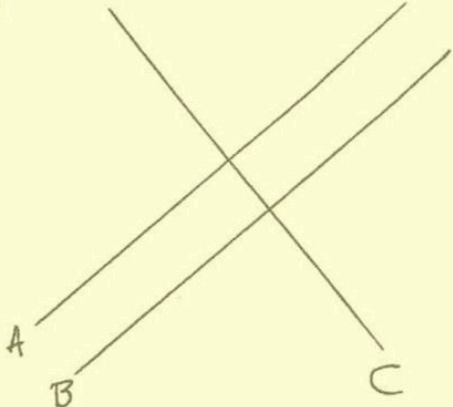**Multiple Thread Wraps 1**

The designs that have been discussed previously were all built from the basic X formed by the single crossover point of the layout thread going up and down the rod. Now, our crossover point(s) in the initial layout will have more than two threads. In the example below we have two threads going up the rod and only one thread coming down the rod. With these three layout threads we now have six DIRECTIONS that we can go with the threads. The choices for COLOR on A, B and C are numerous. The SEQUENCES that are possible are also numerous. In this example there are only sixteen listed, but several hundred possibilities exist if you want to take the time to try them all. Of the 16 that are listed only two of them are designs worth doing, as the others only turn out to be designs that have no impact or are mirror images of each other. By using your knowledge of the principles of building thread designs you should be able to pick out the most usable designs.

Can you tell which of the 16 sequences will produce a useful design?

**Multiple threads**

Sequences
  1. A, B, C -- right only
  2. A, B, C -- left only
  3. A, C -- right only; B -- right & left
  4. A, B -- right only; C -- right & left
  5. B, C -- right only; A -- right & left
  6. A -- right only; B, C -- right & left
 * 7. A -- right only; B -- left only; C -- right & left
  8. B -- right only; A, C -- right & left
  9. C -- right only; A, B -- right & left
 10. A, C -- left only; B -- right & left
 11. A, B -- left only; C -- right & left
 12. B, C -- left only; A -- right & left
 13. A -- left only; B, C -- right & left
 14. B -- left only; A, C -- right & left
 15. C -- left only; A, B -- right & left
 * 16. A, B, C -- right & left
 17. Many, many more combinations

Did you give up? The hint is the two asterisks to the left of the sequence number. Here is #7:
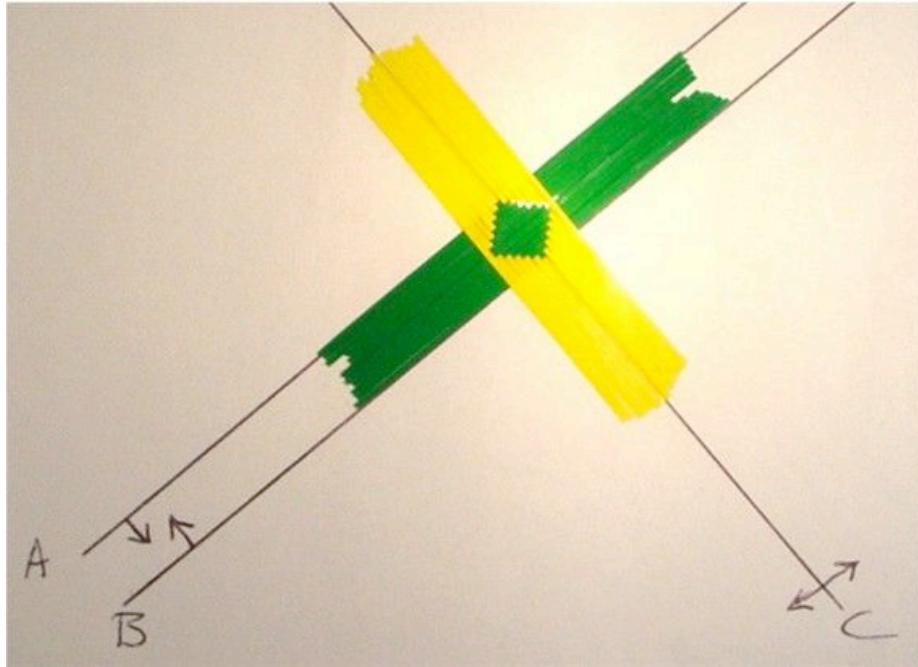
This gives you a square, single box.   The arrows point the direction to wrap.

Now take it one step further and add another thread so there are 3 threads going one way and still one thread going the opposite direction. In this example we still wrap inward on the two outer threads and on the middle thread we go both directions. Here is what happens then:
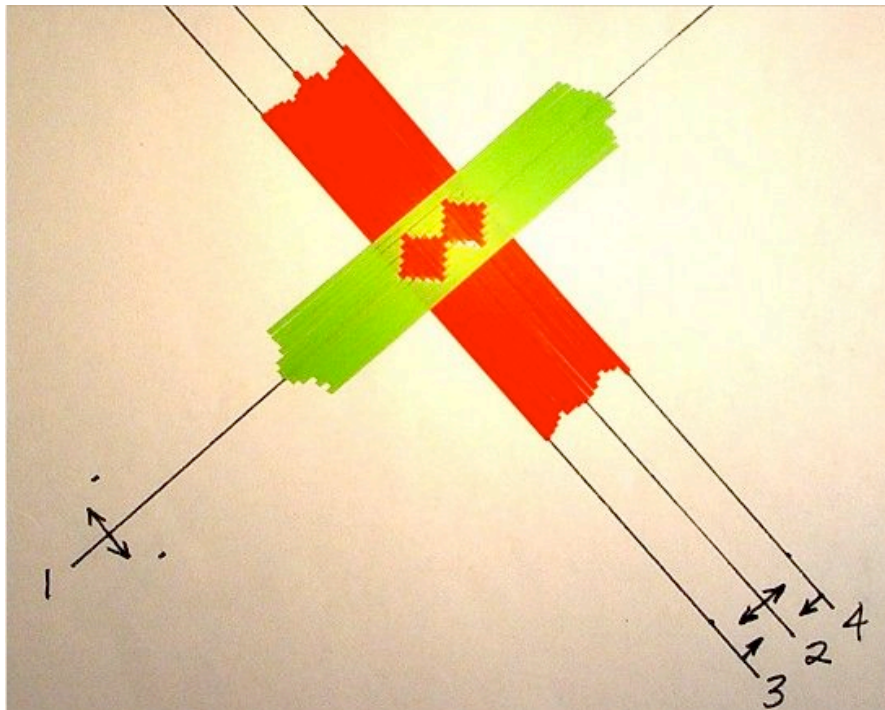
This method gives you double boxes.

