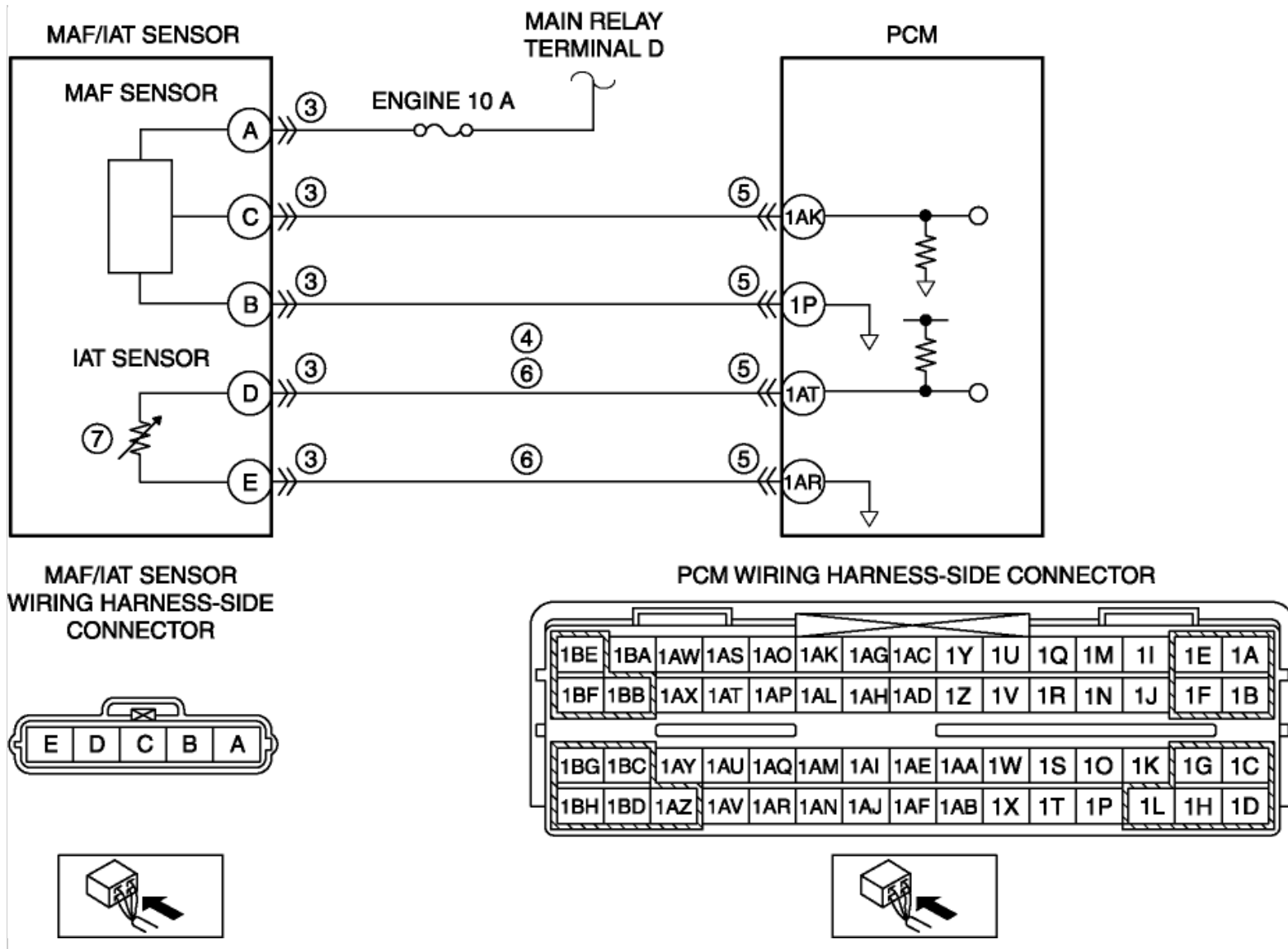


2012 - Mazda6 - Engine

DTC P0112:00 [MZR 2.5]

