

SERVICE BULLETIN

PATHPILOT CONTROLLER BATTERY



CONFIRM A BATTERY FAILURE

PURPOSE

This document gives instructions on diagnosing and resolving a battery failure on a PathPilot controller.



IMPORTANT! After you replace the controller's battery, you **must** set the correct date and time in the BIOS settings. If you don't, PathPilot won't boot properly.

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CONFIRM A BATTERY FAILURE

If the PathPilot controller powers on, loads the splash screen, and stops responding, it could indicate a battery failure.

To confirm a battery failure:

- 1. After the PathPilot controller has been unresponsive and displaying the splash screen for a minute or more, power it off and back on again.



Figure 1: Older version of the splash screen graphic, which could indicate a battery failure.



Figure 2: Newer version of the splash screen graphic, which could indicate a battery failure.

CONFIRM A BATTERY FAILURE

2. If the splash screen loads and stops responding:

a. Select **Esc** on the keyboard.

A diagnostic screen replaces the splash screen.

b. Read the last line of text. If it displays **"* Starting enable remaining boot-time encrypted block devices"**, go to Replace the Battery.

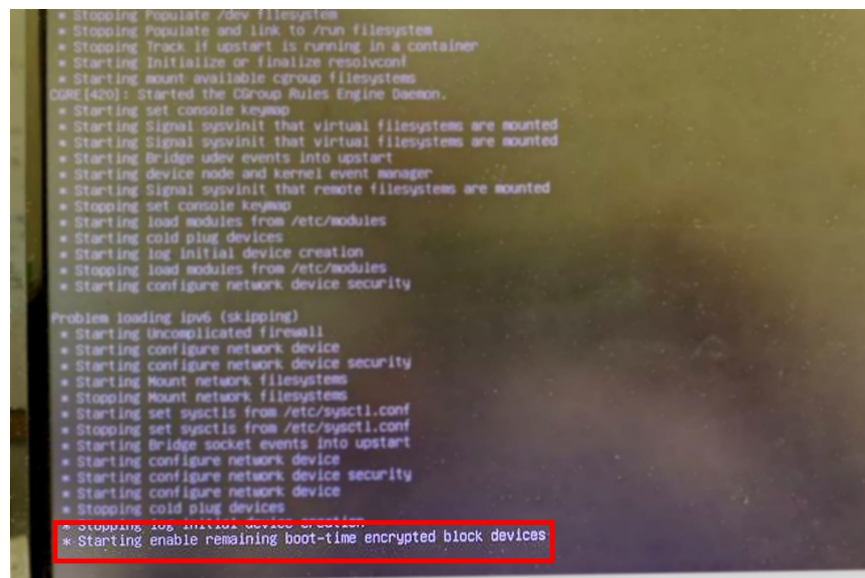





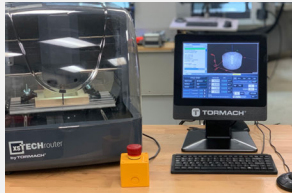

Figure 3: Diagnostic screen, which confirms a battery failure.

If it doesn't, we can help. Create a support ticket with Tormach Technical Support at tormach.com/how-to-submit-a-support-ticket for guidance on how to proceed.

IDENTIFY YOUR PATHPILOT CONTROLLER

IDENTIFY YOUR PATHPILOT CONTROLLER

Depending on the controller that you're using, the next steps vary. Refer to the table below to determine how to resolve the problem.

Controller Type	Next Steps
	Go to "Replace the Battery on a Revision C or Revision D Controller" (on the next page).
	Go to "Replace the Battery on a Brix Controller" (page 8).
	Go to "Replace the Battery on a PathPilot Operator Console" (page 10).
	Go to "Replace the Battery on an xsTech Controller" (page 12).
	Go to "Replace the Battery on a Legacy Controller" (page 14).

REPLACE THE BATTERY ON A REVISION C OR REVISION D CONTROLLER

Before You Begin

- **Read through the procedure.** A few Revision C controllers have a different battery style. If your controller has a battery **without** the connector shown in the following photos, follow the instructions in "Replace the Battery on a Brix Controller" (page 8).
- **New part required.** If your controller has a battery **with** the connector shown in the following photos, you'll need a new battery with a connector (PN 51815). To order the part, email orders@tormach.com.

