

FA
TRION ELECTRONIC AIR CLEANER



**INSTALLATION
OPERATION
SERVICE
MANUAL**

**MODEL 80
CUSTOM PACKAGED**

TRION[®] MODEL 80 LIGHT COMMERCIAL ELECTRONIC AIR CLEANER

INSTALLATION OPERATION SERVICE

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Application

Trion[®] Model 80 Electronic Air Cleaners are designed to provide electronic air cleaning in applications where a centrally ducted air handling system is employed. Equipment is available in 16 sizes covering a range from 3600 to 19,200 CFM.

Model 80's are designed for horizontal airflow and incorporate built-in wash systems that may be manually, semi-automatically or automatically controlled. The strong heavy gauge steel cabinet can be installed on support legs (standard) or suspended for overhead installations (order less legs). Suspension design, installation, and hardware to be supplied by others.

Installation Planning

Because air handling systems vary greatly, unit location, air distribution, and service clearances require careful consideration prior to installation:

Things to Remember

IMPORTANT

- Install for horizontal air flow in the return air duct system.
- Water wash manifold must be positioned on the air entering side of the unit.
- A clearance of 36" is required in front of the cell access door for cell removal and power pack service.
- Air flow entering the unit should be evenly distributed across the face of the unit.
- If make-up air is added to the return air system, it should precede the Model 80 and be maintained at a temperature between 50° and 125°F.
- Cooling coils should be located downstream from the air cleaner.

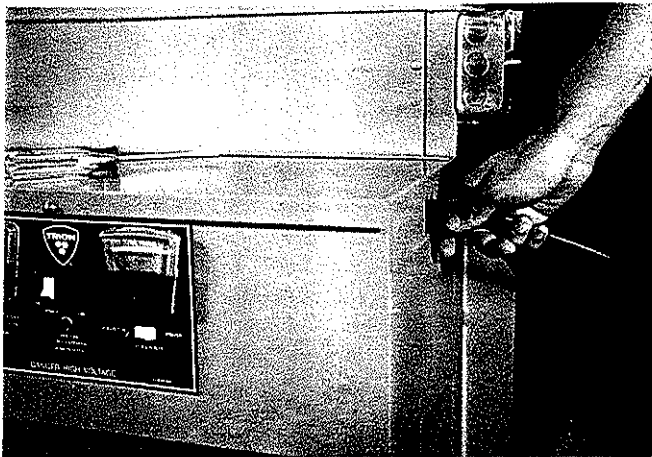
Unpacking and Inspection

At the time the equipment is received, all cartons and contents should be carefully examined for damage.

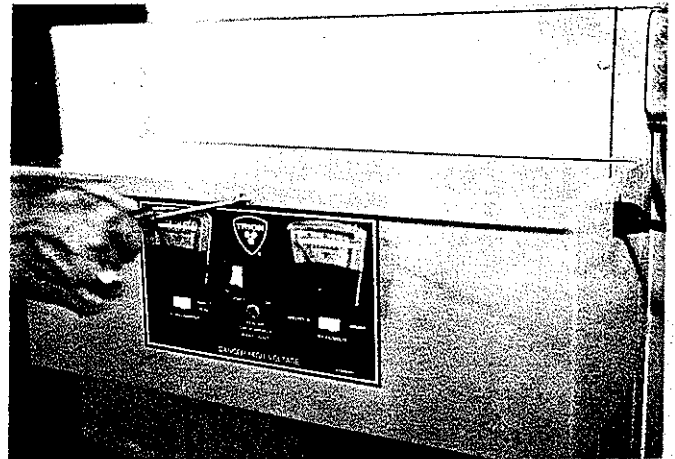
Model 80's are usually shipped completely assembled, and where unit size permits, the ionizing/collecting cells are shipped inside the cabinet. On larger units upper cells may be shipped in separate containers.

All components and accessory items are shipped in cartons as designated on the packing list.

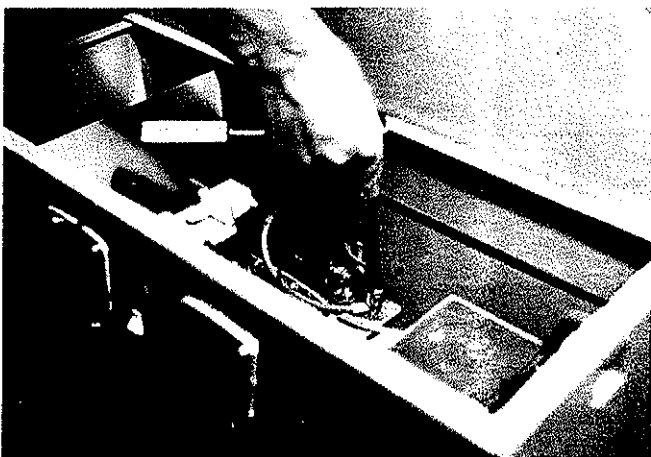
DAMAGE INCURRED IN SHIPMENT MUST BE IMMEDIATELY REPORTED TO THE CARRIER. AN INSPECTION REPORT COMPLETED, AND A CLAIM FILED AT THE RECEIVING POINT.



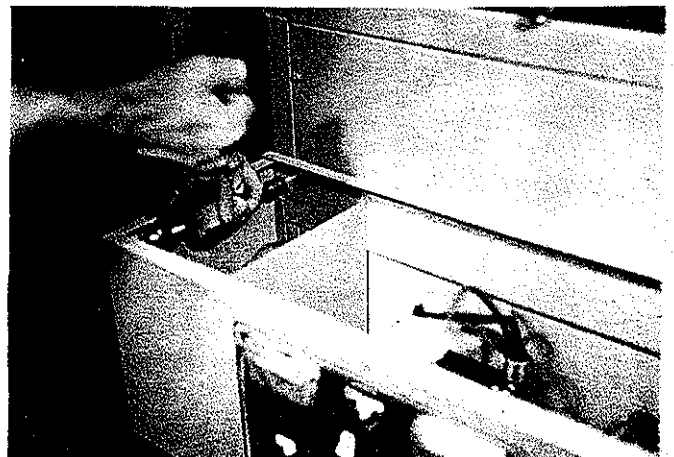
1. Unplug the primary power cable from the power pack.



