INSTALLATION INSTRUCTIONS

COMMERCIAL ROOM VENTILATOR WITH EXHAUST

Model:
CRVS-1A

For Use with Bard 1 Ton
Wall Mount Air Conditioner

Bard Manufacturing Company, Inc.
Bryan, Ohio 43506
www.bardhvac.com

Manual : 2100-617B
Supersedes: 2100-617A
Date: 11-19-18

CONTENTS

BARD MANUFACTURING COMPANY, INC.
BRYAN, OHIO USA 43506

GENERAL INFORMATION

The ventilator should only be installed by a trained heating and air conditioning technician. These instructions serve as a guide to the technician installing the ventilator package. They are not intended as a step-by-step procedure with which a mechanically inclined owner can install the package.

The ventilator housing is shipped in one carton which contains the electrical harness, miscellaneous hardware and installation instructions.

UNPACKING

Upon receipt of the equipment be sure to compare the model number found on the shipping label with the accessory identification information on the ordering and shipping document to verify that the correct accessory has been shipped.

Inspect the carton housing of each ventilator as it is received, and before signing the freight bill, verify that all items have been received and that there is no visible damage. Note any shortages or damage on all copies of the freight bill. The receiving party must contact the last carrier immediately, preferably in writing, requesting inspection by the carrier's agent. Concealed damage not discovered until after loading must be reported to the carrier within 15 days of its receipt.

DESCRIPTION

The CRVS-1A ventilator is designed to be used with Bard 1 ton wall mount series air conditioners. It is an electromechanical vent systems designed to provide fresh air to meet indoor air quality standards.

MODELS:

When installed in the above listed model, the CRV provides built in exhaust provisions. When the damper blade opens to bring fresh air in, the damper also opens an exhaust relief. The exhaust air will flow into the condenser section of the unit. The condenser fan will help draw exhaust air out.

BASIC INSTALLATION

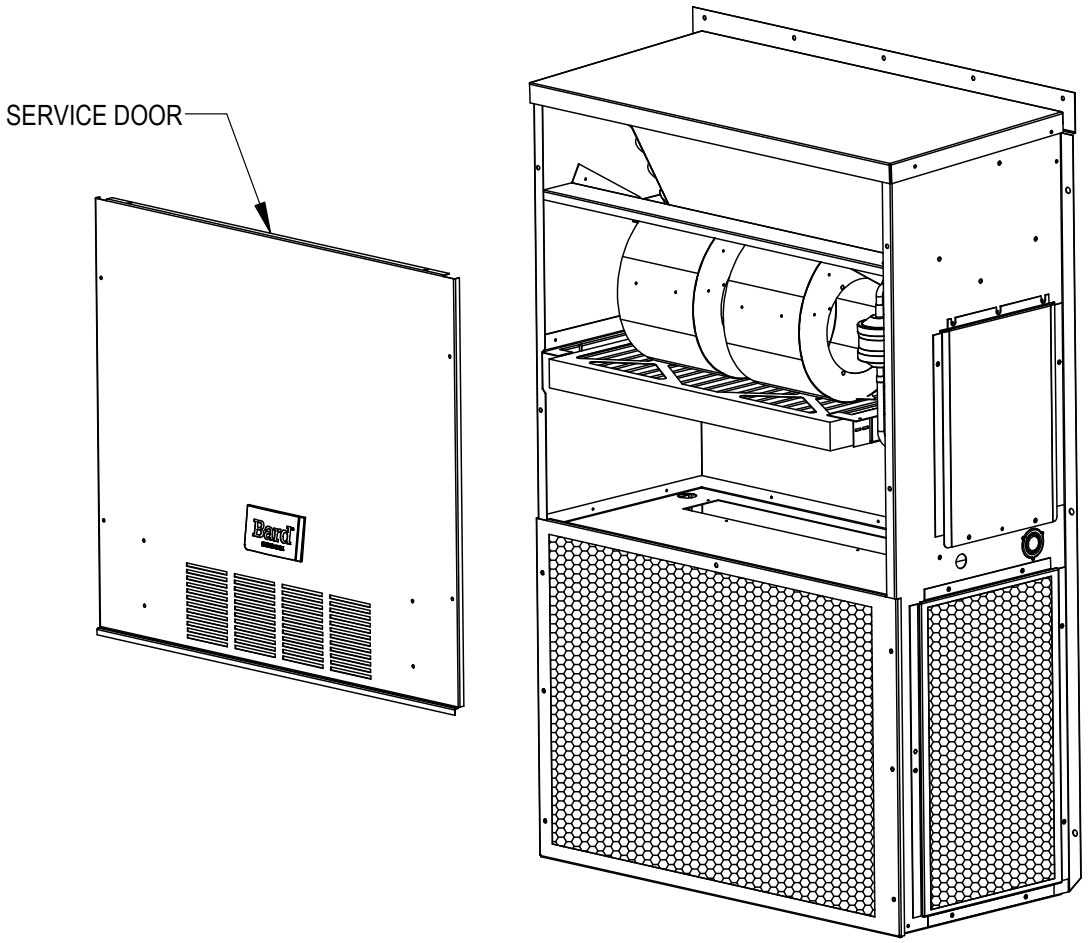
⚠ WARNING

Open and lock unit disconnect switch before installing this accessory to prevent injury or death due to electrical shock or contact with moving parts. Turn thermostat to OFF.

1. Unpack the ventilator assembly which includes the integral ventilator with attached electrical harness, mixed air thermistor, miscellaneous hardware and installation instructions.
2. Remove and save the existing exterior service access panel on the Bard wall mount unit. (See Figure 1.)

