

TEPCO
MODEL M1800
Industrial Air Cleaner

OWNER'S MANUAL

**Installation & Service
Instructions**

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(919) 776-2201

SPECIFICATIONS

Air Handling Capacity	1800 CFM / 1500 / 1250
Power Requirements	115V, 60 Hz, 1 Phase
Power Consumption	972 Watts, 8.1 Amps
Controls	3-Speed Selector Switch
Cabinet Dimensions	47" L x 24" W x 25" H
Motor	1/2 HP Protected 1075 RPM
Weight	139 Lbs.

FILTERS

Pre-Filter	4" Pleated Std. 2" Poly Pad Opt. Wrap Around Opt.
Main Filter Bag	65% 70 sq. ft. Std. 95% 70 sq. ft. Opt. Texwood Opt.

CFM Delivered

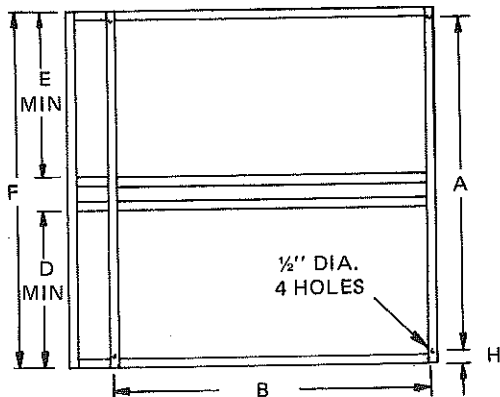
PRINCIPLES OF OPERATION

The Tepco Model M1800 consists of four basic components:

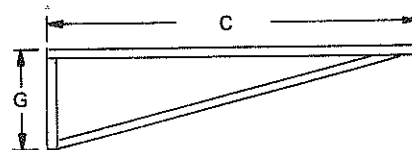
1. A cabinet for housing all components
2. A blower for moving the air
3. Electrical components and wiring
4. Collecting components (filters).

The air in any room contains millions of particles of dust. The composition of the dust will vary depending on the environment. The dust may be in the form of smoke, airborne dirt from outside, small particles of grease or moisture. The size of the particles (or particulate) will range from as little as .03 micron to anything large enough to remain airborne in the air. (A micron is one millionth of a meter.)

When the unit is turned on, the blower begins moving the air through the pre-filter section. The pre-filter collects the large dust and lint particles. The air then enters the main filter where the dust or smoke is trapped in millions of fibers of the bag. The cleaned air then passes through the unit and back into the room.



Air Flow
↓



MOUNTING BRACKET
1-1/2 x 1-1/2 x 1/8 Steel Angle

Model	A	B	C	D	E	F	G	H
	37 3/4	22 1/4	28	19 1/2	19 1/2	45	12	1"

DUCTING APPLICATION

The Model M1800 Air Cleaner is designed for a very limited duct system. The duct system must be carefully designed so that the air cleaner can handle the required amount of air without excessive static pressure loss. The direct-drive blowers cannot be modified by increasing blower speed or using a larger motor to correct for error in duct sizing. The duct system must be sized for a low static pressure loss. Capture hoods and duct design information may be obtained from the INDUSTRIAL VENTILATION HANDBOOK.

NEW UNIT INSPECTION

Immediately upon receiving the unit, carefully examine the carton for damage during transit. If unit is damaged, contact the last carrier for filing claim and your TEPCO Distributor.

While uncartoning the unit, look for concealed shipping damage. If there is damage it should be reported to the last carrier for filing claim and your TEPCO Distributor.

PREPARATION AND INSTALLATION

This Manual should be carefully read before starting the preparation and installation of the air cleaner.

The installation should conform to all local ordinances associated with building codes and electrical codes required for the unit. Authorities having jurisdiction should be consulted before installation is made. If there are no local codes, the installation should conform to the National Electrical Code.

For maximum air cleaning efficiency, your air cleaner should be located as specified by your TEPCO Distributor.

The Model M1800 is recommended for use in a dry environment.

The unit can be either wall-mounted or chain-hung. Eye bolts are supplied with the unit.

NOTE: Handling the cabinet is easier if you remove the cleaning components.

WALL OR POST MOUNTING

Below is a diagram of mounting brackets designed for use when the unit cannot be hung from the ceiling.

