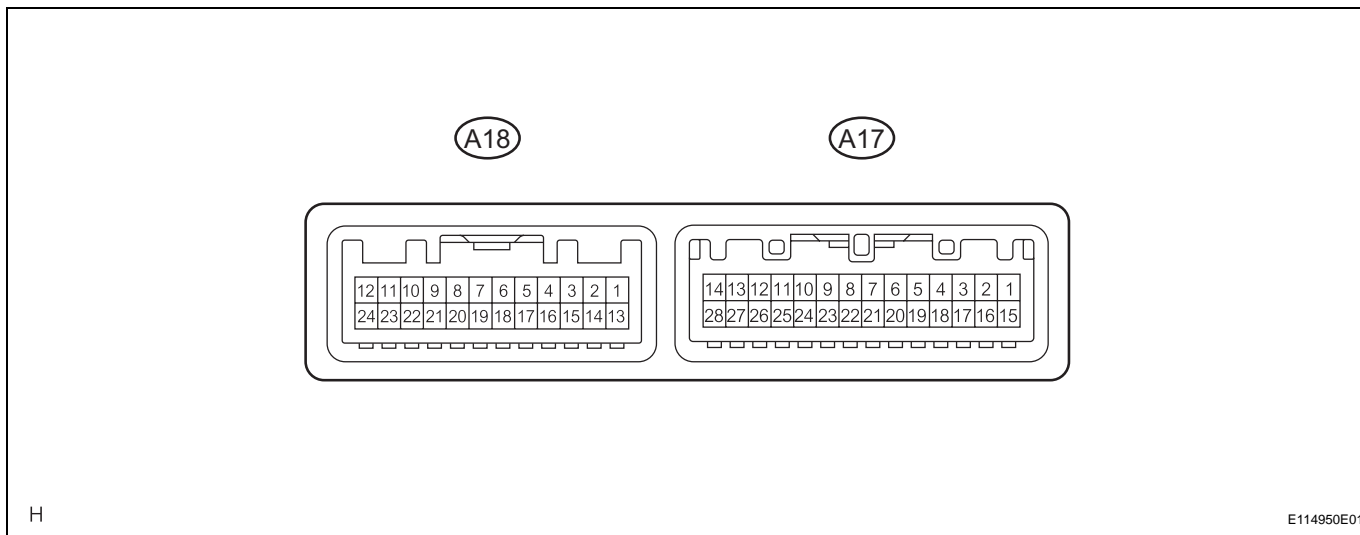


TERMINALS OF ECU

1. CHECK AIR CONDITIONING AMPLIFIER ASSEMBLY



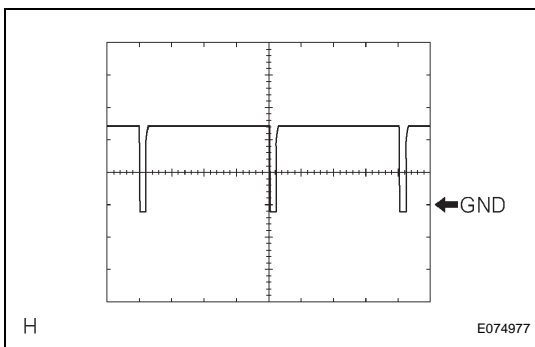
(a) Measure the voltage and resistance of the wire harness side connector.

