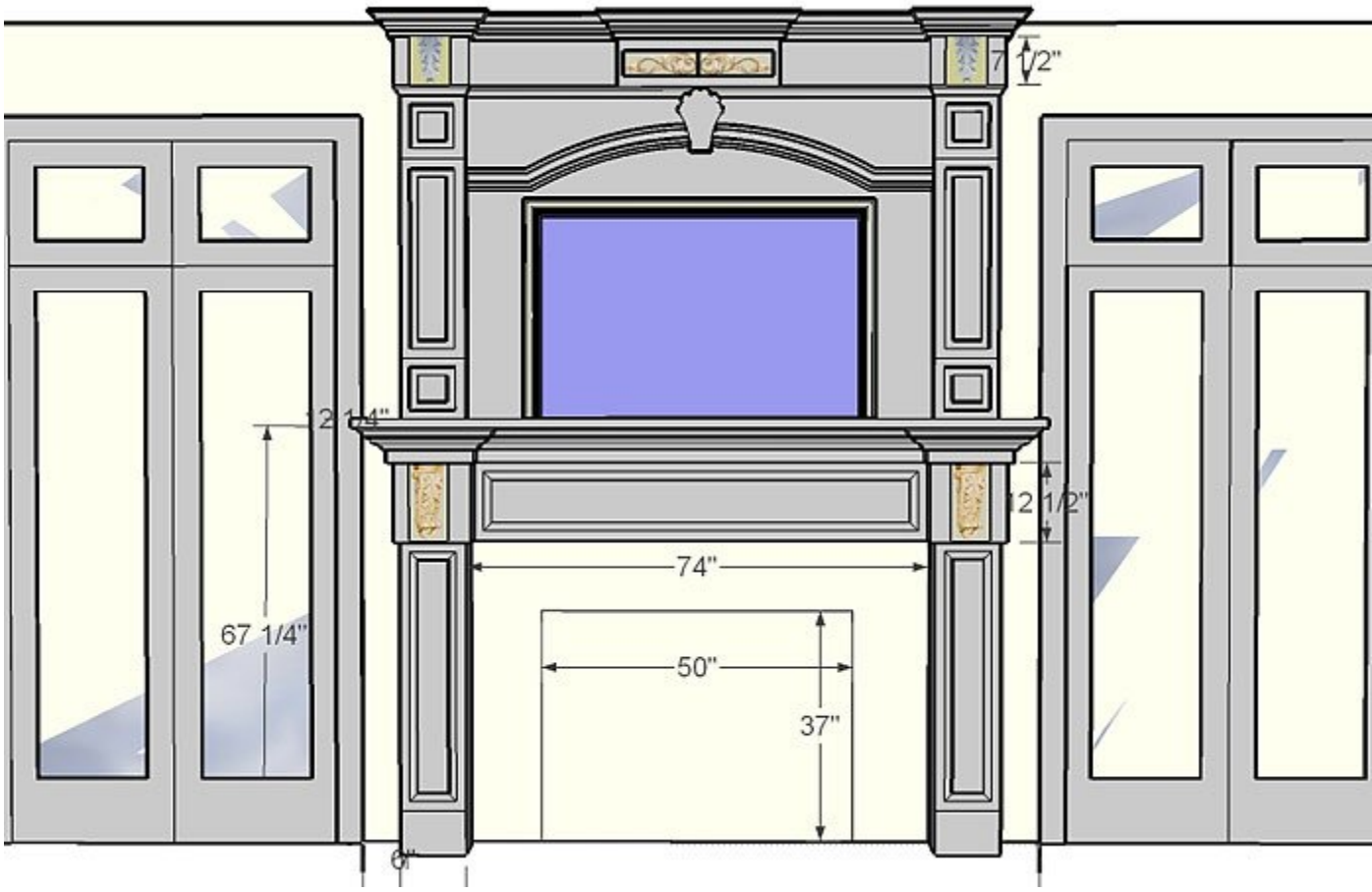