Multiple Thread Wraps 2

From the previous three-thread layout and the sequences that were listed, #16 on the list is shown below. The wrap direction is both ways on all three layout threads.
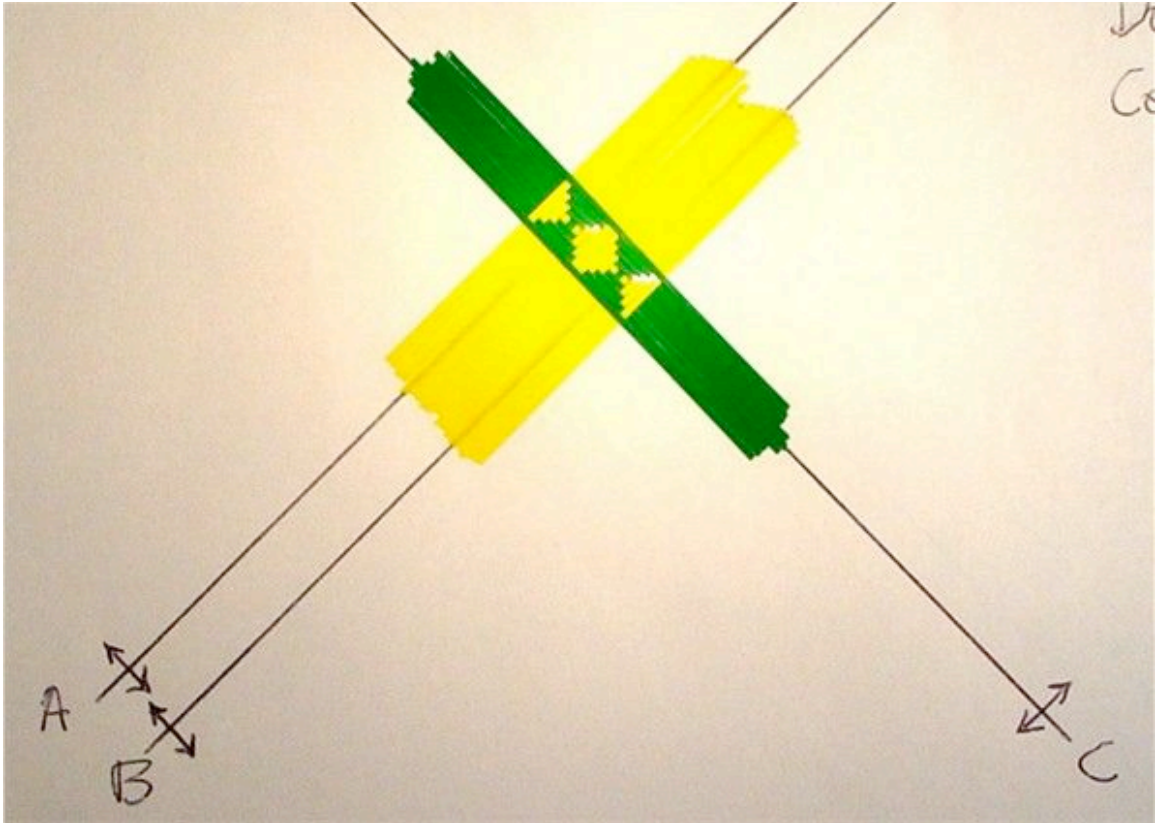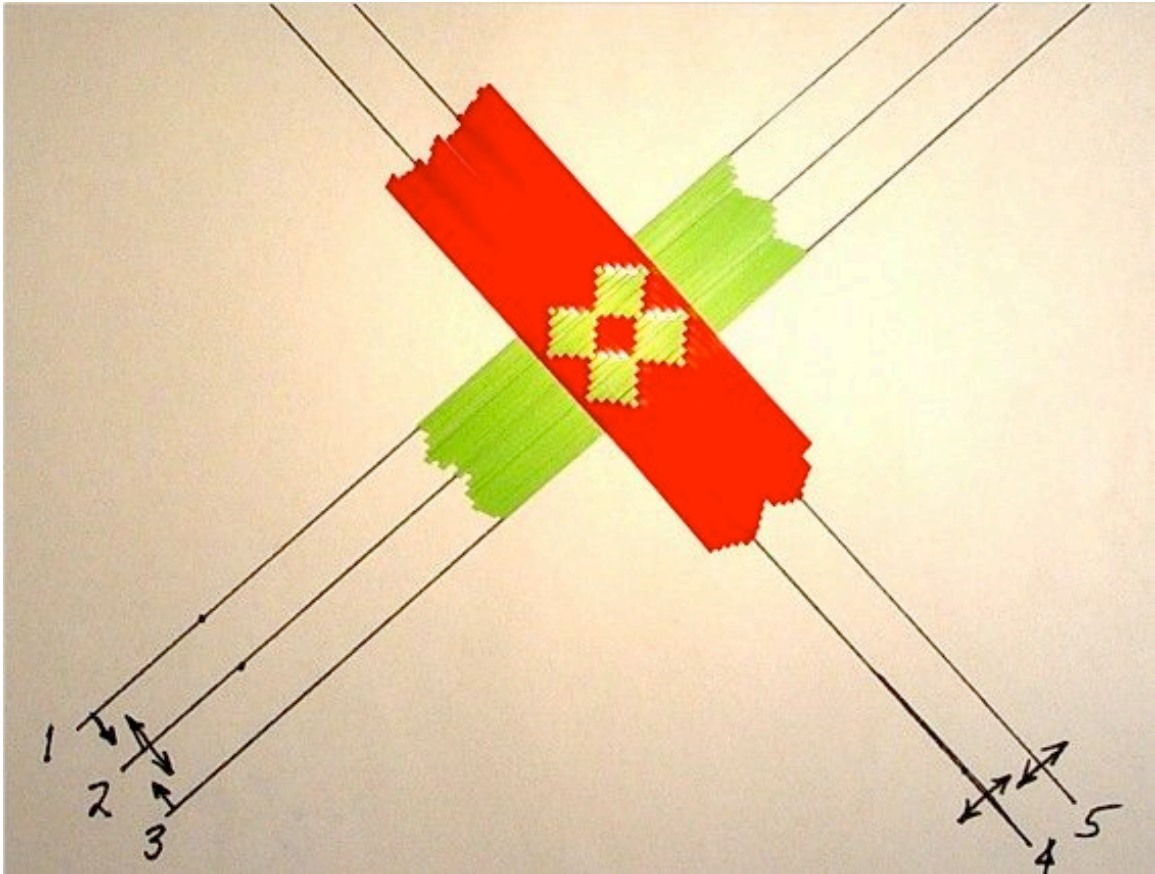

The center design is two split center diamonds. They are 4-way split center, but only two colors are used.

Using the same layout as the previous double box design, #7 from the original list, which was 3 threads one way and a single thread the opposite direction, by using two threads in the opposite direction gives this design:

This produces a 4 box or straight cross design.

Be sure to follow the direction arrows in making the design. In multiple thread designs threads must be placed and spaced properly and in a sequence that allows the pattern to develop. A good routine for wrapping these designs would be to place thread #1 up the rod, then #2 up, then #3 up, then #4 down and last #5 down the rod. These steps are called a pass, meaning a complete pass through all layout threads. The second pass would be 1 thread to the right of #1, left and right from #2 and left from #3 going up the rod. Then to finish this pass, one thread is placed right and left of #4 & #5 going down the rod. This second pass is repeated until the pattern closes.

