

INSTALLATION INSTRUCTIONS FOR OUTDOOR AIR DAMPERS AND OUTDOOR AIR HOOD USED WITH LGH/LCH/KG/KC/KH/ZG/ZC/ZH 092-150 UNITS

Shipping and Packing List

Package 1 of 1 contains:

- 1- Motorized outdoor air damper assembly (53W49, 62W60, 10Z33 only)
- 1- Carton containing:
 - 1-Manual sliding outdoor air damper
 - 1-OAD cover panel (53W48, 53W49, 63W60 only)
 - 1-Lower panel
 - 1-Hood top
 - 2-Hood sides (left and right)
 - 1-Hood top seal
 - 1-Top filter bracket
 - 1-Bottom filter bracket
 - 1-Filter
- 1-Bag assembly containing:
 - #10 sheet metal screws
 - 1-#10 - 32 X 1/2" screw
 - 1-Wiring diagram (10Z33 only)
 - 2-Harnesses (10Z33 only)
 - 3-Insertion wire ties (10Z32, 10Z33 only)
- 1- Lower panel insulation (53W48, 53W49, 62W60 only)
- 1- Bag assembly containing (53W49, 63W60 only):
 - 8-Insulation pins
 - 8-Insulation washers
 - 1-Threaded hex insert
 - 1-Wiring diagram
 - 1-Wire harness
 - 1-Insertion wire tie

⚠ CAUTION

Danger of sharp metallic edges. Can cause injury. Take care when servicing unit to avoid accidental contact with sharp edges.

Application

Optional manual and motorized outdoor air dampers provide up to 25 percent fresh air for return. Motorized damper opens to minimum position simultaneously with the blower during the occupied period and remains closed during the unoccupied period. Manual damper assembly is manually operated; damper position is manually set at installation and remains in that position.

TABLE 1

Unit	Type	LB #	CAT. #
LGH/LCH092-150	Motorized	603423-02	63W60
KG/KC/KH092-150	Motorized	603423-01	53W49
LGH/LCH/KG/KC/KH092-150	Manual	603422-01	53W48
ZG/ZC/ZH 092-150	Motorized	603422-03	10Z33
ZG/ZC/ZH 092-150	Manual	603422-02	10Z32

⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a qualified installer, service agency or the gas supplier.

Motorized Damper Assembly - LGH/LCH/ KG/KC/KH Units

- 1- Disconnect all power to unit.
- 2- Remove screws and open accessories access panel.
- 3- Install insulation on the unpainted side of lower panel. Use four pins and four washers to secure insulation to panel. See figure 1.
- 4- Align holes on the lower panel with holes in the unit base and mullions. Secure panel with #10 screws.
- 5- Install the cover panel on the damper assembly.
- 6- Remove P3 jumper plug from J3 unit jack and discard.
- 7- On LG/LC units, connect damper motor plug P3 to unit jack J3. On KG/KC/KH units, connect damper motor plug P4 to unit jack J3.
- 8- Secure the cover panel and damper assembly to the unit using #10 sheet metal screws.

