

## SEC. 8 TURBO-VAC BOOSTER

### 8.1 Assembly and Disassembly of the Turbo-Vac Booster

#### 8.1.1. Disassembly of the Turbo-Vac Booster

1. Disconnect the power cable at the motor junction box and remove the cable from the junction box.



#### **CAUTION**

**This should be done only by qualified electricians familiar with local codes and regulations.**

2. Locate and remove eight (8) screws around the cover plate and save for reassembly.
3. The cover plate can now be removed.
4. Remove the ½ in. nut on the top of the impeller, and save for reassembly.
5. The impeller can now be removed using the three (3) capscrews, part #11482, and coupling puller, part #10178.
6. Avoid damaging sealing surfaces and fins when disassembling components.

## **8.1 Assembly and Disassembly of the Turbo-Vac Booster**

### **8.1.1. Disassembly of the Turbo-Vac Booster** (Contd.)

7. Save the shims between the impeller and the housing, for reassembly.
8. Remove the four (4) 3/8 in. - 16 in. capscrews which hold the housing.
9. The housing should lift off with ease from the motor face.

#### **NOTE:**

**Before removal, make a mark on the alignment of the shims for orientation and reassembly.**

### **8.1.2. Assembly of the Turbo-Vac Booster**

10. Find the shim thickness of the impeller gap, as follows:

Obtain the thickness of the impeller.

Obtain the depth of the housing.

Depth of housing minus the impeller thickness, divided by two (2), equals the thickness of shims required for correct impeller clearance.

## **8.1 Assembly and Disassembly of the Turbo-Vac Booster**

### **8.1.2. Assembly of the Turbo-Vac Booster** (Contd.)

11. Spray the impeller, the inside of the housing and the bottom cover plate lightly with molybdenum disulfide lubricant.
12. Using four (4) 3/8 in. - 16 x 1 in. cap screws, place the housing on the C-face of the motor.
13. Place the shims obtained by the above calculations on the shaft.
14. Push the impeller until it contacts the shoulder on the shaft.
15. Place and tighten the 1/2 in. nut on the top of the impeller.
16. Using a dial indicator, dial the impeller. Maximum runout permissible is .002 in. on the outer edge.
17. Rotate the impeller by hand; it should rotate freely.

## 8.1 Assembly and Disassembly of the Turbo-Vac Booster

### 8.1.2. Assembly of the Turbo-Vac Booster (Contd.)

18. Placing a straight edge across the housing, check the impeller to make sure that it is below the edges of the housing.
19. Place the cover plate and tighten the eight (8) screws around the cover plate.
20. Connect the power cables to the motor according to the manufacturer's name plate.



#### **CAUTION**

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21. Momentarily, energize (jog) the motor to verify that the rotation is in a clockwise direction when viewed from the top of the motor.
22. **START** the motor.

## 8.1 Assembly and Disassembly of the Turbo-Vac Booster

### 8.1.2. Assembly of the Turbo-Vac Booster (Contd.)

23. Compare the voltage and ampere readings of the motor at the motor junction box on the motor to the ratings on the name plate.
24. Run the motor until the housing temperature stabilizes.
25. Attach a mercury (Hg) manometer to the booster inlet and record the readings.
26. **SHUT DOWN** and verify the motor comes to a smooth stop.