

**TRANE****General  
Service  
Bulletin****SZ-SB-46**

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**LITERATURE CHANGE HISTORY:** New**SUBJECT:**

TROUBLESHOOTING WATER LEAKAGE INTO S\*HC, S\*HD, S\*HE, S\*HF,  
AND S\*HG ROOFTOP UNITS

**INTRODUCTION:**

This information only Service Bulletin discusses identification of water leakage into S\*HC, S\*HD, S\*HE, S\*HF, AND S\*HG rooftop units and provides corrective action to prevent water from entering the unit and going down the supply or return duct openings.

**DISCUSSION:**

Every Trane Large Commercial Rooftop unit (S\*HC, S\*HD, S\*HF, and S\*HG) allows a small amount of rain water to enter the unit. This water is managed by the unit so it evaporates or is drained out of the unit. No water should go down the supply or return duct.

Water can enter the rooftop unit through the areas which follow:

1. The inside roof seam in the roof rail that is formed by the roll forming process especially near the corner posts or roof rail drain holes (figure 1 item A and figure 2 item A). If water enters the unit through or along this seam it will migrate down toward the base rail. If the base rail overflows the water may go down the supply or return ducts.

2. The upper exterior joint of the corner posts (figure 1 item B and figure 3 item A). If water enters the unit through this joint it will migrate down toward the

base rail. If the base rail overflows the water may go down the supply or return ducts.

3. Roof rail miter weld above the corner post (figure 1 item B and figure 3 item B). If water enters the unit through this weld it will migrate down toward the base rail. If the base rail overflows the water may go down the supply or return ducts.

4. Doors or panels that may not fit properly (figure 1 item D). If water enters through the doors or panels it will migrate down toward the base rail. If the base rail overflows the water may go down the supply or return ducts.

5. The standing roof seam (figure 1 item E). If water enters the unit from this seam it will migrate from the roof of the rooftop unit to the walls and then the base rail or, the water may be pulled toward the center of the unit and drip from the ceiling.

6. The supply air access panel in the center of the discharge end of the air handling section of the 90 through 130 ton units and accessed by entering between the condenser coils (figure 1 item F). Water entering this panel will migrate down to the base rail.

#### **CORRECTIVE ACTION:**

If excess water is entering the unit and causing water to leak into the building, the following procedure should be followed:

1. Open all sections of the unit and check for standing water in the base rail (figure 2 item B).

The unit is probably not leaking if water or signs of water are not found in the base rail or wall insulation of the section of the unit being investigated. The exception to this is the evaporator drain area. If water is in evidence in the other areas of the unit, especially near the supply or return opening, proceed to step 2. through 6.

2. Seal the inside roof seam of the roof rail with a bead of Sikaflex 221 (SEL-439) (figure 2 item A). Do not substitute any other compound. After application force as much sealer into the joint as possible by running a putty knife along the seam. Pay particular attention to the inside roof rail seam of the corner post area of the unit and the roof rail drain hole areas.

3. Drill quantity three 1/4 inch holes in the base rail of each of the areas which follow: the exhaust section, the fresh air section, the filter section (both sides), and the supply section (both sides) so that any water entering these area will drain out of the unit and onto the roof (figure 2 item B).

On units with metal lined cabinets in the discharge opening section of the unit, drill quantity four 1/4 inch holes in the base rail as close to the panel toward the condensing section as possible. Two sheet metal thicknesses must be penetrated. This will require putting the drill bit between the panel and a lip in the base and will require the use of an 8 inch long bit (figure 4 item A). Do this only on units without a condenser base pan or a new leak path will be created..

or

On units without metal lined cabinets in the discharge opening section of the unit, drill four 1/4 inch holes in the base rail as close to the panel insulation toward the condensing section as possible. This will require putting the drill bit at the very edge of the insulation (figure 4 item A). Do this only on units without a condenser base pan or a new leak path will be created.

4. Seal the outside top joint of the four corner posts with Sikaflex 221 (SEL-439). Do not substitute any other compound (figure 3 item A).

5. On 90 through 130 ton units, remove the discharge section access panel located in the condenser section of these units and gasket the top of the panel. Use gasket X21130286-03 (figure 1 item f).

