



United Air Specialists, Inc.

a CLARCOR company

OWNER'S MANUAL



COMMERCIAL ELECTROSTATIC AIR CLEANER

SMOKEETER[®] MODEL:
SE 24

MODEL SE 24

SPECIFICATIONS

POWER REQUIREMENTS

115 VAC, 60 HZ
6.4 Amps (max)

ELECTRICAL CONNECTION

2 Wire leads

POWER CONSUMPTION

740 Watts (max)

AIR HANDLING CAPACITY*

Low Setting: 350-875 CFM
High Setting: 390-1,020 CFM
(Factory preset for Low Setting Operation)

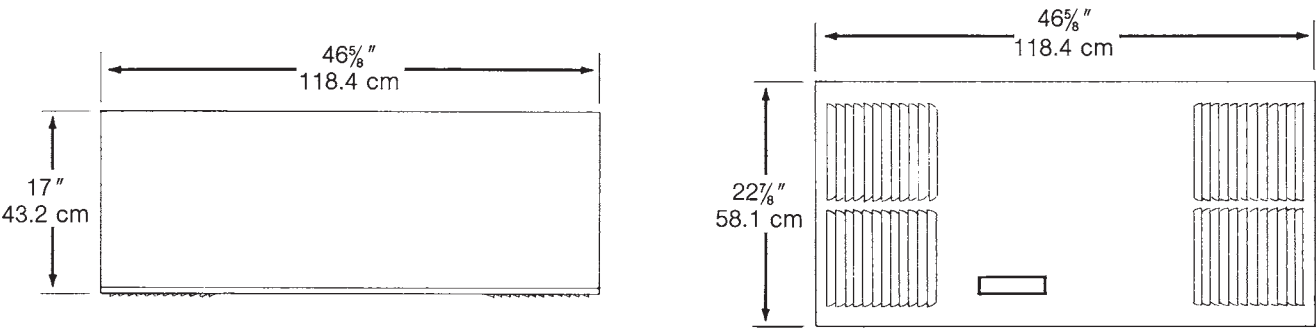
WEIGHT

HANGING.....118 lbs (53.5 KG)
SHIPPING130 lbs (59.0 KG)

DIMENSIONS

Height	Length	Width
17" (43.2 cm)	46 ⁵ / ₈ " (118.4 cm)	22 ⁷ / ₈ " (58.1 cm)

*Nominal CFM



MODEL SE 24

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FOR TRAINED SERVICE PERSONNEL ONLY**

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IMPORTANT NOTICE

BEFORE OPERATION, PLEASE REMOVE ALL PACKING MATERIAL FROM INSIDE UNIT. THIS CAN INCLUDE MARKED TIE DOWN SCREWS, CARDBOARD, STYROFOAM AND PLASTIC WRAP ON CARBON FILTER. MODELS VARY IN MATERIAL USED.

I. INTRODUCTION

Now you can breathe a lot easier... you and everyone else who breathes the air cleaned electronically by SMOKEETER/CRYSTAL-AIRE. Your new electronic air cleaner is the most advanced product of its type on the market today. As you begin its operation, we would like to remind you of a few important facts.

First, we appreciate your business... and because we appreciate your business, we have manufactured an electronic air cleaner worthy of your consideration. SMOKEETER/CRYSTAL-AIRE is designed and engineered to rigid specifications incorporating the latest technological advances, and it is built using the highest grade materials available. It is subject to rigorous quality control checks before it leaves our factory. And, your unit is backed by a factory warranty as described on the back cover.

Second, like any piece of precision equipment, SMOKEETER/CRYSTAL-AIRE needs periodic maintenance. Properly cared for, it will operate at peak efficiency for many years.

Finally, while we hope you never have any problems, United Air Specialists, Inc. (UAS) is always ready to lend assistance. We have factory-trained distributors worldwide. Should you need information or service, contact your local distributor or the Technical Support Dept. at United Air Specialists, Inc., 4440 Creek Road, Cincinnati, Ohio 45242, 1-800-252-4647.

II. INSPECTION OF EQUIPMENT

Inspect for any shipping damage upon receipt of your unit. A damaged carton indicates that the equipment may have received possible internal damage. If any damage is found, notify your delivery carrier and enter a claim.

III. HOW YOUR SMOKEETER/CRYSTAL-AIRE OPERATES

The motor/blower draws the contaminated air through an aluminum mesh prefilter, trapping the larger particles. As the smaller particles enter the ionizer section, they are given an intense positive charge. The charged particles then pass through the oppositely charged plates of the collection cell where they are retained. Clean air is exhausted and redistributed by the fixed louvers of the faceplate grille. The carbon after-filter aids in controlling odor.

PRIMARY COMPONENTS

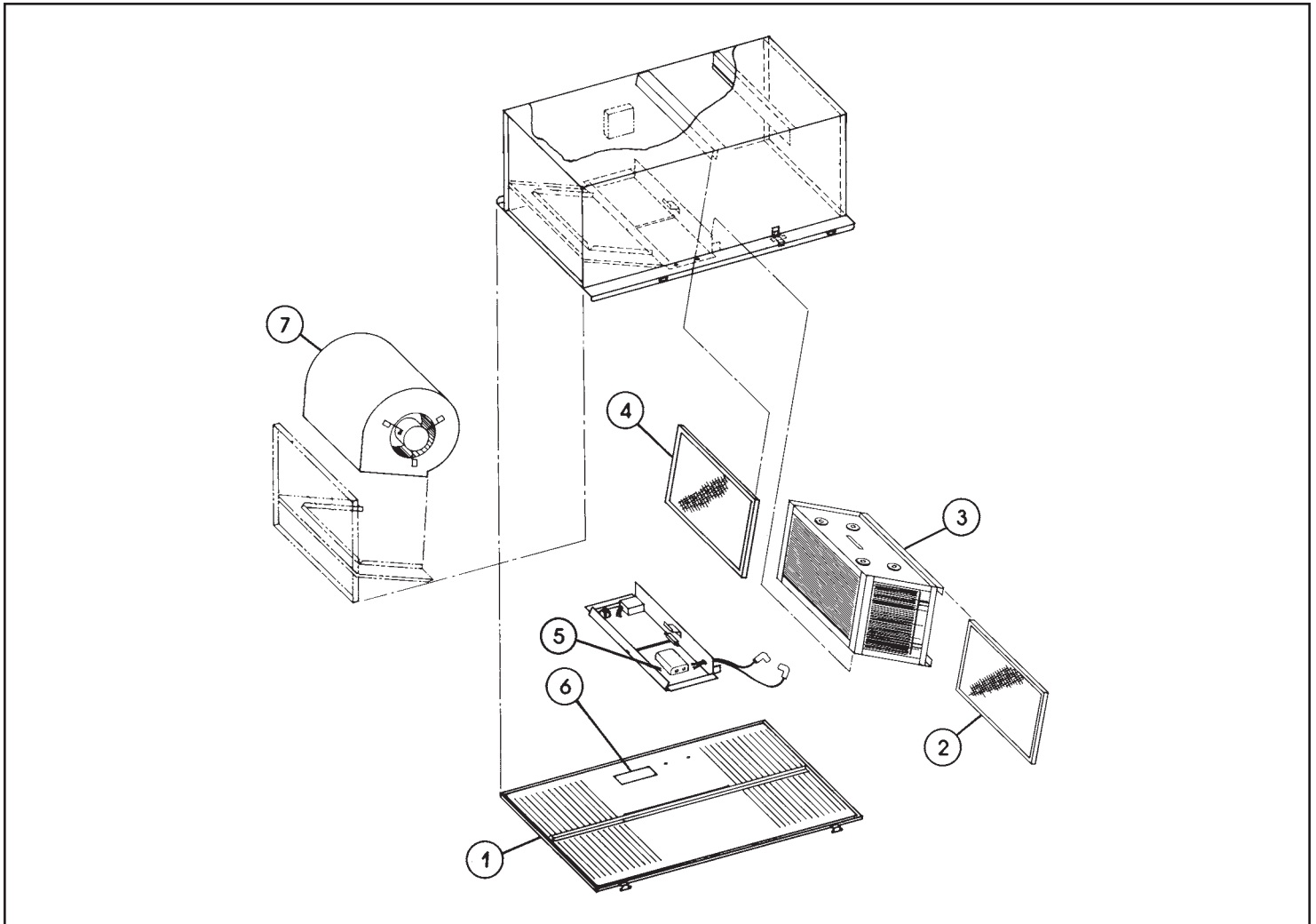


FIGURE 1

1. **FACEPLATE GRILLE** — Serves as the inlet and discharge grille combination as well as the access panel for routine service.
2. **PREFILTER** — Traps the larger particles and acts as a roughing filter for the collecting components.
3. **UNICELL** — Is comprised of the ionizing section and the collecting section. The ionizing section is made up of fine tungsten wires supported between metal plates. When high voltage is applied to these parts, a “corona” field is generated which imparts a high voltage charge on particles that pass through it.
4. **OPTIONAL ACTIVATED CARBON AFTERFILTER** — Aids in removing odors from the air.
5. **POWER PACK** — Is a dual high voltage supply. It supplies 11,000 volts DC to the ionizer and 5,500 volts to the collection cell.
6. **CONTROLS** — Provide off and variable speed operation. A lamp indicates when cleaning is required.
7. **MOTOR/BLOWER** — Produces air movement through a low speed, dynamically-balanced, forward-curve blower. The direct drive motor is variable speed, thermally protected and secured to the blower with vibration mounts.