2. Loosen the safety interlock screw on the power pack, and remove the power pack top.



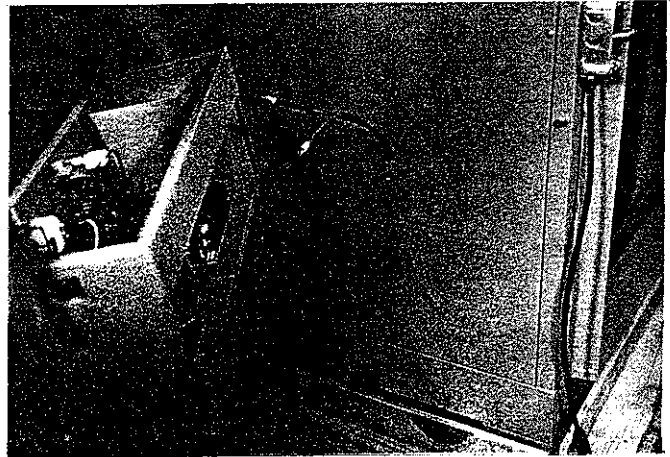
3. Disconnect prewired ionizer and plate lead wires.



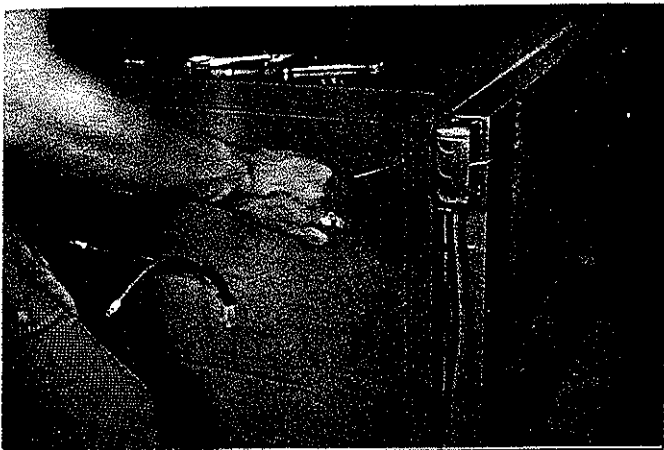
4. Loosen the bolts in the slotted keyways located on the inside of the power pack cabinet, and remove the power pack assembly from the cabinet access door.

Accessories

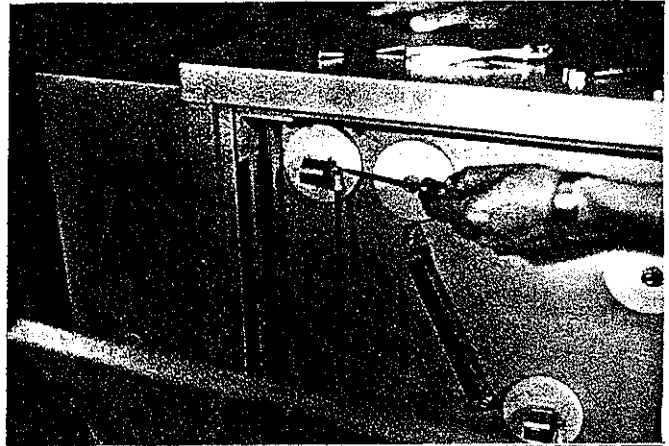
Remove any additional components - wash controls, detergent systems, valves, etc., from their shipping containers, examine them for damage, and place them safely with the other equipment. Unless the unit is to be immediately installed, all equipment should be covered to prevent damage.



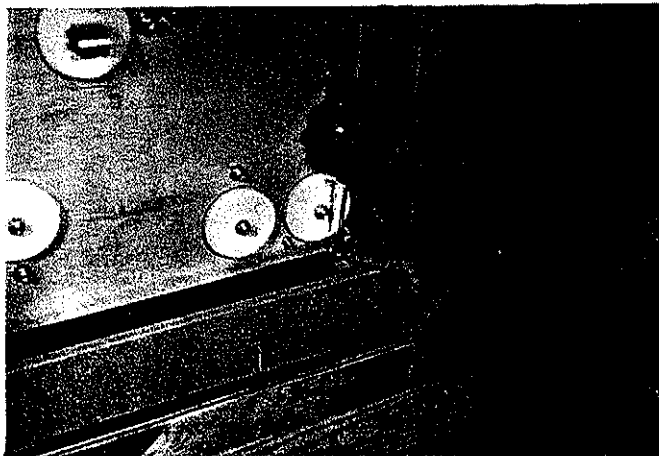
5. Store the power pack in a protected, dry area until it is to be installed.



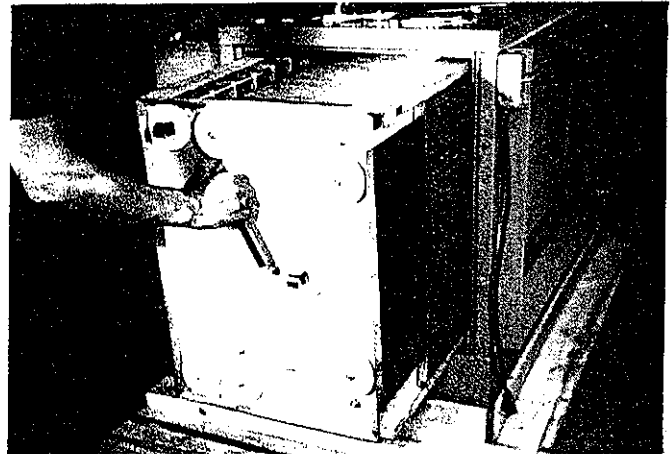
6. Remove the access door and all wood or cardboard blocking used in packing.