Multiple Thread Wraps 3

Box Wraps
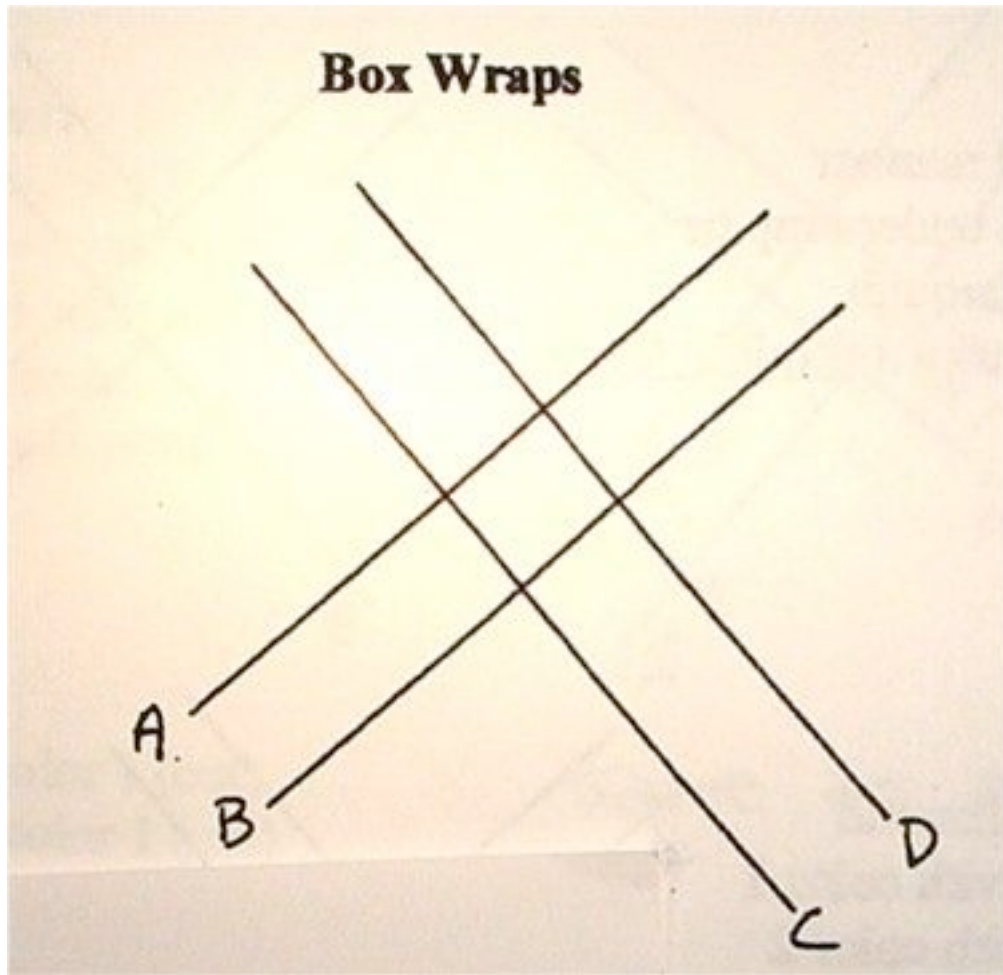
For the next several articles we will be looking at the various design possibilities made from this initial layout. Most of the patterns derived from this beginning are better if the layout threads are placed in a square alignment. From the previous discussions about designs starting from the basic X, in the box wrap layout there are four of the Xs, at the top, bottom, left and right. All of the previous principles of direction, colors and sequence can be applied to this box wrap layout. The first example is what is called a reverse diamond. Where a diamond is wrapped from inside out, the reverse diamond is wrapped from the outside in.
