

Low-Risk Reroof

Protect the outside and the inside of the house, and tear off only what you can reroof in a day

BY STEPHEN HAZLETT

I am a roofing contractor by trade and a problem solver by nature. The biggest problem I solve every day is how to tear the roof safely off an occupied home and install a new roof while protecting the interior, the siding, the landscaping, the windows and doors, and the neighbors' property. I don't have a secret, esoteric process for quick, safe, foolproof tearoffs, but planning and meticulous efficiency come as close as possible. I carry a big tarp behind the seat of my truck to cover the house with, but thankfully, I've never had to use it.

On second thought, maybe there is a secret to this type of work: Don't tear off more than you can reroof quickly, and keep a big tarp handy.

The most important tool is information

When planning a roof replacement, a lot of information should be gathered in advance: roof pitch, type of decking, number of existing layers of roofing, the history of roof leaks, and the way leaks were resolved.

Writing the proposal is the next step in planning the workflow. I break down the project into a logical progression: what my crew and I can accomplish each day. In doing this, I take into account ladder and scaffolding placements, access for dump and delivery trucks, and electrical-outlet locations. The most-important things I look for

Smart roofers choose their tools wisely. This heavy-duty pry bar is notched to pull nails while prying shingles off the roof deck. Nicknamed a "shingle eater," the manufacturer calls it a Shing-Go shovel.

Shing-Go shovel,
made by AJC
(\$50; www.ajctools.com)

Sweating the details keeps the job running smoothly

BE PREPARED AT THE START

- Have materials delivered a day early. This ensures an early start if weather permits.
- Know the thickness of the roof sheathing, and have plenty of patch stock on hand for the inevitable repairs.
- Begin tracking the weather early. By 7 a.m., you'll be able to make a fairly safe guess as to whether the reroof is a go or a no-go.

DIFFERENT SITES CALL FOR DIFFERENT STRATEGIES

- Each house requires a different level of protection. Simple jobs might need no more than ground tarps. Houses with close neighbors might need plywood and tarps to protect walls.
- Plan for debris removal. A ground-tarp landing zone, a dump truck parked in the driveway, or subcontracted waste removal are common ways to handle this.
- Keep an extralarge tarp in the truck. A roofer's badge of honor is the roof-size tarp that's still in the wrapper behind the seat of his pickup truck. Tip: Don't take the tarp out of the wrapper unless you really need to cover the roof; you'll never get the tarp back into the package.

MANAGE THE WORKFLOW

- Buy doughnuts for the crew. Roofers love doughnuts, and these carbs go a long way if rainclouds start moving in and you need everyone to work through lunch.
- Only unbutton what can be buttoned up in a day. If the weather is unsettled, break the job down into what can be reshingled before and after lunch.
- Keep ahead of the tasks. As one task is completed, another is usually ready to begin. By thinking ahead and shifting personnel strategically, you can optimize workflow with less wasted time. If you're racing the weather, this mode can be a big time-saver.



Protect sidewalls. When neighbors are close, tarps and plywood shield walls in the shingle landing zone. Keep panels close to vertical, or they'll damage the house when heavy piles of shingles hit them.



Carry waste to the truck. If the driveway can accommodate a dump truck, carry shingles to it rather than pushing them off the roof onto a tarp. A crew member can switch between tearoff and cleanup.



Cleanup is the last step. A large ground tarp catches most of the debris, but it's a good idea to sweep the lawn with a rolling magnet to pick up errant nails.

are where the old roof debris is going to land and how I can avoid damaging the siding, the landscaping, the awnings, and the lawn.

When I measure roof area, I confirm the thickness of the roof decking so that I'll have patch stock on hand. In my area, many of the homes built in the '20s were sheathed in #2 southern yellow pine. This 3/4-in.-thick decking tends to hold up better than the 3/8-in. or 1/2-in. plywood sheathing used in houses built in the '60s, '70s, and '80s.

Some roofing contractors prefer to have materials delivered to the rooftop after the old roofing has been torn off, but I have materials delivered at least a day before work starts. We enjoy the peace of mind that comes from knowing we have everything we need on site before the first shingle is torn off.

