What's A Ridge Beam Support Column?

By George Porter

If you are an up-to-date installer of manufactured housing, you are well aware of what a ridge beam support column is and what it does. If you don't know what it is, don't feel too badly. You've got a lot of company. And in your defense, how could you know if no one ever told you.

What we're talking about is a point within the marriage wall of a multi-section home that helps support the roof. If the home has a large open room going from one side of the home to the other through the marriage wall section, then the roof must be supported by a beam along the ridge of the roof. Obviously since there is no wall a strong beam has to be engineered that will not allow the roof to sag in the area of the open room. This beam is also to be supported by structures within the wall called the ridge beam support column. There are generally three or more studs connected together that are found on each end of the open span at the marriage wall. The ridge beam is like a bridge and these column supports support the ends of the bridge. They transmit the weight of the structure plus the roof load, such as snow, through to the foundation beneath.

The weight this column is designed to hold could be three times or more the weight found on a pier under the I-beam. The length of the ridge beam determines how much load each one of these built-in supports has to carry. A very small room will have far less load than a very large room. Think of it as if you layed concrete blocks end to end along the roof ridge. The only thing that holds those concrete blocks up are the ridge beam and its support columns. The longer the span, the more concrete blocks, the more weight. Consequently, not all homes will have the same load to bear. Different size loads require different pier capacities, as well as footing sizes. If you put too large a load on too small a footing, it will sink.

Footings are a major topic to be covered at a later date, but for now, we'll just say that if the load under the ridge beam support column is three times larger than the load under the main I-beams, then obviously the footing needs to be three times as big.

This misunderstanding, or lack of knowledge, about the ridge beam support column has bestowed upon our industry long term problems of a large magnitude. It's the kind of problem that usually doesn't show up within the warranty period, although it's certainly possible if in fact there is no support there whatsoever. If you have 10,000 to 18,000 pounds of weight within the home that is unsupported, you will eventually have a problem. Gravity always wins.

It is absolutely necessary to have the pier directly beneath the ridge beam support column. The farther it is away from that point, the sooner the problem will occur, and the worse it will be. If you miss that point by a foot, it may be years and years before the problem surfaces. If you miss it by six feet, you will probably have the problem within the same year, depending upon the roof load in the area where the home is located.

When the pier is not directly beneath the supports built into the wall, the pier is trying to push its way up through the floor, and because of the weight of the home and roof load, the ridge beam support column is trying to push its way through the floor in the other direction. It's easy to understand how this can cause a problem.

How do we make sure this does not happen? First of all, we need the cooperation of the factory that built the home. In order to put the footing in the right place, the factory will need to send us a footing plan showing the exact location of each pier. A generic foundation plan will not do, because there are as many placements of ridge beam support columns as there are interior designs of homes. You will be able to figure it out when the home arrives, but you might want to be sure your foundation is ready before that. Adding a new footer after you've already got the foundation poured is not very convenient. Blocking that particular pier on top of the ground while the rest of the home is sitting on frost protected footings is a very bad idea.

The first good idea you should get is to call the factory and ask them, "how could this possibly happen when you followed their plans so closely." Have them compare the foundation plan they sent to the floor plan of the home they sent you. Find out why this problem occurred. Don't be too mad at the factory. You'll probably be the first person to have ever called and brought it to their attention and it would be hard to believe that there would exist a factory in today's world that would not appreciate it. The communication between installers and factories is all too infrequent. Factories cannot know there is a problem if installers do not tell them, and installers will continue to live with that problem unless they tell the factory. And, as you well know, there are a few problems out there. Over the coming months we will be discussing these problems in this column. Any input or suggestions you may have can be mailed directly to me, George Porter, P.O. Box 9, Nassau, Delaware 19969.