1. Disconnect the power cord from the controller.
2. Disconnect all remaining cabling from the controller, and then turn it over.
3. Remove the four screws. There's one in each corner of the controller.



Figure 4: Screws on the bottom of the controller.

4. Set the back panel to the side.

NOTICE! Remove the cover slowly. If you don't, there's a risk that you could disconnect a cable that connects the panel to the main controller unit.

REPLACE THE BATTERY ON A REVISION C OR REVISION D CONTROLLER

5. Identify the CR2032 battery connector inside the controller. Then, disconnect it from the motherboard. Because it's difficult to completely remove the original battery, we recommend leaving it in place.

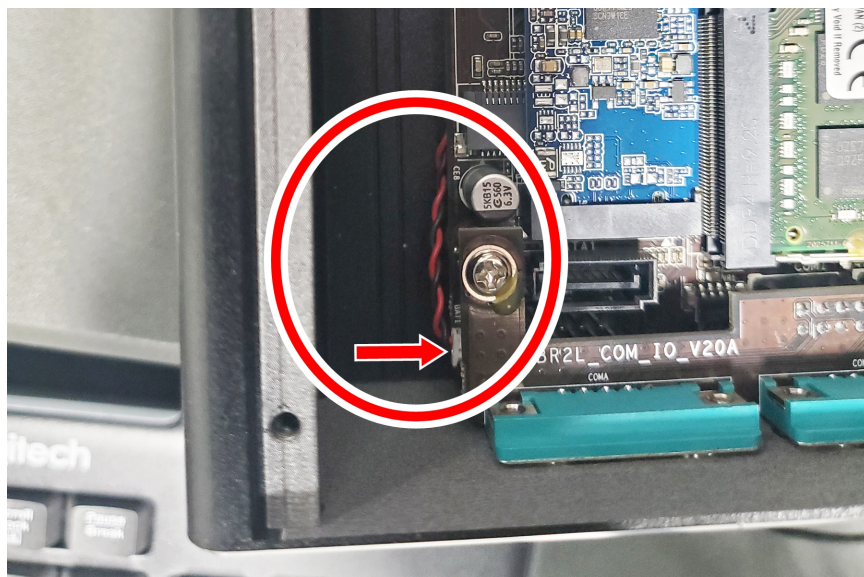


Figure 5: Location of the CR2032 battery inside the controller.

6. Find the new battery (PN 51815) and connect it to the motherboard where you previously disconnected the original battery.

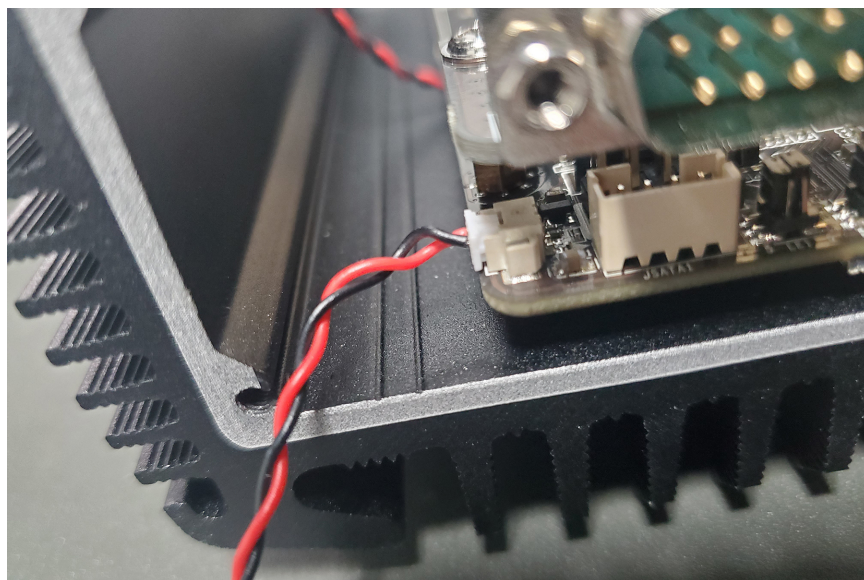


Figure 6: New battery connected to the motherboard.



Note: If you don't yet have the battery, email orders@tormach.com to order PN 51815.

