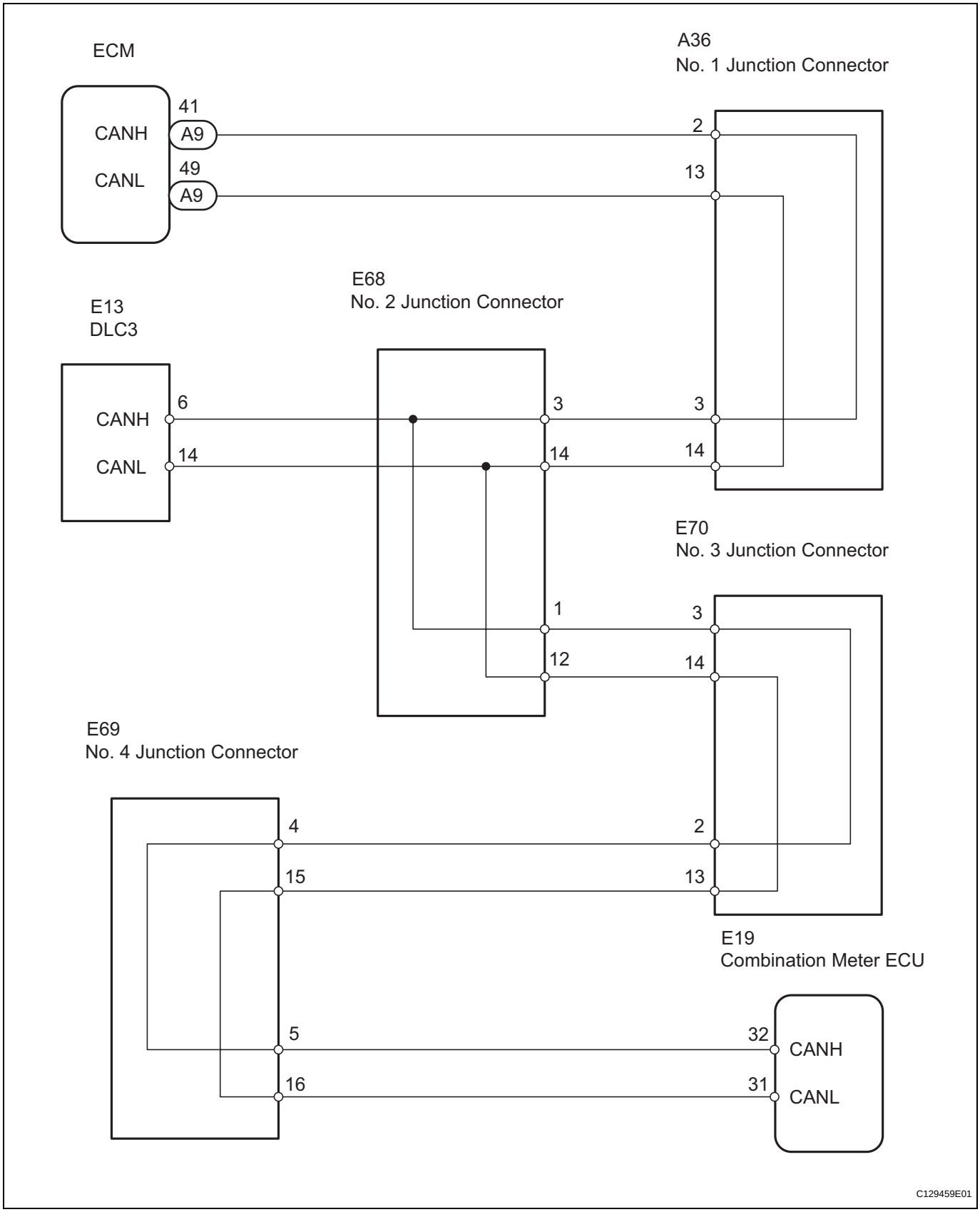
Open in CAN Main Wire

DESCRIPTION

There may be an open circuit in the CAN main wire and / or the DLC3 branch wire when the resistance between terminals 6 (CANH) and 14 (CANL) of the DLC3 is 69 Ω or more.

