

Replacing the internal Garmin GPS battery

Caution – this procedure takes close-up work on your GPS circuit board with soldering of the small battery wires on the board. Do not attempt unless you have a steady hand and magnified vision. Patience and nerves are also required. Permanent damage to your GPS may result by following this procedure. I told you so...now you can proceed. (see *Joe Bain's note at the bottom with a helpful tip*)

The Problem: Some of us have had issues with the Garmin 296/396/496 not picking up the satellites after a week or two in the hangar. Mine failed to connect to the satellite after 30 minutes which prompted this exercise. Most of us agree it is the internal 3 Volt DC battery mounted to the circuit board that is at fault. Here are instructions on how to replace it...

Tools required:

Fine tip soldering gun

Fine Phillips screwdriver

Small straight tip screwdriver

Razor knife blade for slicing spot welded terminals from battery

Tweezers

Needle nose pliers

Parts Required: New **1025** battery from Radio Shack (3 VDC Lithium 10mm dia. x 2.5mm)
\$4.99

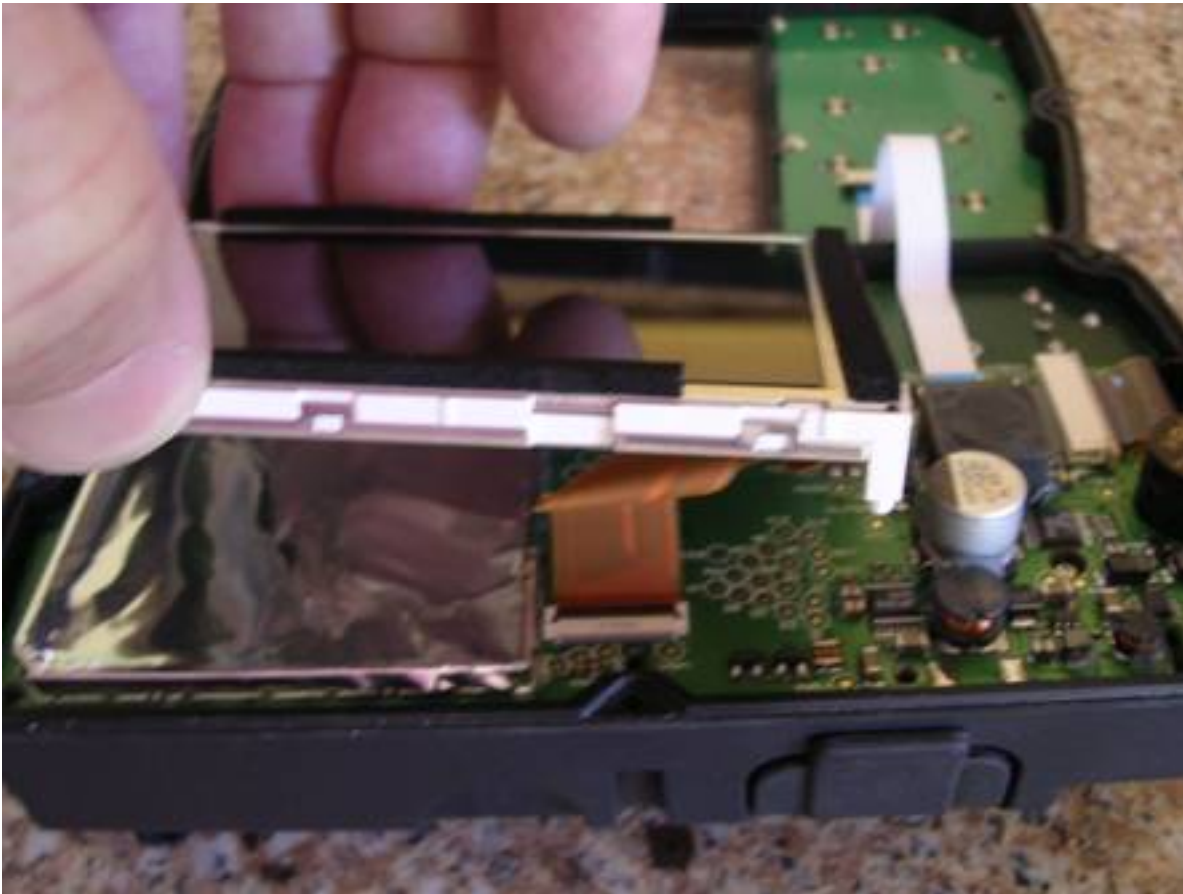
Get a well lit workbench to start on.

1. Remove all of the screws from the back side of the case.
2. Next – there is a nut holding the antennae post on the back of the GPS. Use a screwdriver to unscrew it.
3. Use a thin screw driver blade to gently pry apart the case. Pry on the portion under the buttons, not under the screen. Otherwise you may damage the screen. There is a gasket between the case halves so be careful not to damage it also.
4. With halves apart you will find the following...



5. Remove the white ribbon cable that goes top both halves by gently sliding it out of the slot on the 'screen' half.

6. Next – gently lift the screen and take look at the ribbon cable & 2 wire connectors attached.



7. I left the copper colored ribbon in place, but you must remove the red & black 'power' wire at the side. To remove this you must hold the base (connected to the board) while pulling the wire plug straight up with tweezers. Be careful or you will have to solder this part on also!



8. With the screen flopped over you can peel back the foil shielding to get access to the two screws underneath. There are 2 screws under the foil, and 2 screws visible on the board. Remove all 4 screws.

9. Next there is a ribbon cable on the 'button' end that wraps to the other side. To remove it you must slide the 'clip' portion sideways and swing it up. This will release the ribbon cable.

