

Casingless Door Trim

BY DALE DIAMOND

For the past 18 months, my company, New Dimension Construction, has been involved in the renovation of a 3,800-square-foot Midcentury Modern-style home in Rhinebeck, N.Y. The project is a blend of design features faithful to the home's original style—namely clean and simple lines (particularly with regard to the interior finishes)—and increasingly common eco-conscious amenities such as an 85-panel solar array on the main roof, geothermal heating and cooling, and an earth roof on a detached pool house.

In this story, I focus on the installation of interior doors with butt hinges, a process more akin to assembling steel knock-down door frames found in commercial buildings than to a typical installation (and trimming out) of wood interior doors in residential work.

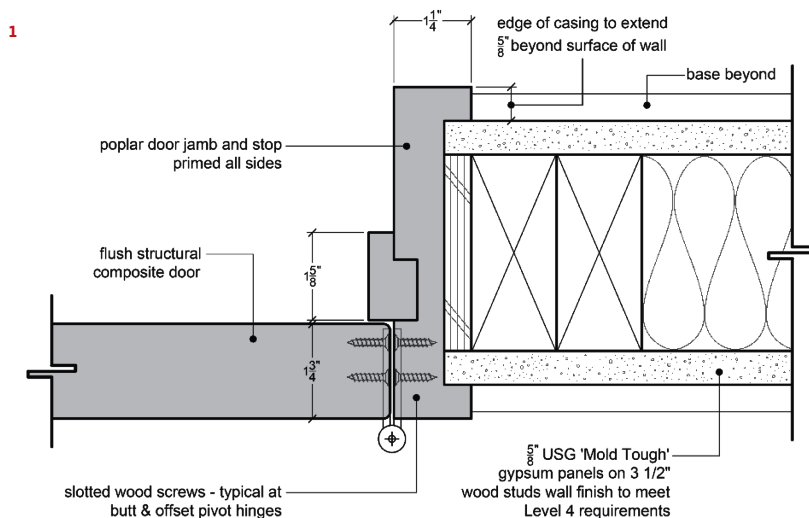
TIGHT TOLERANCES

The architect's plans called for Modern-style wood trim at doors and windows where the drywall edge at the rough opening would

be covered by a mere 1/2-inch return in lieu of a traditional casing trim. For interior doors, the 1/2-inch returns were shown to be integral to the door frames while those for windows (and exterior doors) were to be integral to the jamb extensions. These "casingless" doors and windows would require precise framing and drywall installation at all the rough openings as well as exacting finish work.

Milled frames. With the doors, we briefly entertained the idea of splitting the frame in half to install it from either side of the wall (covering the fasteners under an applied door stop). Instead, we decided to mill the door frames into a C shape with a separate applied door stop. The C-shaped profile would require us to install the interior door frames in pieces—first the hinge side, then the head, and the strike side last—similar to how commercial steel knock-down door frames are assembled.

We contacted Clancy Woodworking (clancywoodworking.com)



In lieu of traditional casing trim, the architect's details called for a Modern-style wood door frame with an integral 1/2-inch return (1). Poplar door frame and stop materials were milled by a third-party woodworking shop (2). Each rough opening was framed with LSL jack studs and padded out with 1-by stock so the drywall could run "long" into the opening (3). The 1-by padding was later removed, planed as necessary, and reinstalled before drywall.



The head piece laps over the jambs (4). Ed Brady uses a multi-tool to notch out material on the head piece to create 1/2-inch returns, which will allow it to slip around the wall (5). After setting the door upright on its side in custom-built door stands, the author routs the hinge locations using a Porter-Cable hinge butt template kit (6).



The author installs the door hinges on the routed hinge-side door frame (7) and fastens the frame to the door (8). Working inside, he and Brady position the door and frame assembly into place hands-free using a pair of Door Studs (9).

out of Kent, Conn. Its shop used the combination of a molder and table saw to mill the door frames and stops. We reasoned that the precision of its machinery would be faster and more cost effective than having our crew mill the stock.

For the frames, Clancy made a 1/2-inch-deep by 4 13/16-inch-wide dado cut into 3/4-inch-thick by 6 1/4-inch-wide poplar stock—the 4 13/16-inch measurement representing the frame's throat dimension and the 1/2 inch representing the trim return. We requested that the throat be cut 1/16 inch wider than the wall assembly's width of 4 3/4 inches to account for variations in the 2-by wall framing and 5/8-inch-thick drywall and to help ease slipping the frame over the rough opening.

For the applied door stops, Clancy made a dado cut to receive our "T-shaped" stop. We had the company mill the stop material 3/32 inch narrower than the dado in the frame stock to allow for micro-adjusting the door-to-stop alignment.

Padding out the rough openings. Because of the slim margin of error involved with the door installation, we needed to frame our rough openings as straight and as accurately as possible. We installed LSL jack studs, shimmed the framing, and added horizontal 2-by blocking in the framing bays between our ganged jack-king studs and the adjacent common studs (to help prevent bowing) as needed.

