

Installation Instructions for RAB 17 & 21 Return Air Box

THIS ASSEMBLY IS DESIGNED TO CONVERT UPFLOW FORCED AIR SYSTEMS WITH BOTTOM RETURN APPLICATIONS INTO SIDE RETURN APPLICATIONS USING A RETURN AIR DROP ASSEMBLY. CAREFULLY READ ALL DIRECTIONS INCLUDING EQUIPMENT MANUFACTURER'S SPECIFICATIONS BEFORE BEGINNING INSTALLATION OF THIS ASSEMBLY. ALWAYS USE CAUTION WHEN HANDLING SHEET METAL. PLEASE NOTE: ALL DIMENSIONS LISTED ARE IN INCHES.

RAB 17 [20.5" h X 17.5" w X 28" d For 17.5" wide applications.]

RAB 21 [20.5" h X 21" w X 28" d For 21" wide applications.]

SUGGESTED TOOLS: • Safety Gloves & Eyewear • Sheet Metal Snips • Black Permanent Marker (i.e. Sharpie®)
• Flat-Head Screwdriver • Rubber Mallet • Duct Folding Tool

NOTE THE FOLLOWING BEFORE ASSEMBLY AND INSTALLATION!

- The RAB Return Air Box meets all dimensional requirements when used with Hamilton's furnaces, air handlers, indoor coils, and return air drops. Trimming is NOT REQUIRED for most typical applications.
- Verify Kit Contents: 2 - long sides, 2 - short sides, 2 - End Caps, 4- long S-Lock pieces, and 4 - Short S-Lock pieces.
- 28" RIGHT & LEFT sides have bent (Cleated-Edge) flanges. The short FRONT & BACK sides have S-Lock type channels.
- The assembly is designed so that the RETURN AIR DROP may be attached to either of the 28" sides.

ASSEMBLY

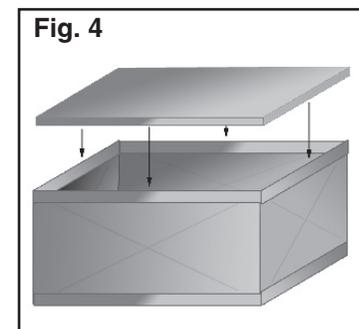
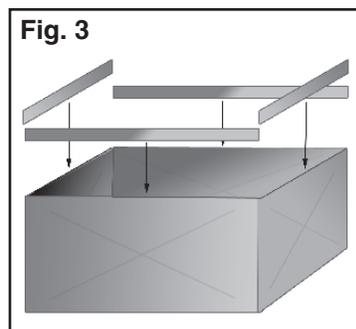
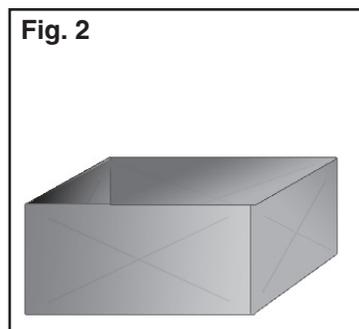
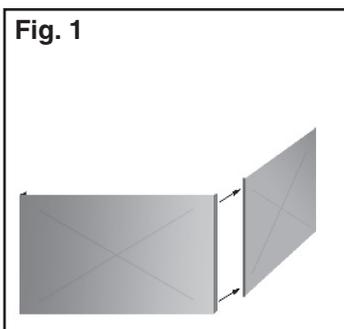
1. With a 28" SIDE and the short FRONT piece in hand, join both pieces starting at the *top* and gradually working all the way down by snapping the Cleated-Edge flange into the S-Lock channel. (Fig. 1) Repeat until all 4 sides are connected. (Fig. 2)
2. Slide the pre-cut S-Lock pieces onto the top and the bottom of the 4-sides. Make sure the S-Lock channel is positioned so that when the Top and Bottom Caps are installed, they sit flush to the sides. (Fig. 3 top shown)
3. Install the TOP and BOTTOM CAP pieces into the S-Lock pieces to complete the 4-sided assembly. (Fig. 4) Verify that all sides are securely connected and that all corners are aligned for the end caps to connect properly. Once fully assembled, place the Return Air Box so that it is in accordance with the requirements of the installation application. Determine where the Return Air Drop connection will be made and mark appropriately for the cut-out area.
4. Determine the bottom return air opening dimensions for the equipment being installed directly onto the Return Air Box. Use a permanent marker to trace this pattern onto the TOP of the Return Air Box. Trace a second pattern inside the first, one inch smaller than the first pattern. Create lines connecting the corners of the inside and outside patterns. This will notate the flanges to be used for the equipment installation. (Fig. 5 on page 2)



Assembled system features the Return Air Box (RAB), used with the Plenum (WKDP), Air Handler (WMA), and the Return Air Drop (RA 16).

INSTALLATION TIP: If necessary, use a flat head screwdriver to slightly adjust the gap of the (S-Lock) RECEIVING EDGES to more easily accept the STRAIGHT EDGES.

INSTALLATION TIP: If necessary, use a rubber mallet to tap the sides into place, and if necessary, gently tap the corners of the assembly into a flush and square alignment.



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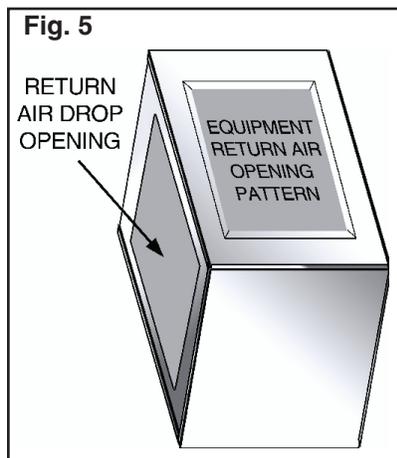
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4. Carefully cut out the **INSIDE PATTERN**. Next, carefully cut along the lines that connect the corners of both patterns. This will create 4 separate (1 inch) flanges for the opening. Bend each flange upward at a 90°. The flanges should fit into the return opening of the equipment.
5. Following the equipment manufacturer's guidelines for installing the equipment, place the appropriate equipment onto the TOP of the Return Air Box. Secure the equipment to the Return Air Box using field supplied sheet metal screws or allow weight to hold in place. Silicone or foil tape may be used to prevent air leakage.
6. Once the equipment has been installed and is in place, determine the *exact* location and alignment of the return air drop, as it will be connected to both the Return Air Box and overhead ducting.
7. Continue the assembly of the return air drop as per the manufacturer's installation instructions.

For details regarding Hamilton's furnaces, air handlers, coils, and return air drops, prior to purchase, please contact our Customer service department or visit our web site where you can download the installation manuals and specifications for all Hamilton products. To purchase Hamilton products, contact your local home center.

INSTALLATION TIP: *While this Return Air Box has been designed to support up to 300 lbs., field supplied shims or supports may be necessary to ensure proper leveling of equipment.*



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