

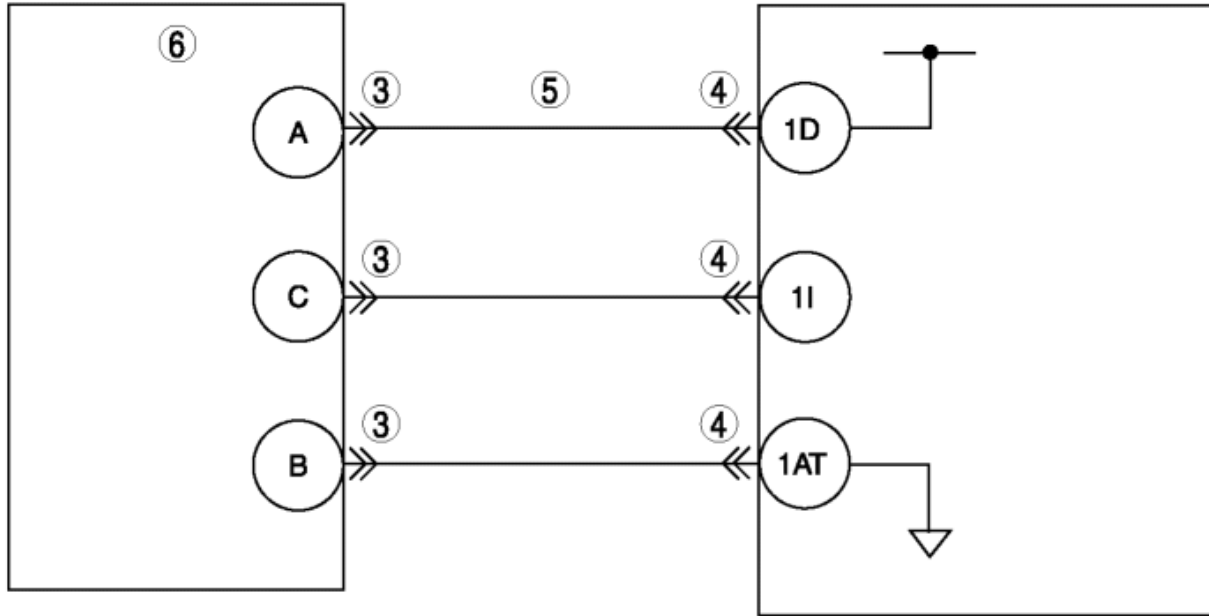
2012 - Mazda6 - Engine

DTC P0643:00 [MZI 3.7 V6]

DTC P0643:00	Sensor reference voltage circuit high
DETECTION CONDITION	Indicates the reference voltage circuit is higher than reference voltage maximum.
POSSI BLE CAUSE	- Short to power supply between fuel tank pressure sensor terminal A and PCM terminal 1D - Connector or terminal malfunction - Fuel tank pressure sensor malfunction

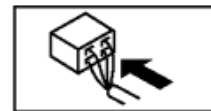
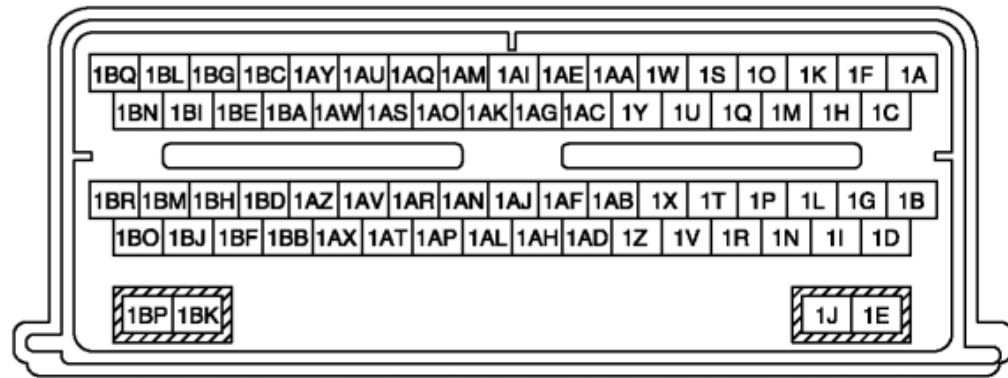
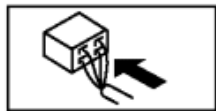
FUEL TANK PRESSURE SENSOR

PCM



PCM WIRING HARNESS-SIDE CONNECTOR

FUEL TANK PRESSURE SENSOR WIRING HARNESS-SIDE CONNECTOR



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.	Yes Perform repair or diagnosis according to the available Service Bulletins. If the vehicle is not repaired, go to the next step.

