

2012 - Mazda6 - Body and Accessories

DTC U3003:16, U3003:17 [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]

DETECTION CONDITION	U3003:16	Battery power supply circuit (+B1) voltage 4 V—9 V is detected for 10 s
	U3003:17	Battery power supply circuit (+B1) voltage higher than 16 V is detected for 0.5 s , while engine is running
POSSIBLE CAUSE	- MAIN 125 A fuse malfunction - BTN 30 A fuse malfunction - ROOM 15 A fuse malfunction - Battery malfunction - Generator malfunction - Connector or terminal malfunction - Short to ground in wiring harness between BCM terminal 4B and battery positive terminal - Open circuit in wiring harness between BCM terminal 4B and battery positive terminal - Short to ground in wiring harness between BCM terminal 7N and keyless control module terminal 1D - Open circuit in wiring harness between BCM terminal 7N and keyless control module terminal 1D - BCM malfunction - Keyless control module malfunction	
	BATTERY MAIN FUSE BLOCK FUSE BLOCK BCM KEYLESS CONTROL MODULE BCM WIRING HARNESS-SIDE CONNECTOR KEYLESS CONTROL MODULE WIRING HARNESS-SIDE CONNECTOR	

Diagnostic Procedure

Step	Inspection	Action
1	PERFORM PCM DTC INSPECTION	YesGo to the applicable DTC inspection.

	- Perform the PCM DTC inspection using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) - Are any DTCs present?	(See DTC TABLE [MZR 2.5] .) (See DTC TABLE [MZI 3.7 V6] .)	No Go to the next step.
2	INSPECT FUSE - Switch the ignition to off. - Disconnect the negative battery cable. - Remove the MAIN 125 A, BTN 30 A and ROOM 15 A fuses. - Inspect the MAIN 125 A, BTN 30 A and ROOM 15 A fuses. - Are there any malfunction?	Yes Replace the MAIN 125 A, BTN 30 A and ROOM 15 A fuses, then go to Step 11.	No Go to the next step.
3	INSPECT BATTERY - Inspect the battery. (See BATTERY INSPECTION [MZR 2.5].) (See BATTERY INSPECTION [MZI 3.7 V6].) - Is there any malfunction?	Yes Recharge or replace the battery, then go to Step 11. (See BATTERY RECHARGING [MZR 2.5] .) (See BATTERY RECHARGING [MZI 3.7 V6] .) (See BATTERY REMOVAL/ INSTALLATION [MZR 2.5] .) (See BATTERY REMOVAL/ INSTALLATION [MZI 3.7 V6] .)	No Go to the next step.
4	INSPECT GENERATOR - Inspect the generator. (See GENERATOR INSPECTION [MZR 2.5].) (See GENERATOR INSPECTION [MZI 3.7 V6].) - Is there any malfunction?	Yes Replace the generator, then go to Step 11. (See GENERATOR REMOVAL/ INSTALLATION [MZR 2.5] .) (See GENERATOR REMOVAL/ INSTALLATION [MZI 3.7 V6] .)	No Go to the next step.
5	INSPECT BCM CONNECTOR CONDITION - Disconnect the BCM 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 11.	No Go to the next step.
6	INSPECT BATTERY POWER SUPPLY CIRCUIT (+ B1) FOR SHORT TO GROUND OR OPEN CIRCUIT - Install the MAIN 125 A, BTN 30 A and ROOM 15 A fuses. - Reconnect the negative battery cable. - Measure the voltage between BCM terminal 4B (wiring harness-side) and body ground. - Is there any voltage?	Yes Go to the next step.	No Repair or replace the wiring harness for a possible short to ground or open circuit, then go to Step 11.
7	INSPECT KEYLESS CONTROL MODULE CONNECTOR CONDITION - 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).	Yes Repair or replace the connector or terminals, then go to Step 11.	No Go to the next step.

