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# INSTALLATION INSTRUCTIONS

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## MOTORIZED FRESH AIR DAMPER

Models:  
WGMFAD-3A  
WGMFAD-5A

For Use with Bard 1 Ton  
Wall Mount Air Conditioner



Bard Manufacturing Company, Inc.  
Bryan, Ohio 43506  
[www.bardhvac.com](http://www.bardhvac.com)

Manual : 2100-362E  
Supersedes: 2100-362D  
Date: 11-15-17

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## DESCRIPTION

The motorized fresh air damper WGMFAD is an internally mounted damper designed to bring in up to 25% fresh air. The damper blade is powered by a 24 VAC motor with spring return on power loss. The damper is powered open anytime the unit blower motor is energized.

This ventilation device does not include an exhaust provision. Depending on the tightness of the structure, an independent exhaust provision may be needed to obtain the ventilation air quantities shown.

## APPLICATION

The amount of outside fresh air brought into the structure is dependent on the supply and return duct static pressure present in the duct system. Refer to Table for ventilation air that will be supplied at different duct static pressure for the model installed.

For free blow applications with return air filter grille and supply grille, use 0.00 supply air static pressure and 0.1 return air static pressure.

**TABLE 1**  
**WGMFAD-3A VENTILATION AIR**  
**For use with W24G Model**

<b>HIGH SPEED</b>							
<b>Supply Air Static</b>	<b>Ventilation Air/Total Air (CFM)</b>						
0.00	150/1325	330/1300	480/1275	600/1240	680/1200	730/1140	750-1060
0.20	120/1190	310/1150	465/1130	580/1090	660/1035	700/985	720/925
0.40	110/1040	290/1000	440/940	550/880	640/845	690/760	N/A
<b>Return Static</b>	<b>0.00</b>	<b>0.05</b>	<b>0.10</b>	<b>0.15</b>	<b>0.20</b>	<b>0.25</b>	<b>0.30</b>
<b>MEDIUM SPEED</b>							
<b>Supply Air Static</b>	<b>Ventilation Air/Total Air (CFM)</b>						
0.00	140/1130	300/1090	450/1075	570/1050	670/1000	720/940	740/850
0.20	110/1000	270/980	420/950	540/910	650/870	700/820	720/760
0.40	100/880	250/860	400/800	520/750	N/A	N/A	N/A
<b>Return Static</b>	<b>0.00</b>	<b>0.05</b>	<b>0.10</b>	<b>0.15</b>	<b>0.20</b>	<b>0.25</b>	<b>0.30</b>
<b>LOW SPEED</b>							
<b>Supply Air Static</b>	<b>Ventilation Air/Total Air (CFM)</b>						
0.00	130/900	290/880	430/860	550/830	650/800	700/750	N/A
0.20	100/820	250/790	400/730	520/700	N/A	N/A	N/A
0.40	90/700	N/A	N/A	N/A	N/A	N/A	N/A
<b>Return Static</b>	<b>0.00</b>	<b>0.05</b>	<b>0.10</b>	<b>0.15</b>	<b>0.20</b>	<b>0.25</b>	<b>0.30</b>

