

F52F Return Grille Electronic Air Cleaner

PRODUCT DATA



FEATURES

- F52F models are available with one electronic cell and a rated capacity of 1000 cfm (1700 m³/hr), or two electronic cells and a rated capacity of 2000 cfm (3400 m³/hr).
- Electronic cell(s) can be washed in most automatic dishwashers.
- Solid state power supply is energized by an airflow switch; no interconnection to fan system is required.
- Solid state power supply is self-regulating and maintains peak efficiency during a wide range of cell dirt-loading conditions.
- Pressure drop is approximately equal to that of a regular fiberglass filter.
- Neon light shows that the air cleaner is operating.
- Automatic interlock switch disconnects the power when unit is opened.
- Optional W8600F Air Cleaner Monitor indicates air cleaner performance, informs owner when cell washing is due and indicates need for system check.

APPLICATION

The F52F Return Grille Electronic Air Cleaner is wall or ceiling mounted in the main return air duct of a central forced air heating, cooling, or ventilation system. It captures a significant number of the airborne particles (0.5 microns and larger) from the air circulated through the cell(s).

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SPECIFICATIONS

IMPORTANT

The specifications given in this publication do not include normal manufacturing tolerances. Therefore, this unit may not exactly match the listed specifications. Also, this product is tested and calibrated under closely controlled conditions, and some minor differences in performance can be expected if those conditions are changed.

Models:

F52F Return Grille Electronic Air Cleaner (one-cell model for up to 1000 cfm [1700 m³/hr]). Includes solid state power supply with air cleaner monitor capability, one electronic cell, prefilter, door/grille and airflow switch.

F52F Return Grille Electronic Air Cleaner (two-cell model for up to 2000 cfm [3400 m³/hr]). Includes solid state power supply with air cleaner monitor capability, two electronic cells, prefilter, door/grille and airflow switch.

Electrical Ratings:

No. of Cells	System Size (in.)	Maximum Current (A)		Maximum Power (W)
		120V, 60 Hz	220/240V, 50/60 Hz	
1	20 x 12.5	0.4	0.2	22
2	20 x 25	0.4	0.2	36

Capacity, Efficiency, Pressure Drop:

See Fig. 1.

Temperature Ratings:

Operating Ambient: 40°F to 125°F (4°C to 52°C).
 Temperature of Airflow Through Cell(s): 40°F to 125°F (4°C to 52°C).

Maximum Cell Washing Temperature: 220°F (104°C).
 Storage and Shipping (Entire Unit): minus 40°F to plus 140°F (minus 40°C to plus 60°C).

Mounting:

Recesses into duct opening on wall or ceiling. On wall installation, mount with hinge on bottom or either side (see Review Installation Requirements section). Not intended for floor installations.

Weight:

F52F Electronic Air Cleaner	1-Cell		2-Cell	
	lb	kg	lb	kg
Shipped	39.2	17.8	58.8	26.7
Installed	29.4	13.4	45.3	20.6
Cell(s)—included in above weights	9.5	4.3	9.5 ea	4.3 ea

Dimensions:

See Fig. 2 and 3.

Door/Grille Type:

Egg crate.

Cell Size:

12-1/2 x 20 in. (318 x 508 mm).

Underwriters Laboratories Inc. Listed:

File No. E30954, Guide No. AGGZ.

Canadian Standards Association Listed:

File No. LR19060-L.

Accessories and Replacement Parts:

See Fig. 23.

ORDERING INFORMATION

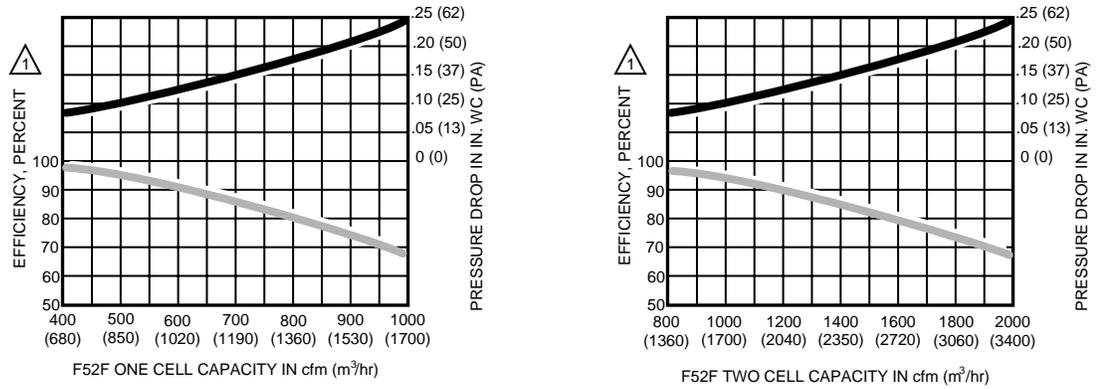
When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number, or specify:

- Order number.
- Voltage and frequency.
- Dimensions: 20 x 25 or 20 x 12-1/2 in. (508 x 635 or 508 x 318 mm).
- Type of door/grille—louvered or egg crate.
- Accessories, if desired.
- W8600F Air Cleaner Monitor, if desired. Specify beige or white color.

If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:

- Your local Home and Building Control Sales Office (check white pages of your phone directory).
- Home and Building Control Customer Logistics
 Honeywell Inc., 1885 Douglas Drive North
 Minneapolis, Minnesota 55422-4386

In Canada—Honeywell Limited/Honeywell Limitée, 155 Gordon Baker Road, North York, Ontario M2H 2C9.
 International Sales and Service Offices in all principal cities of the world. Manufacturing in Australia, Canada, Finland, France, Germany, Japan, Mexico, Netherlands, Spain, Taiwan, United Kingdom, U.S.A.



▲ EFFICIENCY RATINGS BASED ON NATIONAL BUREAU OF STANDARDS DUST SPOT METHOD USING ATMOSPHERIC DUST AND AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR-CONDITIONING ENGINEERS STANDARD 52.1-92. M7824

Fig. 1. Air cleaner efficiency and pressure drop at various airflow rates.

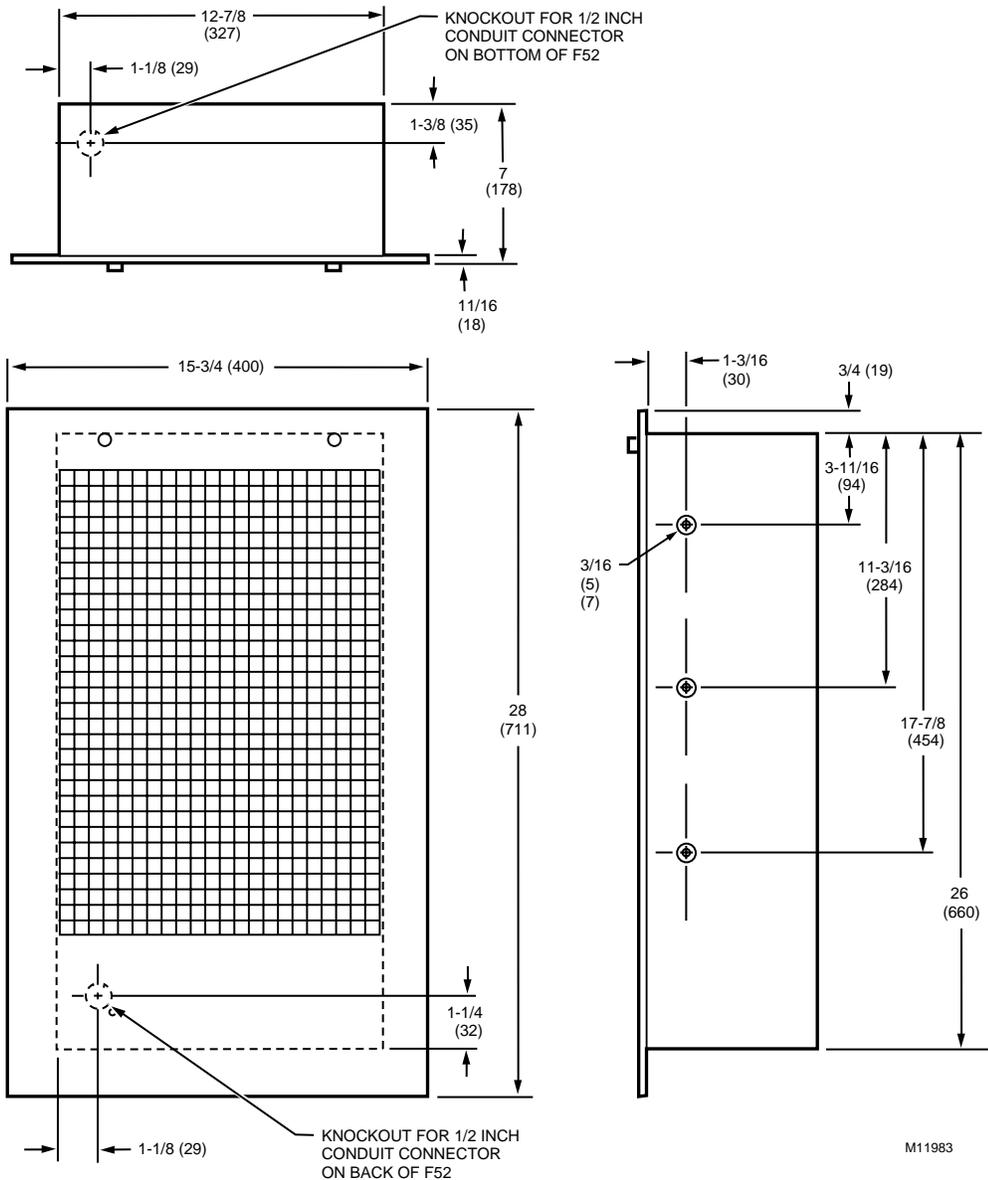


Fig. 2. Approximate installation dimensions in in. (mm) of one-cell F52F Electronic Air Cleaner.