REPLACE THE BATTERY ON A REVISION C OR REVISION D CONTROLLER

- Put the battery itself into the controller next to the motherboard.

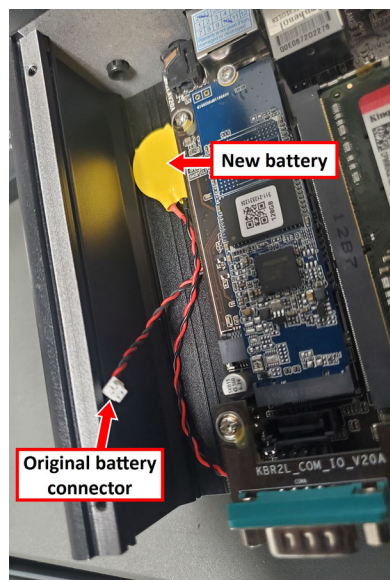


Figure 7: New battery installed and original battery disconnected.

- Put the back panel on the controller, reinstall the four screws, and reconnect all cabling to the controller.
- Go to "Restart the Controller and Set the Date and Time" (page 16).



IMPORTANT! After you replace the controller's battery, you **must** set the correct date and time in the BIOS settings. If you don't, PathPilot won't boot properly.

REPLACE THE BATTERY ON A BRIX CONTROLLER

REPLACE THE BATTERY ON A BRIX CONTROLLER

1. Disconnect the power cord from the controller.
2. Disconnect all remaining cabling from the controller, and then turn it over.
3. Remove the four Phillips head screws. There's one in each corner of the controller.



Figure 8: Phillips head screws on the bottom of the controller.

4. Use the knob to move the cover up approximately 1/2 in.

NOTICE! Move the cover up slowly. If you don't, there's a risk that you could disconnect a cable that connects the cover to the main controller unit.



Figure 9: Knob on the bottom of the controller used to move the cover up.

REPLACE THE BATTERY ON A BRIX CONTROLLER

5. Identify the CR2032 battery inside the controller. Then, remove it and replace it with a new battery.

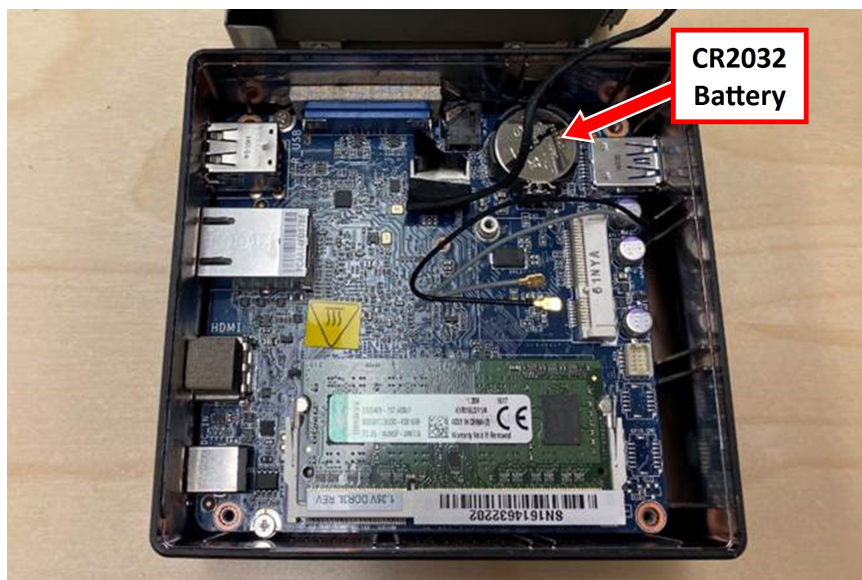


Figure 10: Location of the CR2032 battery inside the controller.

6. Move the cover back in place, reinstall the four Phillips head screws, and reconnect all cabling to the controller.
7. Go to "Restart the Controller and Set the Date and Time" (page 16).



IMPORTANT! After you replace the controller's battery, you **must** set the correct date and time in the BIOS settings. If you don't, PathPilot won't boot properly.

REPLACE THE BATTERY ON A PATHPILOT OPERATOR CONSOLE

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1. Disconnect all cabling from the operator console. Then, remove the operator console from where it's mounted onto the machine.



