HOW TWO GUYS IN TWO WEEKS BUILD CUSTOM SHELLS

BY BILL WALSH

THE FORMULA: GOOD TOOLS, GOOD SYSTEMS, AND OLD-FASHIONED HARD WORK

"Come on! Two guys can't build a 1600-square-foot house in 11 days."

That's what they all say when we pull up to look over the job. Eleven days later they ask, "Who were those masked men?" My partner Jerry and I live in Maine and are taking advantage of the building boom here. For the most part we subcontract the framing of custom homes by the square foot. We get our work from general contractors who are too busy to complete all the homes they sell. We carry our own insurance and supply only the labor at a fixed price.

Occasionally we finish a house, but it seems one of the disadvantages to subwork is that the general usually saves the inside work for hourly employees. In this article we are talking about framing a watertight shell. My partner and I have been together for only two years but we have developed a system (thank you, Henry Ford) that works extremely well. Let me just note that one important ingredient is old-fashioned hard work. We have no trouble sleeping nights.

We make a point of using plans and details, and stress the importance of good drawings with *rough-opening sizes and joist and rafter layouts.*

Okay now, let's look at equipment. We decided to buy "high-tech" building equipment rather than hire extra men and get locked into Workers' Comp which is extra high in this state.

These custom homes were completed in 14 days or less by the author and his partner. A weathertight shell for a 24x48 ranch takes this two-man team about 8 days to complete.

We use pneumatic nailers exclusively for nailing joists, studs, sheathing, rafters, siding, decking, roofing, soffit and fascia, and temporary bracing. Our compressor is two horsepower, with a 20-gallon tank and about 250 feet of 3/8" air hose. We usually operate two guns at once and always have plenty of pressure. Safety is a must with this equipment. These guns never get tired and pay for themselves very quickly. We oil the equipment once a day and that's it.

We also purchased a radial arm saw and set it up on every job with two extension tables, 12 foot long. This also saves time: No lines to square, just mark and cut, or set a stop and cut 200 pieces exactly the same. This is a very accurate way to cut and to maintain quality workmanship. We use this saw to precut everything from floor joists to siding and soffit. This tool demands respect as it can eat fingers. The only maintenance with this saw is to sharpen blades.

How can two men put up a 40-foot wall? We use *wall jacks* because we are no longer young and stupid, and we value our backs.

We refuse to use scaffolding that takes more than 10 minutes to erect. Our motto is taken from my pastime of rock climbing: "fast and light." So, we use aluminum Type-I ladders and ladder jacks, with 2x10 planks, for anything over 12-foot high. We check out the planks carefully by testing them between two sawhorses before using them. We can cover approximately 9 feet of wall without moving the ladder jacks. Anything under 12 feet we use fiberglass stepladders and planks. Fiberglass ladders maintain their stability and last much longer than wood stepladders. We do own some pump-jack scaffolding but find we seldom if ever use it.

We both use circular saws—I prefer a worm drive and my partner uses a regular one. We also use a 4 1/2-inch circular saw for cutting fascia and trim as it is extremely light and accurate. The rest of our tools are like anybody else's in this business: rusty hammers and cats' paws, a sledge hammer for tight spots, crow bar—standard fare.

We use all grounded extension cords of #12 wire with a ground-fault receptable. If one is not present on the site we bring one with us. A transit is also important on the first day, since you can't trust any foundation—par-

ticularly if the site is littered with beer cans. I have a tendency to ramble so I'll quit and get to business.

First Day

Set up transit and shoot foundation walls quickly to determine the extent of damage. Then we check all dimensions and mark them on the foundation. We usually mark the inside of our sill plate. Now check for square. This usually requires the use of many well-known four-letter words—we adjust our marks accordingly. Now we strike lines and pick a good spot for the saw and tables—hopefully not to be moved for 10 more days. Next, set up the compressor and hoses.

My partner now cuts sill plates from dimensions on the foundation plan. We have already decided how to lay out joist and studs from the roof layout plan—so that trusses or rafters will bear over studs and joists.

