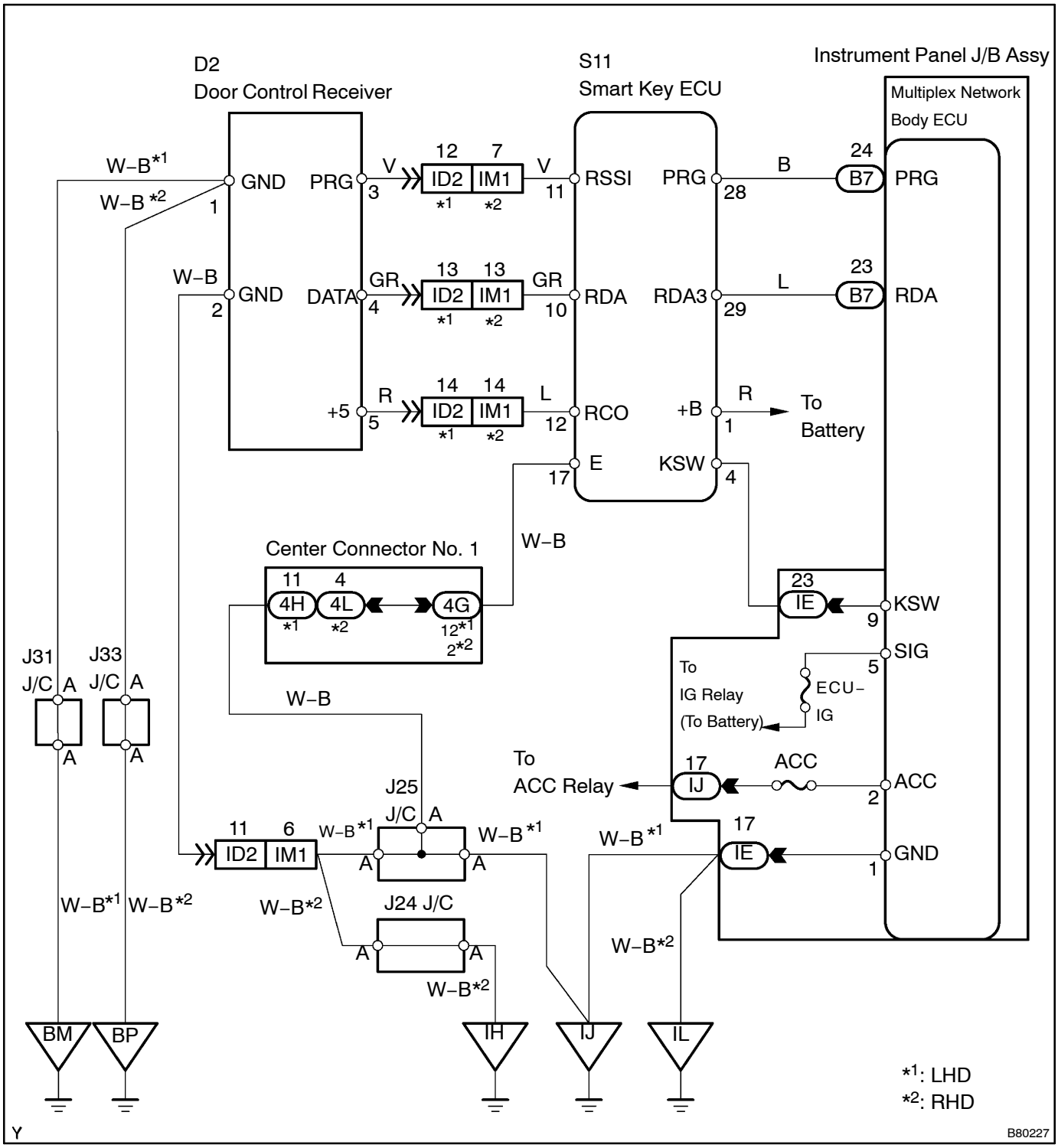
ONLY WIRELESS CONTROL FUNCTION IS INOPERATIVE

CIRCUIT DESCRIPTION

The door control receiver receives signals from the transmitter and sends these signals to the multiplex network body ECU through the smart key ECU. The multiplex network body ECU then controls all doors by sending LOCK/UNLOCK signals to each door lock actuator.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS (See page 05–1979)

NG → Go to step 2

OK

NORMAL

2	CHECK THAT TRANSMITTER LED LIGHTS UP

(a) Check that the transmitter LED lights up 3 times when the switch is pressed 3 times.
OK: Transmitter LED lights up 3 times when the switch is pressed 3 times.

