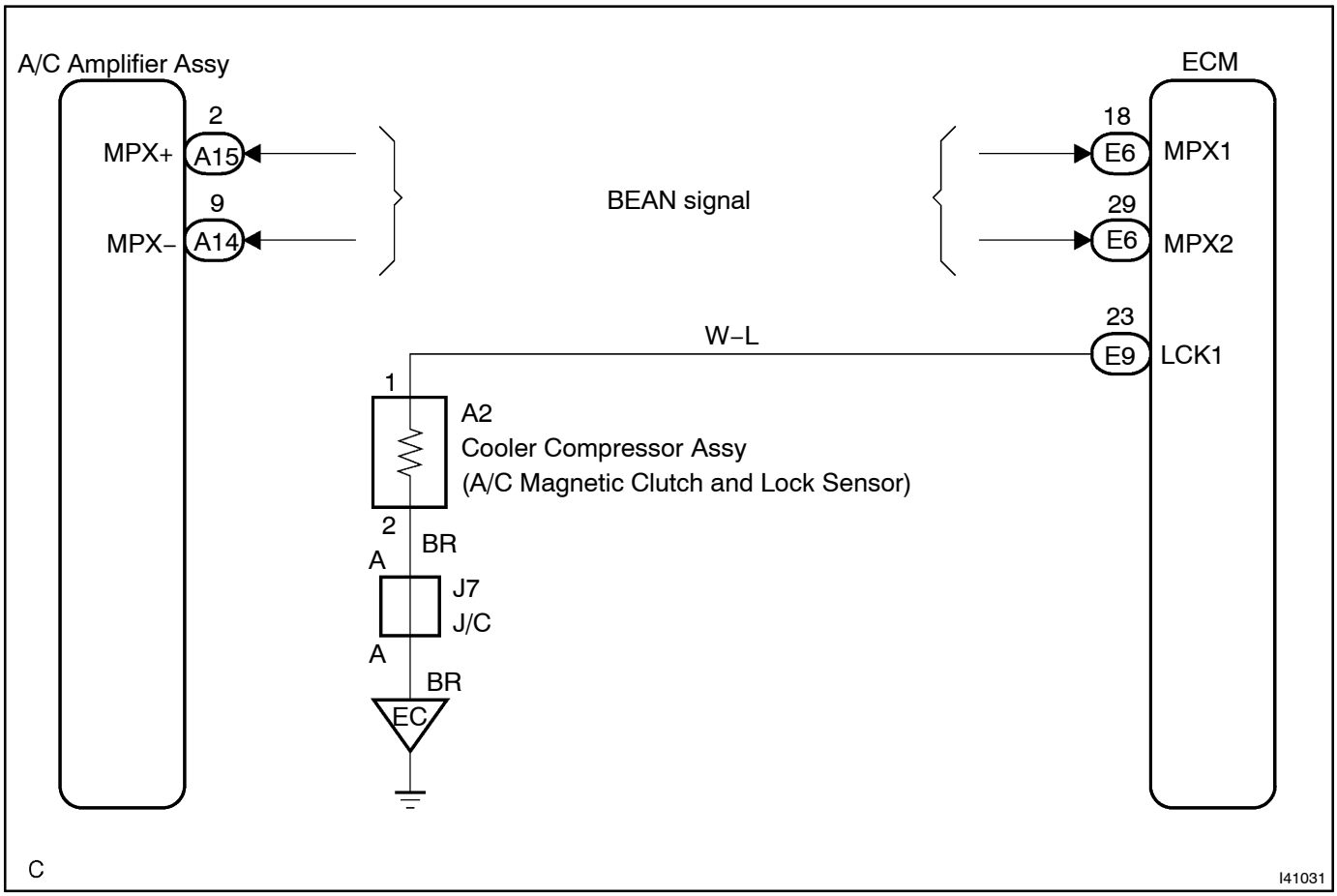
DTC B1422/22 COMPRESSOR LOCK SENSOR CIRCUIT

CIRCUIT DESCRIPTION

The ECM and A/C amplifier communicate via BEAN.
This sensor sends 4 pulses per engine revolution to the ECM.
If the number ratio of the compressor speed divided by the engine speed is smaller than a predetermined value, the ECM turns the compressor OFF. And the indicator flashes at about 1 second intervals.