| Symbols (Terminal No.) | Wiring Color | Terminal Description | Condition | Specified Condition |
|---------------------------------|-------------------|---|---|---------------------|
| IG (A17-14) - GND-1 (A17-24) | B-L - W-B | Power source (IG) | Ignition switch OFF | 0 V |
| IG (A17-14) - GND-1 (A17-24) | B-L - W-B | Power source (IG) | Ignition switch ON | 10 to 14 V |
| GND-1 (A17-24) - Body ground | W-B - Body ground | Ground | Always | Below 1 Ω |
| SW-5 (A17-27) - GND-1 (A17-24) | O - W-B | A/C switch input signal | Ignition switch ON, blower switch ON, A/C switch ON | 10 to 14 V |
| SW-4 (A17-26) - GND-1 (A17-24) | B-Y - W-B | Defroster switch input signal | Ignition switch ON, blower switch ON, mode control knob DEF (defroster mode detection switch ON) | 10 to 14 V |
| SW-6 (A18-14) - GND-1 (A17-24) | L-B - W-B | MAX HOT switch input signal | Ignition switch ON, blower switch ON, air mix control knob MAX HOT (MAX HOT switch ON) | 10 to 14 V |
| SW-9 (A18-17) - GND-1 (A17-24) | W - W-B | FOOT or FOOT/DEF switch input signal | Ignition switch ON, blower switch ON, air mix control knob MAX HOT (MAX HOT switch ON), mode control knob either FOOT or FOOT/DEF (foot mode switch ON) | 10 to 14 V |
| SW-2 (A17-20) - GND-1 (A17-24) | L-W - W-B | Air inlet control signal | Air inlet control knob FRESH (inlet air position detection switch OFF) | 10 to 14 V |
| SW-2 (A17-20) - GND-1 (A17-24) | L-W - W-B | Air inlet control signal | Air inlet control knob RECIRCULATION (inlet air position detection switch ON) | Below 1 V |
| OUT-4 (A17-16) - GND-1 (A17-24) | L-R - W-B | Air inlet control servomotor operation signal | Ignition switch ON, air inlet control knob FRESH (inlet air position detection switch OFF) | Below 1 V |
| OUT-7 (A17-28) - GND-1 (A17-24) | L-O - W-B | Air inlet control servomotor operation signal | Ignition switch ON, air inlet control knob RECIRCULATION (inlet air position detection switch ON) | Below 1 V |
| OUT-6 (A17-18) - GND-1 (A17-24) | L-Y - W-B | Air inlet control servomotor operation signal | Ignition switch ON, blower switch ON, air mix control knob MAX HOT (MAX HOT switch ON), mode control knob either FOOT or FOOT/DEF (foot mode switch ON), air inlet control knob FRESH (inlet air position detection switch OFF) | Below 1 V |

| Symbols (Terminal No.) | Wiring Color | Terminal Description | Condition | Specified Condition |
|--------------------------------|--------------|--------------------------------------|--|-----------------------------------|
| PTC1 (A18-9) - GND-1 (A17-24) | L-W - W-B | PTC heater relay signal | Generator is generating, engine rpm is at idle rpm or more, engine coolant temperature is below 65°C (149°F), air mix control knob MAX HOT (MAX HOT switch ON) | 10 to 14 V |
| S5-2 (A17-7) - GND-1 (A17-24) | R-W - W-B | Power supply for pressure sensor | Ignition switch ON | 4.5 to 5.5 V |
| PRE (A17-12) - SG-1 (A17-10) | B-R - BR | Pressure sensor signal | Refrigerant pressure: normal pressure 0.176 MPa (1.8 kgf/cm ² , 25 psi) to 3.025 MPa (32.0 kgf/cm ² , 455 psi) | 0.76 to 4.74 V |
| | | | Refrigerant pressure: abnormal pressure less than 0.176 MPa (1.8 kgf/cm ² , 25 psi) | Below 0.76 V |
| | | | Refrigerant pressure: abnormal pressure more than 3.025 MPa (32.0 kgf/cm ² , 455 psi) | Above 4.74 V |
| TE (A17-22) - SG-2 (A17-23) | B-W - BR | Evaporator temperature sensor signal | Ignition switch ON, evaporator temperature: 0°C (32°F) | 2.3 to 2.7 V |
| TE (A17-22) - SG-2 (A17-23) | B-W - BR | Evaporator temperature sensor signal | Ignition switch ON, evaporator temperature: 15°C (59°F) | 1.8 to 2.2 V |
| SOL+ (A17-13) - GND-1 (A17-24) | L-B - W-B | Compressor signal | Engine idling, blower switch Lo, A/C switch ON | Pulse generation (see waveform 1) |
| ALT (A18-24) - GND-1 (A17-24) | L - W-B | Generator input signal | Engine idling | Pulse generation |
| CANH (A17-8) - GND-1 (A17-24) | B - W-B | CAN communication line | Ignition switch ON | Pulse generation (see waveform 2) |
| CANL (A17-9) - GND-1 (A17-24) | W - W-B | CAN communication line | Ignition switch ON | Pulse generation (see waveform 3) |

