

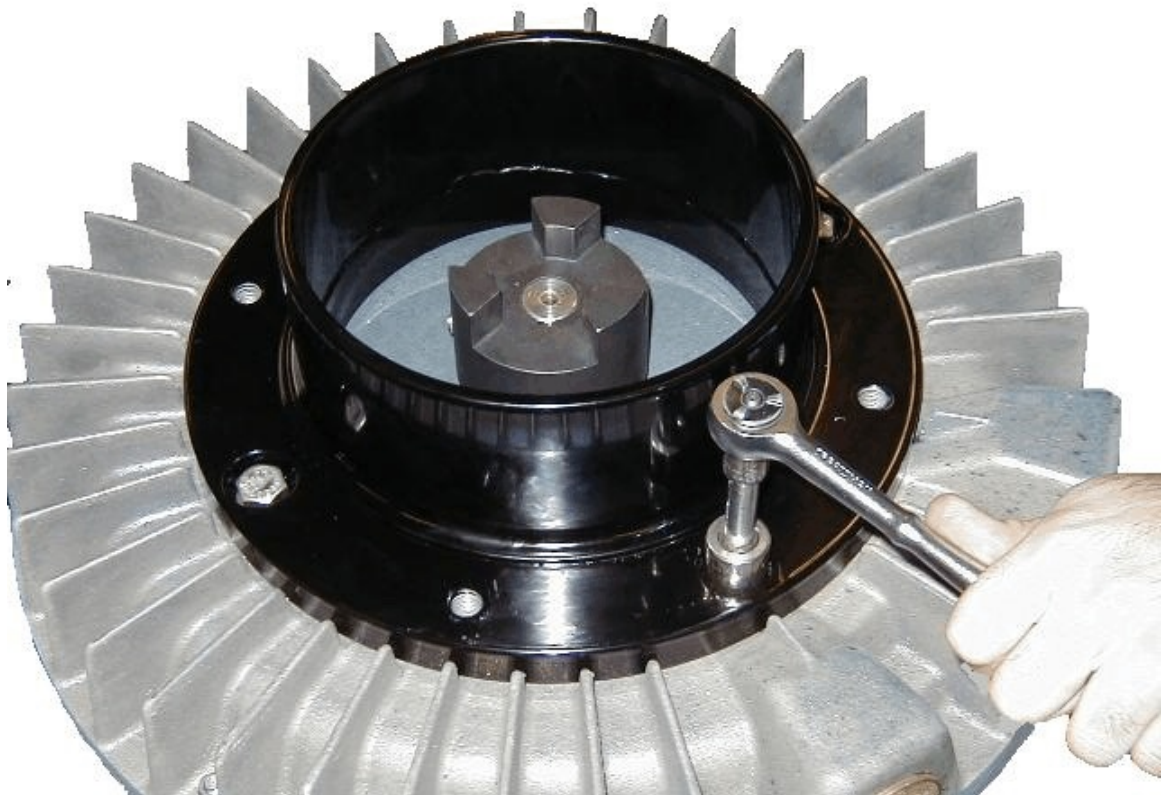
SEC. 6 DISASSEMBLY OF THE VACUUM/BLOWER

6.1. Removal of the Motor Shaft Protector

With the motor and assembly properly supported, remove the motor shaft protector from the lower blower housing by removing the four (4) hex head capscrews.

NOTE:

The motor shaft protector should be removed only for vacuum/blower repair.



6.2. Removal of the Shaft Coupling from the Motor Shaft

Using a 1/4 in. Internal hex wrench, remove the two (2) outer set screws and then loosen the two (2) inner set screws, holding the coupling to the motor shaft.



Use a 3-jaw puller, part #10178, attached to the coupling (as shown below) to remove the coupling without damaging the motor shaft, after removing all four (4) set screws.

6.2. Removal of the Shaft Coupling from the Motor Shaft (Contd.)



Remove the 1/4" square key from the motor shaft and save it for re-assembly.

6.3. Removal of the Lower Blower Housing

Locate and remove eight (8) 5/16 in. capscrews around the blower housings and save for re-assembly. Make an alignment mark on both the upper and lower housings to ensure exact location of the housings at the time of re-assembly.

6.3. Removal of the Lower Blower Housing (Contd.)



Avoid damage to the coating during assembly and re-assembly.

6.3. Removal of the Lower Blower Housing (Contd.)

The lower blower housing can now be removed.



ATTENTION:
Avoid damaging the machined sealing surfaces and cooling fins of the two (2) housings during assembly and disassembly.

6.4. Removal of the Retainer, Hex Nuts and Spacing Shim

Remove the hex nut from the motor shaft by turning it in a counter-clockwise direction.



