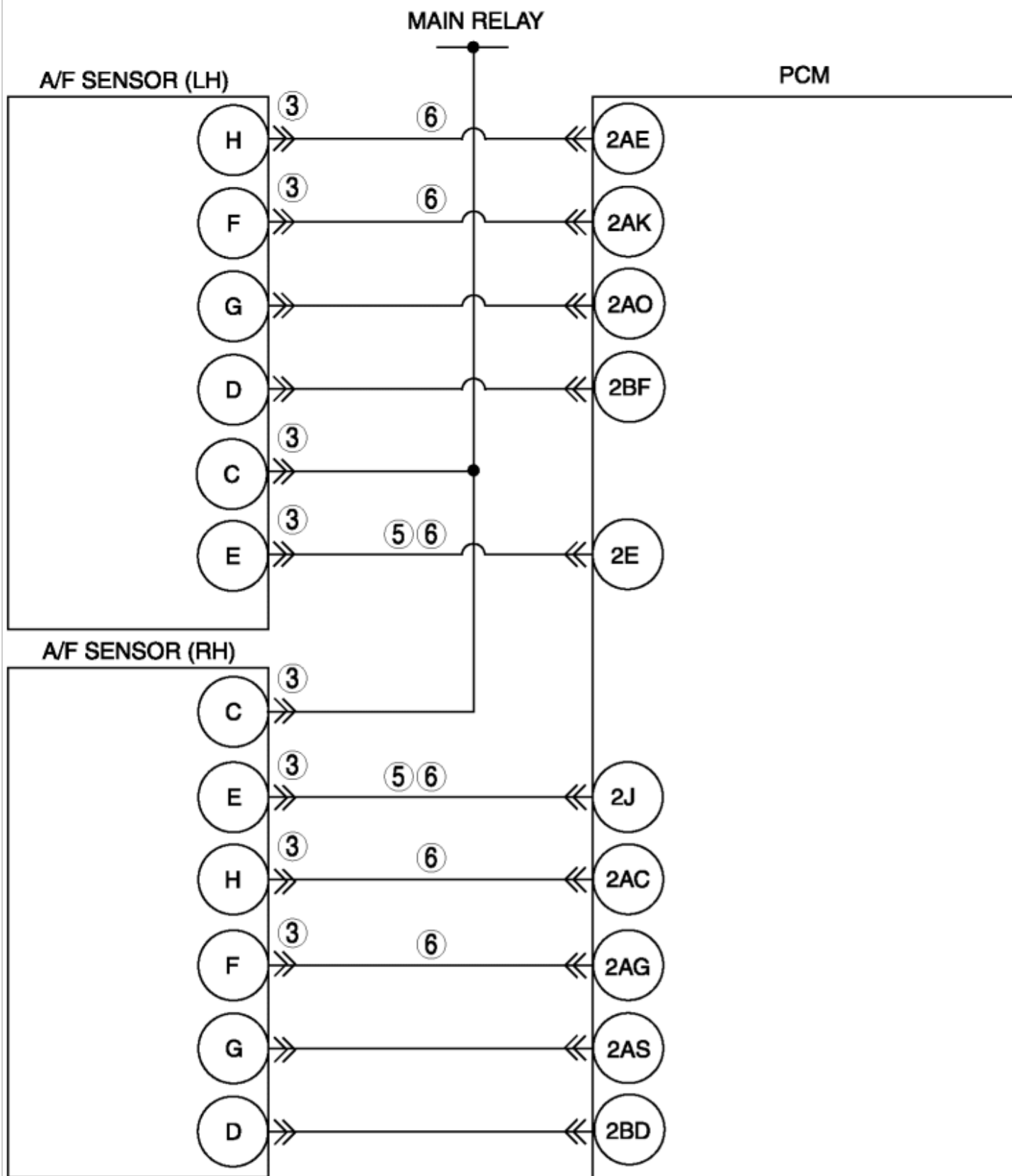


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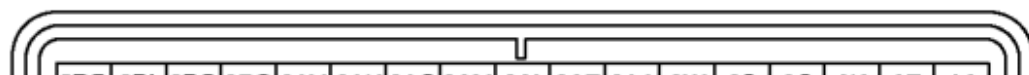
DTC P0030:00, P0050:00 [MZI 3.7 V6]

