

**INSTALLATION INSTRUCTIONS FOR OUTDOOR AIR DAMPERS AND OUTDOOR AIR HOOD USED WITH LGH/LCH242H-360H UNITS**

**Shipping and Packing List**

**Package 1 of 1 contains:  
Outdoor Air Damper**

- 1- Outdoor air damper (OAD) assembly
- 1- Economizer end plate
- 1- Bag assembly containing:
  - #10 Sheet metal screws
  - #6 Sheet metal screws
  - Wiring diagram (74W44 only)

**Outdoor Air Hood**

- 1- Hood top
- 1- Hood top seal
- 2- Hood sides
- 2- Front filter brackets
- 1- Back filter bracket
- 2- Filter side seals
- 5- Filters
  - 1- Filler panel
- 1- Hood top stiffener

**⚠ 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**

**⚠ CAUTION**

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

**Application**

Optional outdoor air dampers provide fresh outdoor air. See table 1 for usage.

**E1DAMP25D-1 Motorized Damper:**

Damper opens to a set position, as shown in the "Determine Fresh Air Percentage" section, when the blower is operating. Both blower operation AND an occupied signal are required for dampers to energize. See figure 1.

**E1DAM015D-1 Manual Damper:**

Damper is manually operated; damper position is manually set at installation and remains in that position. See figure 2.

**Motorized Damper**

- 1- Disconnect all power to unit.
- 2- Release latches and open filter access panel.
- 3- Align bottom of damper assembly with support bracket and slide assembly into unit. See figure 1.
- 4- Fit damper assembly end plate over end of assembly and secure with retained screws.
- 5- Connect damper motor plug P3 to unit jack J3.

**Manual Damper**

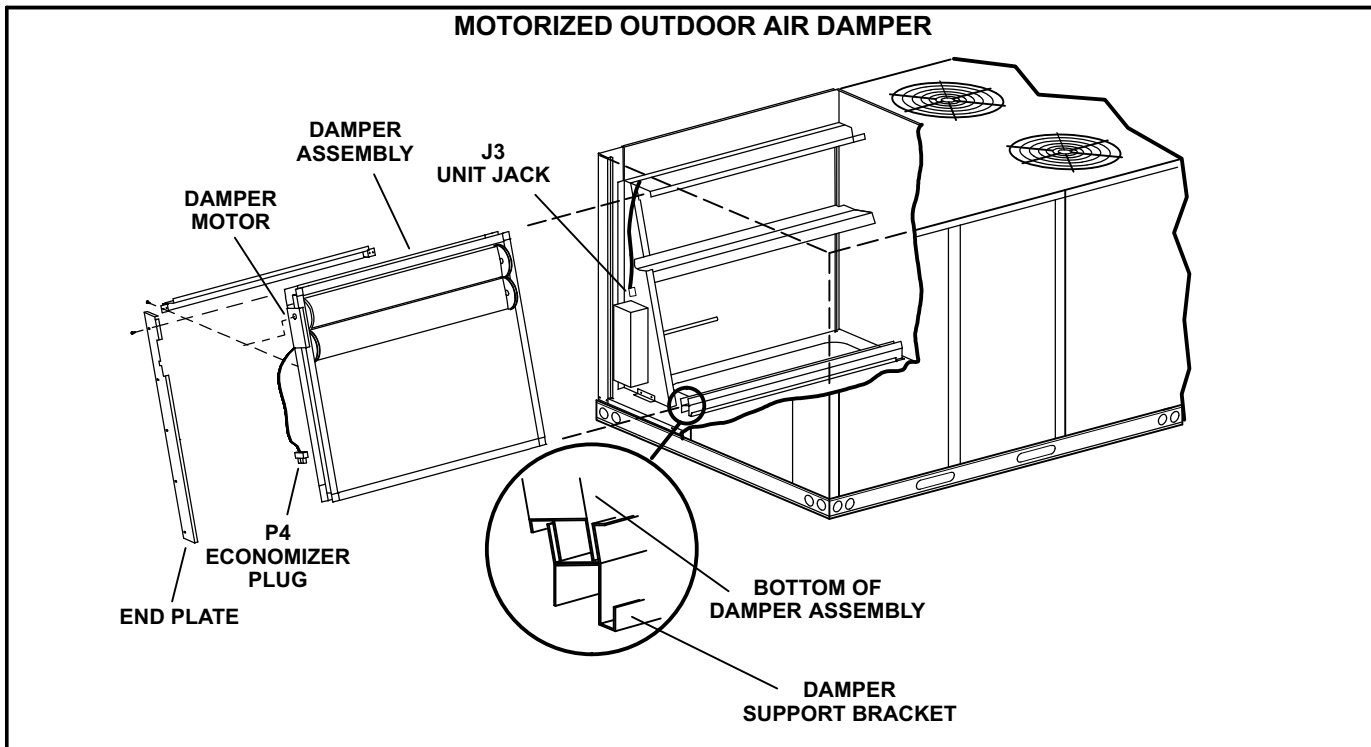
- 1- Disconnect all power to unit.
- 2- Open filter access panel.
- 3- Align bottom of damper assembly with support bracket and slide assembly into unit. See figure 2.
- 4- Fit damper assembly end plate over end of assembly and secure with retained screws.
- 6- Loosen wing nut on damper adjustment lever on damper assembly end plate. Adjust to desired setting and tighten wing nut. See figure 2.

