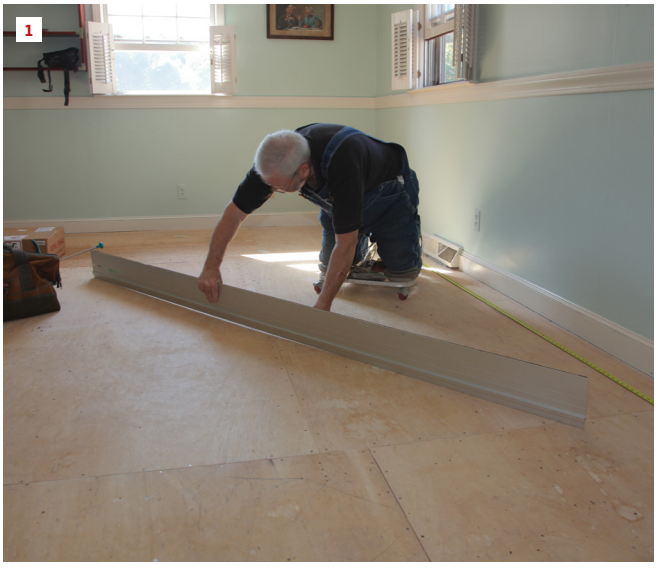
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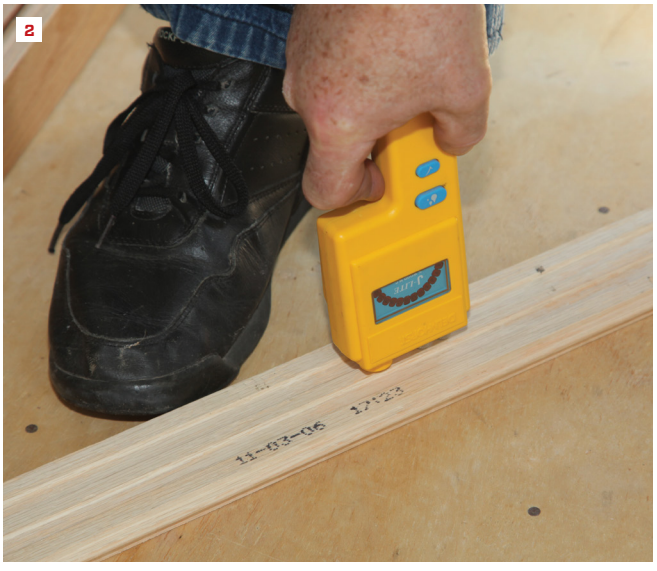
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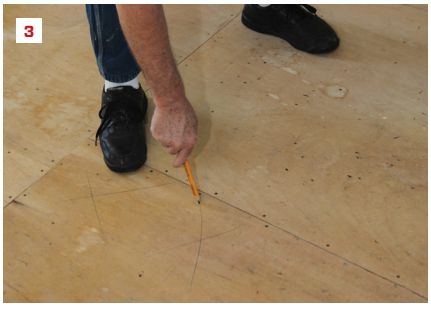
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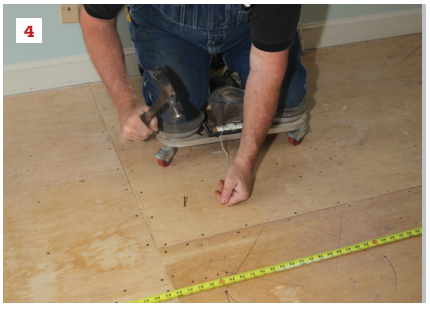
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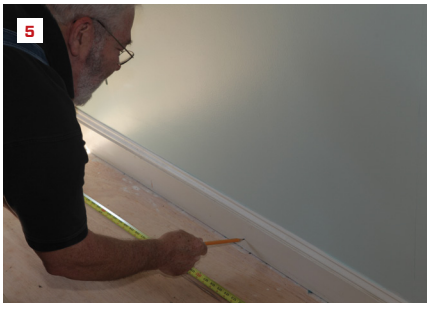
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Installing Prefinished Strip Flooring

Skip the sanding but take more time for a careful install

BY HOWARD BRICKMAN

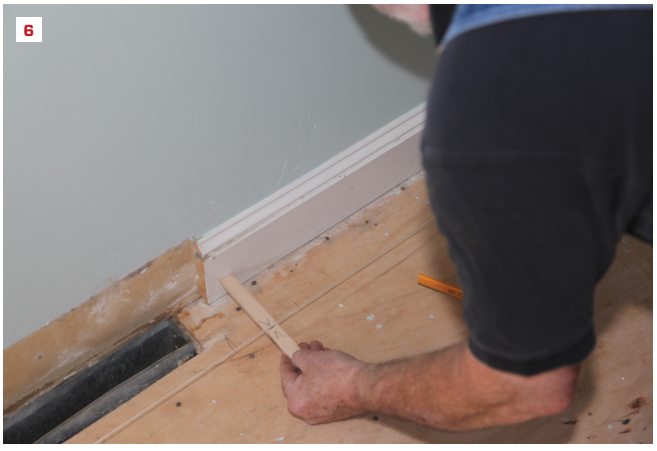
Several years ago, I wrote an article ("Installing Hardwood Strip Flooring," Mar/99) on the basics of installing solid ¾-inch unfinished strip flooring. I went into great detail about making sure the jobsite and subflooring had dried completely before the installation. I also talked about checking the flooring's moisture content to make sure it was at the proper level for your area of the country. Those basics *always* apply to *all* wood flooring installations—especially in new work and especially with unfinished strip flooring.

