

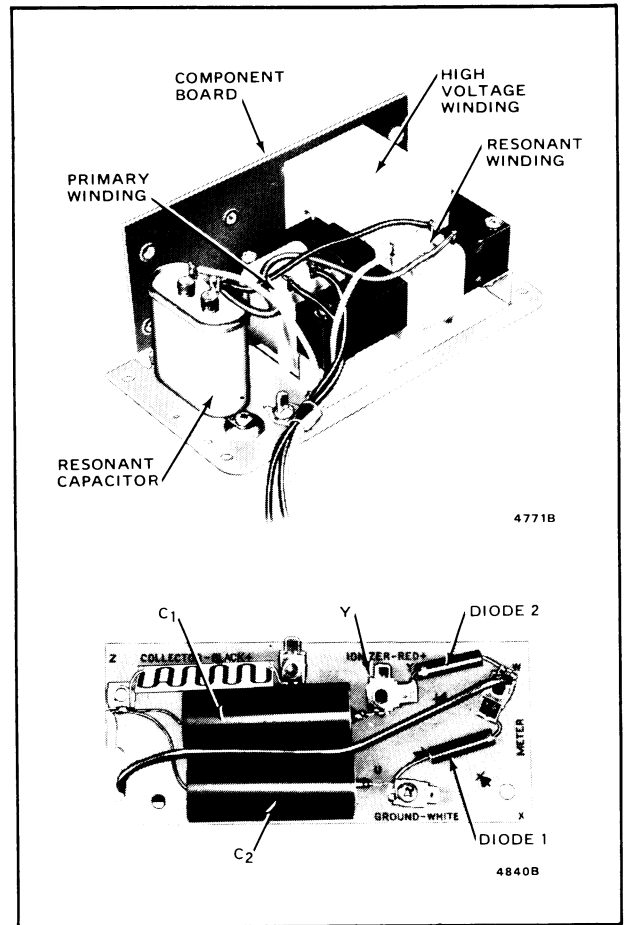
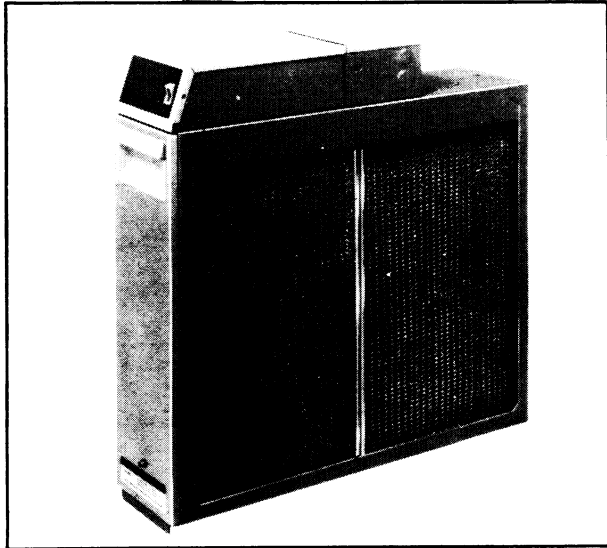
F50A,B