Figure 11: Operator console (and its cabling) mounted to the enclosure.

2. Remove the Phillips head screws that secure the back panel to the operator console. Set the screws and the back panel aside.
3. Identify the CR2032 battery inside the controller. Then, remove it and replace it with a new battery.

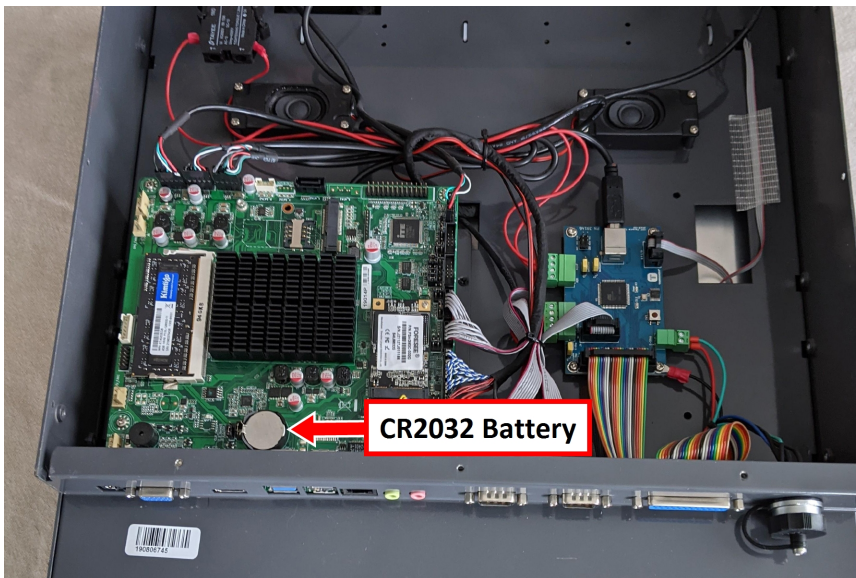


Figure 12: Location of the CR2032 battery inside the controller.

4. Reinstall the back panel onto the operator console with the Phillips head screws that you set aside in Step 2.
5. Re-mount the operator console onto the machine, and reconnect all cabling to the operator console.

REPLACE THE BATTERY ON A PATHPILOT OPERATOR CONSOLE

6. Go to "Restart the Controller and Set the Date and Time" (page 16).



IMPORTANT! After you replace the controller's battery, you **must** set the correct date and time in the BIOS settings. If you don't, PathPilot won't boot properly.

REPLACE THE BATTERY ON AN XSTECH CONTROLLER

REPLACE THE BATTERY ON AN XSTECH CONTROLLER

1. Disconnect all cabling from the controller, and then turn it over.
2. Remove the four screws that secure the stand to the controller. Set aside the screws and the stand.



Figure 13: Phillips head screws securing the stand to the controller.

3. Remove the 12 screws that secure the back chassis to the controller.

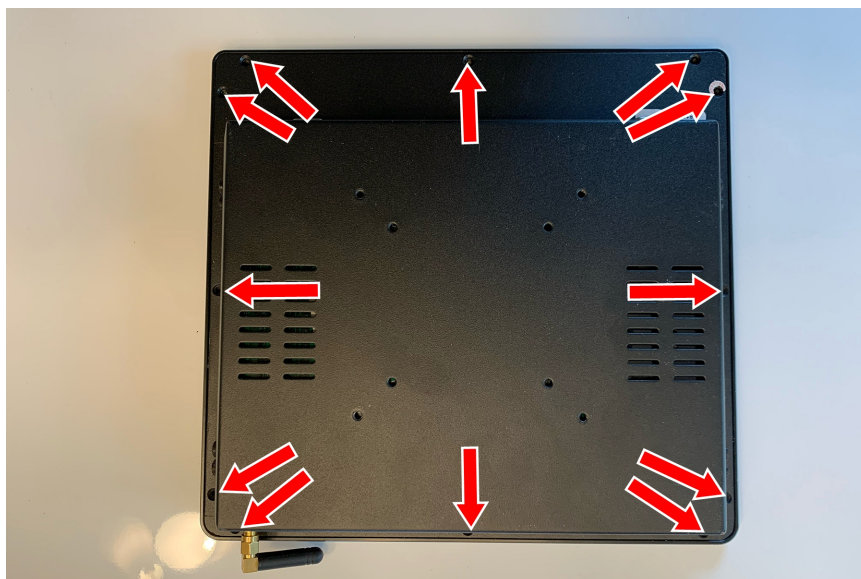


Figure 14: Screws securing the back chassis to the controller.



