Bridging the Gap

By George Porter

In the last article we were discussing an imaginary manufactured home with no doors or windows. In this house we would only need support under the main beams. There would be no weak area caused by cutting a hole in the wall to insert the bay window for instance. Whenever this condition exists, and it does quite often, the builder of the home puts a brace over the hole called a header. The header is supported by extra bracing which usually forms the sides of the hole in the wall. This boxed in area is then fitted with a door or window and finished off.

The larger the hole, the stronger the brace has to be because of the roof load. Remember, the roof structure has some weight but the largest weight is the load on top of the roof. The blizzard of '96 has produced some very large loads on roofs and if these areas did not have this special construction they would crush the glass in the windows. For that reason all factory manuals require that each side of openings over 4' wide must be supported.

The load we are talking about can be fairly significant. It depends on the weight of the roof, the roof load, and the help the floor gets from the frame. Because the roof and its load of 20lbs or 30lbs or even 40lbs per square foot, the longer the span of the header the more weight it has to hold. Sometimes this can get into many thousands of pounds and the supports on each side have to share the weight between them.

If you can see the importance of supporting the roof on each side of a sliding glass door that is 6' wide, can you imagine what you would have if that opening was 20 or 30 feet wide? Well, you do have an opening like that; it's located between the two halves of a multi-section home. This opening is twice as important as the same opening in the sidewall of the home. This is because this opening is the opening of two sidewalls. One for one half of the home and one for the other half. The marriage line consists of the perimeters of two structures and because the supports under it are really holding up two walls they have two times the load per foot as the outside walls. The same rules apply to the mating wall as the outside walls, any opening over 4 feet needs support.

This may seem like a small thing to go into such theory and detail about but it is the single largest source of problems in multi-section homes from all manufacturers. Getting these supports correctly placed seems to be an ongoing problem. You just have to know what you are doing and why you are doing it. All these gaps are held up by bridges next to the roof in one form or the other. Just like all bridges there must be a support at each end to hold the structure up. Our bridges don't quite reach the ground so we must fill these gaps between the home and the soil with piers.