TABLE 1

Damper Type	Unit	Model #	Part #	Cat. #
Manual	LGH/LCH242H-360H	E1DAM015D-1	606207-03	74W45
Motorized	LGH/LCH242H-360H	E1DAMP25D-1	604207-02	74W44

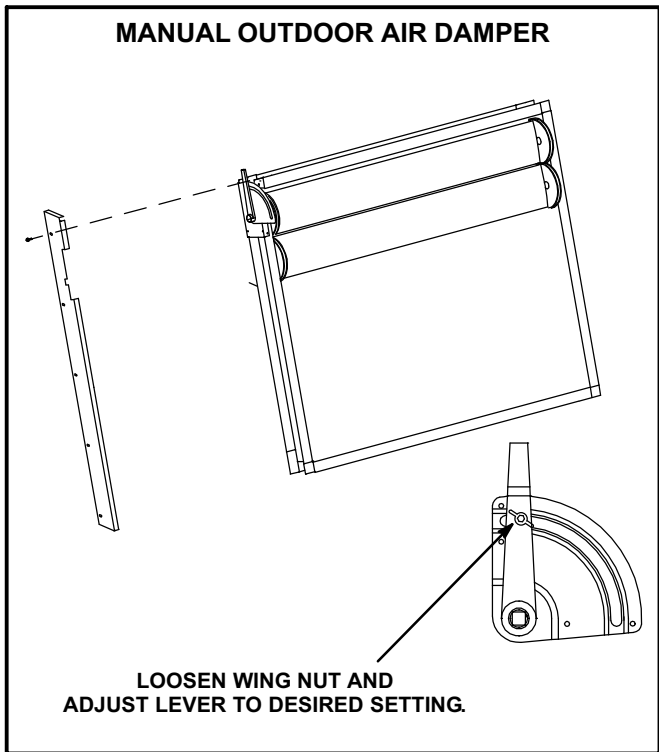


**MOTORIZED OUTDOOR AIR DAMPER**



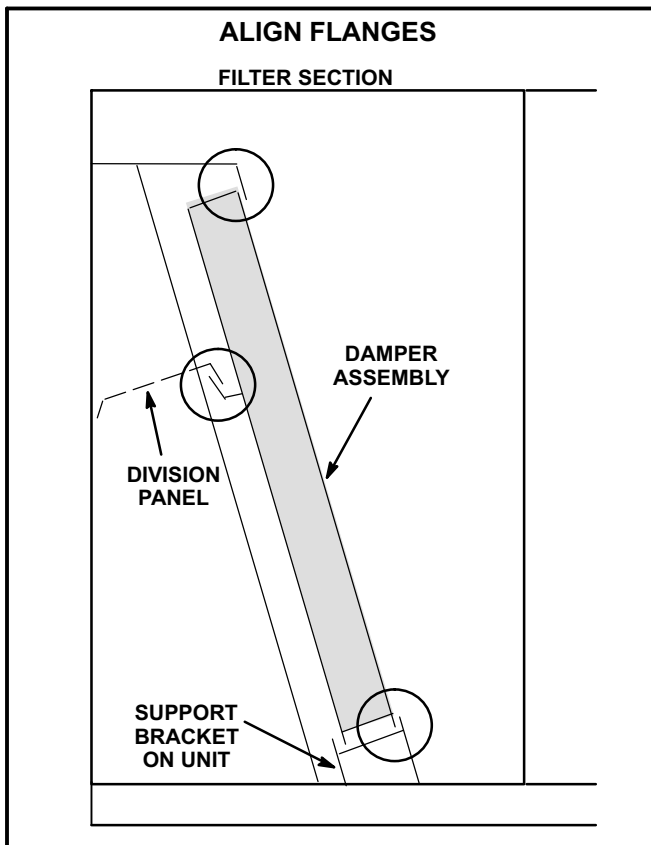
**FIGURE 1**

**MANUAL OUTDOOR AIR DAMPER**



**FIGURE 2**

**ALIGN FLANGES**



**FIGURE 3**

## Unit Controller 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. The economizer DIP switch and mode setting devices are at the bottom center of the Unit Controller. See figure 4.

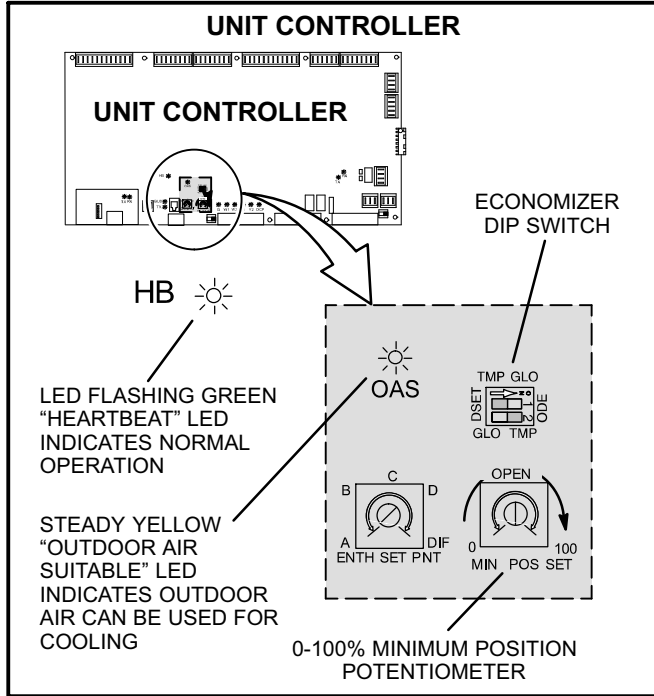


FIGURE 4

### New Unit With Factory-Installed Economizer

Use the Guided Setup section in the Unit Controller manual provided with each unit.

### Existing Unit With Field-Installed Economizer:

Use the following menu:

*Settings/Install/Damper/Econ ENTER*  
(display will flash !SET!)

Left arrow three times back to Settings and follow this menu:

*Settings/Setpoint/Damper/Economizer Mode/*  
(Refer to table 2 for modes)

After selecting the mode, set the DIP switches as shown in figure 5. Set potentiometer if shown in table 2.

When outdoor air is suitable, the Unit Controller will modulate dampers to maintain 55°F discharge air. To adjust this setting:

Arrow down

Select *Supply Air stpt*

Use arrow keys to change setting and select ENTER  
Left arrow three times to finish ("updating" will be displayed).

