

GENERIC · POWERTRAIN

P2BB1

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2BB1

Alternative Fuel Consumption Too High

P2BB1 indicates that the powertrain control module has calculated that the vehicle is consuming more alternative fuel than expected for the current operating conditions. The computer monitors fuel usage through the alternative fuel system sensors and compares it to an internal model, setting this code when the actual consumption exceeds the threshold.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Hybrid propulsion

Symptoms you may notice

- Malfunction indicator lamp illuminated on the dashboard
- Often no symptoms besides the warning light
- Noticeably reduced alternative fuel economy
- Rough running or hesitation under load
- Difficulty maintaining speed on inclines
- Strong fuel odor around the vehicle

Common causes, most likely first

- Leaking alternative fuel injector or fuel line
- Faulty alternative fuel pressure regulator
- Contaminated or degraded alternative fuel
- Malfunctioning fuel composition sensor
- Clogged or restricted alternative fuel filter
- Engine misfire causing incomplete combustion
- Wiring or connector issues in the alternative fuel sensor circuit

How to diagnose and fix it

- Connect a scan tool and record freeze-frame data to understand when the code sets
- Inspect the alternative fuel system for visible leaks at injectors, lines, and fittings
- Test fuel pressure and compare to manufacturer specifications
- Check the fuel composition sensor signal for accuracy and consistency
- Verify ignition system operation and check for misfire codes
- Replace the alternative fuel filter if service records indicate it is due
- Perform a fuel trim analysis to identify whether the issue is fuel delivery or measurement



What technicians often overlook on P2BB1

- A failing fuel composition sensor can report incorrect alternative fuel content, causing the PCM to calculate excessive consumption even when actual usage is normal.
- Small leaks at the alternative fuel injector O-rings often go unnoticed because they do not leave drips on the ground but still skew fuel consumption calculations.
- The code can be set by a stuck-open purge valve on the evaporative emissions system, which introduces extra fuel vapor that the PCM interprets as overconsumption.
- Aftermarket alternative fuel blends with higher-than-specified ethanol or other additives can trigger this code without any mechanical fault.
- A weak ignition coil or worn spark plugs can cause incomplete combustion that the PCM sees as increased fuel consumption, so always check secondary ignition components.

Can I keep driving with P2BB1?

You can drive the vehicle with this code, but avoid aggressive acceleration and long trips until diagnosed, as excessive alternative fuel consumption may indicate a leak or other fault that could worsen or become a safety hazard.

Tools that help

- OBD-II scan tool with live data capability
- Fuel pressure gauge
- Multimeter for circuit testing
- Leak detection solution or ultraviolet dye kit
- Service manual for fuel system specifications

Reading P2BB1

P	Powertrain: engine, transmission and emissions.
2	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
B	Hybrid propulsion.
B1	The exact fault within that area.

Often seen with

P0171 System Too Lean (Bank 1) · **P0172** System Too Rich (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected · **P0455** EVAP System Leak Detected (Large) · **P2BB0** Alternative Fuel Consumption Too Low



See it working

Watch the animated explainer [How a Fuel Injector Works: Pulse Width and Spray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2bb1/>

