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2016 Mazda CX-3 Service and Repair Manual

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FOREWORD [FRONT BODY CONTROL MODULE (FBCM)]

SM2898949

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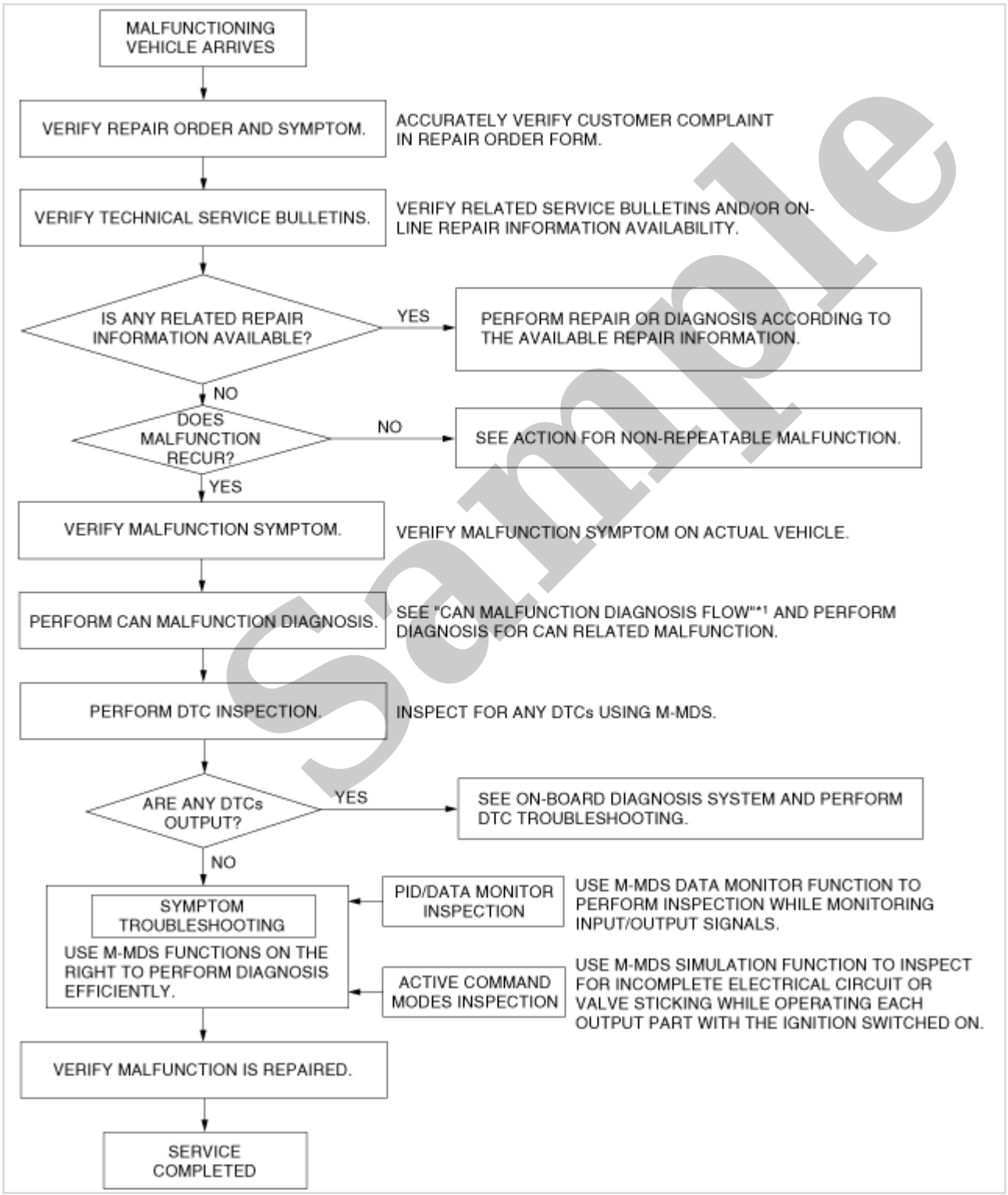
• If there is any vehicle malfunction complaint lodged by a customer, perform malfunction diagnosis according to the troubleshooting procedure. (See Troubleshooting Procedure.)

