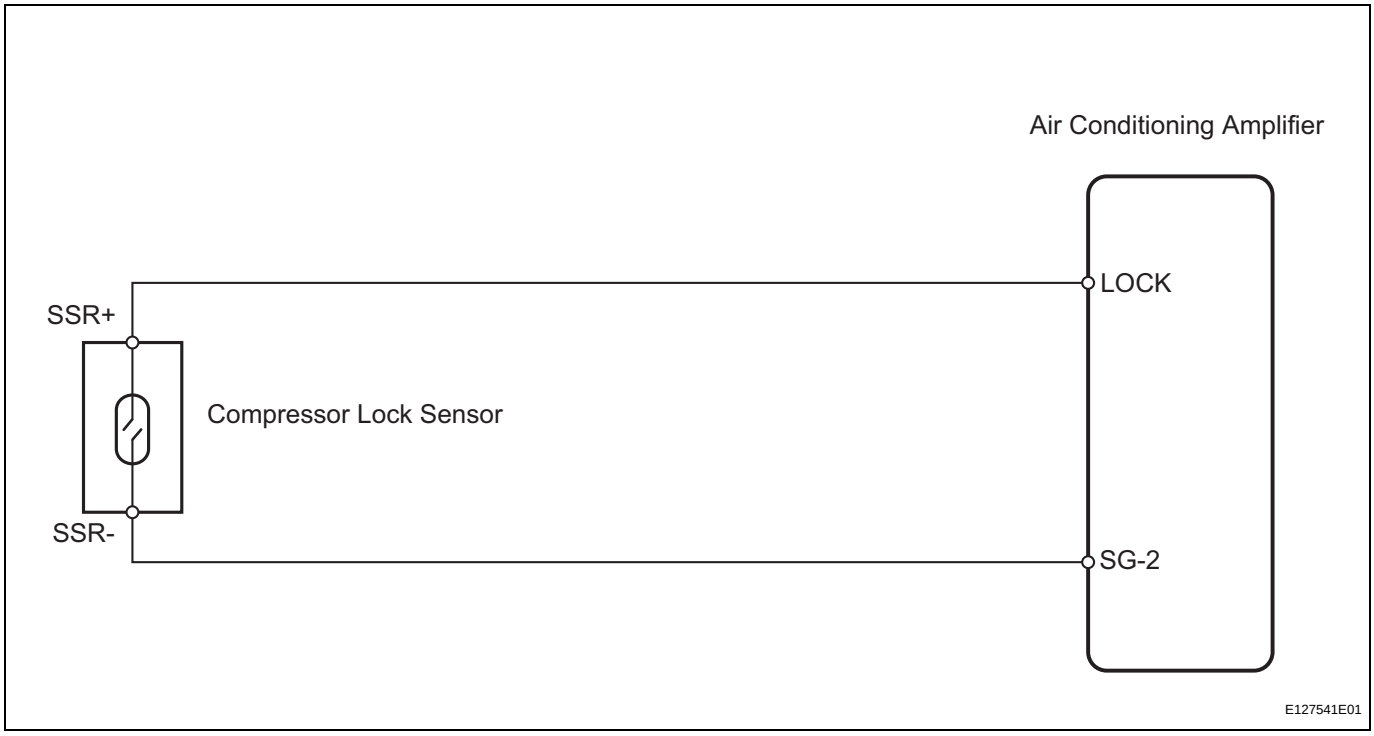
DTC	B1422/22	Compressor Lock Sensor Circuit

DESCRIPTION

This sensor sends 1 pulse per engine revolution to the air conditioning amplifier. If the ratio of the compressor speed divided by the engine speed is smaller than a predetermined value, the air conditioning amplifier turns the compressor off, and the indicator blinks at approximately 1 second intervals.

DTC No.	DTC Detection Condition	Trouble Area
B1422/22	Open or short in compressor lock sensor circuit All conditions below are detected for 3 seconds or more: 1. Engine speed: 450 rpm or more 2. Ratio between engine and compressor speed deviates 20% or more in comparison to normal operation	• Compressor and magnetic clutch • Compressor and magnetic clutch drive belt • Compressor lock sensor • Wire harness between compressor lock sensor and air conditioning amplifier • Air conditioning amplifier

