## An Automatic Centerline Scribe

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This article presents a tool that measures the width of a work piece and then automatically is set to scribe the centerline.

It may be a reflection of my poor skill in using Google ${ }^{\circledR}$, but I was unable to find this idea on the web. It is so simple, I'm sure it has been "discovered" many times.

In the extremely unlikely event that this is a new invention, I have published this to the community on my web site in order to accomplish "Defensive Publishing". This means that it has now been established as "prior art" and no one can block others from using it with a patent. As always, you are all free to copy and distribute the idea.

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To use this tool, you first use the "long arm end" to measure the width of the work piece. The arms are connected with a snug fit pivot so when the tool is removed from the work piece, the arms don't move.

The flanks of the work piece are contacted with pins fitted into the ends of the long arms.


You then flip the tool over so the scribe is resting on the work piece. The reference pin is placed on the flank of the work piece. This places the scribe at the center line. Move the tool along and you scribe the centerline.


There are two key ideas that enable this tool to work. The first is the location of the pivot relative to each arm. The distance from the pivot to the center of the hole at each short end (solid arrows) must be half of the distance from the pivot to the center of each hole at the other end.

With this spacing, the distance between hole centers at the ends of the two long arms (dashed arrow) equals twice the distance between hole centers at the ends of the two short arms.

The second key idea is that the three cylinders fit in the ends of the arms must have the same diameter. In other words, just cut them from the same round stock.

I have built a prototype with a pin distance ratio of $1^{\prime \prime}: 2^{\prime \prime}$ and another one with $2^{\prime \prime}: 4^{\prime \prime}$. Both used $1 / 4^{\prime \prime}$ steel for the pins. The absolute numbers do not matter; just keep the ratio at 1:2. The first prototype was made from aluminum and the second prototype was made from brass. Both work as expected.

I welcome your comments and questions.
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