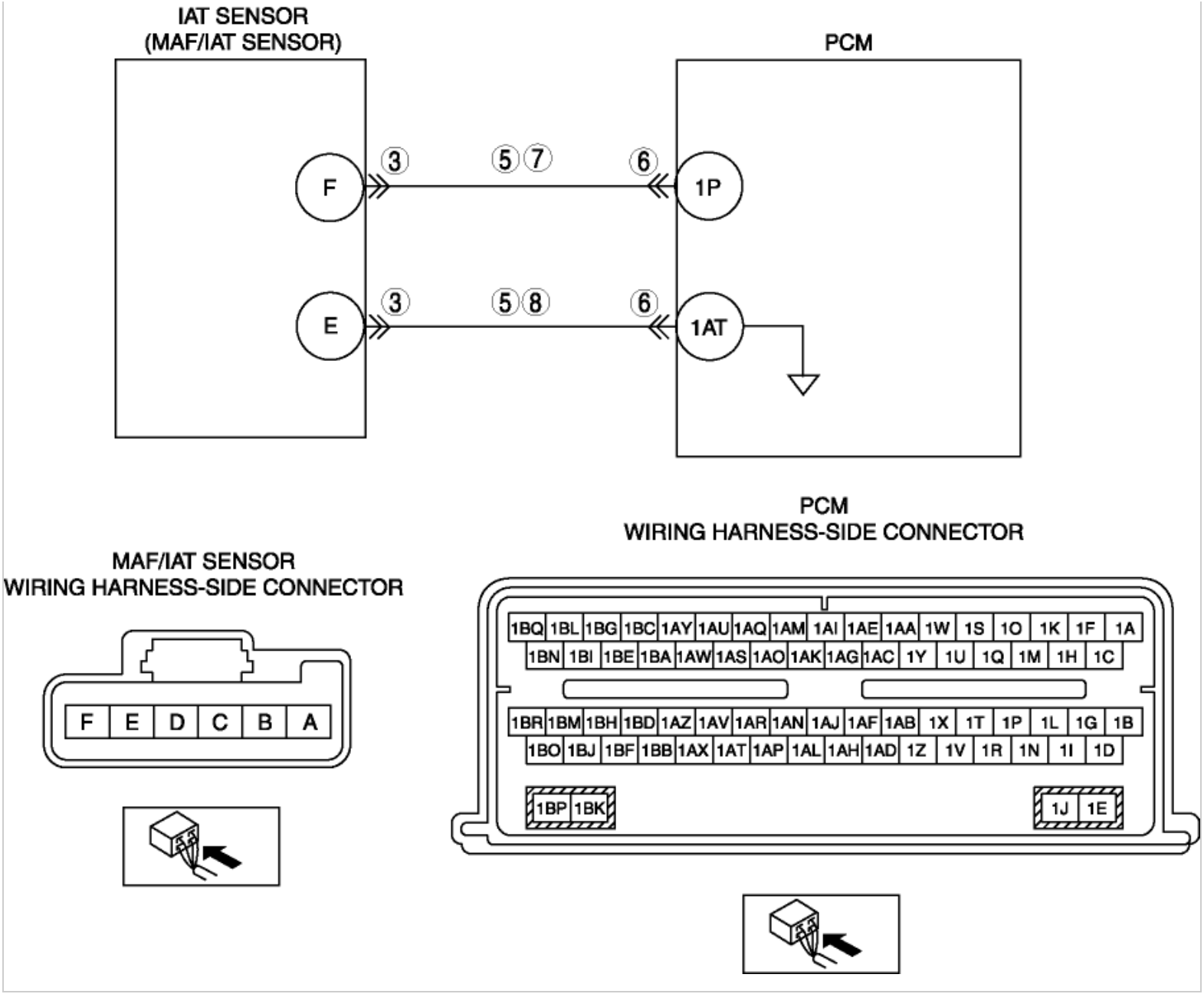
2012 - Mazda6 - Engine

DTC P0113:00 [MZI 3.7 V6]

DTC P0113:00	IAT sensor circuit high input
DETECTION CONDITION	• Indicates the sensor signal is more than the self-test maximum. The IAT sensor maximum is **4.6 V or −50 °C {−58 °F}** .
POSSIBLE CAUSE	• Connector or terminal malfunction • IAT sensor malfunction • Short to power supply between MAF/IAT sensor terminal F and PCM terminal 1P • Open circuit between MAF/IAT sensor terminal F and PCM terminal 1P • Open circuit between MAF/IAT sensor terminal E and PCM terminal 1AT