**TABLE 2**  
**WGMFAD-3A VENTILATION AIR**  
**For use with W30G and W36G Models**

<b>HIGH SPEED</b>							
<b>Supply Air Static</b>	<b>Ventilation Air/Total Air (CFM)</b>						
0.00	160/1520	340/1490	490/1460	620/1420	725/1360	810/1330	870/1270
0.20	130/1340	320/1320	480/1270	610/1240	710/1140	780/1100	820/1050
0.40	120/1160	300/1140	450/1080	580/1020	680/930	760/820	N/A
<b>Return Static</b>	<b>0.00</b>	<b>0.05</b>	<b>0.10</b>	<b>0.15</b>	<b>0.20</b>	<b>0.25</b>	<b>0.30</b>
<b>MEDIUM SPEED</b>							
<b>Supply Air Static</b>	<b>Ventilation Air/Total Air (CFM)</b>						
0.00	150/1325	330/1300	480/1275	600/1240	680/1200	730/1140	750/1060
0.20	120/1190	310/1150	465/1130	580/1090	660/1035	700/985	720/925
0.40	110/1040	290/1000	440/940	550/880	640/845	690/760	N/A
<b>Return Static</b>	<b>0.00</b>	<b>0.05</b>	<b>0.10</b>	<b>0.15</b>	<b>0.20</b>	<b>0.25</b>	<b>0.30</b>
<b>LOW SPEED</b>							
<b>Supply Air Static</b>	<b>Ventilation Air/Total Air (CFM)</b>						
0.00	140/1130	300/1090	450/1075	570/1050	670/1000	720/940	740/850
0.20	110/1000	270/980	420/950	540/910	650/870	700/820	720/760
0.40	100/880	250/860	400/800	520/750	N/A	N/A	N/A
<b>Return Static</b>	<b>0.00</b>	<b>0.05</b>	<b>0.10</b>	<b>0.15</b>	<b>0.20</b>	<b>0.25</b>	<b>0.30</b>

## INSTALLATION

- Step 1. Disconnect all power to unit before installing WGMFAD.
- Step 2. Remove vent option door. (See Figure 1.)  
 Remove fresh air damper or blank off plate if installed on vent option door.
- Step 3. The “exhaust cover plates” **must be** in place when a WGMFAD is installed. (See Figure 2.)

- Step 4. Install WGMFAD with notch in front lip of WGMFAD centered over hole in condenser partition. (See Figure 3A.)
- Step 5. Position WGMFAD with front lip over condenser partition and front grille. (See Figure 3B.) ***This is important to insure proper drainage of any water entering damper assembly.***

**TABLE 3**  
**WGMFAD-5A VENTILATION AIR**  
**For use with W42G, W48G and W60G Models**

<b>HIGH SPEED</b>							
<b>Supply Air Static</b>	<b>Ventilation Air/Total Air (CFM)</b>						
0.00	140/1930	190/1910	235/1880	295/1840	355/1810	400/1770	440/1725
0.20	160/1650	205/1640	250/1625	335/1570	420/1515	450/1475	475/1430
0.40	175/1375	235/1340	295/1310	350/1240	465/1170	515/1085	565/1000
<b>Return Static</b>	<b>0.00</b>	<b>0.05</b>	<b>0.10</b>	<b>0.15</b>	<b>0.20</b>	<b>0.25</b>	<b>0.30</b>
<b>MEDIUM SPEED</b>							
<b>Supply Air Static</b>	<b>Ventilation Air/Total Air (CFM)</b>						
0.00	110/1615	160/1595	250/1575	300/1535	395/1500	450/1475	500/1445
0.20	130/1415	190/1380	270/1350	345/1300	380/1265	470/1200	555/1140
0.40	150/1135	215/1080	305/1030	375/965	475/895	540/790	600/680
<b>Return Static</b>	<b>0.00</b>	<b>0.05</b>	<b>0.10</b>	<b>0.15</b>	<b>0.20</b>	<b>0.25</b>	<b>0.30</b>
<b>LOW SPEED</b>							
<b>Supply Air Static</b>	<b>Ventilation Air/Total Air (CFM)</b>						
0.00	45/1190	150/1175	260/1165	350/1135	435/1105	530/1070	620/1030
0.20	65/1010	180/980	290/950	390/910	490/865	560/800	635/735
0.40	85/790	210/725	355/660	415/600	495/535	N/A	N/A
<b>Return Static</b>	<b>0.00</b>	<b>0.05</b>	<b>0.10</b>	<b>0.15</b>	<b>0.20</b>	<b>0.25</b>	<b>0.30</b>

