

## INSTALLATION INSTRUCTIONS

### 30°, 60°, and 90° downward deflector hoods

### IMPORTANT

The use of this manual is specifically intended for a qualified installation and service agency. All installation and service of these units must be performed by a qualified installation and service agency. Modine manuals may contain excerpts from component supplier literature adapted for Modine products. Any accompanying component supplier literature is for general information.

### IMPORTANT

Attaching a deflector hood to your unit heater changes the center of gravity. The field adjustable level hanging feature on units with two point suspensions allows you to compensate for this new center of gravity. **It is important, however, that after attaching your deflector hood to the unit heater that the majority of adjustment be done while the unit is on the floor.**

Your installation and service manual under "unit suspension", explains how to make these adjustments. The unit should be lifted off the floor slightly to make sure your largest adjustment results in the unit being "close to level". Once the unit is suspended, only "minor tapping of the unit into its final position" should take place.

### Model Application

The 30°, 60° and 90°, downward deflector hoods are designed for use with propeller and blower type unit heaters.

### Assembly/Installation and the Field Adjustable Level Hanging Feature

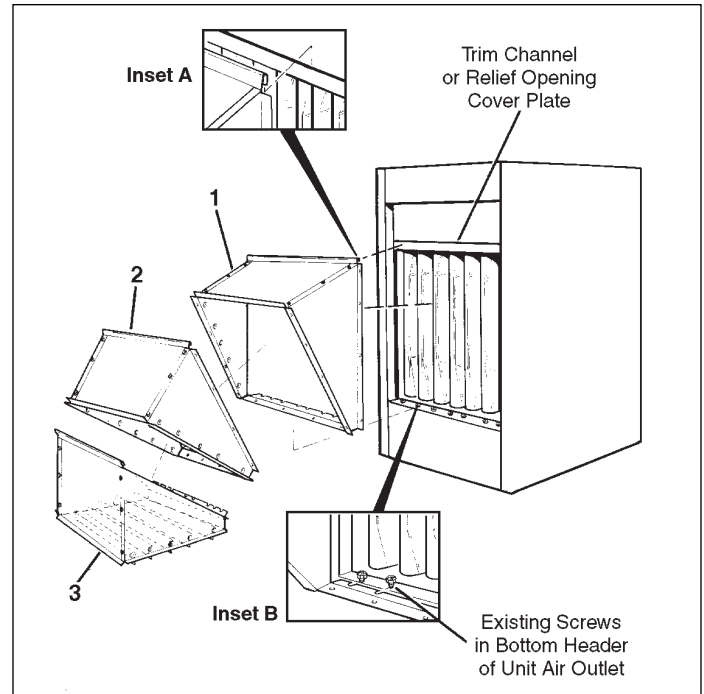
It is important that the deflector hoods be assembled as a separate piece prior to installing the hood on the unit heater. Attaching a deflector hood to your unit heater changes the center of gravity. The field adjustable level hanging feature on units with two point suspensions allows you to compensate for this new center of gravity. **It is important, however, that after attaching your deflector hood to the unit heater that the majority of adjustment be done while the unit is on the floor.**

Page 3 of your installation and service manual under "unit suspension", explains how to make these adjustments. The unit should be lifted off the floor slightly to make sure your largest adjustment results in the unit being "close to level". Once the unit is suspended, only "minor tapping of the unit into its final position" should take place.

The recommended procedure for assembly and installation is described as follows:

**Step 1.** Before beginning assembly of the accessory hood, remove all of the spring loaded louver blades from the unit heater on which the hood is to be installed. These louver blades will be relocated in the face of the hood assembly after the hood is attached to the unit heater.

Figure 1.1



To remove the spring loaded louver blades, simply apply pressure against the louver blade retaining spring by grasping the blade and forcing the blade to the left as you face the unit heater. After compressing the spring, the right hand tab of the louver blade can be removed from the unit, and then the spring end of the blade removed.

