



**United Air Specialists, Inc.**

a CLARCOR company

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# OWNER'S MANUAL

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**COMMERCIAL AIR CLEANER**  
**SMOKEETER® / *Crystal-Aire*®**  
**MODEL LS**

# KNOW YOUR EQUIPMENT

READ THIS MANUAL FIRST.

Your SMOKEETER system should provide many years of trouble-free service. This manual will help you understand the operation of your SMOKEETER unit. It will also help you understand how to maintain it in order to achieve top performance. For quick future reference, fill in the system and filter information in the spaces below. Should you need assistance, call the United Air Specialists, Inc. customer service number shown below. To expedite your service, have the following information available when contacting UAS.

UNIT ORDER #: \_\_\_\_\_

UNIT MODEL #: \_\_\_\_\_

UNIT SERIAL #: \_\_\_\_\_

SYSTEM ACCESSORIES:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

INSTALLATION DATE: \_\_\_\_\_

**CUSTOMER SERVICE**

**1-800-878-5030**

## SAFETY PRECAUTIONS

We have provided many important safety messages in this manual and on the SMOKEETER Electronic Air Cleaner. Always read and obey all safety messages.



This is the safety alert symbol.

This symbol alerts you to potential hazards that can kill or hurt you and others. All safety messages will follow the safety alert symbol and the word “DANGER”, “WARNING”, or “CAUTION”. These words mean:



**DANGER**

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



**WARNING**

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



**CAUTION**

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

**CAUTION**

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

## IMPORTANT SAFETY INSTRUCTIONS



**WARNING**

To reduce the risk of fire, electric shock, or injury when using the air cleaner, follow these basic precautions:

- Use two or more people to move and install the SMOKEETER system.
- The air cleaner must be properly grounded.
- Disconnect power before servicing.
- Replace all access panels before operating.
- Wear protective clothing and safety glasses when handling collection components or servicing the air cleaner.
- Electrical connections should only be made by qualified personnel and be in accordance with local and national codes and regulations.
- Do not use in explosive atmospheres.
- Use nonflammable cleaners.
- Do not collect emissions which are explosive.
- Keep flammable materials and vapors, such as gasoline, away from air cleaner.
- The unit should be inspected frequently and dirt removed to prevent excessive accumulation which may result in flash-over or fire damage.
- The SMOKEETER System should not be used for support of personnel or material.
- Operate only in a safe and serviceable condition.

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# MODEL LS

## SPECIFICATIONS

### POWER REQUIREMENTS

115 VAC, 60 HZ,  
8.4 Amps (Max.)

### POWER CONSUMPTION

900 Watts (Max.)

### AIR HANDLING CAPACITY

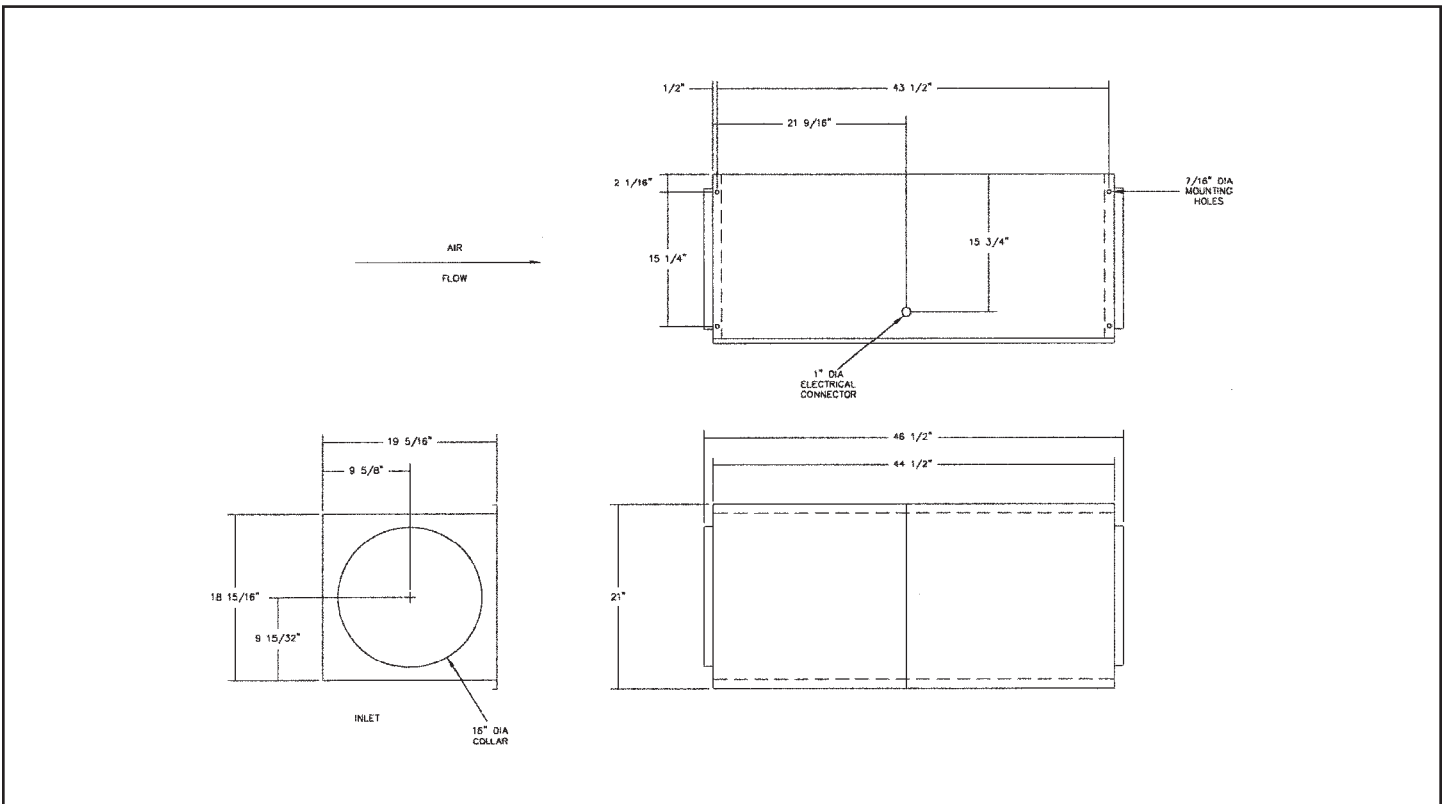
High 1,500 CFM  
Medium 1,050 CFM  
Low 600 CFM

### WEIGHT

Hanging .....150 lbs. (68 KG)  
Shipping.....157 lbs. (71 KG)

### DIMENSIONS

Height	Width	Length
21"	19 5/16"	46 1/2"
(53.3 cm)	(49.1 cm)	(118.1 cm)



## 1.0 IMPORTANT NOTICE

This manual contains important safety information and precautionary measures. Read this manual thoroughly and comply with the instructions given. It is impossible to list all potential hazards associated with every dust collection system in each application. Proper use of the equipment must be discussed with United Air Specialists, Inc. (UAS) or your local representative. Operating personnel must be aware of, and adhere to, the most stringent safety procedures.