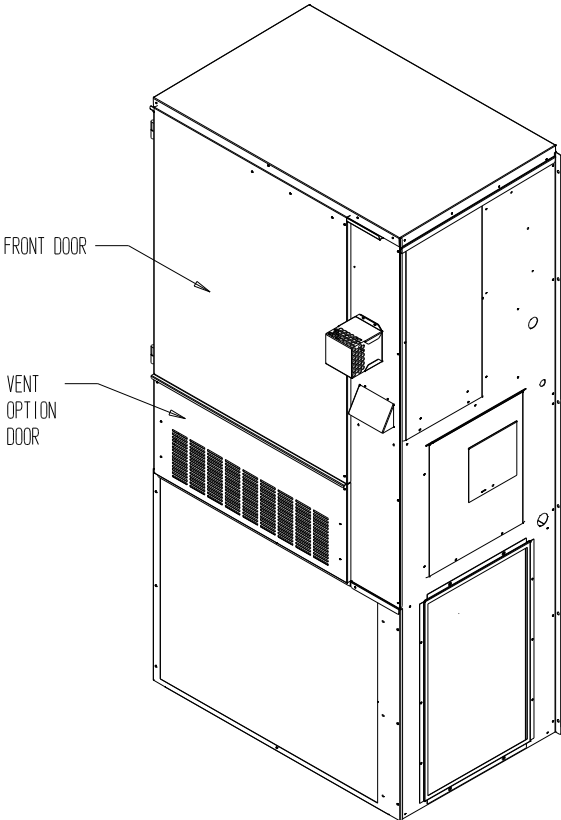
Step 6. Route wires as shown in Figure 3A into unit low voltage terminal strip area.

Step 7. Connect black wire to C terminal of low voltage block. Connect red wire to R of low voltage block. Connect orange wire to G terminal of low voltage block. Connect brown/white wire to "A" terminal of low voltage block. Connect blue wire to W1 terminal of low voltage block. See wall mount low voltage connection diagram in the unit installation instructions for wiring diagram.

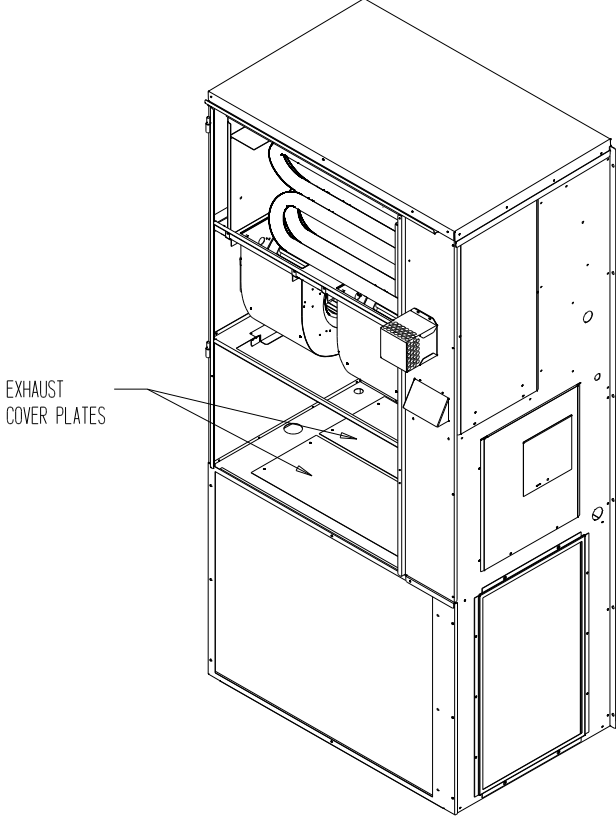
Step 8. Check WGMFAD for proper operation. WGMFAD should open whenever there is a call for ventilation (Terminal "A"), and the blower should energize.

Step 9. Plug 4 holes in vent option door with plastic plugs provided and replace vent option door.

