Tricks for Assembling Gates

(using glue, popsicle sticks and fasteners)

Tricks and Tips

1. Take care of where you glue, especially near the slides.

Hot glue in the slides will increase friction or even bind the slide, making it incapable of moving!

Tricks and Tips

2. For the NOT gate, make the holes as small as possible.

If you make the holes too large (in comparison to the fasteners) there will be slippage.

This will make a 1 inch push come out as a .8 push for instance.

Tricks and Tips

3. Popsicle sticks come in many sizes.

We found that large sticks worked well for making holes, but if you want to chain the gates together, it might be better to go small.

The designs should scale as well (depending on the holes and fasteners you can make/find)

Tricks and Tips

4. If you want to separate two sticks incorrectly glued together, twist them against each other.

This will be much more effective than trying to pull them apart and do much less damage to the sticks.

Tricks and Tips

5. Put holes at the ends of your input and output.

This will make it easier to quickly attach and disconnect linked gates.

Tricks and Tips

6. If you are using hot glue to connect the sticks and you have gotten glue in the slide, you can remelt it and try to scrape it off.

If that doesn't work, depending on where the glue is, you can also try an exacto knife, but be careful!

Even if these methods work there will still be some glue left...always.

Tricks and Tips

7. Sometimes its easier to start over.

Glue may gum up your slides or you cut something you didn't mean to? Its sometimes easier to just start over. Glue and popsicle sticks are cheap. thats why we picked those materials.

If its just one slide, all input sticks can be jimmied out of their slides. We designed that into the gates on purpose. That allows you to replace an input stick if it breaks.

Tricks and Tips

8. Popsicle sticks are cheaper in bulk (don't you love economies of scale?)

If you buy 50 popsicle sticks it may cost you 5$

If you buy 1000 popsicle stick it may cost you 10$

If you plan to make lots of gates, don't skimp on the sticks!

Tricks and Tips

9. It takes longer than you think it will.

Always. Mechanical prototyping times are long.
Don't get discouraged by failure, and you'll
have a much better time of it listening to music.