7. Disconnect the ionizer and plate high voltage leads from the first cell. Note their relative positions for later reassembly.



8. Remove the retaining clips located on the bottom cell support rails (front and back).



9. Slide the ionizing/collecting cells from the air cleaner cabinet. Store them with the power pack until they are ready to be installed.

Air Distribution in Ductwork

The Model 80 Electronic Air cleaner operates most efficiently when all air entering the unit is distributed across the ionizing/collecting cells at a uniform velocity.

1. Installations with uneven air distribution should have turning vanes or baffles installed.

Gradual transitions to the air cleaner cabinet are recommended in all duct work larger or smaller than the collar openings.

2. If transitions are used, they should not exceed 20° (4" per lineal ft.).

Water Damage Protection

1. When the air cleaner is installed overhead, a sheet metal drip pan should be provided under the air cleaner cabinet. This is important in case of water leaks in the duct work or a plugged drain.

2. Always caulk sheet metal seams where they join the air cleaner cabinet. Also caulk any other seams subjected to water spray or mist.

Plumbing

A suitable drain, installed in accordance with local plumbing codes, should be connected to the pipe nipple which is provided in the drain pan. The drain should be equipped with an air tight seal such as a lid, trap or valve. If a water seal or trap is used, it should hold sufficient water to assure that the loss of water from evaporation between cleaning periods will not break the seal. The drain line should not be smaller than the size of the drain nipple. NOTE: Drain connections should be complete before duct work is connected.

Installing the Air Cleaner

The electronic air cleaner should be installed on the inlet air side of the air handler. In special applications where the air cleaner must be located on the discharge side of the air handler, the air cleaner must be a minimum of 4 ft. from the discharge opening.

The cabinet less the ionizing/collecting cells should be connected to the duct work. Recommended procedure is that the tops and the sides of the connecting ductwork be attached to the outside of the collars and that the bottom of the ductwork be attached to the inside of the collars. This insures that any water overspray will wash back in the air cleaner drain pan. Ductwork bottom should be sloped slightly toward the air cleaner for proper water drainage.

1. After necessary drains and transitions have been installed set cabinet in position.
 - a. Standard mounting legs are provided for stand alone installations. Adjustments should be made to insure that the cabinet is level.
 - b. When unit is to be suspended, cabinet must be level to insure proper drainage.
2. Attach ductwork to cabinet inlet and outlet collars.
 - a. Drill pilot holes in cabinet collars and ductwork in positions which will not cause leaking.
 - b. Fasten duct to cabinet collars with sheet metal screws.
 - c. Use caulking compound to seal all duct connections with the collars on both the inlet and outlet side at least 3 ft. from the cabinet.
3. Install ionizing/collecting cells. Inspect the cells before installing them in the air cleaner cabinet to be sure that no damage occurred or foreign material became lodged between the collecting plates while they were placed aside after unpacking.
 - a. Install the mechanical afterfilters in the support channels located on the ionizing/collecting cells.
 - b. Place the cells in the support rails and slide them into the cabinet in accordance with the air flow arrows and markings.
 - c. Air cleaner models having more than one tier of ionizing/collecting cells require that the cells be electrically inter-connected with high voltage jumpers.
 - d. Connect the jumpers to the terminals provided.
4. Replace access door.

Electrical

Trion Model 80 Electronic Air Cleaners that are designated for remote power pack installation (optional accessory) will have a factory mounted safety switch that is activated by a bolt secured to the access panel. This serves as a safety measure to electrically interlock and interrupt the power supply to the power pack when the access panel is removed.

On installations in which there is to be additional access to the ionizing/collecting cells other than thru the electrically interlocked access panel - such as thru duct access doors, hand holes, etc. - the door opening covers, etc., must be electrically interlocked in series with the other safety switch in the system.

For integral power pack installations, the power pack mounting channel prevents opening the access panel without first de-energizing the power pack by removing the primary power cable and removing the power pack from the access panel.

Integral Power Pack Wiring

Reconnect high voltage leads to ionizing/collecting cells. Mount power pack to the cabinet access door.

Install the two high voltage leads to electrically connect the ionizing/collecting cells to the power pack. The red lead connects to the ionizer on the ionizing/collecting cell and to terminal marked ionizer in the power pack. The black lead is for the plates and is connected to the terminal marked collector in the power pack. NOTE: Do not cut or splice the high voltage lead at the conduit connection box or at any point throughout the lead length.

Remote Power Pack Wiring

For remote power pack installations, the two high voltage leads connecting the ionizing/collecting cells are connected to the high voltage remote cable at a conduit connection box located on the side of the air cleaner cabinet. NOTE: High voltage leads are to be run in separate conduit.

The red lead connects to the terminal marked ionizer in the remote power pack. The black lead connects to the terminal marked collector in the remote power pack. See Wiring Diagram , page .

NOTE: Do not cut or splice the high voltage leads at the conduit connection box or at any point throughout the lead length.

On remote power pack installations, a lead-in power cord assembly is factory wired to a primary junction box that should be mounted next to the power pack. The lead-in power cord prevents removing the power pack top without first disconnecting the power cord. See Wiring Diagram , page .

Lead wiring should be run from the lead-in power cord junction box to the safety access switch located above the access door on the air cleaner cabinet and then connected to the primary power source. The safety switch serves as a safety measure to electrically interlock and interrupt the power supply to the power pack when the access panel is removed.

Primary Wiring

On integral power pack installations a lead-in power cord assembly is factory wired to a primary wiring junction box located on the side of the air cleaner cabinet. As an added safety feature, the lead-in power cord prevents removing the power pack top without first disconnecting the power cord.

Operation

Principle of Operation

Trion Electronic Air Cleaners are technically known as electrostatic precipitators. In this type of equipment all airborne particles, even of sub-microscopic size, are electrically charged as they pass thru a high voltage ionizing zone. These charged particles are then attracted and adhere to a series of parallel collecting plates which form the negative elements of an electrostatic field.

