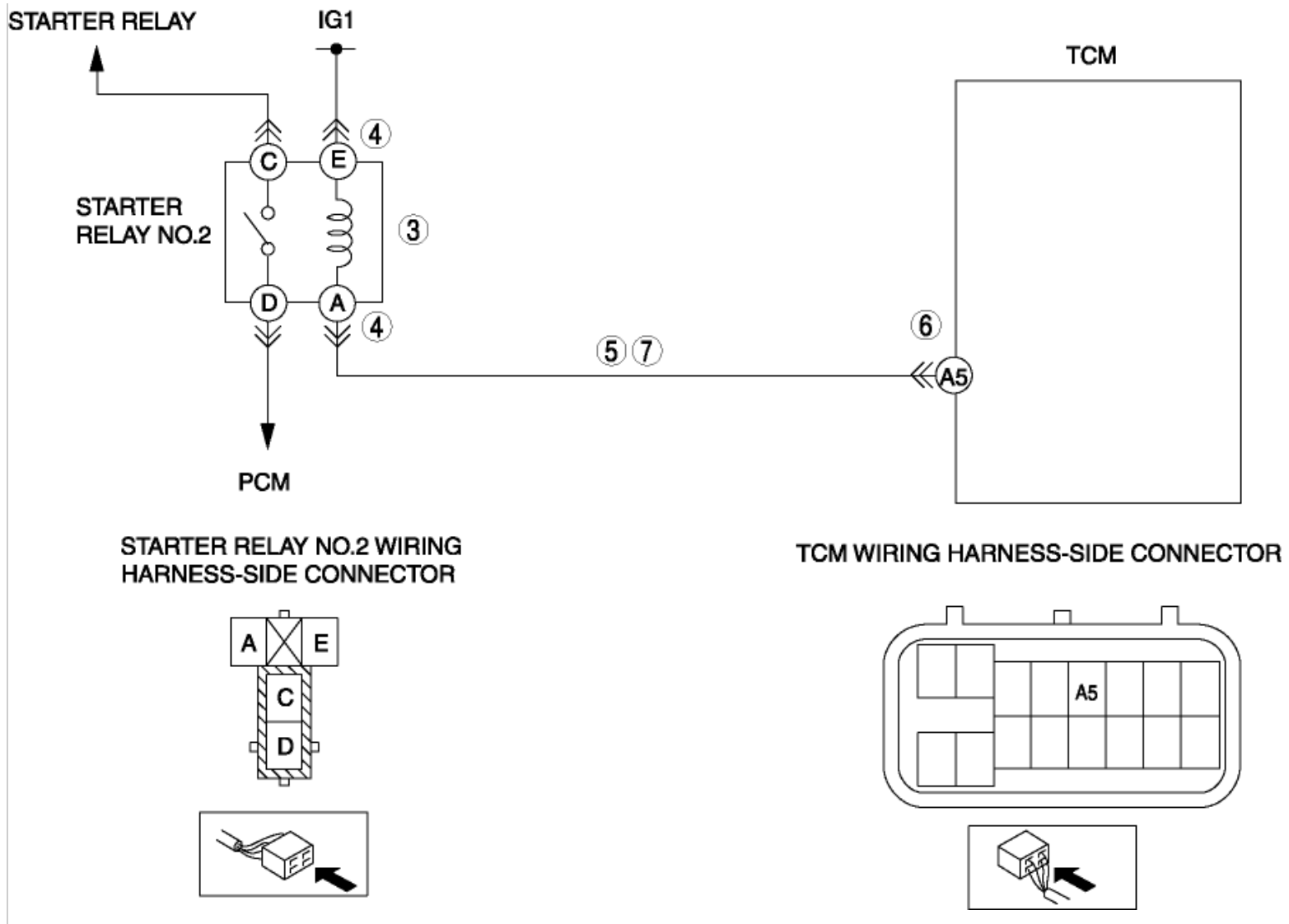


2012 - Mazda6 - Transmission/ Transaxle

DTC P0817:00 [AY6A-EL]

