

CAST STONE RANGE HOOD INSTALLATION GUIDE

By Stone Fireplaces

Important Note: This installation guide is intended for an experienced and competent person. Installers assume all risk when completing installation on their own. Never attempt an installation alone. Please have your installer call with any questions. Check all local codes.

Please note: In many cases, the installation of the fan, framing and cast stone range hood may require several tradesmen such as a carpenter, electrician and stonemason. This guide mainly deals with the installation of the cast stone range hood material.

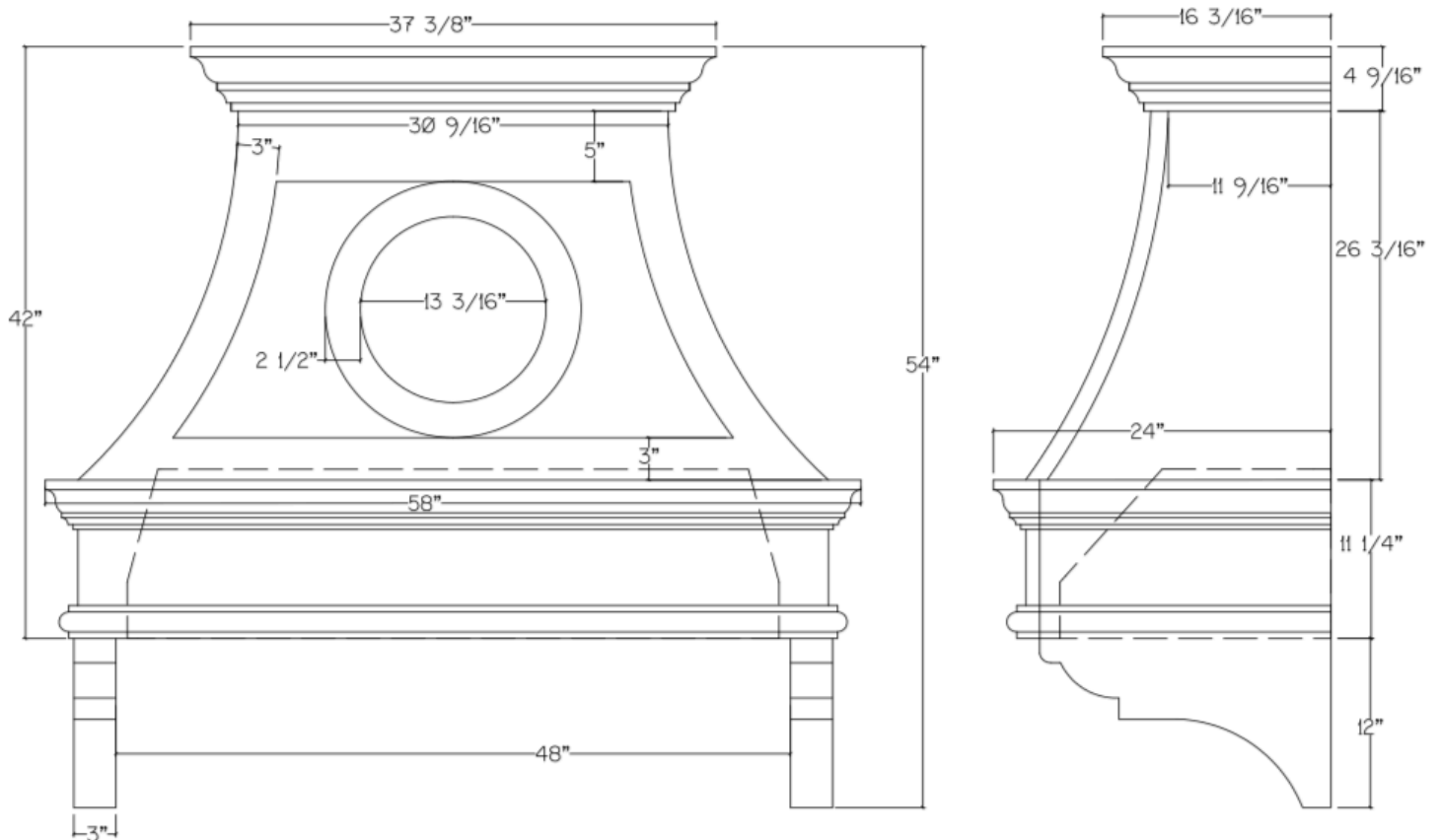
1. Plan ahead. The preliminary steps of installing a range hood start as early as the framing stage of building. Ensure that there is enough structural support in the wall housing the range hood. In most cases, framing is limited to 2x4 studs in the wall. Depending on the weight of the hood, this may not be sufficient. Also, 2x4's spaced at 12"-16" apart, give very limited points of mechanical attachment. Ideally, there needs to be solid framing/blocking on the wall housing the range hood. Also, note any plumbing pipes or electrical lines that will be concealed behind the wall.



