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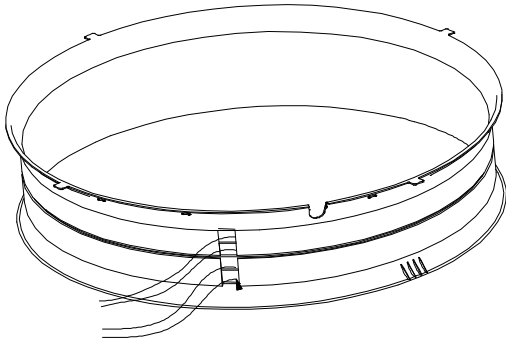
# KITS COMMON TO HEAT PUMPS

506939-01  
6/2012  
Supersedes 3/2012

TP Technical Publications  
LITHO U.S.A.

## ORIFICE RING HEATER KIT

### INSTALLATION INSTRUCTION FOR ORIFICE RING HEATER KIT



Quantity	Part Description
1	Orifice ring with heater
2	Wires
5	Wire nuts, 600V, 18 - 14 AWG
5	Nylon cable ties
1	Nylon snap-bushing 1/2" diameter
1	Thermostat - closes at 35°F / opens at 45°F
2	Wiring diagrams (XP17 - 537574-01 and XP21 - 537575-01)

#### **⚠ WARNING**

Improper installation, adjustment, alteration, service or maintenance can cause personal injury, loss of life, or damage to property.

Installation and service must be performed by a licensed professional installer (or equivalent) or a service agency.

#### **Application**

The replacement orifice ring with heaters prevents the build-up of ice in the operating area of the outdoor fan motor blades.

This kit can be applied to all Dave Lennox *Signature*® Collection XP17 and XP21 models.

#### **⚠ WARNING**



Electric Shock Hazard. Can cause injury or death. Unit must be grounded in accordance with national and local codes.

Line voltage is present at all components when unit is not in operation on units with single-pole contactors. Disconnect all remote electric power supplies before opening access panel. Unit may have multiple power supplies.

#### **Tools Required**

- Electric drill with 1/2" drill bit (required only for XP21)
- Phillips screwdriver
- Wire cutters

#### **⚠ WARNING**

Fan motor and grille assembly is heavy. Take care in removing and reinstalling.

Failure to do so may result in injury.

#### **⚠ CAUTION**

Physical contact with metal edges and corners while applying excessive force or rapid motion can result in personal injury. Be aware of, and use caution when working near these areas during installation or while servicing this equipment.

#### **Shipping and Packing List**

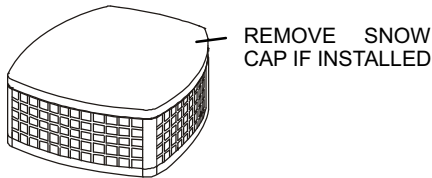
Check unit for shipping damage. Consult last carrier immediately if damage is found.



