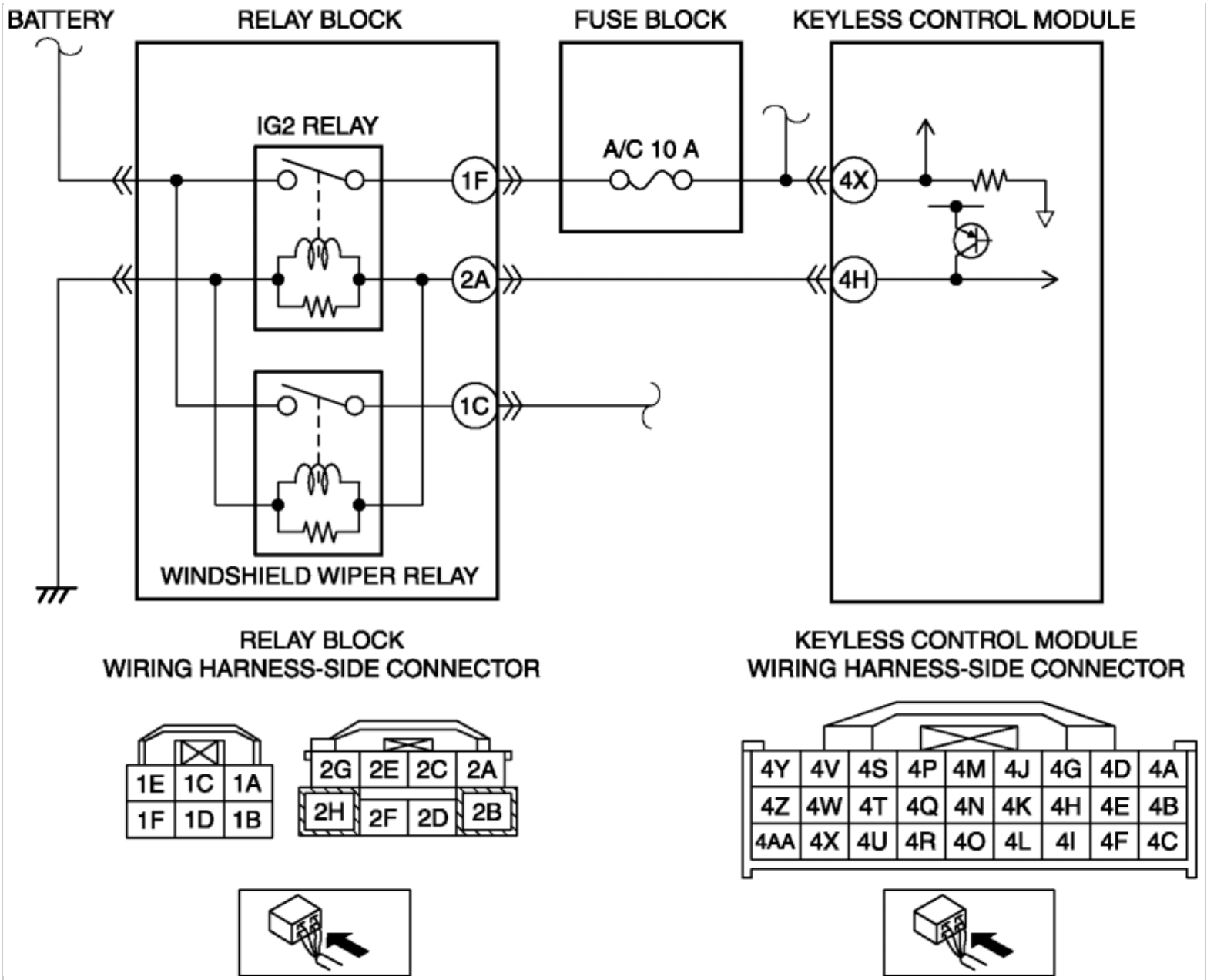
2012 - Mazda6 - Body and Accessories

DTC B112A:12 [ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]

DETECTION CONDITION	IG2 relay output circuit voltage higher than threshold (**2.2—6.5 V**) is detected for **0.1 s**, while the circuit is not active
POSSIBLE CAUSE	• Connector or terminal malfunction • Short to power supply in wiring harness between relay block terminal 2A and keyless control module terminal 4H • Relay block malfunction • Keyless control module malfunction



Diagnostic Procedure

Step	Inspection		Action
1	**INSPECT RELAY BLOCK CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the negative battery cable. • Disconnect the relay block connector. • Inspect the connector and terminals (corrosion, damage, pin disconnection).	Yes	Repair or replace the connector or terminals, then go to Step 5.
		No	Go to the next step.

	• Is there any malfunction?		
2	**INSPECT KEYLESS CONTROL MODULE CONNECTOR CONDITION** • Disconnect the keyless control module 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 5.
		No	Go to the next step.
3	**INSPECT IG2 RELAY OUTPUT CIRCUIT FOR SHORT TO POWER SUPPLY** • Reconnect the negative battery cable. • Switch the ignition to ON. • Measure the voltage between relay block terminal 2A (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 RELAY BLOCK** • Switch the ignition to off. • Disconnect the negative battery cable. • Inspect the relay block. (See **RELAY BLOCK INSPECTION [WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Is there any malfunction?	Yes	Replace the relay block, then go to the next step. (See **RELAY BLOCK REMOVAL/ INSTALLATION [WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.)
		No	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	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.

