ONLY WIRELESS CONTROL FUNCTION IS INOPERATIVE

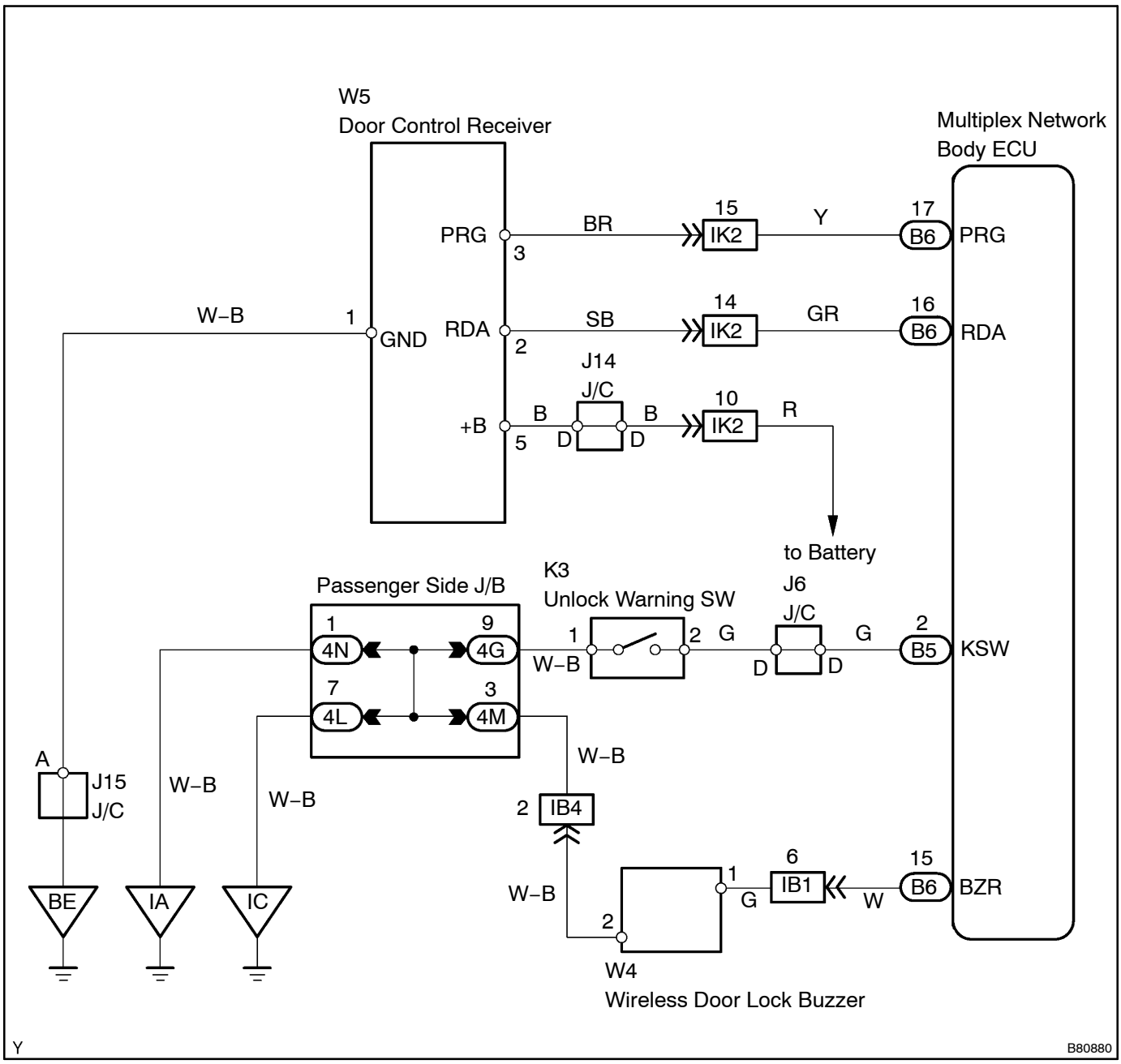
CIRCUIT DESCRIPTION

The door control receiver receives a signal from the transmitter and sends the signal to the multiplex network body ECU. The multiplex network body ECU sends a door LOOK/UNLOCK signal to each door lock actuator to control it.

