

Eliminating Gussets with

SurePerf^{TM *}

BLADES From



TKM United States, Inc.

The SurePerf blade from TKM United States will produce wrinkle free flat signatures on all types of paper stock, every job, every day. The age old problem of gussets can be laid to rest with this blade. We have learned that preventing gussets requires careful attention to detail and to the variables that occur within the press, folder and bundler areas of a web printing operation. The KEY to gusset free signatures is the perf blade. The SurePerf blade's patented design provides a starting point which, when combined with good work practices, will allow you to consistently produce gusset free signatures.

Our customers have found that the SurePerf blade produces flat signatures in tight square bundles with better delivery. They have also found that this blade significantly reduces the bundler adjustments needed on a day to day basis. When using machines that stack, our customers report improved delivery and stacking due to much flatter signatures. Additionally the bindery operations have become much more efficient with these flatter signatures. The SurePerf blade improves multiple aspects of the production process leading to a better product at lower costs.

NO GUSSETS, NO HASSLES, NO EXCUSES!

The set-up procedures described within this brochure are essential to getting the maximum benefit from the blade.

The design principles of the SurePerf blade produce many benefits:

- ◆ Eliminates gussets
- ◆ Satisfies demanding print buyers
- ◆ Is designed for multiple webs
- ◆ Increases efficiency in the bindery
- ◆ Reduces 4th corner flare
- ◆ Produces flatter signatures
- ◆ Allows for nose perf and better ribbon control
- ◆ Is designed to take advantage of bundler compression of signatures
- ◆ Is designed to work on different stocks of paper eliminating downtime and the changing of knives for each job

The reason gussets occur in multiple web and some single web applications is that the distance the paper travels on the outside radius of the signature's backbone is greater than the inside pages have room for. This paper has to go somewhere, and without the SurePerf blade, the paper bunches up on the inside of the signature as it tries to move away from the backbone. You should notice that with traditional cross perf blades the gussets occur where the notch or tie in the perf blade is located. With our blade the paper is free to move away from the backbone as the ties (area where the blade does not perf) actually twist and allow the paper to relax and flow towards the ends of the signature.

TROUBLESHOOTING FOR GUSSETS

The objective of running gusset free is to facilitate this tie twisting action mentioned above. If gussets are found there are two areas of concern that will not allow the ties to twist. These are the folder and the bundler.

Troubleshooting the Folder

- ◆ The flat side of the SurePerf blade should be in line with the tucker blade and the curved side inside the quarter fold. Time (rotate cylinder) the perf blade to the tucker blade so that "rollover" does not occur and in order to facilitate tie twisting action.
- ◆ Perf should be adjusted so that the ties closest to the backbone are staggered when the signature is folded.
- ◆ Chopper blade should be set as high as possible to avoid chopper gussets.
- ◆ The chopper blade and 1/4 fold crusher rollers must contact the head of the signature during the 1/4 fold action. **This is how the ties become twisted.**
- ◆ A thin line of water on the backbone should be used but too much causes a bad fold and water gussets.
- ◆ As the SurePerf blade and cutting rubber wear out, the ties increase in size, become too big, and will not twist. Replace blade and cutting rubber.

Troubleshooting the Bundler

- ◆ To keep the ties twisted and to allow for the inside pages to flow freely, we recommend that the signature go into the bundler backbone first. If this is not an option, open end first is OK. By going into the bundler head first the inside pages may not have freedom of movement and may hinder the twisting of the ties.
- ◆ Bundler crusher rollers should be used with very minimal pressure if at all.
- ◆ Lower belts on bundler must not be tight, or they will cause buckling. Do not run the belts directly on the head of the signature. This also reduces freedom of movement and the twisting of the ties.

This section deals with the proper settings of the SurePerf blade and adjustments that can be made to avoid breaking apart the head of the signature.

The SurePerf Blade is designed to be used in conjunction with a high quality hard cutting rubber (Urethane or Vulkollan 95 Durometer). The blade is designed to penetrate the cutting rubber 15 to 20 thousandths of an inch (0.015" to 0.020"). Most problems associated with break-apart can be traced back to a poor quality cutting rubber or an incorrect or skewed depth setting.