2. The outer dimensions of the fan, and all of the necessary framing that will house the fan, need to be coordinated with the inner dimensions of the cast stone range hood. In most cases, there needs to be about 2" of space between the outer dimensions of the fan and inner dimensions of the range hood. This will ensure that there is enough room for framing. This framing will both house the fan and support the range hood.

Ideally, the outer dimensions of the framing will be tight against the inner dimensions of the range hood. This will allow for maximum adhesion and mechanical attachment. To achieve this result, the best-case scenario, is to have the cast stone range hood pieces onsite.

Dry-fit all of the pieces and build the frame according to the exact onsite measurements – allow about 1/8" on all sides for adhesive and brackets.



3. Double-check that the dimensions of the cast stone range hood, the fan and the framing coincide. Once there is sufficient framing and structural support, the fan (aka the blower, vent, hood liner) can be mounted to the wall. Ensure that all pieces are level.

The biggest challenge in supporting the weight of the range hood is the fact that it is front-heavy. This frontload needs to be redistributed to the back, weight-bearing wall and/or into the ceiling. In some cases, for example when the ducts allow for minimal framing, the weight can be redistributed with steel cables.





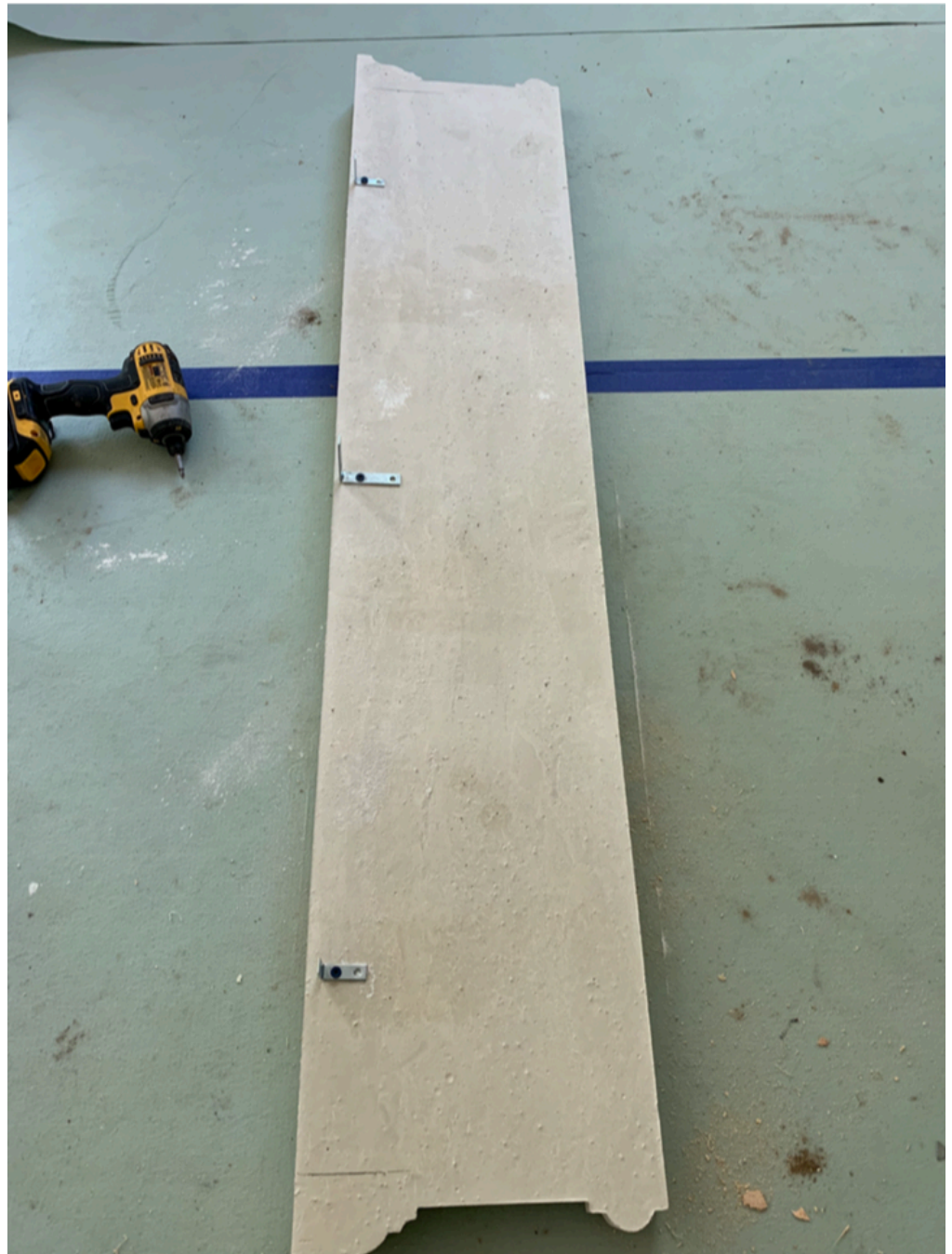


4. Dry-fit the header and returns of the range hood against the framing. Anticipate any gaps between the framing and the cast stone material. These may need to be filled with adhesive or shims.



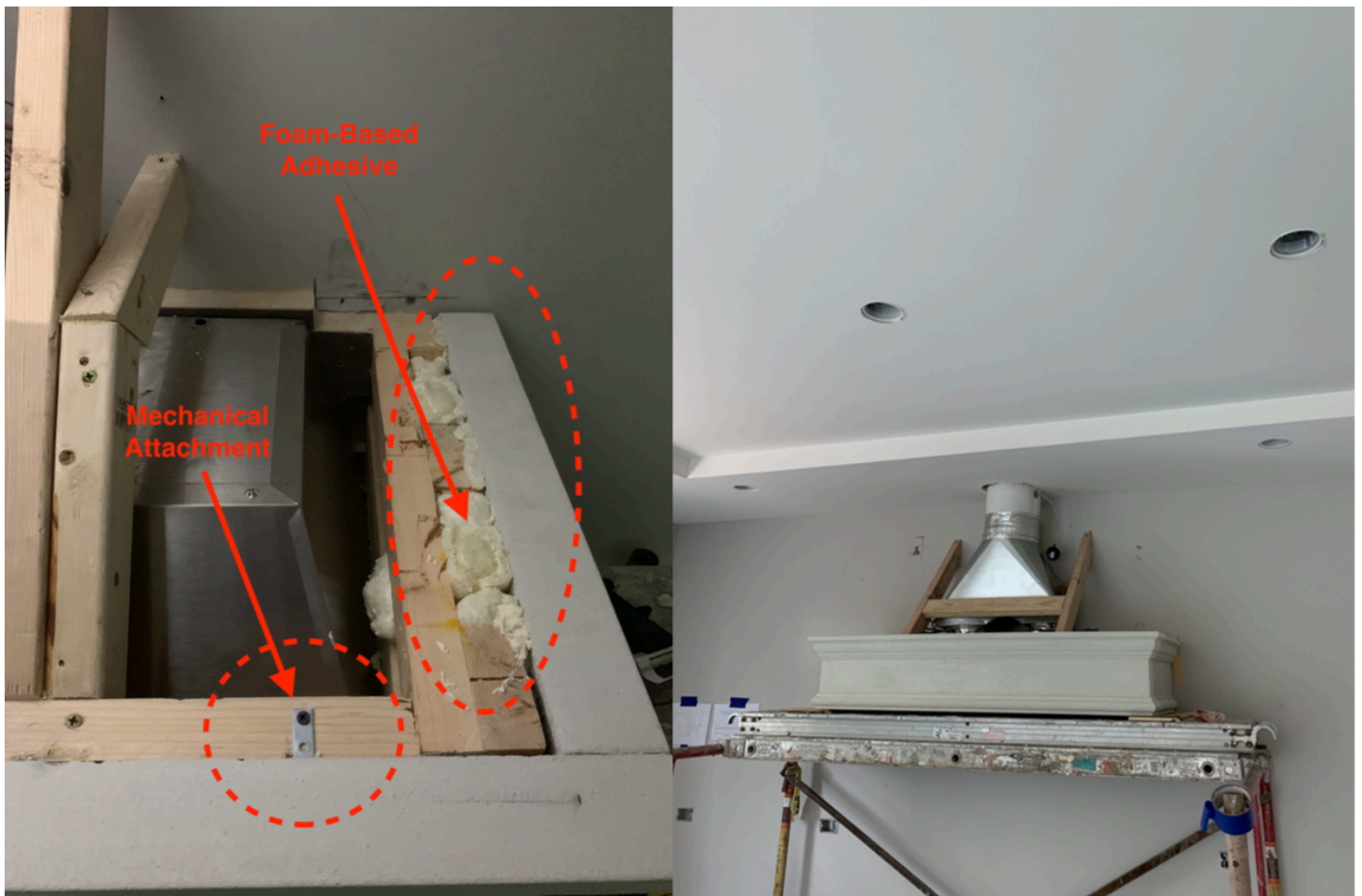
5. The cast stone material is fastened to the frame by means of adhesive and mechanical attachment. For example, an “L bracket” can be anchored to the back of the cast stone material using concrete anchor screws. In some cases, there may only be 3/4” of cast material over a foam core. Predrill holes and anchor the brackets to the back of the cast stone header and return pieces. If there is not enough space between the back of the cast stone and the framing, consider notching out some of the framing to allow for the brackets to depress into the wood. If the bracket thickness was not accounted for, it may create a larger joint between pieces.