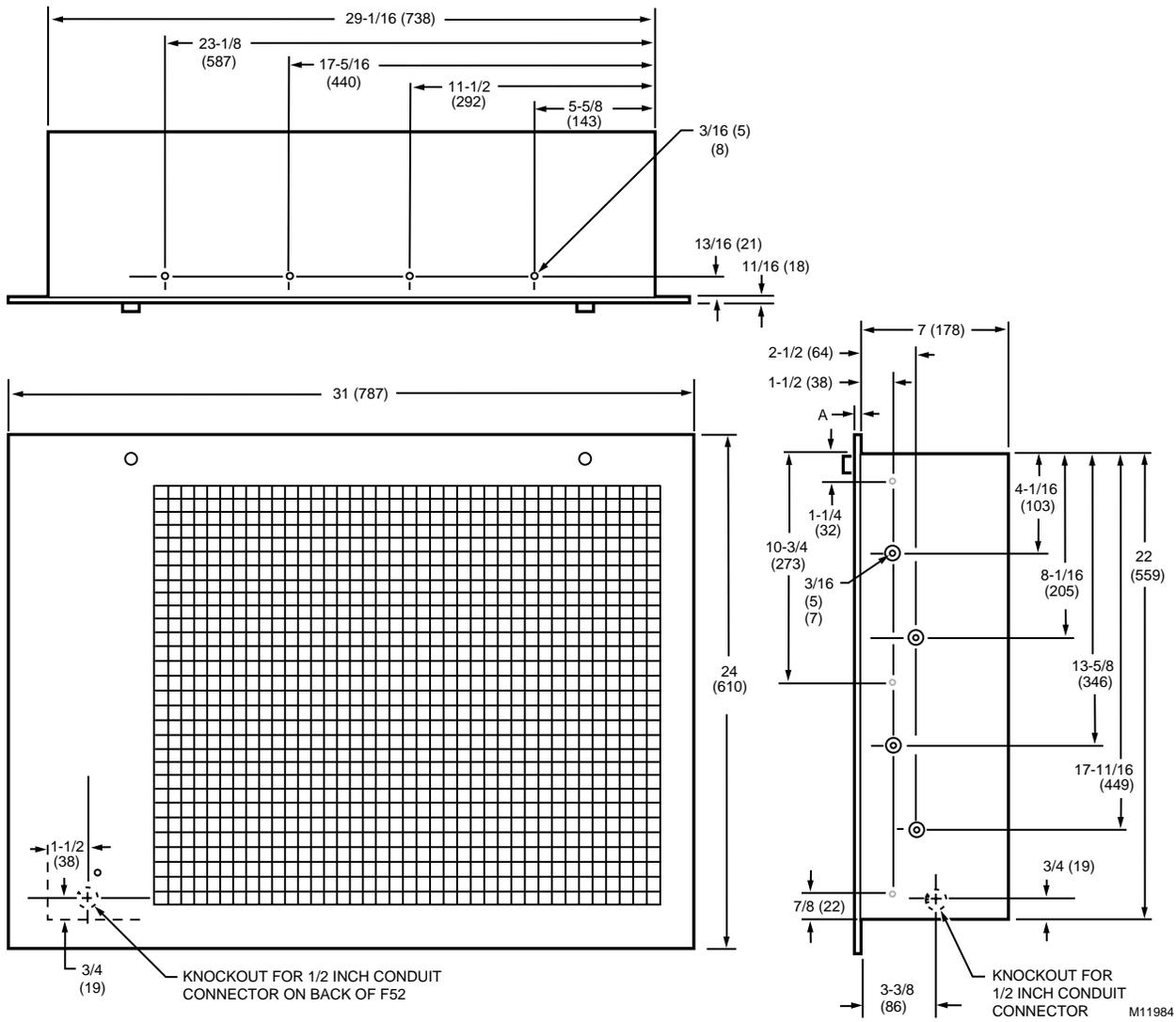


Fig. 3. Approximate installation dimensions in in. (mm) of two-cell F52F Electronic Air Cleaner.

PLANNING THE INSTALLATION

Application and Construction

The air cleaner should be installed in the occupied space return duct opening leading to a central air handling system. All of the air circulated by the system must pass through the electronic air cleaner.

The front door of the electronic air cleaner is hinged to provide access to the internal components. See Fig. 4.

The air cleaner has one or two electronic cell(s) that must be installed with the ionizer section (side with fine wires) facing the door.

The cell(s) is held in place by metal hooks and a quarter-turn latch.

A spring contact provides the electrical connection between the solid state power supply and the electronic cell(s). An interlock switch interrupts the line voltage to the power supply when the door is opened. A rocker-type ON-OFF switch allows the air cleaner to be turned off manually. An indicator light that is on shows that the air cleaner is energized and the power supply is producing high voltage.

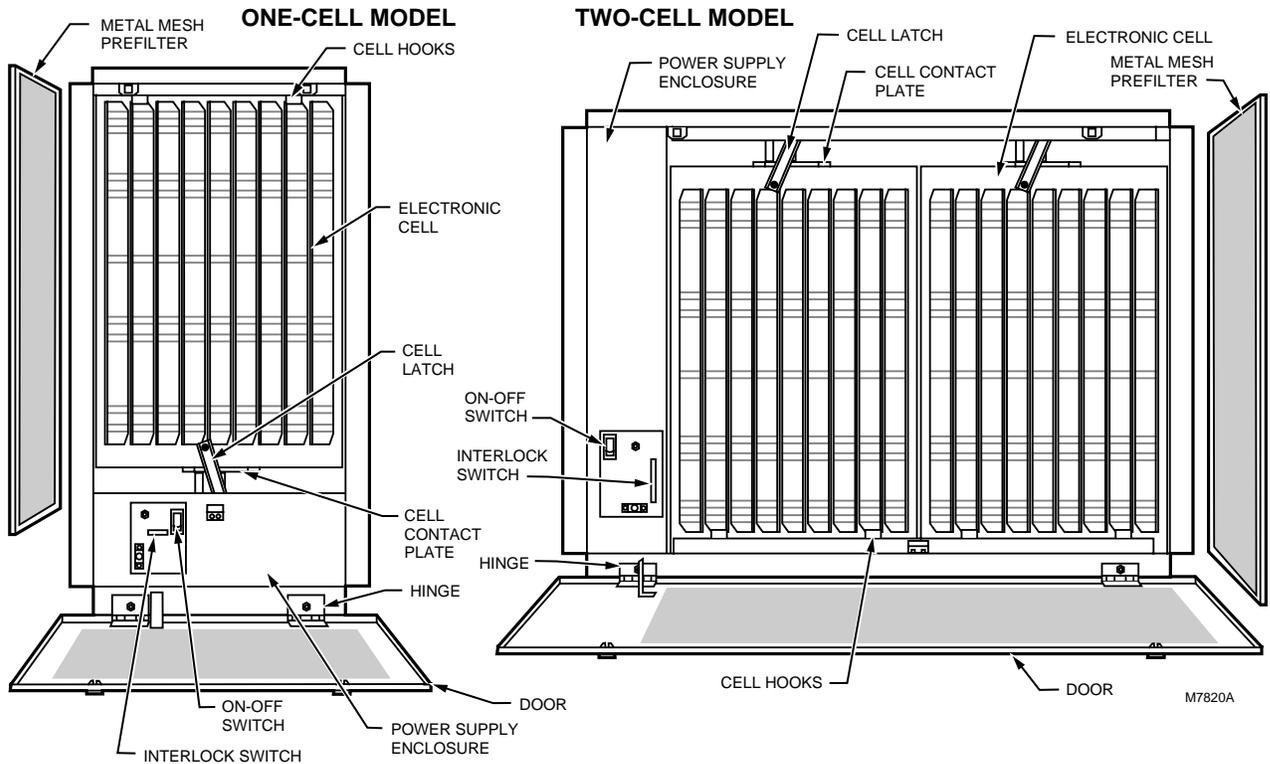


Fig. 4. Internal components of F52F Electronic Air Cleaner.