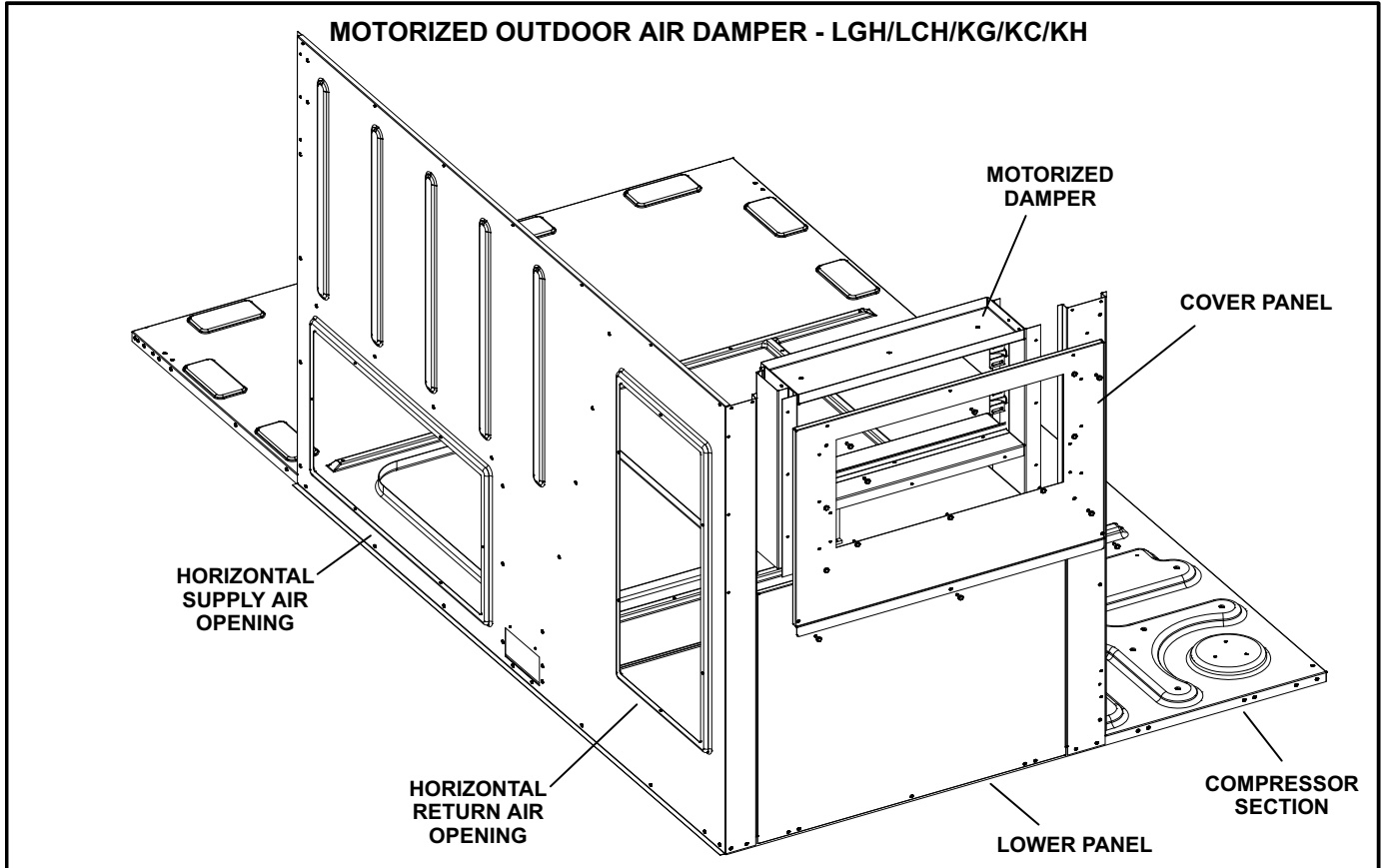


FIGURE 1

Manual Damper Assembly- LGH/LCH/ KG/KC/KH Units

- 1- Disconnect all power to unit.
- 2- Remove screws and open accessories panel.
- 3- Install insulation on the unpainted side of lower panel.

Use four pins and four washers to secure insulation to panel. See figure 2.

- 4- Align holes on the lower panel with holes in the unit base and mullions. Secure panel with #10 screws.
- 5- Install the cover panel in the unit as shown in figure 2.
- 6- Place sliding manual damper in the cover panel. Slide the manual damper in the cover panel slots as needed.

