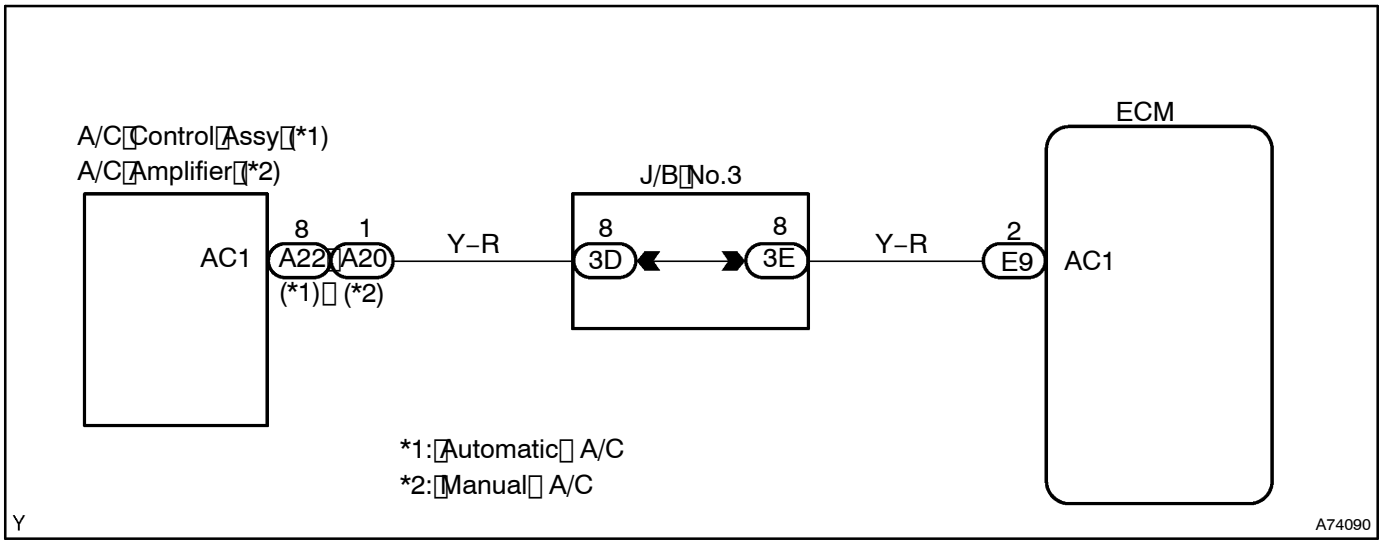
A/C SIGNAL CIRCUIT

CIRCUIT DESCRIPTION

When the A/C compressor is ON, the A/C amplifier sends the A/C signal to the ECM, then ECM increases the fuel injection volume to improve driveability during engine idling.

WIRING DIAGRAM



INSPECTION PROCEDURE

When using Hand–held Tester:

1	READ VALUE OF HAND–HELD TESTER (A/C SIGNAL)

(a) Connect the hand–held tester to the DLC3.
(b) Read A/C signal on the hand–held tester while the A/C compressor is ON.

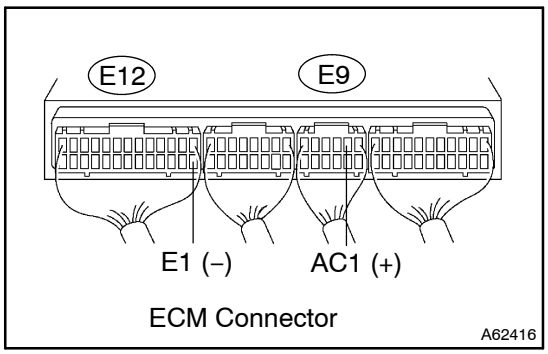
Result:

A/C Switch Condition	OFF	ON
A/C Signal	OFF	ON

OK → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN ON PROBLEM SYMPTOMS TABLE** (See page 05–210)

NG

2 INSPECT ECM(CHECK VOLTAGE)



(a) Start the engine.
(b) Measure the voltage between the terminals of the ECM connector.

