Electronically Controlled Transmission Communication Circuit

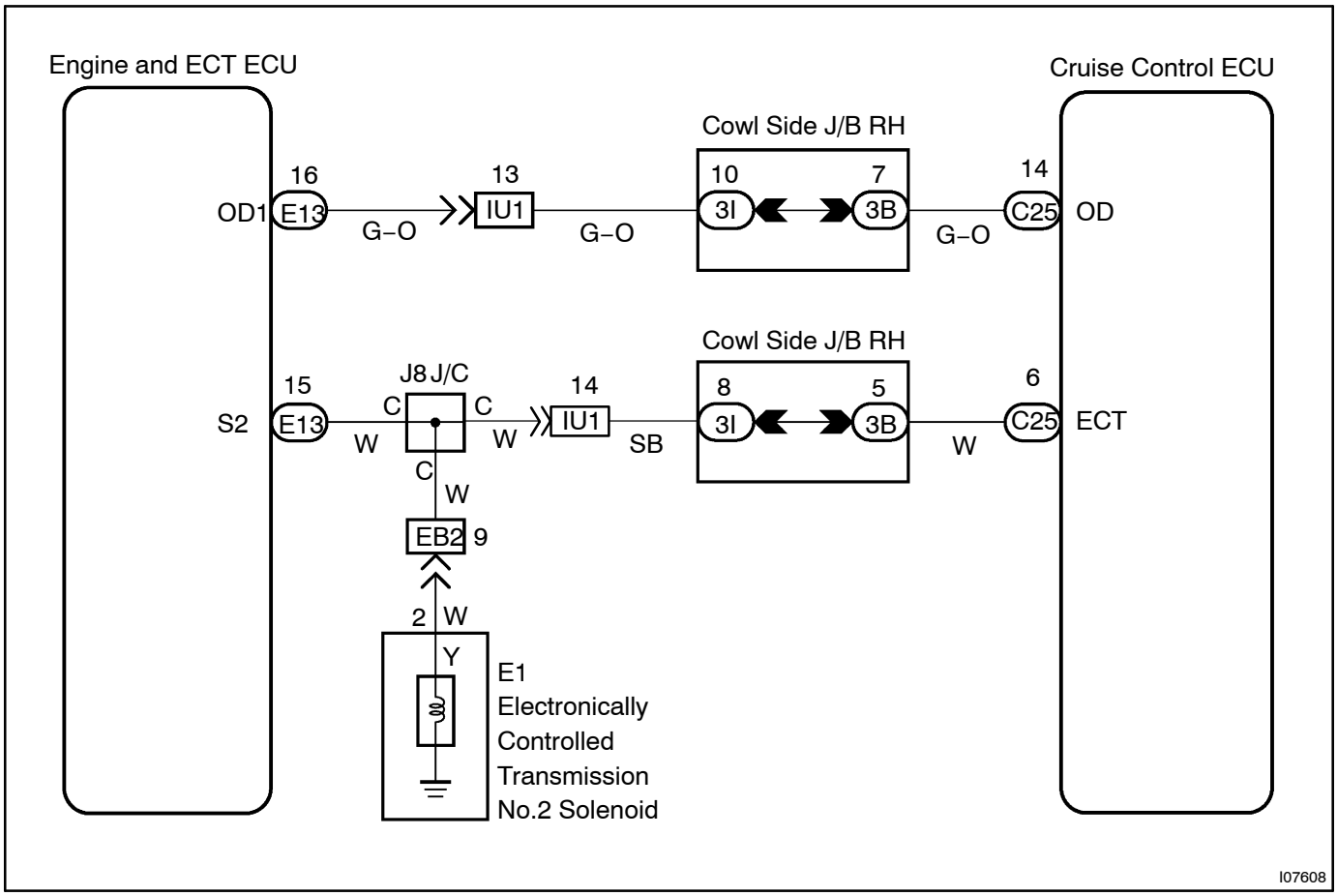
CIRCUIT DESCRIPTION

When driving uphill under cruise control, in order to reduce shifting due to ON –OFF overdrive operation and to provide smooth driving, when down shifting in the electronically controlled transmission occurs, a signal to prevent upshift until the end of the uphill slope is sent from the cruise control ECU to the electronically controlled transmission.

