



# Technical Q & A

## Bevel Cuts on Valley Sets

by WTCA Staff

To bevel or not to bevel valley sets... *that* is the question!

**A** truss manufacturer recently called about the practice of beveling the bottom chords of valley sets to match the slope of the supporting roof. His production personnel were using a table saw to make the cuts, but found they had to remove the blade guard in order to make the cut properly on long boards. Clearly, he was not satisfied with this solution. He wondered how to do this more safely and what other manufacturers were doing. We took the opportunity to pose this question to the membership in *SBC's* popular "One Minute Poll" format.

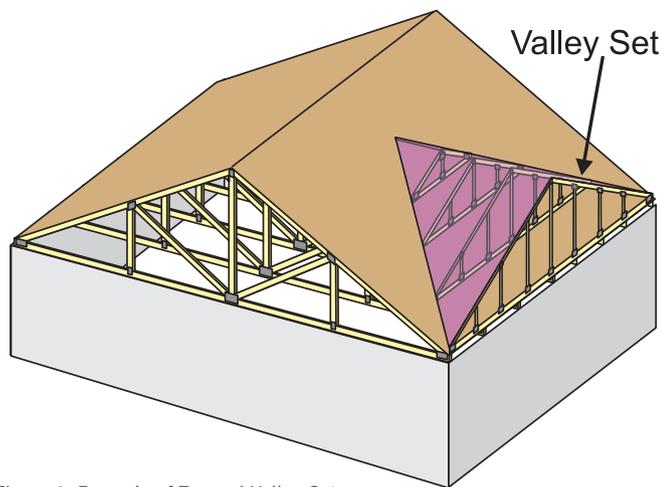


Figure 1. Example of Trussed Valley Set

### Question

*Do you bevel the bottom edge of valley sets to match the roof slope?*

### Answer

The 81 manufacturers who responded to this poll were almost evenly split on beveling of valley sets—44 percent bevel, 48 percent do not bevel, and seven percent said they bevel only by request or for certain customers. Of the 39 manufacturers who do not bevel, eight said they did at one time but stopped because it could be cumbersome, time consuming, costly, prone to errors and unsafe.

### Question

*If you bevel, what type (not brand) of saw do you use? Is it difficult to maintain safe sawing techniques while cutting them?*

### Answer

Of the 36 respondents who cut bevels for valley sets, close to 90 percent use a table saw. Several people said that safety is always a concern with table saws. Some use table saws with auto-feeders, which they say greatly improve safety. Others said the safest method for any saw is a well-trained opera-

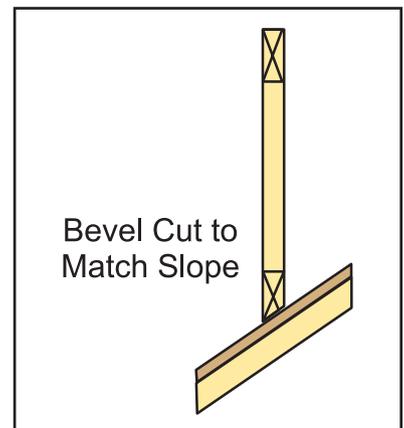


Figure 2. Cross Section of Valley Set

### at a glance

- Bevel cutting can be a very dangerous operation in the truss plant especially since 90 percent of One Minute Poll respondents say they use a table saw.
- There are about six different methods of installing valley trusses that are used in the field.

tor. A couple of respondents said they see beveling as a two person job. One respondent said they manufactured their own special blade guard just for beveling on the table saw. Five respondents said they use a CNC (computer numerical control) linear saw for cutting bevels, which they said are very safe. Another respondent said they use a panel saw.

### Question

*If no, what recommendations would you give to the customer for proper installation of valley sets?*

### Answer

Most respondents said the framers can simply toe-nail the valley set to the supporting truss below or use a special clip like the Simpson VTC to make the attachment from valley set to base truss. Others recommended adding blocking along the bottom chord of the valley set to prevent it from sliding down the slope, while others felt that the toe-nailing was sufficient to resist this movement. Other recommendations included ripping the valley bevel on site, adding a beveled nailer to create a vertical surface for the valley set or adding a wedge or shim to create a horizontal surface for the valley set so it is continuously supported. In areas where high wind is a concern this connection has to be engineered to account for potentially high uplift forces.

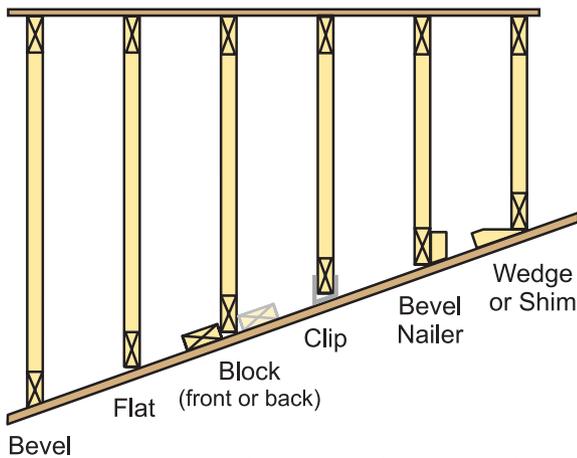


Figure 3. Methods of Attaching Valley Sets

If you have any concerns about the correct method of attachment, plate suppliers often have standard details for trussed valley sets including fastener requirements and wind ratings. Alpine and MiTek offer their standard details on their respective web sites. See **Support Docs** at [www.sbcmag.info](http://www.sbcmag.info) for links to these pages.

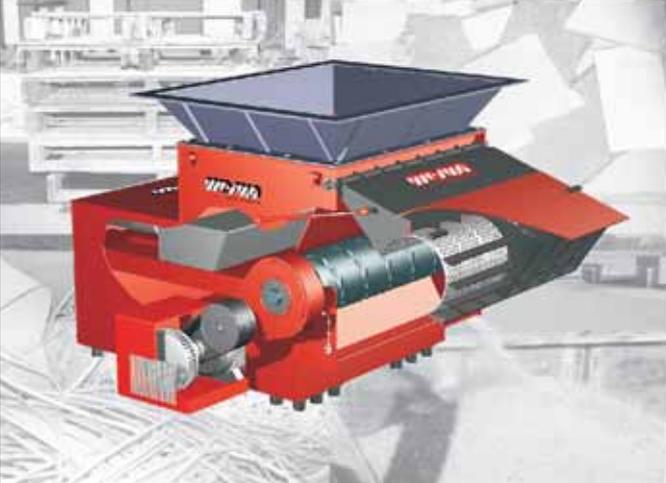
For information on correct bracing of trusses supporting valley sets, go to **Support Docs** at [www.sbcmag.info](http://www.sbcmag.info) for two Technical Q&A articles published in the April and May 2003 issues of **SBC**. **SBC**

*To pose a question for this column, call the WTCA technical department at 608/274-4849 or email [technicalqa@sbcmag.info](mailto:technicalqa@sbcmag.info).*



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