Symptom	Trouble Area
Resistance between terminals 6 (CANH) and 14 (CANL) of DLC3 is 69 Ω or more.	• CAN main wire and connector • No. 1 junction connector • No. 2 junction connector • No. 3 junction connector • No. 4 junction connector • ECM • Combination meter ECU

WIRING DIAGRAM



CA

INSPECTION PROCEDURE

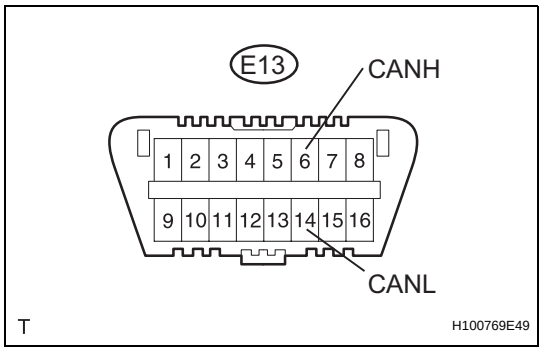
NOTICE:

- **Turn the ignition switch OFF before measuring the resistances of the main wire and the branch wire.**
- **After the ignition switch is turned OFF, check that the key reminder warning system and light reminder warning system are not in operation.**
- **Before measuring the resistance, leave the vehicle for at least 1 minute and do not operate the ignition switch, any switches or 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 DLC3



(a) Measure the resistance of the DLC3.

Standard resistance

Tester Connection	Condition	Specified Condition	Proceed to
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	108 to 132 Ω	A
E13-6 (CANH) - E13-14 (CANL)	Ignition switch OFF	132 Ω or more	B

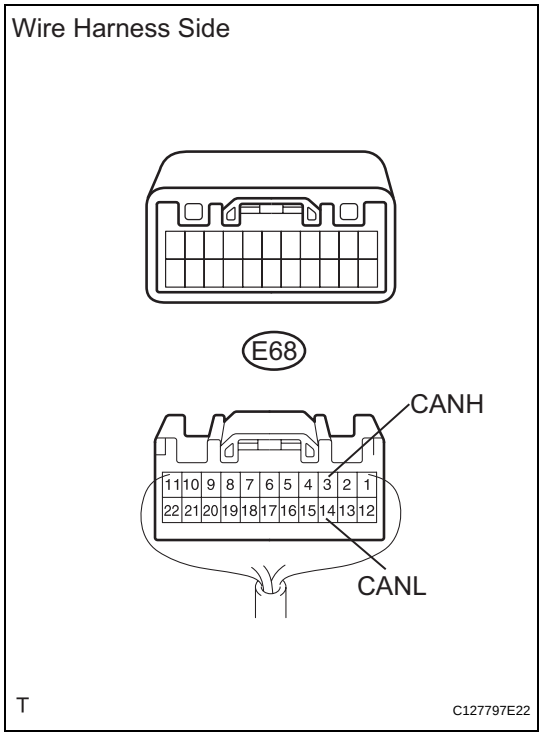
NOTICE:

When the measured value is 132 Ω or more and a CAN communication system diagnostic trouble code is output, there may be a fault besides disconnection of the DLC3 branch wire. For that reason, troubleshooting should be performed again from "HOW TO PROCEED WITH TROUBLESHOOTING" (see page CA-8) after repairing the trouble area.

B → **REPAIR OR REPLACE CAN BRANCH WIRE CONNECTED TO DLC3 (CANH, CANL)**

A

2	CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 2 JUNCTION CONNECTOR - ECM)



(a) Disconnect the E68 No. 2 junction connector.
(b) Measure the resistance of the wire harness side connector.