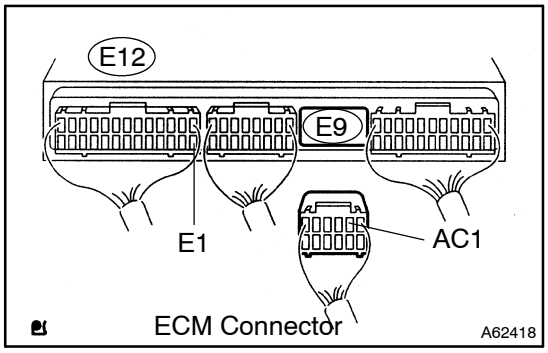
Voltage:

Symbols (Terminal No.)	A/C switch condition	Specified condition
AC1 (E9 – 2) ⇔ E1 (E12 – 14)	ON	Below 1.5 V
	OFF	7.5 – 14 V

OK → **CHECK AND REPLACE ECM**

NG

3 CHECK HARNESS AND CONNECTOR(ECM – A/C AMPLIFIER)



(a) Disconnect the A/C amplifier A20 connector.
(See page 55–127)
(b) Disconnect the ECM E9 connector.
(c) Check the continuity between the wire harness side connector.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
AC1 (A20 – 1) (Terminal arrangement on 55–2) ⇔ AC1 (E9 – 2)	Continuity

Standard (Check for short):

Symbols (Terminal No.)	Specified condition
AC1 (E9 – 2) ⇔ E1 (E12 – 14)	No continuity

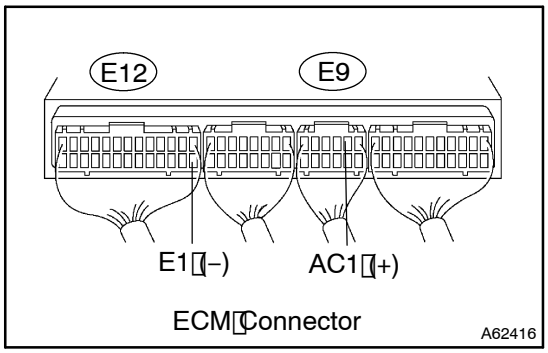
NG → **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

CHECK AND REPLACE AIR CONDITIONING AMPLIFIER ASSY

When not using Hand–held Tester:

1	INSPECT ECM (CHECK VOLTAGE)



(a) Start the engine.
(b) Measure the voltage between the terminals of the ECM connector.

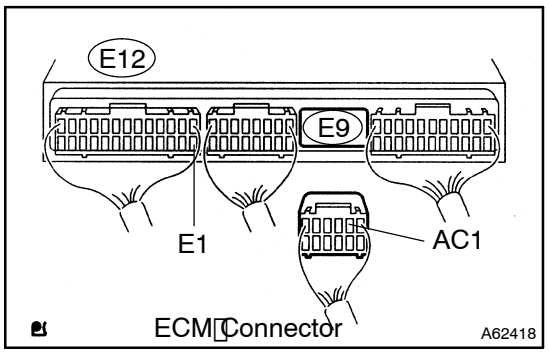
Voltage:

Symbols (Terminal No.)	A/C switch condition	Specified condition
AC1 (E9 – 2) ⇔ E1 (E12 – 14)	ON	Below 1.5 V
	OFF	7.5 – 14 V

OK ⇒ **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN ON PROBLEM SYMPTOMS TABLE (See page 05–210)**

NG

2	CHECK AND REPLACE HARNESS AND CONNECTOR (ECM – A/C AMPLIFIER)



(a) Disconnect the A/C amplifier A20 connector. (See page 55–127)
(b) Disconnect the ECM E9 connector.
(c) Check the continuity between the wire harness side connector.

Standard (Check for open):

Symbols (Terminal No.)	Specified condition
AC1 (A20 – 1) (Terminal arrangement on 55–2) ⇔ AC1 (E9 – 2)	Continuity

Standard (Check for short):

Symbols (Terminal No.)	Specified condition
AC1 (E9 – 2) ⇔ E1 (E12 – 14)	No continuity

NG ⇒ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

CHECK AND REPLACE AIR CONDITIONING AMPLIFIER ASSY