

Kit, P/N 162914, to Add an Air Deflector and to Replace the Combustion Chamber/Heat Exchanger Inner Access Doors Applies to Models RA/RAD 350

Description/Application

As a result of the ongoing Reznor® product improvement program, an air deflector has been added to the large door on Model RA/RAD 350 heaters. The deflector is designed to prevent possible damage that might be caused by high temperatures to the outer and inner access doors. This kit is designed to allow that product improvement to be added to already installed heaters. The kit includes an air deflector, replacement upper and lower inner access doors, a re-designed cross brace, new gaskets, and required hardware.

Parts List - Service/Replacement Kit, P/N 162914

Qty	P/N	Description
1	151793	Cross Brace Assembly
4	10393	Bolt, 1/4-20 x 5/8" lg (for attaching cross brace)
4	10650	Hex nuts, 1/4 x 20 (for attaching cross brace)
1	131139	Top Inner Access Door
1	131136	Bottom Inner Access Door
1	130621	Woven Ceramic Gasket for Doors, 124" long
1	131263	Woven Ceramic Gasket for Cross Brace, 27" long
14	1087	5/16" Flat Washer (for attaching door panels)
14	1333	5/16" Lock Washers (for attaching door panels)
14	115143	5/16" - 18 Brass Nuts (for attaching door panels)
12	130366	5/16" Bolts (for attaching door panels)
12	121745	Bolt Retainers (for attaching door panels)
1	150158	Air Deflector (to be attached to outer door)
4	114264	Rivets, 3/16" (for attaching air deflector)

Installation Instructions

Required: Screwdriver, 3/8" Wrench, 7/16" Wrench, 5/16" Wrench, Hammer, Rivet Gun, Gloves, Face Mask or Respirator, Stiff Brush, Shop Vacuum, Scissors, Drill with 3/16" bit

1. Turn off the power to the heater.

CAUTION: Allow the unit to cool before beginning installation of the replacement doors.

2. **Remove the Outer Door** - Remove the outer combustion chamber/heat exchanger door (large door on the turning box end of the heater).

3. **Remove the Inner Access Doors and the Cross Brace** - Remove the upper and lower door panels and the cross brace. (NOTE: Originally the cross brace was welded to the combustion chamber/heat exchanger assembly. If the heater being serviced has a welded-on cross brace, it cannot be replaced; discard the cross brace in the kit and continue with the air deflector and door installation.)

Discard the **inner** door panels (the outer door panel will be re-installed), the cross brace, the gaskets, and the hardware. (NOTE: To remove bolts, tap lightly with a hammer.)

4. **Clean the Heater** - Refer to the instructions in the maintenance section of the heater manual (Form RGM 464). Clean the combustion chamber and the heat exchanger tubes. Clean the perimeter surfaces where the gasket strips were removed.

WARNING: Waste oils may contain engine-wear metal compounds and foreign materials. When burned, these compounds are deposited within or exhausted from this heater. Therefore, care should be taken when using, cleaning and maintaining this equipment. The ash that is removed from this heater may contain heavy metal compounds that are environmentally undesirable and should be disposed of in a conscientious manner.

5. **Install the New Cross Brace** - Position the cross brace and attach it to the sides of the turning box using the four 1/4-20 bolts and nuts.

