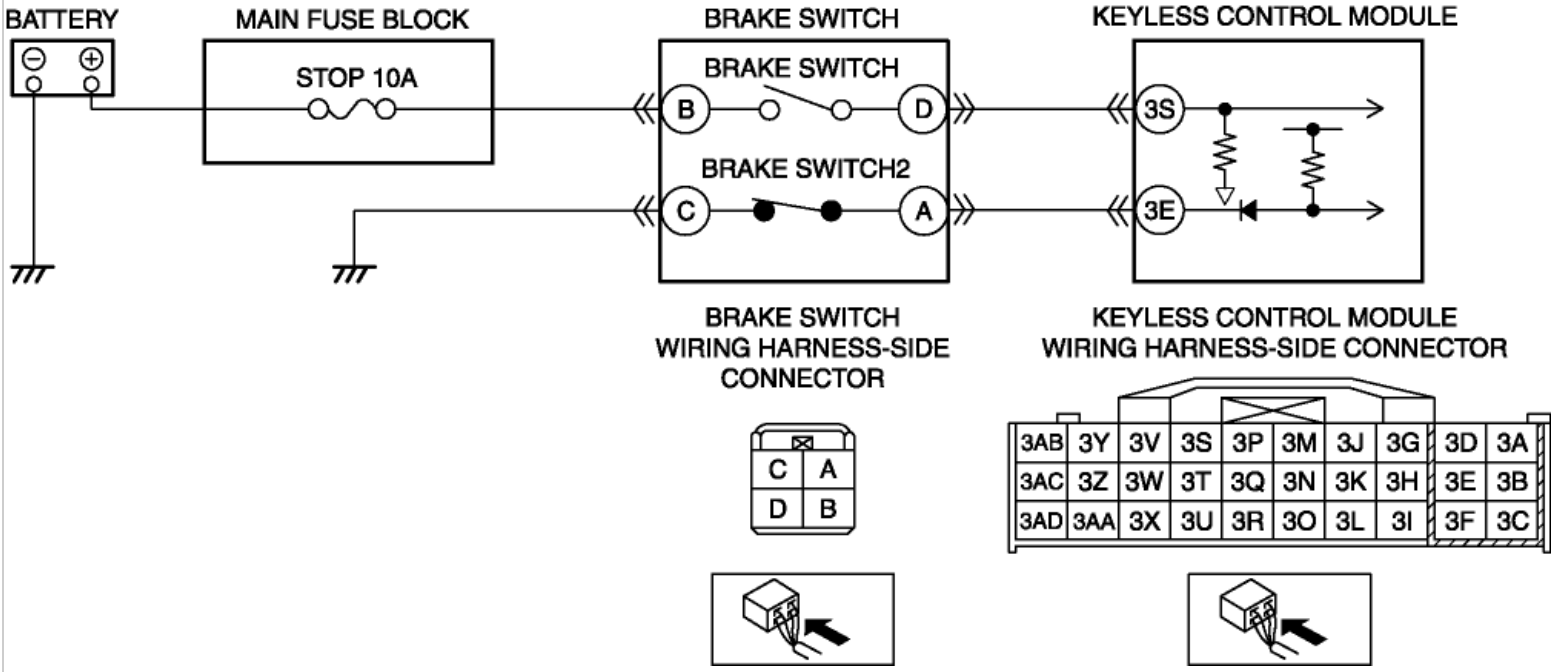
2012 - Mazda6 - Body and Accessories

DTC C0040:29 [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]

MZR 2.5

DETECTION CONDITION	Brake switch and brake switch2 link malfunction
POSSIBLE CAUSE	• Connector or terminal malfunction • Short to ground in wiring harness between brake switch terminal A and keyless control module terminal 3E • Short to ground in wiring harness between brake switch terminal B and battery positive terminal • Short to power supply in wiring harness between brake switch terminal D and keyless control module terminal 3S • Open circuit in wiring harness between brake switch terminal A and keyless control module terminal 3E • Open circuit in wiring harness between brake switch terminal B and battery positive terminal • Open circuit in wiring harness between brake switch terminal C and body ground • Open circuit in wiring harness between brake switch terminal D and keyless control module terminal 3S • Brake switch malfunction • Keyless control module malfunction



Diagnostic Procedure

Step	Inspection		Action
1	**INSPECT KEYLESS CONTROL MODULE CONNECTOR CONDITION**	Yes	Repair or replace the connector or terminals, then go to Step 7.

