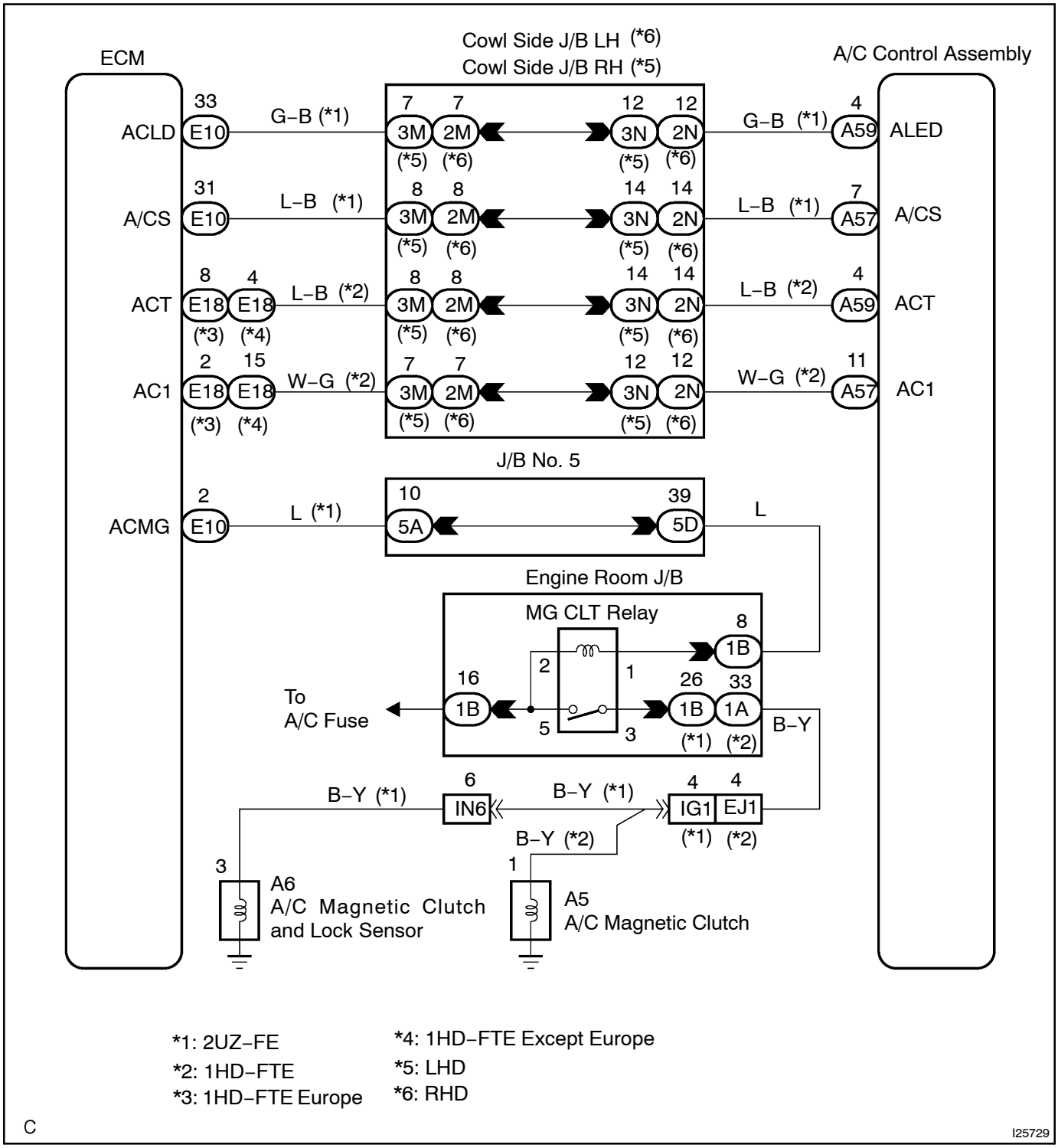
DIARB–01

Compressor Circuit

CIRCUIT DESCRIPTION

The A/C amplifier outputs the magnetic clutch ON signal from terminal AC1, AC/S to the engine (and ECT) ECU. When the engine (and ECT) ECU receives this signal, it sends a signal from terminal ACMG and switches the A/C magnetic clutch relay ON, thus turning on the A/C magnetic clutch.

WIRING DIAGRAM



*1: 2UZ–FE
*2: 1HD–FTE
*3: 1HD–FTE Europe
*4: 1HD–FTE Except Europe
*5: LHD
*6: RHD

C

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INSPECTION PROCEDURE

HINT:
In case of using the hand–held tester, start the inspection from step 1 and in case of not using the hand–held tester start step 2.

1	**Read value of hand–held tester.**

PREPARATION:
(a) Connect the hand–held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand–held tester main SW ON.

