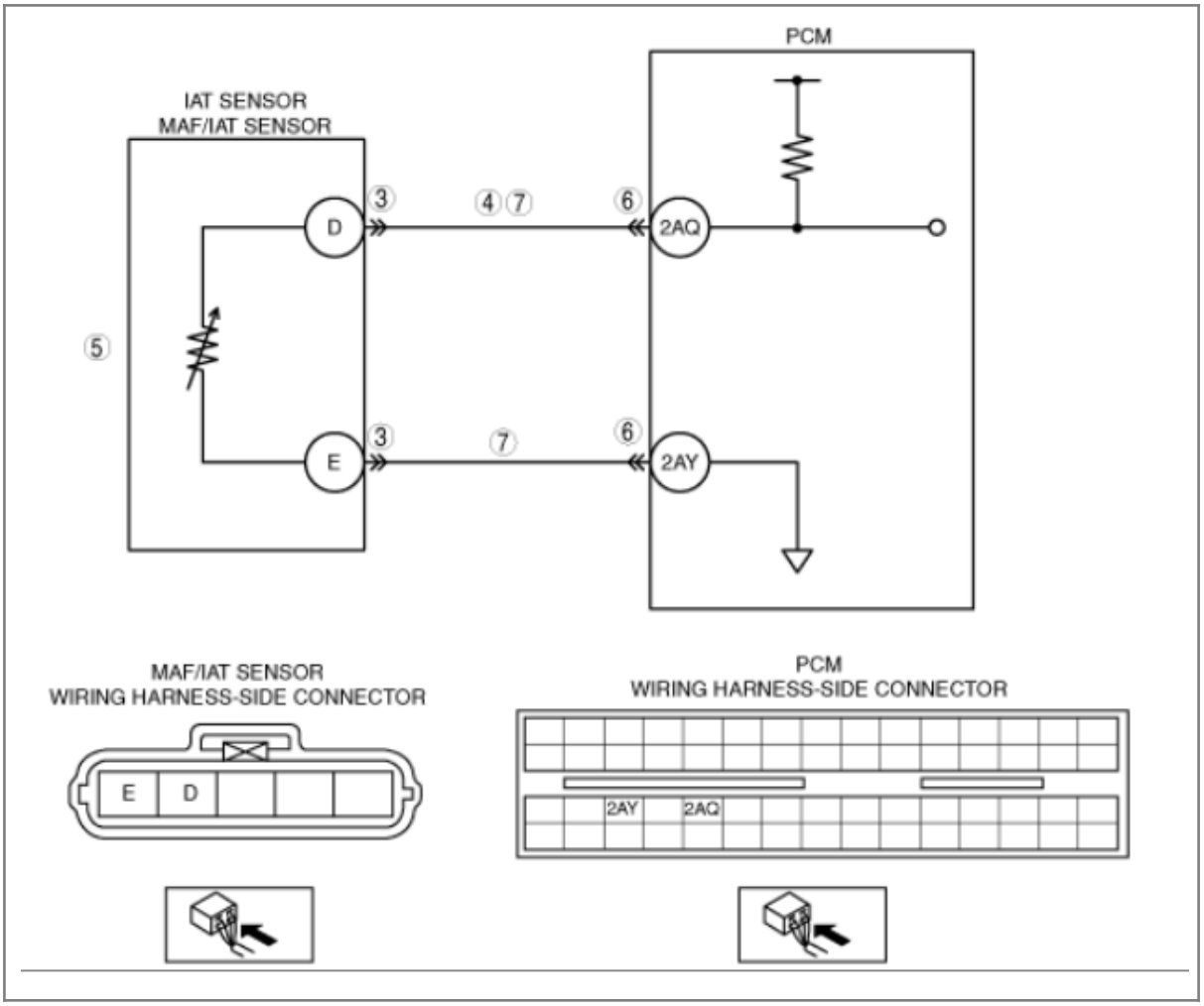
DTC P0113[ZJ, ZY, Z6]

Without Throttle Valve Actuator

DTC P0113	IAT sensor circuit high input
DETECTION CONDITION	• The PCM monitors the input voltage from the IAT sensor. If the input voltage is **more than 4.8 V**, the PCM determines that the IAT sensor circuit has a malfunction. **Diagnostic support note** • This is a continuous monitor (CCM). • The MIL illuminates if the PCM detects the above malfunction condition in the first drive cycle. • PENDING CODE is available if the PCM detects the above malfunction condition. • FREEZE FRAME DATA is available. • The DTC is stored in the PCM memory.
POSSIBLE CAUSE	• IAT sensor malfunction • Connector or terminal malfunction • Open circuit in wiring harness between MAF/IAT sensor terminal D and PCM terminal 2AQ • Short to power supply in wiring harness between MAF/IAT sensor terminal D and PCM terminal 2AQ • Open circuit in wiring harness between MAF/IAT sensor terminal E and PCM terminal 2AY • PCM malfunction