The ionizing zone consists of charged tungsten wires suspended between grounded electrodes. The collecting section consists of parallel plates arranged so that each alternate plate is charged while the inter-leaving plates are electrically grounded.

Periodically, depending on the type and concentration of contamination in the air, the dirt is washed from the plates by the integrally constructed water wash system.

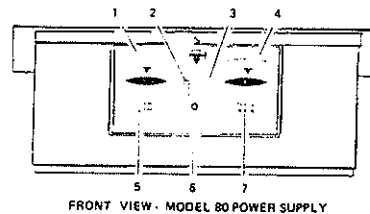
Three distinct functional components comprise the air cleaner.

1. Ionizing/collecting cells to ionize and collect airborne particulate matter.
2. Power pack to supply high voltage direct current to the ionizing/collecting cells.
3. Water wash system to wash away collected dirt.

Operational Checkout

After the air cleaner has been correctly installed, both mechanically and electrically, it is ready to put in operation.

Check the power pack terminal board connections and all system wiring connections to make certain that they are correct and complete. Close all access doors and panels being sure the time delay screws are completely seated (if applicable).



Powering the Unit

1. To supply power to the air cleaner, move the rocker switch (2) on the front panel of the power pack to the "ON" position.
2. The indicator light (3) located next to the rocker switch should illuminate, indicating that power is being supplied to the primary circuit. If the light does not glow, recheck each time delay screw to be certain that they are properly seated and push circuit breaker reset button (6). If the indicating light still does not illuminate refer to the service chapter in this manual.
3. The milliammeter (1) is located on the left hand side of the power pack face. This meter is used to measure the total load current to the ionizer and collector. Push the spring loaded "Push to Read" switch (5) located directly under the milliammeter to the "ON" position. While the switch is depressed the milliammeter should register the proper load range as listed on the Output Adjustment Chart located on the Operation Adjustment section of the manual.
4. A single scale microammeter (4), calibrated in kilovolts, is located on the right hand face of the power pack. This meter is used to read voltage for both the ionizer and collector. A two position rocker switch (7) located directly under the meter allows selection of either ionizer voltage or collector voltage. Kilovolt readings for both the ionizer and collector voltage should correspond to the calibrations located in the Operation Adjustment section in this manual.

Improper operation of the electronic air cleaner may be caused by an electrical outage of one kind or another and is indicated by one or more of the following four conditions:

1. Low meter reading
2. High meter reading
3. Circuit breaker open
4. Power pack panel light out

If any of the following conditions exist during startup procedures refer to the Service Section of this manual.

Wash Controls

Manual Operation

1. Shut off all power to the air handling system and electronic air cleaner.
2. If the air cleaner has a moving wash manifold the manifold motor must be turned on. (ON-OFF switch and junction box supplied by others).
3. Open the hand valve located on the water line and allow wash system to operate from three to four minutes. During this time check air cleaner and duct work for possible water leaks.
4. Shut off water supply.
5. Turn off manifold motor (where applicable).
6. Actuate air handling system and allow ionizing/collecting cells to dry for approximately 60 minutes.
7. After ionizing/collecting cells are dry, power pack may be energized and air cleaner returned to operation.

Semi-Auto Wash Control Operation

Trion semi-automatic wash controls are preprogrammed at the factory prior to installation. A manual switch located on the wash control box is used to activate an internal cam driven clock which shuts off the air handling system and the electronic air cleaner. The control then sequences the wash, dry and return to operation of the unit automatically.

Automatic Wash Control Operation

Trion automatic wash controls consist of a master control box with a cam driven wash control timing mechanism and a seven-day automatic time clock. The time clock is pre-programmed for operation during any hour of a seven day cycle. When the time clock activates the wash control mechanism all power to the air handling system and electronic air cleaner is shut off. The control then sequences the wash, dry and return to operation of the unit.

Service and Adjustment Guide

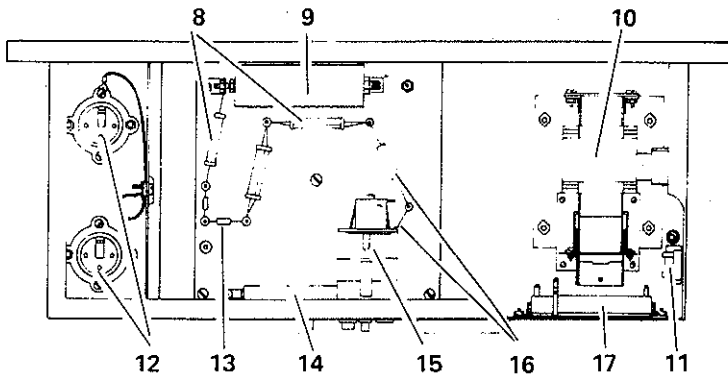
Adjustment Procedures

The following table should be used to determine the proper operating ranges for your Trion Model 80 Light Commercial Electronic Air Cleaner. To use the table, locate the model number of your unit in the left hand column, then read across to determine the required ranges.

Model 80 Operating Ranges

MODEL NO.	OUTPUT VOLTAGE (KVDC)		OUTPUT CURRENT
	IONIZER	COLLECTOR	
80-103-00	11-15	5-7	1.2-1.5
80-104-00	11-15	5-7	1.6-2.2
80-105-00	11-15	5-7	2.0-2.6
80-106-00	11-15	5-7	2.4-3.0
80-107-00	11-15	5-7	2.8-3.7
80-108-00	11-15	5-7	3.2-4.1
80-109-00	11-15	5-7	3.6-4.5
80-110-00	11-15	5-7	4.0-5.5
80-203-00	11-15	5-7	2.4-3.0
80-204-00	11-15	5-7	3.2-4.4
80-205-00	11-15	5-7	2.0-5.2
80-206-00	11-15	5-7	4.8-6.0 (1)
80-207-00	11-15	5-7	5.6-7.4 (1)
80-208-00	11-15	5-7	6.4-8.2 (2)
80-303-00	11-15	5-7	3.6-4.5
80-304-00	11-15	5-7	4.8-6.6 (1)

1. Consult the factory before attempting to attain higher end currents.
2. Consult the factory before adjusting the power supply.