CHECK:
Select the item "A/C SIG" in the DATA LIST and read its value displayed on the hand–held tester.

OK:

Item	Measurement Item/Display (Range)	Normal condition	Diagnostic code
A/C SIG	A/C SW Status/ON or OFF	• A/C SW Push: ON • A/C SW Release: OFF	←

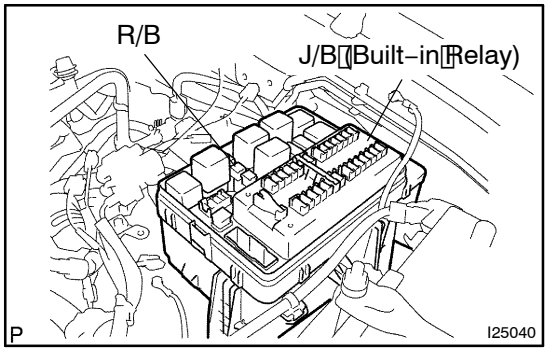
HINT:
Check with the engine running.

NG → **Go to step 6.**

OK

2	**Check magnetic clutch relay.**

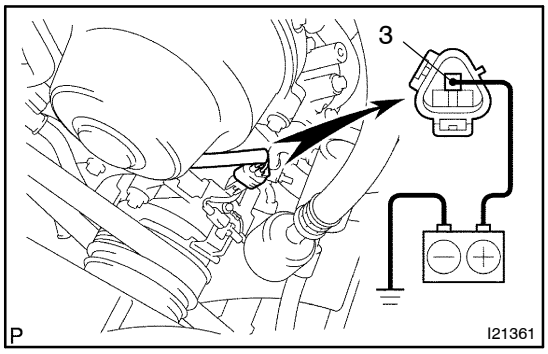
CHECK:
Check the magnetic clutch relay (See page AC–20).
HINT:
The magnetic clutch relay is built in the engine room J/B. Also the relay is constructed with a R/B that is in the J/B as unit. To disconnect the wireharness connecting with R/B is impossible. If the relay has a malfunction, replace it with J/B assembly wire-harness together.



NG → **Replace engine room J/B.**

OK

3	Check A/C magnetic clutch.



PREPARATION:
Disconnect magnetic clutch connector.
CHECK:
Connect positive (+) lead connected to battery to magnetic clutch connector terminal 3.
OK:
Magnetic clutch is energized.

NG → **Repair A/C magnetic clutch.**

OK

In case of using hand–held tester (Go to step 4)
In case of not using hand–held tester (Go to step 5)

4	Read value of hand–held tester.

PREPARATION:
(a) Connect the hand–held tester to the DLC3.
(b) Turn the ignition switch ON and push the hand–held tester main SW ON.
CHECK:
Select the item ”A/C MAG CLUTCH” in the DATA LIST and read its value displayed on the hand–held tester.
OK:

Item	Measurement Item/ Display (Range)	Normal condition	Diagnostic Note
A/C MAG CLUTCH	A/C magnet clutch Status/ ON or OFF	• A/C SW Push: ON • A/C SW Release: OFF	←

HINT:
Check with the engine running.

NG → **Repair or replace harness or connector.**

OK

5	Check harness and connector between magnetic clutch and battery (See page IN–38).

NG → Repair or replace harness or connector.

OK

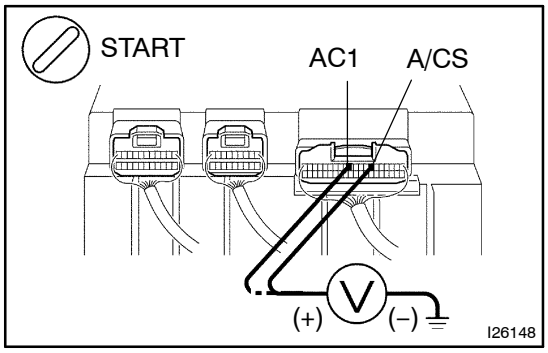
Proceed to next circuit inspection shown on problem symptoms table (See page DI–1238).

6	Check harness and connector between A/C amplifier and engine (and ECT) ECU (See page IN–38).

NG → Repair or replace harness or connector.

OK

7	**Check voltage between terminal AC1 *1, A/CS *2 of A/C amplifier connector and body ground.**



PREPARATION:

(a) Remove A/C amplifier with connector still connected.

(b) Start the engine and push AUTO switch.

CHECK:

Check the voltage between terminal AC1 *1, A/CS *2 of A/C amplifier connector and body ground when magnetic clutch is ON and OFF by A/C switch.

*1: Except 2UZ–FE

*2: 2UZ–FE

OK:

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 1.0 V

NG → **Check and replace A/C amplifier.**

OK

Repair or replace harness or connector.