NG → Go to step 4

OK

3	CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS (STANDARD OPERATION)

(a) Check standard UNLOCK/LOCK switch operation.

NOTICE:

Standardized test procedure: press the transmitter switch for 1 second, directing the beam to the driver side door outside handle from a distance of 1 m (39.4 in.). The transmitter should be pointed directly at the handle, i.e. at a 90° angle to the vehicle body.

NG → Go to step 5

OK

REPLACE DOOR CONTROL TRANSMITTER

4	REPLACE TRANSMITTER BATTERY

(a) After replacing the transmitter battery, check that the doors can be locked and unlocked by using the transmitter LOCK/UNLOCK switch.
OK: Doors can be locked and unlocked with transmitter.

NG → REPLACE DOOR CONTROL TRANSMITTER

OK

END

5	SWITCH TO SELF–DIAGNOSTIC MODE

(a) Switch self–diagnosis mode on the Intelligent Tester II.
  (1) Connect the Intelligent Tester II to the DLC3.
  (2) Change the power switch's power mode to ON (IG) by pushing the power switch and push the hand–held tester main switch ON.
  (3) Please refer to the Intelligent Tester II operator's manual for further details.

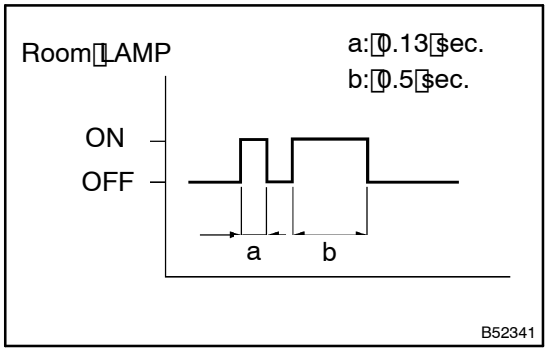
(b) Switch self–diagnosis mode by operating the key slot.
  (1) Put the vehicle under the vehicle's initial condition (see page 05–1979), insert the key into the key slot and remove it.
  (2) Within 5 seconds after the key is removed (step 1), insert the key into the key slot. Then change the power switch's power mode to ON (IG) and OFF by pushing the power switch.
  (3) Within 30 seconds after the power switch is to OFF again (step 2), perform the following 9 times: Change the power switch's power mode to ON (IG) and OFF by pushing the power switch (step 3).

NOTICE:

If the change to–self–diagnostic mode has failed, the system will return to normal mode.

HINT:

- Changing the power switch's power mode to ON (IG) by pushing the power switch after step 3 has been completed will end self–diagnostic mode.
- Do not lock or unlock doors during the self–diagnostic mode.



(c) Check that the system has switched to self–diagnostic mode by checking the flashes of the room lamp (dome lamp or key slot light) or buzzer outputs. Compare the flash patterns of the room lamp and output patterns of the buzzer to the timing chart on the left.

OK: The flash patterns of the room lamp and output patterns of the buzzer should be the same as that shown in the timing chart on the left.

NG	Go to step 11

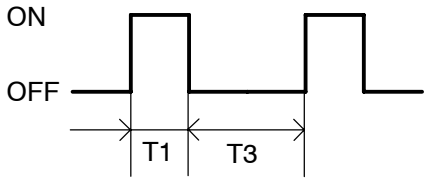
OK

6	CHECK BY SELF–DIAGNOSTIC MODE

(a) Inspect the diagnosis outputs when the door control transmitter switch is held down. The diagnosis outputs can be checked by the flash patterns of the room lamp and output patterns of the buzzer.

