Spitronics - BootLoader Recovery - Guide

1. Introduction

Spitronics and ecuDIY devices are equipped with a BootLoader, allowing firmware to be loaded via software without the need for a firmware programmer. Older products used a Firmware Programmer and cannot benefit from this software

If a firmware upload is interrupted, the device may become unresponsive and normal software will not connect.

This procedure explains how to recover such a device using BootLoader Recovery Software.

Products with Bootloader – Orion, Orion2, Venus3, Mercury3, Callisto, The Badger

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2. When to Use Recovery

Use this procedure when:

• Device does not connect to software
• Firmware update was interrupted
• Device appears unresponsive

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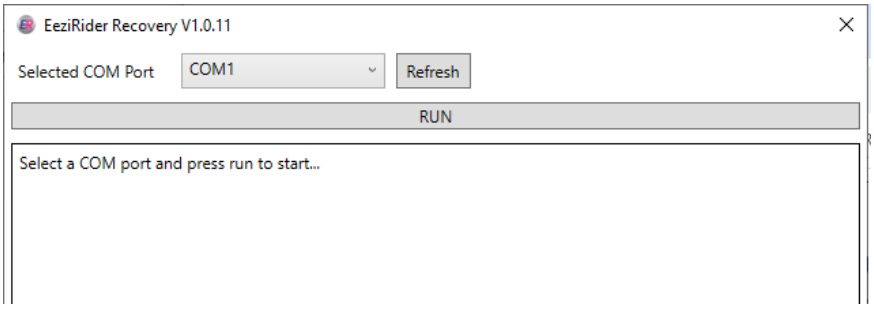
3. Software Requirements

Use the correct recovery software for your product:

• **Spitronics (Hyperspace devices)** → Spitronics Recovery V1.0.4
• **Cosmos / ecuDIY (some models)** → EeziTune BootLoader Recovery
• **The Badger (EZ42)** → Badger BootLoader Recovery Software



👉 Software is available under:
Downloads → Software

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4. Hardware Requirements

You will need:

• USB tuning cable
• Power source (bench supply or vehicle with switch)

• Fine tweezer or probe (to short pins)
• Correct recovery software

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5. Important Safety Notes

⚠ Critical:

• Disconnect ALL output connectors
• Connect ONLY:
• P1 connector
• USB communication cable
• Do NOT power the device until instructed

👉 Outputs may activate during recovery and cause damage

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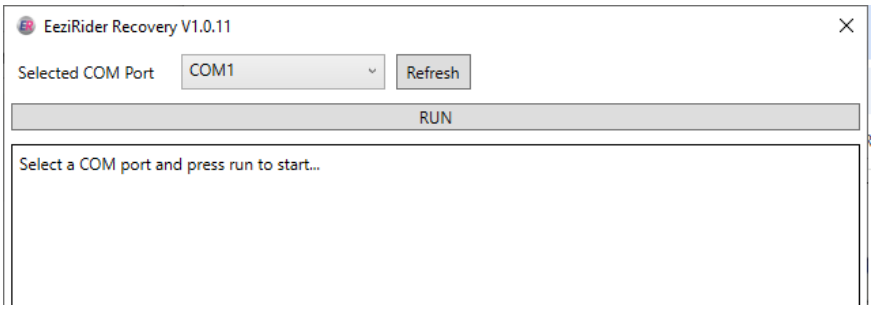
6. Preparation

1. Close all Spitronics / ecuDIY software
2. Open the correct BootLoader Recovery Software
3. Select the correct COM port



COM Port Check

• Wrong COM port → shows: ???
• Correct COM port → shows: @@@

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7. Recovery Procedure

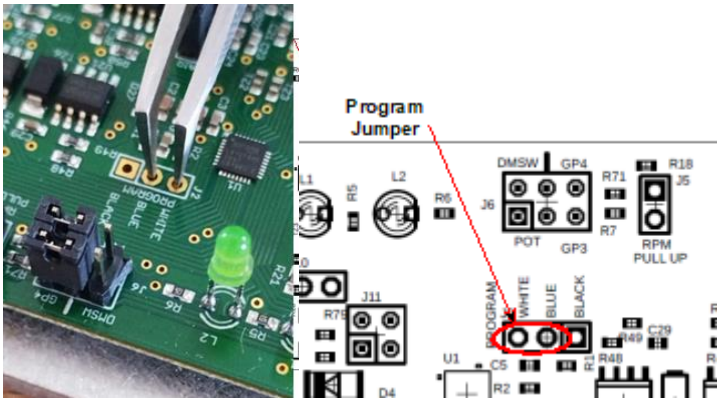
Step 1 – Enter Boot Mode

• Short the correct BootLoader pins using a tweezer. Each BootLoader product will have a 3-pin connector near the microprocessor. It consists of one square pad and two round pads. Always short the two round pads.

