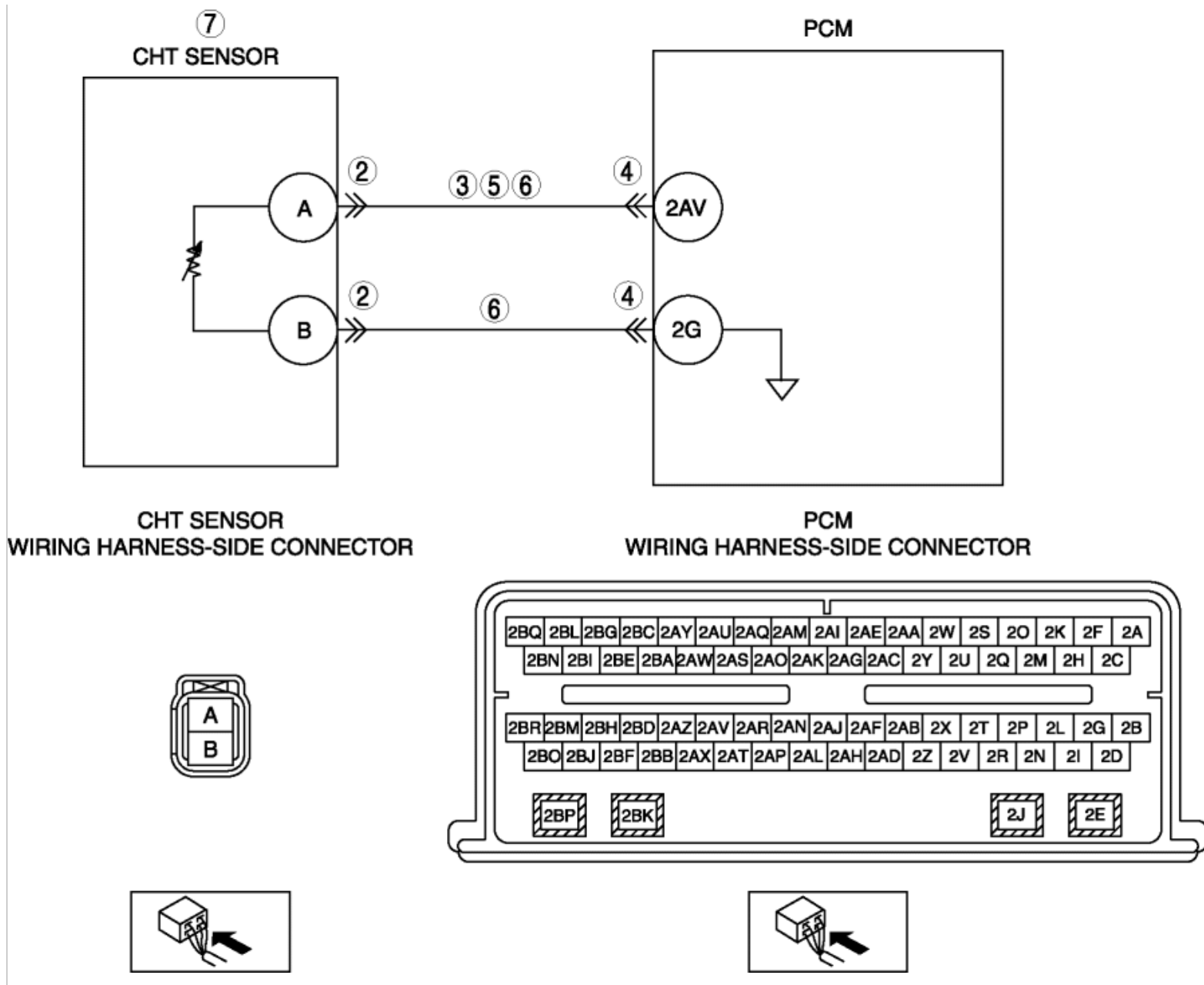


2012 - Mazda6 - Engine

DTC P128A:00 [MZI 3.7 V6]

DTC P128A:00	CHT sensor circuit intermittent/erratic
DETECT I O N CON DI T I O N	Indicates the CHT circuit became intermittently open or short while the engine was running.
POSSI BLE CAUSE	- CHT sensor connector or terminals malfunction - Short to ground in wiring harness between CHT sensor terminal A and PCM terminal 2AV - PCM connector or terminals malfunction - Short to power supply in wiring harness between CHT sensor terminal A and PCM terminal 2AV - Open circuit in wiring harness between the following terminals: - CHT sensor terminal A—PCM terminal 2AV - CHT sensor terminal B—PCM terminal 2G - CHT sensor malfunction - PCM malfunction



Diagnostic procedure

STEP	INSPECTION	ACTION
1	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.
2	INSPECT CHT SENSOR CONNECTOR CONDITION - Switch the ignition to off. - Disconnect the CHT sensor connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion).	Yes Repair or replace the connector and/or terminals, then go to Step 8.
		No Go to the next step.

