

**owners  
manual**

**MODEL NO.  
20X12A—41001**

**AHAM Certification  
Program**

This information is provided to assist consumers in comparing room air cleaners. These values represent performance that can be expected within the first 72 hours of operation. Subsequent performance may vary with use.



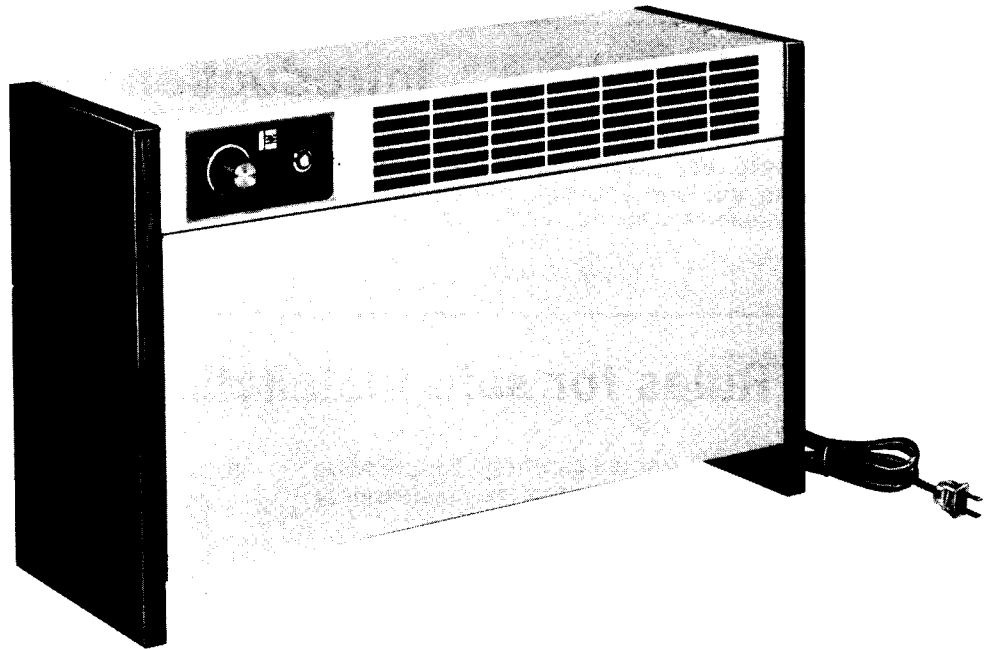
This air cleaner is suggested for use in a single closed room up to 155 square feet.

Room size ratings conform to the AHAM Certification Program criteria of 80% smoke reduction. Higher Clean Air Delivery Rates (CADRs) provide improved performance in all room sizes. Portable air cleaners will be much more effective in rooms where all doors and windows are closed.

**CAUTION:**  
**Read Rules for  
Safe Operation and  
Installation and  
Instructions Carefully.**

**Save This Manual For  
Future Reference.**

**EMERSON®**



**ELECTRONIC  
AIR CLEANER**

**OWNERS MANUAL**

- Installation
- Operation
- Technical Repair Guide
- Repair Parts

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## Introduction

Please read these instructions before installing/using your new Electronic Air Cleaner. This will help you obtain the full benefit from the unit. It will also help you avoid any unnecessary service calls and fees.

## Rules for safe installation and operation

1. Read this Owners Manual carefully. Failure to do so could cause a malfunction of the air cleaner or result in unsatisfactory service.
2. Follow a regular service and maintenance schedule for efficient operation.
3. To reduce the risk of electric shock, this equipment has a polarized plug (one blade is wider than the others). If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact qualified personnel to install the proper outlet. Do not alter the plug in any way.

## Basic tools and materials needed

Tools: Screwdriver  
6 ft. Rule or Tape Measure  
Drill and Level



WARRANTY TO CONSUMER - PURCHASER

### EMERSON Electronic Air Cleaners LIMITED WARRANTY



This type White/Rodgers electronic air cleaner is warranted to the consumer against defects in materials and workmanship for 24 months from date of installation. The electronic air cleaner must be installed by a competent heating and/or air-conditioning contractor in accordance with White/Rodgers installation instructions, operated within the unit's listed capacity, and not moved from the original installation site. NO OTHER WARRANTY, WRITTEN OR ORAL, APPLIES. No employee, agent, dealer, or other person is authorized to give any warranty on behalf of White/Rodgers.