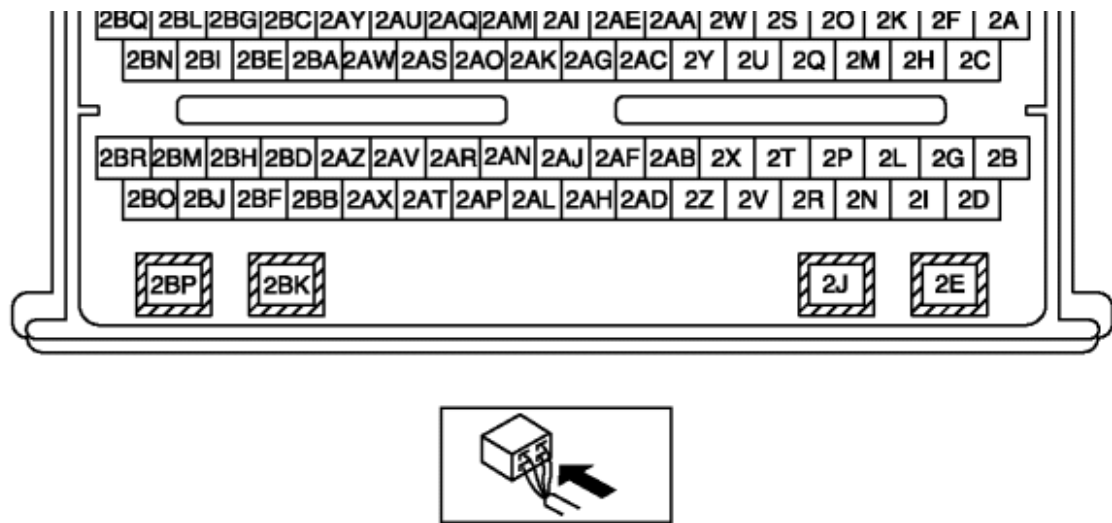
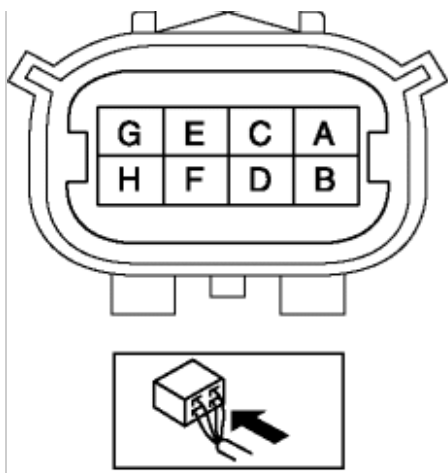
DTC P0030:00 DTC P0050:00	A/F sensor (RH) heater control circuit A/F sensor (LH) heater control circuit
DETECTION CONDITION	• P0030:00 indicates that A/F sensor (RH) heater circuit has a malfunction • P0050:00 indicates that A/F sensor (LH) heater circuit has a malfunction • The PCM monitors the heater in the air fuel ratio (A/F) sensor (RH/LH) for correct operation. The PCM controls the heater on/off duty cycle to maintain a temperature of 780 °C (1,436 °F). The test fails when the sensor does not warm up to the required temperature in the calibrated amount of time. The test also fails when the PCM is not able to maintain the required temperature after the sensor is warm.
POSSIBLE CAUSE	• P0030:00: Short to power supply in wiring harness between PCM terminal 2J and A/F sensor (RH) terminal E • P0050:00: Short to power supply in wiring harness between PCM terminal 2E and A/F sensor (LH) terminal E • P0030:00: Open circuit in wiring harness between PCM terminal 2AC and A/F sensor (RH) terminal H • P0050:00: Open circuit in wiring harness between PCM terminal 2AE and A/F sensor (LH) terminal H • P0030:00: Open circuit in wiring harness between PCM terminal 2AG and A/F sensor (RH) terminal F • P0050:00: Open circuit in wiring harness between PCM terminal 2AK and A/F sensor (LH) terminal F • P0030:00: Open circuit in wiring harness between PCM terminal 2J and A/F sensor (RH) terminal E • P0050:00: Open circuit in wiring harness between PCM terminal 2E and A/F sensor (LH) terminal E • A/F sensor loose connection, and damaged or corroded terminals • Exhaust temperature significantly higher than expected • Damaged A/F sensor (RH/LH) • PCM malfunction