Also, to anticipate possible shrinkage or bowing occurring in the time between framing and the door installation, we padded out the rough opening with 1-by stock. This 3/4-inch padding served as a cushion, albeit a small one, for accurately cutting the drywall at the minimal 1/2-inch returns. It's been our experience that drywallers typically don't spend a lot of time fussing over cutting around openings—installing the 1-by forced them to run the 5/8-inch drywall "long" into the opening. This allowed us to remove the 1-by stock and plane it down to whatever thickness we needed, reinstall it, then Rotozip the drywall perfectly to the final padded-out rough



Brady sets the hinge-side frame with three 2 1/2-inch-long screws at the top, middle, and bottom (10). Next, he installs the header piece (11). The strike-side piece is installed last (12)



The header-to-jamb joints are fastened from the top with 2 1/2-inch-long finish screws (13). The header and strike-side frames are then set with three 2 1/2-inch-long flat-head screws. Starting at the head, Brady fastens the door stops in place with 2-inch-long 18-gauge finish nails (14). A scribing tool helps in marking the location of the door stop piece (15).

opening. We ended up planing the 1-by stock down to anywhere from 1/4 inch to 5/8 inch thick to achieve our desired rough openings.

INSTALLING THE DOOR

During a stretch of nice weather, we set up our worktables outside. Working one door at a time, we first measured the rough opening and custom cut our jamb and head lengths, which varied only slightly thanks to the precision layout we had done upfront. The 5/4-inch poplar frames and door stops arrived on-site in bundles, and we cut the head pieces out of the longer stock.

Starting out, we needed to notch the head piece in order to assemble the frame. We lined up the milled door head and jamb frame pieces and marked the area to be removed. We notched the header piece with a multi-tool, which allowed us to fit the legs of the 1/2-inch returns around the width of the wall.

After placing one of the 100-pound, 1 3/4-inch-thick door slabs

upright on its side in custom-built door stands, we routed the locations of the Baldwin 4-inch-square corner mortise hinges on the door using a Porter-Cable hinge butt template kit.

We then transferred the template to the jamb piece on our worktable. There, we lined up the template on different gauge lines to account for the spacing between the jamb head and the door, then set the template in place and routed the door jamb.

Using a corner chisel that came with the template kit, we squared up the routed hinge locations on the jamb and the door slab. We then predrilled the screw holes at hinge locations and fastened the hinges to the door jamb with the manufactured-supplied screws. Next, we fastened the hinge-side door frame to the door, then cut the screws (which ran about 3/8 inch long) flush to the back of the door frame using a cordless angle grinder with a cut-off wheel.

Securing the frames. We installed the hinge side of the door frame first. Using the Door Stud system (thedoorstud.com), we



Brady nails off the hinge- and strike-side door stops (16), then checks the assembly to verify the closed door planes in perfectly with the frame (17). Satisfied with the fit, Brady replaces one screw at each hinge with a 3-inch-long screw driven into the framing.

positioned the 100-pound door and attached the door jamb in place—hands-free. We purchased these handy door installation tools at JLC Live a few years ago and these movable cradles (sold in pairs to handle one door) have proved to be invaluable.

To secure the door jamb to the framing, we predrilled holes in the dadoed groove for the applied stop, then set the hinge side with three 2 1/2-inch-long star-drive flat-head screws at the top, middle, and bottom. We checked for level, then moved on to the door head.

We slipped the head piece into place, then fit the strike-side jamb. We removed the pair of Door Studs, then predrilled and fastened from the top through the 1 1/4-inch-thick head into the jamb piece below, at a slight angle, with 2 1/2-inch-long star-drive finish screws. We fastened off the head and strike-side jambs with three 2 1/2-inch-long star-drive flat-head screws.

Door stops. As mentioned before, we had the door stops milled 3/32 inch narrower than the dado in the frame stock to allow for micro-adjusting the door-to-stop alignment. We measured and cut the door stop material, starting at the head. We fastened it in place with 2-inch-long, 18-gauge finish nails. We then checked the door's alignment to the frame to verify that the door flushed up with the frame before moving on to the jamb stops.

Using a Kreg Multi-Mark scribing tool (kregtool.com), we marked the micro-adjustment location of the door-stop piece on the two jambs. Once satisfied, we secured the stops with 18-gauge finish nails and checked to see that the closed door planed in perfectly with the frame. Satisfied with the installation, we replaced one screw at each hinge with a 3-inch-long screw driven into the framing.

The finished door assembly had a sleek, clean look, pleasing our clients and the architect. While the doors did indeed have simple lines (in keeping with the home's Midcentury Modern style), they were much harder to install than typical prehungs.



The finished door assembly has a sleek, clean look, in keeping with the home's Midcentury Modern style (18, 19).

Dale Diamond co-owns New Dimension Construction with his son, Kyle Diamond, in Millbrook, N.Y.