HINT:

The wireless door lock control system is part of the large–scale multiplex communication system. This system features shared communication wiring that reduces the wiring complexity of the communication lines. The first step in any repair is to confirm the proper operation of the communication system. Proceed with troubleshooting after the communication has been verified (see multiplex communication system). If the control receiver has been short–circuited, DTC 42 will be output and wireless control will not function.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CHECK WIRELESS DOOR LOCK CONTROL FUNCTION (See page 73–8)

NG → Go to step 2

OK →

NORMAL

2	CHECK THAT TRANSMITTER LED LIGHTS UP

(a) Check that the transmitter LED illuminates 3 times when the switch is pressed 3 times.
OK: Transmitter LED illuminates 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 (3.28 ft). The transmitter should be pointed directly at the handle, ie. at a 90° angle to the vehicle body.

NG → Go to step 5

OK →

REPLACE TRANSMITTER SUB–ASSY MODULE SET DOOR CONTROL

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 TRANSMITTER SUB–ASSY MODULE SET DOOR CONTROL

OK →

END

5	CHECK WIRELESS DOOR LOCK BUZZER

(a) Check that the wireless door lock buzzer sounds.
OK: The wireless door lock buzzer sounds.

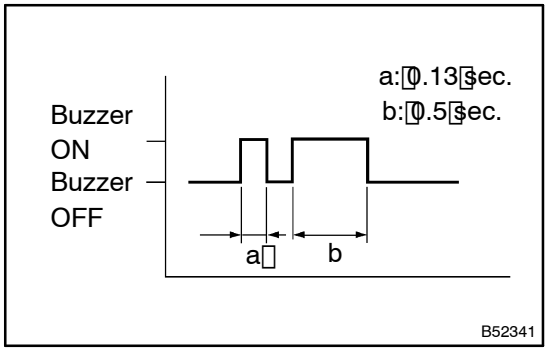
NG → **Go to FLOW CHART (See page 05–1059)**

OK

6	SWITCH TO SELF–DIAGNOSTIC MODE

(a) Switch to self–diagnostic mode by operating the ignition key cylinder.
(1) Have the vehicle in its initial condition (see page 73–8), insert the key into the ignition key cylinder and remove it.
(2) Within 5 seconds after the key is removed (step 1), insert the key into the ignition key cylinder (ignition key OFF) and perform the following once: turn the ignition switch ON and OFF.
(3) Within 30 seconds after the ignition switch is returned to OFF (step 2), perform the following 9 times: turn the ignition switch ON and OFF.

NOTICE:
If the change to self–diagnostic mode has failed, the system will return to normal mode.
HINT:
- Turning the ignition switch ON after step 3 has been completed will end self–diagnostic mode.
- Do not lock or unlock doors during self–diagnostic mode.



(4) Check that the system has switch into the self–diagnostic mode by the answer–back of the wireless door lock buzzer sound.
OK: The output patterns of the buzzer should be the same as that shown in the timing chart on the left.

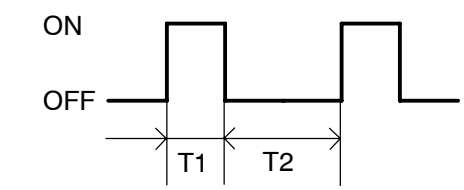
NG → **Go to step 10**

OK

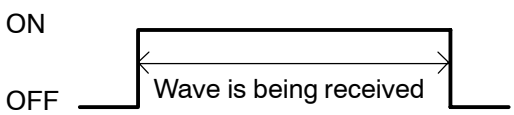
7	CHECK BY SELF–DIAGNOSTIC MODE

(a) Inspect the diagnosis outputs when the door control transmitter switch is held down The diagnosis output can be checked with the sound of the wireless door lock buzzer.

