

CUSTOMER PROBLEM ANALYSIS CHECK

WIRELESS DOOR LOCK CONTROL SYSTEM Check Sheet

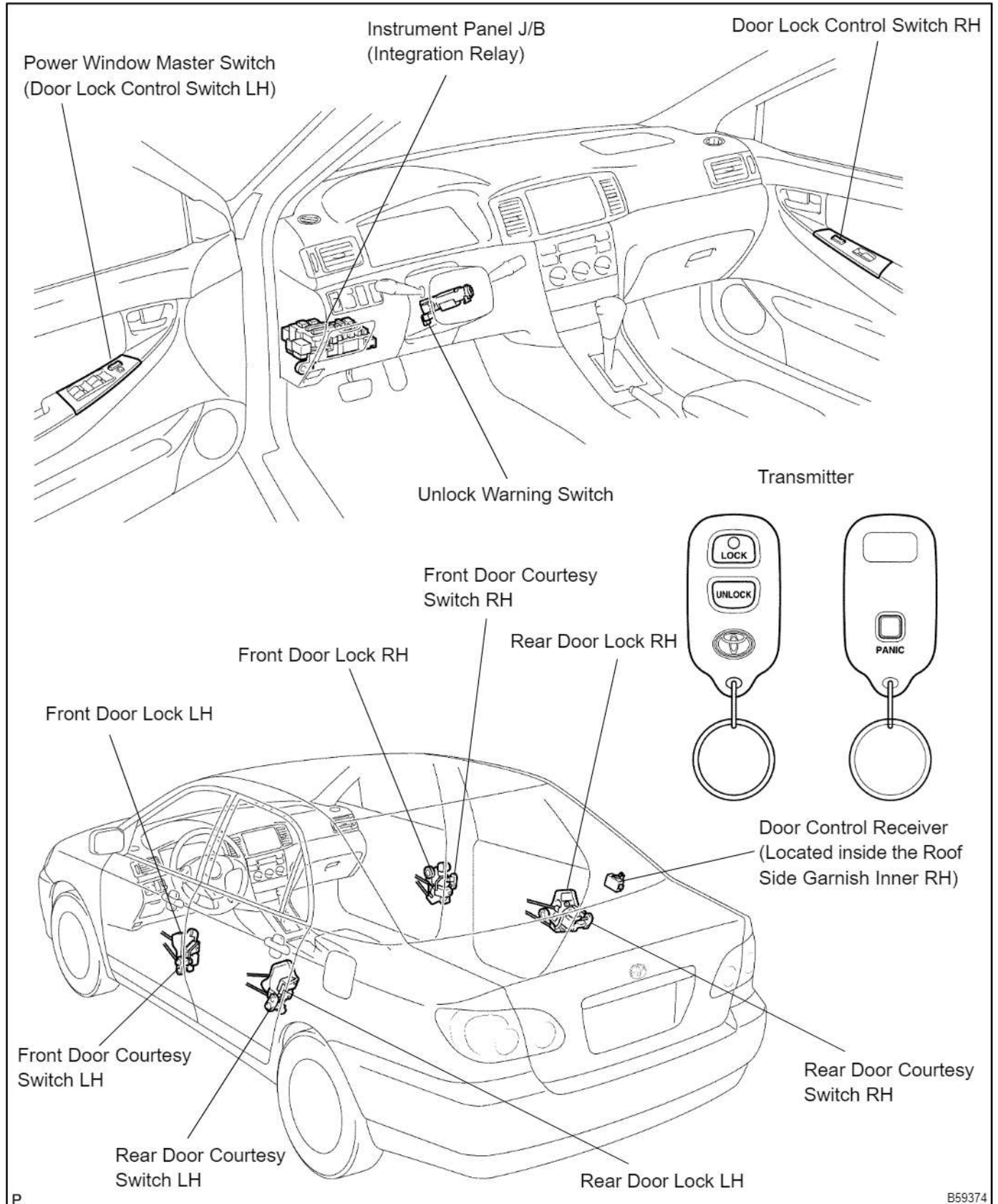
Inspector's
Name _____

Customer's Name		VIN	
		Production Date	/ /
		Licence No.	
Date Vehicle Brought in	/ /	Odometer Reading	km miles

