

Measuring Inside Dimensions with a Tape Measure, Version 1.2

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Any half-decent tape measure tells you the distance from the front to the back of the case. This old Craftsman is marked “3 in/76 mm”.



To measure inside dimensions, I feed out tape until the end touches one side while planting the backside of the tape measure against the other side.

Then comes the step fraught with error. I must add the indicated distance to the marked width of the tape measure case. Now, it shouldn't be hard to add 3 to any number. But my mental math abilities have suffered from the advent of the pocket calculator and are no longer trusted².

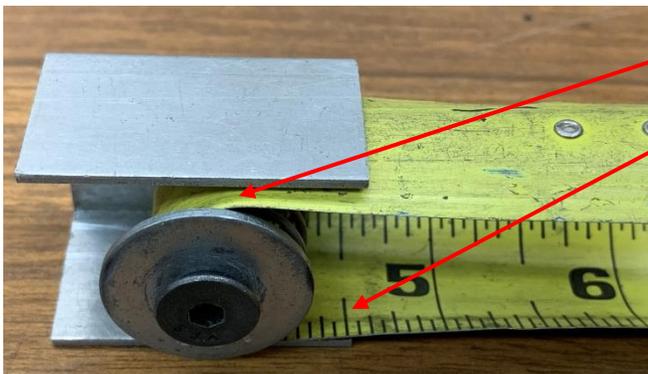
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² My first three years of college depended on a slide rule and hand calculations. I was fast and accurate; well, to 3 decimal places. Then I bought my HP-35 and the world changed.

No, I don't pull out my calculator to figure an inside dimension; I check my work. If I am only taking one measurement, this is not a big deal, but what if I make many measurements?



This addition to my tape measure takes away all doubt.



I wrap the end of the tape measure around the post and line up the back edge with the 4½ inch mark on the tape.

A wing-nut on the far side locks the attachment in place.



I press the end of the attachment against one side.

The back of the body of the tape measure touches the other side.



The reading on the tape measure is now the inside measurement.



What's so magic about $4\frac{1}{2}$ inches? The tape measure body is 3 inches wide, and the attachment is $1\frac{1}{2}$ inches long: $3 + 1\frac{1}{2} = 4\frac{1}{2}$.

If it is difficult to see the width of the tape measure body or it isn't marked, you can calibrate the tool, as shown above, with a ruler. Note that the ruler and the tape both read 16 inches. If you want to get a bit more user-friendly, adjust the width of the tool, so it plus the width of the tape measure body is a round number.



Due to my vast holdings of “junk,” I had the needed piece of U-shaped aluminum. It even had the correct hole drilled in it.

Starting on the right, I have a flat head $\frac{1}{4}$ -20 bolt. It passes through a washer that is slightly smaller in diameter than the inside of the U-shaped piece of aluminum. A nut secures them. Next, I have a soft spring that clears the nut. The U-shaped piece of aluminum is deep enough to accept the width of the tape. The wing-nut secures it all.



To install, I first slip the tap under the washer so it rests inside the U-shaped piece of aluminum.



Then I fold the tape around the spring.

After lining up the back edge of the aluminum with $4\frac{1}{2}$ on the tape, I gently tighten the wing nut.

John Herrmann suggested marking “4 ½” on the tool. Since this is such an obscure device, you might also want to glue on this QR code. It will take you to this article.



I welcome your comments and questions.

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