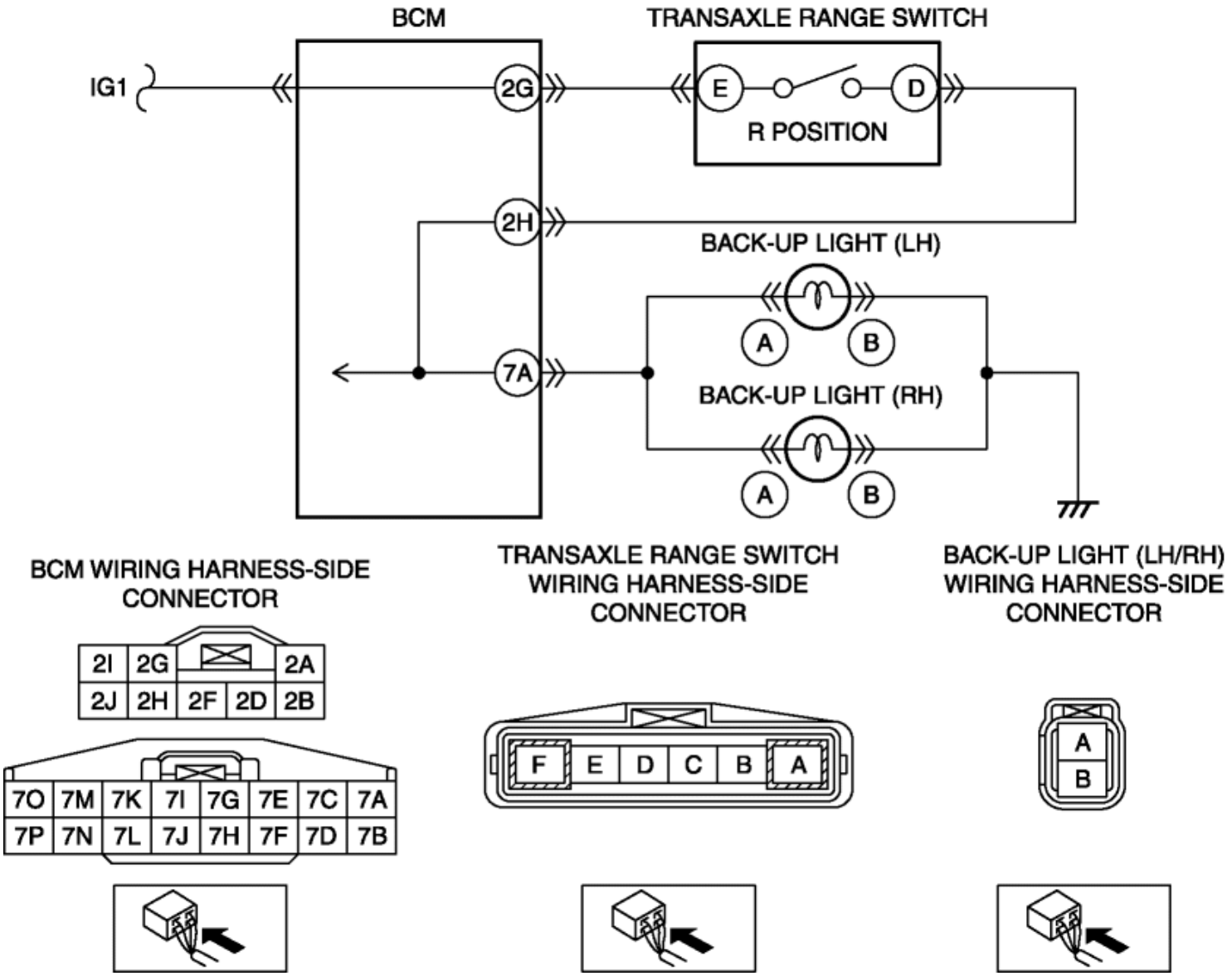
2012 - Mazda6 - Body and Accessories

DTC C1137:12 [BCM]

MZR 2.5/ ATX

DESCRIPTION	Transaxle range switch circuit malfunction
DETECTION CONDITION	• Short to power supply in transaxle range switch circuit with the selector lever in P or N position (transaxle range switch off).
POSSIBLE CAUSE	• Transaxle range switch connector or terminals malfunction • Transaxle range switch malfunction • BCM connector or terminals malfunction • Short to power supply in wiring harness between transaxle range switch terminal D and BCM terminal 2H • Short to power supply in wiring harness between back-up light (LH/RH) terminal A and BCM terminal 7A • BCM malfunction



