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## DTC B3665

### DTC B3665

#### CIRCUIT DESCRIPTION

The folding top control (FTC) module supplies a 5-volt reference and low reference circuit to the front tonneau position sensor. The position sensor sends a voltage signal that varies with the movement of the front tonneau panel through the signal circuit to the FTC module. Then based on this voltage signal, parameters are converted and displayed as counts, the FTC module determines the position of the front tonneau and continues with the operating sequence.

#### DTC DESCRIPTOR

The diagnostic procedure supports the following DTC:

DTC B3665 Front Tonneau Position Error

#### CONDITIONS FOR RUNNING THE DTC

The FTC module must be powered and can not have B1327 or B1328 set as active DTCs for this DTC to set.

#### CONDITIONS FOR SETTING THE DTC

If the FTC module sees the analog input from this position sensor as either lower than 0.25 volts (12 counts or less) or higher than 4.75 volts (242 counts or above), the position sensor will be considered out of range and the FTC module will set this DTC.

#### ACTION TAKEN WHEN THE DTC SETS

- The FTC module disables all folding top functions.
- If the condition occurs during operation of the folding top, once the top control switch is released, the FTC module will send a class 2 message to the driver information center (DIC), displaying TOP NOT SECURE.

#### CONDITIONS FOR CLEARING THE DTC

The FTC module will clear the DTC as an active malfunction when it sees the analog input from this position sensor as between 0.25 volts (12 counts) and 4.75 volts (242 counts) during one cycle of checking the FTC module inputs.

#### DIAGNOSTIC AIDS

If the DTC does not reset after the code is cleared, then the switch may be the intermittent fault. Refer to [Testing for Intermittent Conditions and Poor Connections](#) in Wiring Systems.

All position sensors use common ground and 5-volt reference circuits.

Multiple DTCs, B3666 and B3671 can set:

- If the 5-volt reference circuit is shorted to voltage
- If the 5-volt reference circuit is shorted to ground
- If the position sensor ground circuit is open

#### TEST DESCRIPTION

The numbers below refer to the step numbers on the diagnostic table.

3. This step tests for the proper operation of the circuit in the low count range.
4. This step tests for the proper operation of the circuit in the count range. If the fuse in the jumper opens when you perform this test, the signal circuit is shorted to ground.
5. This step tests for a short to voltage in the 5-volt reference circuit.

6. This step tests for a high resistance or an open in the ground circuit.

16. This step verifies the repair.

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# **DTC B3665**

Step	Action	Value(s)	Yes	No
<b>Schematic Reference:</b> <a href="#">Folding Top Schematics</a> <b>Connector End View Reference:</b> <a href="#">Power Roof Systems Connector End Views</a>				
1	Did you perform the Diagnostic System Check – Vehicle?	—	Go to <a href="#">Step 2</a>	Go to <a href="#">Diagnostic System Check - Vehicle</a> in Vehicle DTC Information
2	<ol style="list-style-type: none"> <li>1. Install a scan tool.</li> <li>2. Turn ON the ignition, with the engine OFF.</li> <li>3. With a scan tool, observe the appropriate Position Sensor parameter in the folding top control (FTC) module Inputs data list.</li> </ol> <p>Does the scan tool indicate that the Position Sensor parameter is within the specified range?</p>	12–243 Counts	Go to Diagnostic Aids	Go to <a href="#">Step 3</a>
3	<ol style="list-style-type: none"> <li>1. Turn OFF the ignition.</li> <li>2. Disconnect the appropriate position sensor connector.</li> <li>3. Turn ON the ignition, with the engine OFF.</li> <li>4. With a scan tool, observe the Position Sensor parameter.</li> </ol> <p>Does the scan tool indicate that the Position Sensor parameter is less than the specified value?</p>	10 Counts	Go to <a href="#">Step 4</a>	Go to <a href="#">Step 10</a>
4	<ol style="list-style-type: none"> <li>1. Turn OFF the ignition.</li> <li>2. Connect a 3-amp fused jumper wire between the 5-volt reference circuit of the position sensor connector and the signal circuit of the position sensor connector.</li> <li>3. Turn ON the ignition, with the engine OFF.</li> <li>4. With a scan tool, observe the appropriate Position Sensor parameter.</li> </ol> <p>Does the scan tool indicate that the Position Sensor parameter is greater than the specified value?</p>	242 Counts	Go to <a href="#">Step 5</a>	Go to <a href="#">Step 8</a>
5	<ol style="list-style-type: none"> <li>1. Disconnect the fused jumper wire.</li> <li>2. Measure the voltage between the 5-volt reference circuit of the position sensor connector and the low reference circuit of the position sensor</li> </ol>	5.50 V	Go to <a href="#">Step 6</a>	Go to <a href="#">Step 7</a>

