

AMETEK

PROCEDURE FOR CHANGING CARBON BRUSHES

1. Disconnect motor from the power source before attempting any repair.
2. Disconnect and change the brushes in the following manner:
 - **For 5.7" (145 mm) Diameter Vacuum Motors**
 - Insert a standard blade screw driver between the top of the brush mechanism and the brush lead wire clip and gently tap the screwdriver handle until the clip touches the commutator. Some models have blade terminals on the brush holder. For these units, remove the connector from the blade terminal. For bypass motors, it is necessary to carefully remove the ventilation fan cover first.
 - Remove the brush clamp screws with a Phillips screwdriver.
 - Once the brush mechanism is free, remove the brush clip.
 - To install new brush mechanism, first insert the brush clip between the nylon insulator and the brass and push in straight by hand. Use needle nose pliers to gently seat the clip. For the units with a blade terminal on the brass sleeve of the brush mechanism, push the connector on to the terminal.
 - Insert the locator tab on the bottom of the brush mechanism into the corresponding hole on the top of the commutator end bracket and secure the brush mechanism with the brush clamp and screws that were earlier removed.
 - **For 7.2" (183 mm) Diameter Vacuum Motors:**
 - Insert a blade screwdriver under the tab on the brush-retaining clip at the top of the commutator bracket and pry up to remove.
 - Remove the brush mechanisms by disconnecting the field lead terminals.
 - Install new brush mechanisms, first connecting the field lead terminals.
 - Insert the brush mechanism into the motor with the carbon toward the commutator. Make certain that the brush mechanism does not extend beyond the outside diameter of the motor.
 - Replace the brush retaining clips, making sure that the clips are pressed below the top surface of the commutator bracket.
3. To properly seat the new brushes to the commutator face and enhance the performance and overall life of the brush, the motor must be run at half voltage for 30 minutes with an orifice plate. If a variac or other voltage control device is not available, two motors may be run in electrical series. This reduces the voltage to each motor, as each will receive approximately half of the supply voltage. The following diagram shows the connection of two motors in electrical series. Connect one lead from each motor, using a wire nut. Connect the other two leads to the power source.
4. After running the re-brushed motor for 30 minutes at half voltage, it can be run again at

