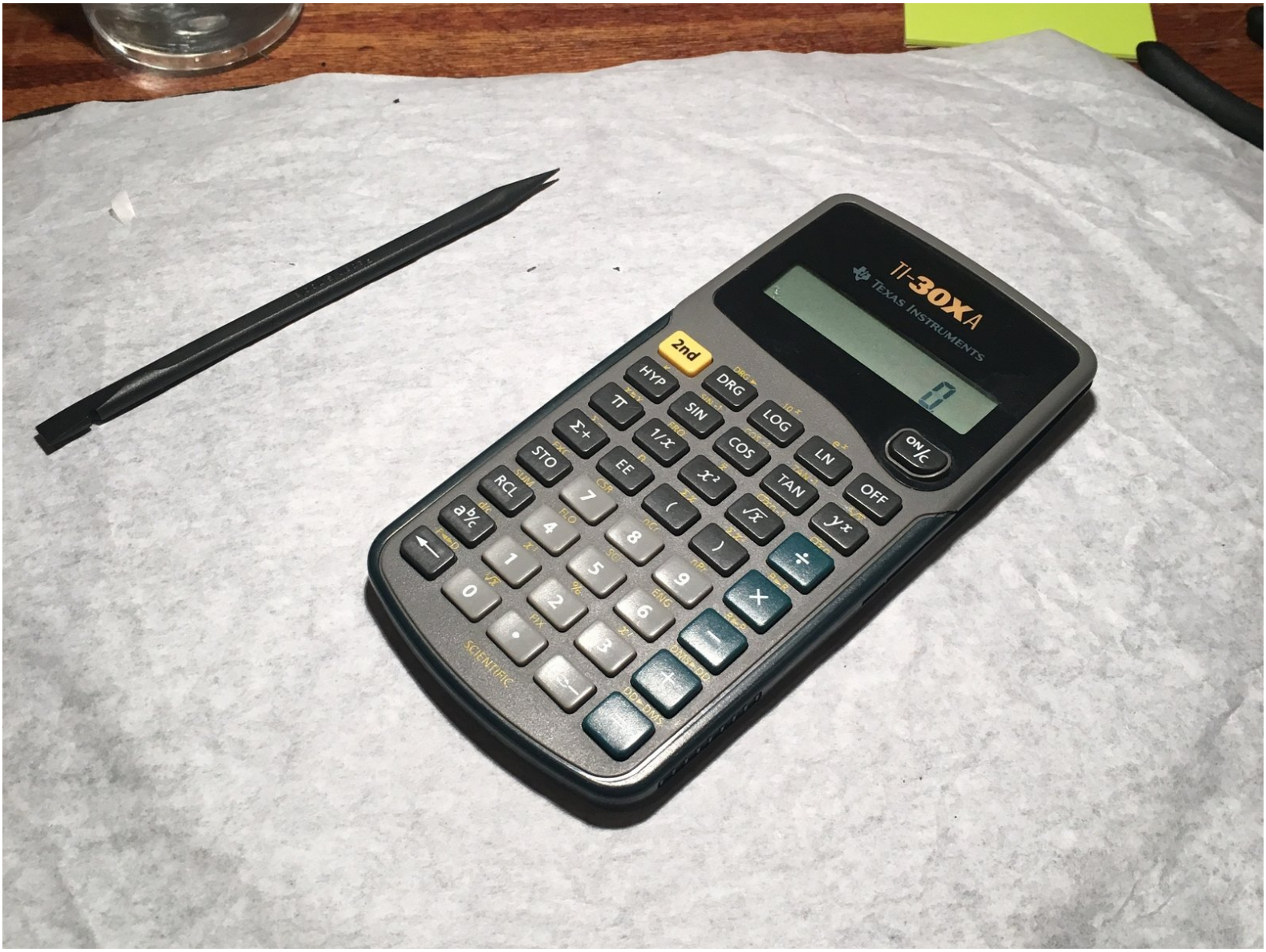
Texas Instruments TI-30Xa Teardown

I'm ripping apart a TI-30Xa salvaged from a teacher's trash can. It was water damaged, so this guide can work for that too, I guess.

