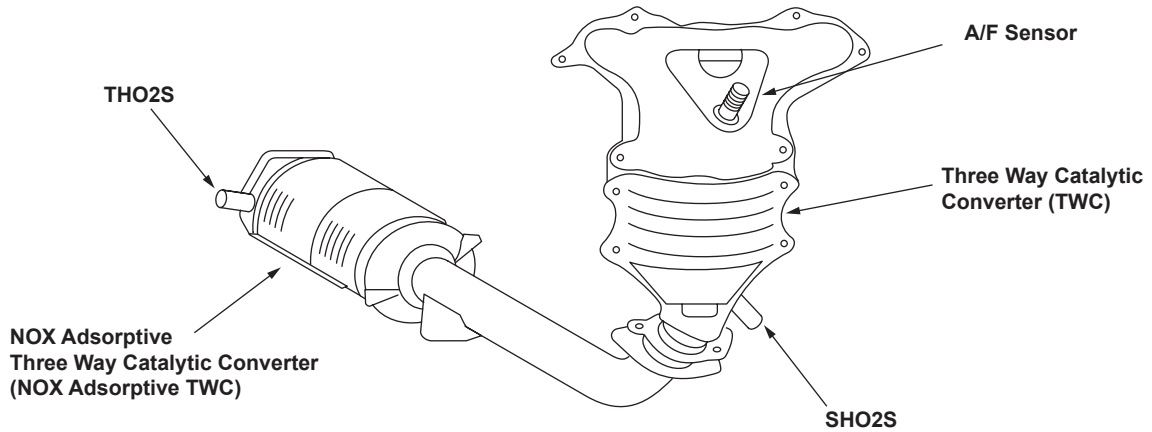
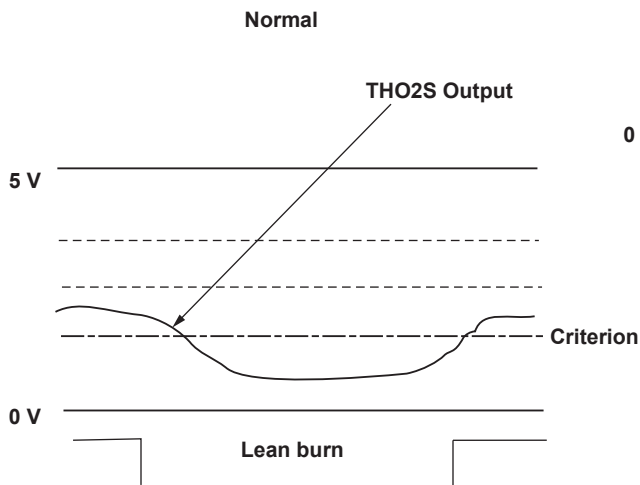
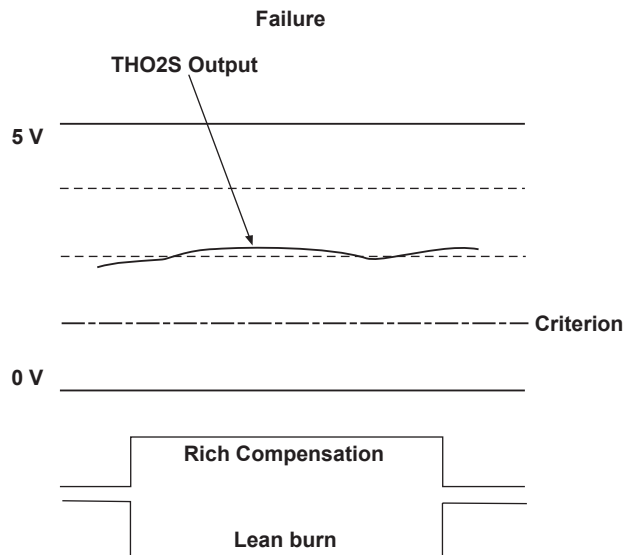
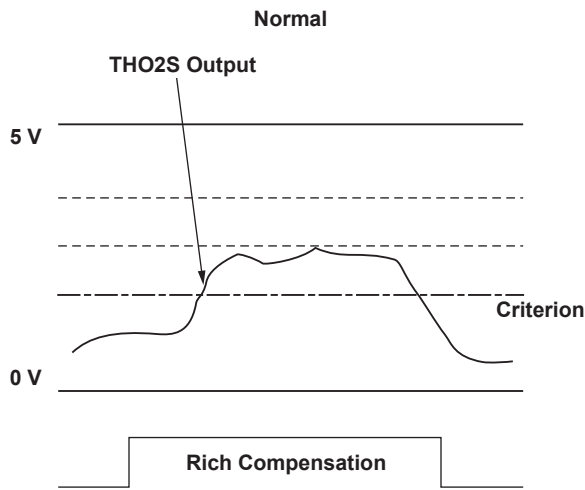


Advanced Diagnostics

DTC P0145: Third Heated Oxygen Sensor (Third HO2S) (Sensor 3) Circuit Slow Response (M/T)



P0143-0271



P0145-0271

General Description

The third heated oxygen sensor (THO2S) is installed downstream of the NOX adsorptive three way catalyst (TWC) and is used only to determine a malfunction in the NOX adsorptive TWC. If the THO2S output is not on the lean side during lean burn running, a malfunction is detected and a DTC is stored. That is, if the THO2S output does not change to the lean side nor rich side during enrichment (during lean burn running), a malfunction is detected and a DTC is stored.