NOTE: Removal of Barometric Fresh Air Damper (BFAD) may be required.

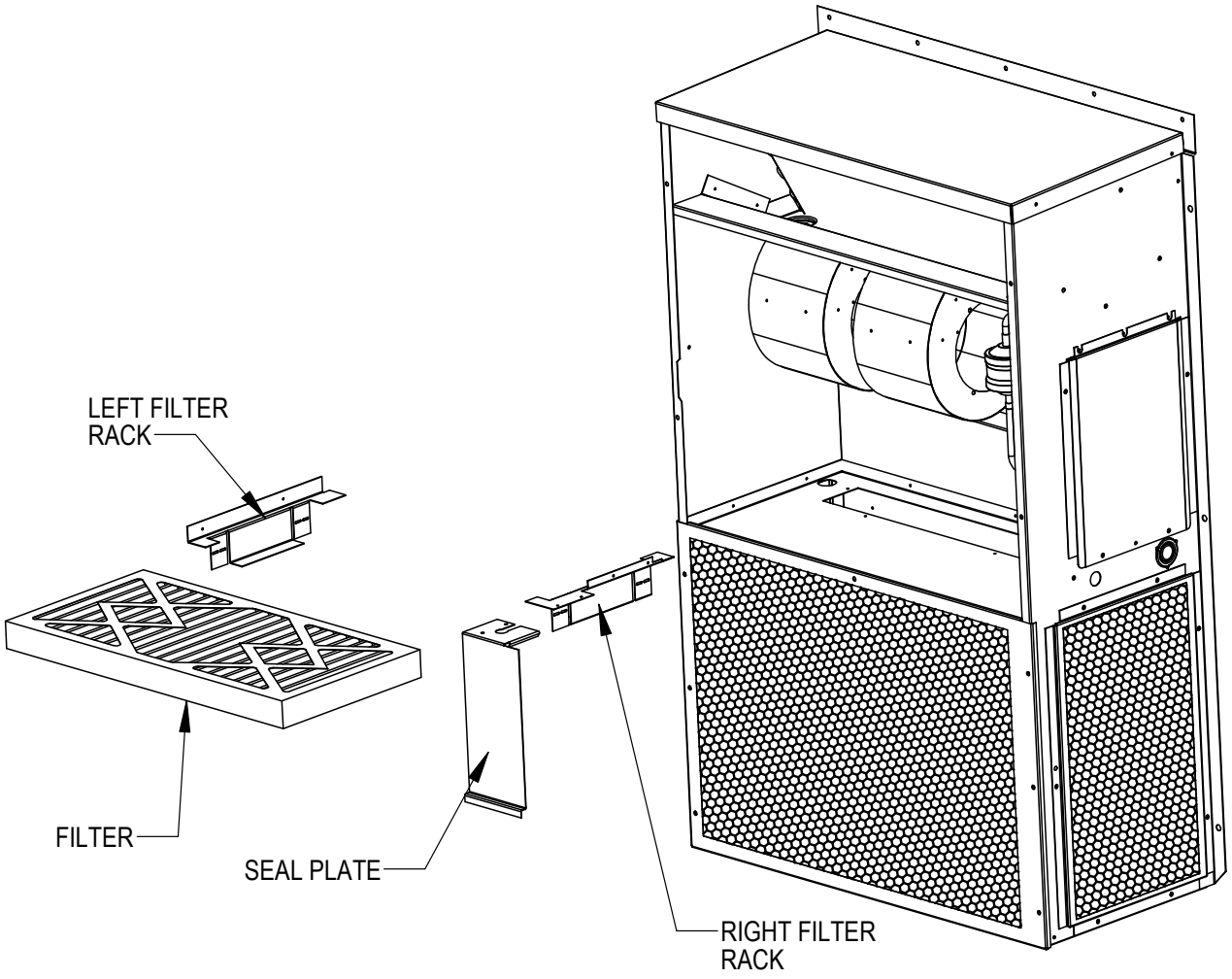
FIGURE 1
REMOVE SERVICE ACCESS PANEL



MIS-3589

3. Remove and save existing right and left side filter support bracket. Remove and save filter.
4. Remove and discard the exhaust cover plate. (See Figure 2.)