DTC No.	Detection Item	Trouble Area
B1422/22	All conditions below are detected for 3 secs. or more (c) Engine speed: 450 rpm or more (d) Ratio between engine and compressor speed deviates 20 % or more in comparison to normal operation.	• Cooler compressor assy (A/C magnetic clutch and lock sensor) • Cooler compressor assy drive belt • Cooler compressor assy lock sensor • Harness and connector between cooler compressor assy and ECM • Multiplex communication circuit • ECM • A/C amplifier assy

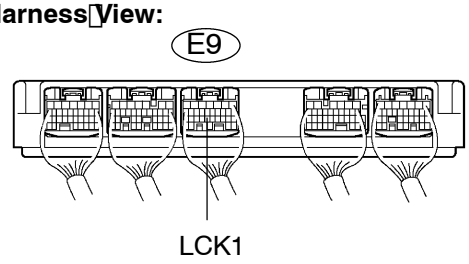
WIRING DIAGRAM



INSPECTION PROCEDURE

1	INSPECT ECM(LCK1)

ECM Connector Wire Harness View:



(a) Remove the ECM with connectors still connected.
(b) Measure the voltage according to the value(s) in the table below.

Standard:

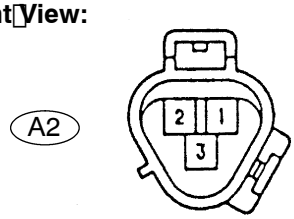
Tester connection	Condition	Specified condition
E9–23 (LCK1) – Body ground	Ignition switch ON AUTO switch ON	Pulse generation

OK → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE (SEE PAGE 05–435)**

NG

2	INSPECT COOLER COMPRESSOR ASSY(A/C MAGNETIC CLUTCH AND LOCK SENSOR)

Cooler Compressor Assy Connector Front View:



(a) Disconnect the cooler compressor assy connector.
(b) Measure the resistance according to the value(s) in the table below.

Standard:

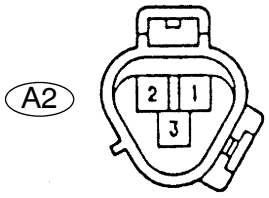
Tester connection	Condition	Specified condition
A2–1 – A2–2	at 20°C (68°F)	165 to 205 Ω

NG → **REPLACE COOLER COMPRESSOR ASSY(A/C MAGNETIC CLUTCH AND LOCK SENSOR)**

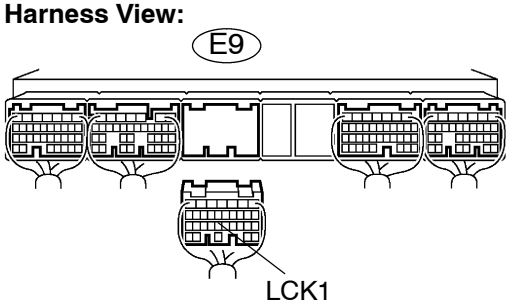
OK

3	CHECK HARNESS AND CONNECTOR(ECM – COOLER COMPRESSOR ASSY (A/C MAGNETIC CLUTCH AND LOCK SENSOR))

Cooler Compressor Assy Connector Front view:



ECM Connector Wire Harness View:



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

Standard:

Tester connection	Condition	Specified condition
E9–23(LCK1) – A2–1	Always	Below 1 Ω
E9–23 (LCK1) – Body ground	Always	10 kΩ or higher
A2–2 – Body ground	Always	Below 1 Ω

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

OK

REPLACE ECM