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Document ID# 633088
2002 Buick LeSabre

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DTC C1214

Circuit Description

The system relay is energized when the ignition is ON. The system relay supplies voltage to the solenoid valves and the pump motor. This voltage is referred to as the system voltage.

The electronic brake control module (EBCM) controls each solenoid valve by grounding the solenoid.

The EBCM controls the pump motor by grounding the control circuit. The pump serves 2 purposes:

- Transfers brake fluid from the brake calipers to the master cylinder reservoir during pressure decrease events.
- Transfers brake fluid from the master cylinder reservoir to the brake calipers during pressure increase events.

Conditions for Running the DTC

- The ignition voltage is greater than 10.5 volts.
- The system relay is commanded ON.

Conditions for Setting the DTC

The system voltage is less than 8 volts for 0.23 seconds.

Action Taken When the DTC Sets

If equipped, the following actions occur:

- The EBCM disables the DRP/ABS/TCS/VSES for the duration of the ignition cycle.
- The ABS indicator turns ON.
- The Traction Off indicator turns ON.
- The DIC displays the Service Stability System message.
- The EBCM will also set DTC C1248.
- The red Brake warning indicator turns ON.

Conditions for Clearing the DTC

- The condition for the DTC is no longer present and the DTC is cleared with a scan tool.
- The electronic brake control module (EBCM) automatically clears the history DTC when a current DTC is not detected in 100 consecutive drive cycles.

Diagnostic Aids

The system relay is integral to the EBCM. The relay is not serviceable.

Test Description

The number below refers to the step number on the diagnostic table.

- Determines whether the DTC is current.

Step	Action	Values	Yes	No
<i>Schematic Reference: ABS Schematics</i>				
<i>Connector End View Reference: ABS Connector End Views</i>				
1	Did you perform the ABS Diagnostic System Check?	--	Go to Step 2	Go to Diagnostic System Check - ABS
2	<ol style="list-style-type: none"> Install a scan tool. Turn ON the ignition, with the engine OFF. Use the scan tool in order to clear the DTCs. With the scan tool, perform the Automated Test. Does the DTC reset as a current DTC?	--	Go to Step 3	Go to Testing for Intermittent and Poor Connections in Wiring Systems
3	<ol style="list-style-type: none"> Disconnect the pump motor harness pigtail connector of the brake pressure modulator valve (BPMV). Measure the resistance between each pump motor control circuit and the housing of the BPMV at the pump motor harness pigtail connector of the BPMV. Does the DMM display the specified value?	OL	Go to Step 5	Go to Step 4
4	<p>Important</p> <p>Perform the setup procedure for the EBCM. An unprogrammed EBCM will result in the following conditions:</p> <ul style="list-style-type: none"> Inoperative or poorly functioning system operations The EBCM sets DTC C1248 and DTC C1255m3 <p>Replace the EBCM and the BPMV. Refer to Electronic Brake Control Module (EBCM) Replacement and Brake Pressure Modulator Valve (BPMV) Replacement.</p> Did you complete the repair?	--	Go to Step 6	--
	<p>Important</p> <p>Perform the setup procedure for the EBCM. An</p>			

5	<p>unprogrammed EBCM will result in the following conditions:</p> <ul style="list-style-type: none"> • Inoperative or poorly functioning system operations • The EBCM sets DTC C1248 and DTC C1255m3 <p>Replace the EBCM. Refer to Electronic Brake Control Module (EBCM) Replacement .</p> <p>Did you complete the repair?</p>	--	Go to Step 6	--
6	<ol style="list-style-type: none"> 1. Use the scan tool in order to clear the DTCs. 2. With the scan tool, perform the Automated Test. <p>Does the DTC reset?</p>	--	Go to Step 2	System OK

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DTC C1248

[Circuit Description](#)

The dynamic rear proportioning (DRP) is a control system that replaces the hydraulic proportioning function of the mechanical proportioning valve in the base brake system. The DRP control system is part of the operating software in the EBCM. The DRP uses active control with the existing ABS in order to regulate the vehicle's rear brake pressure.