**FIGURE 1**  
**VENT OPTION DOOR TO BE REMOVED**

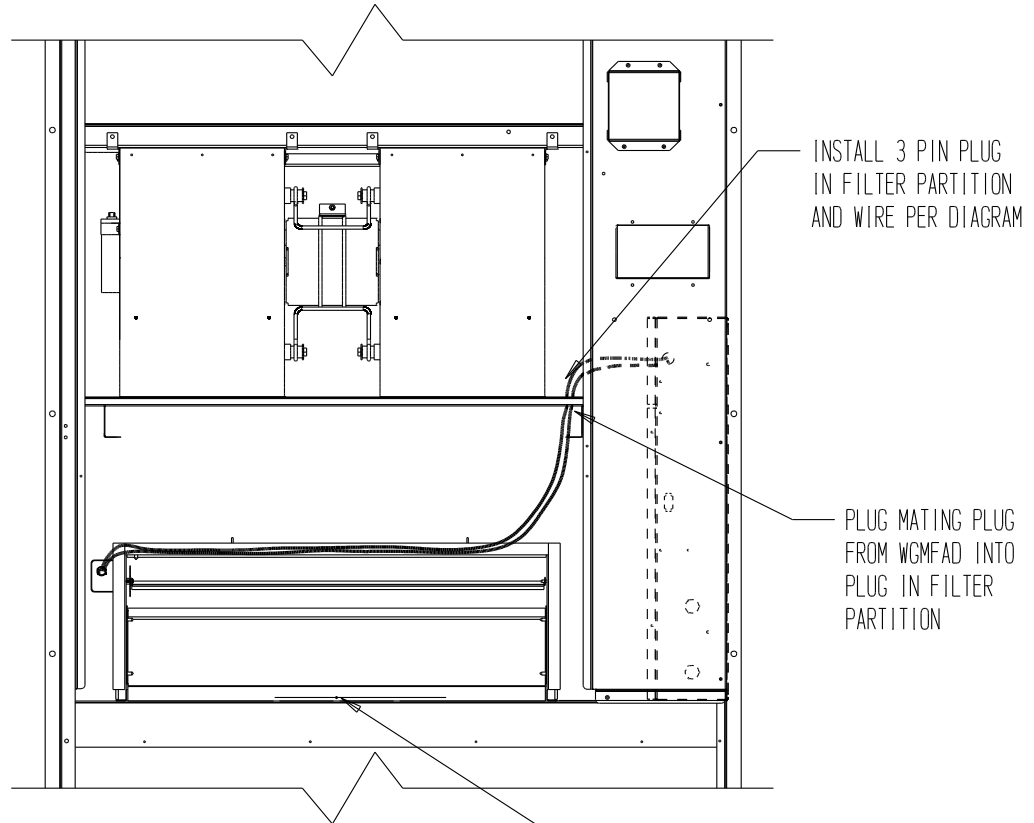


**FIGURE 2**  
**EXHAUST COVER PLATES**  
**MUST BE IN PLACE**



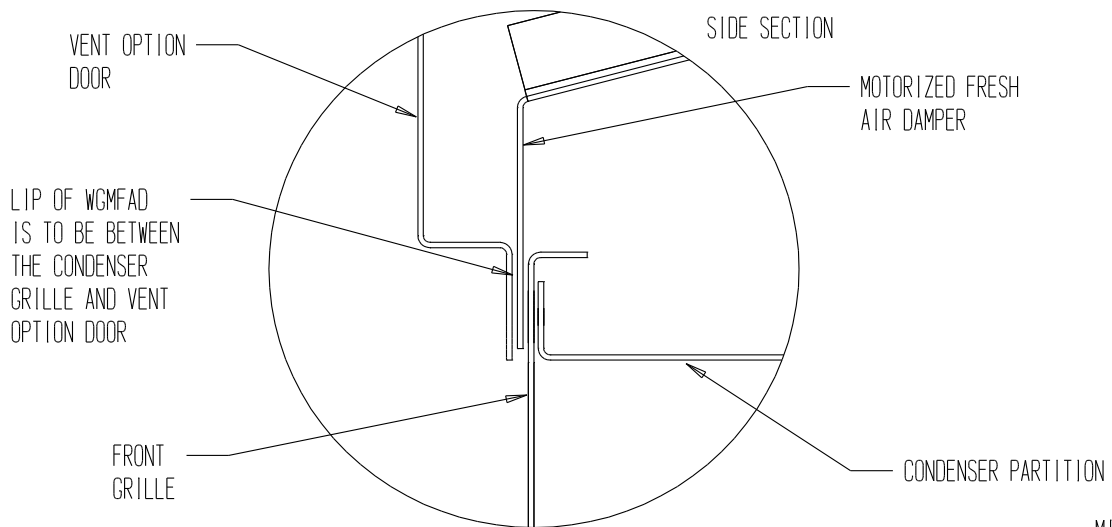
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**FIGURE 3A  
ROUTING OF WIRES**



