

How to Improve Saddle Stitched Book Quality with Better 16-page Signatures

by the staff of Tech-ni-fold
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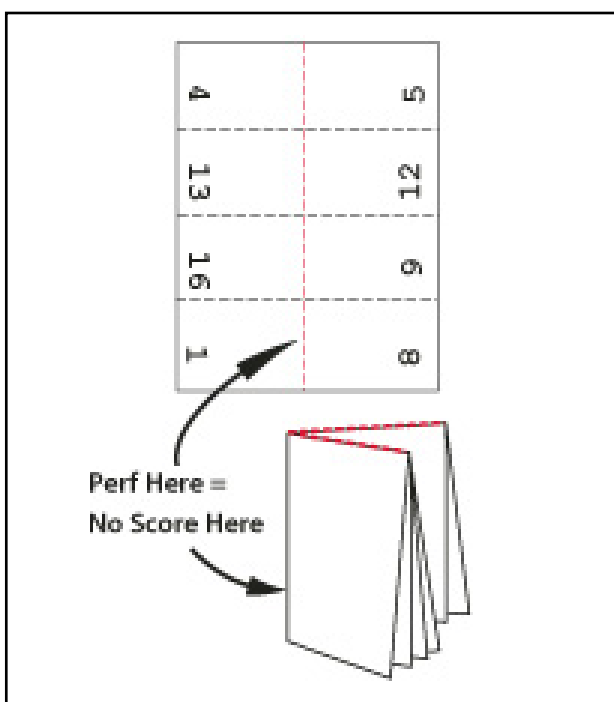


16 Page Signatures on My Folding Machine - What's the Best Technique?

A reader recently called in with this problem: the center spread of his saddle stitched book was falling out periodically. The center signature was a 16pp 8.5 x 11 and the question was *“how can we modify the score on the spine to prevent the center pages from falling out?”*

Here's my 2-part answer:

First: don't score the spine...it's almost never needed when running 16pp sigs (as shown in the diagram below) **as long as you perf the head of the signature.** (Yes, there may be exceptions to this, perhaps when running a 100# text with the spine against the grain.) The correct perf, typically a 12 or 16 tooth blade, will let out the air from the signature as it folds without letting it fall apart. Some



experimentation with perf blades is good to discover what works best with the stocks you run.

By perfering the head, the last fold in the 16pp section becomes as simple as folding a 4 pager. If you are skeptical and have “always scored the spine,” give this a try.

- It eliminates one more variable in the folding operation.
- It makes folding easier and more accurate with a lot less work.
- It speeds makeready.
- It makes troubleshooting FAR simpler. Revisiting my favorite rule of all time...the 80-20 rule...you'll find that using this technique, 80% of your troubleshooting problems with signature folding will now be confined to the main parallel section.

Second: the saddle stitcher could be the culprit. Very light stock is more susceptible to tearing. Compression could be a touch too tight, clinchers might be set slightly off, or the mechanism for transferring the book from the gathering chain to the trimmer infeed could be adding undue stress to the center spread.

The bottom line: eliminate that score with a perforation on the head and then if needed, double check the stitcher.

16 Page Signatures - 3 Folding Machine Tips for Perforating

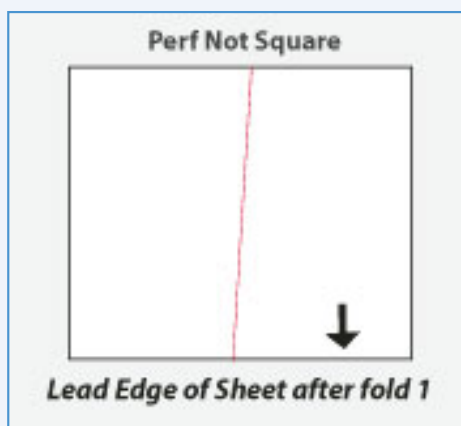
In this article we are going to discuss perforating to achieve high quality 16 page signatures (or any signature that uses a perf, including 32pp sigs.)

If perforating signatures is new to you, you might run across **three common problems**.

1. The perf is not square to the sheet
2. The perf 'tails off' or curves
3. The perf seems to bounce back and forth, seeming to change position side to side

Always check basic items first: fold roller calipers for correct number of sheets, fold roller and slitter shaft tension, side guide is square for sheet, and feeding and register is good.

What to Do When Basics Fail



When it all looks perfect but your **perforation is still crooked (but straight,) here's a fast and easy technique:** drop (or raise) one side of an unused fold plate on the side of the sheet that needs to be slowed.

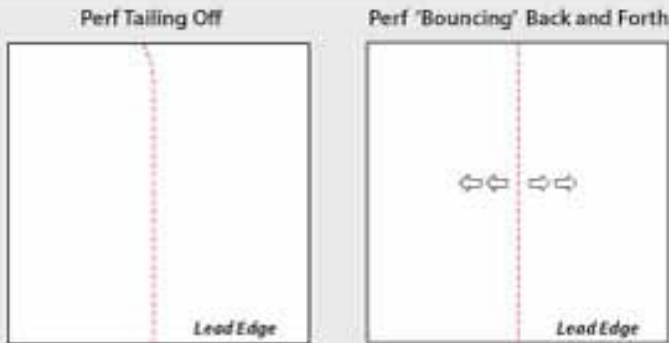
In the example at left, the left side is traveling faster than the right through the fold rollers (hence the perf angled to the right) so you need to slow the left side. If folding takes place in plate no. 1, then you can pull out the left side of fold plate 2, 3 or 4 a small amount, say 1/16" to start. (If folding in plate no. 2, then only plates 3 or 4 can be adjusted.)

Make small adjustments, checking the sheet after each adjustment. You may find that making smaller adjustments to 2 or 3 plates gives more consistent results than making one large adjustment to one plate.

Problem #2, the perforation 'tailing off' as shown on the next page, has a counter-intuitive solution. Use **fewer pull out wheels** (gripper rollers) on the slitter shaft-or use none at all on top with just a few... **continued on next page**

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Perforation "tailing off"



...on the bottom to support the sheet as it exits the slitter shafts. Also check that the perf blade is running in the correct direction if it has angled teeth. Usually the bevel side of the perf blade faces the next fold section. Ensure that the perf blade holder is mounted on the shaft correctly, so that shaft rotation doesn't loosen the collar.

Problem #3 is likely the result of an inconsistent, out-of-square fold. Note: if you set the job to fold at a slight angle to compensate for a crooked sheet or crooked printing, that's OK as long as every sheet comes out the same. It's the bouncing around that will give you fits with perforating.

Folding machine mis-register like this has many possible causes:

- poor feeding
- the side lay being too far away from the sheet
- side guide marbles too heavy or too light
- crooked paper
- static
- rollers poorly set
- paper curl

We'll go into detail on these problems, and other bindery problems in our weekly Bindery Success Blog Posts.

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For now, the point is to make sure you've got the folding nailed first, before you go on a troubleshooting mission to nowhere.

I've seen operators waste loads of time trying to fix a perf that was 'bouncing' when the real culprit was an inconsistent fold, usually requiring a simple fix.

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