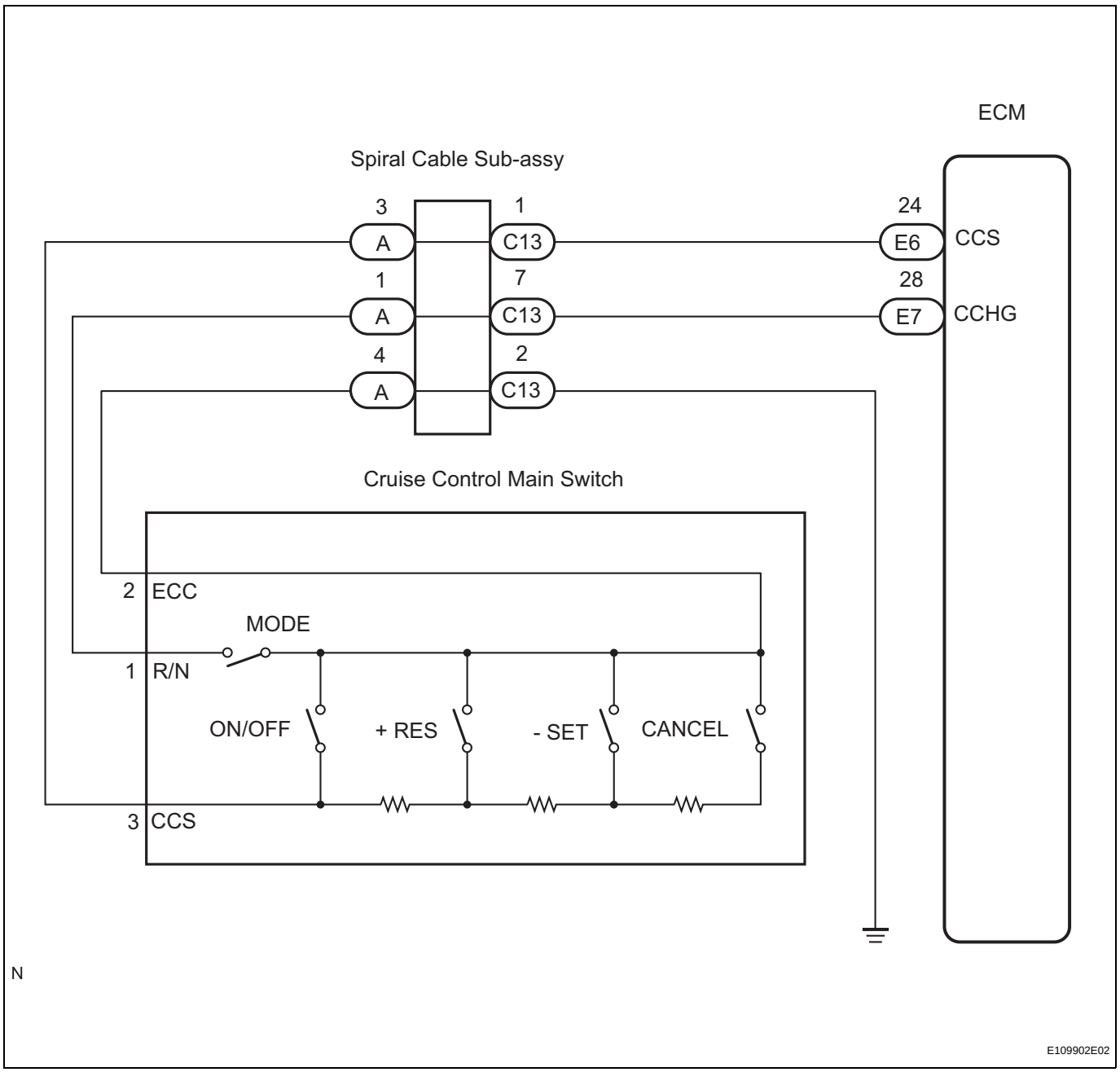
Cruise Control Switch Circuit

DESCRIPTION

The cruise control main switch operates 8 functions: SET, COAST, TAP-DOWN, RESUME, ACCEL, TAP-UP, CANCEL and MODE. The SET, TAP-DOWN and COAST functions, and the RESUME, TAP-UP and ACCEL functions are operated with the same switch. The cruise control main switch is an automatic return type switch which turns on only while operating it in each arrow direction and turns off after releasing it. The internal contact point of the cruise control main switch is turned on with the switch operation. The ECM then reads the resistance value that has been changed by the switch operation to control MODE, SET, COAST, RESUME, ACCEL and CANCEL. The dynamic radar cruise control system has two cruise control modes: the constant speed control mode and vehicle-to-vehicle distance control mode.