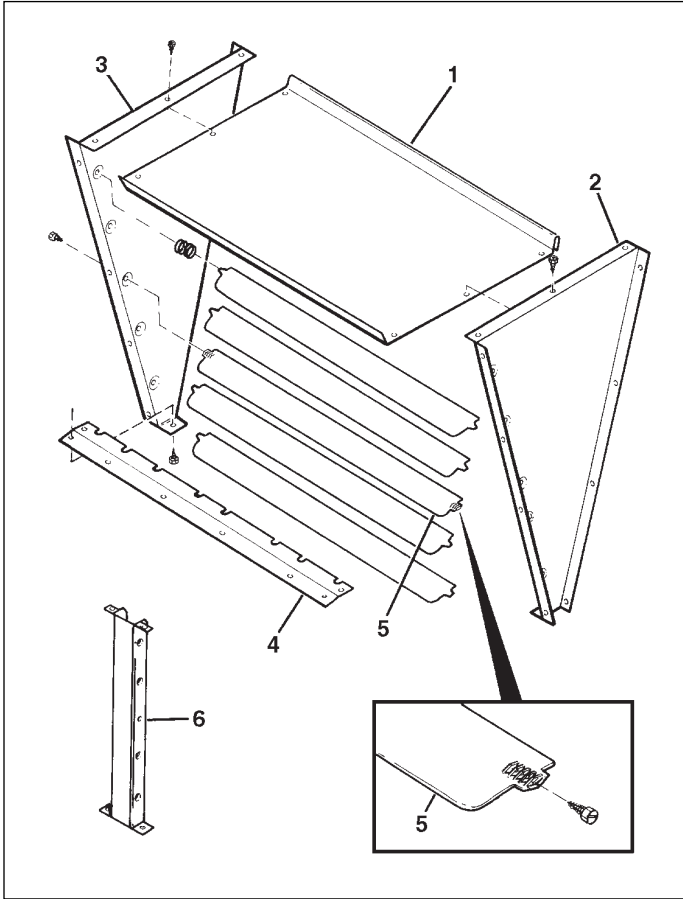
**NOTE:** Be sure not to lose the louver blade retaining springs as they will be required later to install the blades into the hood assembly.

On the larger size models there are two sets of louver blades installed with a support channel between them; remove both sets of louver blades and the vertical support channel.

**Step 2.** All deflector hood kits contain a top panel with a hooked flange (see Inset A of Figure 1.1). This hooked flange is designed to hook over the top header flange of the heat exchanger. However, before this can be done, the decorative trim channels must be removed from the top of the air discharge opening of the unit heater if the unit was supplied with one. (see Figure 1). On all power exhausted models, the trim channel has been extended to cover the draft relief opening. Installation of the deflector hood kit requires that this cover plate be removed on these models.

The trim channel, or cover plate is fastened to the top header of the heat exchanger with sheet metal screws. Remove these screws completely and the trim channel, or cover plate will come free from the unit.

**Figure 2.1**



**Step 3.** Find a flat surface on which to assemble the deflector hood kit. Place all of the parts on the flat surface and begin assembly by locating the side panels and top panel for the hood assembly. All assembly parts can be identified by referring to Figure 2.1.

The rear of the top panel (Item 1, Figure 2.1) can be identified by locating the hooked flange of the panel. This is the side which will be attached to the unit heater. When assembling the hood, position the hooked flange away from you.

Next, locate the right and side panel (Item 2, Figure 2.1). This panel can be identified by observing in which direction the louver blade dimples are protruding out of the panel when the edge of the side panel nearest the dimples is facing toward you. On the left hand side panel, the louver blade dimples will protrude out to the left, in the same direction as the long vertical flanges of the side panel (see Item 3, Figure 2.1). On the right hand side panel, the louver blade dimples will protrude out to the left side of the panel, but opposite the side of the long vertical flanges of the side panel (see Item 2, Figure 2.1).

Using the sheet metal screws (#10 x 1/2") provided in the kit, assemble the right hand side panel to the top panel, making sure the side panel top flange overlaps the top panel, and that the hooked flange of the top panel is facing away from you (see Figure 2.1).

Locate the left hand side panel (Item 3, Figure 2.1) and fasten it to the top panel, again making sure the top flange of the side panel overlaps the top panel.

**NOTE:** 30° hood kits will contain 1 top panel, one left and right hand side panel, and one bottom piece.

60° hood kits will contain 2 top panels, 2 left hand and right hand side panels, and 2 bottom pieces.

90° hood kits will contain 3 top panels, 3 left and right hand side panels, and 3 bottom pieces.

**Step 4.** If a 30° hood is being assembled, skip to Step 6.

If a 60° hood is being assembled, repeat Step 3 and connect two more side panels to another top panel.

If a 90° hood is being assembled, repeat Step 3 two times, attaching side panels to two additional top panels.

**Step 5.** If 60° or 90° hoods are being assembled, it is necessary to connect the 30° sections together. A 60° hood is made by putting two 30° sections together (shown as Items 1 and 3 in Figure 1.1).