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	**INSPECT IAT SENSOR CONNECTOR FOR POOR CONNECTION** • Switch the ignition to off. • Disconnect MAF/IAT sensor connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Are there any malfunction?	Yes	Repair or replace suspected part, then go to Step 9.
		No	Go to the next step.
4	**CLASSIFY IAT SENSOR MALFUNCTION OR HARNESS MALFUNCTION** • Disconnect the MAF/IAT sensor connector. • Switch the ignition to ON (Engine off). • Measure voltage between MAF/IAT sensor terminal F (wiring harness-side) and body ground. • Is voltage **4.5—5.5 V**?	Yes	Inspect the IAT sensor. (See **INTAKE AIR TEMPERATURE (IAT) SENSOR INSPECTION [MZI 3.7 V6]**.) Replace if necessary, then go to Step 9.
		No	Go to the next step.
5	**INSPECT IAT SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY** • Switch the ignition to ON (Engine off). • Measure voltage between MAF/IAT sensor terminal F (wiring harness-side) and body ground. • Is voltage **B+** ?	Yes	Repair or replace suspected part, then go to Step 9.
		No	Go to the next step.
6	**INSPECT PCM CONNECTOR FOR POOR CONNECTION** • Switch the ignition to off. • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/ pulled-out pins, corrosion). • Are there any malfunction?	Yes	Repair or replace suspected part, then go to Step 9.
		No	Go to the next step.
7	**INSPECT IAT SENSOR SIGNAL CIRCUIT FOR OPEN CIRCUIT** • Inspect continuity between MAF/IAT sensor terminal F (wiring harness-side) and PCM terminal 1P (wiring harness-side). • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace suspected part, then go to Step 9.
8	**INSPECT IAT SENSOR GROUND CIRCUIT FOR OPEN CIRCUIT** • Inspect continuity between MAF/IAT sensor terminal E (wiring harness-side) and PCM terminal 1AT (wiring harness-side). • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace suspected part, then go to the next step.
9	**VERIFY TROUBLESHOOTING OF DTC P0113:00 HAS BEEN COMPLETED** • Verify that all disconnected connectors reconnected.	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM.

	• Switch the ignition to ON (Engine off). • Clear the DTC from the PCM memory using the M-MDS. • Start engine and warm it up completely. • Is same DTC present?		(See **PCM REMOVAL/ INSTALLATION [MZI 3.7 V6]**.) 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 [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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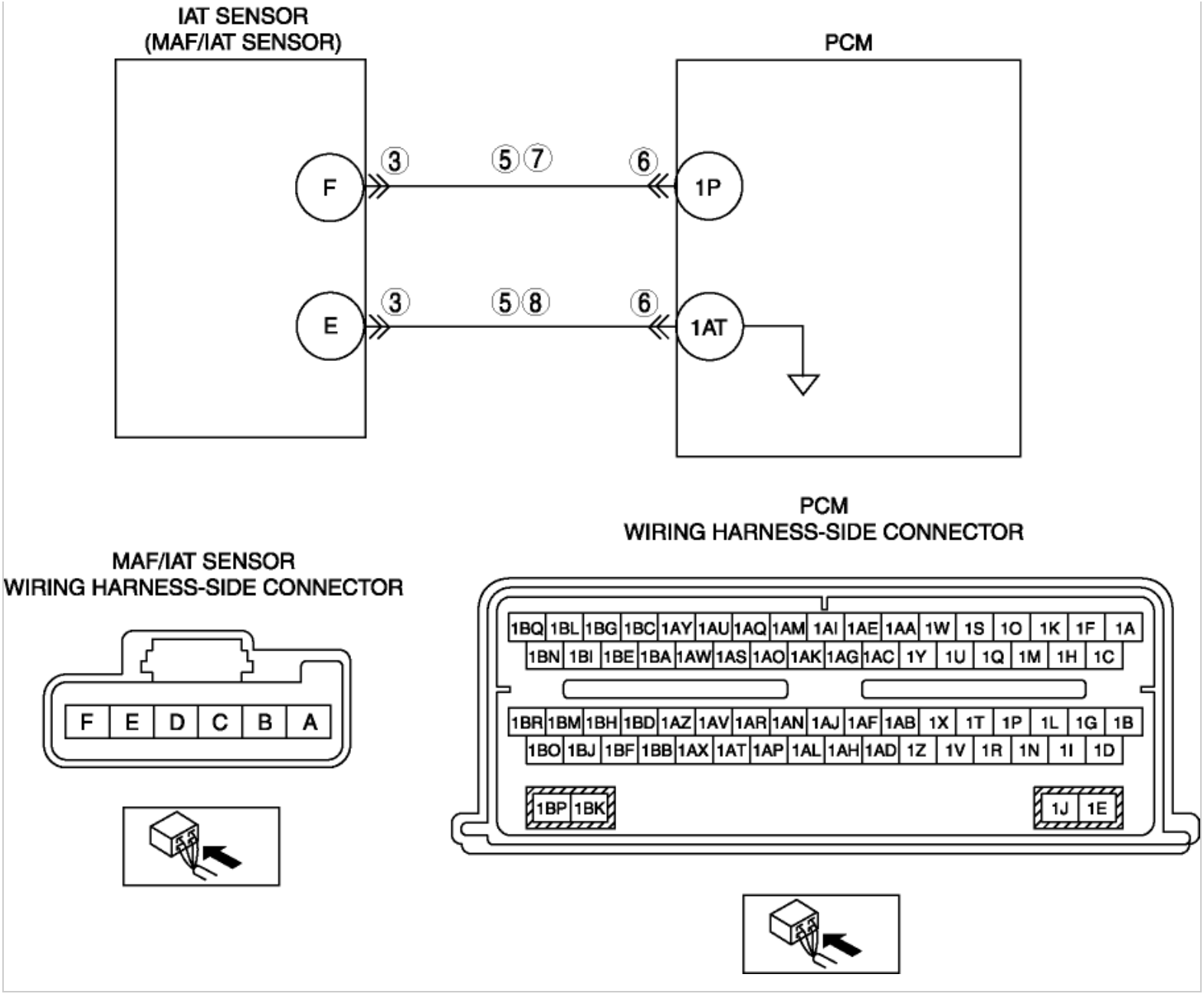
2012 - Mazda6 - Engine