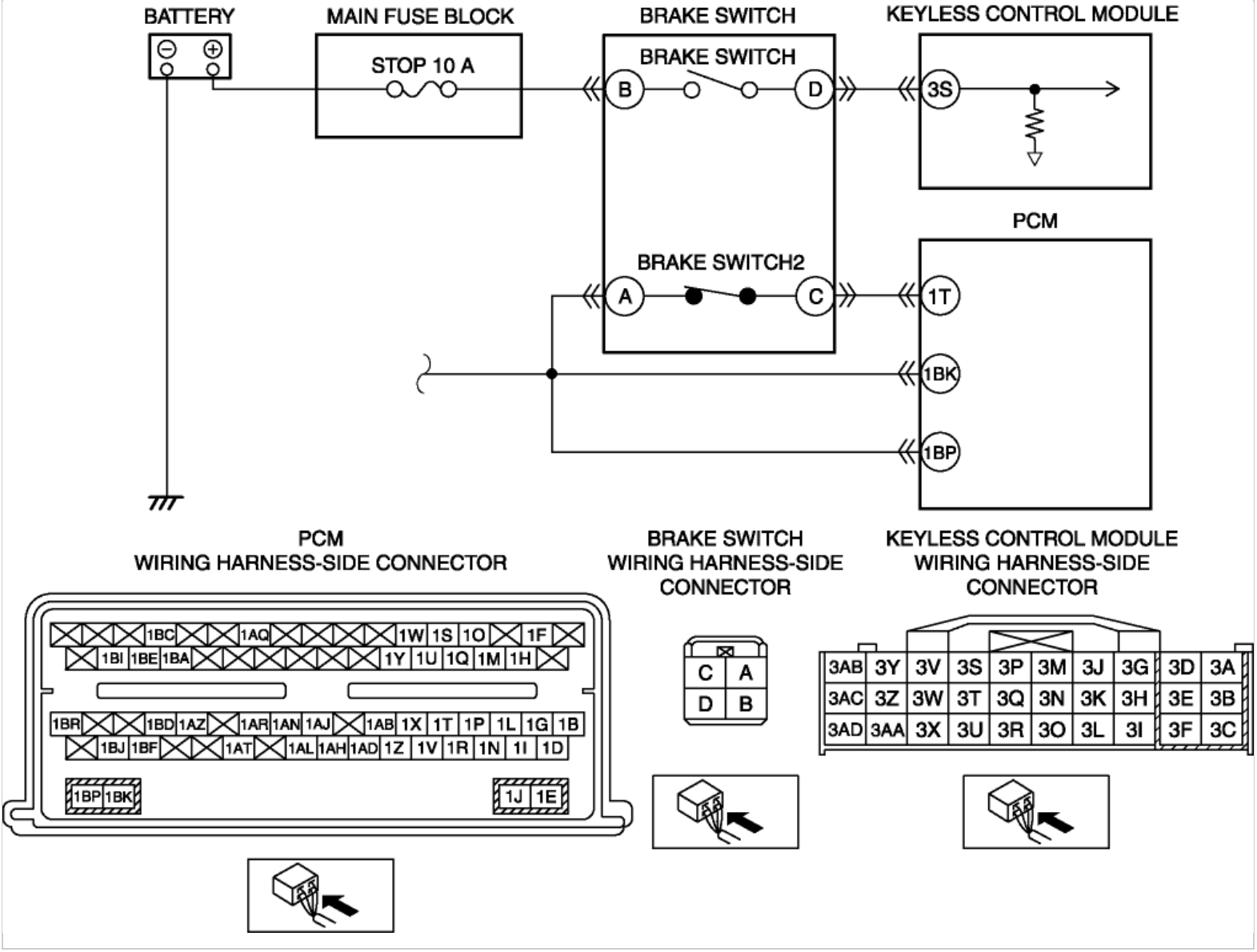
	• Switch the ignition to off. • Disconnect the negative battery cable. • Disconnect the keyless control module connector. • Inspect the connector and terminals (corrosion, damage, pin disconnection). • Is there any malfunction?	No	Go to the next step.
2	**INSPECT BRAKE SWITCH CIRCUIT FOR SHORT TO GROUND** • Inspect for continuity between the following terminals and body ground: ▪ Brake switch terminal A (wiring harness-side) ▪ Brake switch terminal B (wiring harness-side) • Is there continuity?	Yes	Repair or replace the wiring harness for a possible short to ground, then go to Step 5.
		No	Go to the next step.
3	**INSPECT BRAKE SWITCH CIRCUIT FOR SHORT TO POWER SUPPLY** • Reconnect the negative battery cable. • Switch the ignition to ON. • Measure the voltage between brake switch terminal D (wiring harness-side) and body ground. • Is there any voltage?	Yes	Repair or replace the wiring harness for a possible short to power supply, then go to Step 5.
		No	Go to the next step.
4	**INSPECT BRAKE SWITCH CIRCUIT FOR OPEN CIRCUIT** • Switch the ignition to off. • Disconnect the negative battery cable. • Inspect for continuity between the following terminals: ▪ Brake switch terminal A (wiring harness-side) and keyless control module terminal 3E (wiring harness-side) ▪ Brake switch terminal B (wiring harness-side) and battery positive terminal ▪ Brake switch terminal C (wiring harness-side) and body ground ▪ Brake switch terminal D (wiring harness-side) and keyless control module terminal 3S (wiring harness-side) • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to the next step.
5	**VERIFY TROUBLESHOOTING COMPLETED** • Make sure to reconnect the disconnected connectors. • Reconnect the negative battery cable. • Clear the DTC from keyless control module memory using the M-MDS. (See **CLEARING DTC [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Perform the advanced keyless entry and push button	Yes	Go to the next step.
		No	Go to Step 8.