TOP VIEW - (Cover Removed) MODEL 80 POWER SUPPLY

- (8) Meter Multiplier Resistors - Prolong meter life and insure accurate readings.
- (9) Capacitor - Part of voltage doubler circuit
- (10) High Voltage Transformer - Produces the necessary voltage for ionization of particles
- (11) Triac Gate Resistor - prevents overheating of the transformer primary
- (12) Ballast Bulbs - Absorb excess voltage during shorting conditions.
- (13) Voltage Divider Resistors - Complete meter circuitry and act as voltage bleeders
- (14) Surge Resistor - Limits the amplitude of arcs in both the ionizer and collector sections.
- (15) Safety Switch - Immediately breaks the circuit when power pack top is removed
- (16) Avalanche Rectifiers - Complete the voltage doubler circuitry. Do not deteriorate with age like selenium rectifiers.
- (17) Adjustable Resistor - Allows tunable output over a load range.

Power Supply Adjustment

The Model 80's power supply should be adjusted at installation and should, under normal circumstances, require no additional adjustment. However, infrequently local power fluctuation or changes in conditions may make it necessary for readjustment at a later time.

1. Turn off power and remove the top cover assembly.
2. Loosen the screw on the band on the adjustable resistor (17).
3. When adjusting the power supply, it will be necessary to adjust the resistor, then depress the safety switch (15) to read the results. **BE CAREFUL** there is both **HIGH VOLTAGE** and **LINE VOLTAGE** present.
4. Move the band to the right to increase the output voltage or to the left to decrease the output voltage.
5. Monitor the output voltage for the ionizer section and adjust the resistor for a voltage reaching as near to 13 KVDC as possible.
6. When the output voltage is set, the MA meter should read in accordance with the range specified for your model.

Service Procedure

There are several general symptoms which indicate that the air cleaner is not working properly.

1. No meter readings.
2. Low meter readings.
3. High meter readings.
4. Fluctuating meter readings.
5. Circuit breaker kicking off.
6. Loud humming noise
7. Constant or intermittent arcing
8. Air not being cleaned.

1. NO METER READING

This is an indication that power is not being supplied to the secondary circuit.

CAUSE	REMEDY
(A) Safety screw retaining power pack access panel not properly seated.	Back safety screw(s) out five complete turns, then screw in until faint click is heard denoting the closing of the safety switch.
(B) Supply line power not being supplied to unit.	Check fuse or power supply.
(C) Defective safety switch.	Check switch with trouble light and replace if necessary.
(D) Defective power supply.	See power supply trouble shooting procedures.
(E) Disconnected high tension leads.	Connect same.
(F) Broken or disconnected wiring inside power pack.	Check for any broken or disconnected wiring inside power pack.
(G) Ballast tubes burned out.	Replace with new ballast tubes.
(H) Circuit breaker tripped.	Reset circuit breaker. If it again trips out, refer to circuit breaker tripping section.
(I) Thermal overload tripped.	Reset. If it trips out again, refer to power supply trouble shooting.

2. LOW METER READING

CAUSE	REMEDY
(A) Missing ionizing wire (s).	Replace same.
(B) Low supply line voltage.	Refer to initial adjustment procedures.
(C) Ionizing/collecting cell electrically disconnected on multi-cell units.	Connect same. (Electrical connection to both ionizing and collecting plate sections.)
(D) Milliammeter set below zero when power is off.	When power is off, adjust required meter reading to zero with zero calibration screw on front of meter.
(E) One ballast tube burned out.	Replace.
(F) Defective power supply.	Refer to power supply trouble shooting section.

3. HIGH METER READING

CAUSE	REMEDY
(A) High supply line voltage.	Refer to initial adjustment procedures.
(B) Extremely dirty collecting cell.	Clean same.
(C) Dirty insulators.	Clean same.
(D) Defective insulators.	Replace same.
(E) Wet cell or damp insulators.	Allow to dry.
(F) Foreign material such as hair or lint bridging collecting plates.	Remove same.
(G) Meter set above zero when power is off.	When power is off, adjust required meter reading to zero with zero calibration screw on front of meter.

4. FLUCTUATING METER READING

CAUSE	REMEDY
(A) Loose ionizing wire(s).	Repair or replace same.
(B) Fluctuating supply line voltage.	Find stable source of supply.
(C) Loose ground.	Tighten same.
(D) Loose electrical connection between ionizing/collecting cells on multi-cell units.	Tighten same.
(E) Loose power pack wiring.	Tighten same.
(F) Defective power supply.	Refer to power supply trouble shooting section.

5. CIRCUIT BREAKER KICKING OFF

When the circuit breaker kicks off, it is usually accompanied by extremely high meter readings and is an indication of a short circuit. A short circuit can be easily isolated to the power pack or ionizing/collecting cell(s).

Disconnect the high voltage leads, either inside the power pack or at the ionizing/collecting cell(s). Support them away from any point of contact and energize the power pack.

With the high voltage leads disconnected, all the normal load is removed from the circuit and the meters should therefore read zero upon energizing.

If the meter reading is zero and the circuit breaker does not trip, with the high voltage leads disconnected, the power pack is operating normally and the short circuit is in the ionizing/collecting cell(s). If a reading is indicated on the meter with the high voltage leads disconnected or if the breaker continues to trip, then the short circuit is in the power pack.

If the short circuit is isolated to the ionizing/collecting cell(s), it may be isolated further to the ionizing section or plate section by connecting each respective high voltage lead individually, energizing the power pack and observing the milliammeter reading.

On units consisting of more than one ionizing/collecting cell, the electrical connections between cells may be removed in such a way to isolate the short to a group of cells, then, further removed so as to isolate it to one particular cell.

If short is found to be in the power pack, refer to the power supply troubleshooting section.

CAUSE	REMEDY
(A) Broken ionizing wires.	Replace same.
(B) Large particles of dirt or foreign material lodged between collecting plates.	Clean.
(C) Broken or defective insulators.	Replace same.
(D) Broken electrical connectors between cells on multi-cell units.	Repair or replace same.