Diagnostic Procedure

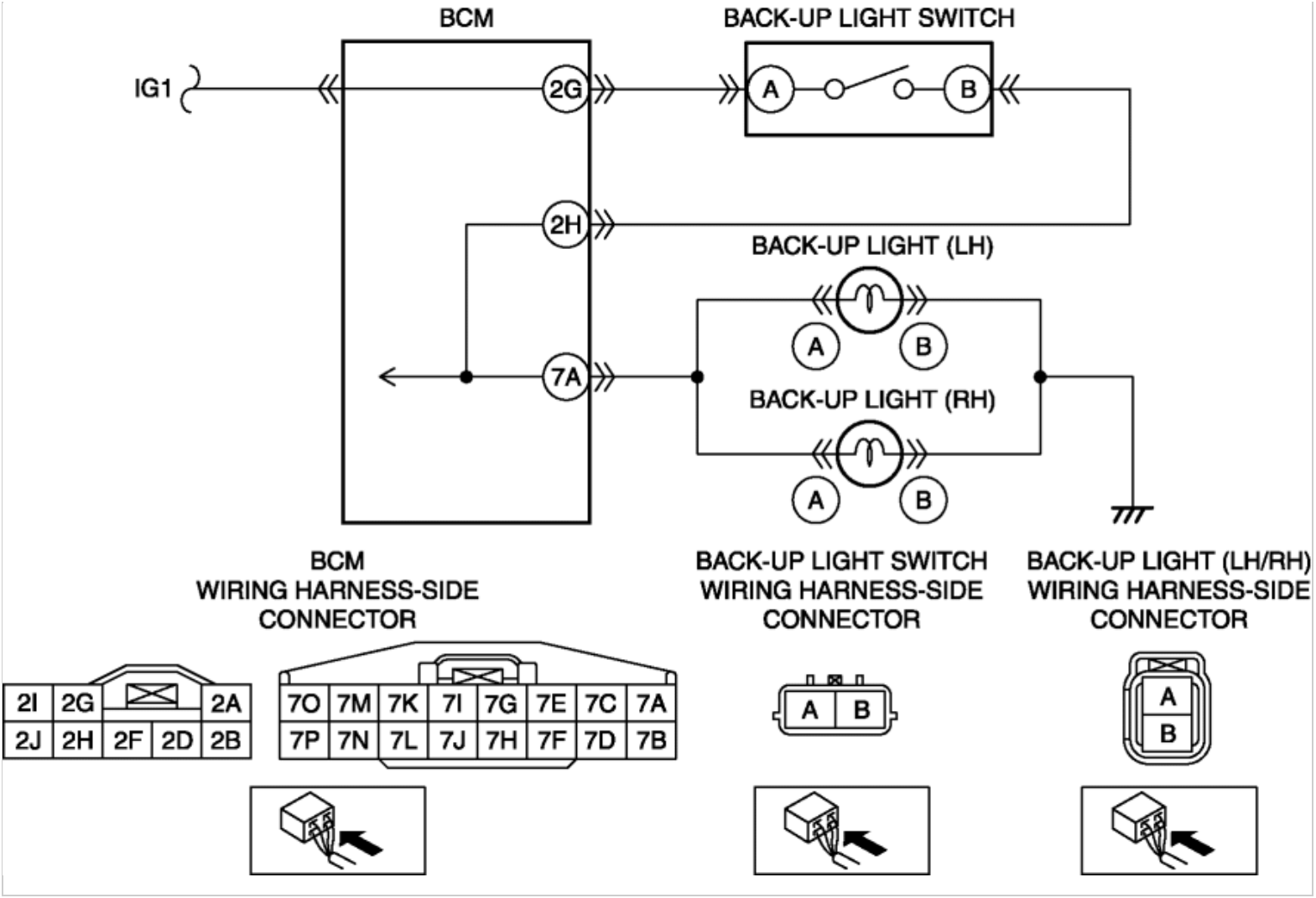
Step	Inspection		Action
1	**PERFORM DTC INSPECTION** • Clear the DTC from the BCM memory using the M-MDS. (See **CLEARING DTC [BCM]**.) • Perform the BCM DTC inspection using the M-MDS with the selector lever in P or N position (transaxle range switch off). (See **DTC INSPECTION [BCM]**.) • Is the same DTC present?	Yes	Go to the next step.
		No	Go to Step 7.
2	**INSPECT TRANSAXLE RANGE SWITCH CONNECTOR CONDITION** • Switch the ignition to off.	Yes	Repair or replace the connector or terminals, then go to Step 6.

	• Disconnect the negative battery cable. • Disconnect the transaxle range switch connector. • Inspect for poor connection (damaged/pulled-out pins, corrosion). • Is there any malfunction?	No	Go to the next step.
3	**INSPECT TRANSAXLE RANGE SWITCH** • Inspect the transaxle range switch. (See **TRANSAXLE RANGE (TR) SWITCH INSPECTION [FS5A-EL]**.) • Is there any malfunction?	Yes	Replace the transaxle range switch, then go to Step 6. (See **TRANSAXLE RANGE (TR) SWITCH REMOVAL/INSTALLATION [FS5A-EL]**.)
		No	Go to the next step.
4	**INSPECT BCM CONNECTOR CONDITION** • Disconnect the BCM connector. • Inspect for poor connection (damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair or replace the connector or terminals, then go to Step 6.
		No	Go to the next step.
5	**INSPECT TRANSAXLE RANGE SWITCH CIRCUIT FOR SHORT TO POWER SUPPLY** • Transaxle range switch and BCM connectors are disconnected. • Reconnect the negative battery cable. • Switch the ignition to ON. • Measure the voltage between the following terminals and body ground: ▪ Transaxle range switch terminal D (wiring harness-side) ▪ Back-up light (LH/RH) terminal A (wiring harness-side) • Is there any voltage?	Yes	Repair or replace the wiring harness for a possible short to power supply, then go to the next step.
		No	Go to the next step.
6	**VERIFY TROUBLESHOOTING COMPLETED** • Make sure to reconnect all disconnected connectors. • Reconnect the negative battery cable. • Clear the DTC from the BCM memory using the M-MDS. (See **CLEARING DTC [BCM]**.) • Perform the BCM DTC inspection using the M-MDS with the selector lever in P or N position (transaxle range switch off). (See **DTC INSPECTION [BCM]**.) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the BCM, then go to the next step. (See **BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION**.)
		No	Go to the next step.