If service is required it must be performed by a competent heating and/or air-conditioning contractor (preferably the installing contractor). White/Rodgers liability is limited to replacement of defective parts and does not include the cost of labor, other expenses in servicing the unit, or incidental or consequential damages. SOME STATES DO NOT NOT ALLOW THE EXCLUSION OR LIMITATIONS ON THE LENGTH OF WARRANTY ON INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

If the installing dealer or contractor fails to render performance under the terms of this Limited Warranty within a reasonable time, then contact in writing:

**WHITE-RODGERS** Division of Emerson Electric Co., 9797 Reavis Road, St. Louis, MO 63123, (314) 577-1300

The consumer may be asked to return the air cleaner or part (s) claimed to be defective to White-Rodgers, 303 North Industrial Park Rd., Harrison, Arkansas 72601 or nearest distributor point, at the expense of the consumer. The consumer will be expected to supply information on serial number, date of installation, name of installing dealer, and model number of the unit involved.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM PROVINCE TO PROVINCE.

# WHAT IT DOES

Your new electronic air cleaner is one of the latest appliances in this modern age of electronics.

The air cleaner, when operating, is designed to remove a high percentage of dirt, dust, cooking and tobacco smoke, pollen, animal dander and other airborne contaminants from a room. The charcoal filter also helps remove odors from indoor air.

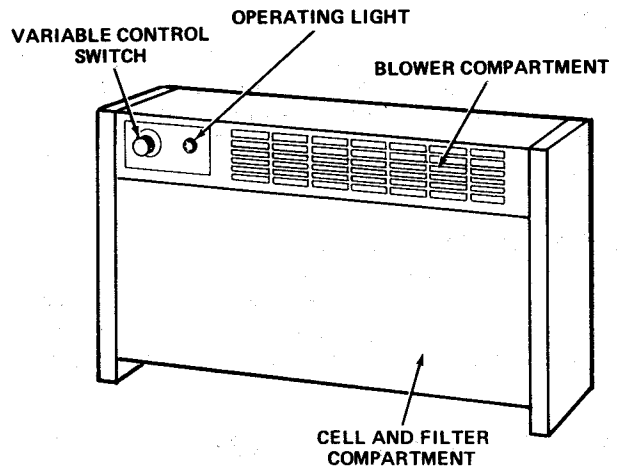
Most of these particles cannot be seen except with a microscope, unless they are as highly concentrated as tobacco smoke. These contaminants cause stains and discoloration on your walls and draperies.

The staining and soiling particles are far too small to be removed by a flat furnace filter. Particles as small as one twenty-five thousandth of an inch (1/25,000") are efficiently removed from the circulating air by this electronic air cleaner.

The air cleaner will clean the air three times an hour on high blower speed in a room measuring 575 square feet with 8 foot ceilings. On low speed it will clean a room 250 square feet with an 8 foot ceiling.

Use of your new electronic air cleaner with proper maintenance will help keep your home fresher and your home furnishings cleaner longer. It may also provide relief to those who are allergic to airborne pollutants.

Your new electronic air cleaner will not remove lint or other large particles that fall out of the air before



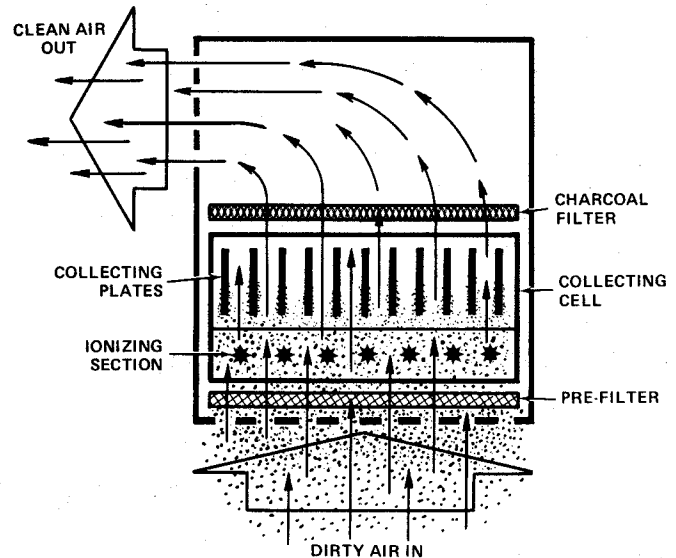
being drawn into the air cleaner. These particles may show up on a flat surface such as a desk or table top, but they are not the type of particles that cause soiling and staining. The air cleaner will, however, trap the larger particles that are airborne.