Dry-fit the pieces against the framing with the brackets.

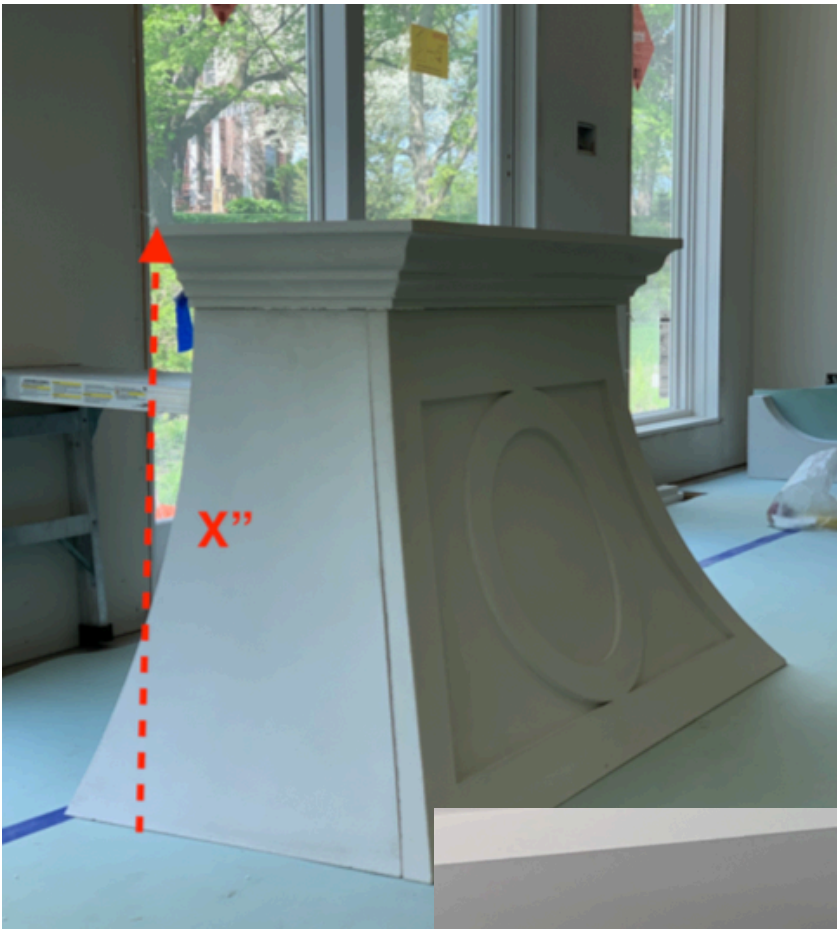


6. Apply adhesive to the back of the header and return pieces. Position the cast stone pieces around the frame and fasten the brackets to the wood, ensuring that all of the profiles align. A variety of adhesives can be used. For example, if the back of the header and return pieces are finished with the cast stone material, a heavy duty construction adhesive rated for stone can be used. This all-purpose adhesive bonds to common building materials such as wood, stone and cement.