The bracket is used when the unit must be attached to a supporting wall or support column or post. When attaching the bracket to the wall, holes must be drilled completely through the wall and bolts with backplates used to secure bracket.

The bracket may be attached to a support column or post using nuts and bolts or by welding.

1. Drill four 3/8" mounting holes using the round indentations formed in the cabinet bottom panel for location.
2. Raise unit into position on the mounting bracket and secure to the bracket with four 3/16" x 1-1/4" bolts. Use two nuts per bolt, tightening them together to prevent loosening by vibration.
3. Re-install the cleaning components.

CAUTION: THE MAXIMUM WEIGHT OF THE MODEL M1800 IS 139 LBS. ANY MOUNTING ARRANGEMENT MUST BE ABLE TO SUPPORT THIS WEIGHT. FAILURE TO DETERMINE IF MOUNTING IS SUBSTANTIAL MAY RESULT IN DAMAGE OR INJURY WITHIN THE AREA.

The following materials will be needed to suspend the unit from the ceiling:

- A. 2/0 chain minimum rated at 205 lbs. working load.
- B. 12 lap links.
- C. 4 - 5/16" diameter eye bolts with two nuts per bolt supplied with the unit.
- D. 4 - 3" adjustable turnbuckles with eye bolts.

CAUTION: NO LESS THAN FOUR (4) CHAINS MAY BE USED TO SUSPEND UNIT FROM CEILING. CHAINS SHOULD NOT ANGLE FROM CEILING TO UNIT MORE THAN 15 DEGREES.

1. Remove the collector assemblies from the unit. This will reduce the weight to be lifted.
2. Drill four 5/16" mounting holes, using the round indentations formed in the cabinet top panel for location.
3. Install the eye bolts provided using two nuts per bolt. The nuts should be tightened together to prevent loosening by vibration.
4. Secure the chain to the ceiling by wrapping chains around beam or joist and securing with a lap link (total of four chains).
5. Fasten the turnbuckles to the eye bolts at each corner of the unit using four lap links. Fasten the remaining lap links to the free end of the turnbuckles.
6. Screw the turnbuckles out to approx. 1/2 full extension.
7. Raise unit up to chains, and fasten lap links to chains. Adjust turnbuckles until unit is level.
8. Re-install the pre-filter and collector assemblies.

For alternate installation methods, contact your local TEPCO Distributor.

CAUTION: DO NOT TAKE CHANCES. IF YOU ARE UNSURE ABOUT THE PRECEDING METHOD, OR ANY OTHER METHOD, STOP THE INSTALLATION UNTIL YOU ARE SATISFIED THAT THE METHOD OR PROCEDURE IS CORRECT.

The Model M1800 is shipped with a power cord suitable for plugging into a standard 3-wire, 115 Volt wall outlet (see Wiring Diagram). The outlet must have available 15 Amps at 115 Volts for proper operation. The power cord must be protected against damage.

CAUTION: DO NOT REMOVE THE THIRD PRONG ON THE POWER CORD. THIS UNIT (AS WITH MOST ELECTRICAL APPLIANCES) MUST BE GROUNDED FOR SAFEST OPERATION.

UNIT OPERATION

Plug the Model M1800 unit into a standard wall receptacle. If the receptacle is not of the 3-wire grounded type, an adapter can be purchased at any local electrical store.

To turn the unit on, move the toggle switch to the "ON" position. The blower should begin to move the air around the room.

MAINTENANCE

Precision equipment such as your TEPCO Air Cleaner will require a minimum amount of maintenance to keep it in good operating condition. All normal preventive maintenance can be done by you, or your local TEPCO Distributor may offer a maintenance and cleaning contract at a nominal charge. Contact him for details.

CAUTION: ALWAYS TURN THE UNIT OFF BEFORE WORKING ON OR NEAR THE MOTOR OR ITS WIRING ASSEMBLY. IF THE POWER DISCONNECT POINT IS OUT OF SIGHT, LOCK IT IN THE OPEN POSITION AND TAG TO PREVENT UNEXPECTED APPLICATION OF POWER.

The air cleaning components consist of a pre-filter and main filter.

The pre-filter and main filter are accessible through the inlet end of the unit allowing simple, fast replacement.

Filters are changed according to the pressure across the filter. An optional pressure gauge (magnahelic) and static pressure taps are available from your TEPCO Distributor. A U-tube or slant gauge with a range of 0-2" water column can also be used to read filter pressure. Install a pressure tap in the unit before and after the bag. Connect these taps to the pressure gauge.