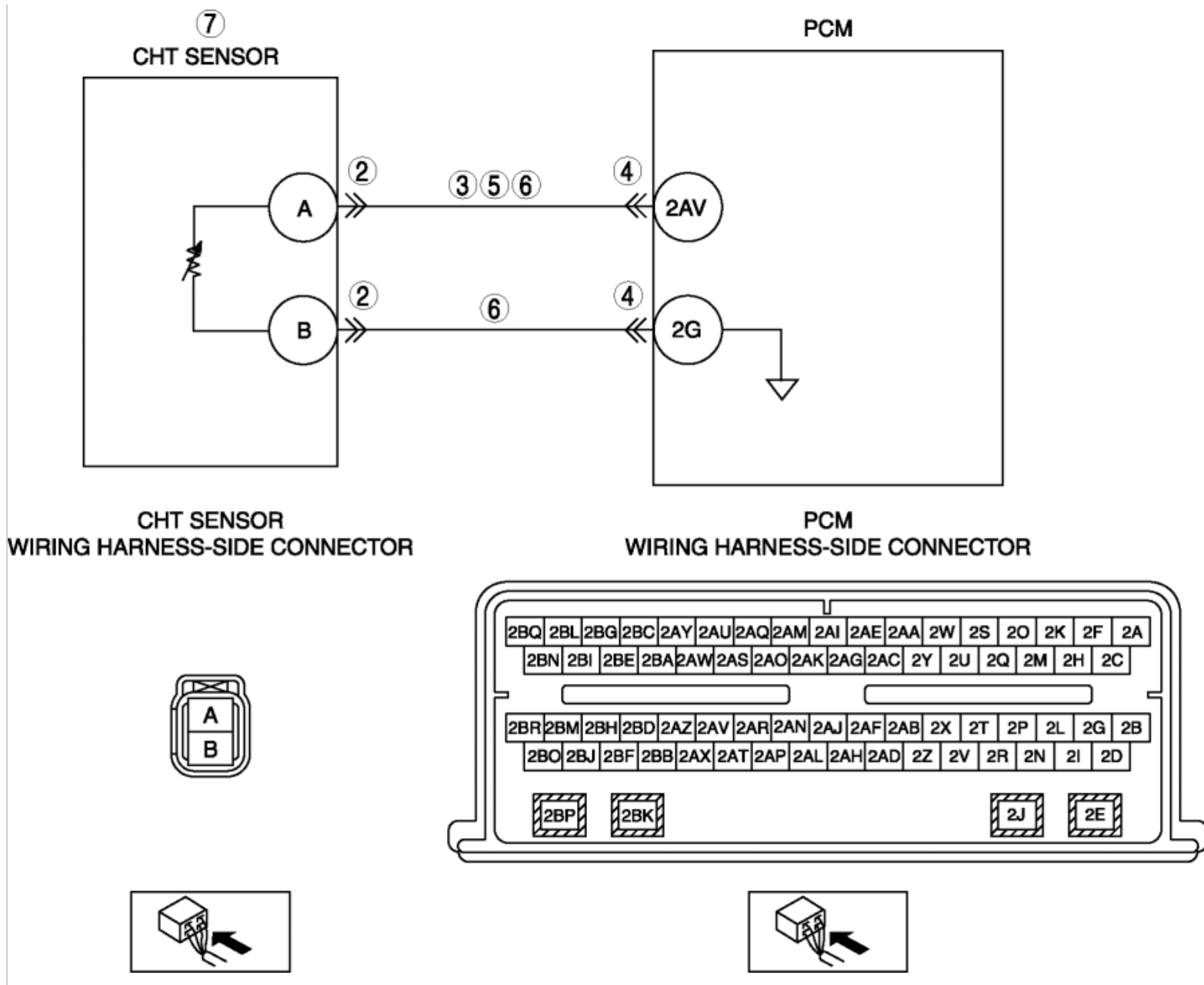
	• Is there any malfunction?		
3	INSPECT CHT SENSOR CIRCUIT FOR SHORT TO GROUND • CHT sensor connector is disconnected. • Inspect for continuity between CHT sensor terminal A (wiring harness-side) and body ground. • Is there continuity?	Yes If the short to ground circuit could be detected: • Repair or replace the wiring harness for a possible short to ground. If the short to ground circuit could not be detected: • Replace the PCM (short to ground in the PCM internal circuit). (See PCM REMOVAL/ INSTALLATION [MZI 3.7 V6] .) Go to Step 8.	
		No Go to the next step.	
4	INSPECT PCM CONNECTOR CONDITION • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes Repair or replace the connector and/or terminals, then go to Step 8.	
		No Go to the next step.	
5	INSPECT CHT SENSOR CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY • CHT sensor and PCM connectors are disconnected. • Switch the ignition to ON (engine off). • Measure the voltage at the CHT sensor 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 Step 8.	
		No Go to the next step.	
6	INSPECT CHT SENSOR CIRCUIT FOR OPEN CIRCUIT • CHT sensor and PCM connectors are disconnected. • Switch the ignition to off. • Inspect for continuity between the following terminals (wiring harness-side): ▪ CHT sensor terminal A—PCM terminal 2AV ▪ CHT sensor terminal B—PCM terminal 2G • 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 8.	
7	INSPECT CHT SENSOR • Inspect the CHT sensor. (See CYLINDER HEAD TEMPERATURE (CHT) SENSOR INSPECTION [MZI 3.7 V6] .) • Is there any malfunction?	Yes Replace the CHT sensor, then go to the next step. (See CYLINDER HEAD TEMPERATURE (CHT) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6] .)	
		No Go to the next step.	