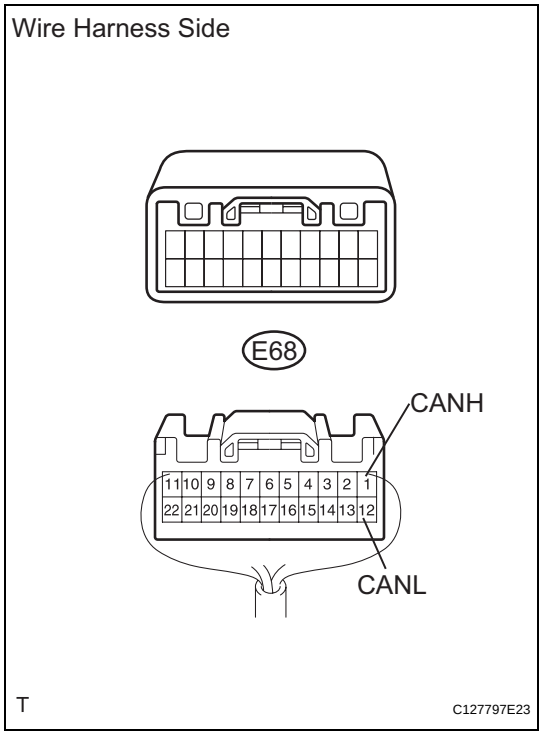
Standard resistance

Tester Connection	Condition	Specified Condition
E68-3 (CANH) - E68-14 (CANL)	Ignition switch OFF	108 to 132 Ω

NG → **Go to step 4**

OK

3	CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 2 JUNCTION CONNECTOR - COMBINATION METER ECU)



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

Standard resistance

Tester Connection	Condition	Specified Condition
E68-1 (CANH) - E68-12 (CANL)	Ignition switch OFF	108 to 132 Ω

NG → **Go to step 9**

CA

OK

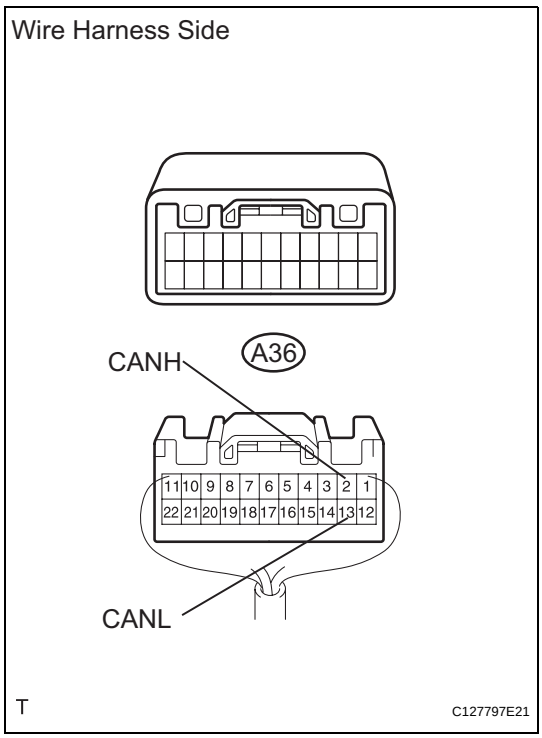
REPLACE NO. 2 JUNCTION CONNECTOR

4	CONNECT CONNECTOR

(a) Reconnect the E68 No. 2 junction connector.

NEXT

5	CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 1 JUNCTION CONNECTOR - ECM)



(a) Disconnect the A36 No. 1 junction connector.
(b) Measure the resistance of the wire harness side connector.