A/F SENSOR (LH, RH)
WIRING HARNESS-SIDE
CONNECTOR

PCM
WIRING HARNESS-SIDE CONNECTOR





Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED Has FREEZE FRAME DATA been recorded?	Yes Go to the next step.
		No Record 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 Service Bulletins available?	Yes Perform repair or diagnosis according to the available Service Bulletins. If the vehicle is not repaired, go to the next step.
		No Go to the next step.
3	VISUALLY INSPECT A/ F SENSOR WIRING HARNESS NOTE: - Disconnect the A/F sensor wiring harness connector. Only the suspect A/F sensor needs to be diagnosed. - Switch the ignition to off. - Disconnect the A/F sensor connector. - Visually inspect the A/F sensor wiring harness. - Check the connector (both halves) for contamination - Make sure the connector pins are fully seated - Is a concern present?	Yes Repair suspect part, if necessary. Go to Step 7.
		No Go to the next step.

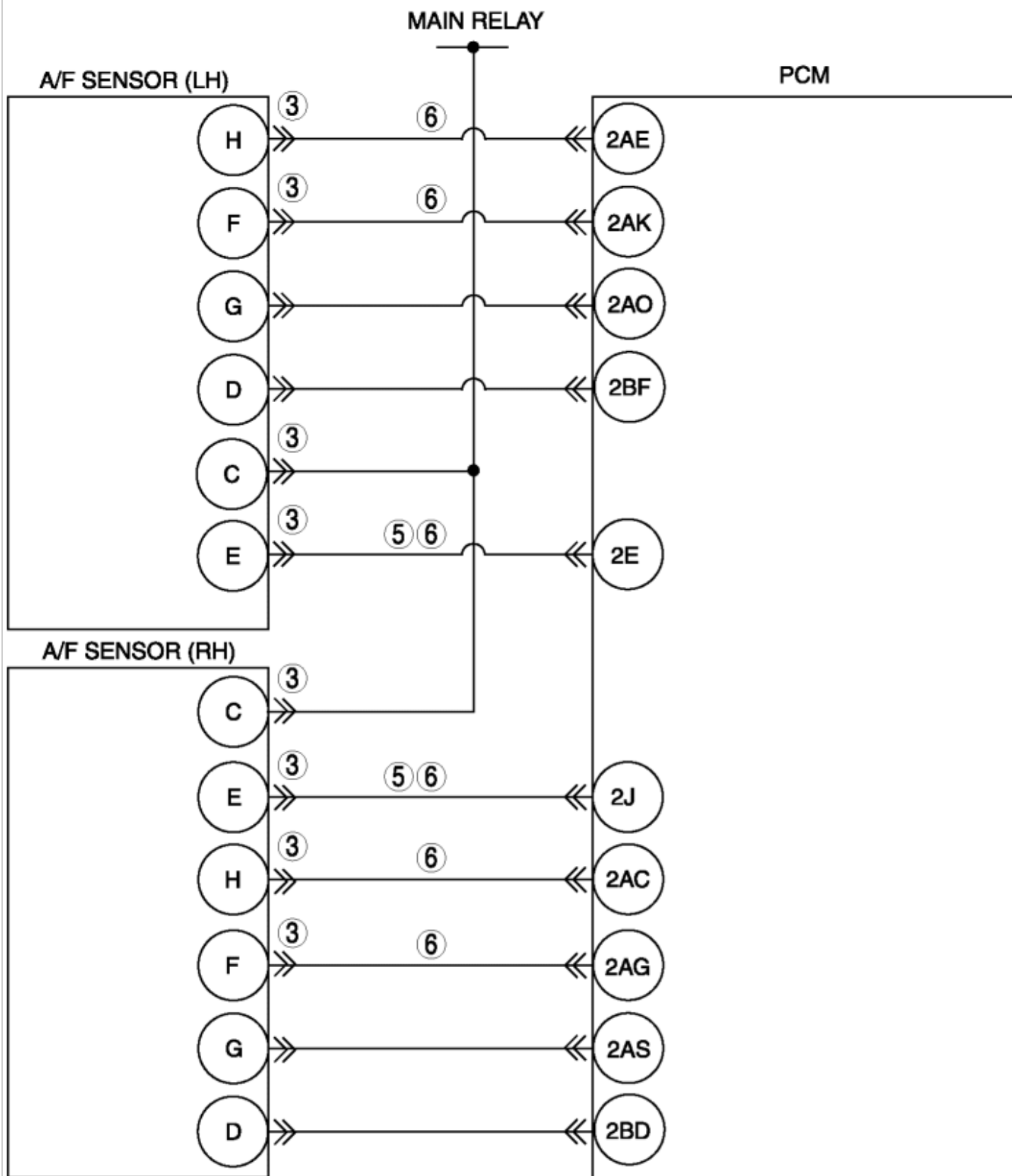
4	INSPECT FOR MISFIRE CONCERNS AND AFTERMARKET EQUIPMENT - Switch the ignition to off. - Verify for the following: - Misfire concern - Non-factory or aftermarket equipment that may increase the exhaust temperature - Is there any concern present?	Yes	Repair suspect part, if necessary. Go to Step 7.
		No	Go to the next step.