FIGURE 2
REMOVE FILTER SUPPORT BRACKETS, FILTER AND EXHAUST COVER PLATE

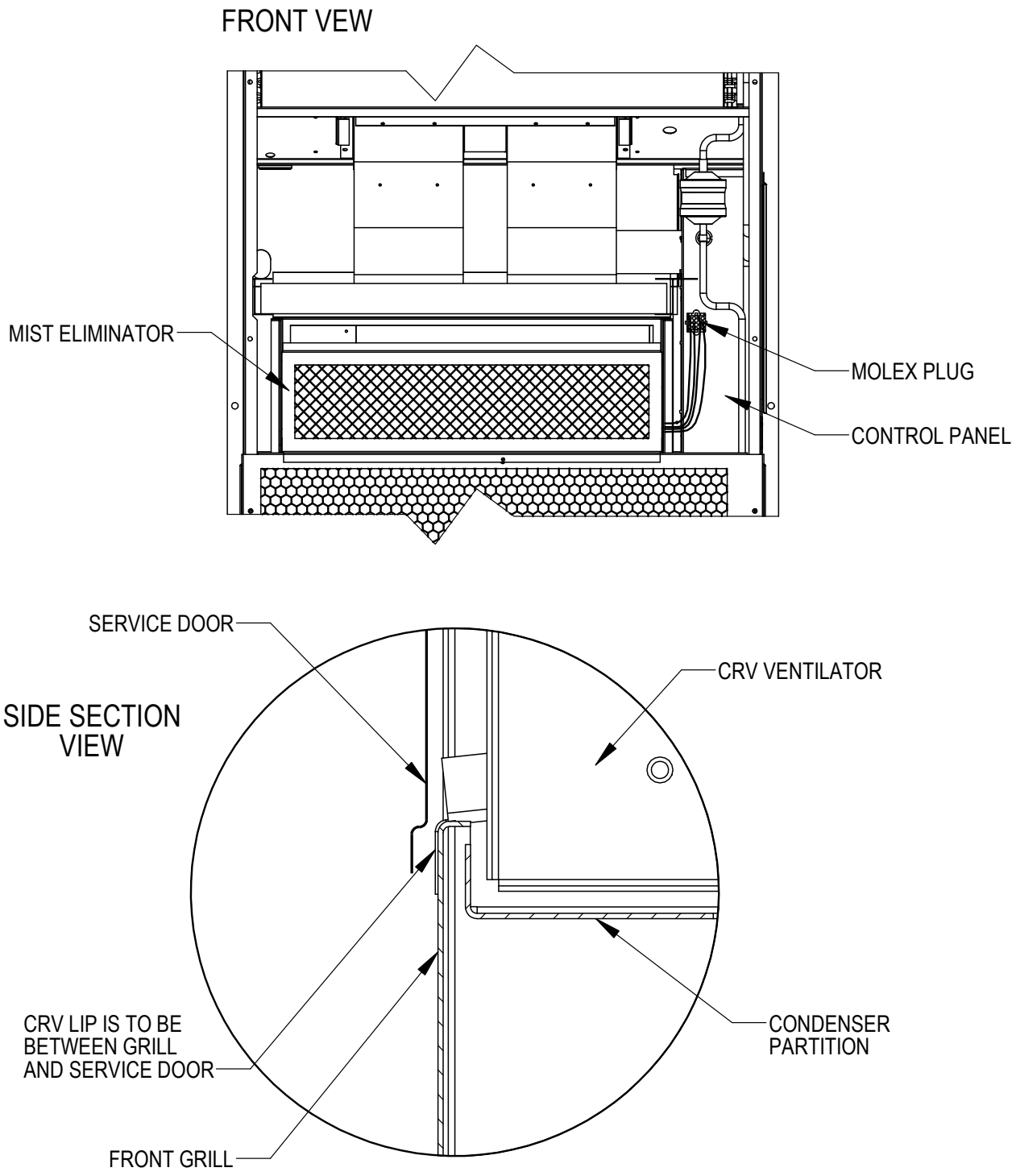


MIS-3595

5. Install ventilator by inserting the ventilator into the unit to the far left side. Once the ventilator is fully inserted, slide the ventilator to the right until it is tight against the back of the control panel. (See Figure 3.)

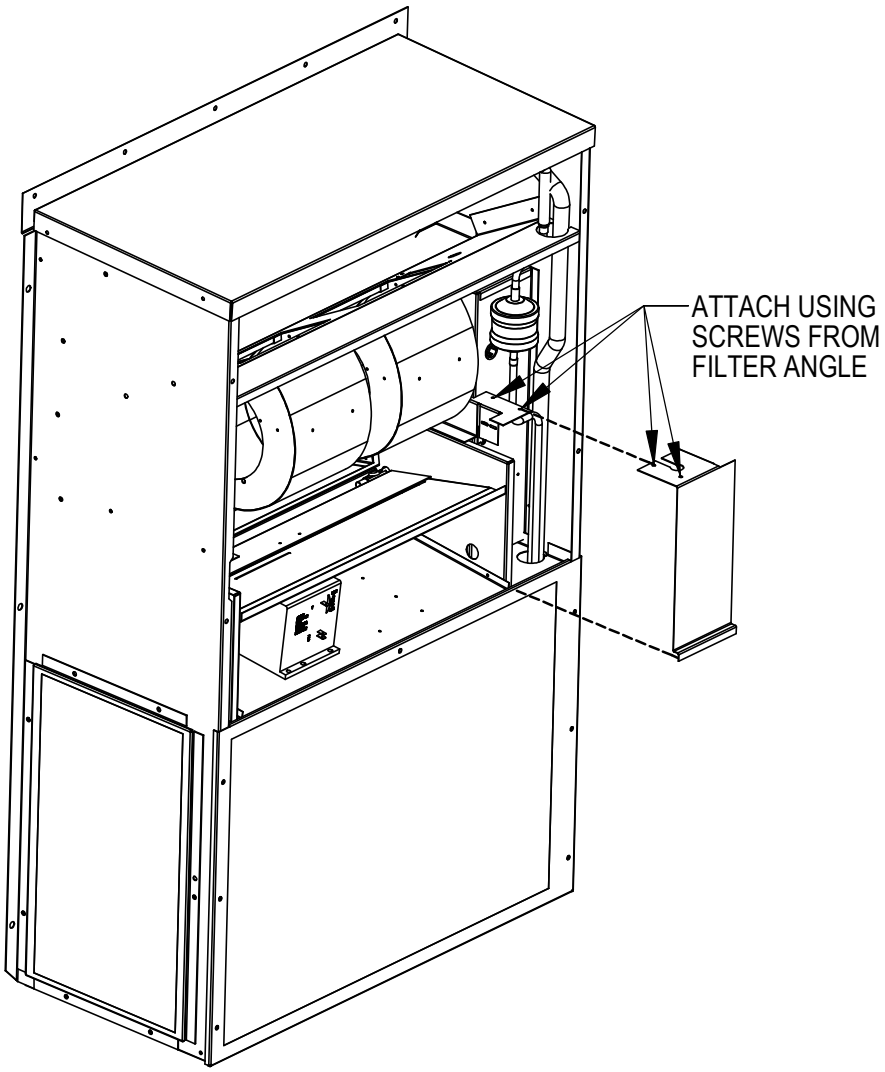
IMPORTANT: Position front lip of ventilator over the front grille. (See Figure 3 inset.) This is important to ensure proper drainage of any water entering damper assembly.

