



HEAT EXCHANGER REPLACEMENT weatherproof duct furnace/make-up air units

▲ CAUTION

Before attempting to replace heat exchanger, make sure all gas and electric power to unit is turned off.

The following heat exchanger replacement instructions cover the replacement of the heat exchanger for all models of Modine weatherproof duct furnaces and make-up air units. There are six basic model types. The model types are as follow:

WDG - Gravity Vented Duct Furnace

WDP - Power Vented Duct Furnace

WBG - Gravity Vented Duct Furnace with Blower Section

WBP - Power Vented Duct Furnace with Blower Section

WSG - Gravity Vented Duct Furnace with Blower Section and Downturn Section

WSP - Power Vented Duct Furnace with Blower Section and Downturn Section

The heat exchanger replacement instructions vary depending on the type of weatherproof unit involved. These instructions are based on the assembly figures shown on pages 1, 2, 3, and 4 of this bulletin.

If replacement is being made on Models WSG and WSP (units with blower sections and downturn sections) begin unit disassembly starting with Section A of the instructions and follow through until the end.

If replacement is being made on Models WBG or WSP (units with blower section), begin unit disassembly starting with Section B of the instructions and follow through to the end.

If replacement is being made on Models WDG or WDP (duct furnaces only), begin disassembly starting with Section C of the instructions.

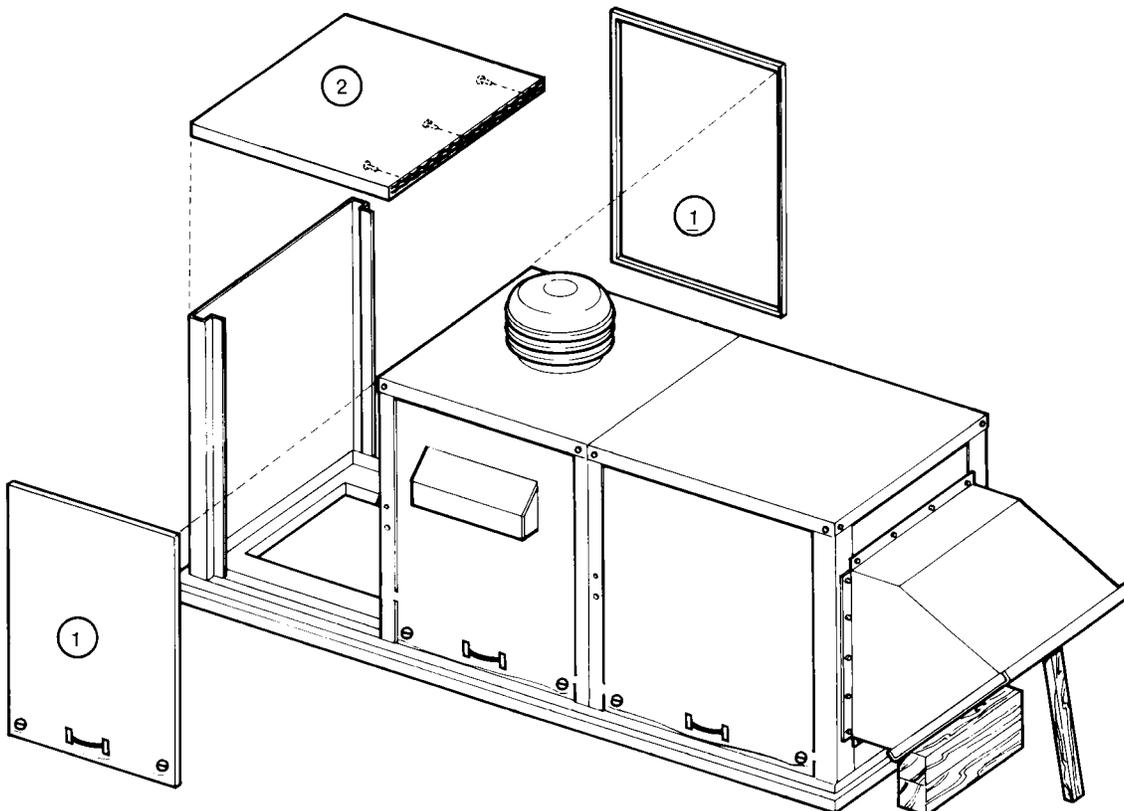
Replacement Instructions

Section "A" (see Figure 1)

1. Remove access door panels (1) from both sides of downturn section.

2. Remove roof panel (2) from downturn section. When removing panel, note surfaces which have been sealed with weather sealant and clean surfaces. These surfaces will have to be resealed when unit is reassembled. Continue on to Section B.