	start system DTC inspection using the M-MDS. (See **DTC INSPECTION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Is the same DTC present?		
6	**INSPECT BRAKE SWITCH CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the negative battery cable. • Disconnect the brake switch connector. • Inspect the connector and terminals (corrosion, damage, pin disconnection). • Is there any malfunction?	Yes	Repair or replace the connector or terminals. Replace the brake switch, then go to the next step. (See **BRAKE PEDAL REMOVAL/ INSTALLATION**.)
		No	Replace the brake switch, then go to the next step. (See **BRAKE PEDAL REMOVAL/ INSTALLATION**.)
7	**VERIFY TROUBLESHOOTING COMPLETED** • Make sure to reconnect the disconnected connectors. • Reconnect the negative battery cable. • Clear the DTC from keyless control module memory using the M-MDS. (See **CLEARING DTC [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Perform the advanced keyless entry and push button start system DTC inspection using the M-MDS. (See **DTC INSPECTION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the keyless control module, then go to the next step. (See **KEYLESS CONTROL MODULE REMOVAL/ INSTALLATION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.)
		No	Go to the next step.
8	**VERIFY THAT NO OTHER DTCs ARE PRESENT** • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See **DTC TABLE [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.)
		No	DTC troubleshooting completed.

MZI 3.7 V6

DETECTION CONDITION	Brake switch and brake switch2 link malfunction
POSSIBLE CAUSE	• Connector or terminal malfunction • Short to ground in wiring harness between brake switch terminal A and PCM terminal 1T • Short to ground in wiring harness between brake switch terminal B and battery positive terminal • Short to power supply in wiring harness between brake switch terminal C and PCM terminal 1BK • Short to power supply in wiring harness between brake switch terminal C and PCM terminal 1BP • Short to power supply in wiring harness between brake switch terminal D and keyless control module terminal 3S • Open circuit in wiring harness between brake switch terminal A and PCM terminal 1T • Open circuit in wiring harness between brake switch terminal B and battery positive terminal • Open circuit in wiring harness between brake switch terminal C and PCM terminal 1BK • Open circuit in wiring harness between brake switch terminal C and PCM terminal 1BP • Open circuit in wiring harness between brake switch terminal D and keyless control module terminal

	3S • PCM malfunction • Brake switch malfunction • Keyless control module malfunction



Diagnostic Procedure

Step	Inspection		Action
1	**INSPECT PCM CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the negative battery cable. • Disconnect the PCM connector. • Inspect the connector and terminals (corrosion, damage, pin disconnection). • Is there any malfunction?	Yes	Repair or replace the connector or terminals, then go to Step 9.
		No	Go to the next step.
2	**INSPECT KEYLESS CONTROL MODULE CONNECTOR CONDITION**	Yes	Repair or replace the connector or terminals, then go to Step 9.