7	**VERIFY THAT NO OTHER DTCs ARE PRESENT** • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See **DTC TABLE [BCM]**.)
		No	DTC troubleshooting completed.

MZR 2.5/ MTX

DESCRIPTION	Back-up light switch circuit malfunction
DETECTION CONDITION	• Short to power supply in back-up light switch circuit with the shift lever in NEUTRAL (back-up light switch off).
POSSIBLE CAUSE	• Back-up light switch connector or terminals malfunction • Back-up light switch malfunction • BCM connector or terminals malfunction • Short to power supply in wiring harness between back-up light switch terminal B and BCM terminal 2H • Short to power supply in wiring harness between back-up light (LH/RH) terminal A and BCM terminal 7A • BCM malfunction



Diagnostic Procedure

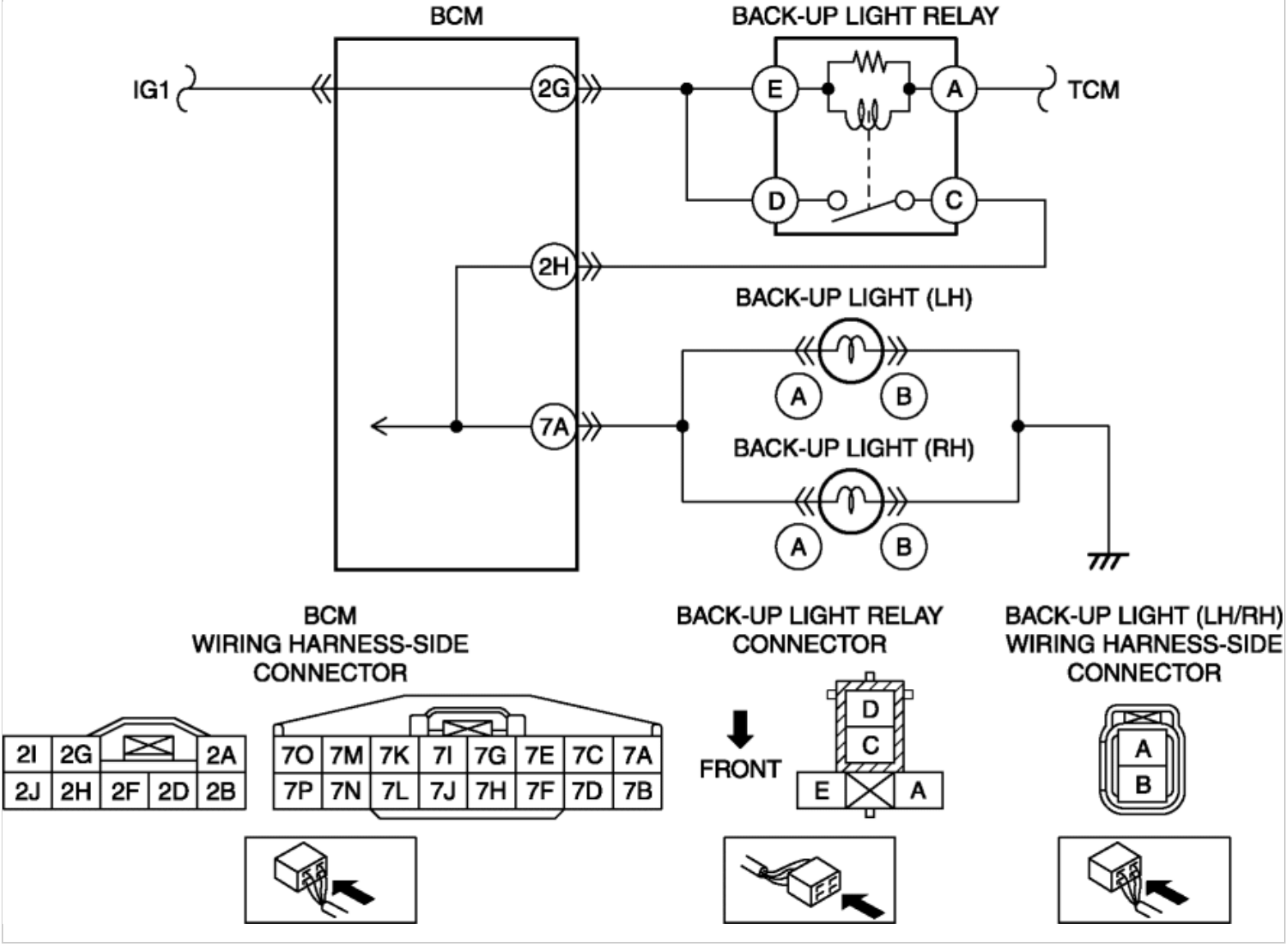
Step	Inspection		Action
1	**PERFORM DTC INSPECTION** • Clear the DTC from the BCM memory using the M-MDS. (See **CLEARING DTC [BCM]**.) • Perform the BCM DTC inspection using the M-MDS with the shift lever in NEUTRAL (back-up light switch off). (See **DTC INSPECTION [BCM]**.) • Is the same DTC present?	Yes	Go to the next step.
		No	Go to Step 7.
2	**INSPECT BACK-UP LIGHT SWITCH CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the negative battery cable. • Disconnect the back-up light switch connector.	Yes	Repair or replace the connector or terminals, then go to Step 6.
		No	Go to the next step.

