

Foldscope™ Assembly Instructions

Prakash Lab

Abstract

The printed instructions accompanying each Foldscope kit are very detailed and easy to follow. Even easier is [this](#) excellent 14-minute video tutorial for the assembly.

I didn't know about the video when I was assembling the Foldscope, and despite carefully following the printed instructions, I still managed to make a few embarrassing mistakes. I am sharing the protocol below with the comments on these mistakes, so others can avoid them. Hopefully, more new users will comment, pinpointing the assembly steps that turned out to be error-prone for them.

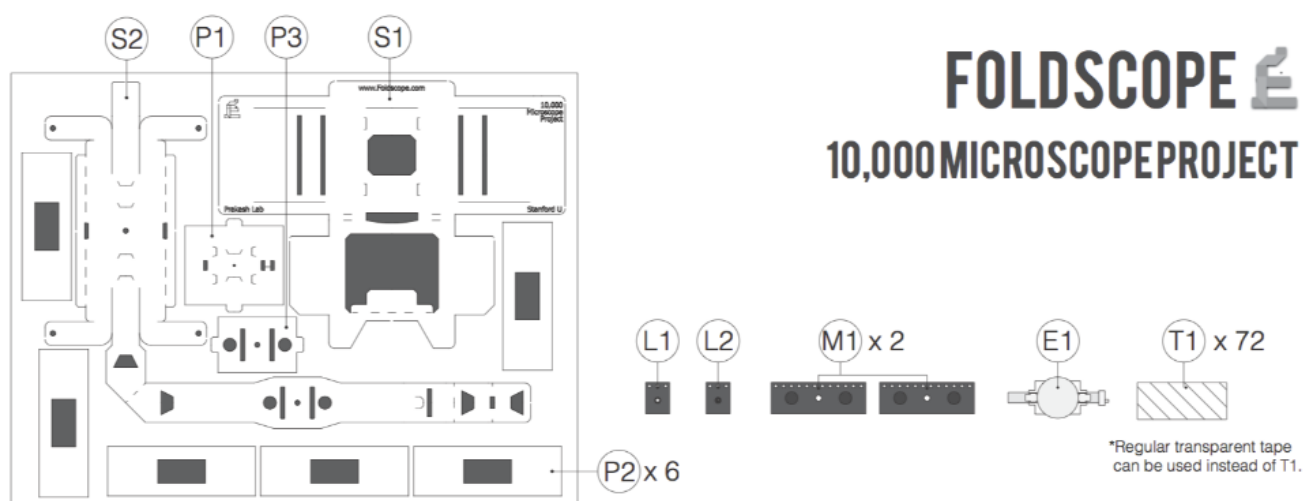
Citation: Prakash Lab Foldscope™ Assembly Instructions. [protocols.io](#)

[dx.doi.org/10.17504/protocols.io.fjwbkpe](https://doi.org/10.17504/protocols.io.fjwbkpe)

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Guidelines

Components:



S1 = main stage

S2 = sliding stage

P1 = LED holder

P2 = paper slides

P3 = magnet holder

L1 = low magnification lense (small apertrure, large lense)

L2 = high magnification lense (**very** small aperture, small lense)

M1 = magnet strip for Foldscope (black adhesive tape)

E1 = light module

Before start

Do watch the [14-minute video](#) tutorial on assembling the Foldscope.

