

# TRION<sup>®</sup>

Indoor Air Quality



READ AND SAVE THESE INSTRUCTIONS

**Air Boss<sup>®</sup> Model M2500**  
Industrial Air Cleaner

# Industrial Air Cleaner AIR BOSS® M2500

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## Specifications

<b>Air Handling Capacity</b>	1240-2010 CFM
<b>Power Requirements</b>	120V, 60 Hz, 1 Phase
<b>Power Consumption</b>	1090 Watts, 10.5 Amps Max
<b>Controls</b>	3-Speed Selector Switch
<b>Cabinet Dimensions</b>	47" L x 25" W x 25" H
<b>Motor</b>	3/4 HP Direct Drive Thermally Protected
<b>Weight</b>	180 lbs.
<b>Shipping Weight</b>	250 lbs.
<b>Filters</b>	
<b>Pre-Filter</b>	4" Pleated Std. (35%) 2" Poly Pad Opt. 3-Way Wraparound Opt.
<b>Main Filter Bag</b>	95% 70 sq. ft. Std. 65% 70 sq. ft. Opt.

## Principles of Operation

The TRION Model M2500 consists of four basic components:

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

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

When the power 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 smoke and other smaller particles are trapped in the fibers of the bag filter. The cleaned air then passes through the unit and back into the room.

## 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 TRION Representative. While unpacking the unit, look for

concealed shipping damage. If there is damage it should be reported to the last carrier for filing claim and your TRION Representative.

## Preparation and Installation

### CAUTION

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 Electric Code.

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

For maximum air cleaning efficiency, your air cleaner should be located as specified by your TRION Representative.

The Model M2500 is recommended for use for dry applications only.

The unit can be either wall-mounted or suspended. Eye bolts are supplied with the unit in order to suspend with chain.

### NOTE

Handling the cabinet is easier if you remove the cleaning components to remove excess weight.

### Post Mounting

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 5/16" 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 M2500 IS 180 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.

**Suspended Mounting**

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

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

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

**CAUTION**

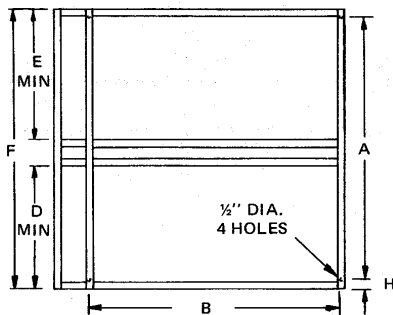
NO LESS THAN FOUR (4) CHAINS MAY BE USED TO SUSPEND UNIT FROM CEILING. CHAINS SHOULD NOT ANGLE FROM CEILING TO UNIT MORE THAN 15 DEGREES.

1. Remove the collecting components from the unit. This will reduce the weight to be lifted.
2. Drill four 3/8" mounting holes, using the round indentations formed in the cabinet top panel for location.
3. Install the eyebolts 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 eyebolts 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 collecting components.

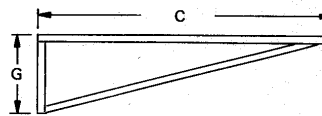
For alternate installation methods, contact your local TRION Representative.

**CAUTION**

DO NOT TAKE CHANGES. IF YOU ARE UNSURE ABOUT THE PRECEDING METHOD, OR ANY OTHER INSTALLATION METHODS, STOP THE INSTALLATION UNTIL YOU ARE SATISFIED THAT THE METHOD OR PROCEDURE IS CORRECT, OR CONTACT YOUR TRION REPRESENTATIVE.



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 3/4	28	19 1/2	19 1/2	45	12	1"

The Model M2500 is shipped with a power cord suitable for plugging into a standard 3-wire, 120 Volt wall outlet (see Wiring Diagram). The outlet must have available 15 Amps at 120 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 SAFE OPERATION.

## Unit Operation

Plug the Model M2500 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 3-speed selector switch to the "ON" position. The blower should begin to move the air around the room.

## Maintenance

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

### CAUTION

ALWAYS TURN THE UNIT OFF BEFORE WORKING ON OR NEAR THE MOTOR OR ITS WIRING ASSEMBLY. LOCK THE POWER DISCONNECT IN THE OPEN POSITION AND TAG TO PREVENT UNEXPECTED APPLICATION OF POWER.

The collecting components consist of a pre-filter and main filter, which 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 and static pressure taps are available from your TRION Representative.

Install a pressure tap in the unit before the pre-filter and after the bag. Connect these taps to the pressure gauge. Upon installation of the unit, note the initial pressure reading and record it. Check daily and replace pre-filter after the reading increases 1". 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.

Hi and Lo connections of pressure gauge: A negative reading indicates that the taps are reversed at the pressure tubes and must be switched.