	• Inspect for poor connection (damaged/pulled-out pins, corrosion). • Is there any malfunction?		
3	**INSPECT BACK-UP LIGHT SWITCH** • Inspect the back-up light switch. (See **BACK-UP LIGHT SWITCH INSPECTION**.) • Is there any malfunction?	Yes	Replace the back-up light switch, then go to Step 6. (See **BACK-UP LIGHT SWITCH REMOVAL/INSTALLATION [G66M-R]**.)
		No	Go to the next step.
4	**INSPECT BCM CONNECTOR CONDITION** • Disconnect the BCM connector. • Inspect for poor connection (damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair or replace the connector or terminals, then go to Step 6.
		No	Go to the next step.
5	**INSPECT BACK-UP LIGHT SWITCH CIRCUIT FOR SHORT TO POWER SUPPLY** • Back-up light switch and BCM connectors are disconnected. • Reconnect the negative battery cable. • Switch the ignition to ON. • Measure the voltage between the following terminals and body ground: ▪ Back-up light switch terminal B (wiring harness-side) ▪ Back-up light (LH/RH) terminal A (wiring harness-side) • Is there any voltage?	Yes	Repair or replace the wiring harness for a possible short to power supply, then go to the next step.
		No	Go to the next step.
6	**VERIFY TROUBLESHOOTING COMPLETED** • Make sure to reconnect all disconnected connectors. • Reconnect the negative battery cable. • Clear the DTC from the BCM memory using the M-MDS. (See **CLEARING DTC [BCM]**.) • Perform the BCM DTC inspection using the M-MDS with the shift lever in NEUTRAL (back-up light switch off). (See **DTC INSPECTION [BCM]**.) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the BCM, then go to the next step. (See **BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION**.)
		No	Go to the next step.
7	**VERIFY THAT NO OTHER DTCs ARE PRESENT**	Yes	Go to the applicable DTC inspection. (See **DTC TABLE [BCM]**.)

	• Are any DTCs present?		
		No	DTC troubleshooting completed.

MZI 3.7 V6

DESCRIPTION	Back-up light relay circuit malfunction
DETECTION CONDITION	• Short to power supply in back-up light relay circuit with the selector lever in P or N position.
POSSIBLE CAUSE	• Back-up light relay malfunction • BCM connector or terminals malfunction • Short to power supply in wiring harness between back-up light relay terminal C and BCM terminal 2H • Short to power supply in wiring harness between back-up light (LH/RH) terminal A and BCM terminal 7A • BCM malfunction



Diagnostic Procedure

Step	Inspection		Action
1	**PERFORM DTC INSPECTION** • Clear the DTC from the BCM memory using the M-MDS. (See **CLEARING DTC [BCM]**.) • Perform the BCM DTC inspection using the M-MDS with the selector lever in P or N position. (See **DTC INSPECTION [BCM]**.) • Is the same DTC present?	Yes	Go to the next step.
		No	Go to Step 6.
2	**INSPECT BACK-UP LIGHT RELAY** • Switch the ignition to off. • Disconnect the negative battery cable.	Yes	Replace the back-up light relay, then go to Step 5.
		No	Go to the next step.

	• Remove the back-up light relay. • Inspect the back-up light relay. (See **RELAY INSPECTION**.) • Is there any malfunction?		
3	**INSPECT BCM CONNECTOR CONDITION** • Disconnect the BCM connector. • Inspect for poor connection (damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair or replace the connector or terminals, then go to Step 5.
		No	Go to the next step.
4	**INSPECT BACK-UP LIGHT RELAY CIRCUIT FOR SHORT TO POWER SUPPLY** • Back-up light relay is removed. • BCM connector is disconnected. • Reconnect the negative battery cable. • Switch the ignition to ON. • Measure the voltage between the following terminals and body ground: ▪ Back-up light relay terminal C (wiring harness-side) ▪ Back-up light (LH/RH) terminal A (wiring harness-side) • Is there any voltage?	Yes	Repair or replace the wiring harness for a possible short to power supply, then go to the next step.
		No	Go to the next step.
5	**VERIFY TROUBLESHOOTING COMPLETED** • Make sure to reconnect all disconnected connectors. • Reconnect the negative battery cable. • Clear the DTC from the BCM memory using the M-MDS. (See **CLEARING DTC [BCM]**.) • Perform the BCM DTC inspection using the M-MDS with the selector lever in P or N position. (See **DTC INSPECTION [BCM]**.) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the BCM, then go to the next step. (See **BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION**.)
		No	Go to the next step.
6	**VERIFY THAT NO OTHER DTCs ARE PRESENT** • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See **DTC TABLE [BCM]**.)

		No	DTC troubleshooting completed.

