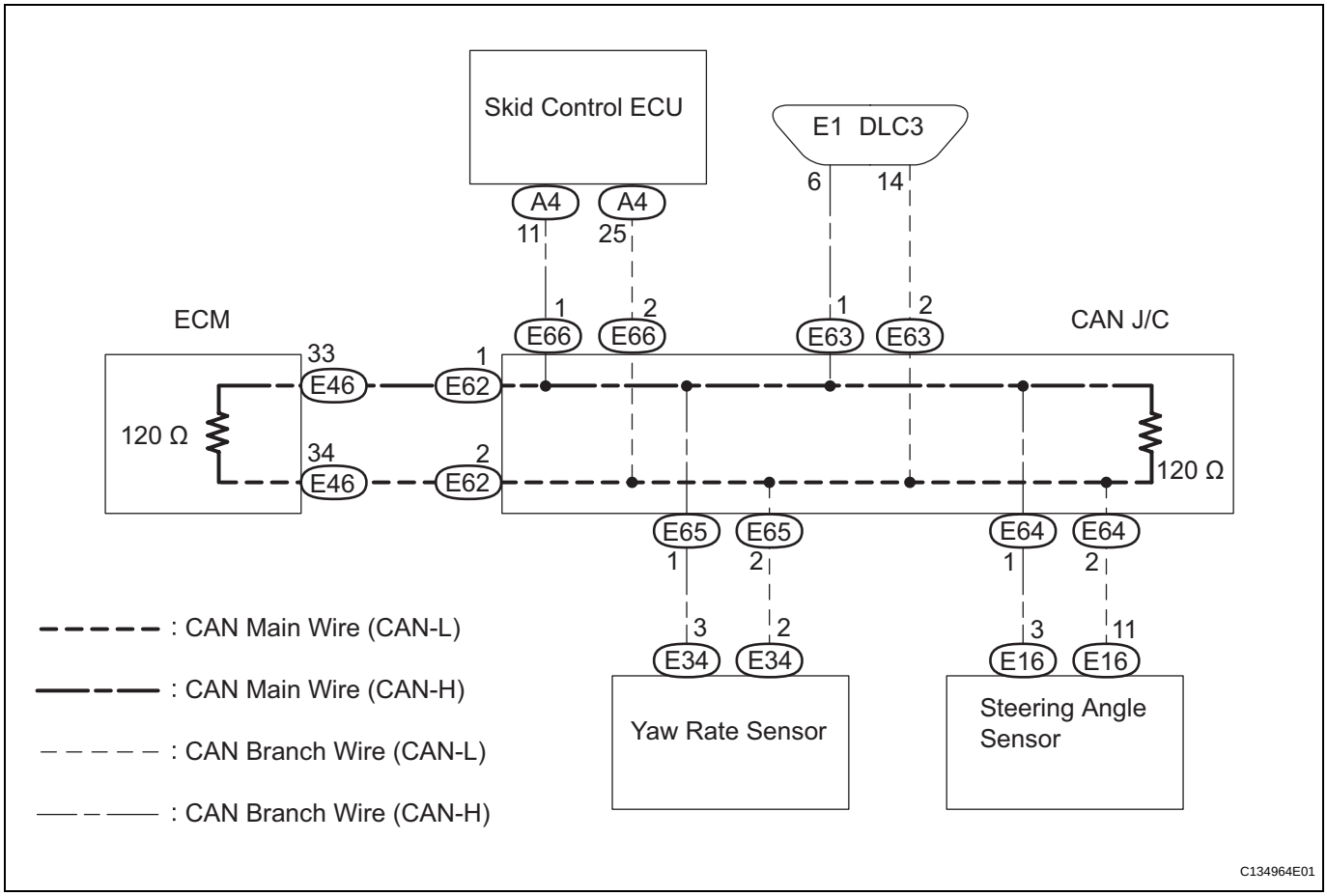
CAN Bus Line

DESCRIPTION

When any DTC for the CAN communication system is output, first measure the resistance between the terminals of the DLC3 to specify the trouble area, and check that there is no short in the CAN main wire, between the CAN bus lines, to +B, or to GND.