	• Disconnect the keyless control module connector. • Inspect the connector and terminals (corrosion, damage, pin disconnection). • Is there any malfunction?	No	Go to the next step.
3	**INSPECT BRAKE SWITCH CIRCUIT FOR SHORT TO GROUND** • Inspect for continuity between the following terminals and body ground: ▪ Brake switch terminal C (wiring harness-side) ▪ Brake switch terminal B (wiring harness-side) • Is there continuity?	Yes	Repair or replace the wiring harness for a possible short to ground, then go to Step 7.
		No	Go to the next step.
4	**INSPECT BRAKE SWITCH CIRCUIT FOR SHORT TO POWER SUPPLY** • Reconnect the negative battery cable. • Switch the ignition to ON. • Measure the voltage between the following terminals and body ground: ▪ PCM terminal 1BK (wiring harness-side) ▪ PCM terminal 1BP (wiring harness-side) ▪ Keyless control module terminal 3S (wiring harness-side) • Is there any voltage?	Yes	Repair or replace the wiring harness for a possible short to power supply, then go to Step 7.
		No	Go to the next step.
5	**INSPECT BRAKE SWITCH CIRCUIT FOR OPEN CIRCUIT** • Switch the ignition to off. • Disconnect the negative battery cable. • Inspect for continuity between the following terminals: ▪ Brake switch terminal C (wiring harness-side) and PCM terminal 1T (wiring harness-side) ▪ Brake switch terminal B (wiring harness-side) and battery positive terminal ▪ Brake switch terminal A (wiring harness-side) and PCM terminal 1BK (wiring harness-side) ▪ Brake switch terminal A (wiring harness-side) and PCM terminal 1BP (wiring harness-side) ▪ Brake switch terminal D (wiring harness-side) and keyless control module terminal 3S (wiring harness-side) • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to Step 7.
6	**INSPECT PCM** • Reconnect the PCM connector.	Yes	Replace the PCM, then go to Step 9. (See **PCM REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)

	• Reconnect the negative battery cable. • Switch the ignition to ON. • Measure the voltage between PCM terminal 1T (wiring harness-side) and body ground. • Is the voltage normal? (See **PCM INSPECTION [MZI 3.7 V6]**.)	No	Go to the next step.
7	**VERIFY TROUBLESHOOTING COMPLETED** • Make sure to reconnect the disconnected connectors. • Reconnect the negative battery cable. • Clear the DTC from keyless control module memory using the M-MDS. (See **CLEARING DTC [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Perform the advanced keyless entry and push button start system DTC inspection using the M-MDS. (See **DTC INSPECTION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Is the same DTC present?	Yes	Go to the next step.
		No	Go to Step 10.
8	**INSPECT BRAKE SWITCH CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the negative battery cable. • Disconnect the brake switch connector. • Inspect the connector and terminals (corrosion, damage, pin disconnection). • Is there any malfunction?	Yes	Repair or replace the connector or terminals. Replace the brake switch, then go to the next step. (See **BRAKE PEDAL REMOVAL/ INSTALLATION**.)
		No	Replace the brake switch, then go to the next step. (See **BRAKE PEDAL REMOVAL/ INSTALLATION**.)
9	**VERIFY TROUBLESHOOTING COMPLETED** • Make sure to reconnect the disconnected connectors. • Reconnect the negative battery cable. • Clear the DTC from keyless control module memory using the M-MDS. (See **CLEARING DTC [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Perform the advanced keyless entry and push button start system DTC inspection using the M-MDS. (See **DTC INSPECTION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the keyless control module, then go to the next step. (See **KEYLESS CONTROL MODULE REMOVAL/ INSTALLATION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.)
		No	Go to the next step.
10	**VERIFY THAT NO OTHER DTCs ARE PRESENT** • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See **DTC TABLE [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.)
		No	DTC troubleshooting completed.