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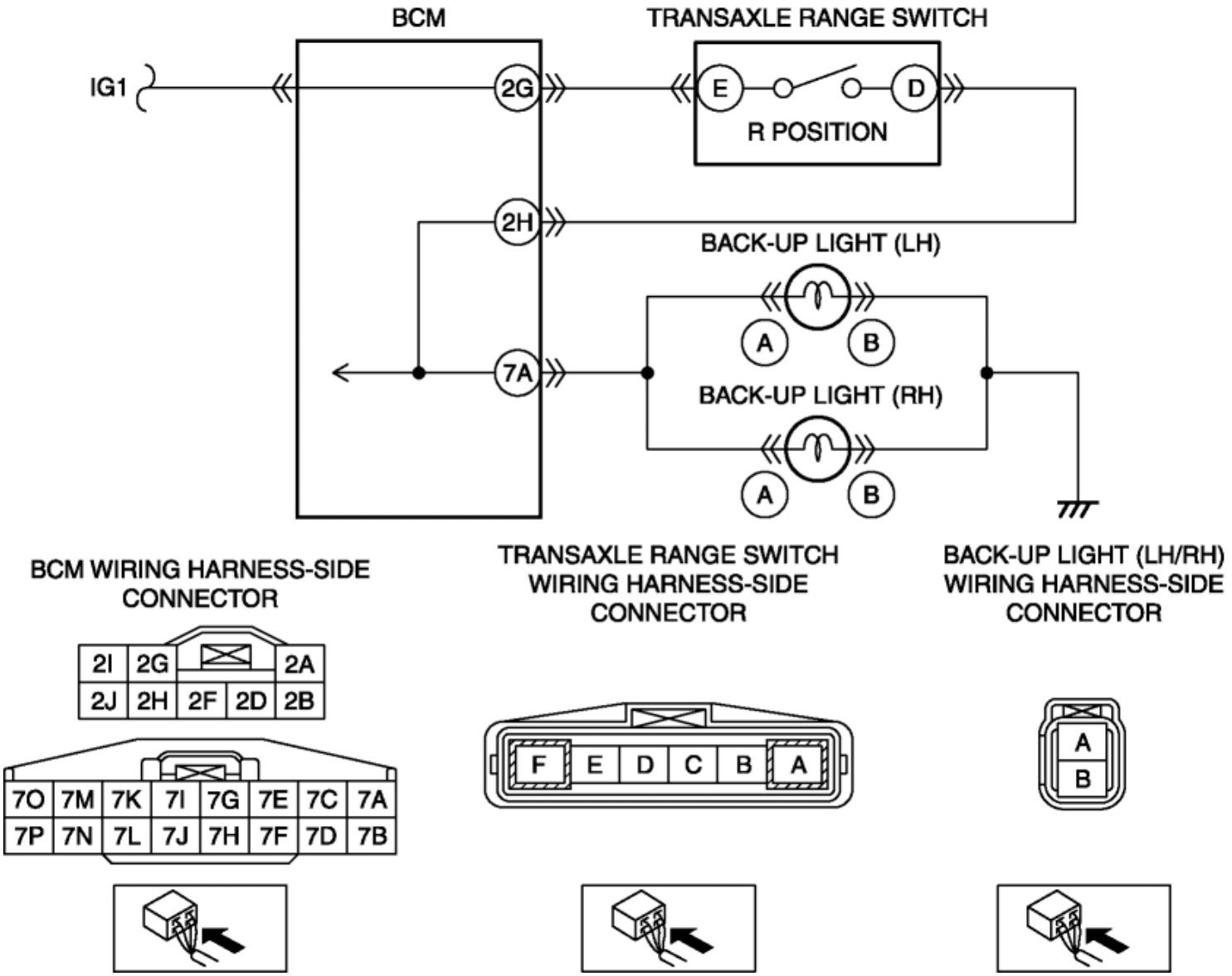
2012 - Mazda6 - Body and Accessories

DTC C1137:12 [BCM]

MZR 2.5/ ATX

DESCRIPTION	Transaxle range switch circuit malfunction
DETECTION CONDITION	• Short to power supply in transaxle range switch circuit with the selector lever in P or N position (transaxle range switch off).
POSSIBLE CAUSE	• Transaxle range switch connector or terminals malfunction • Transaxle range switch malfunction • BCM connector or terminals malfunction • Short to power supply in wiring harness between transaxle range switch terminal D and BCM terminal 2H • Short to power supply in wiring harness between back-up light (LH/RH) terminal A and BCM terminal 7A • BCM malfunction



