

Spitronics - ECU - No Start - Quick Diagnostic Guide

1. Overview

This guide helps identify the cause of a **no start condition**.

Follow the steps in order.

Do not skip steps.

2. Quick Check (Before Starting)

Ensure:

- ECU powers up (LED ON)
 - Laptop connects to ECU
 - No major error codes present
- If not → fix power or communication first
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3. Does the ECU See RPM While Cranking?

Crank engine and check RPM in software.

✗ NO RPM

👉 Problem = **Crank signal / setup**

Check:

- Crank sensor wiring
- Sensor type and configuration
- Trigger angle / edge setup
- Sensor gap

👉 Go to:

Crank and Cam Sensors – Software

✓ RPM PRESENT (±200–300 RPM)

👉 Go to next step

4. Is There Spark?

✗ NO SPARK

👉 Problem = **Ignition system**

Check:

- Coil power (relay)
- Coil ground
- Trigger signal from ECU
- Coil type / configuration

👉 Go to:
Ignition Timing Setup – Guide

✅ **SPARK PRESENT**

👉 Go to next step

5. Is There Fuel Injection?

Check injector activity:

- Injector clicking
- Injector time in software

❌ **NO INJECTION**

👉 Problem = **Fuel setup**

Check:

- Injector fuses
- Injector wiring
- Injector ratio / offset
- Sensor inputs (MAP, temp, altitude)

👉 Go to:
Fuel System Test – Guide

✅ **INJECTION PRESENT**

👉 Go to next step

6. Is Fuel Amount Correct?

Check injector time during cranking:

❌ **0 ms**

👉 Fuel is being cut

Check:

- Compensation graphs
- Sensors enabled but not connected
- Altitude / air sensor settings

❌ **Too High (± 20 – 25 ms)**

👉 Too rich

Check:

- Water temp sensor
- Altitude sensor
- Fuel map / ratio

✅ **Normal ($\pm 11-13$ ms)**

👉 Go to next step

7. Does Engine Try to Start?

❌ **NO RESPONSE**

👉 Possible causes:

- Incorrect timing
- No compression
- Fuel not reaching cylinders

⚠️ **BACKFIRE / KICKBACK**

👉 Timing incorrect

👉 Go to:

Ignition Timing Setup – Guide

⚠️ **TRIES BUT DOES NOT RUN**

👉 Fuel or idle issue

👉 Go to:

Idle Setup and Stabilisation – Guide

8. Final Checks

If still no start:

- Verify mechanical timing
- Check compression
- Check fuel pressure
- Check for flooded engine

⚠️ **Important Notes**

- Do NOT skip steps
- Most problems are wiring or setup
- Always verify ignition timing first
- Do not crank continuously → use short intervals

📌 **Reference Links**

- 📖 Crank and Cam Sensors – Software
- 📖 Ignition Timing Setup – Guide
- 📖 Fuel System Test – Guide
- 📖 Idle Setup and Stabilisation – Guide