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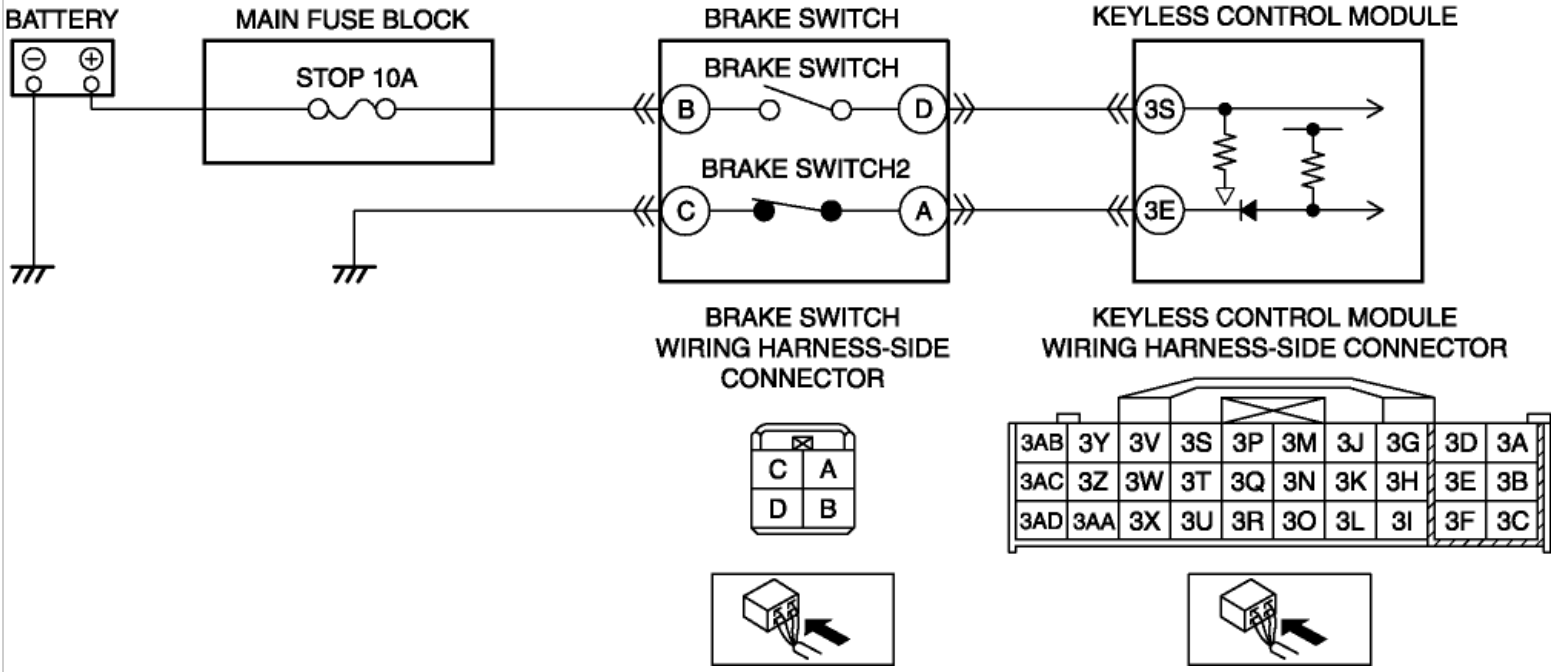
DTC C0040:29 [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]

MZR 2.5

DETECTION CONDITION	Brake switch and brake switch2 link malfunction
POSSIBLE CAUSE	• Connector or terminal malfunction • Short to ground in wiring harness between brake switch terminal A and keyless control module terminal 3E • Short to ground in wiring harness between brake switch terminal B and battery positive terminal • Short to power supply in wiring harness between brake switch terminal D and keyless control module terminal 3S • Open circuit in wiring harness between brake switch terminal A and keyless control module terminal 3E • Open circuit in wiring harness between brake switch terminal B and battery positive terminal • Open circuit in wiring harness between brake switch terminal C and body ground • Open circuit in wiring harness between brake switch terminal D and keyless control module terminal 3S • Brake switch malfunction • Keyless control module malfunction



Diagnostic Procedure

Step	Inspection		Action
1	**INSPECT KEYLESS CONTROL MODULE CONNECTOR CONDITION**	Yes	Repair or replace the connector or terminals, then go to Step 7.