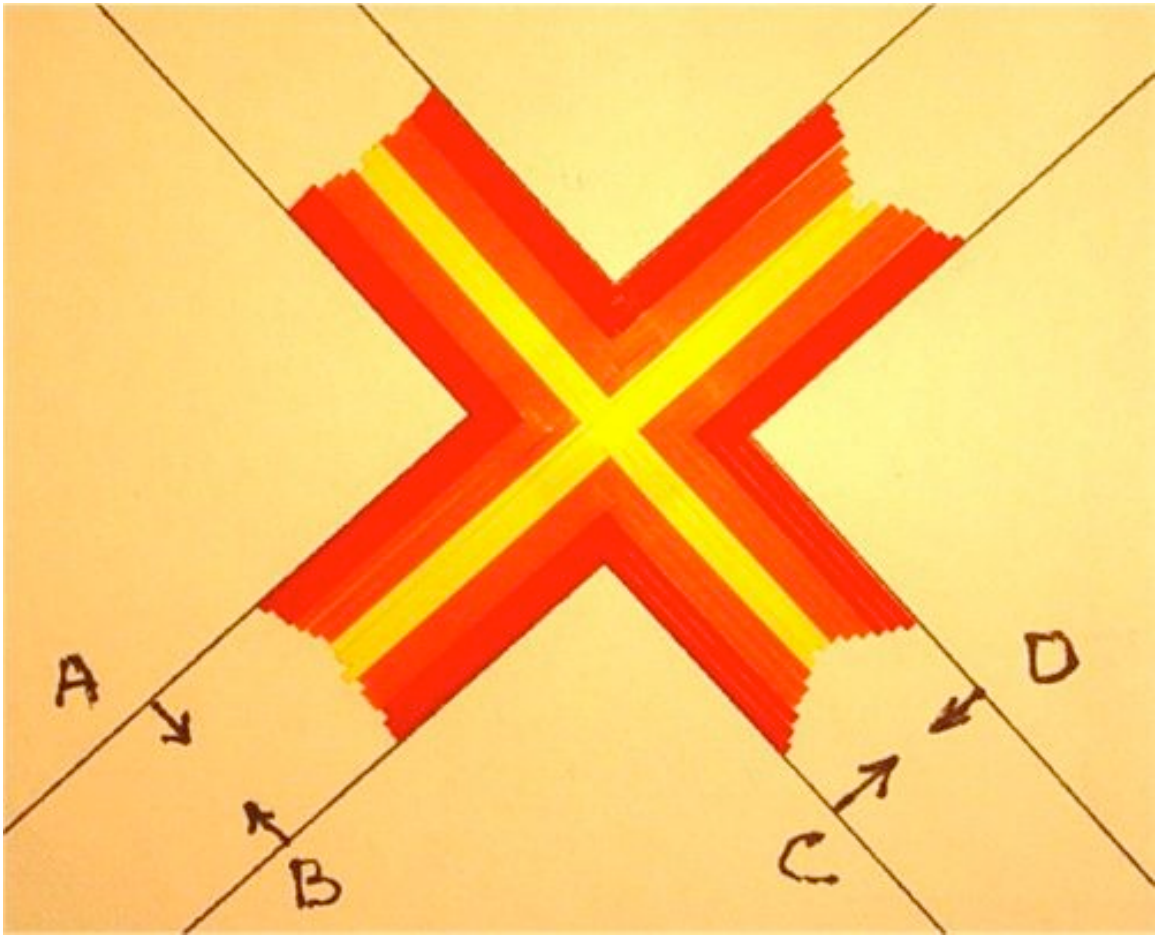
Multiple Thread Wraps 3
Continued
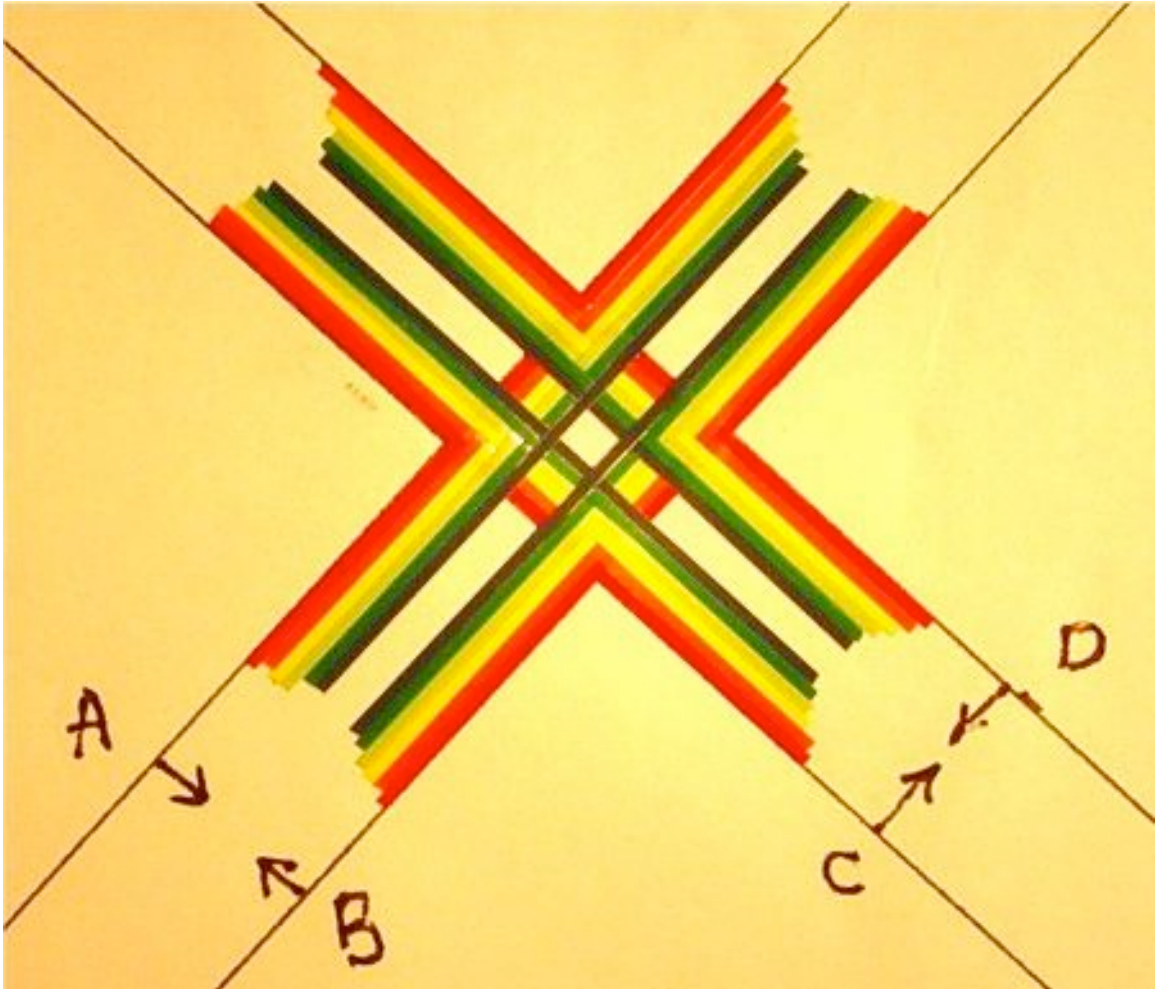
     Close examination of this pattern reveals four chevrons pointing at each other. If you leave this pattern open the rod blank color shows through the gaps in the design. This pattern has been used on the chrome shafts of golf clubs. If this sequence is continued until the threads all come together in the center, then you have a straight cross pattern as below.
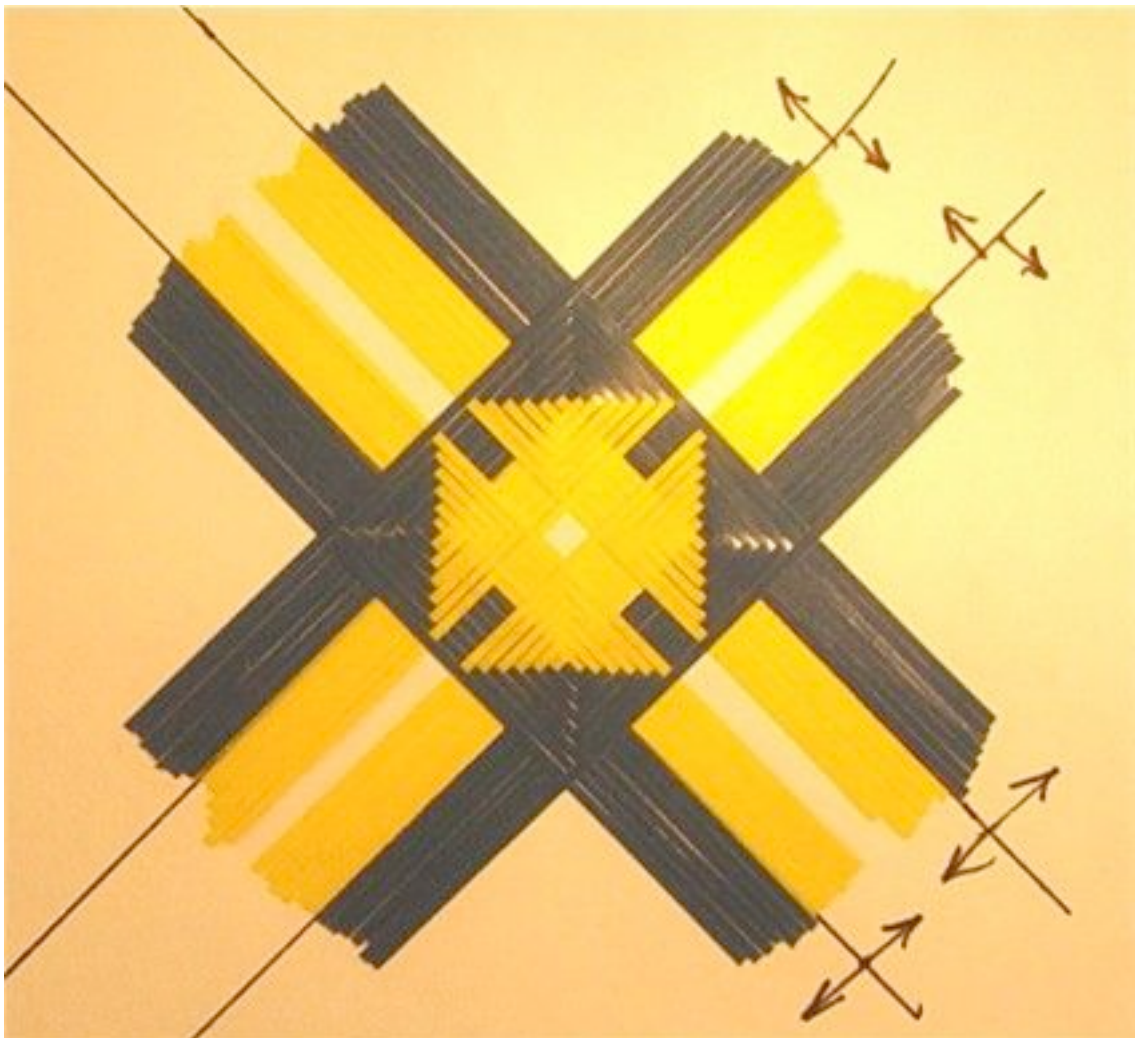
Multiple Thread Wraps 3
Continued

