

Take Off the Belt and Get Comfortable... Customized 7mm Pens

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Virtually every 7mm kit offered to the pen turner has a centerband. At different price points, the centerband ranges from spartan to ornate. Regardless of its appearance, that little bit of hardware does the turner and the end user a disservice. The purpose of the centerband is to make the turner successful by having a very forgiving interface between the two barrels. It makes the two halves "fit" together regardless of any mismatch between the upper and lower barrels. Because the turner is forced to make the interface ends of the barrels return to this dimension, the shape of the pen is either a virtually straight stick or two bulbous turnings that meet at a tiny center point (often with less than artistic results). I'll show you how to get rid of the centerband and unleash the 7mm kit to be a versatile, fully customizable foundation for your custom creations.

There are two fundamental problems with eliminating the centerband but both are easily overcome. The centerband dimension figures in the overall length of the finished pen. By removing this nearly 1/4 inch, the final pen will be that much shorter. The short answer is "Who cares?" You can throw away the centerband, turn and assemble the pen without it, and all works perfectly. If you get ham-handed and trim away too much of the brass tube length you could run into stack-up problems in the upper barrel but you really need to make a mess of things to do that. With normal facing and minimal length of brass



The centerband was designed to make the kit very forgiving at the upper and lower interface. It can drive turners to boring or bizarre designs and shapes.



Eliminating the centerband allows you to use the basic 7mm kit, yet have size and shape freedom.



Without the centerband, you have great latitude in how long or short your pen can be. You're no longer restricted to turning to exact dimensions.



If you feel the need to make up the lost centerband length, you can easily do it by having some unsupported length in the middle.

removed, all will fit well. Perhaps you are a fan of the original length. There is an easy way to not only return to that dimension but also have the freedom to extend it considerably. The method of adding back that removed dimension or adding length beyond the original is to leave some of the pen blank unsupported by brass. Since the nib and end cap are press fits, you need to have the brass tube flush at those ends, but where the centerband "should" be, you can easily leave 3/8" or more unsupported at the end of both barrels without any negative impact. The brass ring on the transmission does need to hit and press into the lower barrel brass, but it is usually pressed well into the lower barrel to properly tune the inkfill point extension. The upper barrel brass does need to be engaged with the friction crimps on the outer transmission walls but they are positioned well up the wall length.

In addition to the obvious advantage of not having to neck down the interface ends of the barrels to the very small centerband dimension, you now have two tremendous freedoms. You can make your 7mm kit shorter or longer and larger in diameter within the interface material constraints, as you wish. Not only do you have the freedom of length, but you have the freedom of shape. Other than meeting the nib and end cap dimensions for a decent look and feel at the press ends, you can make the rest of the barrel sized and shaped to your liking. Without the centerband, the 7mm kit can become a plump cigar style or other shape of your liking. You can get creative with your shapes and even decorate the interfaces. Probably the biggest advantage I see by turning without the centerband is turning the barrels together. After rounding the barrels to below the barrel trimming dimension, the upper and lower barrels will be butted flush together. As such, they'll be turned, sanded, and finished together. They will match and fit together perfectly in your finished pen.

Using the standard 7mm kit of your choice, select and process your pen blank material in one of the two following ways. For a centerbandless kit to be shorter by the dimension of the centerband, cut and glue your blank in the traditional manner. The lengths of the blanks will be faced to the end of the brass tubes. If you intend to make up the missing length or add additional length, cut the blanks long enough to account for trimming to the brass on the ends that will press into the nib and cap and at least a "touch-up" where they will meet each other. Glue the tubes into these blanks being certain to stay close to the end of the blank with one end of the brass tube. With the tubes positioned to one end, you'll have some pen blank length without any brass tube inside. These ends will be the interface ends. They will be trimmed perpendicular to the brass tube but just not down to the brass. The unsupported length will be the dimension you wish to make up for the missing centerband. You can make up your desired length all on the upper barrel, the lower barrel, or split between both barrels. Your choice will move the interface seam higher, lower, or in the middle of the pen. You make the call on where you'd like the interface seam and how much length you intend to add. You can add just enough to make up the loss of the centerband, a bit more or a bit less than the centerband length, or a lot more.