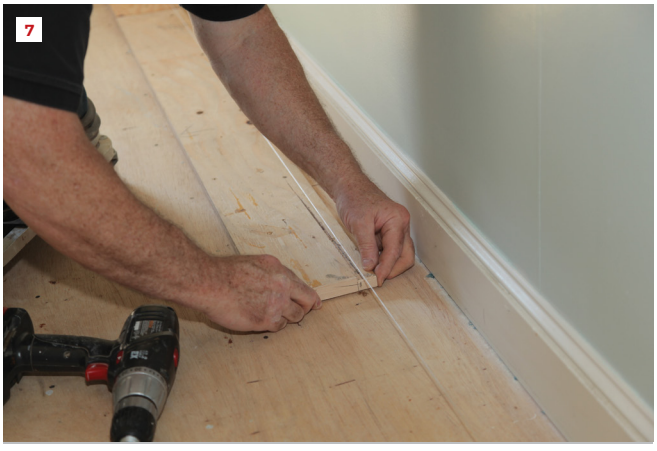
But I've often been asked to retrofit strip flooring in existing homes in rooms that are already finished. In the past, the only option was unfinished flooring, and the homeowners had to endure the hassle of sanding and finishing after the installation. These days, prefinished strip flooring has been gaining popularity—in fact, it now makes up more than half of the market. The prep work is the same as for unfinished strip flooring, but the installation requires more care because of the prefinished surface. The best part is that the job is done when the last board is nailed in—no noisy, dusty, and smelly sanding and finishing.

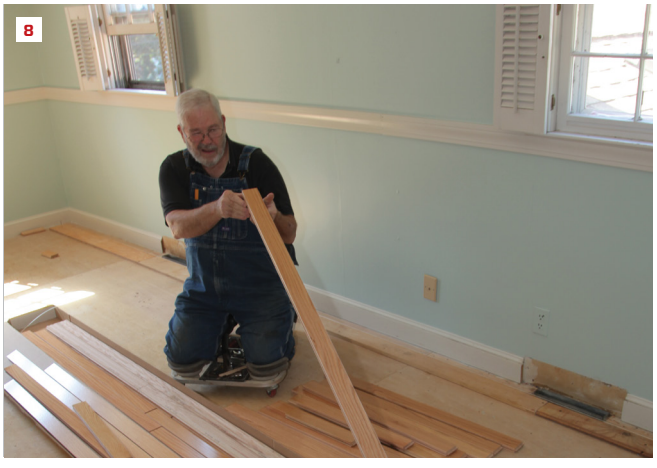
PREPPING THE SUBFLOOR

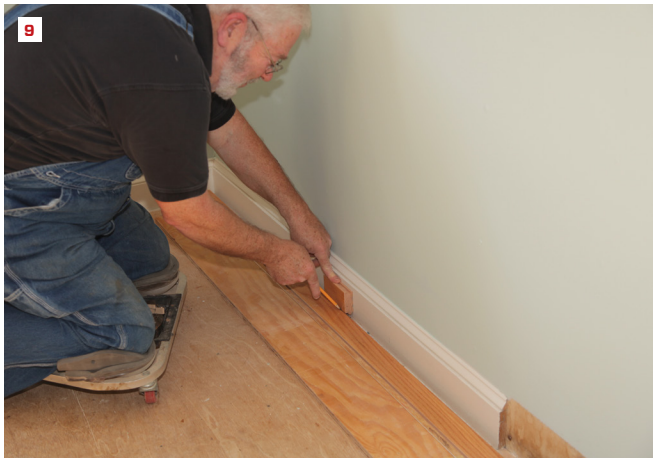
For this job, the energetic homeowners had painted the walls and trim of the master bedroom. The old carpet on the floor needed to

Photos by Roe Osborn except where noted









be replaced, so they decided to remove it and put in a wood floor. When I arrived, the carpet had already been removed, exposing a layer of ¼-inch underlayment plywood that had been put down before the carpet was installed.

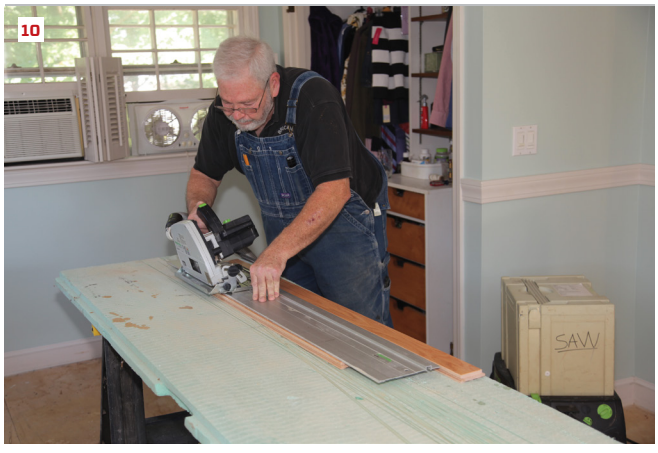
The first thing I did was to check the flatness of the floor using an 8-foot aluminum straightedge **(1)**. I never expect a floor to be perfectly flat, especially in older homes. Because any variation will telegraph to the finished floor, I make sure there is no more than a gradual ¼-inch variation in 8 feet. Note that I'm checking for flat and not level. A long level can make a good straightedge in a pinch, but don't be distracted by the bubbles. If the subfloor needs to be fixed, explain to the homeowner that if not corrected, the imperfections will be seen on the surface of the new floor after installation is completed.