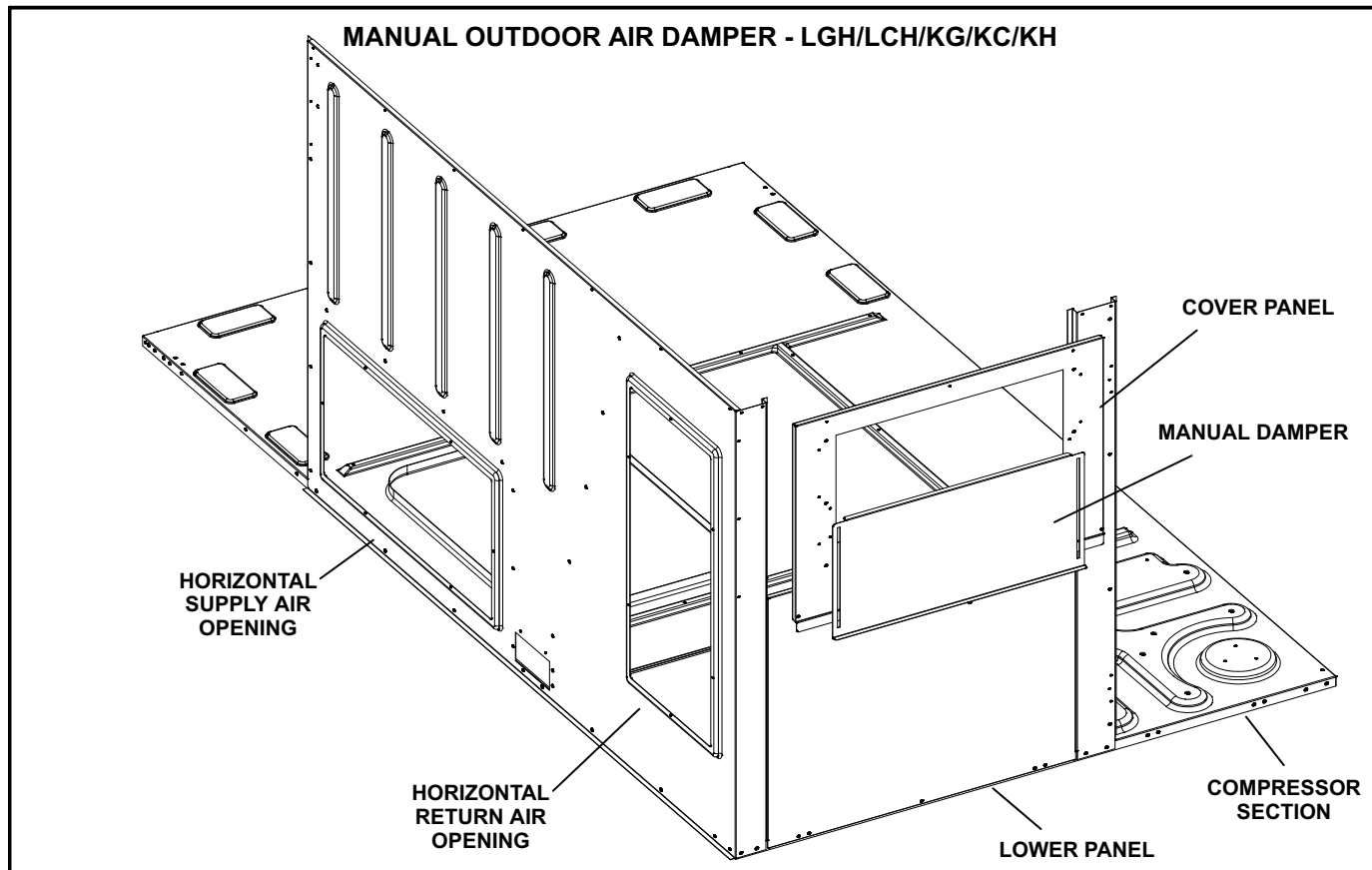


FIGURE 2

Motorized Damper Assembly - ZG/ZC/ZH Units

- 1- Disconnect all power to unit.
- 2- Remove filter and lower access panel on the back of the unit. See figure 3.
- 3- Cut insulation from opening in lower panel. See figure 4.
- 4- Install the lower panel on the damper assembly.
- 5- Discard the manual sliding outdoor air damper.
- 6- Locate the kit harness that has connectors on both ends. Connect the female jack with wires labeled J4-3 & 7 to the outdoor air damper harness plug (P4). Connect the other end of kit harness to J10 hanging in the upper left corner of the return air section. See figure 5 for J10 location.
- 7- Secure the damper assembly to the unit using #10 sheet metal screws.
- 8- Open compressor access panel on the other side of the unit. Locate the plug (P142) with wires labeled P142-2 & 3 hanging in the upper right area of the control box. See figure 6. Connect the female jack

(J142) from the other kit harness to P142. Wires on the other end of the harness are marked TB1-OC and TB1-C. Connect the two wires to the appropriate terminals on TB1. Secure harness to wiring bundle shown in figure 6.