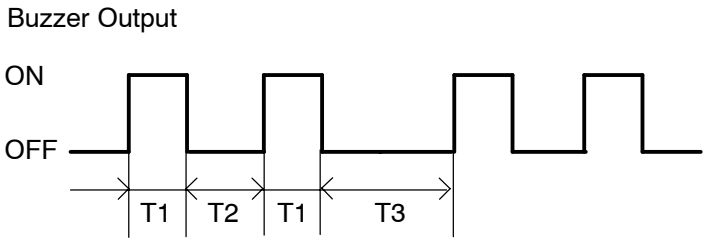
Normal wave of LOCK switch



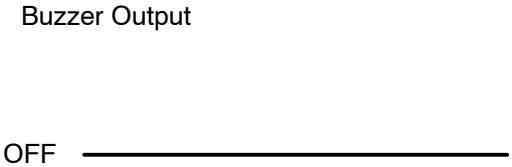
Unmatching recognition code



Normal wave of UNLOCK switch



No diagnosis outputs



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

Result:

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

B → **REPLACE MULTIPLEX NETWORK BODY ECU**

C → **Go to step 13**

A

8	REGISTER RECOGNITION CODE

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

NG > **Go to step 9**

OK

END

9	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 > **MULTIPLEX NETWORK BODY ECU**

OK

END

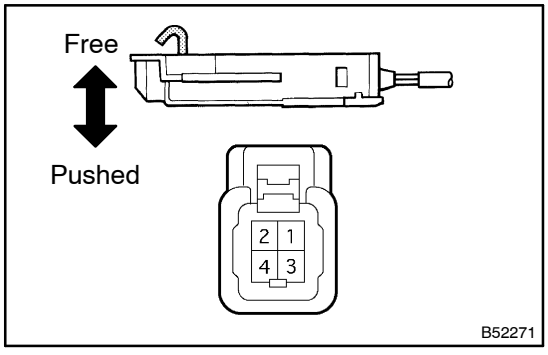
10	CONFIRM INPUT METHOD OF SELF–DIAGNOSTIC MODE

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

B > **Go to step 6**

A

11	INSPECT UNLOCK WARNING SWITCH ASSY



(a) Measure the resistance of the unlock warning switch.
Standard:

Terminal No.	Condition	Specified Condition
1 – 2	Switch free (key removed)	10 kΩ or higher
1 – 2	Switch pushed (key set)	Below 1 Ω

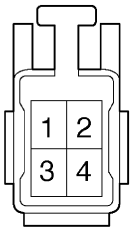
NG > **REPLACE UNLOCK WARNING SWITCH ASSY**

OK

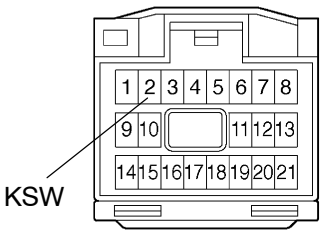
12	CHECK WIRE HARNESS (UNLOCK WARNING SWITCH – MULTIPLEX NETWORK BODY ECU AND BODY GROUND)

Wire Harness Side

K3
Un lock Warning Switch



B6
Multiplex Network Body ECU



Y B81792

(a) Disconnect the K3 switch connector.
(b) Disconnect the B6 ECU connector.
(c) Measure the resistance of the wire harness side connectors.

Standard:

Tester Connection	Specified Condition
B6–2 (KSW) – K3–2	Below 1 Ω
K3–1 – Body ground	Below 1 Ω

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

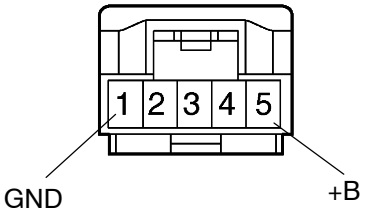
OK

REPLACE MULTIPLEX NETWORK BODY ECU

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

Wire Harness Side

W5
Door Control Receiver



B59151

(a) Disconnect the W5 receiver connector.
(b) Measure the voltage and resistance of the wire harness side connector.