# HOW IT WORKS

Room air is drawn through the pre-filter where large particles (hair, lint, etc.) are trapped. Smaller particles (smoke, dust, pollen, etc.) pass through this pre-filter and enter the ionizing section. Here, each tiny particle receives a positive electrical charge. These positively charged particles then enter the collecting chamber. This section has a series of plates which are alternately charged positive and negative.

The positively charged particles are repelled by the positive plates and attracted to the negative plates, where they are collected... just as a magnet attracts iron filings.

The clean air is then circulated through the charcoal filter where odors are removed. The fresh clean air is then discharged through the front grille.



## OPERATIONAL DATA

Your self-contained Electronic Air Cleaner can be plugged into a standard wall receptacle with the 9' power cord that is attached to the unit.

**VARIABLE SPEEDS** HIGH..... 200 CFM\*  
LOW..... 100 CFM\*

**POWER REQUIREMENTS** . . . 120 Volts 60 Cycle

**WATTAGE CONSUMED:** ..... 144 Watts

**DIMENSIONS:** 7-7/8 in. Wide, 22-7/8 in. Long and  
13-1/2 in. High

**WEIGHT:** ..... 27 lbs.

\*CFM means Cubic Feet per Minute.

# INSTALLATION

## LOCATION

Your unit can be used as a portable air cleaner or can be mounted to the wall. The best location for this unit is in a position where airflow is not impeded, closest to the concentration of tobacco smoke and dirt producing activities.

## FOR PORTABLE USE

Unit can be placed on floor, table, desk, shelf or other furniture in the most suitable location. **NOTE:** Do not place unit in position where airflow to bottom of unit would be restricted, such as heavy shag rug or carpet.

## FOR WALL MOUNTED INSTALLATION

1. Select desired location of air cleaner.
2. Locate two wall studs which are usually 16 inches center to center. If wall studs are not located in a desirable location use the four wall anchors provided with the unit.
3. Use the paper template (with detailed mounting instructions) for drilling the holes for proper position of wall mounting brackets.
4. After holes are drilled secure mounting brackets to the wall. (Fig. 1)
5. Prepare air cleaner to install on wall mount brackets by removing cell access door by pushing up on the latches at the bottom of the door.
  - Remove charcoal filter
  - Remove collecting cell by lifting upward to clear lip that holds cell in position during operation. (Just lift and pull forward.)
6. Install air cleaner cabinet to wall mount brackets using top slots on back of cabinet. (Fig. 2)
7. After cabinet is positioned on wall mount brackets install locking pins in bracket holes to secure unit to wall mount brackets. (See Fig. 3)
8. Replace collecting cell, charcoal filter and cell access door.

## HOW TO OPERATE YOUR NEW ELECTRONIC AIR CLEANER

1. Turn switch to "OFF" position.
2. Plug the power cord into an electrical outlet.

FIG. 1

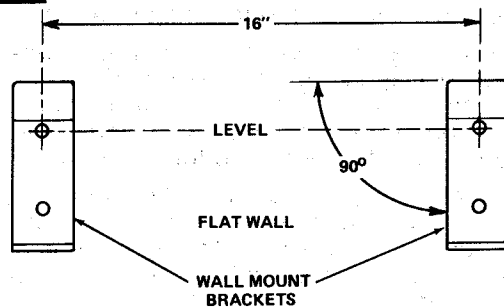


FIG. 2

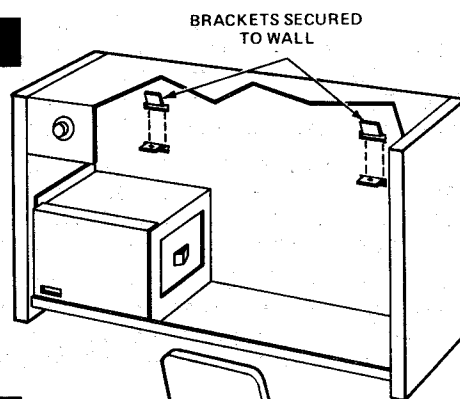
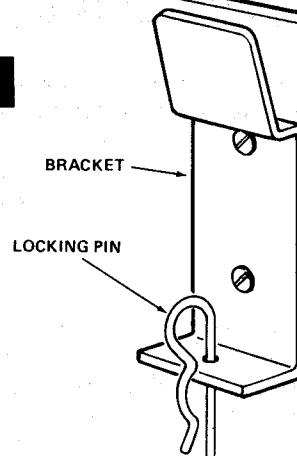