Note: One screw is below the QA sticker on the controller.

REPLACE THE BATTERY ON AN XSTECH CONTROLLER

4. Turn the controller over, and carefully slide the glass screen to the side as shown in the following image.

NOTICE! Move the glass screen slowly. If you don't, there's a risk that you could disconnect a cable that connects the screen to the main controller unit.

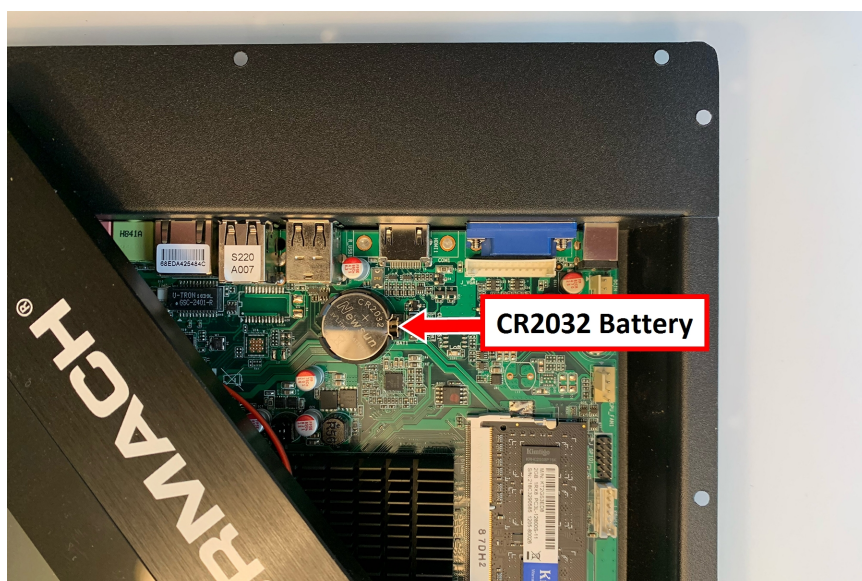


Figure 15: Glass screen moved on the controller to access the battery.

5. Identify the CR2032 battery inside the controller. Then, remove it and replace it with a new battery.
6. Move the glass screen back in place. Turn the controller over, and reinstall the back chassis and the stand. Then, reconnect all cabling to the controller.
7. Go to "Restart the Controller and Set the Date and Time" (page 16).



IMPORTANT! After you replace the controller's battery, you **must** set the correct date and time in the BIOS settings. If you don't, PathPilot won't boot properly.

REPLACE THE BATTERY ON A LEGACY CONTROLLER

1. Disconnect the power cord and any necessary cabling from the controller.
2. Remove the left side panel of the controller.



Figure 16: Left side panel on the controller.

3. Identify the CR2032 battery on the motherboard. The exact location of the battery in your controller may vary, and you may need to remove additional components to access it (we used multiple versions of controllers and motherboards).