BREAK-APART TROUBLESHOOTING

These solutions are all part of a system of good work practices and a preventative maintenance program. More detailed instructions are inside this signature.

PROBLEM / SOLUTION

Break-apart on start-up

Blade too deep, or adjust tension control and reduce heat on start up.

Break-apart during run

Reduce heat and turn up silicone to moisten web. Check tension controls, rollers and shafts for bad bearings or air leakage at nips.

Break-apart at the end of the signature

Blade not square or cutting rubber not seated all the way into the slot.

Break-apart at nipping rings

Reduce nip pressure or enlarge the ties at the nip point.

Break-apart due to incorrect tucker blade and jaw setting

Time the tucker blade further away from solid or stationary jaw or reduce jaw pressure.

TKM United States sells a full line of consumable web press cutoff knives, slitters, perforators, jaw blades, tucker blades, cutting rubbers, folding pins, chopper blades and other consumable spare parts used on combination folders. We distribute the Rolf Meyer brand product line. Please contact us for a quote or for the name and number of your local distributor.

The logo for ROLF MEYER features the name in a bold, serif font. A blue triangle is positioned above the letter 'M', pointing downwards. The entire logo is enclosed within a double-lined rectangular border.

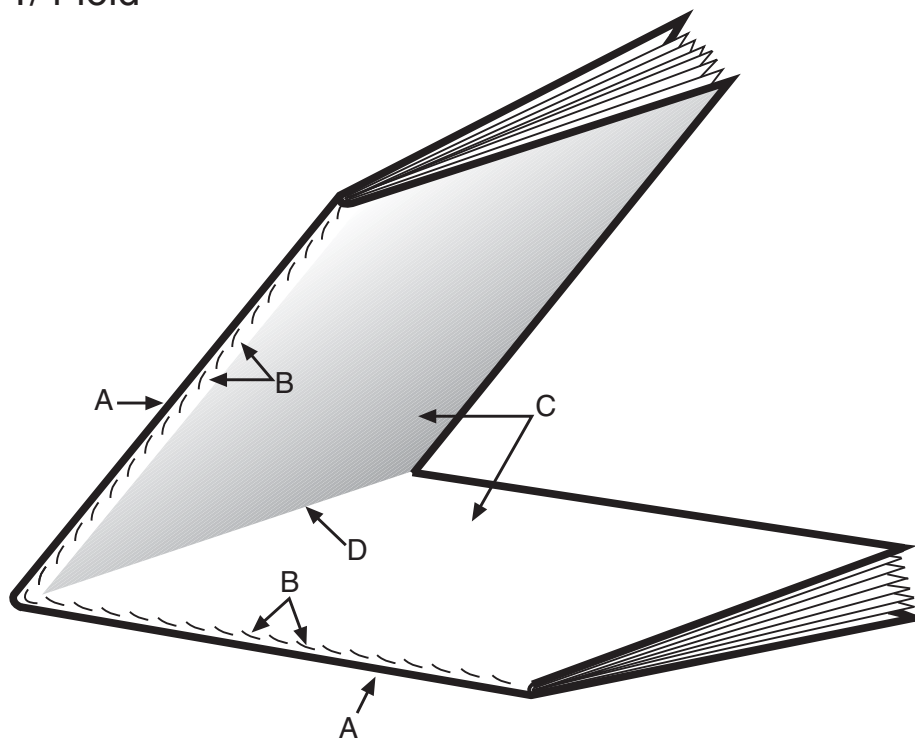
**CAUTION: When blade quits cutting -
REPLACE PERF & CUTTING RUBBER.**

Do not attempt to extend life by deepening perf or benefits will be lost.

Always use thin line of water down backbone!