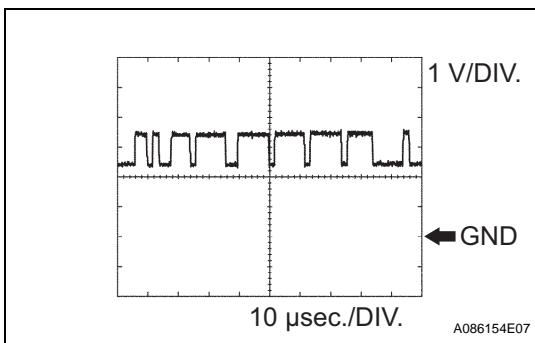
If the result is not as specified, the A/C amplifier may have a malfunction.

(1) Waveform 1 (Reference)



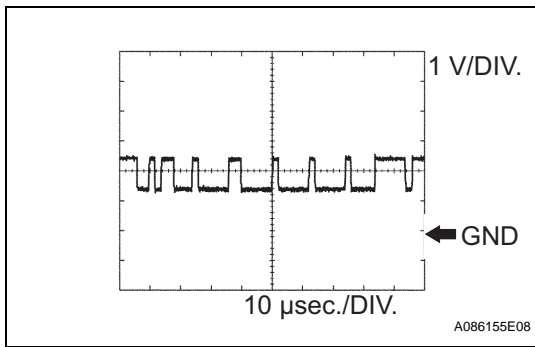
| Item | Content |
|------------------------|--|
| Symbols (Terminal No.) | SOL+ (A17-13) - GND-1 (A17-24) |
| Tool Setting | 5 V/DIV., 500 μsec./DIV. |
| Conditions | Engine idling, blower switch Lo, A/C switch ON |

(2) Waveform 2 (Reference)



| Item | Content |
|------------------------|---------------------------------------|
| Symbols (Terminal No.) | CANH (A17-8) - GND-1 (A17-24) |
| Tool Setting | 1 V/DIV., 10 μsec./DIV. |
| Conditions | Engine stopped and ignition switch ON |

HINT:
The waveform varies depending on the CAN communication signal.