	Is there any malfunction?		
8	INSPECT BATTERY POWER SUPPLY CIRCUIT (+ B1) FOR SHORT TO GROUND - Inspect for continuity between keyless control module terminal 1D (wiring harness-side) and body ground. - Is there continuity?	Yes	Repair or replace the wiring harness for a possible short to ground, then go to Step 11.
		No	Go to the next step.
9	INSPECT BATTERY POWER SUPPLY CIRCUIT (+ B1) FOR OPEN CIRCUIT - Inspect for continuity between BCM terminal 7N (wiring harness-side) and keyless control module terminal 1D (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 11.
10	INSPECT BCM - Reconnect the disconnected connectors. - Reconnect the negative battery cable. - Measure the voltage between the following terminals and body ground: - BCM terminal 4B (wiring harness-side) - BCM terminal 7N (wiring harness-side) - Is the voltage normal? (See BODY CONTROL MODULE (BCM) INSPECTION.)	Yes	Go to the next step.
		No	Replace the BCM, then go to the next step. (See BODY CONTROL MODULE (BCM) REMOVAL/ INSTALLATION .)
11	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.
12	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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BATTERY MAIN FUSE BLOCK FUSE BLOCK BCM KEYLESS CONTROL MODULE BCM WIRING HARNESS-SIDE CONNECTOR KEYLESS CONTROL MODULE WIRING HARNESS-SIDE CONNECTOR		

Diagnostic Procedure

Step	Inspection	Action
1	PERFORM PCM DTC INSPECTION	YesGo to the applicable DTC inspection.

	- Perform the PCM DTC inspection using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) - Are any DTCs present?	(See DTC TABLE [MZR 2.5] .) (See DTC TABLE [MZI 3.7 V6] .)	No Go to the next step.
2	INSPECT FUSE - Switch the ignition to off. - Disconnect the negative battery cable. - Remove the MAIN 125 A, BTN 30 A and ROOM 15 A fuses. - Inspect the MAIN 125 A, BTN 30 A and ROOM 15 A fuses. - Are there any malfunction?	Yes Replace the MAIN 125 A, BTN 30 A and ROOM 15 A fuses, then go to Step 11.	No Go to the next step.
3	INSPECT BATTERY - Inspect the battery. (See BATTERY INSPECTION [MZR 2.5].) (See BATTERY INSPECTION [MZI 3.7 V6].) - Is there any malfunction?	Yes Recharge or replace the battery, then go to Step 11. (See BATTERY RECHARGING [MZR 2.5] .) (See BATTERY RECHARGING [MZI 3.7 V6] .) (See BATTERY REMOVAL/ INSTALLATION [MZR 2.5] .) (See BATTERY REMOVAL/ INSTALLATION [MZI 3.7 V6] .)	No Go to the next step.
4	INSPECT GENERATOR - Inspect the generator. (See GENERATOR INSPECTION [MZR 2.5].) (See GENERATOR INSPECTION [MZI 3.7 V6].) - Is there any malfunction?	Yes Replace the generator, then go to Step 11. (See GENERATOR REMOVAL/ INSTALLATION [MZR 2.5] .) (See GENERATOR REMOVAL/ INSTALLATION [MZI 3.7 V6] .)	No Go to the next step.
5	INSPECT BCM CONNECTOR CONDITION - Disconnect the BCM 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 11.	No Go to the next step.
6	INSPECT BATTERY POWER SUPPLY CIRCUIT (+ B1) FOR SHORT TO GROUND OR OPEN CIRCUIT - Install the MAIN 125 A, BTN 30 A and ROOM 15 A fuses. - Reconnect the negative battery cable. - Measure the voltage between BCM terminal 4B (wiring harness-side) and body ground. - Is there any voltage?	Yes Go to the next step.	No Repair or replace the wiring harness for a possible short to ground or open circuit, then go to Step 11.
7	INSPECT KEYLESS CONTROL MODULE CONNECTOR CONDITION - 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).	Yes Repair or replace the connector or terminals, then go to Step 11.	No Go to the next step.

	Is there any malfunction?		
8	INSPECT BATTERY POWER SUPPLY CIRCUIT (+ B1) FOR SHORT TO GROUND - Inspect for continuity between keyless control module terminal 1D (wiring harness-side) and body ground. - Is there continuity?	Yes	Repair or replace the wiring harness for a possible short to ground, then go to Step 11.
		No	Go to the next step.
9	INSPECT BATTERY POWER SUPPLY CIRCUIT (+ B1) FOR OPEN CIRCUIT - Inspect for continuity between BCM terminal 7N (wiring harness-side) and keyless control module terminal 1D (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 11.
10	INSPECT BCM - Reconnect the disconnected connectors. - Reconnect the negative battery cable. - Measure the voltage between the following terminals and body ground: - BCM terminal 4B (wiring harness-side) - BCM terminal 7N (wiring harness-side) - Is the voltage normal? (See BODY CONTROL MODULE (BCM) INSPECTION .)	Yes	Go to the next step.
		No	Replace the BCM, then go to the next step. (See BODY CONTROL MODULE (BCM) REMOVAL/ INSTALLATION .)
11	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.
12	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.