Date Problem First Occurred		/ /
Frequency Problem Occurs		☐ Constant ☐ Sometimes (times/per day, month) ☐ Once only
Weather Conditions When Problem Occurred	Weather	☐ Fine ☐ Cloudy ☐ Rainy ☐ Snowy ☐ Various/Others
	Outdoor Temperature	☐ Hot ☐ Warm ☐ Cool ☐ Cold (Approx. °C (°F))
	Place	☐ Everywhere ☐ Specific Locality ()
Date Transmitter Battery Last Replaced		/ /

Problem Symptoms	☐ Whole wireless door lock control system does not operate.
	☐ Only door unlock function does not operate.
	☐ Only door lock function does not operate.
	☐ Doors are locked by wireless door lock operation even when doors are open.
	☐ Wireless door lock functions abnormally.
	☐ Others

LOCATION

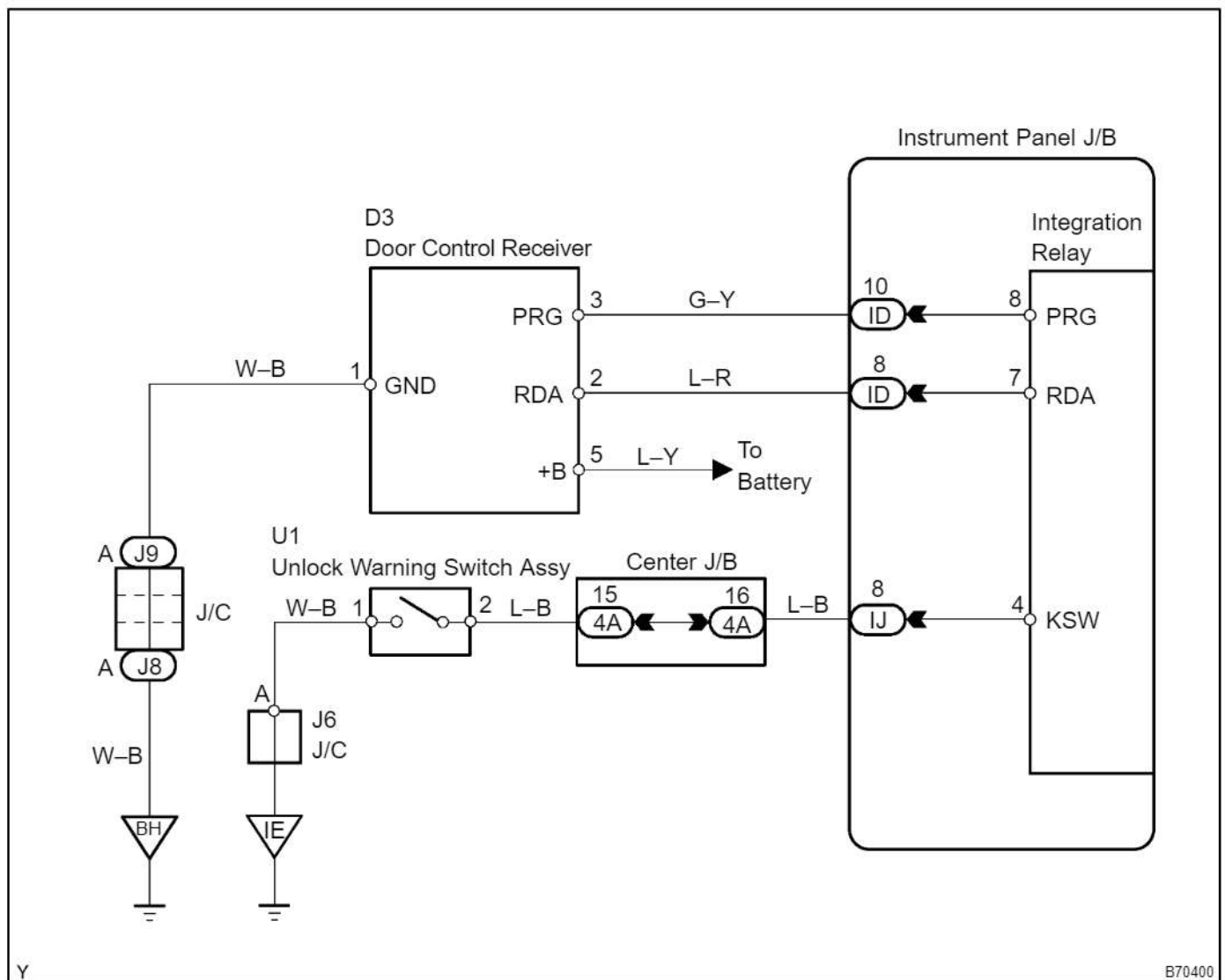


ONLY WIRELESS CONTROL FUNCTION DOES NOT OPERATE (PREPARE NEW OR NORMAL TRANSMITTER OF THE SAME TYPE VEHICLE)

CIRCUIT DESCRIPTION

The door control receiver receives a signal from the transmitter and sends this signal to the integration relay. Then, the integration relay controls door operation by sending a door LOCK/UNLOCK signal to each door lock motor.

WIRING DIAGRAM



Y

B70400

INSPECTION PROCEDURE

HINT:

The switch described in this text is a switch for transmitting signals which is built in the door control transmitter.

1 CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS (See page 73-8)

NG Go to step 2

OK

NORMAL

2 REPLACE TRANSMITTER BATTERY WITH NORMAL ONE