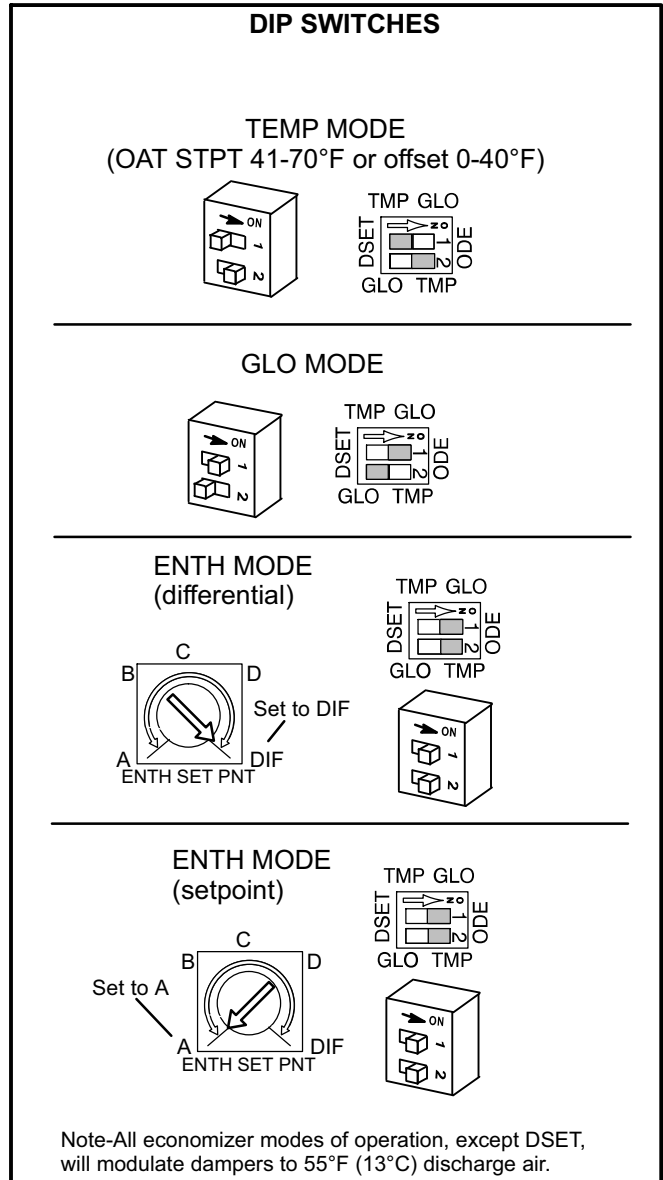


FIGURE 5

TABLE 2

Mode	Outdoor air is suitable for free cooling when:
TEMP (OAT setpoint)	Outdoor air temperature (RT17) is less than the setpoint value (41 to 70°F).
TEMP (offset)	Outdoor air temperature (RT17) is less than return air temperature (RT16) minus the offset value (0 to 40°F).
ENTH (differential)	Outdoor air enthalpy* (A7) is less than return air enthalpy (A62). Enthalpy setpoint potentiometer is set to DIFF
ENTH (setpoint)	Outdoor air enthalpy (A7) is less than enthalpy setpoint potentiometer position A, B, C, or D.
GLOBAL	Global input is energized by (P297-9). (This mode is NOT used when OAS signal is provided via network connection. GLO is only used when a 24VAC signal is used to energize the P297-9 GLO input.)

## Determine Fresh Air Percentage

### 1- E1DAMP25D-1 Only -

Set the Unit Controller DIP switch to "DSET" position as shown in figure 6.

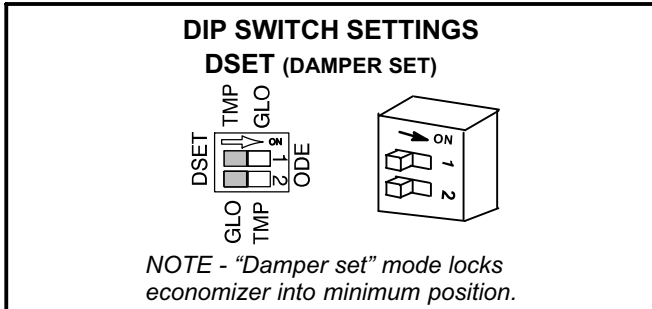


FIGURE 6

2- Measure outdoor air temperature. Mark the point "A" (40°F, 4°C shown).