## 2.0 INSPECTION OF EQUIPMENT

Upon receipt of your unit, check for any shipping damage. A damaged carton indicates that the equipment may have received rough handling during shipping that may have caused internal damage. Notify your delivery carrier and enter a claim if any damage is found.

## 3.0 HOW YOUR SMOKEETER/ CRYSTAL-AIRE OPERATES

The motor/blower assembly draws air through an aluminum mesh filter which removes the larger particles from the contaminated air. As the particles pass through the ionizer section, they are given an intense positive charge. These charged particles are then collected on cell plates. The clean air is redistributed into the room by adjustable outlet diffusers. An optional activated carbon after filter aids in controlling odors.

### COMPONENTS THAT MAKE IT WORK

**PREFILTER** traps the larger particles and evenly distributes the air across the ionizing section to maximize efficiency.

**IONIZER** 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.

**COLLECTION CELL** 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.

**OPTIONAL ACTIVATED CARBON AFTER FILTER** aids in the removal of odors from the air.

**POWER SUPPLY** is a dual high voltage power supply. It supplies 11,000 volts DC to the ionizer and 5,500 volts DC to the collection cell.

**REMOTE MULTI-SPEED CONTROL SWITCH** allows airflow to be adjusted.

**MOTOR/BLOWER** produces air movement with a low speed, dynamically-balanced, forward-curve blower. The direct drive motor is thermally protected.

## 4.0 INSTALLATION

**NOTE: This product has been designed specifically for commercial applications, such as offices, bars, restaurants, bowling centers and bingo halls. United Air Specialists assumes no responsibility for those applications unlike the aforementioned.**

The SMOKEETER/CRYSTAL-AIRE 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 through the room and back to the inlet of the unit. Directions of air patterns and proper placement of your unit should be established by your local SMOKEETER/CRYSTAL-AIRE distributor or by United Air Specialists.

The SMOKEETER/CRYSTAL-AIRE can be installed by suspending it from the ceiling joists/structure.

Threaded rod, wire or eye bolts and chain may be used for hanging the unit. The installation must be level.

It is recommended that a nut on the inside and outside of the cabinet be used to lock the fastener in place. See Figure 1.

Test SMOKEETER/CRYSTAL-AIRE for secure support.

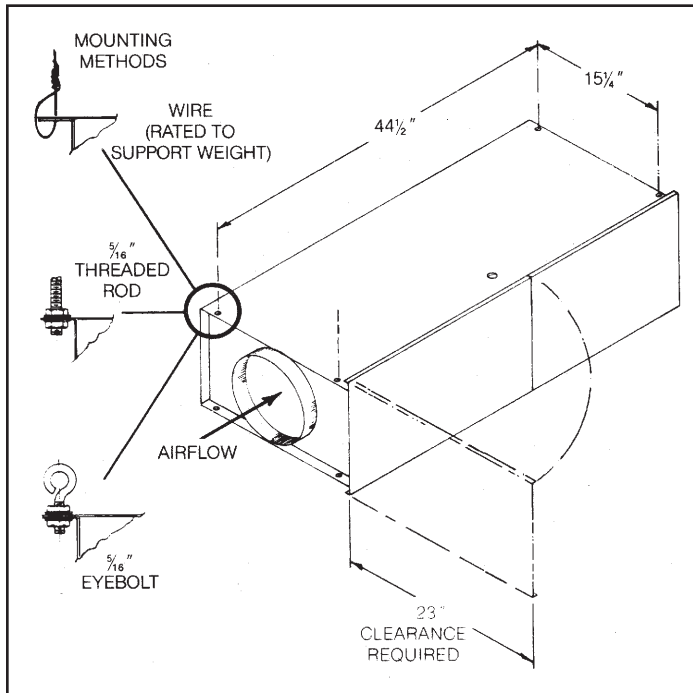


FIGURE 1

## 5.0 OPERATION

For best results and to assure maximum air quality, unit should be started before the air becomes contaminated. A remote indicator lamp indicates that high voltage to the components is on.

FOR YOUR INFORMATION - The equipment has been thoroughly tested prior to shipment from the factory. Even so, there may be some initial arcing of the components at start-up. The noise should cease after a few minutes of operation.

## 6.0 CLEANING

**⚠ CAUTION**

SERVICING OF THIS PRODUCT FOR PURPOSES OTHER THAN ROUTINE CLEANING OF THE COLLECTION COMPONENTS SHOULD BE PERFORMED BY TRAINED AUTHORIZED SERVICE PERSONNEL. ANY EFFORT TO EXCEED THIS SERVICE (BY NON-EQUALIFIED PERSONNEL) MAY LEAD TO BODILY INJURY AND/OR EQUIPMENT FAILURE.

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

**⚠ CAUTION**

THE UNIT SHOULD BE INSPECTED FREQUENTLY AND DIRT REMOVED TO PREVENT EXCESSIVE ACCUMULATION WHICH MAY RESULT IN FLASH OVER OR FIRE DAMAGE. AN ELECTRICAL INTERLOCK IS PROVIDED FOR PROTECTION — DO NOT DEFEAT ITS PURPOSE.

## HOW TO REMOVE COMPONENTS

- Turn off the SMOKEETER/CRYSTAL-AIRE.
  - Open access door.
  - For added safety, manually discharge the ionizer and cell in the following manner: Place the blade of a common screwdriver (with insulated handle) across the ionizer wire support and ionizer frame. Next, place the screwdriver blade across high voltage cell rod and cell end plate. This will remove any residual charge that may not have bled off. See Figure 2.
- Slide components from the cabinet.