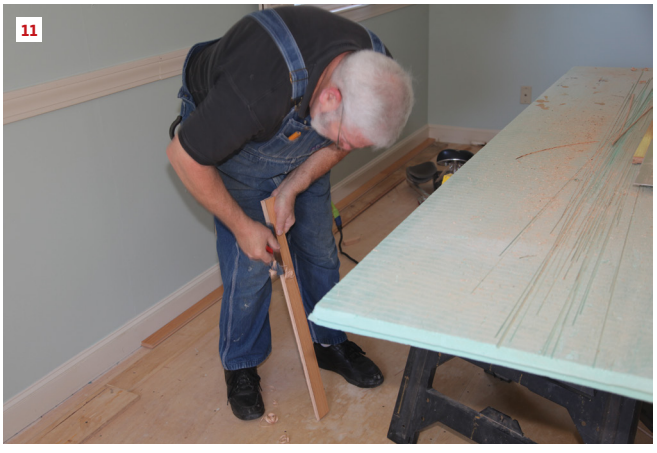
I also check the moisture content of both the flooring and the subfloor with a pin-type moisture meter **(2)**. In the late New England summer, when this floor was installed, it would have surprised me to see any red flags. The moisture level of both the flooring and the subfloor was about 8%—well within acceptable limits.

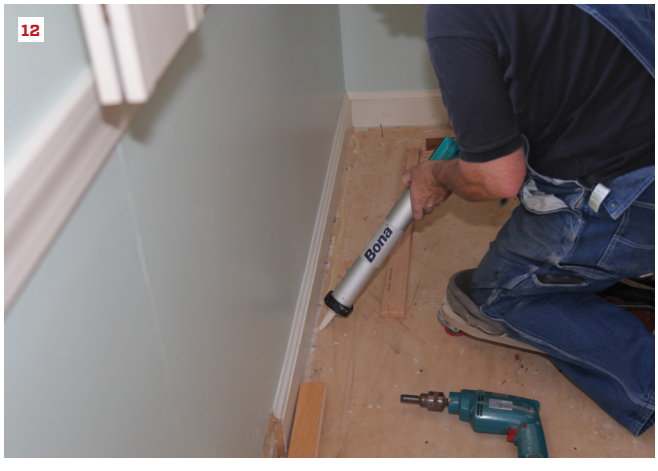
The subfloor had been nailed off, but not nearly enough nails had been used. As I walked around the floor, a couple of areas were squeaky and I marked them before driving any nails **(3)**. Next, I drove nails until I located a joist; then from that point, I ran a joist layout. At each joist, I drove screw nails every 6 inches to firmly anchor the subfloor **(4)**. When I was finished, I rechecked the squeaky areas to make sure I'd quieted them down.

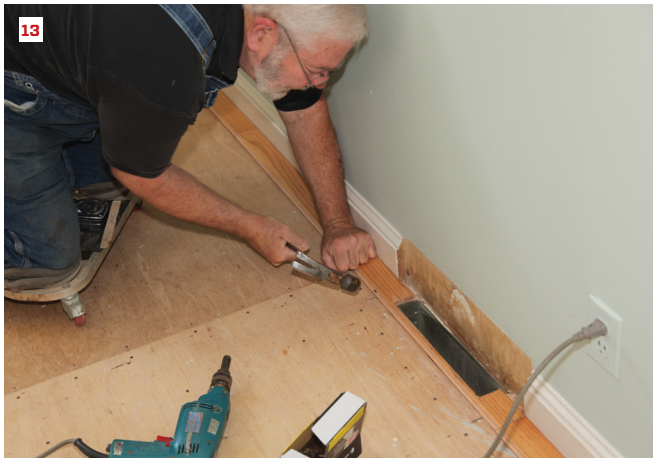
One very important step is marking the joist layout for the first and last courses of the floor. These marks will guide the placement of the face nails to ensure a solid attachment. Because I was running these courses against the finished baseboard, I marked the layout with light, erasable pencil marks **(5)**.

By the way, one sure way to locate the joists is to start on either side of heating vents.









START STRAIGHT TO STAY STRAIGHT

Regardless of the flooring project, it is imperative to make the first course of flooring absolutely straight. The process is complicated by having to scribe the first course to a baseboard that is most likely not straight. To create a straight line, I stretch a string across the starting edge about 4 inches away from the baseboard at either end. Before I install the plywood guide for the first course, I make a quick gauge from a scrap of wood. I check the baseboard to see how far off it is and note the farthest point as I go **(6)**.