	Is any related Service Bulletins available?		No Go to the next step.
3	INSPECT FUEL TANK PRESSURE SENSOR CONNECTOR FOR POOR CONNECTION - Switch the ignition off. - Disconnect the fuel tank pressure 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 7.
		No	Go to the next step.
4	INSPECT PCM CONNECTOR FOR POOR CONNECTION - Switch the ignition 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 7.
		No	Go to the next step.
5	INSPECT FUEL TANK PRESSURE SENSOR CIRCUIT FOR SHORT TO POWER SUPPLY - Switch the ignition ON (Engine off). - Measure the voltage continuity between fuel tank pressure sensor terminal A (wiring harness-side) and body ground. - Is the voltage B+ ?	Yes	Repair or replace suspected part, then go to Step 7.
		No	Go to the next step.
6	INSPECT FUEL TANK PRESSURE SENSOR - Inspect the fuel tank pressure sensor. (See FUEL TANK PRESSURE SENSOR INSPECTION [MZI 3.7 V6].) - Is there any malfunction?	Yes	Replace the evaporative hose component, then go to the next step. (See FUEL TANK REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
		No	Go to the next step.
7	VERIFY TROUBLESHOOTING OF DTC P0643:00 HAS BEEN COMPLETED - Verify that all disconnected connectors reconnected. - Clear the DTC from the PCM memory using the M-MDS. - Perform the KOEO or KOER self-test. (See KOEO/ KOER SELF TEST [MZI 3.7 V6].) - Is the PENDING CODE for the DTC present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZI 3.7 V6].) Go to the next step.
		No	Go to the next step.
8	VERIFY AFTER REPAIR PROCEDURE Perform the "AFTER REPAIR PROCEDURE".	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZI 3.7 V6] .)

(See [AFTER REPAIR PROCEDURE \[MZI 3.7 V6\]](#).)

- Are any DTCs present?

No Troubleshooting completed.

[< Previous](#) [Next >](#)

© 2011 Mazda North American Operations, U.S.A.

[Back to Top](#)

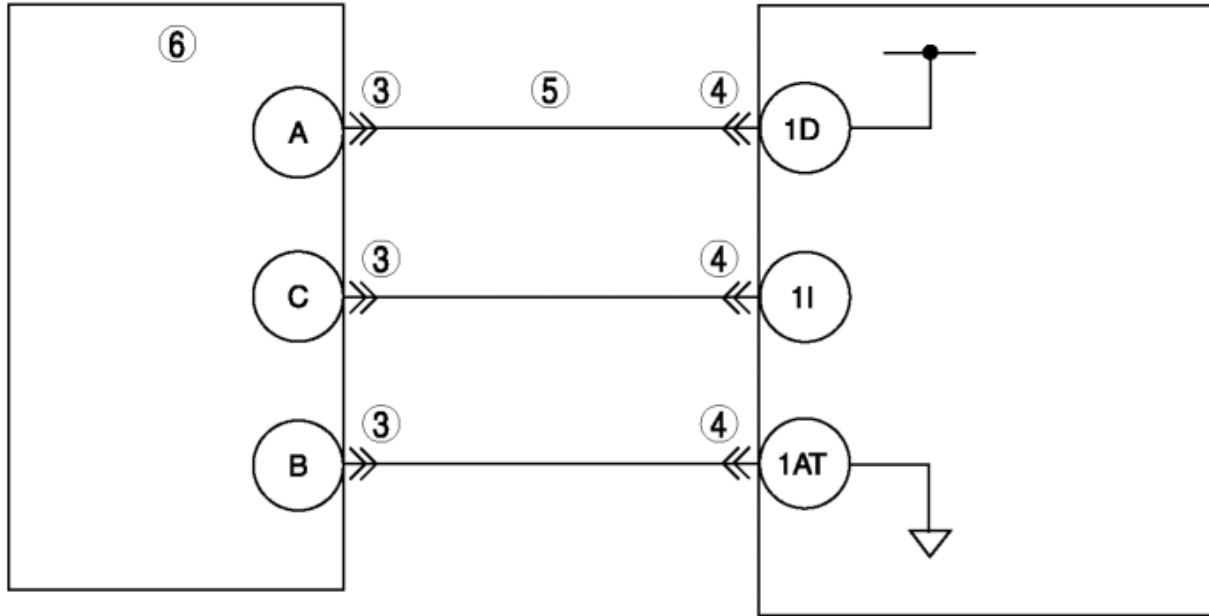
2012 - Mazda6 - Engine

DTC P0643:00 [MZI 3.7 V6]