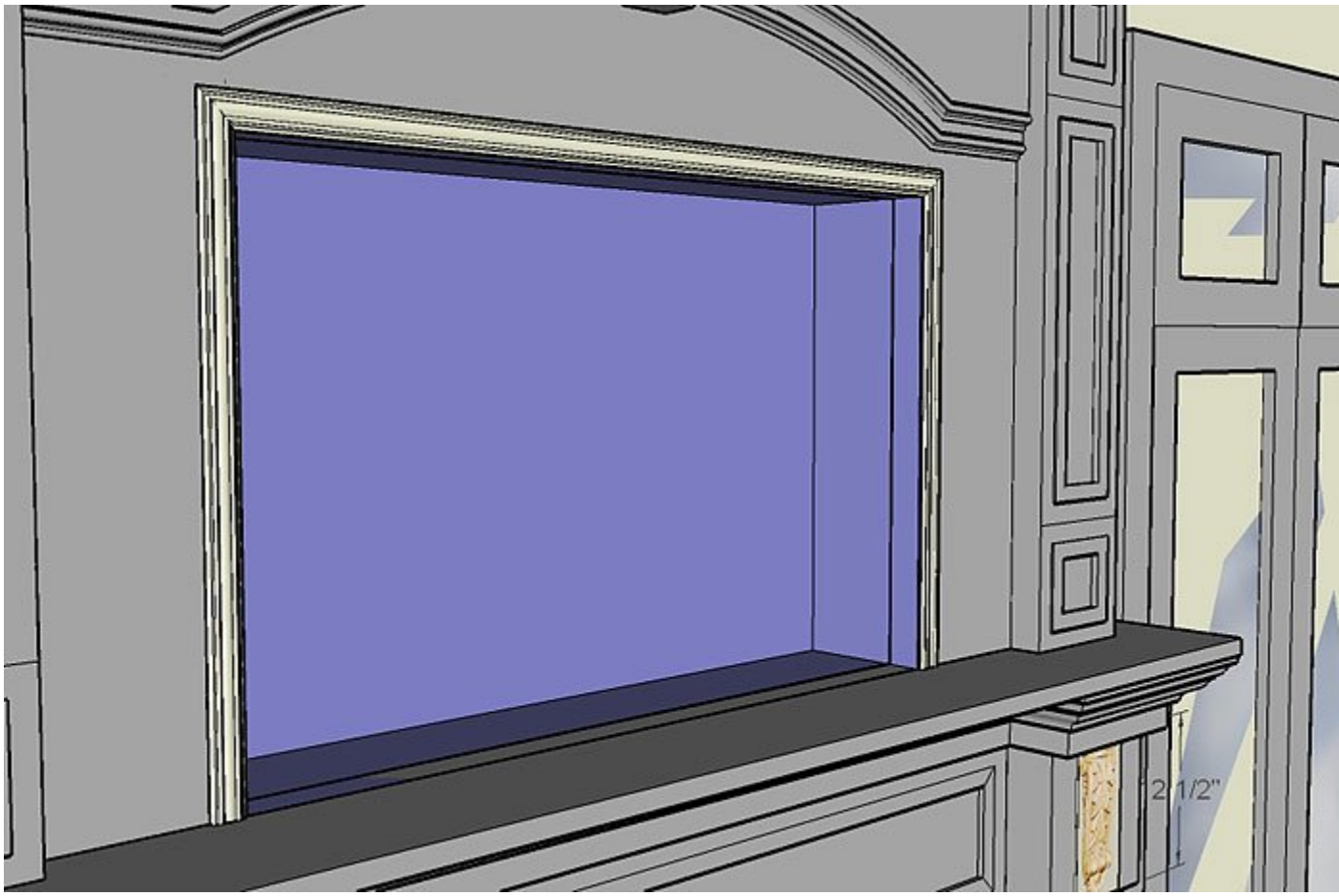
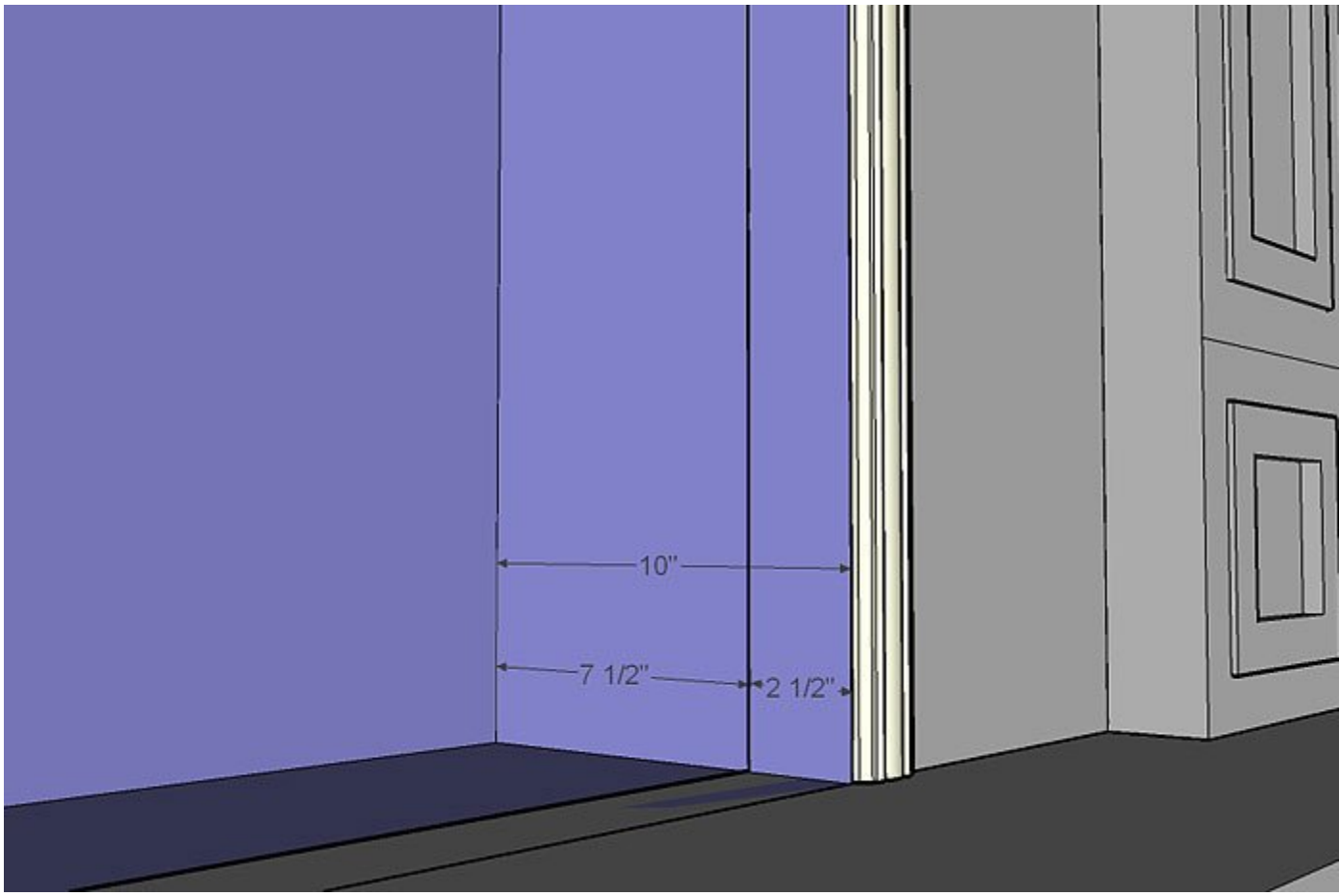
Mantel with Recessed Flat Screen Television



