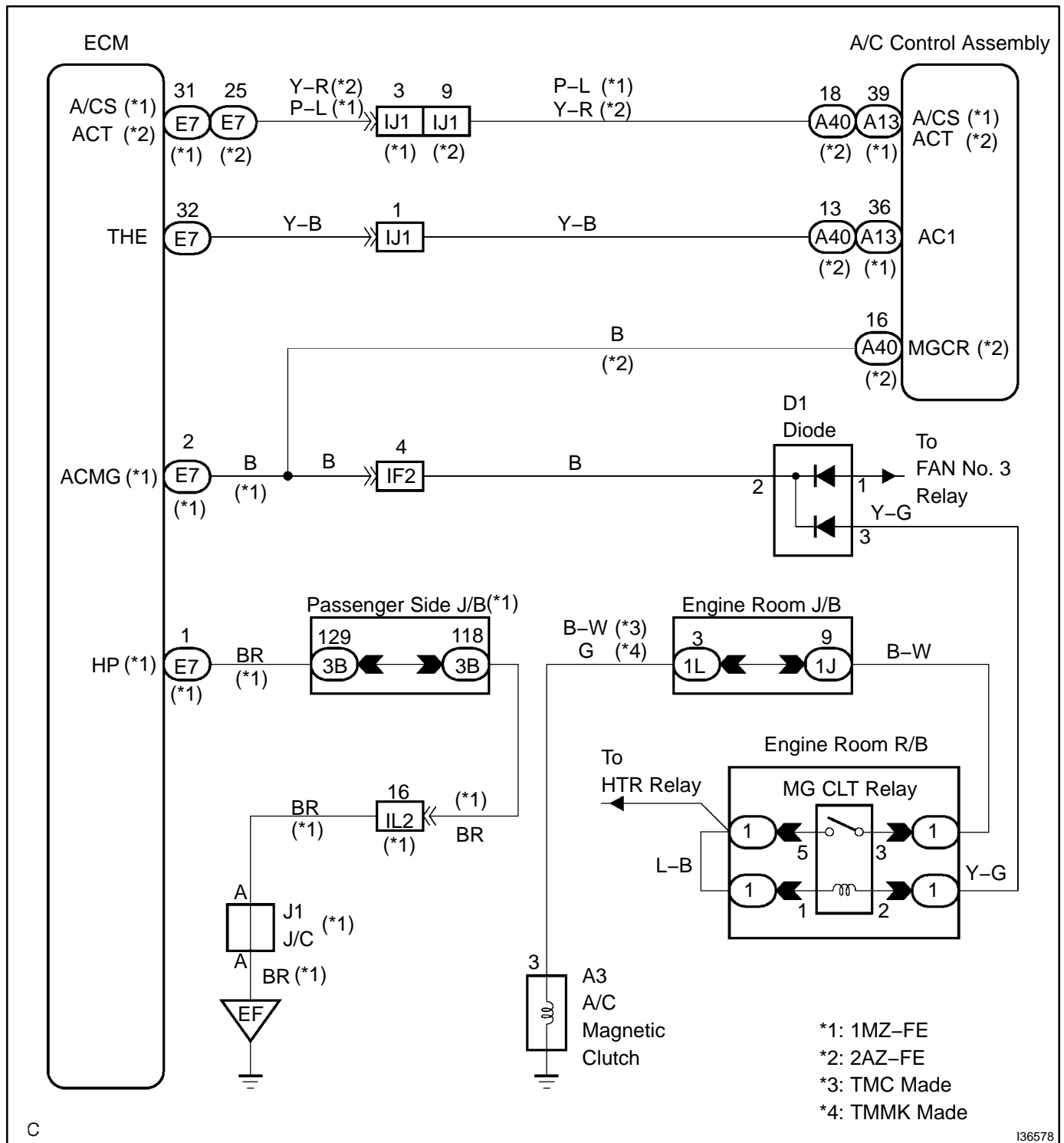


COMPRESSOR CIRCUIT

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 (MGCR) and switches the magnetic clutch relay ON, thus turning on the magnetic clutch.