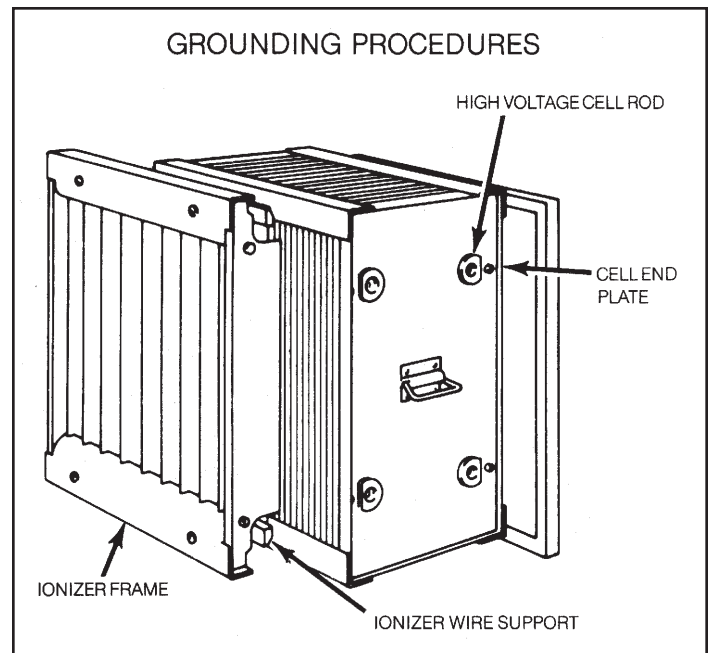


FIGURE 2

## CLEANING

Major cleaning is confined to the pre filter, ionizer, collection cell and the inside cabinet. These should be cleaned periodically to assure continued efficiency.

Cleaning may be required from once a month to once every four months depending on the air quality.

**NOTE: The carbon filter cannot be cleaned and needs to be replaced once every six to 12 months.**

1. The ionizer, collection cell and pre filter can be cleaned by soaking in a hot solution of SMOKEETER/CRYSTAL-AIRE brand detergent for 30 to 60 minutes. If possible, agitate the solution to aid in dirt removal. If agitation is not possible, soaking time should be increased.

## ! CAUTION

DO NOT USE A SOLUTION EXCEEDING 160°F AND DO NOT STEAM CLEAN AS THIS MAY CAUSE PERMANENT DAMAGE TO THE COMPONENTS. 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 and rinse thoroughly with hot water. Shake off excess water and let components dry for 30 to 60 minutes. Set the cell so that its plates are in a vertical position for drainage.
2. Vacuum clean the interior of the cabinet and clean off all electrical connections before reinstalling the components.
  3. Reinstall the components into the cabinet.

## 7.0 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\*
- motor capacitor
- power pack
- ionizer
- collection cell
- blower control switch
- safety switch
- indicator lamp

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

\*This model is equipped with a permanently lubricated motor and no further oiling is required.

### COMPONENT FUNCTION

1. Power Supply — the electrical circuit is designed around the power supply which contains the necessary components to convert 115 volts, single-phase, 60 hertz to the high voltage DC required for the components.
2. Ionizer — the ionizing section supports five tungsten wires positively charged to a nominal 11,000 volts DC. The baffle plates parallel to the wire are at ground potential. The ionizer's function is to electrically charge the contaminated particles as they pass through it.
3. Collection Cell — the collection g section consists of alternately charged plates. Plates are alternately charge with a nominal 5,500 volts DC positive. The field between the plates forces the charged particles to the ground plates and removes them from the airstream.
4. Motor/Blower — draws in contaminated air and exhausts clean air through the outlet.

### HOW THE HIGH VOLTAGE IS SUPPLIED TO THE COMPONENTS

The power supply supplies high voltage DC to the ionizer and collection cell by the use of high voltage lead wires. Two separate terminals are used on the output side of the supply. Terminal #8 supplies nominal 11,000 volts DC positive to the ionizer. Terminal #7 supplies 5,500 volts DC to the cell.



## 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) and low voltage DC.
- 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

To accurately measure the high voltage, a 0 to 15 KV minimum scale high voltage probe capable of measuring positive polarity is required.

## MEASURING HIGH VOLTAGE

(See Figure 3)

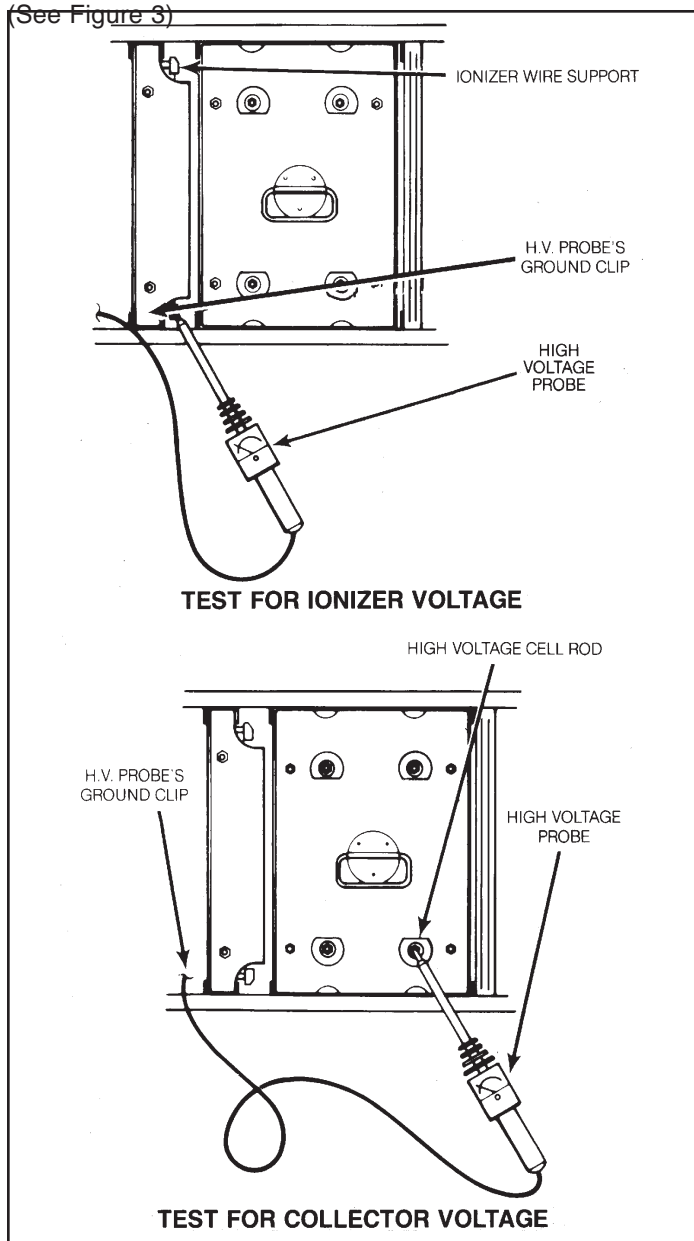


FIGURE 3

1. Turn the unit off and open the access door. This will disengage the safety interlock.
2. Connect the ground clip of the positive polarity probe to the side of the cabinet.

## CAUTION

ALWAYS GROUND THE HIGH VOLTAGE PROBE TO A SOLID GROUND CONNECTION ON THE METAL CABINET.