GENERAL DESCRIPTION

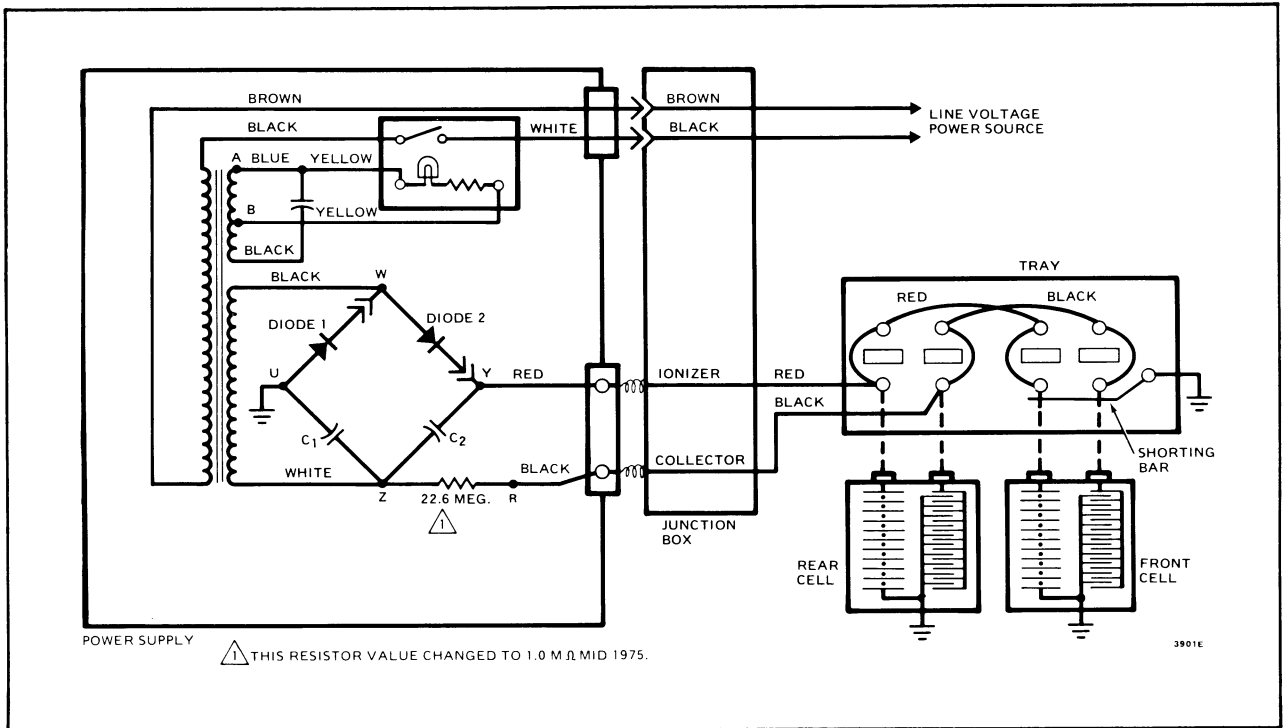
The F50 Electronic Air Cleaner replaced the F45 and F46 and was introduced in 1972 for use in central systems with capacities up to 2000 cfm. It uses the FC37A Electronic Cells.

ACCESSORIES USED WITH F50

- 136377A Remote Power Supply Mounting Kit.



INTERNAL SCHEMATIC DIAGRAM



SERVICE AIDS

- High voltage test meter—ac and dc.
- Spare diode (137073A) with alligator clip.

PREPARATION

1. Check to see that the electronic cells are clean, dry, and properly installed in the air cleaner cabinet.
2. To energize the air cleaner, turn on the system fan and turn air cleaner switch ON.