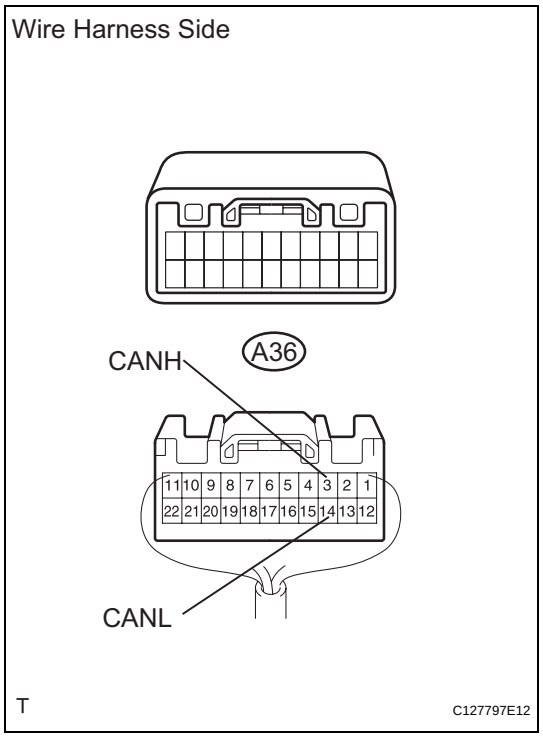
Standard resistance

Tester Connection	Condition	Specified Condition
A36-2 (CANH) - A36-13 (CANL)	Ignition switch OFF	108 to 132 Ω

NG → **Go to step 7**

OK

6	**CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 1 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)**



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

Standard resistance

Tester Connection	Condition	Specified Condition
A36-3 (CANH) - A36-14 (CANL)	Ignition switch OFF	108 to 132 Ω

NG → **REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 1 JUNCTION CONNECTOR - NO. 2 UNCTION CONNECTOR)**

OK

REPLACE NO. 1 JUNCTION CONNECTOR

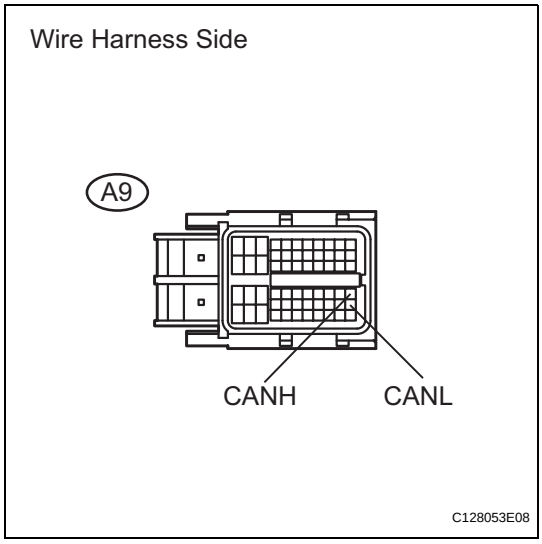
7	**CONNECT CONNECTOR**

(a) Reconnect the A36 No. 1 junction connector.

NEXT

CA

8	CHECK CAN MAIN WIRE FOR DISCONNECTION (ECM - NO. 1 JUNCTION CONNECTOR)



(a) Disconnect the A9 ECM connector.
(b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
A9-41 (CANH) - A9-49 (CANL)	Ignition switch OFF	108 to 132 Ω

NG → **REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO ECM (ECM - NO. 1 JUNCTION CONNECTOR)**

OK

REPLACE ECM

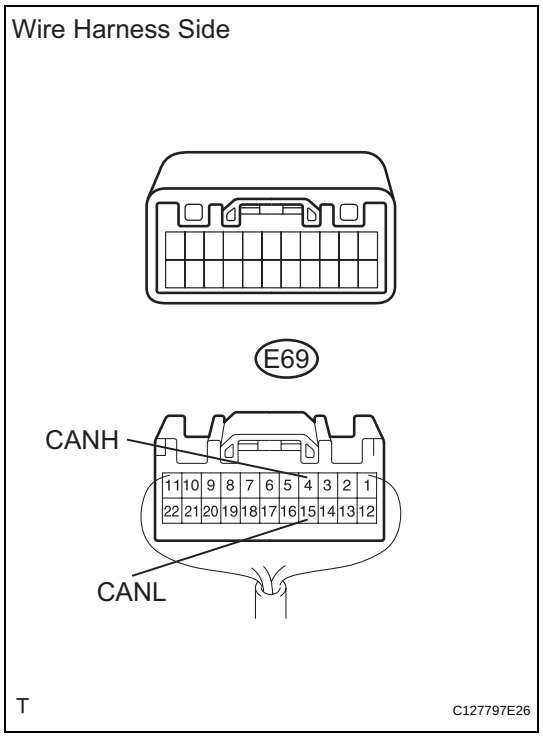
9	CONNECT CONNECTOR

(a) Reconnect the E68 No. 2 junction connector.