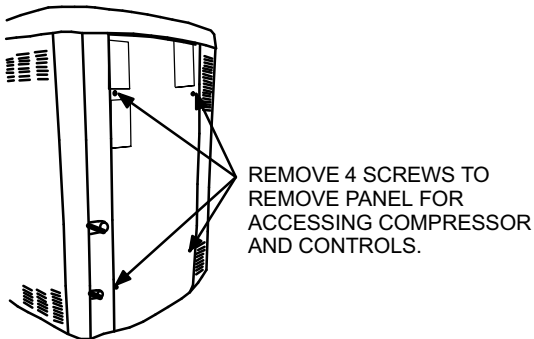
## Orifice Ring Removal

**IMPORTANT** - Fan motor and grille assembly is heavy. Assembly should be lifted by two people to prevent injury.

1. Turn all power off to unit.
2. Remove snow cap from unit, if installed. Otherwise proceed to step 3.

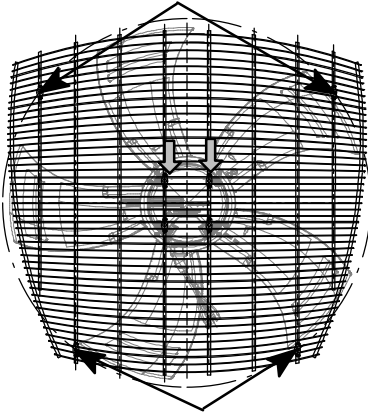


3. Remove the four screws securing the front access panel.



4. Remove the four screws that secure the top grille / fan motor assembly to the unit.

GRILLE MOUNTING POINTS

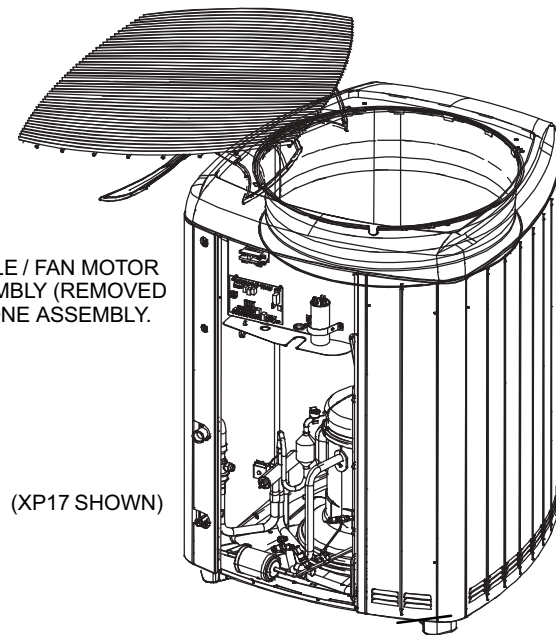


5. Confirm that the outdoor fan motor wires have enough length to allow for removal in step 6 to prevent damaging wires. If necessary, some factory wire ties may need to be cut.

6. Lift the grille / fan motor assembly up and tilt to the side to allow existing orifice ring to be removed.

GRILLE / FAN MOTOR ASSEMBLY (REMOVED AS ONE ASSEMBLY.)

(XP17 SHOWN)



7. Pull the existing orifice ring up and out to disengage the mounting snaps holding it in place.

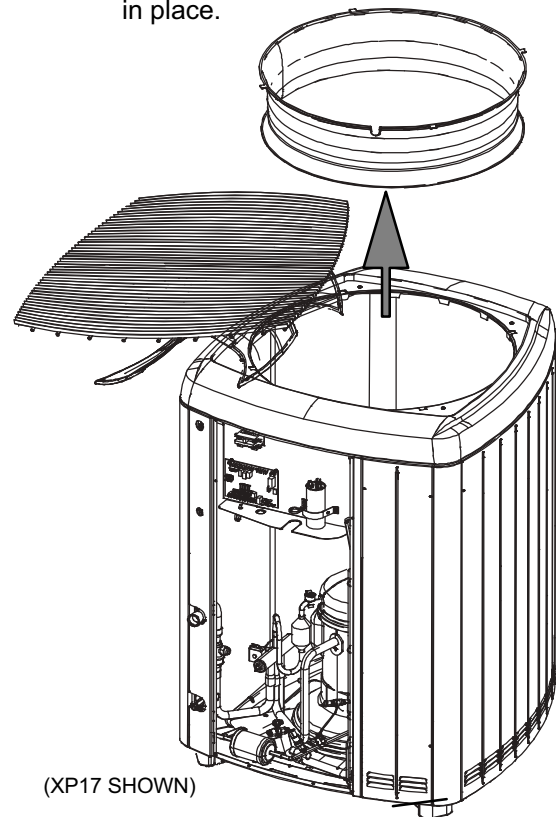
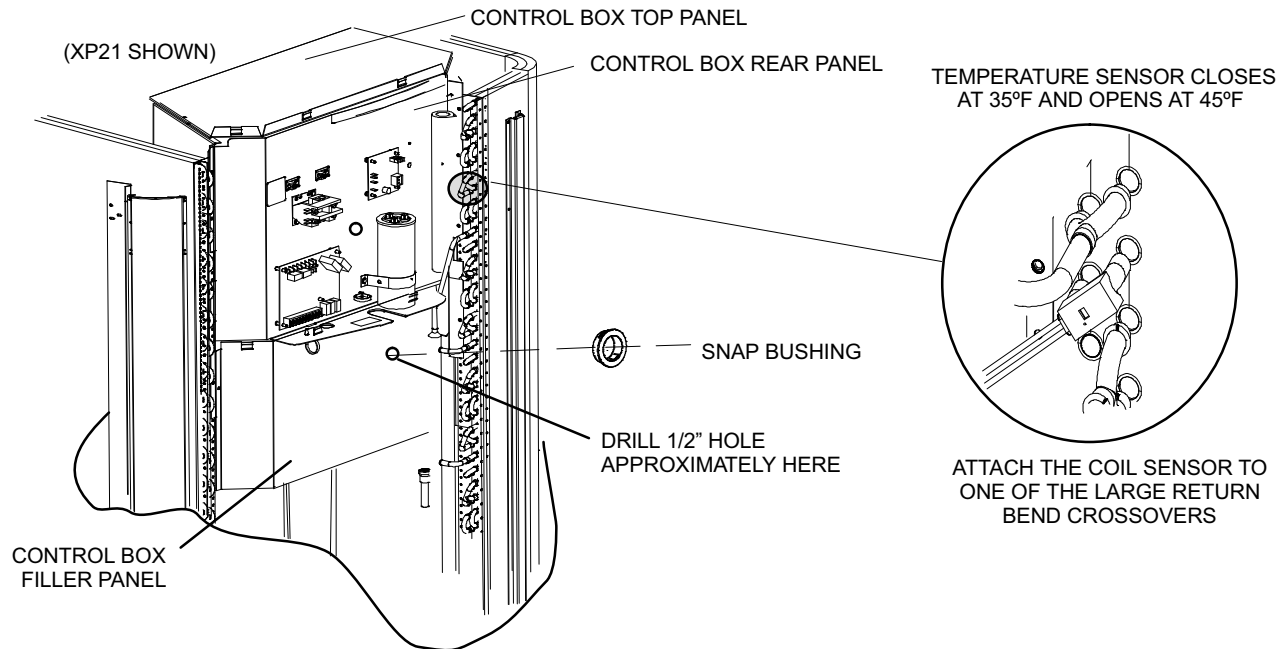