Hi and Lo connections parts: A negative reading indicates that the taps are reversed at the gauge and should be swapped. Proper readings are as found below in the chart:

MAIN FILTER	CLEAN FILTER	RECOMMENDED FINAL
95%	.63	1.63
65%	.51	1.51

NOTE: These readings will vary slightly due to altitude and temperature.

Approximately 20% air flow reduction

Cleaning and Inspection of Cabinet:

After the dirty components have been removed, an inspection of the cabinet should be made. Remove all foreign debris and dirt accumulation inside the cabinet. Check for dirt accumulation on the blower wheel blades, and clean if there is a build-up. Inspect all wiring for loose connections and cracked insulation.

Bearing of both blower and blower motor should be checked for signs of unusual wear.

Rubber gasketing should be checked twice a year. Aging occurs primarily due to ozone present in ambient air and eventually hardens the rubber and causes cracking and loss of seal. Contact your TEPCO Distributor for replacement.

Upon installation of the unit, note the initial pressure reading. Check daily and replace pre-filter at the reading shown in the table. Pressure should return to near the initial pressure reading. When the pressure reading, with new pre-filter, shows little improvement (less than 0.1") allow unit to run until recommended final pressure is reached. At that point, both pre-filter and main filter should be replaced.

Once a pattern has been established, the pre-filters can be replaced on a calendar basis with the main filter being replaced when the gauge reads as "Recommended Final" in the table.

For example, if the unit takes six weeks to go from 0.63 to 0.85, the pre-filter would then be replaced every six weeks until no change occurred in the pressure reading when the pre-filter is replaced. At that point, the unit would be allowed to run until 1.0 and both filters replaced.

NOTE: THE UNIT CAN CONTINUE TO RUN BEYOND THE 1.0 PRESSURE READING; HOWEVER, AIR FLOW WILL BE REDUCED FURTHER.

TROUBLESHOOTING

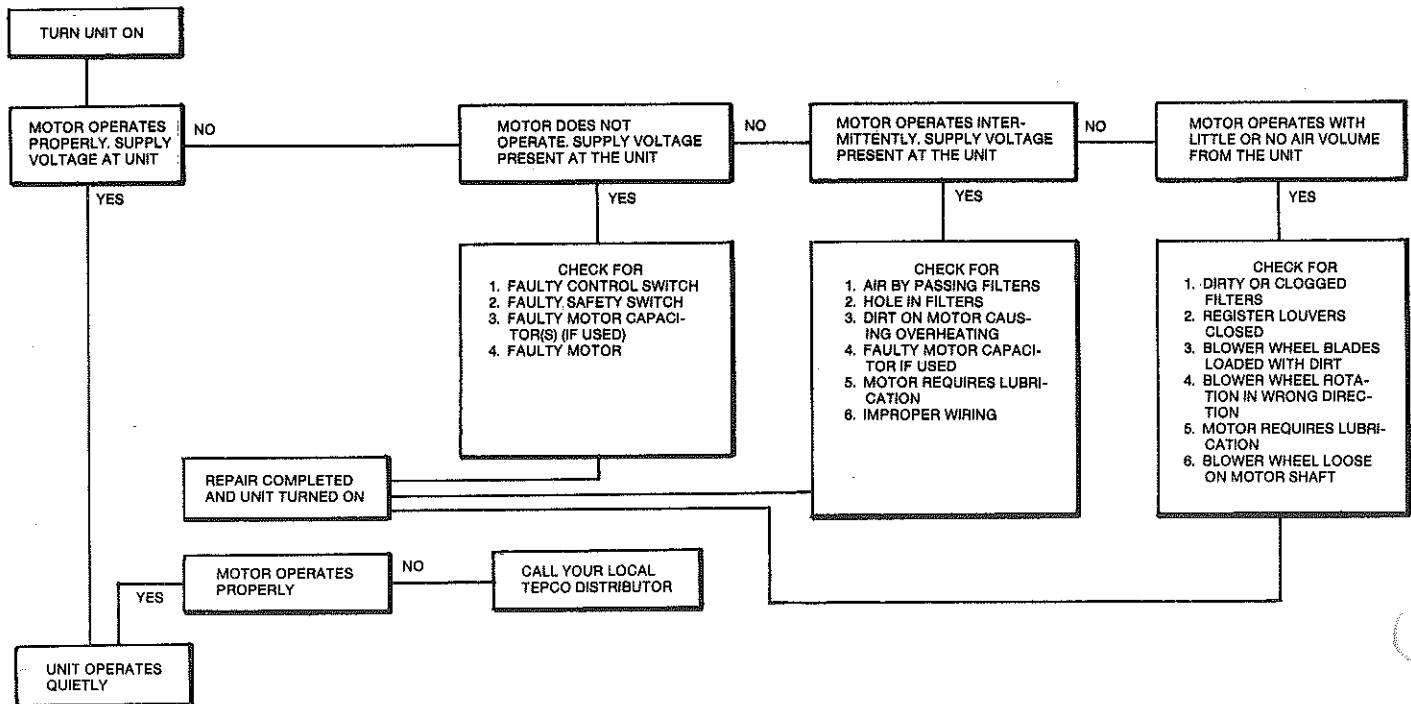
All TEPCO Air Cleaners are manufactured to give the user continued, trouble-free service. However, as with all mechanical equipment, breakdowns do occur.

