ADAMS

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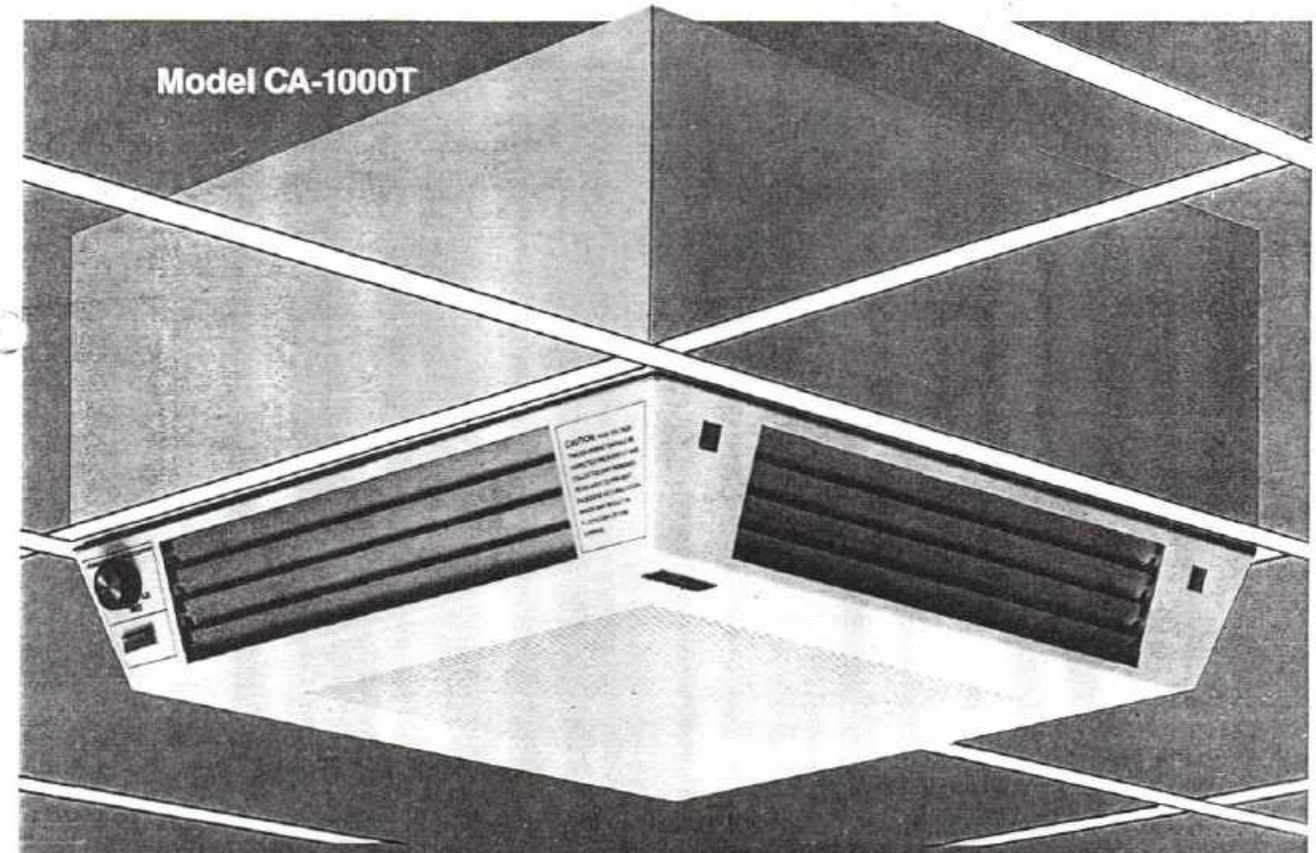
# Self-contained Ceiling Mount Electronic Air Cleaner.




- Fits T-Bar drop ceiling or mounts directly to standard ceiling.
- Quieter performance.
- Adjustable discharge louvers on 4 sides.
- Cleans air better.
- Higher capacity.
- Three speed fan.
- Activated carbon after-filter to remove odors.
- Decorator design and finish (blends with most any decor).

# INSTALLATION MANUAL

## GENERAL

This manual contains information for location, installation, operation and service. Before installation and operation of the air cleaner, read instructions carefully to insure safe and effective operation of this unit, and avoid unnecessary service cost.