Figure 1. Orifice Ring Removal

## Orifice Ring with Heater Installation

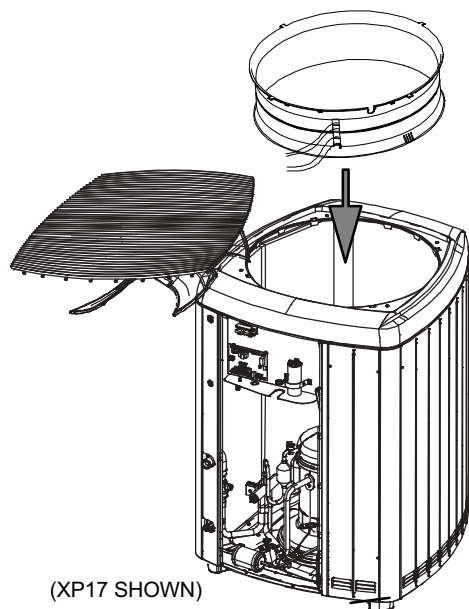
1. **XP21 units only:** Drill a hole (1/2" in diameter) through the control box filler panel which is located directly below the control box. Use the provided grommet to fill the hole. **All other models have direct access to the control box area and no drilling is required.**

**WARNING:** CARE MUST BE TAKEN NOT TO DRILL INTO WIRING, COMPONENTS OR PLUMBING. DRILL LOCATION SHOWN HERE IS AN APPROXIMATE LOCATION.



**IMPORTANT:** SEE FIGURE 3 FOR WIRING CONNECTIONS. WIRE TERMINATIONS AND WIRE NUT CONNECTIONS SHOULD BE MADE IN THE CONTROL BOX.

2. Route heater wiring through hole drilled in control box filler panel on XP21. All other models can be routed directly to control box area. Install new orifice ring by snapping it back in place.



**WARNING:** ROUTE WIRING AWAY FROM SHARP (SHEET METAL) EDGES, HOT REFRIGERANT LINES, AND ALL MOVING PARTS.

**WARNING:** ROUTE WIRING IN SPACES BETWEEN CONTROLS TO AVOID CONTACT WITH LIVE TERMINALS AND PROVIDE ACCESS FOR SERVICE OR REPLACEMENT.

**WARNING:** WIRE NUTS MUST BE HAND-TIGHTENED AND TAPED (2 WRAPS MINIMUM).

3. Attach the coil sensor to one of the large return bend crossovers as shown above. Use the provided wire nuts and wires to complete the electrical connections to the coil sensor and contactor (see figure 3)
4. Set grille / fan assembly back over orifice ring and install screws. **Confirm there is sufficient clearance between fan blades and orifice ring. If adjustment is required then see figure 4.**
5. Apply proper wiring diagram sticker over current diagram.
6. Reinstall the access panel.
7. Apply power to the unit.
8. Ensure proper system operation.