3. Turn unit control switch on and cautiously engage the safety interlock switch.

## CAUTION

BE SURE TO DISENGAGE SAFETY INTERLOCK SWITCH AFTER MEASURING VOLTAGES.

## IONIZER VOLTAGE

Place the probe's tip on the ionizer rail and measure the positive DC voltage. The voltage should read 10.0 to 12.0 KV DC. If measurements are abnormal, refer to the troubleshooting table (page 8) for cause and correction.

## COLLECTOR VOLTAGE

Place the probe's tip on one of the charged plates. The voltage reading should be nominal 5.5 KV DC.

- If measurements are abnormal, refer to the troubleshooting table (page 8) for cause and correction.

## CHECKING THE POWER SUPPLY OUTPUT

(See Figure 4)

1. Remove the prefilter, ionizer and collection cell from the cabinet.
2. Engage the safety interlock switch and measure the output from the ionizer terminal of the power supply by placing the probe's tip on the ionizer high voltage contact.
  - The ionizer voltage should read 11.0 to 12.0 KVDC positive.
3. To measure the collection cell output voltage, place the probe's tip on the cell high voltage contact.
  - Output without the components should read 5.6 to 6.5 KV DC positive.

## ADJUSTING AIR FLOW SETTINGS

The switch on the LS model allows you to select 3 of 5 motor speed taps. The LS is shipped from the factory with switch wired to the low, medium and high-speed motor taps. By repositioning the wire connectors at the motor the medium-low or medium-high taps can be used instead of the factory selected low, medium or high.

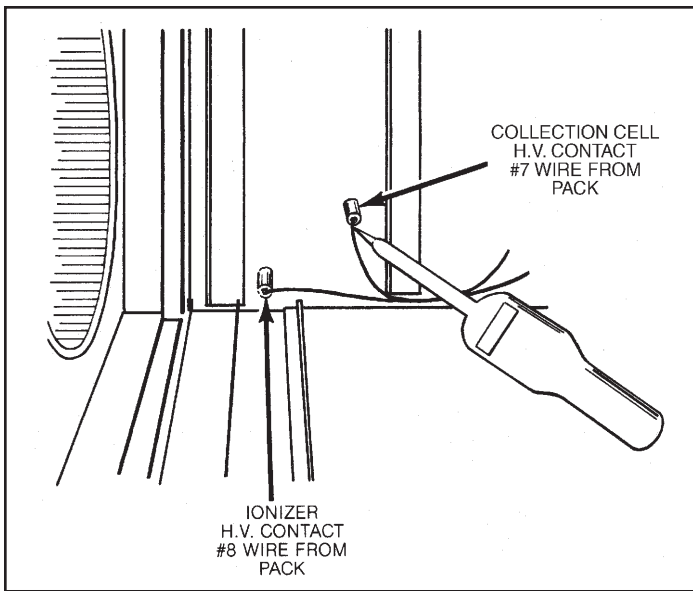


FIGURE 4

### CHECKING LAMP TERMINAL OUTPUT

Disconnect unit indicator lamp (neon lamp).

Connect a good neon lamp to pack terminal "light" and to supply terminal "GND" or cabinet ground. If lamp does not light, replace pack. If lamp lights, check wiring and unit indicator lamp (see Figure 5).

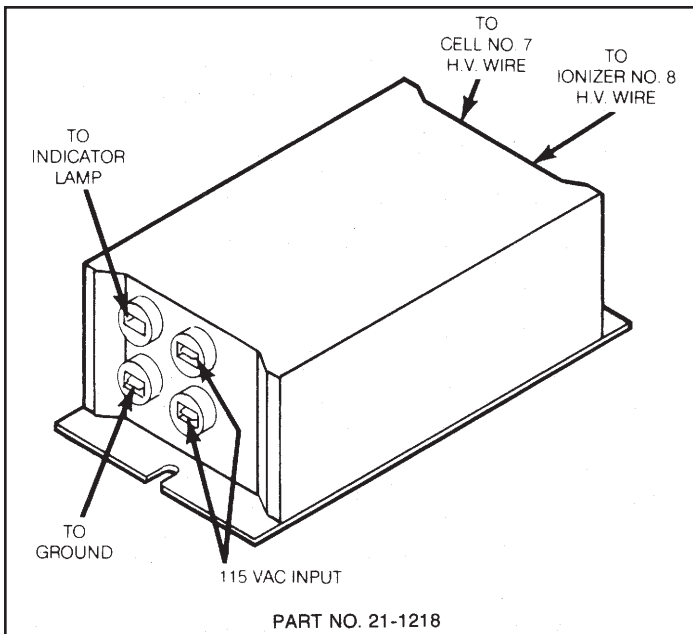


FIGURE 5

### CHECKING MOTOR/CAPACITOR

(See Figure 6)

The motor capacitor located on the side of the blower is designed to start and run the motor when 115 VAC is supplied. (See wiring diagram, page 16.)

1. Turn the unit off and open the access door. This will disengage the safety interlock.
2. Turn unit control switch on and cautiously engage the safety interlock switch.

**! CAUTION**

BE SURE TO DISENGAGE SAFETY INTERLOCK SWITCH AFTER MEASURING OHMS.

3. Remove the two black wires from the top of the capacitor.
4. Using a Volt-Ohm Meter with the scale on 10,000 (10K) OHM, place the two leads of the meter across the two connections at the top of the capacitor.
5. Read the VOM scale - the meter should deflect to 0 and slowly rise to infinity. (NOTE: This indicates that the capacitor will charge and discharge.)
6. If the capacitor does not charge, replace the capacitor.