NEXT

CA

10	**CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 4 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)**



(a) Disconnect the E69 No. 4 junction connector.
(b) Measure the resistance of the wire harness side connector.

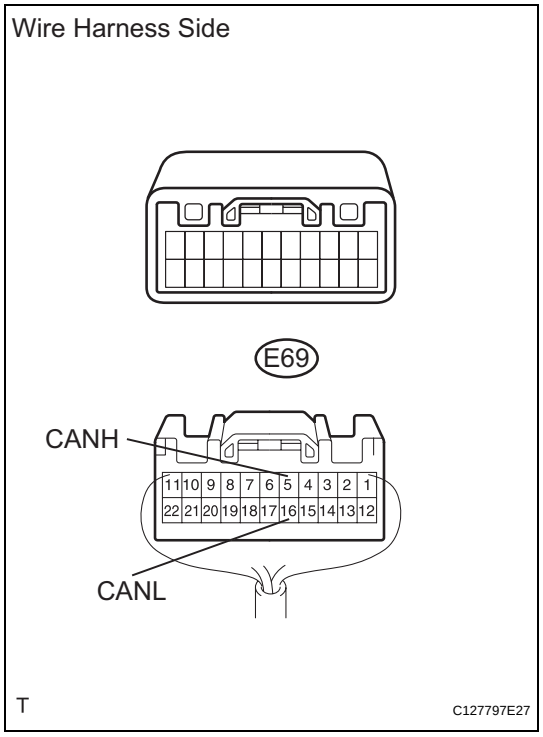
Standard resistance

Tester Connection	Condition	Specified Condition
E69-4 (CANH) - E69-15 (CANL)	Ignition switch OFF	108 to 132 Ω

NG → **Go to step 14**

OK

11	**CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 4 JUNCTION CONNECTOR - COMBINATION METER)**



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

Standard resistance

Tester Connection	Condition	Specified Condition
E69-5 (CANH) - E69-16 (CANL)	Ignition switch OFF	108 to 132 Ω

NG → **Go to step 12**

CA

OK

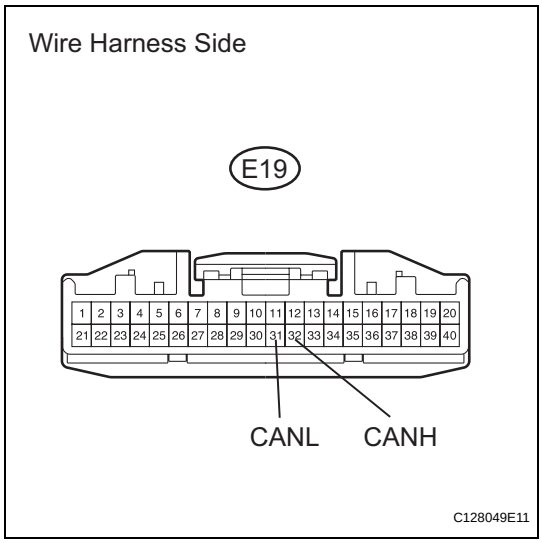
REPLACE NO. 4 JUNCTION CONNECTOR

12	CONNECT CONNECTOR

(a) Reconnect the E69 No. 4 junction connector.