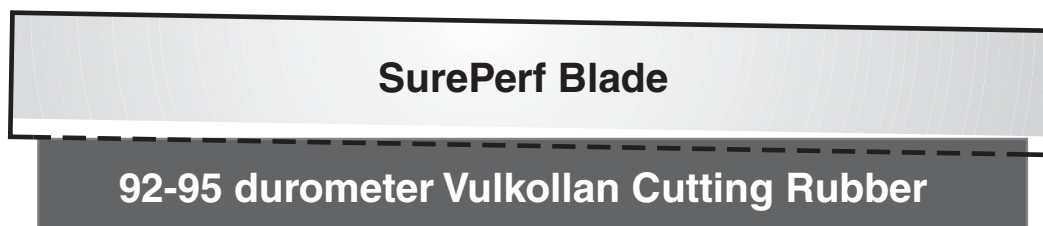
The SurePerf knife needs to be installed in the correct direction to work as designed. If the SurePerf is installed in the wrong directions it will not remove the gussets. The SurePerf has a flat side and a curved side. The flat side needs to be on the outside of the signature and the curved side needs to go towards the chop fold.

- A - Flat side of teeth and outside of signature
- B – Curved side of teeth and inside of signature
- C – inside of signature
- D – chop or 1/4 fold



The SurePerf knife **MUST** be square to the cutting rubber.

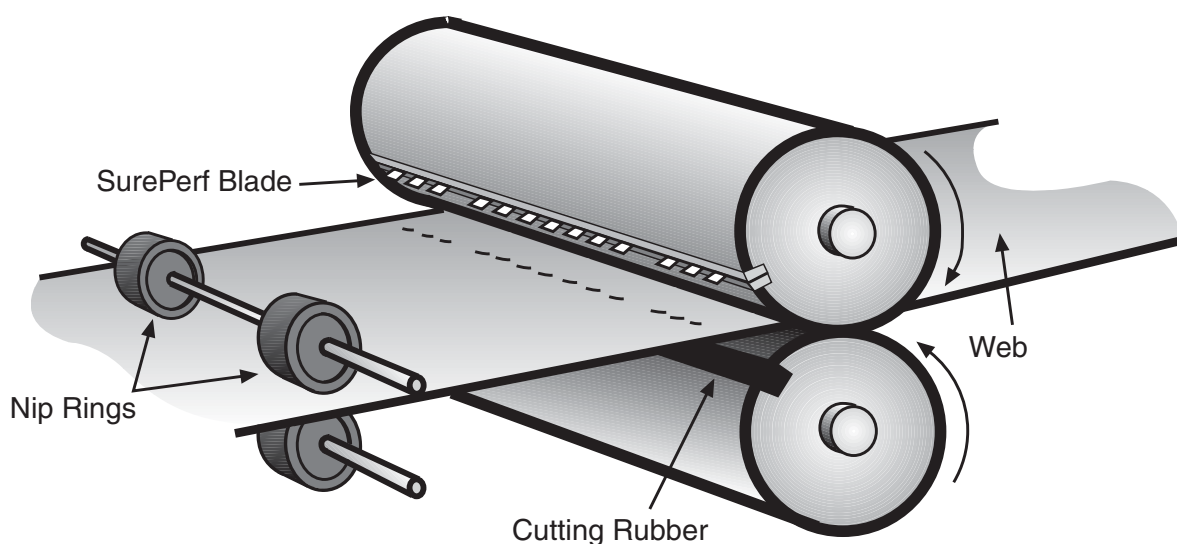
AVOID THIS CONDITION! →



The SurePerf should penetrate the rubber 0.015" to 0.020" (0.4 to 0.5mm).

