



# Dust Collector Fan Assembly 515287

## Fan Replacement

This is for the Shopsmith Dust Collector. Included with the fan are a flat washer and fan retaining screw. Use this hardware to secure the fan during reassembly.

### WARNING

Turn off and unplug the Dust Collector.

Tools and supplies required: needle-nose pliers; 7/16", 1/2" and 9/16" sockets with ratchet and short extension; 7/16", 9/16" wrenches; medium Phillips (#2) and medium slot screwdrivers; masking tape; torque wrench (optional).

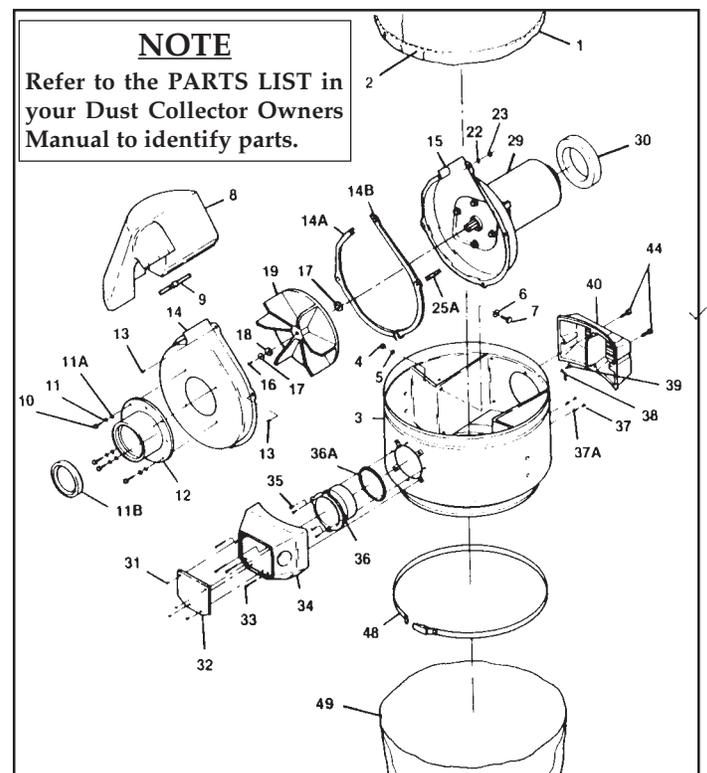
1. Disassemble the main housing.
  - a. Remove the four screws (44) that hold the switch cover assembly and the rear bag clip (if mounted under switch cover) to the main assembly. Note the positions of the motor wires, then disconnect the wires from the main housing and switch using a Phillips screwdriver and needle-nose pliers.
  - b. Loosen the retaining strap assembly (48) and remove the bag (49).
  - c. Loosen the retaining strap assembly (2) and remove the filter hood (1).
  - d. Loosen screw in clamp (9) and remove the diffuser (8) and the clamp.
  - e. Remove four screws (31) and cover plate (32) from the 3-way inlet (34).
  - f. Remove four screws (33) and the 3-way inlet (34).
  - g. Remove four screws (35) and pull out inlet sleeve (36) and O-ring (36A) (if used). Remove seal (11B) from inside of extension plate (12).
  - h. Using a 9/16" socket with ratchet and 9/16" wrench, loosen (do not remove) the four motor mounting screws (7). Grasp inside the neck of the blower

housing. Remove it from the main housing. Remove the doughnut seal (30) from the motor dust cover (29). Set the assembly on a workbench with the extension plate (12) facing up.

- i. Using a 7/16" socket with ratchet and short extension and a 7/16" wrench, remove the five screws (13), lock washers (22) (if used), and nuts (23) that hold the blower housing assembly (14,15) together. Lift off the front blower housing (14). Remove and discard the two gaskets (14A, 14B) (if used).
- j. Remove fan retaining screw (16), washer (17) (if used) and flat washer (18). Pull the fan (19) and washer (17) (if used) off the motor shaft. Discard any hardware which is left over.

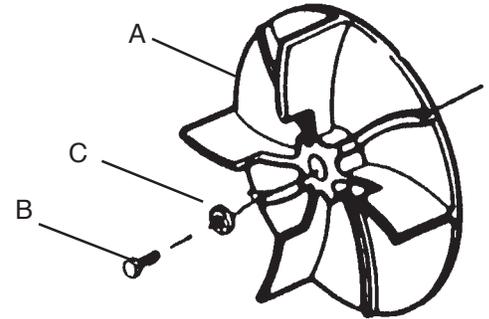
### NOTE

Two methods have been used to secure the fan. Therefore, washer (17) will be installed either in front of or in back of the fan as shown in the exploded view. No matter which way your fan is secured, discard hardware (16, 17, 18). Use the new hardware (B, C) when you reinstall the fan.



## Parts List

Ref. No.	Part No.	Item Description	Qty.
--	515287	Fan Assembly (Incl. A-C)	
A	515419	. Fan .....	1
B	515112	. Hex Head Cap Screw, 1/4"-20x1" .....	1
C	120392	. Flat Washer, 9/32" I.D. x 5/8" O.D. ....	1



- k. Remove the key (25A) from the fan or the motor shaft.
- 2. Install the new fan.** Align the keyway in the fan with the motor keyway and slide the new fan (A) onto the motor shaft. Slide the key in the motor shaft and fan keyways. Put new washer (C) onto the new screw (B), then insert the screw into the fan. Use a 7/16" socket with short extension to tighten the screw until the washer under the screw is no longer free to move. Turn the screw an additional 1/2 turn to create the desired torque. Or use a torque wrench with a 7/16" socket and short extension to tighten the screw to 100-120 in./lb.
- 3. Reassemble the main housing.**
- a. Install the front blower housing on top of the rear blower housing and secure with five screws (13) lock washers (22)(if used) and nuts (23).
  - b. Install the doughnut seal (30) onto the end of the motor dust cover (29).
  - c. Grasp inside the neck of the blower housing assemble and install the motor and blower assembly (doughnut seal first) into the main housing (3). The slots in the motor mounting plate must slide over the motor mounting screws (7) with the washers (6) next to the screw heads. The end of the motor dust cover (29) and the motor wires must protrude through the hole in the main housing. Fingertighten the top two screws (7).
  - d. Install the seal (11B)(narrow side out) in the end of the extension plate (12). Slip the inlet sleeve (36) with O-ring (36A)(if used) through the hole in the main housing and into the extension plate (12). Be sure the curve on the front of the sleeve follows the curve of the main housing and the screw holes are aligned. Fasten the inlet sleeve (36) to the main housing with four screws (35). Tighten all four motor mounting screws (7) and nuts (4).
  - e. Install the 3-way inlet (34) onto the main housing with four screws (33). Then install the cover plate (32) onto the 3-way inlet with four screws (31).
  - f. Slide the clamp (9) onto the neck of the blower housing assembly (14, 15). Install the diffuser (8) fully over the neck of the blower housing assembly and fully under the clamp. Tighten the clamp screw securely. Install the filter hood and tighten the strap assembly. Install the bag and secure.
  - g. Reattach the motor wires to the switch and main housing in the same position as removed. Then mount the switch cover assembly and bag clip (if removed) to the main housing using four screws.

### NOTE

After you've installed the 4-blade fan, you can remove the inlet screens from the following dust collector attachments: utility pickup (514829), elbow brush (514828) and floor pickup (514826). This will improve the performance of these attachments.