- (a) After replacing the transmitter battery with a new or normal one, check that the doors can lock and unlock by using the transmitter LOCK/UNLOCK switch.

NG Go to step 3

OK

REPLACE TRANSMITTER BATTERY

3 CHECK WIRELESS DOOR LOCK CONTROL FUNCTIONS

- (a) Check if UNLOCK-LOCK operates in standard operation.

NOTICE:

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

NG REPLACE DOOR CONTROL TRANSMITTER

OK

4 CONFIRM ROOM LAMP ON

- (a) Check that the wireless door lock buzzer sounds.



5	SWITCH TO SELF-DIAGNOSTIC MODE
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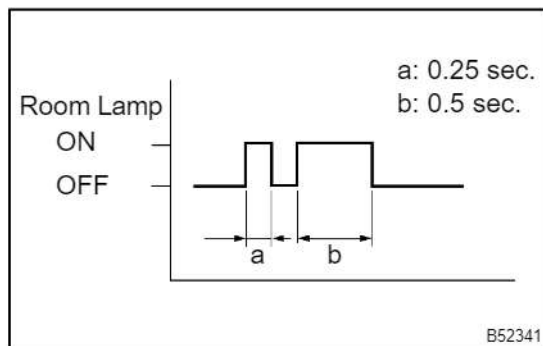
- (a) Switch to self-diagnostic mode by operating the ignition key cylinder.
- (1) Put the vehicle under the vehicle's initial condition (See page 73-8), insert the key into the ignition key cylinder and remove it.
 - (2) Within 5 seconds after the key is removed (step 1), insert the key into the ignition key cylinder (ignition key OFF) and perform the following once: Turn the ignition switch to ON and return it to OFF.
 - (3) Within 30 seconds after the ignition switch is returned to OFF (step 2), perform the following 9 times: Turn the ignition switch to ON and return it to OFF.

NOTICE:

If operation 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.



- (b) Check that the system has switched to self-diagnostic mode by the blinking frequency of the room lamp.