I took the designers clues and as-built measurements and produced this 3D drawing in SketchUp. The hei of the firebox and code requirements pushed the lower mantelshelf a little higher than the architect had hoped, and the casing on the doors restricted the width of the mantelpiece, though the finish proportions weren't too bad. Without a 3D drawing, I would have had to mock up the mantel to check the proportions



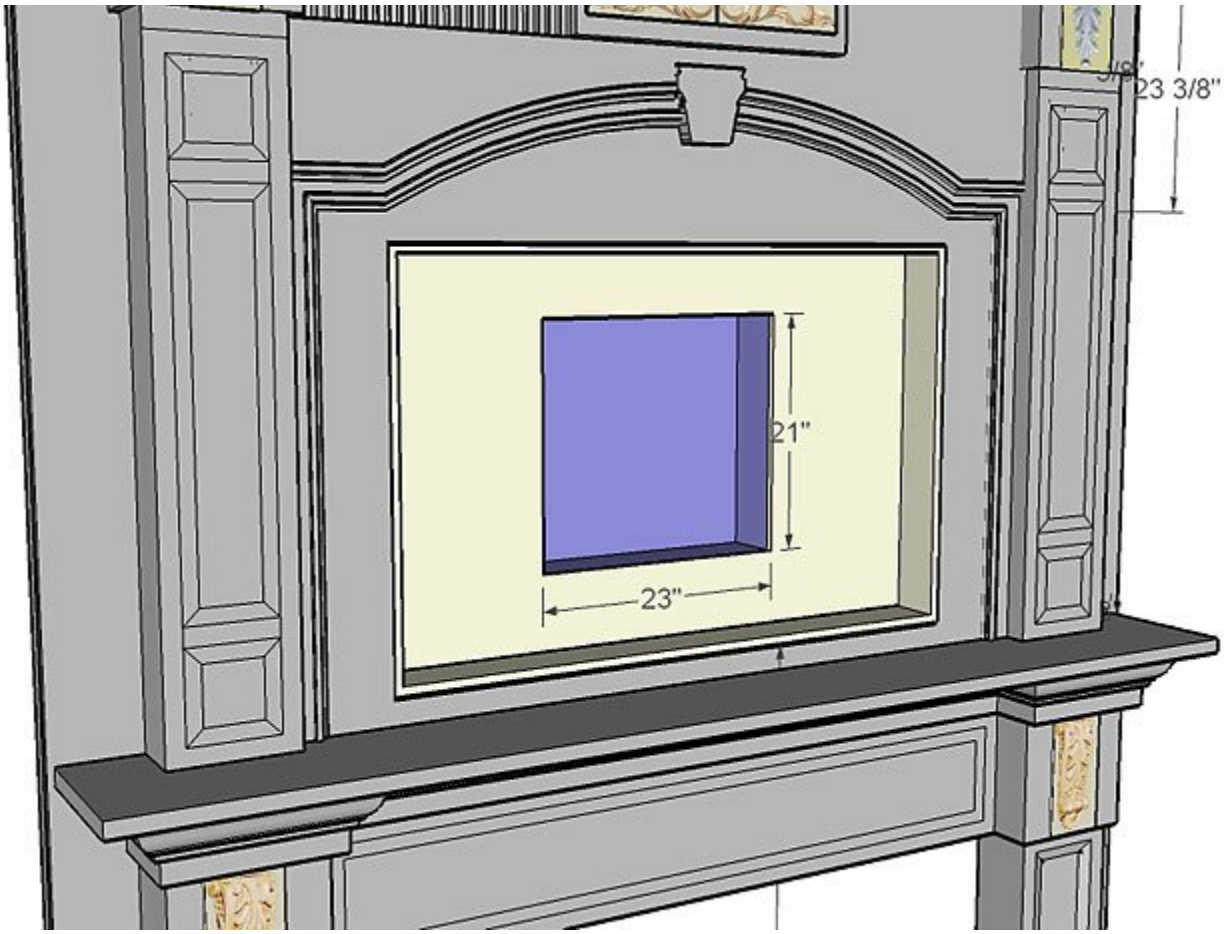
I assumed the plans were followed accurately and the wall was framed for the 15 in. deep recess. That assumption was a BIG mistake. I drew the recess box after consulting with the manufacturer of the television and the pull-out pivot hardware.



