Spitronics - ECU - Ignition Timing Setup - Guide

1. Overview

This guide verifies and sets correct ignition timing before starting the engine.

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2. When to Use This Guide

• Engine does not start
• Backfiring during cranking
• Timing not matching ECU

⚠ **Warning**
Incorrect timing may cause:
• Severe engine damage
• Unburned fuel contaminating spark plugs
• Fuel dilution in engine oil

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3. Requirements

• Timing light
• Crank signal stable
• ECU powered correctly

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4. Procedure

1. Enable Crank Sensor Test
2. Set maximum timing to ±10° BTDC
   • If no timing marks are available, use the closest reference mark
   • If only TDC is available, set timing to **0°**
3. Save settings
4. Insert coil fuses
5. Crank engine in short intervals (±5 sec)
6. Check timing with timing light
7. Adjust:
   • Gear Teeth (coarse)
   • Timing BTDC (fine)
8. Match timing light to ECU value
9. Restore original maximum timing
10. Disable Crank Sensor Test
11. Save settings

⚠ Note:
On wasted spark systems, timing lights may read double

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5. Expected Result

• Stable timing
• ±10° BTDC during cranking
• ECU timing matches ECU timing

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6. If Not Correct

• No timing → setup or trigger issue
• Unstable timing → signal or wiring issue
• Incorrect timing → adjust Gear Teeth / BTDC

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7. Notes / Warnings

• Do NOT start engine before verifying timing
• Do not proceed to start engine if timing is unstable.
• Incorrect timing can cause severe engine damage
• Do NOT pull HT leads to test spark

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8. Reference Links

i Crank and Cam Sensors – Software