

# Classic Clapboard

## RECREATING HISTORIC SIDING WITH MODERN MATERIALS

by John Leeke



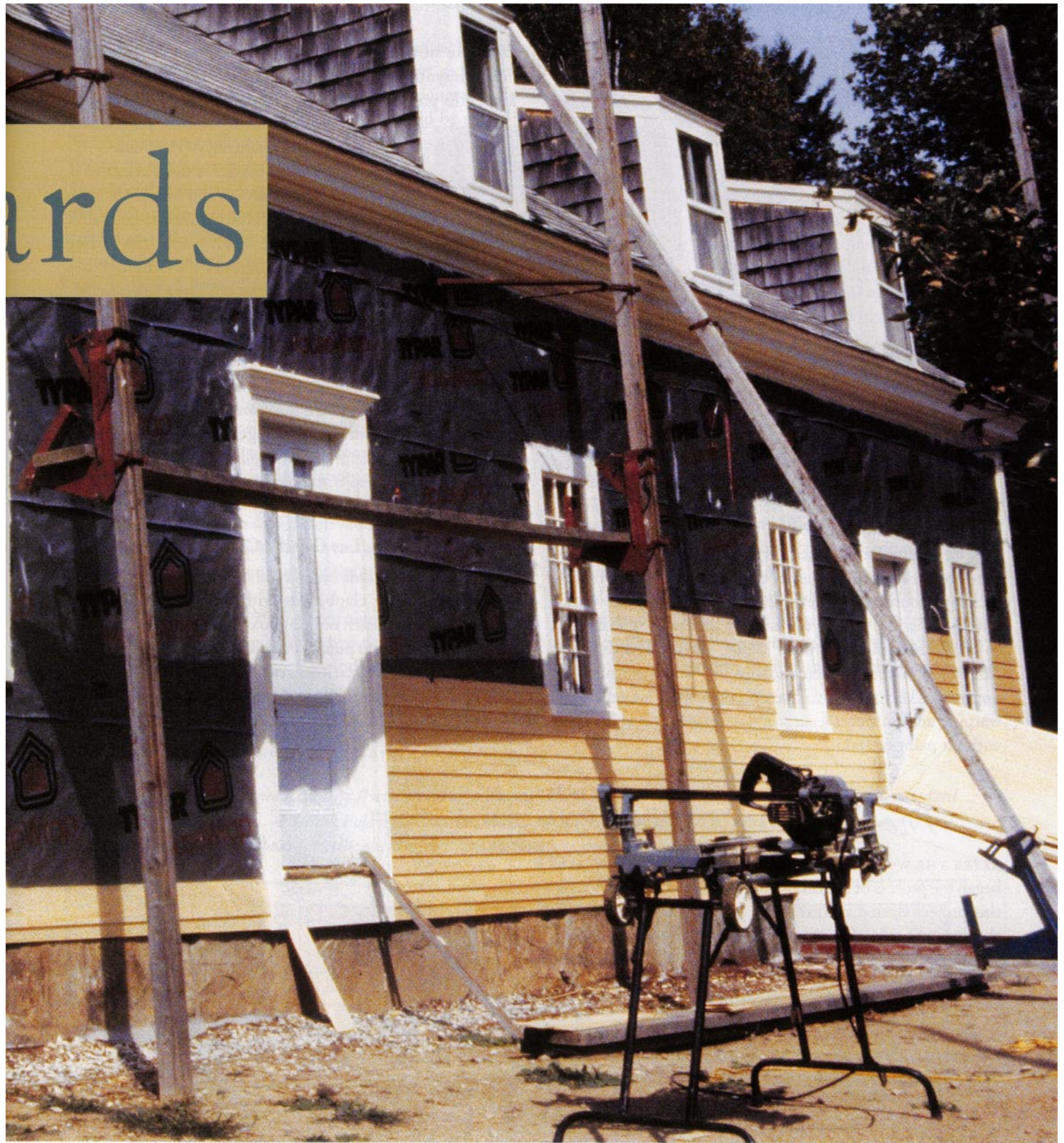
**T**HERE ARE NO STRAIGHT LINES IN nature, they say, and the same is nearly as true of old houses. Years of frost heaves or settling ground put ripples in many a foundation that start a chain reaction right up the wall. Old-house windows tend to dip a little on one side, eaves often droop in the middle, and corners can be cocked slightly out of plumb. When features such as horizontal siding age along with antique buildings, they take on these subtle waves and irregularities — in fact, they become a part of its unique character and charm.