6. Seal the end of all of the standing roof seams with Sikaflex 221 (SEL-439) which do not show evidence of a continuous seal from top to bottom. Do not substitute any other sealing material (figure 1 item E).

7. Adjust any doors or panels which do not fit properly so that a proper fit is achieved. If a properly fitting door or panel is leaking add door gasket material in the leaking area. The gasket ordering number is x21130286-03 which is a 25 foot roll (figure 1 item D).

8. Apply a bead of Sikaflex 221 (SEL-439) to the roof rail miter welds—both inside and outside—above the four corner posts. Do not substitute any other sealing material (figure 3 item B).

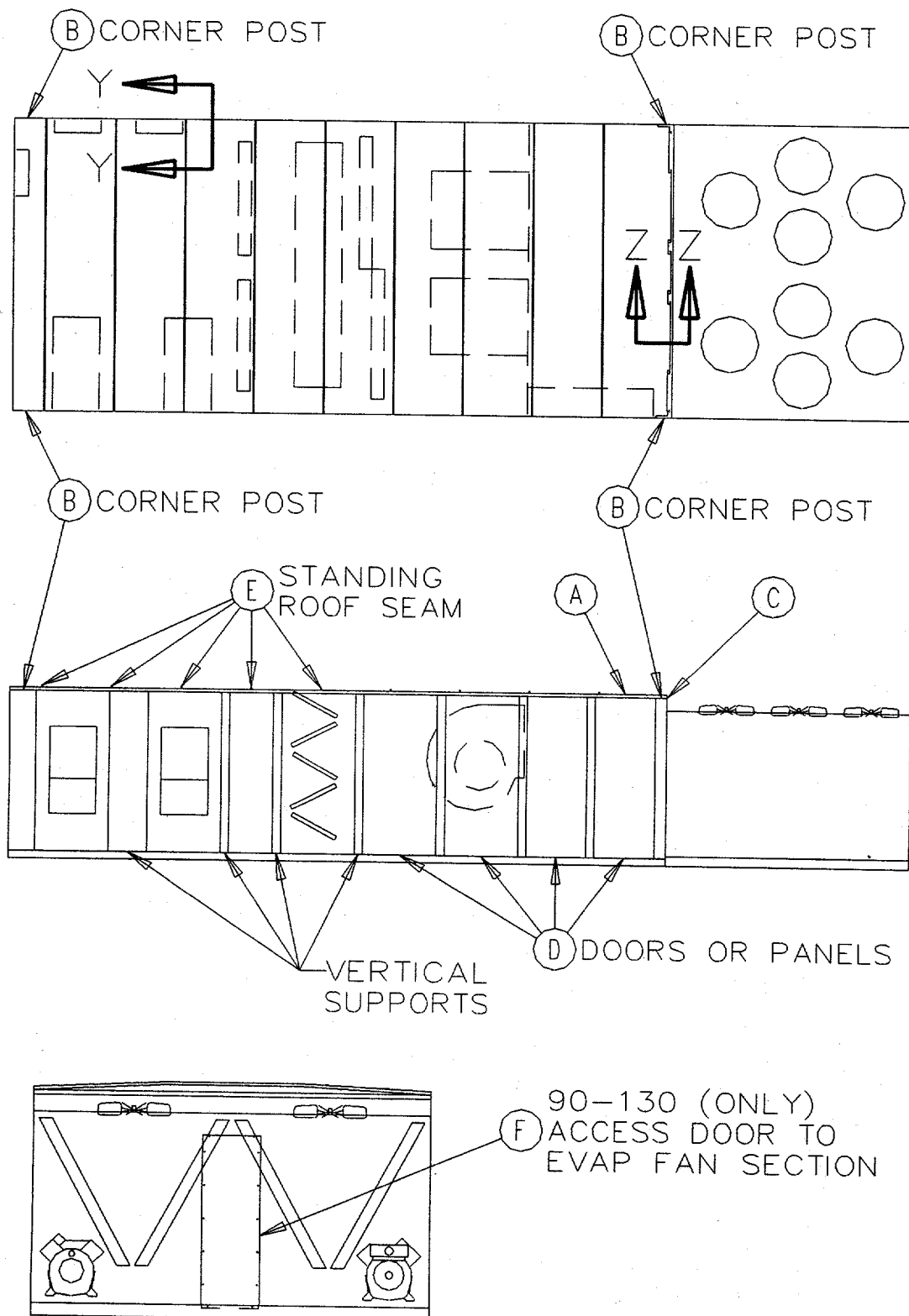
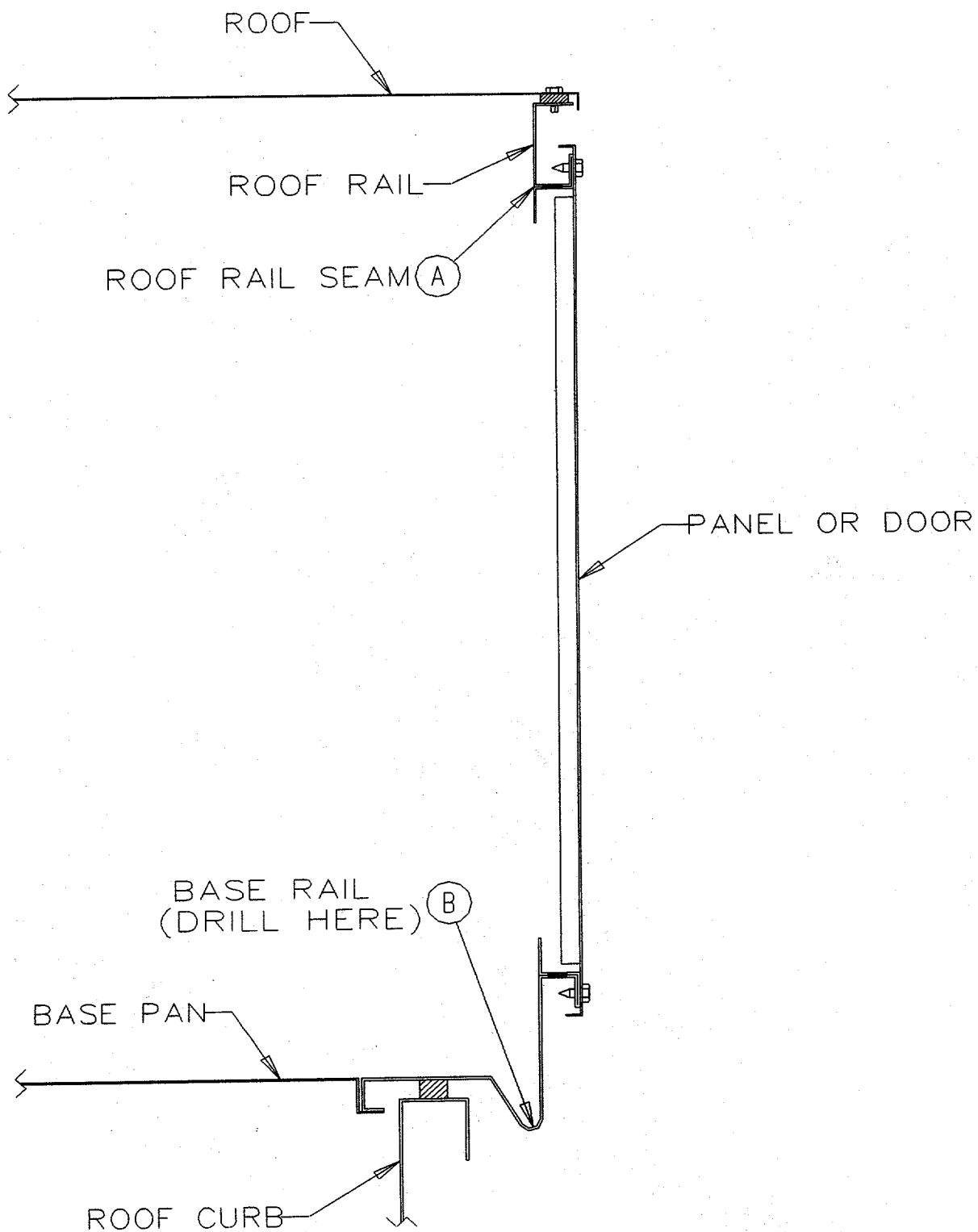