Monitor Execution, Sequence, Duration, DTC Type

Execution	Once per driving cycle
Sequence	None
Duration	50 seconds* or less
DTC Type	Two drive cycles, MIL ON

* : At 2,000 rpm

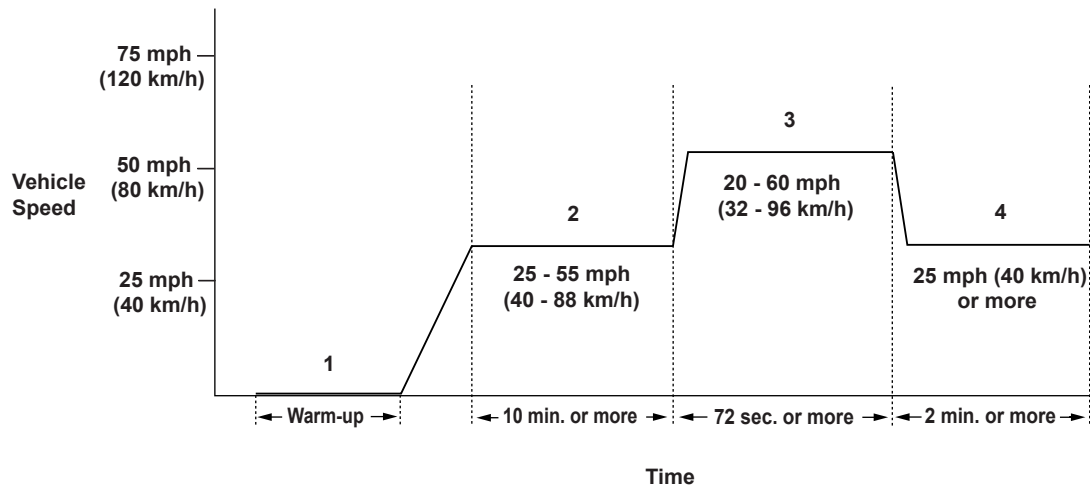
Enable Conditions

Condition		Minimum	Maximum
Elapsed time after starting the engine		605 seconds	—
Engine coolant temperature		168°F (76°C)	—
Engine speed		1,500 rpm	2,600 rpm
MAP value		35 kPa (260 mmHg, 10.3 in.Hg)	99 kPa (736 mmHg, 29.0 in.Hg)
The difference between atmospheric pressure and MAP value	1,500 rpm	8 kPa (54 mmHg, 2.2 in.Hg)	—
	2,600 rpm	11 kPa (81 mmHg, 3.2 in.Hg)	
Vehicle speed		25 mph (40 km/h)	—
Short term fuel trim		—	0.98
Fuel feedback		During lean burn running	
Monitoring priority		Catalyst System, A/F Sensor, EVAP	
No active DTCs		ECM, A/F Sensor, A/F Sensor Heater, Third HO2S Heater, MAP, CKP, ECT, TP, EGR, BARO, VSS, VTEC System, Fuel System, EVAP	
Others	Must be in 3rd, 4th, or 5th gear		
	The duration of lean burn running must be sufficient (at least 1 minute)		
	The IMA battery indicates at least 25%		

Malfunction Threshold

The third HO2S output is between 0.29 V and 0.6 V during enrichment, or between 0.6 V and 2.5 V during lean burn running, for no more than 50 seconds.

Driving Pattern



P0143-0251

1. Start the engine. Hold the engine at 3,000 rpm with no load (in park or neutral) until the radiator fan comes on.
2. Drive the vehicle at a speed between 25 - 55 mph (40 - 88 km/h) for at least 10 minutes to warm up the engine and the NOX adsorptive TWC.
3. Drive the vehicle at a speed between 20 - 60 mph (32 - 96 km/h) for at least 72 seconds.
4. Then, drive at a steady speed of 25 mph (40 km/h) or more in the lean burn running mode for at least 2 minutes.

- If you have difficulty duplicating the DTC, retest after turning off electrical components such as the audio system and A/C, and try a different gear position.
- Drive the vehicle in this manner only if the traffic regulations and ambient conditions allow.

Diagnosis Details

Conditions for illuminating the MIL

When a malfunction is detected during the first drive cycle, a Temporary DTC is stored in the ECM memory. If the malfunction recurs during the next (second) drive cycle, the MIL comes on and the DTC and the freeze frame data are stored.

Conditions for clearing the MIL

The MIL will be cleared if the malfunction does not recur during three consecutive trips in which the diagnostic runs. The MIL, the DTC, the Temporary DTC, and the freeze frame data can be cleared by using the scan tool Clear command or by disconnecting the battery.