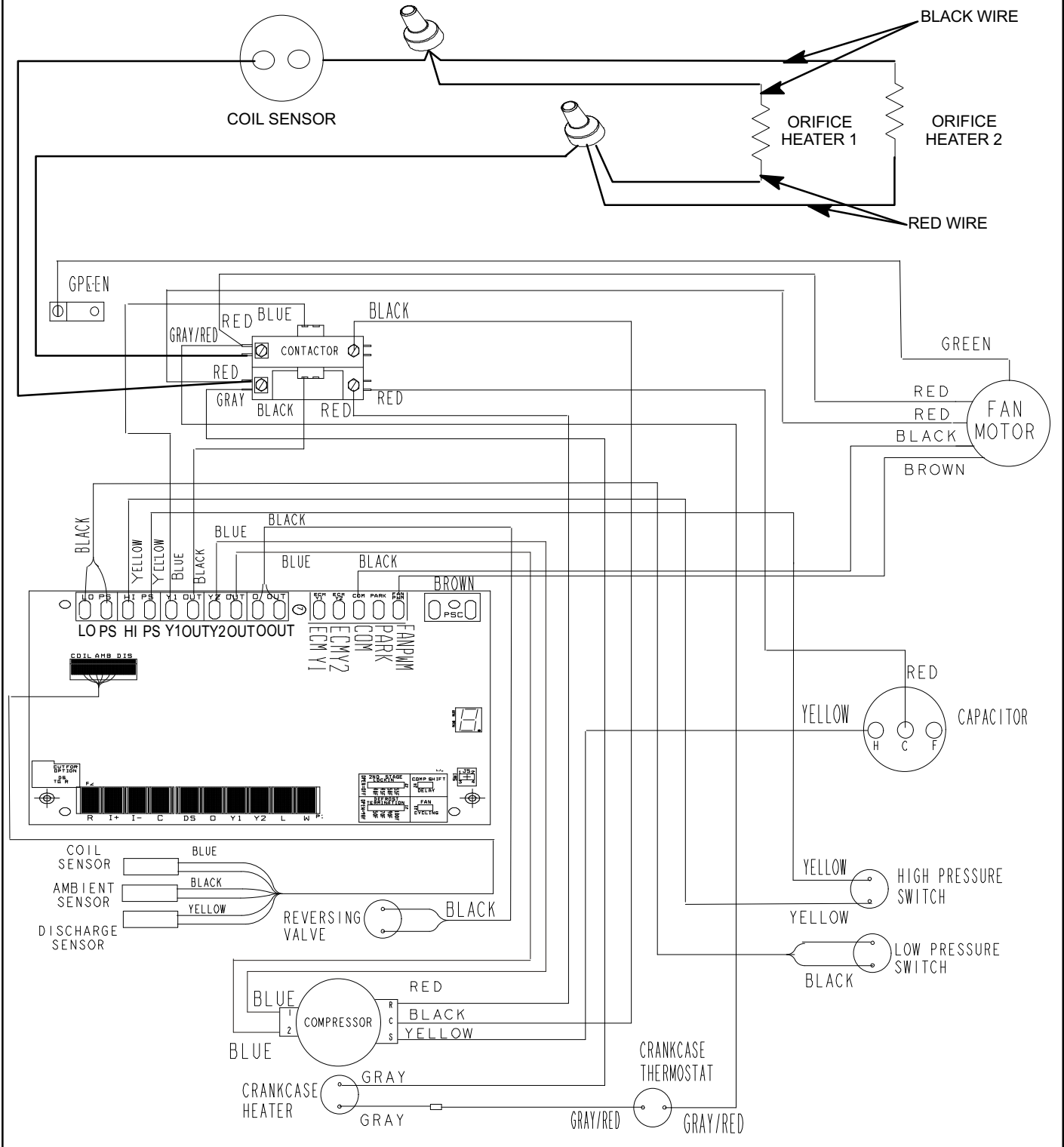
Figure 2. Orifice Ring with Heaters Installation

**WARNING:** ROUTE WIRING AWAY FROM SHARP (SHEET METAL) EDGES, HOT REFRIGERANT LINES, AND ALL MOVING PARTS.

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**Figure 3. All Units (Orifice Ring Wiring Connections)**

### TOP GRILLE OR FAN MOTOR MOUNT ADJUSTMENT FOR FAN CLEARANCE

Sometimes either the fan motor mounting or top grille may become out of alignment. This may cause the fan motor blade to not clear the orifice ring. If this situation occurs, simply adjust either or both the fan motor mount or top grille positions to allow proper clearance. The top grille four fastener insertion points to the plastic top and motor mount locations are larger than the fasteners used to secure the grille and fan motor mounts. Use the procedures provided in figure 4 to adjust for fan clearance.