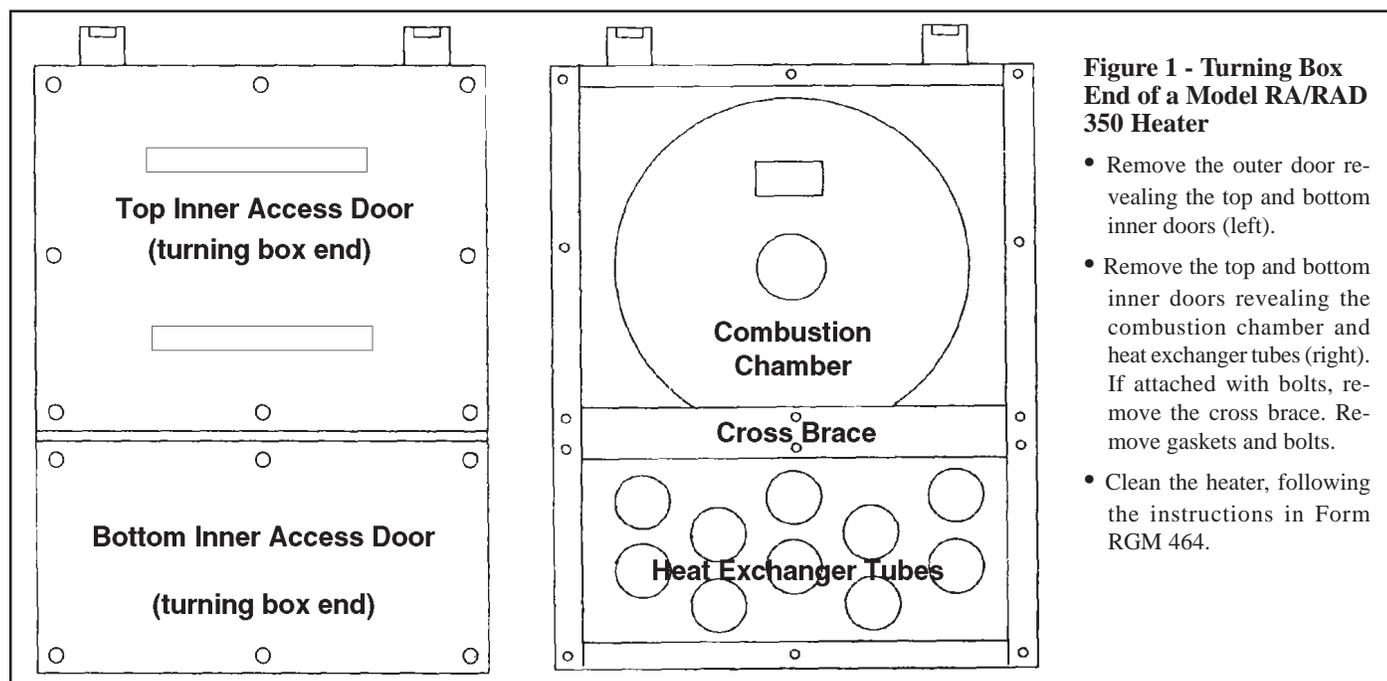


Figure 1 - Turning Box End of a Model RA/RAD 350 Heater

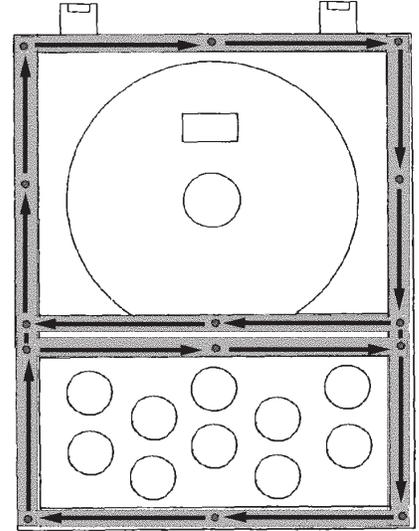
- Remove the outer door revealing the top and bottom inner doors (left).
- Remove the top and bottom inner doors revealing the combustion chamber and heat exchanger tubes (right). If attached with bolts, remove the cross brace. Remove gaskets and bolts.
- Clean the heater, following the instructions in Form RGM 464.