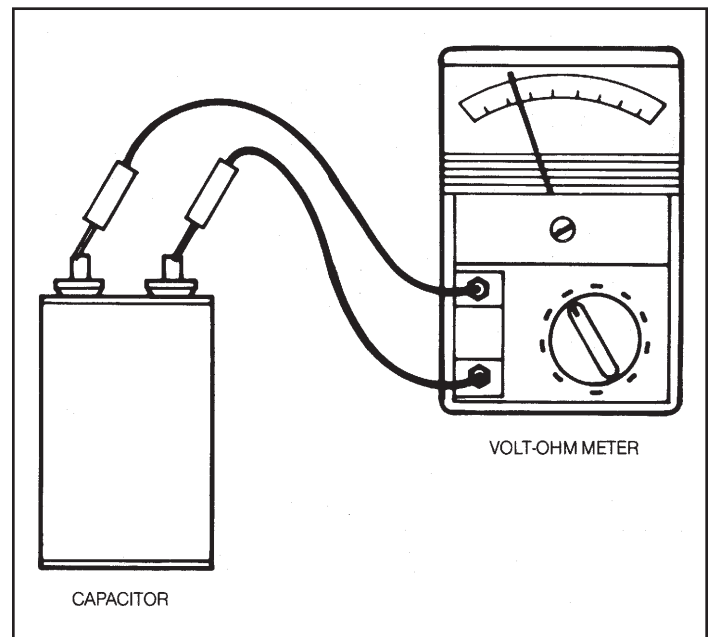


FIGURE 6

**8.0 TROUBLESHOOTING TABLE\***

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>CORRECTIVE ACTION</b>
A. Control switch on, indicator lamp off, blower operates.	<ol style="list-style-type: none"> <li>1. Defective lamp.</li> <li>2. Faulty connection to lamp.</li> <li>3. Loss of high voltage.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace lamp.</li> <li>2. Check connection to lamp.</li> <li>3. Check power supply.</li> </ol>
B. Control switch on, indicator lamp on, blower does not operate.	<ol style="list-style-type: none"> <li>1. Motor faulty.</li> <li>2. Foreign object blocking motor.</li> <li>3. Faulty control switch</li> <li>4. Connector not properly connected at control switch</li> <li>5. Motor starting capacitor faulty.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace motor.</li> <li>2. Clean foreign object from motor.</li> <li>3. Replace control switch.</li> <li>4. Check connection at control switch.</li> <li>5. Replace motor starting capacitor.</li> </ol>
C. Control switch on, motor and lamp off.	<ol style="list-style-type: none"> <li>1. Loss of input 115 VAC.</li> <li>2. Safety interlock switch not engaged.</li> <li>3. Safety interlock switch defective.</li> <li>4. Control switch defective.</li> </ol>	<ol style="list-style-type: none"> <li>1. Determine loss of input voltage.</li> <li>2. Engage safety interlock switch.</li> <li>3. Replace safety interlock switch.</li> <li>4. Replace control switch.</li> </ol>
D. Poor air quality.	<ol style="list-style-type: none"> <li>1. Ionizer/collection cell/unicell dirty.</li> <li>2. Ionizer/collection cell/unicell malfunctioning.</li> <li>3. Components installed backwards or upside down.</li> <li>4. High voltage contacts dirty.</li> <li>5. Placement of unit not creating a good air pattern.</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean components.</li> <li>2. Check for: <ol style="list-style-type: none"> <li>A. Foreign matter between plates.</li> <li>B. Ionizer wire loose or broken.</li> <li>C. Defects in insulators.</li> </ol> </li> <li>3. Install components as shown in Section IX.</li> <li>4. Clean high voltage contacts.</li> <li>6. Contact your local distributor or United Air Specialists.</li> </ol>
E. High voltage output low or zero.	<ol style="list-style-type: none"> <li>1. Loss of input 115 VAC.</li> <li>2. Ionizer/collection cell/unicell malfunctioning.</li> <li>3. Power supply defective.</li> </ol>	<ol style="list-style-type: none"> <li>1. Determine loss of input voltage.</li> <li>2. Check for: <ol style="list-style-type: none"> <li>A. Foreign matter between plates.</li> <li>B. Ionizer wire loose or broken.</li> <li>C. Defects in insulators.</li> </ol> </li> <li>3. Replace power supply.</li> </ol>

\*Refer to wiring diagram and illustrated parts.

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## 9.0 PARTS ORDERING

Replacement parts can be ordered from your local distributor or from UAS. To order parts from UAS, call or write:

UNITED AIR SPECIALISTS, INC.  
4440 CREEK ROAD  
CINCINNATI, OHIO 45242  
1-800-252-4647

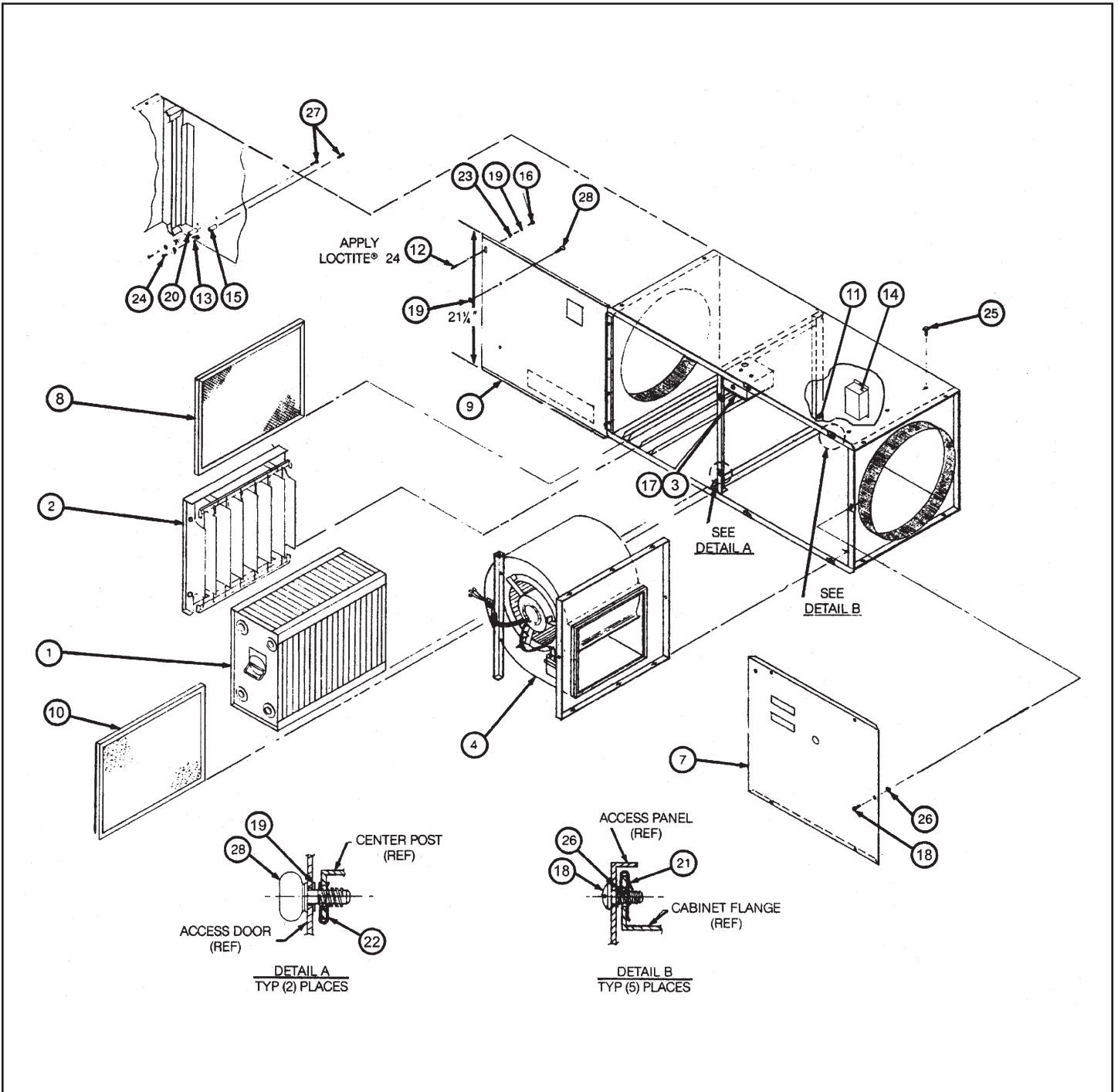
ATTN: SMOKEETER/CRYSTAL-AIRE  
CUSTOMER SERVICE