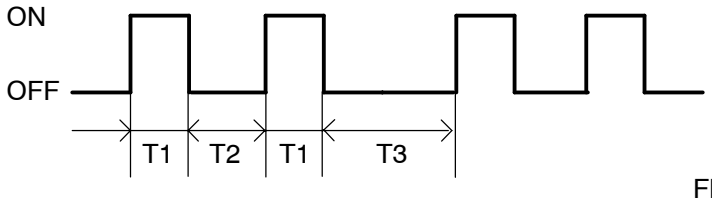
Normal wave of LOCK switch

Flash Pattern of Room Lamp



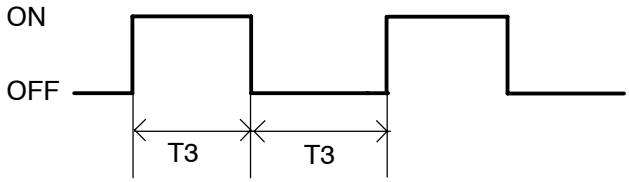
Normal wave of UNLOCK switch

Flash Pattern of Room Lamp



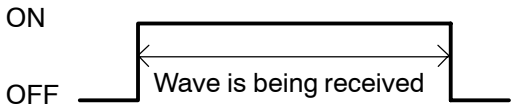
Normal wave of TRUNK OPEN switch

Flash Pattern of Room Lamp



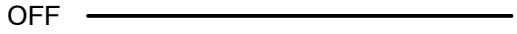
Unmatched recognition code

Flash Pattern of Room Lamp



No diagnosis outputs

Flash Pattern of Room Lamp



T1: 0.13 sec.
T2: 0.25 sec.
T3: 0.5 sec.

Result	Proceed to
When unmatched recognition code is output.	A
When normal waves (patterns of room lamp and output patterns of buzzer) for LOCK and UNLOCK are output.	B
When no diagnosis outputs are present.	C

B	REPLACE INSTRUMENT PANEL JUNCTION BLOCK ASSY

C	Go to step 12

A

7 REGISTER RECOGNITION CODE

(a) Check that the system can switch to rewrite mode or add mode, and that a recognition code can be registered.
OK:
System can switch to rewrite mode or add mode, and that a recognition code can be registered.

NG → **Go to step 8**

OK

END

8 REPLACE DOOR CONTROL RECEIVER

(a) After replacing the door control receiver, check that the doors can be locked and unlocked by using the transmitter LOCK/UNLOCK switch.
OK: Doors can be locked and unlocked with transmitter.

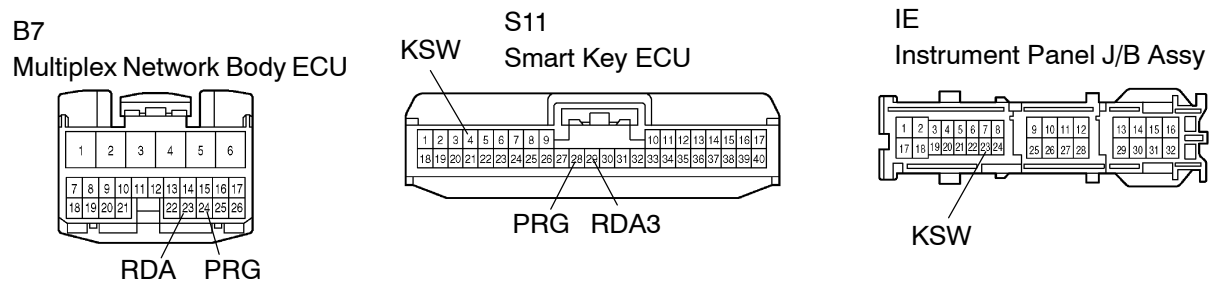
NG → **REPLACE MULTIPLEX NETWORK BODY ECU**

OK

END

9 CHECK WIRE HARNESS (SMART KEY ECU – MULTIPLEX NETWORK BODY ECU)

Wire Harness Side



(a) Disconnect the S11 and B7 ECU connectors.
(b) Disconnect the 1E J/B connector.
(c) Measure the resistance of wire harness side connector.
Standard:

Tester Connection	Specified Condition
B7–23 (RDA) – S11–29 (RDA3)	Below 1 Ω
B7–24 (PRG) – S11–28 (PRG)	Below 1 Ω
1E–23 (KSW) – S11–4 (KSW)	Below 1 Ω

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

OK

10 REPLACE SMART KEY ECU ASSY

(a) After replacing the smart key ECU, check that the door can be locked and unlocked by using the transmitter LOCK/UNLOCK switch.
OK: Doors can be locked and unlocked with transmitter.