If short is found to be in the power pack, refer to the power supply troubleshooting section.

6. LOUD HUMMING NOISE

CAUSE	REMEDY
(A) Atmospheric conditions - low humidity. (Under normal circumstances, this condition may only be evident several days a year.)	Wash unit to temporarily raise humidity.
(B) Unit not properly grounded.	Check ground and correct if necessary.
(C) Ionizing/collecting cell(s) in need of washing.	Clean cell(s) manually if necessary.
(D) Loose ionizing wires.	Repair or replace.

7. CONSTANT OR INTERMITTENT ARCING

CAUSE	REMEDY
(A) Water leak or defective valve.	Repair or replace.
(B) Loose or defective ionizing wire.	Repair or replace.
(C) Voltage too high (indicated by high meter reading).	Adjust to correct operating range.
(D) Excessively dirty cell.	Clean same.
(E) Foreign material such as string, etc., lodged in or close to cell and flapping in air stream.	Remove same.
(F) High voltage leads to cell reversed.	Correct same.

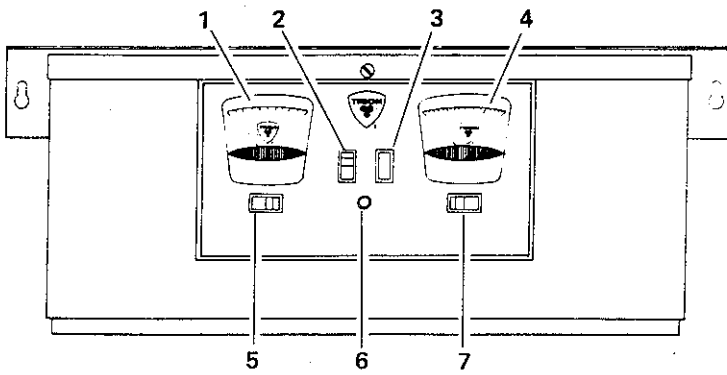
8. AIR NOT BEING CLEANED

Be sure the meter readings are within the specified operating range, indicating proper electrical operation.

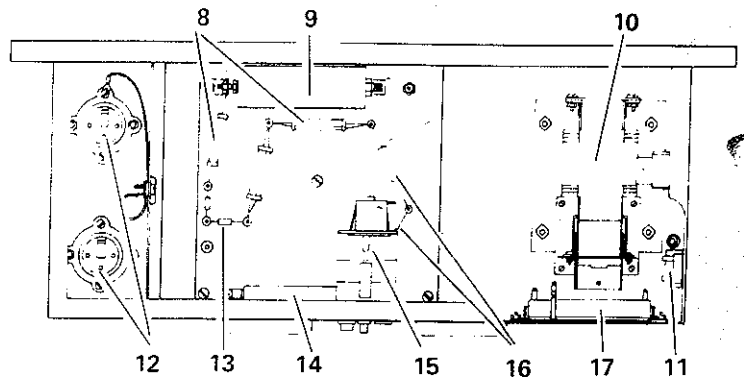
CAUSE	REMEDY
(A) Air volume through unit too great.*	Reduce air flow to the designed cfm rating.
(B) Unsealed openings in or near unit enclosure such as open drains, etc. Such openings permit infiltration of uncleaned air contaminating air cleaned by the unit.	Seal or close openings. Drains should be trapped in accordance with local plumbing codes or sealed with length of collapsible drain hose.
(C) Leaks in ductwork on blower box and other parts of system under negative pressure on clean air side of the unit.	Seal with duct tape or caulking compound.
(D) Dirty air not being delivered to the unit. A common cause for this in residential units is the blocking of return air grills with drapes, furniture, etc.	Remove obstruction.
(E) Uneven air distribution across the face of the ionizing/collecting cell(s). **	Install turning vanes, air baffles or provide means for even air distribution.

* A good indication of too much volume is excessive build-up of dirt on the trailing edges of the collecting plates and after filters. (Dirt build-up should not be confused with dirt stains. Dirt stain on the after filters and plates is normal.)

** Uneven air distribution across the face of the ionizing/collecting cell(s) may be determined in many instances by examining the dirt pattern before washing. The entering side of the cell should be covered evenly with the dirt collected.



FRONT VIEW - MODEL 80 POWER SUPPLY



TOP VIEW - (Cover Removed) MODEL 80 POWER SUPPLY

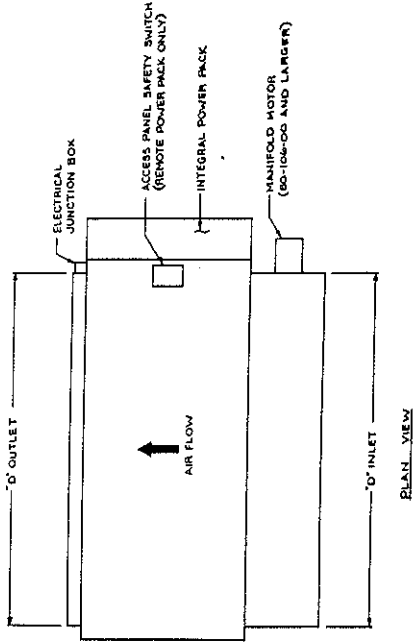
Power Pack Parts

6	CB6 CIRCUIT BREAKER	124955-001 (Models 107-304) 124955-002 (Models 103-105)
9	C1 CAPACITOR	221307-001
10	T1 TRANSFORMER	325639-001
14	R4 RESISTOR	221448-029
16 (TOP)	CR1 RECTIFIER	124962-001
16 (BOTTOM)	CR2 RECTIFIER	124962-001