Review Installation Requirements

The air cleaner is installed in place of the main return grille so all the air circulated by the system passes through the air cleaner.

It can be installed in either a wall or ceiling, but not in the floor. See Fig. 5 through 7 for typical installations.

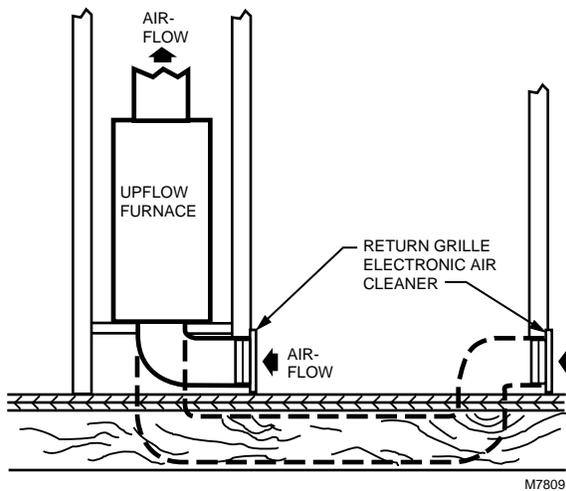


Fig. 5. Typical electronic air cleaner application on platform-mounted upflow furnace. (Dotted lines show optional ductwork.)

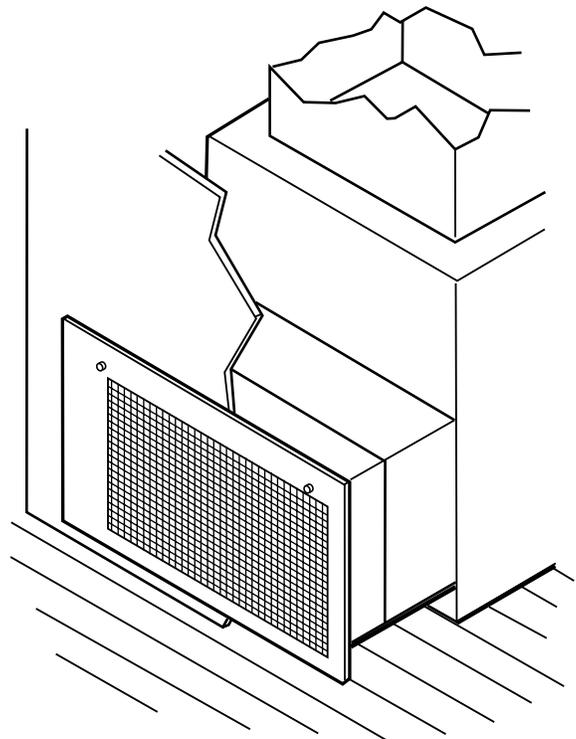


Fig. 6. Typical electronic air cleaner installation on an upflow furnace.

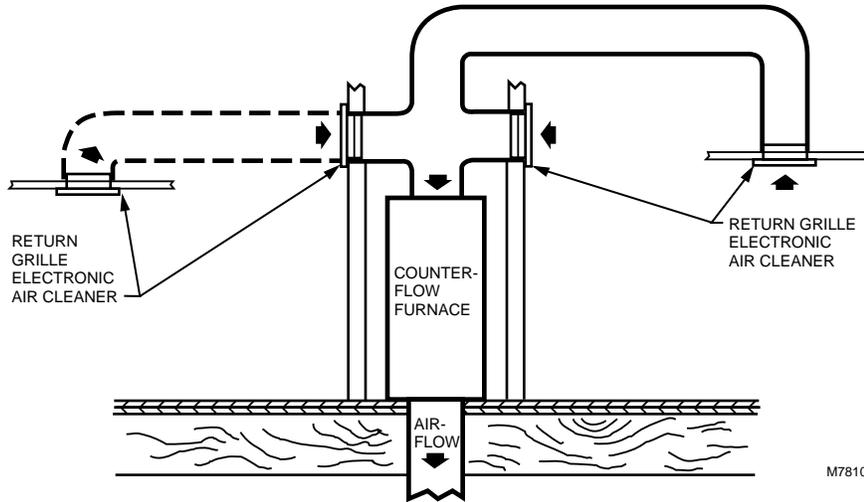


Fig. 7. Typical electronic air cleaner application on counterflow (downflow) furnace. (Dotted lines show optional ductwork.)

In a wall installation, mount the one-cell air cleaner with the door hinge on the bottom so the air cleaner fits between the two studs 16 in. (407 mm) on center. The two-cell air cleaner fits between two studs 24 in. (610 mm) on center when mounted with the hinge on either side *or* between three 16 in. studs, with center stud removed, when mounted with hinge on the bottom.

Do not install either unit with the hinge on the top because the cell(s) will be awkward to remove.

Determine Duct Design Requirements

The return duct should end at, or slightly behind, the finished wall surface. Do not use a standard register flange, or the door may not fit tightly against the wall.

Transitions

Transitions are needed when the duct is a different size than the air cleaner. Gradual transitions reduce air turbulence and increase efficiency. The transition should be 20 degrees or about 4 in. per running ft (100 mm per 300 linear mm) or less on each side of a transition fitting.

INSTALLATION

When Installing this Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.



CAUTION

Electric Shock Hazard.
Can cause electrical shock or equipment damage.
Disconnect power before installing air cleaner.

Unpack the Air Cleaner

1. Check that all components are included. The unit consists of:
 - Door assembly in separate box.
 - One metal mesh prefilter.
 - One or two electronic cell(s).
 - Literature package.
2. Lift out and set aside the door/grille assembly and the prefilter. Turn the cell latch (Fig. 4) toward the air cleaner cabinet and remove the electronic cell(s), lifting from the side nearest the latch. Set aside.
3. Remove the four screws holding the wiring compartment cover.
4. Remove the air cleaner cabinet from the carton.

Make Wall Opening

1. Size the wall opening to fit the air cleaner as closely as possible with the air cleaner door hinge on either side or bottom for the two-cell model, and on the bottom for the one-cell model. See Table 1 for dimensions.

Table 1. Installation Dimensions.

Model	Wall Stud Spacing		Unit Dimensions	
	in.	mm	in.	mm
1-cell	16	406	12-7/8 x 25-15/16	327 x 659
2-cell	24 or 32	610 or 813	29-1/16 x 22	738 x 559

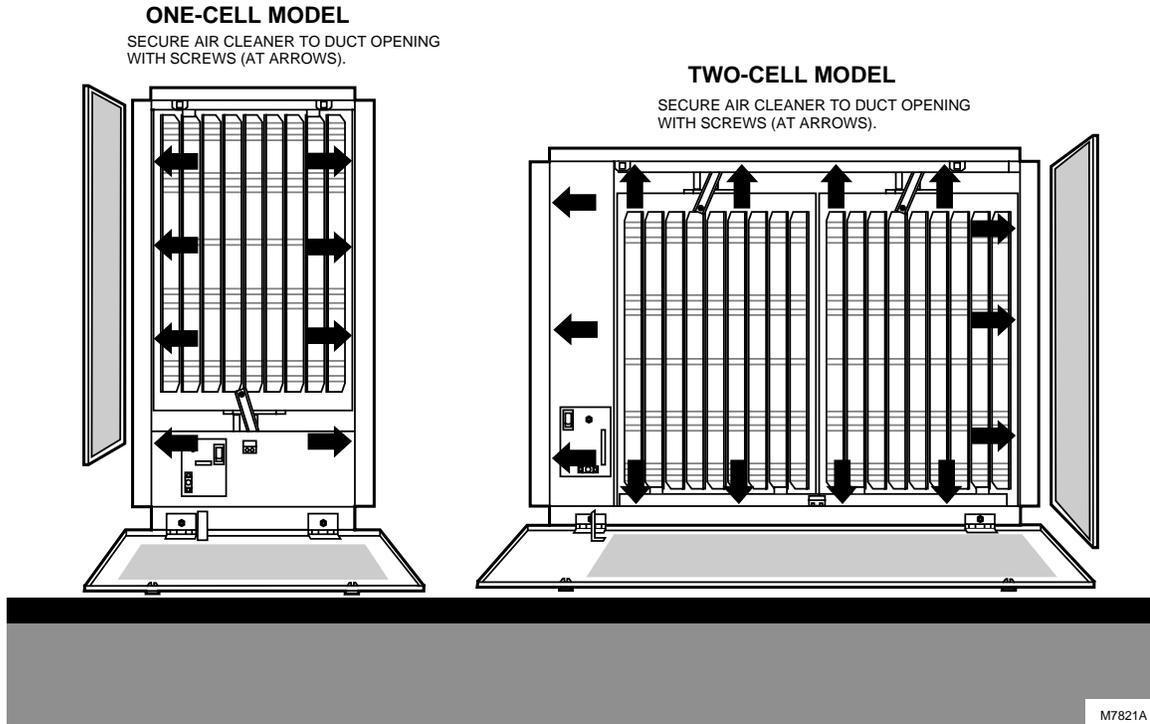


Fig. 8. Fasten air cleaner to duct with sheetmetal screws.

