

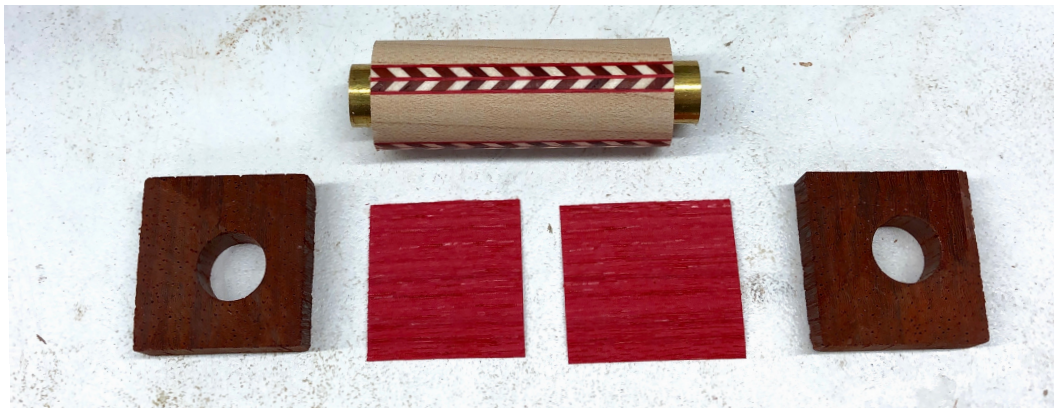
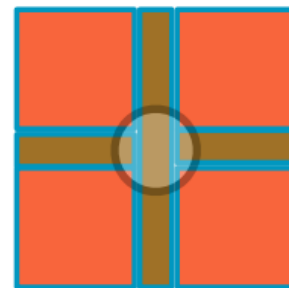


International Association of Penturners

Studies in Segmenting I: Design Considerations

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In this introductory article, I will present some considerations in designing the layout of a segmented blank. As always, these are my thoughts only, resulting from my own trial-and-error journey. There are certainly many other factors that will become evident to you as you explore this topic. For experienced segmenters, some of this will be fairly basic, for those new to segmenting it will get you started - Have FUN!

1. Designs that reduce their dimensions as they are turned down.
2. Designs that retain some dimensions as they are turned down (2-sided designs).
3. Designs that retain their dimensions on all sides.
4. Avoiding tapers in between your design elements.
5. Centering designs on the tube.
6. Designs that include end veneers, trim rings and end caps when appropriate.

Let's work through these issues.

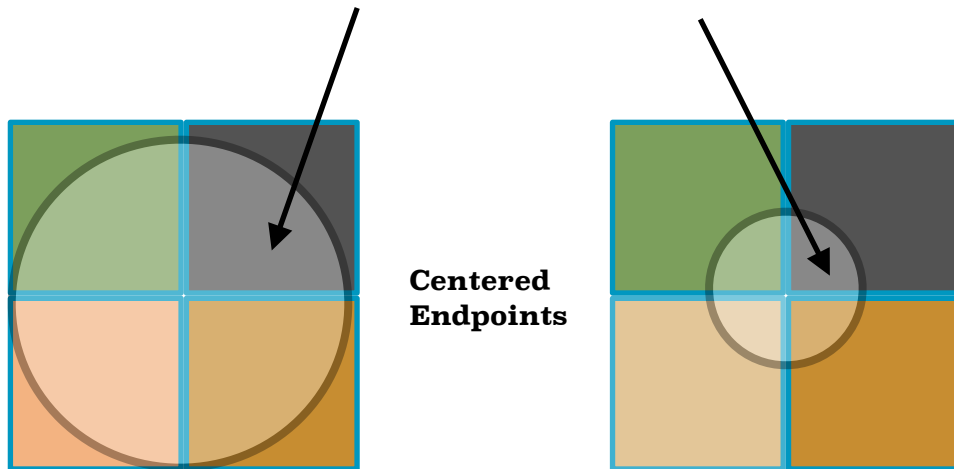
1. Designs that reduce their dimensions as they are turned down.

If you construct a "Castle/Brick" style blank (as well as others), the "pattern" will be reduced from the initial blank, down to the final bushing size. There is nothing wrong with this, but the eventual design is not truly known until the final dimensions are obtained; although with experience you can anticipate the general appearance.



End View: As the full-size blank is turned down to the final bushing size the dimensions of the "pattern" becomes correspondingly smaller.