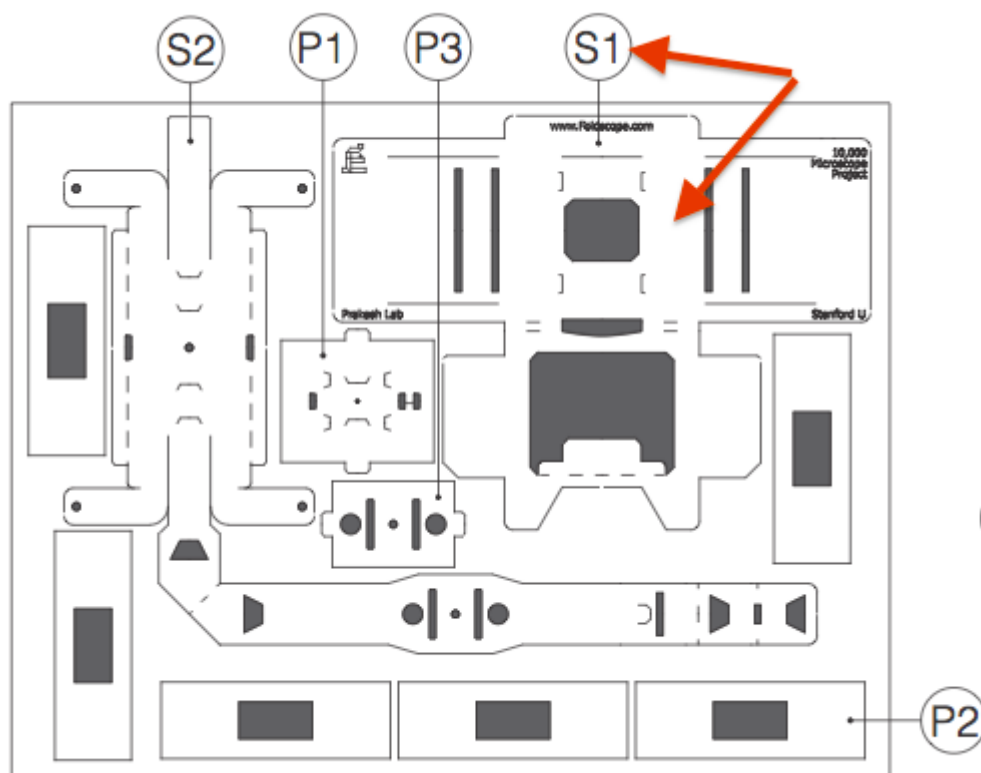
Protocol

Step 1.

If you can, watch the following 14-minute tutorial video. Otherwise, proceed directly to step 2.

Step 2.

Detach the main stage (S1) from the assembly sheet.



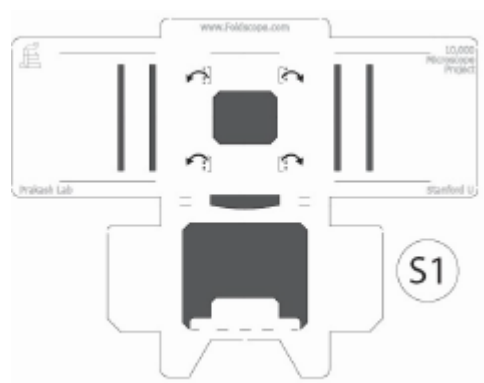
⊕ NOTES

Lenny Teytelman 11 Aug 2016

There is a bit of hesitation and anxiety at this step as you are "breaking" the beautiful assembly sheet. That's okay - it's meant to be broken; go ahead and tear out the main stage!

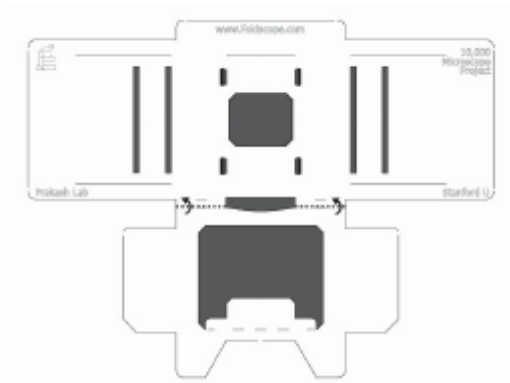
Step 3.

Fold small tabs of the main stage (S1) upward.



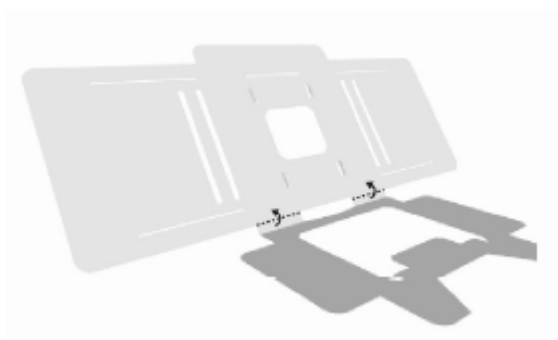
Step 4.