2. Frame the opening to provide adequate support for the air cleaner. The air cleaner must fit snugly in the opening; allow no more than 1/4 in. (6 mm) from the opening to each side of the cabinet.
3. Cover the framing and any unused portion of the wall opening with wallboard, plywood, or other material and finish to match the wall.

Mount Air Cleaner

1. Fit the air cleaner enclosure into the prepared duct opening so the flange on the air cleaner fits tightly against the finished wall surface. The posts on the flange should be on the side desired for the door hinge.
2. Tack the enclosure to the wall.
3. Fasten the air cleaner enclosure to the wall frame using sheet metal screws. See Fig. 8. Overtightening the screws can distort the enclosure and make it difficult to secure the door with the door latches.

Wiring

CAUTION

Electric Shock Hazard.

Can cause personal injury.

- The line voltage power source must match the voltage and frequency of the F52F.
- The air cleaner must be permanently connected to the power source. Do not use an extension cord.

1. Disconnect power before beginning wiring to avoid electrical shock or equipment damage. All wiring must comply with applicable codes and ordinances. See Fig. 9.
2. Connect the white lead from the air cleaner to the neutral side of the 120V supply. Use the solderless connector supplied.
3. Connect the black lead from the air cleaner to the line side of the 120V supply. Use the solderless connector supplied.
4. Connect the air cleaner ground terminal to ground.

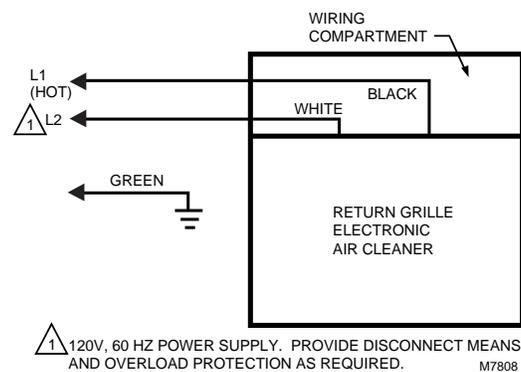


Fig. 9. Typical connections for air cleaner.

The solid state airflow switch turns the air cleaner on and off in response to airflow; the air cleaner need not be connected to the system fan.

NOTE: If power to the F52 is switched by another means, the airflow switch may be disabled by cutting the airflow switch disable jumper. See Fig. 20.

Install Optional W8600F Air Cleaner Monitor

If the W8600F Air Cleaner Monitor is part of the installation, install the W8600F in the desired location and run 3-wire thermostat wiring (up to 18 gauge), independent of any other current-carrying wires, to the air cleaner power compartment as follows.

W8600F Location

The styling of the W8600F is designed to blend with the T8600 Thermostat family. A special mounting template is included in the bag assembly for mounting next to the T8600. The W8600F monitor can, however, be mounted at any other convenient location in the living area, or it can be mounted in the furnace room. It shares no electrical connections with the thermostat.

Make certain the location makes it convenient for the user to observe the display of the device.

Mounting W8600F

The following mounting instructions assume that the W8600F is mounted next to a T8600 Thermostat. If installing the monitor at another location, modify the procedure to fit the installation.

1. Hold the mounting template (included in the bag assembly) next to the T8600 as shown in Fig. 10.
2. Mark the holes for the screw anchors and the 3-conductor thermostat cable.
3. Remove the template and drill the holes.
4. Remove the W8600F from the base.

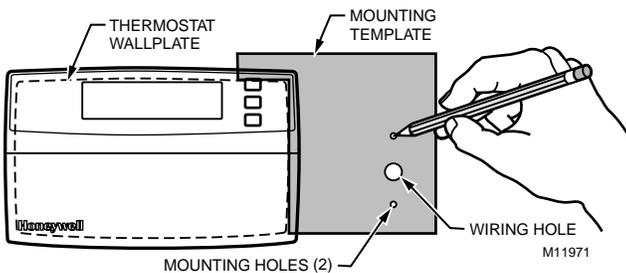


Fig. 10. Positioning mounting template.

5. Position the W8600F base over the holes and install the anchors and screws. Tighten the screws until the base is mounted firmly on the wall.

Select Wash Frequency

Use the W8600F DIP switches to program the time between SERVICE indications. Be sure to select the setting according to the conditions of the home. Factors to consider include the duty cycle of the EAC, the number of people and pets, and activities such as woodworking and other crafts that are being done in the home.

Refer to Table 2 to select the wash frequency. Set the W8600F DIP switches to match the selection. See Fig. 11. The time listed represents actual run time of the EAC, not calendar days.

Table 2. Wash Frequency Options.

DIP Switch Settings			Wash Frequency (Days)
F1	F2	F3	
Off	Off	Off	10
Off	Off	On	20
Off	On	Off	30
Off	On	On	40
On	Off	Off	50
On	Off	On	70
On	On	Off	100
On	On	On	180

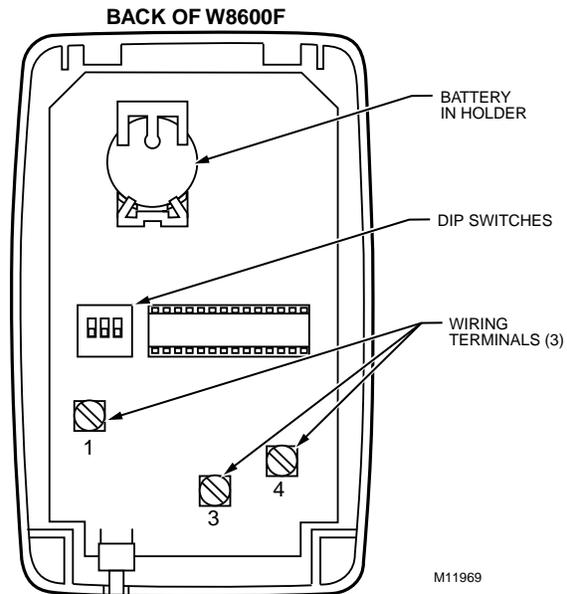


Fig. 11. Back of W8600F.

Wiring

1. Run a 3-conductor thermostat cable (up to 18 gauge) from the W8600F to the terminal strip on the back of the F52 wiring compartment.

IMPORTANT

Connect cable to W8600F before attaching to the air cleaner terminals to minimize the risk of damage due to static electricity.

2. Connect the wires to terminals 1, 3 and 4 on the W8600F. See Fig. 11.
3. Check that the battery is correctly installed in the W8600F battery holder.
4. Snap the W8600F onto the base.
5. Turn off the power for the EAC.
6. Connect the three wires from the W8600F to the EAC terminals 1, 3 and 4. See Fig. 12.

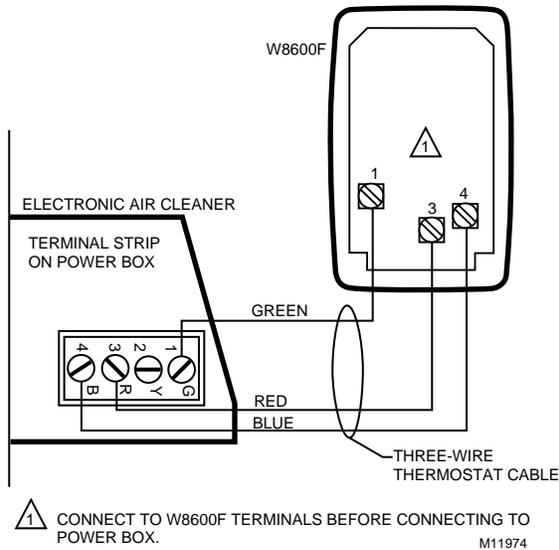


Fig. 12. Wiring W8600F to Electronic Air Cleaner power box terminal strip (two-cell model).

NOTE: Connect terminal 1 to 1, 3 to 3 and 4 to 4.

7. Turn on the EAC power.
8. Turn on the system fan.
9. Push the W8600F reset button. All four indicators on the display will flash 5 times. The ON indicator will stay active as long as the EAC is on. See Fig. 13.