A 90° hood is made up by putting three 30° sections together (shown as Items 1, 2 and 3 in Figure 1.1).

For hoods with multiple sections, connect the sections together by hooking the top panel hooked flange of the second section over the front flange of the first section. Align the side vertical flanges of the side panels and secure them together with the #10 x 1/2" screws provided in the kit.

**Step 6.** Connect the bottom pieces to the hood assemblies.

Locate the bottom piece of the hood assembly (shown as Item 4 in Figure 2.1).

The bottom piece of the assembly has one side with slots, and the other side with screw holes. The slotted side of the part must face to the rear of the hood assembly, on the same side as the hooked flange of the top panel. This slotted edge must also extend beyond and to the rear of the side panel bottom tabs (see Item 1, or Inset B of Figure 1.1).

The bottom piece also has a slight 'V' shape. When attaching the bottom piece, make sure that the piece is positioned in an inverted 'V' position.

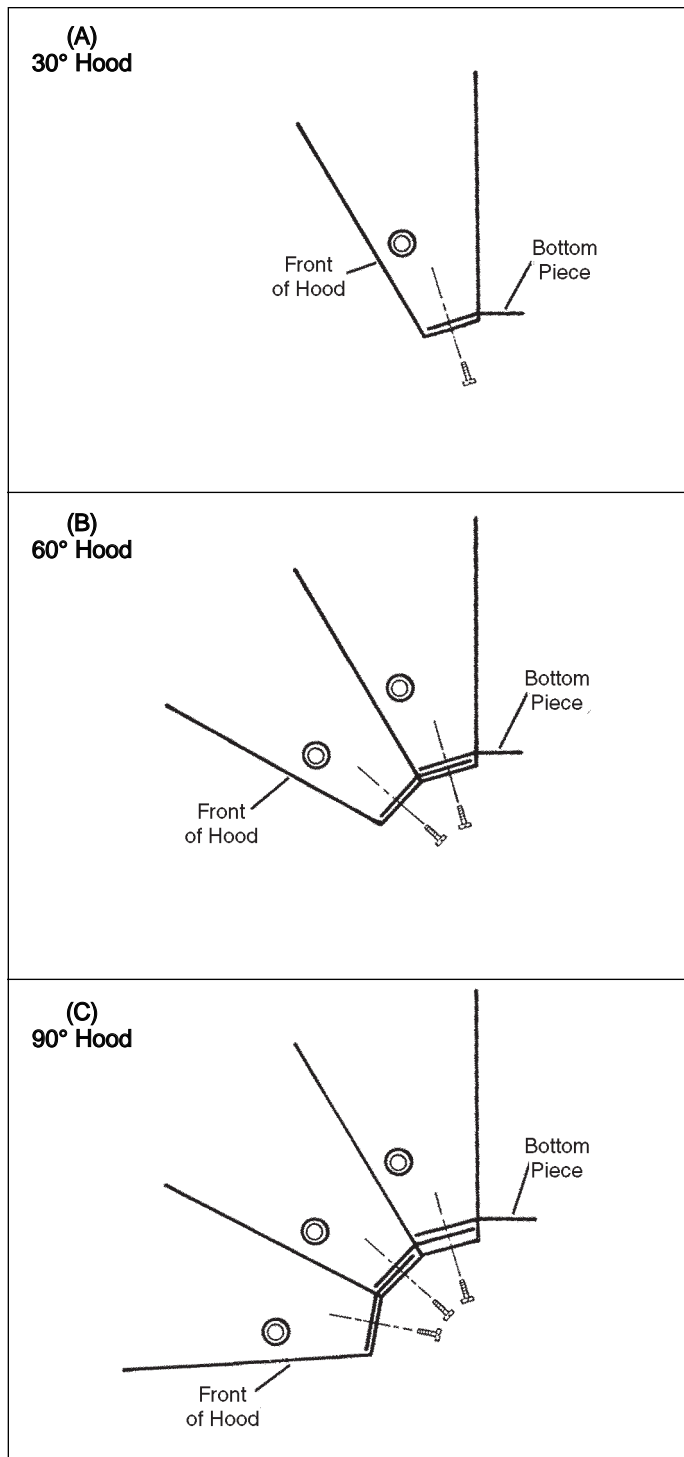
#### For 30° Hoods

Attach the bottom piece to the lower tabs of the side panels using the screws provided in the kits. Note that the ends of the bottom piece have two holes in them. One hole is smaller than the other one. The smaller hole is a bite hole for the fastening screw and the larger hole is a clearance hole.