For these reasons, it takes more than just snapping a chalk line to get new clapboards to look good on an old house. No matter how you try to square up the building, the siding will clash with its seasoned lines or refuse to come out even. You have to make the boards fit the building. This kind of carpentry is as much art and judgement as it is craft, but there are techniques and a few tricks that make laying out the job much easier and more successful. We used many of them, as well as some up-to-date building methods, when we recreated this classic New England-style clapboard job last year.



### *A Case History*

THE C. 1795 MELROSE HOUSE IS THOUGHT TO BE THE OLDEST home on Littlejohn Island, just off the coast of Yarmouth, Maine. The current owners, Chris and Becky Sentementes, are restoring the house to its 19th-century appearance and



boards

updating the mechanical systems. While removing all the exterior shingles and sheathing in order to check framing and install wiring, we discovered evidence that helped Chris and Becky decide on the type of new siding.

Underneath the top layer of 1970s red cedar shingles was a layer of late-19th-century clapboards. As we removed

*Clapboards returned to the front of the 1790s Melrose House with a 20th century housewrap-type wind barrier and lapped siding joints made with power tools.*

these clapboards we noticed nail holes from even earlier siding, long since removed. When we stuck colored tooth-

picks in the holes, they revealed a distinct pattern of rows every 4" up the wall with holes 12" to 14" apart along each row. Shingles would have left closer spacing; the original siding must have been clapboards as well.

It was common practice in the late 1700s to clapboard the front of a house but shingle the ends and back, so the early use of clapboards fit the picture. When this house was built it was also common to use "rived and skived" clapboards. *Rived* clapboards are worked by hand, splitting them right out of a short length of log with a maul and froe in a radial pattern. First the log is split in quarters, then eighths, sixteenths, and so on, until the split pieces are 3/8" to 1/2" thick. Then each surface is smoothed with a hand plane on a bench, or with a drawknife on a shaving horse. The top edge of the clapboard usually tapers to a thin feathered edge. These clapboards were laid up with *skived* joints that overlap at the ends.

Chris and Becky asked carpenter Dan Crowley to reproduce the look of the earlier clapboards based on the evidence we found. Dan knew the cladding on this wall would have to resist the driving rain storms that sweep the island, so he planned on lapped scarf joints. The clapboards came from a mill that saws them radially, exposing vertical grain on the face very similar to riven clapboards. This cut limits warping and produces a surface that weathers evenly if left without paint or stain.



*Toothpicks rendered random nail holes into the course lines characteristic of early clapboards.*

moisture in the wall cavity. On this project we stapled a modern synthetic-fiber housewrap product over the sheathing. This prevents blasts of water-laden air from penetrating the wall during storms, yet still lets moisture migrate out of the house.

A wind barrier is most effective if you seal its edges to the trim with caulk or sealant. I lift the barrier and gun caulk into the joint. Then I work the barrier into the bead of caulk with a thin, right-angled scrap of wood. The result is a neat, square inside corner that seals barrier, sheathing, and trim all together. Don't let the caulk fill up the corner or the clapboards will not lay right.

**3) Flash horizontal features.** It is common knowledge here on the seacoast

that ordinary aluminum flashing will not hold up to the salt-laden rain and fog, so trim boards over doors and windows were flashed with lead.

## II. Lay Out the Courses

Laying out clapboards on an old house is simple if you are replacing existing clapboards with duplicates: just mark where the butt of each old clapboard meets the edge of the trim board. (I like to punch a small hole in the trim with an awl; pencil marks may be lost as caulk and old paint get cleaned off.) If you don't have any old clapboard traces to follow, lay-

