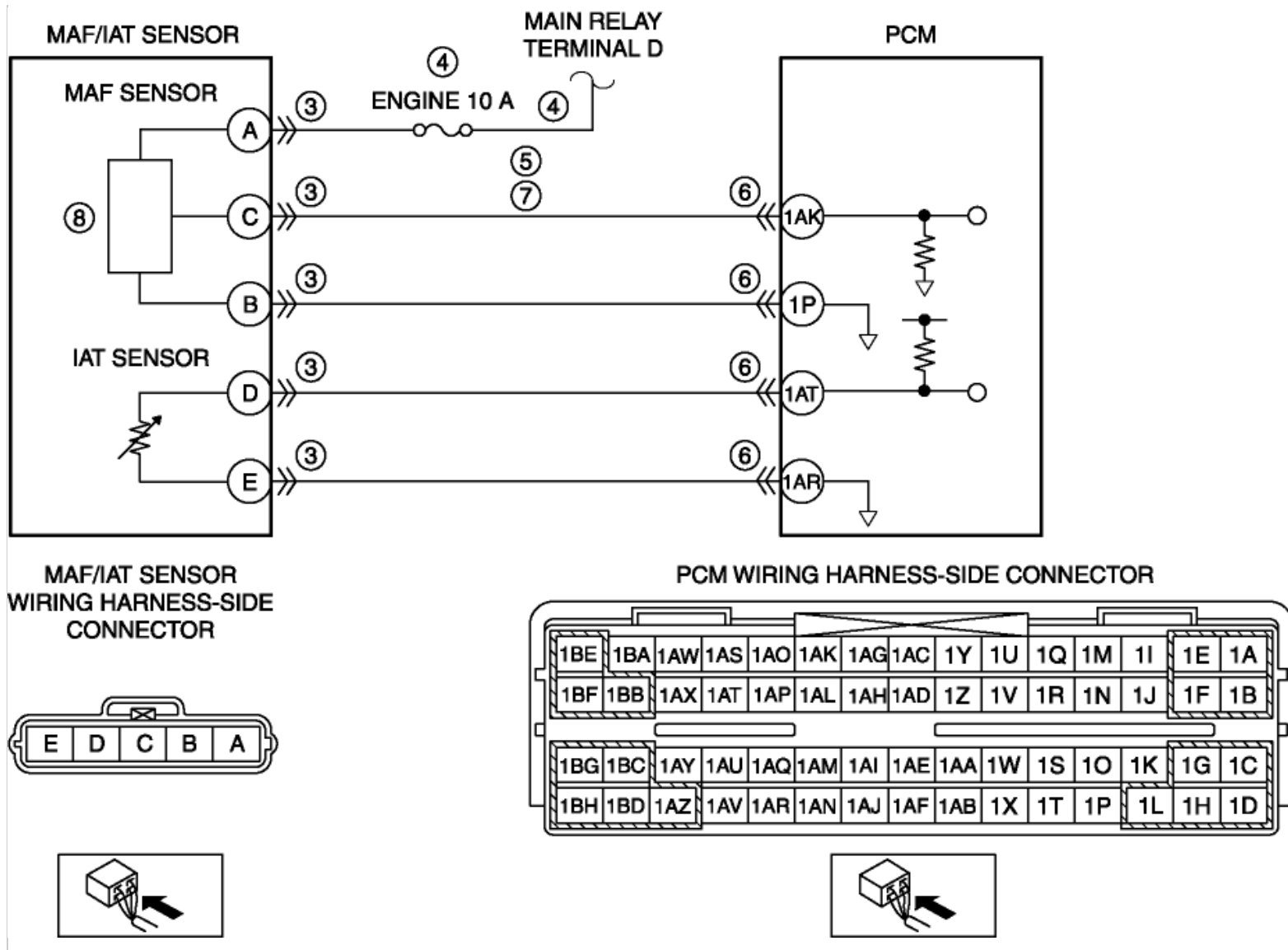


2012 - Mazda6 - Engine

DTC P0102:00 [MZR 2.5]

DTC P0102:00	MAF sensor circuit low input
DETECTION CONDITION	• The PCM monitors input voltage from the MAF sensor when the engine running. If the input voltage is below 0.21 V for 5 s, the PCM determines that the MAF 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 or open circuit in MAF sensor power supply circuit ▪ Short to ground in wiring harness between main relay terminal D and MAF/IAT sensor terminal A ▪ ENGINE 10 A fuse malfunction ▪ Open circuit in wiring harness between main relay terminal D and MAF/IAT sensor terminal A • Short to ground in wiring harness between MAF/IAT sensor terminal C and PCM terminal 1AK • PCM connector or terminal malfunction • Open circuit in wiring harness between MAF/IAT sensor terminal C and PCM terminal 1AK • MAF 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.	Yes Repair or replace the terminal and/or connector, then go to Step 9. No Go to the next step.