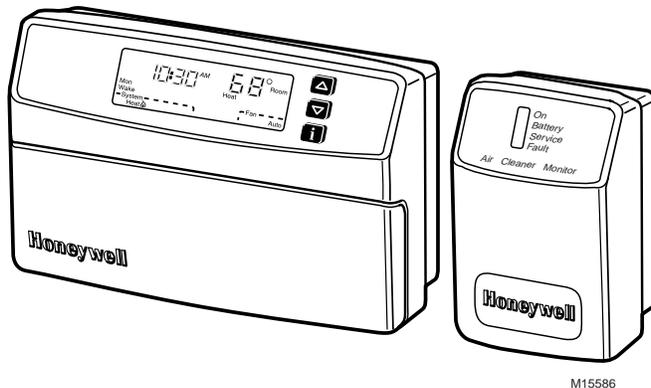


Fig. 13. Complete T8600/W8600F Installation.

Attach Cell Handle(s)

The plastic handle(s) taped to the packing material must be mounted on the electronic cell(s). The handle(s) can be mounted on either end; choose the end most convenient for inserting and removing the cell(s).

1. Hold the handle sideways and insert the solid tab on the back of the handle into the rectangular slot in the cell. Turn the handle 90 degrees clockwise to align the divided tab with the square hole. See Fig. 14.
2. Insert the divided tab into the square hole.
3. Fold up the tab and insert it into the slot to lock the handle in place. If necessary, press with a blunt instrument such as the end of a pliers.

Install Electronic Cell(s), Prefilter and Door/Grille

1. Hold the cell(s) by the handle(s) and fit the end of the cell(s) behind the metal hooks. See Fig. 15.
2. Swing the cell(s) into the frame and turn the cell latches to lock the cell(s) in place. See Fig. 16.

INSTALL HANDLE ON END OF CELL CLOSEST TO ACCESS DOOR.

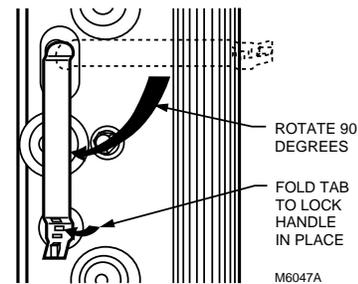


Fig. 14. Attach cell handle to end of cell.

3. Reinstall the prefilter by seating it into the rail. Rotate it into the air cleaner, and seat it on the opposite side.
4. Assemble the door/grille to the cabinet as follows:
 - a. Align the door/grille with the frame. Fit the holes in the door hinge over the mounting posts on the frame.
 - b. Start the hex nuts provided on the posts and tighten.
 - c. Close the door/grille and turn the thumb screws.
 - d. If alignment requires adjustment, loosen nuts, align and retighten.

IMPORTANT

For proper air cleaner operation, make sure:

- The contacts on the cell(s) meet the spring contacts on the frame.
- The arrow on the side of the cell points in the direction of airflow (toward the wall or ceiling).
- The ionizer wires face toward the door/grille.

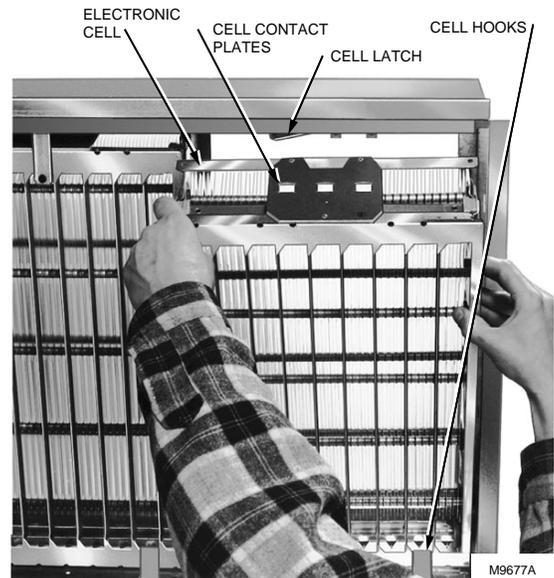


Fig. 15. Make sure hooks snap over edge of cell.

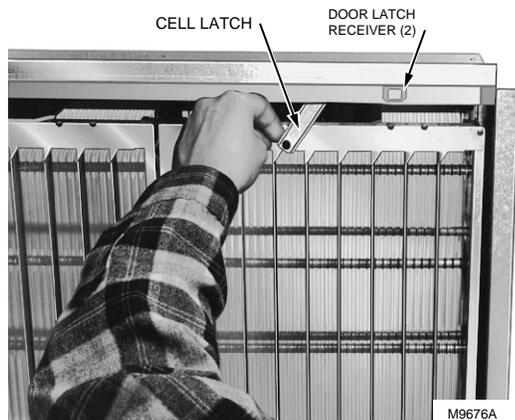


Fig. 16. Turn cell latch to lock in place.

Painting Air Cleaner

The air cleaner door/grille is painted white and needs no additional finishing. If another color is desired, remove the door/grille from the air cleaner and make sure it is clean before painting.

Replacing Door/Grille

The louvered and egg crate door/grilles are interchangeable on the F52F (see Parts List on page 18 for part numbers). To change from a louvered to an egg crate door/grille, turn the quarter-turn fasteners to the open position. Open the door/grille and remove the two hex nuts that fasten the door/grille to the air cleaner cabinet. Install the two tinnerman clips that are supplied with the egg crate door/grille on the door latch receivers (Fig. 16). Mount the new door/grille on the air cleaner cabinet with the two hex nuts previously removed. Close the door/grille and turn the thumb screws to engage the mating screws in the tinnerman clips.

CHECKOUT

Inspect the Installation Before Putting Electronic Air Cleaner into Operation

Make sure:

- The wiring connections in the power box are properly made with the proper connectors.
- The metal mesh prefilter is positioned properly.
- The airflow arrows on the cell(s) point away from the door/grille.
- The electronic cell(s), prefilter and door/grille are clean and dry.
- The contact is good between electronic cell and the power supply contacts.
- The W8600F (if used) wiring connections are properly made.

Check Air Cleaner Operation

With all components in place, turn on the air cleaner switch and close the door/grille. Energize the system fan and check that the neon light, visible through the air cleaner door/grille, lights. This indicates that the air cleaner is energized and the power supply is producing high voltage. If the light does not

come on, refer to Electrical Troubleshooting section. If a W8600F is part of the installation, also check the wall panel, and make sure the ON indicator is active. When the fan is stopped, the indicator should go off.

SERVICE



CAUTION

Sharp Edges.

Can cause personal injury.

Handle the cell(s) carefully to avoid cuts from the sharp metal edges.

Cleaning the Electronic Cell(s) and Prefilter

Clean the electronic cell(s) and prefilter regularly every one to six months. Variables such as number of occupants, activities and smoking determine how often cleaning is required. Use the wash reminder schedule in the literature packet to help establish and maintain a regular cleaning schedule.

If the air cleaner has the optional W8600F Air Cleaner Monitor, the SERVICE is activated to indicate that a cell and prefilter washing is due. The SERVICE indicator does not come on when the prefilter gets clogged; clean the prefilter every time the cell(s) are cleaned.

The cell(s) can be washed in most automatic dishwashers, by soaking in a tub or at a do-it-yourself coin operated car wash. The prefilter can be vacuumed, brushed, sprayed with a garden hose. Do not wash the prefilter in the dishwasher or car wash.

The heating or air conditioning system can be run while the cell(s) is being washed. Simply turn off the air cleaner switch.

Automatic Dishwasher



CAUTION

Burn Hazard.

Can cause personal injury.

Allow the cell(s) to cool in the dishwasher at the end of the wash cycle or wear protective gloves to avoid burns. Hot water can accumulate in the tubes that support the collector plates. Tip the cell(s) so these tubes can drain.

IMPORTANT

- *Check your dishwasher owner manual. Some manufacturers do not recommend washing electronic cells in their dishwashers.*
- *If the dishwasher has upper and lower arms, position the cell(s) carefully to allow good water circulation.*
- *Use care to avoid damaging or bending the cell plates when placing them in the dishwasher. If bent, arcing will result.*
- *Very dirty cells, especially from tobacco or cooking smoke, can discolor the plastic parts and lining of the dishwasher. The discoloration is not harmful. To minimize it, wash the cells more frequently or try a different brand of detergent.*
- **DO NOT ALLOW THE DISHWASHER TO RUN THROUGH THE DRY CYCLE.** *This will bake on any contaminants not removed during the wash cycle and reduce air cleaner efficiency.*

1. Put the cell(s) on the lower rack of the dishwasher with the airflow arrow pointing up. It may be necessary to remove the upper rack. Do not block water flow to the upper arm, if provided on the dishwasher.

HINT: Lay a few large water glasses between the *spikes* on the lower rack, and rest the cells on them so the *spikes* do not damage the aluminum collector blades.