[Conditions for Running the DTC](#)

One or more faults have been detected by the EBCM in the ABS/TCS systems.

[Conditions for Setting the DTC](#)

One of the following conditions exists:

- DTC C1214, C1217, C1237, C1254, C1255, C1261-1268, or C1271-1274 sets.
- DTC C1236 sets and the system voltage is less than 8.5 volts.
- Two wheel speed sensor DTCs on the same axle set.

[Action Taken When the DTC Sets](#)

- The EBCM disables the DRP for the duration of the ignition cycle.
- The red Brake warning indicator turns ON.

[Conditions for Clearing the DTC](#)

- The condition for the DTC is no longer present and the DTC is cleared with a scan tool.
- The electronic brake control module (EBCM) automatically clears the history DTC when a current DTC is not detected in 100 consecutive drive cycles.

[Diagnostic Aids](#)

- Use this DTC in order to differentiate which of the following conditions is present:
 - The EBCM turned ON the red Brake warning indicator.
 - The instrument cluster turned ON the red Brake warning indicator due to low brake fluid in the master cylinder reservoir.
 - The instrument cluster turned ON the red Brake warning indicator due to the application of the park brake.
- Diagnose any other ABS DTCs that set along with this DTC.

[Test Description](#)

The number below refers to the step number on the diagnostic table.

2. Verifies whether other ABS/TCS/VSES DTCs are set.

Step	Action	Yes	No
<i>Schematic Reference: ABS Schematics</i>			
1	Did you perform the ABS Diagnostic System Check?	Go to Step 2	Go to Diagnostic System Check - ABS
2	<ol style="list-style-type: none"> 1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. Select the display DTCs function on the scan tool for the EBCM. Does the scan tool display any ABS/TCS/VSES DTCs?	Go to Diagnostic Trouble Code (DTC) List	Go to Step 3
3	<ol style="list-style-type: none"> 1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text. Does the DTC reset?	Go to Step 2	Go to Testing for Intermittent and Poor Connections in Wiring System

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DTC B2470

Circuit Description

The cellular antenna is connected to the vehicle communication interface module (VCIM) with a RG-58 coax cable. The VCIM polls the data from the cellular antenna once every second.

Conditions for Running the DTC

- The ignition must be in the RUN or ACC position.
- The system voltage is at least 9.5 volts and no more than 15.5 volts.
- All the above conditions are present for greater than 1 second.

Conditions for Setting the DTC

- The VCIM does not detect the presence of a cellular antenna.
- All the above conditions are present for greater than 1 second.

Action Taken When the DTC Sets

- The OnStar® status LED turns RED.
- The vehicle is unable to connect to the OnStar® Call Center.

Conditions for Clearing the DTC

- The VCIM detects the presence of a cellular antenna.
- A history DTC clears after 50 malfunction-free ignition cycles.
- The VCIM receives the clear DTC command from the scan tool.

Test Description

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

2. This step tests the condition of the Cellular Antenna.
3. This step tests the condition of the cellular antenna coax and for proper ground of the cellular antenna.

Step	Action	Value	Yes	No
<i>Schematic Reference:</i> OnStar Schematics				
<i>Connector End View Reference:</i> Cellular Communication Connector End Views				
1	Did you perform the Cellular Communications Diagnostic System Check?	--	Go to	Go to Diagnostic System Check - Cellular