The collecting section is made up of a series of convoluted metal plates. These plates act like a magnet and attract the charged particles, removing them from the air. The plates are alternately charged positive and ground. The positive plates repel the particles while the ground plates attract them, yielding a very high efficiency.

IV. INSTALLATION

NOTE: This product has been designed specifically for commercial applications such as offices, conference rooms and cafeteria areas. United Air Specialists assumes no responsibility for those applications unlike the aforementioned.

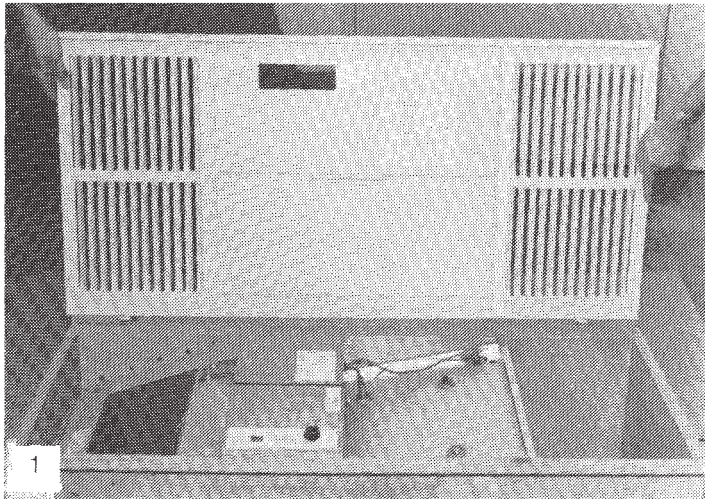
Model SE 24 is designed to draw the contaminated air through the unit and exhaust clean air back into the room. The clean air is used to push contaminated air around the room and back to the inlet of the unit. Directions of air patterns and proper placement of the unit should be established by your local distributor or by United Air Specialists, Inc.

The unit is designed to be installed in a drop tile type ceiling, replacing a 2' x 4' ceiling tile.

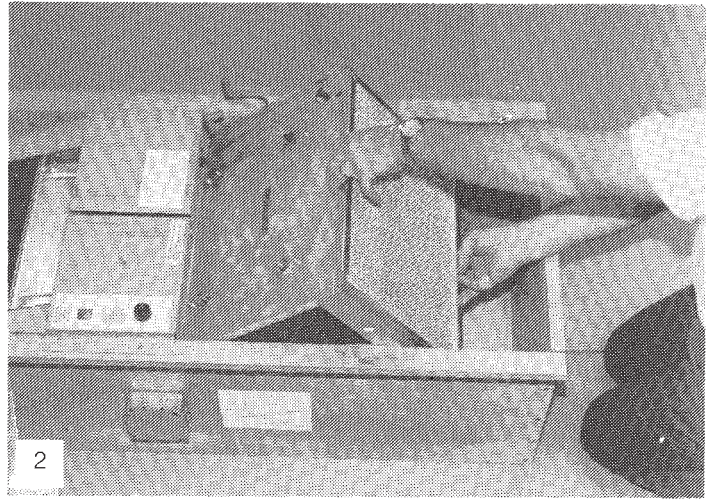
Remove ceiling tile where unit is to be installed. Check location to ensure there is a minimum of 17½" clearance above the ceiling tile. Additional tiles adjacent to where the unit will be located should be removed to facilitate installation.

The Installation Parts Kit (#03-0569) contains the following:

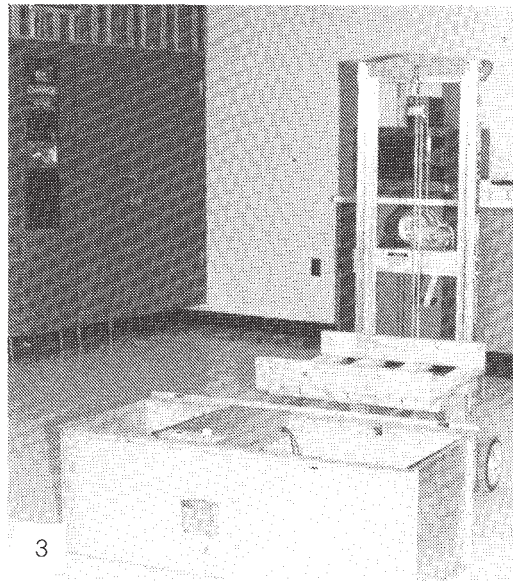
Part #	Item	Quantity
10-2348	Hanging wire, 12 ga	18 ft.
10-2452	Corner locating plates	4
39-0097	Speed control knob	1
41-0907	Warranty card	1
44-0811	Owner's manual	1
30-0335	Screw, Hex #8 x 1/2	4



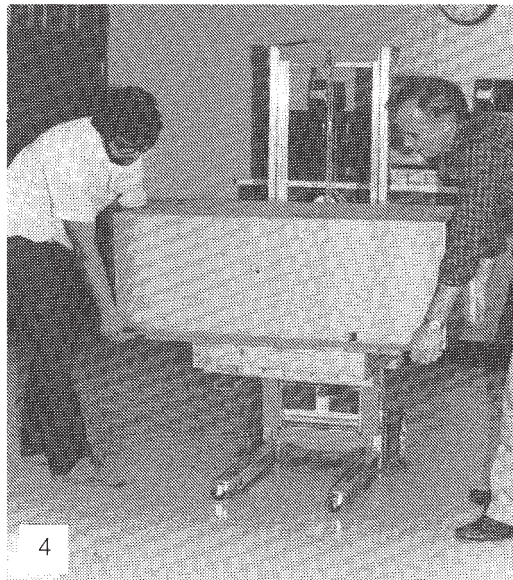
Position the carton on the floor with the top facing up and remove the faceplate grille.



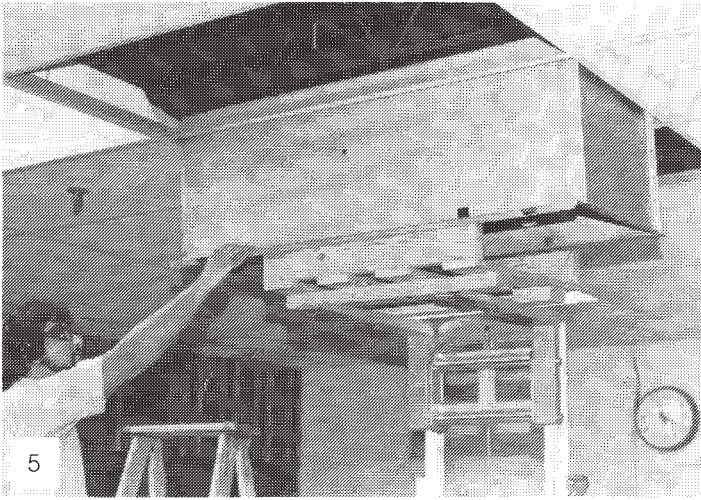
After first removing the shipping screws, remove the unicell/prefilter and carbon filter.



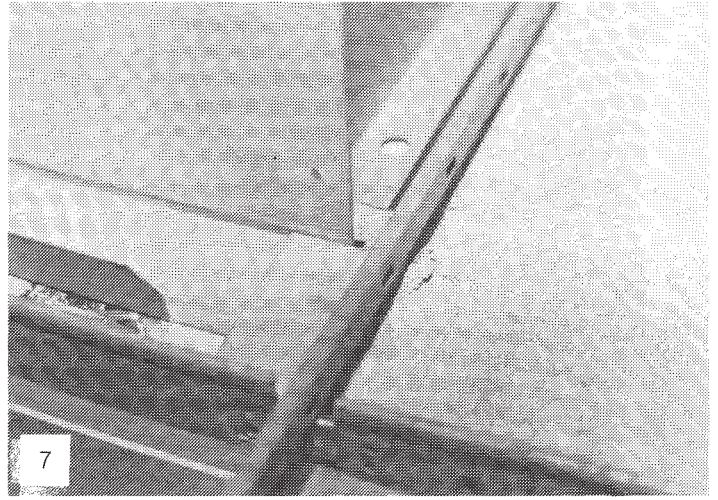
Position the lift device near the unit.