Because every project we do involves an occupied home, weather always is a concern. The morning a reroof is scheduled to begin, I start tracking the weather at 5:30 a.m. I make a "go" or a "no-go" decision by 7 a.m., based on the size and complexity of the roof, the size of the crew, and the rain's estimated time of arrival.

If the job is a go, I notify the crew between 7 a.m. and 7:15 a.m., and we are on site by 8. If I decide the project is a no-go, I notify the homeowner that the project has been postponed.

Protect the house with plywood and tarps

Once we arrive on site, we are in constant motion. Everything has been planned, so there is no need to waste time. The first things off the truck each morning are usually an assortment of large ground tarps. The ground tarps are spread out beneath the work area. Anything thrown off the roof lands on them. We have an assortment of sizes from 30 ft.

Chimney flashing matters

This roof was replaced at least a couple of times with no attention paid to the chimney flashing. Obviously, there is a history of leaks—just look at the black tar buildup. Rather than fix the flashing the right way during a reroof, someone took the easy (expensive in the long run) way out. Worse, this chimney was replaced recently, and the mason didn't insert counterflashing into the mortar. The leaks rotted the decking

around the chimney and required substantial replacement. The step flashing installed between the shingles and the chimney should be covered by counterflashing set into the mortar as the chimney is built. In retrofit situations, however, this isn't possible. The next-best thing is to grind deeply into the mortar and insert counterflashing.



1
A little bad flashing can cause a lot of damage. This roofer cuts the patch stock in place after nailing one end of the board. His sawblade is set to the depth of the patch stock.



by 40 ft. to narrow runners that fit between garages and fences, and in other tight spots.

Delicate shrubs and flowers often are covered with sawhorses, empty trash barrels, or sheets of oriented strand board (OSB), along with more tarps. Some houses need no more protection than ground tarps and shrub shields, but a couple of additional steps might be useful. We often use bungee cords

to hang a large tarp along the lower edge of a roof and down to the ground. This allows the gutters to catch nails and small debris, and the tarp often can be used as a chute to direct larger roof debris to a specific location. We sometimes install roof jacks and planks along the lower roof edge to catch debris and to protect awnings or a swimming pool. This is also a good strategy when houses are extremely

close to each other. In that case, all debris is tossed carefully to a specific safe landing area.

Tear off a little at a time

Our main tearoff tool is the Shing-Go shovel, which we call a shingle eater. We can remove 99% of the shingles from the roof with shingle eaters; for the rest, we use an assortment of pry bars, flat bars, and tin snips (for stubborn flashing). Shingle eat-



2 Start with a plan. I use a crayon to mark just below the mortar joints before I start grinding them out. I try to insert counterflashing above any old tar lines to give the best possible look.



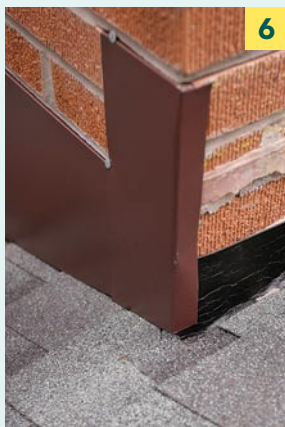
3 Extra protection. Use roofing membrane along the side, top, and bottom of the chimney. I fold it up the chimney wall as a final line of defense against windblown rain. Cut back the felt about 18 in. so that the membrane can stick to the roof.



4 Step flashing first. After the peel-and-stick membrane is in place, I shingle and step-flash the roof. This front-apron flashing piece extends over the lower shingles and under the first piece of step flashing.



5 Counterflashing covers step flashing. The front piece covers the chimney's apron flashing, and the bottom corner piece folds around the face of the chimney. Successive pieces overlap each other.



6 Ready for the rear pan. The counterflashing shown at left covers the last piece of step flashing and folds around the top corner. The pan piece (shown in drawing) comes next.