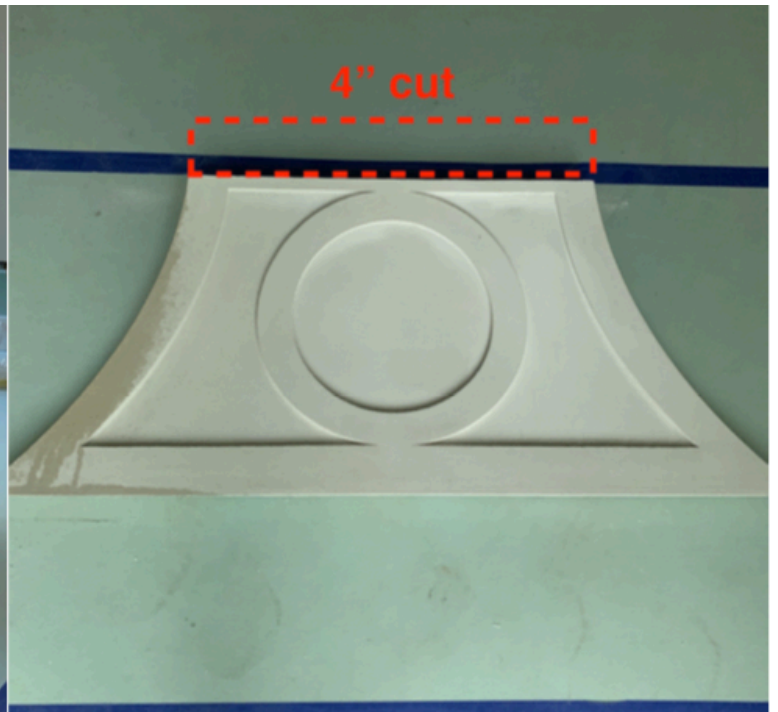
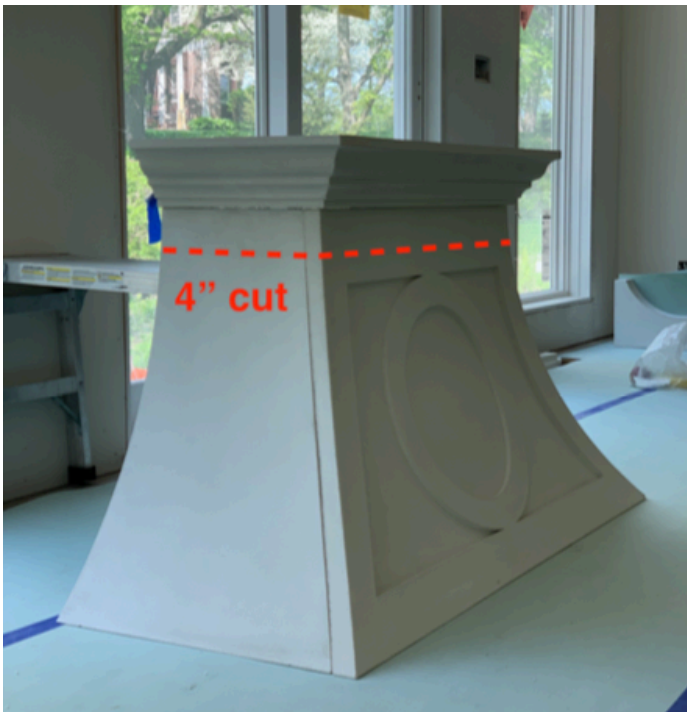
However, if the back of the header and return pieces is foam, construction adhesive may corrode the foam. In the case of foam backing, a cement-based adhesive, used for foam shapes, can be applied. Another solution is to use foam-based adhesive. A foam-based adhesive has the added benefit of bonding within a few minutes (cure time is still 24 hours). In addition to the mechanical attachment, shore-up all pieces until the adhesive dries. It is critical to level the pieces throughout this stage.