Carefully unpack unit and check for damage incurred in shipment. Report any damage to freight line immediately.

Proper installation procedures for both **T-BAR** ceiling and flush mount installation are provided. Follow method that best suites application for air cleaner.

The unit cover is hinged, to allow for easy access and servicability of the air cleaner components. Two (2) spring latches are located on front of cover as shown in **Fig. 1**. To gain access to inside of air cleaner unit for installation and servicing, depress both latches simultaneously and swing cover open.

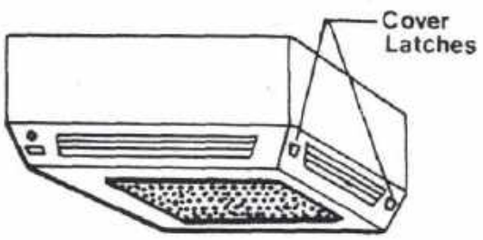



FIG. 1

## T-BAR INSTALLATION

Installation requires a 10 inch clearance between permanent ceiling and T-Bar ceiling.

**CAUTION: Do not install unit in a T-Bar ceiling unless unit can be secured to a permanent ceiling or ceiling joists as described.**

1) Installer must provide the following items for securing unit:

   a) Four (4) 1/4-20X 1"Eyebolts
   b) Four (4) 1/4-20 Hex Nuts
   c) Four (4) 1/4 Flat Washers
   d) Length required - 2/0 Chain

2) Open unit cover and remove cell assembly. (It is necessary to remove thumb nut in the housing in order to allow cell to slide into position for removal.)

3) Install eyebolts in cabinet top as shown in **Fig. 2**.

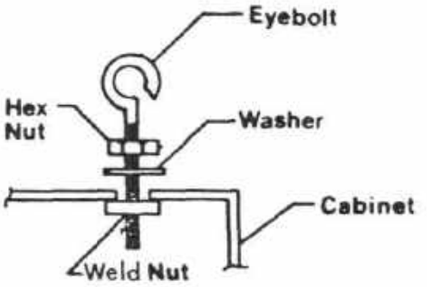



FIG. 2

4) Install mounting angle as shown in **Fig. 3**, using No. 8 self drilling screws provided.

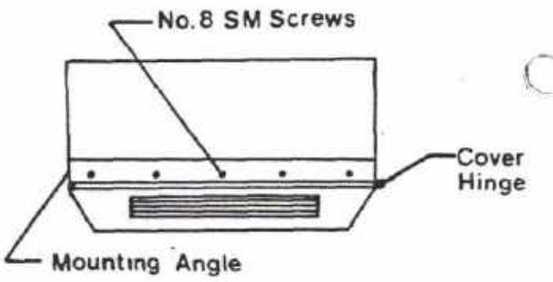



FIG. 3

5) Remove a ceiling tile centrally located in area to be cleaned.

6) Secure eyebolts, hooks etc. to permanent ceiling or ceiling joists.

7) Determine length of chain necessary to support unit at maintaining angle or slightly above level of T-Bar frame.

**CAUTION: Do not allow full weight of unit to rest on T-Bar ceiling or frame.**

8) Attach proper length of chain to ea eyebolt in cabinet, raise unit and secure chain to mounting devices in permanent ceiling or joists. (See **Fig. 4**)

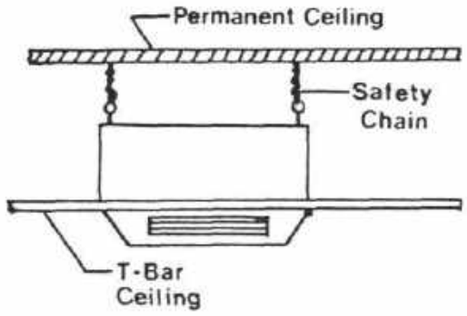



FIG. 4

9) Connect electrical power to air cleaner, following instructions under **"Electrical Wiring"**.

10) Remove charcoal filter from plastic bag and install in channel on down-stream side of cell. (Arrow on side of cell points in this direction.)

11) Re-install cell, pre-filters and carbon filter.

12) Swing access cover up and snap closed. Unit is now ready to place in operation.