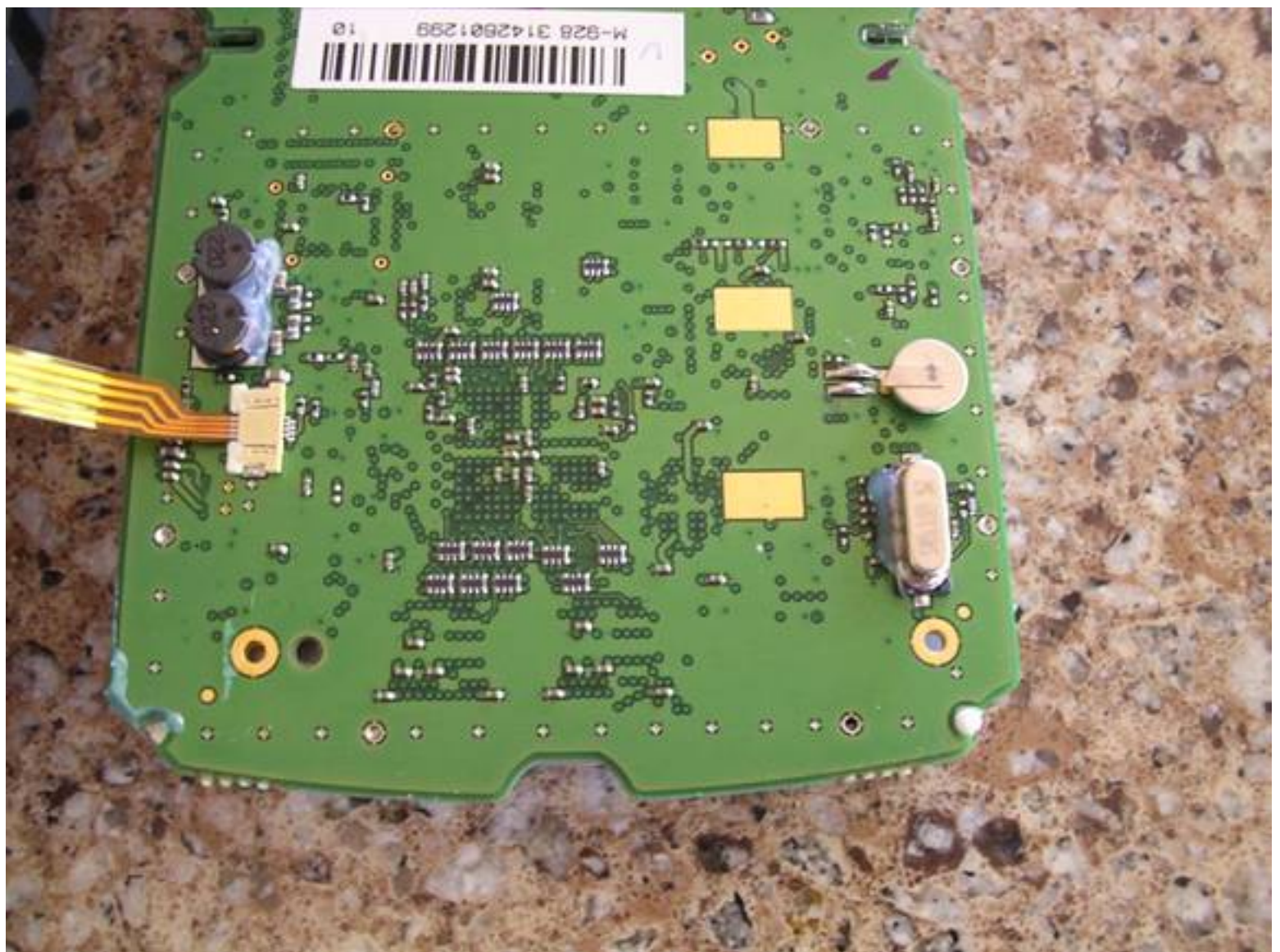
10. You are now ready to remove the screen/circuit board combo and get to the other side.



11.

12. Here's the other side with our round coin battery. The stock battery is made in Germany and rated at 3VDC ~7mm diameter. It is soldered to the board with 2 tabs. The tabs are spot welded to the battery. Use a Volt Ohm meter to verify the +/- direction and write it down.

13.



14. Unsolder the tabs from the board and your old battery will fall in your hands. Now comes the hard part – remove the tabs from the old battery.

15. I used a razor knife and 'sliced' the spot welds apart. You can also pry and wiggle and you will likely mash up the tabs. They will straighten out easily.

16. Now it's time to solder the tabs to the new battery. Make sure your +/- orientation is right and your tabs will line up to solder to the board. The 10mm will just clear the edge of the board. Any bigger will not work.

17. The assembly is the reverse order. No magic here, just be gentle and put it all back in place.

Upon boot up my GPS locked on the satellites in about 20 seconds. None of the routes, or

previous flights were lost with the battery out. It was like I had a new GPS! Considering the cost for Garmin to do this work I thought the risk was worth the reward. If it didn't work I would have sent it in anyway – so no loss. Hope this helps some of you in fixing Garmin.

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Kelly asked someone to put this info on the Web and volunteered to do it. I have not needed to do this yet.

If you have any questions you'll have to contact Kelly.

Here is a e-mail I received from Joe Bain with a helpful tip:

Thanks for hosting Kelly's info on changing the battery on a Garmin GPS. If you would forward this update I would appreciate it!

I just finished replacing the battery in my 496. A suggestion would be to have Batteries Plus tack leads on the 1025 battery - it makes things a lot easier and they have a welder that doesn't heat the battery as soldering would.

Thanks for the post - it was very helpful!

Joe Bain

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[Back to Bobby Hester's RV Site](http://home.newwavecomm.net/bobbyhester/garmingpsinternalbattery.htm)