Take home lesson: as these multiple thread designs are being wrapped, keep your eye open to a pleasing design that may appear during the wrapping process. If it is appropriate, stop the design right there or proceed further to see what it turns into eventually.

Multiple Thread Wraps 4

This pattern is called the Maltese or Iron Cross. It is made by wrapping out from the box with color #1 and in from the box with color #2. If you want the center of the pattern closed then start by wrapping a small diamond of color #2 in the center of the box, then begin the wrapping sequence above. Look at the pattern closely and see that it is made up of four diamonds, one on each corner. The top and bottom diamonds are split horizontally and the two side diamonds are split vertically. This is a good example of building a pattern from four simultaneously wrapped diamonds. This pattern is wrapped both ways from all four of the layout threads.

Other choices in wrapping this pattern are to use variable colors in the background color #1. Once the center design is completed, the background threads continue on in a diamond manner. Shading color #1 can produce a nice variable background for the Cross.

If color #2 is not stopped (at the Cross stage), but continued on to close the center of the wrap a square is obtained.

Multiple Thread Wraps 5
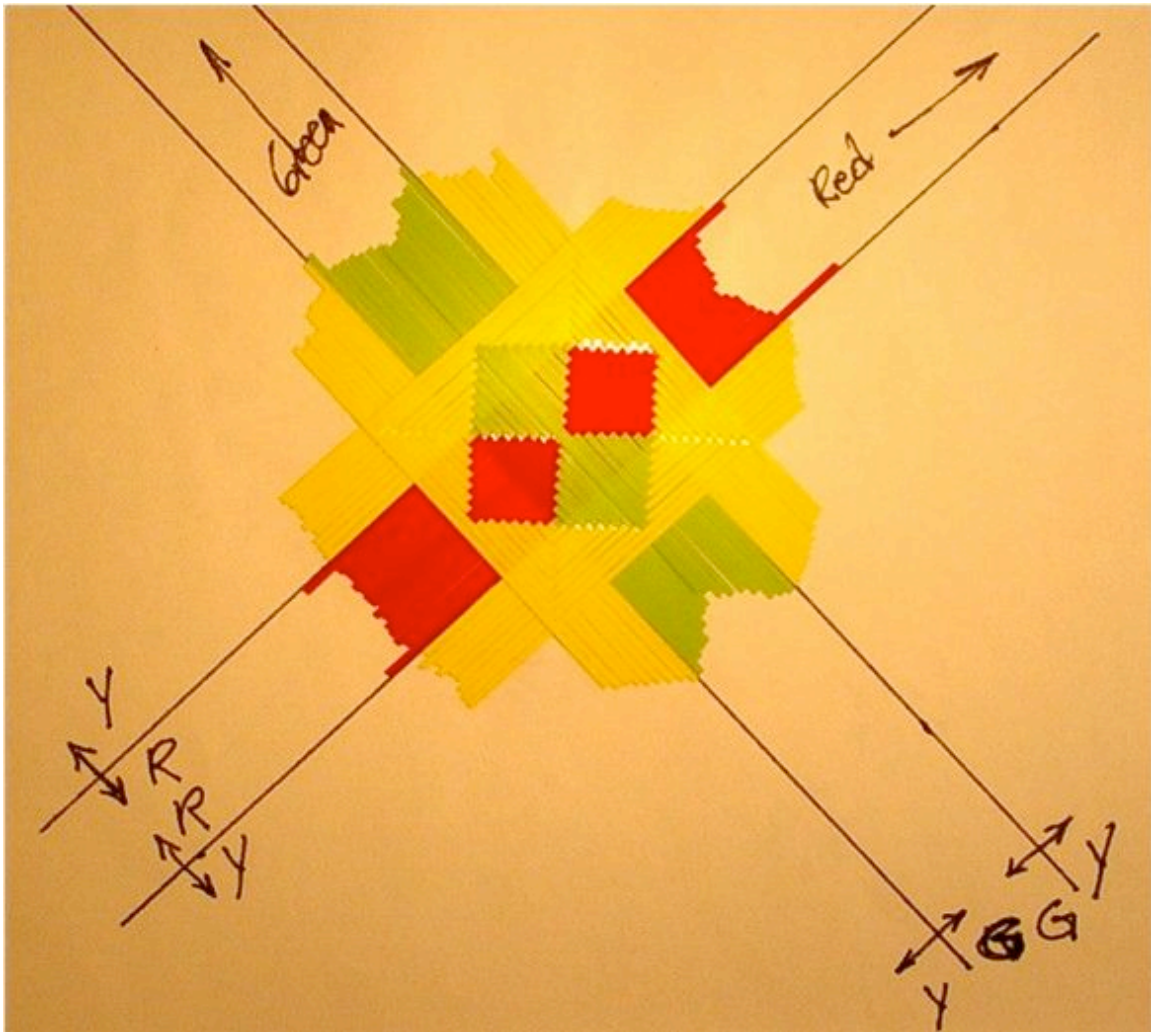
This pattern is called a Boxed Patch Wrap. The layout of the box plus the direction of the wraps is the same at the Maltese Cross because it is wrapped both directions from the four threads. The major difference from the Maltese Cross is that three colors are used and the sequence of the colors. This pattern is made by wrapping OUT from the box with color #1. Wrap IN from both threads of the box going up the rod with color #2. Wrap IN from both threads of the box coming down the rod with color #3. Wrap in from the box until the pattern closes, then finish the background by wrapping out from the box in a diamond wrap manner.