FIGURE 3
INSTALLING VENTILATOR IN UNIT



6. Open unit control panel to gain access to unit low voltage terminal block.
7. Plug vent wire connector into the molex connector on the side of the control panel.
8. Add necessary jumpers on the low voltage terminal block. (See Figures 8a and 8b for connection diagrams.)
9. Close control panel cover.
10. Re-install filter brackets and filter.
11. Remove the two screws holding the seal plate on filter bracket and discard seal plate. Install new seal plate (part no. 536-755). Replace screws. See Figure 4.

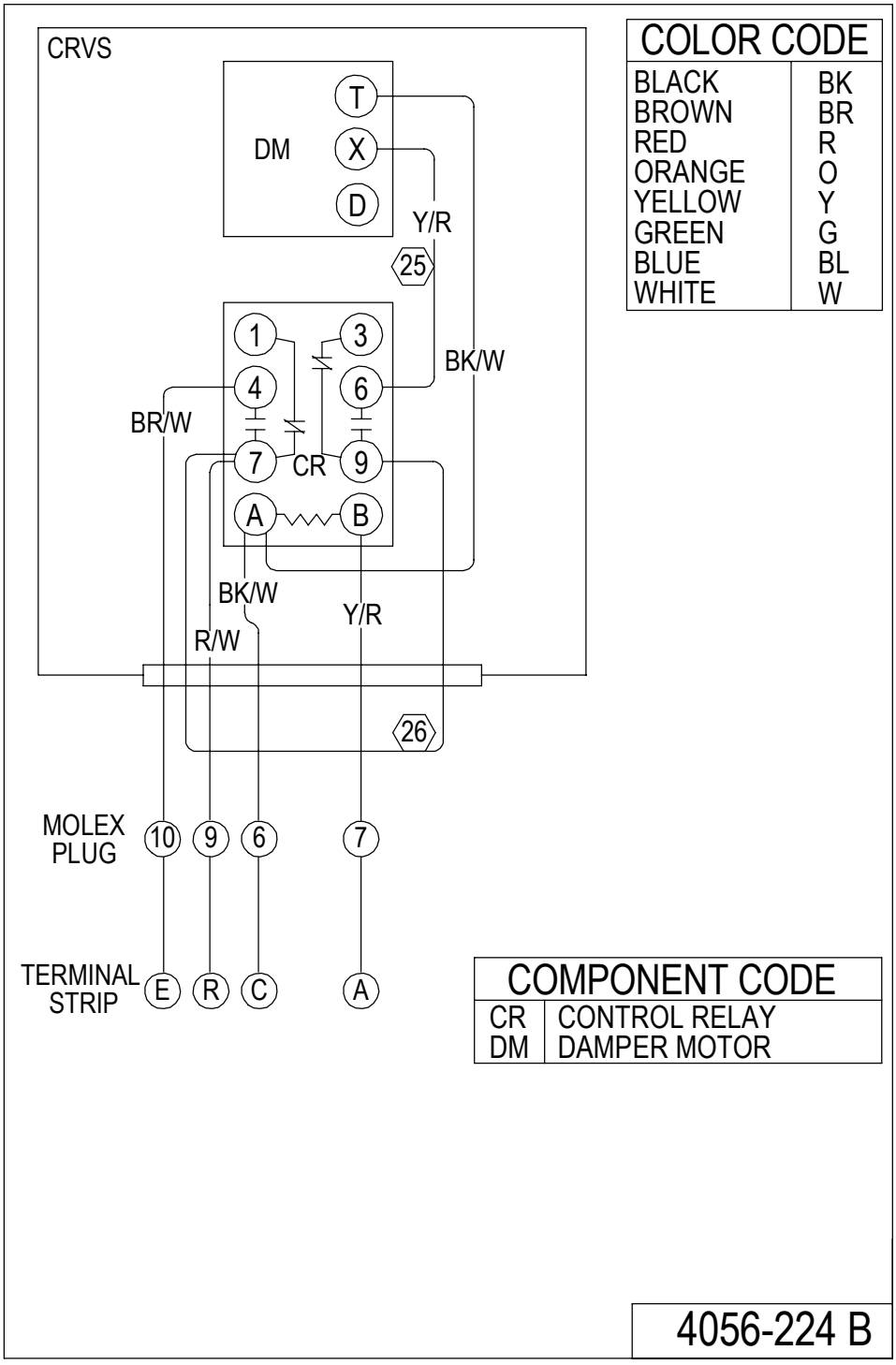
FIGURE 4
ATTACHING SEAL PLATE



MIS-3596

12. Ventilator Checkout
    A. Remove mist eliminator to allow access to minimum position thumbwheel or blade stops.
    B. Resupply power to unit.
    C. Energize the evaporator blower by switching thermostat to the manual fan position with heat/cool in OFF position.
    D. Ventilator should open to the position set by position adjustment thumbwheel on the CRVS. Cycle position adjustment thumbwheel to full open through full close. Observe damper blade operation throughout travel to assure free, unobstructed movement. (See Figure 5.)
    E. De-energize evaporator blower. Damper blade should close.
    F. This completes ventilator checkout.
13. Adjust damper blade for required ventilation airflow. (See next section.)
14. Replace mist eliminator. Be sure it is installed with the drain holes to the bottom.
15. Remove blank off plate or barometric fresh air damper installed on service access door. Plug four (4) mounting holes with the plastic plugs provided with the ventilator.
16. Replace service access panel.
17. Ventilator is now ready for operation.