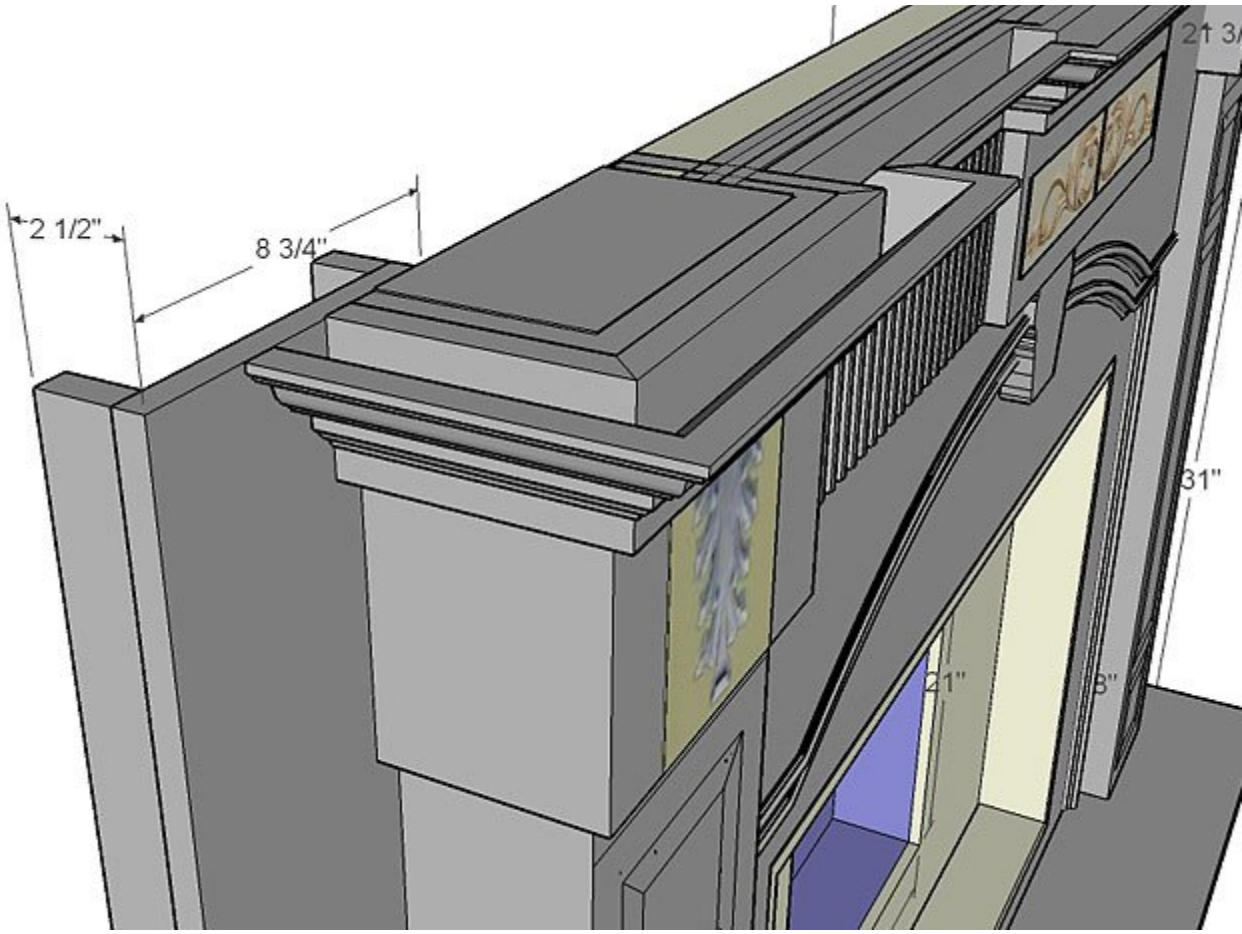
Though the architect/designer specified a 15 in. recess, we needed only 10 in. in depth, which turned out
be fortunate, because we built the mantelpiece according to these drawings then took it out to the jobsite