Using two different colors going up the rod and yet another two different colors coming down the rod can make variations to this design. This would make smaller boxes of four colors in the center of the pattern. The color being wrapped out from the box is the background color and a shaded effect could be used there.

This shows the variations in a pattern by just changing some colors and sequence of laying them.

Multiple Thread Wraps 6
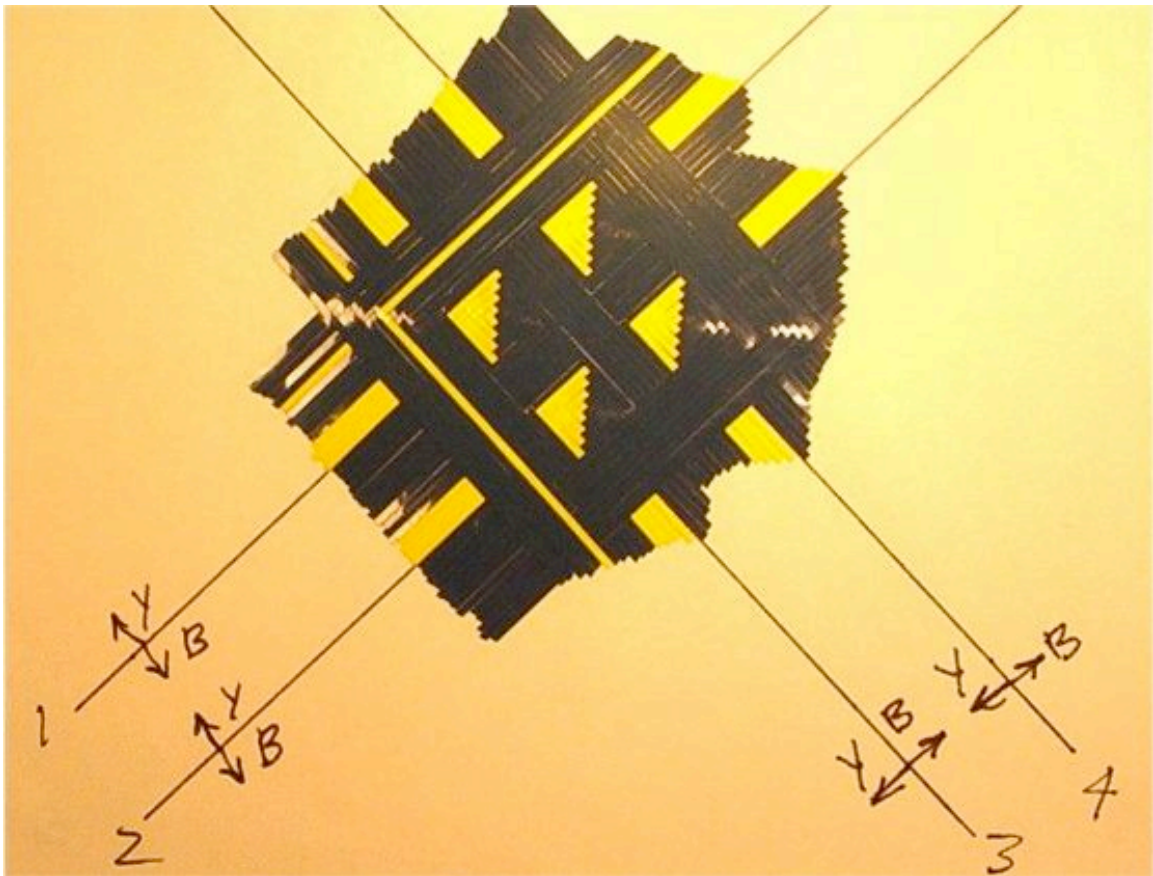
This pattern is called Jets. This box wrap layout and directions are the same as the Maltese Cross and the Boxed Patch Wrap. The difference from the others is the positioning of the colors and the sequence. Wrapping color #1 to the left of threads 1, 2, 3 and 4 makes the Jets. At the same time, color #2 is wrapped to the right of threads 1, 2, 3 and 4. Close observation will show that the Jets are made of four vertical split center diamonds. When the split center diamonds are built to the desired size, fill in around them with color #2 with an even border. A chevron highlight can be added with color #1 and another border around the whole design with color #2 will finish off the pattern. Other accents or embellishments can be added as desired.
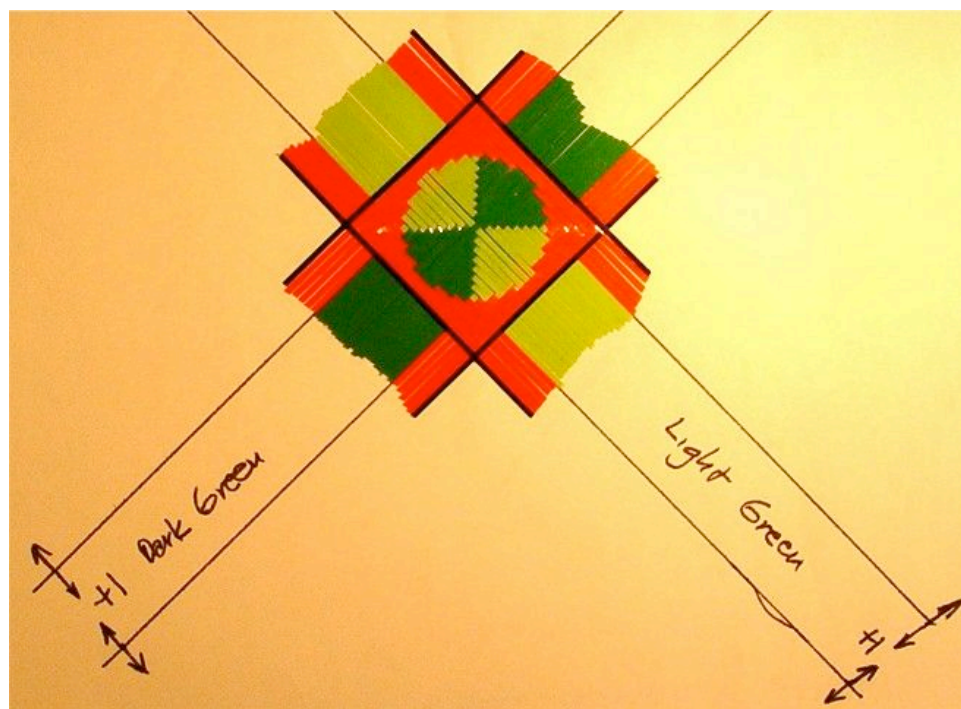
Multiple Thread Wraps 7
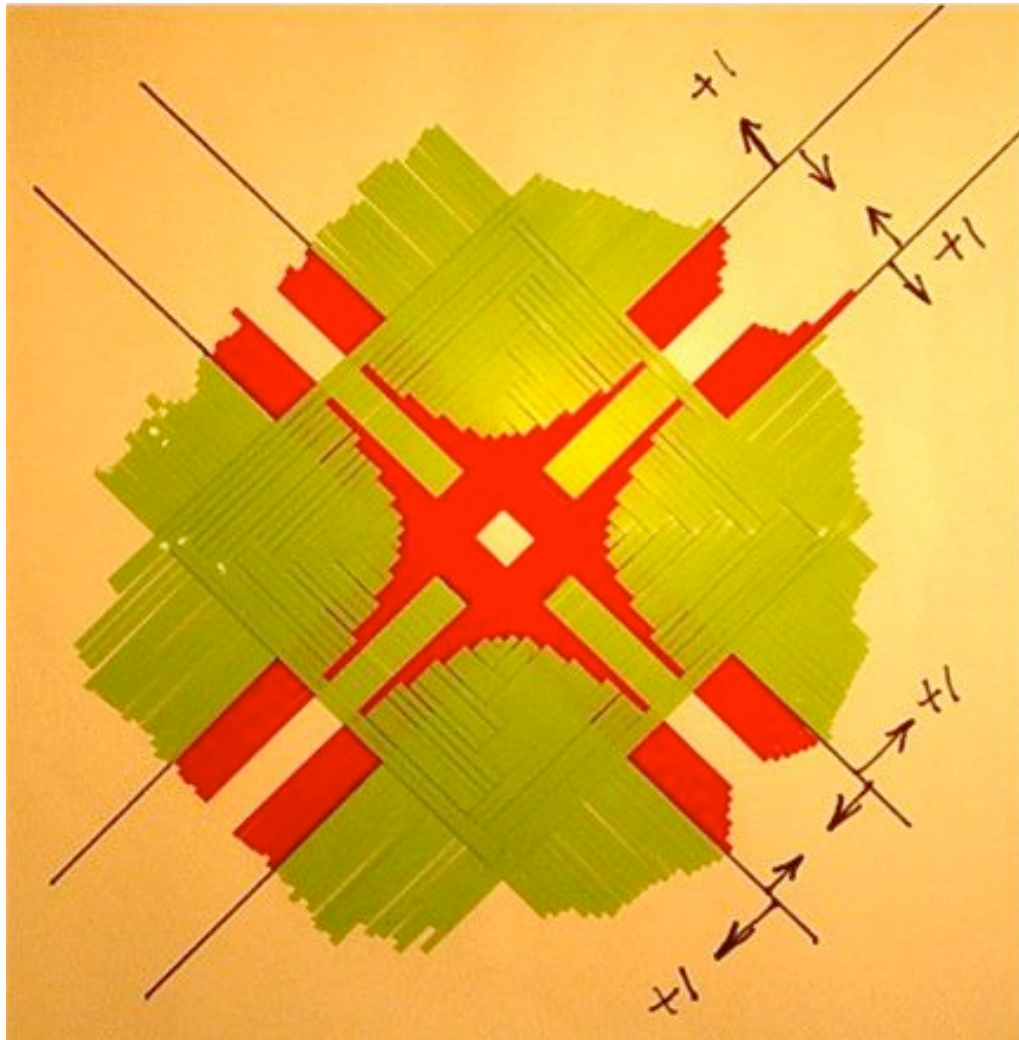
This pattern is called St. John's Cross. It is made from the same layout and directions as the Maltese Cross. The only difference in this pattern is in the sequence of thread used to create the design. The center can be left open as shown or filled in by starting a small diamond in the center of the box, then proceeding with the rest of the pattern. In this pattern a plus-1 sequence is used to create the curved portions of the cross. To make this pattern wrap each layout thread IN one thread at a time with Color #1, then wrap each layout thread OUT with a plus-1 sequence of color #2. The plus-1 sequence adds one more thread after each full pass around the pattern. The threads wrapped IN are stopped to leave the pattern open to make the cross. If the center threads were used to close the pattern a four-pointed star would be created.