Place the end of the bottom piece with the bite hole, over the bottom tab of the side panel and fasten the bottom piece to the sides. Note that the fastening screw must enter up, from the bottom as shown in Inset A of Figure 3.1.

After attaching the bottom piece, proceed on to Step 7.

**Figure 3.1**  
**Bottom Piece Assembly**



**For 60 and 90° Hoods**

To assemble the bottom pieces of 60 or 90° hoods it is necessary to place the bottom pieces together such that the rear of the bottom piece of the second section is sandwiched between the bottom side panel tab, and the forward edge of the first panel's bottom piece as shown in Inset B of Figure 3.1.

To assemble multiple bottom pieces place the end of the second bottom piece, which has the clearance hole, over the bottom tab of the side panel of the first hood section. Next, place the end of the first bottom piece which has the bite hole, over second bottom piece, and bottom tab of the first hood section (see Inset B of Figure 3.1). With the two bottom pieces in

position, fasten them together using a #10 x 1/2" sheet metal screw. Note that the fastening screw must enter from the bottom of the assembly (see Inset B of Figure 3.1).

If a 90° hood is being assembled, repeat the above procedure of the third bottom piece (see Inset C of Figure 3.1).

When the last bottom piece is in place, secure it to the bottom tabs of the side panels using two more #10 x 1/2" screws.

**Step 7.** In each hood assembly kit you will find a special louver blade which has serrated tabs at each end. These serrated tabs are specially designed to accept fastening screws (see Item 5, Figure 2.1). For units which have a double set of louver blades, two special serrated blades have been supplied in the hood kit.

Some unit heaters will have an even number of louver blades, and some will have an odd number. For units with an odd number of blades, the special serrated blade should be placed in the center blade position of the hood assembly (see Item 5, Figure 2.1).

For units with an even number of blades, the special serrated louver blade may be placed in the blade position on either side of the center of the hood assembly, as near to the center as possible.

**NOTE:** Units with double sets of louver blades.

On unit heaters which have two sets of louver blades, a center support channel is provided to support the louver blades (see Item 6, Figure 2.1). This vertical center support must be placed in the center of the deflector hood discharge opening before attempting to install the special serrated blades. Clearance holes have been provided in the top panel and bottom piece of the hood assembly to accept the center support channel.

The top of the vertical center support channel can be identified by noticing which end has the narrow tabs and flanges cut off at an angle (see Item 6, Figure 2.1).

Assemble the vertical center support channel to the discharge of the hood assembly using the #10 x 1/2" blunt end screws provided in the kit.

Assemble the special serrated louver blades to the hood assembly using the special #8 x 1" assembly screws provided in the kit.

The special serrated blades not only serve as additional air deflectors, but also serve to strengthen the hood assembly.

**Step 8.** The accessory hood is now ready to be mounted to the unit heater, however, prior to mounting, the bottom header screws on the discharge opening of the unit heater must be loosened to accept the slotted holes in the bottom piece of the hood assembly (see Inset B of Figure 2.1).

After loosening the bottom header screws, proceed with Step 9.

**Step 9.** To install the hood assembly to the unit heater, place the hooked top flange of the assembly over the top header flange of the unit heater and allow the assembly to hang from this hooked flange (see Inset A of Figure 1.1).

Next, guide the slots in the bottom piece of the hood, underneath the loosened screw

heads in the bottom header of the unit heater. Tighten down the bottom header screws to hold the assembly in place.

**Step 10.** With the top and bottom of the hood assembly secured to the unit heater, it is now necessary to fasten the side flanges of the hood to the unit heater. In each side flange of the hood there are three to five screw holes. Use these holes as guides to drill 1/8" bite holes in the unit heater casing, then fasten the hood assembly with the screws supplied in the hood kit.

**Step 11.** The final step in assembly is to replace the louvers which were removed from the unit heater in Step 1. These louvers will be placed in the outlet of the downward deflector hood assembly. To install the spring loaded louver blades, place the louver blade retaining spring over the left hand end tab of the blade and guide the spring into the recessed dimple in the left hand side panel of the hood. Apply pressure to compress the spring and then insert the metal tab on the opposite end of the blade into the tab clearance holes in the right hand side panel of the hood. Repeat this procedure for all of the louver blades.

The hood assembly is now complete (see Figure 4.1). Adjust the louver blades to the desired position and put the unit into service.

**Figure 4**  
**90° Deflector Hood**