Fold along dotted line shown below.



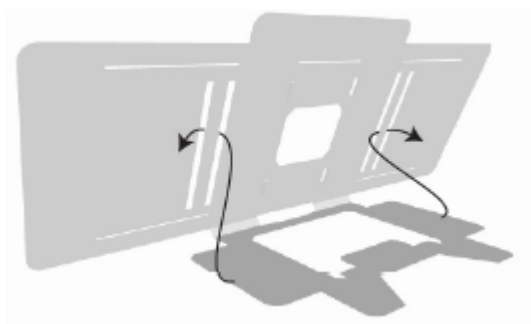
Step 5.

Fold along dotted line shown below.



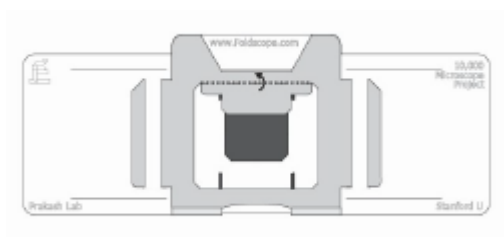
Step 6.

Weave flaps through slots.



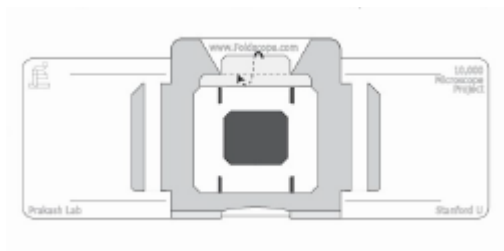
Step 7.

Fold flap outwards (towards yourself).



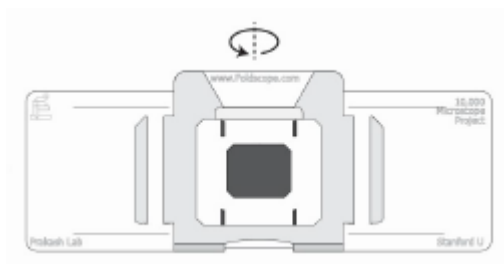
Step 8.

Insert flap into slot behind.



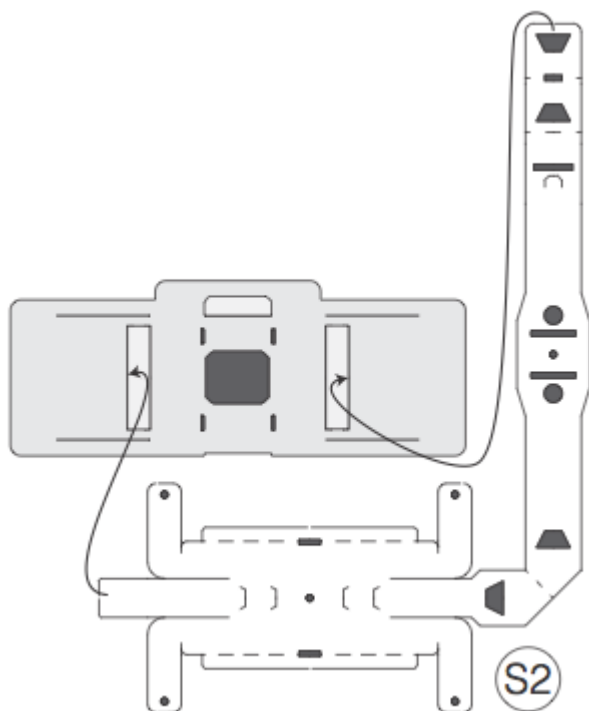
Step 9.

Turn the Foldscope over.