## FLUSH MOUNT INSTALLATION

1) Open unit cover and remove the pre-filter and cell.

2) Select a location near the center of the area to be cleaned and locate the ceiling joists in that area.

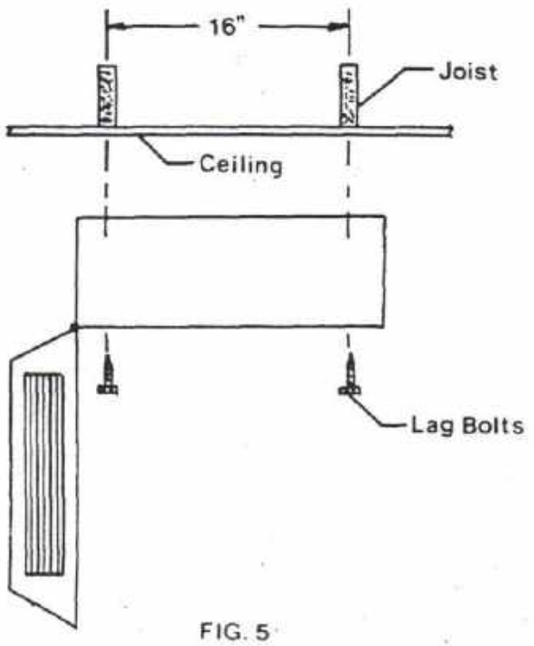



FIG. 5

3) Locate four mounting points (each being at a joist) and pre-drill holes into the joist and unit housing as shown in **Fig. 5.**

4) Lift unit to ceiling and secure using four 1/4" X 2 1/2" lag bolts as shown in **Fig. 5.**

5) Connect electrical power to unit. See Field Wiring Diagram.

6) Remove carbon filter from plastic bag and install in guide rails on back of cell.

7) Re-install cell, pre-filter and carbon filter. Replace thumb-screws to secure cell in position.

8) Close access cover up and snap closed. Unit is ready for operation.

## SYSTEM CHECKOUT

After assemblying and installing the unit, switch the control switch on.

1) The on/off light should now be on. The light shows unit has line voltage.

2) Open cell access door. The on/off light should go out. The blower should also stop.

3) Unit is provided with three speed blower switch. Set switch to speed for desired air flow.

## REGULAR MAINTENANCE

Periodically the dirt collected by your unit must be removed. The frequency of washing will depend on the amount of dirt present in the air in your application.

The washing frequency best suited for your unit can be determined by examining the collector cells at two week intervals. As the dirt begins to collect, you will notice a light film, then a very definite build-up will be evident at a later inspection. When there is a noticeable amount of dirt, collecting cell must be washed.

In most areas the collecting cell should be washed about every 12 weeks.

NOTE:

Dirt build-up on the ionizing-collection cell should not be confused with dirt stains which are normal, especially a yellow-ish stain caused by tobacco smoke, and do not affect efficiency.

## ELECTRICAL WIRING

Electrical access panel is located on the air cleaner cabinet assembly. Knockouts are provided in the top of the housing assembly. Wire the unit to a 120 volt, 60 HZ, 1 phase.

Field wiring requires connecting black and white leads to corresponding house current input. Connect incoming ground (green) wire to the ground screw located in air cleaner. See **Fig. 6.**