Step	Action	Value(s)	Yes	No
	connector.  Does the voltage measure less than the specified value?			<b>Listen</b>
<b>6</b>	<ol style="list-style-type: none"> <li>Turn OFF the ignition.</li> <li>Disconnect the negative battery cable.</li> <li>Measure the resistance from the low reference circuit of the position sensor to a ground.</li> </ol> Does the resistance measure less than the specified value?	5 $\Omega$	Go to <b>Step 12</b>	Go to <b>Step 11</b>
7	Test the 5-volt reference circuit of the position sensor for a short to voltage. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.  Did you find and correct the condition?	—	Go to <b>Step 16</b>	Go to <b>Step 13</b>
8	Test the 5-volt reference circuit of the position sensor for a short to ground, a high resistance, or an open. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.  Did you find and correct the condition?	—	Go to <b>Step 16</b>	Go to <b>Step 9</b>
9	Test the signal circuit of the position sensor for a short to ground, a high resistance, or an open. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.  Did you find and correct the condition?	—	Go to <b>Step 16</b>	Go to <b>Step 13</b>
10	Test the signal circuit of the position sensor for a short to voltage. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.  Did you find and correct the condition?	—	Go to <b>Step 16</b>	Go to <b>Step 13</b>
11	<ol style="list-style-type: none"> <li>Disconnect the folding top module harness connector C2.</li> <li>Test the low reference circuit of the position sensor for a high resistance or an open. Refer to <b>Circuit Testing</b> and <b>Wiring Repairs</b> in Wiring Systems.</li> </ol> Did you find and correct the condition?	—	Go to <b>Step 16</b>	Go to <b>Step 13</b>
12	Inspect for poor connections at the harness connector of the position sensor. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector Repairs</b> in Wiring Systems.  Did you find and correct the condition?	—	Go to <b>Step 16</b>	Go to <b>Step 14</b>
13	Inspect for poor connections at the harness connector of the folding top module. Refer to <b>Testing for Intermittent Conditions and Poor Connections</b> and <b>Connector</b>	—	Go to <b>Step 16</b>	Go to <b>Step 15</b>

Step	Action	Value(s)	Yes	No
	<b>Repairs</b> in Wiring Systems. Did you find and correct the condition?			<b>Listen</b>
14	<ol style="list-style-type: none"><li>1. Replace the front tonneau position sensor. Refer to <b>Folding Top Stowage Compartment Front Closeout Panel Position Switch Replacement</b>.</li><li>2. Perform the setup procedure for the folding top control module. Refer to <b>Power Folding Top Learn</b>.</li></ol> Did you complete the replacement?	—	Go to <b>Step 16</b>	—
15	Replace the FTC module. Refer to <b>Control Module References</b> in Computer/Integrating Systems for replacement, setup, and programming . Did you complete the replacement?	—	Go to <b>Step 16</b>	—
<b>16</b>	<ol style="list-style-type: none"><li>1. Use the scan tool in order to clear the DTCs.</li><li>2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.</li></ol> Does the DTC reset?	—	Go to <b>Step 2</b>	System OK