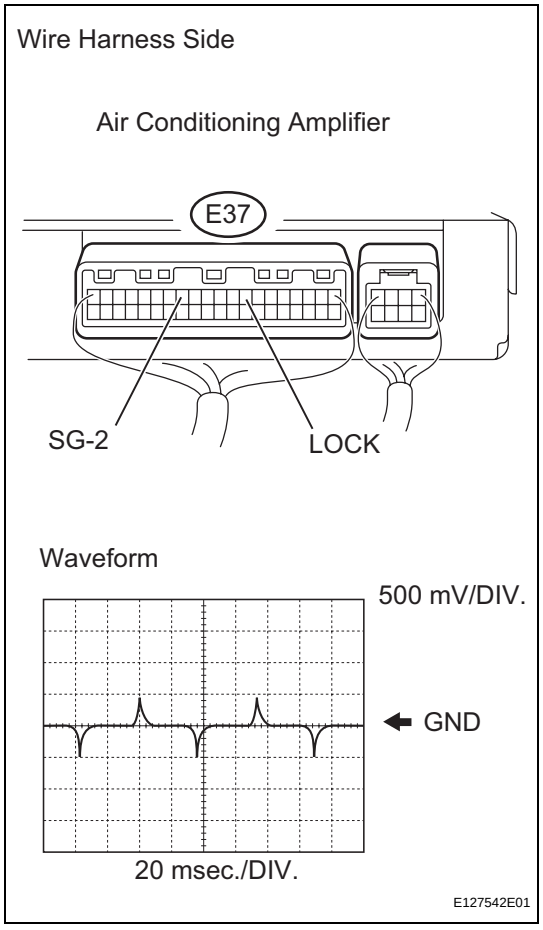
WIRING DIAGRAM



AC

INSPECTION PROCEDURE

1	CHECK AIR CONDITIONING AMPLIFIER (LOCK SIGNAL)



(a) Remove the air conditioning amplifier with its connectors still connected.
(b) Check the waveform of the amplifier connector.
OK:
Waveform is as shown in the illustration.

Item	Content
Tester Connection	LOCK (E37-8) - SG-2 (E37-13)
Tool Setting	500 mV/DIV., 20 msec./DIV.
Condition	Ignition switch ON AUTO switch ON A/C switch ON Magnetic clutch ON

AC

Result

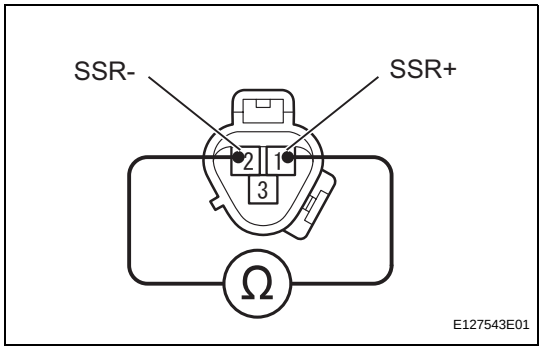
Result	Proceed to
NG	A
OK (Checking from the PROBLEM SYMPTOMS TABLE)	B
OK (Checking from the DTC)	C

B → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

C → **REPLACE AIR CONDITIONING AMPLIFIER**

A

2 INSPECT COMPRESSOR LOCK SENSOR



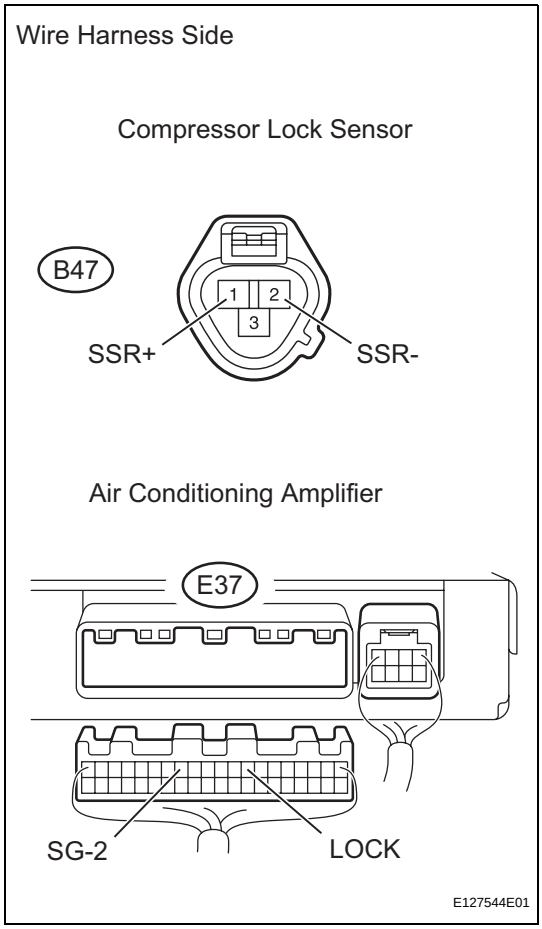
(a) Disconnect the B47 compressor lock sensor connector.
(b) Measure the resistance of the sensor.
Standard resistance

Tester Connection	Condition	Specified Condition
1 (SSR+) - 2 (SSR-)	20°C (68°F)	65 to 125 Ω

NG → **REPLACE COMPRESSOR LOCK SENSOR**

OK

3 CHECK WIRE HARNESS (COMPRESSOR LOCK SENSOR - AIR CONDITIONING AMPLIFIER)



(a) Disconnect the B47 compressor lock sensor connector.
(b) Disconnect the E37 amplifier connector.
(c) Measure the resistance of the wire harness side connectors.
Standard resistance

Tester Connection	Specified Condition
B47-1 (SSR+) - E37-8 (LOCK)	Below 1 Ω
B47-2 (SSR-) - E37-13 (SG-2)	Below 1 Ω
B47-1 (SSR+) - E37-13 (SG-2)	10 kΩ or higher
E37-8 (LOCK) - Body ground	10 kΩ or higher

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

OK

REPLACE AIR CONDITIONING AMPLIFIER

AC