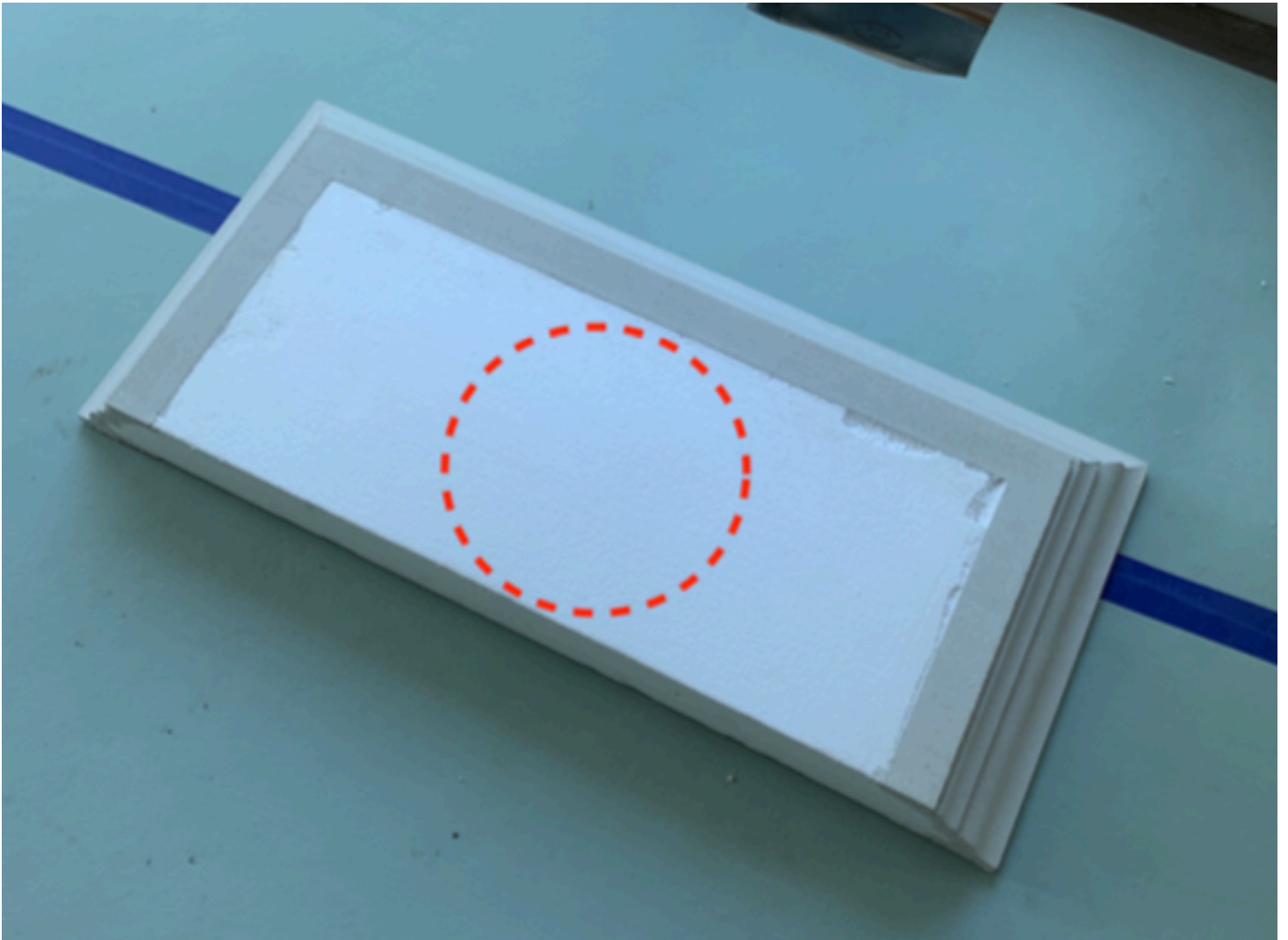
7. Dry-fit the remaining pieces of the range hood. Dry-fit the flue and crown. Measure the dimensions of the dry-fit assembly. Compare that to the dimensions from the top of the header piece to the ceiling. If the fit is tight, consider trimming the top of the flue pieces. Allow for sufficient movement of the pieces. If the fit is tight, this may not allow for sufficient movement and proper alignment of the pieces.