6. Install New Inner Access Doors

- (a) Push a bolt out through each of the 12 holes, securing each to the turning box with a bolt retainer.
- (b) Install the turning box perimeter gasket (124" strip) - Starting about three inches in from the end of the longest gasket strip, push it over any corner bolt. Work continuously around the perimeter of both openings, keeping the gasket material flat and centered. Attach the gasket strip to all 12 bolts. When back at the first bolt, overlap the ends of the gasket strip and cut off the excess with scissors.
- (c) Install the cross brace gasket (27" strip) - Starting about three inches in from the end of the gasket strip, push it over a lower corner bolt for attaching the upper door panel. Work continuously around the cross brace, keeping the gasket material flat and centered. Attach the gasket strip to the studs and the corner bolts, continuing completely around the front edge of the cross brace. When back at the first bolt, overlap the ends and cut off the excess with scissors. (NOTE: The ends of the cross brace will have two layers of gasketing.)
- (d) Position the new top door panel (with the horizontal stiffening bars to the outside) on the bolts on the top. Attach using the new hardware - first the flat washer, second the lock washer, and third fastening securely with the nut.
Position the bottom door panel over the bolts on the bottom; attach with the new hardware following the same sequence.

Figure 2 - All mating surfaces must have a woven ceramic gasket strip.

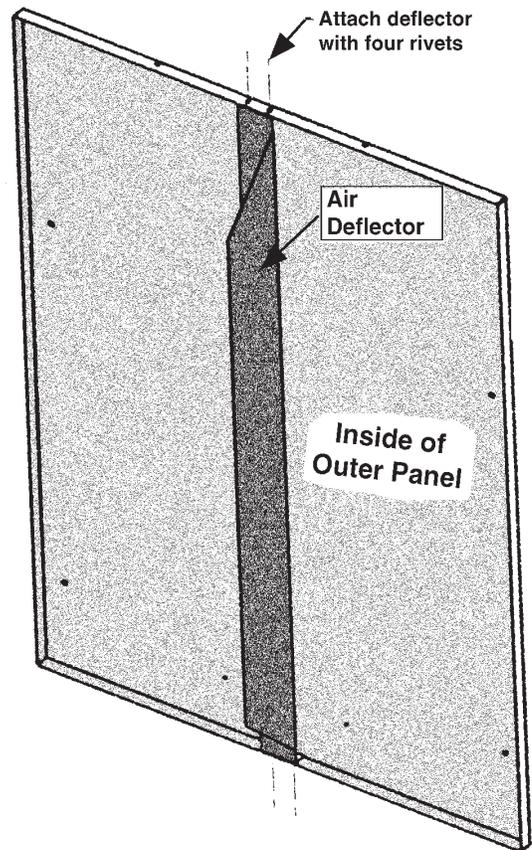
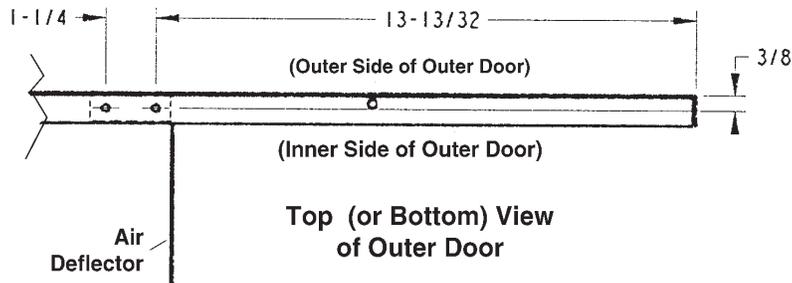
- Push a bolt out through each hole in the perimeter and secure with a bolt retainer.
- Run the longest gasket strip around the perimeter of the turning box, attaching it to all 12 bolts.
- Run the shorter gasket strip around the cross brace, attaching it to the corner bolts and the two middle studs.



7. **Attach the Air Deflector** -- The air deflector must be riveted to the inside of the outer door. Position vertically as illustrated and mark holes in the flanges at the top and bottom of the door. Drill holes. Attach the air deflector with rivets.

Figure 3 - Attach Air Deflector

- Mark and drill holes
- Attach deflector with rivets



8. Replace the outer door. Restore power to the heater and check for proper operation. **NOTE:** Start-up will be delayed until preheated oil reaches the required temperature.