NG

Go to step 9

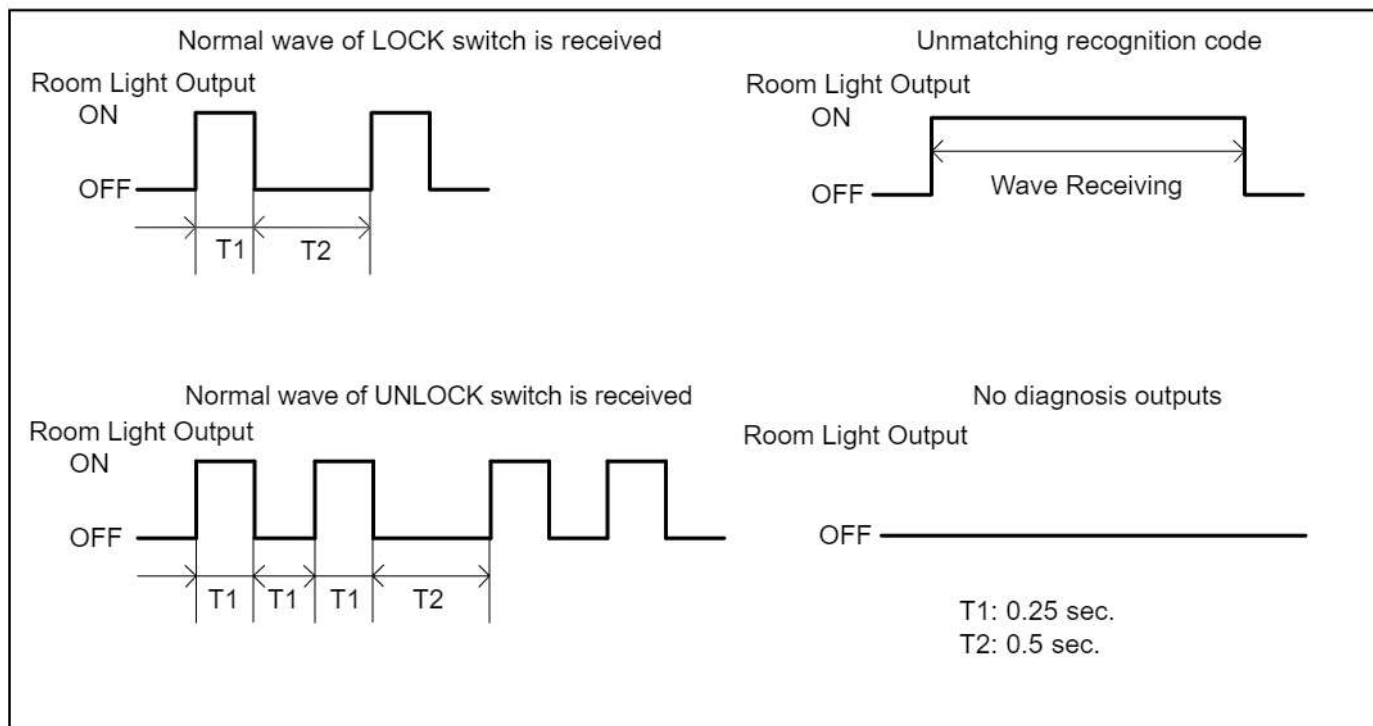
OK

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 with the outputs of the room lamp).

HINT:

- In the case of a reception of the normal wave of the door LOCK and UNLOCK switch (room lamp blinking), go to step A.
- In the case of an unmatching recognition code (room lamp ON), go to step B.
- In the case of no diagnosis outputs (room lamp OFF), go to step C.



A Go to step 16

C Go to step 8

B

7 REGISTER RECOGNITION CODE

- (a) Check that the system can switch to rewrite mode or add mode and whether a recognition code can be registered.

NG Go to step 15

OK

NORMAL

8 CHECK RESPONSE OF DOOR CONTROL RECEIVER

- (a) When a new or normal door control transmitter switch for the same type vehicle is held down, check that a diagnosis of unmatching recognition code is output.

NG → Go to step 12

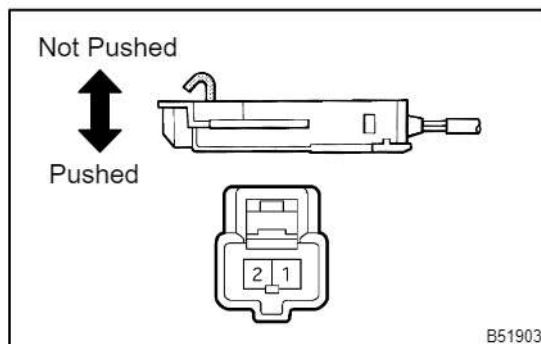
OK

REPLACE DOOR CONTROL TRANSMITTER**9 CONFIRM INPUT METHOD OF SELF-DIAGNOSTIC MODE**

- (a) When the method for switching the system to self-diagnostic mode works, proceed to A.
 (b) When the method for switching the system to self-diagnostic mode does not work, proceed to B.