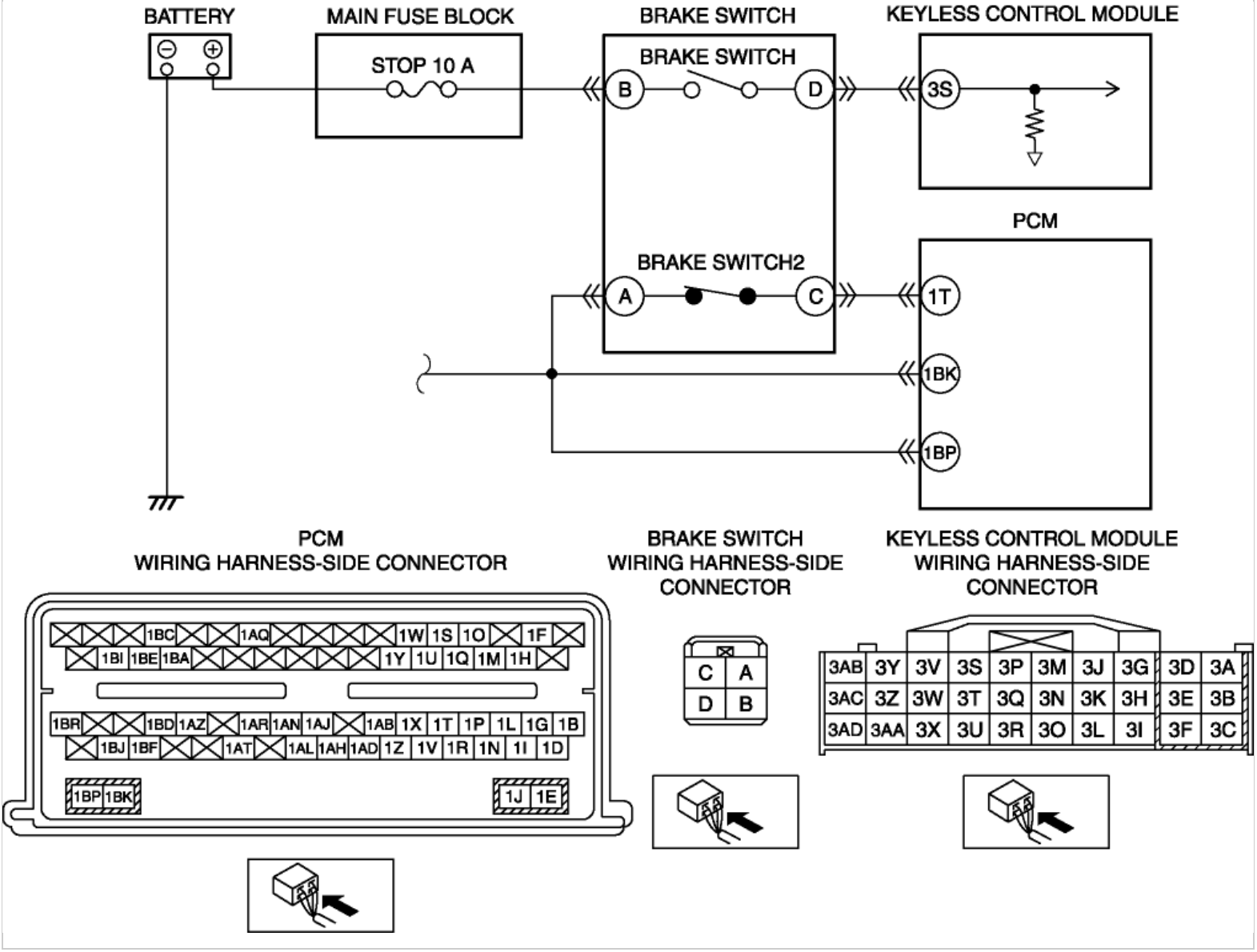
	• Switch the ignition to off. • Disconnect the negative battery cable. • Disconnect the keyless control module connector. • Inspect the connector and terminals (corrosion, damage, pin disconnection). • Is there any malfunction?	No	Go to the next step.
2	**INSPECT BRAKE SWITCH CIRCUIT FOR SHORT TO GROUND** • Inspect for continuity between the following terminals and body ground: ▪ Brake switch terminal A (wiring harness-side) ▪ Brake switch terminal B (wiring harness-side) • Is there continuity?	Yes	Repair or replace the wiring harness for a possible short to ground, then go to Step 5.
		No	Go to the next step.
3	**INSPECT BRAKE SWITCH CIRCUIT FOR SHORT TO POWER SUPPLY** • Reconnect the negative battery cable. • Switch the ignition to ON. • Measure the voltage between brake switch terminal D (wiring harness-side) and body ground. • Is there any voltage?	Yes	Repair or replace the wiring harness for a possible short to power supply, then go to Step 5.
		No	Go to the next step.
4	**INSPECT BRAKE SWITCH CIRCUIT FOR OPEN CIRCUIT** • Switch the ignition to off. • Disconnect the negative battery cable. • Inspect for continuity between the following terminals: ▪ Brake switch terminal A (wiring harness-side) and keyless control module terminal 3E (wiring harness-side) ▪ Brake switch terminal B (wiring harness-side) and battery positive terminal ▪ Brake switch terminal C (wiring harness-side) and body ground ▪ Brake switch terminal D (wiring harness-side) and keyless control module terminal 3S (wiring harness-side) • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to the next step.
5	**VERIFY TROUBLESHOOTING COMPLETED** • Make sure to reconnect the disconnected connectors. • Reconnect the negative battery cable. • Clear the DTC from keyless control module memory using the M-MDS. (See **CLEARING DTC [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Perform the advanced keyless entry and push button	Yes	Go to the next step.
		No	Go to Step 8.

