

## DTC B0022, B0024, or B0026

### Circuit Description

The inflatable restraint steering wheel module deployment loop consists of a steering wheel module, steering wheel module coil, steering wheel module high control, and steering wheel module low control circuits. Shorting bars are used on the steering wheel module connector as well as the steering wheel module coil connector which will short together the steering wheel module high and steering wheel module low control circuits when the connector is disconnected. This will help to prevent unwanted deployment of the inflator module during servicing. When the ignition is turned ON, the inflatable restraint sensing and diagnostic module (SDM) performs continuous diagnostic tests on the deployment loops to check for proper circuit continuity and for shorts to ground or voltage. If a malfunction is detected, a DTC will be stored in memory.

### DTC Descriptors

This diagnostic procedure supports the following DTCs:

- DTC B0022 Driver Frontal Deployment Loop Resistance Low
- DTC B0024 Driver Frontal Deployment Loop Voltage Out of Range
- DTC B0026 Driver Frontal Deployment Loop Open

### Conditions for Running the DTC

Ignition 1 voltage is within the normal operating voltage range.

### Conditions for Setting the DTC

- DTC B0022 will set when the steering wheel module deployment loop resistance is less than 1.3 ohms for 500 milliseconds.
- DTC B0024 will set when one of the following conditions occurs:
  - The SDM detects the voltage at steering wheel module high control is shorted to ground or voltage for 500 milliseconds.
  - The SDM detects the voltage at steering wheel module high control is less than 2.4 volts and steering wheel module deployment loop resistance is less than 6 ohms for 500 milliseconds.
- DTC B0026 will set when one of the following conditions occurs:
  - The SDM detects the steering wheel module deployment loop resistance is greater than 4.8 ohms for 500 milliseconds.
  - The SDM detects the voltage at steering wheel module high control is less than 2.4 volts and steering wheel module deployment loop resistance is 6 ohms or greater for 500 milliseconds.

### Action Taken When the DTC Sets

The SDM commands the AIR BAG indicator ON via class 2 serial data.

## Conditions for Clearing the DTC

- The condition responsible for setting the DTC no longer exists.
- You issue a scan tool CLEAR DTCs command.
- A history DTC will clear once 255 malfunction-free ignition cycles have occurred.

## Diagnostic Aids

The following can cause an intermittent condition:

- A short between the steering wheel module high and steering wheel module low control circuits
- A malfunctioning shorting bar on the steering wheel module connector
- A malfunctioning shorting bar on the steering wheel module coil connector

Refer to [Testing for Intermittent Conditions and Poor Connections](#) .

## Test Description

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

2. This step inspects the steering wheel module coil inline connector.
5. This step tests for a malfunctioning steering wheel module.
7. If DTC B0022 is present, test for a short between the steering wheel module high and steering wheel module low control circuits. If DTC B0024 is present, test for a short to ground or voltage in the steering wheel module high and steering wheel module low control circuits. If DTC B0026 is present, test for an open or high resistance in the steering wheel module high and steering wheel module low control circuits.

Step	Action	Yes	No
<p><i>Schematic Reference:</i> <a href="#">SIR Schematics</a></p> <p><i>Connector End View Reference:</i> <a href="#">SIR Connector End Views</a></p>			
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>
2	<ul style="list-style-type: none"> <li>• Turn OFF the ignition.</li> <li>• Disconnect the steering wheel module coil inline connector. Refer to <a href="#">Inflatable Restraint Steering Wheel Module Coil Replacement</a> .</li> <li>• Inspect both halves of the connector for the following conditions:               <ul style="list-style-type: none"> <li>• Corrosion</li> </ul> </li> </ul>	Go to <a href="#">Step 3</a>	Go to <a href="#">Step 4</a>

