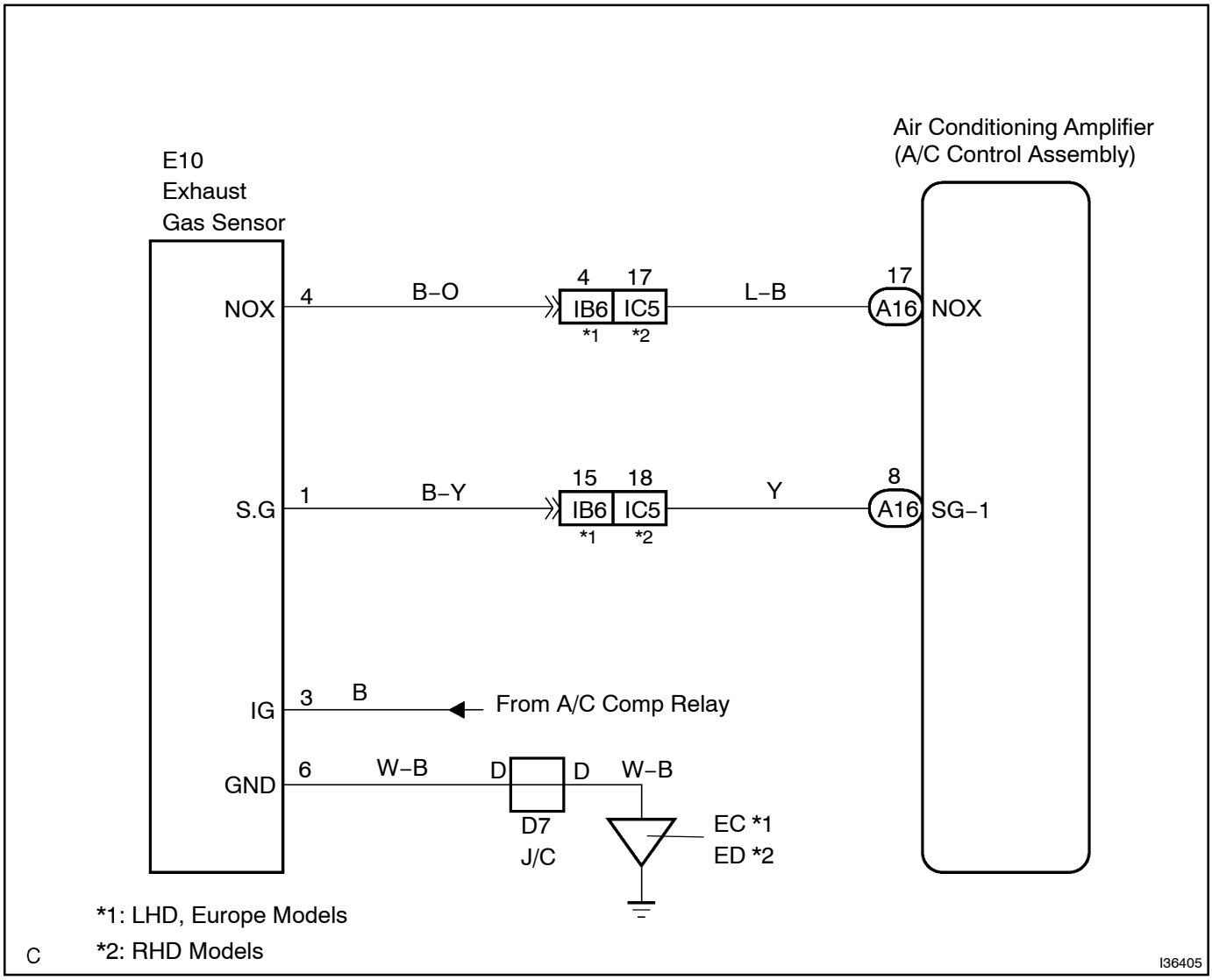
DTC B1461 EMISSION GAS NOX SENSOR CIRCUIT

CIRCUIT DESCRIPTION

This sensor detects the exhaust gas (NOx) outside the vehicle and sends a signal to the A/C amplifier.

DTC No.	Detection Item	Trouble Area
B1461	Emission gas Nox sensor circuit (Open or short)	• Exhaust gas sensor (Emission gas Nox sensor) • Harness or connector between exhaust gas sensor (Emission gas Nox sensor) and A/C amplifier • A/C amplifier

WIRING DIAGRAM



INSPECTION PROCEDURE

1	READ VALUE ON INTELLIGENT TESTER II

(a) Connect the intelligent tester II to the DLC3.
(b) Turn the ignition switch to the ON position and push the intelligent tester II main switch on.
(c) Select the item below in the DATA LIST, and read the display on the intelligent tester II.