Figure 1



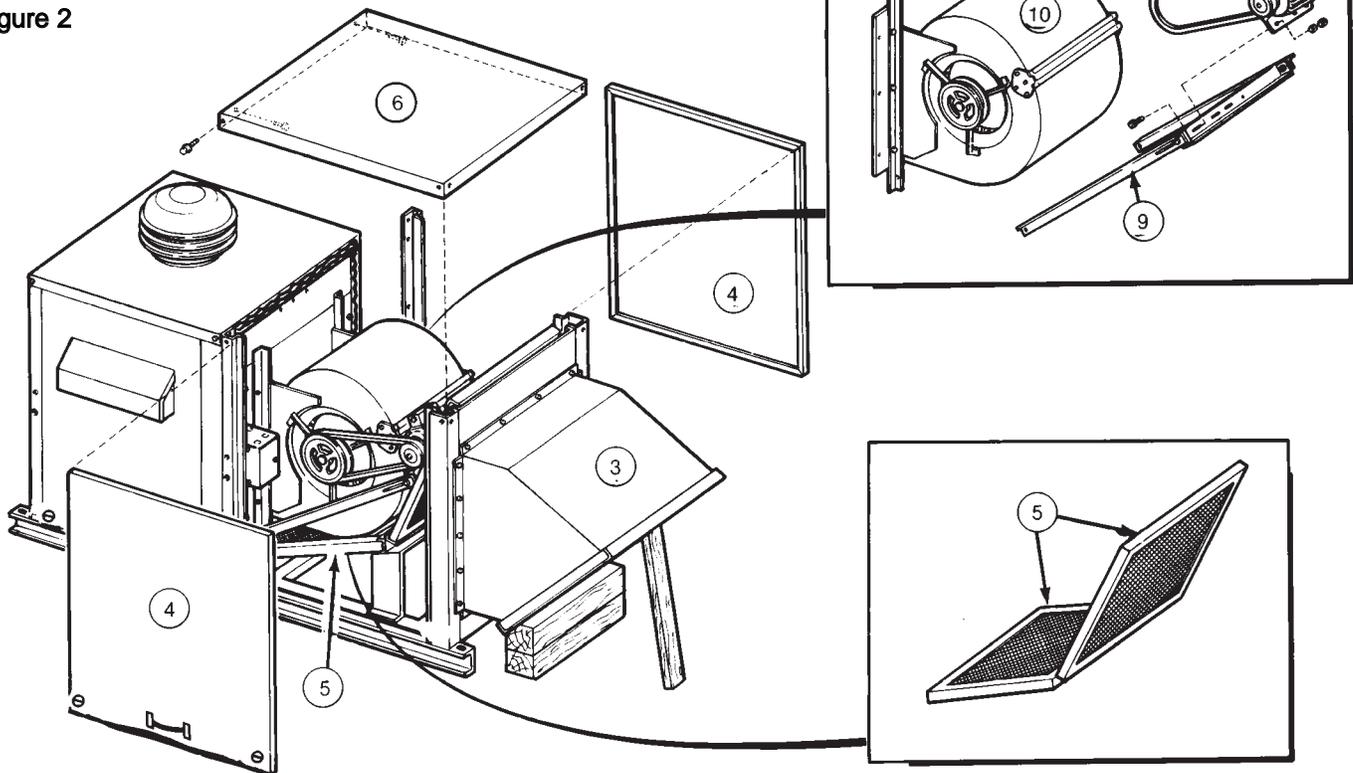
Replacement Instructions

Section "B" (see Figure 2)

1. Before beginning any disassembly support the Rainhood and Birdscreen Assembly (3) and/or Fresh Air Damper Assembly (not shown) to prevent those items from tilting outward when blower section roof panel is removed. If the unit does not include either of these items, continue on with Step 2.
2. Remove blower section access panels (4) from both sides of blower section.
3. If unit was furnished with filters, remove filters (5).
4. Remove blower section roof panel (6). Be careful to remove all fastening screws, including those attaching the roof panel to the duct furnace section on the underside of the roof panel.

NOTE: When removing panels, note surfaces where weather sealant has been applied. These surfaces will have to be cleaned of the old sealant and, resealed when the unit is reassembled.