When we arrived at the jobsite and opened up the drywall, we were sure supervised to find no niche, just two perpendicular headers bearing on the firebox header. Bria is pointing to the end grain of one perpendicular header. These two 4x8's carried the exterior, pop-out chimney fram as it narrowed from a 6 ft. chase to a 4 ft. chase above the roof line. Removing or relocating these headers wasn't an option: the chimney chase was already veneered with stone, all the way to the top

Rather than taking extensive measurements on the jobsite, I took a photograph of the wall, imported the photograph into Sketchup, then scaled the photograph by measuring the height of the headers (5 1/2 in. for the 6x6 across the firebox opening). I was able to solve the problem without having to visit the jobsite again by creating a new working drawing with a redesigned recess box for the television and flanking pilasters behind the mantelpiece surround, .



Here is the new recessed box, with the deep niche sized to fit only the hardware, and the larger niche sized for the television. We still needed 10 in. overall. The depth of the wall, and therefore the smaller recessed box, was 5 1/2 in., the overmantel was 2 1/2 in., so we needed to pick up an additional 2 1/2 in.



To pick up the additional 2 1/2 inches, we included a pair of pilasters, one behind each side of the mantel, and avoided a lot of major framing problems.

Pocket screws were the primary fastening system. Using a Kreg Foreman made it easy

I put one carpenter on the pilasters. He assembled the face frames first.

to drill all the holes.

**The sides were fastened to the frames with
butt joints. As the pocket screws are driven
in, they push the sides, so be sure to leave the face frames proud of the sides by a fingernail.**

To make life easier, clamp the entire pilaster to a worktable and it will stay still while clamping and screwing the sides to the face frame.

When assembling these butt joints, be sure the sides are never proud of the face frame. If the face frame is a bit proud, that's okay. Use a laminate trimmer to flush the butt joint perfectly.

While the pilasters were being assembled, I made the center panel for the overmantel. I first cut the panel to size, then made the

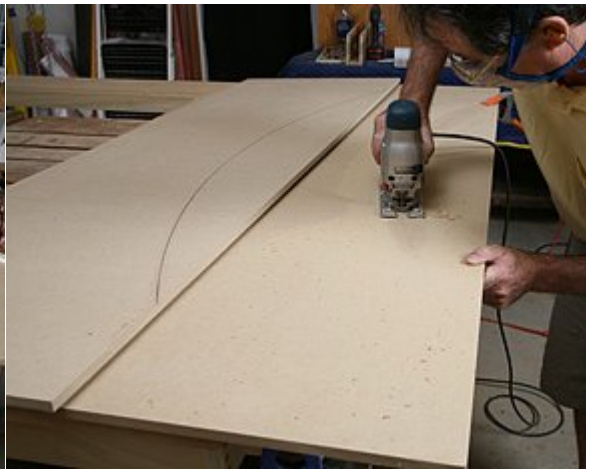
Using a plunge cutting saw and guide (and dust collection) made the cut easy, clean, and precise.

pocket cut for the large recessed box.

The center panel was taller than four fee, so I added on to the top, joining the splice with biscuits.

Both panels were attached to a 2 in. frame using brads and glue. I had planned on using 1/2 in. mdf for the face of the mantel, but chose to use 3/4 instead, which provided an additional 1/4 in. of depth for the recessed boxes, and made the frame stiffer.

I used a scrap of 3/4 in. stock as a trammel arm.