FIG. 3



3. Position the switch to "LOW" or "HIGH" as desired. You may wish to leave it on "HIGH" for the first hour or two, then switch to "LOW" for continued operation.
4. The operating light will be illuminated when the air cleaner is operating properly.

# MAINTENANCE

## CLEANING

Regular maintenance will insure maximum efficiency from the electronic air cleaner.

Approximately once a month the air cleaner's collecting cell should be removed and washed. Rooms with new carpeting or pets may require more frequent cleaning. See Service Hints on page 5.

Turn the Variable Control Switch to the "OFF" position; and wait 15 seconds for the electrical charge to automatically discharge from cell.

Open the cell access door by pushing up on the spring latches at the bottom of cabinet and pull forward. Remove the charcoal filter. The cell is held in position during operation by a lip on the bottom of the cabinet. To remove, lift upward and pull forward. Remove pre-filter.

Immerse the cell and pre-filter in a solution of warm water and dishwasher type detergent. Soak for 1 hour. The cell and pre-filter may also be washed in a dishwasher.

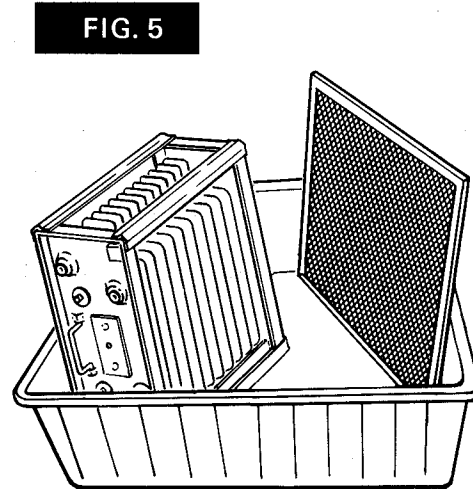
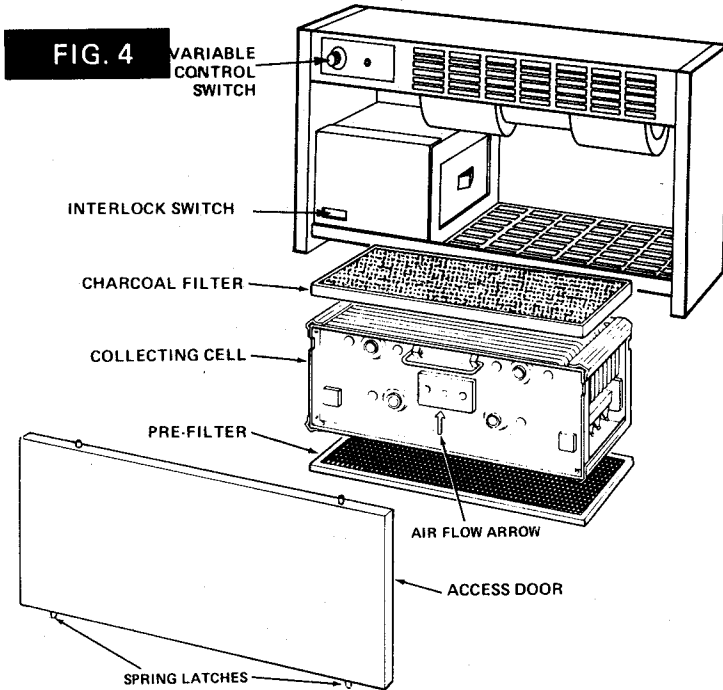
Do not put charcoal filter in water. It is not necessary to clean the charcoal filter. Instead it should be replaced every six months with regular use.