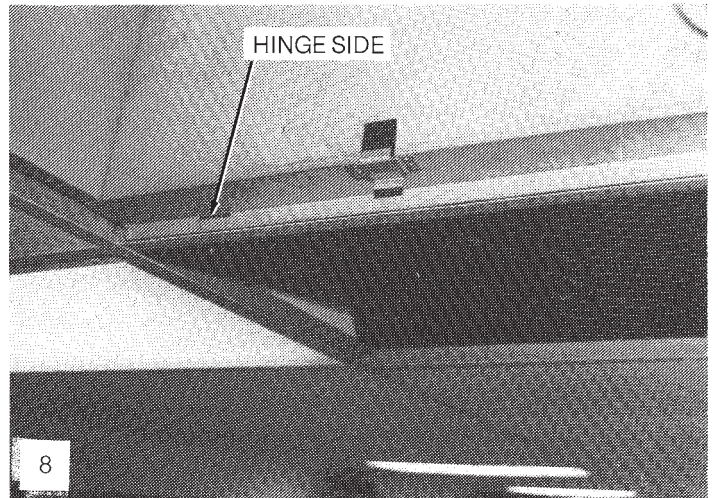
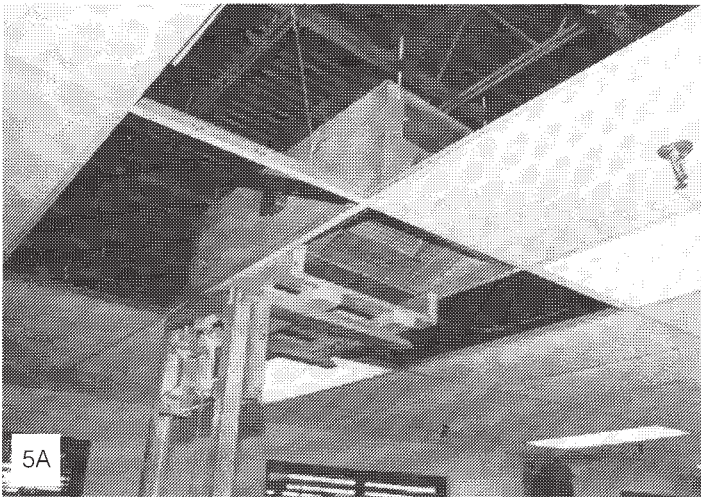
Rotate the unit 180° and place on a platform that secures and gives additional height beyond the forks of the lift device.



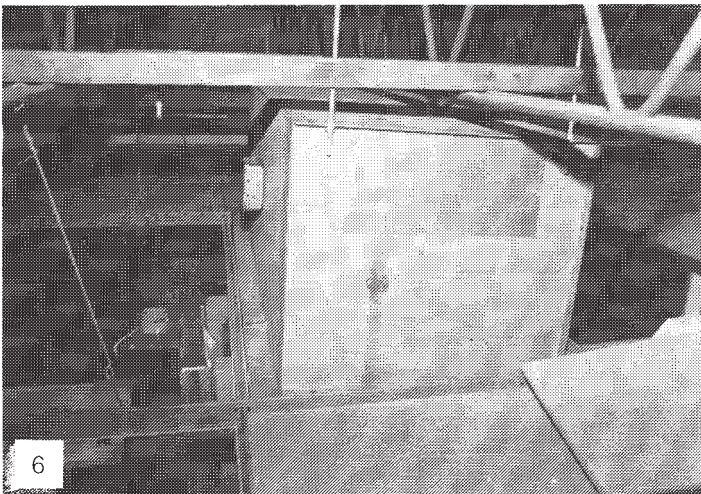
Raise the unit into position, guiding through the ceiling opening.



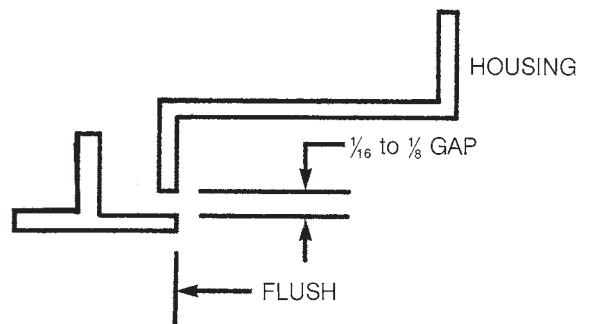
Install four corner locating plates. Attach with #8 screws.

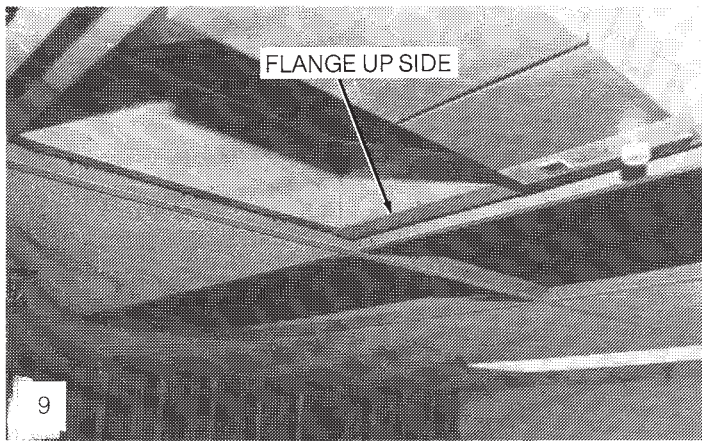


Check alignment and gaps. Each end should be the same distance to the T-bar. The hinge side should align flush with the T-bar and be about $\frac{1}{16}$ " to $\frac{1}{8}$ " above the T-bar. For best results, this gap should be constant along the T-bar.

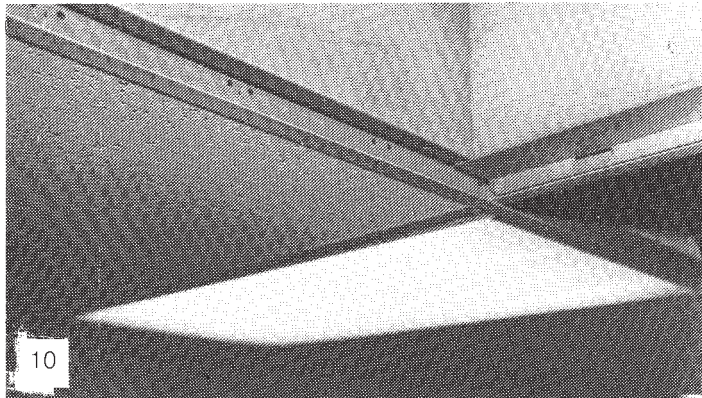
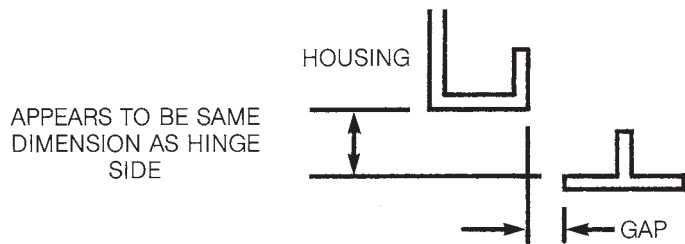


Attach threaded rod, hanging wire or chain to the unit and secure in approximate position.

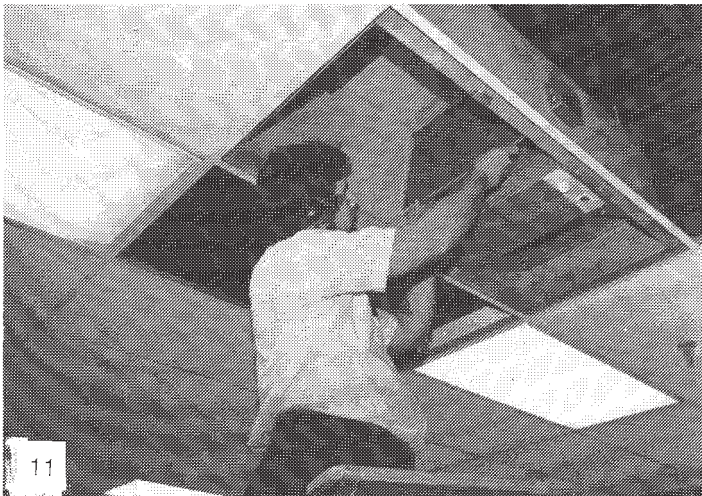




The flange up side should appear level and a constant dimension above the T-bar as the hinge side.



After alignment is complete, secure fasteners.
If hanging wire (supplied by UAS) is used to support the unit, wrap a minimum of five turns.



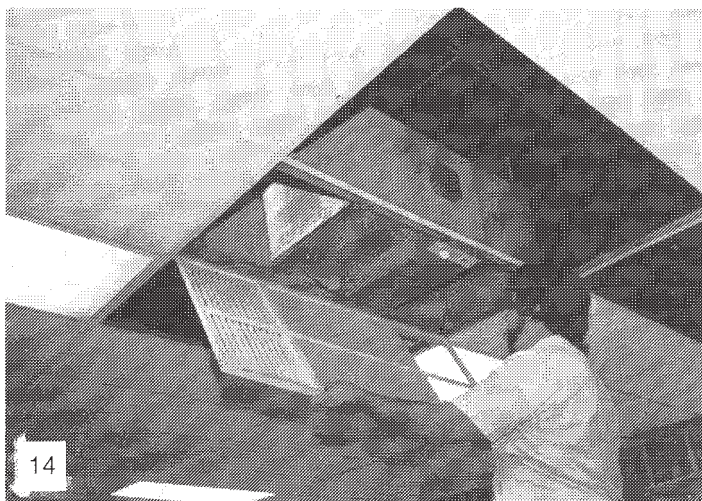
Install carbon filter after removing plastic bag.



Install unicell/prefilter.



Attach high voltage leads to cell and ionizer, and gently press speed control knob on shaft.



Attach faceplate grille by holding the grille at about a 30°-45° angle and attach to cut-outs on hinge side. Lift upwards slightly and push toward the hinge side as you continue to swing the grille closed.