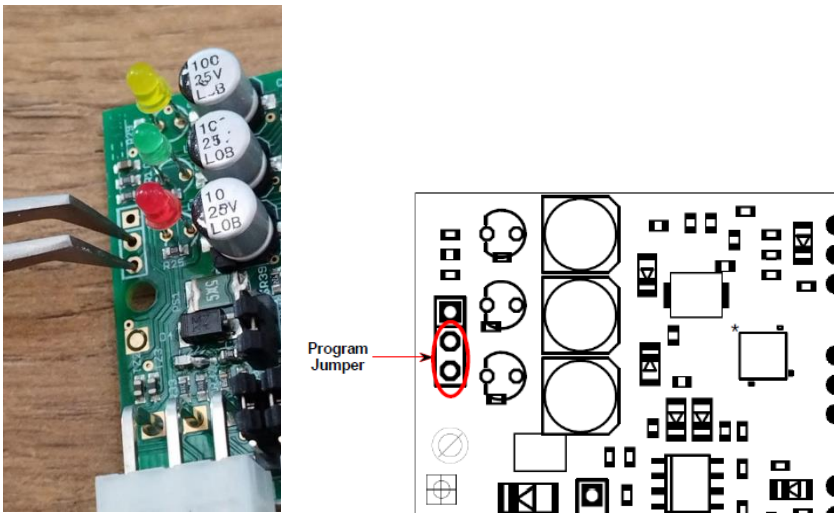
⚠ Important:

• Ensure correct pins are used
• Avoid touching other PCB areas

Orion2



Venus3

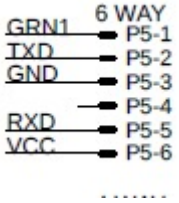


Mercury3

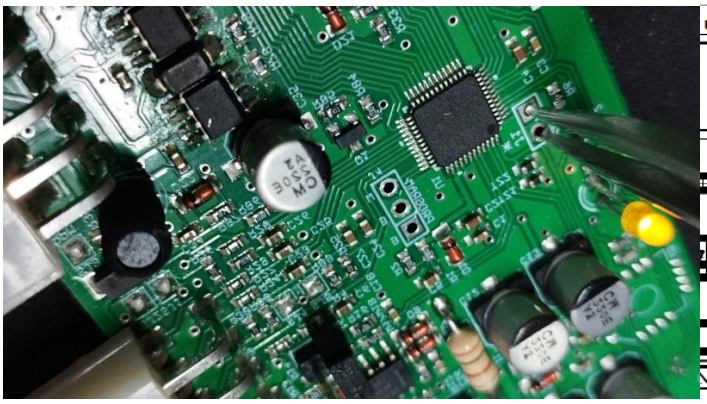
To manually put the Mercury3 into Program mode, connect only the P1 connector to the device. Do not switch the power on yet, and avoid connecting the communication cable at this stage.

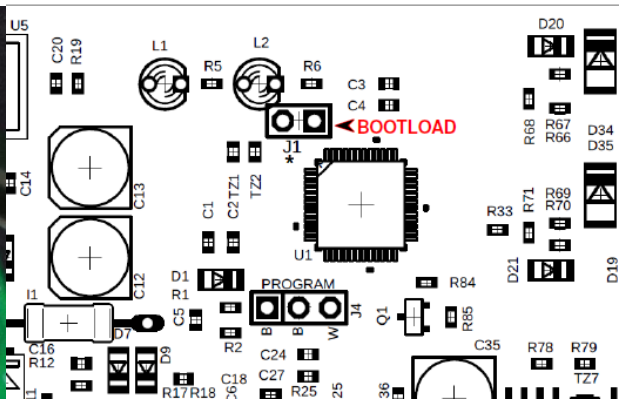
Create a jumper wire and short Pin 1 (GRN1) and Pin 3 (GND) on the communication connector. Refer to the provided diagram and picture to ensure you have the correct pins, as incorrect connections may damage the product, for which you will be responsible.

