

# Star Spangled Pen Inlay Kit PKSSBxx

Made exclusively for Penn State Industries

## Assembly Instructions

**IMPORTANT:** This project is suitable for advanced pen makers - read and understand these instructions thoroughly before starting.

The components for this pen blank are precision laser cut from domestic hardwoods. All parts are designed to be assembled then glued firmly together before turning.

### Required accessories:

- Appropriate Pen Kit and bushings
- Masking tape
- Acrylic pen finishing accessories or PSI's #PKCAFINSET finishing kit.
- Exacto Knife
- Sander or Lathe Chuck for Squaring Blanks

### Your project tube includes:

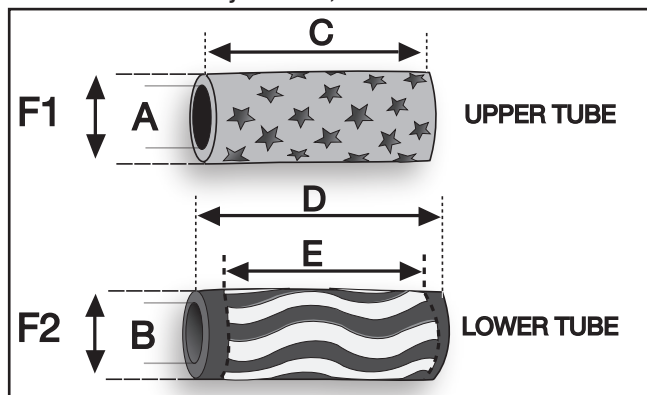
- Blue Stars upper barrel, 56-60 star inlays (50 needed).
- Red Stripes lower barrel, 8-9 white stripe inlays (7 needed)
- "Thank You" card - to sign and identify as your creation and donation



## Star Spangled Inlay Kit Compatibility

| Kit #     | Tube Size     | Compatible Pen Kits   |
|-----------|---------------|---|
| PKSSB7    | 7mm           | Slimline, Designer, Comfort, Longwood, Triline                          |
| PKSSB8    | 8mm           | Slimline-Pro, Sculpted, Classic Twist, Power Pen                        |
| PKSSB38   | 3/8"          | Executive, Polaris, Majestic Squire (single tube kits)                  |
| PKSSB10   | 10mm          | Designer Roller/Fountain, Big Ben, Traditional, Classic Roller/Fountain |
| PKSSB2764 | 27/64"        | All Gatsby Styles (single tube)   |
| PKSSBMJ   | 10.5mm & .492 | Majestic Jr., Broadwell Roller/Fountain                                 |

## Tube Sizes



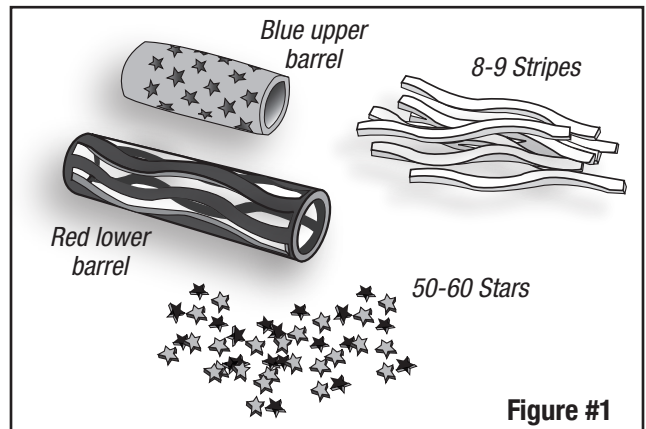
| Kit #      | A      | B      | C       | D      | E       | F1     | F2    |
|------------|--------|--------|---------|--------|---------|--------|-------|
| PKSSB7     | 7mm    | 7mm    | 2-1/4"  | 2-3/4" | 2-3/8"  | 9/16"  | 9/16" |
| PKSSB8     | 8mm    | 8mm    | 2-1/6"  | 2-1/2" | 2-1/8"  | 9/16"  | 9/16" |
| PKSSB38*   | 3/8"   | 3/8"   | 1-1/16" | 2-1/8" | 1-7/8"  | 5/8"   | 5/8"  |
| PKSSB10    | 10mm   | 10mm   | 2-1/4"  | 2-1/2" | 2-3/16" | 5/8"   | 5/8"  |
| PKSSB2764* | 27/64" | 27/64" | 1-1/8"  | 1-3/4" | 1-7/16" | 5/8"   | 5/8"  |
| PKSSBMJ    | .492"  | 10.5mm | 2"      | 2-1/2" | 2-1/8"  | 11/16" | 5/8"  |