WIRING DIAGRAM



INSPECTION PROCEDURE

1 CONFIRM MODEL

Result:

A: 1MZ-FE

B: 2AZ-FE

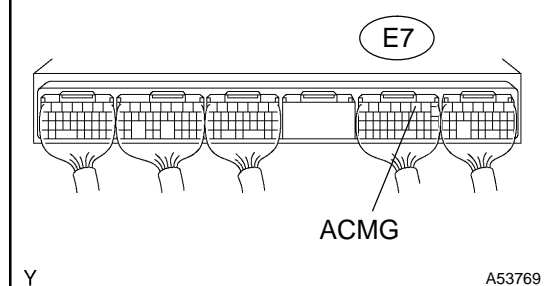
B

Go to step 10

A

2 INSPECT ECM(ACMG)

ECM Wire Harness View:



- (a) Remove the ECM with the connector.
- (b) Measure voltage according to the value(s) in the table below.

Standard:

Tester connected	Condition	Specified condition
E7-2 (ACMG) – Body ground	Ignition switch ON	10 to 14 V
E7-2 (ACMG) – Body ground	Ignition switch OFF	Below 1.0 V

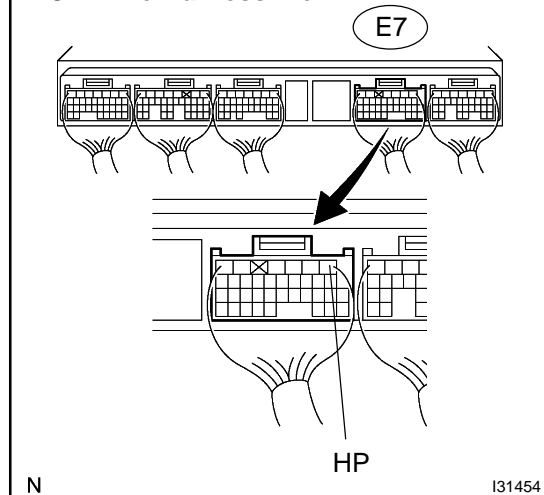
NG

REPLACE ECM

OK

3 CHECK HARNESS AND CONNECTOR(ECM – BODY GROUND)

ECM Wire Harness View:



- (a) Remove the ECM with the connector.
- (b) Measure voltage according to the value(s) in the table below.

Standard:

Tester connected	Condition	Specified condition
E7-1 (HP) – Body ground	Always	Below 1.0 V

NG

REPAIR OR REPLACE HARNESS OR CONNECTOR

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 input signal	A/C SIG	ON – OFF

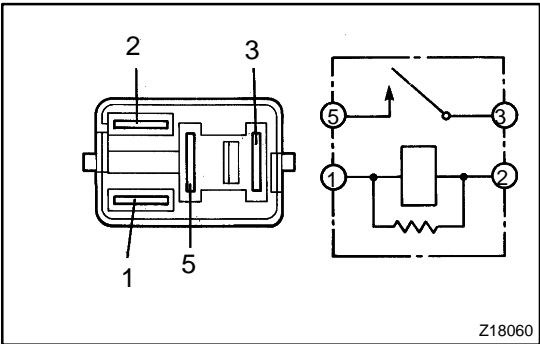
NG

Go to step 9

OK

5

INSPECT MAGNET-CLUTCH RELAY



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

Standard:

Tester connected	Condition	Specified condition
3-5	When battery voltage applied to terminals 1 and 2	Below 1.0 Ω
3-5	Always	10 kΩ or higher

NG

REPLACE MAGNET-CLUTCH RELAY

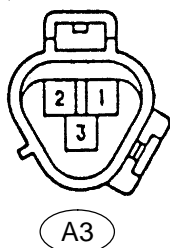
OK

6 READ VALUE OF HAND-HELD TESTER

- (a) Connect the hand-held tester to the DLC3.
- (b) Turn the ignition switch to the ON position 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 output signal	A/C MAG CLUTCH	ON – OFF

NG**REPLACE ECM****OK****7 INSPECT MAGNET CLUTCH ASSY****A/C Magnetic Clutch Connector
Front View:**