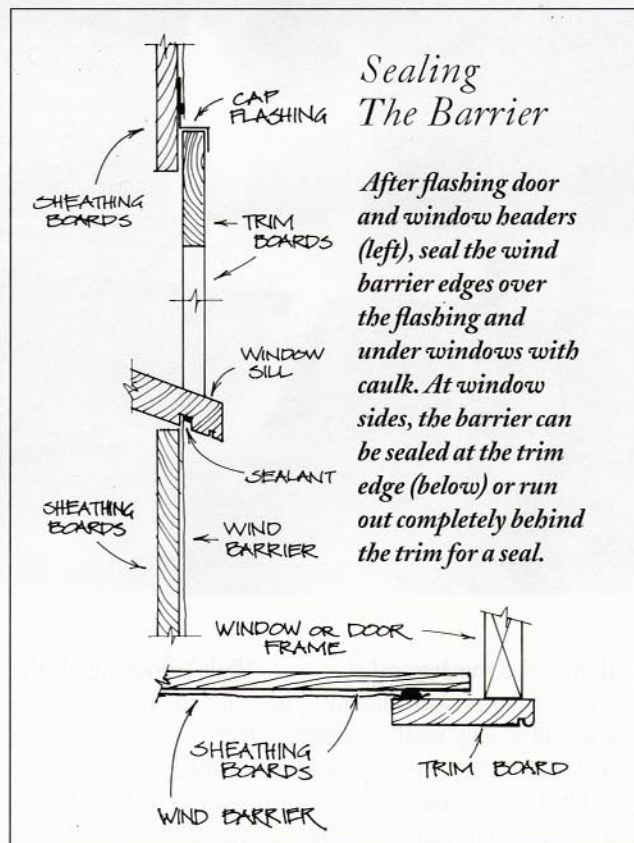
## The Steps to Residing

AFTER THE WORK INSIDE THE WALLS WAS FINISHED, DAN began the process of recreating the clapboard siding. Though this project started with replacing the previously removed sheathing boards, the steps are the same for a house where sheathing is untouched.

### I. Flash and Seal the Wall

**1) Check the sheathing.** It is important to make sure all sheathing is sound and relatively flat. Decayed sheathing or raised board ends can cause clapboards to split as they are nailed. When Dan reinstalled the sheathing, he used power-driven drywall screws instead of nails to attach the boards to the studs. Screws avoided hammer blows that could crack the interior plaster.

**2) Install a wind barrier material.** An effective wind barrier stops air and liquid water infiltration while letting water vapor pass through the wall. Rosin building paper is the traditional material and can still be used. You don't want to use asphalt-impregnated roofing felt (tarpaper) or poly sheeting on the outside face since these impermeable materials can trap



out becomes much more involved. Simply having each course perfectly parallel and level would make the bows and curves of the old wall look odd. The following techniques are often used to determine where clapboards should be placed. Siding is not an exact science, however, and these measurements are just points to start from as you blend the new clapboards with the changing shape of the old wall.

**1) Decide on a reference line.** A good reference line runs the full length of the wall. Usually it is the lower edge of the frieze board at the top, or a part of the water table board at the bottom. If the wall doesn't have a well-defined line, you may have to create one with a chalk line, guided by the tops of windows, for example.

**2) Make a storey pole.** Start with a wood furring strip about 1"x 2" and at least as long as the wall is tall. Hold the storey pole vertically against the wall and chuck the end against the reference line. Then position the pole aside of each window and door and mark the top and bottom of each on one face of the pole. This records the location of these openings in one place — the pole — so that it is easy to see how regular (or irregular) they are in size and elevation on the wall. Such vertical spacing information is important because, ideally, clapboard courses should line up with the tops and bottoms of the openings.

Lay the pole across a bench or pair of sawhorses. Study the marks until you can standardize the wall layout into three vertical sections: above the windows, within the win-



