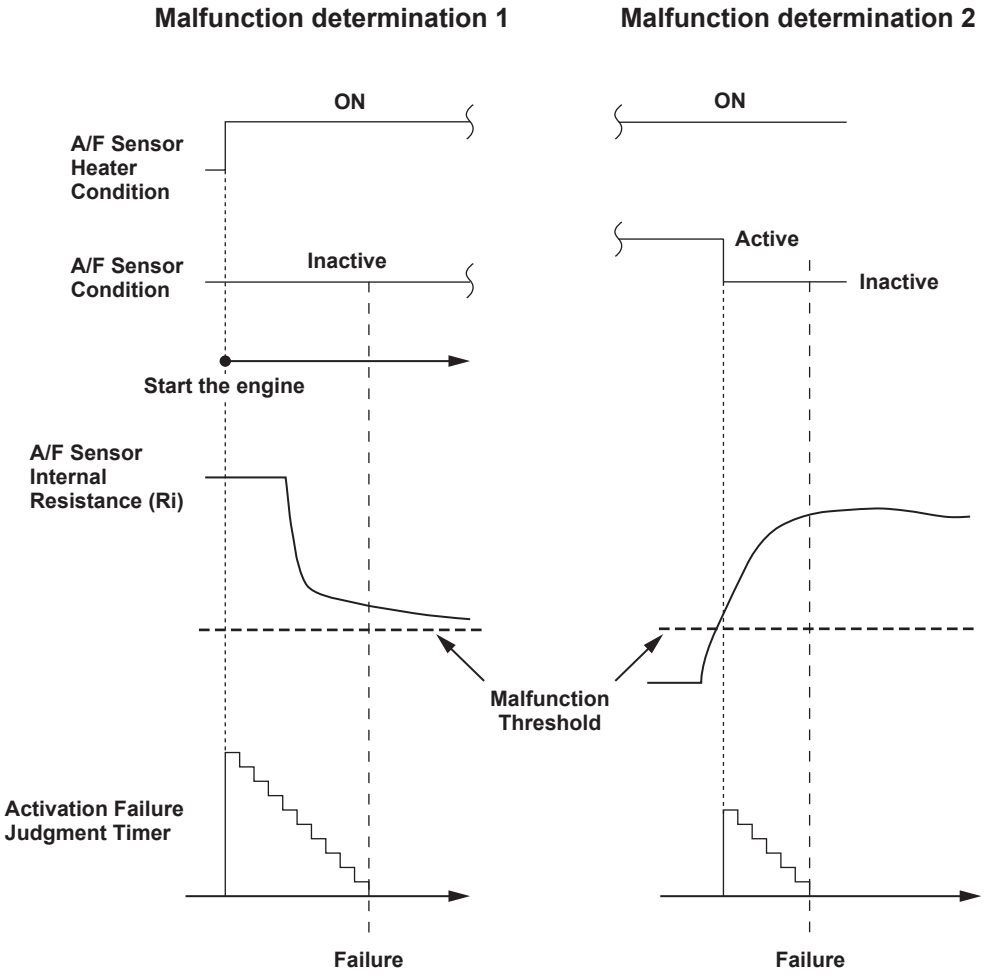
Advanced Diagnostics

DTC P0134: Air/Fuel Ratio (A/F) Sensor (Sensor 1) Signal Stuck Lean



P0134-0370

General Description

The air/fuel ratio (A/F) sensor is activated by heating the element with the heater to maintain it at a steady high temperature so the air/fuel (A/F) ratio can be accurately calculated. The A/F sensor does not become active when the element is not heated enough due to a heater malfunction, etc., and the exhaust emissions deteriorate. The engine control module (ECM)/ powertrain control module (PCM) monitors the A/F sensor condition by monitoring the A/F sensor internal resistance.

1. When the A/F sensor does not activate in a set time after the A/F sensor heater starts to warm up (within high A/F sensor internal resistance), a malfunction of the A/F sensor heater is detected, and a DTC is stored.
2. The A/F sensor heater cycles ON and OFF within a set time. The heater's state is detected by monitoring the internal resistance of the A/F sensor. If the resistance remains high when the heater is ON, a malfunction in the A/F sensor heater is detected, and a DTC is stored.

Monitor Execution, Sequence, Duration, DTC Type

Execution	Continuous
Sequence	None
Duration	90 seconds or more
DTC Type	One drive cycle, MIL ON

Enable Conditions

Condition	Minimum	Maximum
Engine coolant temperature	41ºF (5ºC)	—
Battery voltage	10.5 V	16.0 V
Fuel feedback	Other than during fuel cut-off operation	
No active DTCs	A/F Sensor, ECT	

Malfunction Threshold

Malfunction determination 1
The A/F sensor internal resistance value is 40 Ω or more for at least 90 seconds right after the engine starts.

Malfunction determination 2
The A/F sensor internal resistance value is 40 Ω or more for at least 16 seconds.

Driving Pattern

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. Let the engine idle for at least 2 minutes.

Diagnosis Details

Conditions for illuminating the MIL
When a malfunction is detected, the MIL comes on and the DTC and the freeze frame data are stored in the ECM/PCM memory.

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, and the freeze frame data can be cleared by using the scan tool Clear command or by disconnecting the battery.

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