The following chart will enable the user to pinpoint the cause of most problems. Then refer to the "Parts Ordering Information" Section for replacement parts.

Before troubleshooting the unit, refer to the Wiring Diagram, check for proper wiring connections and the input line voltage. A minimum voltage of 108 VAC is required.

A special test cord can be made for amperage tests with a clamp-on meter. The cord set is made using three individual insulated wires to connect the terminals of a 3-wire, 15 Amp, grounded male plug and a 3-wire, 15 Amp, grounded female plug. Use this cord set to connect unit to the wall plug.

TROUBLESHOOTING PROCEDURE



REPLACEMENT PARTS ORDERING INFORMATION

The following pages contain Exploded Views and Bill of Material for the TEPCO Model M1800. Use these pages to determine the part numbers of items which are needed.

To order repair parts, contact your local TEPCO Distributor.

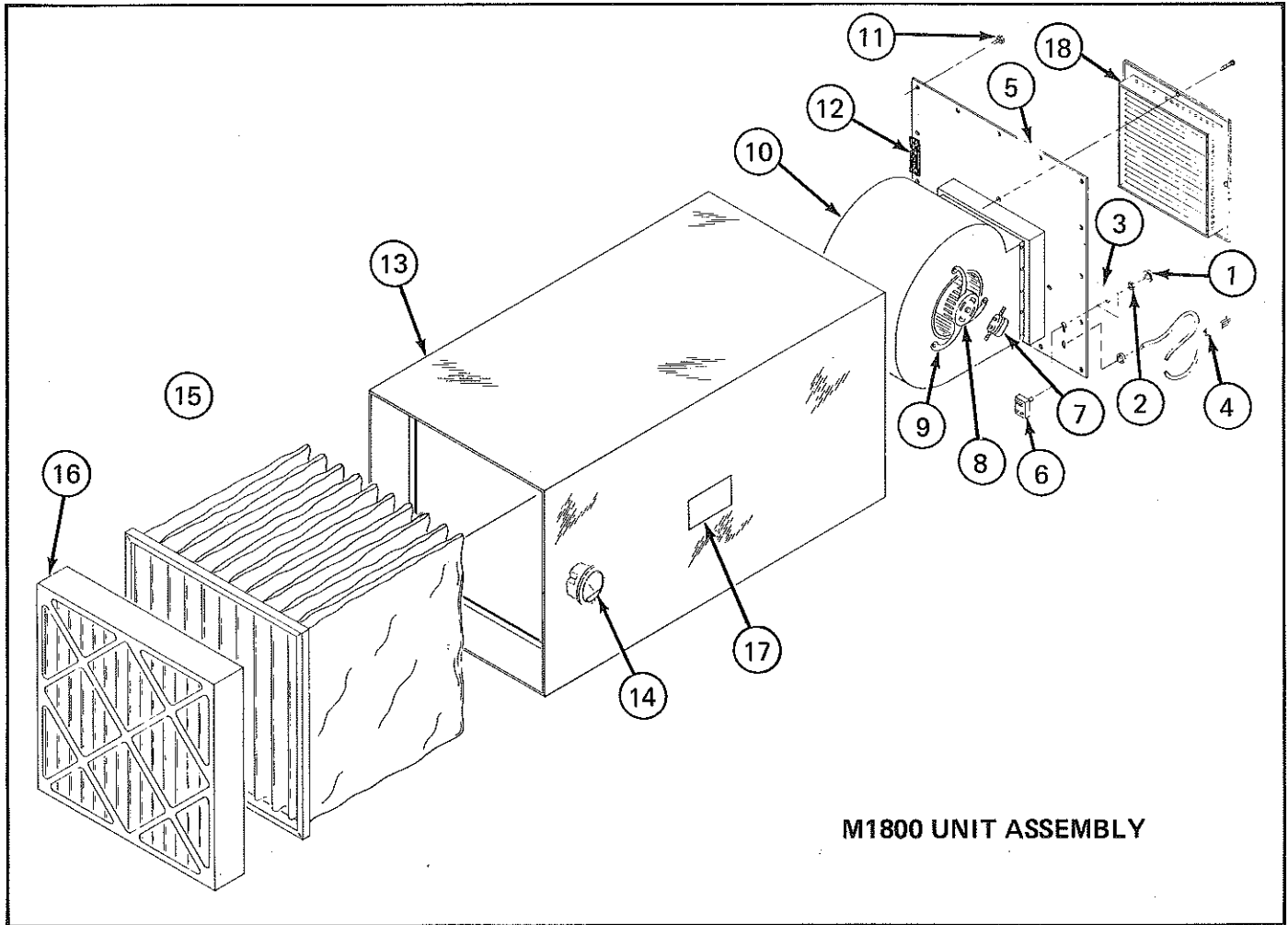
The following information will be required for prompt delivery of repair parts:

1. Unit Model Number
2. Unit Serial Number
3. Part Number & Description

Located

- ID Plate below switch
- ID Plate below switch
- Exploded Views

Give item and part number from Unit Exploded View when ordering replacement parts.



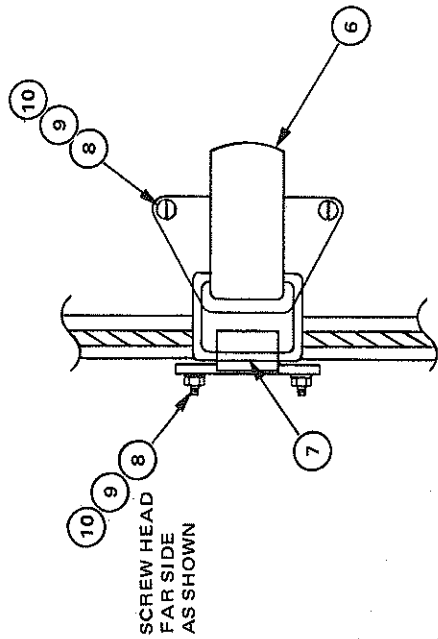
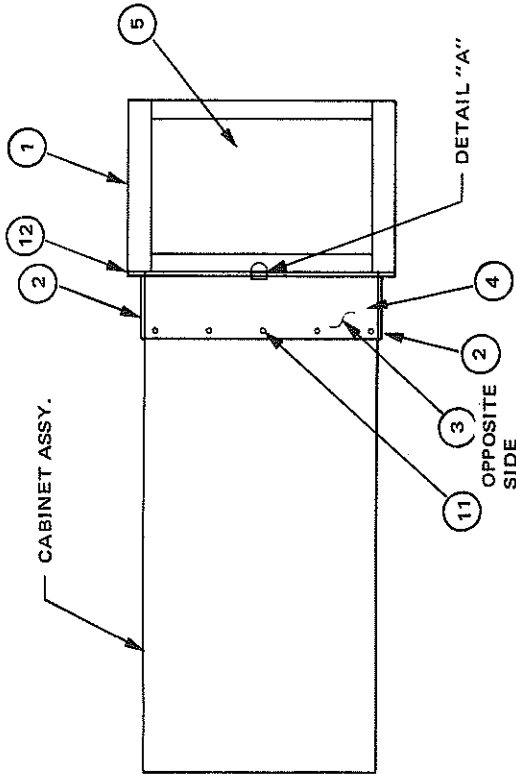
M1800 UNIT ASSEMBLY