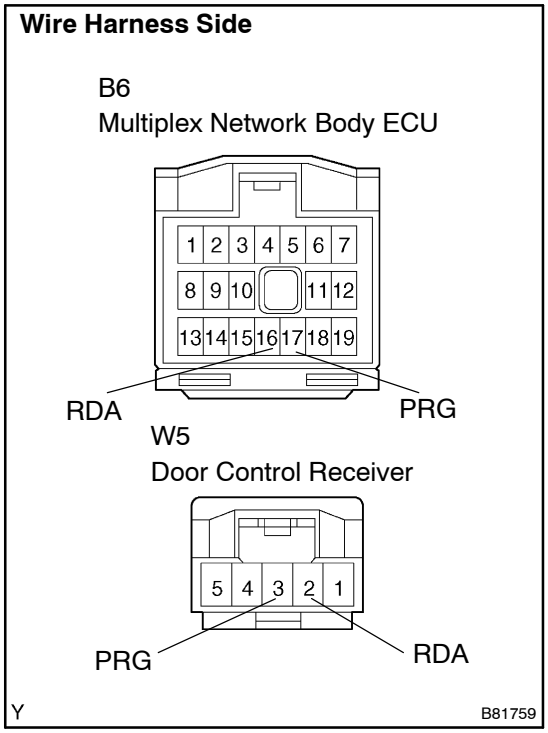
Standard:

Tester Connection	Specified Condition
W5–5 (+B) – Body ground	10 to 14 V
W5–1 (GND) – Body ground	Below 1 Ω

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

OK

14 CHECK WIRE HARNESS (MULTIPLEX NETWORK BODY ECU – DOOR CONTROL RECEIVER)



(a) Disconnect the B6 ECU connector.
(b) Disconnect the W5 receiver connector.
(c) Measure the resistance of the wire harness side connectors.

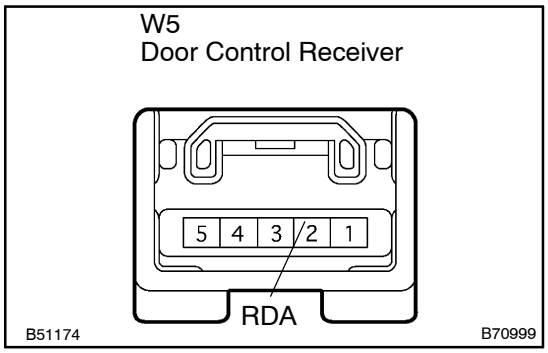
Standard:

Tester Connection	Specified Condition
B6–16 (RDA) – W5–2 (RDA)	Below 1 Ω
B6–17 (PRG) – W5–3 (PRG)	Below 1 Ω
B6–16 (RDA) or W5–2 (RDA) – Body ground	10 kΩ or higher
B6–17 (PRG) or W5–3 (PRG) – Body ground	10 kΩ or higher

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

OK

15 CHECK DOOR CONTROL RECEIVER (OUTPUT)



(a) Reconnect the W5 receiver connector.
(b) Measure the voltage of the wire harness side connector.

Standard:

Tester Connection	Condition	Specified Condition
W5–2 (RDA) – Body ground	No key in ignition key cylinder, doors closed and each transmitter switch OFF → ON	Below 1 V → Approx. 6 to 7 V → Below 1 V

NG → **Go to step 16**

OK

REPLACE MULTIPLEX NETWORK BODY ECU

16	REPLACE DOOR CONTROL RECEIVER (OPERATION)

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

NG → **REPLACE DOOR CONTROL RECEIVER**

OK

END