B → Go to step 5

A

10 INSPECT UNLOCK WARNING SWITCH ASSY

- (a) Remove the key unlock warning switch.
 (b) Inspect the key unlock warning switch continuity, as shown in the illustration and table.

Standard:

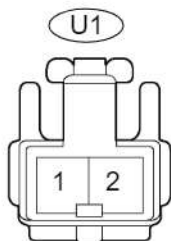
Terminal No.	Switch Condition	Specified condition
1 ↔ 2	Not pushed	No continuity
	Pushed	Continuity

NG → **REPLACE UNLOCK WARNING SWITCH ASSY**

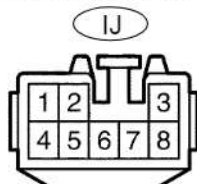
OK

11 CHECK WIRE HARNESS (UNLOCK WARNING SWITCH ⇔ INSTRUMENT PANEL J/B AND BODY GROUND)

Unlock Warning Switch
(Wire Harness Side)



Instrument Panel J/B
(Wire Harness Side)



B60080

- (a) Disconnect the unlock warning switch and instrument panel J/B connectors.
- (b) Check the continuity between the terminals of the unlock warning switch and instrument panel J/B connectors, as shown in the illustration and table.

Standard:

Symbols (Terminal No.)	Specified condition
(U1-2) ⇔ KSW (IJ-8)	Continuity
(U1-1) ⇔ Body ground	

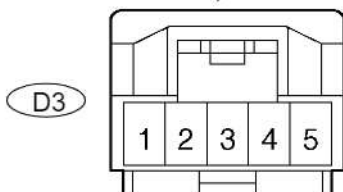
NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

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

Door Control Receiver
(Wire Harness Side)



B59092

- (a) Disconnect the connector from the door control receiver.
- (b) Check the voltage and continuity between the terminal of the door control receiver connector and the body ground, as shown in the illustration and table.

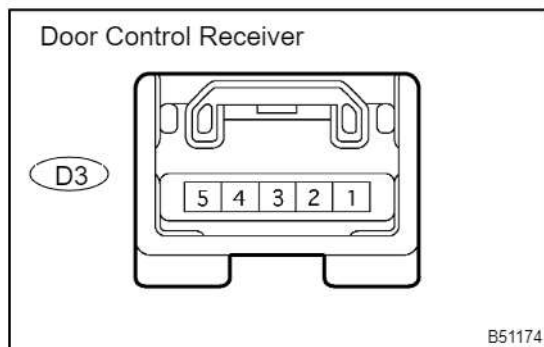
Standard:

Symbols (Terminal No.)	Specified condition
+B (D3-5) ⇔ Body ground	10 - 14 V
GND (D3-1) ⇔ Body ground	Continuity

NG

REPAIR OR REPLACE HARNESS AND CONNECTOR

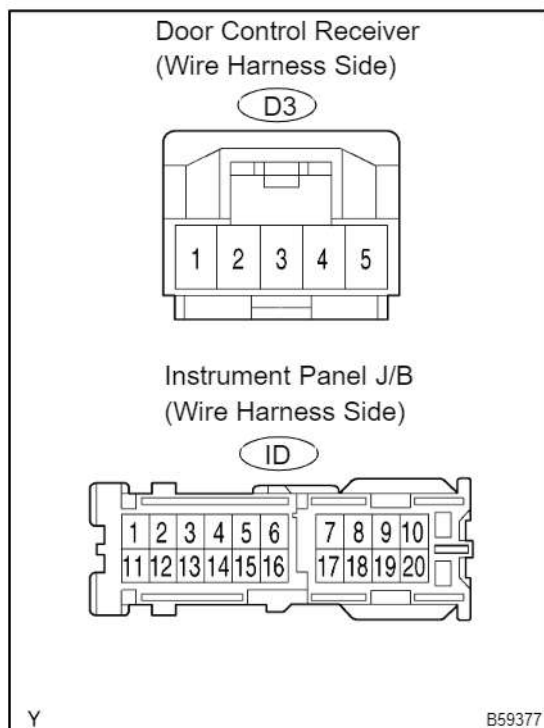
OK

13 CHECK DOOR CONTROL RECEIVER

- (a) Reconnect the connector to the door control receiver, and check the voltage between the terminal and the body ground, as shown in the illustration and table.