The following information will be required for prompt service:

1. Unit Model No. inside access door.
2. Unit Serial No. inside access door.
3. Part No. of part (see illustrated parts breakdown).

When returning a defective part under warranty, you must call UAS 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 will receive prompt service. You can also return defective parts to your local distributor.

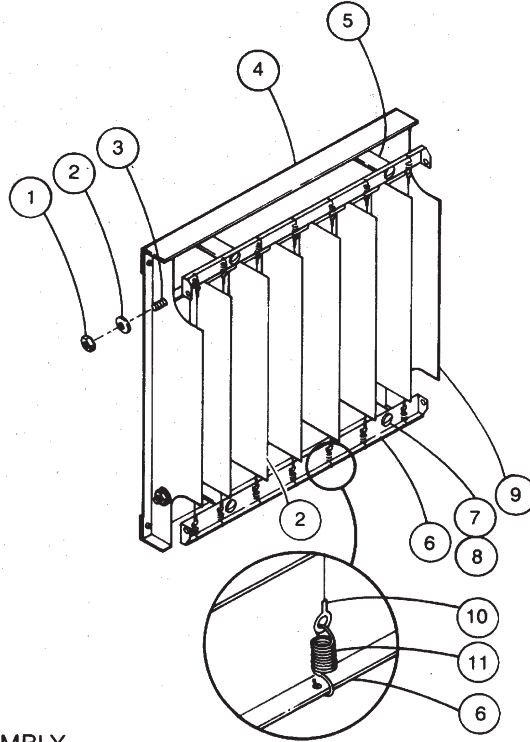
### 10.0 ILLUSTRATED PARTS



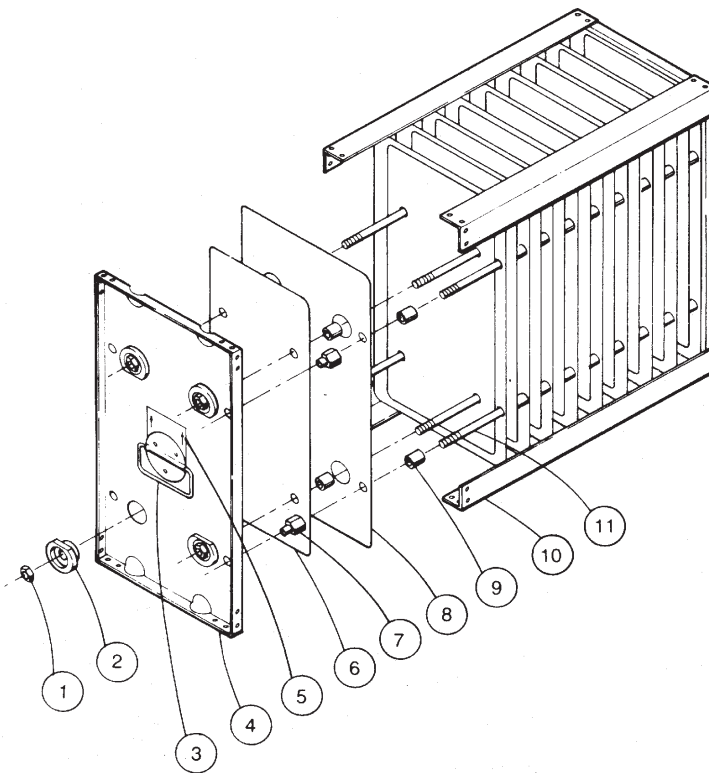
**11.0 LS ASSEMBLY**

<b>ITEM NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
1	02-0086	COLLECTION CELL CP	1
2	02-0089	IONIZER ASSY 7 WIRE	1
3	20-2907	INTLK. SWITCH	1
4	02-10648-0001	MOTOR/BLOWER ASSEMBLY	1
5*	03-0367	WIRE KIT, HIGH VOLTAGE	1
6*	03-10447-0001	WIRE KIT, LOW VOLTAGE	1
7	10-2636	ACCESS PANEL	1
8	33-0001	FILTER-MESH 18X183/8X7/8	1
9	18-0747	ACCESS DOOR WELD MENT	1
10	33-0007	FILTER-CARBON	1
11	20-0155	BUSHING — 1/2" DIA.	1
12	10-9397	ACTUATOR, SWITCH	1
13	36-0014	SPRING-CONTACT	2
14	21-1218	POWER SUPPLY	1
15	37-0013	INSULATOR-CERM, 5/8DX11/2	1
16	30-0105	RIVET	2
17	32-0099	GROMMET — 7/8 KO, A/I NO. 2285	1
18	30-0142	SCR, PAN-PHL #8-32 X 1/2	5
19	30-0504	RETAINER #12-11014-12	2
20	37-0063	INSULATOR, STAND OFF, 1" LG	1
21	30-0455	TINNER MAN NUT 8-32	5
22	30-0505	RECEPTACLE #12-11050-27	2
23	30-0108	WASHER-FLAT FOR #6 SCR	1
24	30-0119	SCR, PAN HD 8-32 X 5/16 LG	2
25	30-0363	SCR, TEK 10-17 X 3/4 W/ SEAL WASHER	6
26	30-0533	PUSH NUT BOLT RETAINER	5
27	30-0502	SCR, PAN HD #8-32 X 5/16 THE CUT	2
28	30-0503	SCREW, WING HD #12-12-203-11	2