Now I mark and drill holes for anchor bolts, while Jerry installs sill insulation, then bolts down the sill plates. I mark the layout for the stairwell opening and joists while Jerry cuts main beams out of 2x10 or 2x12 stock. I shoot the beams together and Jerry cuts the rim joist. I install the rim joists, then we both install the joists. We transfer the layout from the sill up onto the rim joists to ensure that joists are plumb when nailed. Now that some weight is on the carrying beams we can level them with the transit and set and plumb the posts under the beams. On a building with ten outside corners, three carrying beams, and 1,600 square-feet of deck, this is about as far as we get the first day. This also includes some time for shimming the sill plate, which on a real bad foundation can take half a day. Our day is about nine hours long, which includes a half-hour lunch, a couple of breaks (and a sore back). Some of our breaks include discussions on the merits of a college education and guesses as to which Sears store sold the architect his license.

A radial-arm saw with two 12-foot extension tables is set up on every job (left). Using jigs and stops, the saw is used to pre-cut everything (right) with speed and accuracy. But temporary electrical service, says the author, can create big problems.

Second Day

A little stiff this morning but the plywood gets us moving and things go fast. We usually use 5/8 tongue-and-groove and install it with a 7-foot 2x4 and a 10-pound maul. Lay one course, shoot it down, lay the next course: Jerry's on the sledge and I work the T&G joint to assure a good fit. Every two courses of plywood we install bridging unless over a beam. I cut off plywood ends and Jerry nails off the deck.

I mark corners for wall plates and the center lines for windows and doors on the plywood deck and rim joists. We both strike the lines for walls and Jerry cuts all the plates (bottom and top), and makes a cut-list for headers, studs, jacks, and sills—all from the first-floor plan. Meanwhile, I am laying out the studs, jacks, and headers. This house is just one story so I lay out roof rafters and trusses on the top plates before the walls go up. We start to build walls even though it's getting late. We usually install sheathing, building paper, soffit nailers, and sometimes the windows before we stand the walls. Arrgh, time to go home. It gets dark early here in Maine!

Third Day

Stand up two walls first thing, then build the connecting walls to eliminate the need for bracing. Finish all the walls except the greenhouse, then line and brace all the walls. Next, we build center partitions or bearing walls and mark the ridge beam for a cathedral ceiling. We're beat—see you tomorrow.

Fourth Day

We install ten 38-foot trusses, 4-in-12 pitch—yes, just Jerry and I. We move the trusses into the house upside down and prop up the center with the tails on the outside walls. Jerry uses a push stick to force the center of the truss up to me and I tack it to temporary bracing and go to the next truss. We use Truslock connectors for 16 feet, then install permanent bracing (pre-marked on the deck), and then continue until done.

For the cathedral portion of the roof, we install a 22-foot-long 4x14 ridge beam using wall jacks. We brace it off and set parallel-chord trusses with me on the ridge and Jerry on the side wall. We now begin to lay out and build two gable end walls. It's getting dark—see you in the morning.

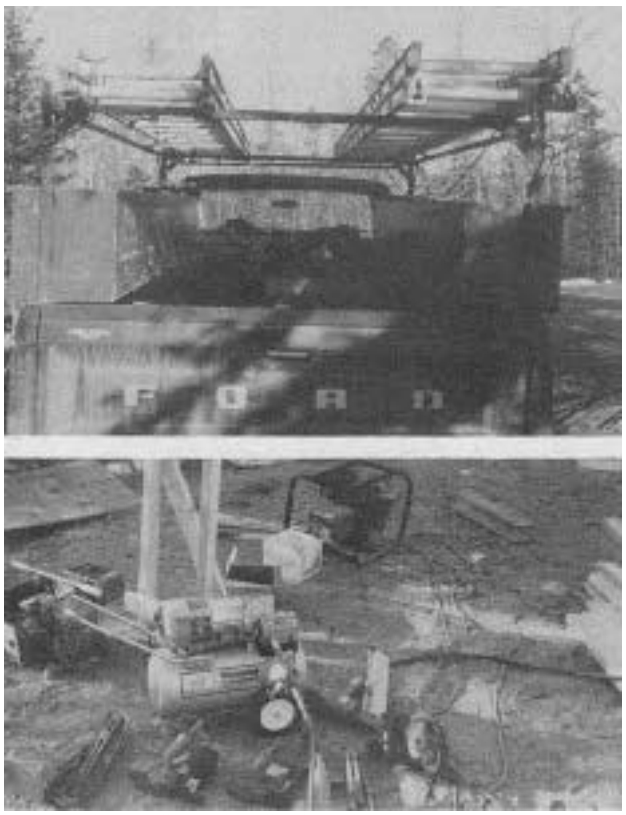
Fifth Day

We sheath in the gables—I usually cut on sawhorses and send to Jerry who nails in the gable studs and sheathing. There's no scaffolding—we work from inside on top of the walls.

