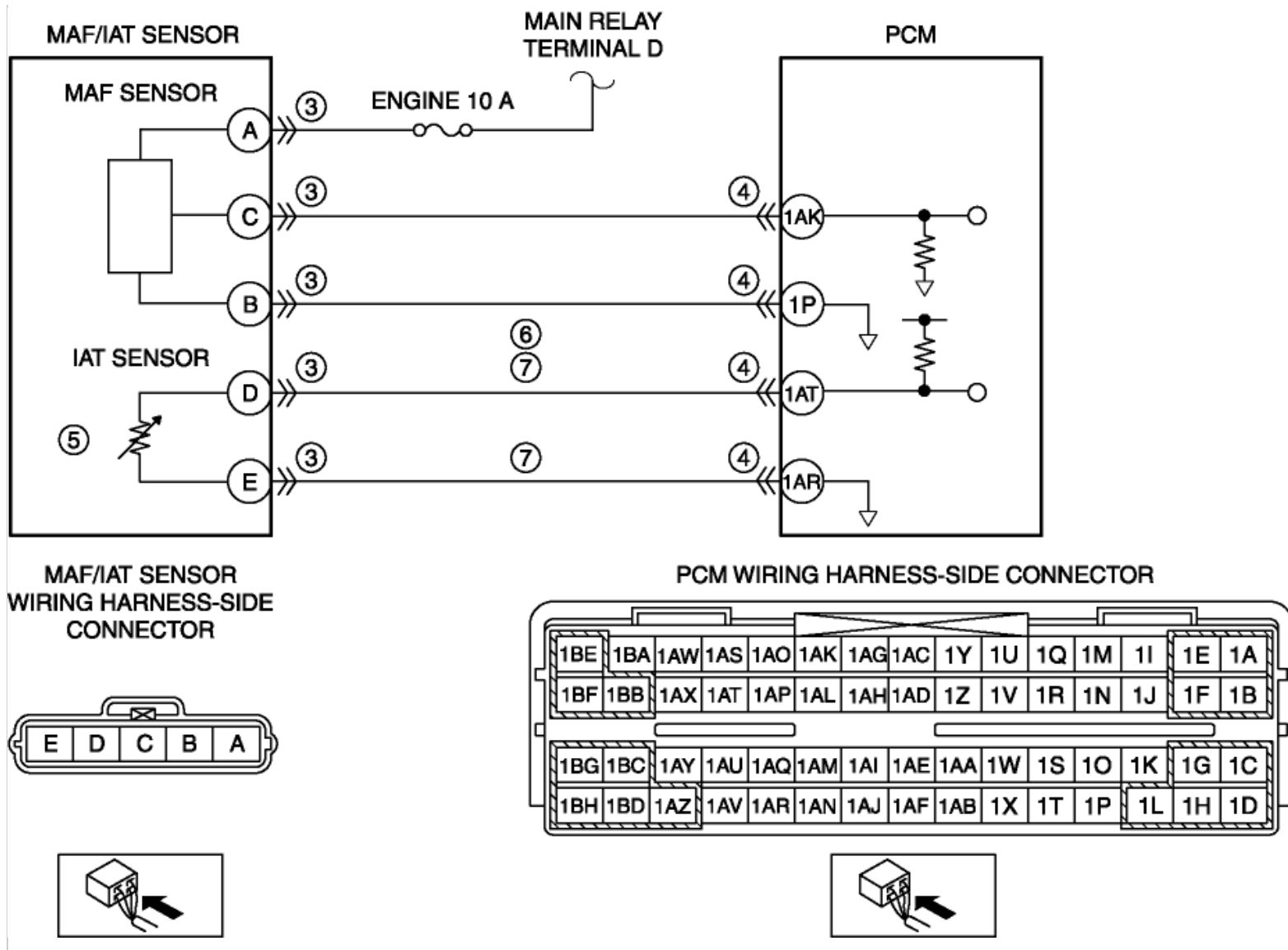


2012 - Mazda6 - Engine

DTC P0113:00 [MZR 2.5]

DTC P0113:00	IAT sensor circuit high input
DETECTION CONDITION	- The PCM monitors the IAT sensor signal. If the PCM detects that the IAT sensor voltage is above 4.8 V for 5 s, the PCM determines that 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 during first drive cycle. - FREEZE FRAME DATA (Mode 2)/Snapshot data is available. - The DTC is stored in the PCM memory.
POSSIBLE CAUSE	- MAF/IAT sensor connector or terminal malfunction - PCM connector or terminal malfunction - IAT sensor malfunction - Short to power supply in wiring harness between MAF/IAT sensor terminal D and PCM terminal 1AT - Open circuit in wiring harness between MAF/IAT sensor terminal D and PCM terminal 1AT - Open circuit in wiring harness between MAF/IAT sensor terminal E and PCM terminal 1AR - PCM malfunction



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED Has the FREEZE FRAME DATA (Mode 2)/snapshot data been recorded?	Yes Go to the next step.
		No Record the FREEZE FRAME DATA (Mode 2)/snapshot 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 MAF/ IAT SENSOR CONNECTOR CONDITION - Switch the ignition to off. - Disconnect the MAF/IAT sensor connector. - Inspect for poor connection (such as	Yes Repair or replace the terminal and/or connector, then go to Step 8.
		No Go to the next step.