Troubleshooting Procedure



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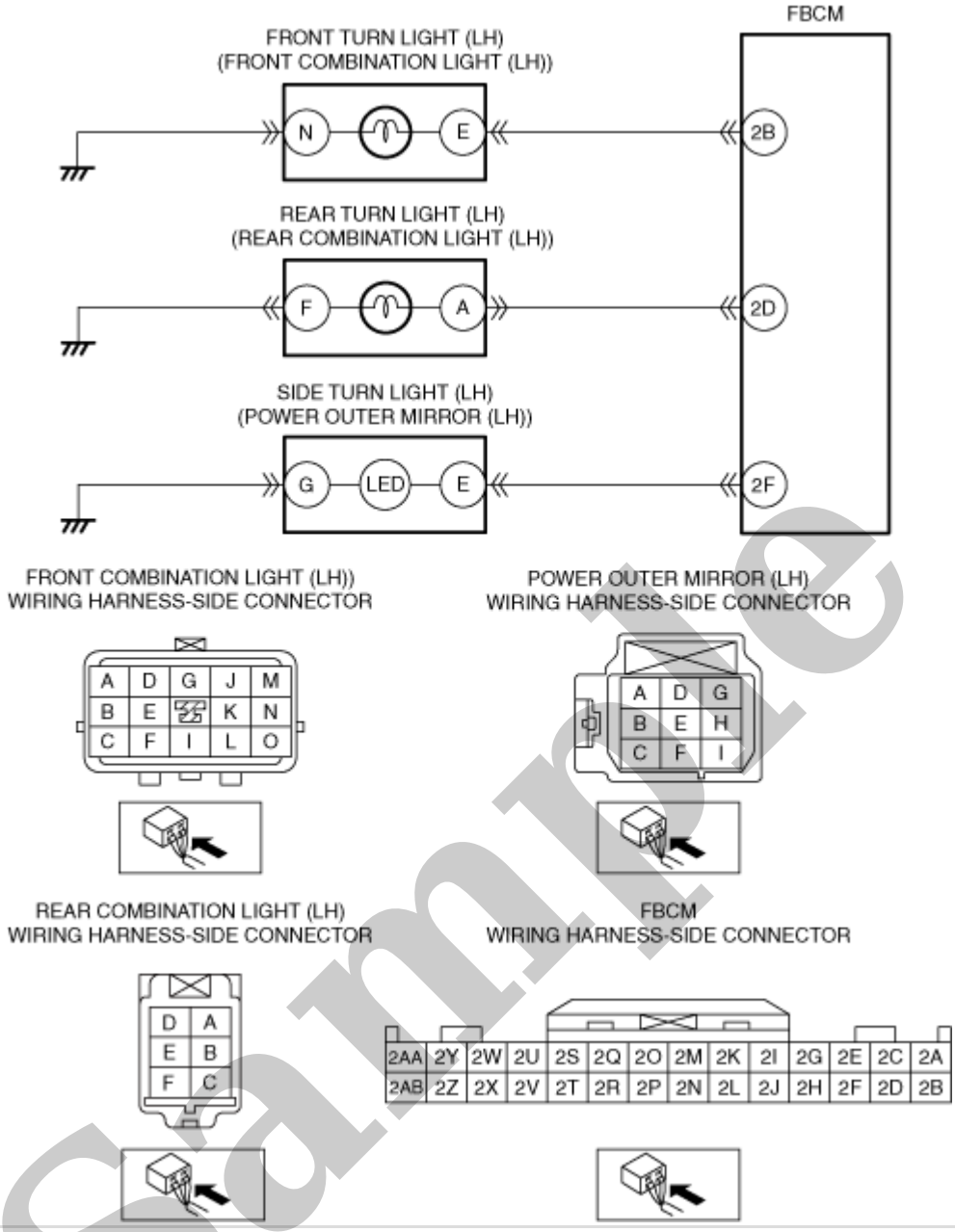
Description	Turn light (LH) circuit malfunction