**FIGURE 3B  
PROPER INSTALLATION**

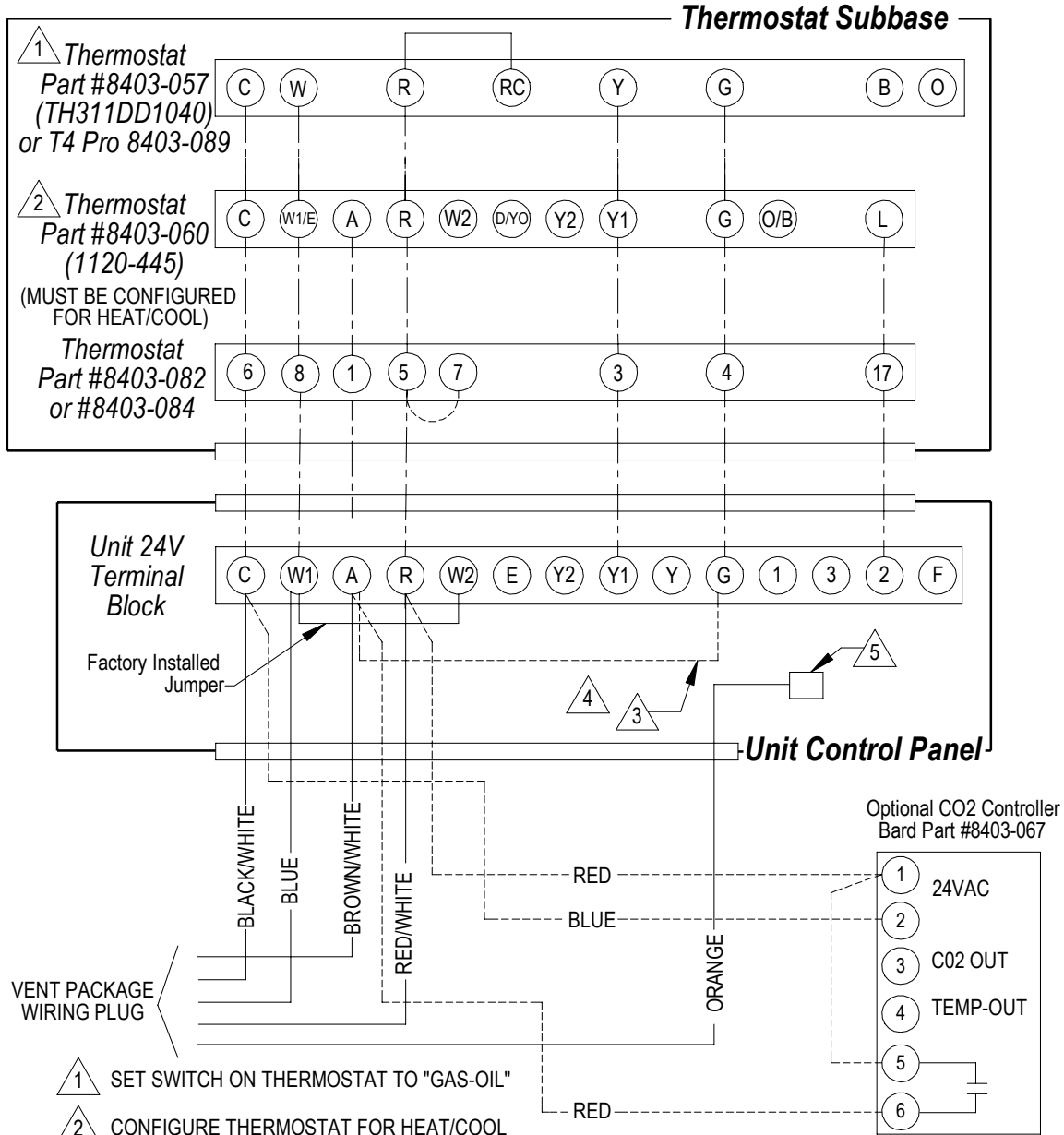
WHEN INSTALLING WGMFAD POSITION SO THAT HOLE IN FRONT LIP IS CENTERED OVER HOLE IN CONDENSER GRILLE TO INSERT A SELF DRILLING SCREW