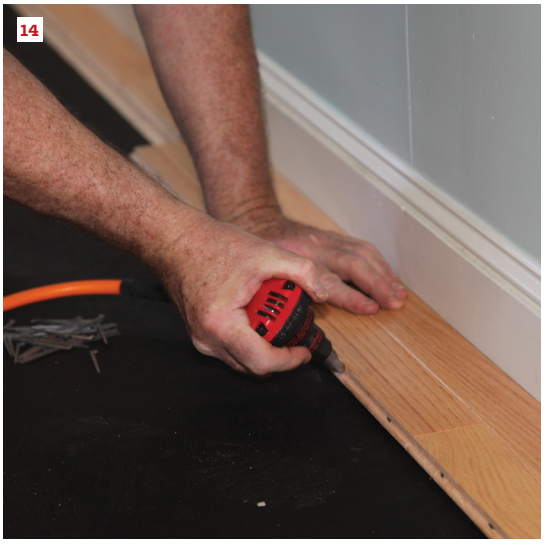
The next step is screwing down the plywood guides. Having noted the farthest point of the scribe, and knowing the width of a board and the ¾-inch thickness of my scribe block, I set the guides in relation to the string. Again I make a simple gauge from a wood scrap, this time with a notch that butts against the string and sets the guide at the proper position **(7)**.

With the plywood guides in position, I pick out enough perfectly straight boards for the first and last courses against the wall **(8)**. I set the boards against the plywood guides and cut the last board to length. Then I use a scrap of flooring with the edge cut square as a scribe block and mark the first course so that it will fit perfectly against the baseboard **(9)**.

To make my cuts with minimal dust, I use a Festool Track Saw. I take the starting boards one at a time and snug them against scrap pieces of flooring that will support the saw's track. I set the track so that it just covers the line (I don't try to be precise at this point). Then I set the blade at a 5-degree bevel and make my cut **(10)**. Now I use a block plane to fine-tune the edge precisely to the pencil line **(11)**. Because of the bevel, the plane needs to trim off only a small amount instead of the entire thickness of the board. As a result, the boards fit perfectly against all the variations of the baseboard.

ATTACH THE FIRST COURSES

When all the pieces for the first course have been scribed to fit against the baseboard, the plywood guides are no longer necessary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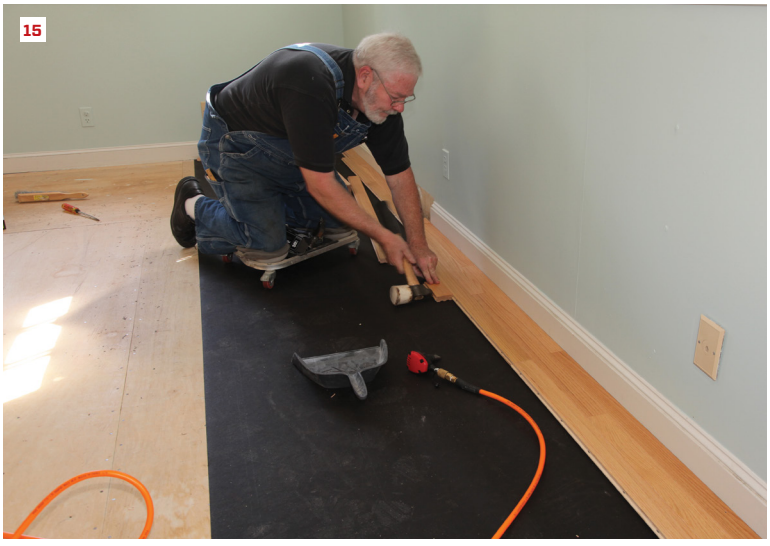
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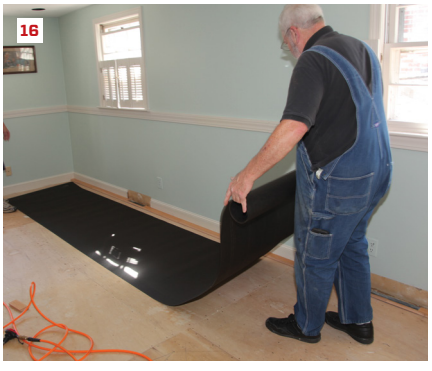
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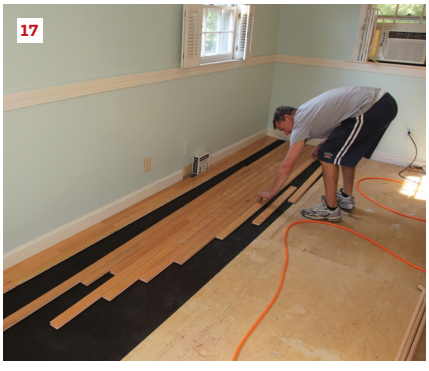
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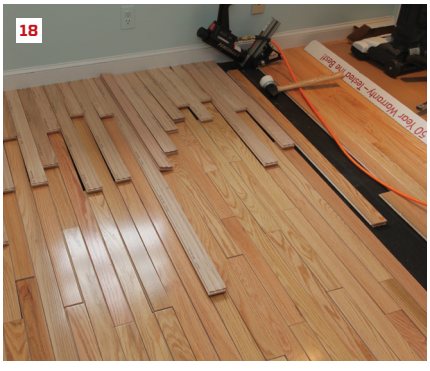
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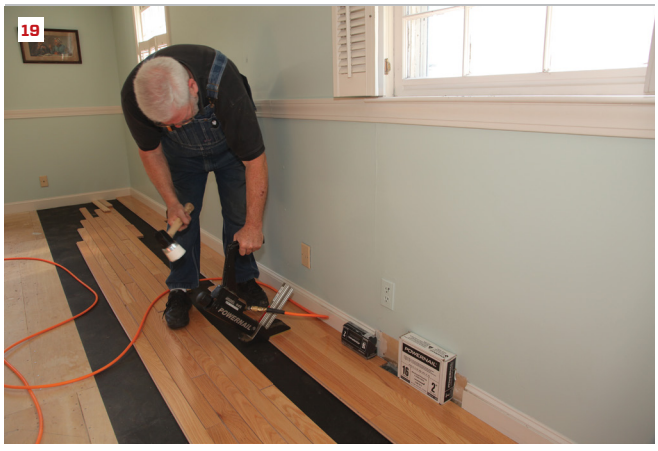
so I remove them. I also remove the string, but I keep the nails in place so that I can check the straightness of the first course after it's installed.

