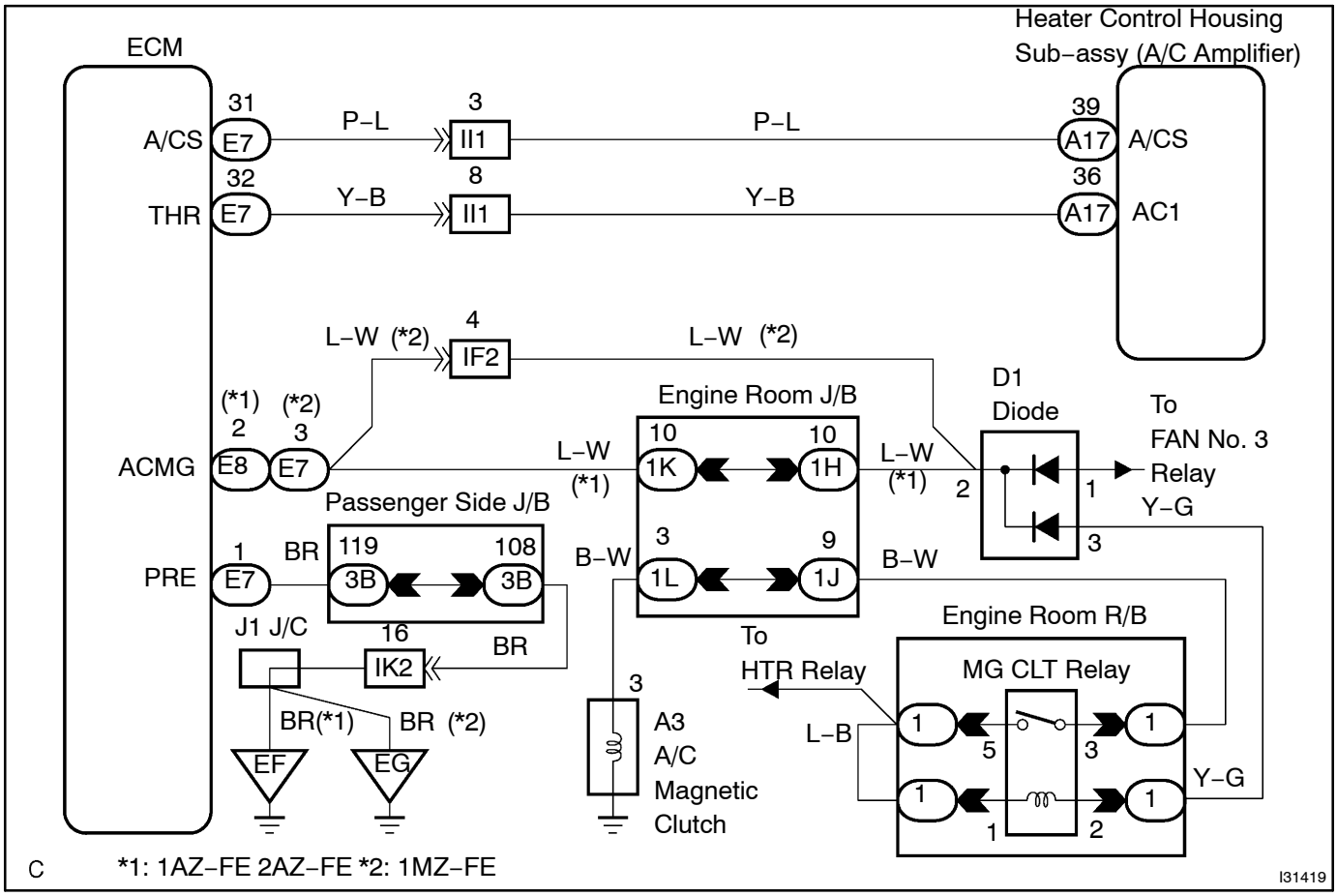
COMPRESSOR CIRCUIT

CIRCUIT DESCRIPTION

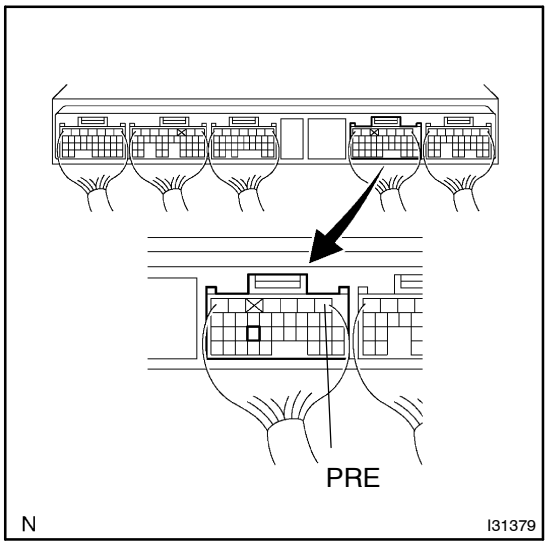
The A/C amplifier outputs the magnetic clutch ON signal from terminal AC1 to the ECM receives this signal, it sends a signal from terminal ACMG and switches the magnetic clutch relay ON, thus turning on the magnetic clutch.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 CHECK HARNESS AND CONNECTOR(BETWEEN ECM AND BODY GROUND)