Diagnostic procedure

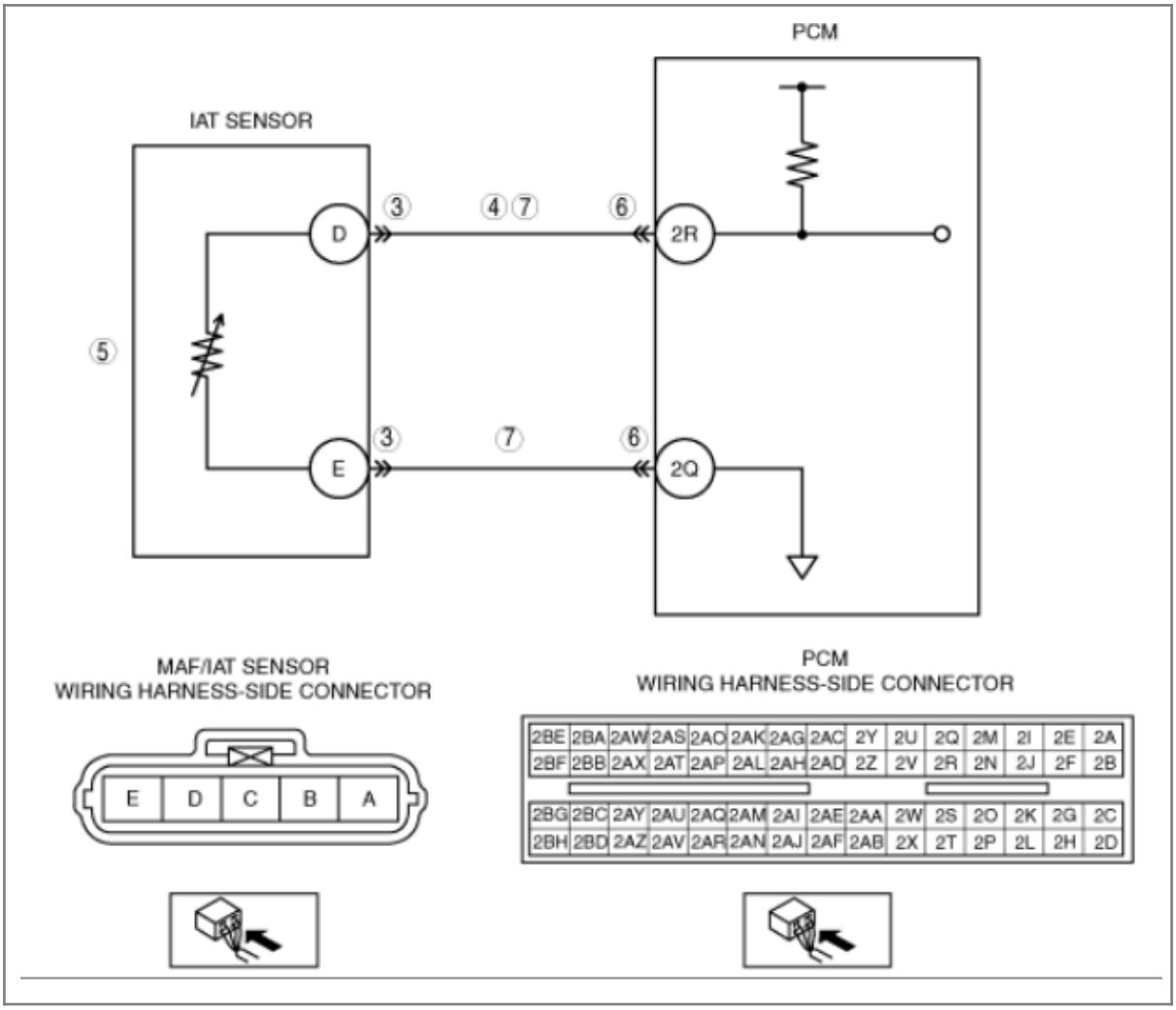
STEP	INSPECTION		ACTION
1	**VERIFY FREEZE FRAME DATA HAS BEEN RECORDED** • Has FREEZE FRAME DATA been recorded?	Yes	Go to the next step.
		No	Record the FREEZE FRAME DATA on the repair order, then go to the next step.
2	**VERIFY RELATED SERVICE INFORMATION AVAILABILITY** • Verify related Service Information availability. • Is any related Service Information available?	Yes	Perform repair or diagnosis according to the available Service Information. • If the vehicle is not repaired, go to the next step.
		No	Go to the next step.
3	**INSPECT MAF/IAT SENSOR CONNECTOR FOR POOR CONNECTION** • Turn the ignition switch off.	Yes	Repair or replace the terminal, then go to Step 8.