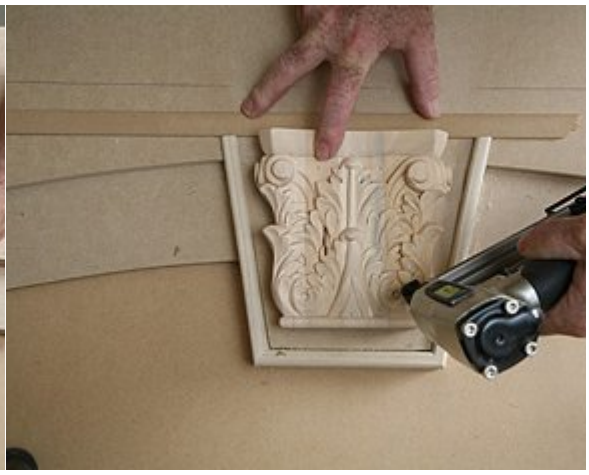
And cut the two arches with a jig saw.

**The arches didn't have to be perfect, just close
for the panel molding, so I sanded to the trammel mark.**

The keystone wasn't thick enough to span both steps between the two layered arches, so I made a backboad.

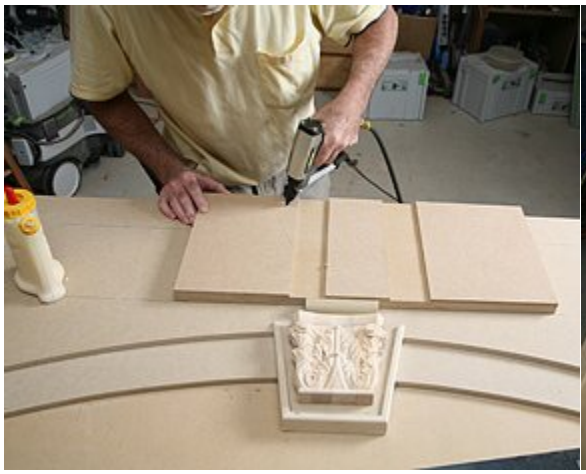
I surrounded the backboard with 1/2 in. molding.

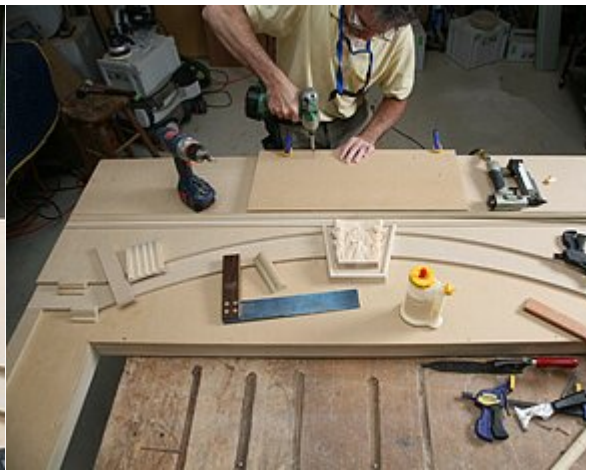
Using a pull saw and Shinto rasp, I notched the molding for each layer of 1/2 in. mdf.



**The trim around the backboard had to be high enough to provide a termination point
for the panel molding. The keystone had to
be positioned so that it butted into the nosing above.**

Using a scrap of mdf, I positioned the keystone square and on a straight line with the backboard trim, then glued and fastened everything with 23ga brads.





**The tablet came next. I made it 1 1/4 in. thick
so that the miter returns wouldn't be too small to notice.**

The height of the tablet had to allow for the nosing between the tablet and the keystone. I fastened the table with screws.

I prefer pre-assembling mitered trim whenever possible, so that I can concentrate on getting tight joints and not have to fight with underlayment problems.

**I installed the bed layer for the crown but not
the crown. The crown had to be installed on
the jobsite, to span from the mantel to the ceiling.**

With my drawings and the molding catalogue nearby, I made sure to install the scrolls in the proper position.

The fluting at the top of the overmantel is cut from fluted casing, with the ends ripped down so that the vertical joints aren't noticeable. Each piece had to be back planed to fit tightly, and glued solidly to the undelayment.