NORMAL VOLTAGES

	WITH CELLS	WITHOUT CELLS
Ionizer	7,500–8–500 Vdc	8,500–9,600 Vdc
Collector	3,000 Vdc minimum	3,500–4,800 Vdc
Transformer Secondary	—	3,200–4,100 Vac

ELECTRICAL TROUBLESHOOTING

Check out the electrical components of the F50 by observing the indicator light under various operating conditions. Follow the flow chart and refer to the instructions for checking components when indicated.

CHECK ELECTRONIC CELLS

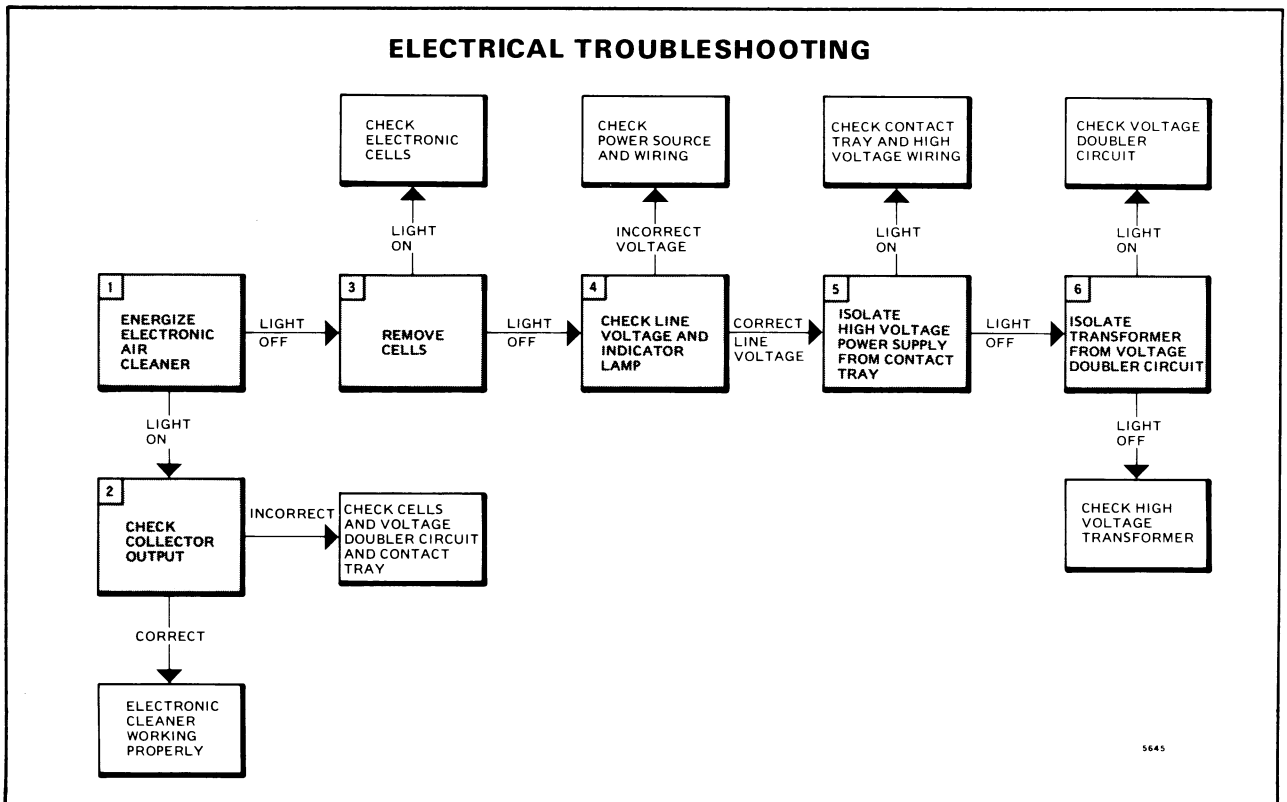
When diagnostic checks indicate a possible problem in the electronic cells, inspect them carefully for any sign of mechanical damage. Check for short circuits from contacts to ground.