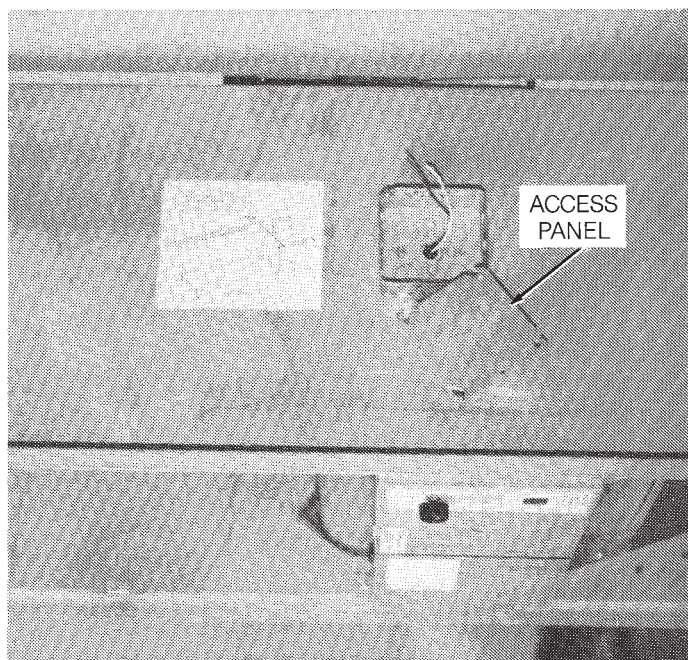


Secure the grille with the two thumb screws. Grille is designed to be approximately 1/16" below the T-bar.

At this point, check to ensure that grille and T-bar grid system are square and true. Some adjustment of cabinet may be necessary to complete installation.

ELECTRICAL CONNECTION

CHECK SERVICE VOLTAGE. The unit is designed for 115 volts/single-phase/60 HZ. Remove access panel located on the exterior of the cabinet and locate the two wire leads provided for electrical connection (black, white). Appropriate fittings and conduit should be used to conform to local electrical codes. A grounding screw has been provided for field connection.



HELPFUL HINTS

- 1) Electrical connection can be made to existing 115V/1/60 lighting circuits so that the unit will be "on" whenever the lights are on. The electrical branch should be checked to see that it will handle the additional load of the unit which draws 6.4 amperes and is 115 volts/single-phase/60 HZ.
- 2) The unit can be run to a discrete wall switch to provide more convenient control. This switch will provide "on" and "off" functions only. Speed setting will still be accomplished by using the control switch on the unit.

V. OPERATION

For best results, your SMOKEETER/CRYSTAL-AIRE should be turned on before the air becomes contaminated, ensuring clean air at all times.

The indicator lamp shows that your unit power supply is operating properly. As momentary shorts occur, the light will indicate a loss of voltage by flickering. If it fails to glow, the components may need cleaning (see Section VI, Cleaning) or the components may need servicing (call your local distributor). A variable speed switch allows you to set the fan speed between 350 and 875 CFM. If you notice a decrease of cleaning efficiency, increase the blower speed to increase the unit's effectiveness.

FOR YOUR INFORMATION — The Model SE 24 has been thoroughly tested prior to shipment from the factory. There may, however, be some initial arcing of the components at start up. The noise should cease after a few hours of operation.

VI. CLEANING

This section is provided for cleaning and periodic maintenance. The internal components must be removed prior to cleaning.

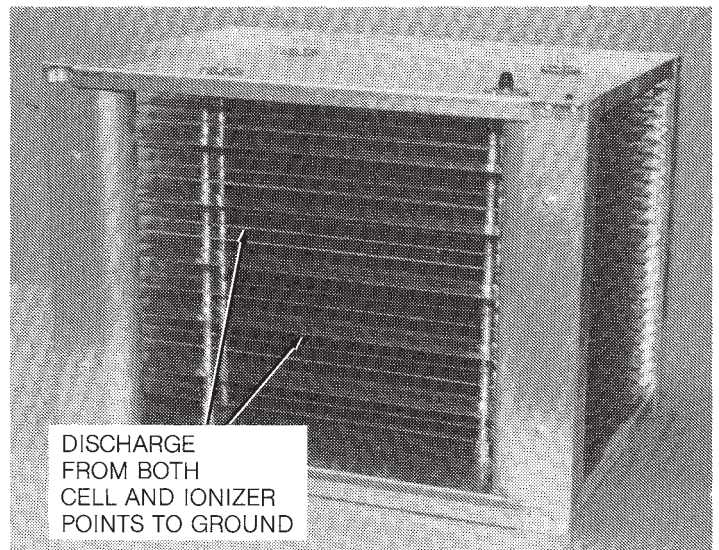
WARNING: Servicing this product for purposes other than routine cleaning of the collection components should be performed by trained service personnel. Any effort to exceed this service (by non-qualified personnel) may lead to bodily injury and/or equipment failure.

CAUTION: The unit should be inspected frequently and dirt removed to prevent excessive accumulation which may result in flashover or fire damage. An electrical interlock is provided for protection — do not defeat its purpose.

Periodic cleaning is necessary to maintain efficiency and is confined to the unicell and mesh filter. A regular cleaning schedule is suggested. Frequency of cleaning depends upon the concentration and type of contaminants. Your local distributor will be able to help you set up a schedule based on your requirements. If a distributor is not available in your area, please contact United Air Specialists, SMOKEETER/CRYSTAL-AIRE Technical Support Dept., 1-800-252-4647.

CLEANING INSTRUCTIONS

- Turn unit off, open faceplate grille and wait 15 seconds for high voltage charge on unicell to bleed off.
- For added safety, manually discharge the unicell by placing the blade of a common screwdriver (with insulated handle) across the ionizer wire and cabinet ground as well as one of the charged cell plates to cabinet ground (see photo).



— Unplug high voltage leads from unicell.

— Remove the unicell from the cabinet.

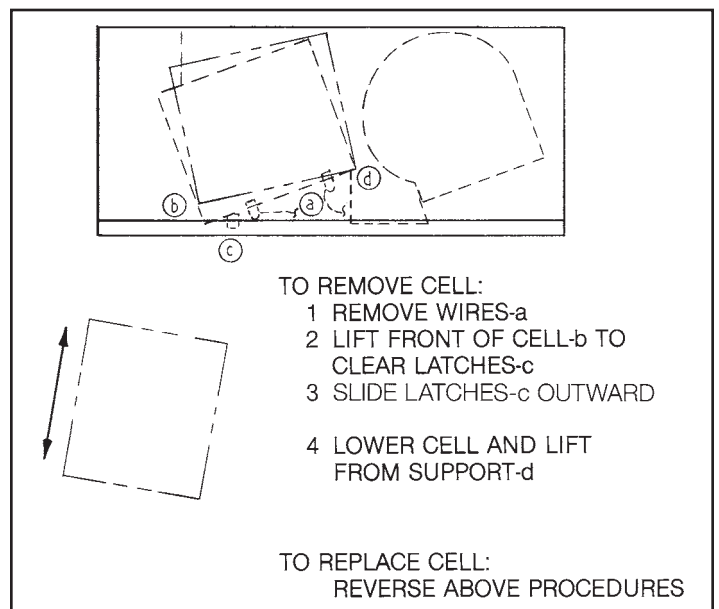


FIGURE 2

— Remove the prefilter by loosening filter retainer screw and sliding filter from the front of the cell (see Figure 3).

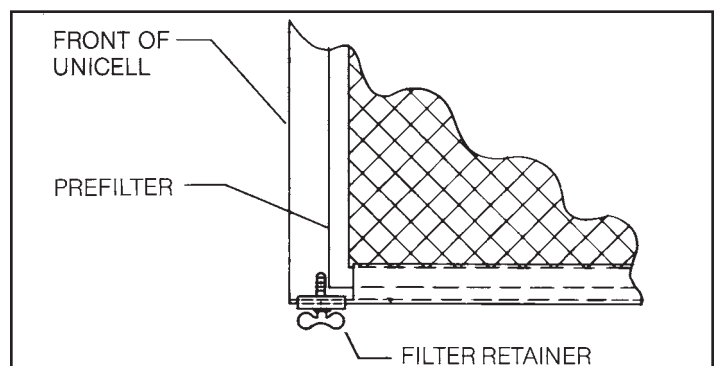


FIGURE 3

- The unicell and prefilter can be cleaned by soaking in a hot solution of SMOKEETER/CRYSTAL-AIRE brand detergent for about 30 minutes.

CAUTION: Do not use temperatures exceeding 160°F and do not steam clean as this may cause permanent damage to the unicell. If detergent other than SMOKEETER/CRYSTAL-AIRE is used, care must be taken to assure that it contains an aluminum inhibitor so that it does not attack the aluminum components. Be sure to follow manufacturer's cleaning instructions.

- Remove the components from the detergent bath and immediately flush away any residue. Rinse thoroughly with hot water. Shake off excess water and let components dry for 30-60 minutes. Set the unicell so that its plates are in a vertical position for drainage. Do not reinstall the unicell until it is thoroughly dry.
- Vacuum the interior of the cabinet to remove any loose lint or dust that may have accumulated.
- Clean the faceplate grille by wiping down with a lint-free, soft cloth and a suitable household cleaner.
- Reinstall or replace the afterfilter.
- Reinstall the unicell with prefilter, making sure the high voltage plug-in connectors are securely connected to the unicell.
- Secure faceplate grille and turn unit on.

If the indicator lamp flickers or does not come on at all, the unicell assembly was not thoroughly dry. Air passing through the unit will dry out the unicell and the lamp will eventually turn on.

VII. PERIODIC MAINTENANCE AND TROUBLESHOOTING

The following sections are for the use of trained service personnel only.