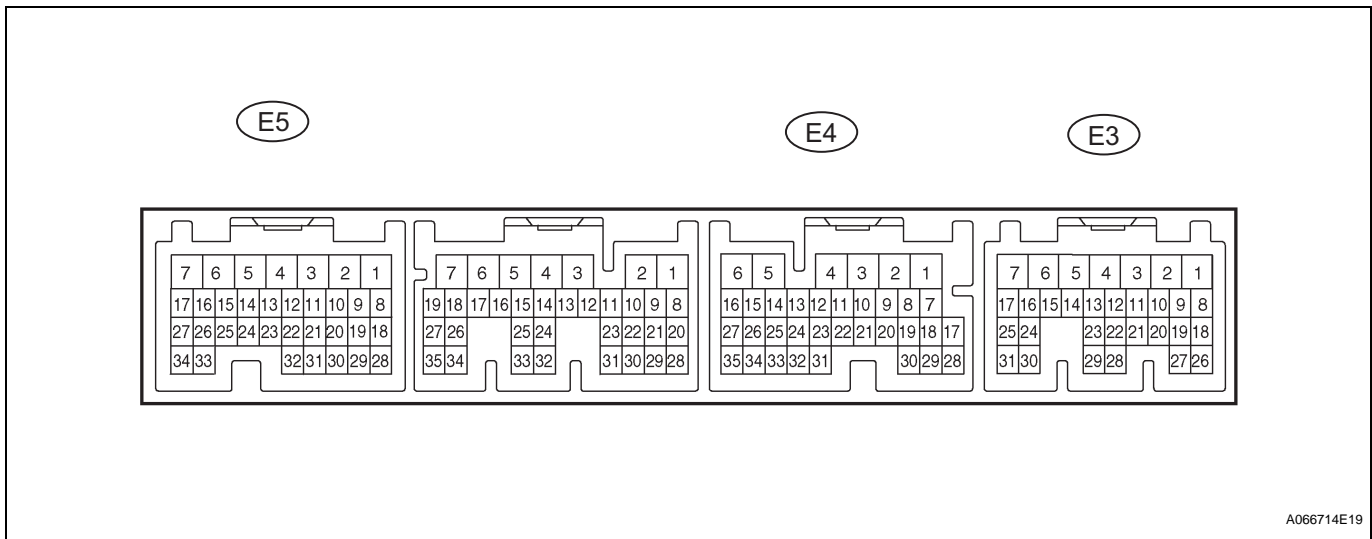


(3) Waveform 3 (Reference)

| Item | Content |
|------------------------|---------------------------------------|
| Symbols (Terminal No.) | CANL (A17-9) - GND-1 (A17-24) |
| Tool Setting | 1 V/DIV., 10 μsec./DIV. |
| Conditions | Engine stopped and ignition switch ON |

HINT:
The waveform varies depending on the CAN communication signal.

2. CHECK ECM

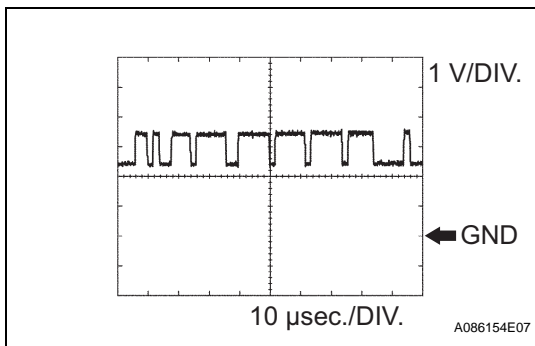


(a) Measure the voltage of the connectors.

| Symbols (Terminal No.) | Wiring Color | Terminal Description | Condition | Specified Condition |
|--------------------------|--------------|-----------------------------------|---|-----------------------------------|
| THW (E5-32) - E2 (E5-28) | R-L - BR | Engine coolant temperature sensor | Idling, engine coolant temperature 80°C (176°F) | 0.2 to 1.0 V |
| CANH (E4-33) - E1 (E5-3) | B - BR | CAN communication line | Ignition switch ON | Pulse generation (see waveform 1) |
| CANL (E4-34) - E1 (E5-3) | W - BR | CAN communication line | Ignition switch ON | Pulse generation (see waveform 2) |

If the result is not as specified, the ECM may have a malfunction.

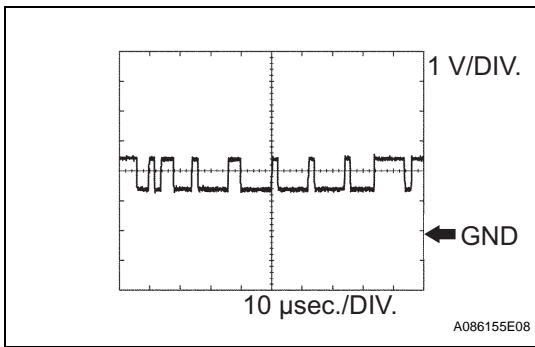
(1) Waveform 1 (Reference)



| Item | Content |
|------------------------|---------------------------------------|
| Symbols (Terminal No.) | CANH (E4-33) - E1 (E5-3) |
| Tool Setting | 1 V/DIV., 10 μsec./DIV. |
| Conditions | Engine stopped and ignition switch ON |

HINT:
The waveform varies depending on the CAN communication signal.

(2) Waveform 2 (Reference)



| Item | Content |
|------------------------|---------------------------------------|
| Symbols (Terminal No.) | CANL (E4-34) - E1 (E5-3) |
| Tool Setting | 1 V/DIV., 10 μsec./DIV. |
| Conditions | Engine stopped and ignition switch ON |

HINT:
The waveform varies depending on the CAN communication signal.