

# Bearing Replacement & Shaft Assembly Replacement Procedures

**WARNING: DO NOT SPRAY WATER OR OTHER LIQUIDS ON THE SHAFT OR BEARING SEALS. THIS WILL PERMANENTLY DAMAGE THE FAN, AND WILL VOID THE FAN'S WARRANTY.**

**NOTE:** For Bearing replacement, follow all 16 Steps below. If the Shaft Assembly is being replaced, follow *Steps #1 through #16* below, skipping *Step #8*.

- 1) Remove the blade assembly from the fan by removing the two (2) bolts holding the shaft to the X-braces.
- 2) Remove all the blades from the disc. Mark each blade and its spoke as it is taken off so that the blades can be returned to their original position to keep the blade assembly in balance. This may be done by sequentially numbering the blades and spokes as the blades are being removed.
- 3) Remove the shaft from the disc by removing the locknut from the shaft.
- 4) Remove the bearing cap retaining bolts.
- 5) The bearings may be removed by either: **A)** heating the disc for one (1) hour at 500° F to break down the Loctite retaining compound and then lightly tapping the bearings out with a hammer while the disc is still warm, or **B)** pressing the bearings out by carefully pressing against the inner race of the bearings. Note: pressing the bearings out may require up to 8,000 lbs axial force before failure of the Loctite bond. For most fans, the bearing spacer will be pressed out along with the bearings. Keep track of the bearing spacer for shaft re-assembly in *Step #8* below.
- 6) Check the hub bore for any deformation caused by bearing failure. If hub bore is deformed or grooved, bearing replacement will not be possible. In this case, you will need to purchase a new disc assembly.
- 7) Remove the residual Loctite in the bore by using a suitable paint stripper (follow the directions provided with the product). Alternatively, the residual Loctite may be removed by lightly scraping the bore with a razor blade or knife.
- 8) Next, re-assemble the shaft assembly by sliding a bearing, the bearing spacer and another bearing onto the shaft. Assemble the locknut to the shaft and torque it to 45-50 ft.-lbs. Note: For NBC and FGBC fans, slide four (4) bearings onto the shaft as the bearing spacer will not be used for these fan models.
- 9) Wipe the bore of the disc with a clean rag coated with acetone or alcohol. Wipe the outside diameter of the bearings with a clean rag coated with acetone or alcohol.
- 10) Allow bearings and disc to stand for five (5) minutes before coating them with Loctite. This will allow the acetone or alcohol to evaporate.
- 11) Apply Loctite 680 to the outside diameter of both bearings. Using a Q-Tip, apply Loctite 680 to the inner surface of the disc bore for 1/2" from both ends of the bore. Note: For NBC and FGBC fans only, apply the Loctite 680 to the entire length of the bore.
- 12) Insert the shaft assembly in the disc bore.
- 13) Mount the bearing cap to the disc.
- 14) Allow the disc assembly to cure at least 24 hours on a level surface with the shaft down.
- 15) Mount the blades back onto the disc to the spokes they were originally on. Be sure to use the correct hardware in the original locations as removed in *Step #2*.
- 16) Re-install the blade assembly into the fan.



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