\* DESIGNED TO FIT ON A SINGLE TUBE - ALL SIZES NOMINAL

### Follow Steps 1-10 for all 2 tube kits. Include steps 5a-5d for single tube kits.

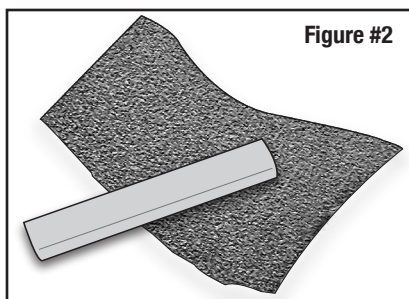
#### Step 1:

Remove all inlay pieces from the container and arrange the stars with the blue upper barrel and the stripe inlays with the red lower barrel. Arrange stars with white side down.



#### Step 2:

Take the brass tube from your pen kit and sand with 120 grit sandpaper (Figure 2).



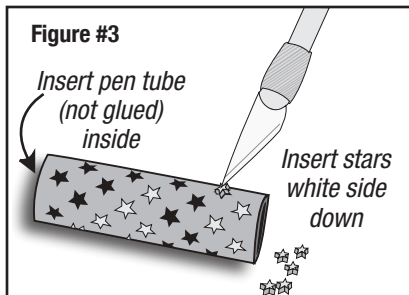
#### Step 3:

Place the brass tube inside the blue upper barrel (DO NOT GLUE IT IN), as this will support the wood barrel from the inside when you apply pressure to press the stars into place. Use an Exacto knife to “spear” the stars, dip them in warm water (for lubrication) then place the stars into the star holes with the white side down (Figure 3).

DO NOT FORCE. DO NOT GLUE THEM IN.

Continue inserting the stars until you have fitted all the stars into the barrel. You will need to apply some pressure to push the stars into place.

Note that the kit comes with extra stars, so you will have stars remaining when complete.



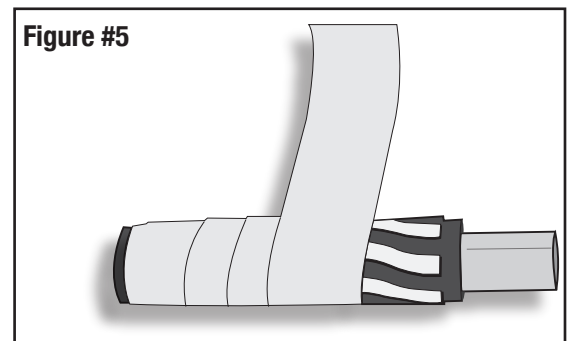
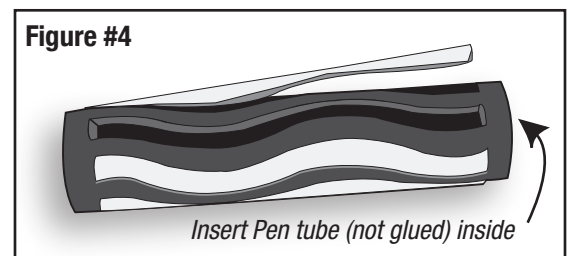
#### Step 4:

Place the brass tube inside red lower barrel. Place the stripe inlays into their slots (Figure 4). The fit is tight, but not as tight as the stars.

**DO NOT FORCE THE STRIPES IN THE SLOTS.  
DO NOT USE ANY GLUE AT THIS STAGE.**

When done properly the stripes should slide easily into their slots. Turn 180 degrees or press in from a different end if the stripe doesn't fit the first time. Hand press the stripes into place.

After all stripes are positioned wrap the red lower barrel with tape (Figure #5) and roll the tube with the stripes on a flat surface. Roll and press gently to make sure that all the stripes are snug in their slots.



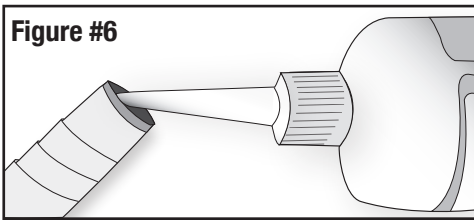


Figure #6

**Step 5:**

Remove the brass tubes from the assembled barrels. Spread thin CA glue inside both assembled wood tubes (Figure #6) spread all over inside to secure all of the inlays into their holes and slots. Accelerate or set aside to dry. NOTE: IF YOUR PROJECT IS A SINGLE TUBE, PROCEED WITH STEPS 5a THROUGH 5d ON THE NEXT PAGE.