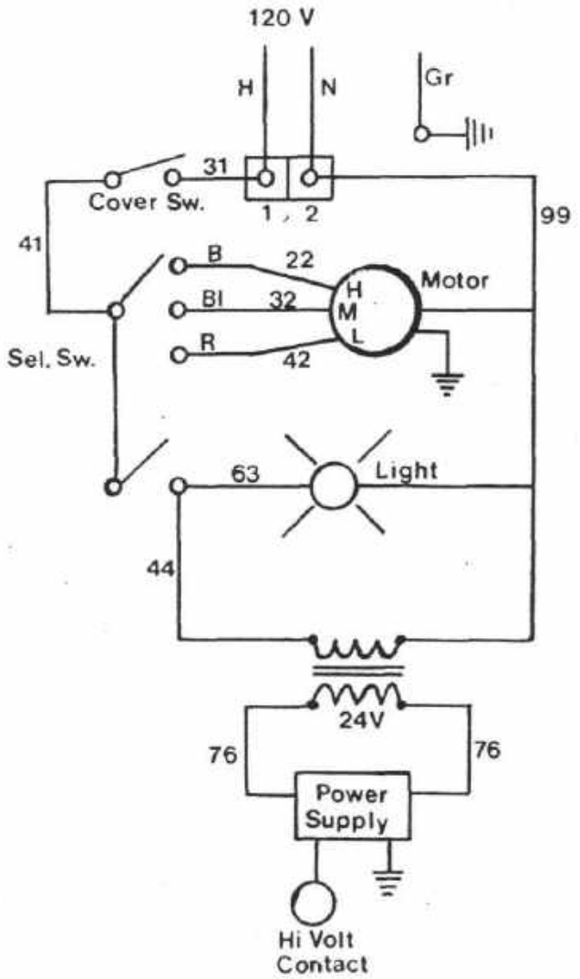



FIG. 6 - WIRING DIAGRAM

## STEPS FOR WASHING

1) Switch control switch to **"OFF"**.

2) Remove pre-filter and cell. (Do not wash charcoal post-filter).

3) Place components in automatic dishwasher, stationary tub, shower stall or over floor drain. Use hot soapy water and rinse thoroughly. To aid drying, rinse with clear, hot water. Allow components to dry thoroughly. Handle the cells with care to avoid damaging plates and ionizing wires.

4) Replace pre-filter and cell. (Replace charcoal filter).

5) Close unit cover.

6) Switch control switch to **"ON"**.

If arcing noise occurs due to wet cells, turn switch off and allow more drying time.

## SERVICE

**WARNING: Servicing unit may expose hazardous live parts. Disconnect power before proceeding.**

Unnecessary service calls and cost to customer may be avoided by being familiar with some common complaints customers have with typical operation of an electronic air cleaner.

### ARCING (SNAPPING OR CRACKING NOISE)

An occasional arcing noise may be emitted from the air cleaner. This is normal and is caused by a large piece of dirt entering the collecting cell. An arcing noise may also be noted after cell washing. If this occurs and is constant, allow more time for the cell to dry. (Refer to service check list).

## HUMMING NOISE

The ionizing wires have a tendency to vibrate when charged. At times when atmospheric conditions are just right and the humidity is exceptionally low, the vibration is increased to the point where an audible hum may be noted. It usually occurs more in the northern sections of the country during the winter months. This condition can be aggravated if the ionizing-collecting cell is very dirty. The condition is self-correcting when the relative humidity is increased or can be alleviated by washing the cell.

## OZONE

Under normal operating conditions all electrostatic air cleaners produce minimal quantities of ozone as a by-product, as do televisions and other electrical appliances. The design of the unit has been tested and is far below the published permissible limits. The level of sensitivity (when it is noticed) varies from individual to individual.

A new unit will generate more ozone than one that has been in operation for several weeks. This is due to the normal amount of sharp corners or manufacturing burrs on the collecting cell plates. The high voltage works on these areas and tends to round them off correcting the situation.

An ionizing-collecting cell that has been damaged, where the designed spacing between electrically charged and ground plates has been narrowed, may also produce a greater amount of ozone. For operational problems other than these covered above. (Refer to reference trouble chart).

**CAUTION:**

- **EXERCISE USUAL PRECAUTIONS WHEN WORKING WITH HIGH VOLTAGE.**
- **WHEN THE CIRCUIT HAS BEEN DE-ENERGIZED, ALWAYS DISCHARGE ANY RESIDUAL CURRENT IN THE SECONDARY WITH AN INSULATED HANDLE SCREW DRIVER.**
- **ALWAYS GROUND POWER SUPPLY AND IONIZING-COLLECTING CELL WHEN BENCH TESTING.**