Rinse the cell and pre-filter with warm water. Remove and allow the cell and pre-filter to dry for two hours in a standing up position. Gently wipe ionizing wires.

Replace the pre-filter in the bottom of the cabinet. Replace the collecting cell in the cabinet shelf. **Important:** Collecting cell must be positioned properly or your air cleaner will not function. The cell must be installed with handle to the front and

the air flow arrow pointing upward. Replace the charcoal filter. Re-install the cell access door by engaging the top latches into the slots in the cabinet front panel. Then swing door down and snap in place with bottom latches. Turn the variable control switch to "LOW" or "HIGH" to operate the air cleaner. The operating light should be on; and the blower should be moving air.

**NOTE:** When the power is turned on after washing the cell, arcing (loud cracking noise) may occur for a short time. Arcing will not damage the cell and will stop in a short while.



## Service hints . . .

If your Electronic Air Cleaner does not operate, check the following:

1. Is the operating light on? If so, power is being supplied to the unit and blower fan should be running.
2. Is the power plug securely inserted in electrical outlet?
3. Is power being supplied to the electrical outlet? (Check house fuses or circuit breaker.)
4. Is the variable speed switch positioned in the range of "LOW" to "HIGH" speed . . . Not OFF?
5. Is the cell access door closed? If not, the interlock switch is not pushed in and the air cleaner will not operate.
6. Is the collector cell installed properly and retained? Cell handle must be to the front with air flow arrow pointing upward.

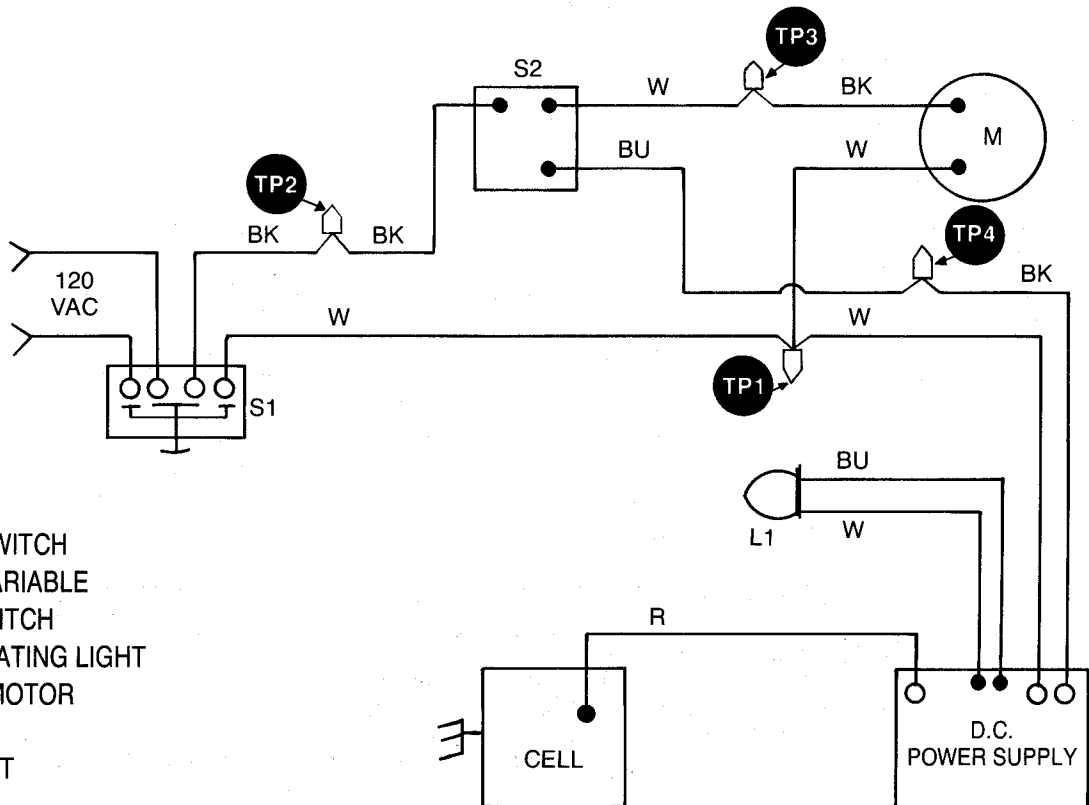
CONDITION	WHAT TO DO
<ul style="list-style-type: none"> <li>• Operating light "blinking"</li> <li>• Blower operating (high or low)</li> </ul>	Problem located in cell. <ol style="list-style-type: none"> <li>1. Clean cell if dirty.</li> <li>2. If ionizing wires have collected dust particles, wipe clean with damp cloth.</li> </ol>
<ul style="list-style-type: none"> <li>• Operating light "off"</li> <li>• Blower operating (high or low)</li> </ul>	<ol style="list-style-type: none"> <li>1. Turn air cleaner off.</li> <li>2. Remove cell from cabinet and replace access door.</li> <li>3. Turn unit on to High or Low.</li> <li>4. If operating light comes on problem is in collecting cell. (Clean or replace.)</li> <li>5. If operating light remains off, problem is in the D.C. Power Supply. Contact your local authorized service center.</li> </ol>

