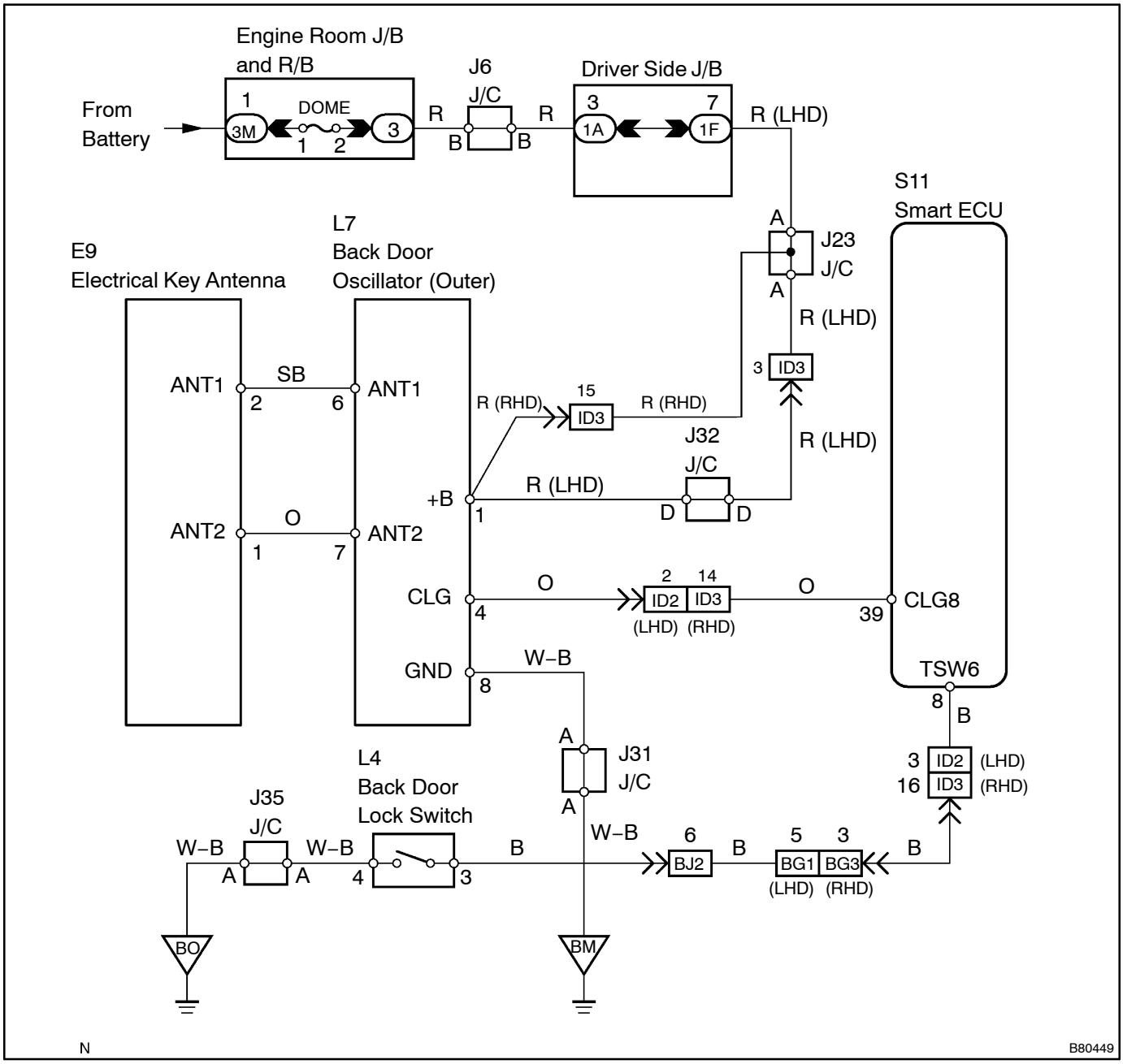
SMART BACK DOOR UNLOCK FUNCTION DOES NOT OPERATE WHEN SMART KEY IS OUTSIDE BACK DOOR