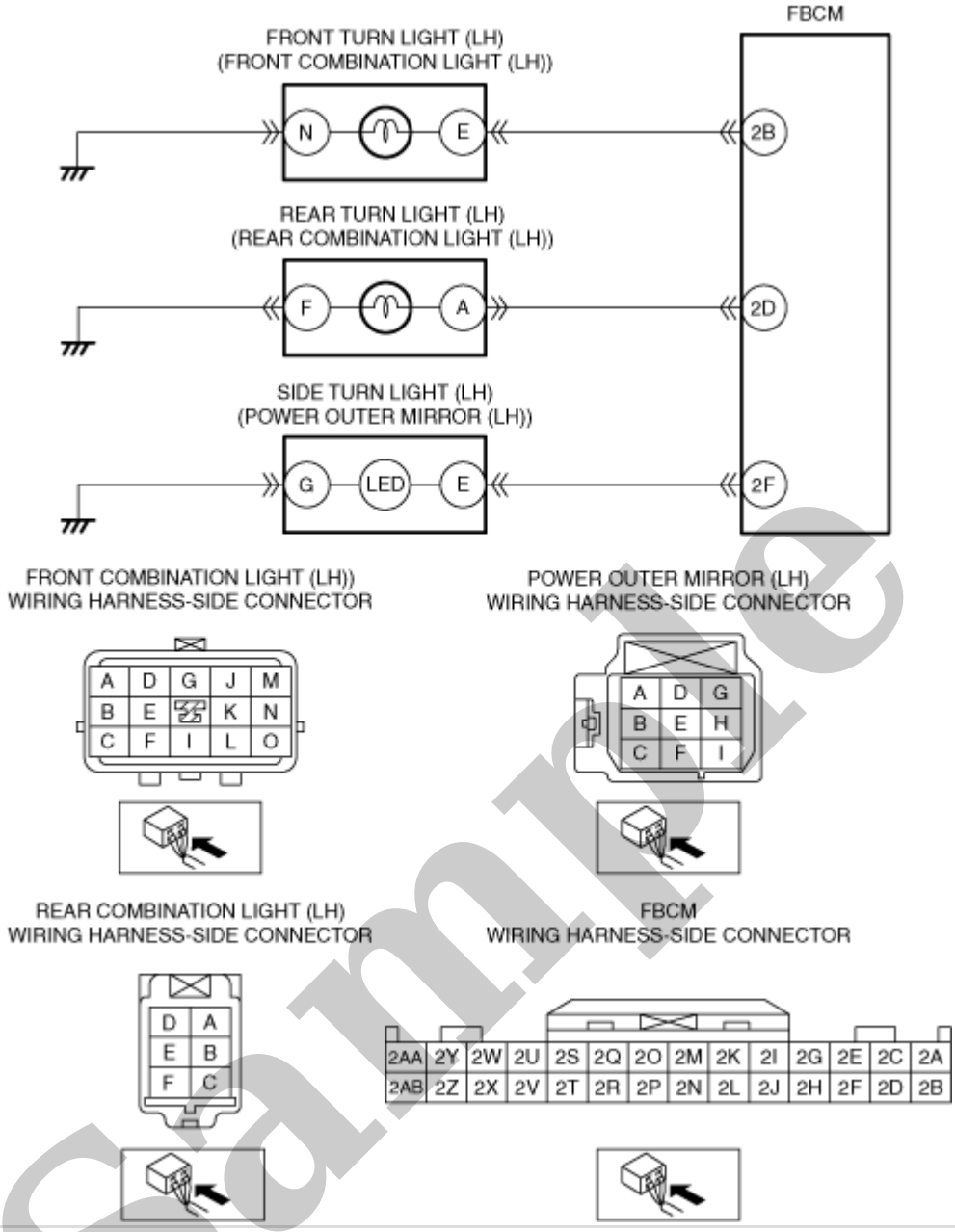


Diagnostic Procedure

Step	Inspection		Action
1	VERIFY FRONT BODY CONTROL MODULE (FBCM) DTCs AGAIN • Clear the DTC for the front body control module (FBCM) using the M-MDS. (See CLEARING DTC [FRONT BODY CONTROL MODULE (FBCM)].) • Operate the turn switch to the LH position. • Retrieve the front body control module (FBCM) DTCs using the M-MDS. (See DTC INSPECTION [FRONT BODY CONTROL MODULE (FBCM)].) • Is the same DTC displayed?	Yes	Go to the next step.
		No	Go to Step 17.