WARNING — THE FOLLOWING PROCEDURES WILL EXPOSE HAZARDOUS LIVE AND MOVING PARTS. DISCONNECT AIR CLEANER BEFORE PROCEEDING.

All SMOKEETER/CRYSTAL-AIRE air cleaners are manufactured to give years of trouble-free performance. As with any piece of equipment, however, breakdowns can occur. Due to the simplicity of design, breakdowns are restricted to these components:

- motor/blower (replacement kit available)
- power pack
- unicell
- control switch
- safety interlock switch
- indicator lamp

This section contains the troubleshooting procedure and a guide which will enable you to determine the cause of most problems. Refer to Section VIII for replacement parts.

COMPONENT FUNCTION

1. Power Pack — the electrical circuit is designed around the power pack which contains the necessary components to convert 115 volts/single-phase/60 HZ (115/1/60 AC) to the high voltage DC required for the unicell.
2. Unicell Ionizing Section — the ionizing section supports six tungsten wires charged positive to a nominal 11,000 volts DC. The baffle plates parallel to the wire are at ground potential. The ionizing section's function is to electrically charge the contaminated particles as they pass through it.
3. Unicell Collecting Section — the collecting section consists of plates, alternately charged with a nominal 5,500 volts DC positive and ground. The field between the plates forces the charged particles to the ground plates and removes them from the airstream.
4. Carbon Filter — aids in odor removal.

5. Motor/Blower — draws in contaminated air and discharges the clean air back to the room.

HOW THE HIGH VOLTAGE IS SUPPLIED TO THE COMPONENTS

The power pack supplies high voltage DC to the ionizing and collecting sections of the unicell by the use of high voltage lead wires. Two separate terminals are used on the output side of the pack. Terminal #8 supplies nominal 11.0 KV DC positive to the ionizer. Terminal #7 supplies 5,500 volts DC to the cell. The plug-in connectors located within the cabinet feed the voltage to the cell and ionizer section of the unicell through mating connections on the bottom of the unicell. The plug-in connectors are provided in two different lengths to ensure that they are connected to the proper locations.

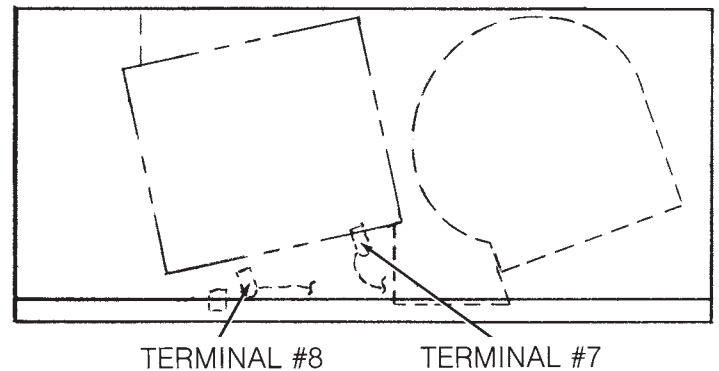


FIGURE 4

TOOLS REQUIRED FOR TROUBLESHOOTING:

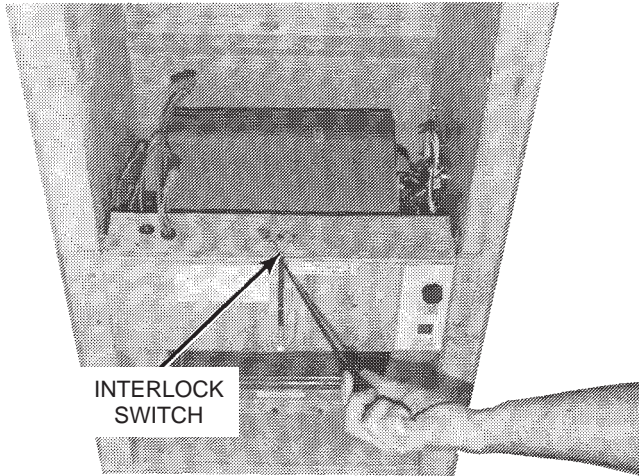
- Screwdriver — (common type) 8" or longer with insulated handle.
- Volt-Ohm Meter — for measuring low voltage input (115 VAC) and continuity (OHMS).
- High Voltage Probe (DC) positive polarity — for checking the high voltage power supply (minimum range from 0 to 15 KV DC).

HOW TO MEASURE HIGH VOLTAGE

For accurately measuring the high voltage, a 15.0 KV minimum scale high voltage probe capable of measuring positive polarity is required. Refer to the instructions provided with the high voltage probe for safe and proper operation.

MEASURING UNICELL IONIZER VOLTAGE

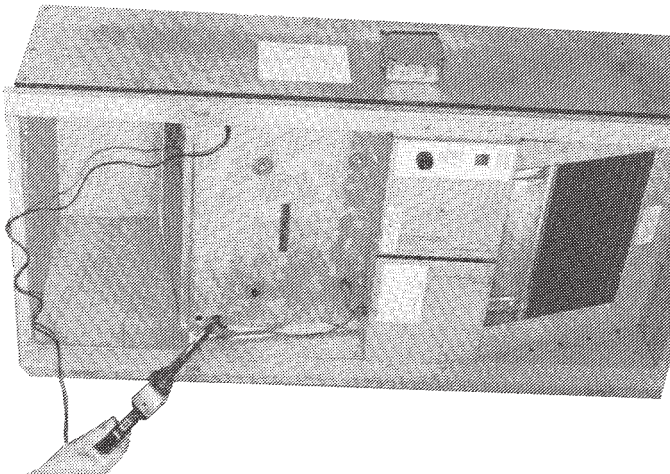
1. Turn the unit off, open the faceplate grille (this will disengage the safety interlock).
2. Connect the ground clip of the positive polarity probe to the cabinet.



CAUTION: Always ground the high voltage probe to a solid ground connection on the metal cabinet.

3. Turn unit control to the "on" position and cautiously engage the safety interlock switch. It is located in the slot as shown in the top photo.

CAUTION: Be sure to disengage safety interlock switch after measuring voltages.

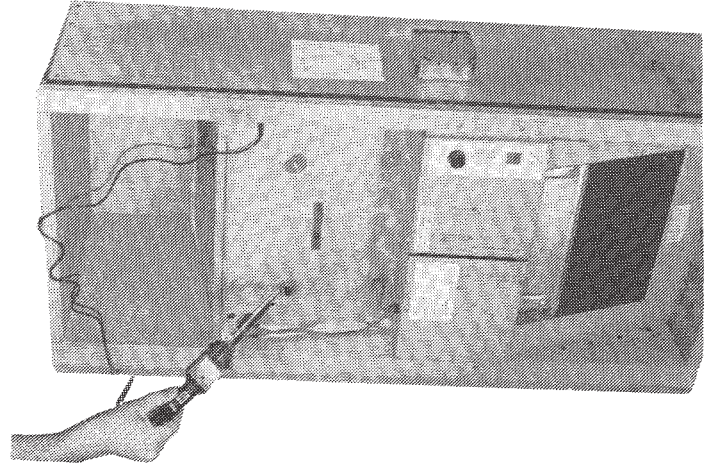


4. Place the probe's tip on the ionizer contact stud and measure the positive DC voltage. The voltage should read 10.0 to 11.0 KV DC.

If measurements are abnormal, refer to the trouble-shooting guide for cause and correction.

MEASURING UNICELL COLLECTOR VOLTAGE

1. Connect the ground clip of the positive polarity probe to the side of the cabinet.
2. Engage the safety interlock switch and measure the collector high voltage by placing the probe's tip on the cell contact stud. The voltage reading should be 4.0 to 6.0 KV DC.



If measurements are abnormal, refer to the trouble-shooting guide for cause and correction.

CHECKING THE POWER PACK OUTPUT

1. Remove the prefilter and unicell from the cabinet.
2. Check the high voltage lead wires to make sure there are no cuts, frayed wire or breaks in the insulation.
3. Engage the safety interlock switch and measure the ionizer output voltage by placing the probe's tip on the #8 high voltage plug-in connector.

Output reading without the unicell should read 11.0 to 12.0 KV DC positive.

4. To measure the collecting cell output voltage, place the probe's tip on the #7 high voltage plug-in connector.

Output without the unicell should read 5.5 to 6.1 KV DC positive.

CHECKING LAMP TERMINAL OUTPUT

Disconnect unit indicator lamp (neon lamp).

Connect a good neon lamp to pack terminal "light" and to pack terminal "GND" or cabinet ground. If lamp does not light, replace pack. If lamp lights, check wiring and unit indicator lamp.

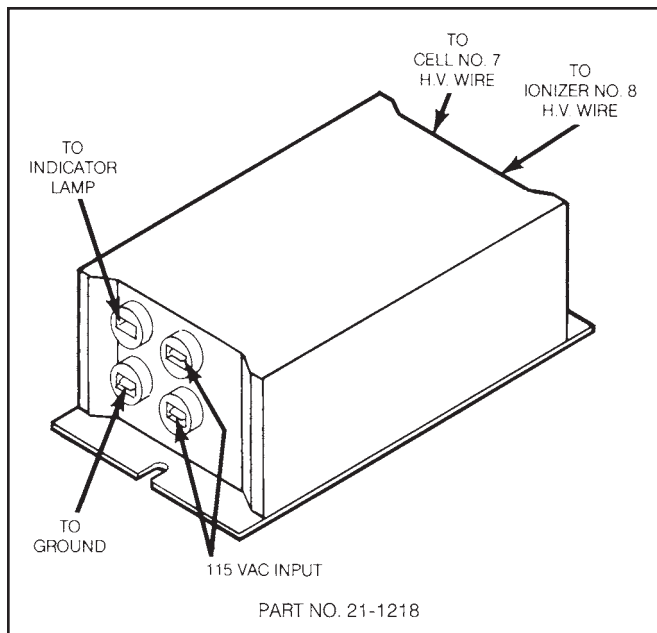


FIGURE 5

CHECKING MOTOR/BLOWER

The motor in the SE 24 is of the permanently lubricated type and requires no oiling. Maintenance is limited to periodically (about twice a year) cleaning the exterior of the motor housing and also removing any dust or lint that may have accumulated on the blower wheel. With this minimum amount of service, years of trouble-free operation can be expected.