DATA LIST / AIR CONDITIONER:

Item	Measure Item/Display (Range)	Normal Condition	Diagnostic Note
Emission gas Nox sensor (Nox Gas Sens)	Emission gas Nox sensor / min.: 0 max.: 255	Increases as the gas amount increases	–

OK:

The display is as specified in the normal condition.

Result:

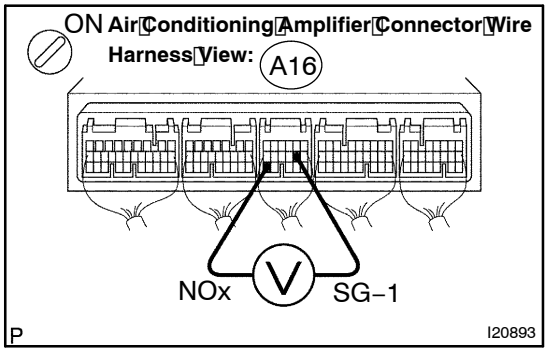
NG	A
OK (Checking from the PROBLEM SYMPTOM TABLE)	B
OK (Checking from the DTC)	C

B → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–778)**

C → **REPLACE AIR CONDITIONING AMPLIFIER (SEE PAGE 55–15)**

A

2 INSPECT AIR CONDITIONING AMPLIFIER (NOX – SG–1)



(a) Remove the A/C amplifier with connectors still connected.
(b) Turn the ignition switch to the ON position.
(c) Measure the voltage according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified condition
A16–17 (NOX) – A16–8 (SG–1)	Ignition switch ON at 10 to 35C° (50 to 95°F)	1.0 to 4.5 V

HINT:
As the temperature increases, the voltage decreases.

Result:

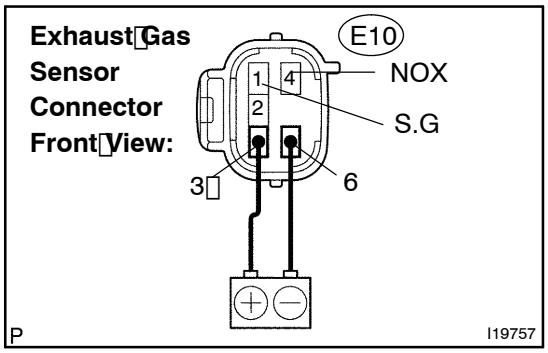
NG	A
OK (Checking from the PROBLEM SYMPTOMS TABLE)	B
OK (Checking from the DTC)	C

B → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–778)**

C → **REPLACE AIR CONDITIONING AMPLIFIER (SEE PAGE 55–16)**

A

3 INSPECT EXHAUST GAS SENSOR



(a) Remove the exhaust gas sensor.
(b) After keeping to apply battery voltage between terminals 3 and 6 for more than 120 seconds, measure the resistance between terminals 1 and 2.
(c) Measure the resistance according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified condition
E10–1 (S.G) – E10–4 (NOX)	at 10 to 35°C (50 to 95°F)	5 to 100 kΩ

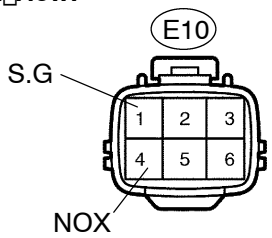
HINT:
When the sensor is exposed to the exhaust gas, the resistance goes down.

NG → **REPLACE EXHAUST GAS SENSOR**

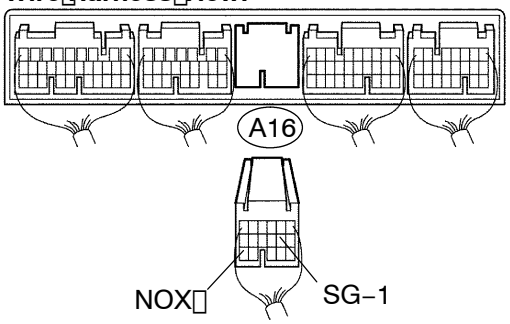
OK

4	CHECK HARNESS AND CONNECTOR(AIR CONDITIONING AMPLIFIER – EXHAUST GAS SENSOR) (SEE PAGE 01–44)

Exhaust Gas Sensor Connector
Front View:



Air Conditioning Amplifier Connector
Wire Harness View:



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(a) Measure the resistance according to the value(s) in the table below.

Standard:

Tester connection	Condition	Specified condition
A16–17 (NOX) – E10–4 (NOX)	Always	Below 1 Ω
A16–8 (SG–1) – E10–1 (S.G)	Always	Below 1 Ω
A16–17 (NOX) – Body ground	Always	10 kΩ or higher
A16–8 (SG–1) – Body ground	Always	10 kΩ or higher

NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

REPLACE AIR CONDITIONING AMPLIFIER (SEE PAGE 55–16)