A New Header for an Old Wall

Forget the jacks and temporary framing; install the two-piece header one half at a time

BY ROGER ROSS

get calls all the time from customers who want to open an interior or exterior wall for more space, better traffic flow, or just a bit more natural light. But adding a window or door to an existing house typically means removing studs and other framing that is helping to support the house's weight. In most cases, a properly sized header must be placed above the door or window to span the opening and to help create a continuous load path by spreading the load evenly to the surrounding studs.

I used to start a job like this by temporarily supporting the weight of the floor or ceiling joists with a basic stud wall or pole jacks before I even thought about removing studs. I never liked using jacks for this application because

they place stresses on the floor or ceiling joists that most houses are not designed to handle.

The technique I use now to retrofit a header eliminates the need for temporary jacks or framing because I install the twopiece load-bearing header one half at a time. This way, the load is always kept inside the







tible to the seasonal movement that causes drywall cracks. For help choosing a header that fits your needs, see "All About Headers," *FHB* #162, pp. 62-67.

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wall, potential damage to the floor and ceiling basically is eliminated, and I can leave the heavy pole jacks in the truck.

The project illustrated here joins two interior rooms by adding a doorway to the common wall, but the process is the same for framing new doors and windows in exterior walls as well. The only changes would be the depth of cut needed to access the framing and the flashing details necessary for exterior work.

When it comes to installing headers like the one shown here, I generally steer clear of standard 2x10s or 2x12sbecause they require a piece of $\frac{1}{2}$ -in. plywood to bring the finished header flush with the rest of the framing. Instead, I use two LVLs (laminatedveneer lumber) because they are available in exact dimensions, are stronger and straighter than dimensional lumber, and aren't as suscep-

OPEN THE EXISTING WALL, AND REROUTE UTILITIES

Besides eliminating the need for jacks and temporary supports, I minimize damage to the existing wallboard by cutting the new opening exactly 6 in. wider than the proposed rough opening and recessing the full-length king studs into the wallboard. This reduces the amount of drywall patching and can help me to work in tight places.

> **1. A knife cuts where a saw can't** I use a utility knife to slice across the joint between wall and ceiling. This way, I won't risk pulling down the paper facing of the ceiling drywall along with the wallboard.

3. Reroute utilities

Once the wallboard has been removed, I pull out insulation and cap off or reroute wiring or plumbing running across the new opening.

Maintaining a continuous load path is critical

To be effective, each component in a load path either must transfer the weight from above to the bearing surface directly beneath it, or spread the weight evenly across a structural support such as a header or beam. When framing a new opening, place the full-length king studs directly over the floor joists, or install additional blocking to bridge the gap between the subfloor and the supporting beam below.





I make vertical cuts through the wallboard with a reciprocating saw, but a utility knife also works. It's slower, but there's less dust. Using the edge of the stud as a guide, I cut from floor to ceiling on each side of the wall, making sure to keep the cut shallow to avoid damaging wires or pipes.



NOTCH THE STUDS TO HOLD THE FIRST HALF OF THE HEADER

With the framing exposed and the utilities out of the way, I can get to work on framing. The goal here is to notch the top part of each stud carefully to support half of the two-piece LVL header temporarily.

1. Start with a king stud

Install one full-length king stud at each end of the rough opening, just inside the drywall. The space between the two king studs should equal the rough opening plus 6 in. (3 in. on each side).

2. Cut the notches

Starting at the lowest edge of the top plate, I measure down the height of the new header plus ¼ in. and make a mark. This extra ¼ in. comes in handy when lifting the header into position and also allows me to shim the underside of the header. To notch the studs, I



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drill a hole where the horizontal and vertical lines meet, then use a jigsaw to cut horizontally toward the hole and up toward the top plate. The front edge of the jigsaw stops the cut at a perfect distance from the top plate, so I don't hit any nails and ruin the blade. Once I've done all the precuts, I use a reciprocating saw to cut through the nails and remove the rest of the wood.

Safety note: If the wall is loaded heavily or has a point load, I always add two additional 2x4 supports to help handle the weight before notching the existing studs.

4. Wedges take up the weight Insert opposing wedges under the header at each notch to raise it tight against the top plate.





3. Tack up temporary pivots

Once the notches have been cleared, I cut two temporary pivots made from scrap 2x4s. They are tacked in place with a single nail; I make sure to leave enough clearance so that they can swing freely.



5. Install trimmers and nail off header

I rip a 2x4 in half on the tablesaw and install one of the resulting 2x2 trimmers under each end of the new header. Cut the trimmer studs just long enough to take up the load, but not so long that they raise the top plate. I also keep the trimmer studs flush with the front of the framing so that replacing wallboard or adding trim won't be a chore. To secure the header, toenail up into the top plate and through each king stud into the end grain of the header. If space is tight, toenail the header to the king stud instead.

THE SECOND HALF INSTALLS JUST LIKE THE FIRST

From the other side of the wall, cut out what's left of the studs above each notch to make room for the second half of the new header.

1. Place the second LVL behind the first

After cutting out the remainder of the notched studs, attach two more temporary pivots to brace the header until it is nailed off. After setting the second LVL in place behind the first, I rotate and secure the pivots and wedge shims under the header before nailing it to the king studs and top plate.



2. Insert the second set of trimmers

A second 2x2 trimmer is butted behind the first at each side of the header to help support the second LVL. Next, I fasten the two LVLs together with a vertical row of at least three nails every 12 in. across the header's length. I then cut a fulllength 2x4 trimmer to fit snugly against each set of 2x2 trimmers. To finish up, I remove the four temporary pivots, then take out the extra studs and bottom plate.