ADJUSTING SPEED SETTINGS

Where higher CFM levels are desirable, change to the high speed tap to provide a range between 930 and 1,020 CFM.

To make the changes, disconnect the lead black wire (coming from the wire box plug) from the motor red wire and connect to the motor black wire. See wiring diagram located on the unit.

VIII. REPLACEMENT PARTS

Any replacement parts can be ordered from your local distributor. Should you need any further assistance, call or write:

UNITED AIR SPECIALISTS, INC.
4440 CREEK ROAD
CINCINNATI, OHIO 45242
TEL. (513) 891-0400
(800) 252-4647

ATTN: SMOKEETER/CRYSTAL-AIRE
TECHNICAL SUPPORT DEPT.

The following information will be required for prompt service:

1. Unit Model No. at bottom of outlet of cabinet.
2. Unit Serial No. at bottom of outlet of cabinet.
3. Part No. of part (see Section IX, Illustrated Parts).

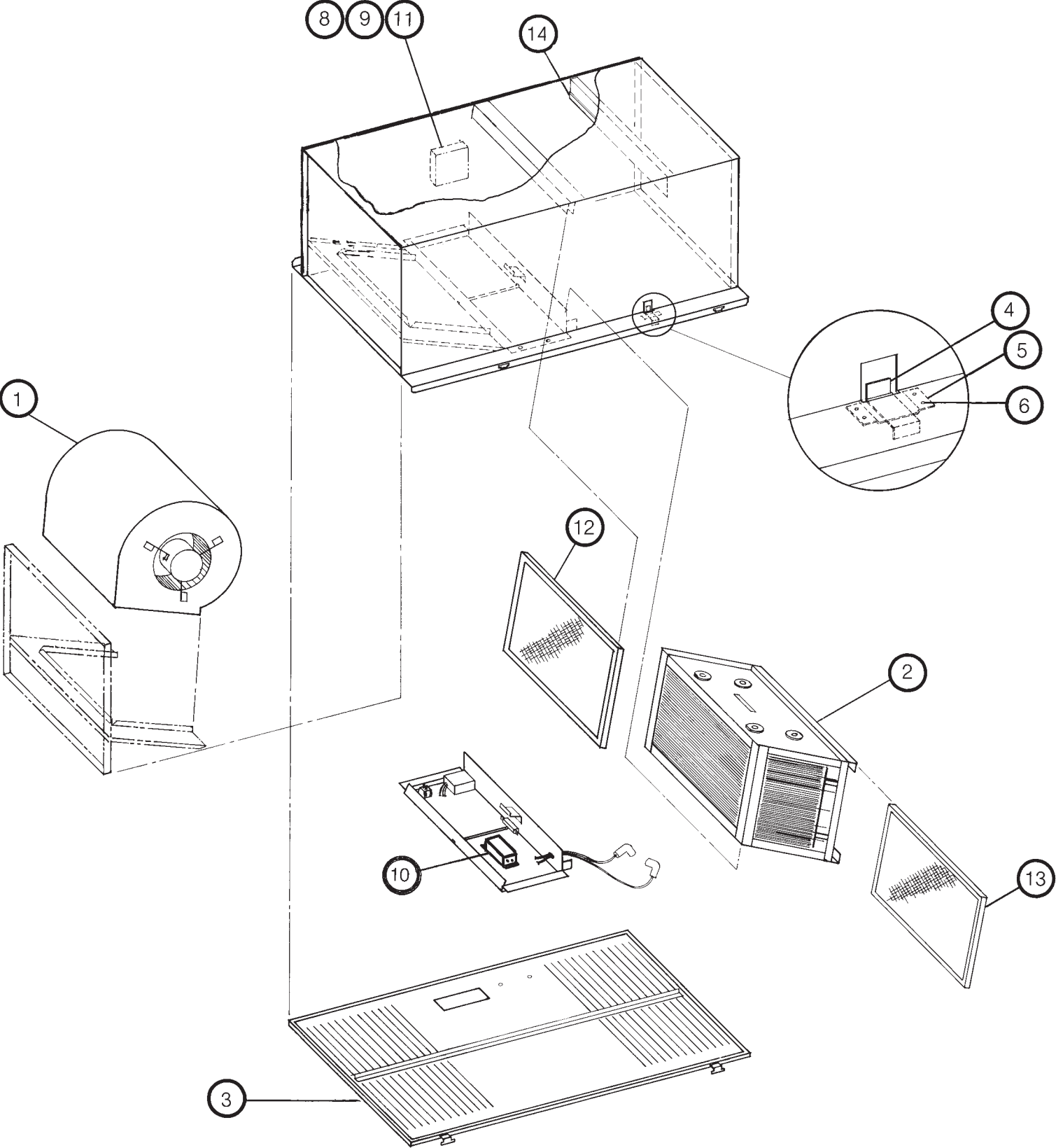
Should you need to return a defective part to UAS, you must first call for a customer return authorization number. This number should appear on the package that is being returned. With this control number, we can assure that you receive prompt service. You can also return defective parts to your local distributor.

TROUBLESHOOTING GUIDE

Problem	Possible Cause	Corrective Action
A. Control switch on, indicator lamp off, motor operates.	<ol style="list-style-type: none"> 1. Defective lamp. 2. Faulty connection to lamp. 3. Loss of high voltage. 	<ol style="list-style-type: none"> 1. Replace lamp. 2. Check connection to lamp. 3. Check power pack.
B. Control switch on, indicator lamp on, motor does not operate.	<ol style="list-style-type: none"> 1. Faulty motor. 2. Foreign object locking motor. 3. Faulty control switch. 4. Connector not properly connected (at control switch). 	<ol style="list-style-type: none"> 1. Replace motor. 2. Clean foreign object from motor. 3. Replace control switch. 4. Check connection at control switch.
C. Control switch on, motor and lamp off.	<ol style="list-style-type: none"> 1. No power to unit. 2. Safety interlock switch on faceplate grille not engaged. 3. Safety interlock switch defective. 4. Control switch defective. 	<ol style="list-style-type: none"> 1. Check circuit. 2. Engage safety interlock switch. 3. Replace safety interlock switch. 4. Replace control switch.
D. Motor operates on one speed only.	<ol style="list-style-type: none"> 1. Control switch defective. 	<ol style="list-style-type: none"> 1. Replace control switch.
E. Poor air quality.	<ol style="list-style-type: none"> 1. Unicell dirty. 2. Unicell malfunctioning. 3. Unicell installed improperly. 4. High voltage plug-ins not connected. 5. Unit being operated on too low a speed. 	<ol style="list-style-type: none"> 1. Clean unicell. 2. Check unicell for: <ol style="list-style-type: none"> a. Foreign matter between plates. b. Ionizer wire loose or broken. c. Defective insulators. 3. Install unicell as shown in Figure 2. 4. Connect plug-ins. 5. Increase blower speed.
F. High voltage output low or zero.	<ol style="list-style-type: none"> 1. Loss of input 115 VAC. 2. Unicell malfunctioning. 3. Power pack defective. 	<ol style="list-style-type: none"> 1. Determine loss of input voltage. 2. Check unicell for: <ol style="list-style-type: none"> a. Foreign matter between plates. b. Ionizer wire loose or broken. c. Defective insulators. 3. Replace power pack.