DTC P0817:00	Starter lock output signal circuit
DETECTI ON CONDI TION	• B+ short ▪ Conditions: Ignition switch ON, TCM communication normal, in D or R position ▪ Circumstances: 0V detected for start lock output voltage ▪ Time period: Determined after 2 times lasting 0.1 or more seconds • GND short / open ▪ Conditions: Ignition switch ON, TCM communication normal, in P or N position ▪ Circumstances: 12V detected for start lock output voltage ▪ Time period: Determined after 2 times lasting 0.1 or more seconds Diagnostic support note: • The MIL does not illuminate. • The AT warning light illuminates. • PENDING CODE is not available. • FREEZE FRAME DATA is available. • The DTC is stored in the TCM memory.
FAIL-SAFE FUNCTI ON	—
POSSI BLE CAUSE	• Starter relay No.2 malfunction • Starter relay No.2 connector or terminal malfunction • Short to GND in wiring harness between starter relay No.2 terminal A and TCM terminal A5 • TCM connector or terminal malfunction • Open circuit between starter relay No.2 terminal A and TCM terminal A5 • TCM malfunction



Diagnostic procedure

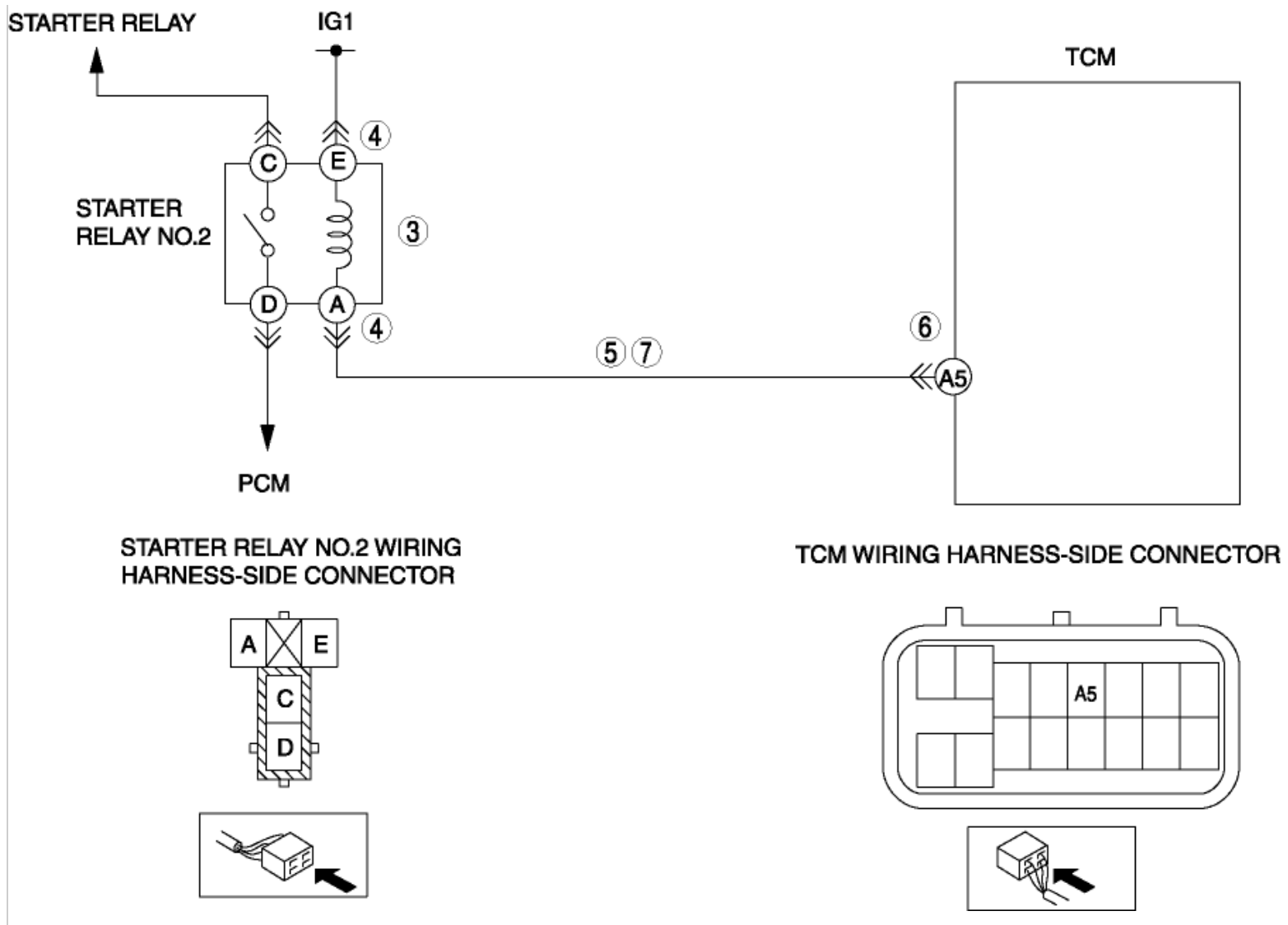
STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED Has the FREEZE FRAME DATA been recorded on the repair order?	Yes Go to the next step.
		No Record the FREEZE FRAME DATA on the repair order, then go to the next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY - Verify related Service Bulletins and/or on-line repair information availability. - Is any related repair information available?	Yes Perform repair or diagnosis according to the available repair information. If the vehicle is not repaired, go to the next step.
		No Go to the next step.
3	INSPECT STARTER RELAY NO.2 - Remove the starter relay No.2. - Inspect the starter relay No.2. (See RELAY INSPECTION .)	Yes Go to the next step.
		No Replace the starter relay No.2, then go to Step 9.