# EMERSON

## TECHNICAL REPAIR GUIDE

### **WARNING: RISK OF ELECTRIC SHOCK**

These servicing instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.



### **NORMAL OPERATION**

- Variable Speed Switch "On". Operating Light "On".
- Blower motor running. Voltage on collector cell (plates or ionizer)  $6300 \pm 200V$ .
- Voltage at cell contact with no cell attached 7000 VDC or above.

# CHECKOUT PROCEDURE

## CONDITION I

- Variable Speed Switch “On” high. Operating light “Off”. Blower not running.
1. Check for proper line voltage at wall receptacle.
  2. Remove access door and depress Safety Switch.
  3. Check for proper line voltage at TP-1 and TP-2. If none, replace Safety Switch.
  4. Check for proper line voltage at TP-1 and TP-3. Check for proper line voltage at TP-1 and TP-4. (See note)
  5. If nominal line voltage does not appear at all points, replace Variable Speed Switch. **Note:** TP-1 and TP-3 voltage will vary between 85 and 120 VAC depending on position of Variable Speed Switch.

## CONDITION II

- Variable Speed Switch “On”. Operating light cycles “On” and “Off” as cell arcs.
1. Remove cell access door and inspect cell.
  2. Check for broken ionizing wires or any foreign object lodged in plates.
  3. Wash cell thoroughly. **Important:** All ionizing wires must be clean.

## CONDITION III

- Variable Speed Switch “On”. Operating light “Off”.
  - Blower “running”.
1. Remove cell access door. Remove cell from cabinet.
  2. Depress Safety Switch.
    - A. If operating light comes “On” problem is in the cell. See Condition II.
    - B. If operating light remains “Off” see D. C. Power Supply Test.