FIGURE 5
CRVS-1A LEAD CONNECTORS



COMMERCIAL ROOM VENTILATOR – WA SERIES

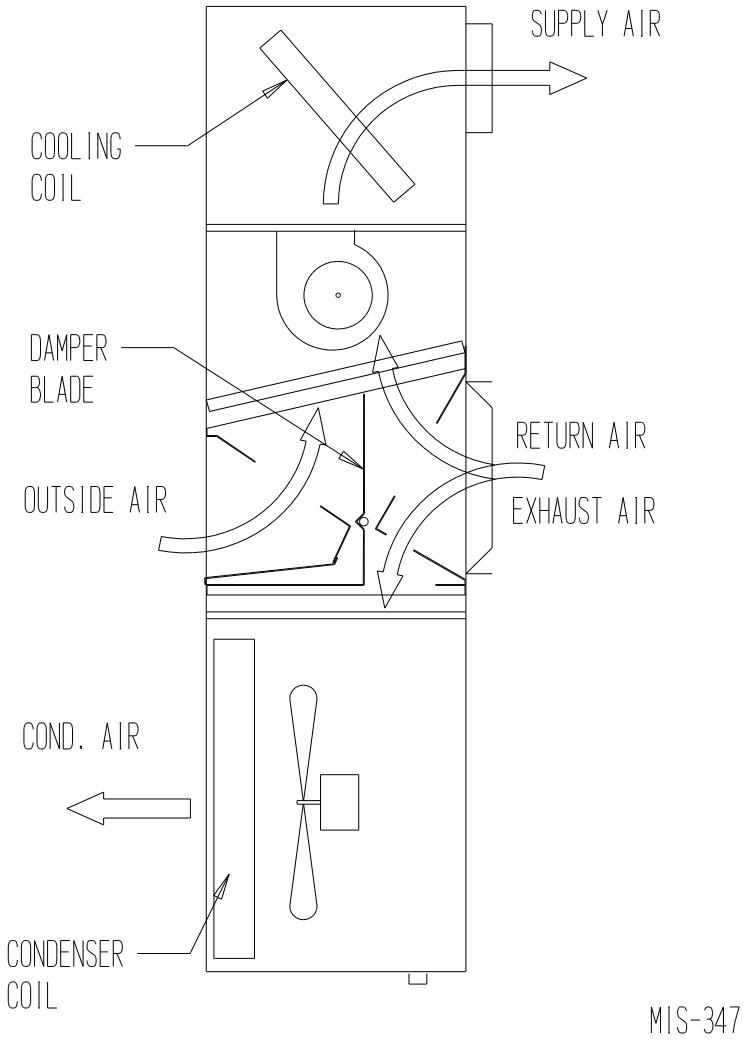
FEATURES

- One piece construction; easy to install with no mechanical linkage adjustment required.
- Exhaust air damper built in with positive closed position.
- Actuator motor – 24 volt, power open, spring return with built in torque limiting switch.
- Provides up to 50 percent of outside air.

COMMERCIAL ROOM VENTILATOR SEQUENCE OF OPERATION

On a call for blower operation, CRV opens to position as set by minimum position potentiometer. See Figure 6.

FIGURE 6
CALL FOR BLOWER OPERATION



A call for cooling cycles the compressor and dampers remain in the ventilation mode. On loss of blower operation, CRV closes fully. See Figure 7.