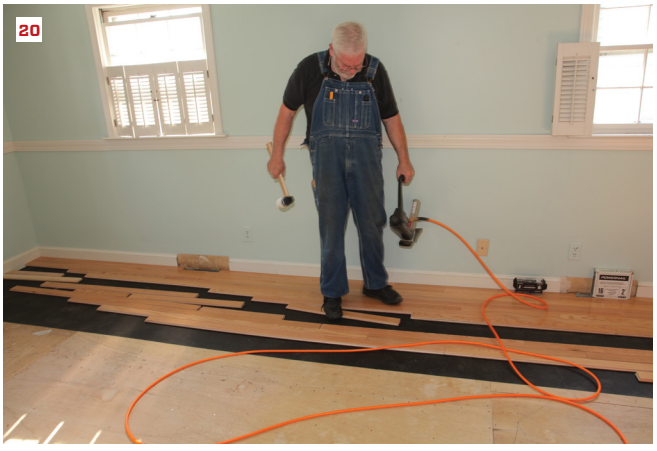
I bed the pieces for the first course one at a time in an adhesive made especially for wood flooring by the Bona Company **(12)**. This adhesive sticks tenaciously to both the flooring and the subfloor, but it stays flexible and doesn't get brittle and hard like other construction adhesives.

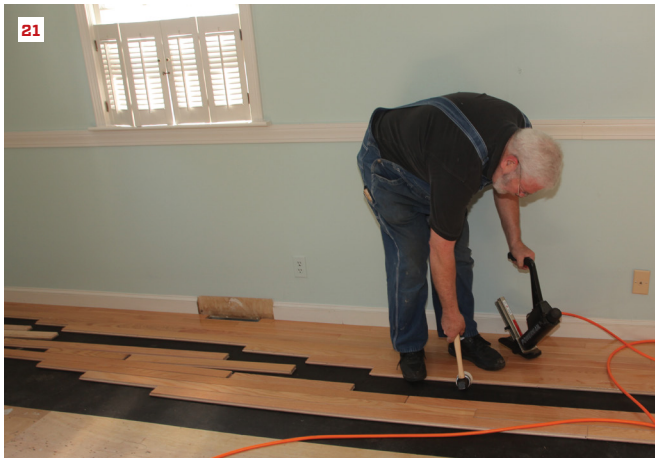
Because there is no room for the flooring nailer until you are at least three courses (5 to 6 inches) from the wall, the beginning courses must be hand-nailed. Many folks like to use pneumatic finish nailers, but most don't fire nails with a large enough gauge to hold the flooring properly. Instead I use a nail spinner, which essentially holds a finish nail and turns it into a drill bit. The spinner leaves the nail about ½ inch out, so then I hammer the nail in as far as I can without damaging the finished surface of the wood **(13)** and set each nail down to the flooring's surface.

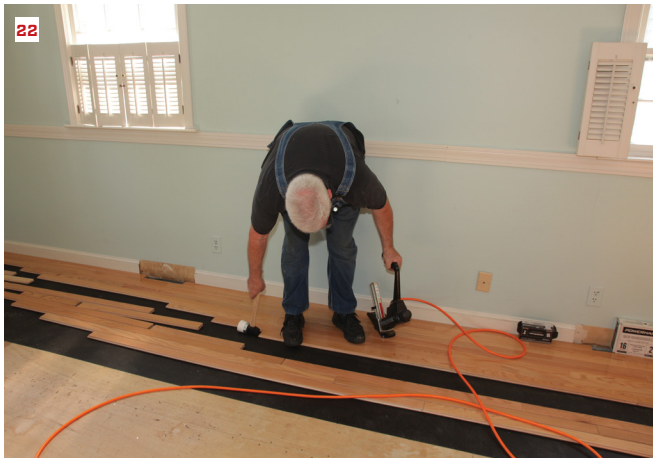
I drive two nails at every joist for the first course, one face nail and one nail into the tongue. I set the face nails just below the surface and come back at the end to fill the holes. It's imperative that the first course be securely fastened. It has to stay put while absorbing the force from the installation of all the nails for the next three or four courses of flooring. On this particular job, I road tested Powernail's Power Palm nailer **(14)**. It drives the same cleat nails normally used in flooring nailers, but just one nail at a time. The palm nailer worked so well that I never picked up the nail spinner again for this job until face-nailing the final course.

When you nail the majority of the boards with a flooring nailer, the mechanics of the machine help to snug the boards together. You don't have this advantage for the beginning courses. It's always a temptation to tap on the tongue with a hammer, but that can damage the tongue and make it even more difficult to tap the next board into position. Instead, I grab a sacrificial scrap of flooring that I can bang on as hard as I want to snug up the boards **(15)**.









BUILDERS PAPER UNDER THE FLOORING.

