

AD: 4x4 Low← [AD: Introduction](#)**AD1 DIAGNOSTIC TROUBLE CODES (DTCs) P1729 AND P1781: PERFORM SWITCH FUNCTIONAL CHECK**

- Key on, engine off.
- Switch to and from 4x4L while monitoring the 4x4L indicator.

Does the indicator agree with the lever position?

Yes	No
GO to AD2 .	GO to AD4 .

AD2 CHECK WITH NGS TESTER

- Key on, engine off.
- Switch to and from 4x4L while monitoring the NGS Tester PID.

Does the NGS Tester PID agree with the lever position?

Yes	No
GO to AD3 .	GO to AD11 .

AD3 INTERMITTENT PROBLEM

- Key on, engine off.
- Wiggle all circuits for 4x4L while monitoring the NGS Tester PID.

Does the PID change states during the wiggle test?

Yes	No
SERVICE failure in circuitry. RERUN Scan Tool Diagnostic Test.	Unable to duplicate error at this time. CLEAR DTCs and RETEST.

AD4 VOLTAGE CHECK AT SWITCH

- Key on, engine off.
- Disconnect 2-way to 4x4L switch.
- Measure voltage at 4x4L switch Pin A.

Is there 12 volts at Pin A?

Yes	No
REPLACE 4x4L switch. RERUN Scan Tool Diagnostic	GO to AD5 .

Test.	
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AD5 LIGHT ALWAYS ON?

- Key on/engine on.
- 4x4L harness disconnected.
- Shift to and from 4x4L.

Does the light remain ON regardless of lever position?

Yes	No
REPAIR short to ground between indicator light and switch connector. RETEST.	GO to AD6 .

AD6 CHECK VOLTAGE AT FUSE

- Key on, engine off.
- Measure voltage to ground at both sides of the fuse.

Is there 12 volts at both sides of the fuse?

Yes	No
GO to AD9 .	GO to AD7 .

AD7 MAIN POWER FEED TO FUSE

- Key on, engine off.
- Measure voltage to ground at the battery side of the fuse.

Is there 12 volts at the fuse?

Yes	No
GO to AD8 .	SERVICE voltage source.

AD8 CHECK SHORT TO GROUND

- 4x4 lever not in LOW position.
- Key off.
- Measure resistance to ground on Circuit 640 (R/Y).

Is the resistance greater than 10,000 ohms?

Yes	No
REPLACE fuse. RERUN Scan Tool Diagnostic Test.	REPAIR short circuit to ground. REPLACE fuse. RERUN Scan Tool Diagnostic Test.

AD9 CHECK 4X4L BULB

- Key off.
- Remove the 4x4L indicator light.

Is the indicator bulb OK?

Yes	No
GO to AD10 .	REPLACE bulb. RERUN Scan Tool Diagnostic Test.

AD10 CHECK VOLTAGE AT INDICATOR LAMP

- Key on, engine off.
- Shift out of 4x4 low.
- Measure voltage between input Circuit 640 (R/Y) and indicator lamp

Are 12 volts present?

Yes	No
REPAIR open in Circuit 784 (LB/BK) to switch connector. RERUN Scan Tool Diagnostic Test.	REPAIR open in Circuit 640 (R/Y) to lamp. RERUN Scan Tool Diagnostic Test.

AD11 CHECK CIRCUIT 784 (LB/BK) FOR CONTINUITY

- Key off.
- Remove PCM.
- Install breakout box.
- Switch disconnected.
- Measure resistance between Test Pin 14 and Pin A.

Is the resistance less than 5 ohms?

Yes	No
GO to AD12 .	REPAIR open in Circuit 784 (LB/BK). RERUN Scan Tool Diagnostic Test.

AD12 CHECK SHORT TO GROUND IN CIRCUIT 784 (LB/BK)

- Key off.
- Switch disconnected.
- PCM disconnected.
- Measure resistance to ground from Circuit 784 (LB/BK) at Pin A.

Is resistance less than 10,000 ohms?

Yes	No
SERVICE short to ground in circuit. RERUN Scan Tool Diagnostic Test.	REPLACE PCM. RERUN Scan Tool Diagnostic Test.