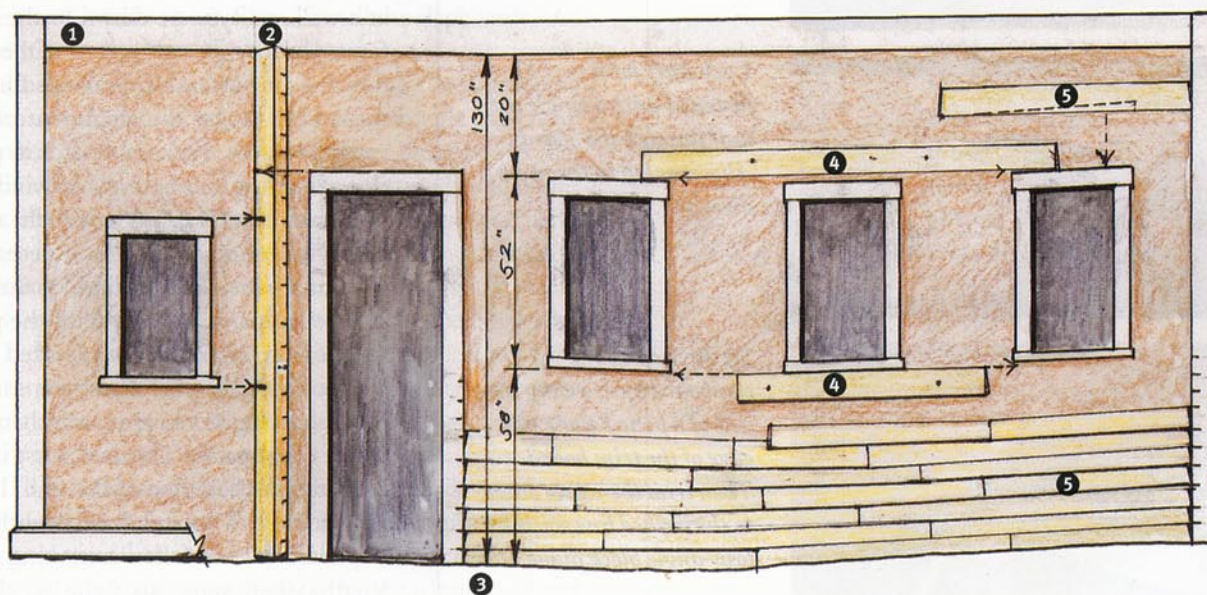
*Removing later siding and original sheathing boards exposed the structural frame for inspection and wiring. Note the split-board lath and plaster.*

dows, and below the windows. Undoubtedly there will be some variation in these heights, but try to find and set a standard division between the sections.

On another face of the pole lay out the section measurements. Then divide the sections into evenly spaced courses. On this wall we wanted the courses to be about 4" apart. You may need to "fudge" (adjust) the spacing of the

## Laying Out Clapboards

- 1 Establish Reference Line (use frieze board or water table).
- 2 Mark Storey Pole (openings on one face, standard courses on next face).
- 3 Check Pole and Transfer Marks.
- 4 Align Window Courses (tack up clapboards and check).
- 5 Fit and Lay Clapboards (scribe opening tops and bottoms, use short lengths for tight curves).



courses to meet the section divisions, or you may need to redefine the sections slightly to get the courses to come out even.

Once you have established the standard courses on the storey pole, use it to judge how much you will have to vary their layout. Place the pole against the wall at the side of each door and window, and check the top and bottom of windows and doors, as well as the total height of the wall, to see if they line up with the course marks on the pole. Then transfer the standard course spacing from the storey pole to the edges of the trim boards. A storey pole is worth the trouble to make because you can test the layout of an entire wall before any clapboards are cut or laid.

**3) Set the exposure.** The exposure of each clapboard can be adjusted up or down by as much as  $\frac{1}{8}$ " on 2" to 3" exposures and up to  $\frac{1}{4}$ " on 4" exposures. This small adjustment will not be noticeable from one clapboard to the next. It will, how-

ever, make a big difference in the overall look of the siding. Finishing the spacing board-by-board takes a sensitive eye and an artistic touch. In a sense, you "paint" the clapboards onto the wall to match the visual effect of the originals and the character of the house.



*Clapboarding Tools: claw hammer (with slightly rounded face), tape measure, low-angle block plane (sharp), wood rasp, pry bar, chalk line, utility knife, square, cordless trim saw (or fine-toothed crosscut hand saw).*

Some walls are clapboarded with regular course spacing while others are random, with exposures that vary  $\frac{3}{4}$ " to 1" between courses. In fact, in New England it's common to find graduated clapboards where the exposure decreases near the bottom of the wall. If you have to match an adjacent section of irregularly spaced siding, you may have to build that same irregularity into your spacing to get the right look.

As the clapboards go up, stand back frequently to see if the layout is fitting in with the character of the house. Be willing to remove a few clapboards if the work doesn't look right. However, also trust your judgment; sometimes adding one

more board will make the previously laid work look fine. You can always cut, fit, and then just tack the clapboards in place. When you have several courses that look right, nail them down tight.

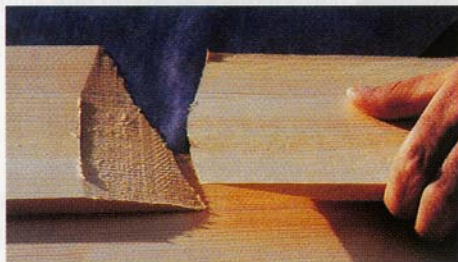
### III. Lay Up Clapboards

While some carpenters work from the top down, it's better to start old-house clapboards at the bottom of the wall.