FIGURE 1



SECTION Y-Y  
FIGURE 2

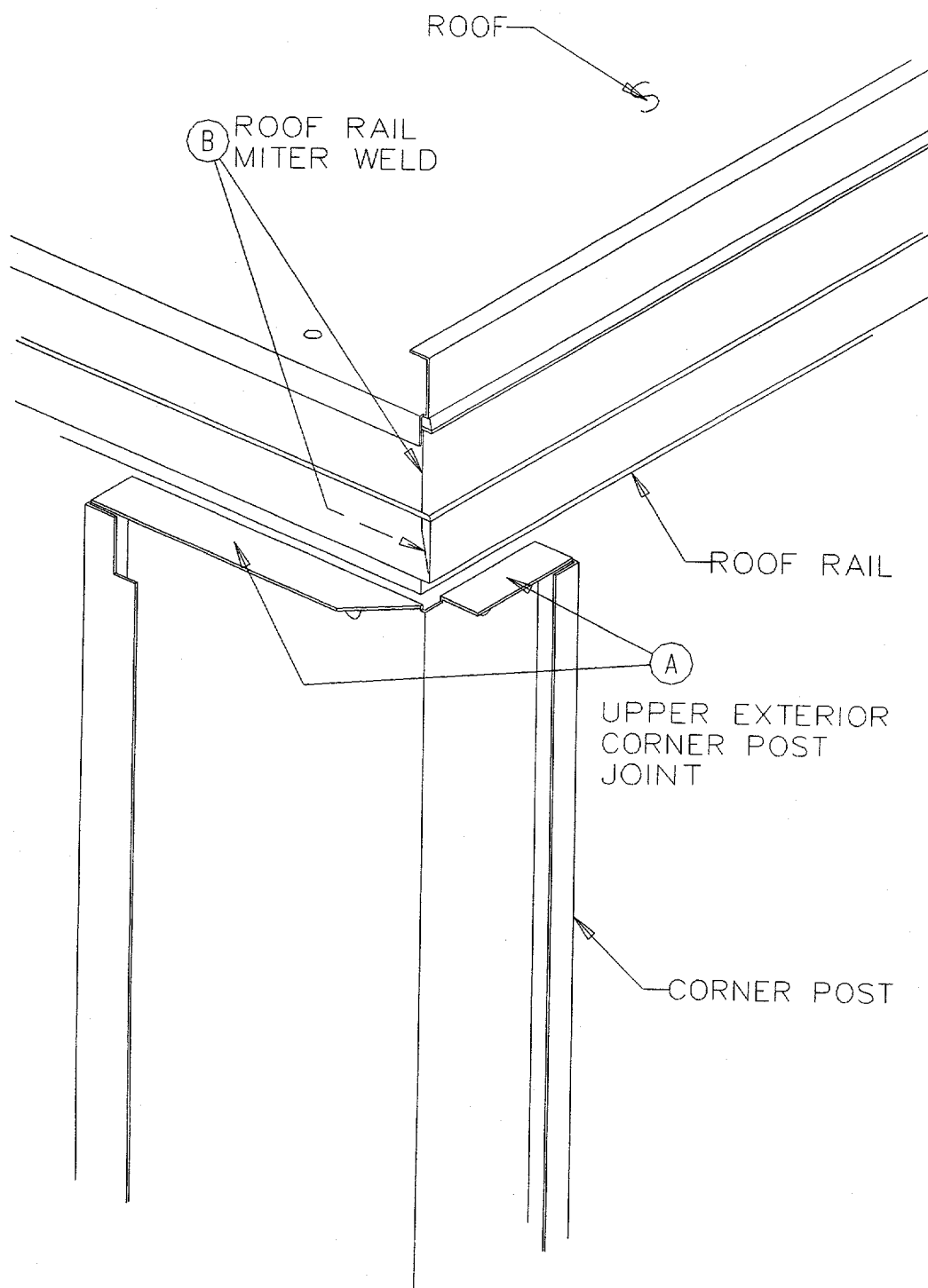


FIGURE 3