DTC P0113:00 [MZI 3.7 V6]

DTC P0113:00	IAT sensor circuit high input
DETECTION CONDITION	• Indicates the sensor signal is more than the self-test maximum. The IAT sensor maximum is **4.6 V or −50 °C {−58 °F}** .
POSSIBLE CAUSE	• Connector or terminal malfunction • IAT sensor malfunction • Short to power supply between MAF/IAT sensor terminal F and PCM terminal 1P • Open circuit between MAF/IAT sensor terminal F and PCM terminal 1P • Open circuit between MAF/IAT sensor terminal E and PCM terminal 1AT



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	**INSPECT IAT SENSOR CONNECTOR FOR POOR CONNECTION** • Switch the ignition to off. • Disconnect MAF/IAT sensor connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Are there any malfunction?	Yes	Repair or replace suspected part, then go to Step 9.
		No	Go to the next step.
4	**CLASSIFY IAT SENSOR MALFUNCTION OR HARNESS MALFUNCTION** • Disconnect the MAF/IAT sensor connector. • Switch the ignition to ON (Engine off). • Measure voltage between MAF/IAT sensor terminal F (wiring harness-side) and body ground. • Is voltage **4.5—5.5 V**?	Yes	Inspect the IAT sensor. (See **INTAKE AIR TEMPERATURE (IAT) SENSOR INSPECTION [MZI 3.7 V6]**.) Replace if necessary, then go to Step 9.
		No	Go to the next step.
5	**INSPECT IAT SENSOR SIGNAL CIRCUIT FOR SHORT TO POWER SUPPLY** • Switch the ignition to ON (Engine off). • Measure voltage between MAF/IAT sensor terminal F (wiring harness-side) and body ground. • Is voltage **B+** ?	Yes	Repair or replace suspected part, then go to Step 9.
		No	Go to the next step.
6	**INSPECT PCM CONNECTOR FOR POOR CONNECTION** • Switch the ignition to off. • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/ pulled-out pins, corrosion). • Are there any malfunction?	Yes	Repair or replace suspected part, then go to Step 9.
		No	Go to the next step.
7	**INSPECT IAT SENSOR SIGNAL CIRCUIT FOR OPEN CIRCUIT** • Inspect continuity between MAF/IAT sensor terminal F (wiring harness-side) and PCM terminal 1P (wiring harness-side). • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace suspected part, then go to Step 9.
8	**INSPECT IAT SENSOR GROUND CIRCUIT FOR OPEN CIRCUIT** • Inspect continuity between MAF/IAT sensor terminal E (wiring harness-side) and PCM terminal 1AT (wiring harness-side). • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace suspected part, then go to the next step.
9	**VERIFY TROUBLESHOOTING OF DTC P0113:00 HAS BEEN COMPLETED** • Verify that all disconnected connectors reconnected.	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM.

	• Switch the ignition to ON (Engine off). • Clear the DTC from the PCM memory using the M-MDS. • Start engine and warm it up completely. • Is same DTC present?		(See **PCM REMOVAL/ INSTALLATION [MZI 3.7 V6]**.) 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 [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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