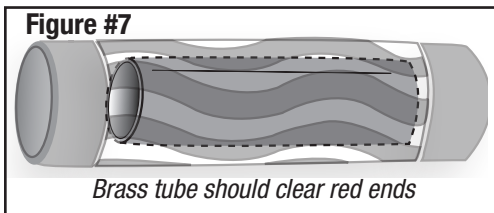


Figure #7

*Brass tube should clear red ends*

**Step 6:**

Slide the brass tubes into the red wood barrel (dry) to make sure it fits inside. The barrel may require sanding inside with a thin file or sandpaper to make sure the brass tube slides in. Once you're sure the tube will slide in, glue the tube into the red barrel using standard techniques with CA or epoxy. **IMPORTANT- Make sure that you push the tube beyond the red ends and deep enough to reach the stripes on both ends on the inside. (Figure 7). Allow the glue to dry.**

**Step 7:**

After the glue has dried remove all the masking tape and trim the blank down to the end of the interior brass tubes. Remove the red ends with a squaring jig [#PKSQUARE] (Figure 8). If you have lathe chuck clamp it in the jaws and remove red ends and square it off.

*DO NOT USE A BARREL TRIMMER. IT WILL TEAR THE PIECES OFF THE ENDS OF THE ASSEMBLED BLANK.*

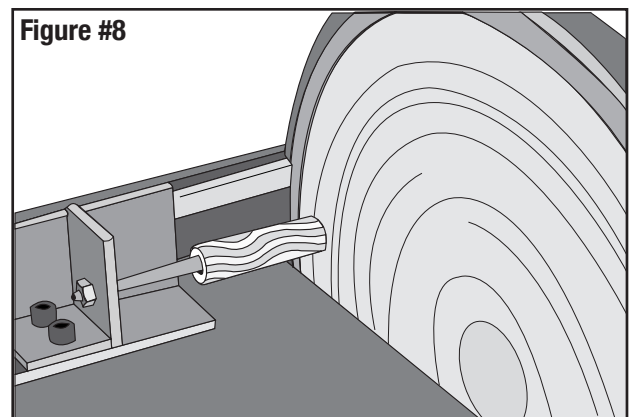


Figure #8

**Step 8:**

Glue up and square the blue barrel by repeating Step 6 and 7 with the field of stars centered on the tube.

**Step 9:**

Line up the barrels with the proper bushings on the mandrel and place in lathe (Figure 9). Turn using a very sharp gouge or skew. Take very fine cuts to prevent any damage to the glued up assembly.

After turning, sand the same as any turned pen blank with sandpaper progressively to 600 grit.

**Step 10:**

Finish the barrels with PSI's "I Can't Believe This Finish Kit" [#PKCAFINSET] - or with with Micromesh and CA finishing glue (Figure 10).

It is highly recommended to finish the barrels with a CA finish as it produces the highest gloss and a long lasting finish.