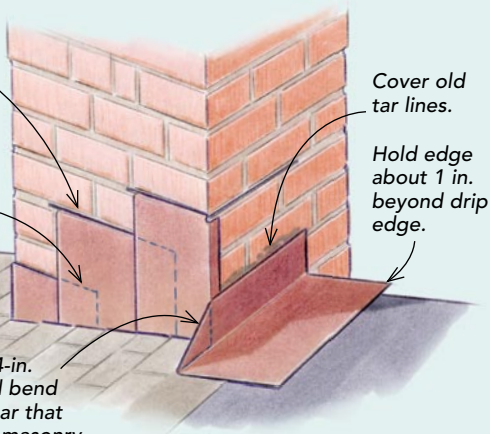


7 The final piece. The top piece of counterflashing covers the top pan, which has a triangular ear that extends past the chimney (drawing below). The counterflashing should turn the corner and have its top edges tucked into the masonry.

Mark cut pattern below mortar with crayon before grinding.

Overlap successive pieces of counterflashing up to one-third their length, but no less than 2 in.

When cutting the top pan that caps the step flashing, I extend a 4-in. by 4-in. square past the chimney and bend it over to form a triangular ear that directs water away from the masonry.



8 Seal the joints. I like Geocel (www.geocelusa.com) sealant because of its excellent longevity. Forced into the horizontal saw kerf, the sealant most likely will outlast the roof shingles. I also daub the exposed nails in the front apron.

ers can damage siding easily, so we stay about a foot away from sidewalls. I generally use my Estwing Roofer's Bar to clear out the wall flashing and the adjacent shingles. This bar works better for me than the common flat bars that most roofers use.

We prefer to start from the ridge and work our way down the roof, each worker tearing off a swath (we call it a rack) about 5 ft. wide. A race always is going

on to see who can tear off their rack first. A crew of three workers usually tears off an area about 15 ft. wide from the ridge to the gutter in one pass, then moves down the ridge and tears off the next 15-ft.-wide section.

The trick to using a shingle eater is to get it under shingles and not pull it back out. The teeth on the blade of the tool allow you to hook each roofing nail and pull it out with a lever-

ing action. I have found that it is less strenuous and more productive to sit on the roof and tear off shingles to my left or below me (I am right-handed). This position is safer because it keeps my center of gravity low. It also allows me to employ my body weight favorably in a rocking motion while pulling down on the handle and levering the shingles and nails off the decking. Inexperienced crew mem-

bers who bend over and push the shingle eater with their arms and shoulders simply can't keep up with my pace.

Plywood decking allows a much faster tearoff because there are far fewer board edges to catch the teeth of the shingle eater. I find that 1x8 decking is difficult to work with; sometimes I have to tear off sideways along the length of each deck board to avoid catching an edge every

few inches. Tearing off along the length of each board also puts less torque on the decking and causes fewer split boards.

With experienced roofers, tear-off can go surprisingly quickly, often within an hour. If I am working solo, I might tear off the old roof until about 10 a.m. before I start reroofing. Remember, there is a finished, occupied home underneath the roof.

Clean, repair, and dry in the roof

Once the old roofing is torn off, we use a plastic lawn rake

to clear off loose shingle pieces; then we sweep down the roof deck to remove the loose debris and shingle grit that can make footing hazardous. Next, we cut out rotten wood and replace it with new solid material. Anyone not needed to replace decking pulls out nails left by the shingle eaters. After the wood replacement is finished, we nail off the entire roof deck with 8d nails in a nail gun and then sweep off the roof deck one last time.

With a clean, solid, safe roof deck, the tearoff is complete, and we can begin the new-roof

installation. We install drip edge around the perimeter of the roof. Then we install peel-and-stick membrane along the lower edge of the roof. We install at least one 3-ft.-high course along the bottom edge. If a single course doesn't extend high enough up the roof to correspond with a point at least 12 in. inside the wall, then we might need to install a second course. Check local codes for this detail because unexpectedly doubling the peel-and-stick membrane on a large job can take several hundred dollars out of your pocket. I also

put peel-and-stick membrane in valleys and around chimneys.

I use #30 builder's felt to dry in any roof decking not covered with the peel-and-stick membrane. After the whole roof is dried in, we usually snap a chalkline, marking every other shingle course. If three-tab shin-

Extra steps improve durability

Roofing membrane, heavy-duty felt, and metal drip edge (photo below right) are often skipped to save time or money, but they're cheap insurance. Drip edge directs water away from roof edges and protects the roof deck from windblown rain.