M1800 UNIT ASSEMBLY

Item	Part Number	Description	Item	Part Number	Description
1	90000-0020-02	Knob	11	222005-017	Screw
2	121912-001	Jam Nut	12	224779-024	Gasket
3	2-1500-0000-06	Label "Low-Med-Hi"	13	2-1500-9000-00	Cabinet
4	2-1500-1200-01	Power Cord	14	137668-001	Pressure Gage Kit (Magnahelic) - Opt.
5	2-1500-9005-00	Front Panel	15	1500-3000-0001	Air Filter Bag, 65% - Std.
6	72003-0100-0005	Switch	15A	1500-3000-0002	Air Filter Bag, 95% - Opt.
7	129040-003	Capacitor 10 MFD * 370 VACL	15B	1500-3002-00	Air Filter Bag, Texwood - Opt.
7A	129040-001	Capacitor (50 Hz) 7.5 MFD * 370 VAC	16	69000-0001-19	4" Pleated Prefilter - Std.
8	71041-2010-0008	Motor 115V, 60 Hz	16A	137356-004	2" Polyester Pad Prefilter - Opt.
8A	137330-001	Motor 230V, 50 Hz	17	236936-001	Nameplate
9	62000-0008-05	Motor Bracket	18	69000-0002-05	Outlet Grill
10	62000-0012-12	Blower-Less Motor			

**M-1800 WRAP - AROUND PLENUM
INSTALLATION INSTRUCTIONS**

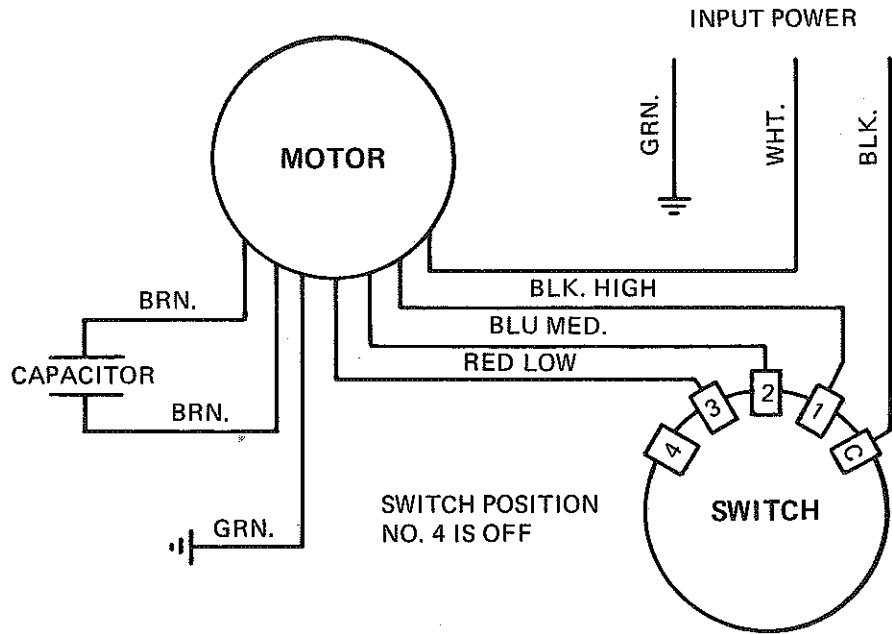
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	1500-9014-00	W/A Plenum
2	2	1500-9021-00	Top/Bottom Support
3	1	1500-9024-00	R. Support With Hinge
4	1	1500-9023-00	L. Support
5	1	137356-001	W/A Filter
6	1	60000-0001-09	Door Latch
7	1	60000-0001-08	Strike-Latch
8	4	120034-204	Screw #8 - 32x3/8
9	4	120033-006	Washer-Lock #8
10	4	120036-005	Nut - #8
11	20	222005-017	Screw #8 HWH
12	8.5'	224779-018	Gasket 1/2x1/4



INSTRUCTIONS:

1. Located supports, Items 2,3, & 4 flush with the right end and top and bottom of the 1800 Cabinet as shown.
2. Using Item 11, Self Drill-Self Tapping Screws, fasten 2,3, & 4 in place.
3. Attach Item 1 Wrap-Around to Item 3 Hinge with Item 11 Screws.
4. Attach Latch Assembly, Items 6,7,8,9 & 10 per Detail A.
5. Apply Gasket Item 12 to the flanged part of Item 1,2&3.
6. Close the W/A Plenum Assembly and adjust overall fit at the hinge if necessary.

**OPTIONAL
WRAPAROUND PLENUM ASSEMBLY**



M1800 WIRING DIAGRAM