Figure 2



5. Disconnect and remove motor (7) and belt (8) from blower housing, and motor support bracket (9).
6. Remove blower assembly (10) and blower assembly panel (11) together as one assembly. The blower assembly is reinforced with two vertical channels (12) which are fastened at the bottom of each channel. The bolts at the bottom of these channel support bolts must be removed. After removing the channel support bolts, unfasten the blower housing support panel (11) by removing the screws along the sides and bottom of the panel first, then remove the screws along the top flange of the panel. (**Caution:** The blower assembly should be supported before removing the top flange mounting screws to prevent the assembly from falling.)

Continue with Section "C" of instructions.

Replacement Instructions

Section "C" (see Figure 3)

1. Remove service access panels (13) from both sides of duct furnace.

NOTE: If unit is a power vented model, the access panel (13) on the gas control side of the furnace must be removed as well as the top side panel (13a). See inset.

2. Remove vent cap (14) if unit is gravity vented.
3. Disconnect pilot tubing, ignition cable and gas pipe (at pipe union) from burner assembly. Remove burner assembly retaining screws and slide burner (15) completely out of unit.

4. If unit is power vented, remove screws connecting power venter housing (16) (see inset) to connecting collar and lower power venter assembly.
5. Move to side of unit opposite gas controls and remove corner post (17) and (18).
6. Remove upper end panels (19) and (20).
7. Remove inner side panel (21) on side opposite of gas controls.

8. Locate limit control (overheat control) sensing bulb near center of discharge side of heat exchanger. Also note location of sensing bulb in mounting bracket. Remove sensing bulb from bracket.

NOTE: When replacing sensing bulb it is important that the bulb be properly located. See Figure 4 (on back page) for proper bulb location.

9. Unfasten heat exchanger from remaining corner posts (22) and (23), and from lower end panels (24) and (25).

NOTE: Unfasten heat exchanger only, from the above parts. It is not necessary to remove the remaining corner posts or lower end panels.

10. Lift heat exchanger assembly (26) slightly to free it from the off-set flange of the inner side panel on the control side of the unit (See inset), and then slide heat exchanger free from unit. 11. Note the location of the air distribution baffle (27) (if it is used) on the failed heat exchanger.

CAUTION: On all WBG/WBP/WSG and WSP units, the air distribution baffle must be in place. The heat exchanger replacement kit will include a new baffle already assembled to the heat exchanger. On WDG or WDP models, the air distribution baffle may be removed depending on the operating conditions of the unit. Before installing replacement heat exchanger, see Unit

Installation section of Installation and Service Manual 5-550 for proper air distribution baffle location and, for information on when the baffle must be used.

12. Remove all old sealant from all panels and clean surfaces. Surfaces must be clean and dry before applying new sealant.

13. Install fiberglass seal (28) provided with heat exchanger replacement kit to bottom side flanges of replacement heat exchanger (make sure fiberglass seal covers entire length of side flanges).

14. Apply 1/8 inch diameter bead of sealant (tube of sealant is provided with replacement kit) to top flange of lower end panels (24) and (25).

15. Lower replacement heat exchanger into position making sure the entire top flange of the heat exchanger engages in the off-set strip of the inner side panel (see inset).

(Continued on back cover)

