

2012 - Mazda6 - Engine

DTC P013E:00 [MZI 3.7 V6]

DTC P013E:00	HO2S (RH) delayed response-rich to lean
DETECTION CONDITION	During a deceleration fuel shut-off event, the PCM monitors the HO2S (RH) signal to determine if the signal is stuck in range. The PCM expects the signal to exceed a calibrated rich or lean value within a calibrated amount of time. If the signal voltage remains less than the rich value after a number of occurrences, the PCM forcefully controls the fuel system rich over increasing time periods in an attempt to force the signal to greater than the calibrated rich value. The test fails if after 3 consecutive forced attempts the signal cannot be forced greater than the calibrated rich value. Also, if the signal voltage remains greater than the lean value after a calibrated amount of time with the fuel injectors off, a counter is incremented. The test fails if after 3 consecutive occurrences the signal is not less than the calibrated lean value.
POSSIBLE CAUSE	- Exhaust leaks before or near the HO2S (RH) - Aftermarket exhaust accessories or performance modifications - Ethanol content in the fuel - Circuit intermittent - HO2S (RH) malfunction

Diagnostic procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED	Yes Go to the next step.
	Has FREEZE FRAME DATA been recorded?	No Record FREEZE FRAME DATA on the repair order, then go to the next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY	Yes Perform repair or diagnosis according to the available Service Bulletins.
	Verify related Service Bulletins and/or on-line repair information availability.	If the vehicle is not repaired, go to the next

	Is any related Service Bulletins available?		step.
		No	Go to the next step.
3	VERIFY RELATED PENDING CODE OR STORED DTCS - Switch the ignition to off, then to the ON (Engine off). - Verify related PENDING CODE or stored DTCS. - Are any DTCs present other than the following: - P013A:00, P013C:00, P013E:00 or P014A:00?	Yes	Go to the appropriate DTC troubleshooting procedures. (See DTC TABLE [MZI 3.7 V6] .)
		No	Go to the next step.
4	INSPECT EXHAUST SYSTEM AND FUEL SELECTION CONCERNS - Inspect the exhaust system (RH) for the following: - Leaks, cracks, or punctures - Aftermarket accessories and performance modifications - Exhaust leaks at the HO2S - Verify with the customer that flex fuel is not being used on a non-flex fuel vehicle. - Is a concern present?	Yes	Repair suspect part, if necessary. Go to Step 6.
		No	Go to the next step.
5	INSPECT INTERMITTENT HO2S SIGNAL WIRING HARNESS - Access the PCM and monitor the O2S12 PID. - Wiggle, shake, and bend small sections of the wiring harness while working from the sensor to the PCM. - Is a concern present?	Yes	Repair if necessary, then go to the next step.
		No	Replace the HO2S (RH), then go to the next step. (See HEATED OXYGEN SENSOR (HO2S) REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
6	VERIFY TROUBLESHOOTING OF DTC P013E:00 HAS BEEN COMPLETED Verify that all disconnected connectors	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the PCM.

	are reconnected. • Switch the ignition to ON (Engine off). • Clear the DTC from the PCM memory using the M-MDS. • Retrieve DTCs using the M-MDS. • Is the PENDING CODE for this DTC present?		(See PCM REMOVAL/ INSTALLATION [MZI 3.7 V6] .) Go to the next step.
			No Go to the next step.
7	VERI FY AFTER REPAI R PROCEDURE • Perform the “AFTER REPAIR PROCEDURE”. (See AFTER REPAI R 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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POSSIBLE CAUSE	- Exhaust leaks before or near the HO2S (RH) - Aftermarket exhaust accessories or performance modifications - Ethanol content in the fuel - Circuit intermittent - HO2S (RH) malfunction

Diagnostic procedure

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1	VERIFY FREEZE FRAME DATA HAS BEEN RECORDED	Yes Go to the next step.
	Has FREEZE FRAME DATA been recorded?	No Record FREEZE FRAME DATA on the repair order, then go to the next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY	Yes Perform repair or diagnosis according to the available Service Bulletins.
	Verify related Service Bulletins and/or on-line repair information availability.	If the vehicle is not repaired, go to the next

	Is any related Service Bulletins available?		step.
		No	Go to the next step.
3	VERIFY RELATED PENDING CODE OR STORED DTCS - Switch the ignition to off, then to the ON (Engine off). - Verify related PENDING CODE or stored DTCS. - Are any DTCs present other than the following: - P013A:00, P013C:00, P013E:00 or P014A:00?	Yes	Go to the appropriate DTC troubleshooting procedures. (See DTC TABLE [MZI 3.7 V6] .)
		No	Go to the next step.
4	INSPECT EXHAUST SYSTEM AND FUEL SELECTION CONCERNS - Inspect the exhaust system (RH) for the following: - Leaks, cracks, or punctures - Aftermarket accessories and performance modifications - Exhaust leaks at the HO2S - Verify with the customer that flex fuel is not being used on a non-flex fuel vehicle. - Is a concern present?	Yes	Repair suspect part, if necessary. Go to Step 6.
		No	Go to the next step.
5	INSPECT INTERMITTENT HO2S SIGNAL WIRING HARNESS - Access the PCM and monitor the O2S12 PID. - Wiggle, shake, and bend small sections of the wiring harness while working from the sensor to the PCM. - Is a concern present?	Yes	Repair if necessary, then go to the next step.
		No	Replace the HO2S (RH), then go to the next step. (See HEATED OXYGEN SENSOR (HO2S) REMOVAL/ INSTALLATION [MZI 3.7 V6] .)
6	VERIFY TROUBLESHOOTING OF DTC P013E:00 HAS BEEN COMPLETED Verify that all disconnected connectors	Yes	Repeat the inspection from Step 1. If the malfunction recurs, replace the PCM.

	are reconnected. • Switch the ignition to ON (Engine off). • Clear the DTC from the PCM memory using the M-MDS. • Retrieve DTCs using the M-MDS. • Is the PENDING CODE for this DTC present?		(See PCM REMOVAL/ INSTALLATION [MZI 3.7 V6] .) Go to the next step.
			No Go to the next step.
7	VERI FY AFTER REPAI R PROCEDURE • Perform the “AFTER REPAIR PROCEDURE”. (See AFTER REPAI R 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.