\*NOT SHOWN



IONIZER ASSEMBLY  
02-0089



CELL ASSEMBLY  
02-0086

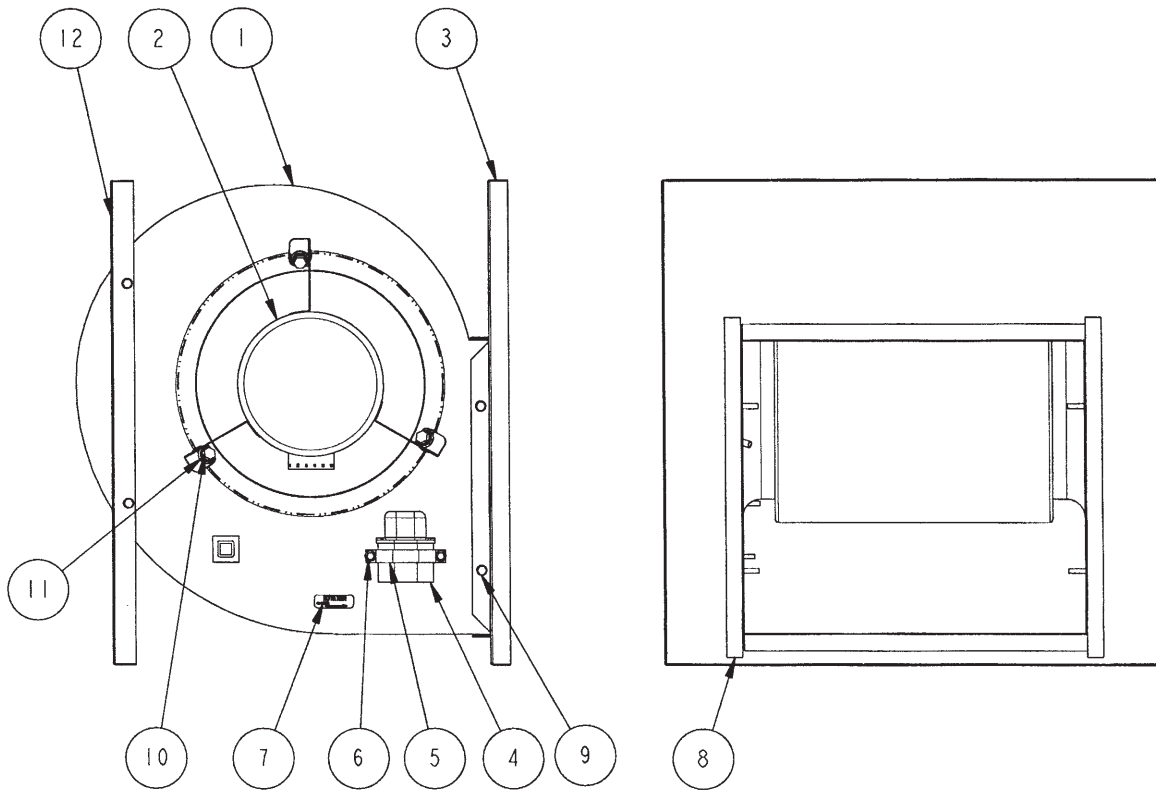
**12.0 IONIZER ASSEMBLY — 02-0089 — AIRFOIL IONIZER**

<b>ITEM NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
1	30-0030	1/4-20 LOCK NUT	4
2	10-0420	GROUND IONIZER PLATES	6
3	35-0027	ROD	2
4	10-0465	CORNER CHANNEL	2
5	37-0004	INSULATOR	4
6	10-0570	IONIZER WIRE SUPPORT RAILS	2
7	30-0142	#8-32 X 1/2" PAN HEAD SCREW	8
8	30-0081	#8 FLAT WASHER	4
9	10-0421	END IONIZER PLATE	2
10	03-0555	IONIZER WIRE W/EYELETS (10 MIL.) SET OF 7	1
11	36-0004	IONIZER WIRE SUPPORT SPRING	14

**13.0 CELL ASSEMBLY — 02-0086 — CP COLLECTION CELL**

<b>ITEM NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
1	30-0030	1/4-20 LOCK NUT	16
2	37-0008	INSULATOR	8
3A	10-0564	HANDLE	1
3B	10-0559	COVER PLATE, HANDLE	1
4	10-0348	END PLATE	2
5	41-0330	WARNING LABEL	1
6	10-0157	"HOT" CELL PLATE	33
7	35-0047	SHOULDER NUT	8
8	10-0158	GROUND CELL PLATE	32
9	35-0067	SPACER	260
10	35-0049	CORNER ANGLE	4
11	35-0045	CELL ROD	8

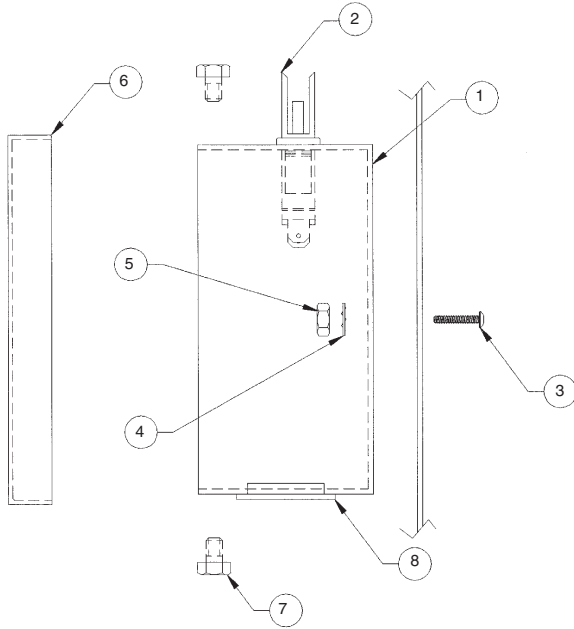




**MOTOR/BLOWER ASSEMBLY**  
**02-10648-0001**

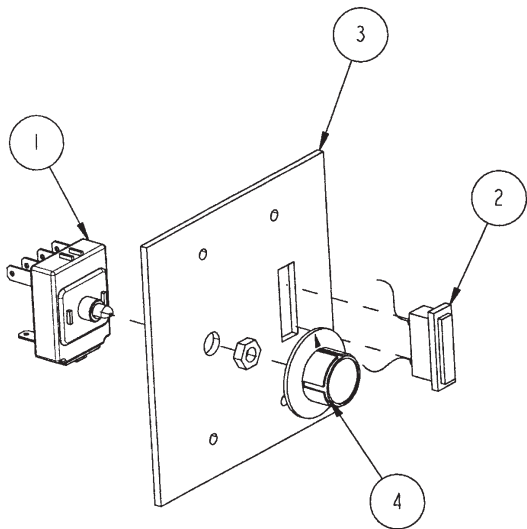
<b>ITEM NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
1	32-0085	DIRECT DRIVE BLOWER 10-10	1
2	02-10018-0001	MOTOR, 5-SPEED	1
3	10-2644	BLOWER PLATE	1
4	20-10090-0001	CAPACITOR, 5UF	1
5	20-1298	CAPACITOR MOUNTING BRACKET	1
6	30-0335	SCREW, DRILL-HEX HD #8 X 1/2"	2
7	41-0065	LABEL "ROTATION"	1
8	42-0058	GASKET	1.17 FT.
9	30-0363	SCREW, TEK 10-16 X 3/4" W/SEAL WASHER	6
10	30-0233	BOLT, HEX HD THE-CUT 1/4-20 X 5/8"	3
11	CONTACT FACTORY	ISOLATION GROMMET	3
12	10-2637	BLOWER STRUT, LS	1