Step	Inspection		Action
12	**INSPECT POWER OUTER MIRROR (LH) CONNECTOR CONDITION** • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the power outer mirror (LH) connector. • Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. • Is the connector normal?	Yes	Go to the next step.
		No	Repair or replace the connector, then go to Step 16.
13	**INSPECT SIDE TURN LIGHT (LH)** • Inspect the side turn light (LH). (See SIDE TURN LIGHT INSPECTION.) • Is the side turn light (LH) normal?	Yes	Go to the next step.
		No	Replace the power outer mirror (LH), then go to Step 16. (See POWER OUTER MIRROR REMOVAL/INSTALLATION.) (See SIDE TURN LIGHT REMOVAL/INSTALLATION.)
14	**INSPECT FRONT BODY CONTROL MODULE (FBCM) CONNECTOR CONDITION** • Disconnect the front body control module (FBCM) connector. • Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. • Is the connector normal?	Yes	Go to the next step.
		No	Repair or replace the connector, then go to Step 16.
15	**INSPECT SIDE TURN LIGHT (LH) CONTROL CIRCUIT FOR SHORT TO GROUND** • Verify that the power outer mirror (LH) and front body control module (FBCM) connectors are disconnected. • Inspect for continuity between front body control module (FBCM) terminal 2F (wiring harness-side) and body ground. • Is there continuity?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between power outer mirror (LH) terminal E and front body control module (FBCM) terminal 2F. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to ground. Go to the next step.
		No	Go to the next step.
16	**VERIFY THAT REPAIRS HAVE BEEN COMPLETED** • Always reconnect all disconnected connectors. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Clear the DTC for the front body control module (FBCM) using the M-MDS. (See CLEARING DTC [FRONT BODY CONTROL MODULE (FBCM)].) • Operate the turn switch to the LH position. • Retrieve the front body control module (FBCM) DTCs using the M-MDS. (See DTC INSPECTION [FRONT BODY CONTROL MODULE (FBCM)].) • Is the same DTC displayed?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the front body control module (FBCM). (See FRONT BODY CONTROL MODULE (FBCM) REMOVAL/INSTALLATION.) Go to the next step.
		No	Go to the next step.

Description	Turn light (LH) circuit malfunction



Diagnostic Procedure

Step	Inspection		Action
1	VERIFY FRONT BODY CONTROL MODULE (FBCM) DTCs AGAIN • Clear the DTC for the front body control module (FBCM) using the M-MDS. (See CLEARING DTC [FRONT BODY CONTROL MODULE (FBCM)].) • Retrieve the front body control module (FBCM) DTCs using the M-MDS. (See DTC INSPECTION [FRONT BODY CONTROL MODULE (FBCM)].) • Is the same DTC displayed?	Yes	Go to the next step.
		No	Go to Step 23.