6.4. Removal of the Retainer, Hex Nuts and Spacing Shim (Contd.)

Remove the six (6) hex head capscrews holding the retainer to the impeller

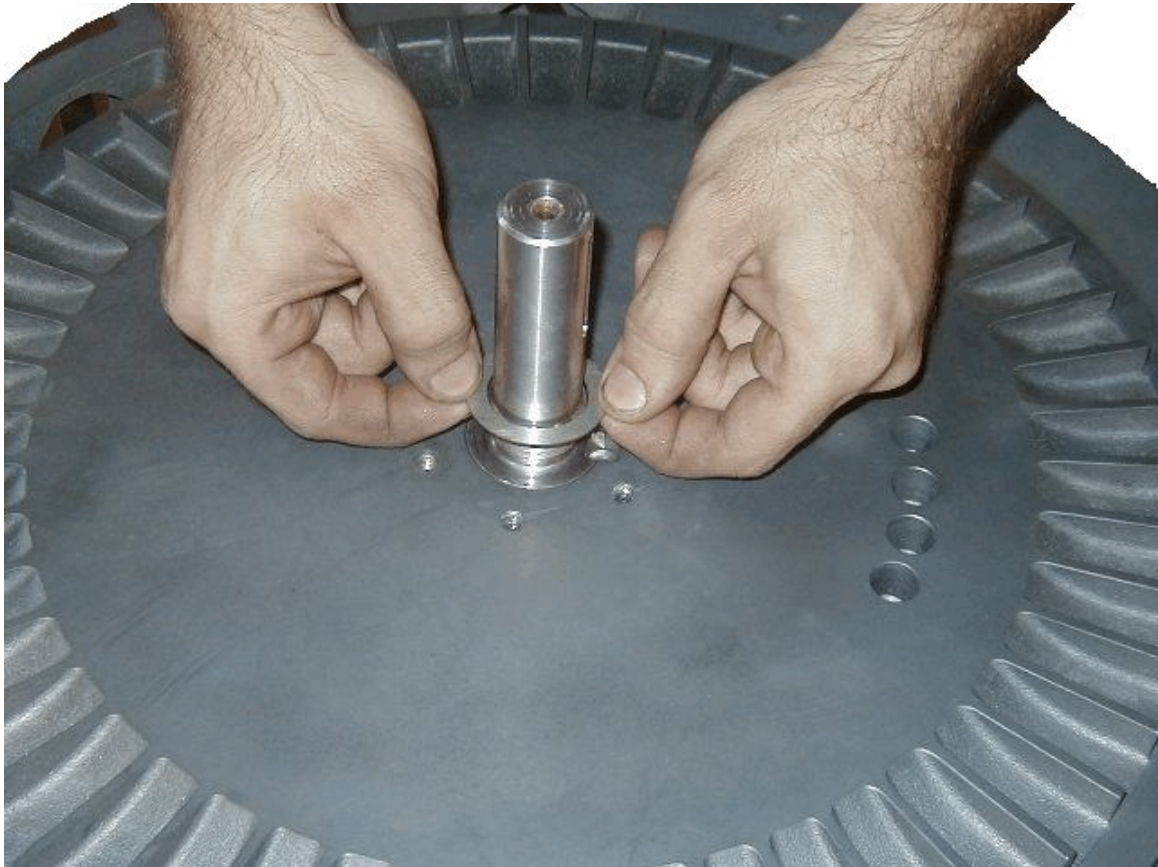


The retainer and spacing shim can now be removed from around the motor shaft. Save all hardware items for re-assembly.

6.4. Removal of the Retainer, Hex Nuts and Spacing Shim (Contd.)

NOTE:

Keep shims because they are critical for spacing the impeller during re-assembly.



6.5. Removal of the Impeller

Place three (3) 1/4 in., 20 NC x 1-1/2 in. long capscrews through every other hole in the retainer and attach to the impeller (as shown).

Using a 3-jaw puller, attach the jaws of the puller to the retainer and slowly remove the impeller from the motor shaft.



6.5. Removal of the Impeller (Contd.)

TIP:

The impeller may be slightly warmed around the shaft to facilitate ease of removal. Do not exceed 250 deg. F (120 deg. C).

Lift the impeller off the motor shaft (as shown). Save the 3/8 in. square impeller key for re-assembly.



6.6. Removal of the Upper Blower Housing

Locate and remove the four (4) hex head capscrews holding the upper blower housing to the face of the motor.

NOTE:

Before removing the housing, make a mark on both the housing and the motor to ensure the exact location of the housing at the time of re-assembly.

Avoid damage to the coating during assembly and disassembly.

See following two pages for photos of the American -style and the European-style motors.

6.6. Removal of the Upper Blower Housing (Contd.)

AMERICAN-STYLE MOTOR



6.6. Removal of the Upper Blower Housing (Contd.)

EUROPEAN-STYLE MOTOR



Remove the housing from the motor face by placing a block of wood next to the housing, tap the block of wood with a hammer.

6.7. Assembly and Disassembly of the Turbo-Vac Booster

6.7.1. Disassembly of the Turbo-Vac Booster

- 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.

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

6.7. Assembly and Disassembly of the Turbo-Vac Booster (Contd.)

6.7.1. Disassembly of the Turbo-Vac Booster

- Remove the four (4) 3/8 in. - 16 in. capscrews which hold the housing.
- 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.

6.7.2. Assembly of the Turbo-Vac Booster

- 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.

6.7. Assembly and Disassembly of the Turbo-Vac Booster (Contd.)

6.7.2. Assembly of the Turbo-Vac Booster (Contd.)

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

6.7. Assembly and Disassembly of the Turbo-Vac Booster (Contd.)

6.7.2. Assembly of the Turbo-Vac Booster (Contd.)

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



CAUTION

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

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

6.7. Assembly and Disassembly of the Turbo-Vac Booster (Contd.)

6.7.2. Assembly of the Turbo-Vac Booster (Contd.)

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