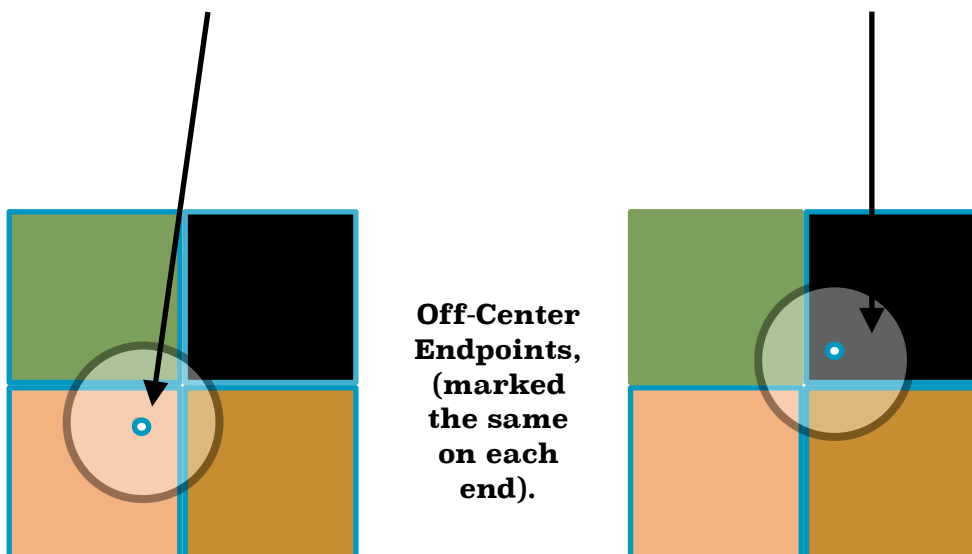
The corners remain equal but the dimensions get smaller.



However, some interesting design modifications are possible by simply shifting where you mark your ends prior to turning. From the same blank construction, you can have several different final appearances.

The corners are unequal as the end centers were shifted.
Same blank, different end centers, different final pattern.

What corner do you want emphasized?
Tan? Or Black?

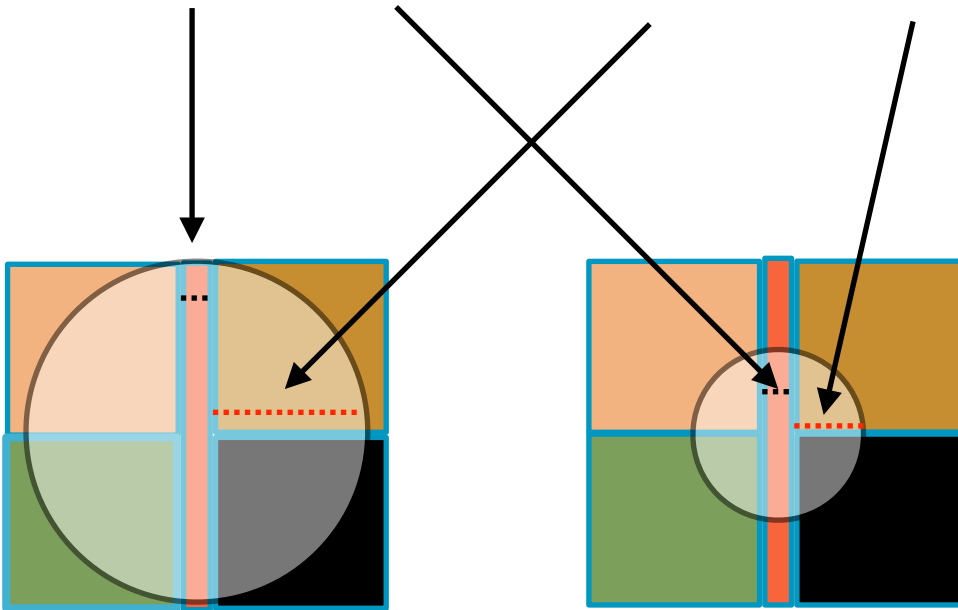


2. Designs that retain some dimensions as they are turned down (2-sided designs).

These blanks have a design/pattern that extends through the entire blank, and sides have been added which is what will change in dimension.