CHECK VOLTAGE DOUBLER CIRCUIT

1. Check voltage across each capacitor with opposite diode unplugged. If both capacitor and diode are good, the voltage will be over 3,500 Vdc.
2. Check diode by substitution and if the voltage still isn't right, replace the capacitor.

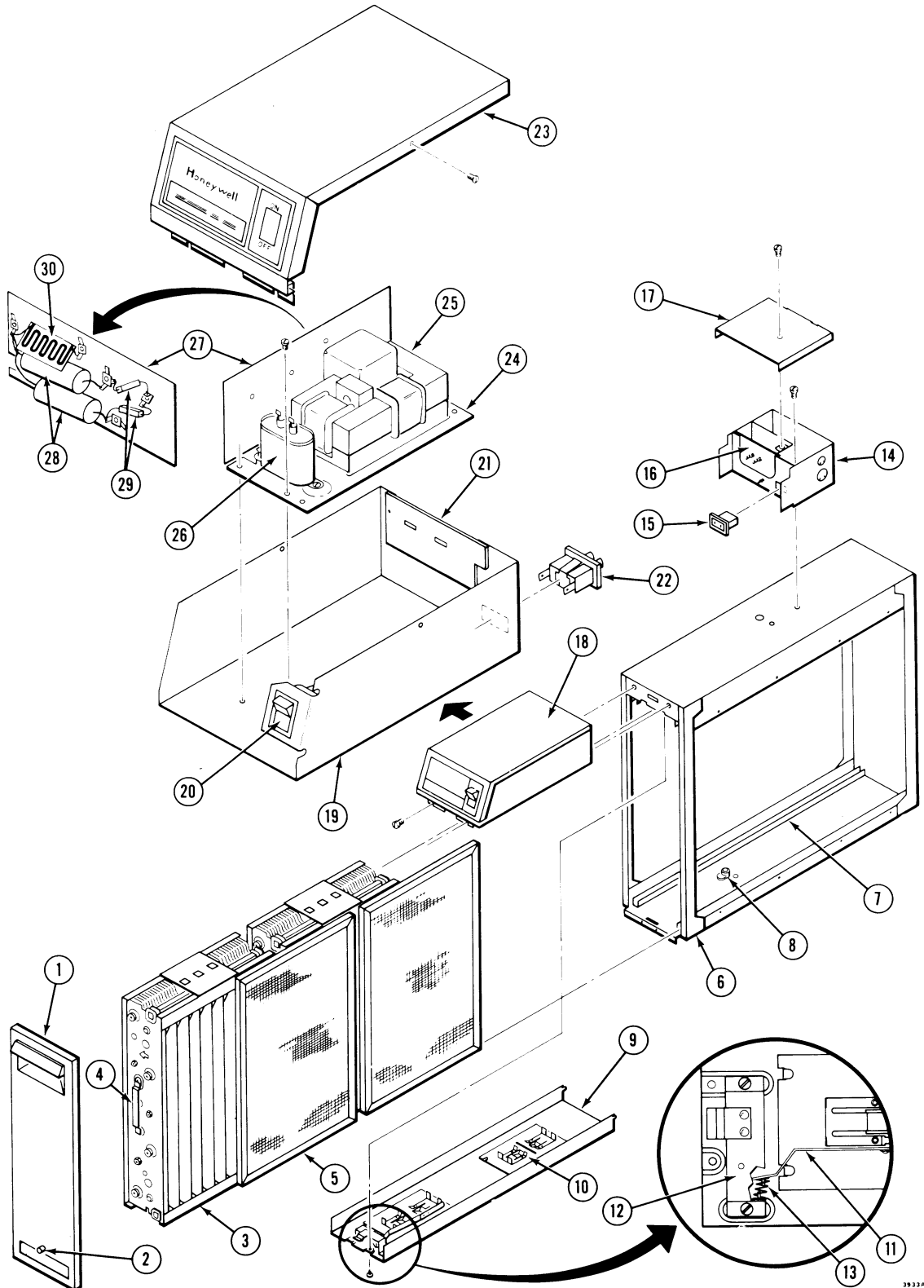
CHECK HIGH VOLTAGE TRANSFORMER

1. Disconnect black wire from the resonant capacitor.
2. Energize the air cleaner and measure *resonant winding* voltage.
 - a. If this voltage is over 150 Vac, the resonant capacitor is defective or the transformer secondary winding is open.
 - (1) De-energize the power supply and check for continuity of the secondary winding.
 - b. If this voltage is under 150 Vac, the transformer is defective and must be replaced.



F50

PARTS DRAWING



F50A,B

PARTS LIST

DRAWING NUMBER	DESCRIPTION	ORIGINAL PART NO.		REPLACEMENT PART NO.	
		16 X 25 INCH	20 X 25 INCH	16 X 25 INCH	20 X 25 INCH
1	Access Door (includes 2 below)	136393AB	136392AB	—	—
2	Test Button Assembly	137980A	137980A	—	—
3	Electronic Cell (2)	FC37A1130	FC37A1064	—	—
4	Cell Handle (2)	137266	137266	—	—
5	Protective Screen (2)	136388	136389	—	—
6	Cabinet	136403A	136402A	—	—
7	Cell Guide/Screen Channel (4)	136390	136390	—	—
8	Cell Key	136518	136518	—	—
9	Contact Panel Assembly (includes 10 through 12 below)	136399A	136399A	—	—
10	Contact Board (2)	136383A	136383A	—	—
11	Shorting Arm	136387A	136387A	—	—
12	Shorting Arm Bracket	136382A	136382A	—	—
13	Shorting Arm Spring	136517	136517	—	—
14	Junction Box Assembly (includes 15 through 16 below—less cover)	136394A	136394A	—	—
15	Electrical Connector—Female	136364	136364	—	—
16	Contact Board Assembly	136415A	136415A	—	—
17	Junction Box Cover	136386	136386	—	—
18	Power Box Assembly (includes 19 through 30 below)				
	120 V	136397B	136397A	—	—
	240 V	136397D	136397C	—	—
19	Case only	136397	136397	—	—
20	Switch/Indicator Light	136363	136363	—	—
21	Contact Board Assembly	136414A	136414A	—	—
22	Electrical Connector—Male	136366	136366	—	—
23	Power Box Cover	136396	136396	—	—
24	Power Supply (includes 25 through 30 below)				
	120 V	W919A1010	W919A1002	—	—
	240 V	W919A1036	W919A1028	—	—
25	High Voltage Transformer				
	120 V	136572AC	136572AA	136572AH ^b	136572AF ^b
	240 V	136572BB	136572BA	136572AM ^b	136572AL ^b
26	Resonating Capacitor—.6 μ F	136749	136749	191503	191503
27	Voltage Doubler Circuit Board (includes 28 through 30 below)	136596AA	136596AA	—	—
28	Capacitor (2), .022 μ F	136912	136912	—	—
29	Diode (2)	137073A	137073A	—	—
30	Resistor—22.6 M Ω Resistor	128675	128675	118965A ^a	118965A ^a
—	Ionizing Wires	136434BA	136434AA	—	—
—	Remote Mount Repair Kit	136377A	136377A	—	—
—	Remote Mount Base	136377	136377	—	—
—	Conduit Assembly	136376A	136376A	—	—
—	Cabinet Plug	136743	136743	—	—
—	Mounting Screws (4)	136375	136375	—	—

^aChanged to 1.0 M Ω resistor on new devices as of mid 1975.

^bChanged to this transformer on new devices mid 1975.