

DTC P0140 [LF]

B3E010201084W23

DTC P0140	Rear HO2S no activity detected
DETECTION CONDITION	<ul style="list-style-type: none"> The PCM monitors the input voltage from the rear HO2S when the following conditions are met. If the input voltage from the sensor never exceeds 0.55 V for 30.4 s, the PCM determines that the sensor circuit is not activated. <p>MONITORING CONDITIONS</p> <ul style="list-style-type: none"> HO2S, HO2S heater and TWC Repair Verification Drive Mode Following conditions are met: <ul style="list-style-type: none"> Engine speed is above 1,500 rpm. Engine coolant temperature is above 70 °C {158 °F}. <p>Diagnostic support note</p> <ul style="list-style-type: none"> This is a continuous monitor (HO2S). MIL illuminates if the PCM detects the above malfunction condition in two consecutive drive cycles or in one drive cycle while the DTC for the same malfunction has been stored in the PCM. PENDING CODE is available if the PCM detects the above malfunction condition during first drive cycle. FREEZE FRAME DATA is available. The DTC is stored in the PCM memory.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Rear HO2S deterioration Rear HO2S heater malfunction Leakage exhaust system Open circuit or short to ground in wiring harness between rear HO2S terminal A and PCM terminal 2AH Insufficient compression Engine malfunction

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 the FREEZE FRAME DATA on the repair order, then go to the next step.
2	VERIFY RELATED REPAIR INFORMATION AVAILABILITY • Verify related service repair information availability. • Is any related repair information available?	Yes	Perform repair or diagnosis according to the available repair information. • If the vehicle is not repaired, go to the next step.
		No	Go to the next step.
3	VERIFY RELATED PENDING AND STORED DTC Note • If fuel monitor DTC, DTC P0132 is retrieved, ignore it until P0140 is fixed. • Turn the ignition switch off, then to the ON position (Engine off). • Verify pending and stored DTCs using WDS or equivalent. • Is other DTC present?	Yes	Go to the appropriate DTC troubleshooting procedures. (See DTC TABLE [LF] .)
		No	Go to the next step.
4	IDENTIFY TRIGGER DTC FOR FREEZE FRAME DATA • Is DTC P0140 on FREEZE FRAME DATA?	Yes	Go to the next step.
		No	Go to troubleshooting procedures for DTC on FREEZE FRAME DATA. (See DTC TABLE [LF] .)
5	VERIFY CURRENT INPUT SIGNAL STATUS • Warm up the engine. • Access O2S12 for P0140 PID using the WDS or equivalent. • Verify PID while racing the engine at least 10 times in PARK or NEUTRAL. • Is PID reading normal? - More than 0.55 V at least once during engine racing	Yes	Go to step 8.
		No	Go to the next step.
6	INSPECT INSTALLATION OF REAR HO2S • Check if rear HO2S is loosely installed. • Is sensor installed securely?	Yes	Go to the next step.
		No	Install sensor securely, then go to Step 10.
7	INSPECT GAS LEAKAGE FROM EXHAUST SYSTEM • Visually check if any gas leakage is found between exhaust pipe and rear HO2S. • Is there any gas leakage?	Yes	Repair or replace any malfunctioning exhaust part, then go to Step 10.
		No	• Inspect the following wiring harnesses for open or short to ground circuit, repair or replace wiring harness if necessary. - Rear HO2S terminal A (wiring harness-side) to PCM terminal 2AH (wiring harness-side) • Repair or replace wiring harness if necessary. • If all items above are normal, replace malfunctioning sensor. Then go to Step 10.
	INSPECT SEALING OF ENGINE COOLANT PASSAGE Warning		

8	<ul style="list-style-type: none"> • Removing the radiator cap when the radiator is hot is dangerous. Scalding coolant and steam may shoot out and cause serious injury. • When removing the radiator cap, wrap a thick cloth around and turn it slowly. <ul style="list-style-type: none"> • Remove radiator cap. • Perform procedure to bleed air from the engine coolant, then run the engine at idle. • Is there any small bubble, which makes the engine coolant white at filling opening? <p>Note</p> <ul style="list-style-type: none"> • Large bubbles are normal since they are remaining air coming out from the engine coolant passage. 	Yes	Air gets in from poor sealing on head gasket or other areas between combustion chamber and engine coolant passage. Repair or replace the malfunctioning part, then go to Step 10.
		No	Go to the next step.
9	INSPECT ENGINE COMPRESSION <ul style="list-style-type: none"> • Inspect engine compression. (See COMPRESSION INSPECTION [LF] .) <ul style="list-style-type: none"> • Is it normal? 	Yes	Go to the next step.
		No	Perform engine overhaul for repairs, then go to the next step.
10	VERIFY TROUBLESHOOTING OF DTC P0140 COMPLETED <ul style="list-style-type: none"> • Make sure to reconnect all disconnected connectors. • Turn the ignition switch to the ON position (Engine off). • Clear the DTC from the memory using the WDS or equivalent. • Perform the HO2S heater, HO2S, and TWC Repair Verification Drive Mode. (See OBD DRIVE MODE [LF] .) <ul style="list-style-type: none"> • Is the PENDING CODE for this DTC present? 	Yes	Replace the PCM, then go to the next step. (See PCM REMOVAL/INSTALLATION [LF] .)
		No	Go to the next step.
11	VERIFY AFTER REPAIR PROCEDURE <ul style="list-style-type: none"> • Perform the "After Repair Procedure". (See AFTER REPAIR PROCEDURE [LF] .) <ul style="list-style-type: none"> • Are any DTC present? 	Yes	Go to the applicable DTC troubleshooting. (See DTC TABLE [LF] .)
		No	Troubleshooting completed.