### NOTE

The unit can continue to run beyond the 1.0 pressure reading; however, air flow will be reduced further. Do not allow the motor to overheat.

### 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.

The bearings 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 that eventually hardens the rubber and causes cracking and loss of seal. Contact your TRION Representative for replacement.

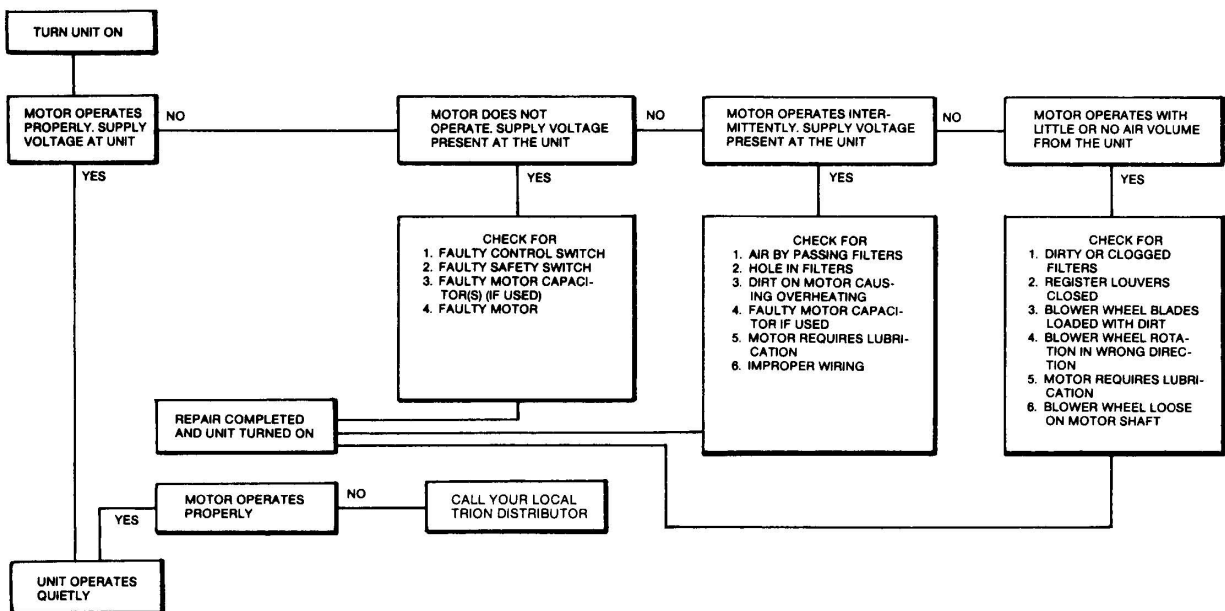
## Troubleshooting

All TRION Air Cleaners are manufactured to give the user continue, 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.



## Replacement Parts

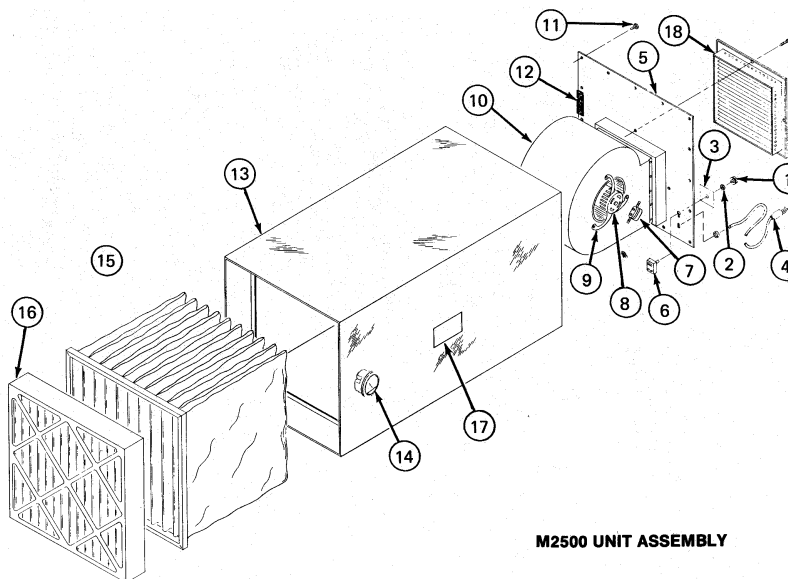
The following pages contain Exploded Views and Bill of Material for the TRION Model M2500. Use these pages to determine the part numbers of items which are needed.

To order repair parts, contact your local TRION Representative.