DTC P0643:00	Sensor reference voltage circuit high
DETECTION CONDITION	Indicates the reference voltage circuit is higher than reference voltage maximum.
POSSI BLE CAUSE	- Short to power supply between fuel tank pressure sensor terminal A and PCM terminal 1D - Connector or terminal malfunction - Fuel tank pressure sensor malfunction

FUEL TANK PRESSURE SENSOR

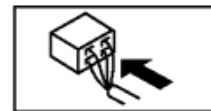
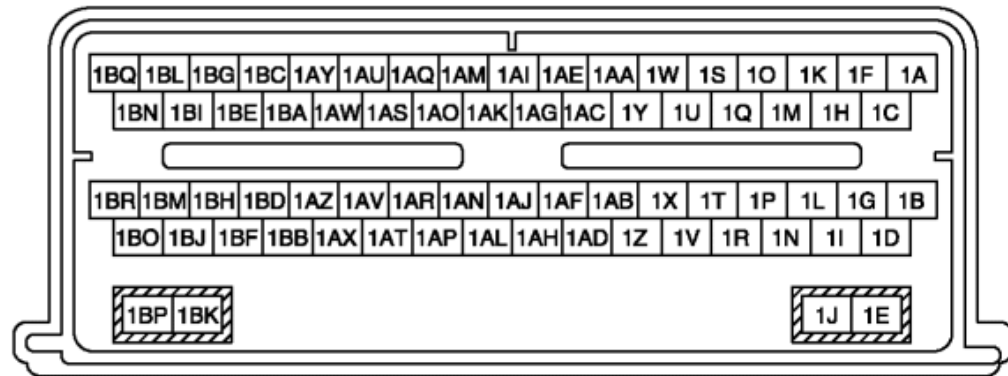
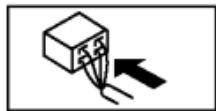
PCM



PCM

WIRING HARNESS-SIDE CONNECTOR

FUEL TANK PRESSURE SENSOR WIRING HARNESS-SIDE CONNECTOR



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.	Yes Perform repair or diagnosis according to the available Service Bulletins. If the vehicle is not repaired, go to the next step.

	Is any related Service Bulletins available?		No Go to the next step.
3	INSPECT FUEL TANK PRESSURE SENSOR CONNECTOR FOR POOR CONNECTION - Switch the ignition off. - Disconnect the fuel tank pressure 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 7.
		No	Go to the next step.
4	INSPECT PCM CONNECTOR FOR POOR CONNECTION - Switch the ignition 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 7.
		No	Go to the next step.
5	INSPECT FUEL TANK PRESSURE SENSOR CIRCUIT FOR SHORT TO POWER SUPPLY - Switch the ignition ON (Engine off). - Measure the voltage continuity between fuel tank pressure sensor terminal A (wiring harness-side) and body ground. - Is the voltage B+ ?	Yes	Repair or replace suspected part, then go to Step 7.
		No	Go to the next step.
6	INSPECT FUEL TANK PRESSURE SENSOR - Inspect the fuel tank pressure sensor. (See FUEL TANK PRESSURE SENSOR INSPECTION [MZI 3.7 V6].) - Is there any malfunction?	Yes	Replace the evaporative hose component, then go to the next step. (See FUEL TANK REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
		No	Go to the next step.
7	VERIFY TROUBLESHOOTING OF DTC P0643:00 HAS BEEN COMPLETED - Verify that all disconnected connectors reconnected. - Clear the DTC from the PCM memory using the M-MDS. - Perform the KOEO or KOER self-test. (See KOEO/ KOER SELF TEST [MZI 3.7 V6].) - Is the PENDING CODE for the DTC present?	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the PCM. (See PCM REMOVAL/ INSTALLATION [MZI 3.7 V6].) Go to the next step.
		No	Go to the next step.
8	VERIFY AFTER REPAIR PROCEDURE Perform the "AFTER REPAIR PROCEDURE".	Yes	Go to the applicable DTC inspection. (See DTC TABLE [MZI 3.7 V6] .)

(See [AFTER REPAIR PROCEDURE \[MZI 3.7 V6\]](#).)

- Are any DTCs present?

No Troubleshooting completed.

[< Previous](#) [Next >](#)

© 2011 Mazda North American Operations, U.S.A.

[Back to Top](#)