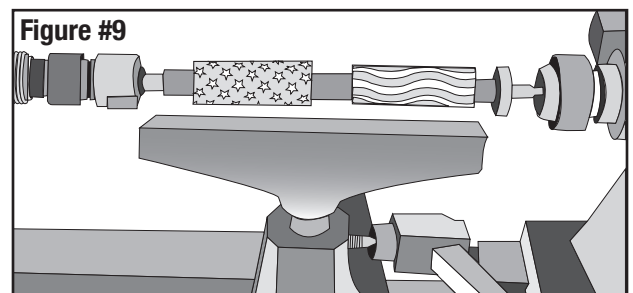


Figure #9

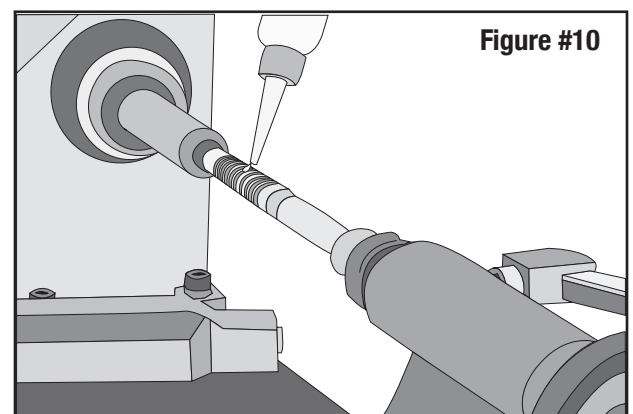
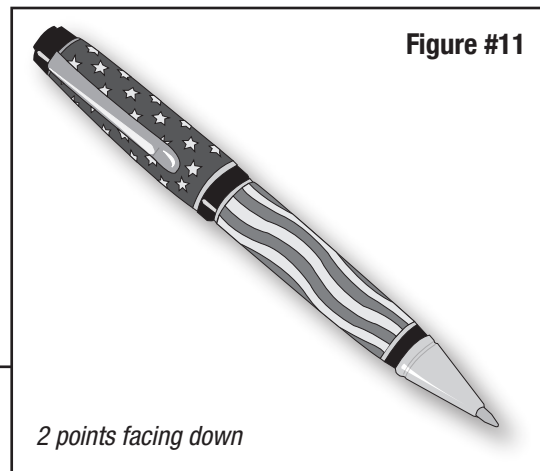


Figure #10

### Step 11:

Assemble: Clean any residual CA off of the ends of your blanks with sandpaper and clean the inside of the tubes with a barrel trimmer. Follow your pen kit instructions to assemble your new pen.

Assemble so that when the blue tube is to the left the stars have a single point facing up, and 2 points facing down (Figure 11 finished pen).



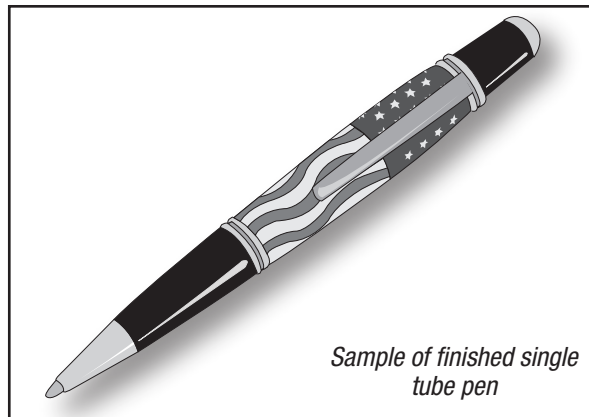
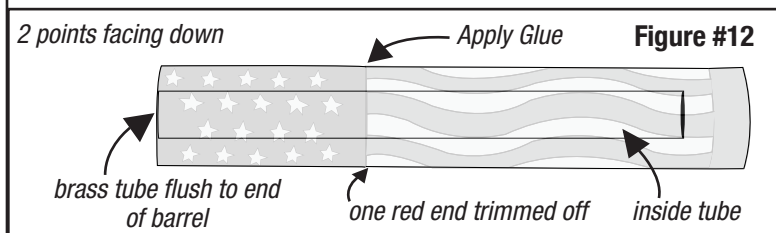
### Single Tube Kits (see Figure 12)

Follow Steps 5a through 5d for putting both the blue and the red barrels on a single tube prior to turning.

**5a.** Remove tape and trim the end of the red barrel up to the stripe inlays on one end - square the end.

**5b.** Square both ends of the blue barrel. Position the blue barrel on the brass tube to the left with the stars positioned with the single point up and the bottom 2 points facing down. Slide the trimmed end of the red barrel onto the tube to the right of the blue barrel to squarely butt up to the blue barrel.

If not square, square both barrels as necessary so they fit cleanly together. Apply CA glue to the seam connecting the two wood barrels but DO NOT GLUE THEM to the brass tube.



**5c.** Slide the two barrel assembly off of the brass tube. Spread glue on the brass tube and glue the assembly onto the tube. Position the blue barrel to the left and flush with the end of the brass tube. Note that the end of the red barrel will extend beyond the end of the brass tube to the right.

**5d.** Trim the end of the red tube to be flush with the end of the brass tube on the right side. Continue with the turning and finishing steps starting at Step 9 on previous page.

#### •About the UNMET Donation

10% of the purchase price of your blank or blank combo package will be donated by Penn State Industries to the Veterans of Foreign Wars UNMET Needs program.

The VFW Unmet Needs supports service members and their families.



•If you have any problems, defective or broken parts or assembly and turning questions contact:

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