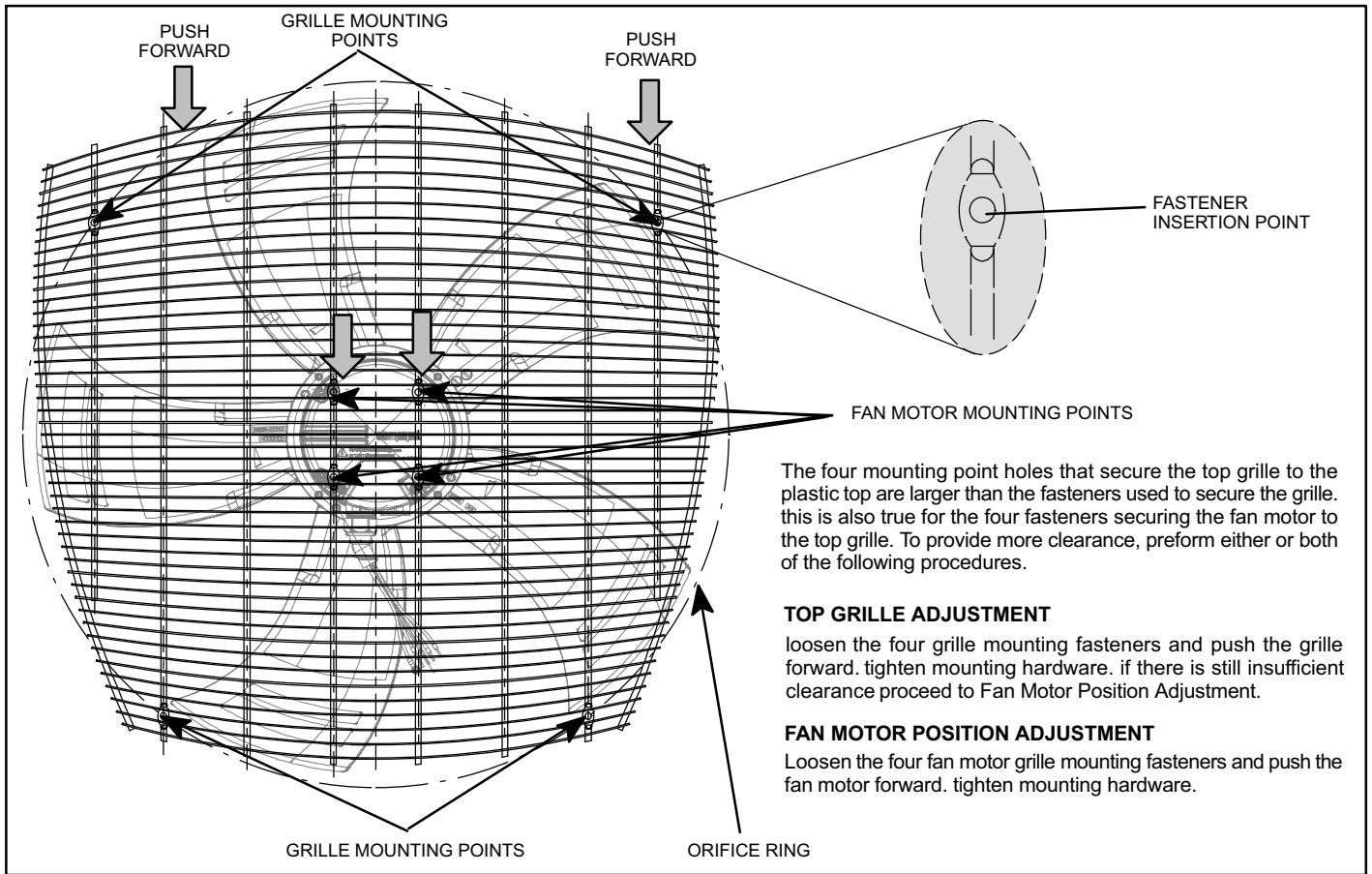


Figure 4. Fan Blade Clearance Adjustment