WIRING DIAGRAM



INSPECTION PROCEDURE

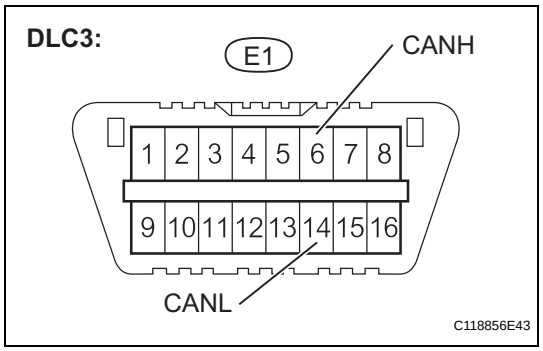
NOTICE:

- **Turn the ignition switch off before measuring the resistances of the CAN main wire and the CAN branch wire.**
- **After the ignition switch is turned off, check that the key reminder warning system is not in operation.**
- **Before measuring the resistance, leave the vehicle as is for at least 1 minute and do not operate the ignition switch, any other switches or the doors. If doors need to be opened in order to check connectors, open the doors and leave them open.**

  HINT:

  Operating the ignition switch, any switches or any doors triggers related ECU and sensor communication with the CAN, which causes resistance variation.

1	**CHECK CAN BUS LINE (MAIN WIRE FOR DISCONNECTION, BUS LINES FOR SHORT CIRCUIT)**



(a) Turn the ignition switch OFF.
(b) Measure the resistance.
Standard resistance

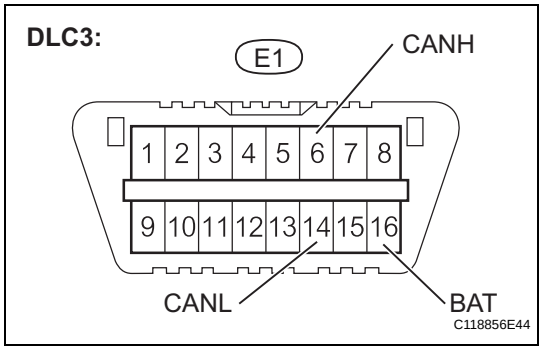
Tester Connection	Condition	Specified Condition	Proceed to
E1-6 (CANH) - E1-14 (CANL)	Ignition switch OFF	54 to 69 Ω	OK
E1-6 (CANH) - E1-14 (CANL)	Ignition switch OFF	69 Ω or more	NG-A
E1-6 (CANH) - E1-14 (CANL)	Ignition switch OFF	54 Ω or less	NG-B

NG-A → **CHECK CAN MAIN WIRE (FOR OPEN CIRCUIT)**

NG-B → **CHECK CAN BUS LINE (FOR SHORT CIRCUIT)**

OK

2	**CHECK CAN BUS LINE (FOR SHORT TO +B)**



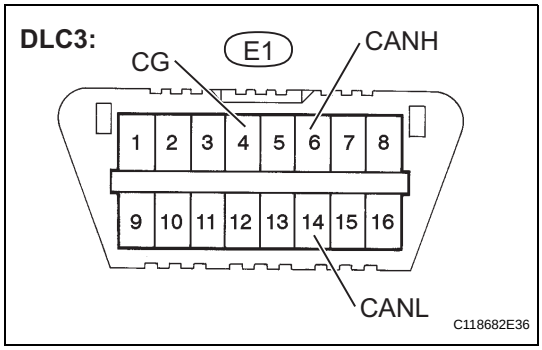
(a) Turn the ignition switch OFF.
(b) Measure the resistance.
Result

Tester Connection	Condition	Specified Condition	Proceed to
E1-6 (CANH) - E1-16 (BAT)	Ignition switch OFF	1 Ω or more	OK
E1-14 (CANL) - E1-16 (BAT)	Ignition switch OFF	1 Ω or more	OK
E1-6 (CANH) - E1-16 (BAT)	Ignition switch OFF	Below 1 Ω	NG
E1-14 (CANL) - E1-16 (BAT)	Ignition switch OFF	Below 1 Ω	NG

NG → **CHECK CAN BUS LINE (FOR SHORT TO +B)**

OK

3	CHECK CAN BUS LINE (FOR SHORT TO GND)



(a) Turn the ignition switch OFF.
(b) Measure the resistance.

Result

Tester Connection	Condition	Specified Condition	Proceed to
E1-6 (CANH) - E1-4 (CG)	Ignition switch OFF	1 Ω or more	OK
E1-14 (CANL) - E1-4 (CG)	Ignition switch OFF	1 Ω or more	OK
E1-6 (CANH) - E1-4 (CG)	Ignition switch OFF	Below 1 Ω	NG
E1-14 (CANL) - E1-4 (CG)	Ignition switch OFF	Below 1 Ω	NG

NG → CHECK CAN BUS LINE (FOR SHORT TO GND)

OK

HOW TO PROCEED WITH TROUBLESHOOTING