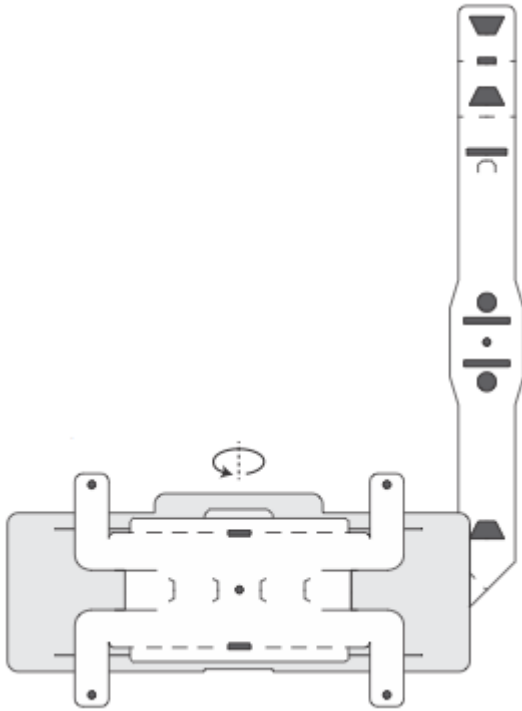
Step 10.

Remove the sliding stage (S2) from the assembly sheet and insert ends of the sliding stage (S2) into the far slots of the main stage (S1).



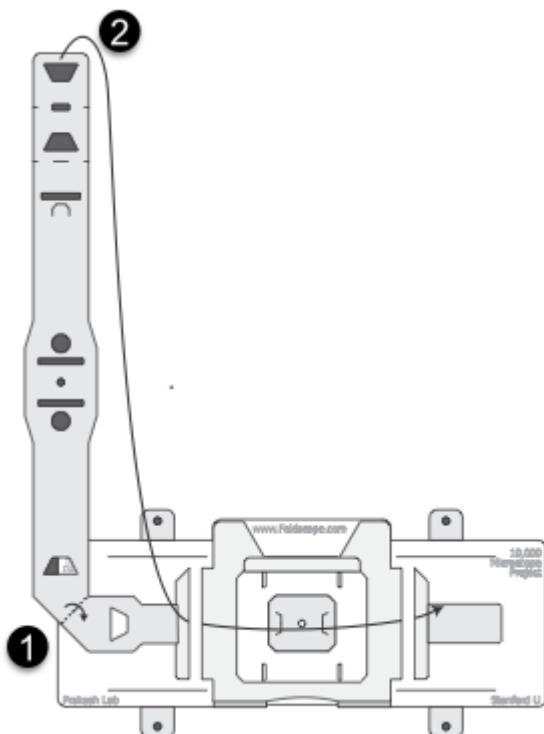
Step 11.

Turn the Foldscope over.



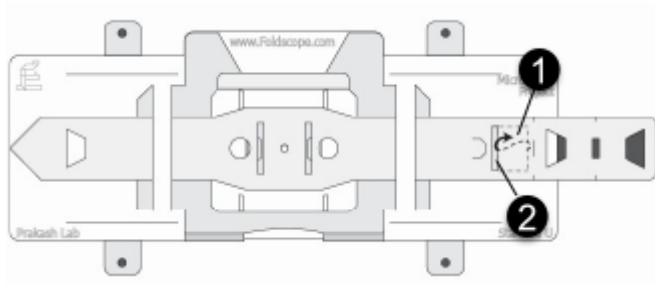
Step 12.

Fold sliding stage (S2) along dotted line '1', then weave strip '2' through main stage (S1) as the arrow directs.



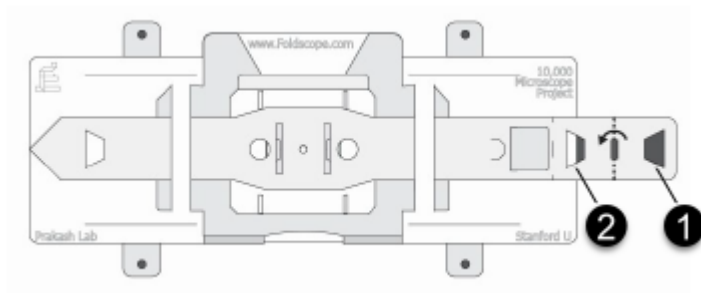
Step 13.