Jerry cuts the flying rafters and we stack up plywood for the roof deck where we can reach it from up top. We make approximate cuts ahead of time and send up full and cut sheets. We strike lines for first course of plywood and sheathe the first courses together. Then we go for the rest as fast as we can. I trim any edges that have overhangs and Jerry nails off the roof deck. We move trim and miscellaneous lumber inside as we head for home.

Sixth Day

On any pitch of 6-in-12 or less, I will install al1 the fascia from the roof and Jerry will cut and help install if I can't do it alone. If I'm waiting for a cut piece of trim, I will change to a roofing gun and install a metal drip edge. Oh my



Walsh and Fraser like to travel light and work fast. Staging is primarily ladder jacks and these Type-I aluminum ladders (top). Also in the truck bed is a two-horsepower compressor used to drive a variety of pneumatic nailers (bottom), with two typically running at once.

Framing Tips: Fast and Accurate

- Make sure everything is square, level, and plumb right from the start.
- Try to have rough grade completed around the foundation.
- Have lumber delivered as close to the site as possible.
- Use all dimensions from plans and eliminate field measurements.
- Cut as many pieces as possible with the radial saw before each task.
- Try to picture each task and the following task to eliminate mistakes.
- Have one person do layout using master layout sticks or story poles.
- Check each other constantly for accuracy.
- Measure twice and cut once.
- Figure roof-deck cuts on the first floor and send cut and full sheets to the roof.
- When doing a task, complete it and don't leave things for later.
- Do as much as possible without scaffolding, but don't forget safety.
- Strike lines for everything, it saves time.
- Use air nailers—they save much time.
- Get a system of working together, perfect it, and stick with it.
- Set goals for each day: You'll be surprised how much you can accomplish.
- Fix anything that isn't perfect and keep quality your number one priority.
- If you go to work and actually work it will surprise you how fast the day goes. It will also surprise you how well you sleep.

aching back—time to haul shingles. We usually do it all at once to get it over with. Lunch time. Now it's time to paper while Jerry cuts starters for the entire roof. We install half the roofing this afternoon and go home early. We usually paper half the roof and strike lines every twenty inches or so and then shingle.

Seventh Day

Paper and shingle the other half and a couple of small shed roofs. Lunch time again. After we cut out the sill plate at exterior doors and install entry and slider doors. Finally, we finish installing windows that didn't go in when the walls were framed. Let's go home.

Eighth Day

Finish wrapping building paper around the corners and attach plywood strips to the rim joists. We then install corner posts to inside and outside corners, and use a story pole to lay out the siding courses. We install siding and soffits at the same time and finish each wall section completely as we go around the building.

Ninth Day

We install the 8x12-foot greenhouse (pre-cut unit). This takes a full day and causes us enough grief that we have to invent new four-letter words for the occasion.

Tenth Day

We can see the light at the end of the tunnel but it's raining. So we cut and frame interior partitions, taking the rest of the day off.

Eleventh Day

Finish up siding, load up the truck, pick up the check and make like a big bird and fly.

Postscript

I'm getting tired just writing about this. But let me assure you that this is no rush job. It is a system of using plans, pre-cutting everything possible before each task, and then putting the parts together. We constantly check each other for accuracy. A square and plumb building is of utmost importance for things to go smoothly. If something is not just right, fix it immediately or pay for it later. Together the tools, plans, experience, and hard work help us to put up a quality house in a very short time.

Our prices vary, but here are a few examples of what we charge to contractors. We typically get $4.00 per square foot for a 24x48-foot ranch house, including vinyl siding, soffits, and asphalt shingles. However, we'll probably be adjusting up the base price by about 50 cents this year. With a truss roof system, we'll complete it in eight days. If the plan is more complicated than a simple rectangle and the siding, soffits, and fascia are wood, we'll add 50 cents per square foot to our base price.

We'll also add 50 cents per square foot for any one of the following: vertical siding, over one story, cutting rafters on site (more for hips, less for partial trusses).

These prices include our own insurance and taxes. If we supply fasteners, we charge accordingly. If we contract with a private individual, we also charge more to cover the additional overhead for everything from selling the job to collecting the checks. ■

Bill Walsh and partner Jerry Fraser specialize in subcontracting custom home shells. Their company, Fraser & Walsh, is based in Aurora, Maine. If you have any questions Bill would be happy to answer them. Please write: Bill Walsh, HC 31 Box 640, Aurora, ME, 04408.