CIRCUIT DESCRIPTION

When the back door opener switch is turned ON, the smart ECU uses the back door oscillator (outer) and antenna to output a request signal to the outside of the vehicle for a distance of approximately 1.0 m from the back door. A smart key near the back door detects this request and transmits its ID code. The wireless door lock receiver receives the ID code and sends this ID code to the smart ECU. The smart ECU checks if the ID code is valid. If the ID code is verified, the smart ECU sends a back door open signal to the driver side junction block assy (body ECU) using the multiplex communication line and stops outputting request signals. The driver side junction block assy (body ECU) then unlocks the back door.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CHECK SMART DOOR LOCK AND UNLOCK OPERATION

(a) Check that the smart door lock and unlock function operates normally.
OK: Smart door lock and unlock function operates normally.

NG → OTHER PROBLEM (See page 05–1882)

OK

2	READ VALUE OF INTELLIGENT TESTER II

(a) Connect the intelligent tester II to the DLC3.
(b) Turn the power switch from OFF to ON (IG) and press the intelligent tester II main switch ON.
(c) Select the items below in the DATA LIST and read the displays on the intelligent tester II.
SMART ECU:

Item	Measurement / Display (Range)	Normal Condition	Diagnostic Note
Tr/B–Door Lock	Trunk/Back–door lock switch/ ON or OFF	ON: Back door lock switch is pushed OFF: Back door lock switch is not pushed	–

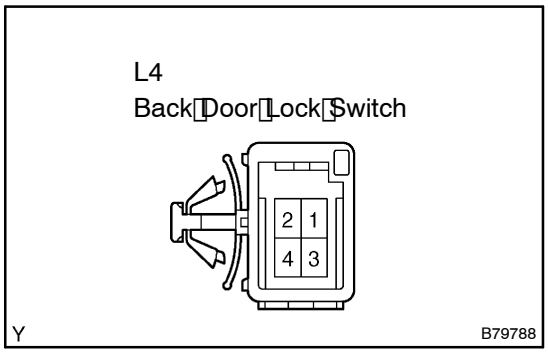
OK: ”ON” (Back–door lock switch is pushed) appears on the screen.

NG → Go to step 3

OK

Go to step 5

3	INSPECT BACK DOOR LOCK SWITCH



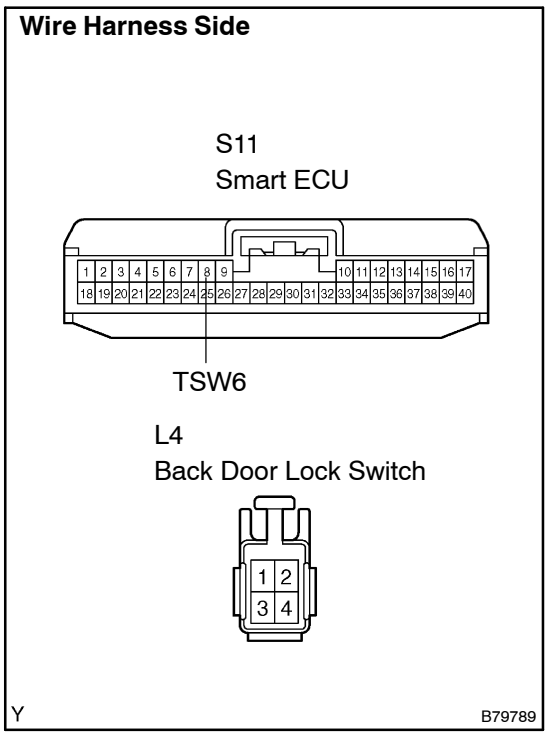
(a) Disconnect the L4 switch connector.
(b) Measure the resistance of the wire harness side connector.
Standard:

Tester Connection	Condition	Specified Condition
L4–3 – L4–4	Not pushed (OFF)	10 kΩ or higher
L4–3 – L4–4	Pushed (ON)	Below 1 Ω

NG → REPLACE BACK DOOR LOCK SWITCH

OK

4	CHECK WIRE HARNESS (SMART ECU – BACK DOOR LOCK SWITCH)



(a) Disconnect the S11 ECU connector.
(b) Disconnect the L4 switch connector.
(c) Measure the resistance between the wire harness side connectors and body ground.