			Step 2	Communication
2	Inspect the cellular antenna and cellular antenna coupling assembly for damage. Is the antenna assembly damaged?	--	Go to Step 7	Go to Step 3
3	1. Disconnect the cellular antenna coax from the vehicle communication interface module (VCIM). 2. Measure the resistance between the center conductor and the outer metal shield. Does the meter read out of limits?	--	Go to Step 4	Go to Step 5
4	1. Disconnect the cellular antenna coax from the VCIM. 2. Measure the resistance of the cellular antenna coax connector from end to end. Does the resistance measure greater than the specified value?	1 ohms	Go to Step 8	Go to Step 6
5	Inspect for poor connections at the harness connector of the VCIM. Refer to Testing for Intermittent and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	--	Go to Step 10	Go to Step 9
6	Inspect for poor connections at the harness connector of the cellular antenna. Refer to Testing for Intermittent and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	--	Go to Step 10	Go to Step 7
7	Replace the cellular antenna. Refer to Coupling Replacement - Antenna Inner and Coupling Replacement - Antenna Outer . Did you complete the replacement?	--	Go to Step 10	--
8	Replace the cellular antenna coax. Did you complete the replacement?	--	Go to Step 10	--
9	Replace the VCIM. Refer to Communication Interface Module Replacement . Did you complete the replacement?	--	Go to Step 10	--
10	1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the conditions for running the DTC as specified in the supporting text.	--		

Does the DTC reset?	Go to Step 2	System OK
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DTC U1001-U1254

[Circuit Description](#)

Modules connected to the class 2 serial data circuit monitor for serial data communications during normal vehicle operation. Operating information and commands are exchanged among the modules. When a module receives a message for a critical operating parameter, the module records the identification number of the module which sent the message for State of Health monitoring Node Alive messages. A critical operating parameter is one which, when not received, requires that the module use a default value for that parameter. Once an identification number is learned by a module, it will monitor for that module's Node Alive message. Each module on the class 2 serial data circuit which is powered and performing functions that require detection of a communications malfunction is required to send a Node Alive message every 2 seconds. When no message is detected from a learned identification number for 5 seconds, a DTC U1XXX where XXX is equal to the three digit identification number is set.

The control module ID number list below provides a method for determining which module is not communicating. A module with a class 2 serial data circuit malfunction or which loses power during the current ignition cycle will have a Loss of Communication DTC set by other modules that depend on information from that failed module. The modules that can communicate will set a DTC indicating the module that can not communicate. When no message is detected from a learned identification number for 5 seconds, a DTC U1XXX where XXX is equal to the 3 digit identification number is set.

Control Module	ID Number
Powertrain Control Module (PCM)	016
Electronic Brake Control Module (EBCM)	040
Dash Integration Module (DIM)	064
HVAC Control Module or IPM	065
Rear Integration Module (RIM)	066
Inflatable Restraint Sensing and Diagnostic Module (SDM)	088
Instrument Panel Cluster (IPC)	096
Radio	128
Remote Playback Device - CD Changer	130
Vehicle Communication Interface Module (VCIM) Generation-F1	151
Vehicle Interface Unit (VIU) Generation-2.6	151
Driver Door Module (DDM)	160
Front Passenger Door Module (FPDM)	161
Left Rear Door Module (LRDM)	162
Right Rear Door Module (RRDM)	163
Driver Door Switch Assembly (DDSA)	170

Theft Deterrent Control Module	192
Memory seat Module (MSM)	None
Remote Control Door Lock Receiver (RCDLR)	None
Head Up Display (HUD)	None

When more than one Loss of Communication DTC is set in either one module or in several modules, diagnose the DTCs in the following order:

1. Current DTCs before history DTCs unless told otherwise in the diagnostic table.
2. The DTC which is reported the most times.
3. From the lowest number DTC to the highest number DTC.

Conditions for Running the DTC

- The following DTCs do not have a current status:
 - B1327
 - B1328
 - U1300
 - U1301
 - U1305
- The vehicle power mode requires serial data communication to occur.

Conditions for Setting the DTC

A node alive message has not been received from a module with a learned identification number within the last 5 seconds.

Action Taken When the DTC Sets

The module uses a default value for the missing parameter.

Conditions for Clearing the DTC

- A current DTC clears when the malfunction is no longer present.
- A history DTC clears when the module ignition cycle counter reaches the reset threshold, without a repeat of the malfunction.

Diagnostic Aids

When multiple Loss of Communication DTCs are set concurrently, the cause is likely to be 2 opens in the ring portion of the class 2 serial data circuit. Use the Control Module ID Number list in order to determine which modules are not communicating. Use the class 2 serial data circuit schematic in order to determine the location of the opens.

