



P1850 · Ford

Transmission Transfer Case Contact Plate B Circuit Failure

P1850 on Ford vehicles indicates that the transmission control module (TCM) has detected an open, short, or erratic signal in the contact plate B circuit, which is part of the transfer case shift motor assembly. The contact plate provides position feedback so the TCM knows the current range of the transfer case, and a circuit failure prevents reliable engagement of four-wheel drive or low range.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Ford specific	Medium	Intermediate	Transmission

Symptoms you may notice

- Four-wheel drive or low-range modes may fail to engage or disengage when selected.
- The four-wheel drive indicator light may flash or stay illuminated when it should not.
- A warning message such as 'Check 4x4' or 'Service 4x4' may appear in the instrument cluster.
- The transfer case may default to two-wheel drive and remain stuck there.
- Often no symptoms besides the warning light, especially if the vehicle is driven in two-wheel drive.
- In some cases, the transfer case may make unusual noises or clunking during attempted shifts.

Common causes, most likely first

- 1 Corroded, damaged, or disconnected wiring or connector at the transfer case contact plate.
- 2 Failed contact plate inside the transfer case shift motor assembly.
- 3 Faulty transfer case shift motor (encoder motor) causing erratic position signals.
- 4 Water intrusion or fluid contamination in the contact plate connector.
- 5 Damaged or chafed harness between the TCM and the transfer case.
- 6 Loose or corroded ground connection for the transfer case circuit.
- 7 Rarely, a faulty TCM or internal transfer case mechanical issue affecting contact plate movement.



How to diagnose and fix it

- 1 Inspect the transfer case contact plate connector for corrosion, water intrusion, or loose pins; clean and repair as needed.
- 2 Check the wiring harness from the TCM to the transfer case for chafing, breaks, or shorts; repair damaged sections.
- 3 Measure resistance and continuity of the contact plate B circuit according to Ford service information to confirm an open or short.
- 4 Remove the transfer case shift motor and inspect the contact plate for wear, burns, or contamination; replace the shift motor assembly if the plate is faulty.
- 5 Verify proper ground connections for the transfer case circuit and clean or tighten as necessary.
- 6 Clear the code and perform a transfer case range shift test with a scan tool to confirm the repair.
- 7 If the code persists after circuit and component checks, diagnose the TCM and reprogram or replace it as required.

Contact plate failures often mimic wiring faults

- The contact plate is a common wear item on Ford transfer cases, and its failure can set P1850 even when the wiring and connectors appear perfect.
- Water intrusion into the shift motor connector is a frequent cause that is easily overlooked during visual inspection.
- A bad ground for the transfer case circuit can produce the same symptoms as a faulty contact plate, so always verify grounds before replacing parts.
- P1850 can be set intermittently by a loose connector that only loses contact during off-road vibration or temperature changes.
- Do not assume the TCM is at fault; the contact plate circuit is the most common failure point and should be ruled out first.

Can I keep driving with P1850?

You can usually continue driving in two-wheel drive if the transfer case remains engaged, but avoid relying on four-wheel drive until the fault is repaired. Do not attempt to force four-wheel drive engagement, as this may cause further damage to the transfer case or shift motor.

Tools that help

- OBD-II scan tool with Ford-specific software
- Digital multimeter
- Wire repair kit and electrical contact cleaner
- Socket and wrench set
- Ford service information for circuit testing



Reading P1850

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Ford): its meaning depends on the make.
- 8** Transmission.
- 50** The exact fault within that area.

Often seen with

P1852 CAN Bus Unplausible Message From Engine Control · **P1853** CAN Bus Unplausible Message From Brake Control · **P1866** Data Bus Powertrain Missing Messages · **P1852** Brake Band Apply Solenoid Low Voltage · **P1853** Brake Band Apply Solenoid High Voltage · **P1870** Transmission Component Slipping · **P1866** Transmission Transfer Case System Concern Servicing Required · **P1867** Transmission Transfer Case Contact Plate General Circuit Fai

See it working

Watch the animated explainer [How an Automatic Transmission Works, Gear by Gear](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1850/>