DTC P0112:00	IAT sensor circuit low input
DETECTION CONDITION	• The PCM monitors the IAT sensor signal. If the PCM detects that the IAT sensor voltage is below 0.16 V for 5 s, 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 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 • Short to ground in wiring harness between MAF/IAT sensor terminal D and PCM terminal 1AT • PCM connector or terminal malfunction • Short circuit in IAT sensor signal circuit and ground circuit each other • IAT sensor malfunction • 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 IAT SIGNAL CIRCUIT FOR SHORT TO GROUND - MAF/IAT sensor connector is disconnected. - Inspect for continuity between MAF/IAT sensor terminal D (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 PCM internal circuit). (See PCM REMOVAL/ INSTALLATION [MZR 2.5].) Go to Step 8.	
		No Go to the next step.	
5	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.	
6	INSPECT IAT SENSOR SIGNAL AND GROUND CIRCUITS FOR SHORT EACH OTHER - MAF/IAT sensor and PCM connectors are disconnected. - Inspect for continuity between MAF/IAT sensor terminals D and E (wiring harness-side). - Is there continuity?	Yes Repair or replace the malfunctioning wiring harness, then go to Step 8.	
		No Go to the next step.	
7	VERIFY PID DATA FOR IAT SENSOR MALFUNCTION - Access the IAT PID using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - Verify the IAT value when disconnecting the MAF/IAT sensor connector. - Is the IAT value normal? (See PCM INSPECTION [MZR 2.5].)	Yes Replace the MAF/IAT sensor, then go to the next step. (See INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION [MZR 2.5].)	
		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 [MZR 2.5].) - Perform the KOEO or KOER self test. (See KOEO/ KOER SELF TEST [MZR 2.5].) - Is the same DTC present?	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.	
		No Go to the next step.	
9	VERIFY AFTER REPAIR PROCEDURE Perform the "AFTER REPAIR PROCEDURE".	Yes Go to the applicable DTC inspection.	

	(See AFTER REPAIR PROCEDURE [MZR 2.5] .)	(See DTC TABLE [MZR 2.5] .)
	• Are any DTCs present?	No DTC troubleshooting completed.

2012 - Mazda6 - Engine

DTC P0112:00 [MZR 2.5]

DTC P0112:00	IAT sensor circuit low input
DETECTION CONDITION	• The PCM monitors the IAT sensor signal. If the PCM detects that the IAT sensor voltage is below 0.16 V for 5 s, 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 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 • Short to ground in wiring harness between MAF/IAT sensor terminal D and PCM terminal 1AT • PCM connector or terminal malfunction • Short circuit in IAT sensor signal circuit and ground circuit each other • IAT sensor malfunction • PCM malfunction

	damaged/pulled-out pins, corrosion). Is there any malfunction?		
4	INSPECT IAT SIGNAL CIRCUIT FOR SHORT TO GROUND - MAF/IAT sensor connector is disconnected. - Inspect for continuity between MAF/IAT sensor terminal D (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 PCM internal circuit). (See PCM REMOVAL/ INSTALLATION [MZR 2.5].) Go to Step 8.	
		No Go to the next step.	
5	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.	
6	INSPECT IAT SENSOR SIGNAL AND GROUND CIRCUITS FOR SHORT EACH OTHER - MAF/IAT sensor and PCM connectors are disconnected. - Inspect for continuity between MAF/IAT sensor terminals D and E (wiring harness-side). - Is there continuity?	Yes Repair or replace the malfunctioning wiring harness, then go to Step 8.	
		No Go to the next step.	
7	VERIFY PID DATA FOR IAT SENSOR MALFUNCTION - Access the IAT PID using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [MZR 2.5].) - Verify the IAT value when disconnecting the MAF/IAT sensor connector. - Is the IAT value normal? (See PCM INSPECTION [MZR 2.5].)	Yes Replace the MAF/IAT sensor, then go to the next step. (See INTAKE-AIR SYSTEM REMOVAL/ INSTALLATION [MZR 2.5].)	
		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 [MZR 2.5].) - Perform the KOEO or KOER self test. (See KOEO/ KOER SELF TEST [MZR 2.5].) - Is the same DTC present?	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.	
		No Go to the next step.	
9	VERIFY AFTER REPAIR PROCEDURE Perform the "AFTER REPAIR PROCEDURE".	Yes Go to the applicable DTC inspection.	

	(See AFTER REPAIR PROCEDURE [MZR 2.5] .)	(See DTC TABLE [MZR 2.5] .)
	• Are any DTCs present?	No DTC troubleshooting completed.