This pattern and be varied by changing the background thread color (color #2). A shaded background looks good with this pattern. Since the background is one large diamond, four different colors can be used to build a 4-color background for the cross. I made this design once using white for the cross and red, yellow, green and blue for the background.

Multiple Thread Wraps 8
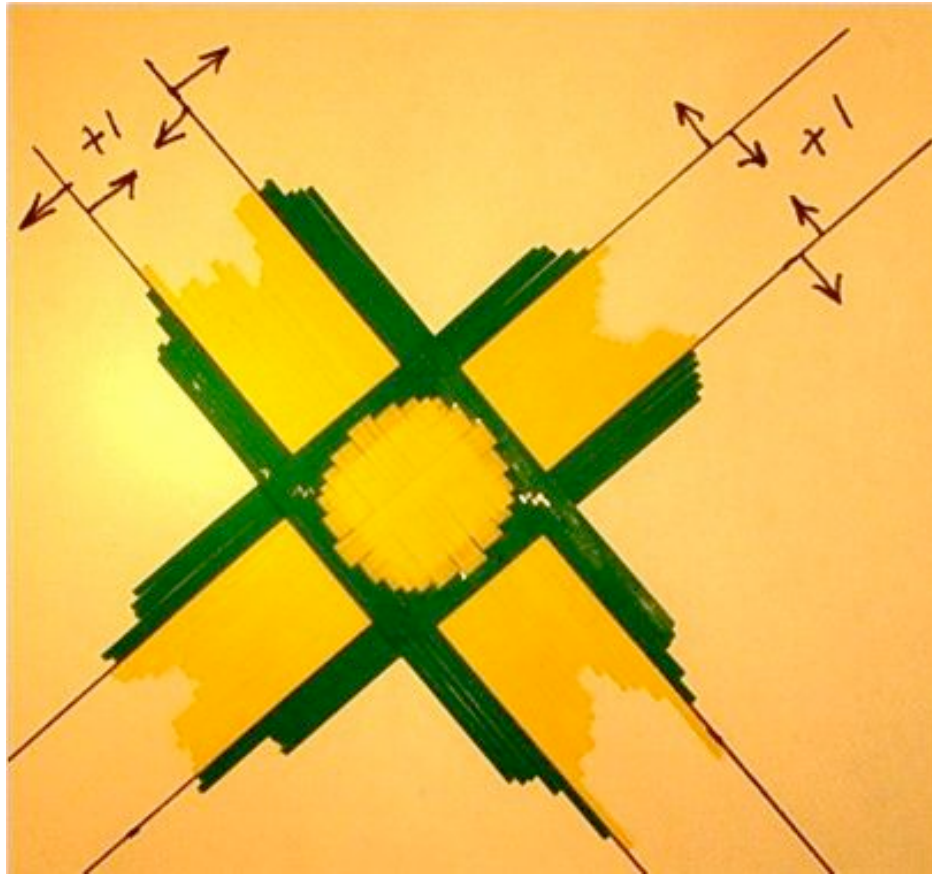
This pattern is a circle and is made from the box wrap layout using a plus-1 sequence. If the layout box is square a circle is made, but if the box is rectangular an oval is the resulting pattern. The sequence for this pattern is one thread wrapped OUT from the box and plus-1 thread sequence wrapped IN from the box. If different colors are used inside the box this is the result.
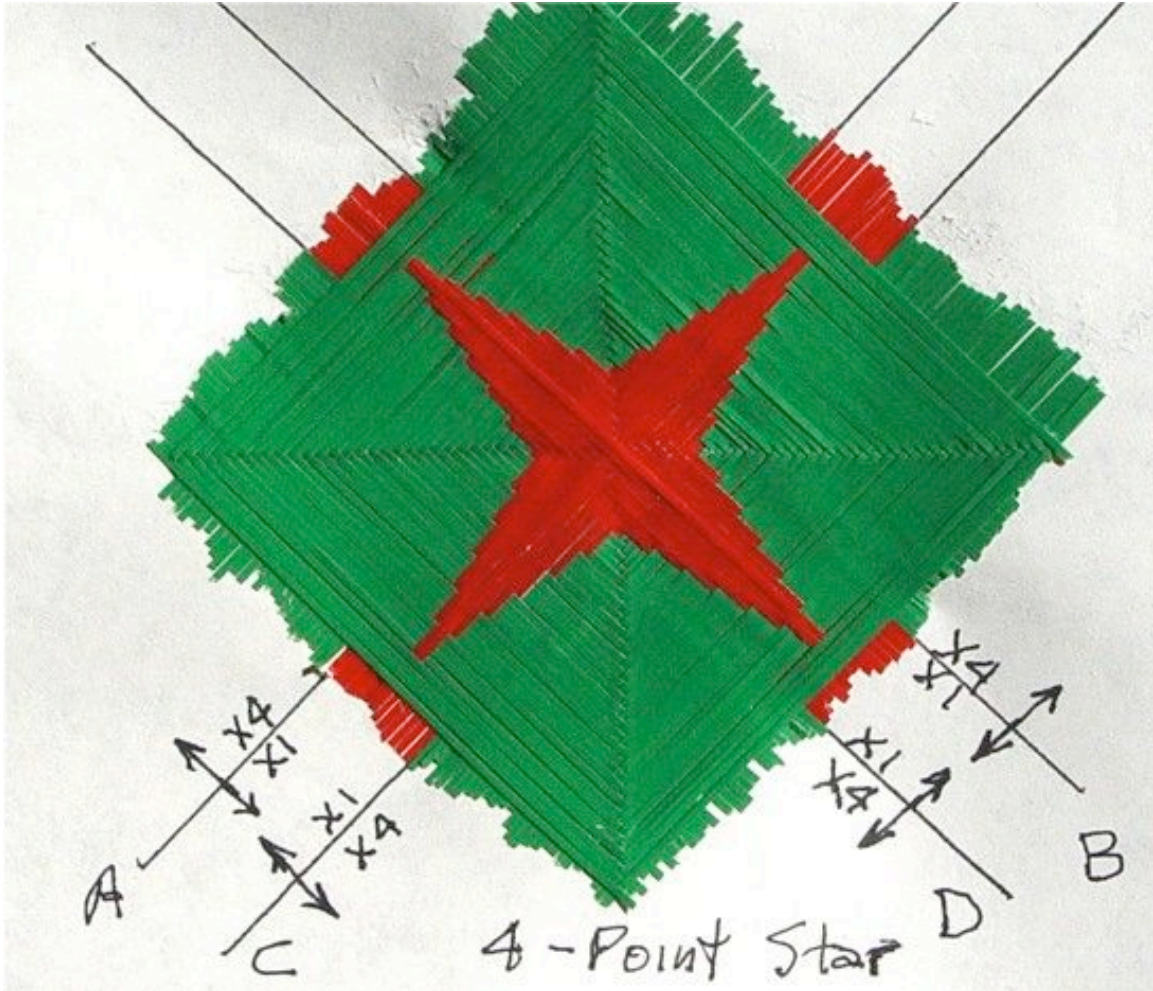
Multiple Thread Wraps 9
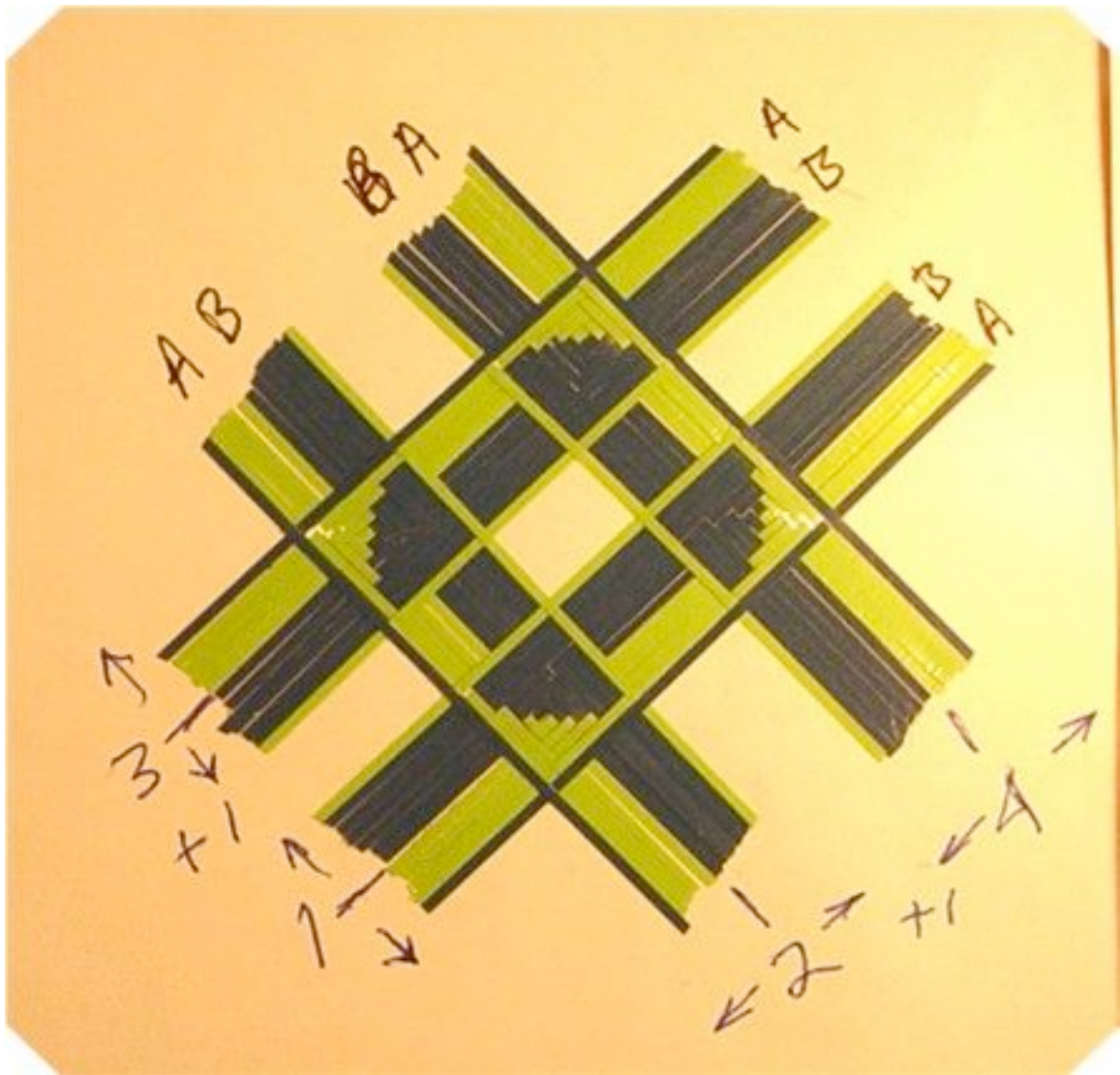
       This is a design that was started like a circle, but instead of finishing the circle, it was left open and a couple trim bands were added for emphasis. Many of the patterns have interesting and completely different looking designs when they are only partially completed.

4-Point Star

This pattern is created by starting with a box wrap layout, wrapping IN from all four threads with color #1, then wrapping OUT from all four threads with FOUR threads of color #2. This is a 4:1 ratio pattern. Interestingly enough, this is very similar to the Maltese Cross design except the Maltese Cross is wrapped with equal numbers IN and OUT of the box layout, while this 4:1 ratio design gives the 4-point star look. This is a good example of a SEQUENCE change to get another design. This is another pattern that gives a completely different, but nice pattern when the wrapping process is only one-half finished.