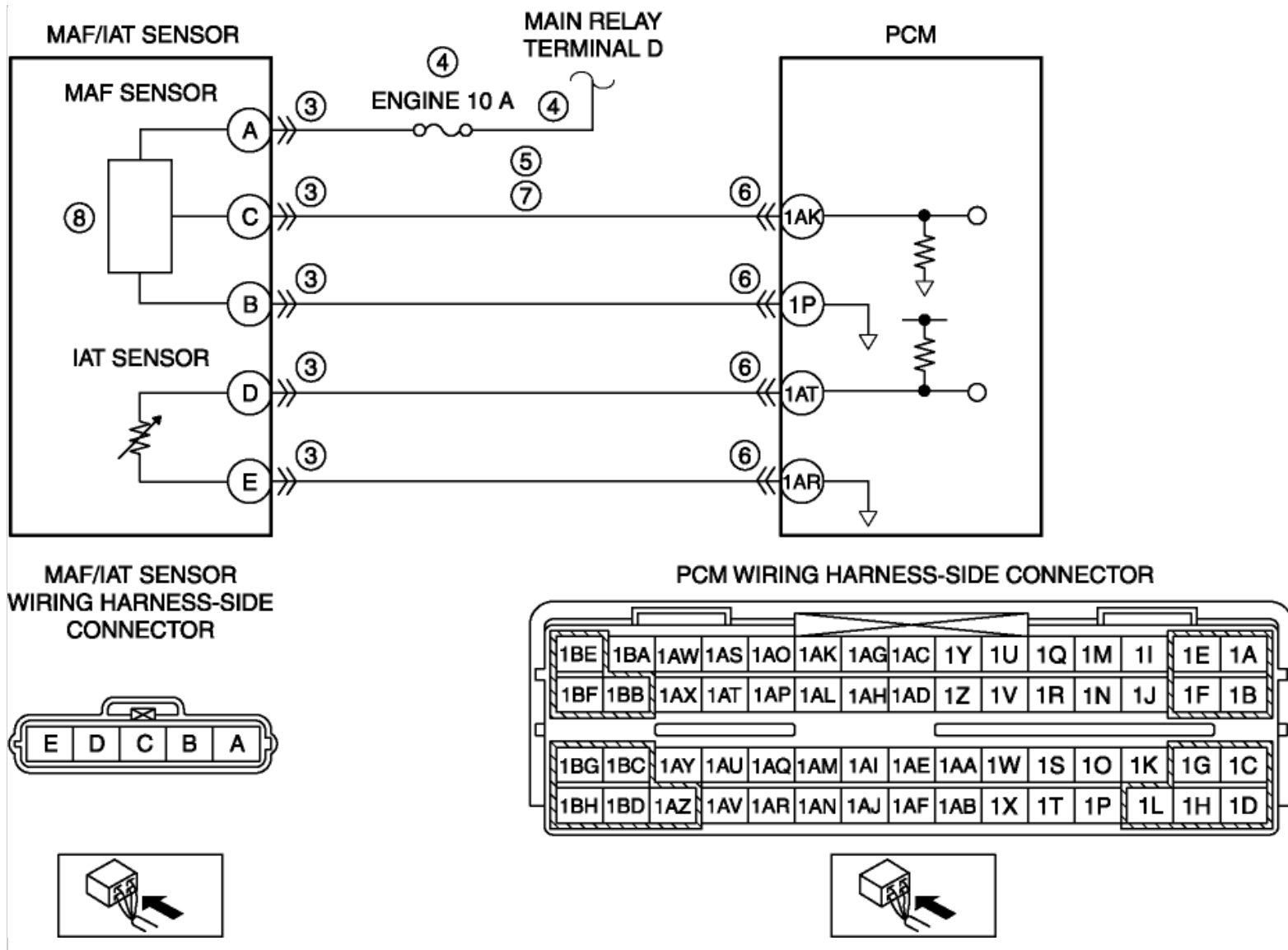
	- Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Is there any malfunction?		
4	INSPECT MAF SENSOR POWER SUPPLY CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT - MAF/IAT sensor connector is disconnected. - Switch the ignition to ON (engine off). - Measure the voltage between the MAF/IAT sensor terminal A (wiring harness-side) and body ground. - Is the voltage B+ ?	YesGo to the next step.	No Inspect the ENGINE 10 A fuse. - If the fuse is melt: - Repair or replace the wiring harness for a possible short to ground. - Replace the fuse. - If the fuse is deterioration: - Replace the fuse. - If the fuse is normal: - Repair or replace the wiring harness for a possible open circuit. Go to Step 9.
5	INSPECT MAF SENSOR SIGNAL CIRCUIT FOR SHORT TO GROUND - MAF/IAT sensor connector is disconnected. - Switch the ignition to off. - Inspect for continuity between MAF/IAT sensor terminal C (wiring harness-side) and body ground. - Is there continuity?	YesIf 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 9.	No Go to the next step.
6	INSPECT PCM CONNECTOR CONDITION - Disconnect the PCM connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Is there any malfunction?	YesRepair or replace the terminal and/or connector, then go to Step 9.	No Go to the next step.
7	INSPECT MAF SENSOR SIGNAL CIRCUIT FOR OPEN CIRCUIT MAF/IAT sensor and PCM connectors are disconnected.	YesGo to the next step.	No Repair or replace the wiring harness for a