I am a firm believer in putting down 15-lb. felt paper before installing a wood floor. The felt paper serves a number of functions. Its biggest job is to increase the friction between the flooring and the subfloor, which helps to resist lateral movement if any shrinking or swelling occurs. The sticky surface of the felt lets it adhere to the subfloor and to the wood flooring, which helps to eliminate any springiness or movement. Finally, many wood-flooring manufacturers make using 15-lb. felt paper mandatory for their warranties.

A secondary function of 15-lb. felt is slowing the movement of water vapor. Being impregnated with asphalt, felt paper does not absorb moisture, but retards moisture instead. Just be aware that if there is excessive moisture present, underlayment papers will not prevent swelling or cupping.

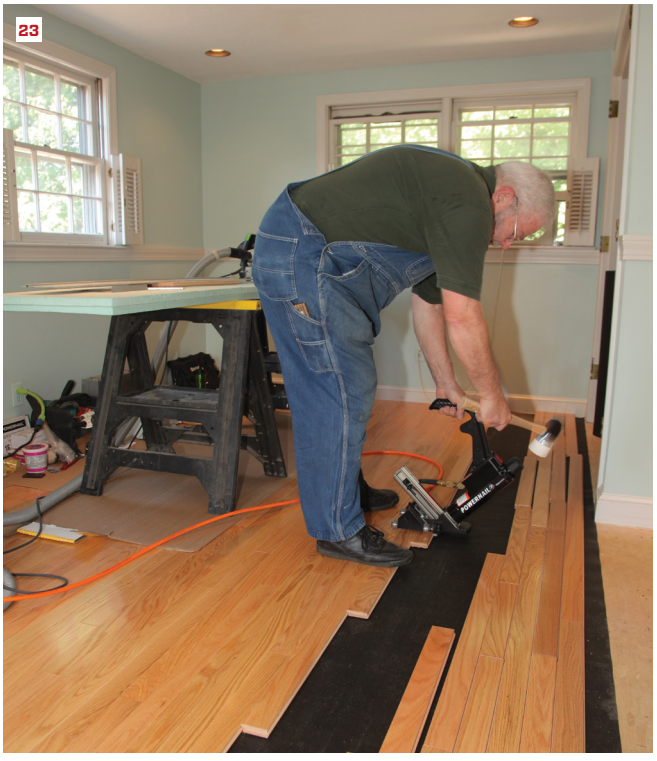
Because red rosin paper does not have any of the qualities mentioned above, it should never be used under wood flooring. To keep the felt paper from rolling up on itself before you install the flooring, always roll it out upside down **(16)**. I almost never need to staple it in place.

THE FINE ART OF RACKING

The first courses are always the most tedious and the slowest because you need to hand-nail each board. Once the first three courses are completed, it's time to ramp up the process with a flooring nailer. But in order for the installation process to move quickly, the flooring must first be racked.

Racking is laying out the flooring beforehand in roughly the same pattern as it will be installed **(17)**. The flooring is boxed in random lengths, so start by grabbing the first couple of layers out of the box and laying the boards end-to-end with the tongue facing out. As I set up the courses, I try to stagger the seams by at least 8 to 10 inches from one course to the next.