Written By: Liam Powell



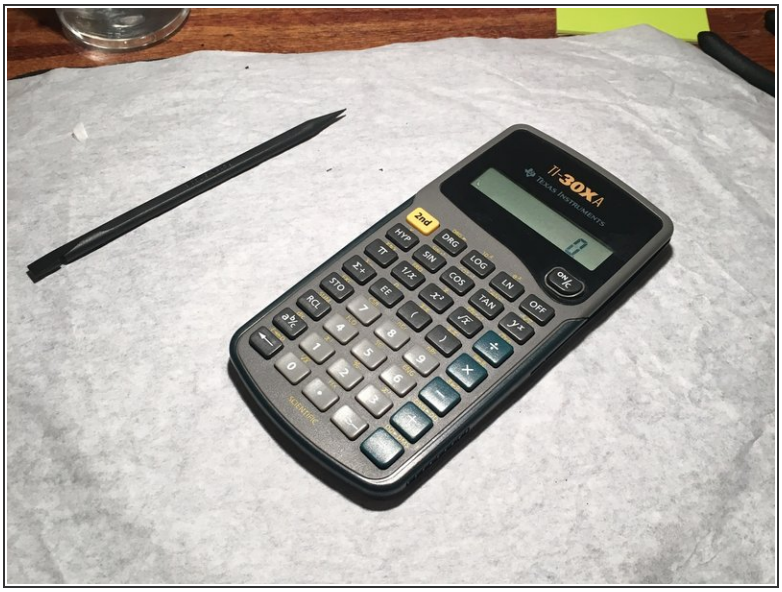
INTRODUCTION

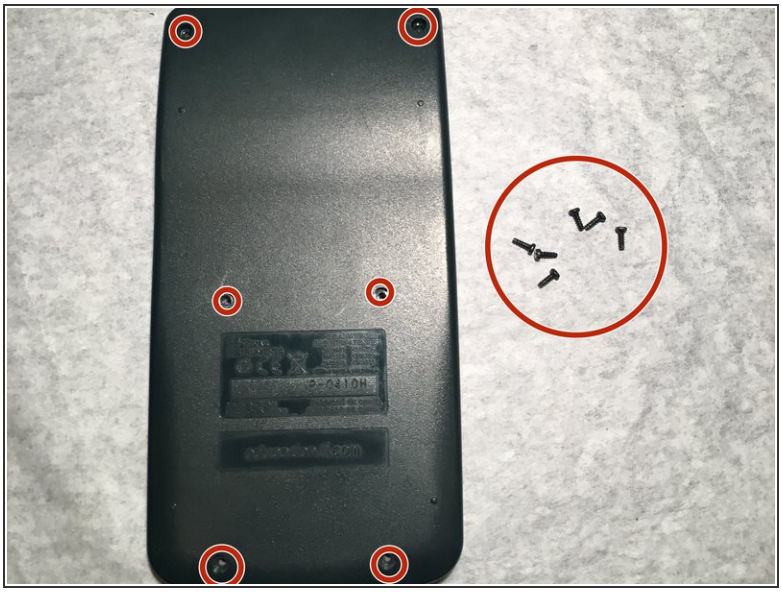
This poor TI-30Xa was covered in trash juice (bleh!) so I rinsed it off, because a functional calculator that smells awful and is greasy is just as bad as a nonfunctional one! If the calculator got wet, the keys are a major ingress point, so you have to pry out the motherboard to dry it off. I wouldn't try this for fun because all you can do yourself is pry off the battery connectors. You can pry the motherboard out, but it rips some plastic pegs and might damage it. This teardown was shot with an iPhone 6S, in case you were wondering. Lighting can make or break! I just used a desk lamp.

TOOLS:

- Phillips #0 Screwdriver (1)
- Spudger (1)
- Metal Spudger (1)

Step 1 — Flip the calculator over to the back and remove the screws.