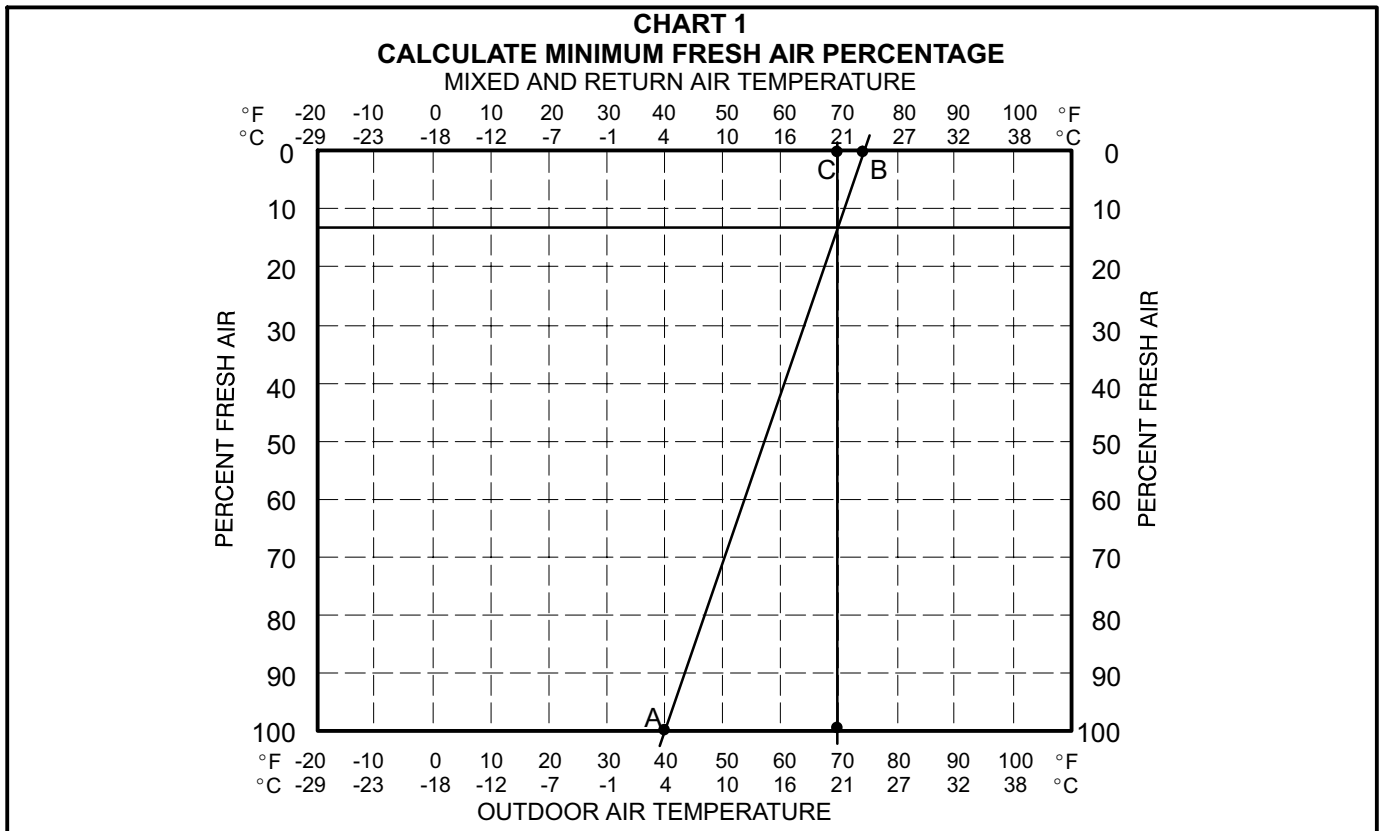
3- Measure return air temperature. Mark that point on the top line of chart 1 and label the point "B" (74°F, 23°C shown).

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- E1DAMP25D-1 Only -

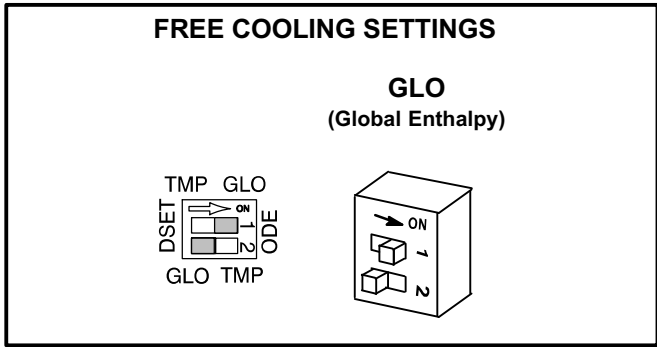
If fresh air percentage is less than desired, adjust MIN POS SET potentiometer higher. If fresh air percentage is more than desired, adjust MIN POS SET potentiometer lower. Repeat steps 2 through 7 until calculation reads desired fresh air percentage.

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

### 9- E1DAMP25D-1 Only -

Set the DIP switch to "GLO" position as shown in figure 7.

NOTE - E1DAMP25D-1 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.