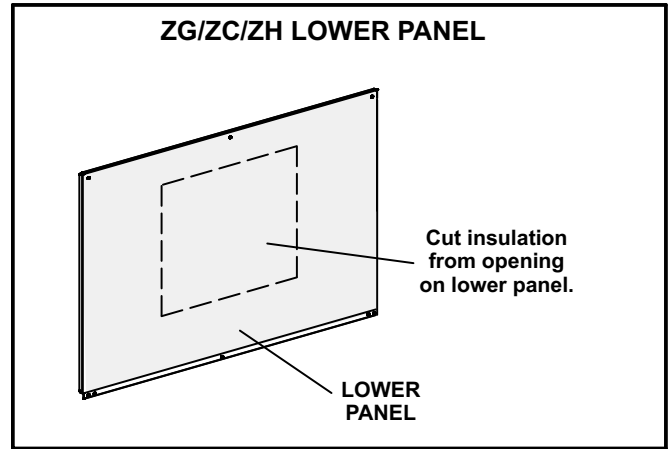


FIGURE 4

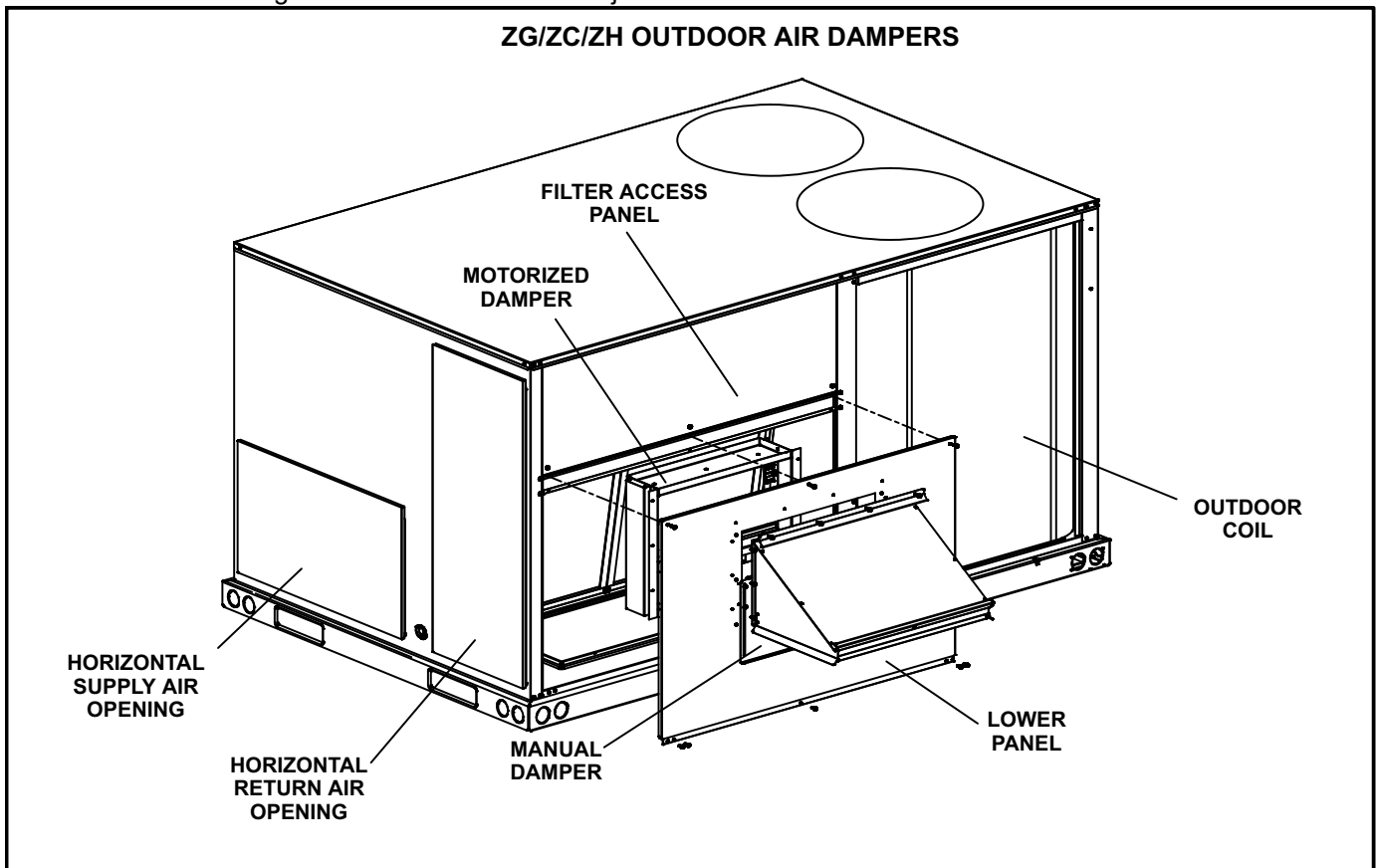


FIGURE 3

ZG/ZC/ZH RETURN AIR SECTION

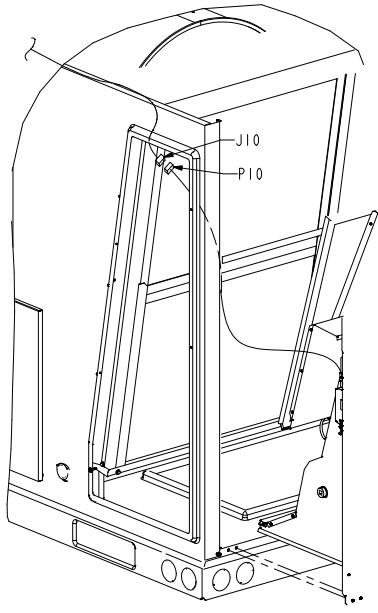


FIGURE 5

Manual Damper Assembly - ZG/ZC/ZH Units

- 1- Disconnect all power to unit.
- 2- Remove filter and lower access panel on the back of the unit. See figure 3.
- 3- Cut insulation from opening in lower panel. See figure 4.
- 4- Install the manual damper on the lower panel. See figure 3. Slide the manual damper in the cover panel slots as needed.

