

|            |              |                                                            |
|------------|--------------|------------------------------------------------------------|
| <b>DTC</b> | <b>P0130</b> | <b>Oxygen Sensor Circuit Malfunction (Bank 1 Sensor 1)</b> |
|------------|--------------|------------------------------------------------------------|

|            |              |                                                            |
|------------|--------------|------------------------------------------------------------|
| <b>DTC</b> | <b>P0150</b> | <b>Oxygen Sensor Circuit Malfunction (Bank 2 Sensor 1)</b> |
|------------|--------------|------------------------------------------------------------|

## CIRCUIT DESCRIPTION

Refer to DTC P0125 on page [DI-44](#).

| DTC No.        | DTC Detecting Condition                                                                                                                               | Trouble Area                                                                                                                                                                                                                  |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P0130<br>P0150 | Voltage output of heated oxygen sensor remains at 0.35 V or more, or 0.70 V or less, during idling after engine is warmed up (2 trip detection logic) | <ul style="list-style-type: none"> <li>• Open or short in heated oxygen sensor circuit</li> <li>• Heated oxygen sensor</li> <li>• Air induction system</li> <li>• Fuel pressure</li> <li>• Injector</li> <li>• ECM</li> </ul> |

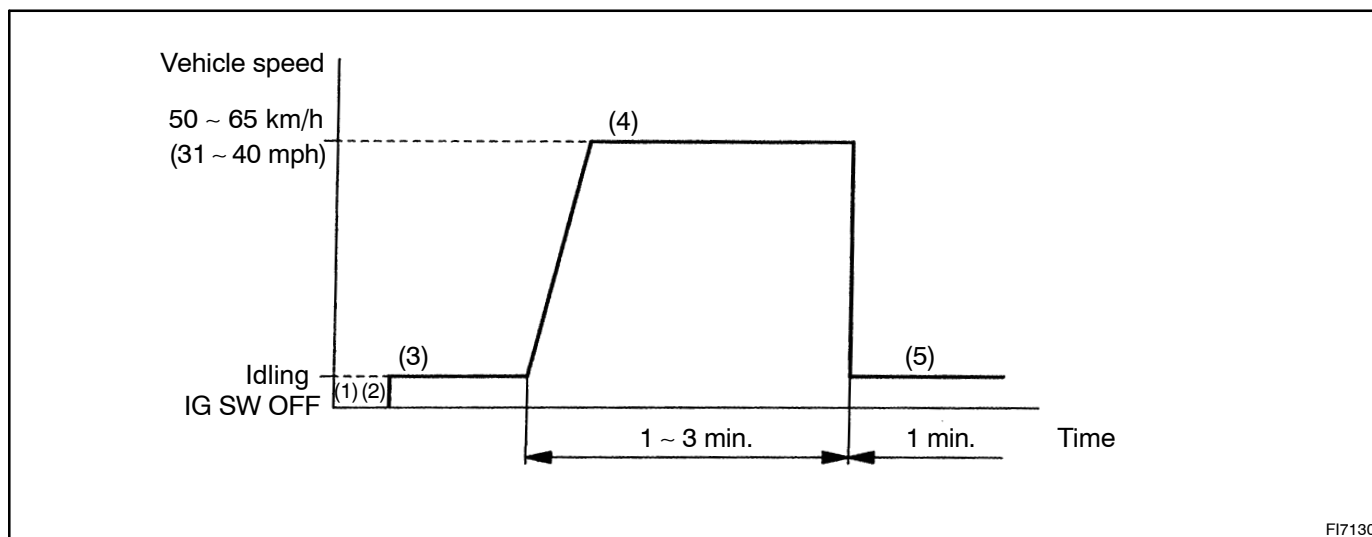
### HINT:

- Bank 1 refers to bank that includes cylinder No.1.
- Bank 2 refers to bank that does not include cylinder No.1.
- Sensor 1 refers to the sensor closer to the engine body.
- The heated oxygen sensor's output voltage and the short-term fuel trim value can be read using the OBD II scan tool or LEXUS hand-held tester.