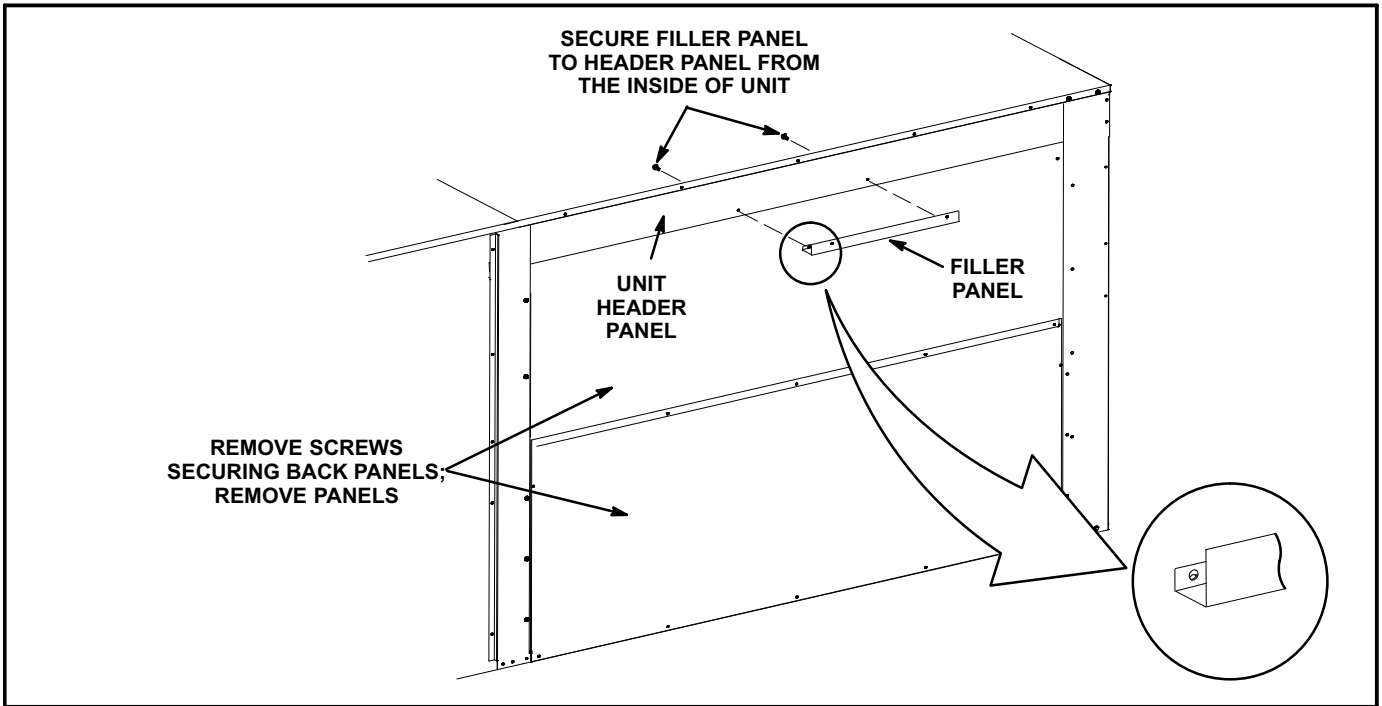


**FIGURE 7**

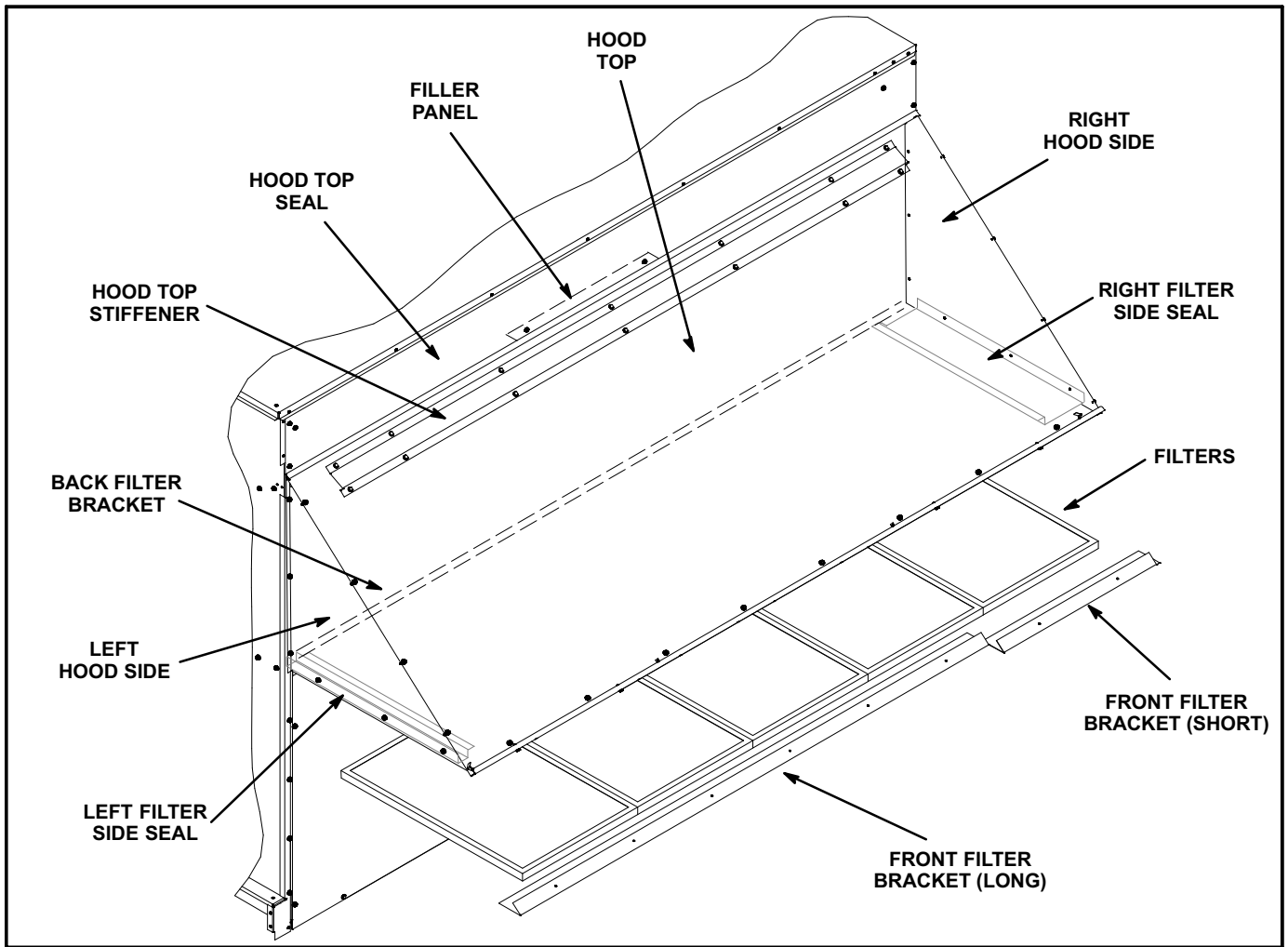
**Outdoor Air Hood**

The outdoor air hood is packaged separately but attached to the damper assembly crate. Assemble hood and install as follows:

- 1- Remove screws securing back panels and discard panels.
- 2- Secure filler panel to header. See figure 8.
- 3- Slide hood top seal under unit cabinet top; remove and retain screws securing top as needed. Secure top seal using retained screws. See figure 9 and 10.