Dry in with heavy-duty felt. Use peel-and-stick membrane along the eaves, and #30 builder's felt for the field. The felt paper is held in place with staples if it is to be shingled right away. On new construction, the felt sometimes is nailed with button-cap nails until it can be shingled.



Step in to establish the pattern. Nail drip edge along the roof perimeter, then begin to shingle. Stepping each shingle back 6 in. allows one roofer to establish the pattern while another fills the field.



gles are being used, we snap a couple of vertical lines to maintain a 6-in. shingle offset. We like to rack three-tab shingles straight up the roof on smaller or steep roofs and staircase larger or easy-to-walk roof areas. No vertical chalklines are necessary for dimensional shingles, only a few horizontal course lines.

Lunchtime is anywhere from 10:30 a.m. to 1 p.m., depending on progress and the weather outlook. I like to have all chalklines snapped before lunch so that when we return, we can begin installing new shingles immediately.

I frequently use lunchtime as a chance to grind out the mortar joints in the chimney for reflashing. Doing this work at lunch means that I won't spew dust and grit on my coworkers.

Shingling the roof is the easy part

We use air guns to install roofs. I usually establish either the vertical "rack" pattern or the staircase pattern myself, while the next-experienced roofer extends the pattern across the roof. At this point in the job, if we have a third man on the crew, he often

is kept busy stocking the roof with bundles of shingles. We try to arrange our work so that once shingles have been laid, we won't need to climb or walk on them again.

After the roof pattern has been stepped in, I jump over to flashing work, and the third man moves to shingling. On this job, there were no valleys to replace, but you can read my previous article, "A Durable Roof-Valley Repair" (*FHB* #182, *FineHomebuilding.com*), for a discussion of that. This roof, however, had a couple of chimneys that needed coun-

terflashing retrofit into them ("Chimney flashing matters," p. 76). The chimneys had been rebuilt only a few years ago, but as is common, the mason didn't incorporate counterflashing into the brickwork. If the counterflashing isn't built in to the brickwork, you have to cut it in deeply with a grinder. During a heavy rain, water can be absorbed far into the brick, allowing it to get behind flashing that's not inset deeply.

About a half hour before we are through for the day, the third man on the crew starts folding tarps, packing up tools, loading the truck, and cleaning the yard of errant nails with a rolling magnet (www.ajctools.com).

These details about protecting the outside and inside of a house during reroofing go a long way with my customers as well as my insurance agent. Most of all, though, it's the way I would want to be treated if I were the customer. □

Stephen Hazlett owns Hazlett Roofing & Renovation in Akron, Ohio. Photos by Daniel S. Morrison, except where noted.

STEEP ROOFS CAN COMPLICATE YOUR STRATEGY

When tearing off a steep roof, we use a combination of the following methods so that we can navigate the roof area safely.

- Tear off and reroof in gutter-to-ridge swaths before moving sideways. This minimizes scaffold and roof-jack setups.
- Work from hook ladders. This method is safe, but it might be cumbersome and unproductive to use more than a couple of hook ladders on a roof at the same time. Hook ladders often limit effective crew size.
- Use scaffolding on the roof. We set up slater's jacks and 2x12s along the lower edge of the roof and a second course about midway to the top. If you own as many jacks and planks as we do, you can cover the entire roof area. This method is the safest and fastest for large crews.
- Use a harness and rope. Coupled with a roof ladder and a 2x12 set in roof jacks along the bottom eave, this can be an effective one- or two-person setup.



Slater's roof jacks are extrawide. This allows them to hold up to a 2x12 plank rather than a 2x10 typical of other roof brackets (\$33 each at www.slate-roofcentral.com).



Catch the shingles. Roof jacks with a 2x12 catch the shingles while a scaffold below provides a place to stand and toss shingles into the landing zone.



A safe setup makes the job go more quickly. Tied off to the ridge, this roofer has the extra peace of mind that a misstep won't be fatal. The roof ladder provides safe footing while tearing off from top to bottom.



Safety tip: Unlike this ladder, OSHA specifies that a ladder extend 3 ft. above the roof to provide a handhold when getting on or off the roof.