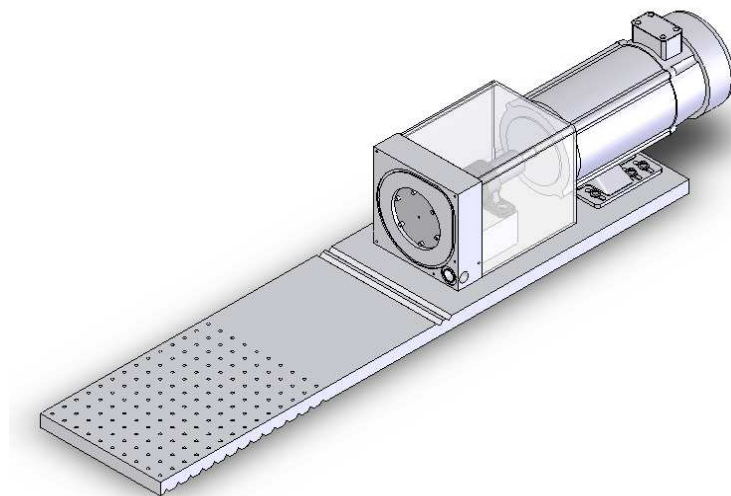


**Step 6:**

Attach the motor with ¼-20 socket head cap screws (or equivalent) and ¼” washers. Determine motor placement based on position of least resistance with shaft coupling.

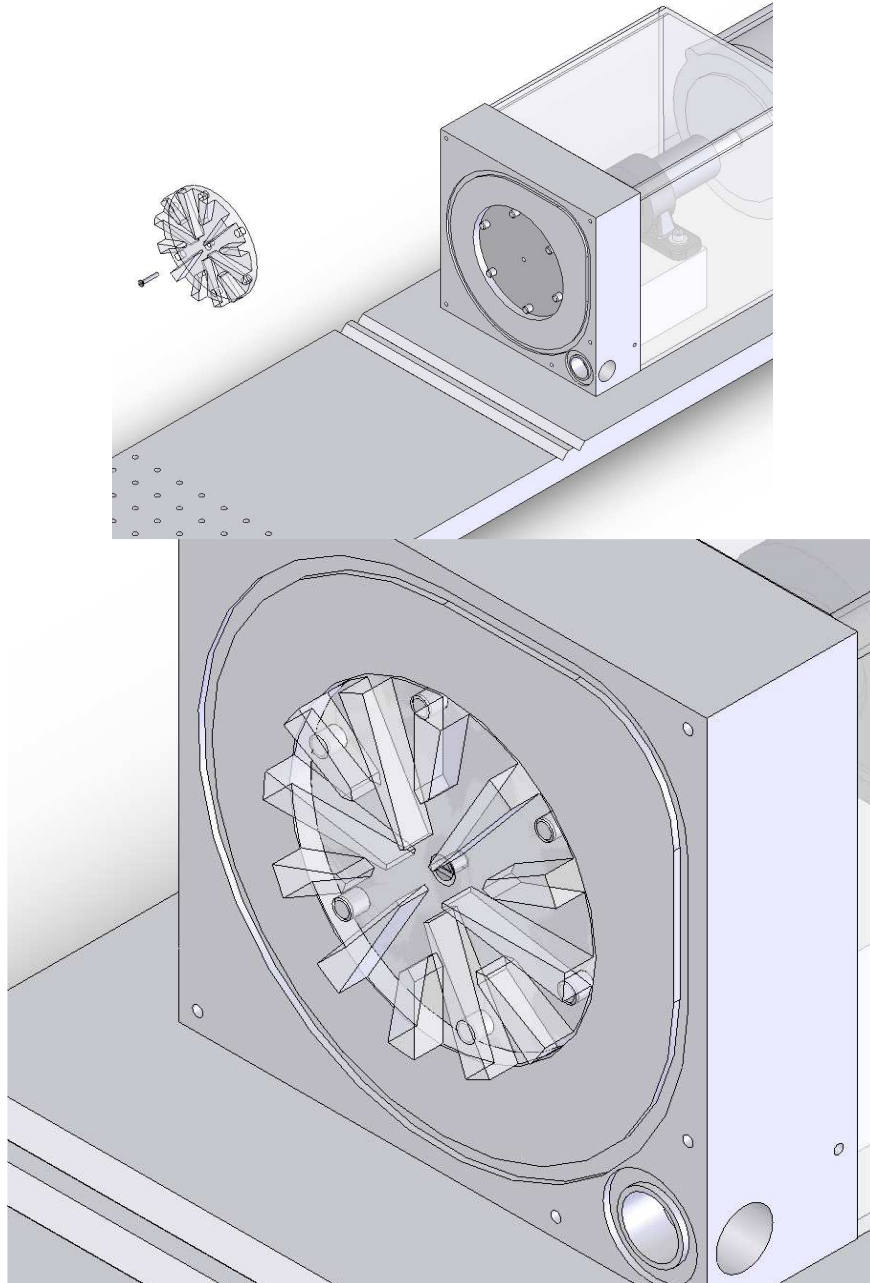
**Step 7:**

Attach the protective cover – **INSERT ADDITIONAL INSTRUCTIONS WHEN COVER IS DECIDED ON**