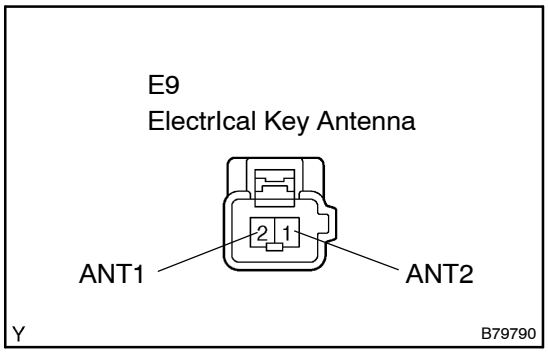
Standard:

Tester Connection	Specified Condition
S11–8 (TSW6) – L4–3	Below 1 Ω
L4–4 – Body ground	Below 1 Ω

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

OK

5	INSPECT ELECTRICAL KEY ANTENNA



(a) Disconnect the E9 antenna connector.
(b) Measure the resistance between the wire harness side connector.

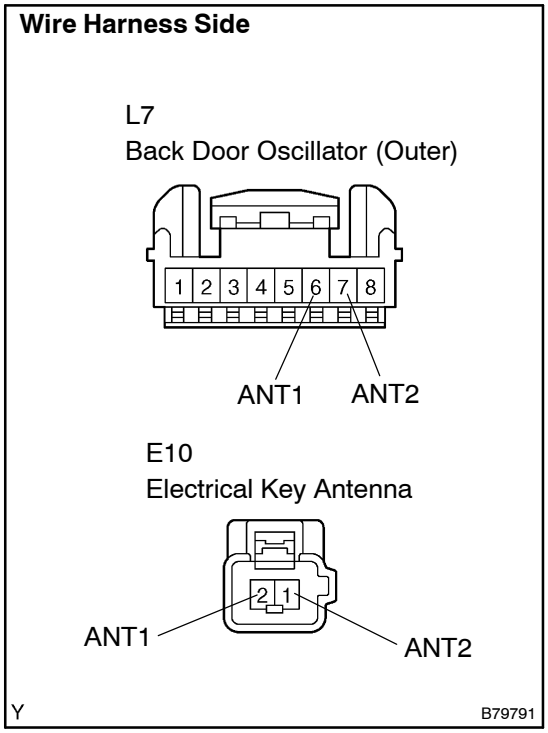
Standard:

Tester Connection	Specified Condition
E9–2 (ANT1) – E9–1 (ANT2)	Below 1 Ω

NG → **REPLACE ELECTRICAL KEY ANTENNA**

OK

6	CHECK WIRE HARNESS (BACK DOOR OSCILLATOR (OUTER) – ELECTRICAL KEY ANTENNA)



(a) Disconnect the L7 and E9 ECU connectors.
(b) Measure the resistance between the wire harness side connectors.

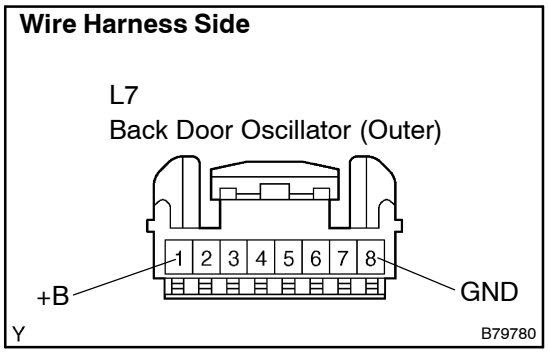
Standard:

Tester Connection	Specified Condition
L7–6 (ANT1) – E9–2 (ANT1)	Below 1 Ω
L7–7 (ANT2) – E9–1 (ANT2)	Below 1 Ω

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

OK

7	CHECK WIRE HARNESS (BACK DOOR OSCILLATOR (OUTER) – BODY GROUND)



(a) Disconnect the L7 oscillator connector.
(b) Measure the resistance and voltage between the wire harness side connector and body ground.