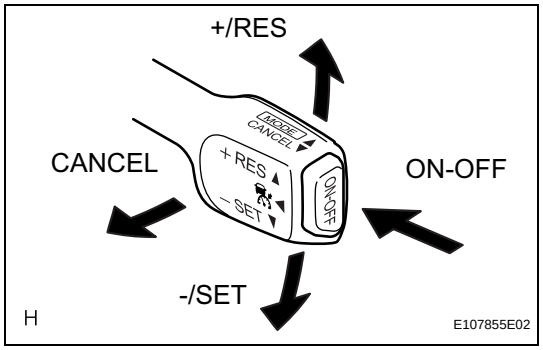
- The vehicle-to-vehicle distance control mode is always selected when starting up the dynamic laser cruise control system.
- The operation of the constant speed control mode is the same as that for a conventional cruise control system.

WIRING DIAGRAM



CC

1	READ VALUE OF INTELLIGENT TESTER



(a) Connect the intelligent tester to the DLC3.
(b) Turn the ignition switch on, and turn the intelligent tester main switch on.

(c) Check the DATA LIST for proper functioning of the cruise control main switch.

LASER CRUISE:

Item	Measurement Item / Display (Range)	Normal Condition	Diagnostic Note
MAIN SW (MAIN)	Main switch signal (Main CPU) / ON or OFF	ON: Main switch ON (Pushed on) OFF: Main switch OFF (Pushed off)	-
CANCEL SW	CANCEL switch signal / ON or OFF	ON: CANCEL switch ON OFF: CANCEL switch OFF	-
SET/COAST SW	-/SET switch signal / ON or OFF	ON: -/SET switch ON OFF: -/SET switch OFF	-
RES/ACC SW	+/RES switch signal / ON or OFF	ON: +/RES switch ON OFF: +/RES switch OFF	-

OK:

When cruise control main switch operation is performed, the result will be same as above.

Result:

Result	Proceed to
OK	A
NG (all items are defective)	B
NG (one to four items are defective)	C

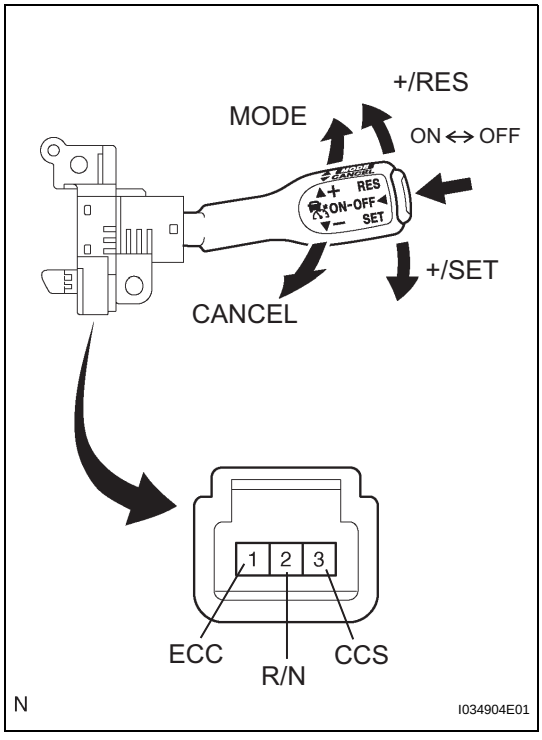
CC

A → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

C → **REPLACE CRUISE CONTROL MAIN SWITCH**

B

2 INSPECT CRUISE CONTROL MAIN SWITCH



(a) Disconnect the cruise control main switch connector.
(b) Measure the resistance according to the value(s) in the table below.