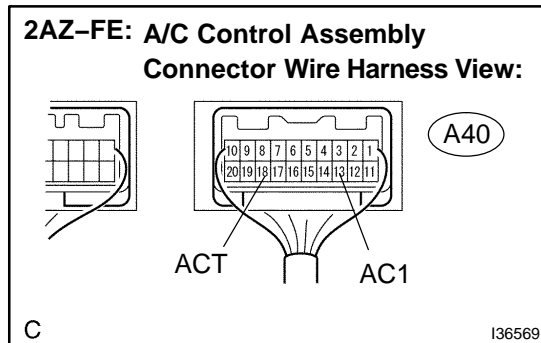
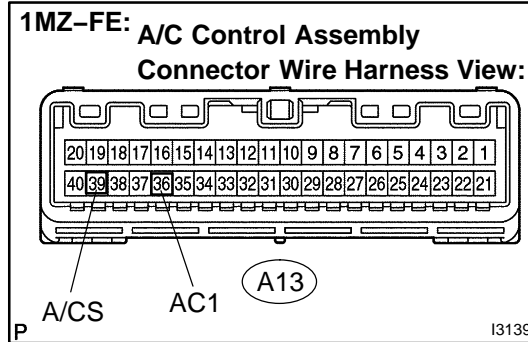
le-3-2

E05280

- (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, then check that the magnetic clutch is engaged.

OK:**Magnetic clutch is engaged****NG****REPLACE MAGNET CLUTCH ASSY****OK****8 CHECK HARNESS AND CONNECTOR(BATTERY – MAGNET CLUTCH ASSY)****NG****REPAIR OR REPLACE HARNESS OR CONNECTOR****OK****PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

9 INSPECT HEATER CONTROL HOUSING SUB-ASSY



- (a) Remove A/C assy amplifier with connectors still connected.
- (b) Start the engine and push AUTO switch.
- (c) 1MZ-FE:
Measure voltage according to the value(s) in the table below.

Standard:

Tester connected	Condition	Specified condition
A13-36 (AC1) – Body ground	ON	1.3 to 2.6 V
A13-36 (AC1) – Body ground	OFF	3.7 to 4.5 V
A13-39 (A/CS) – Body ground	ON	10 to 14 V
A13-39 (A/CS) – Body ground	OFF	Below 1.0 V

- (d) 2AZ-FE:
Measure voltage according to the value(s) in the table below.

Standard:

Tester connected	Condition	Specified condition
A40-13 (AC1) – Body ground	ON	Below 1.0 V
A40-13 (AC1) – Body ground	OFF	10 to 14 V
A40-18 (ACT) – Body ground	ON	10 to 14 V
A40-18 (ACT) – Body ground	OFF	Below 1.0 V

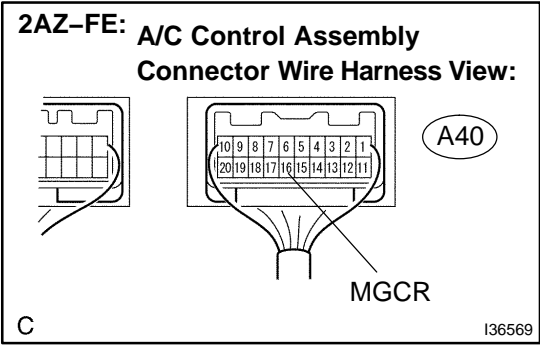
NG

CHECK AND REPLACE HEATER CONTROL HOUSING SUB-ASSY

OK

REPAIR OR REPLACE HARNESS OR CONNECTOR

10 INSPECT HEATER CONTROL HOUSING SUB-ASSY



- (a) Remove A/C assy amplifier with connectors still connected.
- (b) Measure voltage according to the value(s) in the table below.

Standard:

Tester connected	Condition	Specified condition
A40-16 (MGCR) - Body ground	Ignition switch ON	10 to 14 V
A40-16 (MGCR) - Body ground	Ignition switch OFF	Below 1.0 V

NG **REPLACE HEATER CONTROL HOUSING SUB-ASSY**

OK

Go to step 4