LETTERS

Truss Floors vs. Stick-Framed

To the Editor:

I read with interest the article "Framing with Floor Trusses" (4/93). In general, it is a very good article. We would, however, like to make the following comments:

The article states: "…be aware that most floor trusses are designed to support typical residential live loads; the standard truss won't carry structural dead loads at midspan, which are part of many conventional framing systems. In general, structural loads should land on the exterior walls, not on the truss.

…Fabricators *can* engineer a truss that will carry structural loads, but they'll charge more for it than for a standard truss. They may also ask you to hire your own structural engineer to approve the design or to do the load calculations."

The concern we have is that all floor systems are, in reality, engineered floor systems. Builders ought to be taking a look at the plans of all housing systems to determine the flow of loads from the roof down to the foundation. Interior partitions that pick up roof loads can cause serious deflection in any floor system, not just wood trusses. With regard to ductwork, trusses are very forgiving. With the open web configuration most ducts can be placed without the need for a lot of planning on the front end. This is in sharp contrast to solid web products, and one of the key advantages to using floor trusses. It is also far easier to finish a trussed floor ceiling than the ceiling of a joist system, and far better from an appearance perspective.

The article also noted that trusses should be inspected after they are received at the job site. This is an extremely good idea. Builders should always consult with their truss supplier should there be any questions regarding the quality of a given truss. Any repairs that may be necessary to a truss can be handled quite readily by the truss manufacturer. It is extremely dangerous for a builder to attempt to repair a truss without sound engineering guidance.

Doing business with a truss plant that has an in-plant quality assurance program… is far better than a builder looking at a truss in the field and determining acceptance or rejection of that truss based on his own criteria. Most good quality assurance programs are monitored by a third-party agency that assesses a plant's quality performance at least quarterly.

Finally, you note that builders can contact the Truss Plate Institute in Madison, Wis. The Wood Truss Council of America (WTCA) is an association representing the wood truss manufacturers. We also cooperate with the Truss Plate Institute in the sale of tags and handling, installation, and bracing documents. Our number is 608/274-4849.

Kirk Grundahl, P.E.
Executive Director, WTCA
Madison, Wis.

Charles Wardell responds:

While you're technically correct that stick-framed and truss-framed floors are both engineered systems, there's a big difference in practice. Most builders can frame a conventional floor without much fuss, and if they have to move a stair opening they can do it without calling for help. That's not so with trusses, where changes demand that you at least bring in the fabricator. Your statement that a builder should never repair a damaged truss is a good example of the difference between the two systems.

My statement about structural dead loads was unclear. The point was not that conventional joists will carry structural loads at midspan (they won't), but that most conventional floor systems have carrying beams or bearing walls running down the centerline of the house. Trussed floors often don't, so all loads must fall on the outside walls.

As for inspecting truss shipments, remember that even the most reputable companies can make mistakes. It's always wise to buy trusses from a fabricator with a good quality assurance program, but such programs don't negate the builder's responsibility for carefully inspecting the trusses when they arrive at the job site and questioning anything that seems out of line. They also don't reduce his legal liability for installing defective trusses.

Safety Problems With Low-Flow Showerheads

To the Editor:

I was distressed to see that the federal government will require low-flow showerheads and faucets everywhere ("National Low-Flow Law to Take Effect in '94," *Eight-Penny News*, 4/93). In the March issue, you quoted expert Nicholas Ballanco as saying that they are more sensitive to pressure fluctuations in the supply lines. The problem can be stated more strongly than that:

Imagine a bathroom in which all the fixtures are supplied from the same pair of hot and cold submains. You turn the hot water all the way on to take a shower and wait for it to arrive. When it does, you open the cold-water valve somewhat to adjust the temperature. You probably do not close the hot-water valve, because the 2.5 gallons per minute allowed by the flow restriction is designed to be no more than adequate. Now someone flushes a toilet on the same submain as your shower. If the toilet refills as fast as 2.5 gallons per minute, as most will, it completely starves your shower of cold water. No matter what size the submains are, you get scalded, because the flow to the toilet produces a greater pressure drop in the cold-water submain than the 2.5 gallons per minute drawn by the shower produces in the hot-water submain. In fact, some hot water flows past the shower head into the cold-water pipes and into the toilet, to equalize the pressure. In a flow-restricted sink, the same thing can happen to an infant, who, however, cannot shut off the water.

I am shocked that the crusade to conserve water and energy has gotten this far with a demonstrably dangerous idea. A far safer and, for new construction, cheaper approach would be to insert flow restrictors.

Robert Leonard Nelson, Jr.
Austin, Texas

How to Survive Tough Times?

To the Editor:

I would like to comment on the article, "Are You Making a Profit?" (5/93), by Michael McCutcheon. I think a more appropriate and timely article would be "Are You Making Your Wage?" As the owner of a small renovation/restoration company in Center City Philadelphia, which has been hit by the same recession Mr. McCutcheon refers to, I have not made a profit above my wage in two years. Competition is very fierce. Homeowners are shopping around like never before, and there are many unemployed carpenters who seem willing to work for peanuts. On top of that, material prices are out of control.

I long for the days when "How much profit is enough?" is the question. But now the questions are, How do I keep competitive? How can I become more efficient? How can I survive these difficult times?

Phillip Johnson
Philadelphia, Pa.

Segmental Arch Formula

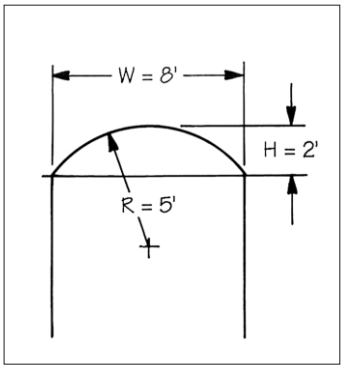
To the Editor:

Each month I look forward to the arrival of your next publication. I especially enjoyed your article "Simple Interior Arches" by Paul Turpin (2/93). There were, however, two areas I feel needed more discussion.

The author recommended the use of No. 2 pine for the arch sides. We have found 3/4-inch fir sheathing superior for this purpose due to its 4x8-foot size (good for higher arches) and because it minimizes the chance of splitting at the ends.

The majority of the arches we are asked to complete in eastern Pennsylvania are "segmental arches," yet there was no mention of how to lay them out. The following formula works when you know the width and the rise of the arch but not the required radius:

$$radius = \frac{w^2}{8h} + \frac{h}{2}$$



For example, say the width of the opening (w) is 8 feet and the rise of the arch (h) is 2 feet. The calculation would go as follows:

$$r = \frac{8^2}{8x2} + \frac{2}{2}$$

$$r = \frac{64}{16} + 1$$

$$r = 4 + 1 = 5'$$

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Keep 'em coming… We welcome letters, but they must be signed and include the writer's address. *The Journal of Light Construction* reserves the right to edit for grammar, length, and clarity. Mail letters to *JLC*, RR#2, Box 146, Richmond, VT 05477.