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**FIGURE 4  
THERMOSTAT WIRING DIAGRAM**

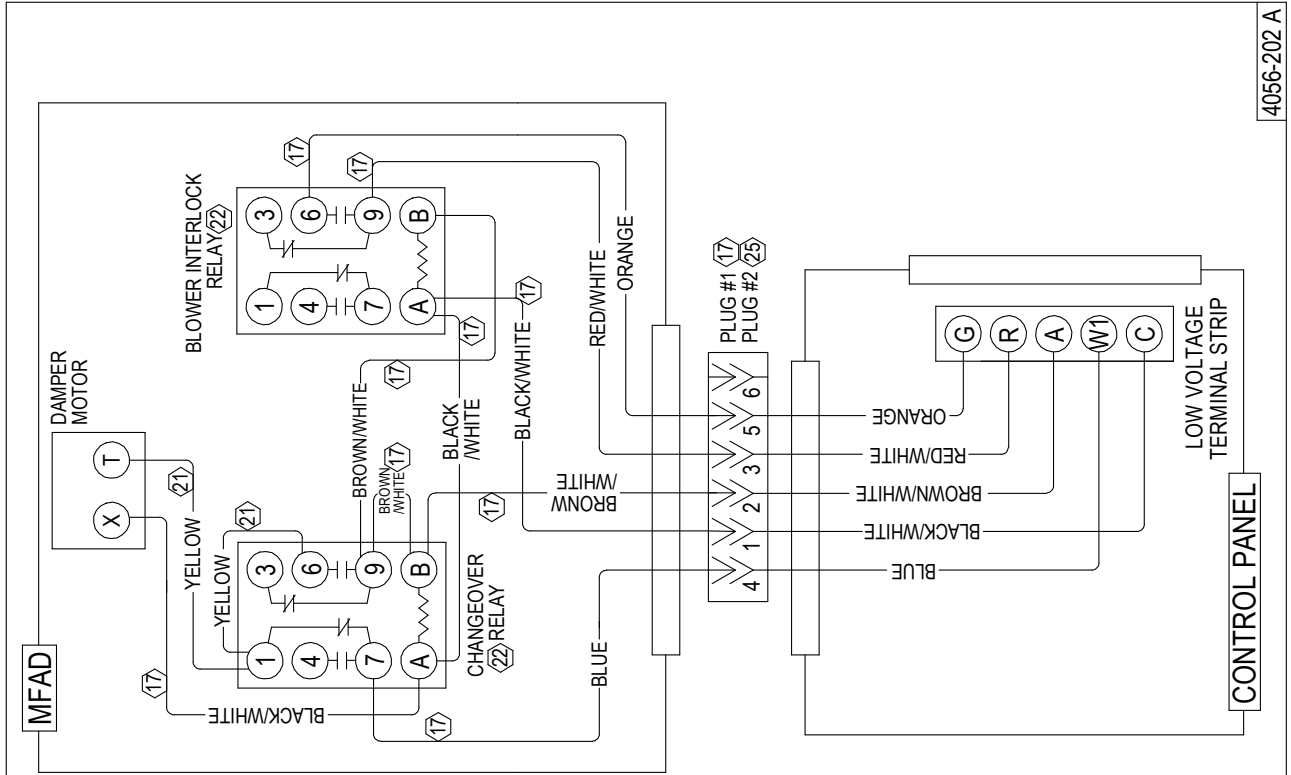
**Low Voltage Wiring -** MOTORIZED FRESH AIR DAMPER,  
COMMERCIAL ROOM VENTILATOR-SPRING,  
COMMERCIAL ROOM VENTILATOR-POWER