Figure 3

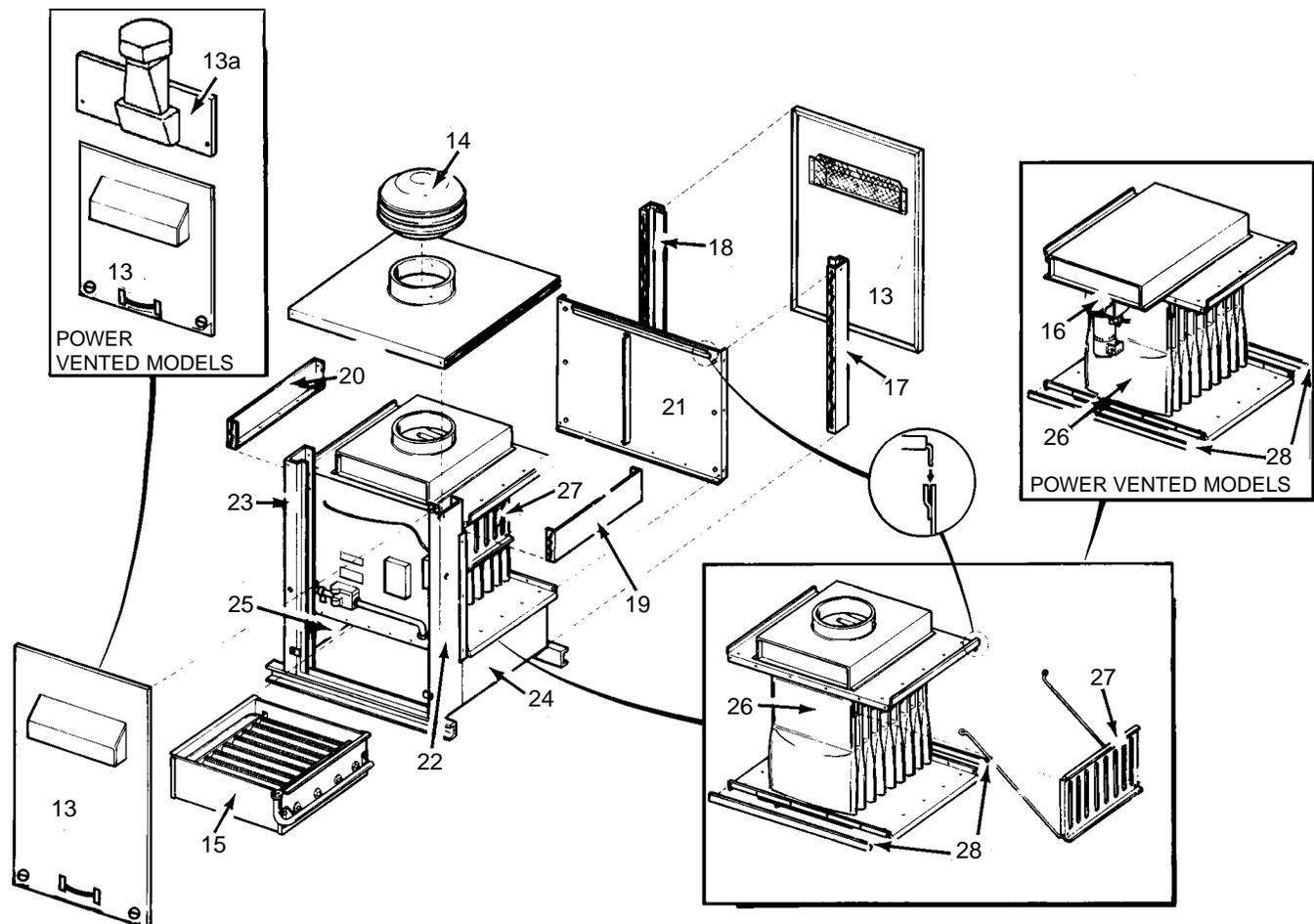
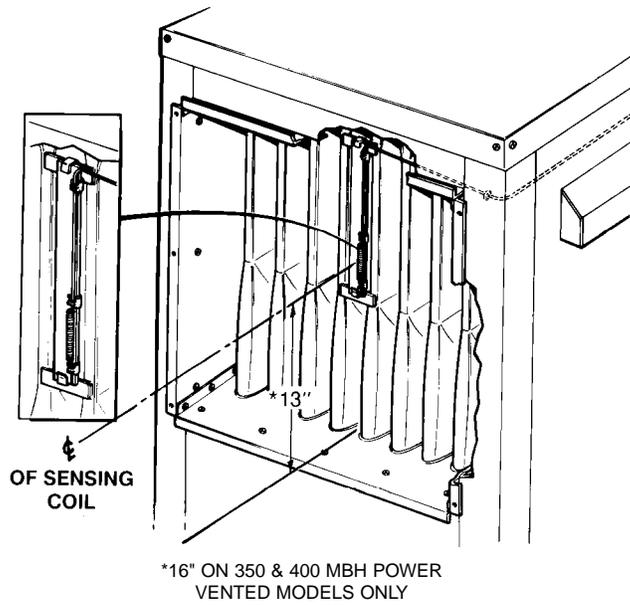


Figure 4



To completely reassemble unit from this point, follow disassembly instructions in reverse order beginning with Step 12 of Section "C".

When the unit has been completely reassembled, reconnect gas and electrical connections and then check unit performance and adjustments according to the installation instructions provided with the replacement heat exchanger kit. Installation and Service Manual 5-550 covers Models WDG and WDP. Installation and Service Manual 5-551 covers Models WBG/WBP and WSG/WSP and make sure that the proper gas pressure is supplied to the unit and also that the motor and blower drives are adjusted to their correct settings.



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