



P1520 · Toyota

Stop Lamp Switch Signal Malfunction

P1520 on Toyota vehicles means the engine control module (ECM) has detected an abnormal signal from the stop lamp switch circuit, which is the switch on the brake pedal that tells the car when the brakes are applied. The ECM expects a specific voltage pattern when the pedal is released and pressed, and it sets this code when the signal stays high, stays low, or does not change as expected.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Toyota specific	Medium	Intermediate	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- The brake lights may stay on continuously or fail to illuminate when the pedal is pressed
- The warning light on the dashboard is often the only symptom, with no noticeable change in how the car drives
- The cruise control may not engage or may disengage unexpectedly because it relies on the stop lamp switch signal
- The transmission may shift harshly or fail to downshift properly if the ECM uses the brake signal for shift logic
- The engine may idle poorly or stall in rare cases when the ECM misinterprets the brake signal as a load change
- A Toyota-specific scan tool may show the stop lamp switch status as 'ON' when the pedal is released or 'OFF' when pressed

Common causes, most likely first

- 1 A misadjusted or faulty stop lamp switch on the brake pedal bracket
- 2 A blown fuse or poor connection in the stop lamp switch circuit
- 3 Damaged or corroded wiring between the stop lamp switch and the ECM
- 4 A faulty brake pedal position sensor or related switch on models with push-button start
- 5 Water intrusion or corrosion in the connector at the stop lamp switch
- 6 A defective ECM, though this is rare and should be considered only after all other causes are ruled out



How to diagnose and fix it

- 1 Check the brake lights first: have an assistant watch the rear lights while you press and release the pedal to confirm the switch is functioning at all
- 2 Inspect the stop lamp switch adjustment and mounting; the switch plunger must contact the pedal arm correctly when the pedal is released
- 3 Test the stop lamp switch with a multimeter for continuity and voltage changes as the pedal is pressed and released
- 4 Check the fuse that supplies power to the stop lamp switch circuit and replace it if blown
- 5 Inspect the wiring harness and connector at the switch for corrosion, chafing, or loose pins, and repair as needed
- 6 Use a Toyota-specific scan tool to view live data for the stop lamp switch status and confirm the ECM sees the correct signal
- 7 If all inputs are correct but the code persists, follow the factory diagnostic flow for the ECM, which may include checking reference voltage and ground circuits

Stop lamp switch quirks on Toyota models

- On many Toyota models, the stop lamp switch is a dual-contact design: one set of contacts feeds the brake lights and another sends a signal to the ECM, so the brake lights can work perfectly while the ECM still sets P1520.
- A common mistake is replacing the switch without checking the brake pedal free play and the switch adjustment; a new switch installed with the same misadjustment will set the code again immediately.
- Aftermarket LED brake light bulbs can alter the current draw and cause the ECM to misinterpret the stop lamp circuit on some Toyotas, triggering P1520 even though the switch is fine.
- The stop lamp switch signal is used by multiple systems including cruise control, vehicle stability control, and transmission shift logic, so a fault can cause drivability symptoms that seem unrelated to the brakes.
- On push-button start models, the stop lamp switch is also part of the engine start permission logic, and a failing switch can cause intermittent no-crank conditions before P1520 is stored.

Can I keep driving with P1520?

You can usually drive the vehicle with P1520, but the brake lights may not work correctly, which is a safety hazard for following traffic. Avoid driving until you have confirmed the brake lights operate properly, and do not use cruise control until the fault is repaired.



Tools that help

- OBD-II scan tool with Toyota-specific software or a capable generic tool that reads manufacturer codes
- Digital multimeter for testing continuity and voltage
- Test light for quick circuit checks
- Basic hand tools for removing trim panels and adjusting the switch
- Assistant to observe brake lights while operating the pedal

Reading P1520

- P** Powertrain: engine, transmission and emissions.
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- 1** Manufacturer-specific code (Toyota): its meaning depends on the make.
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- 5** Vehicle speed, idle control and auxiliary inputs.
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- 20** The exact fault within that area.

Often seen with

P0504 Brake Switch 'A'/'B' Correlation · **P0571** Brake Switch 'A' Circuit · **P0720** Output Speed Sensor Circuit Malfunction · **U0121** Lost Communication With Anti-Lock Brake System (ABS) Control

See it working

Watch the animated explainer [Turbocharger Trainer: Boost, Wastegate and Intercooler](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/toyota-p1520/>

