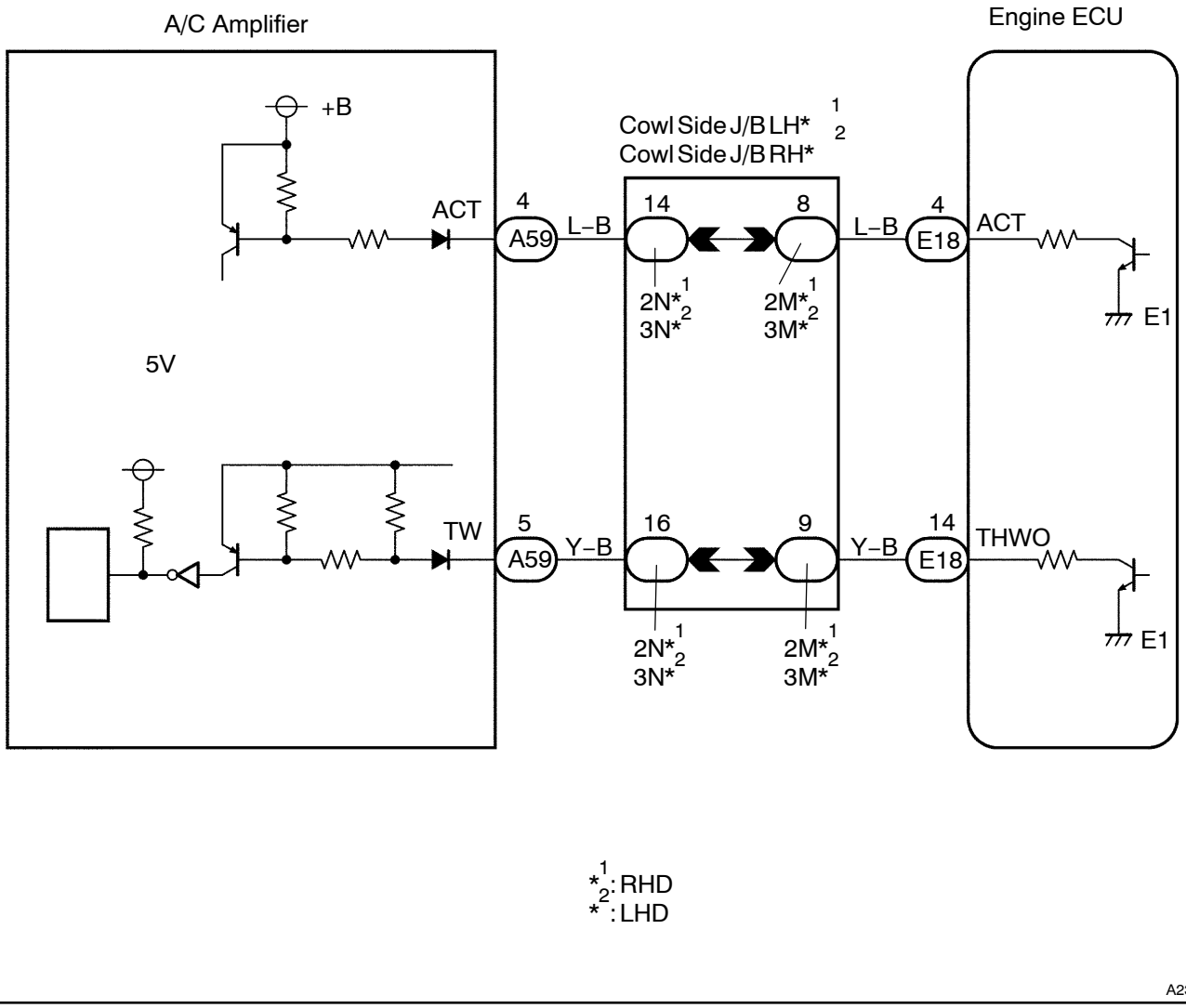
A/C Cut Control Circuit

CIRCUIT DESCRIPTION

This circuit cuts air conditioning operation during vehicle acceleration in order to increase acceleration performance. During acceleration with the vehicle speed at 30 km/h (19 mph) or less and accelerator pedal opening angle at 45 ° or more, the A/C magnetic switch is turned OFF for several seconds.
The air conditioning is also controlled by the ECU outputting the engine coolant temperature to the A/C amplifier.

WIRING DIAGRAM



INSPECTION PROCEDURE

When using intelligent tester II:

1	**Connect intelligent tester II and check operation of air conditioning cut control.**

PREPARATION:

(a) Connect the intelligent tester II to the DLC3.
(b) Turn the ignition switch ON and push the intelligent tester II main switch ON.
(c) Start the engine and air conditioning switch ON.

HINT:

A/C magnetic clutch is turned ON.

(d) Select the Active Test mode on the intelligent tester II.