NEXT

13	CHECK CAN MAIN BUS LINE FOR DISCONNECTION (COMBINATION METER ECU - NO. 4 JUNCTION CONNECTOR)



(a) Disconnect the E19 combination meter ECU connector.
(b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Condition	Specified Condition
E19-32 (CANH) - E19-31 (CANL)	Ignition switch OFF	108 to 132 Ω

NG → **REPAIR OR REPLACE CAN MAIN WIRE CONNECTED TO COMBINATION METER ECU (COMBINATION METER ECU - NO. 4 JUNCTION CONNECTOR)**

OK

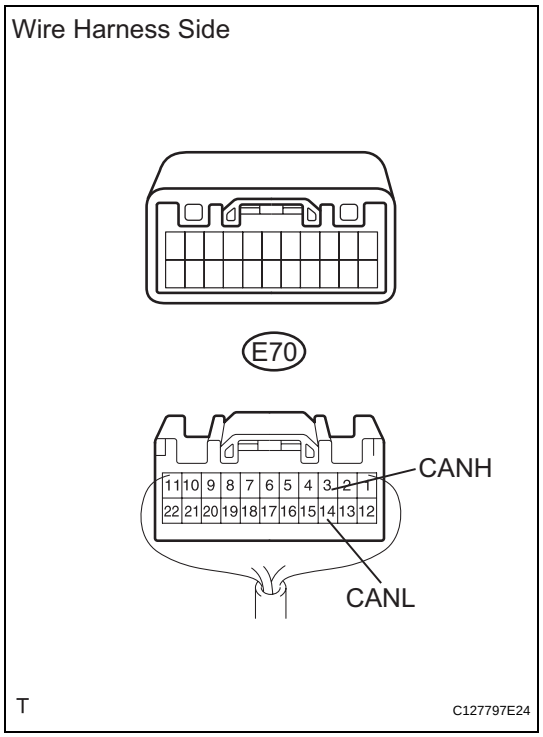
REPLACE COMBINATION METER ASSEMBLY (COMBINATION METER ECU)

14	CONNECT CONNECTOR

(a) Reconnect the E69 No. 4 junction connector.

NEXT

15	CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 2 JUNCTION CONNECTOR - NO. 3 JUNCTION CONNECTOR)



(a) Disconnect the E70 No. 3 junction connector.
(b) Measure the resistance of the wire harness side connector.

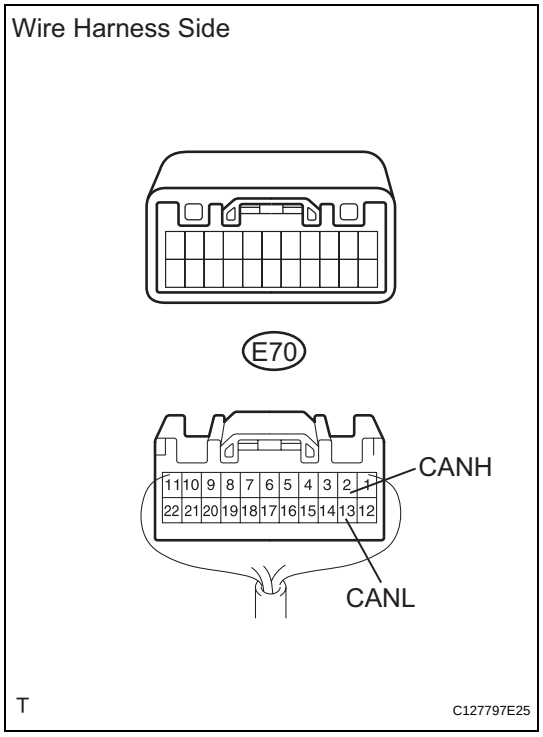
Standard resistance

Tester Connection	Condition	Specified Condition
E70-3 (CANH) - E70-14 (CANL)	Ignition switch OFF	108 to 132 Ω

NG → **REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 2 JUNCTION CONNECTOR)**

OK

16	CHECK CAN MAIN WIRE FOR DISCONNECTION (NO. 3 JUNCTION CONNECTOR - NO. 4 JUNCTION CONNECTOR)



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

Standard resistance

Tester Connection	Condition	Specified Condition
E70-2 (CANH) - E70-13 (CANL)	Ignition switch OFF	108 to 132 Ω

NG → **REPAIR OR REPLACE CAN MAIN WIRE AND CONNECTOR (NO. 3 JUNCTION CONNECTOR - NO. 4 JUNCTION CONNECTOR)**

CA

OK

REPLACE NO. 3 JUNCTION CONNECTOR