2. Using the detergent that works best for normal dishwashing, allow the dishwasher to run through the complete wash and rinse cycle. **Do not use the dry cycle.** To avoid burns, let the cell(s) cool completely before removing, or wear protective gloves when removing the cell(s). Remember that water may be trapped in the tubes that support the collector plates. Tip the cell(s) so these tubes can drain.
3. Wipe the ionizer wires and contact board on the end of the cell with a clean cloth.
4. Inspect the dishwasher. You can rerun the wash and/or rinse cycle with the dishwasher empty if you see dirt or residue from washing the cell(s). If dirt or residue seems excessive, wash the cell(s) more often or try a different detergent.
5. Inspect the cell(s) for bent plates; bend back to normal to prevent arcing.

Soaking



CAUTION

Hazardous Chemical.

Can cause personal injury.

Do not splash the detergent solution in eyes. Wear rubber gloves to avoid prolonged detergent contact with skin. Keep detergent and solution out of reach of children.

NOTE: Always wash the cell(s) first, then the prefilter, to keep heavy lint from getting caught in the cell(s).

1. Use a container that is large enough, such as a laundry tub or trash container, to hold one or both cells. Sharp corners on the cell(s) can scratch the surfaces.
2. Dissolve about 3/4 cup of automatic dishwashing detergent per cell in enough hot water to cover the cell(s). If the detergent does not dissolve readily, or forms a scum on the water, try another brand or use softened water.
3. After the detergent has completely dissolved, place the cell(s) in the container to soak for 15 to 20 minutes. Agitate up and down a few times, and then remove.
4. Next, wash the prefilter the same way. Empty and rinse the wash container.
5. Rinse the cell(s) and prefilter with a hard spray of very hot water; rinse the tub clean, then fill the tub with clean hot water and soak for 5 to 15 minutes. Rinse until water draining from the cell(s) and prefilter no longer feels slippery.
6. Wipe the ionizer wires and contact board on the end of the cell with a clean cloth.

Car Wash

Use the hand sprayer at a coin-operated car wash to wash the cell(s). Hold the nozzle at least 2 ft (0.6m) away from the unit to avoid damage from the high pressure stream of water. Follow the same sequence of wash and rinse as recommended for cars. However, do not wax the cell(s). Rinse until the water draining from the cell(s) no longer feels slippery.

Reinstalling Cell(s) and Prefilter

1. Inspect the cell(s) for broken ionizer wires and bent collector plates. Repair as necessary.
2. Replace the cell(s) properly. The electrical contact board must face the power supply contacts. The airflow arrows on the cell(s) must point into the air duct. Secure with the latch.
3. Reinstall the prefilter. Turn on the air cleaner.
4. Close the door/grille and fasten it with the two door latches.
5. Turn on the system fan. If the cell(s) and prefilter are wet, you may hear arcing (snapping). If the arcing is annoying, simply turn off the air cleaner for two to three hours, or until cells are dry.

Cleaning the Door/Grille

The door/grille may require washing periodically, though not as frequently as the electronic cell(s) and prefilter. When it appears dirty, it can be vacuumed using the brush attachment on your vacuum cleaner, or disassembled and cleaned by agitating in a solution of mild detergent in warm water.

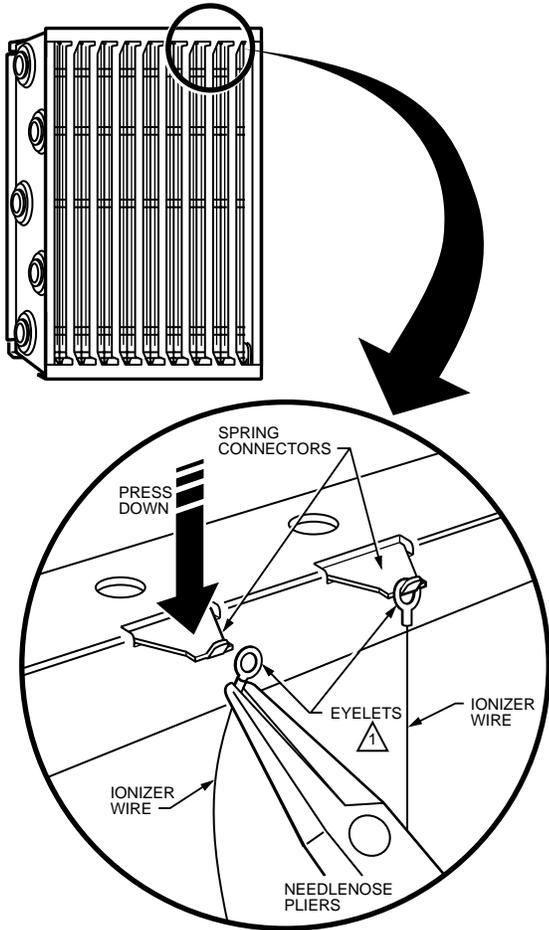
Replacing Ionizer Wire

Broken or bent ionizer wires can cause a short to ground, often resulting in visible arcing or sparking. On air cleaners with a W8600F, any short in the ionizer or collector section activates the FAULT indicator on the W8600F wall panel. Do not use the cell until the pieces of broken wire are removed. It can be used temporarily with one wire missing, but replace the wire as soon as possible. See Parts List section for order number.

Replacement wires are cut to length with eyelets on both ends for easy installation. To install:

1. Hook the eyelet on one end of the wire over the spring connector on one end of the cell. See Fig. 17. Be careful to avoid damaging the spring connector or other parts of the cell.
2. Hold the opposite eyelet with a needlenose pliers and stretch the wire the length of the cell. Depress the opposite spring connector and hook the eyelet over it.

REPLACING AN IONIZER WIRE.



1 TWO EYELETS HOLD IONIZER WIRE TO CELL.

M1540B

Fig. 17. Install new ionizer wire by hooking eyelets over spring connectors.

Tools and Equipment

Troubleshooting the electronic air cleaner requires only a couple of tools:

- Needlenose pliers (for stringing ionizer wires).
- Ohmmeter with 25 kVdc probe (Fluke model 80K -40 H.V. or equivalent). See Fig. 21.

Troubleshooting Procedure



CAUTION

Electric Shock Hazard.
Can cause personal injury.

The Electronic Air Cleaner troubleshooting procedures, Fig. 18 and 19, show how to quickly isolate a problem in the air cleaner. Although a meter is needed for some steps, the primary diagnostic tools are the neon light and the FAULT indicator (on air cleaners with W8600F).

The solid state power supply assembly provided in this air cleaner has no field-serviceable components. If troubleshooting indicates a power supply assembly problem, replace the entire power supply assembly. See Parts List section for order number.

Neon Light

The neon light is visible through the door. It is powered by the high voltage portion of the power supply. When on, it indicates that the air cleaner is powered, the power supply is working properly and air is flowing in the system. The neon light will not be on if air is not flowing through the air cleaner.

FAULT Indicator (Air Cleaners with W8600F)

The FAULT indicator is on the W8600F. It activates to indicate any of the following problems: excessive dirt loading, partial shorting of the collector, continuous ionizer or collector arcing, power supply failure, excessive ionizer current, or any condition causing a major reduction in high voltage.

ELECTRICAL TROUBLESHOOTING



WARNING

Electric Shock Hazard.
Can cause personal injury or equipment damage.

The following procedures expose hazardous live parts. Disconnect power supply between checks and proceed carefully.

IMPORTANT

The following instructions are for use by qualified personnel only.

