

DTC	P0325	Knock Sensor 1 Circuit Malfunction (Bank 1)
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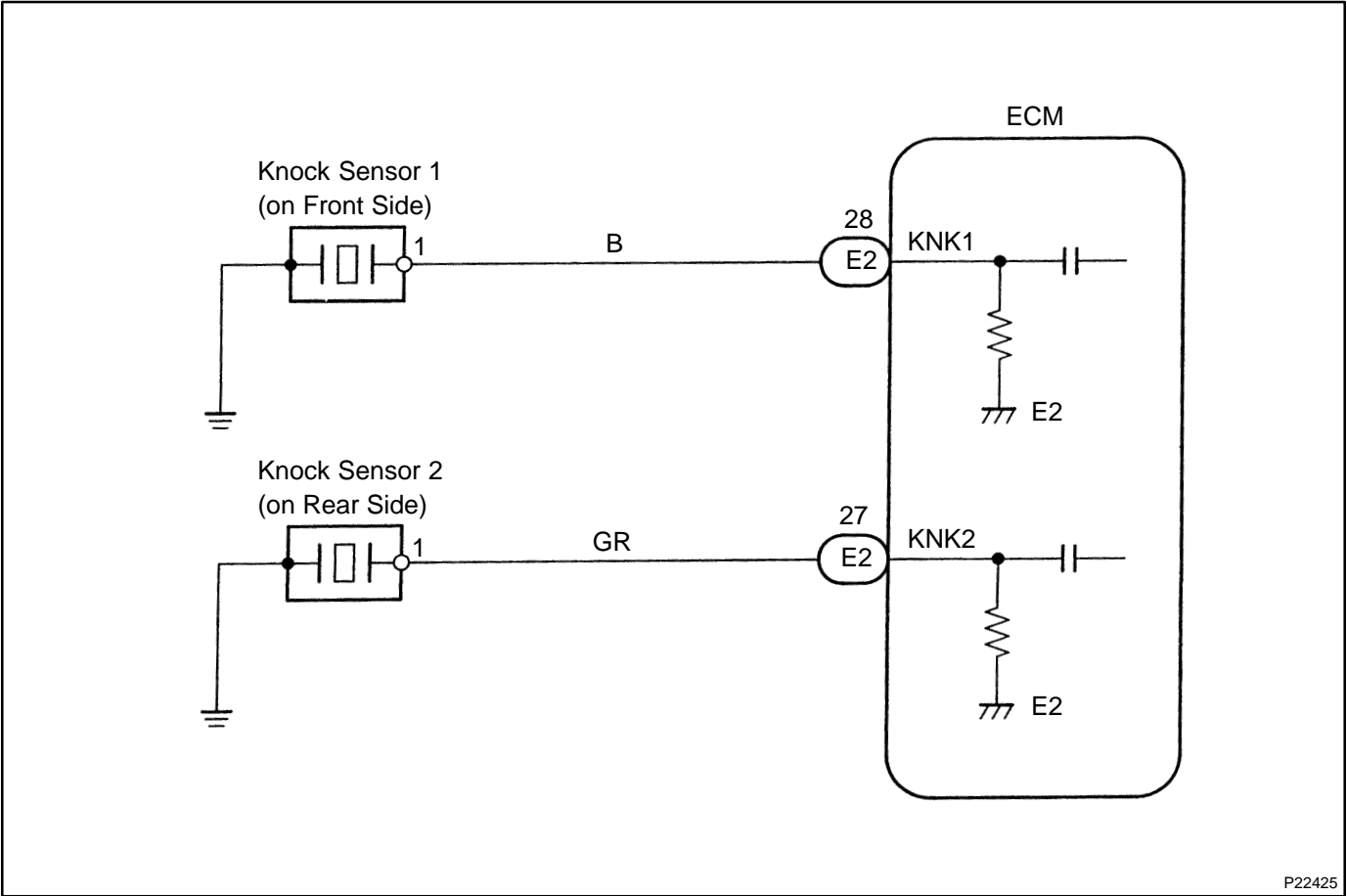
DTC	P0330	Knock Sensor 2 Circuit Malfunction (Bank 2)
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CIRCUIT DESCRIPTION

Each of knock sensor is fitted to the right bank and left bank of the cylinder block to detect engine knocking. This sensor contains a piezoelectric element which generates a voltage when it becomes deformed, which occurs when the cylinder block vibrates due to knocking. If engine knocking occurs, ignition timing is retarded to suppress it.