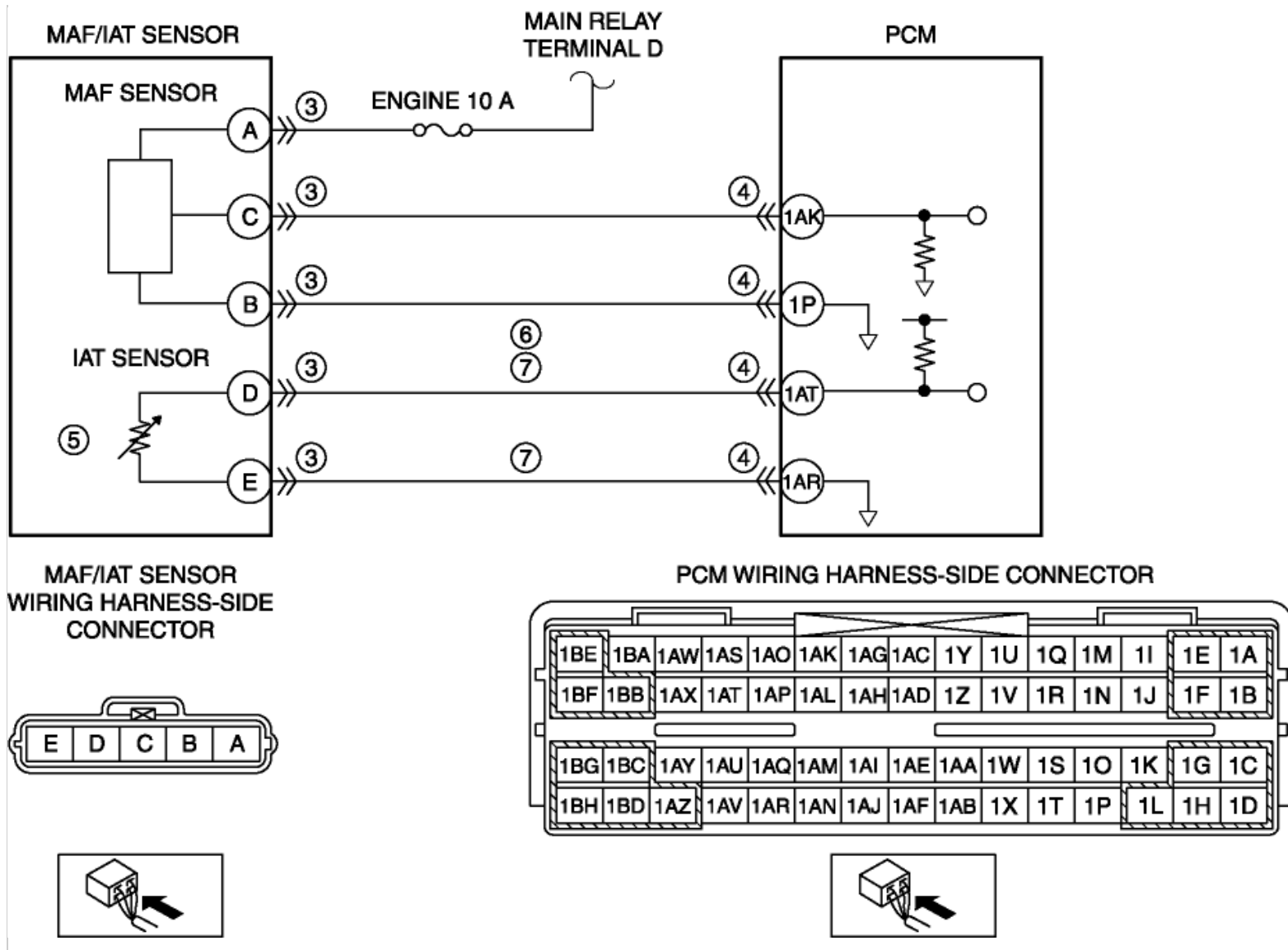
	damaged/pulled-out pins, corrosion). Is there any malfunction?		
4	INSPECT PCM CONNECTOR CONDITION - Disconnect the PCM connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Is there any malfunction?	Yes	Repair or replace the terminal and/or connector, then go to Step 8.
		No	Go to the next step.
5	VERIFY PID DATA FOR IAT SENSOR MALFUNCTION - Reconnect all disconnected connectors. - Access the IAT PID using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - Connect a jumper wire between MAF/IAT sensor terminals D and E (wiring harness-side). - Is the voltage below 4.8 V?	Yes	Replace the MAF/IAT sensor, then go to Step 8. (See INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION [MZR 2.5] .)
		No	Go to the next step.
6	INSPECT IAT SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY - Switch the ignition to off. - Disconnect the MAF/IAT sensor and PCM connectors. - Switch the ignition to ON (engine off). - Measure the voltage between MAF/IAT sensor terminal D (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 8.
		No	Go to the next step.
7	INSPECT IAT SENSOR CIRCUIT FOR OPEN CIRCUIT - MAF/IAT sensor and PCM connectors are disconnected. - Switch the ignition to off. - Inspect for continuity between the following terminals: - MAF/IAT sensor terminal D (wiring harness-side) and PCM terminal 1AT (wiring harness-side) - MAF/IAT sensor terminal E (wiring harness-side) and PCM terminal 1AR (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 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 [MZR 2.5].)	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZR 2.5].) Go to the next step.