Pull free end '1' through slot '2' from below. This will form the sliding stage (S2) into one big loop, with half above the main stage (S1) and half below it.



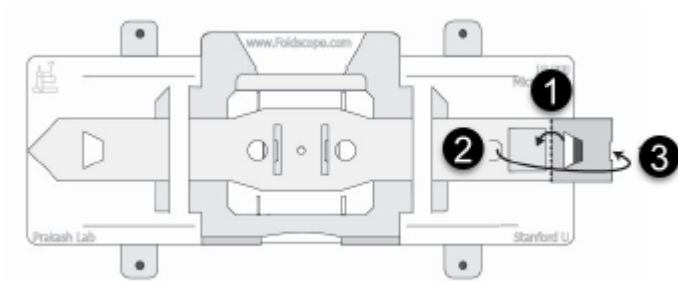
Step 14.

Fold along dotted line shown below so trapezoidal cutouts '1' and '2' are aligned.



Step 15.

Fold along dotted line '1', then insert tab '2' into opening '3'.



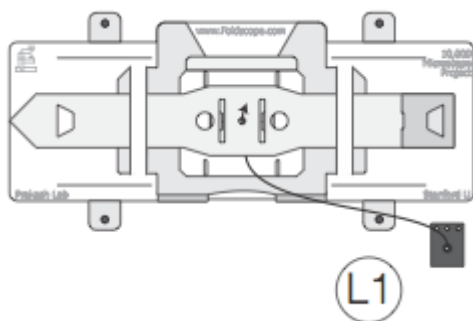
🔗 NOTES

Lenny Teytelman 11 Aug 2016

Somehow, I got hopelessly confused here and got this one wrong. Didn't figure it out until I watched the assembly tutorial video. Good news - everything works and you can use the Foldscope even if you don't get this step right.

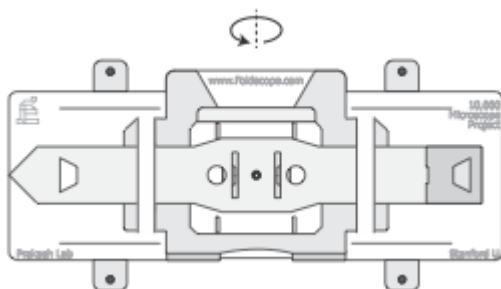
Step 16.

Insert lens (L1) into hole, making sure to keep it in the pictured orientation, with bump up.



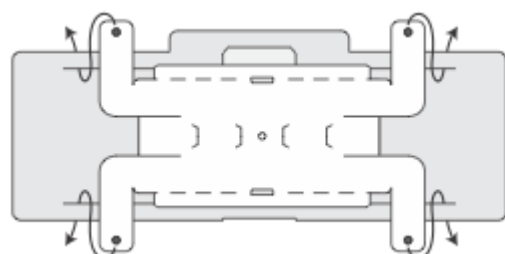
Step 17.

Turn the Foldscope over.



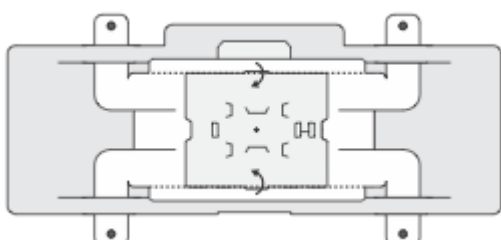
Step 18.

Insert flaps into slots.



Step 19.

Fold upwards along dotted lines shown below.



Step 20.

Paste unique sticker (U1) on the back of the Foldscope.

Step 21.

Turn the Foldscope over to begin using it. Remember to register your Foldscope at www.foldscope.com.



📌 NOTES

Lenny Teytelman 11 Aug 2016

This is the really embarrassing part. I couldn't see anything because I failed to remove the square in the very center of the scope. So no light was coming through from the back. If you point the scope towards a light source and move the stage around, you should be able to see light shining through the lense in the front.