## D.C. POWER SUPPLY TEST

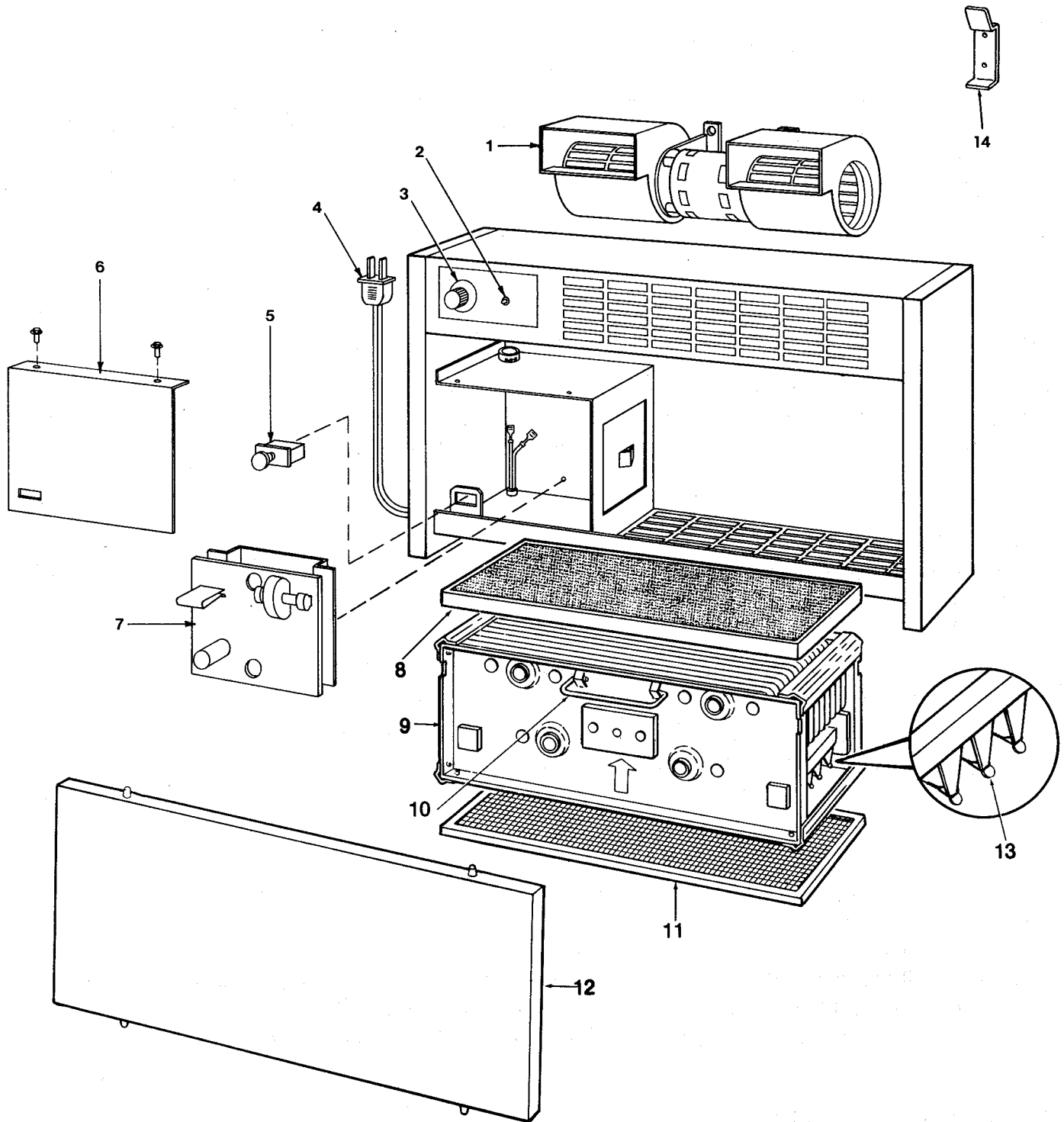
1. Remove cell access door. Remove cell from cabinet.
2. Depress Safety Switch.
3. Check for nominal line voltage at TP-1 and TP-4.
4. If output to cell contact is 7000 VDC or higher and output to operating light is  $2 \pm 5$  VDC or higher the power supply is functioning properly. Replace the operating light.
5. If the voltages are below those specified in Step #4, replace the D. C. Power Supply.

## BLOWER MOTOR TEST

1. Remove cell access door.
2. Turn Variable Speed Switch “On” high and depress the safety switch.
3. Check for nominal line voltage at TP-1 and TP-3.
  - A. If proper voltage does not appear at TP-1 and TP-3, test primary circuit “Condition I”.
  - B. If proper voltage does appear at TP-1 and TP-3, replace the blower motor.

# REPAIR PARTS

## ELECTRONIC AIR CLEANER MODEL NO. 20X12A-41001





## ELECTRONIC AIR CLEANER MODEL NO.

Always order by Part Number — not by Key Number

KEY NO.	PART NUMBER	DESCRIPTION
1	F848-0364	Direct Drive Blower Assembly
2	F844-0145	Operating Light
3A	F876-0198	Variable Speed Switch With Knob
3B	F839-0019	Replacement Knob Only
4	F848-0333	Power Cord Assembly
5	F876-0199	Interlock Switch
6	F820-0272	Cover
7	F858-0809	Power Supply with Screws
8	F825-0412	Charcoal Filter
9	F811-0380	Collecting Cell (Includes Key No. 10)
10	F832-0059	Cell Handle
11	F825-0413	Pre-Filter
12	F808-0522	Cell Access Door
13	F843-1241	Ionizing Wire Lead Assembly
14	F801-0150	Wall Mount Bracket (2 Req'd with Screws and Clips)
★	846-0280 C	Owners Manual

★ Not Illustrated



*Controlling America's Indoor Comfort*

White-Rodgers Division, Emerson Electric Co.  
9797 Reavis Road, St. Louis, MO 63123-5398