Diagnostic Procedure

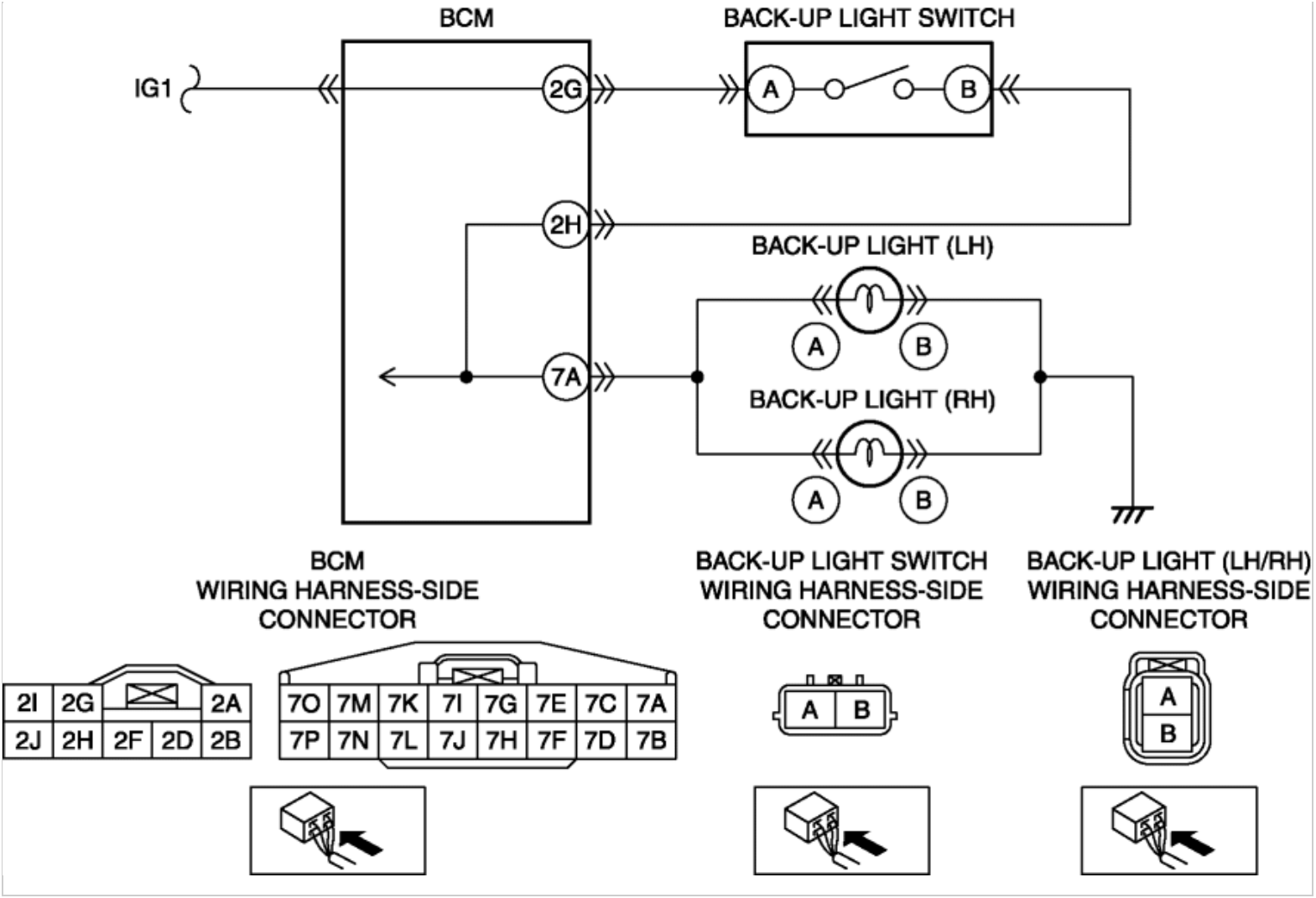
Step	Inspection		Action
1	**PERFORM DTC INSPECTION** • Clear the DTC from the BCM memory using the M-MDS. (See **CLEARING DTC [BCM]**.) • Perform the BCM DTC inspection using the M-MDS with the selector lever in P or N position (transaxle range switch off). (See **DTC INSPECTION [BCM]**.) • Is the same DTC present?	Yes	Go to the next step.
		No	Go to Step 7.
2	**INSPECT TRANSAXLE RANGE SWITCH CONNECTOR CONDITION** • Switch the ignition to off.	Yes	Repair or replace the connector or terminals, then go to Step 6.

	• Disconnect the negative battery cable. • Disconnect the transaxle range switch connector. • Inspect for poor connection (damaged/pulled-out pins, corrosion). • Is there any malfunction?	No	Go to the next step.
3	**INSPECT TRANSAXLE RANGE SWITCH** • Inspect the transaxle range switch. (See **TRANSAXLE RANGE (TR) SWITCH INSPECTION [FS5A-EL]**.) • Is there any malfunction?	Yes	Replace the transaxle range switch, then go to Step 6. (See **TRANSAXLE RANGE (TR) SWITCH REMOVAL/INSTALLATION [FS5A-EL]**.)
		No	Go to the next step.
4	**INSPECT BCM CONNECTOR CONDITION** • Disconnect the BCM connector. • Inspect for poor connection (damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair or replace the connector or terminals, then go to Step 6.
		No	Go to the next step.
5	**INSPECT TRANSAXLE RANGE SWITCH CIRCUIT FOR SHORT TO POWER SUPPLY** • Transaxle range switch and BCM connectors are disconnected. • Reconnect the negative battery cable. • Switch the ignition to ON. • Measure the voltage between the following terminals and body ground: ▪ Transaxle range switch terminal D (wiring harness-side) ▪ Back-up light (LH/RH) terminal A (wiring harness-side) • Is there any voltage?	Yes	Repair or replace the wiring harness for a possible short to power supply, then go to the next step.
		No	Go to the next step.
6	**VERIFY TROUBLESHOOTING COMPLETED** • Make sure to reconnect all disconnected connectors. • Reconnect the negative battery cable. • Clear the DTC from the BCM memory using the M-MDS. (See **CLEARING DTC [BCM]**.) • Perform the BCM DTC inspection using the M-MDS with the selector lever in P or N position (transaxle range switch off). (See **DTC INSPECTION [BCM]**.) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the BCM, then go to the next step. (See **BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION**.)
		No	Go to the next step.