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

1. Unit Model Number, located on the ID plate below the switch
2. Unit Serial Number, located on the ID plate below the switch
3. Part number and description, located on the follow exploded views

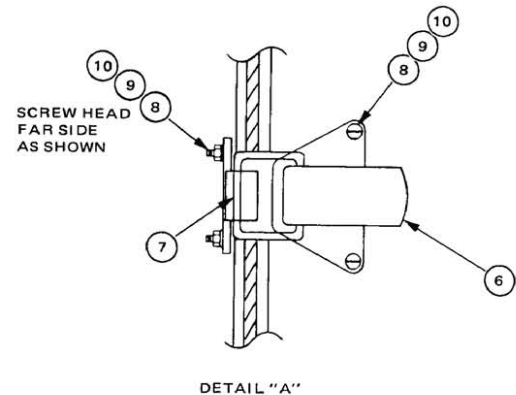
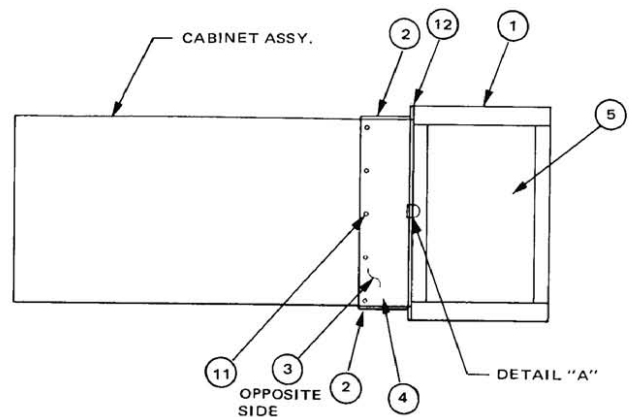
Give item number from Unit Exploded View (page 7) when ordering replacement parts.



**M2500 UNIT ASSEMBLY**

## M2500 Unit Assembly

Item	Part No.	Description
1	90000-0020-06	Knob
2	121912-001	Jam Nut
3	245293-001	Label "Low-Med-Hi"
4	2-1500-1200-01	Power Cord
5	441385-001	Front Panel
6	72003-0100-0005	Switch
7	140204-002	Capacitor 20 MFD*370 VACL
8	242552-001	Motor 115V, 60 Hz
9	240501-002	Motor Bracket
10	241415-001	Blower - Less Motor
11	222005-017	Screw
12	224779-024	Gasket
13	441413-001	Cabinet
14	137668-001	Pressure Gauge Kit (Magnahelic), - Opt.
15	A2500-3000-6822	Air Filter Bag, 65% - Std.
15A	A2500-3000-9822	Air Filter Bag, 95% - Opt.
15B	A2500-3002-0001	Air Filter Bag, Textwood - Opt.
16	69000-0001-19	4" Pleated Pre-Filter - Std.
16A	137356-004	2" Polyester Pad Pre-Filter - Opt.
17	252029-002	Label
18	341443-001	Outlet Grill



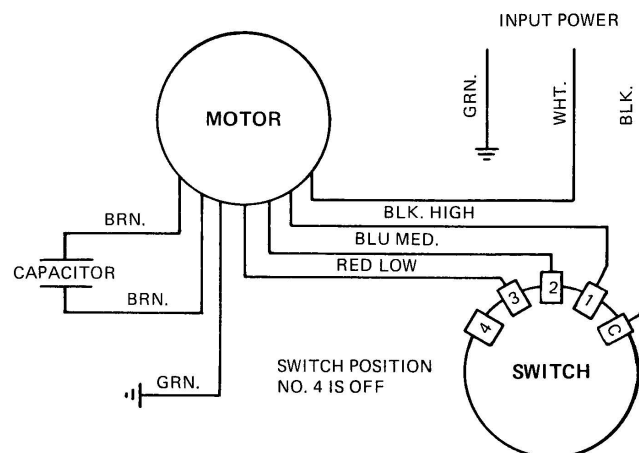
## Optional Wraparound Plenum Assembly

Item	Qty.	Part No.	Description
1	1	442539-001	W/A Plenum
2	1	240164-001	Plenum Hinge
3	1	137356-001	W/A Filter
4	1	60000-0001-09	Door Latch
5	1	60000-0001-08	Strike Latch
6	9	120034-024	Screw #8 - 32 x 3/8
7	9	121800-004	Nut - Washer
8	78"	224779-013	Gasket - 1/4 x 3/4
9	24"	224779-024	Gasket - 1/8 x 1/2
10	1	A2500-8001-DWG	Installation Instructions

## Warranty

All TRION air cleaners are warranted for component failure and workmanship for a period of three years after purchase. Do not return defective parts without prior permission from the factory. Contact your local TRION Distributor or TRION Customer Service Department at 1-800-884-0002 or fax 1-800-458-2379 to obtain material return authorizations and service information.

**M2500 WIRING DIAGRAM**





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