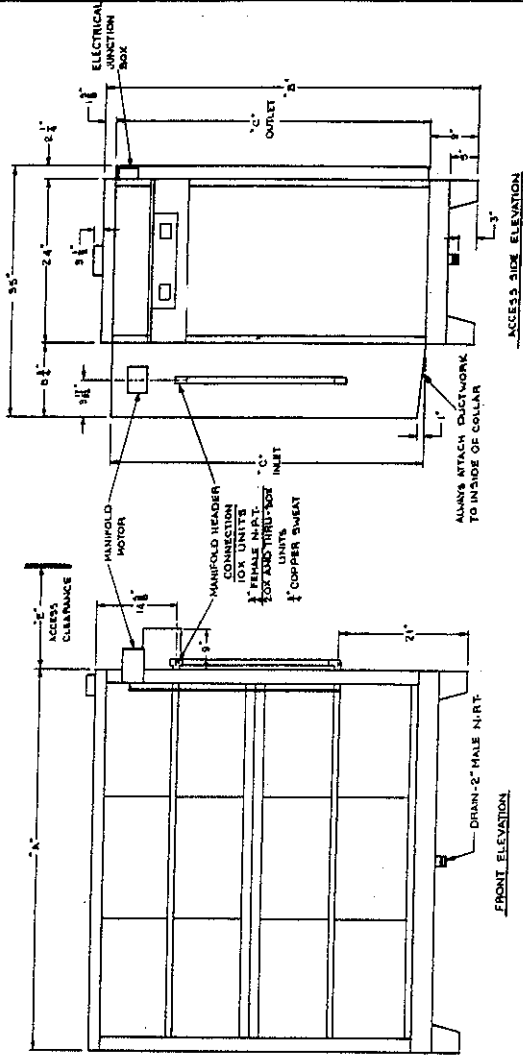
Trouble Shooting Guide

CONDITION	PROBABLE CAUSE	CORRECTION
Meters reading, Circuit breaker on, Indicating light off.	Bad Indicating Light	Replace Light
No meter reading, circuit breaker on, indicating light off.	(A) Safety Switch Open	Tighten Safety Switch
	(B) No Input Voltage	Supply Input Voltage
	(C) Open Wire in Primary	Reconnect or Replace Wire
	(D) Circuit Breaker "6" Open	Reset CB6
No meter reading, circuit breaker on, indicating light on.	(A) Rectifier CR2 Open	Replace CR2
	(B) Resistor R4 Open	Replace R4
	(C) Transformer T1 Primary Open (No Output Voltage)	Replace T1
	(D) Meter Bad	Replace Meter
Circuit breaker holds for a few seconds then trips. Meter indicates low before CB6 trips	(A) Rectifier CR1 Shorted	Replace CR1
	(B) Rectifier CR2 Shorted	Replace CR2
	(C) Capacitor C1 Open - If Breaker trips, Will do so After 10-30 Sec.	Replace C1
Circuit breaker trips immediately	(A) Capacitor C1 Shorted	Replace C1
	(B) Resistor R4 Shorted	Replace R4
	(C) Transformer T1 Shorted	Replace T1
	(D) Trash on Board Shorting to Ground	Clean Board
Low meter reading - trouble isolated to power supply.	(A) Rectifier CR1 Open	Replace CR1
	(B) Capacitor C1 Open	Replace C1
	(C) Ballast Lamp Burned Out	Replace Lamp

MODEL NUMBER	A	B	C	D	E	NET WT. LBS.	SHIP WT. LBS.
80-103-00	3'-11"	2'-11"	2'-0"	2'-9"	3'-4"	1,400	105
80-104-00	4'-0"	2'-11"	2'-0"	3'-6"	2'-4"	49,000	463
80-105-00	4'-11"	2'-11"	2'-0"	4'-2"	3'-4"	6,000	532
80-106-00	5'-10"	2'-11"	2'-0"	5'-4"	3'-4"	7,500	644
80-107-00	5'-9"	2'-11"	2'-0"	4'-3"	3'-4"	8,400	680
80-108-00	7'-6"	2'-11"	2'-0"	7'-4"	3'-4"	9,400	715
80-109-00	8'-7"	2'-11"	2'-0"	8'-3"	3'-4"	10,600	748
80-110-00	9'-7"	2'-11"	2'-0"	9'-2"	3'-4"	12,000	836
80-104-00	4'-0"	4'-11"	4'-1"	5'-6"	2'-4"	9,400	663
80-105-00	4'-11"	4'-11"	4'-1"	4'-7"	3'-3"	10,000	748
80-106-00	5'-10"	4'-11"	4'-11"	5'-2"	3'-4"	11,400	834
80-107-00	6'-9"	4'-11"	4'-11"	6'-5"	3'-4"	12,800	1074
80-108-00	7'-8"	4'-11"	4'-11"	7'-4"	3'-4"	13,200	1140
80-109-00	8'-7"	7'-0"	4'-11"	8'-1"	3'-4"	14,600	1205
80-110-00	9'-7"	7'-0"	4'-11"	9'-1"	2'-4"	16,000	1316



PLAN VIEW

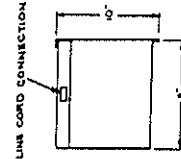


FRONT ELEVATION

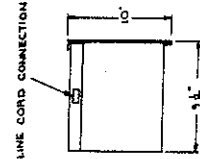
ACCESS SIDE ELEVATION

NOTE: UNIT SHOWN IS TYPICAL 80-104-00 WITH INTEGRAL POWER PACK.