	start system DTC inspection using the M-MDS. (See **DTC INSPECTION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Is the same DTC present?		
6	**INSPECT BRAKE SWITCH CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the negative battery cable. • Disconnect the brake switch connector. • Inspect the connector and terminals (corrosion, damage, pin disconnection). • Is there any malfunction?	Yes	Repair or replace the connector or terminals. Replace the brake switch, then go to the next step. (See **BRAKE PEDAL REMOVAL/ INSTALLATION**.)
		No	Replace the brake switch, then go to the next step. (See **BRAKE PEDAL REMOVAL/ INSTALLATION**.)
7	**VERIFY TROUBLESHOOTING COMPLETED** • Make sure to reconnect the disconnected connectors. • Reconnect the negative battery cable. • Clear the DTC from keyless control module memory using the M-MDS. (See **CLEARING DTC [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Perform the advanced keyless entry and push button start system DTC inspection using the M-MDS. (See **DTC INSPECTION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the keyless control module, then go to the next step. (See **KEYLESS CONTROL MODULE REMOVAL/ INSTALLATION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.)
		No	Go to the next step.
8	**VERIFY THAT NO OTHER DTCs ARE PRESENT** • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See **DTC TABLE [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.)
		No	DTC troubleshooting completed.

MZI 3.7 V6

DETECTION CONDITION	Brake switch and brake switch2 link malfunction
POSSIBLE CAUSE	• Connector or terminal malfunction • Short to ground in wiring harness between brake switch terminal A and PCM terminal 1T • Short to ground in wiring harness between brake switch terminal B and battery positive terminal • Short to power supply in wiring harness between brake switch terminal C and PCM terminal 1BK • Short to power supply in wiring harness between brake switch terminal C and PCM terminal 1BP • Short to power supply in wiring harness between brake switch terminal D and keyless control module terminal 3S • Open circuit in wiring harness between brake switch terminal A and PCM terminal 1T • Open circuit in wiring harness between brake switch terminal B and battery positive terminal • Open circuit in wiring harness between brake switch terminal C and PCM terminal 1BK • Open circuit in wiring harness between brake switch terminal C and PCM terminal 1BP • Open circuit in wiring harness between brake switch terminal D and keyless control module terminal

	3S • PCM malfunction • Brake switch malfunction • Keyless control module malfunction



Diagnostic Procedure

Step	Inspection		Action
1	**INSPECT PCM CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the negative battery cable. • Disconnect the PCM connector. • Inspect the connector and terminals (corrosion, damage, pin disconnection). • Is there any malfunction?	Yes	Repair or replace the connector or terminals, then go to Step 9.
		No	Go to the next step.
2	**INSPECT KEYLESS CONTROL MODULE CONNECTOR CONDITION**	Yes	Repair or replace the connector or terminals, then go to Step 9.