	Is the starter relay No.2 normal?		
4	INSPECT STARTER RELAY NO.2 CONNECTOR FOR POOR CONNECTION - Inspect for poor connection (such as damaged/pulled-out pins, and corrosion). - Is there any malfunction?	Yes	Repair or replace the terminal, then go to Step 9.
		No	Go to the next step.
5	INSPECT STARTER RELAY NO.2 CONTROL CIRCUIT FOR SHORT TO GND - Disconnect the battery positive cable. - Inspect for continuity between starter relay No.2 terminal A (wiring harness-side) and body GND. - Is there continuity?	Yes	Repair or replace the wiring harness for a possible short to GND, then go to Step 9.
		No	Go to the next step.
6	INSPECT TCM CONNECTOR FOR POOR CONNECTION - Disconnect the TCM connector. - Inspect for poor connection (such as damaged/pulled-out pins, and corrosion). - Is there any malfunction?	Yes	Repair or replace the terminal, then go to Step 10.
		No	Go to the next step.
7	INSPECT STARTER RELAY NO.2 CONTROL CIRCUIT FOR OPEN CIRCUIT - Inspect for continuity between starter relay No.2 terminal A (wiring harness-side) and TCM terminal A5 (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 next step.
8	VERIFY DTC TROUBLESHOOTING COMPLETED - Make sure to reconnect all the disconnected connectors. - Clear the DTC using the M-MDS. - Perform the following procedure to ensure that the DTC has been resolved: - Start the engine. - Warm up the engine and transaxle. - Drive the vehicle in D position and make sure that the gears shift smoothly from 1GR to 6GR. - Is the same DTC present?	Yes	Replace the TCM, then go to the next step. (See TCM REMOVAL/ INSTALLATION [AY6A-EL] .)
		No	Go to the next step.
9	VERIFY NO DTCs ARE PRESENT - Perform the "Reading DTCs Procedure". (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [AY6A-EL] .) - Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [AY6A-EL] .)
		No	DTC troubleshooting completed.