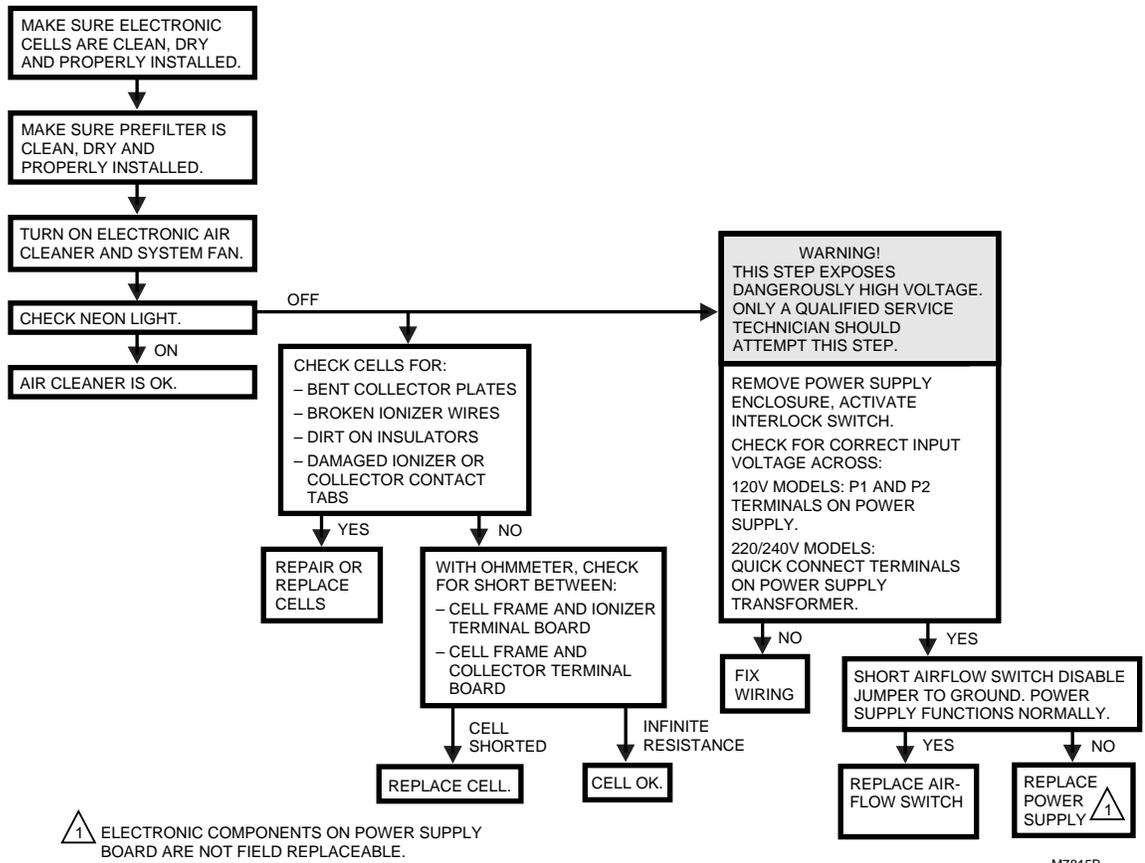


Fig. 18. Electrical troubleshooting procedure for F52F Electronic Air Cleaners without a W8600F.

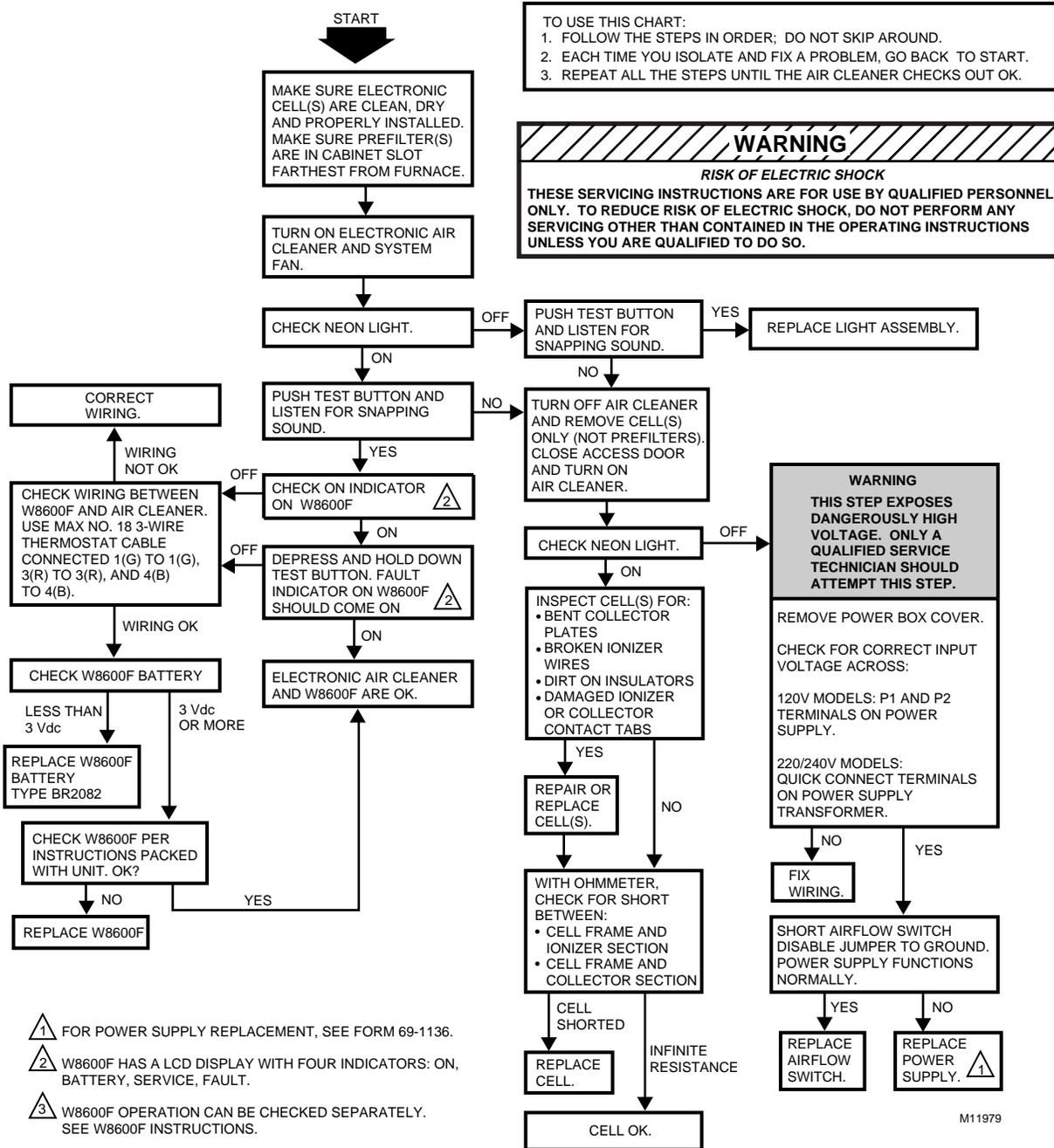


Fig. 19. Electrical troubleshooting procedure for F52F Electronic Air Cleaners with a W8600F.

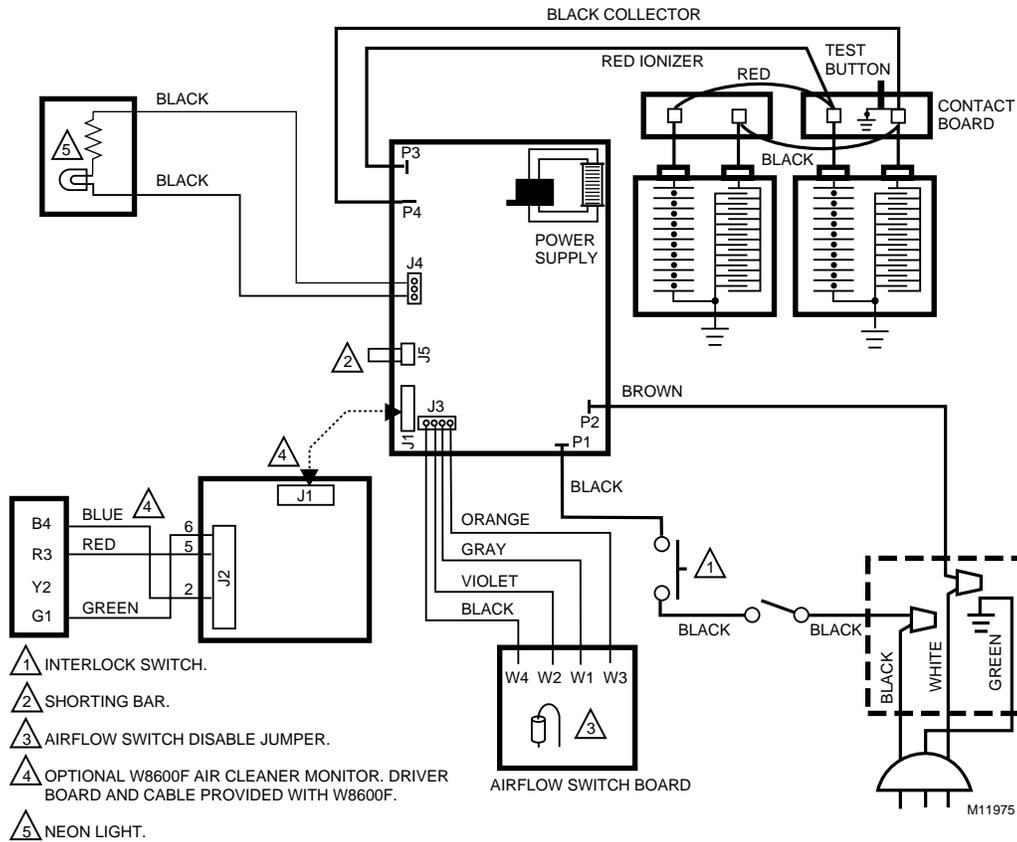


Fig. 20. Schematic for F52F with W8600F.