For racking purposes, the courses don't need to be tight at the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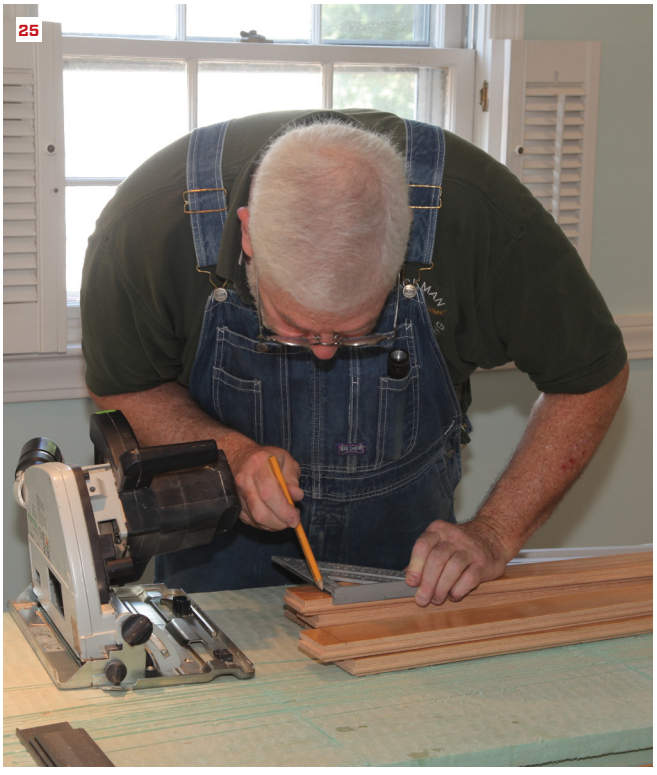
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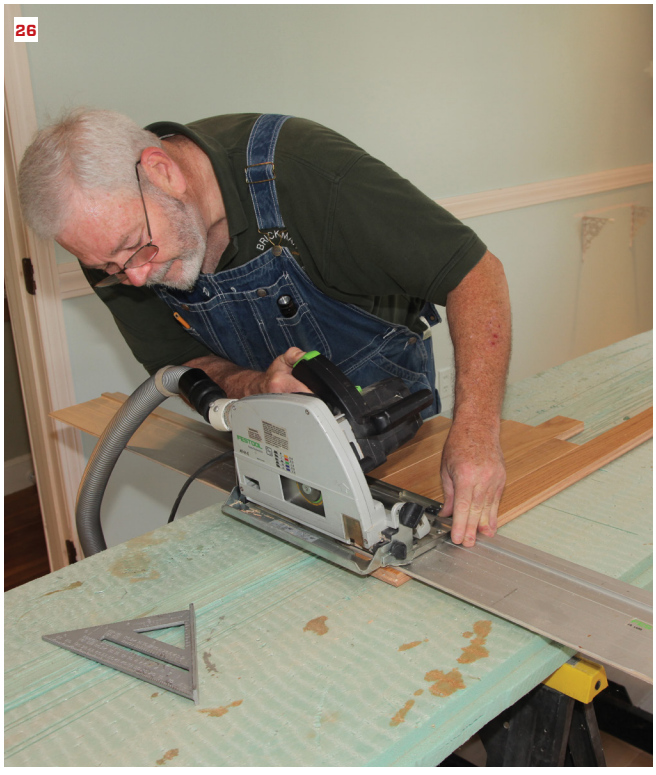
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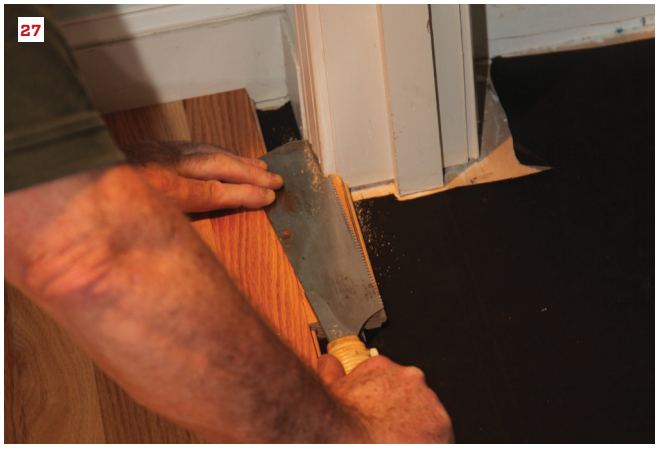
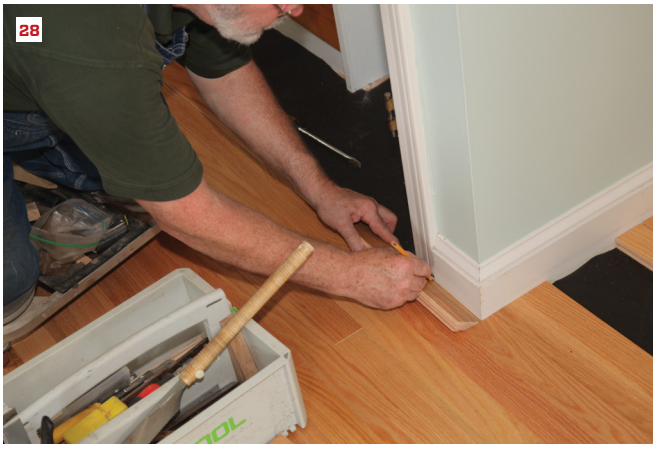
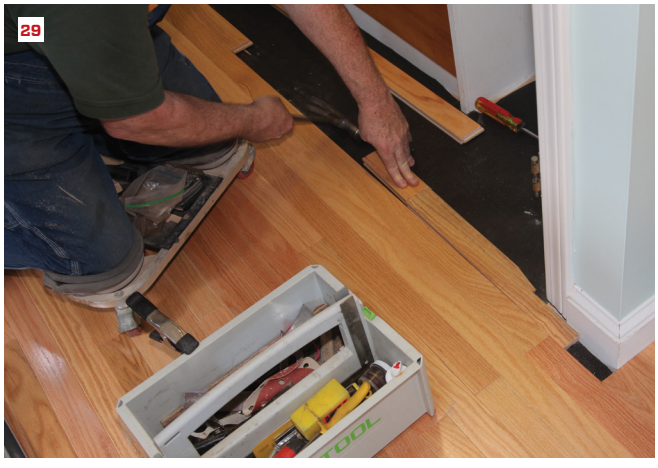
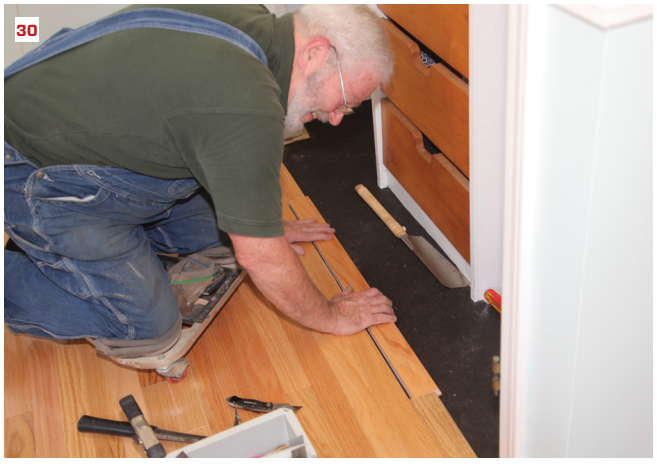








ends or one course to the other. Be sure to use up short lengths as they come out of the box. If you put short pieces aside as you go, you may need to use them all at once, which will make the butt-seam pattern look too busy in one area. It's also good practice to mix boards from several boxes together so that any slight variations in color are distributed randomly throughout the floor.