CHECK:

Check the A/C magnetic clutch cut operation when the air conditioning cut control is operated by the intelligent tester II.

OK:

A/C magnet clutch is turned OFF.

OK → **Proceed to next circuit inspection shown on problem symptoms table (See page DI–16).**

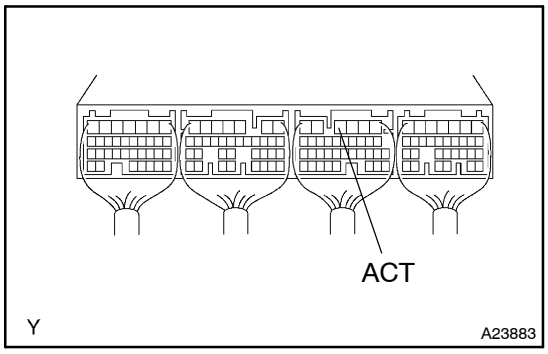
NG

2	**Check for open and short in harness and connector between engine ECU and A/C amplifier (See page IN–19).**

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

OK

3	Check voltage between terminal ACT of engine ECU and body ground.



PREPARATION:

(a) Remove the glove compartment door.
(b) Start the engine.

CHECK:

Measure the voltage between terminal ACT of the engine ECU connector and body ground when the A/C switch is turned to ON and OFF.

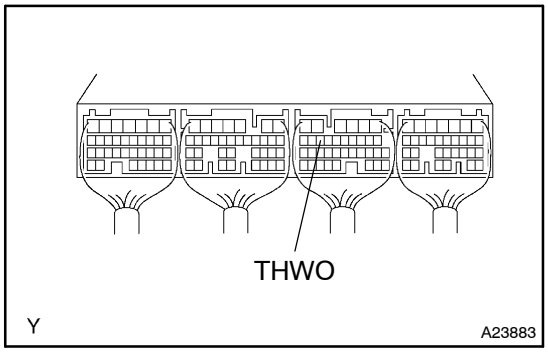
OK:

A/C switch condition	Voltage
ON	9 to 14 V
OFF	0 to 3 V

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

OK

4	Check voltage between terminal THWO of engine ECU and body ground.



PREPARATION:

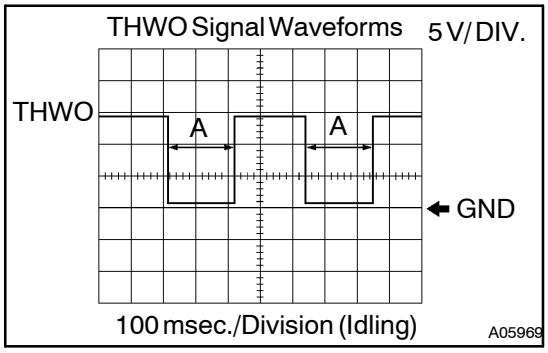
(a) Remove the glove compartment door.
(b) Turn the ignition switch ON.

CHECK:

Measure the voltage between terminal THWO of the engine ECU and body ground.

OK:

Voltage is generated intermittently.



Reference: INSPECTION USING OSCILLOSCOPE

During idling, check the waveform between terminals THWO and E 1 of the engine ECU.

HINT:

The correct waveform is as shown.

Water temp.	30°C (86°F) or less	Approx. 75°C (167°F)	90°C (194°F) or more
A	65 msec.	335.8 msec.	393 msec.

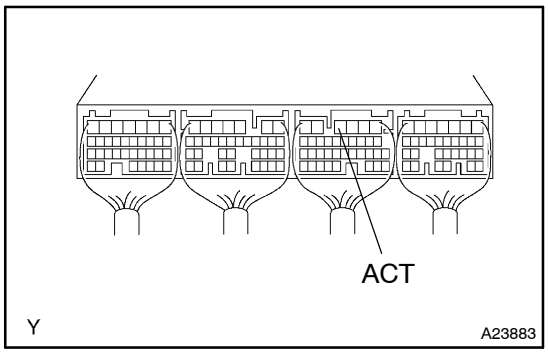
NG → **Check and replace A/C amplifier.**

OK

Check and replace engine ECU (See page IN–19).

When not using intelligent tester II:

1	**Check voltage between terminal ACT of engine ECU and body ground.**



PREPARATION:

(a) Remove the glove compartment door.

(b) Start the engine.

CHECK:

Measure voltage between terminal ACT of engine ECU connector and body ground when A/C switch is turned to ON and OFF.

OK:

A/C switch condition	Voltage
ON	9 to 14 V
OFF	0 to 3 V

OK → **Check and replace engine ECU (See page IN–19).**

NG

2	**Check voltage between terminal THWO of engine ECU and body ground (See page DI–141 Step 4).**

OK → **Check and replace engine ECU (See page IN–19).**

NG

3	**Check for open and short in harness and connector between engine ECU and A/C amplifier (See page IN–19).**

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

OK

Check and replace A/C amplifier.