DTC B2870 Tilt Up Switch Circuit Short to Battery

Diagnostic Instructions

- Perform the Diagnostic System Check – Vehicle prior to using this diagnostic procedure.
- Review Strategy Based Diagnosis for an overview of the diagnostic approach.
- Diagnostic Procedure Instructions provides an overview of each diagnostic category.

DTC Descriptor

DTC B2870 01: Tilt Up Switch Circuit Short to Battery

Diagnostic Fault Information

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Steering Column Tilt Up Switch Signal	1	1	B2870 01	—
Steering Column Tilt Down Switch Signal	1	1	B2875 01	—
Steering Column Telescope Reverse Switch Signal	2	2	B2855 01	—
Steering Column Telescope Forward Switch Signal	2	2	B2850 01	—
1. Tilt Malfunction 2. Telescope Malfunction				

Circuit Description

The memory seat module (MSM) receives voltage inputs from the tilt/telescope switch based on the position of the switch. The MSM then supplies battery voltage and a ground to the tilt or telescope motor control circuits depending on which direction of movement is requested.

Conditions for Running the DTC

The ignition ON.

Conditions for Setting the DTC

The MSM detects a tilt up switch input for more than 30 consecutive seconds after up movement of the motor has stopped.

Action Taken When the DTC Sets

- The tilt motor will be deactivated.
- Memory recall functions will be disabled.

Conditions for Clearing the DTC

- A current DTC will clear when the failed switch input is no longer active.
- A history DTC will clear after 100 ignition cycles.

Diagnostic Aids

- An intermittently stuck tilt switch may cause this DTC to set.
- The power column features such as the power tilt/telescope switch, tilt/telescope actuator, and tilt/actuator assembly are internal to the steering column and only replaced as a complete unit. So any power actuator or switch replacement can only be done as a complete unit.

Reference Information

Schematic Reference
Tilt/Telescoping Steering Column Schematics

Connector End View Reference
Component Connector End Views

Description and Operation
Steering Wheel and Column Description and Operation

Electrical Information Reference

- Circuit Testing
- Connector Repairs
- Testing for Intermittent Conditions and Poor Connections

- Wiring Repairs

Scan Tool Reference
Control Module References for Scan Tool Information

Circuit/System Verification

Ignition ON, view the scan tool Tilt Up Switch parameter while cycling the tilt/telescope switch between the neutral and TILT UP position. The parameter should change between Active and Inactive.

Circuit/System Testing

1). Ignition OFF, disconnect the harness connector at the tilt/telescope switch.
2). Ignition ON, verify a test lamp illuminates between the B+ circuit terminal 1 and ground.If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance.
3). Verify the scan tool Tilt Up Switch parameter is Inactive.If not the specified value, test the signal circuit terminal 2 for a short to voltage. If the circuit tests normal, replace the MSM.
4). Install a 3A fused jumper wire between the signal circuit terminal 2 and the B+ circuit terminal 1. Verify the scan tool Tilt Up Switch parameter is Active.If not the specified value, test the signal circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the MSM.
5). If all circuit test normal, test or replace the steering column.

Component Testing

Tilt/Telescope Switch
1). Ignition OFF, disconnect the harness connector at the tilt/telescope switch.
2). Test for infinite resistance between the following terminals with the switch in the neutral position:
- B+ terminal 1 and signal terminal 5
- B+ terminal 1 and signal terminal 6
- B+ terminal 1 and signal terminal 2
- B+ terminal 1 and signal terminal 3

3). Test for less than 1 ohm between the B+ terminal 1 and the signal terminal 2 with the switch in the TILT UP position. If greater than the specified range, replace the steering column.
4). Test for less than 1 ohm between the B+ terminal 1 and the signal terminal 6 with the switch in the TILT DOWN position.If greater than the specified range, replace the steering column.

5). Test for less than 1 ohm between the B+ terminal 1 and the signal terminal 3 with the switch in the TELESCOPE OUT position.If greater than the specified range, replace the steering column.
6). Test for less than 1 ohm between the B+ terminal 1 and the signal terminal 5 with the switch in the TELESCOPE IN position.If greater than the specified range, replace the steering column.

Repair Instructions

Perform the Diagnostic Repair Verification after completing the diagnostic procedure.

- Steering Column Replacement
- Control Module References for MSM replacement, setup, and programming