At the ends, pick boards that are a few inches longer than you'll need **(18)**. Don't try to be too precise at this point. When the courses are installed, you want to have plenty of material to work with for the end pieces. I always place the end pieces upside down and flipped end-for-end. That way they are already in position to be marked for cutting as the installation progresses.

THE INSTALLER'S TWO-STEP

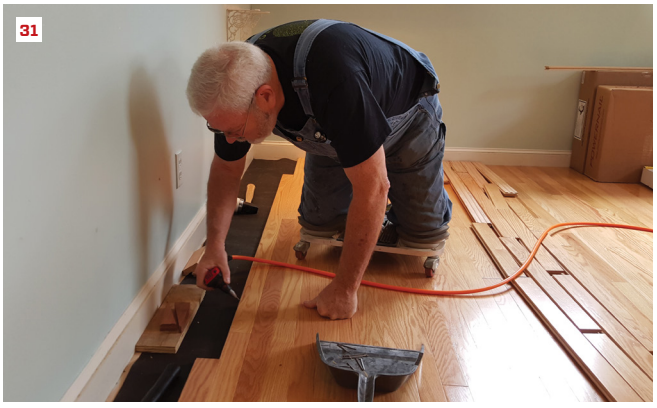
With the racking done, the nailing can go quickly **(19)**. The installer's foot work is just as important as his ability to swing the mallet at this point. Soft-soled non-marring shoes are a must.

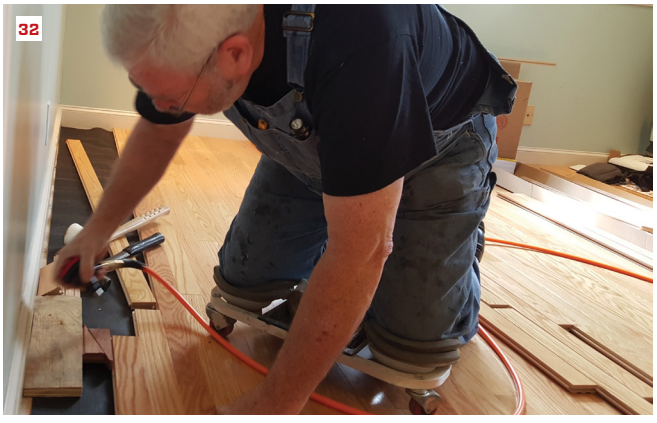
For each board, I reach over with my right foot and grab the next board out of the rack. I drag the board over at a slight diagonal **(20)**, and bring it in tight along the edge. At the same time, I apply a little pressure in the direction of my toe to engage the end seams of the boards. Then I tap lightly against the edge tongue **(21)** and give the end a slight tap **(22)**, and I'm ready to nail.

THE END GAME

Repeating these same steps, I move across the floor, installing several courses at the same time in a stair-step fashion **(23)**. When I've gone across the entire floor, installing as many boards as I can, I go back to finish the ends. Ordinarily, the person racking is also responsible for cutting the end pieces to length. In this case I was happy to have the racking help, but took care of the ends myself.

At the end, I grab the board for the course I'm completing, put it on edge, and mark the length on the finished face **(24)**. Because the boards have been reversed, my mark is on the end of the board that





needs to be cut. I mark three or four courses and then square the mark across each board **(25)**. Next I put the boards together with the cut lines lined up. I set the saw track in place and cut the ends, again at a slight back bevel **(26)**. As I set each board into place, I try for a snug fit without forcing the board. If the fit is too tight, I fine-tune it with a rasp so that the board goes in without pushing the baseboard over.

THE OTHER SIDE OF THE ROOM

Around closet doorways that are parallel with the flooring, I install the flooring to within a board width of the door jamb. Using a thin-kerf handsaw set on a scrap of flooring, I cut off the door trim as well as the door stop **(27)**. (An oscillating cutter would work as well, but I feel that I have better control of my handsaw.)

I scribe the pieces to fit under the jambs on either side of the doorway, marking out the width and all of the various places where the piece changes shape **(28)**. I cut the pieces with a jigsaw, paying special attention to the cuts that will be exposed. When the piece is cut, I tap it into place, again using a scrap to protect the end of the board **(29)**. With both jamb pieces installed, I now mark and cut the piece to fit between them. I cut the tongue end of the board so that it slips into place easily **(30)**.

At the other wall, I install boards as close as I can with the floor nailer and then install all but the last board nailing by hand **(31)**. For this project, I was happy to have that palm nailer. Wedges can be a help fitting this course into place **(32)**. When all but the last course is installed, I set the pieces for the final course directly on top of the course before. Then using a scribing block made from a full-width scrap, I mark the scribe cut for the final course **(33)**. As with the beginning pieces, I make a rough cut at a bevel near the scribe line and fine-tune the fit with a plane.

It's a little trickier getting these pieces into place because they need to rotate in so the tongue and groove can engage. The cut against the wall must be beveled so that the bottom of the board doesn't catch on the baseboard. After the last board is tapped into place, I drive and countersink face nails at each joist. Finally I fill the holes with colored putty, and pack up my tools and head home.

Howard Brickman is a flooring contractor and consultant based in Norwell, Mass.

Photos 31 and 32 by Jeremy Beaulieu