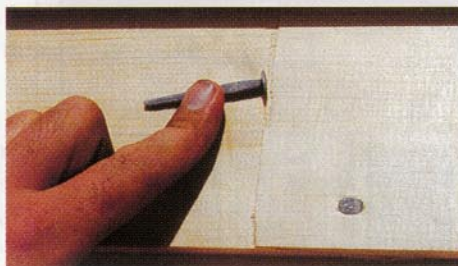
**1) Align Window Courses.** When we look at a wall our eyes are drawn to the lines formed by the tops and bottoms of the windows. Extra attention is needed along these lines to get the alignment of the courses correct. Tack clapboards in position at the top and bottoms of windows. Stand back to see if they flow with the shape of the wall and adjust them if necessary. Then mark these section lines on the wall surface with a chalk line. With the position of these critical courses located early on, you can make final adjustments in the course spacing as you approach them.

**2) Lay Clapboards.** The first course is laid to match the base line of the wall. If the base line waves up and down slightly the clapboards should follow suit, using short lengths where waves are tight (see drawing page 35). It pays to snap a chalk line

### Scarfig and Scribing



*A band saw and special jig cut the bevels for our scarf joints. Laps get trimmed with a block plane so they lay flush.*



*Each scarf joint is fastened with a single cut nail through the boards. All joints lap in the same direction.*



*Scribe the end of a clapboard by drawing the side of a pencil along the edge of the trim board. Then trim the waste down to the scribed line with a low-angle block plane.*



*Clapboards usually have to be fitted into the sill siding groove, often with some fudging of later course exposures.*

from the cornerboards to establish a standard course that you can deviate from slightly.

Position the first clapboard in a course, then scribe and cut it. Tack the board in place. Then lay the next clapboard in position, aligning the laps. If the end goes past a trim board, mark where it meets the trim and cut it off. (I like to cut boards long by about  $\frac{1}{16}$ " then scribe them to meet the edge of the trim exactly.) With scarf-joint clapboards it is a good practice to always lay from left to right, or right to left, but not both. Sticking to one lay standardizes all the movements it takes to cut, fit and install the clapboards, and makes the work more efficient.

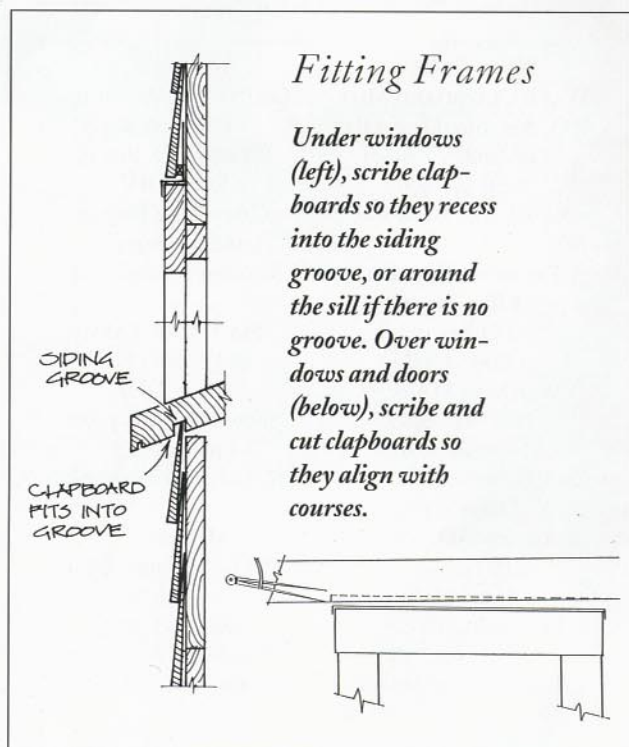
Each scarf joint is fastened with a single nail, grabbing two boards. Dan used 6d galvanized cut shingle nails from Tremont Nail Company. Cut nails have blunt points that punch a hole in the wood and make splitting less likely — especially important with scarf joints. If you use wire nails, you can limit splitting by boring a pilot hole in the clapboard.