Step	Inspection		Action
12	INSPECT REAR TURN LIGHT (LH) GROUND CIRCUIT FOR OPEN CIRCUIT • Verify that the rear combination light (LH) connector is disconnected. • Inspect for continuity between rear combination light (LH) terminal F (wiring harness-side) and body ground. • Is there continuity?	Yes	Go to the next step.
		No	Refer to the wiring diagram and verify whether or not there is a common connector between rear combination light (LH) terminal F and body ground. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has an open circuit. Go to Step 22.
13	INSPECT FRONT BODY CONTROL MODULE (FBCM) CONNECTOR CONDITION • Disconnect the front body control module (FBCM) connector. • Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. • Is the connector normal?	Yes	Go to the next step.
		No	Repair or replace the connector, then go to Step 22.
14	INSPECT REAR TURN LIGHT (LH) CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY • Verify that the rear combination light (LH) and front body control module (FBCM) connectors are disconnected. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off or on). • Measure the voltage at the front body control module (FBCM) terminal 2D (wiring harness-side). • Is the voltage 0 V?	Yes	Go to the next step.
		No	Refer to the wiring diagram and verify whether or not there is a common connector between rear combination light (LH) terminal A and front body control module (FBCM) terminal 2D. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to power supply. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to power supply. Go to Step 22.
15	INSPECT REAR TURN LIGHT (LH) CONTROL CIRCUIT FOR OPEN CIRCUIT • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Verify that the rear combination light (LH) and front body control module (FBCM) connectors are disconnected. • Inspect for continuity between rear combination light (LH) terminal A (wiring harness-side) and front body control module (FBCM) terminal 2D (wiring harness-side). • Is there continuity?	Yes	Go to Step 22.
		No	Refer to the wiring diagram and verify whether or not there is a common connector between rear combination light (LH) terminal A and front body control module (FBCM) terminal 2D. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has an open circuit. Go to Step 22.

DTC B1D07:11 [FRONT BODY CONTROL MODULE (FBCM)]

SM2898974

id0902p200970

Description	Turn light (RH) circuit malfunction
Detection condition	• Front body control module (FBCM) detects a short to ground in the turn light (RH) circuit with the ignition switched ON (engine off or on).
Fail-safe	Not applicable
Possible cause	• Front body control module (FBCM) connector or terminal malfunction • Front turn light bulb (RH) malfunction • Front combination light (RH) connector or terminal malfunction • Short to ground in wiring harness between front combination light (RH) terminal E and front body control module (FBCM) terminal 1G • Rear turn light bulb (RH) malfunction • Rear turn light (RH) connector or terminal malfunction • Short to ground in wiring harness between rear combination light (RH) terminal A and front body control module (FBCM) terminal 1E • Power outer mirror (RH) connector or terminal malfunction • Side turn light (RH) malfunction • Short to ground in wiring harness between power outer mirror (RH) terminal E and front body control module (FBCM) terminal 1F • Front body control module (FBCM) malfunction

Step	Inspection		Action
7	**INSPECT FRONT TURN LIGHT (RH) CONTROL CIRCUIT FOR SHORT TO GROUND** • Verify that the front combination light (RH) and front body control module (FBCM) connectors are disconnected. • Inspect for continuity between front body control module (FBCM) terminal 1G (wiring harness-side) and body ground. • Is there continuity?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between front combination light (RH) terminal E and front body control module (FBCM) terminal 1G. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to ground. Go to Step 16.
		No	Go to Step 16.
8	**INSPECT REAR TURN LIGHT BULB (RH)** • Inspect the rear turn light bulb (RH). • Is the rear turn light bulb (RH) normal?	Yes	Go to the next step.
		No	Replace the rear turn light bulb (RH), then go to Step 16. (See REAR TURN LIGHT BULB REMOVAL/INSTALLATION.)
9	**INSPECT REAR COMBINATION LIGHT (RH) CONNECTOR CONDITION** • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the rear combination light (RH) connector. • Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. • Is the connector normal?	Yes	Go to the next step.
		No	Repair or replace the connector, then go to Step 16.
10	**INSPECT FRONT BODY CONTROL MODULE (FBCM) CONNECTOR CONDITION** • Disconnect the front body control module (FBCM) connector. • Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. • Is the connector normal?	Yes	Go to the next step.
		No	Repair or replace the connector, then go to Step 16.
11	**INSPECT REAR TURN LIGHT (RH) CONTROL CIRCUIT FOR SHORT TO GROUND** • Verify that the rear combination light (RH) and front body control module (FBCM) connectors are disconnected. • Inspect for continuity between front body control module (FBCM) terminal 1E (wiring harness-side) and body ground. • Is there continuity?	Yes	Refer to the wiring diagram and verify whether or not there is a common connector between rear combination light (RH) terminal A and front body control module (FBCM) terminal 1E. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to ground. Go to Step 16.
		No	Go to Step 16.