Standard:

Symbols (Terminal No.)	Condition	Specified condition
RDA (D3-2) $\Rightarrow$ Body ground	No key in ignition key cylinder, all doors closed and each transmitter switch OFF $\rightarrow$ ON	1 V or less $\rightarrow$ Approx. 6 – 7 V $\rightarrow$ 1 V or less

NG**Go to step 15****OK****14 CHECK WIRE HARNESS (DOOR CONTROL RECEIVER $\Leftrightarrow$ INSTRUMENT PANEL J/B) (DOOR CONTROL RECEIVER OR INSTRUMENT PANEL J/B $\Leftrightarrow$ BODY GROUND)**

- (a) Disconnect the door control receiver and instrument panel J/B connectors.
- (b) Check the continuity between the terminals of the door control receiver and instrument panel J/B connectors, as shown in the illustration and table.

Standard:

Symbols (Terminal No.) (Receiver – Instrument panel J/B)	Specified condition
RDA (D3-2) $\Leftrightarrow$ RDA (ID-8)	Continuity
RDA (D3-2) $\Leftrightarrow$ Body ground	No continuity
RDA (ID-8) $\Leftrightarrow$ Body ground	

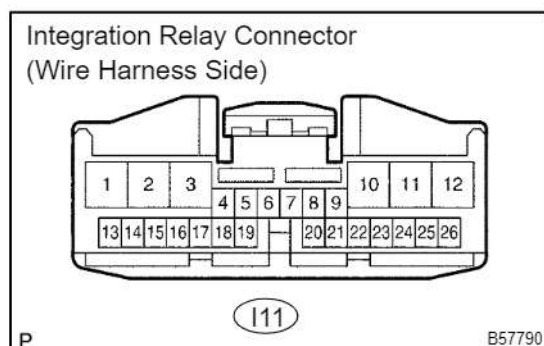
NG**REPAIR OR REPLACE HARNESS AND CONNECTOR****OK**

15 REPLACE DOOR CONTROL RECEIVER WITH NORMAL ONE**NG****Go to step 16****OK****REPLACE DOOR CONTROL RECEIVER****16 REPLACE INTEGRATION RELAY WITH NORMAL ONE****NG****REPLACE INSTRUMENT PANEL JUNCTION
BLOCK ASSY****OK****REPLACE INTEGRATION RELAY**

PROBLEM SYMPTOMS TABLE

Symptom	Suspected area	See page
Only wireless control function is inoperative (Prepare new or normal transmitter of the same type vehicle)	1. Transmitter battery 2. Door control transmitter 3. Door control receiver 4. Unlock warning switch 5. Integration relay 6. Wire harness	05-692

TERMINALS OF ECU



1. INSPECT INTEGRATION RELAY

- (a) Disconnect the connector from the integration relay.
- (b) Check the continuity between each terminal of the disconnected connector and the body ground, as shown in the illustration and table.

Standard:

Symbols (Terminal No.)	Wiring color	Condition	Specified condition
LSWD (I11-19) ⇒ Body ground	W ⇒ Body ground	Driver's door lock control knob LOCK → UNLOCK	No continuity → Continuity
LSWP (I11-18) ⇒ Body ground	W-R ⇒ Body ground	Front passenger's door lock control knob LOCK → UNLOCK	
L1 (I11-9) ⇒ Body ground	L-W ⇒ Body ground	Door lock control switch (Manual operation) OFF → LOCK	
UL1 (I11-8) ⇒ Body ground	L ⇒ Body ground	Door lock control switch (Manual operation) OFF → UNLOCK	
L2 (I11-7) ⇒ Body ground	G ⇒ Body ground	Using key, front door lock cylinder LOCK → Other position	Continuity → No continuity
UL3 (I11-6) ⇒ Body ground	L-Y ⇒ Body ground	Using key, driver's door lock cylinder UNLOCK → Other position	Continuity → No continuity
UL2 (I11-5) ⇒ Body ground	L-B ⇒ Body ground	Using key, front passenger's door lock cylinder UNLOCK → Other position	
PCTY (I11-13) ⇒ Body ground	R-W ⇒ Body ground	Front passenger's door fully closed → Opened	No continuity → Continuity

If the result is not as specified, the vehicle's side may malfunction.