ZG/ZC/ZH CONTROL AREA

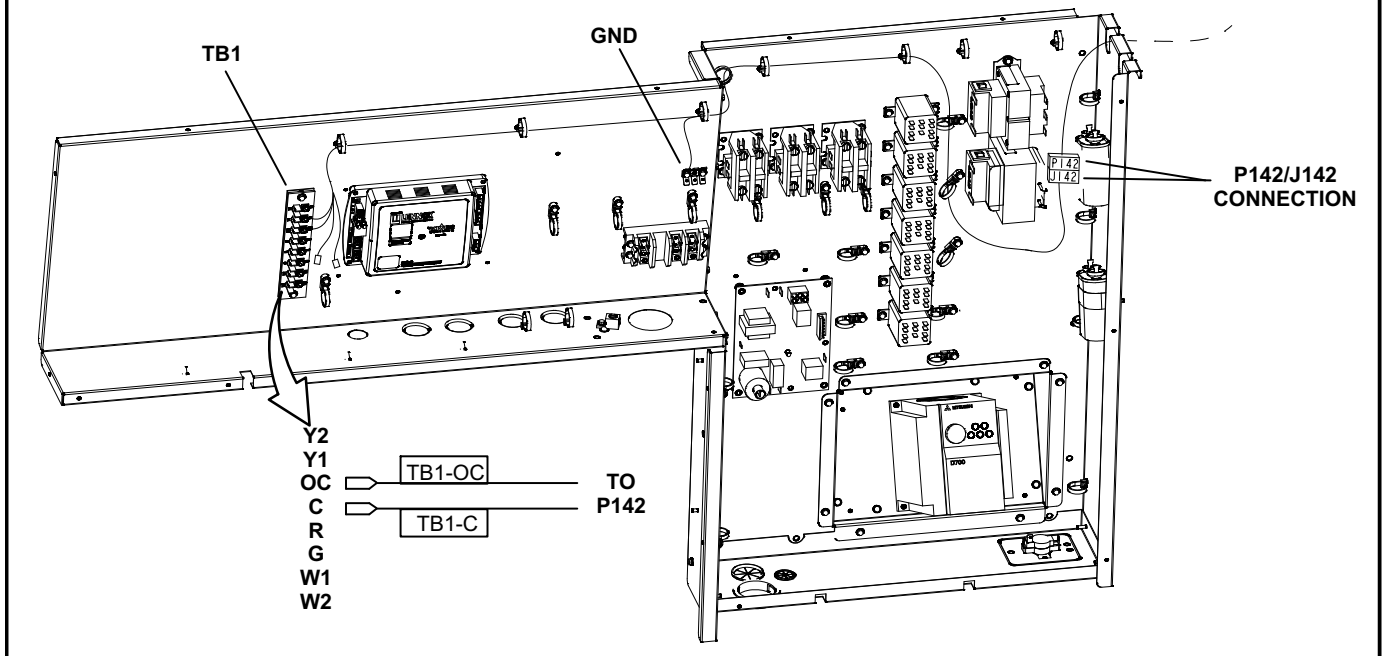


FIGURE 6

Unit Controller Damper Settings -- LG and LC Units

The economizer is controlled by the Unit Controller which is located at the left corner of the unit control panel. See figure 11. Enable outdoor air damper function as follows:

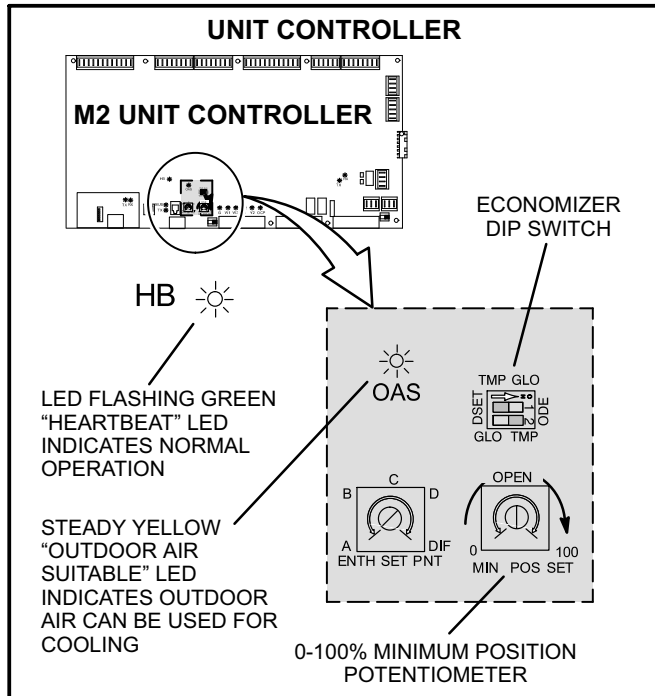


FIGURE 11

PRODIGY M2 UNIT CONTROLLER

Use the following menu:
 Settings>Install>Damper>MOAD ENTER
 (display will flash !SET!)

PRODIGY 2.0 M3 UNIT CONTROLLER

To enable the motorize damper function on the M3 Unit Controller, go to **SETUP > INSTALL** and proceed through the various screens until **CONFIGURATION ID 1** appears. To enable set position **3** to **M** (Motorized Outdoor Air Damper Only).

Determine Fresh Air Percentage

Fresh air percentage is determined in the same manner for both manual and motorized dampers.

Measure fresh air percentage according to the following steps and adjust dampers to the specified amount.

- 1- Set damper to allow approximate amount of outdoor air into the unit.

Manual Dampers -

Loosen screws on both sides of dampers and slide to open dampers.

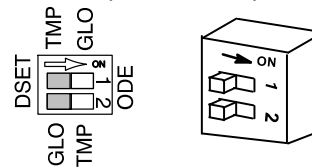
PRODIGY M2 UNIT CONTROLLER

LG/LC Units Only -

Set the DIP switch to "DSET" position as shown in figure 12.

DIP SWITCH SETTINGS

DSET (DAMPER SET)



NOTE - "Damper set" mode locks economizer into minimum position.

FIGURE 12

PRODIGY 2.0 M3 UNIT CONTROLLER

All models with M3 Unit Controller -

Go to **SETUP > TEST & BALANCE > MIN DAMPER POSITION (BLOWER ON HIGH)** and adjust Min Damper Position to desired air percentage.