*Refer to wiring diagram and illustrated parts

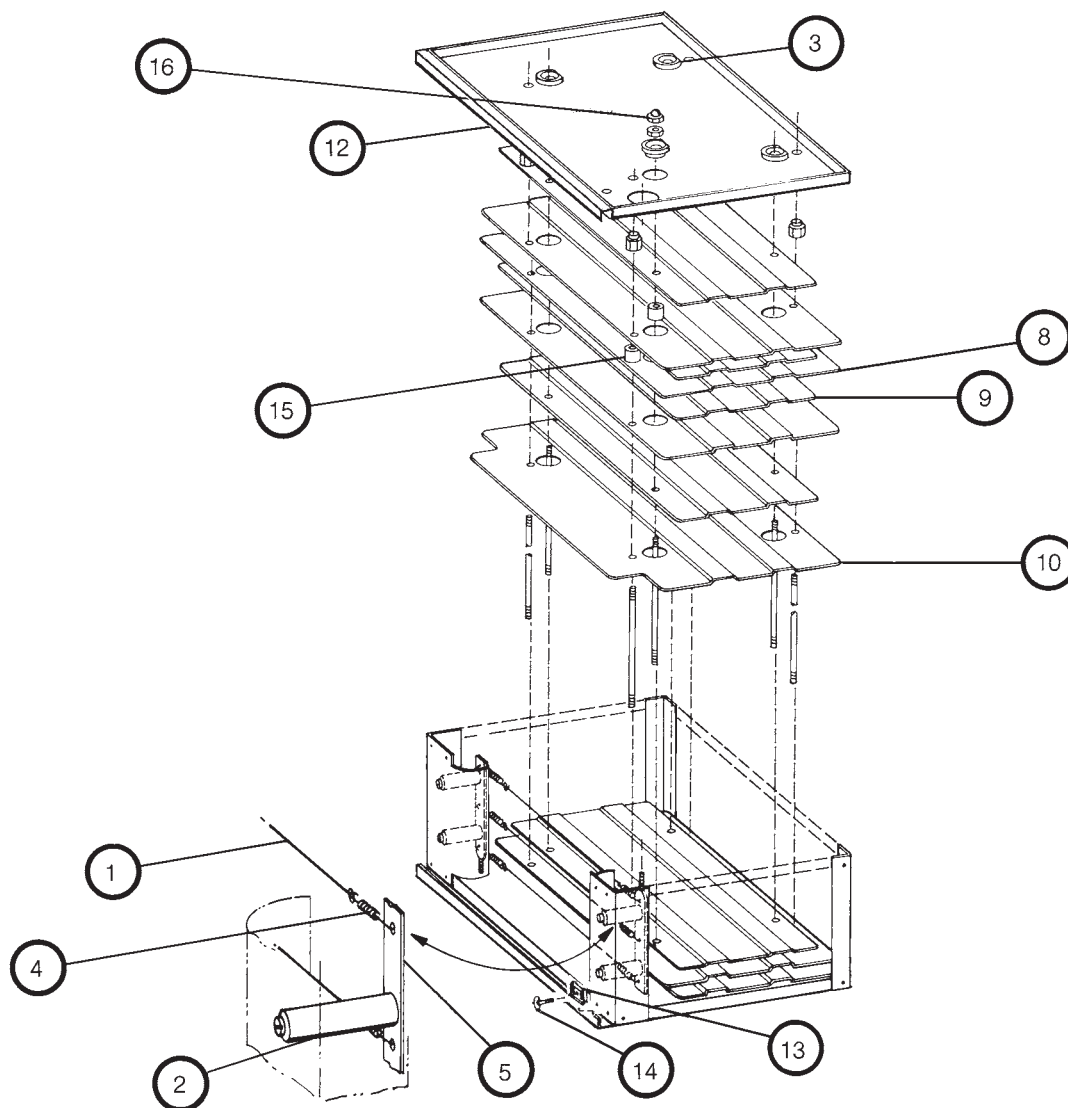
IX. ILLUSTRATED PARTS



MODEL SE 24 FINAL ASSEMBLY

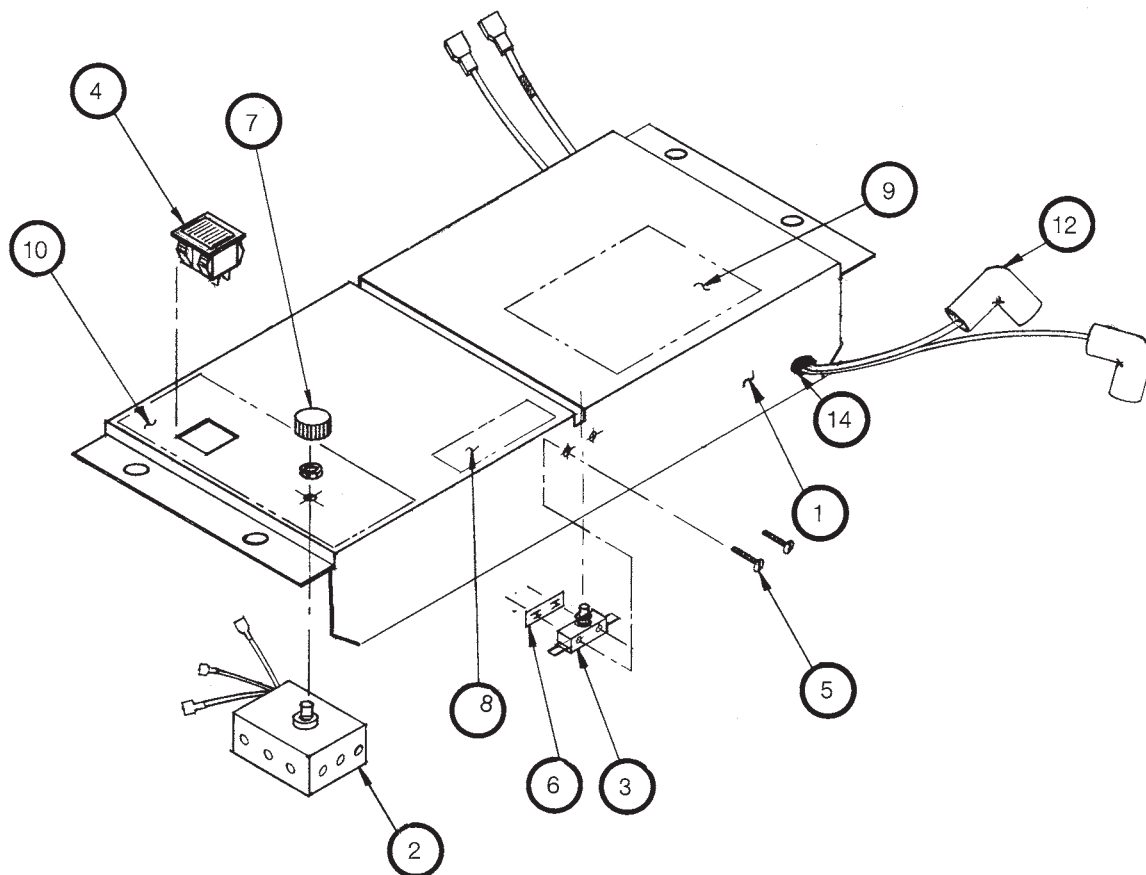
ITEM NO.	PART NO.	DESCRIPTION	QUANTITY
1	02-2352	MOTOR/BLOWER ASSEMBLY	1
*	03-0569	INSTALLATION PARTS KIT	1
2	02-2206	UNICELL ASSEMBLY	1
3	02-2211	LOUVER GRILLE ASSEMBLY	1
4	10-2446	CELL RETAINER	2
5	10-3071	RETAINER GUIDE BLOCK	2
6	30-0316	RIVET	8
8	20-1379	JUNCTION BOX	1
9	20-1380	JUNCTION BOX COVER	1
10	21-1218	POWER PACK (GREY PLASTIC CONSTRUCTION)	1
11	30-0076	SCR, HEX HD (GREEN) #10-32 x 3/8 LG	1
12	33-0124	AFTERFILTER (CARBON)	1
13	33-0125	PREFILTER (ALUM MESH)	1
14	42-0168	GASKET, EDGE	1.5 ft.
*	20-0290	CABLE TIE MOUNTING DEVICE	4
*	02-2597	WIRE HARNESS SE 24	1
*	42-0153	GASKET, EPDM 3/16 x 1-1 12	2 ft.
*	30-0479	SCREW, #12 x 112	6
*	03-0833	LOUVER FASTENER KIT	1

*NOT SHOWN



UNICELL ASSEMBLY (02-2206)