I favor the Ultra-Shear Pen Mill Ci to face my blanks. I find the control for depth and perpendicularity far more controllable with better surface results.

There are a host of methods to face the pen blanks to remove any excess material and to insure perpendicularity to the axis of the glued in brass. My favorite is the Woodpeckers Pen Mill Ci. I find the advantages of sharpness, vast array of different sized pilots, and the very large diameter facing cut very hard to beat. I do all of my pen mill operations in a drill press. I find the drill press provides me far better control of the speeds and feeds. Also, there is a clearer view of the cut surface to detect the presence of the brass tube edge. When milling the "untubed" end of the blank, the drill press provides me far better control when milling the overall length of that blank.

With your pen blanks milled and prepped to your desired length ready for turning, you can take a few moments if you wish to add some accents. You can easily add accents to both ends of both blanks but I find adding them to the interface ends is adequate. I like to add a thin piece of colored pressed cardboard to the interface ends of the blanks at this point. Your material and thickness is your choice but do remember that any thickness you add will add to your overall pen length. Since my accent materials are relatively thin, I don't worry about the lengthening effect. I add accents to the interface ends of the blanks with epoxy adhesive. Of course, you can add the accents to all ends of the blanks if you wish. Once the adhesive has cured, you need to go back to the Pen Mill Ci and clean out the ID of the brass tube with the reamer, being careful not to engage the carbide cutting edges.



A few examples of centerbandless 7mm kits using some colored plastic for accenting. The plastic is end glued on to the barrels and turned with the blank butted together.



The simplicity of turning, sanding, and finishing the blanks butted together, with no center bushing in place, makes creating more pleasing shapes easier. You'll get a perfect fit between the upper and lower barrel, as well, since they're turned together.

Turning pens without the centerband is identical to turning one with a centerband except there is no bushing between the blanks. There is no need to separate the blanks with that bushing because you're not turning down to that dimension. Simply use the bushings for the two ends and butt the blanks together in the middle. Turn the pair together, rounding the corners and shaping the center section to be of a pleasing diameter. Once the desired middle diameter is achieved, taper the ends to meet the bushings. The pen can be planned to be symmetrical in shape or have a design that shapes the upper and lower uniquely. The two halves of your pen stay mounted flush together while turning, sanding, and finishing. Regardless of the shapes for the upper and lower, the interface ends will be identical in size being turned, sanded, and finished simultaneously. The ends at the bushing dimensions having been turned and sanded to the desired dimension will receive the kit pressed in parts.

Assembly of your pen follows your standard ritual. You can use a vise, pen press, quick clamp, or any other method you've devised. Since the interface ends will fit perfectly, the only decision you'll have is which end is which. If you've done a shape that has predetermined the nib and clip end, you can do the hard presses for those. There are a variety of ways turners use to arrive at the pressed in fit dimensions. If you have a symmetrical pen that allows for either end to be nib, you can make a choice. Whether you use bushings or calipers, you'll probably have one end that fits better so pick the end for the nib that has the best fit. The clip end will never be gripped so make the nib end your best fit. In an upcoming article, I'll cover some methods that can help with the various fits and finishes. You can consider these in comparison to your methods and decide if you might want to change. With the difficult "press-to-a-stop" assembly done, use your favored transmission press technique to achieve your desired in-fill extension. Regardless of your lower body length, you'll need to press the transmission to a depth that will provide the proper twist mechanism in-fill extension. Note that you only need a wee bit of upper transmission barrel to engage with the upper body brass tube to affect the transmission actuation.

I truly believe that once you've made a couple of 7mm pens without a centerband, you'll never go back. Of course, there are lots of pen kits out there that offer unique shapes, but now that you know how to create truly unique pens that aren't like what everyone else is doing, you have the freedom to create any look and size you wish. Obviously, you do have some overall length constraints but they give you a wild amount of creative license. The ability to take an inexpensive kit and turn your own length and shape with a perfect fit at the center interface should set you on another path of penmaking. Enjoy your journey.



Since it makes no difference to the pen at this point, take the time to determine which barrel has the more perfect fit with the nib interface. It will be the part everyone feels.



The 7mm kit can be a truly versatile building block for your turning creativity once you decide to leave the centerband out.



Contrasting Materials Accent the Transition Between Upper & Lower Barrel.