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Miniature Tube Bender

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Topic:

Topic author: xo18thfa

Subject: Miniature Tube Bender

Posted on: 05 Aug 2006 19:56:57

Message:

A while back there was a thread asking how to bend small copper tubes. While searching the web I found a plan for the construction of a small tube bender. The author is Mr. Colin Binnie from the UK. He is an accomplished live steamer in 16mm scale. Here is Mr. Binnie's bender plan <http://1stclass.mylargescale.com/xo18thfa//PipeBender.gif>

I decided to build one of these to see how it works. Since Mr. Binnie's design is metric, I converted the dimensions to inch and did some adjustments to use material I have on hand. Here is the result:



And here are some test results. The double 180-degree bend is 1/8" thin wall copper. The "S" curve is 5/32" thin wall copper. Both are 3/8" radiuses. Both perfect, not a kink.



The rollers are the only difficult parts to make. Carefully grind a lathe tool to the width of the tube you want to bend and round over the end. Use brass for the rollers. Take a healthy plunge cut like with a parting tool to a depth half the tube diameter. Work the tool left and right if needed until the groove is right.

Anneal the tube before bending for best results. Although I was able to bend 1/8" thick wall without problem.

You definitely need one of these benders in your home workshop. It is worth the time and trouble.

Bob

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