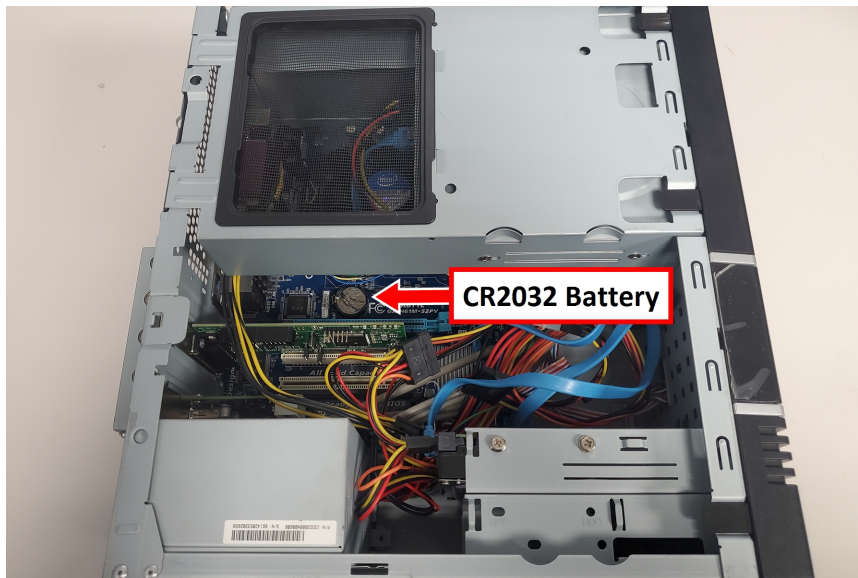


Figure 17: Example of the CR2032 battery location on the motherboard.



Note: If you need guidance on locating the battery, we can help. Create a support ticket with Tormach Technical Support at tormach.com/how-to-submit-a-support-ticket for guidance on how to proceed.

4. Remove the old CR2032 battery and replace it with a new one.

REPLACE THE BATTERY ON A LEGACY CONTROLLER

5. Replace the left side panel and reconnect all cabling to the controller.
6. Go to "Restart the Controller and Set the Date and Time" (on the next page).



IMPORTANT! After you replace the controller's battery, you **must** set the correct date and time in the BIOS settings. If you don't, PathPilot won't boot properly.

RESTART THE CONTROLLER AND SET THE DATE AND TIME

1. Power on the controller while repeatedly selecting **Delete** on the keyboard.
 - **If the BIOS Menu Displays** Go to Step 2.
 - **If the Splash Screen Displays** You've missed the time window in which you can access the BIOS menu. Press the power button on the controller for 10 seconds, and repeat Step 1.



Tip! If you're having trouble getting into the BIOS menu, we recommend plugging your keyboard directly into the controller (and not through an extension).

2. From the BIOS menu, go to **Chipset**, and change **Restore AC Power Loss** to **Power On**.
3. From the BIOS menu, set the correct date and time.
4. Power the controller off and back on again.
PathPilot loads as normal.

TROUBLESHOOTING

Problem: After replacing the battery and updating the date and time in the BIOS settings, the controller hangs on the splash screen.

Resolution:

1. From the splash screen, press the **Esc** key on the keyboard.
A diagnostic screen displays.
2. Verify that the last line on the diagnostic screen is "Starting enable remaining boot-time encrypted block devices". If it is, you can try the repair option.
3. Press the **F** key on the keyboard.
The controller acknowledges the key press.

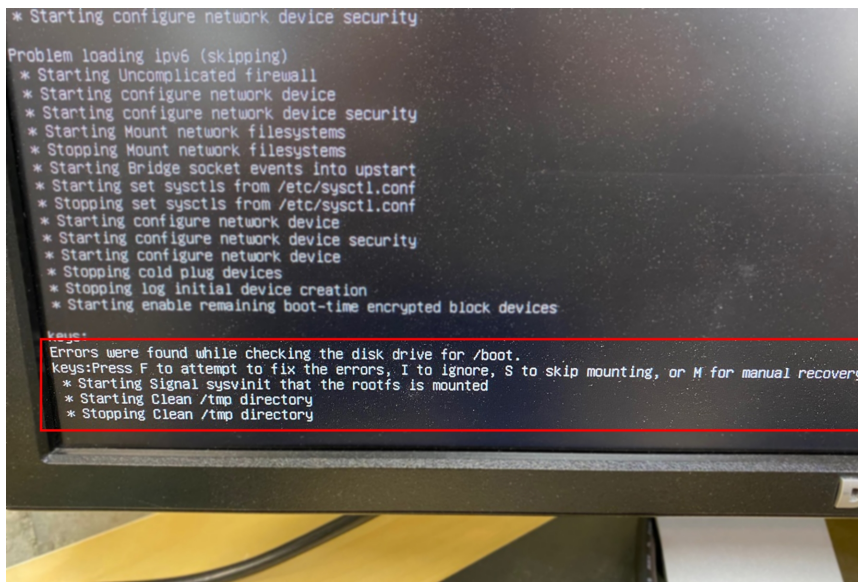


Figure 18: Diagnostic screen.

4. Press the **F** key again to attempt to resolve any internal drive issues, and continue loading PathPilot.