FIGURE 7
CALL FOR COOLING OPERATION

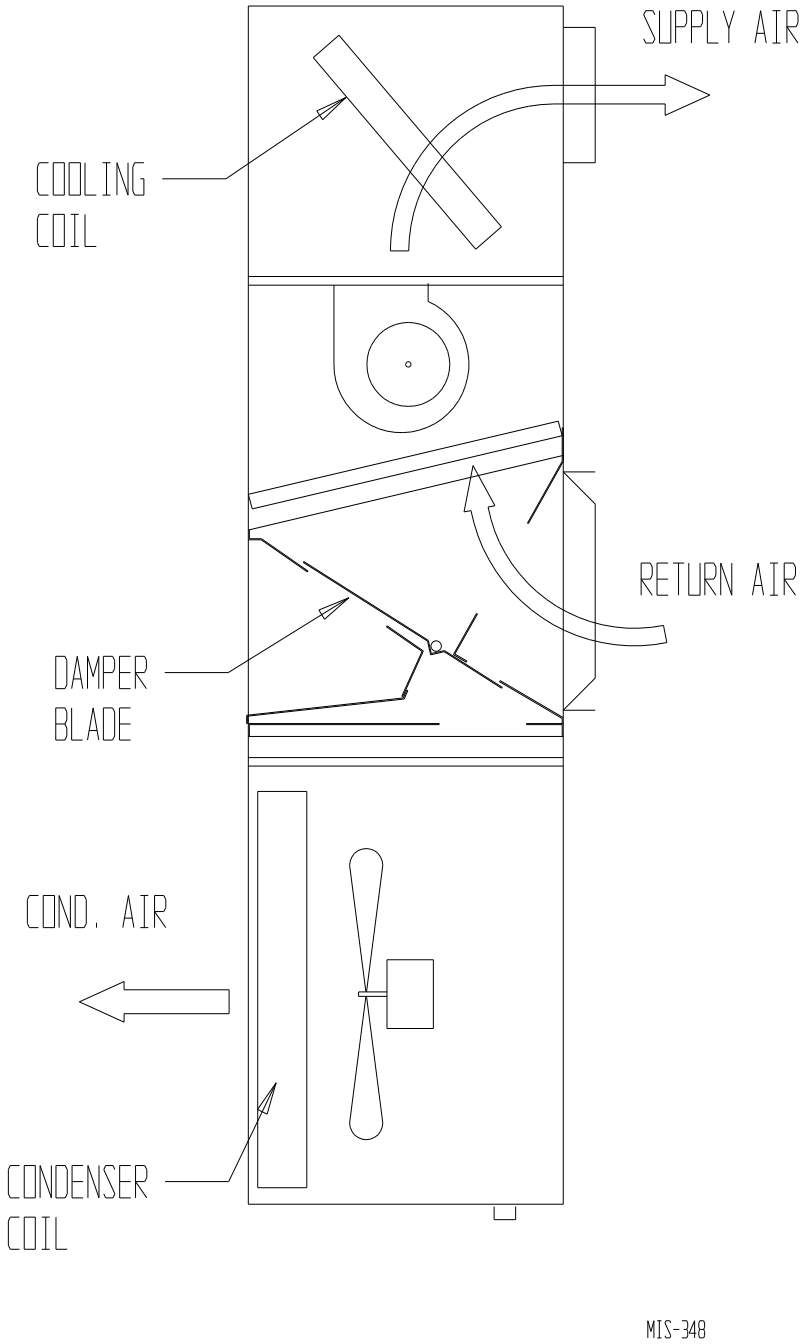
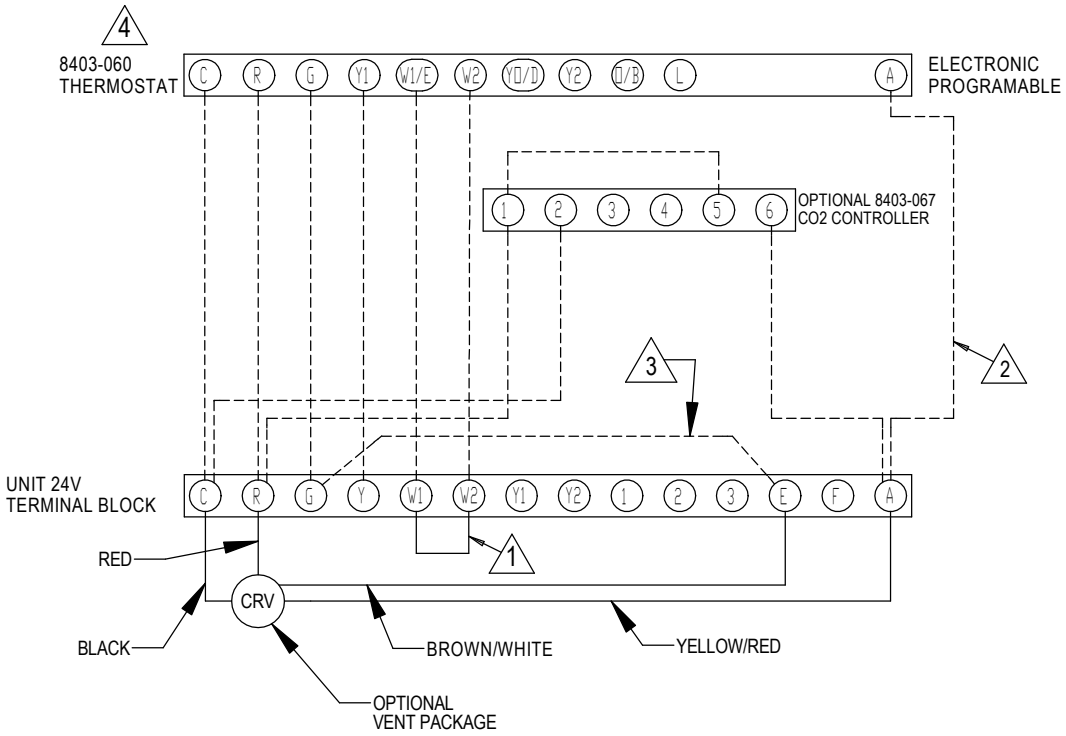