8	VERIFY DTC TROUBLESHOOTING COMPLETED • Make sure to reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [MZI 3.7 V6].) • Retrieve the DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZI 3.7 V6].) Go to the next step.
		No	Go to the next step.
9	VERIFY AFTER REPAIR PROCEDURE • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [MZI 3.7 V6].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZI 3.7 V6] .)
		No	Troubleshooting completed.

2012 - Mazda6 - Engine

DTC P128A:00 [MZI 3.7 V6]

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DETECT I O N CON DI T I O N	Indicates the CHT circuit became intermittently open or short while the engine was running.
POSSI BLE CAUSE	- CHT sensor connector or terminals malfunction - Short to ground in wiring harness between CHT sensor terminal A and PCM terminal 2AV - PCM connector or terminals malfunction - Short to power supply in wiring harness between CHT sensor terminal A and PCM terminal 2AV - Open circuit in wiring harness between the following terminals: - CHT sensor terminal A—PCM terminal 2AV - CHT sensor terminal B—PCM terminal 2G - CHT sensor malfunction - PCM malfunction



Diagnostic procedure

STEP	INSPECTION	ACTION
1	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.
2	INSPECT CHT SENSOR CONNECTOR CONDITION - Switch the ignition to off. - Disconnect the CHT sensor connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion).	Yes Repair or replace the connector and/or terminals, then go to Step 8.
		No Go to the next step.

	• Is there any malfunction?		
3	INSPECT CHT SENSOR CIRCUIT FOR SHORT TO GROUND • CHT sensor connector is disconnected. • Inspect for continuity between CHT sensor terminal A (wiring harness-side) and body ground. • Is there continuity?	Yes If the short to ground circuit could be detected: • Repair or replace the wiring harness for a possible short to ground. If the short to ground circuit could not be detected: • Replace the PCM (short to ground in the PCM internal circuit). (See PCM REMOVAL/ INSTALLATION [MZI 3.7 V6] .) Go to Step 8.	
		No Go to the next step.	
4	INSPECT PCM CONNECTOR CONDITION • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes Repair or replace the connector and/or terminals, then go to Step 8.	
		No Go to the next step.	
5	INSPECT CHT SENSOR CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY • CHT sensor and PCM connectors are disconnected. • Switch the ignition to ON (engine off). • Measure the voltage at the CHT sensor 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 Step 8.	
		No Go to the next step.	
6	INSPECT CHT SENSOR CIRCUIT FOR OPEN CIRCUIT • CHT sensor and PCM connectors are disconnected. • Switch the ignition to off. • Inspect for continuity between the following terminals (wiring harness-side): ▪ CHT sensor terminal A—PCM terminal 2AV ▪ CHT sensor terminal B—PCM terminal 2G • 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 8.	
7	INSPECT CHT SENSOR • Inspect the CHT sensor. (See CYLINDER HEAD TEMPERATURE (CHT) SENSOR INSPECTION [MZI 3.7 V6] .) • Is there any malfunction?	Yes Replace the CHT sensor, then go to the next step. (See CYLINDER HEAD TEMPERATURE (CHT) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6] .)	
		No Go to the next step.	

8	VERIFY DTC TROUBLESHOOTING COMPLETED • Make sure to reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [MZI 3.7 V6].) • Retrieve the DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZI 3.7 V6].) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZI 3.7 V6].) Go to the next step.
		No	Go to the next step.
9	VERIFY AFTER REPAIR PROCEDURE • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [MZI 3.7 V6].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZI 3.7 V6] .)
		No	Troubleshooting completed.