DTC No.	DTC Detecting Condition	Trouble Area
P0325	No knock sensor 1 signal to ECM with engine speed between 1,600 rpm and 5,200 rpm	<ul style="list-style-type: none"> • Open or short in knock sensor 1 circuit • Knock sensor 1 (looseness) • ECM
P0330	No knock sensor 2 signal to ECM with engine speed between 1,600 rpm and 5,200 rpm	<ul style="list-style-type: none"> • Open or short in knock sensor 2 circuit • Knock sensor 2 (looseness) • ECM

WIRING DIAGRAM

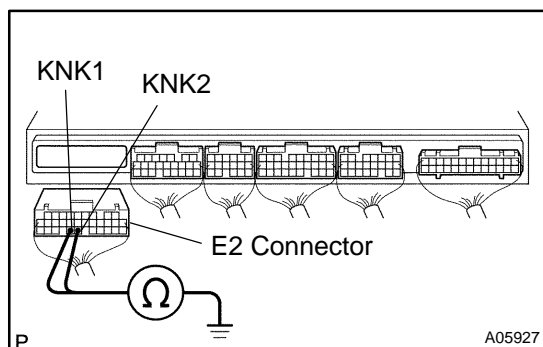


INSPECTION PROCEDURE

HINT:

- DTC P0325 is for the front side knock sensor circuit.
- DTC P0330 is for the rear side knock sensor circuit.
- 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 Check continuity between terminals KNK1, KNK2 of ECM connector and body ground.



PREPARATION:

- Remove the engine room ECM cover and hood.
- Disconnect the E2 connector from the ECM.

CHECK:

Measure the resistance between terminals KNK1, KNK2 of the ECM connector and body ground.

HINT:

- Connect terminal KNK1 to knock sensor 1.
- Connect terminal KNK2 to knock sensor 2.

OK:

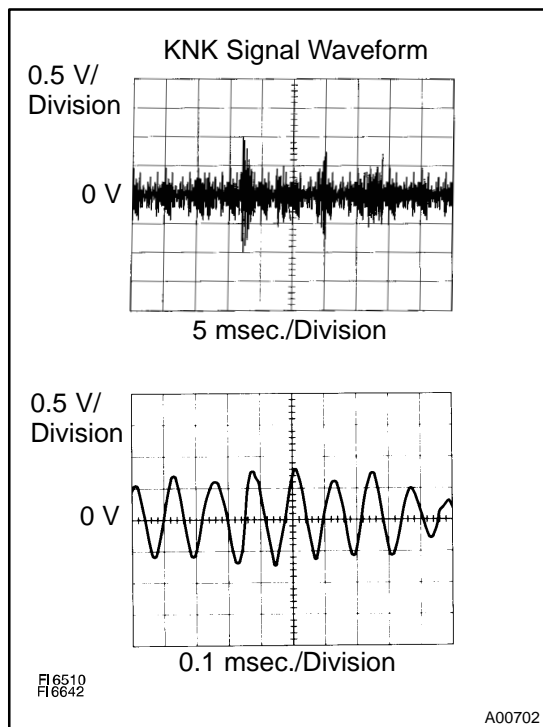
Resistance: 1 MΩ or higher

Reference: INSPECTION USING OSCILLOSCOPE

- With the engine racing (4,000 rpm), check the waveform between terminals KNK1, KNK2 of the ECM connector and body ground.

HINT:

The correct waveform is as shown.



OK

Go to step 3.

NG

2 Check knock sensor (See page SF-65).

NG**Replace knock sensor.****OK****3****Check for open and short in harness and connector between ECM and knock sensor (See page [IN-32](#)).****NG****Repair or replace harness or connector.****OK****4****Does malfunction disappear when good knock sensor is installed?****YES****Replace knock sensor.****NO****Check and replace ECM (See page [IN-32](#)).**