5	INSPECT A/ F SENSOR HEATER CIRCUIT FOR SHORT CIRCUIT TO POWER SUPPLY - Suspect A/F sensor connector is disconnected. - Disconnect the PCM connector. - Switch the ignition to ON (Engine off). - Measure the voltage between A/F sensor wiring harness-side connector terminal E and ground - Is any voltage present?	Yes	Repair for a short to the power supply, then go to Step 7.
		No	Go to the next step.
6	INSPECT A/ F SENSOR CIRCUITS FOR OPEN CIRCUIT IN WIRING HARNESS - Suspect A/F sensor and PCM connectors are disconnected. - Switch the ignition to off. - Measure the resistance of the following on the harness-side connector. For P0030:00: - A/F sensor (RH) terminal H and PCM terminal 2AC - A/F sensor (RH) terminal F and PCM terminal 2AG - A/F sensor (RH) terminal E and PCM terminal 2J For P0050:00: - A/F sensor (LH) terminal H and PCM terminal 2AE - A/F sensor (LH) terminal F	Yes	Replace the suspect A/F sensor. (See AIR FUEL RATIO (A/ F) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6] .) Go to the next step.
		No	Repair for an open circuit. Go to the next step.

	and PCM terminal 2AK ▪ A/F sensor (LH) terminal E and PCM terminal 2E • Is the resistance less than 5 ohms?		
7	VERIFY TROUBLESHOOTING OF DTC P0030:00, P0050:00 HAS BEEN COMPLETED • Verify that all disconnected connectors are reconnected. • Switch the ignition to ON (Engine off). • Clear the DTC from the PCM memory using the M-MDS. • Perform the KOER self-test. (See KOEO/ KOER SELF TEST [MZI 3.7 V6].) • Is the PENDING CODE for this 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.
8	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.

