

## Instructions for Model 3 and Model 4 Flow Ring Retrofit Kit

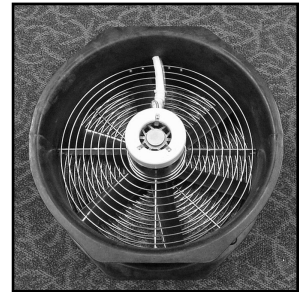
The Flow Ring Retrofit Kit is designed to retrofit one Model 3 or Model 4 Minneapolis Blower Door® fan with a new set of Flow Rings (Ring A, Ring B and a No-Flow Plate). The Flow Ring Retrofit Kit consists of:

- One set of Flow Rings including Ring A, Ring B, and a No-Flow Plate. The new Flow Rings A and B each have 6 rotating fastener clips attached to the Ring which are used to secure the Rings and the No-Flow Plate to each other.
- 8 separate fastener clips (along with 8 bolts, 8 nylock nuts, 8 steel washers and 8 rubber washers) which will be attached to the fan housing flange. These 8 fastener clips will be used to secure Ring A to the fan housing. The fastener clips and associated hardware are contained in a plastic bag.

### **Tools Needed:**

- Phillips screwdriver.
- Power drill with an 11/64” drill bit.
- 11/32” box or crescent wrench.
- Ruler.
- Marking pen (“Sharpie” or equivalent).
- 2 holding clamps.

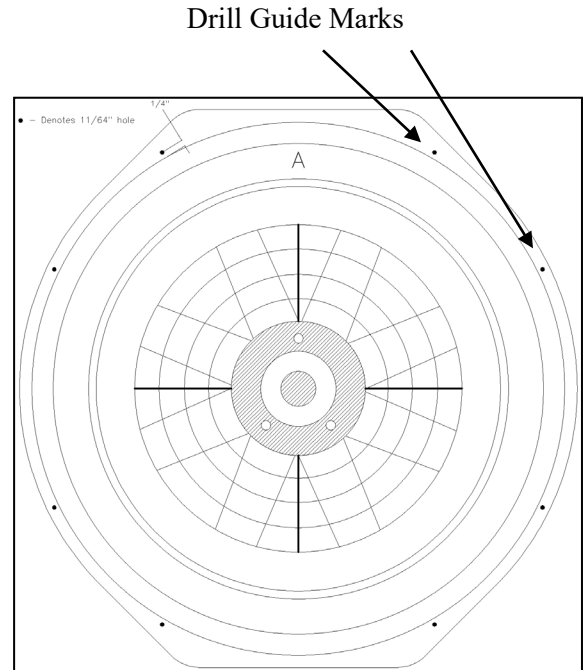
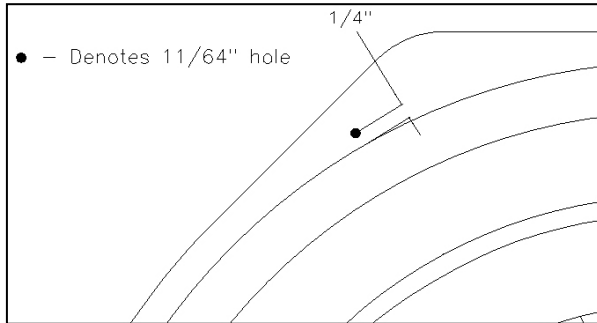
1. Lay the fan down on the floor with the fan inlet pointing up and the old Flow Rings removed.



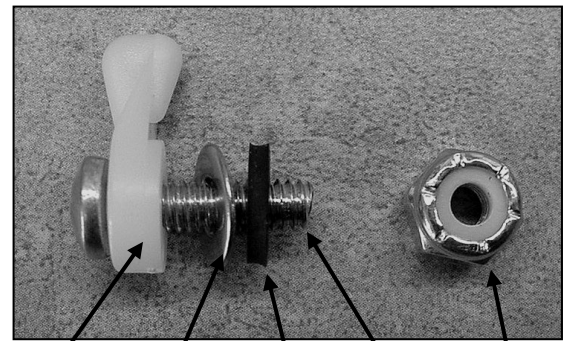
2. Set the new Ring A into the fan inlet. Center Ring A in the fan housing as much as possible and then temporarily secure Ring A to the housing using 2 holding clamps (be sure the Ring remains centered after the clamps are put in place). If you don't have holding clamps available, secure Ring A to the housing using a couple of pieces of temporary tape.



- With Ring A held in place, make 8 evenly spaced marks around on the edge of the fan housing flange to use as a drill guide (see diagram to the right). The 8 drill guide marks should be located around the fan housing approximately as shown in the diagram, but their exact position around the housing is not critical. **However, the center of each drill guide mark should be exactly  $\frac{1}{4}$  inch from the edge of Ring A – this dimension is very important.**



- Remove Ring A from the fan. With an 11/64" drill bit, drill 8 holes in the fan housing flange using the 8 drill guide marks you created in Step 3 above. Be sure the center of each hole is in the center of the drill guide mark. Once the 8 holes are drilled, insert one of the fastener clips (along with a bolt and one steel and one rubber washer) into each hole. Be sure the fastener clip and washers are oriented as shown in the picture below.



Fastener Clip    Steel Washer    Rubber Washer    Bolt    Nylock Nut

5. Attach a nylock nut onto to the end of each fastener bolt (Note: the nylock nut will be located on the back side of the fan housing flange). Tighten each nylock nut onto the fastener bolt using the screwdriver and 11/32" box or crescent wrench. **Do not overtighten the nylock nuts – they should be just tight enough so that the fastener is held firmly in place but can still be easily rotated using your fingertips.** Once all eight fasteners are secured to the fan housing, rotate them to the side so that Ring A can be reseated into the fan housing.



6. To install **Flow Ring A**, place Ring A into the inlet side of the fan housing and rotate the 8 fastener clips attached to the housing flange so that they rotate over the edge of Ring A and secure it in place.



7. To Install **Flow Ring B**, place Ring B in the center of Ring A and rotate the 6 fastener clips attached to Ring A so that they rotate over the edge of Ring B and secure it in place.



8. In addition to Flow Rings A and B, the Minneapolis Blower Door® comes with a solid circular **No-Flow Plate** to seal off the fan opening. The No-Flow Plate is attached to Ring B in the same manner that Ring B attaches to Ring A.

The No-Flow Plate and Rings A and B can be removed separately, or all 3 pieces can be removed at the same time by releasing the 8 fastener clips holding Ring A to the fan housing.