(a) Remove the ECM with the connector still connected.
(b) Measure voltage between terminal PRE of ECM connector and body ground.
OK: Continuity

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

OK

2 READ VALUE OF HAND–HELD TESTER

(a) Connect the hand–held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand–held tester main SW ON.
(c) Check the A/C magnet clutch using DATA LIST.

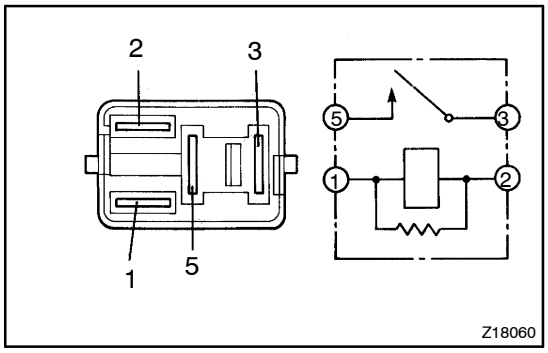
ECM:

Description	Tester display	Check condition
Magnet clutch inputsignal	A/C SIG	ON – OFF

NG → **Go to step 7**

OK

3 INSPECT MAGNET–CLUTCH RELAY



(a) Remove the relay from engine room R/B.
(b) Check continuity between each pair of terminal shown below of relay.
Continuity:

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

(c) Apply battery voltage between terminal 1 and 2.
(d) Check that continuity exists between terminals 3 and 5.

NG → **REPLACE MAGNET–CLUTCH RELAY**

OK

4	READ VALUE OF HAND–HELD TESTER

(a) Connect the hand–held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand–held tester main SW ON.
(c) Check the A/C magnet clutch using DATA LIST.

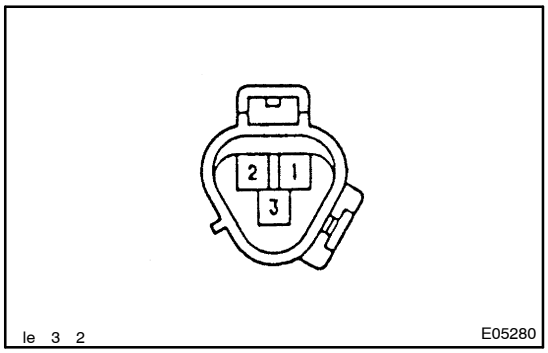
ECM:

Description	Tester display	Check condition
Magnet clutch outputsignal	A/C MAG CLUTCH	ON – OFF

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

OK

5	INSPECT MAGNET CLUTCH ASSY



(a) Disconnect the connector from the compressor.
(b) Connect the positive (+) lead from the battery to terminal 3 and negative (–) lead to terminal body ground.
Standard: Clutch is engaged.

NG → **REPLACE MAGNET CLUTCH ASSY**

OK

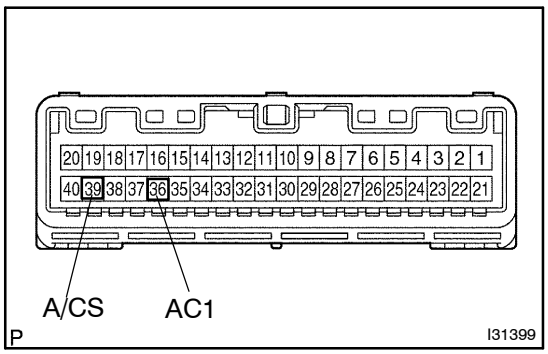
6	CHECK HARNESS AND CONNECTOR(BETWEEN BATTERY AND MAGNET CLUTCH)

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

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN ON PROBLEM SYMPTOM TABLE

7	INSPECT HEATER CONTROL HOUSING SUB–ASSY(AC1, A/CS)



(a) Start the engine and push AUTO switch.
(b) Measure voltage between terminals AC1 and A/CS of A/C amplifier and body ground when magnetic clutch is ON and OFF by A/C switch.

Voltage:

Switch operation	Tester connection	Specified condition
ON	AC1 – Body ground	1.3 – 2.6 V
OFF	AC1 – Body ground	3.7 – 4.5 V
ON	A/CS – Body ground	10 – 14 V
OFF	A/CS – Body ground	Below 1 V

NG → **CHECK AND REPLACE HEATER CONTROL HOUSING SUB–ASSY**

OK

REPAIR OR REPLACE HARNESS OR CONNECTOR