7	**VERIFY THAT NO OTHER DTCs ARE PRESENT** • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See **DTC TABLE [BCM]**.)
		No	DTC troubleshooting completed.

MZR 2.5/ MTX

DESCRIPTION	Back-up light switch circuit malfunction
DETECTION CONDITION	• Short to power supply in back-up light switch circuit with the shift lever in NEUTRAL (back-up light switch off).
POSSIBLE CAUSE	• Back-up light switch connector or terminals malfunction • Back-up light switch malfunction • BCM connector or terminals malfunction • Short to power supply in wiring harness between back-up light switch terminal B and BCM terminal 2H • Short to power supply in wiring harness between back-up light (LH/RH) terminal A and BCM terminal 7A • BCM malfunction



Diagnostic Procedure

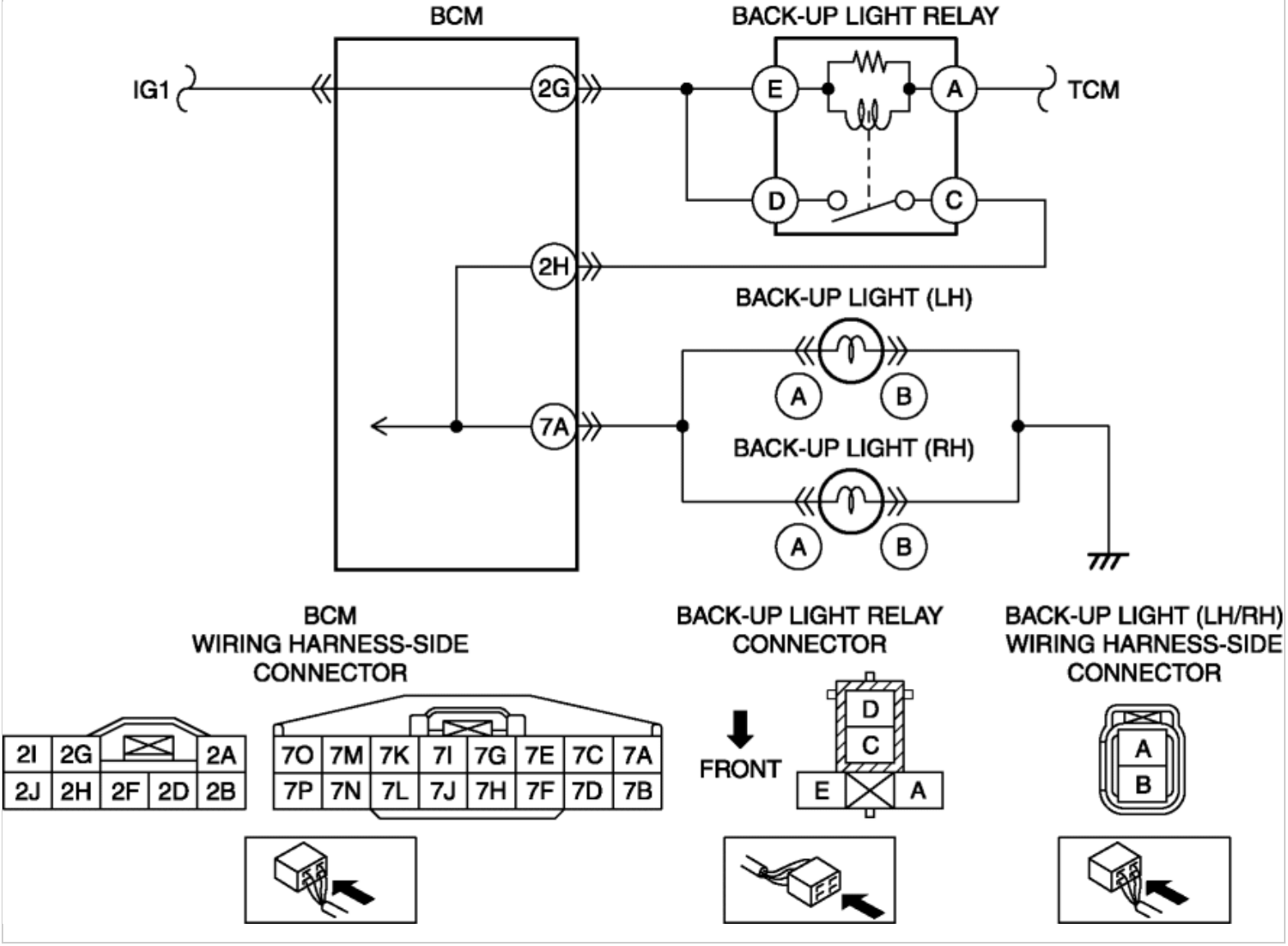
Step	Inspection		Action
1	**PERFORM DTC INSPECTION** • Clear the DTC from the BCM memory using the M-MDS. (See **CLEARING DTC [BCM]**.) • Perform the BCM DTC inspection using the M-MDS with the shift lever in NEUTRAL (back-up light switch off). (See **DTC INSPECTION [BCM]**.) • Is the same DTC present?	Yes	Go to the next step.
		No	Go to Step 7.
2	**INSPECT BACK-UP LIGHT SWITCH CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the negative battery cable. • Disconnect the back-up light switch connector.	Yes	Repair or replace the connector or terminals, then go to Step 6.
		No	Go to the next step.