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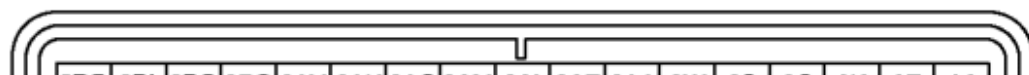
DTC P0030:00, P0050:00 [MZI 3.7 V6]

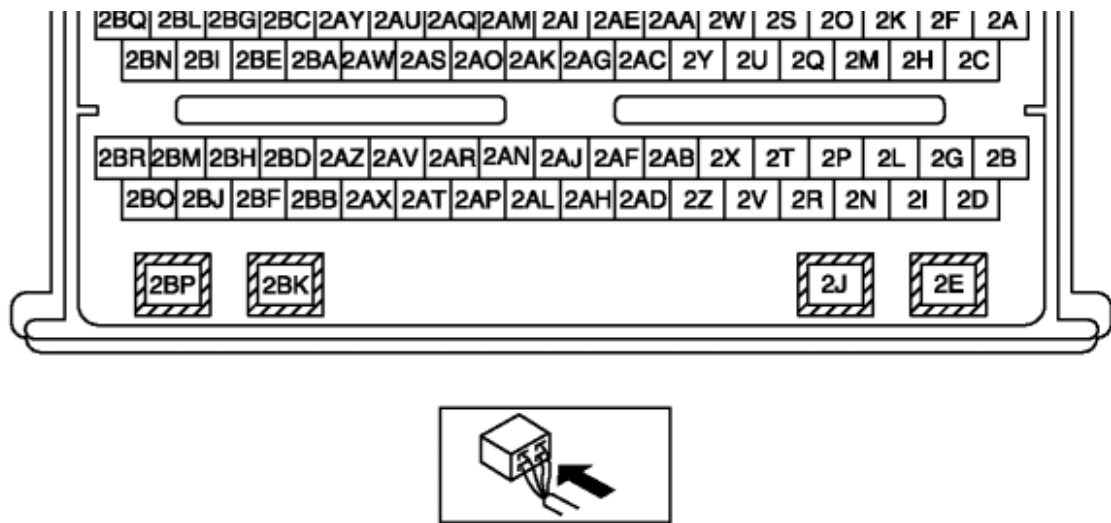
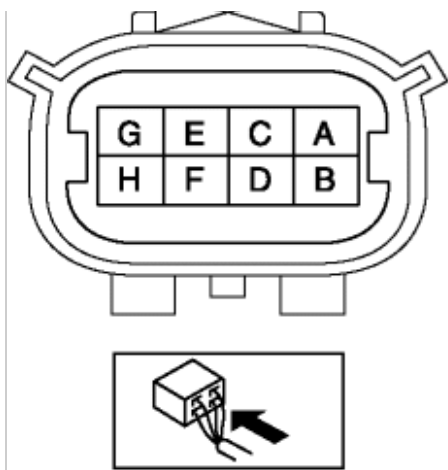
DTC P0030:00 DTC P0050:00	A/F sensor (RH) heater control circuit A/F sensor (LH) heater control circuit
DETECTION CONDITION	• P0030:00 indicates that A/F sensor (RH) heater circuit has a malfunction • P0050:00 indicates that A/F sensor (LH) heater circuit has a malfunction • The PCM monitors the heater in the air fuel ratio (A/F) sensor (RH/LH) for correct operation. The PCM controls the heater on/off duty cycle to maintain a temperature of 780 °C (1,436 °F). The test fails when the sensor does not warm up to the required temperature in the calibrated amount of time. The test also fails when the PCM is not able to maintain the required temperature after the sensor is warm.
POSSIBLE CAUSE	• P0030:00: Short to power supply in wiring harness between PCM terminal 2J and A/F sensor (RH) terminal E • P0050:00: Short to power supply in wiring harness between PCM terminal 2E and A/F sensor (LH) terminal E • P0030:00: Open circuit in wiring harness between PCM terminal 2AC and A/F sensor (RH) terminal H • P0050:00: Open circuit in wiring harness between PCM terminal 2AE and A/F sensor (LH) terminal H • P0030:00: Open circuit in wiring harness between PCM terminal 2AG and A/F sensor (RH) terminal F • P0050:00: Open circuit in wiring harness between PCM terminal 2AK and A/F sensor (LH) terminal F • P0030:00: Open circuit in wiring harness between PCM terminal 2J and A/F sensor (RH) terminal E • P0050:00: Open circuit in wiring harness between PCM terminal 2E and A/F sensor (LH) terminal E • A/F sensor loose connection, and damaged or corroded terminals • Exhaust temperature significantly higher than expected • Damaged A/F sensor (RH/LH) • PCM malfunction