**3) Fitting Openings.** As you lay clapboards, pause within five or six courses of the top or bottom of an opening to decide if the course spacing needs to be fudged. Now is the time to start making up a difference in the standard course spacing or accommodating a loss due to scribing around the tops or bottoms of windows.

To fit a clapboard at the bottom of a window you will need to cut a notch in it. If there is a siding groove in the bottom of the sill, the accuracy of the fit is not critical. Simply lay the clapboard in position under the window sill and mark the length of the notch. Make the notch deep enough

to allow the clapboard to nest up into the groove. Then cut the notch with a fine saw and utility knife. If the sill does not have a siding groove, you have to carefully scribe the board to the bottom of the sill using the following procedure.


Where the tops of windows and doors do not align with course lines, the clapboards have to be scribed to fit around them (see drawing below). This fitting should take place well ahead of time because it will lower the clapboard, and the spacing of the clapboards that run up to it may need to be



fudged: First, lay the clapboard on top of the window or door cap. Next, align the butt edge of the clapboard parallel with the section chalk line on the wall. Then, use a pair of dividers to scribe a line on the clapboard that is parallel to the cap. Use a saw and utility knife to trim away the waste, and tack the clapboard in place. Afterwards, check the standard course marks to determine if any fudging is needed in the courses below.

## Final Finishes

IF YOU PLAN TO PAINT OR STAIN YOUR CLAPBOARDS, PRIME the back as well as the front to help prevent warping and splitting, especially with flat-grain clapboards. Before the clapboards are nailed up, seal ends and scarf joints with primer if painted or a water-repellent preservative if left unpainted (flat-grain clapboards should be protected).

On this project the clapboards have been left to weather naturally for a few years. After they have gained some color and character Chris and Becky intend to apply a bleaching oil to give the clapboards some protection and even-up the appearance. The final effect should come close to the ash-grey wood and handmade shadowlines that were this cottage's original finish. 

*John Leeke is a preservation consultant who helps homeowners, contractors and architects understand and maintain their historic buildings (RR1 Box 2947, Sanford, Maine 04073; 207-324-9597).*

## Suppliers

**WARD CLAPBOARD MILL**  
P.O. Box 1030, Dept. OHJ  
Waitsfield, VT 05673  
(802) 496-3581  
*Radial-sawn clapboards.*

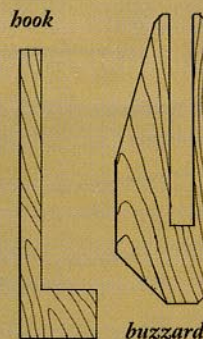
**TREMONT NAIL CO.**  
8 Elm Street  
PO Box 111  
Dept. OHJ  
Wareham, MA 02571  
(800) 842-0560  
*Galvanized cut nails.*

**DONNELL'S  
CLAPBOARD MILL**  
RR1 Box 1560,  
Dept. OHJ  
Sedgwick, ME 04676  
(207) 359-2036  
*Radial-sawn clapboards.*

**GRANVILLE MANUFACTURING CO. INC.**  
Rt. 100, P.O. Box 15,  
Dept. OHJ  
Granville, VT 05747  
(802) 767-4747  
*Radial-sawn clapboards.*

**SKY LODGE FARM**  
46 Wendell Rd.,  
Dept. OHJ  
Shutesbury, MA 01072  
(413) 259-1271  
*Radial-sawn clapboards.*

**MCFEELY'S**  
PO Box 3, Dept. OHJ  
712 12th St.  
(800) 443-7937  
*Coated-steel, bronze, and stainless steel screws, bits.*

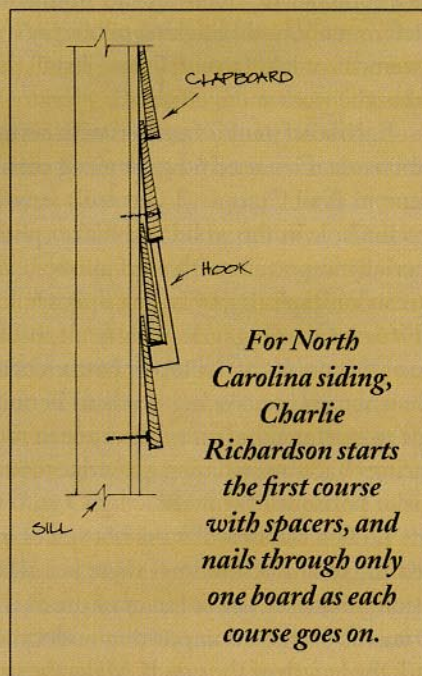


# Hoo Anothe

BY DAVI

CARPENTRY MANUALS USUALLY begin a chapter on siding by listing the different patterns or showing how to prepare the wall. Yet there are many varieties of horizontal siding, and they are often installed differently, depending upon where you go and who does the work. One example might be a carpenter with fifty years of experience whose professional training has been all on-the-job.