	• Disconnect the keyless control module connector. • Inspect the connector and terminals (corrosion, damage, pin disconnection). • Is there any malfunction?	No	Go to the next step.
3	**INSPECT BRAKE SWITCH CIRCUIT FOR SHORT TO GROUND** • Inspect for continuity between the following terminals and body ground: ▪ Brake switch terminal C (wiring harness-side) ▪ Brake switch terminal B (wiring harness-side) • Is there continuity?	Yes	Repair or replace the wiring harness for a possible short to ground, then go to Step 7.
		No	Go to the next step.
4	**INSPECT BRAKE SWITCH CIRCUIT FOR SHORT TO POWER SUPPLY** • Reconnect the negative battery cable. • Switch the ignition to ON. • Measure the voltage between the following terminals and body ground: ▪ PCM terminal 1BK (wiring harness-side) ▪ PCM terminal 1BP (wiring harness-side) ▪ Keyless control module terminal 3S (wiring harness-side) • Is there any voltage?	Yes	Repair or replace the wiring harness for a possible short to power supply, then go to Step 7.
		No	Go to the next step.
5	**INSPECT BRAKE SWITCH CIRCUIT FOR OPEN CIRCUIT** • Switch the ignition to off. • Disconnect the negative battery cable. • Inspect for continuity between the following terminals: ▪ Brake switch terminal C (wiring harness-side) and PCM terminal 1T (wiring harness-side) ▪ Brake switch terminal B (wiring harness-side) and battery positive terminal ▪ Brake switch terminal A (wiring harness-side) and PCM terminal 1BK (wiring harness-side) ▪ Brake switch terminal A (wiring harness-side) and PCM terminal 1BP (wiring harness-side) ▪ Brake switch terminal D (wiring harness-side) and keyless control module terminal 3S (wiring harness-side) • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible open circuit, then go to Step 7.
6	**INSPECT PCM** • Reconnect the PCM connector.	Yes	Replace the PCM, then go to Step 9. (See **PCM REMOVAL/ INSTALLATION [MZI 3.7 V6]**.)

	• Reconnect the negative battery cable. • Switch the ignition to ON. • Measure the voltage between PCM terminal 1T (wiring harness-side) and body ground. • Is the voltage normal? (See **PCM INSPECTION [MZI 3.7 V6]**.)	No	Go to the next step.
7	**VERIFY TROUBLESHOOTING COMPLETED** • Make sure to reconnect the disconnected connectors. • Reconnect the negative battery cable. • Clear the DTC from keyless control module memory using the M-MDS. (See **CLEARING DTC [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Perform the advanced keyless entry and push button start system DTC inspection using the M-MDS. (See **DTC INSPECTION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Is the same DTC present?	Yes	Go to the next step.
		No	Go to Step 10.
8	**INSPECT BRAKE SWITCH CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the negative battery cable. • Disconnect the brake switch connector. • Inspect the connector and terminals (corrosion, damage, pin disconnection). • Is there any malfunction?	Yes	Repair or replace the connector or terminals. Replace the brake switch, then go to the next step. (See **BRAKE PEDAL REMOVAL/ INSTALLATION**.)
		No	Replace the brake switch, then go to the next step. (See **BRAKE PEDAL REMOVAL/ INSTALLATION**.)
9	**VERIFY TROUBLESHOOTING COMPLETED** • Make sure to reconnect the disconnected connectors. • Reconnect the negative battery cable. • Clear the DTC from keyless control module memory using the M-MDS. (See **CLEARING DTC [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Perform the advanced keyless entry and push button start system DTC inspection using the M-MDS. (See **DTC INSPECTION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the keyless control module, then go to the next step. (See **KEYLESS CONTROL MODULE REMOVAL/ INSTALLATION [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.)
		No	Go to the next step.
10	**VERIFY THAT NO OTHER DTCs ARE PRESENT** • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See **DTC TABLE [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.)
		No	DTC troubleshooting completed.

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