- (c) Reconnect the connector and check the voltage between each terminal and the body ground, as shown in the illustration and table.

Standard:

Symbols (Terminal No.)	Wiring color	Condition	Specified condition
ACTD (I11-1) ⇒ Body ground	R ⇒ Body ground	Driver's door lock OFF → ON	0 V → 10 – 14 V → 1 V or less
HAZ (I11-25) ⇒ Body ground	Y-B ⇒ Body ground	Transmitter LOCK or UNLOCK switch is pushed Hazard warning switch ON	0 V (Hazard not flashing) → 10 – 14 V (Hazard flashing)

If the result is not as specified, the integration relay may malfunction.

Instrument Panel J/B (Integration Relay)



- (a) Disconnect the connectors IA, IB, ID, IF, IH and IJ of the instrument panel J/B.
- (b) Check the continuity between each terminal of the disconnected connectors and the body ground, as shown in the illustration and table.

Standard:

Symbols (Terminal No.)	Wiring color	Condition	Specified condition
DCTY (ID-1) ⇒ Body ground	R-W ⇒ Body ground	Driver's door fully closed → Opened	No continuity → Continuity
PRCTY (ID-14) ⇒ Body ground	R-B ⇒ Body ground	Rear LH door fully closed → Opened	
PRCTY (ID-15) ⇒ Body ground	R-Y ⇒ Body ground	Rear RH door fully closed → Opened	
KSW (IJ-8) ⇒ Body ground	L-B ⇒ Body ground	No key in ignition switch cylinder → Key inserted	No continuity → Continuity
+B (IB-1) ⇒ Body ground	W ⇒ Body ground	Constant	10 – 14 V
IG (IA-1) ⇒ Body ground	W ⇒ Body ground		
GND (IF-4) ⇒ Body ground	W-B ⇒ Body ground	Constant	Continuity
GND (IH-10) ⇒ Body ground	W-B ⇒ Body ground		

If the result is not as specified, the vehicle's side may malfunction.

- (c) Reconnect the connectors and check the voltage between each terminal and the body ground, as shown in the illustration and table.

Standard:

Symbols (Terminal No.)	Wiring color	Condition	Specified condition
ACT+ (IK-2) ⇔ Body ground	L ⇔ Body ground	• Front door lock OFF → ON • Rear RH door lock OFF → ON	0 V → 10 – 14 V → 1 V or less
ACT- (IK-5) ⇔ Body ground	R ⇔ Body ground	• Front passenger's door lock OFF → ON • Rear RH door lock OFF → ON	
ACT+ (ID-9) ⇔ Body ground	L ⇔ Body ground	Rear LH door lock OFF → ON	
ACT- (ID-20) ⇔ Body ground	R ⇔ Body ground		
RDA (ID-8) ⇔ Body ground	L-R ⇔ Body ground	No key in ignition key cylinder, all doors closed and transmitter switch OFF → ON	1 V or less → Approx. 6 – 7 V → 1 V or less

If the result is not as specified, the integration relay or instrument panel J/B assembly may malfunction.

WIRELESS DOOR LOCK CONTROL SYSTEM

05DUB-01

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Troubleshooting of the wireless door lock control system is based on the premise that the power door lock system is operating normally. Therefore, before troubleshooting the wireless door lock control system, first make certain that the power door lock system is operating normally.
- Use this procedure to troubleshoot the wireless door lock control system.

1 VEHICLE BROUGHT TO WORKSHOP



2 CUSTOMER PROBLEM ANALYSIS CHECK AND SYMPTOM CHECK (See page 05-686)



3 PROBLEM SYMPTOMS TABLE (See page 05-691)

- (a) If the fault is not listed on the problem symptoms table, proceed to A.
 (b) If the fault is listed on the problem symptoms table, proceed to B.

B

Go to step 5

A

4 OVERALL ANALYSIS AND TROUBLESHOOTING

- (a) Terminals of ECU (See page 05-688)
 (b) On-vehicle inspection (See page 73-8)

5 ADJUST, REPAIR OR REPLACE



6 CONFIRMATION TEST



END