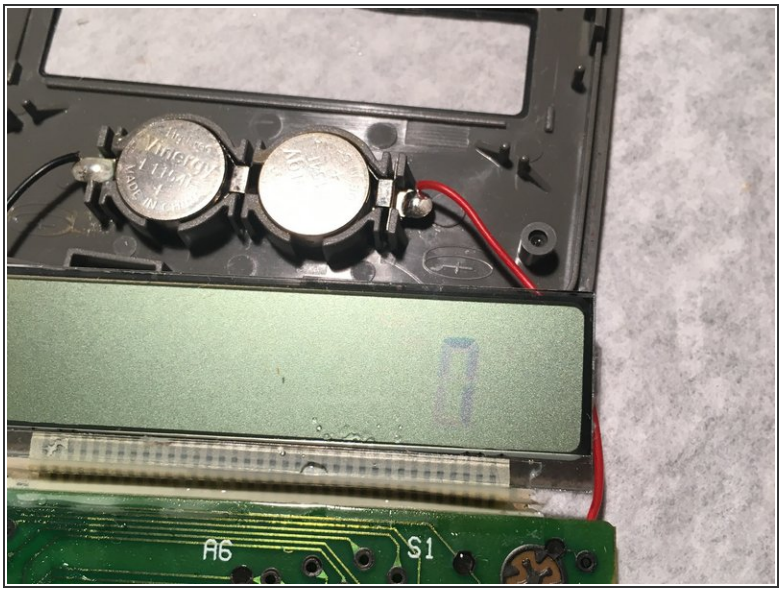
- You'll need to take out the 6 Philips 00 screws on the back to pop this puppy open. So, do just that!.

This isn't like an iPhone where putting one in wrong will brick it, they're all the same size.

Step 2 — Pry the notches on the back to separate the rear cover.

- See those notches? We'll have to pry on those to get the calc open. Use a plastic spudger to avoid cosmetic damage.

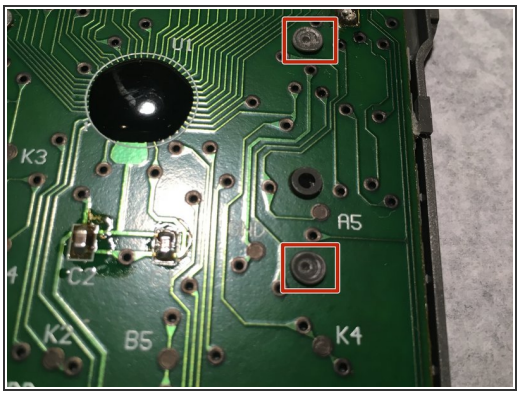
Step 3 — Remove the batteries and their connectors from their place on the front panel.

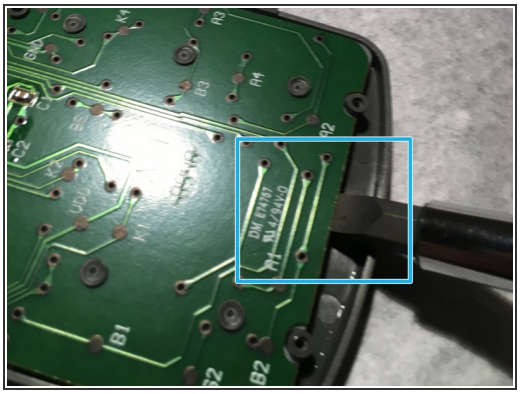


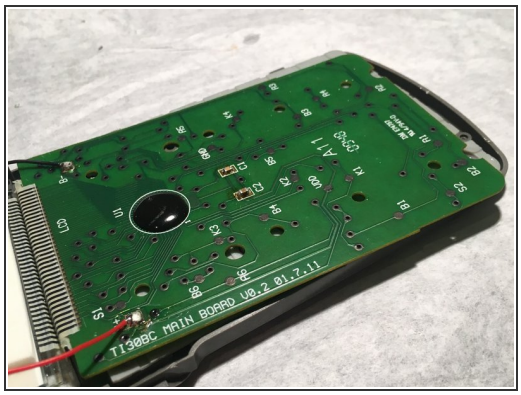
- Pop goes the weasel! The back cover is off! Now, you'll have to remove those batteries and connectors. The batteries are easy to get out, while for the connectors, you might have to do some prying with a flathead to get them out.

See that water and orange? That means that this calc has been exposed to water and has to be dried off. On to step 4!

Step 4 — Pry the board from its pegs!