Once the jumper is in place, switch the power on. The Green1 LED will light up. Now remove the jumper from the communication connector. The Green1 LED will turn off, indicating that the Mercury3 is now in Program mode.

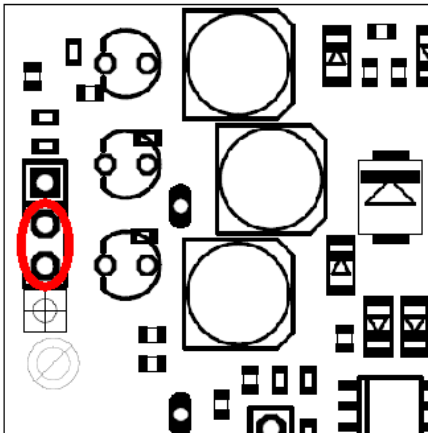


Callisto





The Badger



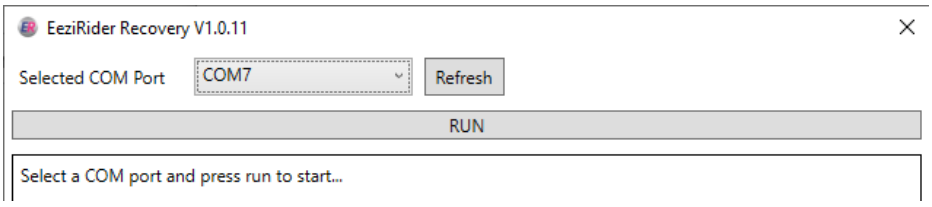
Step 2 – Power On

• Apply power to the device
• Remove the short

👉 Most devices will show a green LED

Step 3 – Start Recovery

• Click Run in the software
• The tool will load identification firmware

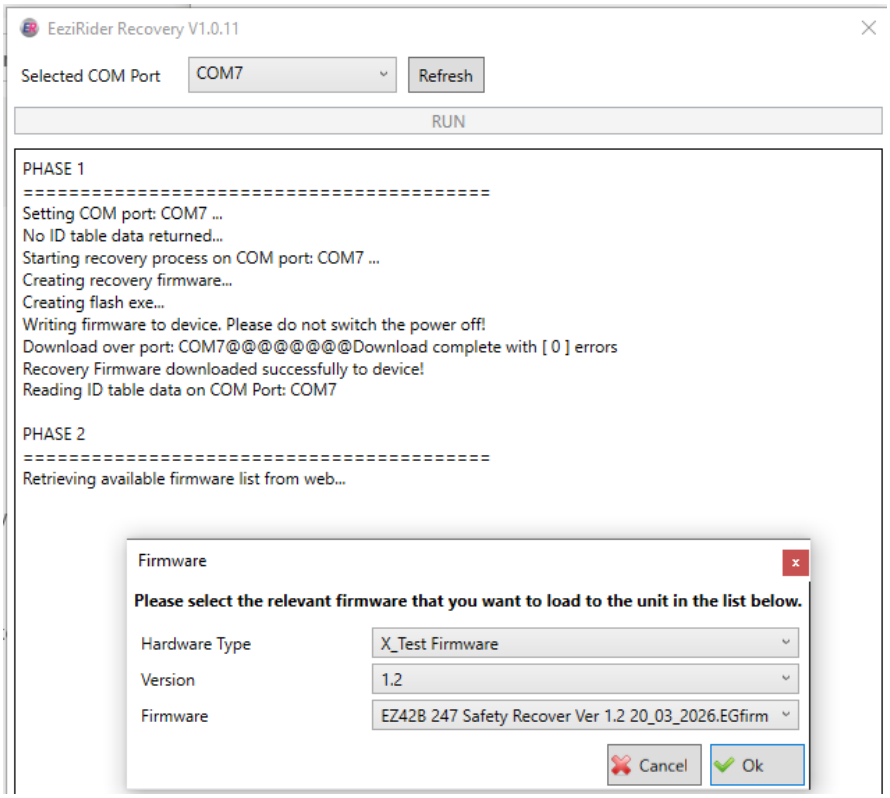


Step 4 – Select Firmware

If successful:

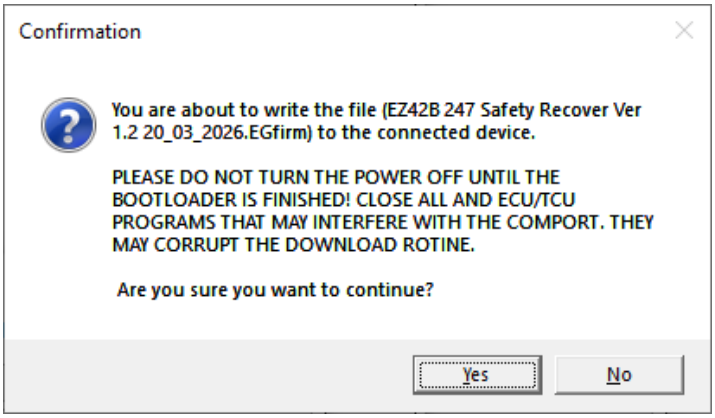
• A selection panel will appear
• Select:
Safety Recovery Firmware

⚠ Do NOT select any other option



Step 5 – Confirm

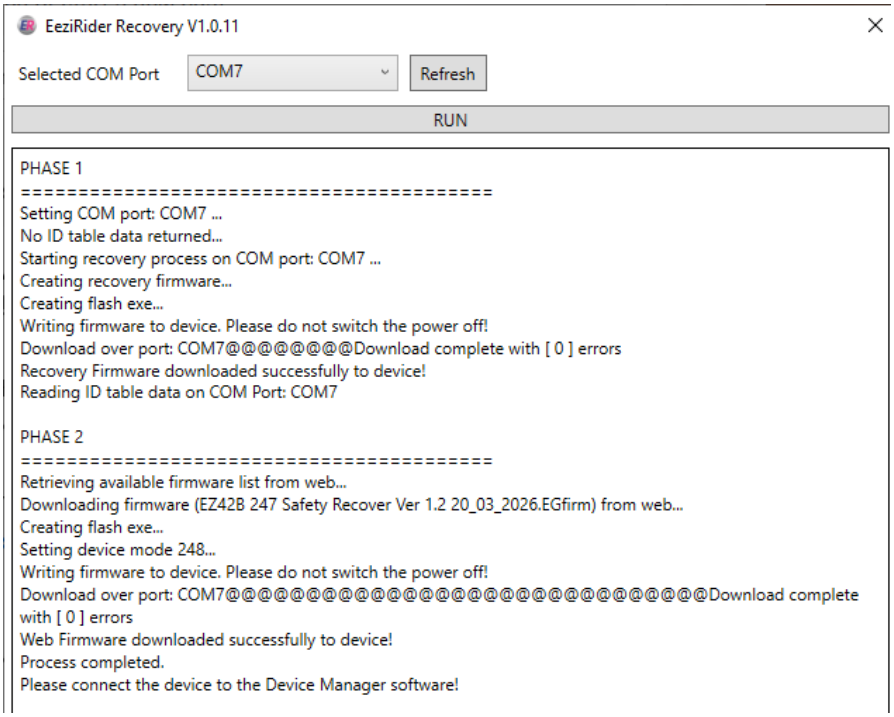
- Click OK
- Confirm firmware load



Step 6 – Completion

If successful:

- A confirmation message will appear
- Device is now recoverable



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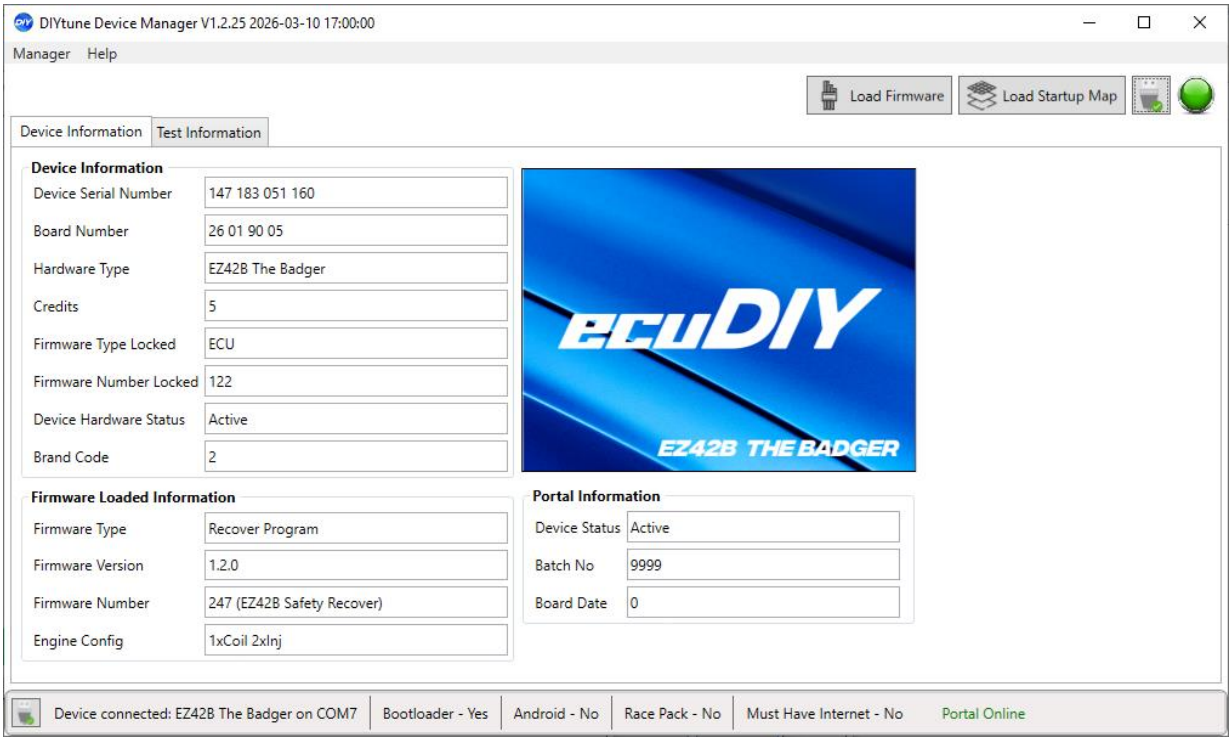
8. Reload Main Firmware

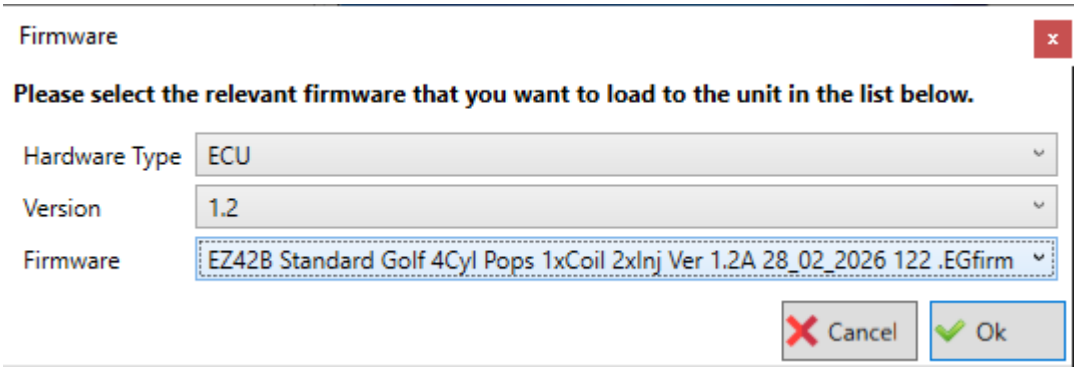
Open correct Device Manager software:

- Hyperspace → DM4.0
- Cosmos / ecuDIY → DM1.1 / DM1.2



Confirm device is detected

2. Click **Load Firmware**
3. Load correct firmware



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9. Final Check

- Verify device information is correct
- Confirm map is still present
- Check critical settings before use

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10. Troubleshooting

Problem	Possible Cause	Solution
No response	Wrong COM port	Select correct port (@@@)
No recovery screen	Pins not shorted correctly	Retry carefully
Device not detected after recovery	Wrong software used	Use correct recovery tool
Firmware not accepted	Activation not valid	Contact dealer