FIGURE 8A
LOW VOLTAGE WIRING
A/C WITH PROGRAMMABLE THERMOSTAT



1. REMOVE JUMPER FOR 2 STAGE ELECTRIC HEAT ON UNITS WITH 15 OR MORE KW

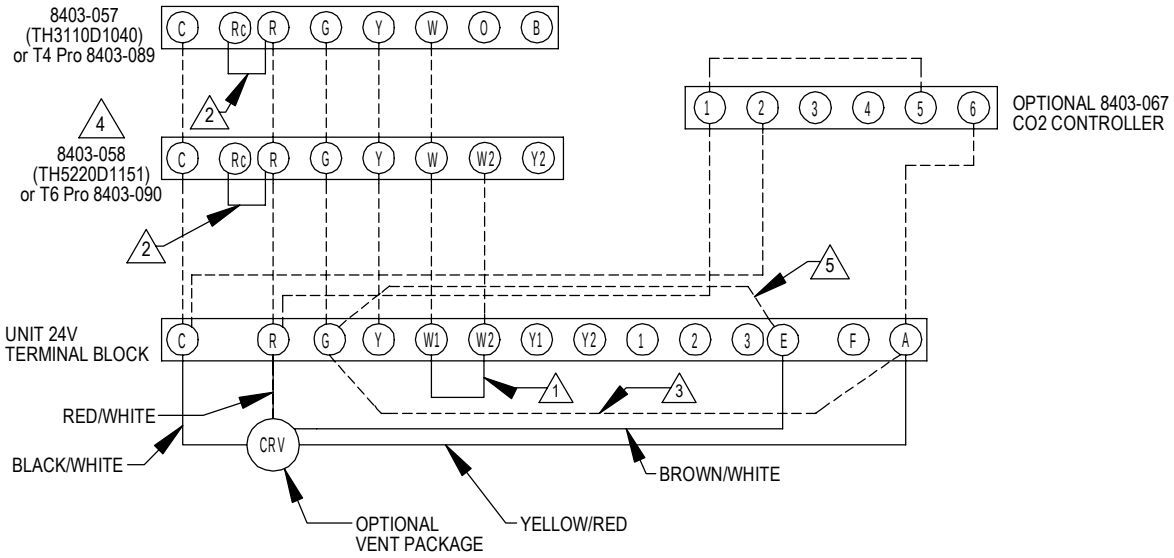
2. DO NOT CONNECT "A" FROM 8403-060 IF OPTIONAL CO2 CONTROLLER IS USED

3. ADD JUMPER FROM "G" TO "E" ONLY IF OPTIONAL CO2 CONTROLLER IS INSTALLED

4. CHANGE MODEL CONFIGURATION FROM HEAT PUMP TO HEAT/COOL. MUST BE CONFIGURED TO PROGRAMMABLE AND FAN SET TO PROGRAMMED FAN FOR THE "A" OUTPUT TO FUNCTION DURING SCHEDULED OCCUPIED PERIODS.

MIS-3597

FIGURE 8B
LOW VOLTAGE WIRING
A/C WITH THERMOSTAT



1. REMOVE JUMPER FOR 2 STAGE ELECTRIC HEAT ON UNITS WITH 15 OR MORE KW

2. FACTORY INSTALLED JUMPER

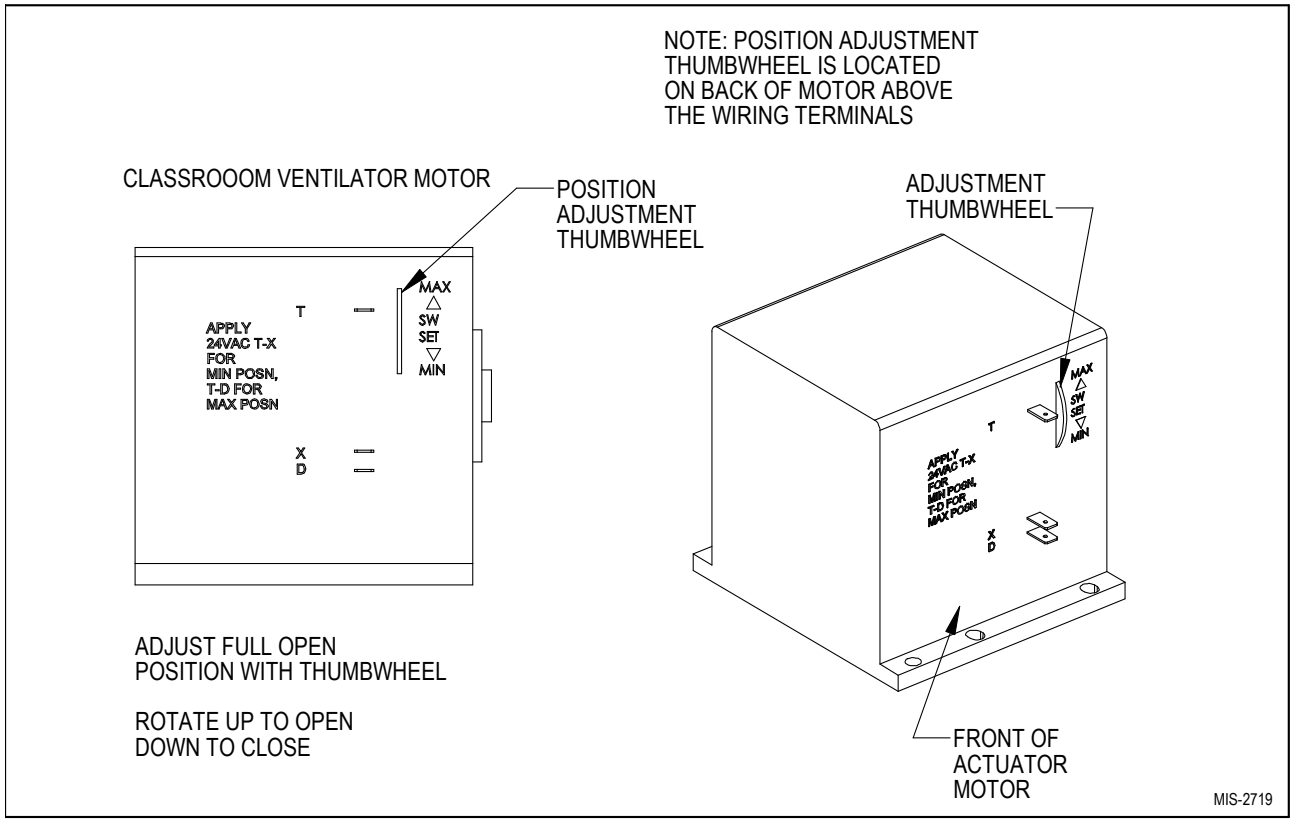
3. ADD JUMPER IF OPTIONAL CO2 CONTROLLER IS NOT USED, VENT WILL RUN WHILE BLOWER IS ENERGIZED. DO NOT INSTALL JUMPER IF OPTIONAL CO2 CONTROLLER INSTALLED, AND SEE NOTE 6.