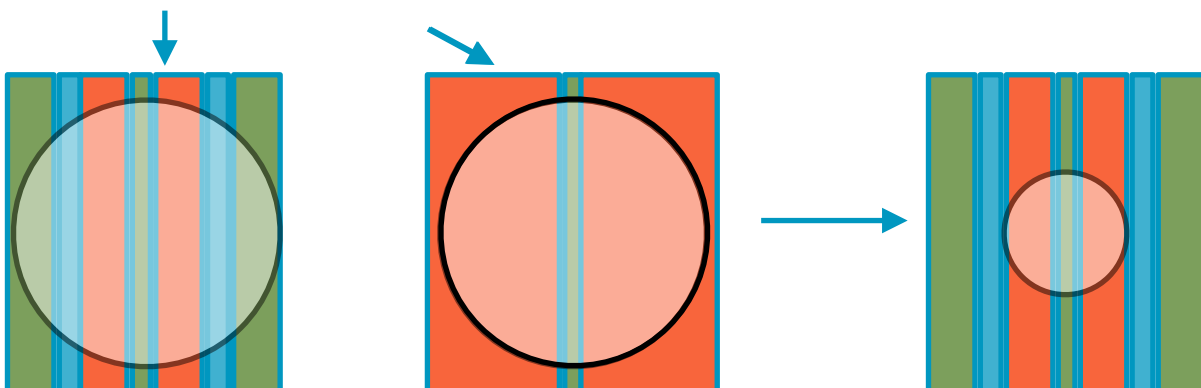
The design retains its dimension.
(The middle stripe).

The side corners lose proportion to the middle stripe.
(This is not a negative factor, just one you may want to consider).



In the three diagrams below, as before, the middle stripe will retain its dimensions while the sides will be turned down. In fact, most of the sides of your pretty blank will be totally gone. Keep in mind the final OD of your pen.

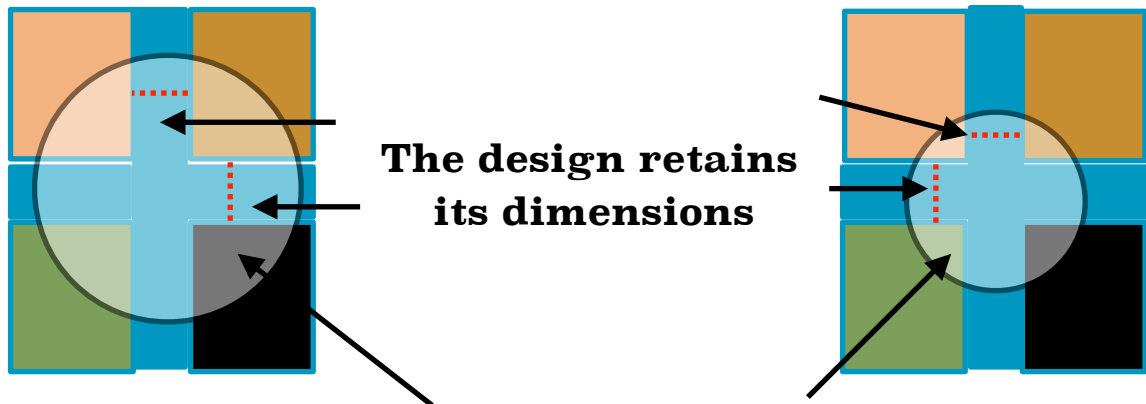
Both of these blanks will result in the final design on the right.



3. Designs that retain their dimensions on all sides.

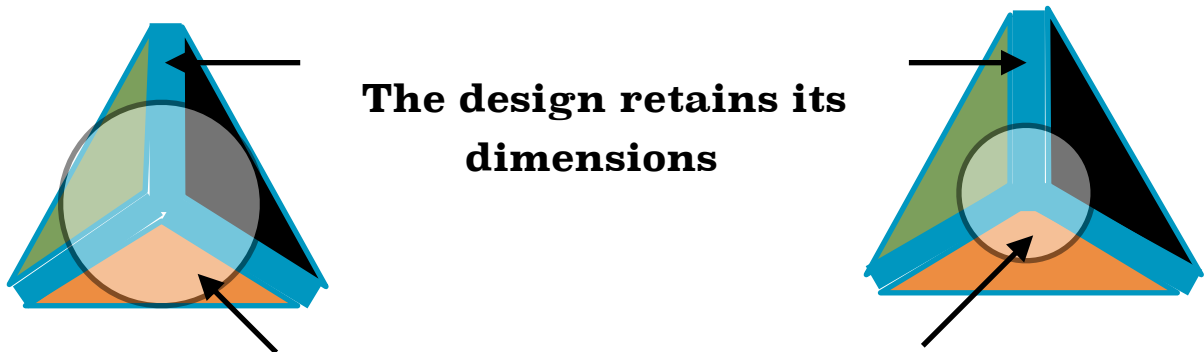
These blanks have a design element that extends from the outer side fully to the middle; inside of the tube hole. This allows the design dimensions to be retained on all sides as the blank is turned down to bushing size. I have used this extensively in my Chevron pens.