DTC B1D07:13 [FRONT BODY CONTROL MODULE (FBCM)]

SM2898975

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Description	Turn light (RH) circuit malfunction
Detection condition	• Front body control module (FBCM) detects an open circuit or short to power supply in the turn light (RH) circuit with the ignition switched ON (engine off or on).
Fail-safe	Not applicable
Possible cause	• Front body control module (FBCM) connector or terminal malfunction • Front turn light bulb (RH) malfunction • Front combination light (RH) connector or terminal malfunction • Open circuit in wiring harness between front combination light (RH) terminal N and body ground • Short to power supply in wiring harness between front combination light (RH) terminal E and front body control module (FBCM) terminal 1G • Open circuit in wiring harness between front combination light (RH) terminal E and front body control module (FBCM) terminal 1G • Rear turn light bulb (RH) malfunction • Rear combination light (RH) connector or terminal malfunction • Open circuit in wiring harness between rear combination light (RH) terminal F and body ground • Short to power supply in wiring harness between rear combination light (RH) terminal A and front body control module (FBCM) terminal 1E • Open circuit in wiring harness between rear combination light (RH) terminal A and front body control module (FBCM) terminal 1E • Power outer mirror (RH) connector or terminal malfunction • Side turn light (RH) malfunction • Open circuit in wiring harness between power outer mirror (RH) terminal G and body ground • Short to power supply in wiring harness between power outer mirror (RH) terminal E and front body control module (FBCM) terminal 1F • Open circuit in wiring harness between power outer mirror (RH) terminal E and front body control module (FBCM) terminal 1F • Front body control module (FBCM) malfunction

Step	Inspection		Action
7	**INSPECT FRONT BODY CONTROL MODULE (FBCM) CONNECTOR CONDITION** • Disconnect the front body control module (FBCM) connector. • Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. • Is the connector normal?	Yes	Go to the next step.
		No	Repair or replace the connector, then go to Step 22.
8	**INSPECT FRONT TURN LIGHT (RH) CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY** • Verify that the front combination light (RH) and front body control module (FBCM) connectors are disconnected. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off or on). • Measure the voltage at the front body control module (FBCM) terminal 1G (wiring harness-side). • Is the voltage 0 V?	Yes	Go to the next step.
		No	Refer to the wiring diagram and verify whether or not there is a common connector between front combination light (RH) terminal E and front body control module (FBCM) terminal 1G. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to power supply. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has a short to power supply. Go to Step 22.
9	**INSPECT FRONT TURN LIGHT (RH) CONTROL CIRCUIT FOR OPEN CIRCUIT** • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Verify that the front combination light (RH) and front body control module (FBCM) connectors are disconnected. • Inspect for continuity between front combination light (RH) terminal E (wiring harness-side) and front body control module (FBCM) terminal 1G (wiring harness-side). • Is there continuity?	Yes	Go to Step 22.
		No	Refer to the wiring diagram and verify whether or not there is a common connector between front combination light (RH) terminal E and front body control module (FBCM) terminal 1G. **If there is a common connector:** • Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit. • Repair or replace the malfunctioning part. **If there is no common connector:** • Repair or replace the wiring harness which has an open circuit. Go to Step 22.
10	**INSPECT REAR TURN LIGHT BULB (RH)** • Inspect the rear turn light bulb (RH). • Is the rear turn light bulb (RH) normal?	Yes	Go to the next step.
		No	Replace the rear turn light bulb (RH), then go to Step 22. (See REAR TURN LIGHT BULB REMOVAL/INSTALLATION.)
11	**INSPECT REAR COMBINATION LIGHT (RH) CONNECTOR CONDITION** • Switch the ignition off. • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the rear combination light (RH) connector. • Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. • Is the connector normal?	Yes	Go to the next step.
		No	Repair or replace the connector, then go to Step 22.