## REFERENCE TROUBLE CHART

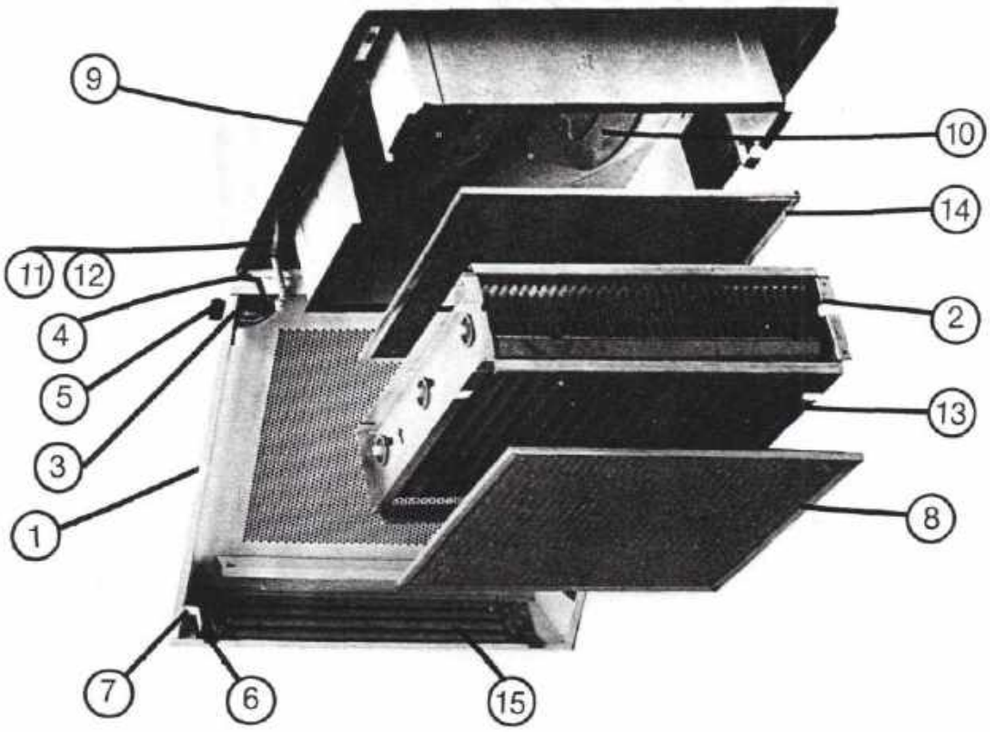
| CONDITION or SYMPTOM | PROBABLE LOCATION | POSSIBLE CAUSE | CORRECTION |
|---|---|---|---|
| Power On/Off Light (Amber) Out | Primary Wiring | No power from service connection to power supply<br>Loose wiring<br>Defective wiring | Obtain power<br>Repair<br>Replace |
| Power On/Off Light (Amber) Out | Power Indicating Light | Defective Light | Replace |
| Cracking Noise Constant or Repeated | Cell | Loose Ionizing Wire<br>Dirty Cell<br>Damaged (bent) plates<br>Damaged (bent) ionizer wire holder | Replace<br>Wash<br>Straighten<br>Replace |
| Loud Hissing Noise | Cell<br>Hi-Voltage | Dirty Cell<br>Loose Hi-Voltage Connection<br>Insufficient Ground | Wash<br>Correct<br>Correct |
| Radio and/or TV Interference | Cell<br>Hi-Voltage | Improper Ground<br>Loose Hi-Voltage | Correct<br>Correct |

## ORDERING PARTS

When ordering replacement or spare parts, state the Unit Model No. and Serial Number. These numbers are shown on the data located on the cabinet housing.

Orders will be filled in accordance with the terms and conditions of current sheets.

**A return material request form must accompany all return parts.**




## PARTS LIST

| ITEM | DESCRIPTION | PARTS NUMBER | QUANTITY |
|---|---|---|---|
| 1 | Cabinet Cover | C21121 | 1 |
| 2 | Collector Cell | C21123 | 1 |
| 3 | Light | H472 | 1 |
| 4 | Selector Switch | C21112 | 1 |
| 5 | Knob | C21130 | 1 |
| 6 | Latch | C21111 | 2 |
| 7 | Latch Actuator | C21110 | 2 |
| 8 | Pre-Filter | C21113 | 1 |
| 9 | Motor | C21124 | 1 |
| 10 | Fan Blade | C21125 | 1 |
| 11 | Power Supply | AP24 | 1 |
| 12 | Cover Plate | C21134 | 1 |
| 13 | Ionizing Wire | C21056 | 16 |
| 14 | Charcoal Filter | C21114 | 1 |
| 15 | Louvre Assy. | C21122 | 4 |