4. CHANGE "SYSTEM TYPE", SET UP FUNCTION 1, FROM 5 (2 HEAT/ 1 COOL HEAT PUMP) TO 6 (2 HEAT/ 2 COOL CONVENTIONAL).

5. ADD JUMPER FROM "G" TO "E" ONLY IF OPTIONAL CO2 CONTROLLER IS INSTALLED

MIS-3598 B

FIGURE 9
CRV POSITION ADJUSTMENT



BLADE ADJUSTMENT FOR DESIRED VENTILATOR AIR

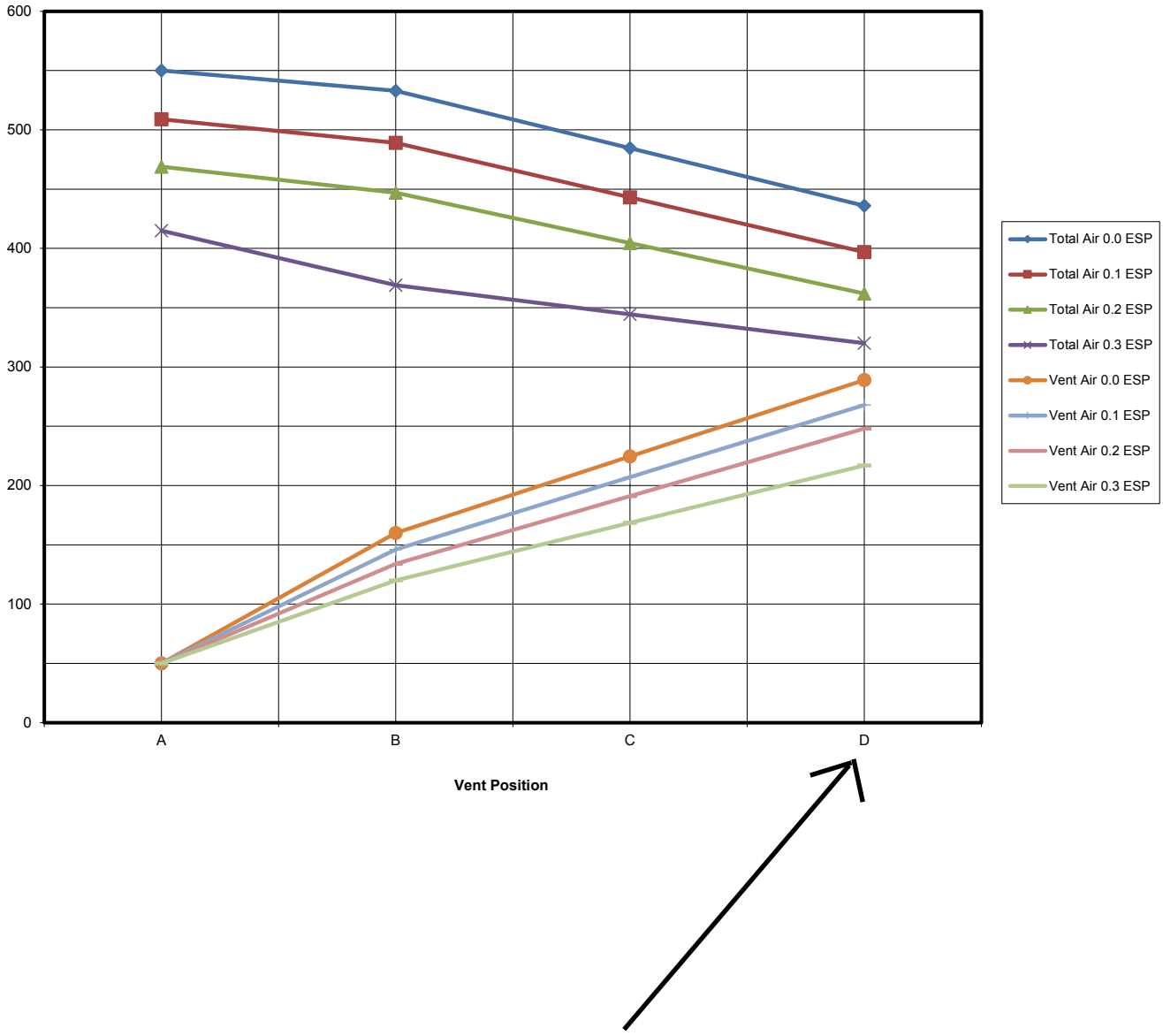
The amount of ventilation air supplied by the commercial room ventilator is dependent on five (5) factors.

1. Return air duct static pressure drop.
2. Supply air duct static pressure drop.
3. Indoor blower motor speed.
4. Damper blade open position setting.
5. Tightness or looseness of building envelope.

Determine on what speed the evaporator motor is running.

Refer to the graphs on the following pages to determine the blade setting necessary to achieve the ventilation air required. With the blower energized, use the thumbwheel on the CRVS-1A to adjust blade to desired blade position.

CHART 1
W12AAA TOTAL AND VENTILATION AIRFLOW



Brown/white wire must be switched from terminal X to terminal D on damper motor to attain "D" position. This will bypass potentiometer function and go to "full open" when energized.