Multiple Thread Wraps 10
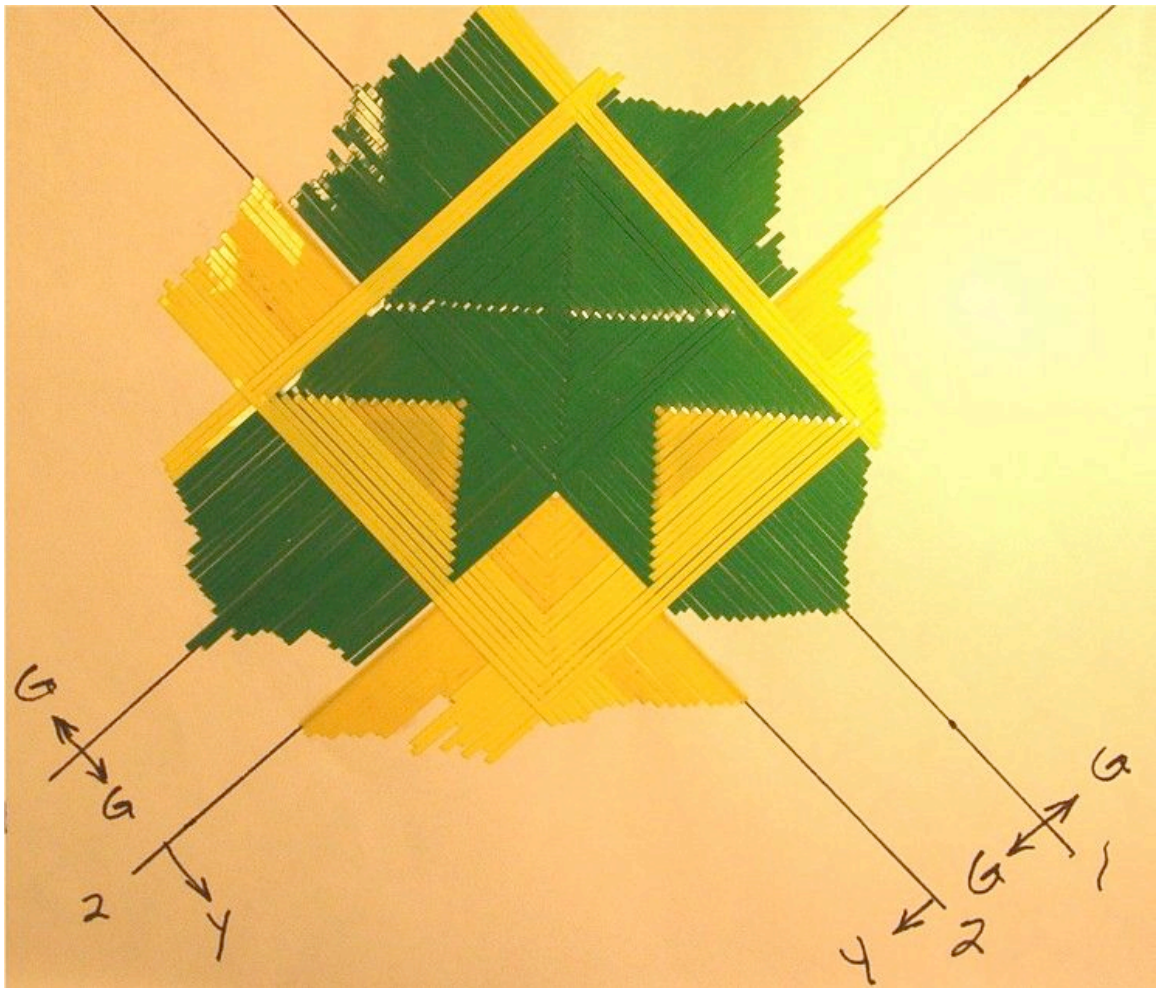
       This single arrow pattern starts from the box wrap layout and is made by wrapping IN and OUT from the top X with the color wanted for the arrow. The background color wraps OUT only from the bottom X in the layout. The sequence for wrapping this pattern is up and down the rod left and right for the green color, then up and down the rod to the outside with the yellow background color.
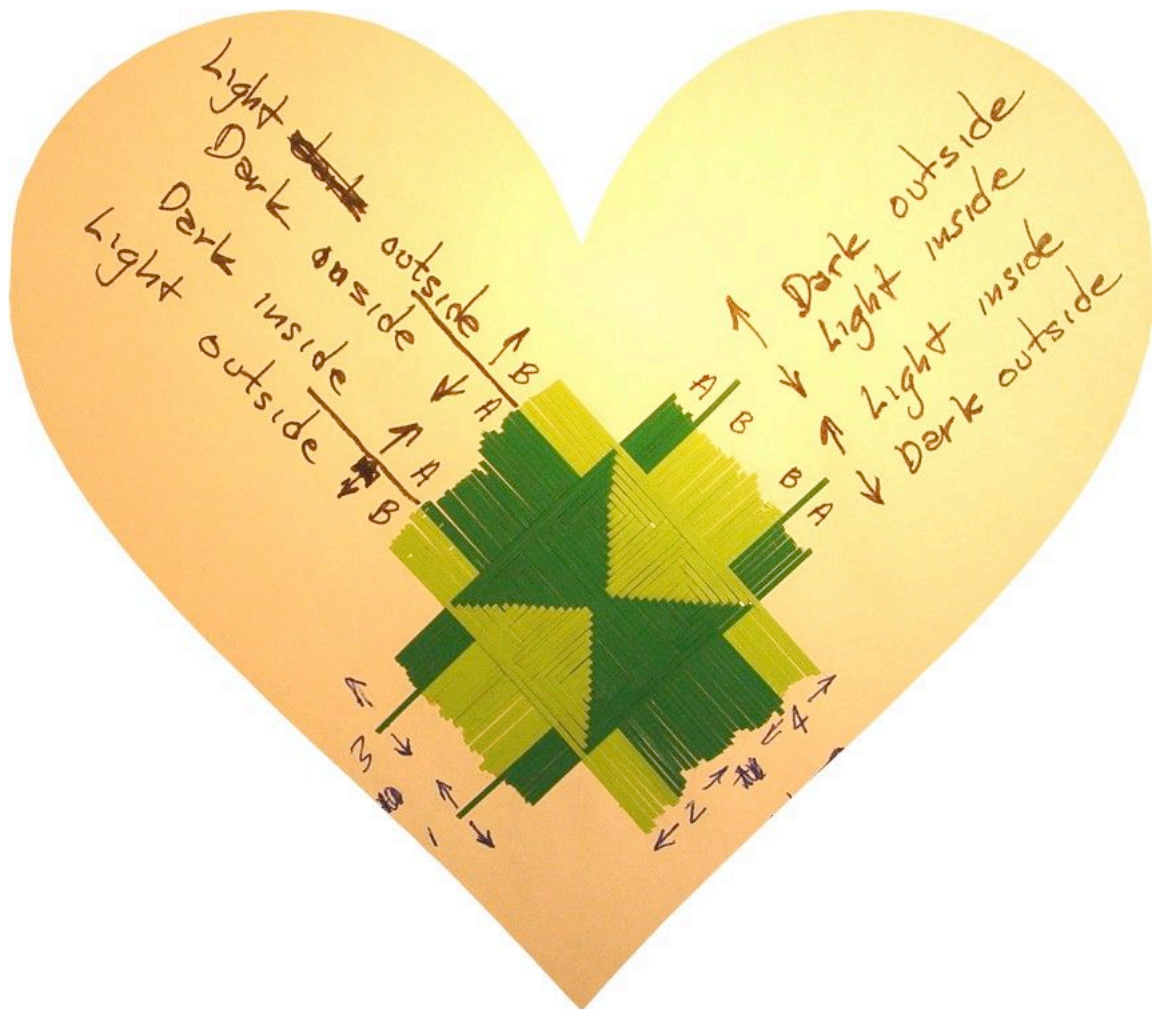
This point-to-point 4 arrowhead pattern also starts from the basic box wrap layout. The initial layout threads are numbered 1 thru 4. The pattern is wrapped IN and OUT from all 4 layout threads one thread at a time. Looking at the pattern one can see that the dark green is wrapped to the outside going up the rod, but wrapped to the inside coming back down the rod. The light green is just the opposite, going inside up the rod and the outside coming back down the rod.

While this sequence may seem quite simple (and it really is), I have to admit that after spending 2.5 years with pencil and paper trying to get the sequence right for this design in my head, I failed to figure it out. Then one day while using charting tape and trying for another pattern, I inadvertently switched these two colors coming back down the rod on the initial layout. Rather than take the tape off and redo the wrap intended, I decided to finish this sequence to see what happens. What happened was that I got the above design that I had been working on for years by accident. I think you can read between the lines to get the take home lesson from my experience.