



## P2E6C

### Hybrid/EV Battery Pack A Cell Thickness

P2E6C indicates that the hybrid or electric vehicle battery pack controller has detected an abnormal cell thickness measurement in battery pack A, typically derived from pressure or strain sensors embedded in the pack. The computer compares this reading against expected values and flags the code when the measured thickness falls outside the calibrated range, which can indicate mechanical swelling or sensor circuit problems.

| SYSTEM     | CODE TYPE           | SEVERITY | FIX DIFFICULTY | AREA              |
|------------|---------------------|----------|----------------|-------------------|
| Powertrain | Generic (all makes) | High     | Professional   | Hybrid propulsion |

### Symptoms you may notice

- Illumination of the hybrid system warning light or service vehicle soon message
- Often no symptoms besides the warning light, especially in early stages
- Reduced electric-only driving range or sluggish hybrid operation
- Battery pack cooling fan running more frequently or at higher speed
- In rare cases, a burning smell or visible bulging of the battery pack casing

### Common causes, most likely first

- 1 Faulty cell thickness or pressure sensor within battery pack A
- 2 Damaged or corroded wiring harness or connector at the battery pack sensor
- 3 Actual mechanical swelling of one or more battery cells due to age or degradation
- 4 Battery pack overheating from a failed cooling system component
- 5 Software calibration error in the battery energy control module
- 6 Physical impact or damage to the battery pack enclosure

### How to diagnose and fix it

- 1 Retrieve all stored codes and freeze-frame data with a scan tool capable of hybrid battery diagnostics
- 2 Visually inspect the battery pack, sensor connectors, and wiring for damage, corrosion, or swelling
- 3 Measure sensor resistance and voltage at the pack connector and compare to manufacturer specifications
- 4 Check battery pack cooling system operation, including fan function and coolant flow where applicable
- 5 Verify battery energy control module software is up to date and perform any available recalibration
- 6 If sensor and wiring test good, perform a battery pack capacity and cell balance test to assess internal condition
- 7 Replace the faulty sensor, wiring repair, or battery pack assembly as indicated by test results



## What a cell thickness code really means

- A cell thickness code often originates from a failing pressure sensor rather than actual cell swelling, so sensor circuit testing should precede any pack replacement decision.
- Battery pack swelling can be caused by overcharging or a failed cooling fan, so the root cause must be corrected even after sensor replacement.
- Some manufacturers use strain gauges bonded to the cell stack, and a loose adhesive bond can mimic a thickness fault without any real mechanical issue.
- This code can set intermittently due to temperature extremes affecting sensor resistance, so a wiggle test and freeze-frame review are essential.
- A weak 12-volt auxiliary battery can cause erratic sensor readings on hybrid networks, so always verify system voltage before condemning pack components.

## Can I keep driving with P2E6C?

Limit driving to essential trips and avoid aggressive acceleration or high-speed charging until the fault is diagnosed, because a genuinely swollen cell can worsen and create a safety risk. If you notice a burning smell, visible pack bulging, or reduced power, stop driving and have the vehicle towed to a qualified hybrid technician.

## Tools that help

- Hybrid-capable scan tool with battery pack data access
- Digital multimeter with resistance and voltage measurement
- Insulation tester for high-voltage circuit checks
- Battery pack lifting table or support stand
- Manufacturer service information for sensor specifications

## Reading P2E6C

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| <b>P</b>  | Powertrain: engine, transmission and emissions.                      |
| <b>2</b>  | Generic (SAE) code: it means the same thing on every OBD-II vehicle. |
| <b>E</b>  | Hybrid propulsion.                                                   |
| <b>6C</b> | The exact fault within that area.                                    |

## Often seen with

**P0A7F** Hybrid/EV Battery Pack Deterioration · **P0A80** Replace Hybrid/EV Battery Pack · **P0AFA** Hybrid/EV Battery System Voltage Low · **P2E6D** Hybrid/EV Battery Pack A Cell Thickness Sensor Circuit High · **P2E6E** Hybrid/EV Battery Pack A Cell Thickness Sensor Circuit Low



## See it working

Watch the animated explainer [How Regenerative Braking Works in Electric Cars](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2e6c/>