## WIRING DIAGRAM

Refer to DTC P0125 on page [DI-44](#).

## CONFIRMATION DRIVING PATTERN



- (1) Connect the LEXUS hand-held tester to the DLC3.
- (2) Switch the LEXUS hand-held tester from the normal mode to the check mode (See page [DI-3](#)).
- (3) Start the engine and warm it up with all the accessory switches OFF.

- (4) Drive the vehicle at 50 – 65 km/h (31 – 40 mph) for 1 – 3 min. to warm up the heated oxygen sensor.
- (5) Let the engine idle for 1 min.
- (6) Perform steps (3) to (5) 3 times.

**HINT:**

If a malfunction exists, the MIL will light up during step (6).

**NOTICE:**

**If the conditions in this test are not strictly followed, detection of the malfunction will not be possible. If you do not have a LEXUS hand-held tester, turn the ignition switch OFF after performing steps (3) to (6), then perform steps (3) to (6) again.**

**INSPECTION PROCEDURE****HINT:**

Read freeze frame data using LEXUS hand-held tester or OBD II scan tool. Because freeze frame records the engine conditions when the malfunction is detected. When troubleshooting it is useful for determining whether the vehicle was running or stopped, the engine was warmed up or not, the air-fuel ratio was lean or rich, etc. at the time of the malfunction.

|   |                                                                             |
|---|-----------------------------------------------------------------------------|
| 1 | <b>Are there any other codes (besides DTC P0130 or P0150) being output?</b> |
|---|-----------------------------------------------------------------------------|

YES

Go to relevant DTC chart.

NO

|   |                                                                    |
|---|--------------------------------------------------------------------|
| 2 | <b>Check output voltage of heated oxygen sensor during idling.</b> |
|---|--------------------------------------------------------------------|

**PREPARATION:**

Warm up the heated oxygen sensor with the engine speed at 2,500 rpm for approx. 90 sec.

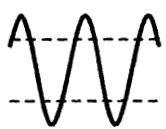
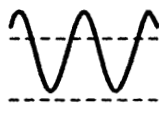
**CHECK:**

Use the OBD II scan tool or LEXUS hand-held tester to read the output voltage of the heated oxygen sensor during idling.

**OK:**

**Heated oxygen sensor output voltage:**

**Alternates repeatedly between less than 0.4 V and more than 0.55 V (See the following table).**

|              | O K                                                                                 | N G                                                                                 | N G                                                                                  | N G                                                                                   |
|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1 V ———      |                                                                                     |                                                                                     |                                                                                      |                                                                                       |
| 0.55 V - - - |  |  |  |  |
| 0.4 V - - -  |                                                                                     |                                                                                     |                                                                                      |                                                                                       |
| 0 V ———      |                                                                                     |                                                                                     |                                                                                      |                                                                                       |

P18349

OK

Go to step 7.

**NG**

**3** Check for open and short in harness and connector between ECM and heated oxygen sensor (See page [IN-34](#)).

**NG****Repair or replace harness or connector.****OK**

**4** Check air induction system (See page [SF-1](#)).

**NG****Repair or replace.****OK**

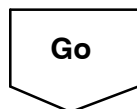
**5** Check fuel pressure (See page [SF-7](#)).

**NG****Check and repair fuel pump, pressure regulator, fuel pipe line and filter (See page [SF-1](#)).****OK**

**6** Check injector injection (See page [SF-24](#)).

**NG****Replace injector.****OK****Replace heated oxygen sensor.**

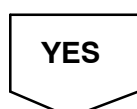
|   |                                                                         |
|---|-------------------------------------------------------------------------|
| 7 | Perform confirmation driving pattern (See page <a href="#">DI-49</a> ). |
|---|-------------------------------------------------------------------------|



|   |                                                 |
|---|-------------------------------------------------|
| 8 | Is there DTC P0130 or P0150 being output again? |
|---|-------------------------------------------------|



Check for intermittent problems (See page [DI-3](#)).



|                                                          |
|----------------------------------------------------------|
| Check and replace ECM (See page <a href="#">IN-34</a> ). |
|----------------------------------------------------------|