	• Inspect for poor connection (damaged/pulled-out pins, corrosion). • Is there any malfunction?		
3	**INSPECT BACK-UP LIGHT SWITCH** • Inspect the back-up light switch. (See **BACK-UP LIGHT SWITCH INSPECTION**.) • Is there any malfunction?	Yes	Replace the back-up light switch, then go to Step 6. (See **BACK-UP LIGHT SWITCH REMOVAL/INSTALLATION [G66M-R]**.)
		No	Go to the next step.
4	**INSPECT BCM CONNECTOR CONDITION** • Disconnect the BCM connector. • Inspect for poor connection (damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair or replace the connector or terminals, then go to Step 6.
		No	Go to the next step.
5	**INSPECT BACK-UP LIGHT SWITCH CIRCUIT FOR SHORT TO POWER SUPPLY** • Back-up light switch and BCM connectors are disconnected. • Reconnect the negative battery cable. • Switch the ignition to ON. • Measure the voltage between the following terminals and body ground: ▪ Back-up light switch terminal B (wiring harness-side) ▪ Back-up light (LH/RH) terminal A (wiring harness-side) • Is there any voltage?	Yes	Repair or replace the wiring harness for a possible short to power supply, then go to the next step.
		No	Go to the next step.
6	**VERIFY TROUBLESHOOTING COMPLETED** • Make sure to reconnect all disconnected connectors. • Reconnect the negative battery cable. • Clear the DTC from the BCM memory using the M-MDS. (See **CLEARING DTC [BCM]**.) • Perform the BCM DTC inspection using the M-MDS with the shift lever in NEUTRAL (back-up light switch off). (See **DTC INSPECTION [BCM]**.) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the BCM, then go to the next step. (See **BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION**.)
		No	Go to the next step.
7	**VERIFY THAT NO OTHER DTCs ARE PRESENT**	Yes	Go to the applicable DTC inspection. (See **DTC TABLE [BCM]**.)

	• Are any DTCs present?		
		No	DTC troubleshooting completed.

MZI 3.7 V6

DESCRIPTION	Back-up light relay circuit malfunction
DETECTION CONDITION	• Short to power supply in back-up light relay circuit with the selector lever in P or N position.
POSSIBLE CAUSE	• Back-up light relay malfunction • BCM connector or terminals malfunction • Short to power supply in wiring harness between back-up light relay terminal C and BCM terminal 2H • Short to power supply in wiring harness between back-up light (LH/RH) terminal A and BCM terminal 7A • BCM malfunction



Diagnostic Procedure

Step	Inspection		Action
1	**PERFORM DTC INSPECTION** • Clear the DTC from the BCM memory using the M-MDS. (See **CLEARING DTC [BCM]**.) • Perform the BCM DTC inspection using the M-MDS with the selector lever in P or N position. (See **DTC INSPECTION [BCM]**.) • Is the same DTC present?	Yes	Go to the next step.
		No	Go to Step 6.
2	**INSPECT BACK-UP LIGHT RELAY** • Switch the ignition to off. • Disconnect the negative battery cable.	Yes	Replace the back-up light relay, then go to Step 5.
		No	Go to the next step.

	• Remove the back-up light relay. • Inspect the back-up light relay. (See **RELAY INSPECTION**.) • Is there any malfunction?		
3	**INSPECT BCM CONNECTOR CONDITION** • Disconnect the BCM connector. • Inspect for poor connection (damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair or replace the connector or terminals, then go to Step 5.
		No	Go to the next step.
4	**INSPECT BACK-UP LIGHT RELAY CIRCUIT FOR SHORT TO POWER SUPPLY** • Back-up light relay is removed. • BCM connector is disconnected. • Reconnect the negative battery cable. • Switch the ignition to ON. • Measure the voltage between the following terminals and body ground: ▪ Back-up light relay terminal C (wiring harness-side) ▪ Back-up light (LH/RH) terminal A (wiring harness-side) • Is there any voltage?	Yes	Repair or replace the wiring harness for a possible short to power supply, then go to the next step.
		No	Go to the next step.
5	**VERIFY TROUBLESHOOTING COMPLETED** • Make sure to reconnect all disconnected connectors. • Reconnect the negative battery cable. • Clear the DTC from the BCM memory using the M-MDS. (See **CLEARING DTC [BCM]**.) • Perform the BCM DTC inspection using the M-MDS with the selector lever in P or N position. (See **DTC INSPECTION [BCM]**.) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the BCM, then go to the next step. (See **BODY CONTROL MODULE (BCM) REMOVAL/INSTALLATION**.)
		No	Go to the next step.
6	**VERIFY THAT NO OTHER DTCs ARE PRESENT** • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See **DTC TABLE [BCM]**.)

		No	DTC troubleshooting completed.

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