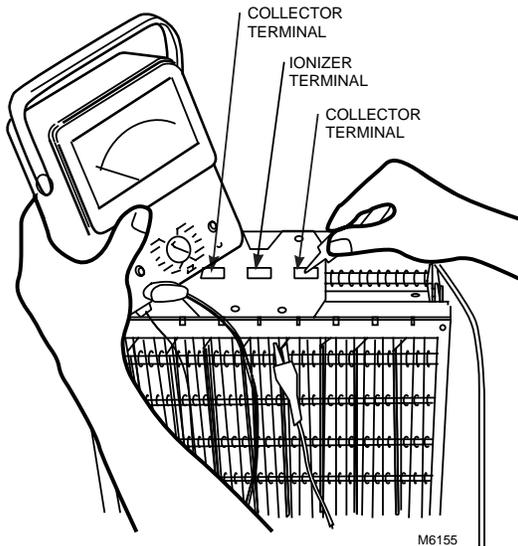


Fig. 21. Use an ohmmeter to check electronic cell(s) for short circuits.

Reducing Ozone Odor



CAUTION

Electric Shock Hazard.
Can cause personal injury.

Always disconnect power before working on power supply.

IMPORTANT

Only a trained service technician should perform the following procedure.

The electronic air cleaner generates a small amount of ozone in normal operation. During the first week or two of operation, the amount can be higher because of sharp edges on some of the new high voltage metal parts. Normal use dulls these edges in a short time.

The average person can detect the odor of ozone in concentrations as low as 0.003 to 0.010 parts per million (ppm). The electronic air cleaner contributes 0.005 to 0.010 ppm of ozone to the indoor air. The U.S. Food and Drug Administration, and Health and Welfare Canada recommend that indoor ozone concentration should not exceed 0.050 ppm. As a comparison, the *outdoor* ozone level in major cities is sometimes as high as 0.100 ppm.

However, if desired, the ozone generated by the air cleaner can be reduced by moving J5 on the power supply. This reduces ozone production about 20 to 25 percent and reduces efficiency about 7 to 10 percent, depending on actual airflow delivered by the furnace blower.

To Reduce Ozone Odor

1. Open the air cleaner door, turn off the power to the air cleaner, and remove the cell(s).
2. Remove the power supply enclosure.
3. Find J5 and move it. See Fig. 22.
4. Replace the power supply enclosure.
5. Replace the cell(s), turn on the power, and close the air cleaner door.

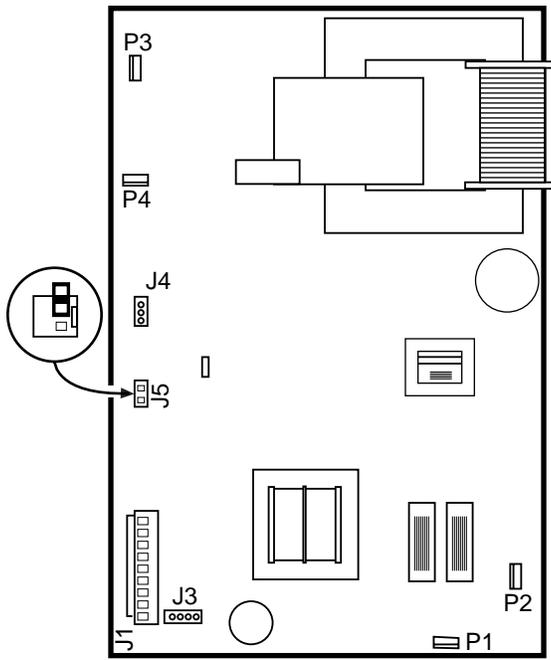
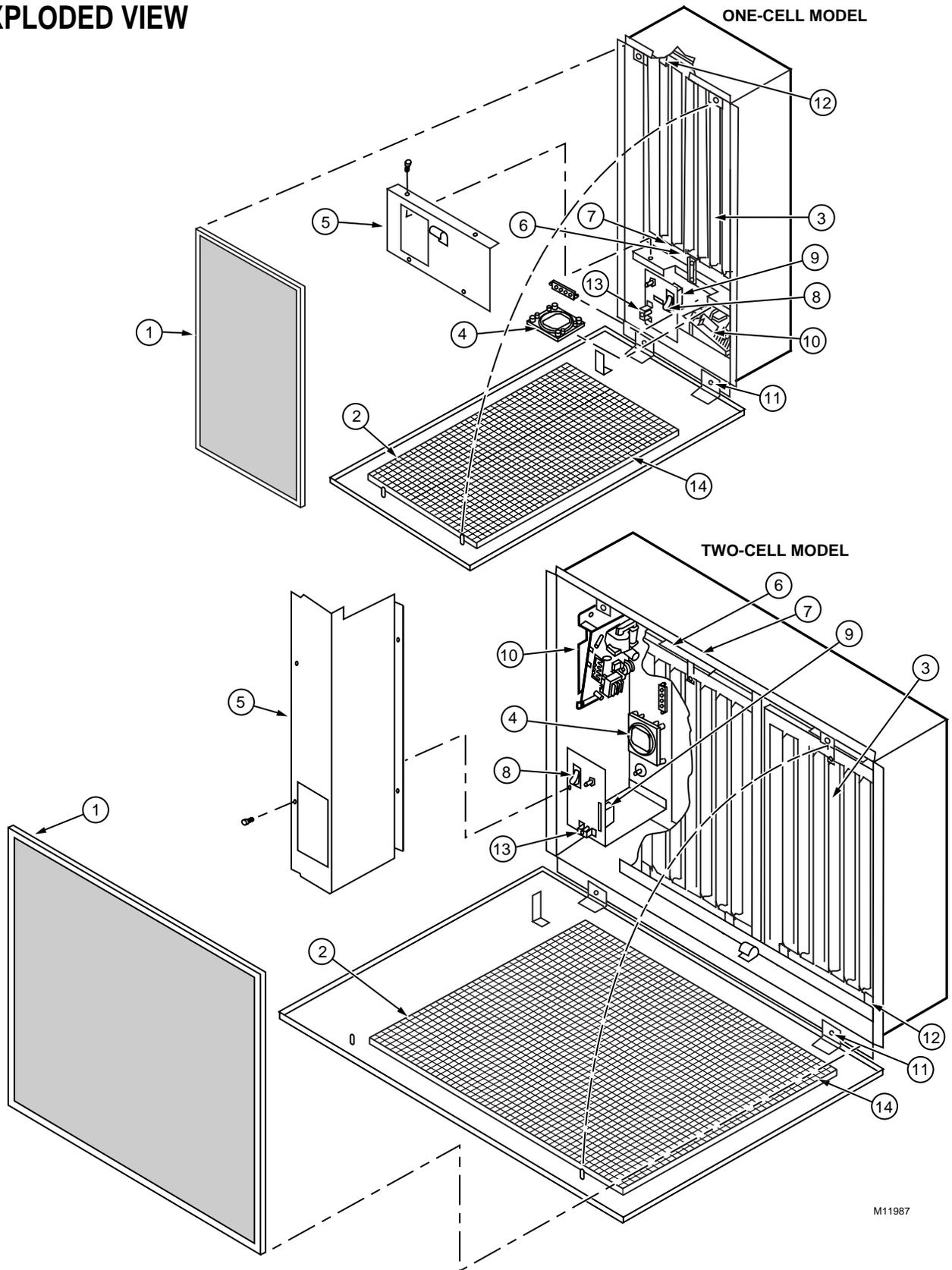


Fig. 22. Move J5 shorting bar to reduce ozone production about 20 to 25 percent.

EXPLODED VIEW



M11987

Fig. 23. F52F part numbers correspond with Parts List.

PARTS LIST

Item Number	Description	Part Number			
		120 Vac Model		220/240 Vac Model	
		1-Cell	2-Cell	1-Cell	2-Cell
1	Prefilter	208536	208537	208536	208537
2	Door/Grille (Egg Crate)	32001438-004	32001438-005	32001438-004	32001438-005
3	Electronic Cell	FC37A1171	FC37A1171 (2)	FC37A1171	FC37A1171 (2)
4	Air Flow Switch	4074ETH	4074ETH	4074ETH	4074ETH
5	Power Supply Enclosure	208541	208542	208541	208542
6	Cell Contact Board	4074EHG	4074EHG (2)	4074EHG	4074EHG (2)
7	Cabinet Contact Board	190912A	190912A (2)	190912A	190912A (2)
8	On/Off Switch	203321	203321	203321	203321
9	Interlock Switch	208543	208543	208544 (2)	208544 (2)
10	Power Supply	208416AB	208416AA	208416W	208416Y
11	Hex Nut for Door Hinge	208545 (2)	208545 (3)	208545 (2)	208545 (3)
12	Metal Cell Hook	196123 (2)	196123 (4)	196123 (2)	196123 (4)
13	Neon Lamp Assembly	4074ETE	4074ETE	4074ETE	4074ETE

Parts and Accessories Not Illustrated

Description	Part Number	
	120 Vac Model	220/240 Vac Model
Cell Handle	137266	137266
Ionizer Wires (Must be ordered in multiples of 5.)	136434AA (9/cell)	136434AA (9/cell)
Air Cleaner Monitors (beige color)	W8600F1006	W8600F1006
Premier White® Air Cleaner Monitor	W8600F1014	W8600F1014

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