

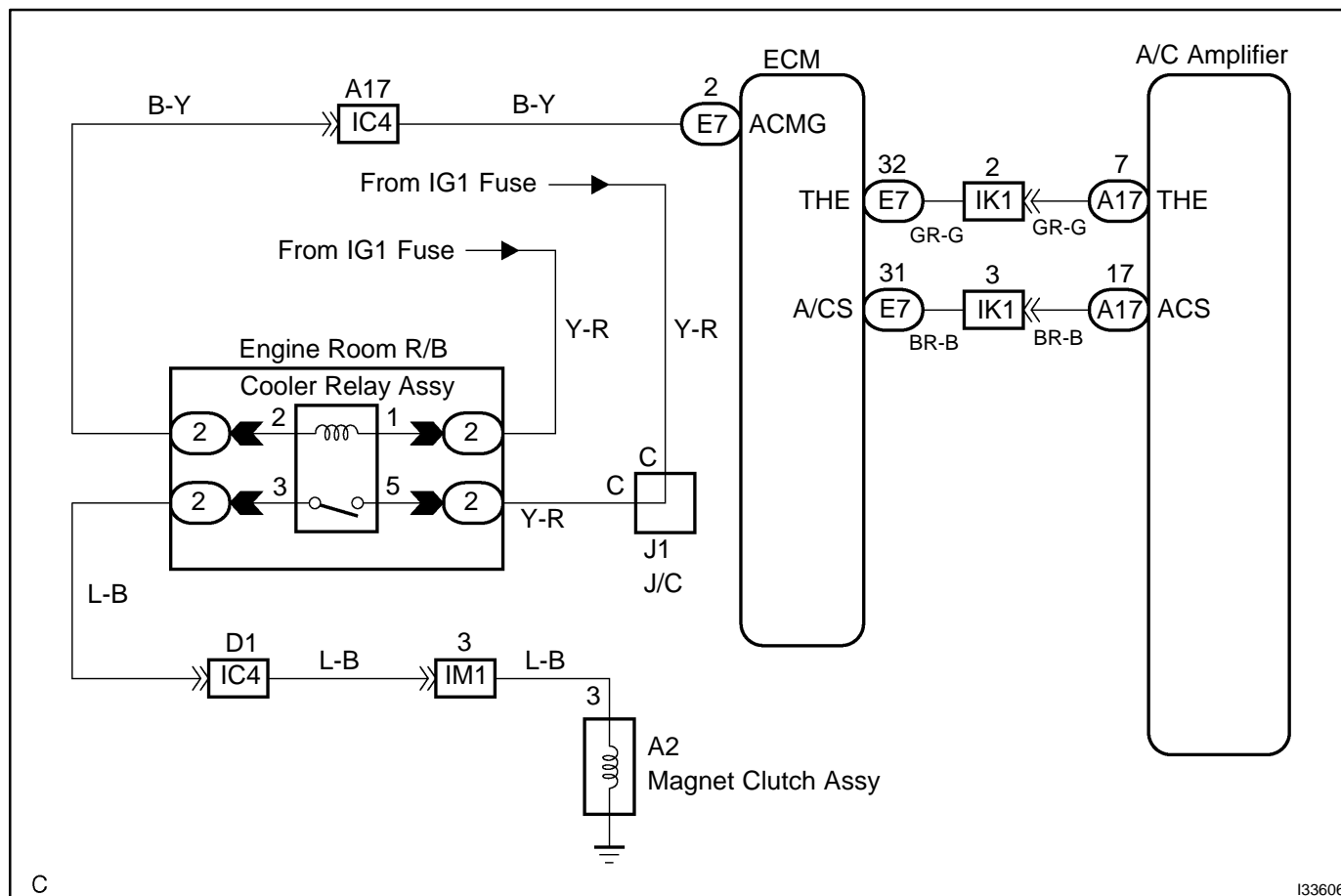
## COMPRESSOR CIRCUIT

### CIRCUIT DESCRIPTION

This is a driving circuit of the A/C magnetic clutch and controlled by the ECU terminal as shown below.

- ACS of the the A/C amplifier: Output the A/C switch condition "ON" or "OFF".
- THE of the A/C amplifier: Output the request signal to drive the magnetic clutch and send it to ECM.
- ACMG of ECM: Operates the cooler relay assy and drive the magnetic clutch.