4-Sided Design



The corners still see a reduction in dimensions

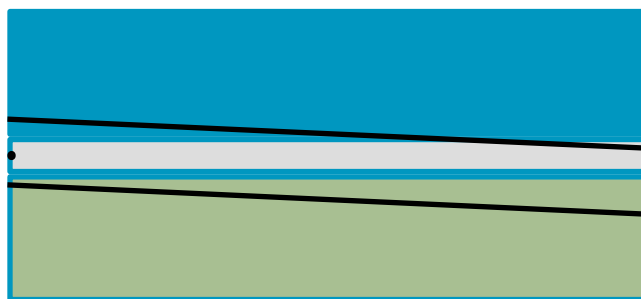
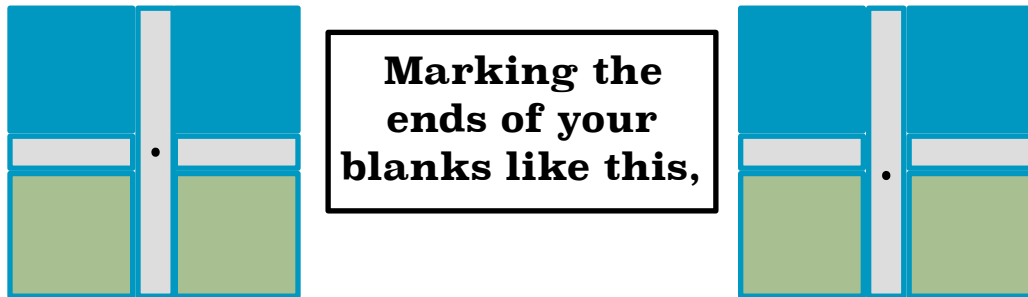
3-Sided Design



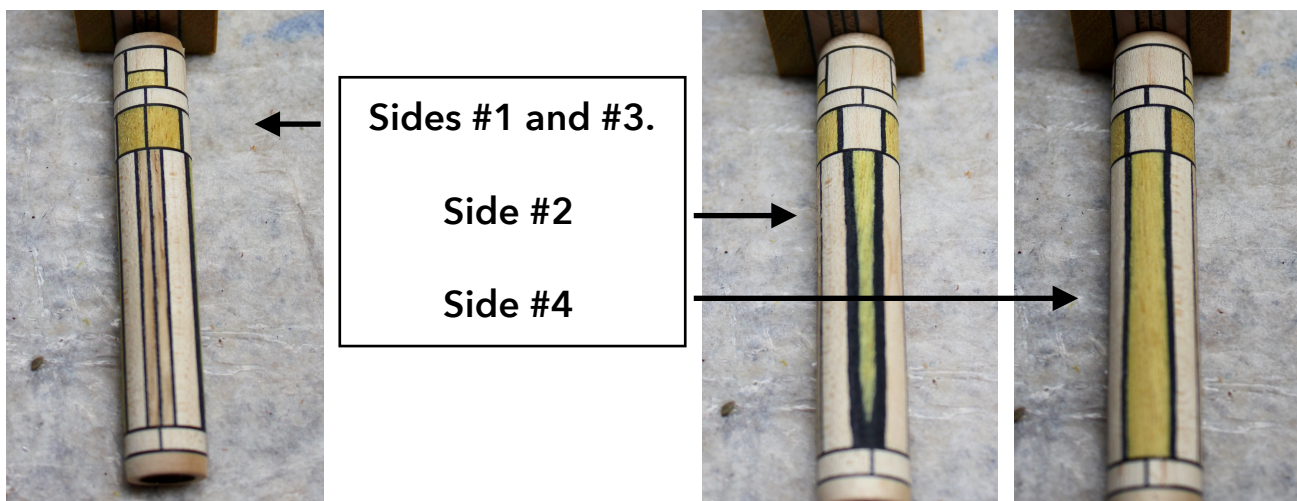
The corners still see a reduction in dimensions

4. Avoiding tapers in between your design elements.

Inaccurately marking the ends of your blank that has a design element that you wish to be symmetrical from end to end, will result in a taper in the corner pieces. The design will retain it's dimensions, but the secondary material in between will have a taper from end to end