Standard:

Tester Connection	Specified Condition
L7–1 (+B) – Body ground	10 to 14 V
L7–8 (GND) – Body ground	Below 1 Ω

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

OK

8	PERFORM ACTIVE TEST USING INTELLIGENT TESTER II

(a) Connect the intelligent tester II to the DLC3.
(b) Turn the power switch from OFF to ON (IG) and press the intelligent tester II main switch ON.
(c) Select the items below in the ACTIVE TEST and then check that the oscillator (outer) operates.
SMART KEY ECU:

Item	Test Details	Diagnostic Note
Bdoor Trnsmttr	Back Door Outer Transmitter ON/OFF	–

OK: ”OFF” (Back Door Outer Transmitter) appears on the screen
When the smart key is brought close to the back door, the oscillator (outer) is turned ON and the indicator on the smart key illuminates.

NG → **Go to step 9**

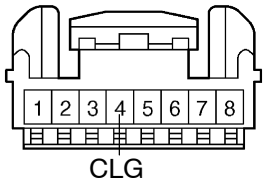
OK

REPLACE SMART ECU

9	INSPECT BACK DOOR OSCILLATOR (OUTER)

Wire Harness Side

L7
Back Door Oscillator (Outer)



Y B79780

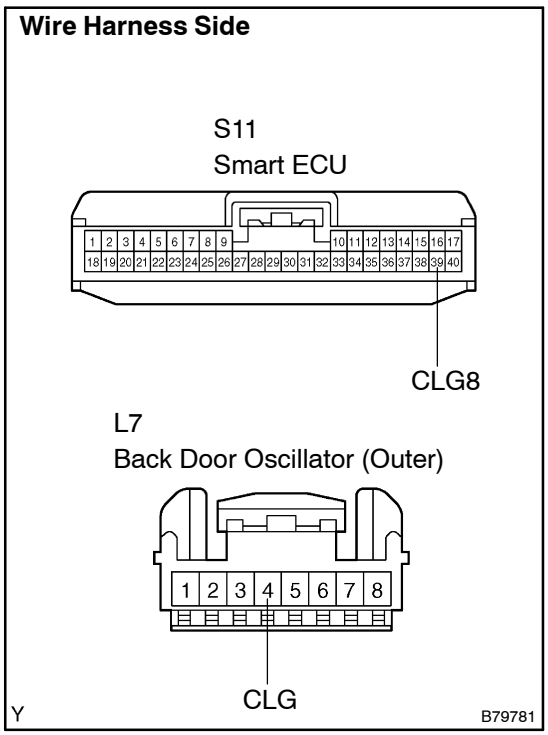
(a) Remove the L7 oscillator.
(b) Measure the frequency between the terminals of the connector and body ground.
Standard:

Tester Connection	Condition	Specified Condition
L7–4 (CLG) – Body ground	Back door lock switch OFF → ON	0 Hz → Some Hz

NG → **REPLACE BACK DOOR OSCILLATOR (OUTER)**

OK

10	CHECK WIRE HARNESS (SMART ECU – BACK DOOR OSCILLATOR (OUTER))



(a) Disconnect the S11 ECU connector.
(b) Disconnect the L7 oscillator connector.
(c) Measure the resistance of the wire harness side connectors.

Standard:

Tester Connection	Specified Condition
S11–39 (CLG8) – L7–4 (CLG)	Below 1 Ω

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

OK

REPLACE SMART ECU