8. In this case, the client decided to move the range hood up an additional 4" to allow for more head clearance. The top of the flue pieces needed to be cut 4" to properly fit. Even without such last minute onsite adjustments, the top of the flue may need to be trimmed. In such cases, if minimal adjustment is needed, the tops of the pieces can be sanded or ground down. If a larger adjustment is needed, the pieces can be cut with a grinder then smoothed out with a sander. To avoid these adjustments, make sure to allow for enough clearance at each stage.



9. Center and adhere the crown to the ceiling. If the ducts run through the ceiling, cut a hole through the top of the crown. The crown is an especially fragile piece. Never apply excessive force when handling the crown. Adhering the crown first can give a reference point for the flue panels. Additionally, if the flue is adhered first, the crown fit might be a very tight squeeze. It is easier to trim the flue pieces than to alter the height of the crown. Installing the crown first, allows the opportunity to finalize the dimensions of the flue height. Once again, aligning 3 cast stone flue pieces can be tricky. There is slight, natural occurring variation between the pieces, in addition to variation in the walls and ceiling. Allow enough room for play between pieces. Even with the play, the joints should not be more than 1/4".





10. Dry-fit the 3 flue pieces. Keep in mind, there is play between the 3 pieces and the wall. Be very careful in handling the pieces so as not to chip the edges or corners. Once all of the pieces are in proper alignment, with minimal joints, trace the position of all of the pieces at as many points as possible.



11. Adhere the 2 side flue panels. This allows for access to the inside of the hood where additional support and adhesive can be added. Measure the outside position of the flue side panels compared to the outside of the front flue panel. Even when positioning the outside panels along the traced lines, the placement might be slightly off, causing lippage between pieces. Reposition accordingly before installing the front panel.