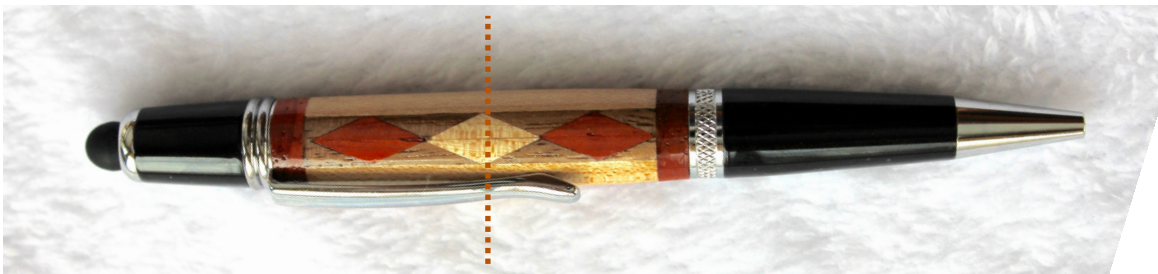


This is a good example of a promising blank that had the ends imprecisely marked.



5. Centering designs on the tube

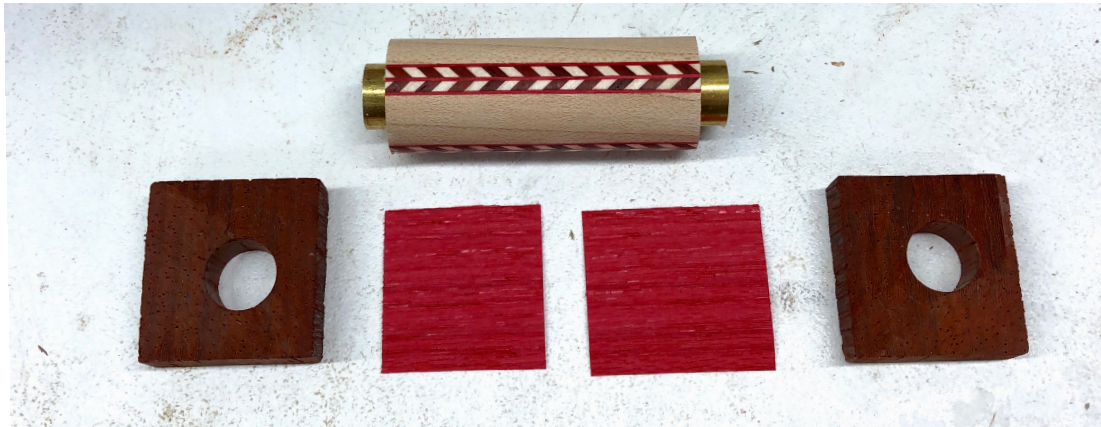
This is a design consideration that is more of a personal preference, but one that just appeals to my eye for symmetry. Whenever possible, I like for there to be a natural “middle” of my designs, and this “middle” is centered on the tube. This is even true for simple segmented blanks just with veneers and end caps. Here are some examples. My process for this will be shown in the next section (#6).



6. Designs that include veneers, end caps and trim rings.

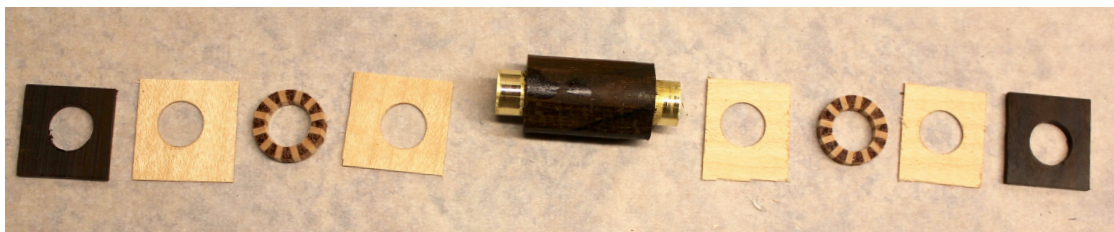
In conjunction to centering the design or middle blank on the tubes, I usually (but not always) include end caps and veneers. Again, this is just a personal preference.

The process for centering the designs/middle sections and adding veneers, trim rings and end caps is the same: Center and glue in the middle section on your tube, allow to dry, clean up any excess glue so a tight fit is obtained, add any end features you desire.





In this example, I have a fancy trim ring and three veneers for each end. The middle section has already been centered and glued onto the tube (2 part epoxy, let set overnight, and the ends cleaned up for excess dry epoxy to allow a clean fit). The black end caps are cut to be a bit proud of the tube, final milling to the tube is the same as all pens.



Some other variations.



This last picture displays some beautiful segmenting by Joe Schneider (Wood128) and it shows more examples of how to center the designs on your tubes, both with simple end caps or not. (Joe constructed the blanks, I centered the designs and added the end caps).