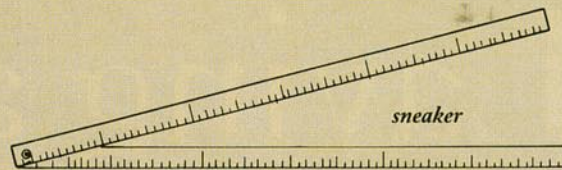
Charlie Richardson is just such a man. In his 'teens he began working with his father, also a life-long North Carolina carpenter, and continued until he retired a few years ago. When recently asked to finish a wall with horizontal lapsiding, Charlie explained, "There are three things that you have to have if you are going to put up lapsiding: a 'hook',



# Buzzard, & Sneaker

## Side of Installing Siding

D I L L O N



a 'buzzard,' and a 'sneaker.' These are homemade wooden jigs used to install siding boards so they fit tight and have uniform vertical spacing.

The "hook" is a piece of wood up to 8" long with a short protruding lip. The lip fits under the lower edge of a siding board so the top of the hook will mark the board's exposure. The hook also locates the guide nails often used to position the next course.

The "buzzard" is a marking jig that straddles the siding board so the carpenter can scribe the end for cutting to the proper shape. (Shape is an appropriate word because few boards on older buildings will require a perfectly square cut.) The finger guide allows the installer to press the buzzard up to whatever cornerboards or trim the siding has to fit against. The mark is made along the finger on the outboard end of the siding. Without this jig it is very difficult to mark a board for a joint that will mate properly and not leave an opening somewhere along the cut.

The third jig, the "sneaker," works somewhat like a giant sliding T-bevel. Charlie's sneaker is made from two yardsticks that have been fastened with a stove bolt and wing nut at one end. It is used to make angular cuts to match the pitch of a roof, such as in gable ends.

Some of Charlie's methods also deviate from the standard procedures. Most books start the siding by nailing a small tapered wood strip to the bottom of the wall. Charlie's first step is

to install cornerboards (typically  $\frac{5}{4}$  material) at each corner and mark the height of one lapboard up from the bottom of each cornerboard. Next, he snaps a chalkline between these marks and aligns the top of the first lapboard with this chalked line. However, before the first board is fitted into place, he starts a row of 6d spacer nails about 1" up from the bottom. These nails are spaced roughly 18" apart and par-



*Marking along the buzzard's finger produces more accurate cuts than measuring.*

tially driven so that they stick up  $\frac{3}{8}$ ". The nails start the angle for the rest of the siding, keep the bottom board from resting against the studs and sill, and permit ventilation.

Once the spacer nails and bottom board are in place, the wall is ready for siding with hook and buzzard. Using the hook as a gauge, three 6d guide nails are driven roughly halfway into the board, one near the center and two

more about 6" in from each end. The next board rests on these guide nails while it is nailed into place with either 6d or 8d, wire box or cut nails (galvanized spiral nails are also work well for this task). Afterwards, these guide nails are removed and the process repeated as the carpenter moves up the wall. A level is used to check every two or three boards and make slight up or down adjustments of the guide nails.

Should the installer have a helper, the guide nails can be omitted and both people (one person at each end of the board) simply use the hook to gauge the placement of the next board. Eliminating guide nails also eliminates the need to fill the holes they leave.

### Some Tips:

- Charlie recommends cutting the hook to a length that positions the siding so that nails pass through just the last board — not the top of the prior course too. This makes it easy to later remove and replace damaged or warped boards.

- Keep joints to a minimum. However, if they are necessary, make them square-cut and butted together rather than lapped or mitered.
- Finish inside corners with two boards, each half the width of one corner board, so that the siding can butt up to them from both directions.

It was rewarding to watch this craftsman meticulously put up a wall of horizontal siding. Said Charlie, "The last time that I built a house like this must have been back in the 'forties."