### WIRING DIAGRAM



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## INSPECTION PROCEDURE

### 1 READ VALUE OF HAND-HELD TESTER

- Connect the hand-held tester to DLC3.
- Turn the ignition switch ON and push the hand-held tester main SW ON.
- Check the A/C magnet clutch input signal using DATA LIST.

#### ECM:

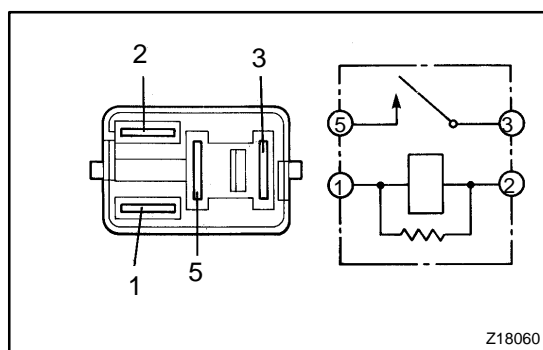
Description	Tester display	Check condition
Magnet clutch input signal	A/C SIG	ON - OFF

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Go to step 7

OK

### 2 INSPECT COOLER RELAY ASSY



- Remove the cooler relay assy from the engine room R/B.
- Check continuity between each pair of terminals as shown in the chart.

#### Standard:

Tester connection	Specified condition
1 - 2	Continuity
3 - 5	No continuity

- Apply battery voltage between terminal 1 and terminal 2.
- Check that continuity exists between terminal 3 and terminal 5.

#### Standard: Continuity exists.

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REPLACE COOLER RELAY ASSY

OK

### 3 READ VALUE OF HAND-HELD TESTER

- Connect the hand-held tester to DLC3.
- Turn the ignition switch to ON and push the hand-held tester main SW ON.
- Check the A/C magnet clutch using DATA LIST.

#### ECM:

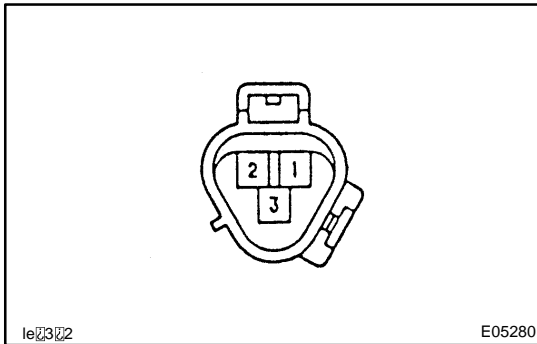
Description	Tester display	Check condition
Magnet clutch output signal	A/C MAG CLUTCH	ON - OFF

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Go to step 9

OK

#### 4 INSPECT MAGNET CLUTCH ASSY



- (a) Disconnect the connector from the compressor.
- (b) Connect the battery positive (+) lead to terminal 3 and the battery negative (-) lead to body ground, then check that the magnetic clutch is engaged.

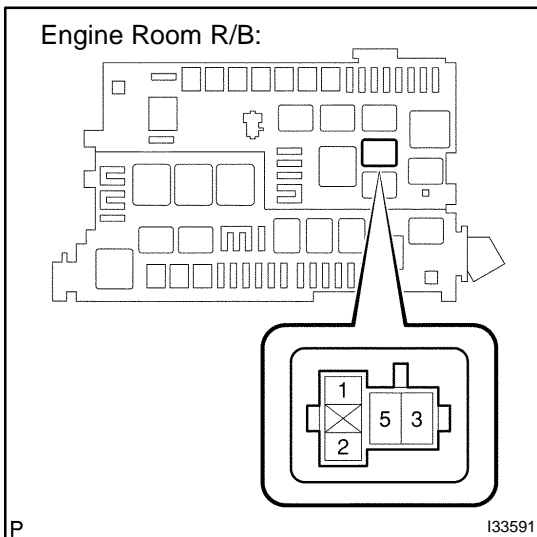
**Standard: Magnetic clutch is engaged.**

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**REPLACE MAGNET CLUTCH ASSY**

**OK**

#### 5 CHECK HARNESS AND CONNECTOR(BETWEEN BATTERY AND COOLER RELAY ASSY)



- (a) Remove the cooler relay assy from the engine room R/B.
- (b) Turn the ignition switch to ON.
- (c) Measure voltage between terminal 1 and terminal 5 of the engine room J/B and body ground.