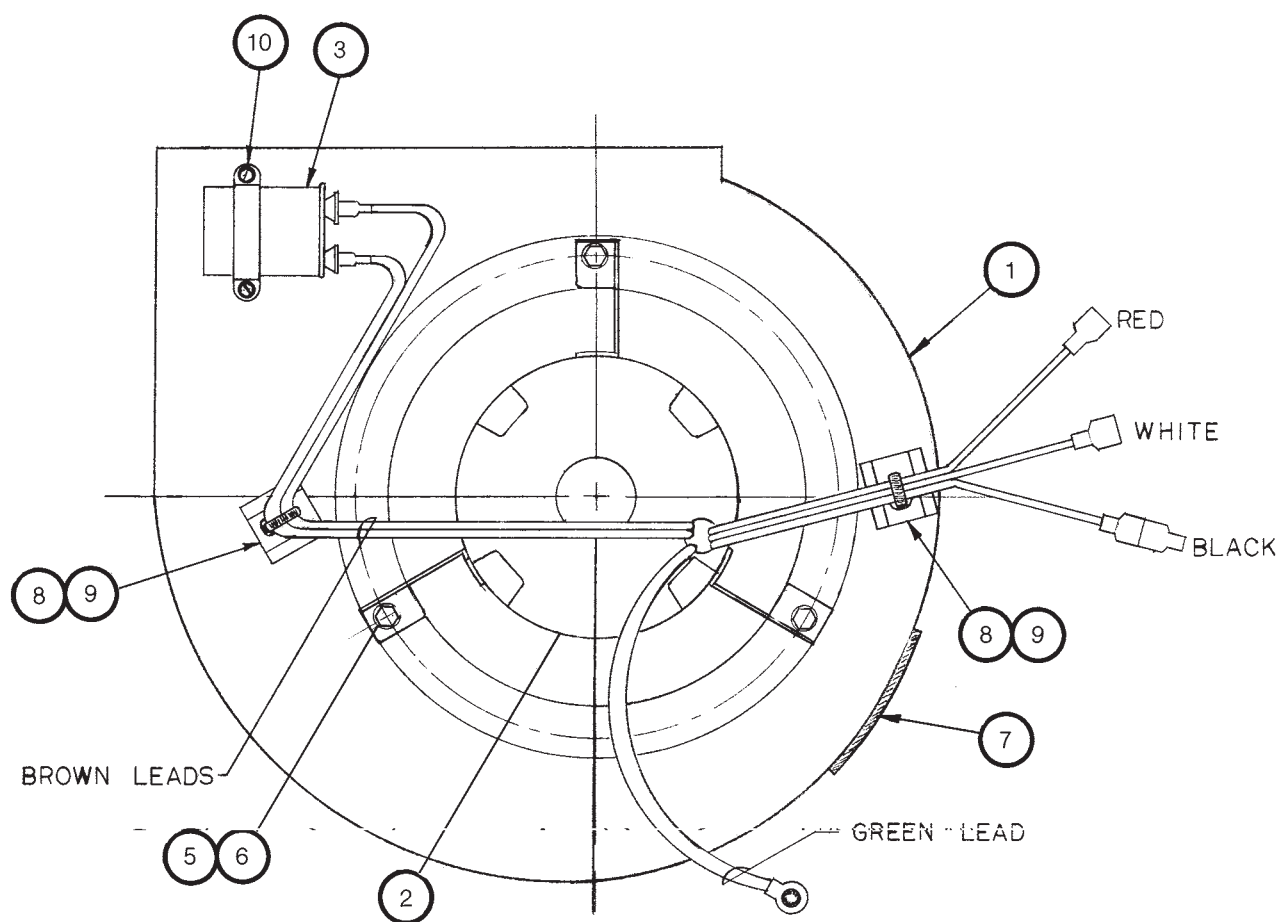
ITEM NO.	PART NO.	DESCRIPTION	QUANTITY
1	03-0393	IONIZER WIRE WITH EYELETS	6
2	37-0014	CERAMIC IONIZER INSULATOR (2" LONG)	4
3	37-0008	PVC CELL INSULATOR	8
4	36-0004	IONIZER WIRE SUPPORT SPRINGS	12
5	18-0709	IONIZER WIRE SUPPORT BAR	2
8	10-0158	CELL PLATE (GROUND)	18
9	10-0157	CELL PLATE (HOT)	24
10	10-1376	CELL PLATE (IONIZER)	5
12	10-1372	UNICELL END PLATE	2
13	30-0163	RETAINER CLIP	1
14	30-0165	RETAINER	1
15	35-0067	SPACER	188
16	30-0350	NUT, ACORN 1/4-20	2



ELECTRICAL COMPONENTS ASSEMBLY

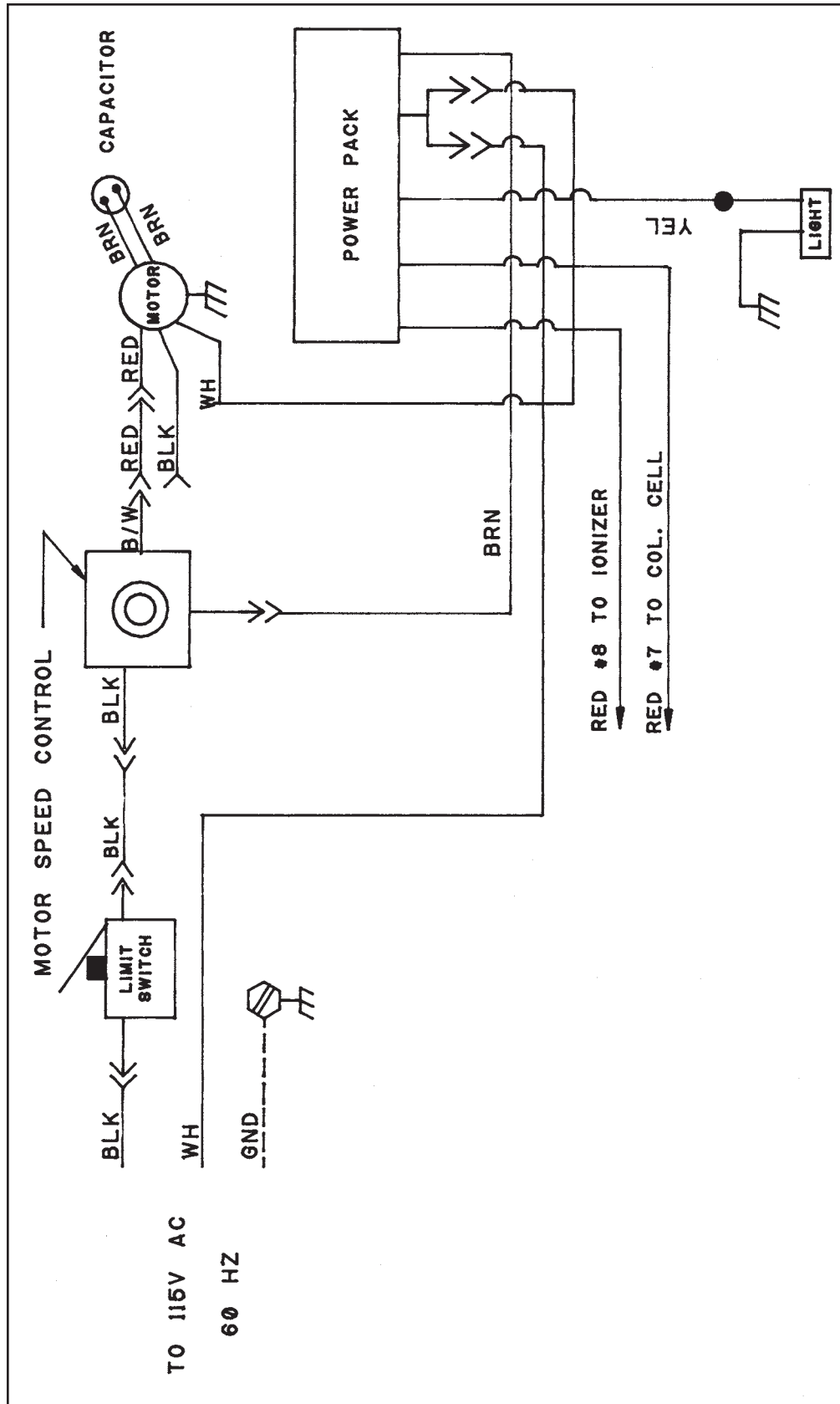
ITEM NO.	PART NO.	DESCRIPTION	QUANTITY
1	1 8-0712	CELL SUPPORT WELDMENT	1
2	02-1326	SPEED CONTROL ASSEMBLY	1
3	20-1 239	SWITCH, INTERLOCK	1
4	20-1 241	LIGHT, PILOT	1
5	30-001 6	SCR, RND HD #6-32 x 1" LG	2
6	30-0038	#6 INTERNAL TOOTH LOCKWASHER	2
6	30-0001	#6-32 HEX NUT	2
7	39-0097	KNOB	1
8	41-0280	LABEL, INTERLOCK - ENG & FRENCH	1
9	41-1 040	LABEL, WIRING DIAGRAM	1
10	41-1 039	LABEL, CONTROL PLATE	1
12	02-31 24	H.V. LEADS ASSEMBLY SE 24	1
14	20-1244	STRAIN RELIEF	1
*	21-1218	POWER PACK	1
*	30-0065	1/4" FLAT WASHER	2
*	30-0500	1/4" LOCK NUT	2

*NOT SHOWN (SEE PAGES 14 AND 15)



MOTOR/BLOWER REPLACEMENT KIT (02-2352)

ITEM	PART NO.	DESCRIPTION	QUANTITY
1	32-0149	BLOWER, SE 24	1
2	02-2352	MOTOR ASSEMBLY	1
3	20-0569	CAPACITOR	1
5	30-0049	FLATWASHER 1/4	3
6	30-0233	BOLT, HEX HD 1/4-20 x 1"	3
7	41-0065	LABEL, ROTATION	1
8	20-0290	WIRE TIE MOUNT	2
9	20-0138	WIRE TIE	2
10	30-0335	DRILL SCREW #8-32 x 1/2	2



WIRING DIAGRAM

**UNITED AIR SPECIALISTS, INC.
LIMITED WARRANTY**

UAS warrants to the original purchaser that all equipment will be free from defects in materials and workmanship for one year from the date of shipment from UAS (three years for Smokeeter® and VisionAir™ models other than CC and DC series) and that major structural components on SFC and MCB series will be free from defects in materials and workmanship for ten years from the date of shipment from UAS. This warranty applies only if equipment is properly installed, maintained, and operated under normal conditions and does not apply to damage caused by corrosion, abrasion, abnormal use or misuse, misapplication, or normal wear and tear. This warranty will be void with respect to equipment that is subject to unauthorized repairs or modifications. UAS makes no warranty as to goods manufactured or supplied by others. This warranty is subject to any limitations in UAS' quotation and may not be modified except by a written instrument signed by the President or Vice President of Sales of UAS.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT.

As Purchaser's exclusive remedy for any defects in the equipment, UAS will exchange or repair any defective parts during the warranty period, provided such parts are returned, prepaid, to UAS' factory. The obligation of UAS is limited to furnishing replacement parts F.O.B. UAS' factory or making repairs at UAS' factory of any parts that are determined, upon inspection by UAS, to be defective. In no event will UAS be responsible for labor or transportation charges for the removal, reshipment or reinstallation of the parts.

IN NO EVENT WILL UAS BE RESPONSIBLE FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES.



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