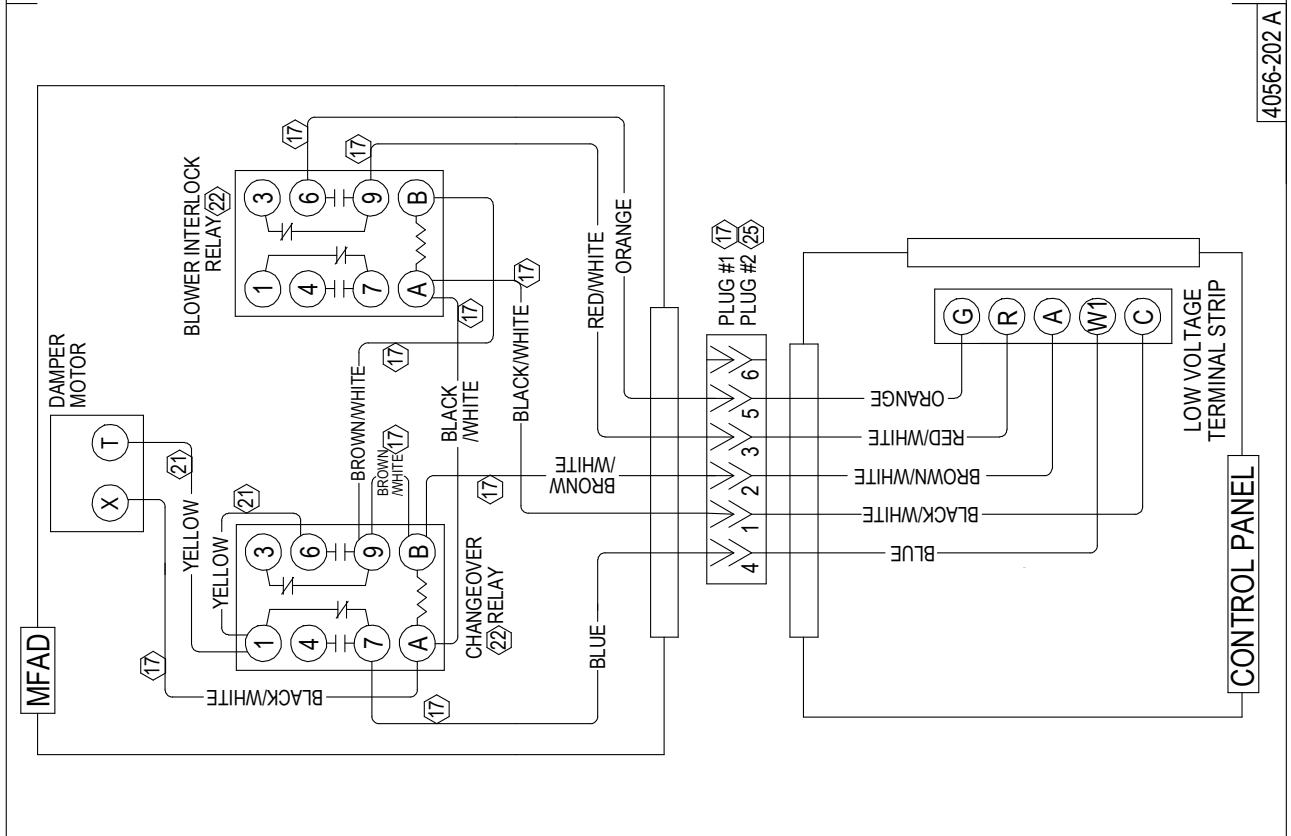
- 1 SET SWITCH ON THERMOSTAT TO "GAS-OIL"
- 2 CONFIGURE THERMOSTAT FOR HEAT/COOL
- 3 MUST INSTALL JUMPER FOR 8403-057 OR OTHER THERMOSTAT THAT DOES NOT HAVE OCCUPANCY OUTPUT.
- 4 INSTALL IF YOU REQUIRE VENTILATION ANYTIME BLOWER IS ON.
- 5 CONNECT ORANGE WIRE TO "G" TERMINAL IF OCCUPENCY-BASED THERMOSTAT OR CO2 CONTROLLER FOR DEMAND VENTILATION CONTROL IS APPLIED.

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