

TIP 68 — Making a Simple Tap Alignment Tool/Eddie LaBane

Eddie LaBane customizes pool cues and often has need to tap holes concentric to the center hole for this and other jobs. Using a tap by hand without a guide can allow it to cut at an angle putting the threads off center. Worse yet, small taps are easily broken if not kept perpendicular to the hole. Here is a simple tool he turned using his Sherline lathe. Eddie notes, "My purchase of the Sherline lathe has allowed me to create simple tools that improve the quality of my work with greater ease, and also to make tools that improve the versatility of my other non-Sherline power tools. It was a good investment."



Photo 1—The plastic body with aluminum washer base. Next to it is the aluminum guide insert.



Photo 2—The plastic body with one of the aluminum tap guide inserts in place.



Photo 3—The guide block is seen with one of the inserts in place and one of another size next to its tap. The center hole is made .001" larger than the tap for a precise slip fit.

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Making the tap guide

Out of frustration for a manual alignment tool for tapping the joint and collar of custom cue sticks, I decided to make my own that would rival a miniature lathe (I have two) if they were strong enough to do the job without major surgery. Here is the result:

1. The base of the unit is an aluminum washer 1.5" in diameter and 1/16" thick. The hole in the washer is enlarged to .501".
2. The center post is 1" diameter thermoset plastic 15/16" tall and 1" in diameter with a 0.500" center hole all the way through.
3. The center post is epoxied to the washer so that the center holes are perfectly aligned.
4. Using Plasti-Dip, spray coat the entire outer surface, including the bottom but not inside the hole. I applied four coats. This will make it easy to hold in your hand and prevent the unit from slipping on most surfaces.
5. Using a piece of hard (T6) aluminum, turn an insert or inserts 0.50" OD x 1" high for every commonly used tap.
6. Measure a popular tap at its widest thread point. Use this measurement plus .001" to determine the center hole that will be added to each aluminum insert. This allows the tap to move through the unit easily and will produce a tapped hole superior to any I've seen done with other manual tools at any price.

NOTE: Additional inserts with properly sized holes are a must if you want to be able to get good results with each size tap.



The tap guide is held in place with the large base flat against the part being tapped. In this case the part is held in a vise. The sprayed-on surface finish provides plenty of grip to keep it from slipping. The tap is then threaded through the guide hole and run into the part. The guide keeps it cutting squarely.

—Eddie LaBane