Once the pilasters and frieze panels were complete, we assembled the upper and lower stages.

The upper stage leans up against the wall while I'm assembling the lower mantel.

To cut rabbeted panel molding, use a jig the same thickness as the rabbet. Measurements are always taken at the long point, so make sure the long point of the molding is facing you and not the fence.

Slide the mitered piece up to the edge of the jig, then flush the real long point (it's under the rabbet) with the edge of the jig so you can hook your tape measure. Add one rabbet width to each measured length.

Spring clamps make it possible to preassemble all moldings. Pre-assembling panel molding makes the job much easier, faster, and cleaner.

Once the spring clamps are positioned on each corner, flip the molding over.

Swivel the spring clamps up out of the way.

And nail off the miters with two brads in each corner.

Apply glue to the back of the molding.

Then set the 1/4 in. back on the frame.

Fasten the back with short brads or staples, then use a wet tooth brush to clean out the miters and any squeeze out between the panel and the molding.

I don't glue the panels in, preferring to use brads alone, in case the panels and face frames expand and contract at different rates.

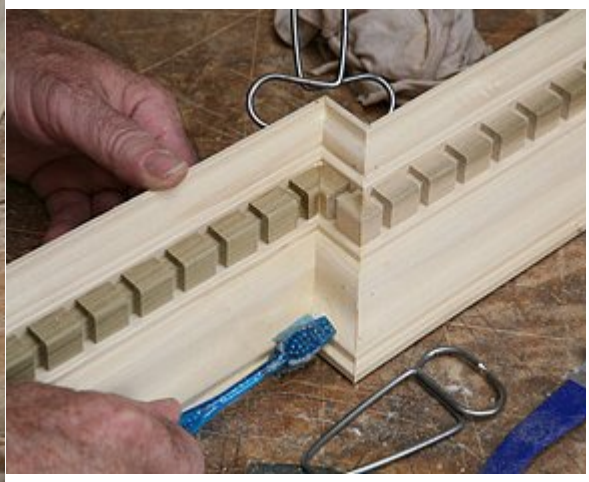
The bed band for the lower mantel went on next, then the lower corbels.

And finally the lower mantelshelf and crown. We used the same nosing on the lower shelf that was used in the overmantel between the tablet and the keystone.

After turning the lower mantel around, we applied supports to the back of the panels, so they couldn't be pushed in.

Supports were added inside the face frames too. These weren't glued to the panels, only to the face frames.

Before shipping the mantel to the job, I pre-assembled the upper crown molding.



I lined up the dentil blocks on the outside corners and let the inside corners fall where they would.

We started the installation by installing backing boards for the additional pilasters, then slipped the pilasters over the backing (left). Once the pilasters were scribed to fit tightly against the drywall, we didn't have to scribe the mantel itself.

The additional pilasters required a minor remodel to the lower mantel: we used pocket screws to add a 2 1/2 in. frame to the back of the lower mantel around the firebox opening (above).

Next we installed backing for the lower mantel pilasters.

Then moved the lower mantel into position.

We slipped the pilasters over the backing, then shimmed the lower mantel level.

After fastening the lower mantel to the backing with trim-head screws, we attached backing to the pilasters for the upper mantel.

The upper mantel went in just as easily, without having to scribe the upper pilasters because they sat flat against the full-height flanking pilasters.

The original recess box was 10 in. deep. We remolded that case on the jobsite, using the Festool plunge-cutting saw and pocket screws.

Turning the box over, we used a laminate trimmer to flush the joint between the two boxes (above).

Then fastened the recess box in place, flush with the face of the mantelpiece (right).

All that remained was applying the trim, starting with the self returns.

The pre-assembled crown went on next.

Then we applied backing on the sides for the panel molding.

Marking tangent lines for the panel molding on the arches.

Cutting the flex molding and finishing up the trim on the face of the overmantel.


Positioning the mounting hardware.


20-60%
off