**FIGURE 8**



**FIGURE 9**

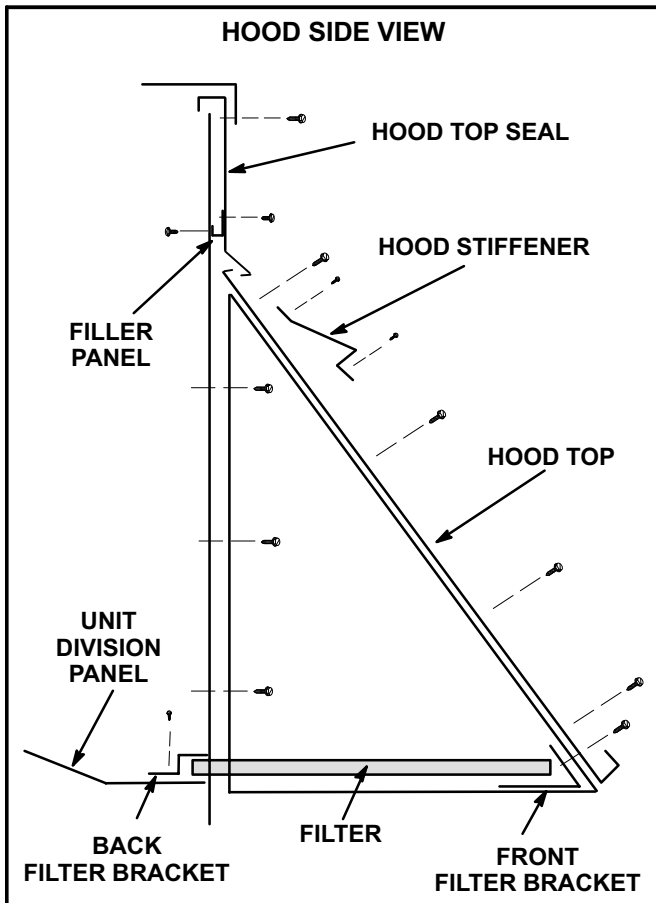


FIGURE 10

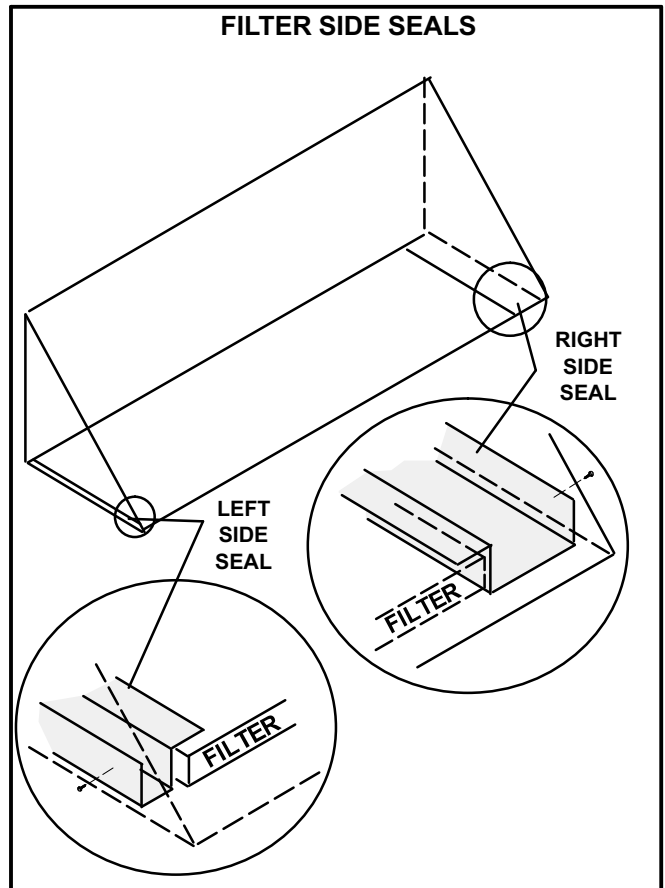


FIGURE 11

- 4- Position filter side seals on hood sides; make sure brackets are on the INSIDE of the hood. Secure with screws provide. See figure 11.
- 5- Secure intake hood sides to hood top using four sheet metal screws on each side.
- 6- Align back filter bracket with holes in unit division panel. See figure 10. Secure with sheet metal screws.
- 7- Align hood stiffener screw holes with hood top screw holes. Secure with sheet metal screws.
- 8- Position hood top lip under top seal and slide hood assembly into place. See detail in figure 10. Secure intake hood sides to unit using screws provided.
- 9- Secure the longer front filter bracket flush with the left end of the hood top. Install all but last filter. See figures 9 and 12.
- 10- Slide last filter into the right corner of the back filter bracket. slide the remaining (shorter) top filter bracket over the other end of the filter. Align the holes on the hood top with the holes on the shorter top filter bracket. Secure the the top filter bracket using sheet metal screws.

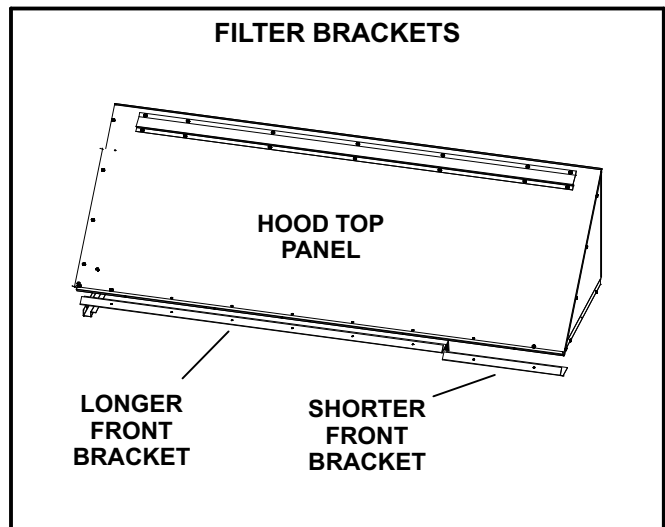


FIGURE 12