Terminal ECT of the cruise control ECU detects the shift change signal (output to electronically controlled transmission No. 2 solenoid) from the engine and ECT ECU.

If vehicle speeds down, also when terminal ECT of the cruise control ECU receives down shifting signal, it sends a signal from terminal OD to engine and ECT ECU to cut overdrive until the end of the uphill slope, and the gear shifts are reduced and gear shift points in the electronically controlled transmission are changed.

WIRING DIAGRAM



INSPECTION PROCEDURE

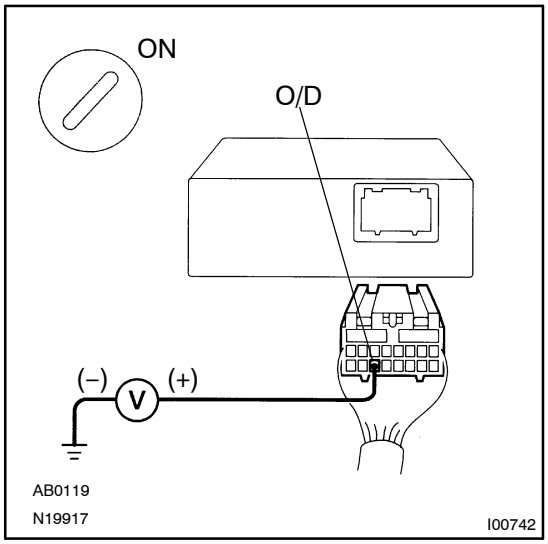
1	**Check operation of overdrive.**

PREPARATION:
Perform the test drive after engine warms up.
CHECK:
Check that overdrive ON ↔ OFF occurs with operation of OD switch ON–OFF.

NG → **Check and repair electronically controlled transmission (See page DI–4, DI–80).**

OK

2	**Check voltage between terminal OD of harness side connector of cruise control ECU and body ground.**

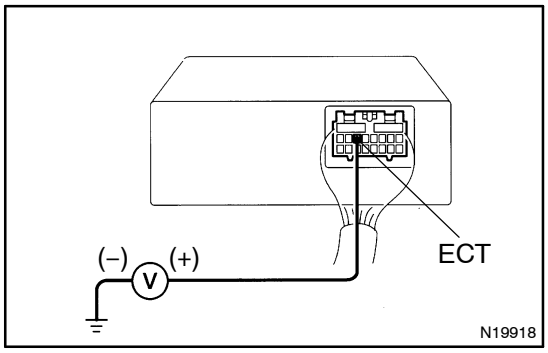


PREPARATION:
(a) Remove the ECU with the connector still connected.
(b) Turn ignition switch ON.
(c) Disconnect the ECU connector.
CHECK:
Measure voltage between terminal OD of harness side connector of ECU and body ground.
OK:
Voltage: 10 – 14 V

NG → **Go to step 5.**

OK

3	Check voltage between terminal ECT of cruise control ECU connector and body ground (On test drive).



PREPARATION:

(a) Connect the ECU connector.

(b) Perform the test drive after engine warms up.

CHECK:

Check voltage between terminal ECT of ECU connector and body ground when OD switch is ON and OFF.

OK:

OD switch position	Voltage
ON	8 – 14 V
OFF	Below 0.5 V

OK → **Proceed to next circuit inspection shown in problem symptom table (See page DI–682).**

NG

4	Check harness and connector between terminal ECT of cruise control ECU and electronically controlled transmission solenoid (See page IN–35).

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

OK

Check and replace cruise control ECU.

5	Check harness and connector between terminal OD of cruise control ECU and terminal OD1 of engine and ECT ECU (See page IN–35).

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

OK

Check and replace cruise control ECU (See page IN–35).