	• Disconnect the MAF/IAT sensor connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	No	Go to the next step.
4	**INSPECT IAT SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY** • Turn the ignition switch to the ON position (Engine off). • Measure the voltage between MAF/IAT sensor terminal D (wiring harness-side) and body ground. • Is the voltage **B+**?	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.
5	**INSPECT IAT SENSOR** • Inspect the IAT sensor. (See INTAKE AIR TEMPERATURE (IAT) SENSOR INSPECTION[ZJ, ZY, Z6].) • Is there any malfunction?	Yes	Replace the MAF/IAT sensor, then go to Step 8. (See MASS AIR FLOW (MAF)/INTAKE AIR TEMPERATURE (IAT) SENSOR REMOVAL/INSTALLATION[ZJ, ZY, Z6].)
		No	Go to the next step.
6	**INSPECT PCM CONNECTOR FOR POOR CONNECTION** • Turn the ignition switch off. • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair or replace the terminal, then go to Step 8.
		No	Go to the next step.
7	**INSPECT IAT SENSOR CIRCUIT FOR OPEN CIRCUIT** • Turn the ignition switch off. • Inspect for continuity between the following terminals: — MAF/IAT sensor terminal D (wiring harness-side) and PCM terminal 2AQ (wiring harness-side) — MAF/IAT sensor terminal E (wiring harness-side) and PCM terminal 2AY (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 the next step.
8	**VERIFY TROUBLESHOOTING OF DTC P0113 COMPLETED** • Make sure to reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. • Start the engine.	Yes	Replace the PCM, then go to the next step. (See PCM REMOVAL/INSTALLATION[ZJ, ZY, Z6].)
		No	Go to the next step.

	• Is the same DTC present?		
9	**VERIFY AFTER REPAIR PROCEDURE** • Perform the “AFTER REPAIR PROCEDURE”. (See AFTER REPAIR PROCEDURE[ZJ, ZY, Z6].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE[ZJ, ZY, Z6].)
		No	DTC troubleshooting completed.

With Throttle Valve Actuator

DTC P0113	IAT sensor circuit high input
DETECTION CONDITION	• The PCM monitors the input voltage from the IAT sensor. If the input voltage is **more than 4.8 V**, the PCM determines that the IAT sensor circuit has a malfunction. **Diagnostic support note** • This is a continuous monitor (CCM). • The MIL illuminates if the PCM detects the above malfunction condition in the first drive cycle. • PENDING CODE is available if the PCM detects the above malfunction condition. • FREEZE FRAME DATA is available. • The DTC is stored in the PCM memory.
POSSIBLE CAUSE	• IAT sensor malfunction • Connector or terminal malfunction • Open circuit in wiring harness between MAF/IAT sensor terminal D and PCM terminal 2R • Short to power supply in wiring harness between MAF/IAT sensor terminal D and PCM terminal 2R • Open circuit in wiring harness between MAF/IAT sensor terminal E and PCM terminal 2Q • PCM malfunction



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 the FREEZE FRAME DATA on the repair order, then go to the next step.
2	**VERIFY RELATED SERVICE INFORMATION AVAILABILITY** • Verify related Service Information availability. • Is any related Service Information available?	Yes	Perform repair or diagnosis according to the available Service Information. • If the vehicle is not repaired, go to the next step.
		No	Go to the next step.
3	**INSPECT MAF/IAT SENSOR CONNECTOR FOR POOR CONNECTION**	Yes	Repair or replace the terminal, then go to Step 8.

	• Turn the ignition switch off. • Disconnect the MAF/IAT sensor connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	No	Go to the next step.
4	**INSPECT IAT SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY** • Turn the ignition switch to the ON position (Engine off). • Measure the voltage between MAF/IAT sensor terminal D (wiring harness-side) and body ground. • Is the voltage **B+**?	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.
5	**INSPECT IAT SENSOR** • Inspect the IAT sensor. (See INTAKE AIR TEMPERATURE (IAT) SENSOR INSPECTION[ZJ, ZY, Z6].) • Is there any malfunction?	Yes	Replace the MAF/IAT sensor, then go to Step 8. (See MASS AIR FLOW (MAF)/INTAKE AIR TEMPERATURE (IAT) SENSOR REMOVAL/INSTALLATION[ZJ, ZY, Z6].)
		No	Go to the next step.
6	**INSPECT PCM CONNECTOR FOR POOR CONNECTION** • Turn the ignition switch off. • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair or replace the terminal, then go to Step 8.
		No	Go to the next step.
7	**INSPECT IAT SENSOR CIRCUIT FOR OPEN CIRCUIT** • Turn the ignition switch off. • Inspect for continuity between the following terminals: — MAF/IAT sensor terminal D (wiring harness-side) and PCM terminal 2R (wiring harness-side) — MAF/IAT sensor terminal E (wiring harness-side) and PCM terminal 2Q (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 the next step.
8	**VERIFY TROUBLESHOOTING OF DTC P0113 COMPLETED** • Make sure to reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS.	Yes	Replace the PCM, then go to the next step. (See PCM REMOVAL/INSTALLATION[ZJ, ZY, Z6].)
		No	Go to the next step.

	• Start the engine. • Is the same DTC present?		
9	**VERIFY AFTER REPAIR PROCEDURE** • Perform the “AFTER REPAIR PROCEDURE”. (See AFTER REPAIR PROCEDURE[ZJ, ZY, Z6].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE[ZJ, ZY, Z6].)
		No	DTC troubleshooting completed.