	• Perform the KOEO or KOER self test. (See KOEO/ KOER SELF TEST [MZR 2.5].) • Is the same DTC present?	No	Go to the next step.
9	VERIFY AFTER REPAIR PROCEDURE • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [MZR 2.5].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZR 2.5] .)
		No	DTC troubleshooting completed.

2012 - Mazda6 - Engine

DTC P0113:00 [MZR 2.5]

DTC P0113:00	IAT sensor circuit high input
DETECTION CONDITION	- The PCM monitors the IAT sensor signal. If the PCM detects that the IAT sensor voltage is above 4.8 V for 5 s, the PCM determines that 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 during first drive cycle. - FREEZE FRAME DATA (Mode 2)/Snapshot data is available. - The DTC is stored in the PCM memory.
POSSIBLE CAUSE	- MAF/IAT sensor connector or terminal malfunction - PCM connector or terminal malfunction - IAT sensor malfunction - Short to power supply in wiring harness between MAF/IAT sensor terminal D and PCM terminal 1AT - Open circuit in wiring harness between MAF/IAT sensor terminal D and PCM terminal 1AT - Open circuit in wiring harness between MAF/IAT sensor terminal E and PCM terminal 1AR - PCM malfunction



Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED Has the FREEZE FRAME DATA (Mode 2)/snapshot data been recorded?	Yes Go to the next step. No Record the FREEZE FRAME DATA (Mode 2)/snapshot 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 MAF/ IAT SENSOR CONNECTOR CONDITION - Switch the ignition to off. - Disconnect the MAF/IAT sensor connector. - Inspect for poor connection (such as	Yes Repair or replace the terminal and/or connector, then go to Step 8. No Go to the next step.

	damaged/pulled-out pins, corrosion). Is there any malfunction?		
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 terminal and/or connector, then go to Step 8. No Go to the next step.	
5	VERIFY PID DATA FOR IAT SENSOR MALFUNCTION - Reconnect all disconnected connectors. - Access the IAT PID using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - Connect a jumper wire between MAF/IAT sensor terminals D and E (wiring harness-side). - Is the voltage below 4.8 V?	Yes Replace the MAF/IAT sensor, then go to Step 8. (See INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION [MZR 2.5].) No Go to the next step.	
6	INSPECT IAT SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY - Switch the ignition to off. - Disconnect the MAF/IAT sensor and PCM connectors. - Switch the ignition to ON (engine off). - Measure the voltage between MAF/IAT sensor terminal D (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 8. No Go to the next step.	
7	INSPECT IAT SENSOR CIRCUIT FOR OPEN CIRCUIT - MAF/IAT sensor and PCM connectors are disconnected. - Switch the ignition to off. - Inspect for continuity between the following terminals: - MAF/IAT sensor terminal D (wiring harness-side) and PCM terminal 1AT (wiring harness-side) - MAF/IAT sensor terminal E (wiring harness-side) and PCM terminal 1AR (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 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 [MZR 2.5].)	Yes Repeat the inspection from Step 1. If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZR 2.5].) Go to the next step.	

	• Perform the KOEO or KOER self test. (See KOEO/ KOER SELF TEST [MZR 2.5].) • Is the same DTC present?	No	Go to the next step.
9	VERIFY AFTER REPAIR PROCEDURE • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [MZR 2.5].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZR 2.5] .)
		No	DTC troubleshooting completed.