	- Inspect for continuity between MAF/IAT sensor terminal C (wiring harness-side) and PCM terminal 1AK (wiring harness-side). - Is there continuity?		possible open circuit, then go to Step 9.
8	INSPECT MAF SENSOR - Inspect the MAF sensor. (See MASS AIR FLOW (MAF) SENSOR INSPECTION [MZR 2.5] .) - Is there any malfunction?	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.
9	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.
10	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 P0102:00 [MZR 2.5]

DTC P0102:00	MAF sensor circuit low input
DETECTION CONDITION	- The PCM monitors input voltage from the MAF sensor when the engine running. If the input voltage is below 0.21 V for 5 s, the PCM determines that the MAF 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.
POSSI BLE CAUSE	- MAF/IAT sensor connector or terminal malfunction - Short to ground or open circuit in MAF sensor power supply circuit - Short to ground in wiring harness between main relay terminal D and MAF/IAT sensor terminal A - ENGINE 10 A fuse malfunction - Open circuit in wiring harness between main relay terminal D and MAF/IAT sensor terminal A - Short to ground in wiring harness between MAF/IAT sensor terminal C and PCM terminal 1AK - PCM connector or terminal malfunction - Open circuit in wiring harness between MAF/IAT sensor terminal C and PCM terminal 1AK - MAF 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.	Yes Repair or replace the terminal and/or connector, then go to Step 9. No Go to the next step.

	- Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Is there any malfunction?		
4	INSPECT MAF SENSOR POWER SUPPLY CIRCUIT FOR SHORT TO GROUND OR OPEN CIRCUIT - MAF/IAT sensor connector is disconnected. - Switch the ignition to ON (engine off). - Measure the voltage between the MAF/IAT sensor terminal A (wiring harness-side) and body ground. - Is the voltage B+ ?	YesGo to the next step.	No Inspect the ENGINE 10 A fuse. - If the fuse is melt: - Repair or replace the wiring harness for a possible short to ground. - Replace the fuse. - If the fuse is deterioration: - Replace the fuse. - If the fuse is normal: - Repair or replace the wiring harness for a possible open circuit. Go to Step 9.
5	INSPECT MAF SENSOR SIGNAL CIRCUIT FOR SHORT TO GROUND - MAF/IAT sensor connector is disconnected. - Switch the ignition to off. - Inspect for continuity between MAF/IAT sensor terminal C (wiring harness-side) and body ground. - Is there continuity?	YesIf 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 9.	No Go to the next step.
6	INSPECT PCM CONNECTOR CONDITION - Disconnect the PCM connector. - Inspect for poor connection (such as damaged/pulled-out pins, corrosion). - Is there any malfunction?	YesRepair or replace the terminal and/or connector, then go to Step 9.	No Go to the next step.
7	INSPECT MAF SENSOR SIGNAL CIRCUIT FOR OPEN CIRCUIT MAF/IAT sensor and PCM connectors are disconnected.	YesGo to the next step.	No Repair or replace the wiring harness for a

	- Inspect for continuity between MAF/IAT sensor terminal C (wiring harness-side) and PCM terminal 1AK (wiring harness-side). - Is there continuity?		possible open circuit, then go to Step 9.
8	INSPECT MAF SENSOR - Inspect the MAF sensor. (See MASS AIR FLOW (MAF) SENSOR INSPECTION [MZR 2.5] .) - Is there any malfunction?	Yes	Replace the MAF/IAT sensor, then go to the next step.
		No	Go to the next step.
9	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.
		No	Go to the next step.
10	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.
		No	DTC troubleshooting completed.