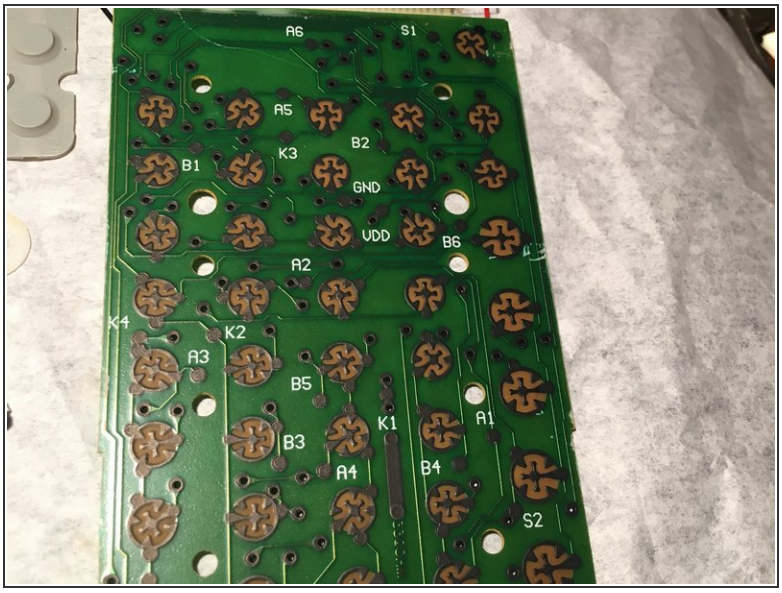


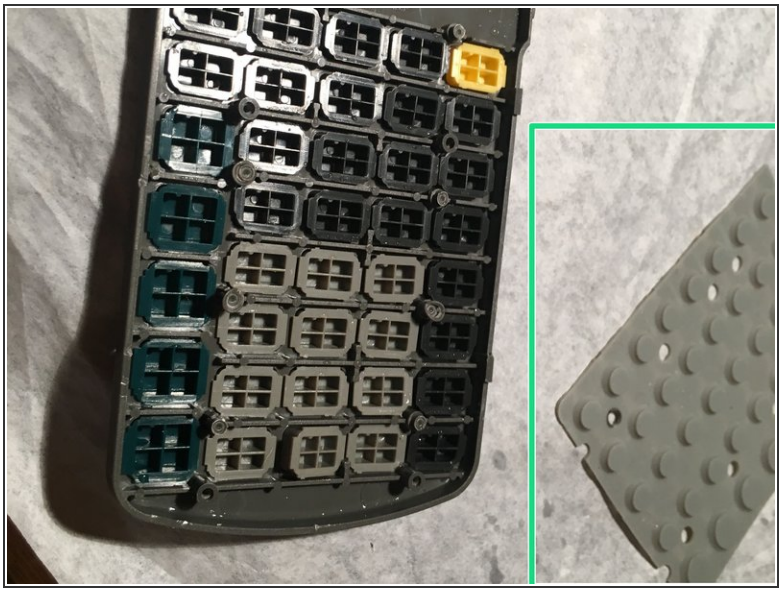


- See those little plastic pegs? Those prevent the logic board from being freed! (I think it's to maintain key rigidity and proper function. My keys worked fine after this, but they were pretty mushy.)
- You're not going to like this step, as it involves prying with a screwdriver and breaking these awful pegs off! So pry until the pegs in that area break, then move down the board!
- The board is free!
- Also, this little epoxy blob appears to be the processor. I could probably melt it off if I *desperately* wanted to, but the calculator works fine. If someone does, send me pics! I'm assuming the processor is ancient Texas secret. Or just some propietary chip.

⚠ **Don't pry too far in, as you risk damaging the traces connecting the keys!**

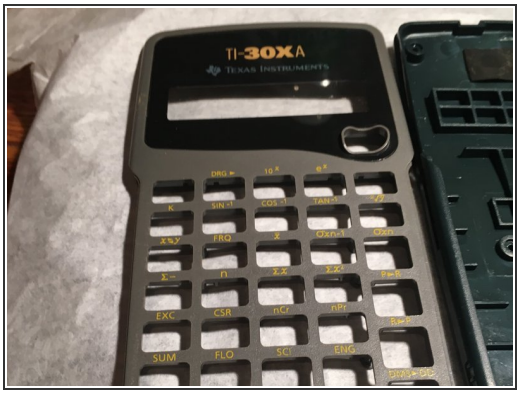
Step 5 — The keycaps and gray layer! You've reached the end, so keep going for more pics





- Here we have it. A free board. Clean off those connectors if they're dirty or wet!
- See that little gray layer? It's what transfers the button push from the plastic to the board. You can remove it to clean it. You're pretty much done! Look at step 6 for an exploded view.

Step 6 — The exploded view!



Boom! That was cool. Those little keycaps are individual and so cute! There's nothing really user replaceable except for the batteries, but you can still dry it off if it got wet. Simply snap everything back together to reassemble! I'd give this a 9/10 for repairability. There's only screws but you can't replace the screen.