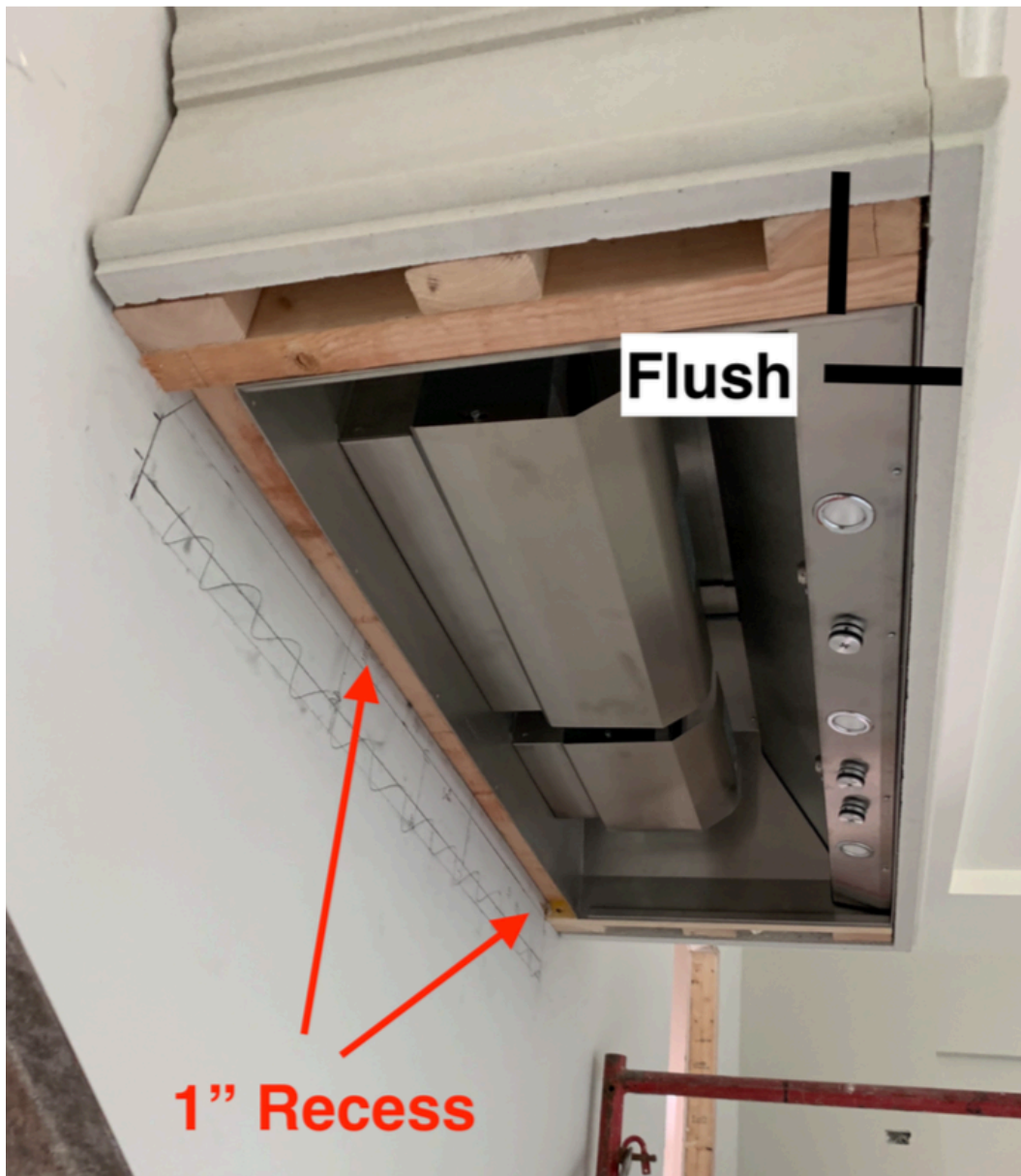




12. Adhere the front flue panel. Note the varying joints between pieces. They may range from 1/16th to 1/4" inch. Masonry and stone pieces are inherently irregular. A standard 3/8" mortar joint helps blend the irregularities between pieces. However, such a large joint may be unsightly in this application. Using a grout or sanded caulk that is similar in color to the cast stone material will blend any differences in joints.



13. Once the header, flue and crown are installed, the underbelly of the hood may have exposed framing, requiring filler pieces. This needs to be anticipated in the design phase. It is possible to frame the fan in such a way that there will be no exposed framing. Also, when building a frame around the fan, anticipate the thickness of the filler pieces. In this case, there is one filler panel to cover the framing at the wall. The framing at the wall was set 1" short of the bottom level of the header. This allows for the 7/8" thick filler panel to recess into the frame (anticipate the thickness of the panel AND any added adhesive – it's much easier to build up some adhesive or even additional framing than to alter the thickness of the filler panel)



14. Adhere the filler pieces. These pieces are often supported solely by the adhesive. Allow for sufficient time for the adhesive to catch and cure. If a panel needs extra mechanical support, pre-drill pilot holes through the cast stone material and into the framing. Carefully countersink a concrete anchor screw into the hole to fasten the panel in multiple points. Fill the hole with a non-sanded grout that matches the cast stone color. Lightly sand with 200 grit sandpaper to blend the patch.



15. There are multiple solutions for mounting the corbels. In this case, the corbel had a foam core that was cut out. Triangle blocks were fastened to studs in the wall. The cavity in the corbel was filled with expanding adhesive and mounted to the triangle block. Support the corbels as they dry.



16. Clean off any excess glue, mortar or adherent from the cast stone material using a damp sponge. Fill the joints with grout, caulk or desired joint compound. A grout can even be blended onsite for a color that closely matches the cast stone material. Apply the grout using a similar method to grouting tile – fill joints and wash off the excess grout. Consider taping each side of the joint with painter's tape. This is especially important in cases where the grout is dissimilar in color to the cast stone.

Grout can dry very quickly, especially when smeared, leaving streaks. Focus on filling and cleaning one joint at a time. Unlike grouting tile, the general area is not wet, and the mortar can dry quickly. Lightly clean the entire surface of the range hood with a damp sponge or cloth.





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