- 2- Measure outdoor air temperature. Mark the point on the bottom line of chart 1 and label the point "A" (40°F, 4°C shown).
- 3- Measure return air temperature. Mark that point on the top line of chart 1 and label the point "B" (74°F, 23°C shown).
- 4- Measure mixed air (outdoor and return air) temperature. Mark that point on the top line of chart 1 and label point "C" (70°F, 21°C shown).
- 5- Draw a straight line between points A and B.
- 6- Draw a vertical line through point C.
- 7- Draw a horizontal line where the two lines meet. Read the percent of fresh air intake on the side.
- 8- *KG/KC/KH/ZG/ZC/ZH Units Only -*
 Honeywell Actuator - If fresh air percentage is less than desired, adjust thumbwheel higher. If fresh air percentage is more than desired, adjust thumbwheel lower. Repeat steps 2 through 7 until calculation reads desired fresh air percentage. See figure 13.

Siemens Actuator - Damper stops are factory-set at 100% outdoor air and are adjustable in five degree increments. To adjust fresh air percentage, remove retainer clip and adjust damper stop to desired air percentage. See figure 14. Replace retainer clip. Repeat steps 2 through 7 until calculation reads desired fresh air percentage.

PRODIGY M2 UNIT CONTROLLER

9- LG/LC Units Only -

If fresh air percentage is less than desired, adjust MIN POS SET potentiometer higher. If fresh air percentage is more than desired, adjust MIN POS SET potentiometer lower. Repeat steps 2 through 7 until calculation reads desired fresh air percentage.

NOTE - Manual damper fresh air intake percentage can be determined in the same manner.

PRODIGY 2.0 M3 UNIT CONTROLLER

If fresh air percentage is **less** or **more** than desired, increase or decrease minimum damper position.

Go to **SETUP > TEST & BALANCE > MIN DAMPER POSITION**

Repeat steps 2 through 7 until calculation reads desired fresh air percentage.

PRODIGY M2 UNIT CONTROLLER

10- LG/LC Units Only -

Set the DIP switch to "GLO" position as shown in figure 15.

NOTE - LG/LC Units Only - In addition to the previous method, damper minimum position may also be remotely set using Unit Controller software (ECTO 5.24). A remote adjustment will override potentiometer adjustment. Refer to Unit Controller manual.

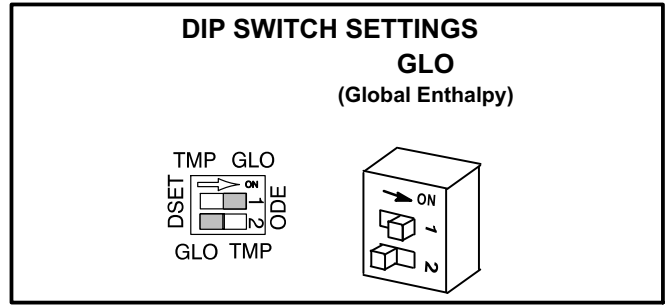


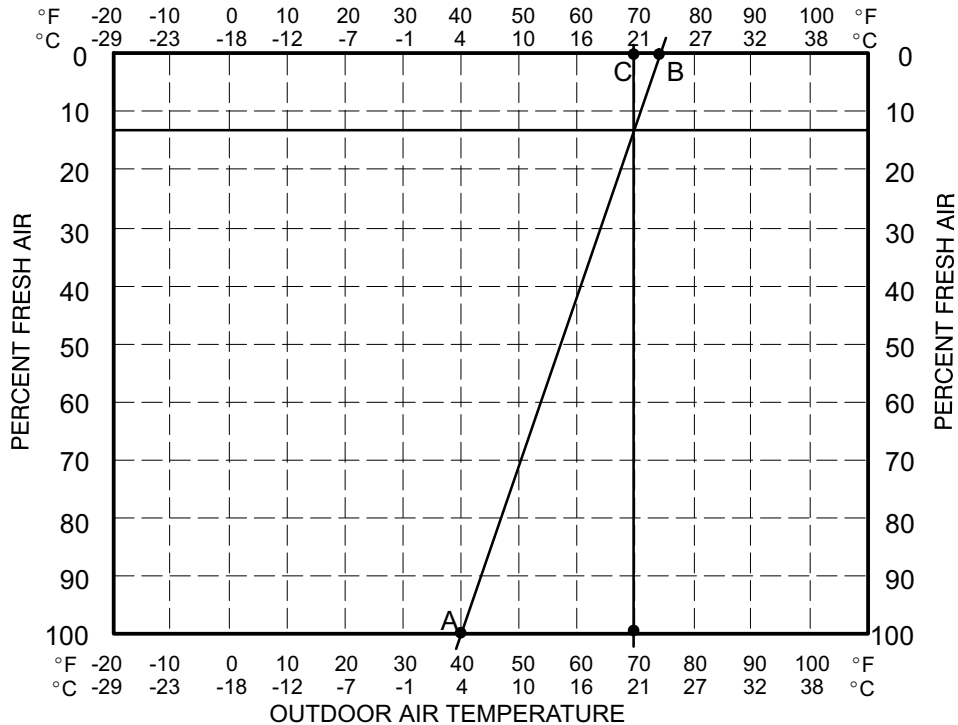
FIGURE 15

PRODIGY 2.0 M3 UNIT CONTROLLER

10- LG/LC Units Only -

Press **SAVE** to save the minimum damper position. At this point, if blower supports more than one speed, then the user interface prompts you to enter the min damper position when blower is running at low speed. Repeat steps 2 – 7 to determine the minimum damper position when blower is running at low speed and save the value.

