



Bassoon Throat Mandrel

(#E-06) 3-piece Set



1849 University Ave.
Berkeley CA 94703
510-845-7178 800-322-6263
www.ForrestsMusic.com
sales@forrestsmusic.com

This mandrel set is an important component of the reed maker's tool kit, in that it helps achieve controlled, consistent internal dimensions and symmetry of the reed tube during and after the forming process.

By helping to relax wire tension after the wire adjustments have been made, the symmetry of the throat is maintained.

How to use the Throat Mandrels.

Insert the smallest mandrel to the point of the second wire, (except with reeds that have a very large throat), rotate the mandrel and repeat this process with successively larger mandrels.

Finish forming the reed with your usual tapered forming mandrel.

After the reed has been wired, remove it from the forming mandrel and reinsert the small and medium Throat Mandrels. With your thumb, press the side of the tube between 1st and 2nd wire firmly against the throat mandrel. As the tube releases tension and the scores run further into the tube you will hear some crackling sounds. Check the tube again for symmetry; if it is not symmetrical, insert the throat mandrels again and rotate. Squeezing the tube with your reed pliers while the throat mandrel is inserted will enable you to correct unevenness.

The recommended forming method is to begin the process with a perfectly round tube. This roundness results in one constant among the many variables and also helps maintain the arch in the heart of the blade.

Using the Throat Mandrel as a Gauge.

The size of the reed throat affects the reed's tone, as well as the pitch in the second octave - and its overall stability and response in the low register. If your reeds tend to have a raucous sound and play flat in the overblown second octave, the reed throat is most likely too large.

If your reeds have a small sound and limited flexibility - or are unresponsive on the lowest notes, the throat is most likely too small.

For additional information on factors that can affect reed performance, refer to the booklet "Quick Guide to Bassoon Reed Tuning", by Mark Eubanks, Forrests' catalog item #X-1098.

Mr. Eubanks suggests: "If you know the exact size of the reed throat dimension at the narrowest point on the shape (this is usually about 35 mm (1-3/8") from the tip of the shape, use the following recommendation for exact sizing of the throat. If you don't know these dimensions, experiment with the 3 tip sizes when

you form a batch of reeds and determine which throat size gives the best results. Use the smallest tip for shapes where the narrowest point is 8.3 mm (.327") or less, medium tip for shapes 8.3 to 8.7 mm (.327" to .343 ") and the largest tip for shapes 8.7 mm (. 343") and above.

The *sizing* of the throat should take place in conjunction with *forming* as described above. The appropriate tip should fit snugly and penetrate fully into the tube, slightly past the first wire. If it is too tight, slightly loosen the wires 1/4 to 1/2 turn as needed and re-insert and turn the mandrel tip until the right dimension is achieved. If the fit is too loose, stretch (pull) the wires with your reed pliers to reduce the throat dimension. Do not twist-tighten the wires at this point, as they will likely break. As you pull and stretch the wires, rotate the reed from right to left while pulling hard on the pliers. You may also need to squeeze the tube between the wires with a small needle nose pliers and possibly also in front of the first wire at the collar — but very gently. You may break a few wires before you get the hang of it. This whole process may prove to be easier with the reed [mounted] on your tapered forming mandrel. Check your results with the forming mandrel."

Use as a Forming Mandrel.

Reeds formed with the largest throat mandrel as a forming mandrel will need to be reamed extensively to fit on the bocal. However, the resulting reed will play with less resistance. In order to achieve a proper seal of the two reed blades at the butt end of the reed, the tube may have to be narrowed. A dimension of 9.25 mm to 9.5 mm (.364" to .374") will produce good results without having to bevel the rails.

Use of Throat Mandrel for Testing and Adjustment.

As the reed is scraped, the relative tension of blade and throat changes with each scrape. "Wiggle" the throat mandrel while in the throat of the reed between scrapes and tests of the reed.

This action will help the reed "settle-in" its new state. You can widen the opening of the reed tip by working the larger throat mandrel into the tube and you can also adjust the wire shapes. It is best to make wire adjustments with the throat mandrel inserted. Alternatively, you could use the throat mandrel after wire adjustments to true the symmetry of the tube. Most reeds will have a slightly oval tube which contribute to better vibration and harmonics when tuning the test notes.

Use the Throat Reamer (#E-03) for final adjustments in resistance.

Other unique bassoon reed making materials from Forrests include:

Bassoon Throat Reamer (#E-03)

"Quick Guide to Bassoon Reed Tuning" by Mark Eubanks #X-1098

Bassoon Shapers
Bassoon Reed Pliers with tube forming jaws. (#E-12)
Bassoon Cane Easels
Bassoon Reed Forming Mandrels
Bassoon Reed Mandrels
Bassoon Reed Reamers
Bassoon Reed Files
Bassoon Reed Drying Racks and Pins
Knives
Tip Cutters
Arrow Plaques
Reed & Cane Dial Micrometers
Soft Brass Wire
Canes of all types

Please Forrests' complete catalog of double reed tools and accessories on our website www.forrestsmusic.com

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