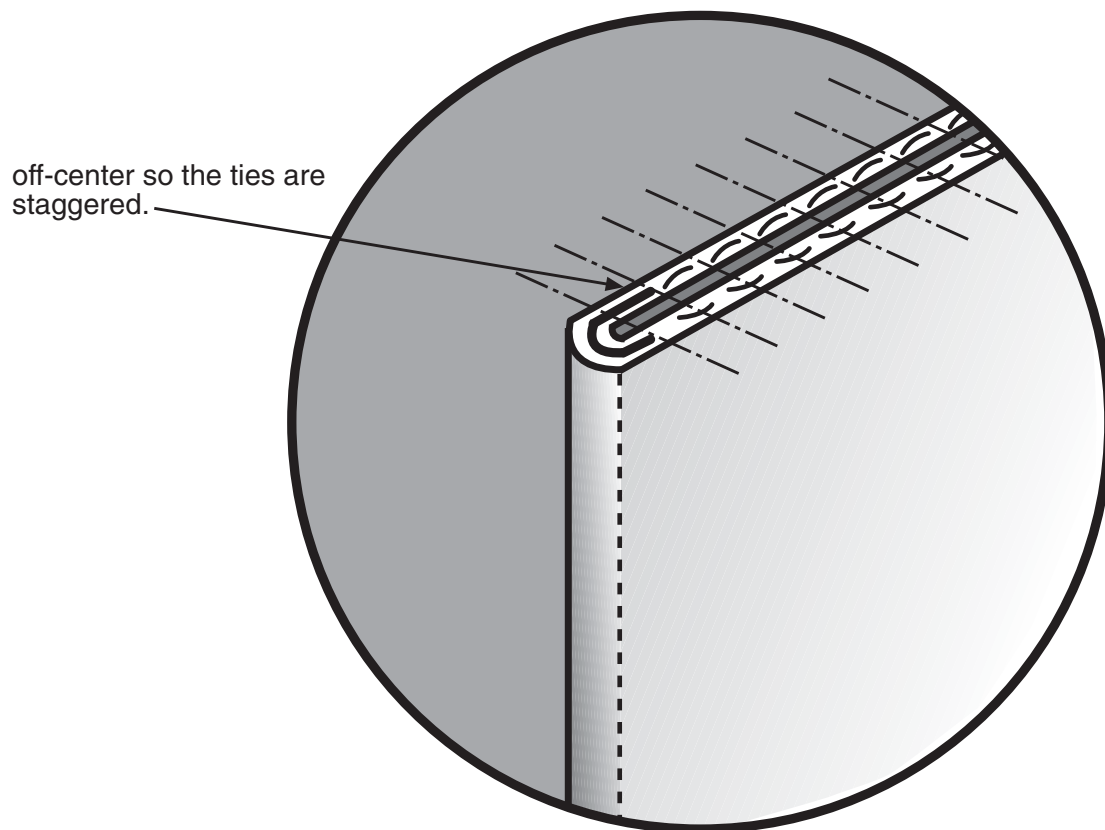
If the tension or gain in the nipping rollers is tearing the head open, a small widening of the ties in the SurePerf may be needed. Only make this adjustment after you are sure that the depth setting of the SurePerf blade into the cutting rubber is correct.

To make the adjustment, slightly enlarge the ties of the SurePerf only where the nip rings are running and where they are breaking the head open.