**CHART 1
CALCULATE MINIMUM FRESH AIR PERCENTAGE - MIXED AND RETURN AIR TEMPERATURE**



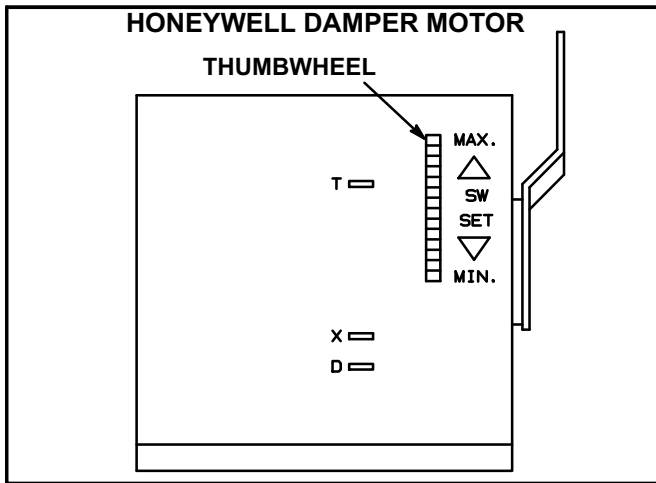


FIGURE 13

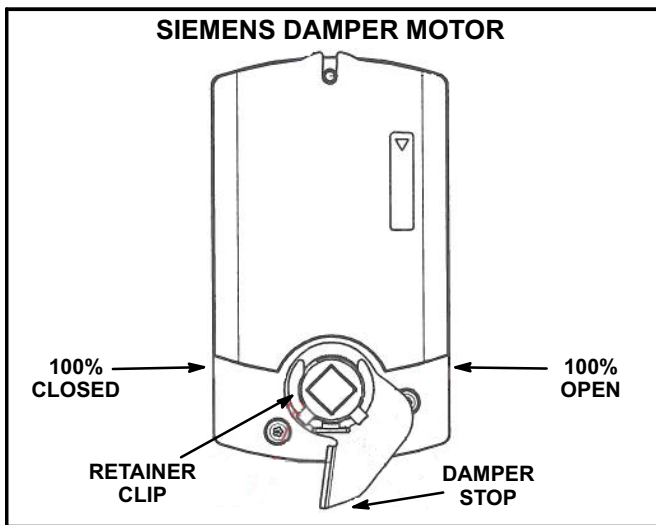


FIGURE 14

Install Outdoor Air Hood

Assemble hood and install as follows:

- 1- *LGH/LCH/KG/KC/KH Only* - Remove screws securing unit top panel to accessory compartment cabinet. Lift top panel to install hood top seal.
- 2- *LGH/LCH/KG/KC/KH Only* - Slide hood top seal under unit cabinet top and secure using three of the existing cabinet top panel screws. Install, but do not tighten, the screws on each end of the hood. See figure 7.

ZG/ZC/ZH Only - Align four holes in top seal with holes above opening in lower panel. Secure with sheet metal screws. See figure 8.

- 3- Position the hood top edge V-channel under the corresponding V-channel on hood top seal. Slide hood from right to left until it is properly positioned. See figure 7.
- 4- Secure hood left side to the hood top and to the cabinet using the provided screws. See figure 8.
- 5- Secure the hood right side to the hood top. Do not secure the hood right side to unit. See figure 10.
- 6- Align the two holes on the left hood side with the two holes in the bottom filter seal bracket. Secure using provided screws. See figure 7.
- 7- Secure bottom filter seal bracket to the right hood side as shown in figure 7.
- 8- Slide filter into the slot on the bottom filter seal bracket. Secure the hood top filter bracket to the hood top using the hex thread insert and screw provided. See figure 10.