	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?		
6	**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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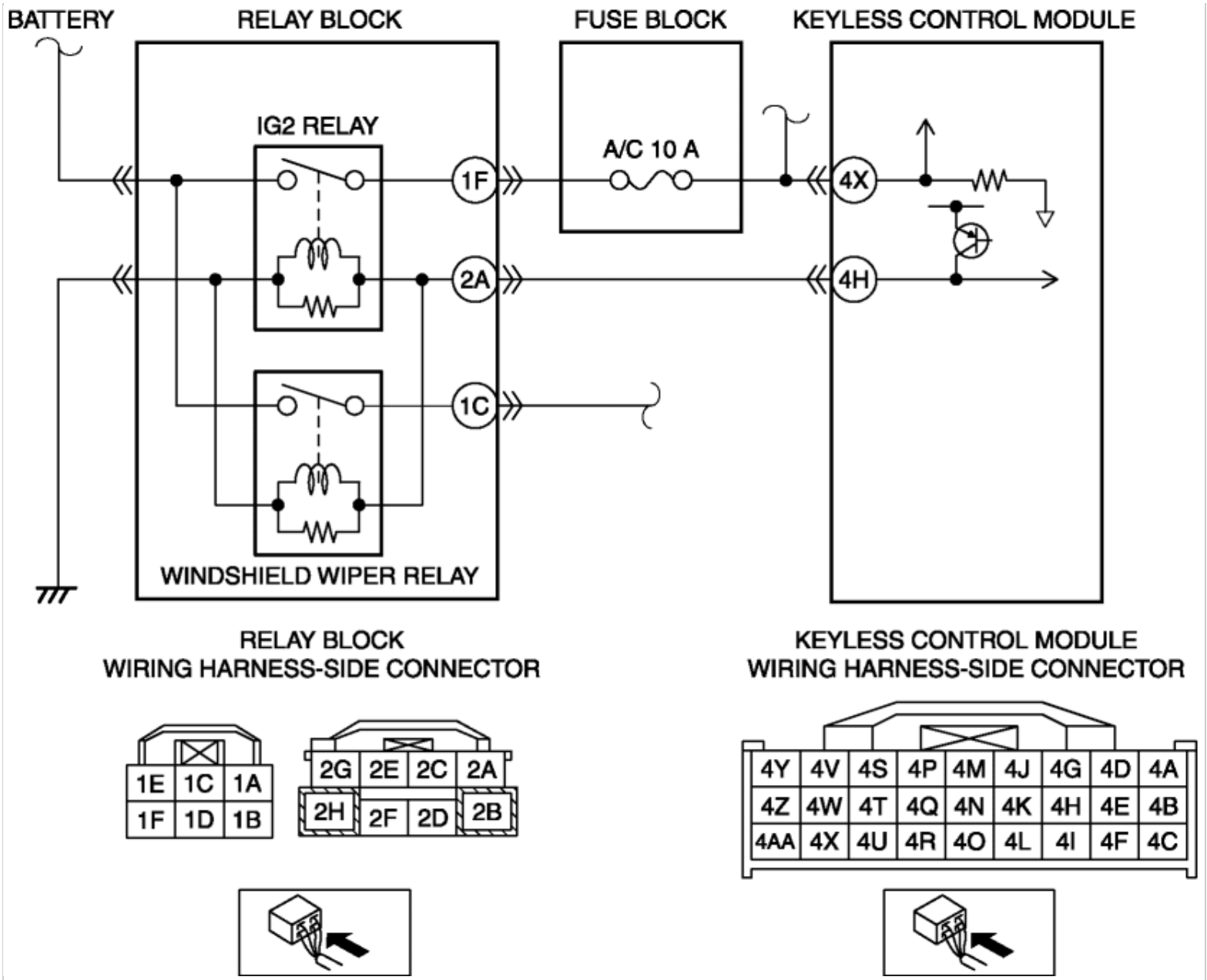

Diagnostic Procedure

Step	Inspection		Action
1	**INSPECT RELAY BLOCK CONNECTOR CONDITION** • Switch the ignition to off. • Disconnect the negative battery cable. • Disconnect the relay block connector. • Inspect the connector and terminals (corrosion, damage, pin disconnection).	Yes	Repair or replace the connector or terminals, then go to Step 5.
		No	Go to the next step.

	• Is there any malfunction?		
2	**INSPECT KEYLESS CONTROL MODULE CONNECTOR CONDITION** • Disconnect the keyless control module 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 5.
		No	Go to the next step.
3	**INSPECT IG2 RELAY OUTPUT CIRCUIT FOR SHORT TO POWER SUPPLY** • Reconnect the negative battery cable. • Switch the ignition to ON. • Measure the voltage between relay block terminal 2A (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 RELAY BLOCK** • Switch the ignition to off. • Disconnect the negative battery cable. • Inspect the relay block. (See **RELAY BLOCK INSPECTION [WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.) • Is there any malfunction?	Yes	Replace the relay block, then go to the next step. (See **RELAY BLOCK REMOVAL/ INSTALLATION [WITH ADVANCED KEYLESS ENTRY AND PUSH BUTTON START SYSTEM]**.)
		No	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	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.

	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?		
6	**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]**.)
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