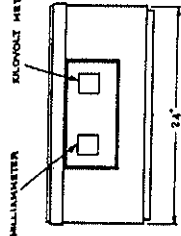
REFERENCES:
INTERCONNECTING WIRING 436799
AND PIPING



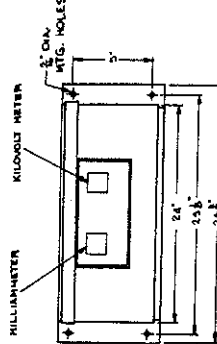
SIDE



INTEGRAL POWER PACK

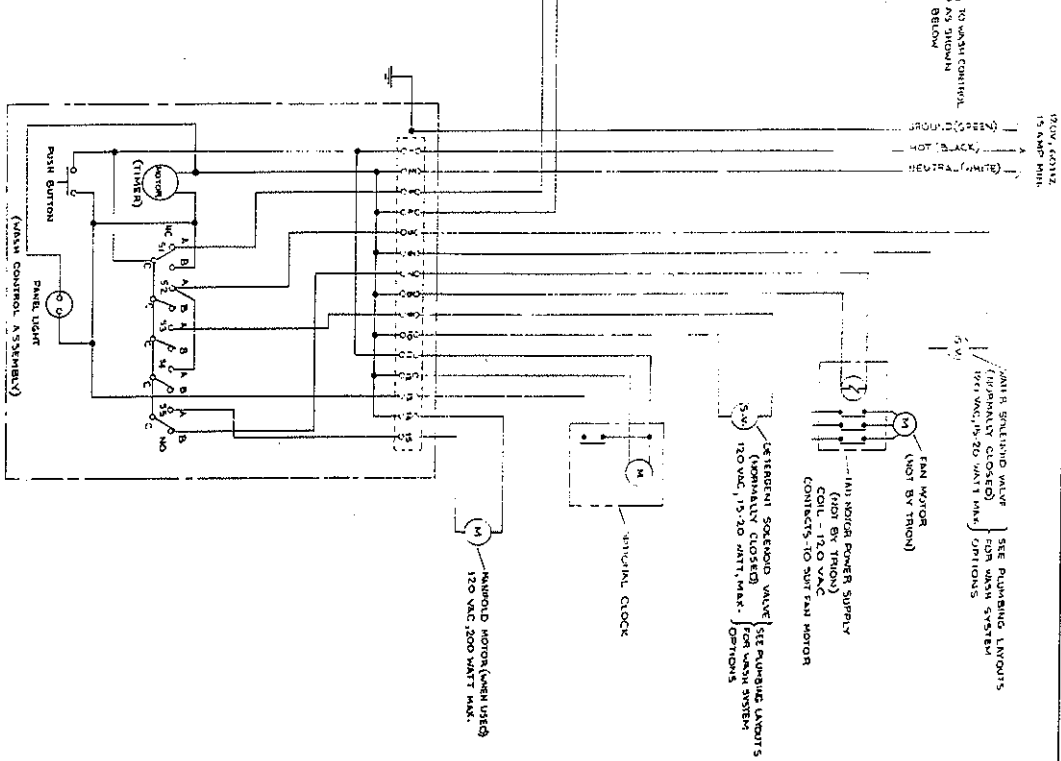
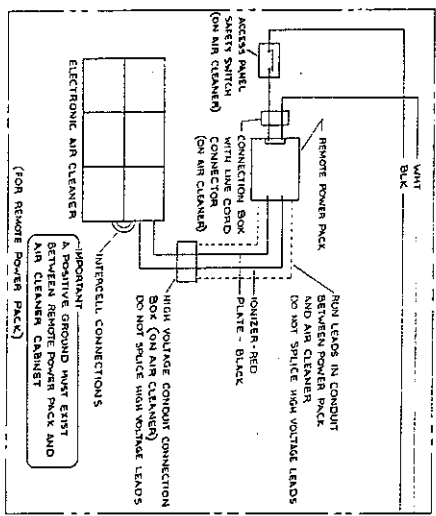
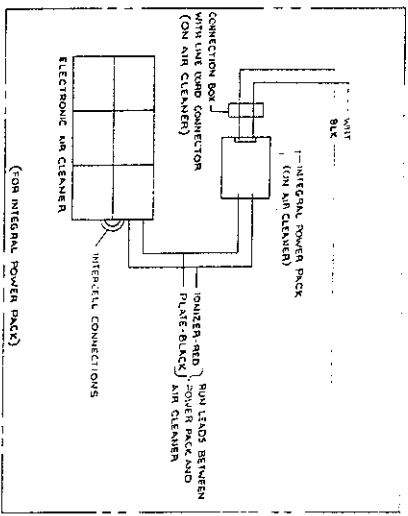


FRONT

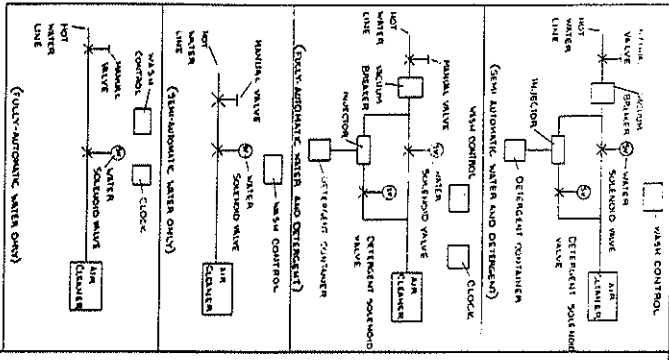


FRONT

TRICON, INC.
1100 W. 11TH ST. SUITE 2112
DENVER, CO 80202
TELEPHONE 303-733-1111
FAX 303-733-1112
CIRCLE 27 ON READER SERVICE CARD
OUTLINE DRAWING MODEL 80-104-00
436798
REV. 11/88



REFERENCE:
MODEL 80 OUTLINE 426766



MODEL NUMBER	WATER SYSTEM
80-103-00	14.5
80-104-00	14.5
80-105-00	18.5
80-106-00	7
80-107-00	8.5
80-108-00	9.5
80-109-00	10.5
80-110-00	12
80-103-00	7
80-204-00	9
80-205-00	11
80-206-00	14
80-207-00	17
80-208-00	19
80-303-00	16.5
80-304-00	13.5

MODEL NUMBER	WATER SYSTEM
80-103-00	14.5
80-104-00	14.5
80-105-00	18.5
80-106-00	7
80-107-00	8.5
80-108-00	9.5
80-109-00	10.5
80-110-00	12
80-103-00	7
80-204-00	9
80-205-00	11
80-206-00	14
80-207-00	17
80-208-00	19
80-303-00	16.5
80-304-00	13.5