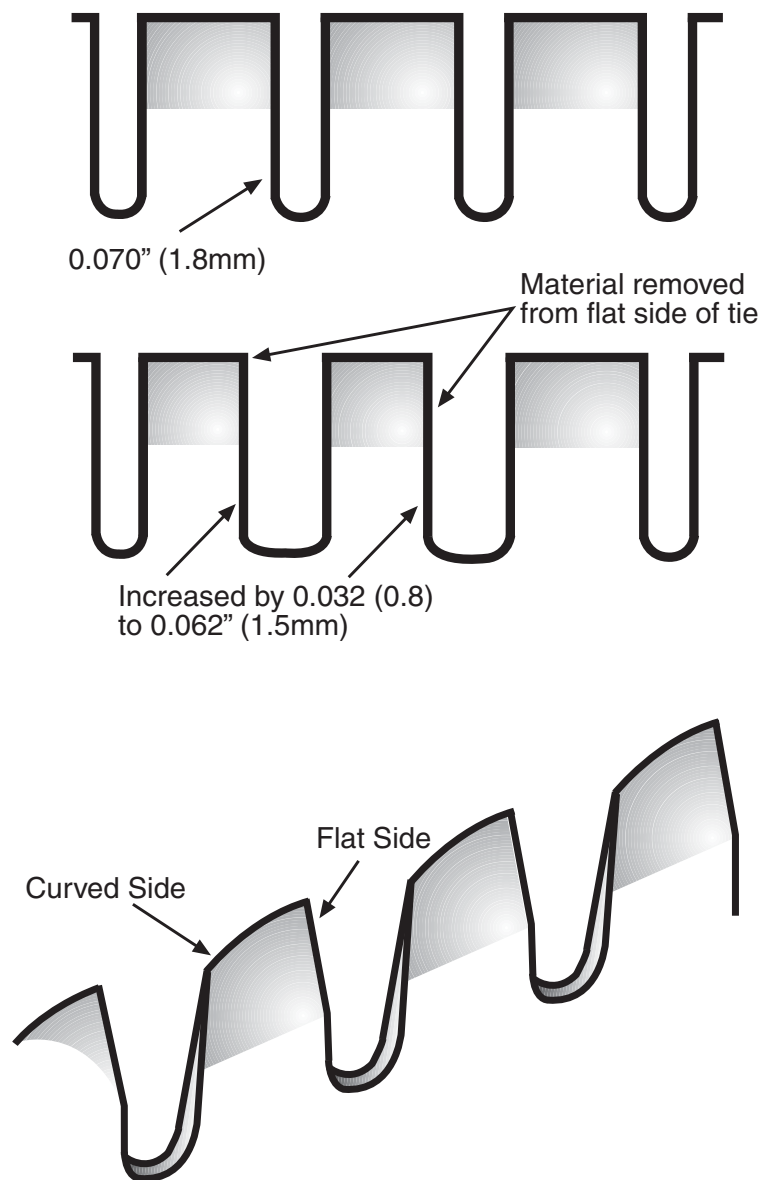


For best results the ties should be staggered. Position the SurePerf blade off center so that the cuts and ties of the blade **do not** line up with each other when viewing the head of a folded signature. This allows the signature to relax in the bundler and for the inside pages to release away from the backbone of the signature.

The SurePerf blade has a center tooth. The center tooth should line up just off center from the backbone



The ties need to be adjusted properly if the SurePerf Blade is breaking apart or tearing the signature head at the nip rings. This is usually caused by too much ribbon gain in the nip rings. The large ties in a SurePerf blade are approximately 1/16" wide and these wide ties are the only ones that can be increased. The ties can only be enlarged where the nips are running and should only be increased a minimal amount to eliminate the tear. The tie can only be adjusted on the flat side of the tooth. Do not adjust the tie on the curved side of the tooth.



SurePerf setting gauges
are also available.
Ask us for details.

The objective of using a SurePerf blade is to eliminate gussets completely. To accomplish this goal, good work habits and preventive maintenance must be kept in mind at all times.

The SurePerf blade must be used in conjunction with a high quality Urethane or Vulkollan cutting rubber with a Shore Hardness of 92-95 Durometer.

The SurePerf blade must be adjusted so that the depth of penetration into the cutting rubber is between 0.015" and 0.020" (0.4-0.5mm).

We can not stress too much the importance of these instructions. Nearly every successful installation of this product is because the two requirements above were followed and the printer was committed to eliminating gussets. Conversely, most difficulties in getting the blade to work as designed are due to the fact that an incorrect or poor quality cutting rubber was used or the depth of penetration was not correct.

Once you are determined to eliminate gussets, are willing to use good quality cutting rubbers designed to work with our blade, and are able to adjust the knife depth into the cutting rubber correctly, you simply need to follow these other guidelines and you will be on your way to satisfying your customers with consistent high quality signatures.

First Time Installation

- ◆ Install new SurePerf blade and new foam cheeks. The SurePerf Blade should sit slightly below the foam cheeks.
- ◆ If the knife box is old and dinged up it would be a good time to thoroughly clean and deburr it. The knife height adjusting screws need to move freely in order to get the proper depth setting into the cutting rubber.
- ◆ Install a new high quality cutting rubber 95 durometer. Make sure the slot that the cutting rubber goes into is free from burrs so that the rubber fits completely into the slot and parallel to the knife.
- ◆ Make sure that the curved side of the SurePerf teeth are inside the Signature.

For orders or more information, phone or fax:

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