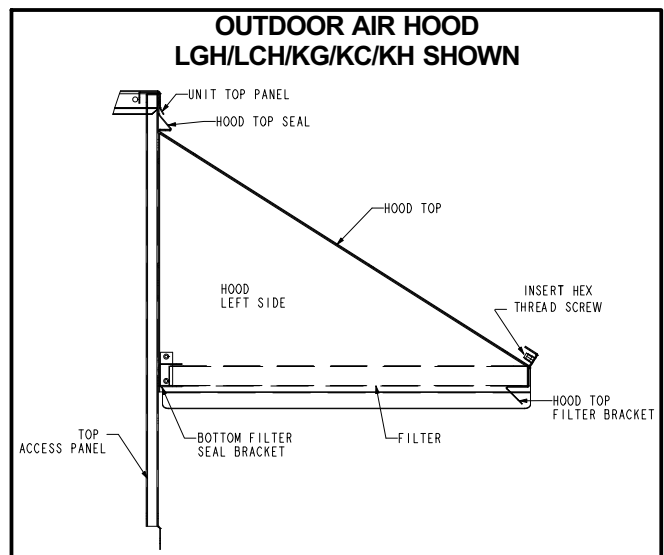


FIGURE 7

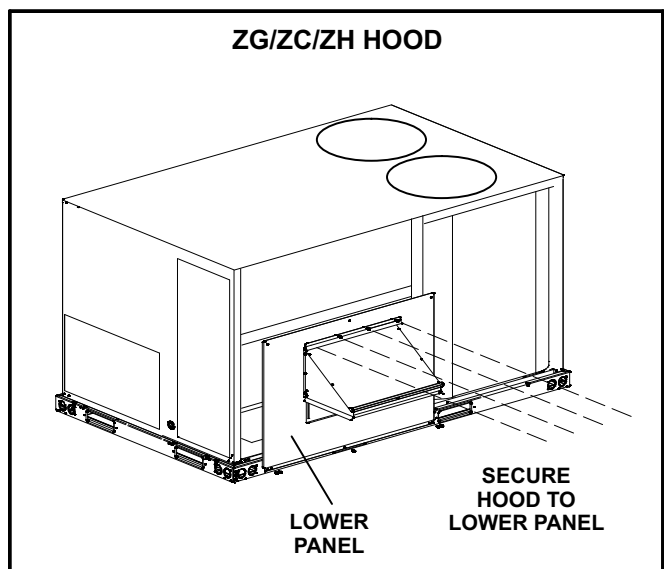


FIGURE 8

**OUTDOOR AIR HOOD
LGH/LCH/KG/KC/KH SHOWN**

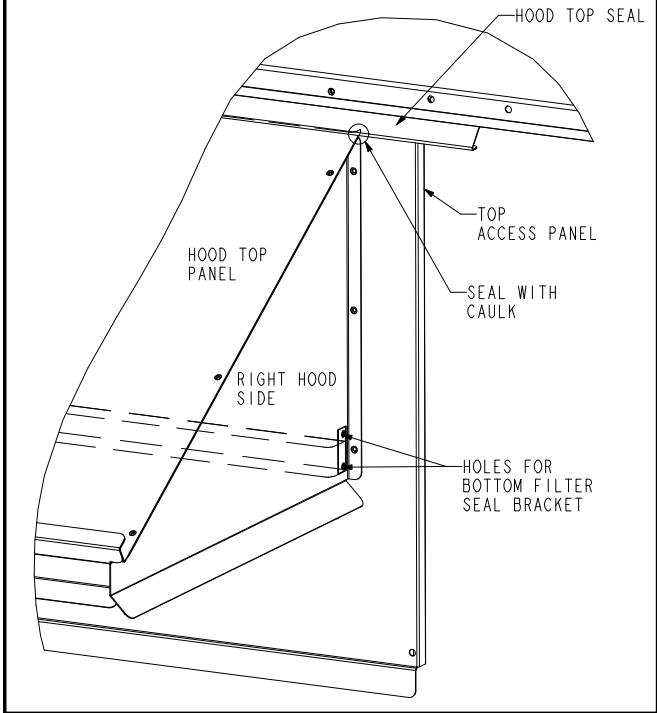


FIGURE 9

**OUTDOOR AIR HOOD
LGH/LCH/KG/KC/KH SHOWN**

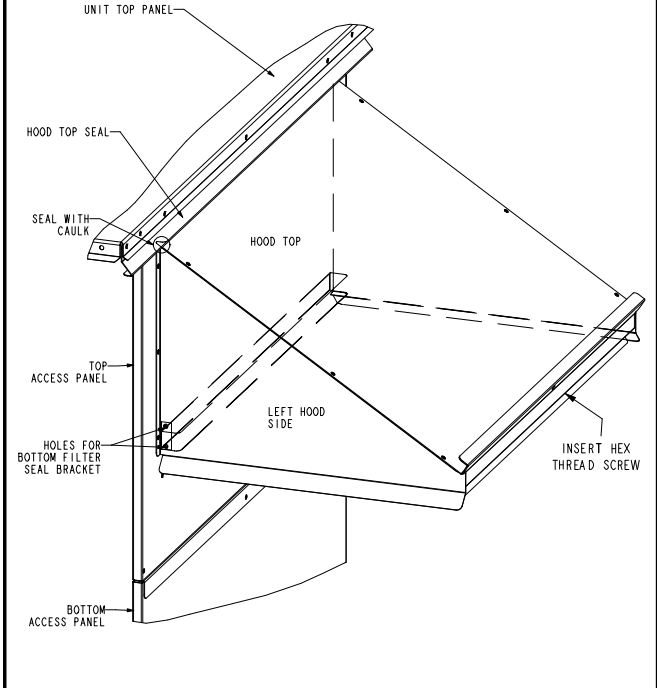


FIGURE 10