2012 - Mazda6 - Transmission/ Transaxle

DTC P0817:00 [AY6A-EL]

DTC P0817:00	Starter lock output signal circuit
DETECTI ON CONDI TION	• B+ short ▪ Conditions: Ignition switch ON, TCM communication normal, in D or R position ▪ Circumstances: 0V detected for start lock output voltage ▪ Time period: Determined after 2 times lasting 0.1 or more seconds • GND short / open ▪ Conditions: Ignition switch ON, TCM communication normal, in P or N position ▪ Circumstances: 12V detected for start lock output voltage ▪ Time period: Determined after 2 times lasting 0.1 or more seconds Diagnostic support note: • The MIL does not illuminate. • The AT warning light illuminates. • PENDING CODE is not available. • FREEZE FRAME DATA is available. • The DTC is stored in the TCM memory.
FAIL-SAFE FUNCTI ON	—
POSSI BLE CAUSE	• Starter relay No.2 malfunction • Starter relay No.2 connector or terminal malfunction • Short to GND in wiring harness between starter relay No.2 terminal A and TCM terminal A5 • TCM connector or terminal malfunction • Open circuit between starter relay No.2 terminal A and TCM terminal A5 • TCM malfunction



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED Has the FREEZE FRAME DATA been recorded on the repair order?	Yes Go to the next step.
		No Record the FREEZE FRAME DATA on the repair order, then go to the next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY - Verify related Service Bulletins and/or on-line repair information availability. - Is any related repair information available?	Yes Perform repair or diagnosis according to the available repair information. If the vehicle is not repaired, go to the next step.
		No Go to the next step.
3	INSPECT STARTER RELAY NO.2 - Remove the starter relay No.2. - Inspect the starter relay No.2. (See RELAY INSPECTION .)	Yes Go to the next step.
		No Replace the starter relay No.2, then go to Step 9.

	Is the starter relay No.2 normal?		
4	INSPECT STARTER RELAY NO.2 CONNECTOR FOR POOR CONNECTION - Inspect for poor connection (such as damaged/pulled-out pins, and corrosion). - Is there any malfunction?	Yes	Repair or replace the terminal, then go to Step 9.
		No	Go to the next step.
5	INSPECT STARTER RELAY NO.2 CONTROL CIRCUIT FOR SHORT TO GND - Disconnect the battery positive cable. - Inspect for continuity between starter relay No.2 terminal A (wiring harness-side) and body GND. - Is there continuity?	Yes	Repair or replace the wiring harness for a possible short to GND, then go to Step 9.
		No	Go to the next step.
6	INSPECT TCM CONNECTOR FOR POOR CONNECTION - Disconnect the TCM connector. - Inspect for poor connection (such as damaged/pulled-out pins, and corrosion). - Is there any malfunction?	Yes	Repair or replace the terminal, then go to Step 10.
		No	Go to the next step.
7	INSPECT STARTER RELAY NO.2 CONTROL CIRCUIT FOR OPEN CIRCUIT - Inspect for continuity between starter relay No.2 terminal A (wiring harness-side) and TCM terminal A5 (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 next step.
8	VERIFY DTC TROUBLESHOOTING COMPLETED - Make sure to reconnect all the disconnected connectors. - Clear the DTC using the M-MDS. - Perform the following procedure to ensure that the DTC has been resolved: - Start the engine. - Warm up the engine and transaxle. - Drive the vehicle in D position and make sure that the gears shift smoothly from 1GR to 6GR. - Is the same DTC present?	Yes	Replace the TCM, then go to the next step. (See TCM REMOVAL/ INSTALLATION [AY6A-EL] .)
		No	Go to the next step.
9	VERIFY NO DTCs ARE PRESENT - Perform the "Reading DTCs Procedure". (See ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [AY6A-EL] .) - Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See ON-BOARD DIAGNOSTIC SYSTEM DTC TABLE [AY6A-EL] .)
		No	DTC troubleshooting completed.