Test Description

The number below refers to the step number on the diagnostic table.

7. The module which was not communicating on the class 2 serial data circuit may have set Loss of

Communication DTCs for those modules that it was monitoring.

Step	Action	Yes	No
<i>Schematic Reference: Data Link Connector (DLC) Schematics</i>			
<i>Connector End View Reference: Master Electrical Component List and Inline Harness Connector End Views in Wiring Systems</i>			
1	Did you record any of the following DTCs? <ul style="list-style-type: none"> • U1161 • U1162 • U1163 • U1170 	Go to Diagnostic Trouble Code (DTC) List in Doors	Go to Step 2
2	<p>Important</p> <p>Use the control module ID number list in order to determine which modules are not communicating.</p> <p>Test the following circuits of the module that is not communicating for an open, short to ground or high resistance:</p> <ul style="list-style-type: none"> • The battery positive voltage input circuits • The battery positive voltage output circuit • The ignition voltage input circuits • The ignition voltage output circuits • The switched battery positive voltage circuits <p>Refer to the following:</p> <ul style="list-style-type: none"> • Control Module References in Body Control System for the applicable Schematic • Circuit Testing in Wiring Systems • Wiring Repairs in Wiring Systems <p>Did you find and correct the condition?</p>	Go to Step 7	Go to Step 3
3	<ol style="list-style-type: none"> 1. Turn OFF the ignition. 2. Test the ground circuits of the module that is not communicating for an open or high resistance. <p>Refer to the following:</p> <ul style="list-style-type: none"> • Control Module References in Body Control System for the applicable Schematic. • Circuit Testing in Wiring Systems • Wiring Repairs in Wiring Systems <p>Did you find and correct the condition?</p>	Go to Step 7	Go to Step 4

4	<p>Test the class 2 serial data circuits of the module that is not communicating for an open or high resistance. Refer to the following:</p> <ul style="list-style-type: none"> • Circuit Testing in Wiring Systems. • Wiring Repairs in Wiring Systems. <p>Did you find and correct the condition?</p>	Go to Step 7	Go to Step 5
5	<p>Inspect the harness connector of the module that is not communicating for poor connections and terminal tension at the following circuits:</p> <ul style="list-style-type: none"> • The battery positive voltage input circuits • The battery positive voltage output circuits • The ignition voltage input circuits • The ignition voltage output circuits • The switched battery positive voltage supply circuits • The ground circuits • The class 2 serial data circuits <p>Refer to the following:</p> <ul style="list-style-type: none"> • Control Module References in Body Control System for the applicable schematic • Testing for Intermittent and Poor Connections in Wiring Systems • Connector Repairs in Wiring Systems <p>Did you find and correct the condition?</p>	Go to Step 7	Go to Step 6
6	<p>Important</p> <p>Perform the set up procedure for module if required.</p> <p>Replace the module that is not communicating. Refer to Control Module References for the applicable replacement procedure.</p> <p>Did you complete the replacement?</p>	Go to Step 7	--
7	<ol style="list-style-type: none"> 1. Install a scan tool. 2. Turn ON the ignition with the engine OFF. 3. Select the Display DTCs function for the module which was not communicating. <p>Does the scan tool display any DTCs which do not begin with a "U"?</p>	Go to Control Module References for the applicable Diagnostic System Check	Go to Step 8
	Select the Display DTCs function for the modules which had the Loss of Communications DTC set.		

8	Does the scan tool display any DTCs which do not begin with a "U"?	Go to Control Module References for the applicable Diagnostic System Check	Go to Step 9
9	<ol style="list-style-type: none"> 1. Use the scan tool in order to clear the DTCs. 2. Continue diagnosing or clearing the DTCs until all the modules have been diagnosed and all the DTCs have been cleared. <p>Did you complete the action?</p>	Go to Control Module References for the applicable Diagnostic System Check	--

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