NG > **REPLACE MULTIPLEX NETWORK BODY ECU**

OK

END

11 CONFIRM INPUT METHOD OF SELF–DIAGNOSTIC MODE

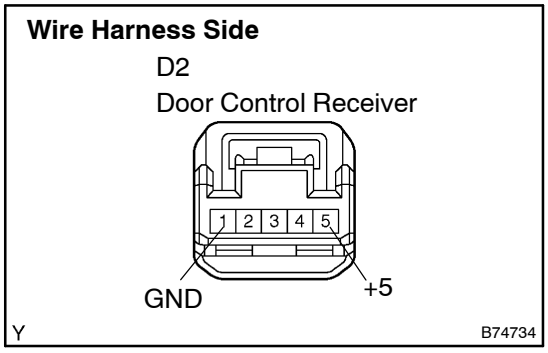
Result	Proceed to
When the method for changing the system self–diagnostic mode works.	A
When the method for changing the system self–diagnostic mode does not works.	B

A > **Go to step 5**

B

Go to step 9

12 CHECK WIRE HARNESS (DOOR CONTROL RECEIVER – BODY GROUND)



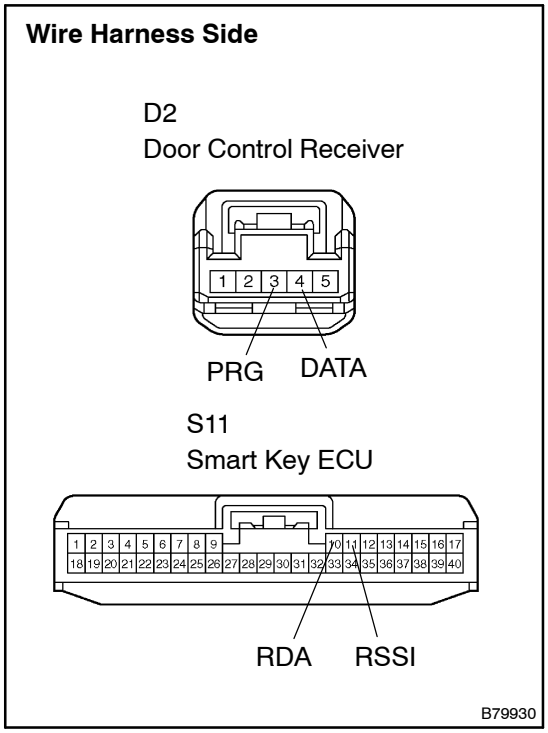
(a) Disconnect the D2 receiver connector.
(b) Measure the voltage and resistance between the wire harness side connector and body ground.
Standard:

Tester Connection	Specified Condition
D2–5 (+5) – Body ground	4.6 to 5.4 V
D2–2 (GND) – Body ground	Below 1 Ω

NG > **REPAIR OR REPLACE WIRE HARNESS AND CONNECTOR**

OK

13 CHECK WIRE HARNESS (DOOR CONTROL RECEIVER – SMART KEY ECU) (DOOR CONTROL RECEIVER OR SMART KEY ECU – BODY GROUND)



(a) Disconnect the D2 receiver connector.
(b) Disconnect the S11 ECU connector.
(c) Measure the resistance of the wire harness side connectors.

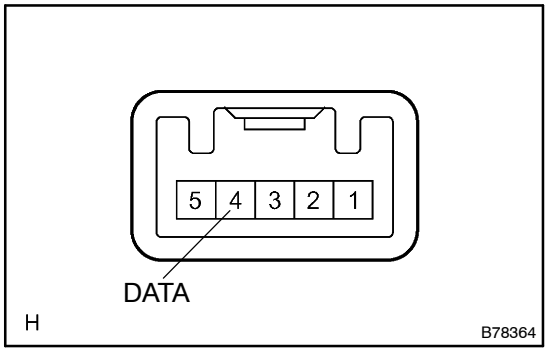
Standard:

Tester Connection	Specified Condition
D2–4 (DATA) – S11–10 (RDA)	Below 1 Ω
D2–3 (PRG) – S11–11 (RSSI)	Below 1 Ω
D2–4 (DATA) or S11–10 (RDA) – Body ground	10 kΩ or higher
D2–3 (PRG) or S11–11 (RSSI) – Body ground	10 kΩ or higher

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

OK

14 CHECK DOOR CONTROL RECEIVER (OUTPUT)



(a) Reconnect the D2 receiver connector and Measure the voltage between the terminal and body ground.

Standard:

Tester Connection	Condition	Specified Condition
D2–2 (RDA) – Body ground	No key in key slot, all doors closed and each transmitter switch OFF → ON	Below 1 V → Approx. 6 to 7 V → below 1 V

NG → **Go to step 15**

OK

Go to step 9

15	REPLACE DOOR CONTROL TRANSMITTER

(a) Check that the doors can be locked and unlocked by using the transmitter LOCK/UNLOCK switch.
OK: Doors can be locked and unlocked with transmitter.

NG → **REPLACE DOOR CONTROL RECEIVER**

OK

END