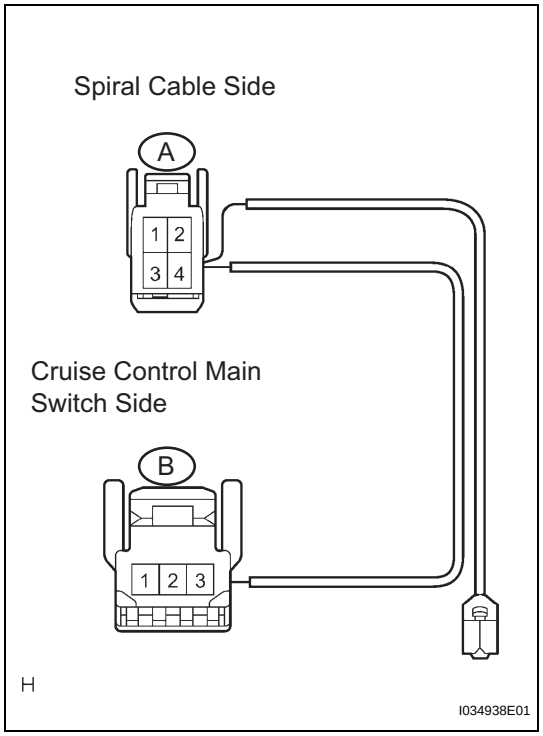
Standard resistance

Tester Connection	Switch Condition	Specified Condition
1 - 2, 1 - 3	Neutral	10 kΩ or higher
1 - 3	+/RES	210 to 270 Ω
1 - 3	-/SET	560 to 700 Ω
1 - 3	CANCEL	1380 to 1700 Ω
1 - 3	Main Switch OFF	10 kΩ or higher
1 - 3	Main Switch OFF	Below 1 Ω
1 - 2	MODE	Below 1 Ω

NG → **REPLACE CRUISE CONTROL MAIN SWITCH**

OK

3 **CHECK WIRE HARNESS AND CONNECTOR (CRUISE CONTROL MAIN SWITCH - SPIRAL CABLE SUB-ASSEMBLY)**



(a) Turn the ignition switch OFF.
(b) Disconnect the cruise control main switch connector and spiral cable connector.
(c) Check for an open circuit in harness and connector.
Resistance

Terminal No.	Specified value
A-1 - B-2	Below 1 Ω
A-3 - B-3	Below 1 Ω
A-4 - B-1	Below 1 Ω

(d) Connect the spiral cable connector.
(e) Check for an open circuit in harness and connector.
Resistance

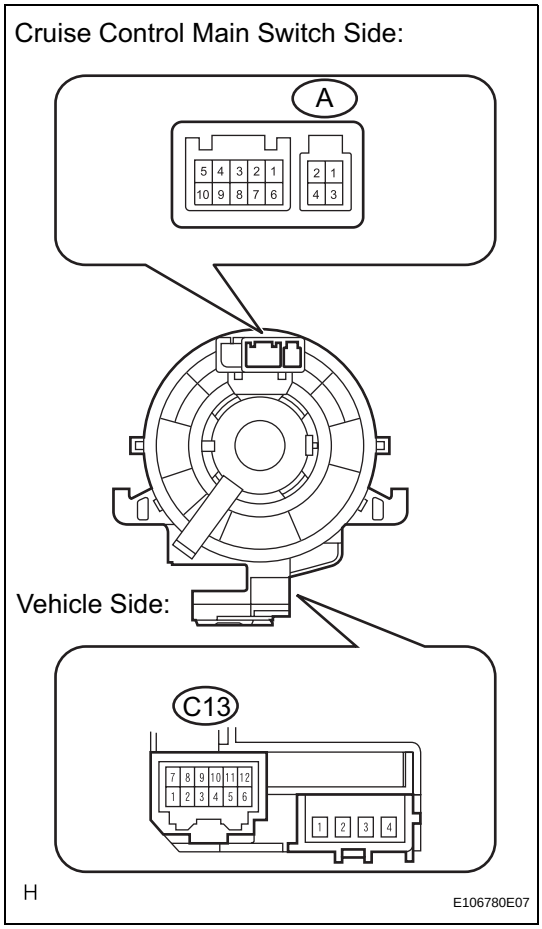
Terminal No.	Specified value
B-2 - Body ground	10 kΩ or higher
B-3 - Body ground	10 kΩ or higher

NG → **REPAIR OR REPLACE WIRE HARNESS OR CONNECTOR**

OK

CC

4	INSPECT SPIRAL CABLE



(a) Disconnect the spiral cable connector.
(b) Measure the resistance according to the value(s) in the table below.

Standard resistance

Tester Condition	Specified Condition
A-1 - C13-7	Below 1 Ω
A-3 - C13-1	Below 1 Ω
A-4 - C13-2	Below 1 Ω

NG → REPLACE SPIRAL CABLE

OK

5	CHECK WIRE HARNESS AND CONNECTOR (SPIRAL CABLE SUB-ASSEMBLY - ECM)

(a) Check for an open or short circuit in harness and connector between the spiral cable sub-assembly and ECM (See page IN-36).

NG → REPAIR OR REPLACE WIRE HARNESS OR CONNECTOR

OK

6	CHECK WIRE HARNESS AND CONNECTOR (SPIRAL CABLE SUB-ASSEMBLY - BODY GROUND)

(a) Check for an open circuit in harness and connector between the spiral cable sub-assembly and body ground (See page IN-36).

NG → REPAIR OR REPLACE WIRE HARNESS OR CONNECTOR

OK

REPLACE ECM