	<ul style="list-style-type: none"> <li>• Terminal damage</li> <li>• Poor connections/terminal tension</li> </ul> <p>Do the connectors exhibit any signs of corrosion, terminal damage, or poor connections?</p>		
3	<ul style="list-style-type: none"> <li>• If the steering wheel module coil connector exhibits any of the above conditions, the coil must be replaced. Refer to <a href="#">Inflatable Restraint Steering Wheel Module Coil Replacement</a> .</li> <li>• Replace the harness side of the steering wheel module coil inline connector. Refer to <a href="#">Connector Repairs</a> .</li> </ul> <p>Did you complete the replacement?</p>	Go to <a href="#">Step 11</a>	--
4	<ul style="list-style-type: none"> <li>• Use the J 38715-100 Adaptor to connect the <a href="#">J 38715-A</a> Driver and Passenger SIR Load Tool to the harness side of the steering wheel module coil inline connector.</li> <li>• Turn ON the ignition, with the engine OFF.</li> <li>• With a scan tool, request the SIR DTC display.</li> </ul> <p>Does the scan tool indicate that either DTC B0022, B0024, or B0026 is current?</p>	Go to <a href="#">Step 6</a>	Go to <a href="#">Step 5</a>
5	<ul style="list-style-type: none"> <li>• Turn OFF the ignition.</li> <li>• Disconnect the <a href="#">J 38715-A</a> and adaptor.</li> <li>• Reconnect the steering wheel module coil inline connector.</li> <li>• Remove the steering wheel module. Refer to <a href="#">Inflatable Restraint Steering Wheel Module Replacement</a> .</li> <li>• Use the J 38715-30A adaptor to connect the <a href="#">J 38715-A</a> to the upper steering wheel module coil connector.</li> <li>• Turn ON the ignition, with the engine OFF.</li> <li>• With a scan tool, request the SIR DTC display.</li> </ul> <p>Does the scan tool indicate that either DTC B0022, B0024, or B0026 is current?</p>	Go to <a href="#">Step 9</a>	Go to <a href="#">Step 10</a>
6	<ul style="list-style-type: none"> <li>• Turn OFF the ignition.</li> <li>• Disconnect the <a href="#">J 38715-A</a> and adaptor.</li> <li>• Disconnect the sensing and diagnostic module (SDM) connector. Refer to <a href="#">Inflatable Restraint Sensing and Diagnostic Module Replacement</a> .</li> <li>• Inspect the SDM connector for corrosion or damage. Refer to <a href="#">Testing for Intermittent Conditions and Poor Connections</a> and <a href="#">Connector Repairs</a> .</li> </ul>	Go to <a href="#">Step 11</a>	Go to <a href="#">Step 7</a>

	Did you find and correct the condition?		
7	<ul style="list-style-type: none"> <li>• If DTC B0022 is present, test the steering wheel module high and steering wheel module low control circuits for a short. Refer to <a href="#">Circuit Testing</a> and <a href="#">Wiring Repairs</a> .</li> <li>• If DTC B0024 is present, test the steering wheel module high and steering wheel module low control circuits for a short to ground or voltage. Refer to <a href="#">Circuit Testing</a> and <a href="#">Wiring Repairs</a> .</li> <li>• If DTC B0026 is present, test the steering wheel module high and steering wheel module low control circuits for an open or high resistance. Refer to <a href="#">Circuit Testing</a> and <a href="#">Wiring Repairs</a> .</li> </ul> <p>Did you find and correct the condition?</p>	Go to <a href="#">Step 11</a>	Go to <a href="#">Step 8</a>
8	<p>Replace the SDM. Refer to <a href="#">Control Module References</a> for replacement, setup, and programming.</p> <p>Did you complete the replacement?</p>	Go to <a href="#">Step 11</a>	--
9	<p>Replace the steering wheel module coil. Refer to <a href="#">Inflatable Restraint Steering Wheel Module Coil Replacement</a> .</p> <p>Did you complete the replacement?</p>	Go to <a href="#">Step 11</a>	--
10	<p>Replace the steering wheel module. Refer to <a href="#">Inflatable Restraint Steering Wheel Module Replacement</a> .</p> <p>Did you complete the replacement?</p>	Go to <a href="#">Step 11</a>	--
11	<ul style="list-style-type: none"> <li>• Reconnect all SIR system components.</li> <li>• Verify that all components, connectors, and connector position assurances (CPAs) are properly mounted.</li> <li>• Use the scan tool in order to clear the DTCs.</li> <li>• Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.</li> </ul> <p>Does the DTC reset?</p>	Go to <a href="#">Step 2</a>	System OK