**MOTOR/BLOWER ASSEMBLY  
02-10648-0001**



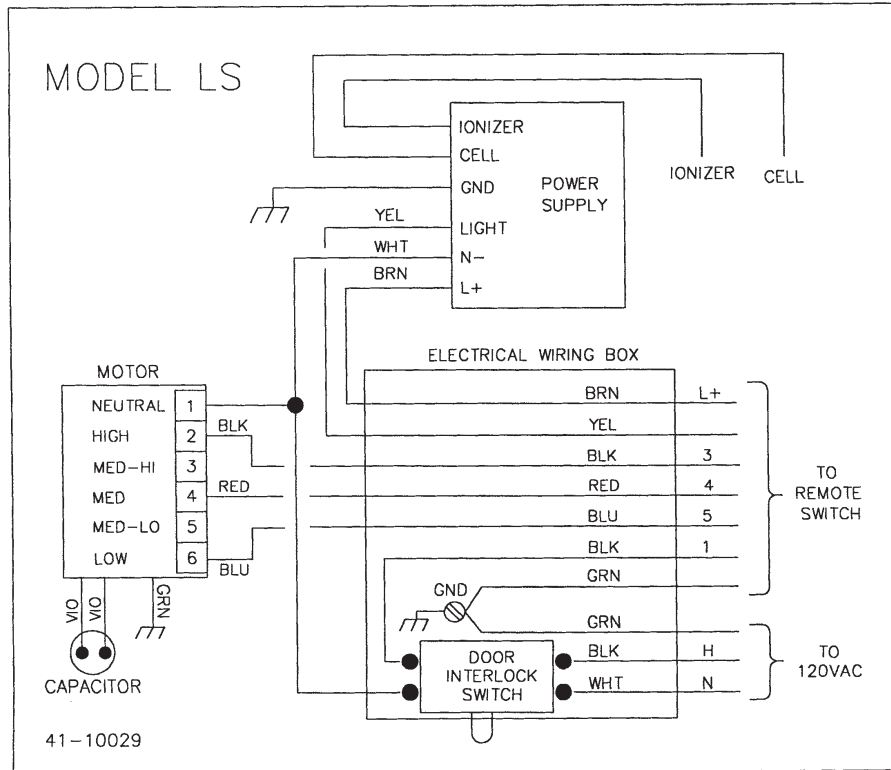
<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	
1	18-10639-0001	ENCLOSURE-ELECTRICAL, 4 X 4	1
2	20-2907	SWITCH, INTRIK, DP NO, IEC, FS	1
3	30-0381	SCREW-MUCH, TS, PHL, 10-32 X 1/2, ZP	2
4	30-0381	WASHER-LCK, XTOOTH, #10, ZP	2
5	30-0003	NUT-MUCH, HX, 10-32, ZP	2
6	10-11705-0001	LID-ENCLOSURE, ELECTRICAL, 4/4	1
7	30-0328	SCREW-SLFTP, HX, WASH, 8-32 X 3/8	1
8	20-1242	BUSHING SHORTY BLK 875-750	2

**REMOTE SWITCH ASSEMBLY  
02-2772**

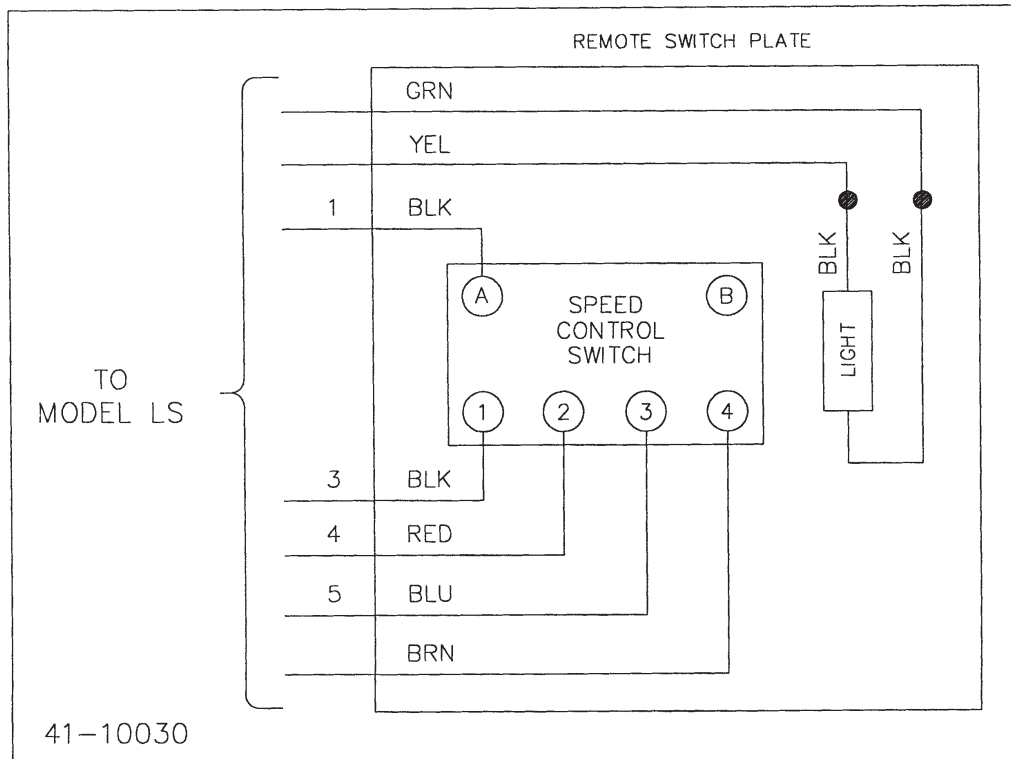


<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	
1	20-1231	SWITCH, 3-SPEED	1
2	20-0556	PILOT LIGHT — RED	1
3	10-11151-0001	SWITCH PLATE — LETTERED	1
4	39-0120	KNOB-SWITCH	1

### WIRING DIAGRAM MODEL LS



61-10032-0003



61-10032-0004

**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 Smokeeeter® 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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