A/F SENSOR (LH, RH)
WIRING HARNESS-SIDE
CONNECTOR

PCM
WIRING HARNESS-SIDE CONNECTOR





Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED Has FREEZE FRAME DATA been recorded?	Yes Go to the next step.
		No Record 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 Service Bulletins available?	Yes Perform repair or diagnosis according to the available Service Bulletins. If the vehicle is not repaired, go to the next step.
		No Go to the next step.
3	VISUALLY INSPECT A/ F SENSOR WIRING HARNESS NOTE: - Disconnect the A/F sensor wiring harness connector. Only the suspect A/F sensor needs to be diagnosed. - Switch the ignition to off. - Disconnect the A/F sensor connector. - Visually inspect the A/F sensor wiring harness. - Check the connector (both halves) for contamination - Make sure the connector pins are fully seated - Is a concern present?	Yes Repair suspect part, if necessary. Go to Step 7.
		No Go to the next step.

4	INSPECT FOR MISFIRE CONCERNS AND AFTERMARKET EQUIPMENT - Switch the ignition to off. - Verify for the following: - Misfire concern - Non-factory or aftermarket equipment that may increase the exhaust temperature - Is there any concern present?	Yes	Repair suspect part, if necessary. Go to Step 7.
		No	Go to the next step.
5	INSPECT A/ F SENSOR HEATER CIRCUIT FOR SHORT CIRCUIT TO POWER SUPPLY - Suspect A/F sensor connector is disconnected. - Disconnect the PCM connector. - Switch the ignition to ON (Engine off). - Measure the voltage between A/F sensor wiring harness-side connector terminal E and ground - Is any voltage present?	Yes	Repair for a short to the power supply, then go to Step 7.
		No	Go to the next step.
6	INSPECT A/ F SENSOR CIRCUITS FOR OPEN CIRCUIT IN WIRING HARNESS - Suspect A/F sensor and PCM connectors are disconnected. - Switch the ignition to off. - Measure the resistance of the following on the harness-side connector. For P0030:00: - A/F sensor (RH) terminal H and PCM terminal 2AC - A/F sensor (RH) terminal F and PCM terminal 2AG - A/F sensor (RH) terminal E and PCM terminal 2J For P0050:00: - A/F sensor (LH) terminal H and PCM terminal 2AE - A/F sensor (LH) terminal F	Yes	Replace the suspect A/F sensor. (See AIR FUEL RATIO (A/ F) SENSOR REMOVAL/ INSTALLATION [MZI 3.7 V6] .) Go to the next step.
		No	Repair for an open circuit. Go to the next step.

	and PCM terminal 2AK ▪ A/F sensor (LH) terminal E and PCM terminal 2E • Is the resistance less than 5 ohms?		
7	VERIFY TROUBLESHOOTING OF DTC P0030:00, P0050:00 HAS BEEN COMPLETED • Verify that all disconnected connectors are reconnected. • Switch the ignition to ON (Engine off). • Clear the DTC from the PCM memory using the M-MDS. • Perform the KOER self-test. (See KOEO/ KOER SELF TEST [MZI 3.7 V6].) • Is the PENDING CODE for this 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.
8	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.