**Step 8:**

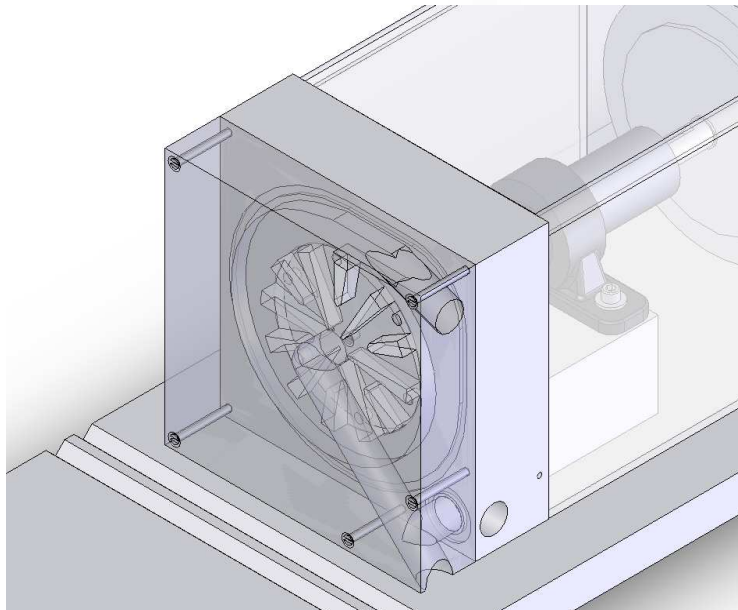
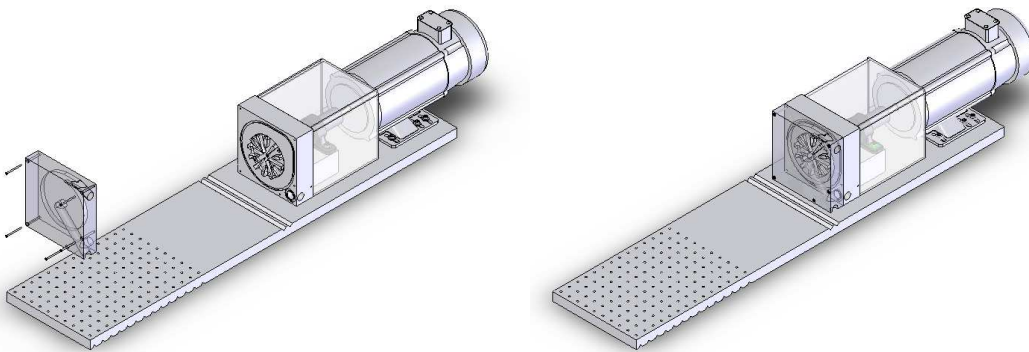
Place the impeller on the back-plate, careful to align the dowel holes with the dowel pins and gently slide it on. When it is positioned properly, the top of the dowel pins will be flush with the impeller surface.





**Step 9:**  
**Insert Gasket Material**

**Step 10:**  
Attach clear front housing with five 8-32 screws. Ensure complete gasket compression. Visually inspect housing distance from impeller to verify clearance.



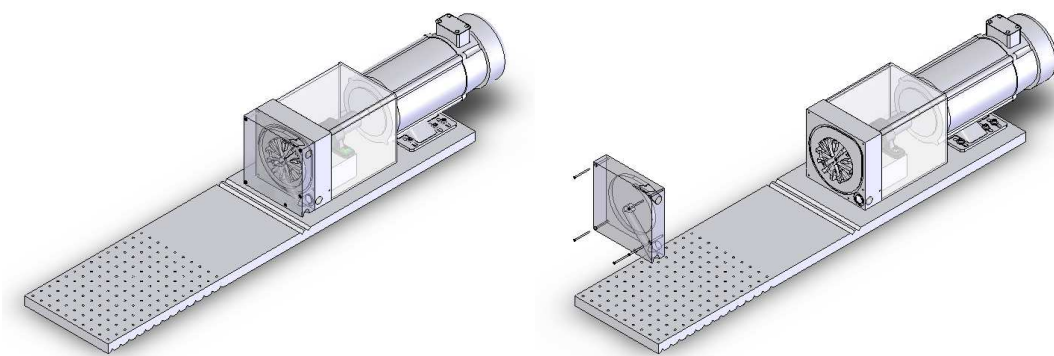
### Shaft Seal / Bearing Replacement

Follow assembly instructions backwards from Step 10 (page 9) to step 4 for bearing replacement, or step 3 for shaft seal replacement. Once part has been replaced, follow those steps forward again.

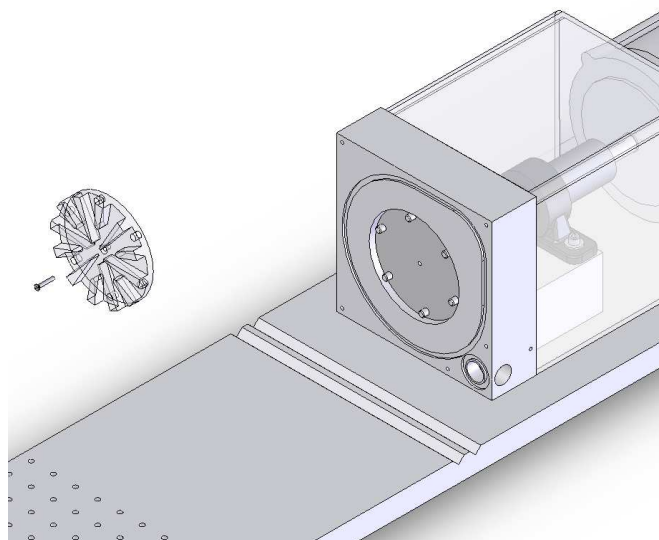
Note: If replacing a bearing only, be careful to limit axial loads on the shaft subassembly.

### Impeller Change

Remove the 5 screws from the front housing and remove the housing, taking care to handle it delicately.



Remove the Impeller via the one screw.



Replace the impeller and front housing.