**Voltage: 10 - 14 V**

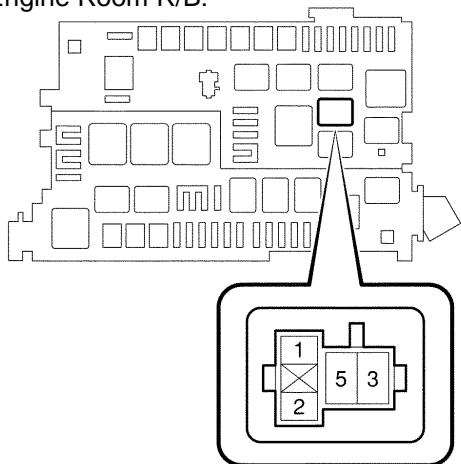
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**REPAIR OR REPLACE HARNESS OR CONNECTOR**

**OK**

## 6 CHECK HARNESS AND CONNECTOR(BETWEEN COOLER RELAY ASSY AND BODY GROUND)

Engine Room R/B:



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- Remove the cooler relay assy from the engine room R/B.
- Measure resistance between terminal 3 of the engine room R/B and body ground.

**Resistance: Below 1.0  $\Omega$  (Continuity)**

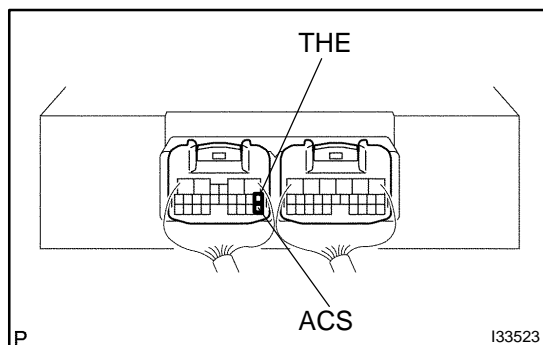
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**REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

**PROCEED TO NEXT CIRCUIT INSPECTION SHOWN ON PROBLEM SYMPTOMS TABLE**

## 7 INSPECT AIR CONDITIONING AMPLIFIER(ACS, THE)



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- Remove the A/C amplifier with the connectors being connected.
- Start the engine and push the AUTO switch.
- Measure voltage between terminal THE and terminal ACS of the A/C amplifier and body ground when the magnetic clutch is turned ON and OFF by operating the A/C switch.

**Voltage:**

Switch operation	Tester connection	Specified condition
ON	THE - Body ground	1.3 - 2.6 V
OFF	THE - Body ground	3.7 - 4.5 V
ON	ACS - Body ground	10 - 14 V
OFF	ACS - Body ground	Below 1 V

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**CHECK AND REPLACE AIR CONDITIONING AMPLIFIER**

OK

<b>8</b>	<b>CHECK HARNESS AND CONNECTOR(BETWEEN ECM AND AIR CONDITIONING AMPLIFIER)</b>
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- (a) Check for open and short circuit in the harness and the connector between ECM and the A/C amplifier  
(See page 01-35 ).

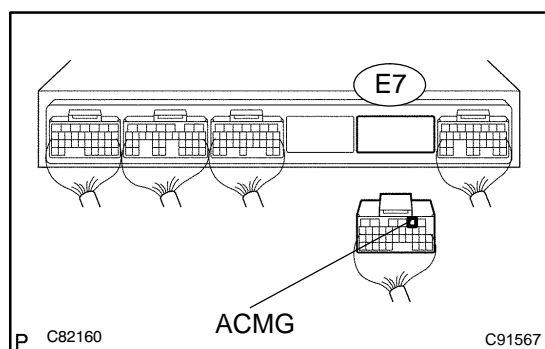
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**REPAIR OR REPLACE HARNESS OR CONNECTOR**

**OK**

**CHECK AND REPLACE ECM**

<b>9</b>	<b>CHECK HARNESS AND CONNECTOR(BETWEEN ECM AND BODY GROUND)</b>
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- (a) Disconnect the "E7" connector from ECM.  
(b) Turn the ignition switch to ON.  
(c) Measure voltage between terminal ACMG of ECM and body ground.

**Voltage: 10 - 14 V**

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**REPAIR OR REPLACE HARNESS OR CONNECTOR**

**OK**

**CHECK AND REPLACE ECM**